City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Meeting Agenda - Final

Planning Commission

Monday, April 25, 2016 | **7:00 PM** | **Commission Chambers**

1. Call to Order

2. Public Hearing

2a. PC 16-048 DP 16-01 / NR 15-08: Clackamas Community College Environmental Learning Center

Sponsors: Planner Pete Walter

Attachments: Commission Report

DP 16-01 NR 15-08 Staff Report and Recommendation

Exhibit 1. Vicinity Map

Exhibit 2. Land Use Narrative

Exhibit 2. Natural Resource Overlay District Code Responses

Exhibit 2. Full Size Plan Set

Exhibit 2. Land Use Plan Sheets

Exhibit 2. Stormwater Mgmt Report

Exhibit 2. Wetland Report

Exhibit 2. Lighting Plan

Exhibit 2. Landscape Planting Plan

Exhibit 2. Landscape Plant Schedule

Exhibit 2. Tree Mitigation Plan

Exhibit 2. Revised Outdoor Photometric Plan

Exhibit 3a. Caufield NA Support Letter

Exhibit 3b. Natural Resources Committee Support Letter

Exhibit 4. Tri-City No Conflicts

Exhibit 4. Tri-Met No Conflicts

Exhibit 5. Public Notices

Exhibit 6. Pre-Application Conference Notes

3. Minutes

3a. 16-238

Attachments: Draft November 23, 2015 Planning Commission Minutes

3b. 16-239

Attachments: Draft November 9, 2015 Planning Commission Minutes

4. Communications

4a. 16-240

Attachments: Public Comments to be Included in the Record from April 11, 2016 Work Session with the Transportation Advisory Committee

5. Adjournment

Public Comments: The following guidelines are given for citizens presenting information or raising issues relevant to the City but not listed on the agenda.

- *Complete a Comment Card prior to the meeting and submit it to the staff member.*
- *When the Chair calls your name, proceed to the speaker table and state your name and city of residence into the microphone.*
- *Each speaker is given 3 minutes to speak. To assist in tracking your speaking time, refer to the timer at the dais.*
- *As a general practice, Oregon City Officers do not engage in discussion with those making comments.*

Agenda Posted at City Hall, Pioneer Community Center, Library, and City Web site(oregon-city.legistar.com).
Video Streaming & Broadcasts: The meeting is streamed live on Oregon City's Web site at www.orcity.org and is available on demand following the meeting.
ADA: City Hall is wheelchair accessible with entry ramps and handicapped parking located on the east side of the building. Hearing devices may be requested from the City staff member prior to the meeting. Disabled individuals requiring other assistance must make their request known 48 hours preceding the meeting by contacting the City Recorder's Office at 503-657-0891.

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Staff Report

File Number: PC 16-048

Agenda Date: 4/25/2016

Status: Agenda Ready

To: Planning Commission

Agenda #: 2a.

From: Planner Pete Walter

File Type: Land Use Item

SUBJECT:
DP 16-01 / NR 15-08: Clackamas Community College Environmental Learning Center

RECOMMENDED ACTION (Motion):
Staff recommends the Planning Commission approve the proposed application with conditions.

BACKGROUND:
Clackamas Community College requests Detailed Development Plan and Natural Resources Overlay District review for restoration and habitat enhancement of existing Environmental Learning Center ponds and adjacent wetland areas for improved storm water management and water quality. Modifications are proposed to the ELC building, trail improvements and interpretative features. The application requires a Type III review for cumulative additions to existing structures within the NROD exceeding 500 square feet.

On June 23, 2008 the Oregon City Planning Commission approved CP 07-01, a “Concept Development Plan” (Section 17.65.050) for the college. This land use review went through a Type III public process. The concept plan establishes a framework for future development, and focuses on infrastructure. The current approved concept plan extends through 2020.

In November 2014, voters in the Clackamas Community College district approved a $90 million bond measure https://www.clackamas.edu/bondinformation/. The bond is being used to update and expand college classrooms and labs and modernize equipment to meet industry standards.

It is anticipated the the college will be submitting a detailed development plan and master plan amendment soon in order to receive land use approval to construct the bond funded improvements to the Oregon City campus.

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE III – PLANNING COMMISSION REVIEW
DETAILED DEVELOPMENT PLAN / NROD
STAFF REPORT AND RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL
April 18, 2016
Planning Commission Public Hearing: April 25, 2016

FILE NUMBER: DP 16-01: Detailed Development Plan
NR 15-08: Natural Resources Overlay District

APPLICANT/ OWNER: Clackamas Community College,
Attn: Bob Cochran, P.E., Dean of Campus Services
19600 Molalla Ave, Oregon City, OR 97045

REPRESENTATIVES:

YGH Architecture
707 SW Washington St, Ste. 1200
Portland, OR 97205

Pacific Habitat Services
9450 SW Commerce Circle, Ste. 180
Wilsonville, OR 97070

REQUEST: Detailed Development Plan and Natural Resources Overlay District review for restoration and habitat enhancement of existing ELC ponds and adjacent wetland areas for improved storm water management and water quality, with modifications to the ELC building, trail improvements and interpretative features. The application requires a Type III review for cumulative additions to existing structures within the NROD exceeding 500 square feet.

LOCATION: Clackamas Community College – Inskeep Environmental Learning Center
19600 Molalla Ave #21, Oregon City, OR 97045
Clackamas County Map 3-2E-09C -00800

SUBMITTED: 12/23/2015
COMPLETE: 03/04/2015
120-DAY DEADLINE: 07/02/2016

REVIEWER: Pete Walter, AICP, Planner
Wendy Marshall, PE, Development Services Project Manager
David Evans and Associates (NROD)

RECOMMENDATION: Approval with Conditions.

PROCESS: Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards, yet are not heard by the city commission, except upon appeal. In the event that any

decision is not classified, it shall be treated as a Type III decision. The process for these land use decisions is controlled by ORS 197.763. Notice of the application and the planning commission or the historic review board hearing is published and mailed to the applicant, recognized neighborhood association(s) and property owners within three hundred feet. Notice must be issued at least twenty days pre-hearing, and the staff report must be available at least seven days pre-hearing. At the evidentiary hearing held before the planning commission or the historic review board, all issues are addressed. The decision of the planning commission or historic review board is appealable to the city commission on the record pursuant to Section 17.50.190. The city commission decision on appeal is the city's final decision and is subject to review by LUBA within twenty-one days of when it becomes final, unless otherwise provided by state law. The application, decision (including specific conditions of approval), and supporting documents are available for inspection at the Oregon City Planning Division. Copies of these documents are available (for a fee) upon request. A city-recognized neighborhood association requesting an appeal fee waiver pursuant to 17.50.290(C) must officially approve the request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal. IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722-3789.

Recommended Conditions of Approval
DP 16-01: Detailed Development Plan
NR 15-08: Natural Resources Overlay District

Development Services
(Applicant shall confirm with the Public Works Development Services Division that the following Conditions of Approval are met)

The applicant shall include the following information with submittal of a public improvement and/or grading permit associated with the proposed Detailed Development Plan application. The information shall be approved prior to issuance.

1. The applicant shall provide a final Stormwater Management Plan and other documents as required by the City's Stormwater and Grading Design Standards.
2. The applicant shall revise the preliminary Stormwater Management Plan to modify the extent of "Basin 8" to include the stormwater runoff generated from the newly constructed Oregon City School District Transportation and Maintenance Facility, located at the northwest corner of the intersection of Meyers Road and High School Avenue.
3. The applicant shall obtain an Erosion Prevention and Sediment Control (EPSC) Permit from the City prior to beginning work associated with the subject project.
4. As part of the stormwater facility construction plans, the applicant shall provide a Grading Plan as described within Chapter 3 of the Stormwater and Grading Design Standards.

Planning Division
(Applicant shall confirm with the Planning Division that the following Conditions of Approval are met)

5. Applicant is responsible for compliance with the Conditions of Approval of the CCC Master Plan, Planning File CP 07-01, as applicable.
6. Pursuant to OCMC 17.41.050, all replanted and saved trees outside of the delineated NROD boundary on the site shall be protected by a permanent restrictive covenant or conservation easement approved in form by the city. The covenant or easement shall hold the applicant responsible for replacement of any trees that are removed pursuant to the applicable provisions of OCMC 17.41. Prior to occupancy of the buildings on the subject site, the applicant shall record a covenant or easement for new or existing trees planted on the site.
7. The applicant shall submit a revised tree protection plan prepared by a certified arborist, forester, landscape architect or other suitably qualified professional as part of the construction plan submittal which clearly indicates the location of construction fencing, signage, and measures necessary to protect existing trees during the construction period. This information will be provided prior to approval of any grading, construction or demolition plans for the proposed work.
8. The applicant shall provide revised plans indicating the location and design of the proposed bicycle parking spaces pursuant to OCMC 17.52.040. The bicycle parking spaces shall be installed prior to issuance of a certificate of occupancy for the building.

9. The applicant has proposed landscaping swales that in accordance with the standards of the Oregon City storm water design requirements. The applicant shall provide a revised landscaping plan with further details of the required landscaping prior to issuance of a Public Works construction permit. The landscaping plan requires at least 4 trees within the interior parking lot landscaping, and 6 trees to be planted within the landscape islands. Groundcover and shrubs will cover 100% of the exposed ground within 3 years. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. No groundcover shall be spaced farther than 16" on center. No shrubs shall be spaced more than 4' apart. . Trees species selections and locations will be determined at the time of revised landscaping plans. Tree shall be placed in appropriate locations where practicable to provide shade and visual relief for the parking lot. Tree species selections and locations will be determined at the time of revised landscaping plans.

10. Prior to occupancy for any buildings associated with the proposed development the applicant shall provide the City with a copy of a recorded covenant or conservation easement per OCMC 17.49.180.G.

11. Prior to issuance of a permit associated with the proposed development: Per 17.49.150E, the applicant shall provide the USACE / DSL Joint Permit Application JPA permit including provisions, or assure that any work that will take place within the banks of shall be conducted between June 1 and August 31, or shall be approved by the Oregon Department of Fish and Wildlife.

12. The applicant shall demonstrate compliance with OCMC 17.49.155.

13. Per 17.49.180.D, the applicant shall add language on plans and construction specifications clearly require nuisance plant removal.

14. Per 17.49.180.E.2a, the applicant shall provide plans that show the planting zone areas, the percentage of each plant in each area or the plant quantity.

15. Per 17.49.180.E.2c, the applicant shall confirm that the 7' O.C. spacing is a typographic error.

16. Per 17.49.180.E.2d, the applicant shall verify that wetland and emergent plants, and areas that get inundated, will not be mulched.

End of Conditions of Approval

I. BACKGROUND:

The CCC Master Plan (CP 07-01) was approved in 2007. A key part of the new master planned development at CCC is the reconstruction of the ELC ponds to improve stormwater management and wetland functions.

The master plan "locked in" the zoning code in place at the time. The Master Plan vests the college with the 2007 land use code, and includes "custom" standards for certain elements of the development. The 2007 version of the code applies unless the College requests review under the current code.

The Master Plan approved by the Planning Commission is attached as Exhibit 7.

Pursuant to OCMC 17.65.090 - Regulations that apply. - *An applicant is entitled to rely on land use regulations in effect on the date its general development plan application was initially submitted, pursuant to ORS 227.178(3), as that statute may be amended from time to time. After a general development plan is approved, and so long as that General Development Plan is in effect, an applicant is entitled to rely on the land use regulations in effect on the date its general development plan application was initially submitted, as provided above, when seeking approval of detailed development plans that implement an approved general development plan.* ***At its option, an applicant may request that a detailed development plan be subject to the land use regulations in effect on the date its detailed development plan is initially submitted.***

In this case, the applicant is requesting review under the current code for the following reasons pertaining to the older Water Quality Resource Overlay District regulations in Chapter 17.49 (Now the Natural Resources Overlay District), for the following reasons.

1. The proposed alterations and additions were not included in the CP 07-01 master plan.
2. The project additions exceed the original threshold approved by the Planning Commission of 38,460 square feet, triggering a requirement for review under the current code.
3. The delineated boundaries of the wetland have changed (expanded) since 2007 which had the effect of exceeding the threshold approved under CP 07-01.
4. Under the current code, the cumulative additional disturbance area of the alterations and additions to existing structures within the NROD exceeds 500 square feet.

Furthermore, funding for this project is provided in part by a Metro Nature in the Neighborhoods Restoration Grant. The funding cycle and the master plan amendment for the larger CCC campus is still in the draft stage for various reasons that are not related to this project. The applicant would like to proceed with the restoration work without waiting for the 2007 Master Plan to be amended.

Staff notes that the Type III review requirement is largely a procedural issue with respect to which version of OCMC 17.49 governs the review (2007 or current code), rather than a substantive review issue affecting the quality of the natural resources in question.

1. Existing Conditions

Please see the applicant's narrative for a detailed site description and history of the Environmental Learning Center, ponds and wetlands. The following is an excerpt:

"The project site is located within the Clackamas Community College (CCC) campus. The site is at the north end of campus and is bordered by Inskeep Dr to the west, S Beavercreek Rd to the northeast and N Douglas Loop to the south. The total project site is approximately 5 Acres with the scope of work of this project taking on just over 3 acres.

The project site consists mostly of forest land with wetlands and manmade trails running throughout the site. The site is also at the headwater of Newell Creek, with the initial channel running north along the east border of the site which bypasses the ELC facility. The site generally slopes from south to north, to a 42-inch pipe that passes under Beavercreek Rd to lower reaches of Newell Creek.

Located on the former site of a Smucker's processing plant, the ELC was created to demonstrate what people can do to reclaim industrial sites, address stormwater issues, and restore wildlife habitat in urban areas. The ELC has a rich history as an educational resource for the college, regional schools, industry, and the community; serves as an important stormwater facility for the college campus; and provides critical wetland habitat for resident and migratory birds such as great blue heron, wood duck, and merganser."

Water Quality

"The ELC is a conduit for stormwater for nearly half of the college's 275-acre campus, an unknown amount from Oregon City High School, and an unknown amount from Beavercreek Road. Although once considered state-of-the-art, the system for managing stormwater on the ELC site no longer functions effectively. As such, impaired water flows from the ELC downstream into the Newell Creek system. Because the ELC occupies the headwaters of Newell Creek, the site plays a vital role in the overall health of the watershed. According to a 2003 report "Newell Creek Watershed Management and Restoration Strategy," Newell Creek will not be adequately protected until the water that flows through the ELC site can be effectively cooled and filtered. In addition, invasive plants are starting to dominate the site. This is decreasing native plant abundance, impacting urban wildlife, and limiting the opportunities to educate about the value of native landscaping."

Figure 1. Vicinity Map

2. Project Description

The project will consist of the following features:

- The primary purpose of this project is to redevelop and enhance the existing ELC ponds that were once considered a state-of-the-art stormwater management system, but have since been overrun with invasive plants and no longer function effectively. The proposed modifications to the ELC site will improve the quality of water flowing off-site and into Newell Creek. The modifications include excavation of sediment from the ponds, creation of east-west oriented berms within the ponds that will be planted, and which will allow shading and cooling of water, improving the drainage channel connected to the parking lot west of the site, and improvements to existing weirs to direct the flow of water through the pond system or a high flow bypass down the existing upper reach of Newell Creek. Fine grading of the ponds will create benches at appropriate depths to establish a variety of emergent and submergent plant communities to improve the water quality. There are additional components to the project related to habitat enhancement, community education, and recreation among others. The project also includes:

- Enhancements to the interior and exterior of the existing ELC pavilion to meet mobility (ADA) requirements, including adding a sheltering awning between the street and the pavilion

- The existing system of trails, paths, and educational features within the ELC site will be improved by the proposed project. Several existing trails will be widened and improved and new trails will be installed to allow ADA accessibility to portions of the site. New or improved pathways will route visitors through the natural areas or to various view points, and allow access to platforms near the water's edge for classes or workshop participants to collect water quality data. The trail system includes several benches throughout the site and within the amphitheater area. Permeable trail materials will be used to reduce impacts to the NROD.

- Approximately 5,012 square feet of new trail surface will be created that will require mitigation.

- In addition, five trees will be removed from the NROD to accommodate new or improved trails.

- An amphitheater within the improved path system will provide a central location where classes and visitors can learn about the ecology of the ELC. The amphitheater will be within an area that is largely covered by existing compacted gravel paths south of the pavilion. However, approximately 379 square feet of new development will result within the NROD and will be considered an allowed use under prescribed conditions, discussed in 17.49.[0]90.AThere are ten existing bridges within the NROD at the ELC, two of which will be removed by the proposed project. Five new bridges will be installed to allow new or improved trails to cross wetlands or streams, and two existing bridges will be replaced. The replaced bridges will not result in additional development area. Approximately 592 square feet of new bridge area will require mitigation. The removed bridges will result in approximately 300 square feet of development removed from the NROD, and will count towards the mitigation requirement discussed in Section 17.49.180

- A new access road will be constructed at the southern end of the ELC site to provide access to a new weir and a proposed sediment forebay. Two trees will be removed from the NROD to accommodate the new access road. A portion of the new access road area is currently developed with a concrete vault and spillway.

- Again, the primary goal of the project is to redevelop the ELC into a regionally important outdoor learning laboratory, demonstration site, and natural area that showcases innovations in stormwater management, landscape design, and sustainable living practices. This project will allow the college to achieve the following long term objectives:

    1. Enhance the water quality within the Newell Creek watershed; especially critical for coho salmon and steelhead trout
    2. Increase the capacity of the ELC to serve as a valuable educational resource for college students, schools and teachers, industry members, and families
    3. Provide passive recreation for the local community
    4. Leverage the on-going support of a network of community partners committed to protecting the health and sustainability of the Newell Creek watershed

Figure 2: Existing Conditions – Aerial Image – 2014. Purple Overlay = current NROD boundary.

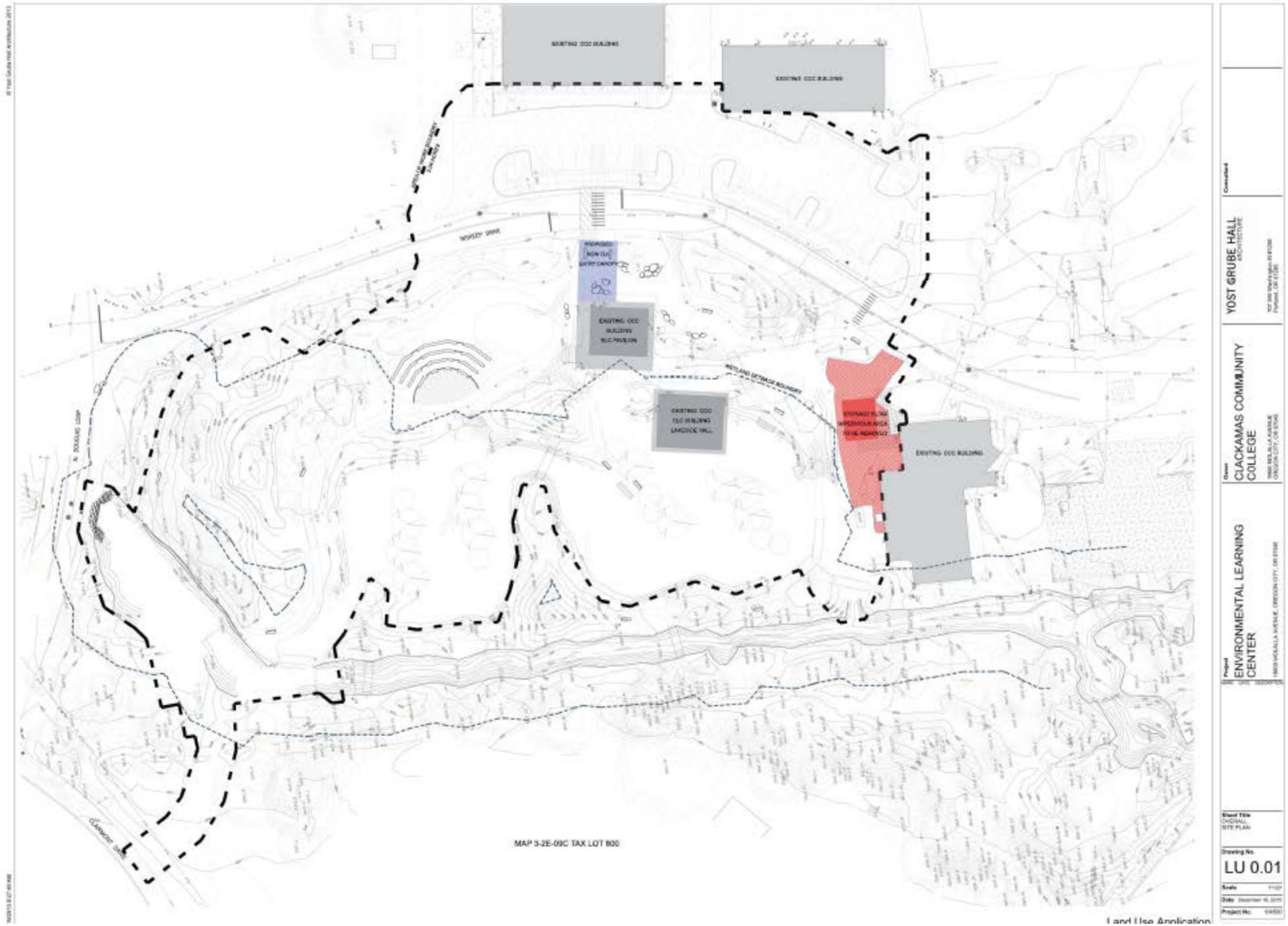


Figure 3: Proposed Site Plan (See Exhibit 2, Sheet LU 0.01 “Overall Site Plan”).

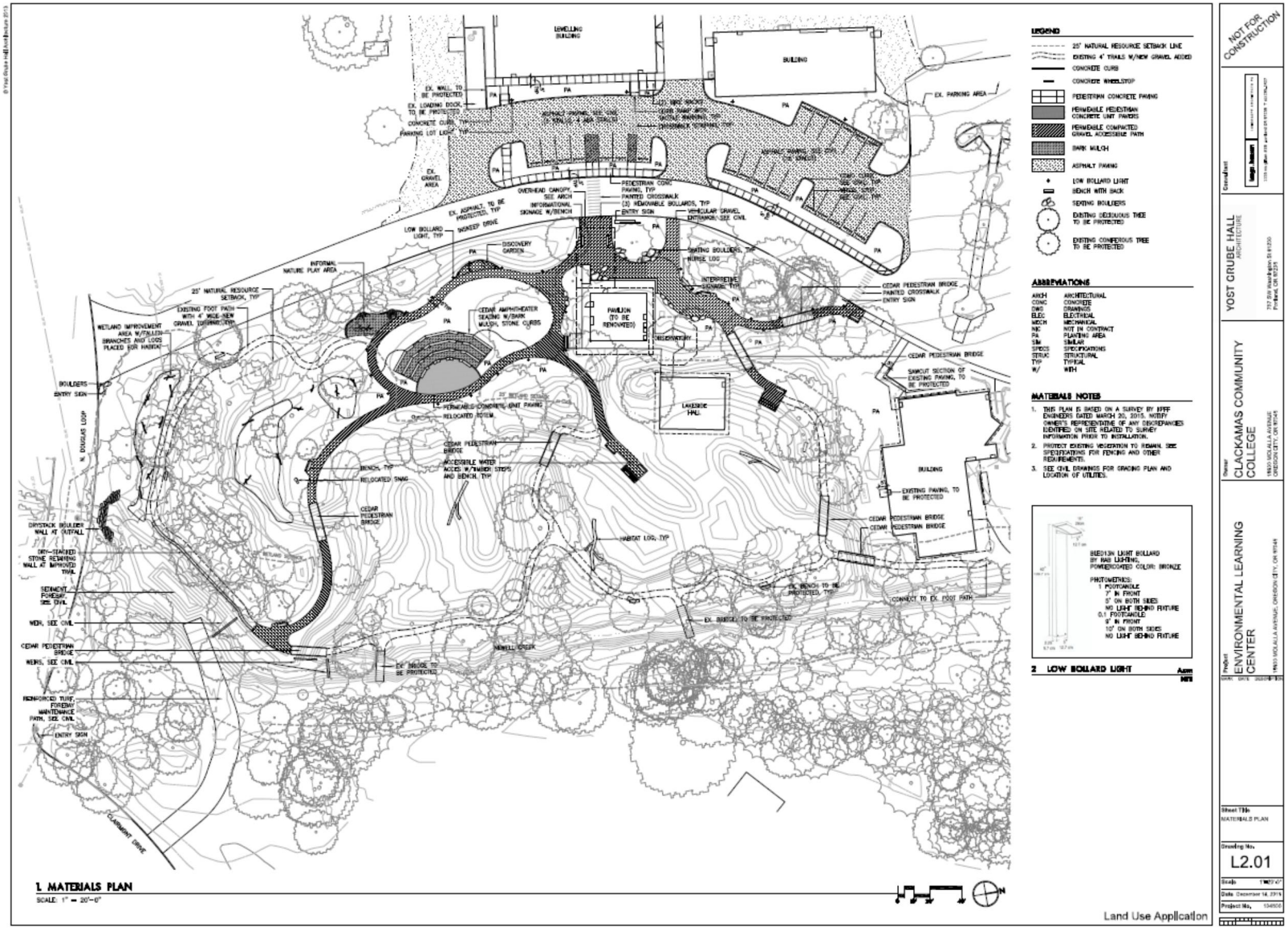


Figure 4: Proposed Materials Plan (See Exhibit 2, Sheet L2.01)

3. **Municipal Code Standards and Requirements:** The following sections of the Oregon City Municipal Code are applicable to this land use approval:

    17.39 - [I] Institutional District
    17.65 - Master Plans
    17.62 - Site Plan and Design Review
    17.52 - Off Street Parking and Loading
    17.41 – Tree Protection
    17.49 - Natural Resource Overlay District
    12.04 - Streets, Sidewalks, And Public Places
    12.08 - Public and Street Trees
    13.12 - Stormwater Management
    15.48 - Grading, Filling and Excavating
    17.47 - Erosion and Sediment Control
    17.50 - Administration and Procedures

    The City Code Book is available on-line at www.orcity.org.

4. **Permits and Approvals:** The applicant is responsible for obtaining approval and permits from each applicable governmental agency and department at Oregon City including but not limited to the Engineering and Building Divisions.

5. **Notice and Public Comment**

Public Notice of this application was provided twice. Initial public notice of a Type II review (Limited Land Use Decision) was provided pursuant OCMC 17.50.030(B) on March 10, 2016.

Upon further review it was determined that the application required a Type III review for the reasons discussed earlier. Subsequently a second public notice was provided pursuant to OCMC 17.50.030(C) on March 29, 2016.

Notice of the proposal was sent to various City departments, affected agencies, property owners within 300 feet, and the Neighborhood Association. Additionally, the subject property was posted with signs identifying that a land use action was occurring on the property. Notice was also provided in the March 30 edition of the Clackamas Review / Oregon City News.

Public Comments
Public comments submitted include (Exhibit 3):
1. A letter of support from Caufield Neighborhood Association, dated March 31, 2016 (Exhibit 3a).

The applicant gave presentations to various committees and groups regarding this project, including the Oregon City Natural Resources Committee (NRC), on August 12, 2016. The NRC considered the proposal and provided a letter of support on August 20, 2015 (Exhibit 3b).

Agency Comments
Agency comments were received from the Tri-City Service District (Sewer) and Tri-Met (Public Transportation) indicating no conflicts with the application (Exhibit 4).

Comments of the Public Works Department and Development Services Division are incorporated into this report and Conditions of Approval.

None of the comments provided indicate that an approval criterion has not been met or cannot be met through the Conditions of Approval attached to this Staff Report.

II. ANALYSIS AND FINDINGS:

Chapter 17.39 - [I] INSTITUTIONAL DISTRICT

17.39.010 - Designated.
The purpose of this district is designed to facilitate the development of major public institutions, government facilities and parks and ensure the compatibility of these developments with surrounding areas. The I—Institutional zone is consistent with the public/quasi public and park designations on the comprehensive plan map.
Finding: Clackamas Community College is a major public institution recognized within the Oregon City Comprehensive Plan.

17.39.020 - Permitted uses.
Permitted uses in the institutional district are:
A. Private and/or public educational or training facilities;
B. Parks, playgrounds, playfields and community or neighborhood community centers;
C. Public facilities and services including courts, libraries and general government offices and maintenance facilities;
D. Stadiums and arenas;
E. Banquet, conference facilities and meeting rooms;
F. Government offices;
G. Transportation facilities.
Finding: Complies as Proposed. Clackamas Community College is a public educational institution and a permitted use.

17.39.030 - Accessory uses.
The following uses are permitted outright if they are accessory to and related to the primary institutional use:
A. Offices;
B. Retail (not to exceed twenty percent of total gross floor area of all building);
C. Child care centers or nursery schools;
D. Scientific, educational, or medical research facilities and laboratories;
E. Religious institutions.
Finding: Complies as Proposed. The Environmental Learning Center offers an outdoor learning opportunity within the college campus and is integrated into varies curriculum offerings by the college. The ELC project will improve and restore habitat at the headwaters of Newell Creek.

17.39.030 - Conditional uses.
Uses requiring conditional use permit are:
A. Any uses listed under Section 17.39.030 that are not accessory to the primary institutional use;
B. Boarding and lodging houses, bed and breakfast inns;
C. Cemeteries, crematories, mausoleums, and columbariums;
D. Correctional facilities;
E. Helipad in conjunction with a permitted use;
F. Parking lots not in conjunction with a primary use;
G. Public utilities, including sub-stations (such as buildings, plants and other structures);
H. Fire stations.
Finding: Not Applicable. Clackamas Community College is a permitted use.

17.39.050 - Dimensional standards.
Dimensional standards in the I district are:
A. Maximum building height: Within one hundred feet of any district boundary, not to exceed thirty-five feet; elsewhere, not to exceed seventy feet.
B. Minimum required setbacks: Twenty-five feet from property line except when the development is adjacent to a public right-of-way. When adjacent to a public right-of-way, the minimum setback is zero feet and the maximum setback is five feet.

Finding: Complies as Proposed. The existing ELC project meets these dimensional standards. The proposed new entry pavilion canopy is 13' tall. New trail construction, pedestrian bridges, storm water improvements, the amphitheater and other improvements are essentially at grade and well within the setbacks of this section.

17.39.060 - Relationship to master plan.
A. A master plan is required for any development within the I district on a site over ten acres in size that:
1. Is for a new development on a vacant property;
2. Is for the redevelopment of a property previously used an a non-institutional use; or
3. Increases the floor area of the existing development by ten thousand square feet over existing conditions

B. Master plan dimensional standards that are less restrictive than those of the Institutional district require adjustments. Adjustments will address the criteria of Section 17.65.70 and will be processed concurrently with the master plan application.

C. Modifications to other development standards in the code may be made as part of the phased master plan adjustment process. All modifications must be in accordance with the requirements of the master plan adjustment process identified in Section 17.65.070.
Finding: Complies as Proposed. The college has an approved master plan, Planning File CP 07-01.

CHAPTER 17.65 - MASTER PLANS
17.65.010 - Purpose and intent.
It is the intent of this chapter to foster the growth of major institutions and other large-scale development, while identifying and mitigating the impacts of such growth on surrounding properties and public infrastructure. The city recognizes the valuable services and employment opportunities that these developments bring to Oregon City residents. The master plan process is intended to facilitate an efficient and flexible review process for major developments and to provide them with the assurance they need over the long term so that they can plan for and execute their developments in a phased manner. To facilitate this, the master plan process is structured to allow an applicant to address the larger development issues, such as adequacy of infrastructure and transportation capacity, and reserve capacity of the infrastructure and transportation system before expenditure of final design costs.
Finding: Complies as Proposed. The college has an approved master plan, Planning File CP 7-01. The college is in the process of preparing an amendment to the master plan for the Phase I improvements, which will be reviewed separately from this application. This project is provided in part by a Metro Nature in the Neighborhoods Restoration Grant. The funding cycle and the master plan amendment for the larger CCC campus is still in the draft stage for various reasons that are not related to this project. The applicant would like to proceed with the restoration work without waiting for the 2007 Master Plan to be amended.

17.65.[0]60 - Detailed development plan.
A. Submittal Requirements.
1. A transportation impact study documenting the on- and off-site transportation impacts, as specified in Section 17.65.050.B.1.h(1). If such an analysis was submitted as part of the general development plan process, the scope of the report may be limited to any changes which have occurred during the interim and any information listed below which was not a part of the initial study.
The on-site portion of the analysis shall include the location, dimensions and names of all proposed streets, alleys, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle access ways and other pedestrian and bicycle ways, transit streets and facilities, neighborhood activity centers, and easements on and within two hundred fifty feet of the boundaries of the site. The map shall identify existing subdivisions and development and un-subdivided or unpartitioned land ownerships adjacent to the proposed development site and show how existing streets, alleys, sidewalks, bike routes, pedestrian/bicycle access ways and utilities within two hundred fifty feet may be extended to and/or through the proposed development.

2. The location within the development and in the adjoining streets of existing and proposed sewers, water mains, culverts, drain pipes, underground electric, cable television and telephone distribution lines, gas lines, and the location of existing aerial electric, telephone and television cable lines, if any, to be relocated within the development.
3. A site plan or plans, to scale, containing the required information identified in:
a. Chapter 17.62.040.A.(8), (10), (11), (12), (13), (14), and (15);
b. Chapter 17.62.040.B;
c. Chapter 17.62.040.C;
d. Chapter 17.62.040.D;
e. Chapter 17.62.040.E;
f. Chapter 17.62.040.G;
g. Chapter 17.62.040.H; and
h. Chapter 17.62.040.J.
4. Any other information the community development director deems necessary to show that the proposed development will comply with all of the applicable Chapter 17 requirements.
Finding: Complies as Proposed. The applicant submitted all of the required information for review of the detailed development plan. A traffic analysis was not required for this application.

B. Approval Criteria. The community development director shall approve an application for detailed development plan approval only upon findings that:
1. All development standards and impact mitigation meet the requirements of the approved general development plan, including conditions of approval.
2. Any other applicable zoning regulations that are not addressed in the general development plan are met, unless an adjustment to those regulations has been applied for and is approved. The approval standards applicable to adjustments required as part of a master plan are contained in Section 17.65.070.
3. The detailed development plan conforms with the standards contained in Chapter 17.62, unless adjusted as provided in Section 17.65.070.
Finding: Complies with conditions. Staff has reviewed the proposal for compliance with CP 07-01, bearing in mind that this phase of the development is preceding a forthcoming amendment to the current approved master plan. The NROD application is being reviewed under the current standards of OCMC 17.49. This requires a Type III review for the following reasons:

1. The applicant has proposed alterations and additions which were not included in the CP 07-01 master plan.
2. The project additions exceed the original threshold approved by the Planning Commission of 38,460 square feet, triggering a requirement for review under the current code.
3. The delineated boundaries of the wetland have changed (expanded) since 2007 which had the effect of exceeding the threshold approved under CP 07-01.
4. The cumulative additional disturbance area of the alterations and additions exceeds 500 square feet under current OCMC 17.49 code.

The original Master Plan approval allows for review of the detailed development plan pursuant to the current 17.49 code. The City's natural resources consultant, David Evans and Associates has reviewed the proposal and has recommends conditions of approval to assure compliance with OCMC 17.49.

The proposal otherwise complies with the original conditions of approval, since the renovation of the site does not create any additional land use impacts that were not anticipated with approval of CP 07-01. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.65.070 - Adjustments to development standards.
A. Purpose. In order to implement the purpose of the city's master plan process, which is to foster the growth of major institutions and other large-scale development, while identifying and mitigating their impacts on surrounding

properties and public infrastructure, an applicant may request one or more adjustments to the applicable development regulations as part of the master planning process. These include, but are not limited to, items such as: dimensional standards of the underlying zone, site plan and design review criteria, residential design standards, and standards for land division approval.

B. Procedure. Requests for adjustments shall be processed concurrently with a general development plan. An adjustment request at the detailed development plan review shall cause the detailed development plan to be reviewed as a Type III application.

C. Regulations That May Not be Adjusted. Adjustments are prohibited for the following items:
1. To allow a primary or accessory use that is not allowed by the regulations;
2. To any regulation that contains the word "prohibited";
3. As an exception to a threshold review, such as a Type III review process; and
4. Any exception to allow a use not identified as a permitted or conditional use in the underlying zone.

D. Approval Criteria. A request for an adjustment to one or more applicable development regulations under this section shall be approved if the review body finds that the applicant has shown the following criteria to be met.
1. Granting the adjustment will equally or better meet the purpose of the regulation to be modified;
2. If more than one adjustment is being requested, the cumulative effect of the adjustments results in a project that is still consistent with the overall purpose of the zone;
3. City-designated Goal 5 resources are protected to the extent otherwise required by Title 17;
4. Any impacts resulting from the adjustment are mitigated; and
5. If an environmental zone, the proposal has as few significant detrimental environmental impacts on the resource and resource values as is practicable. (Ord. 03-1014, Att. B3 (part), 2003)
6. The proposed adjustment is consistent with the Oregon City Comprehensive Plan and ancillary documents.

Finding: Complies as Proposed. The applicant's proposal is being reviewed as a modification to the original master plan water quality threshold for the reasons described in section 17.49. Subsequently the application is required to be reviewed as a Type III decision. However, the applicant is not seeking any adjustment to the code criteria, only review under the current code rather than the original 2007 code. The project will have the effect of enhancing and protecting the designated Goal 5 resource protected under the provisions of the Natural Resources Overlay District OCMC 17.49. Adequate mitigation of the few minor impacts resulting from the construction of non-exempt trails and other features has been proposed, and the proposal will result in improved function of the Goal 5 resources and the resource values. The proposal is consistent with the following Oregon City Comprehensive Plan.

For further analysis, please see findings under section 17.49.

17.65.80 - Amendments to approved plans.
A. When Required. An amendment to an approved General Development Plan or detailed development plan is required for any use or development that is not in conformance with the applicable plan, as provided below. The approval criteria contained in Section 17.65.050 will apply to general development plan amendments, the approval criteria contained in Section 17.65.060 will apply to detailed development plan amendments. The thresholds and procedures for amendments are stated below.
B. Type III Procedure. Unless the approved general development plan or detailed development plan specifically provides differently, amendments to either plan that require a Type III procedure are:
1. Any proposed development on the site that is within one hundred feet of the master plan boundaries, unless a greater distance is stated in the master plan;
2. A proposed expansion of the approved boundary;
3. A proposed reduction in the approved boundary that affects a condition of approval, or takes the site out of conformance, or further out of conformance, with a development standard;
4. Proposals that increase the amount, frequency, or scale of a use over ten percent of what was approved (examples include the number of students, patients or members; the number of helicopter flights; the number or size of special events);

5. New uses not covered in the plan that will increase vehicle transportation to the site, except for those that are replacing another use so that there is no net increase in vehicles drawn to the site;
6. Increases in overall floor area of development on the site of over ten percent;
7. A increases/decrease greater than ten percent in the amount of approved or required parking; and
8. Proposed uses or development which were reviewed, but were denied because they were found not to be in conformance with an approved plan.
C. Type II Procedure. Unless an approved plan specifically provides otherwise, amendments to a general development plan or detailed development plan not specifically stated in Subsection B or D are processed through a Type II procedure.
D. Type I Procedure. Unless an approved plan specifically provides otherwise, the following amendments to a general development plan or detailed development plan shall be processed through a Type I procedure:
1. Accessory uses and structures that meet applicable development regulations;
2. Reconfiguration of approved parking or landscape designs that do not alter the points of ingress or egress, and do not change the number of parking spaces required, so long as the reconfiguration meets applicable development regulations; and
3. Structures for approved uses that do not exceed one thousand five hundred square feet in size and that meet applicable development regulations.

Finding: Complies with Conditions. As discussed above, this detailed development plan exceeds the original approved threshold given for a Type II review for a variety of reasons pertaining to the originally approved Water Quality Resource Area. This triggered the requirement for a Planning Commission review under the current OCMC 17.49 Natural Resources Area Code. The applicant's proposal will have the effect of enhancing and protecting the designated Goal 5 resource protected under the provisions of the Natural Resources Overlay District OCMC 17.49. Adequate mitigation of the few minor impacts resulting from the construction of non-exempt trails and other features has been proposed, and the proposal will result in improved function of the Goal 5 resources and the resource values.

For further analysis, please see findings under section 17.49.

Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

17.65.090 - Regulations that apply.
An applicant is entitled to rely on land use regulations in effect on the date its general development plan application was initially submitted, pursuant to ORS 227.178(3), as that statute may be amended from time to time. After a general development plan is approved, and so long as that General Development Plan is in effect, an applicant is entitled to rely on the land use regulations in effect on the date its general development plan application was initially submitted, as provided above, when seeking approval of detailed development plans that implement an approved general development plan. At its option, an applicant may request that a detailed development plan be subject to the land use regulations in effect on the date its detailed development plan is initially submitted.

Finding: As discussed above, the applicant is requesting approval under the current version of OCMC 17.49. For further analysis, please see findings under section 17.49.

CHAPTER 17.62 SITE PLAN AND DESIGN REVIEW

17.62.015 *Modifications that will better meet design review requirements.*
The review body may consider modification of site-related development standards. These modifications are done as part of design review and are not required to go through the Variance process pursuant to section 17.60.020. Adjustments to use-related development standards (such as floor area ratios, intensity of use, size of the use, number of units, or concentration of uses) are required to go through the Variance process pursuant to section

17.60.020. Modifications that are denied through design review may be requested as Variance through the Variance process pursuant to section 17.60.020. The review body may approve requested modifications if it finds that the applicant has shown that the following approval criteria are met:

Finding: Not Applicable. The applicant did not respond to this section, however the applicant has not requested any modification to site-related development standards.

17.62.020 - Preapplication conference.

Prior to filing for site plan and design review approval, the applicant shall confer with the community development director pursuant to Section 17.50.030. The community development director shall identify and explain the relevant review procedures and standards.

Finding: Complies as Proposed. Please see finding under section 17.50.050.

17.62.030 - When required.

Site plan and design review shall be required for all development of real property in all zones except the R-10, R-8, R-6, R-5 and R-3.5 zoning districts, unless otherwise provided for by this title or as a condition of approval of a permit. Site plan and design review shall also apply to all conditional uses, cottage housing development, multi-family and non-residential uses in all zones. No building permit or other permit authorization for development shall be issued prior to site plan and design review approval. Parking lots and parking areas accessory to uses regulated by this chapter also shall require site plan and design review approval. Site plan and design review shall not alter the type and category of uses permitted in zoning districts.

Finding: Applicable. The applicant has proposed development of property in the I – Institutional Zone District, therefore the application must demonstrate compliance with this chapter.

17.62.035 - Minor site plan and design review.

This section provides for a minor site plan and design review process. Minor Site Plan Review is a Type II decision subject to administrative proceedings described in OCMC 17.50 section and may be utilized as the appropriate review process only when authorized by the community development director. The purpose of this type of review is to expedite design review standards for uses and activities that require only a minimal amount of review, typical of minor modifications and/or changes to existing uses or buildings.

A. Generally. Minor site plan and design review applies to the following uses and activities:

1. Modification of an office, commercial, industrial, institutional, public or multi-family structure for the purpose of enhancing the aesthetics of the building and not increasing the interior usable space (for example covered walkways or entryways, addition of unoccupied features such as clock tower, etc.).

2. Modification to parking lot layout and landscaping or the addition of up to 5 parking spaces.

3. A maximum addition of up to one thousand square feet to a commercial, office, institutional, public, multi-family, or industrial building provided that the addition is not more than thirty-five percent of the original building square footage.

4. Other land uses and activities may be added if the community development director makes written findings that the activity/use will not increase off-site impacts and is consistent with the type and/or scale of activities/uses listed above.

Finding: Not Applicable. The proposed development does not qualify for a Minor Site and Design Review application.

17.62.040 - Plans required.

Finding: Complies as Proposed. The applicant has submitted all requested application items. The applicant's narrative on page 4 through 9 explains all of the submitted plan details.

17.62.050 - Standards.

A. All development shall comply with the following standards:

1. Landscaping, A minimum of fifteen percent of the lot shall be landscaped. Existing native vegetation shall be retained to the maximum extent practicable. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.

Finding: Complies as Proposed. The site landscape exceeds the 15% minimum and as much of the existing vegetation as possible is being retained. All nuisance vegetation is scheduled to be removed prior to new planting.

a. Except as allowed elsewhere in the zoning and land division chapters of this Code, all areas to be credited towards landscaping must be installed with growing plant materials. A reduction of up to twenty-five percent of the overall required landscaping may be approved by the community development director if the same or greater amount of pervious material is incorporated in the non-parking lot portion of the site plan (pervious material within parking lots are regulated in OCMC 17.52.070).

Finding: Complies as Proposed. The applicant has not requested a reduction in the minimum landscaping percentage. The application includes significant upgrades to the current gravel parking lot to comply with current landscaping and drainage standards, and include the addition of interior, perimeter and building buffer landscaping areas. Most of the parking lot and road areas are well outside of the delineated vegetated buffer. The majority of the site restoration falls within the Natural Resources Overlay District. See below.

b. Pursuant to Chapter 17.49, landscaping requirements within the Natural Resource Overlay District, other than landscaping required for parking lots, may be met by preserving, restoring and permanently protecting native vegetation and habitat on development sites.

Finding: Applicable. The majority of the site restoration falls within the Natural Resources Overlay District and is reviewed pursuant to the standards in OCMC 17.49.

c. The landscaping plan shall be prepared by a registered landscape architect and include a mix of vertical (trees and shrubs) and horizontal elements (grass, groundcover, etc.) that within three years will cover one hundred percent of the Landscape area. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. The community development department shall maintain a list of trees, shrubs and vegetation acceptable for landscaping.

Finding: Complies as Proposed. The landscape design and plans were prepared by Lango Hansen, registered landscape architects and includes a mix of vertical and horizontal elements. The narrative indicates full coverage within the landscaped area in three years. Native vertical trees, ground cover and water plants are all included in the design, see planting plan and plant schedule. The applicant indicated that no mulch or bark chips will be used beyond these regulations. The mitigation plan that governs the Natural Resources Overlay District was prepared by Pacific Habitat Services, and will prevail over this standard in order that the restoration of the ponds and associated resource values is given priority.

d. For properties within the Downtown Design District, or for major remodeling in all zones subject to this chapter, landscaping shall be required to the extent practicable up to the ten percent requirement.

Finding: Not Applicable. The project is not within the Downtown Design District.

e. Landscaping shall be visible from public thoroughfares to the extent practicable.

Finding: Complies as Proposed. The landscape plan for this project is visible from public thoroughfares to the extent practicable.

f. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum, unless otherwise permitted by the dimensional standards of the underlying zone district.

Finding: Complies as Proposed. The site landscaping far exceeds the minimum landscaping without acknowledgement of the interior parking lot landscaping.

2. Vehicular Access and Connectivity.

a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.

Finding: Complies as Proposed. The existing configuration of the site includes an existing approved location of the parking area on the other side of Inskeep drive. No change to the location of the parking area is proposed.

b. Ingress and egress locations on thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.
Finding: Complies as Proposed. The ingress and egress to the ELC site are existing and not being changed. Emergency service access is provided.

c. Alleys or vehicular access easements shall be provided in the following Districts: R-2, MUC-1, MUC-2, MUD and NC zones unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker. The corners of alley intersections shall have a radius of not less than ten feet.
Finding: Not Applicable. The site is not within any of the zone districts listed and is not required to provide alley access.

d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director.
Finding: Not Applicable. The site is not within any of the zone districts listed and is not required to provide alley access.

e. Where no alley access is available, the development shall be configured to allow only one driveway per frontage. On corner lots, the driveway(s) shall be located off of the side street (unless the side street is an arterial) and away from the street intersection. Shared driveways shall be required as needed to accomplish the requirements of this section. The location and design of pedestrian access from the sidewalk shall be emphasized so as to be clearly visible and distinguishable from the vehicular access to the site. Special landscaping, paving, lighting, and architectural treatments may be required to accomplish this requirement.
Finding: Complies as Proposed. Access and driveways to the ELC are existing as per the Clackamas Community College Master Plan. Pedestrian access from the parking area is being improved and clearly marked with a new cross walk. A new sidewalk between the parking and Inskeep Drive is also being added. The entrance to the ELC is being improved with a new monument sign, wayfinding map and entrance canopy. The canopy and entrance area of the ELC will have improved lighting.

f. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites.
Finding: Not Applicable. All driveways are existing. No additional streets are planned.

g. Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Such easements shall be required in addition to applicable street dedications as required in Chapter 12.04.
Finding: Not applicable. The Regional Transportation Plan includes a trail (the Oregon City Loop trail – Project #10148) that weaves through the campus and is aligned adjacent to the ELC. It is anticipated that this trail improvement will be required with the approval of the forthcoming CCC Master Plan Phase I amendment. The final design, engineering, and location of this loop trail has not been determined at this time. Compliance with OCMC 12.04 is not required at this time. The applicant shall coordinate the design and location of the Oregon City Loop trail with the applicable agencies at the time of the Phase I Detailed Development Plan or Master Plan amendment. Compliance with 12.04 will be determined at that time. Such design shall include the use of public access easements and/or street dedications where applicable.

h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed impracticable by the city.
Finding: Complies with Conditions. See under (g) above.

i. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.
Finding: Complies with Conditions. See under (g) above.

j. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future.
Finding: Complies with Conditions. See under (g) above.

k. Parcels larger than three acres shall provide streets as required in Chapter 12.04. The streets shall connect with existing or planned streets adjacent to the site.
Finding: Complies with Conditions. See under (g) above.

l. Parking garage entries shall not dominate the streetscape. They shall be designed and situated to be ancillary to the use and architecture of the ground floor. This standard applies to both public garages and any individual private garages, whether they front on a street or private interior access road.
Finding: Not Applicable. A parking garage is not proposed with this development.

m. Buildings containing above-grade structured parking shall screen such parking areas with landscaping or landscaped berms, or incorporate contextual architectural elements that complement adjacent buildings or buildings in the area. Upper level parking garages shall use articulation or fenestration treatments that break up the massing of the garage and/or add visual interest.
Finding: Not Applicable. A parking garage is not proposed with this development.

3. Building structures shall be complimentary to the surrounding area. All exterior surfaces shall present a finished appearance. All sides of the building shall include materials and design characteristics consistent with those on the front. Use of inferior or lesser quality materials for side or rear facades or decking shall be prohibited.
Finding: Complies as Proposed. The ELC structures are existing. Some renovation is proposed to the existing Pavilion building, which includes upgrading the restrooms in order to make them ADA accessible, and the installation of new wood and glass accordion doors to allow the Pavilion to be used as a semi-outdoor classroom. All renovation will be kept in the spirit of the original structure with materials and colors matched as closely as possible. The new entry canopy is proposed to be made of steel in order to be as light and visually minimal as possible, not detracting from the original structures.

4. Grading shall be in accordance with the requirements of Chapter 15.48 and the public works stormwater and grading design standards.
Finding: Please refer to the findings under Chapter 15.48 of this report.

5. Development subject to the requirements of the Geologic Hazard overlay district shall comply with the requirements of that district.
Finding: Not Applicable. The proposed project is not within the Geologic Hazard overlay district, therefore this section is not applicable.

6. Drainage shall be provided in accordance with city's drainage master plan, Chapter 13.12, and the public works stormwater and grading design standards.
Finding: Please refer to the findings under Chapter 13.12 of this report.

7. Parking, including carpool, vanpool and bicycle parking, shall comply with city off-street parking standards, Chapter 17.52.
Finding: Please refer to the findings under Chapter 17.52 of this report.

8. Sidewalks and curbs shall be provided in accordance with the city's transportation master plan and street design standards. Upon application, the community development director may waive this requirement in whole or in part

in those locations where there is no probable need, or comparable alternative location provisions for pedestrians are made.

Finding: Not Applicable. See findings under section 12.04 of this report.

9. A well-marked, continuous and protected on-site pedestrian circulation system meeting the following standards shall be provided:

a. Pathways between all building entrances and the street are required. Pathways between the street and buildings fronting on the street shall be direct. Exceptions may be allowed by the director where steep slopes or protected natural resources prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.

Finding: Complies as Proposed. The applicant indicates that a new sidewalk and curb is proposed along the west side of Inskeep Drive and the improved parking area. The pathway between the parking, crossing Inskeep Drive and the ELC is direct, and clearly marked.

b. The pedestrian circulation system shall connect all main entrances on the site. For buildings fronting on the street, the sidewalk may be used to meet this standard. Pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.

Finding: Complies as Proposed. The proposed design provides a sidewalk connecting all of the main entranceways onsite. The pedestrian circulation system connects the existing campus facilities buildings with the proposed parking and improved entry to the existing ELC facility and natural resource area. New circulation paths throughout the restored ELC provide access to all the existing, new and improved amenities. Further pedestrian connectivity with the larger campus will be required at the time of Phase I improvements.

c. Elevated external stairways or walkways, that provide pedestrian access to multiple dwelling units located above the ground floor of any building are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard.

Finding: Not Applicable. No exterior walkways which provide connection to dwelling units are proposed on a structure.

d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site.

Finding: Please refer to the analysis in 17.62.050.A.9.b.

e. The pedestrian circulation system shall connect the principal building entrance to those of buildings on adjacent commercial and residential sites where practicable. Walkway linkages to adjacent developments shall not be required within industrial developments or to industrial developments or to vacant industrially-zoned land.

Finding: See finding under 17.62.050.A.2 (g).

f. On-site pedestrian walkways shall be hard surfaced, well drained and at least five feet wide. Surface material shall contrast visually to adjoining surfaces. When bordering parking spaces other than spaces for parallel parking, pedestrian walkways shall be a minimum of seven feet in width unless curb stops are provided. When the pedestrian circulation system is parallel and adjacent to an auto travel lane, the walkway shall be raised or separated from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps for each direction of travel. Pedestrian walkways that cross drive isles or other vehicular circulation areas shall utilize a change in textual material or height to alert the driver of the pedestrian crossing area.

Finding: Complies as Proposed. All pedestrian walkways near the parking area are concrete and a minimum of 5’ wide, with direct connections to the buildings. The parking stalls adjacent to the pedestrian walkways have concrete wheel stops. All pedestrian walkways are raised and separated by a 6” curb, and when space allows, also a 5’ wide planting strip. Curb ramps are provided at all intersections. Pedestrian walkways that cross vehicular circulation areas are striped for crosswalks. On the ELC site, accessible compacted gravel pedestrian walkways connect the parking area to the main site

features such as the outdoor classroom, the amphitheater, and the weir overlook and two water access points. Accessible gravel is used to provide permeability for stormwater and to limit environmental habitat impact in this sensitive habitat restoration area.

10. There shall be provided adequate means to ensure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.
Finding: Complies as Proposed. The development application identified adequate means and accesses to ensure continued maintenance and necessary replacement of facilities and areas.

11. Site planning shall conform to the requirements of OCMC Chapter 17.41 Tree Protection.
Finding: Please refer to the analysis in Chapter 17.41 of this report.

12. Development shall be planned, designed, constructed and maintained to protect water resources and habitat conservation areas in accordance with the requirements of the city's Natural Resources Overlay District, Chapter 17.49, as applicable.
Finding: Please refer to the analysis in Chapter 17.49 of this report.

13. All development shall maintain continuous compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.
Finding: Complies as Proposed. The development proposal assured compliance with this section. The applicant indicated that permit applications for this project have been submitted to the Army Corps of Engineers, Department of State Lands and Department of Environmental Quality.

14. Adequate public water and sanitary sewer facilities sufficient to serve the proposed or permitted level of development shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. Service providers shall be presumed correct in the evidence, which they submit. All facilities shall be designated to city standards as set out in the city's facility master plans and public works design standards. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The city may require over sizing of facilities where necessary to meet standards in the city's facility master plan or to allow for the orderly and efficient provision of public facilities and services. Where over sizing is required, the developer may request reimbursement from the city for over sizing based on the city's reimbursement policy and fund availability, or provide for recovery of costs from intervening properties as they develop.
Finding: Not Applicable. The applicant is not proposing any development which will impact City water or sanitary sewer facilities, therefore this section is not applicable.

15. Adequate right-of-way and improvements to streets, pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the city's transportation master plan and design standards and this title. Consideration shall be given to the need for street widening and other improvements in the area of the proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. Compliance with [Chapter] 12.04, Streets, Sidewalks and Public Places shall be sufficient to achieve right-of-way and improvement adequacy.

Finding: Not Applicable. See findings under section 12.04 of this report.

16. If a transit agency, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an agency adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the transportation system plan.

Finding: Not Applicable. No transit improvements are proposed or required with this application.

17. All utility lines shall be placed underground.

Finding: Not Applicable. The applicant is not required to install or construct any public utilities as part of this project, therefore this section is not applicable.

18. Access and facilities for physically handicapped people shall be incorporated into the site and building design consistent with applicable federal and state requirements, with particular attention to providing continuous, uninterrupted access routes.

Finding: Complies as Proposed. The new parking area will have designated ADA parking spaces, the Pavilion bathrooms are being upgraded to meet ADA standards and the primary circulation system within the ELC will provide access to all the amenities.

19. For a residential development, site layout shall achieve at least eighty percent of the maximum density of the base zone for the net developable area. Net developable area excludes all areas for required right-of-way dedication, land protected from development through Natural Resource or Geologic Hazards protection, and required open space or park dedication.

Finding: Not Applicable. This is not a residential development.

20. Screening of Mechanical Equipment:

a. Rooftop mechanical equipment, including HVAC equipment and utility equipment that serves the structure, shall be screened. Screening shall be accomplished through the use of parapet walls or a sight-obscuring enclosure around the equipment constructed of one of the primary materials used on the primary facades of the structure, and that is an integral part of the building's architectural design. The parapet or screen shall completely surround the rooftop mechanical equipment to an elevation equal to or greater than the highest portion of the rooftop mechanical equipment being screened. In the event such parapet wall does not fully screen all rooftop equipment, then the rooftop equipment shall be enclosed by a screen constructed of one of the primary materials used on the primary facade of the building so as to achieve complete screening.

Finding: Not Applicable. No rooftop mechanical equipment are proposed.

b. Wall-mounted mechanical equipment shall not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment, including air conditioning or HVAC equipment and groups of multiple utility meters, that extends six inches or more from the outer building wall shall be screened from view from streets; from residential, public, and institutional properties; and from public areas of the site or adjacent sites through the use of (a) sight-obscuring enclosures constructed of one of the primary materials used on the primary facade of the structure, (b) sight-obscuring fences, or (c) trees or shrubs that block at least eighty percent of the equipment from view or (d) painting the units to match the building. Wall-mounted mechanical equipment that extends six inches or less from the outer building wall shall be designed to blend in with the color and architectural design of the subject building.

Finding: Not Applicable. No wall-mounted mechanical equipment is proposed.

c. Ground-mounted above-grade mechanical equipment shall be screened by ornamental fences, screening enclosures, trees, or shrubs that block at least eighty percent of the view. Placement and type of screening shall be determined by the community development director.

Finding: Not Applicable. No new ground mounted mechanical equipment will be added as part of this project.

d. All mechanical equipment shall comply with the standards in this section. If mechanical equipment is installed outside of the site plan and design review process, planning staff shall review the plans to determine if additional screening is required. If the proposed screening meets this section, no additional planning review is required.
Finding: Not Applicable. No new mechanical equipment is proposed.

e. This section shall not apply to the installation of solar energy panels, photovoltaic equipment or wind power generating equipment.
Finding: Not Applicable. None of these items is proposed.

21. Building Materials.
a. Preferred building materials. Building exteriors shall be constructed from high quality, durable materials. Preferred exterior building materials that reflect the city's desired traditional character are as follows:
i. Brick.
Ii. Basalt stone or basalt veneer.
iii. Narrow horizontal wood or composite siding (generally five inches wide or less); wider siding will be considered where there is a historic precedent.
iv. Board and baton siding.
v. Other materials subject to approval by the community development director.
vi. Plywood with battens or fiber/composite panels with concealed fasteners and contagious aluminum sections at each joint that are either horizontally or vertically aligned.
vii. Stucco shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.
Finding: Complies as Proposed. The existing Pavilion has horizontal ship-lap cedar siding, where patching is required the existing siding will be matched in dimension and profile. The proposed entry canopy will be constructed from steel with an applied blackened patina finish. The bridges will be constructed with natural cedar.

b. Prohibited materials. The following materials shall be prohibited in visible locations unless an exception is granted by the community development director based on the integration of the material into the overall design of the structure.
i. Vinyl or plywood siding (including T-111 or similar plywood).
Ii. Glass block or highly tinted, reflected, translucent or mirrored glass (except stained glass) as more than ten percent of the building facade.
iii. Corrugated fiberglass.
iv. Chain link fencing (except for temporary purposes such as a construction site or as a gate for a refuse enclosure).
[v.] Crushed colored rock/crushed tumbled glass.
[vi.] Non-corrugated and highly reflective sheet metal.
Finding: Not Applicable. No prohibited materials are identified within the submittal.

c. Special material standards: The following materials are allowed if they comply with the requirements found below:
1. Concrete block. When used for the front facade of any building, concrete blocks shall be split, rock- or ground-faced and shall not be the prominent material of the elevation. Plain concrete block or plain concrete may be used as foundation material if the foundation material is not revealed more than three feet above the finished grade level adjacent to the foundation wall.
2. Metal siding. Metal siding shall have visible corner moldings and trim and incorporate masonry or other similar durable/permanent material near the ground level (first two feet above ground level).
3. Exterior Insulation and Finish System (EIFS) and similar toweled finishes shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.
4. Building surfaces shall be maintained in a clean condition and painted surfaces shall be maintained to prevent or repair peeling, blistered or cracking paint.

Finding: Complies as Proposed. No special material standards are proposed within the development application. The pavilion is proposed to be repainted, the college has staff facilities that work to maintain their building stock.

22. Conditions of Approval. The review authority may impose such conditions as it deems necessary to ensure compliance with these standards and other applicable review criteria, including standards set out in city overlay districts, the city's master plans, and city public works design standards. Such conditions shall apply as described in Sections 17.50.310, 17.50.320 and 17.50.330. The review authority may require a property owner to sign a waiver of remonstrance against the formation of and participation in a local improvement district where it deems such a waiver necessary to provide needed improvements reasonably related to the impacts created by the proposed development. To ensure compliance with this chapter, the review authority may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the city attorney.

Finding: Complies with Conditions. The proposal can meet the approval criteria with the conditions of approval. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.62.055 - Institutional and commercial building standards.

A. Purpose. The primary objective of the regulations contained in this section is to provide a range of design choices that promote creative, functional, and cohesive development that is compatible with surrounding areas. Buildings approved through this process are intended to serve multiple tenants over the life of the building, and are not intended for a one-time occupant. The standards encourage people to spend time in the area, which also provides safety though informal surveillance. Finally, this section is intended to promote the design of an urban environment that is built to human scale by creating buildings and streets that are attractive to pedestrians, create a sense of enclosure, provide activity and interest at the intersection of the public and private spaces, while also accommodating vehicular movement.

B. Applicability. In addition to Section 17.62.050 requirements, institutional and commercial buildings shall comply with design standards contained in this section.

Finding: Applies. The applicant indicates that the purpose of the ELC project is to restore and rehabilitate the water and natural habitat areas associated with the Environmental Learning Center and to achieve the same for the thirty-plus year old Pavilion building, breathing new life and purpose into an existing resource while leveraging the history and teaching opportunities for both the college and the greater Community.

Staff concurs with this description of the ELC's purpose and finds that the proposal meets the intent of this section.

C. Relationship between zoning district design standards and requirements of this section.

1. Building design shall contribute to the uniqueness of the underlying zoning district by applying appropriate materials, elements, features, color range and activity areas tailored specifically to the site and its context.

Finding: Complies as Proposed. The only new building structure proposed is the entry pavilion canopy. See section 17.62.050 for findings. Additional structures proposed at grade are the paths, bridges, informational kiosks, and stormwater facilities, which are exempt from these standards as they are ancillary structures. The applicant states that the ELC is a unique site and facility providing a natural resource area and learning environment at the Newell Creek headwaters and within the Clackamas Community College. The design features and activity areas within the restored ELC are tailored to habitat restoration and creating age appropriate learning opportunities from early childhood through college. The design will provide multiple outdoor teaching and lab opportunities for curriculum offer by the college. Staff concurs and finds that the proposal meets this standard.

The ELC building is pre-existing and was approved under the prior master plan CP 07-01 and therefore is not required to comply with the remaining standards of this section.

17.62.065 - Outdoor lighting.

A. Purpose. The general purpose of this section is to require outdoor lighting that is adequate for safety and convenience; in scale with the activity to be illuminated and its surroundings; directed to the surface or activity to be illuminated; and designed to clearly render people and objects and contribute to a pleasant nighttime environment.

3. Excepted Lighting.
The following types of lighting are excepted from the requirements of this section.
f. Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.

Finding: Complies as Proposed. The applicant indicates that this site is the location of the observatory and a sensitive habitat area. As such, they have proposed lighting the pathway to a lesser standard than a heavily travelled pathway. The Natural Resources Overlay District requires lighting not be directed into the resource area. Night time visitors are not to be on site unless visiting the observatory.

C. General Review Standard. If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design standards of subsection D. below shall be deemed to not adversely affect adjacent properties or the community.

Finding: Complies as Proposed. Exterior lighting installed on this project will meet the functional security needs without adversely affecting either adjacent properties, the community, or the stated purpose of the subject facility.

D. Design and Illumination Standards.
General Outdoor Lighting Standard and Glare Prohibition.
1. Outdoor lighting, if provided, shall be provided in a manner that enhances security, is appropriate for the use, avoids adverse impacts on surrounding properties, and the night sky through appropriate shielding as defined in this section. Glare shall not cause illumination on other properties in excess of a measurement of 0.5 footcandles of light as measured at the property line. In no case shall exterior lighting add more than 0.5 footcandle to illumination levels at any point off-site. Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:

Finding: Complies as Proposed. The applicant is only proposing canopy lighting under the new canopy and pole lighting in the parking lots. No lighting is proposed for the pathways. The development application included a photometric plan which demonstrated compliance with this standard. Staff finds that the proposal for no lighting on the pathways will better comply with the requirements for the Natural Resources Overlay District, and will not have any impact on public safety since visitors will be restricted to daylight hours.

2. Any light source or lamp that emits more than nine hundred lumens (thirteen watt compact fluorescent or sixty watt incandescent) shall be concealed or shielded with a full cut-off style fixture in order to minimize the potential for glare and unnecessary diffusion on adjacent property. All fixtures shall utilize one of the following bulb types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high pressure sodium with a color rendering index above seventy.

Finding: Complies as Proposed. Lighting sources on this project are scheduled to be LED, with color rendering index well above seventy as well as better efficacy than most sources included in this prescriptive list. All luminaires will be cutoff type with no light emitted above horizontal.

3. The maximum height of any lighting pole serving a multi-family residential use shall be twenty feet. The maximum height serving any other type of use shall be twenty-five feet, except in parking lots larger than five

acres, the maximum height shall be thirty-five feet if the pole is located at least one hundred feet from any residential use.

Finding: Complies as Proposed. Pole mounted lighting in parking lot are at 20 feet.

4. Lighting levels:
Table 1-17.62.065. Foot-candle Levels

Location	*Min*	*Max*	*Avg*
Pedestrian Walkways	*0.5*	*7:1 max/min ratio*	*1.5*
Pedestrian Walkways in Parking Lots		*10:1 max/min ratio*	*0.5*
Pedestrian Accessways	*0.5*	*7:1 max/min ratio*	*1.5*
Building Entrances	*3*		
Bicycle Parking Areas	*3*		
Abutting property	*N/A*	*.05*	

Finding: Complies as Proposed. The applicant is only proposing canopy lighting under the new canopy and pole lighting in the parking lots. No lighting is proposed for the pathways. Staff finds that the proposal for no lighting on the pathways will better comply with the requirements for the Natural Resources Overlay District, and will not have any impact on public safety since visitors will be restricted to daylight hours.

5. Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize pedestrian scale lighting that defines the space without glare.

Finding: Complies as Proposed. As described above, the applicant has met the intent of this section.

6. Any on-site pedestrian circulation system shall be lighted to enhance pedestrian safety and allow employees, residents, customers or the public to use the walkways at night. Pedestrian walkway lighting through parking lots shall be lighted to light the walkway and enhance pedestrian safety pursuant to Table 1.

Finding: Complies as Proposed. The lighting has been designed to enhance wayfinding but also with consideration to the fact that the major nighttime use of the facility is limited to the observatory.

7. Pedestrian Accessways. To enhance pedestrian and bicycle safety, pedestrian accessways required pursuant to OCMC 12.28 shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances. Lamps shall include a high-pressure sodium bulb with an unbreakable lens.

Finding: Not Applicable. This is a reference to an older code provision that is now codified under OCMC 12.04.199 - Pedestrian and bicycle accessways which does not apply to this project.

8. Floodlights shall not be utilized to light all or any portion of a building facade between ten p.m. and six a.m.

Finding: Not Applicable. No floodlights are proposed.

9. Lighting on automobile service station, convenience store, and other outdoor canopies shall be fully recessed into the canopy and shall not protrude downward beyond the ceiling of the canopy.

Finding: Complies as Proposed. The applicant indicates that while the lighting in the canopy may protrude below the beam depth, the fixtures will be fully cutoff type and will emit no glare. Staff finds that this addresses the intent of this requirement.

10. The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.
Finding: Complies as Proposed. The style of all lighting fixtures is consistent with the site.

11. In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site.
Finding: Complies as Proposed. The photometric plan indicates compliance with this standard.

12. All outdoor light not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.
Finding: Complies as Proposed. The photometric plan indicates compliance with this standard.

13. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.
Finding: Not Applicable. None are proposed.

14. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roofline.
Finding: Not Applicable. None are proposed.

15. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.
Finding: Not Applicable. None are proposed.

16. Wireless Sites. Unless required by the Federal Aviation Administration or the Oregon Aeronautics Division, artificial lighting of wireless communication towers and antennas shall be prohibited. Strobe lighting of wireless communication facilities is prohibited unless required by the Federal Aviation Administration. Security lighting for equipment shelters or cabinets and other on-the-ground auxiliary equipment on wireless communication facilities shall be initiated by motion detecting lighting.
Finding: Not Applicable. The applicant has not proposed a wireless site.

17. Lighting for outdoor recreational uses such as ball fields, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:
i. Maximum permitted light post height: eighty feet.
ii. Maximum permitted illumination at the property line: 0.5 foot-candles.
Finding: Not Applicable. The applicant has not proposed active recreational uses.

CHAPTER 17.41 TREE PROTECTION STANDARDS

17.41.010 - Protection of trees—Intent.
The intent of this chapter is to ensure that new development is designed in a manner that preserves trees to the maximum extent practicable. As a requirement of any Type II land use application, the siting of structures, roadways and utility easements, shall provide for the protection of tree resources to the maximum extent practicable. This chapter applies to all subdivision, partition and site plan and design review applications.
Finding: Complies as Proposed. Site improvements have been located to avoid impacts to existing healthy trees to the maximum extent possible. Site grading has been minimized to protect impacts to existing tree roots while still allowing ADA access to site features. Trees removed are located in areas essential for ADA access or habitat restoration improvements.

17.41.020 - Tree protection—Applicability.
1. Applications for development subject to Chapters 16.08 or 16.12 (Subdivision or Minor Partition) or Chapter 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments.

2. For public capital improvement projects, the city engineer shall demonstrate compliance with these standards pursuant to a Type II process.
3. Tree canopy removal greater than twenty-five percent on sites greater than twenty-five percent slope, unless exempted under Section 17.41.040, shall be subject to these standards.
4. A heritage tree or grove which has been designated pursuant to the procedures of Chapter 12.08.050 shall be subject to the standards of this section.
Finding: Applicable. The proposed development includes Site Plan and Design Review, therefore this section applies. Portions of the project are within the Natural Resource Overlay District (NROD), which is discussed separately under Section 17.49 of this report. Tree removal outside of the delineated NROD is discussed in this section.

17.41.030 - Tree protection—Conflicting code provisions.
Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in Section 17.04, shall govern.
Finding: Applicable. With the exception of the trees governed by the Natural Resources Overlay District section 17.49, the trees within the boundaries of the property or associated with the proposed development onsite are regulated under this section of code and do not fall under any other protections within the City's development codes.

17.41.040 - Same—Exemptions.
These regulations are not intended to regulate normal cutting, pruning and maintenance of trees on private property except where trees are located on lots that are undergoing development review or are otherwise protected within the Natural Resource Overlay District (NROD) of section 17.49. These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930. The community development director has the authority to modify or waive compliance in this case.
Finding: Complies as Proposed. A portion of the site is located within the NROD boundary. All NROD mitigation requirements have been met for the area within the NROD boundary. See sheet L3.03 for tree mitigation plan.

17.41.050 - Same—Compliance options.
Applicants for review shall comply with these requirements through one or a combination of the following procedures:
A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.
B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to Sections 17.41.080—17.41.100; or
C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to Sections 17.41.110—17.41.120; or
D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130.
A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.
The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:
1. Preclude achieving eighty percent of minimum density with reduction of lot size; or
2. Preclude meeting minimum connectivity requirements for subdivisions.
Finding: Complies with Conditions. The applicant has proposed to utilize option 1, mitigation. As identified in this section and on the applicant's plan sheet L3.03, all replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city. Prior to

occupancy of the buildings on the subject site, the applicant shall record a covenant or easement for new or existing trees planted on the site. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.41.060 - Tree removal and replanting—Mitigation (Option 1).
A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in Chapter 17.04to the extent practicable. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. At the applicant's expense, the city may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under section 12.08—Community Forest and Street Trees.
Finding: Complies as Proposed. The applicant submitted a tree mitigation plan prepared by a certified landscape architect. The plan indicates that all mitigation trees and shrubs will be planted on the site, and outside of the required parking lot planting areas. Required parking lot plantings will not count as mitigation plantings.

B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:
1. Trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or
2. Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in Section 17.04.1360, may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.

Table 17.41.060-1
Tree Replacement Requirements
All replacement trees shall be either:
Two-inch caliper deciduous, or
Six-foot high conifer

Size of tree removed (DBH)	*Column 1* *Number of trees to be planted.* *(If removed Outside of construction area)*	*Column 2* *Number of trees to be planted.* *(If removed Within the construction area)*
6 to 12"	*3*	*1*
13 to 18"	*6*	*2*
19 to 24"	*9*	*3*
25 to 30"	*12*	*4*
31 and over"	*15*	*5*

Steps for calculating the number of replacement trees:
1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.
2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.
3. Document any trees that are currently diseased or hazardous.

4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.
5. Define the construction area (as defined in Chapter 17.04).
6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.
7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.
8. Determine the total number of replacement trees from steps 6. and 7.
Finding: Complies as Proposed. The applicant indicates that all mitigation trees and shrubs will be planted on the site, and outside of the required parking lot planting areas. Mitigation planting will be provided for all trees removed, both within the NROD boundary according to those requirements and outside the NROD boundary according to the requirements on table 17.41.060-1. See L3.03 Tree Mitigation Plan for locations. Required parking lot plantings will not count as mitigation plantings. Eleven (11) trees are indicated for removal outside the NROD boundary, with diameters between 6-12 inches, all within construction areas. The applicant proposes 1:1 replacement. The applicant shall provide a revised mitigation plan with submittal of the construction drawings to assure that the mitigation plantings match the submitted land use application. Required mitigation trees have been provided for all tree removed, regardless of existing tree health.

17.41.070 - Planting area priority for mitigation (Option 1).
Development applications which opt for removal of trees with subsequent replanting pursuant to section 17.41.050A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:
A. First Priority. Replanting on the development site.
B. Second Priority. Off-site replacement tree planting locations. If the community development director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and must be approved by the community development director.
Finding: Complies as Proposed. All mitigation trees will be planted on site.

17.41.075 - Alternative mitigation plan.
The community development director may, subject to a Type II procedure, approve an alternative mitigation plan that adequately protects habitat pursuant to the standards for the natural resource overlay district alternative mitigation plan, Section 17.49.190.
Finding: Not Applicable. Applicant has proposed alternative mitigation plan.

Sections 17.41.080 through 17.41.125.
Finding: These sections are not applicable to this application.

17.41.130 - Regulated tree protection procedures during construction.
A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.
B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:
1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.
2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the community development director.

3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.
4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.
5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.
6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.
7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.
8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.
9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.
10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.
C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.

Finding: Complies with Conditions. The applicant indicates that all required tree protection measures will be in place during construction. The applicant's demolition plan and landscaping plan indicates which trees are to be preserved and which will be removed. Site construction will include the above tree protection requirements related to soil compaction, soil hydrology, and site drainage within the tree protection areas. The applicant shall submit a tree protection plan as part of the construction plan submittal which clearly indicates the location of construction fencing, signage, and measures necessary to protect existing trees during the construction period. This information will be provided prior to approval of any grading, construction or demolition plans for the proposed work.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

CHAPTER 17.49 NATURAL RESOURCES OVERLAY DISTRICT (NROD)

The NROD application was reviewed by the City's NROD consultants David Evans and Associates (DEA) for compliance with Chapter 17.49. The findings of DEA are provided here.

In this case, the applicant is requesting review under the current code for the following reasons pertaining to the older Water Quality Resource Overlay District regulations in Chapter 17.49 (Now the Natural Resources Overlay District), for the following reasons.

1. The proposed alterations and additions were not included in the CP 07-01 master plan.
2. The project additions exceed the original threshold approved by the Planning Commission of 38,460 square feet, triggering a requirement for review under the current code.
3. The delineated boundaries of the wetland have changed (expanded) since 2007 which had the effect of exceeding the threshold approved under CP 07-01.
4. Under the current code, the cumulative additional disturbance area of the alterations and additions to existing structures within the NROD exceeds 500 square feet.

17.49.[0]35 – Addition of wetlands to map following adoption

The NROD boundary shall be expanded to include a wetland identified during the course of a development permit review if it is within or partially within the mapped NROD boundary and meets the State of Oregon's definition of a "Locally Significant Wetland". In such cases the entire wetland and its required vegetated corridor as defined in Table 17.49.110 shall be regulated pursuant to the standards of this chapter. The NROD boundary shall be added to the NROD map by the community development director after the development permit becomes final.

Finding: Complies as proposed. The wetlands identified by Pacific Habitat Services in the Wetland Delineation Report dated July 28, 2015 are within and overlap with an existing NROD boundary. The Oregon Department of State Lands provided a letter of concurrence with the wetlands and waterway boundaries mapped within the report on October 12, 2015. The wetlands identified meet the definition of a "Locally Significant Wetland."

17.49.[0]40 - NROD Permit

An NROD permit is required for those uses regulated under Section 17.49.90, Uses Allowed under Prescribed Conditions. An NROD permit shall be processed under the Type II development permit procedure, unless an adjustment of standards pursuant to Section 17.49.200 is requested or the application is being processed in conjunction with a concurrent application or action requiring a Type III or Type IV development permit. Applications for development on properties affected by the NROD shall delineate or verify the exact location of the NROD as part of a Type I or II development review process unless exempted pursuant to section 17.40.080.

Finding: Complies as Proposed. The applicant submitted an NROD application to meet the requirements of this chapter. The application is being processed as a Type III. The narrative was completed by Yost Grube Hall Architecture and the Mitigation Report was completed by Pacific Habitat Services, Inc. (February 11, 2016).

17.49.050 *Emergencies*

The provisions of this ordinance do not apply to work necessary to protect, repair, maintain, or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies. After the emergency has passed, any disturbed native vegetation areas shall be replanted with similar vegetation found in the Oregon City Native Plant List pursuant to the mitigation standards of Section 17.49.180. For purposes of this section emergency shall mean any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to fire, explosion, flood, severe weather, drought, earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.

Finding: Not Applicable. This is not an emergency.

17.49.060 *Consistency and Relationship to Other Regulations*

A. Where the provisions of the NROD are less restrictive or conflict with comparable provisions of the Oregon City Municipal Code, other City requirements, regional, state or federal law, the provisions that provides the greater protection of the resource shall govern.

Finding: Not Applicable. No conflicts within the Natural Resource Overlay District have arisen.

17.49.060.B. *Compliance with Federal and State Requirements.*

a. If the proposed development requires the approval of any other governmental agency, such as the Division of State Lands or the U.S. Army Corps of Engineers, the applicant shall make application for such approval prior to or simultaneously with the submittal of its development application to the City. The planning division shall coordinate City approvals with those of other agencies to the extent necessary and feasible. Any permit issued by the City pursuant to this chapter shall not become valid until other agency approvals have been obtained or those agencies indicate that such approvals are not required.

b. The requirements of this chapter apply only to areas within the NROD and to locally significant wetlands that may be added to the boundary during the course of development review pursuant to Section 17.49.035. If, in the course of a development review, evidence suggests that a property outside the NROD may contain a wetland or

other protected water resource, the provisions of this chapter shall not be applied to that development review. However, the omission shall not excuse the applicant from satisfying any state and federal wetland requirements which are otherwise applicable. Those requirements apply in addition to, and apart from the requirements of the City's comprehensive plan and this code.

Finding: Complies with Conditions. The subject site contains land subject to compliance with the Department of State Lands (DSL). A letter from DSL dated October 2015 for concurrence with state removal and fill law is included with the application. Although the Joint Permit Application is not available online, the U.S. Army Corps of Engineers indicates that a permit has been granted with provisions (NWP 2015-00427, approved January 2016). Therefore the applicant complies with this standard. It is recommended that the applicant provide a copy of the JPA to the City. The applicant states that it will submit a Oregon Department of Environmental Quality 1200-C NPDES Stormwater Discharge Permit.

17.49.[0]70 - Prohibited uses.

The following development and activities are not allowed within the NROD:

A. Any new gardens, lawns, structures, development, other than those allowed outright (exempted) by the NROD or that is part of a regulated use that is approved under prescribed conditions. Note: Gardens and lawns within the NROD that existed prior to the time the overlay district was applied to a subject property are allowed to continue but cannot expand further into the overlay district.

Finding: Not Applicable. The applicant is only proposing development that is allowed outright or is part of a regulated use.

B. New lots that would have their buildable areas for new development within the NROD are prohibited.

Finding: Not Applicable. The applicant is not proposing the creation of any new lots.

C. The dumping of materials of any kind is prohibited except for placement of fill as provided in (D) below. The outside storage of materials of any kind is prohibited unless they existed before the overlay district was applied to a subject property. Uncontained areas of hazardous materials as defined by the Oregon Department of Environmental Quality (ORS 466.005) are also prohibited.

Finding: Not Applicable. The applicant is not proposing to dump any materials.

D. Grading, the placement of fill in amounts greater than ten cubic yards, or any other activity that results in the removal of more than ten percent of the existing native vegetation on any lot within the NROD is prohibited, unless part of an approved development activity.

Finding: Complies as Proposed. The project site and activities are part of an approved development activity—the master plan for the site.

***17.49.[0]80** –Uses allowed outright (Exempted).*

The following uses are allowed within the NROD and do not require the issuance of an NROD permit:

A. Stream, wetland, riparian, and upland restoration or enhancement projects as authorized by the City.

B. Farming practices as defined in ORS 215.203 and farm uses, excluding buildings and structures, as defined in ORS 215.203.

C. Utility service using a single utility pole or where no more than 100 square feet of ground surface is disturbed outside of the top-of-bank of water bodies and where the disturbed area is restored to the pre-construction conditions.

D. Boundary and topographic surveys leaving no cut scars greater than three inches in diameter on live parts of native plants listed in the Oregon City Native Plant List.

E. Soil tests, borings, test pits, monitor well installations, and other minor excavations necessary for geotechnical, geological or environmental investigation, provided that disturbed areas are restored to pre-existing conditions as approved by the Community Development Director.

F. Trails meeting all of the following:

1. Construction shall take place between May 1 and October 30 with hand held equipment;

2. Widths shall not exceed 48 inches and trail grade shall not exceed 20 percent;

3. Construction shall leave no scars greater than three inches in diameter on live parts of native plants;
4. Located no closer than 25 feet to a wetland or the top of banks of a perennial stream or 10 feet of an intermittent stream;
5. No impervious surfaces; and
6. No native trees greater than one (1) inch in diameter may be removed or cut, unless replaced with an equal number of native trees of at least 2-inch diameter and planted within 10 feet of the trail.
G. Land divisions provided they meet the following standards, and indicate the following on the final plat:
1. Lots shall have their building sites (or buildable areas) entirely located at least 5 feet from the NROD boundary shown on the City's adopted NROD map. For the purpose of this subparagraph, "building site" means an area of at least 3,500 square feet with minimum dimensions of 40 feet wide by 40 feet deep;
2. All public and private utilities (including water lines, sewer lines or drain fields, and stormwater disposal facilities) are located outside the NROD;
3. Streets, driveways and parking areas where all pavement shall be located at least 10 feet from the NROD; and
4. The NROD portions of all lots are protected by:
a. A conservation easement; or
b A lot or tract created and dedicated solely for unimproved open space or conservation purposes.
H. Site Plan and Design Review applications where all new construction is located outside of the NROD boundary shown on the City's adopted NROD map, and the NROD area is protected by a conservation easement approved in form by the City.
I. Routine repair and maintenance of existing structures, roadways, driveways and utilities.
J. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased.
K. Measures mandated by the City of Oregon City to remove or abate nuisances or hazardous conditions.
L. Planting of native vegetation and the removal of non-native, invasive vegetation (as identified on the Oregon City Native Plant List), and removal of refuse and fill, provided that:
1. All work is done using hand-held equipment;
2. No existing native vegetation is disturbed or removed; and
3. All work occurs outside of wetlands and the top-of-bank of streams.

Finding: Not Applicable. Although the proposed development includes activities allowed outright, such as steam and riparian restoration (A.), and replacement of two existing bridges with no increase in impervious area (J.); the development also includes uses allowed under prescribed conditions (17.49.090), as well as additions to existing development that cumulatively exceed 500 square feet, and therefore requires issuance of an NROD permit. For example, proposed trail width will exceed 48 inches and portions will be closer than 25 feet to a stream, as required by F.

17.49.090 *Uses Allowed Under Prescribed Conditions*
The following uses within the NROD are subject to the applicable standards listed in Sections 17.49.100 through 17.49.190 pursuant to a Type II process:
A. Alteration to existing structures within the NROD when not exempted by Section 17.49.080, subject to Section 17.49.130.
B. A residence on a highly constrained vacant lot of record that has less than 3,000 square feet of buildable area, with minimum dimensions of 50 feet by 50 feet, remaining outside the NROD portion of the property, subject to the maximum disturbance allowance prescribed in subsection 17.49.120.A.
C. A land division that would create a new lot for an existing residence currently within the NROD, subject to Section 17.49.160.
D. Land divisions when not exempted by Section 17.49.080, subject to the applicable standards of Section 17.49.160.
E. Trails/pedestrian paths when not exempted by Section 17.49.080, subject to Section 17.49.170 (for trails) or Section 17.49.150 (for paved pedestrian paths).
F. New roadways, bridges/creek crossings, utilities or alterations to such facilities when not exempted by Section 17.49.080,
G. Roads, bridges/creek crossings Subject to Section 17.49.150 --
H. Utility lines subject to Section 17.49.140 (
I. Stormwater detention or pre-treatment facilities subject to Section 17.49.155 ().

J. Institutional, Industrial or Commercial development on a vacant lot of record situated in an area designated for such use that has more than 75% of its area covered by the NROD, subject to subsection 17.49.120(B).
K City, county and state capital improvement projects, including sanitary sewer, water and storm water facilities, water stations, and parks and recreation projects.
Finding: Not Applicable. Although the proposed development includes uses allowed under prescribed conditions, the development also includes additions to existing development that cumulatively exceed 500 square feet.

***17.49.100** General Development Standards*
The following standards apply to all Uses Allowed under Prescribed Conditions within the NROD with the exception of rights of ways (subject to Section 17.49.150), trails (subject to Section 17.49.170), utility lines (subject to Section 17.49.140), land divisions (subject to Section 17.49.160), and mitigation projects (subject to Section 17.49.180 or 17.49.190):
A. Native trees may be removed only if they occur within 10 feet of any proposed structures or within 5 feet of new driveways or if deemed not wind-safe by a certified arborist. Trees listed on the Oregon City Nuisance Plant List or Prohibited Plant List are exempt from this standard and may be removed. A protective covenant shall be required for any native trees that remain;
Finding: Complies as Proposed. Please refer to the analysis in OCMC 17.49.200.

***17.49.100.B**. The Community Development Director may allow the landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites in the Natural Resource Overlay District.*
Finding: Not Applicable. The applicant is not proposing to meet base zone landscaping requirements within the NROD.

***17.49.100.C**. All vegetation planted in the NROD shall be native and listed on the Oregon City Native Plant List;*
Finding: Complies as Proposed. The applicant's proposed plant list is very diverse and displays considerable plant knowledge, however the species proposed on the planting plan and plant schedule do not completely align with Oregon City Native Plant list (OCNPL). Although the following species are inconsistent with the OCNPL, the OCNPL does include other species in the genera, therefore the application is considered to comply with this standard.
Cornus 'Eddies White Wonder' is a hybrid, but is used in an area that is currently developed and thereby exempt.
Alisma gramineum – not on OCNPL. *Alisma plantago-aquata* is on the OCNPL.
Polygonum coccineum – not on OCNPL. *Polygonum emersum var Emersum* is on the OCNPL.
Callitrich stagnalis – not on the OCNPL and listed in USDA NRCS plant profile as introduced. *Callitrich hetrophylla* is on the OCNPL.
Utricularia macrorhiza – not on OCNPL. *Utricularia vulgaris* is on the OCNPL.
Erigeron speciosus – Not on OCNPL. *Erigeron annuus* is on the OCNPL.
Festuca idahoensis – not on the OCNPL. *Festuca occidentalis* is a similar dry land bunch grass on the OCNPL.
Iris douglasiana – not on the OCNPL. *Iris tenax* is on the OCNPL.
Mahonia repens - not on the OCNPL. *Mahonia nervosa* is on the OCNPL.
Phlox adsurgens – not on the OCNPL. *Phlox gracilis* is on the OCNPL.
Sedum lanceolatum – not on the OCNPL. *Sedum spathulifolium* is on the OCNPL.

***17.49.100.D**. Grading is subject to installation of erosion control measures required by the City of Oregon;*
Finding: Please refer to the analysis within Chapter 15.48 of this report.

***17.49.100.E**. The minimum front, street, or garage setbacks of the base zone may be reduced to any distance between the base zone minimum and zero in order to minimize the disturbance area within the NROD portion of the lot;*

Finding: Not Applicable. A reduction in the minimum setback has not been proposed.

17.49.100.F*. Any maximum required setback in any zone, such as for multi-family, commercial or institutional development, may be increased to any distance between the maximum and the distance necessary to minimize the disturbance area within the NROD portion of the lot;*
Finding: Not Applicable. An increase in the maximum setback has not been proposed.

17.49.100.G*. Fences are allowed only within the disturbance area;*
Finding: Not Applicable. The applicant has not proposed a fence within the vegetated corridor. Retaining walls are not subject to this standard.

17.49.100.H*. Incandescent lights exceeding 200 watts (or other light types exceeding the brightness of a 200 watt incandescent light) shall be placed or shielded so that they do not shine directly into resource areas;*
Finding: Complies as Proposed. The lights selected for the parking lot, Kim Lighting Architype Series, are dark sky compliant and they are available in a variety of light distribution patterns and a house side light shield is available. This light, at 130 watts is below the 200 watt threshold required for shielding, but it does provide shielding. The walk lights are low wattage (13W – 71 lumens per watt), dark sky approved and fitted in fixtures that generally keep light on the pedestrian path. There is no up lighting and little illumination behind the fixture. From the lighting plan it appears the designer has successfully placed the shielded lights so that they do not shine into the resource area.

17.49.100.I*. If development will occur within the 100 yr. floodplain, the FEMA floodplain standards of Chapter 17.42 shall be met; and*
Finding: Not Applicable. The proposed development occurs outside of the FEMA floodplain.

17.49.100.J*. Mitigation of impacts to the regulated buffer is required, subject to Section 17.49.180 or 17.49.190.*
Finding: Complies as Proposed. A mitigation plan has been provided for impacts to the regulated buffer. Please refer to the analysis in Section 17.49.180.

17.49.110 *Width of Vegetated Corridor.*
Calculation of Vegetated Corridor Width within City Limits. The NROD consists of a vegetated corridor measured from the top of bank or edge of a protected habitat or water feature. The minimum required width is the amount of buffer required on each side of a stream, or on all sides of a feature if non-linear. The width of the vegetated corridor necessary to adequately protect the habitat or water feature is specified in Table 17.49.110.

Table 17.49.110

Protected Water Feature Type (see definitions)	*Slope Adjacent to Protected Water Feature*	*Starting Point for Measurements from Water Feature*	*Width of Vegetated Corridor (see Note 1)*
Anadromous fish-bearing streams	*Any slope*	*• Edge of bankfull flow*	*200 feet*
Intermittent streams with slopes less than 25 percent and which drain less than 100 acres	*< 25 percent*	*• Edge of bankfull flow*	*15 feet*
All other protected water features	*< 25 percent*	*• Edge of bankfull flow* *• Delineated edge of Title 3*	*50 feet*

		wetland	
	≥ 25 percent for 150 feet or more (see Note 2)		*200 feet*
	≥ 25 percent for less than 150 feet (see Note 2)		*Distance from starting point of measurement to top of ravine (break in ≥25 percent slope) (See Note 3) plus 50 feet.*

Notes:

1. *Required width (measured horizontally) of vegetated corridor unless reduced pursuant to the provisions of Section 17.49.050(I).*
2. *Vegetated corridors in excess of fifty feet apply on steep slopes only in the uphill direction from the protected water feature.*
3. *Where the protected water feature is confined by a ravine or gully, the top of the ravine is the break in the ≥ 25 percent slope.*

B. Habitat Areas within City Parks. For habitat and water features identified by Metro as regionally significant which are located within city parks, the NROD Boundary shall correspond to the Metro Regionally Significant Habitat Map.

C. Habitat Areas outside city limit / within UGB. For habitat and water features identified by Metro as regionally significant which are located outside of the city limits as of the date of adoption of this ordinance, the minimum corridor width from any non-anadramous fish bearing stream or wetland shall be fifty feet (50').

Finding: Complies as Proposed. This reach of Newell Creek is not anadromous fish-bearing and slopes on the subject site are less than 25 percent. Therefore, according to Table 17.49.110, the vegetated corridor is 50 feet.

17.49.120 *Maximum Disturbance Allowance for Highly Constrained Lots of Record*
In addition to the General Development Standards of Section 17.49.100, the following standards apply to a vacant lot of record that is highly constrained by the NROD, per subsections 17.49.90(B) and 17.49.90(F):

A. Standard for Residential Development. In the NROD where the underlying zone district is zoned Residential (R-10, R-8, R-6, R-5, R-3.5): the maximum disturbance area allowed for new residential development within the NROD area of the lot is 3,000 square feet.

B. Standard for all developments not located in R-10, R-8, R-6, R-5, and R-3.5. For all other underlying zone districts, including R-2 multifamily, the maximum disturbance area allowed for a vacant, constrained lot of record development within the NROD is that square footage which when added to the square footage of the lot lying outside the NROD portion equals 25% of the total lot area.

[1] Lots that are entirely covered by the NROD will be allowed to develop 25% of their area.

[1] Note: This can be determined by (1) Multiplying the total square footage of the lot by .25; (2) Subtracting from that amount the square footage of the lot that is located outside the NROD; (3) The result is the maximum square footage of disturbance to be allowed in the NROD portion of the lot. If the result is < or = to 0, no disturbance is permitted and the building shall be located outside of the boundary.

C. In all areas of Oregon City, the disturbance area of a vacant, highly constrained lot of record within the NROD shall be set back at least 50 feet from the top of bank on Abernethy Creek, Newell Creek, or Livesay Creek or 25 feet from the top of bank of any tributary of the afore-mentioned Creeks, other water body, or from the delineated edge of a wetland located within the NROD area.

D. If the highly constrained lot of record cannot comply with the above standards, a maximum 1500 square foot disturbance within the NROD area may be allowed

Finding: Not Applicable. The site is not a highly constrained lot of record.

17.49.130 Existing Development Standards

In addition to the General Development Standards of Section 17.49.100, the following standards apply to alterations and additions to existing development within the NROD, except for trails, rights of way, utility lines, land divisions and mitigation projects. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased are exempt from review pursuant to Section 17.49.080(J). As of June 1, 2010, applicants for alterations and additions to existing development that are not exempt pursuant to Section 17.49.080(J) shall submit a Type II or Type III application pursuant to this section. The application shall include a site plan which delineates a permanent disturbance area that includes all existing buildings, parking and loading areas, paved or graveled areas, patios and decks. The same delineated disturbance area shall be shown on every subsequent proposal for alterations and additions meeting this standard.

A. The following alterations and additions to existing development are permitted subject to the following standards.

1. Alterations or additions that cumulatively total up to a maximum of five-hundred (500) square feet of additional disturbance area after June 1, 2010 shall be processed as a Type II permit pursuant to this Chapter. The new disturbance area shall not encroach closer than 1/2 of the distance of the regulated NROD buffer.

2. Alterations or additions that cumulatively exceed five-hundred (500) square feet of additional disturbance area or which propose encroachment closer than 1/2 of the distance of the regulated NROD buffer after June 1, 2010 shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

Finding: Complies as Proposed. The applicant has proposed a Type III application. Additions to existing development exceed 500 square feet cumulatively, therefore, 17.49.200 applies.

17.49.130.B*. Mitigation is required, subject to Section 17.49.180 or 17.49.190.*

Finding: Complies as Proposed. A mitigation plan has been provided for impacts to the regulated buffer. Please refer to the analysis in Section 17.49.180.

***17.49.140** Standards for Utility Lines*

The following standards apply to new utilities, private connections to existing or new utility lines, and upgrades of existing utility lines within the NROD:

A. The disturbance area for private connections to utility lines shall be no greater than 10 feet wide;

B. The disturbance area for the upgrade of existing utility lines shall be no greater than 15 feet wide;

C. New utility lines shall be within the right-of-way, unless reviewed under D.

D. New utility lines that cross above or underneath a drainage way, wetland, stream, or ravine within the NROD but outside of a right-of-way shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

E. No fill or excavation is allowed within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;

F. The Division of State Lands must approve any work that requires excavation or fill in a wetland;

G. Native trees more than 10 inches in diameter shall not be removed unless it is shown that there are no feasible alternatives; and

H. Each 6 to 10-inch diameter native tree cut shall be replaced at a ratio of three trees for each one removed. Each 11-inch or greater diameter native tree shall be replaced at a ratio of five trees for each removed. The replacement trees shall be a minimum one-half inch diameter and selected from the Oregon City Native Plant List. All trees shall be planted on the applicant's site. Where a utility line is approximately parallel with the stream channel, at least half of the replacement trees shall be planted between the utility line and the stream channel.

I. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

Finding: Not Applicable. The application does not indicate any utility lines within the vegetated corridor.

17.49.150 Standards for Vehicular or Pedestrian Paths and Roads

The following standards apply to public rights-of-way and private roads within the NROD, including roads, bridges/stream crossings, driveways and pedestrian paths with impervious surfaces:

17.49.150 A. *Stream crossings shall be limited to the minimum number and width necessary to ensure safe and convenient pedestrian, bicycle and vehicle connectivity, and shall cross the stream at an angle as close to perpendicular to the stream channel as practicable. Bridges shall be used instead of culverts wherever practicable.*
Finding: Complies as Proposed. The proposal includes five new bridges, totaling 592 square feet, to provide pedestrian crossings of streams and ponds on the site. The applicant states that five is the minimum number needed to provide site-wide accessibility. One bridge will replace an existing culvert.

17.49.150.B*. Where the right-of-way or private road crosses a stream the crossing shall be by bridge or a bottomless culvert;*
Finding: Complies as Proposed. The proposal includes a new access road and five new bridges crossing streams and ponds, including one that replaces a culvert. All proposed new crossings are by bridge.

17.49.150.C*. No fill or excavation shall occur within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;*
Finding: Complies as Proposed. The Department of State Lands (DSL) concurrence letter dated October 12, 2015 is included in Appendix B of the Mitigation Report (PHS, February 11, 2016). Although it is not clear in the application, it is presumed that fill and excavation will occur within OHW of a jurisdictional waterway. Although the quantities are not stated in the application and the Joint Permit Application is not available online, the U.S. Army Corps of Engineers indicates that a permit has been granted with provisions (NWP 2015-00427, approved January 2016). Therefore the applicant complies with this standard. It is recommended that the applicant provide a copy of the JPA to the City.

17.49.150.D*. If the Oregon Department of State Lands (DSL) has jurisdiction over any work that requires excavation or fill in a wetland, required permits or authorization shall be obtained from DSL prior to release of a grading permit;*
Finding: Complies as Proposed. Although it is not clear in the application, it is presumed that fill and excavation will occur within OHW of a jurisdictional waterway. The Department of State Lands (DSL) concurrence letter dated October 12, 2015 is included in Appendix B of the Mitigation Report (PHS, February 11, 2016). Therefore the applicant complies with this standard. It is recommended that the applicant provide a copy of the DSL removal/fill permit to the City.

17.49.150.E*. Any work that will take place within the banks of a stream shall be conducted between June 1 and August 31, or shall be approved by the Oregon Department of Fish and Wildlife; and*
Finding: Complies with Conditions. Although it is not clear in the application, it is presumed that fill and excavation will occur within OHW of a jurisdictional waterway. Although the quantities are not stated in the application and the Joint Permit Application is not available online, the U.S. Army Corps of Engineers indicates that a permit has been granted with provisions (NWP 2015-00427, approved January 2016). The in-water work period is likely a provision of the permit. The applicant shall provide the JPA permit including provisions, or assure that any work that will take place within the banks of shall be conducted between June 1 and August 31, or shall be approved by the Oregon Department of Fish and Wildlife prior to issuance of a permit**. Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.150.F*. Mitigation is required, subject to Section 17.49.180 or 17.49.190.*
Finding: Complies as Proposed. A mitigation plan has been provided for impacts to the regulated buffer. Please refer to the findings in Section 17.49.180.

17.49.155 *Standards for Stormwater Facilities*
Approved facilities that infiltrate stormwater on-site in accordance with Public Works Low-Impact Development standards, including but not limited to; vegetated swales, rain gardens, vegetated filter strips, and vegetated infiltration basins, and their associated piping, may be placed within the NROD boundary pursuant to the following standards:

A. The forest canopy within the driplines of existing trees shall not be disturbed.
B. Only vegetation from the Oregon City Native Plant List shall be planted within these facilities.
C. Mitigation is required, subject to Section 17.49.180 or 17.49.190.
D. The storm water facility may encroach up to1/2 the distance of the NROD corridor.
E. The stormwater facility shall not impact more than 1,000 square feet of the NROD. Impacts greater than 1,000 square feet shall be process as a Type III application.
F. The Community Development Director may allow landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites within the Natural Resource Overlay District.

Finding: Complies with Conditions. The applicant did not provide a response to this provision in the NROD narrative and the Stormwater Management Report (KPFF Consulting Engineers, September 23, 2015) does not provide the quantity of disturbance within the NROD to make the stormwater improvements. It appears that the project will require the creation of two vegetated swales to treat stormwater in addition to the other improvements to the treatment system. These two swale segments appear to be approximately 2,000 square feet in area and both would require some disturbance within the overlay district. Although the applicant states that the "stormwater conveyance swales that meet the City requirements stated in the original site master plan," the applicant needs to demonstrate compliance with this provision. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.160 *Standards for Land Divisions*
Other than those land divisions exempted by Section 17.49.070 (G), new residential lots created within the NROD shall conform to the following standards.
A. For a lot for an existing residence currently within the NROD. This type of lot is allowed within the NROD for a residence that existed before the NROD was applied to a subject property. A new lot for an existing house may be created through a partition or subdivision process when all of the following are met:
1. There is an existing house on the site that is entirely within the NROD area; and
2. The existing house will remain; and
3. The new lot is no larger than required to contain the house, minimum required side setbacks, garage, driveway and a 20-foot deep rear yard, with the remaining NROD area beyond that point protected by a conservation easement, or by dedicating a conservation tract or public open space.
B. Subdivisions.
1. Prior to preliminary plat approval, the NROD area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection (3) of this section, which shall not be a part of any parcel used for construction of a dwelling unit.
2. Prior to final plat approval, ownership of the NROD tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:
a. Private open space held by the owner or a homeowners association; or
b. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or
c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or
d. Any other ownership proposed by the owner and approved by the city.
e. Tracts shall be exempt from minimum frontage requirements.
C. Partitions
1. New partitions shall delineate the NROD area either as a separate tract or conservation easement that meets the requirements of subsection (2) of this section.
2. Prior to final plat approval, ownership and maintenance of the NROD area shall be identified to distinguish it from the buildable areas of the development site. The NROD area may be identified as any one of the following:
a. A tract of private open space held by the owner or homeowners association; or
b. For residential land divisions, a tract of private open space subject to an easement conveying stormwater

and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or

c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit;

d. Conservation easement area pursuant to subsection 17.49.180(G) and approved in form by the Community Development Director

e. Any other ownership proposed by the owner and approved by the Community Development Director.

f. Tracts shall be exempt from minimum frontage requirements.

Finding: Not Applicable. The applicant has not proposed a land division.

***17.49.170** Standards for Trails*

The following standards apply to trails within the NROD:

A. All trails that are not exempt pursuant to Section 17.49.80(F), , except as designated in the Oregon City Parks, Open Space and Trails Master Plans; and

B. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

Finding: Complies as Proposed. The proposal includes 5,956 square feet of new and improved trails, 5,012 square feet of which would be wider than the 48-inch threshold for uses allowed outright per 17.49.[0]80F.2. and closer to Newell Creek than the 25-foot threshold per 17.49.[0]80F.4 and therefore mitigation is required. See response to 17.49.180, Mitigation Standards, below.

***17.49.180.** Mitigation Standards*

The following standards (or the alternative standards of Section 17.49.190) apply to required mitigation:

Finding: Complies as Proposed. The applicant proposes 7,489 square feet of new disturbance in the NROD, as well as removal of 24 trees greater than 6 inches diameter that require mitigation The applicant calculated the mitigation utilizing option 1 and option 2 and chose to implement option 2 as it results in a greater number of mitigation trees and shrubs to be planted.

***17.49.180.A**. Mitigation shall occur at a 2:1 ratio of mitigation area to proposed NROD disturbance area. Mitigation of the removal or encroachment of a wetland or stream shall not be part of this chapter and will be reviewed by the Division of State Lands or the Army Corp of Engineers during a separate review process;*

Finding: Complies as Proposed. The proposed disturbance area of 7,489 square feet requires 14,978 square feet of mitigation. The proposed mitigation includes 7,454 square feet of development removal and removal of invasive plants and native plantings in a 15,238-square-foot area.

***17.49.180.B**. Mitigation shall occur on the site where the disturbance occurs, except as follows:*

1. The mitigation is required for disturbance associated with a right-of-way or utility in the right-of-way;

2. The mitigation shall occur first on the same stream tributary, secondly in the Abernethy, Newell or Livesay Creek or a tributary thereof, or thirdly as close to the impact area as possible within the NROD; and

3. An easement that allows access to the mitigation site for monitoring and maintenance shall be provided as part of the mitigation plan.

Finding: Complies as Proposed. The mitigation would occur on site. Although no signed or labeled easement is identified on plans, trails, both paved and unpaved, course throughout the mitigation site, providing access. A route is provided for vehicular access to the first creek/weir cell. No fencing is proposed to block access to any areas of the mitigation site. The proposal does allow access to the mitigation site for monitoring and maintenance.

***17.49.180.C**. Mitigation shall occur within the NROD area of a site unless it is demonstrated that this is not feasible because of a lack of available and appropriate area. In such cases, the proposed mitigation area shall be contiguous to the existing NROD area so the NROD boundary can be easily extended in the future to include the new resource site.*

Finding: Complies as Proposed. Proposed planting plan does specify some of the plantings outside the NROD along Inskeep Drive. Because the developed area is adjacent to the mitigation site, it is demonstrable that having the entire mitigation within the NROD was not feasible because of a lack of

available and appropriate area. The proposed mitigation is contiguous with the existing NROD and the NROD boundary can easily be extended to include the new mitigation area.

***17.49.180.D**. Invasive and nuisance vegetation shall be removed within the mitigation area;*
Finding: Complies with Conditions. The entire mitigation area is receiving new planting treatment. The plan does not specifically require all invasive and nuisance vegetation (as listed in the Oregon City Nuisance Plant List) but the plan could not be installed as shown if nuisance plants were allowed to remain. Therefore we infer from the plan that nuisance plants will be removed, but the plan is not explicit. The applicant needs to add language on plans and construction specifications clearly require nuisance plant removal. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

***17.49.180.E**. Required Mitigation Planting. An applicant shall meet Mitigation Planting Option 1 or 2 below, whichever option results in more tree plantings, except that where the disturbance area is one acre or more, Mitigation Option 2 shall be required. All trees, shrubs and ground cover shall be selected from the Oregon City Native Plant List.*
Mitigation Planting Option 1.
Finding: Complies as Proposed. Mitigation Planting Option 2 will be used as it results in more tree plantings.

***17.49.180.E.2**. Mitigation Planting Option 2.*
***17.49.180.E.2a.** Option 2 - Planting Quantity. In this option, the mitigation requirement is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five (5) trees and twenty-five (25) shrubs per every 500 square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by 500, and then multiplying that result times five trees and 25 shrubs, and rounding all fractions to the nearest whole number of trees and shrubs; for example, if there will be 330 square feet of disturbance area, then 330 divided by 500 equals .66, and .66 times five equals 3.3, so three trees must be planted, and .66 times 25 equals 16.5, so 17 shrubs must be planted). Bare ground must be planted or seeded with native grasses or herbs. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.*
Finding: Complies with Conditions. The mitigation planting quantity is based on the disturbance area within the NROD. The disturbance area of 7,489 square feet requires 75 trees ((7,489 /500)*5= 74.89) and 374 shrubs ((7,489 /500)*25= 374.45). The applicant indicated that bare ground will be planted or seeded with native grasses and ground cover species**.** The required tree quantity is 75 and the number of trees counted on the plans is 100. Although both the vine maple and the serviceberry could be classified as arborescent shrubs, the tree threshold is well within the required quantity.

The plans do not provide quantities, or areas for each of the planting zone. The information provided is insufficient to determine if the shrub quantities meet the required mitigation planting quantity. A scaling measurement from the plans to determine area and therefore shrub quantity is not feasible because of the convoluted shapes and varied plant spacing within each planting zone make it impossible to determine the designer's intentions. The plans likely provide adequate quantity. However, without the planting zone areas, the percentage of each plant in each area or the plant quantity provided cannot be verified and compliance determined**.** The applicant needs to provide plans that show the planting zone areas, the percentage of each plant in each area or the plant quantity. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval**.

***17.49.180.E.2.b** Option 2 - Plant Size. Plantings may vary in size dependent on whether they are live cuttings, bare root stock or container stock, however, no initial plantings may be shorter than 12 inches in height.*

Finding: Complies as Proposed. All woody plant material, trees and shrubs will be 12" or taller at installation. The requirement cannot apply to wetland plants, emergent plants or groundcover plants, many of which will not be 12" in height at maturity.

17.49.180.E.2.c *Option 2 - Plant Spacing. Trees shall be planted at average intervals of seven (7) feet on center. Shrubs may be planted in single-species groups of no more than four (4) plants, with clusters planted on average between 8 and 10 feet on center.*

Finding: Complies with Conditions. The site maintains existing trees which are not considered in the 7' O.C. required spacing. The 7' O.C. spacing is assumed to be a typographic error. Trees commonly grow to spread 30' or more. Planting trees so close that they compete for nutrients and light will result in weak, spindly trees that neither represent the best of the species nor a designer's intent, and will likely fail. Best practice for landscape architecture is to design for trees at about 20 years and to provide the plantings with all the requirements they need to provide 100% survival. The tree spacing and the shrub spacing demonstrate valid understanding of the best practice. The applicant needs to confirm that the 7' O.C. spacing is a typographic error. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval**.

17.49.180.E.2.d *Option 2 – Mulching and Irrigation shall be applied in the amounts necessary to ensure 80% survival at the end of the required 5-year monitoring period.*

Finding: Complies with Conditions. A detail installation with mulch and irrigation plan is provided. Applicant needs to verify that wetland and emergent plants, and areas that get inundated, will not be mulched. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.180.E.2.e *Option 2 – Plant Diversity. Shrubs shall consist of at least three (3) different species. If 20 trees or more are planted, no more than one-third of the trees may be of the same genus.*

An alternative planting plan using native plants may be approved in order to create a new wetland area, if it is part of a wetlands mitigation plan that has been approved by the DSL or the U.S. Army Corps of Engineers (USACE) in conjunction with a wetland joint removal/fill permit application.

Finding: Complies as Proposed. The applicant indicates tree, shrub, and plant species in Table 4 and Figure LUI.04 of the Mitigation Report (Pacific Habitat Services, February 11, 2016).

17.49.180.F*. Monitoring and Maintenance. The mitigation plan shall provide for a 5-year monitoring and maintenance plan with annual reports in a form approved by the Director of Community Development. Monitoring of the mitigation site is the on-going responsibility of the property owner, assign, or designee, who shall submit said annual report to the City's Planning Division, documenting plant survival rates of shrubs and trees on the mitigation site. Photographs shall accompany the report that indicate the progress of the mitigation. A minimum of 80% survival of trees and shrubs of those species planted is required at the end of the 5-year maintenance and monitoring period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than ten (10) square feet that remain at the end the 5 year monitoring period shall be replanted or reseeded with native grasses and ground cover species.*

Finding: Complies as Proposed. The development application states that, "The proposed mitigation will be monitored and maintained for a minimum of five years, with approved annual progress reports submitted to the City's planning division. The mitigation area will be inspected annually during the active growing season."

17.49.180.G*. Covenant or Conservation Easement. Applicant shall record a restrictive covenant or conservation easement, in a form provided by the City, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the City to complete mitigation work in the event of default by the responsible party. Costs borne by the City for such mitigation shall be borne by the owner.*

Finding: Complies with Conditions. The applicant indicated that the NROD will be identified onsite with a recorded covenant or easement. Prior to occupancy for any buildings associated with the proposed development the applicant shall provide the City with a copy of a recorded covenant or conservation easement per OCMC 17.49.180.G. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.49.180.H*. Financial Guarantee. A financial guarantee for establishment of the mitigation area, in a form approved by the City, shall be submitted before development within the NROD disturbance area commences. The City will release the guarantee at the end of the five-year monitoring period, or before, upon its determination that the mitigation plan has been satisfactorily implemented pursuant to this section.*

Finding: Complies as Proposed. The applicant indicated that a financial guarantee will be provided to the City. Prior to occupancy for any buildings associated with the proposed development the applicant shall provide the City with a financial guarantee per OCMC 17.49.180.H.

17.49.190 Alternative Mitigation Standards

In lieu of the above mitigation standards of Section 17.49.180, the following standards may be used. Compliance with these standards shall be demonstrated in a mitigation plan report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant.

The report shall document the existing condition of the vegetated corridor as one of the following categories:

Good Existing Corridor:	*Combination of trees, shrubs and groundcover are eighty percent present, and there is more than fifty percent tree canopy coverage in the vegetated corridor.*
Marginal Existing Vegetated Corridor:	*Combination of trees, shrubs and groundcover are eighty percent present, and twenty-five to fifty percent canopy coverage in the vegetated corridor.*
Degraded Existing Vegetated Corridor:	*Less vegetation and canopy coverage than marginal vegetated corridors, and/or greater than ten percent surface coverage of any non-native species.*

B. The proposed mitigation shall occur at a minimum 2:1 ratio of mitigation area to proposed disturbance area;

C. The proposed mitigation shall result in a significant improvement to Good Existing Condition as determined by a qualified environmental professional;

D. There shall be no detrimental impact on resources and functional values in the area designated to be left undisturbed;

E. Where the proposed mitigation includes alteration or replacement of development in a stream channel, wetland, or other water body, there shall be no detrimental impact related to the migration, rearing, feeding or spawning of fish;

F. Mitigation shall occur on the site of the disturbance to the extent practicable. If the proposed mitigation cannot practically occur on the site of the disturbance, then the applicant shall possess a legal instrument, such as an easement, sufficient to carryout and ensure the success of the mitigation.

Finding: Not Applicable. The applicant does not propose alternative mitigation in lieu of the standards in 17.49.180.

17.49.200. *Adjustment from Standards*

If a regulated NROD use cannot meet one or more of the applicable NROD standards then an adjustment may be issued if all of the following criteria are met. Compliance with these criteria shall be demonstrated by the applicant in a written report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant. Such requests shall be processed under the Type III development permit procedure. The applicant shall demonstrate:

Finding: Complies as Proposed. Additions to existing development exceed 500 square feet cumulatively, therefore, 17.49.200 applies. The applicant submitted a Mitigation Report completed by Pacific Habitat Services, Inc. (February 11, 2016), a qualified environmental professional.

17.49.200.A*. There are no feasible alternatives for the proposed use or activity to be located outside the NROD area or to be located inside the NROD area and to be designed in a way that will meet all of the applicable NROD development standards;*
Finding: Complies as Proposed. The purpose of the project is to restore and enhance the wetlands and stream functions of the site and those proposed activities must occur within the NROD. Other disturbance inside the NROD meets the development standards, as outlined above.

17.49.200.B*. The proposal has fewer adverse impacts on significant resources and resource functions found in the local NROD area than actions that would meet the applicable environmental development standards;*
Finding: Complies as Proposed. The applicant proposes to remove 7,454 square feet of existing development within the NROD; including an abandoned hatchery structure, impervious surface associated with the old Smucker's facility, several concrete retaining walls, existing trail segments, and other existing structures and impervious surfaces; remove invasive plant species; and revegetate with native plantings.

17.49.200.C*. The proposed use or activity proposes the minimum intrusion into the NROD area that is necessary to meet development objectives;*
Finding: Complies as Proposed. Much of the proposed development will occur in areas with existing development. The proposed new entry canopy, pedestrian bridges, circulation pathways, amphitheater, and access road will result in small encroachments beyond areas of existing development. These are needed to improve visitor access and use of the resource for education.

17.49.200.D*. Fish and wildlife passage will not be impeded;*
Finding: Complies as Proposed. This reach of Newell Creek is not anadromous fish-bearing. The project will improve water quality and habitat within the two ponds by creating four east-west oriented berms planted with native vegetation that will lengthen the travel path and residence time for water flowing through the system. The tops of the berms will be planted with trees and shrubs to shade and cool the water. In terms of temporary impacts, the U.S. Army Corps of Engineers indicates that a permit has been granted with provisions (NWP 2015-00427, approved January 2016). The in-water work period is likely a provision of the permit.

17.49.200.E*. With the exception of the standard(s) subject to the adjustment request, all other applicable NROD standards can be met; and*
Finding: Complies as Proposed. The only adjustment to the standards is exceeding the 500 square feet of cumulative disturbance. The disturbance will include expansions of existing developments: a pavilion, an amphitheater, and trails. The new access road is to provide access to maintain and monitor the new weir and sediment forebay. All other NROD standards are met, as detailed above.

17.49.200.F*. The applicant has proposed adequate mitigation to offset the impact of the adjustment.*
Finding: Complies as Proposed. Please refer to the analysis in Section 17.49.180**.**

17.49.210 *Type II Development Permit Application*
Finding: Not Applicable. The applicant has proposed a Type III application.

17.49.220 *Required Site Plans*
Site plans showing the following required items shall be part of the application:
A. For the entire subject property (NROD and non-NROD areas):
1. The NROD district boundary. This may be scaled in relation to property lines from the NROD Map;

2. 100 year floodplain and floodway boundary (if determined by FEMA);
3. Creeks and other waterbodies;
4. Any wetlands, with the boundary of the wetland that will be adjacent to the proposed development determined in a wetlands delineation report prepared by a professional wetland specialist and following the Oregon Division of State Lands wetlands delineation procedures;
5. Topography shown by contour lines of 2 or 1 foot intervals for slopes less than 15% and by 10 foot intervals for slopes 15% or greater;
6. Existing improvements such as structures or buildings, utility lines, fences, driveways, parking areas, etc.
7. Extent of the required Vegetated Corridor required by Table 17.49.110.

B. Within the NROD area of the subject property:
1. The distribution outline of shrubs and ground covers, with a list of most abundant species;
2. Trees 6 inches or greater in diameter, identified by species. When trees are located in clusters they may be described by the approximate number of trees, the diameter range, and a listing of dominant species;
3. An outline of the disturbance area that identifies the vegetation that will be removed. All trees to be removed with a diameter of 6 inches or greater shall be specifically identified as to number, trunk diameters and species;
4. If grading will occur within the NROD, a grading plan showing the proposed alteration of the ground at 2 foot vertical contours in areas of slopes less than 15% and at 5 foot vertical contours of slopes 15% or greater.

C. A construction management plan including:
1. Location of site access and egress that construction equipment will use;
2. Equipment and material staging and stockpile areas;
3. Erosion control measures that conform to City of Oregon City erosion control standards;
4. Measures to protect trees and other vegetation located outside the disturbance area.

D. A mitigation site plan demonstrating compliance with Section 17.49.180 or 17.49.190, including:
1. Dams, weirs or other in-water features;
2. Distribution, species composition, and percent cover of ground covers to be planted or seeded;
3. Distribution, species composition, size, and spacing of shrubs to be planted;
4. Location, species and size of each tree to be planted;
5. Stormwater management features, including retention, infiltration, detention, discharges and outfalls;
6. Water bodies or wetlands to be created, including depth;
7. Water sources to be used for irrigation of plantings or for a water source for a proposed wetland.

Finding: Complies as Proposed. The applicant's submittal materials were evaluated during the completeness review.

17.49.230 Mitigation Plan Report

A mitigation plan report that accompanies the above mitigation site plan is also required. The report shall be prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. The mitigation plan report shall, at a minimum, discuss:

A. Written responses to each applicable Mitigation Standard 17.49.180 or 17.49.190 indicating how the proposed development complies with the mitigation standards;
B. The resources and functional values to be restored, created, or enhanced through the mitigation plan;
C. Documentation of coordination with appropriate local, regional, state and federal regulatory/resource agencies such as the Oregon Department of State Lands (DSL) and the United States Army Corps of Engineers (USACE);
D. Construction timetables;
E. Monitoring and Maintenance practices pursuant to Section 17.49.230 (F) and a contingency plan for undertaking remedial actions that might be needed to correct unsuccessful mitigation actions during the first 5 years of the mitigation area establishment.

Finding: Complies as Proposed. The applicant's submittal materials were evaluated during the completeness review.

***17.49.240** Density Transfer*

The NROD allocates urban densities to the non-NROD portions of properties located partially within the NROD,

generally resulting in a substantial increase in net development potential.
For lots of record that are located within the NROD, additional density transfer credits are allowed, subject to the following provisions:
Density may be transferred from the NROD to non-NROD portions of the same property or of contiguous properties within the same development site;

A. *The residential transfer credit shall be as follows: for new residential partitions and subdivisions, 1/3 of the area of the NROD tract or conservation easement area may be added to the net developable area outside of the tract or conservation easement area within the boundary of the development site in order to calculate the allowable number of lots.*
B. *Permitted Modifications to Residential Dimensional Standards. In order to allow for a transfer of density pursuant to (B) above, the dimensional standards of the base zone may be modified in order minimize disturbance to the NROD. The permissible reductions are specified in Tables 17.49.240(C-D).*
C. *The applicant shall demonstrate that the minimum lot size of the underlying zone has been met. The area of the NROD in B above that is used to transfer density may be included in the calculation of the average minimum lot size.*
D. *The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the areas of the NROD Tract.*

Table 17.49.240 A

Lot Size Reduction

ZONE	*Min. Lot Size (%)*	*Min. Lot Width*	*Min. Lot Depth*
R-10	*5,000 sq. feet*	*50'*	*65'*
R-8	*4,000 sq. feet*	*45'*	*60'*
R-6	*3,500 sq. feet*	*35'*	*55'*
R-5	*3,000 sq. feet*	*30'*	*50'*
R-3.5	*1,800 sq. feet*	*20'*	*45'*

Table 17.49.240 B

Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
8,000-9,999 square feet	*15 feet*	*20 feet*	*7/9 feet*	*15 feet*	*40%*
6,000-7,999 square feet	*10 feet*	*15 feet*	*5/7 feet*	*15 feet*	*40%*
4,000-5,999 square feet	*10 feet*	*15 feet*	*5/5 feet*	*10 feet*	*40%*
1,800-3,999 square feet	*5 feet*	*15 feet*	*5/5 feet*	*10 feet*	*55%*

Table 17.49.240 C

Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
3,500-7,000 square feet	*10 feet*	*15 feet*	*5/0* feet*	*10 feet*	*40%*
1,800-3,499 square feet	*5 feet*	*15 feet*	*5/0* feet*	*10 feet*	*55%*

**0 foot setback is only allowed on single-family attached units*

E. *Transfers for properties zoned Commercial, Institutional, Industrial or Multi-Family uses the transfer credit is 10,000 sq. ft. per acre of land within the NROD;*
F. *The area of land contained in the NROD area may be excluded from the calculations for determining compliance with minimum density requirements of the land division code.*
G. *The owner of the transferring property shall execute a covenant with the City that records the transfer of density. The covenant shall be found to meet the requirements of this section and be recorded before building*

permits are issued; and

H. All other applicable development standards, including setbacks, building heights, and maximum lot coverage shall continue to apply when a density transfer occurs.

Finding: Not Applicable. The proposal does not include a density transfer.

17.49.250 *Verification of NROD Boundary*

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

Finding: Not Applicable. The development proposal does not include a Verification of the NROD boundary.

17.49.260. *Type II Verification*

Finding: Not Applicable. The development proposal does not include a Type II Verification request.

CHAPTER 17.52 OFF-STREET PARKING AND LOADING

The 2007 Master Plan approval indicated that the college has adequate parking for phase 1 of the Master Plan. No new parking spaces are required. However, the improvement of existing gravel lots, such as the ELC, requires compliance with the parking code. The following standard is excerpted from the approved master plan (Exhibit 7):

> 5. The Parking Standards of **Table 1**, below, will govern all new development covered by the Concept Master Plan, and for upgrading non-conforming parking. If a standard is not specifically addressed or superseded by the CCC Parking Plan, Section 17.52 will apply.

Table 1: CCC Parking Standards

Standard	CCC Standard
Required Vehicular Parking	Maintain campus supply at a rate of 3.6 spaces per 1,000 square feet of total campus building area. (620 new spaces at full build out)
Required Carpool or Vanpool Parking	At least 5% of new spaces
Required Bicycle Parking	2 spaces per classroom
Dimensional Standards for all Vehicular and Bicycle Parking (Surfacing, Lighting, Landscaping, Width, Orientation, etc.)	Per Oregon City requirements, Chapter 17.52

17.52.010 - Applicability.

The construction of a new structure or parking lot, or alterations to the size or use of an existing structure, parking lot or property use shall require site plan review approval and compliance with this chapter. This chapter does not apply to single- and two-family residential dwellings.

Finding: Complies as Proposed. The applicant indicates that they are not adding any new square feet of building or parking surface to the campus. On p.41 of the approved 2007 campus Master Plan it states that up to 50,000 SF of building area can be added to the campus without needing any parking increase. However, the applicant has proposed improving the surface of the existing 23 gravel parking stalls so that ADA parking may be provided for the site, and pedestrian connections are improved. All parking areas improved will meet all applicable City requirements.

17.52.015 - Planning commission adjustment of parking standards.
Finding: Not Applicable. The applicant has not requested an adjustment to the parking standards.

17.52.020 - Number of automobile spaces required.
A. The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated.
1. Multiple Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately.
Finding: Not Applicable. No new off-street parking is required.

2. Requirements for types of buildings and uses not specifically listed herein shall be determined by the community development director, based upon the requirements of comparable uses listed.
Finding: Not applicable. See finding under 17.52.010 above.

3. Where calculation in accordance with the above list results in a fractional space, any fraction less than one-half shall be disregarded and any fraction of one-half or more shall require one space.
Finding: Not applicable. See finding under 17.52.010 above.

4. The minimum required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only, and shall not be used for storage of vehicles or materials or for the parking of vehicles used in conducting the business or use.
Finding: Complies as Proposed. The application indicated that parking spaces will be provided for parking only.

5. A change in use within an existing habitable building located in the MUD Design District or the Willamette Falls Downtown District is exempt from additional parking requirements. Additions to an existing building and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage.
Finding: Not applicable. The applicant has not proposed to change the use of an existing building.

B. Parking requirements can be met either onsite, or offsite by meeting the following conditions:
1. Mixed Uses. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (e.g. the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced accordingly, up to a maximum reduction of fifty percent, as determined by the community development director.
2. Shared Parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlay (e.g., uses primarily of a daytime versus nighttime nature), that the shared parking facility is within one thousand feet of the potential uses, and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument authorizing the joint use.
3. On-Street Parking. On-street parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:
a. Dimensions. The following constitutes one on-street parking space:

1. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;
2. [Forty-five/sixty] degree diagonal, each with [fifteen] feet of curb;
3. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.
4. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.
Finding: Not applicable. See finding under 17.52.010 above.

C. Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced in the Downtown Parking Overlay District: Fifty percent reduction in the minimum number of spaces required is allowed prior to seeking further reductions in [sub]sections 2. and 3. below:
1. Transit Oriented Development. For projects not located within the Downtown Parking Overlay District, the community development director may reduce the required number of parking stalls up to twenty-five percent when it is determined that a project in a commercial center (sixty thousand square feet or greater of retail or office use measured cumulatively within a five hundred-foot radius) or multi-family development with over eighty units, is adjacent to or within one thousand three hundred twenty feet of an existing or planned public transit street and is within one thousand three hundred twenty feet of the opposite use (commercial center or multi-family development with over eighty units).
2. Reduction in Parking for Tree Preservation. The community development director may grant an adjustment to any standard of this requirement provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction must take into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the community development director. This reduction is discretionary.
3. Transportation Demand Management. The community development director may reduce the required number of parking stalls up to twenty-five percent when a parking-traffic study prepared by a traffic engineer demonstrates:
a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of Transportation Engineers vehicle trip generation rates and further that the transportation demand management program promotes or achieves parking utilization lower than minimum city parking requirements.
b. Transportation demand management (TDM) program has been developed for approval by, and is approved by the city engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the city determines the plan is not successful, the plan may be revised. If the city determines that no good-faith effort has been made to implement the plan, the city may take enforcement actions.
Finding: Not Applicable. The development proposal did not include a request to reduce parking at this time, although this may be proposed with a future application.

17.52.030 - Standards for automobile parking.
A. Access. Ingress and egress locations on public thoroughfares shall be located in the interests of public traffic safety. Groups of more than four parking spaces shall be so located and served by driveways so that their use will require no backing movements or other maneuvering within a street right-of-way other than an alley. No driveway with a slope of greater than fifteen percent shall be permitted without approval of the city engineer.
Finding: Complies as Proposed. The parking stalls are located so that no parking movements are required into a street, right-of-way, or alley. All driveways have slopes less than fifteen percent.

B. Surfacing. Required off-street parking spaces and access aisles shall have paved surfaces adequately maintained. The use of pervious asphalt/concrete and alternative designs that reduce storm water runoff and improve water quality pursuant to the city's stormwater and low impact development design standards are encouraged.
Finding: Complies as Proposed. All improved parking stalls will have paved surfaces and meet the City's stormwater mitigation requirements by use of vegetated swales.

C. Drainage. Drainage shall be designed in accordance with the requirements of chapter and the city public works stormwater and grading design standards.

Finding: Complies as Proposed. All improved parking stalls will have paved surfaces and meet the City's stormwater mitigation requirements by use of vegetated swales.

D. Dimensional Standards.

1. Requirements for parking developed at varying angles are according to the table included in this section. A parking space shall not be less than seven feet in height when within a building or structure, and shall have access by an all-weather surface to a street or alley. Parking stalls in compliance with the American with Disabilities Act may vary in size in order to comply with the building division requirements. Up to thirty-five percent of the minimum required parking may be compact, while the remaining required parking stalls are designed to standard dimensions. The community development director may approve alternative dimensions for parking stalls in excess of the minimum requirement which comply with the intent of this chapter.

2. Alternative parking/plan. Any applicant may propose an alternative parking plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. In such situations, the community development director may approve an alternative parking lot plan with variations to parking dimensions of this section. The alternative shall be consistent with the intent of this chapter and shall create a safe space for automobiles and pedestrians while providing landscaping to the quantity and quality found within parking lot landscaping requirements.

Finding: Complies as Proposed. All improved parking stalls will meet the 2007 code requirements for standard stall size (9' x 16.5' with 1.5' overhang). All ADA stalls will meet City and Federal requirements.

E. Carpool and Vanpool Parking. New developments with seventy-five or more parking spaces, and new hospitals, government offices, group homes, nursing and retirement homes, schools and transit park-and-ride facilities with fifty or more parking spaces, shall identify the spaces available for employee, student and commuter parking and designate at least five percent, but not fewer than two, of those spaces for exclusive carpool and vanpool parking. Carpool and vanpool parking spaces shall be located closer to the main employee, student or commuter entrance than all other employee, student or commuter parking spaces with the exception of ADA accessible parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only."

Finding: Not Applicable. This is not new parking and is under the fifty spaces.

17.52.040 - Bicycle parking standards.

A. Purpose-Applicability. To encourage bicycle transportation to help reduce principal reliance on the automobile, and to ensure bicycle safety and security, bicycle parking shall be provided in conjunction with all uses other than single-family dwellings or duplexes.

Finding: Complies with Conditions. Two bike parking stalls are required for the pavilion, and four (4) stalls are proposed. Bike parking stalls will meet all City requirements.

B. Number of Bicycle Spaces Required.

Required Bicycle Parking Spaces*

USE	*PROPOSED*	*MINIMUM BICYCLE PARKING*	*MINIMUM BICYCLE PARKING - COVERED*
College, Business / Commercial Schools	*4*	*2*	*50% (min. of 1)*

* *Covered bicycle parking is not required for developments with two or fewer stalls.*

Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

C. Security of Bicycle Parking. Bicycle parking facilities shall be secured. Acceptable secured bicycle parking area shall be in the form of a lockable enclosure onsite, secure room in a building onsite, a covered or uncovered rack onsite, bicycle parking within the adjacent right-of-way or another form of secure parking where the bicycle can be

stored, as approved by the decision maker. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience and, when in the right-of-way shall comply with clearance and ADA requirements.

Finding: Complies with Conditions. The applicant did not provide details of the bicycle parking in the submitted plans. Bike parking will be provided with 2 racks, surface mounted and securely fastened to the paving by tamper-resistant bolts.

Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

D. Bicycle parking facilities shall offer security in the form of either a lockable enclosure or a stationary rack to which the bicycle can be locked. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience.

Finding: Please refer to the analysis in 17.52.040.C.

Location of Bicycle Parking:

1. Bicycle parking shall be located on-site, in one or more convenient, secure and accessible location. The city engineer and the community development Director may permit the bicycle parking to be provided within the right-of-way provided adequate clear zone and ADA requirements are met. If sites have more than one building, bicycle parking shall be distributed as appropriate to serve all buildings. If a building has two or more main building entrances, the review authority may require bicycle parking to be distributed to serve all main building entrances, as it deems appropriate.

Finding: Please refer to the analysis in 17.52.040.C.

2. Bicycle parking areas shall be clearly marked or visible from on-site buildings or the street. If a bicycle parking area is not plainly visible from the street or main building entrance, a sign must be posted indicating the location of the bicycle parking area. Indoor bicycle parking areas shall not require stairs to access the space unless approved by the community development director.

Finding: Please refer to the analysis in 17.52.040.C.

3. All bicycle parking areas shall be located to avoid conflicts with pedestrian and motor vehicle movement.

a. Bicycle parking areas shall be separated from motor vehicle parking and maneuvering areas and from arterial streets by a barrier or a minimum of five feet.

b. Bicycle parking areas shall not obstruct pedestrian walkways; provided, however, that the review authority may allow bicycle parking in the right-of-way where this does not conflict with pedestrian accessibility.

Finding: Please refer to the analysis in 17.52.040.C.

***17.52.040.D.4**. Accessibility.*

a. Outdoor bicycle areas shall be connected to main building entrances by pedestrian accessible walkways.

Finding: Please refer to the analysis in 17.52.040.C.

***17.52.040.D.4.b**. Outdoor bicycle parking areas shall have direct access to a right-of-way.*

Finding: Please refer to the analysis in 17.52.040.C.

***17.52.040.D.4.c**. Outdoor bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle space, or fifty feet, whichever is less, unless otherwise determined by the community development director, city engineer, or planning commission.*

Finding: Please refer to the analysis in 17.52.040.C.

17.52.060 - PARKING LOT LANDSCAPING.

A. Development Standards.

1. The landscaping shall be located in defined landscaped areas that are uniformly distributed throughout the parking or loading area.
Finding: Complies as Proposed. The proposed landscaping throughout the parking lot is uniformly distributed.

2. All areas in a parking lot not used for parking, maneuvering, or circulation shall be landscaped.
Finding: Complies as Proposed. All areas in a parking lot not used for parking, maneuvering, or circulation are landscaped with a mix of trees, shrubs, and lawn cover.

3. Parking lot trees shall be a mix of deciduous shade trees and coniferous trees. The trees shall be evenly distributed throughout the parking lot as both interior and perimeter landscaping to provide shade.
Finding: Complies as Proposed. Interior trees are a mix of deciduous shade trees and coniferous trees, evenly distributed throughout the parking lot.

4. Required landscaping trees shall be of a minimum two-inch minimum caliper size (though it may not be standard for some tree types to be distinguished by caliper), planted according to American Nurseryman Standards, and selected from the Oregon City Street Tree List;
Finding: Complies as Proposed. Deciduous parking lot trees will be a minimum of 2" caliper and Coniferous parking lot trees will be a minimum of 6' ht.

5. Landscaped areas shall include irrigation systems unless an alternate plan is submitted, and approved by the community development director, that can demonstrate adequate maintenance;
Finding: Complies as Proposed. All parking lot landscaping will be irrigated with a permanent underground irrigation system.

6. All plant materials, including trees, shrubbery and ground cover should be selected for their appropriateness to the site, drought tolerance, year-round greenery and coverage and staggered flowering periods. Species found on the Oregon City Native Plant List are strongly encouraged and species found on the Oregon City Nuisance Plant List are prohibited.
Finding: Complies as Proposed. No plants from the Oregon City Nuisance Plant List are used. All parking lot trees, shrubs and groundcover are native and or naturalized.

7. The landscaping in parking areas shall not obstruct lines of sight for safe traffic operation and shall comply with all requirements of Chapter 10.32, Traffic Sight Obstructions.
Finding: Complies as Proposed. No landscaping in the parking areas will obstruct lines of sight. All required vision triangles will be protected.

8. Landscaping shall incorporate design standards in accordance with Chapter 13.12, Stormwater Management.
Finding: Please refer to the analysis in Chapter 13.12 of this report. Stormwater management is provided through stormwater conveyance swales that meet the City requirements.

B. Perimeter Parking Lot Landscaping and Parking Lot Entryway/Right-of-Way Screening. Parking lots shall include a five-foot wide landscaped buffer where the parking lot abuts the right-of-way and/or adjoining properties. In order to provide connectivity between non-single-family sites, the community development director may approve an interruption in the perimeter parking lot landscaping for a single driveway where the parking lot abuts property designated as multi-family, commercial or industrial. Shared driveways and parking aisles that straddle a lot line do not need to meet perimeter landscaping requirements.
Finding: Complies as Proposed. The applicant has proposed an alternative landscaping plan. The parking lot does not abut a right-of-way or property. The applicant has proposed landscaping swales that meet the intent of this requirement in accordance with the standards of the Oregon City storm water design requirements. The applicant shall provide a revised landscaping plan prior to issuance of a Public Works construction permit.

Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

1. The perimeter parking lot are[a] shall include:
a. Trees spaced a maximum of thirty-five feet apart (minimum of one tree on either side of the entryway is required). When the parking lot is adjacent to a public right-of-way, the parking lot trees shall be offset from the street trees;
b. Ground cover, such as wild flowers, spaced a maximum of 16-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and
c. An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average. The hedge/shrubs shall be parallel to and not nearer than two feet from the right-of-way line. The required screening shall be designed to allow for free access to the site and sidewalk by pedestrians. Visual breaks, no more than five feet in width, shall be provided every thirty feet within evergreen hedges abutting public right-of-ways.

Finding: Complies with Conditions. The applicant has proposed an alternative landscaping plan. The applicant has proposed landscaping swales that meet the intent of this requirement in accordance with the standards of the Oregon City storm water design requirements. The applicant shall provide a revised landscaping plan prior to issuance of a Public Works construction permit.

Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

C. Parking Area/Building Buffer. Parking areas shall be separated from the exterior wall of a structure, exclusive of pedestrian entranceways or loading areas, by one of the following:
1. Minimum five-foot wide landscaped planter strip (excluding areas for pedestrian connection) abutting either side of a parking lot sidewalk with:
a. Trees spaced a maximum of thirty-five feet apart;
b. Ground cover such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and
c. An evergreen hedge of thirty to forty-two inches or shrubs placed no more than four feet apart on average; or
2. Seven-foot sidewalks with shade trees spaced a maximum of thirty-five feet apart in three-foot by five-foot tree wells.

Finding: Complies with Conditions. The applicant has proposed an alternative landscaping plan. Parking areas are separated from buildings by a pedestrian sidewalk and a 5' planter strip. The applicant has proposed landscaping swales that meet the intent of this requirement in accordance with the standards of the Oregon City storm water design requirements. The applicant shall provide a revised landscaping plan with further details of the required landscaping prior to issuance of a Public Works construction permit.

Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

D. Interior Parking Lot Landscaping. Surface parking lots shall have a minimum ten percent of the interior of the gross area of the parking lot devoted to landscaping to improve the water quality, reduce storm water runoff, and provide pavement shade. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum total site landscaping required by Section 17.62.050(1) unless otherwise permitted by the dimensional standards of the underlying zone district. Pedestrian walkways or any impervious surface in the landscaped areas are not to be counted in the percentage. Interior parking lot landscaping shall include:
a. A minimum of one tree per six parking spaces.

b. Ground cover, such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.
c. Shrubs spaced no more than four feet apart on average.
d. No more than eight contiguous parking spaces shall be created without providing an interior landscape strip between them. Landscape strips shall be provided between rows of parking shall be a minimum of six feet in width and a minimum of ten feet in length.
e. Pedestrian walkways shall have shade trees spaced a maximum of every thirty-five feet in a minimum three-foot by five-foot tree wells; or
Trees spaced every thirty-five feet, shrubs spaced no more than four feet apart on average, and ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

Finding: Complies with Conditions. The applicant has proposed an alternative landscaping plan. The site plan includes 25 parking stalls requiring at least 4 trees within the interior parking lot landscaping, and 6 trees are proposed to be planted within the landscape islands. Groundcover and shrubs will cover 100% of the exposed ground within 3 years. No groundcover will be spaced farther than 16" on center. No shrubs will be spaced more than 4' apart. Interior landscape strips at least eight (8) feet wide and 16 feet in length, are provided every 6 parking stalls or less. Interior parking lot trees shall be located to provide shade for walkways and interior parking lot stalls. Trees species selections and locations will be determined at the time of revised landscaping plans. Tree shall be placed in appropriate locations where practicable to provide shade and visual relief for the parking lot.

The applicant has proposed landscaping swales that meet the intent of this requirement in accordance with the standards of the Oregon City storm water design requirements. The applicant shall provide a revised landscaping plan with further details of the required landscaping prior to issuance of a Public Works construction permit.

Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

E. Installation.
1. All landscaping shall be installed according to accepted planting procedures, according to American Nurseryman Standards.
2. The site, soils and proposed irrigation systems shall be appropriate for the healthy and long-term maintenance of the proposed plant species.
3. Certificates of occupancy shall not be issued unless the landscaping requirements have been met or other arrangements have been made and approved by the city, such as the posting of a surety.
Finding: Complies as Proposed. The applicant indicated that all landscaping shall be installed according to accepted planting procedures, according to American Nurseryman Standards. The site, soils and proposed irrigation systems will be appropriate for the healthy and long-term maintenance of the proposed plant species. In addition, irrigation is proposed.

17.52.070 - Alternative landscaping plan.
Any applicant may propose an alternative landscaping plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. Alternative plans may include the use of low impact development techniques and minimized landscaping requirements. In such situations, the community development director may approve variations to the landscaping standards of section 17.52.060.
A. General Review Standard. The alternative shall be meet or exceed the intent of this chapter and shall create a safe space for automobiles and pedestrians. The alternative landscaping plan shall be prepared by a licensed landscape architect.

B. Credit for Pervious/Low Impact Development. The community development director may count up to fifty percent of the square footage of any pervious hardscaped landscape material within a parking lot that is designed and approved pursuant to the city's adopted stormwater and low impact development design standards toward minimum landscaping requirements for the site. (This includes porous pavement detention, open celled block pavers, porous asphalt, porous concrete pavement, porous turf, porous gravel, etc).

Finding: Complies with Conditions. The applicant has proposed an alternative landscaping plan. The applicant has proposed an alternative landscaping plan. The site plan includes 25 parking stalls requiring at least 4 trees within the interior parking lot landscaping, and 6 trees are proposed to be planted within the landscape islands. Groundcover and shrubs will cover 100% of the exposed ground within 3 years. No groundcover will be spaced farther than 16" on center. No shrubs will be spaced more than 4' apart. Interior landscape strips at least eight (8) feet wide and 16 feet in length, are provided every 6 parking stalls or less. Interior parking lot trees shall be located to provide shade for walkways and interior parking lot stalls. Trees species selections and locations will be determined at the time of revised landscaping plans. Tree shall be placed in appropriate locations where practicable to provide shade and visual relief for the parking lot.

The applicant has proposed landscaping swales that meet the intent of this requirement in accordance with the standards of the Oregon City storm water design requirements. The applicant shall provide a revised landscaping plan with further details of the required landscaping prior to issuance of a Public Works construction permit. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.52.080 - Maintenance.

The owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of the site including but not limited to the off-street parking and loading spaces, bicycle parking and all landscaping which shall be maintained in good condition so as to present a healthy, neat and orderly appearance and shall be kept free from refuse and debris.

All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:

a. It will not interfere with the maintenance or repair of any public utility;

b. It will not restrict pedestrian or vehicular access; and

c. It will not constitute a traffic hazard due to reduced visibility.

Finding: Complies as Proposed. The property owner acknowledges responsibility for the maintenance of all parking areas.

17.52.090 - Loading areas.

B. Applicability.

1. Section 17.52.090 applies to uses that are expected to have service or delivery truck visits with a forty-foot or longer wheelbase, at a frequency of one or more vehicles per week. The city engineer and decision maker shall determine through site plan and design review the number, size, and location of required loading areas, if any.

C. Standards.

1. The off-street loading space shall be large enough to accommodate the largest vehicle that is expected to serve the use without obstructing vehicles or pedestrian traffic on adjacent streets and driveways. Applicants are advised to provide complete and accurate information about the potential need for loading spaces because the city engineer or decision maker may restrict the use of other public right-of-way to ensure efficient loading areas and reduce interference with other uses.

2. Where parking areas are prohibited between a building and the street, loading areas are also prohibited.

3. The city engineer and decision maker, through site plan and design review, may approve a loading area adjacent to or within a street right-of-way when all of the following loading and unloading operations conditions are met:

a. Short in duration (i.e., less than one hour);

b. Infrequent (less than three operations daily between 5:00 a.m. and 12:00 a.m. or all operations between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);

c. Does not obstruct traffic during peak traffic hours;

d. Does not interfere with emergency response services; and

e. Is acceptable to the applicable roadway authority.

Finding: Complies as Proposed. The applicant indicates that the existing loading dock will be preserved. Adequate access to and within the loading area will remain. The loading area and entrance driveway will be resurfaced with asphalt. Access to the existing loading dock will not obstruct vehicles or pedestrians on adjacent streets or driveways. No new loading areas are proposed.

CHAPTER 13.12 - STORMWATER CONVEYANCE, QUANTITY AND QUALITY

13.12.050 Pursuant to each of the subsections below, proposed activities may be required to meet the performance standards for stormwater conveyance, stormwater quantity or stormwater quality.

13.12.050.A. Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:

1. *The conveyance facilities are located entirely on one privately owned parcel;*
2. *The conveyance facilities are privately maintained; and*
3. *The conveyance facilities receive no stormwater runoff from outside the parcel's property limits.*

Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the building official.

Finding: Applicable. The applicant is proposing stormwater conveyance as part of this project, therefore this section is applicable.

13.12.050.B. Stormwater Quantity Control. The stormwater quantity control requirements of this chapter shall apply to the following proposed activities, uses or developments:

1. *Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given seven-year period;*
2. *Activities that create more than two thousand square feet of impervious surface, cumulated over any given seven year period; or*
3. *Redevelopment of a commercial or industrial land use that will disturb more than five thousand square feet of existing impervious surface. This five thousand square foot measurement cumulates over any given seven year period;*
4. *An exemption to the stormwater quantity control requirements of this chapter will be granted in the following circumstances:*
    a. *The development site discharges to a stormwater quantity control facility approved by the city engineer to receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater, or,*
    b. *The development site discharges to one of the following receiving bodies of water: Willamette River, Clackamas River or Abernethy Creek; and either lies within the one hundred year floodplain or is up to ten feet above the design flood elevation as defined in Chapter 17.42*

Finding: Applicable. The applicant is proposing stormwater quantity control as part of this project, therefore this section is applicable.

13.12.050.C. Stormwater Quality Control. The stormwater quality control requirements of this chapter shall apply to the following proposed activities, uses or developments:

1. *Category A. Activities subject to general water quality requirements of this chapter:*
    a. The construction of four or more single-family residences;
    b. Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage

measurements will be considered cumulative for any given seven year period; or

c. Activities that create more than eight thousand square feet of new impervious surface for other than a single-family residential development. This eight thousand square foot measurement will be considered cumulative for any given seven year period;

d. An exemption to the stormwater quantity control requirements of this subsection will be granted if the development site discharges to a stormwater quality control facility approved by the city engineer to receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater.

2. *Category B. Uses Requiring Additional Management Practices. In addition to any other applicable requirements of this chapter, the following uses are subject to additional management practices as contained in the Public Works Stormwater and Grading Design Standards:*
   a. *Fuel dispensing facilities;*
   b. *Bulk petroleum storage in multiple stationary tanks;*
   c. *Solid waste storage areas for commercial, industrial or multi-family uses;*
   d. *Loading and unloading docks for commercial or industrial uses; or*
   e. *Covered vehicle parking for commercial or industrial uses.*
3. *Category C. Clackamas River Watershed. In addition to any other applicable requirements of this chapter, any development that creates new waste discharges and whose stormwater runoff may directly or indirectly flow into the Clackamas River is subject to additional requirements associated with Oregon Administrative Rules (OAR) 340-41-470 (Thee Basin Rule).*

Finding: Applicable. The applicant is proposing stormwater quality control as part of this project, therefore this section is applicable.

13.12.090 Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

A. The plan and report demonstrate how the proposed development and stormwater management facilities will accomplish the purpose statements of this chapter;

B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under Section 13.12.020

C. Unless otherwise exempted by Section 13.12.050(B), the plan and report includes adequate stormwater quantity control facilities, so that when the proposed land development activity takes place, peak rates and volumes of runoff:
   1. Do not exceed the capacity of receiving drainage conveyance facilities;
   2. Do not increase the potential for streambank erosion; and
   3. Do not add volume to an off-site closed depression without providing for mitigation.

D. Unless otherwise exempted by Section 13.12.050(C), the proposed development includes:
   1. Adequate stormwater quality control facilities, so that when the proposed land development activity takes place, the temperature and overall pollution level of stormwater runoff is no greater than the water entering. When no water enters a project, then stormwater runoff shall be compared to rain samples; and
   2. Stormwater quality control facilities which:
   a. Are in compliance with applicable National Pollutant Discharge Elimination System (NPDES) requirements;
   b. Minimize the deterioration of existing watercourses, culverts, bridges, dams and other structures; and
   c. Minimize any increase in nonpoint source pollution.

E. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.

F. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams. The postdevelopment peak stormwater discharge rate from a development site for the two year, twenty-four hour duration storm event shall not exceed fifty percent of the two year, twenty-four hour predevelopment peak runoff rate.

G. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.

Finding: Complies with Conditions. The applicant shall provide a Stormwater Management Plan and other documents as required within the City's Stormwater and Grading Design Standards.

Further, the applicant shall revise the preliminary Stormwater Management Plan (submitted at land use application) to modify the extents of "Basin 8" to include the stormwater runoff generated from the newly constructed Oregon City School District Transportation and Maintenance Facility, located at the northwest corner of the intersection of Meyers Road and High School Avenue.

CHAPTER 12.04 - STREETS SIDEWALKS AND PUBLIC PLACES

12.04.003 - Applicability.
A. Compliance with this chapter is required for all land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements.
B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage, of all single and two-family dwellings. All applicable single and two-family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this chapter. In addition, the frontage of the site shall comply with the following prioritized standards identified in this chapter:
1. Improve street pavement, construct curbs, gutters, sidewalks and planter strips; and
2. Plant street trees.
The cost of compliance with the standards identified in 12.04.003.B.1 and 12.04.003.B.2 is limited to ten percent of the total construction costs. The value of the alterations and improvements as determined by the community development director is based on the entire project and not individual building permits. It is the responsibility of the applicant to submit to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal such as access or landscaping requirements.
Finding: Not Applicable. The current proposal includes only renovations to the existing building and stormwater management facility improvements, which will have no impact on the transportation system. Furthermore, the applicant will coordinate the design and location of necessary public street improvements at the time of the Phase I Detailed Development Plan for the main campus Master Plan amendment, which will trigger the improvements approved under the 2007 master plan approval.

Therefore, compliance with OCMC 12.04 is not required.

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

15.48.030 Applicability—Grading permit required.
A. A city-issued grading permit shall be required before the commencement of any of the following filling or grading activities:
1. Grading activities in excess of ten cubic yards of earth;
2. Grading activities which may result in the diversion of existing drainage courses, both natural and man-made, from their natural point of entry or exit from the grading site;
3. Grading and paving activities resulting in the creation of impervious surfaces greater than two thousand square feet or more in area;
4. Any excavation beyond the limits of a basement or footing excavation, having an unsupported soil height greater than five feet after the completion of such a structure; or
5. Grading activities involving the clearing or disturbance of one-half acres (twenty-one thousand seven hundred eighty square feet) or more of land.
Finding: Applicable. The applicant is proposing grading activities in excess of ten cubic yards of earth, therefore this section is applicable.

15.48.090 Submittal requirements.

An engineered grading plan or an abbreviated grading plan shall be prepared in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards whenever a city approved grading permit is required. In addition, a geotechnical engineering report and/or residential lot grading plan may be required pursuant to the criteria listed below.
A. Abbreviated Grading Plan. The city shall allow the applicant to submit an abbreviated grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards if the following criteria are met:
1. No portion of the proposed site is within the flood management area overlay district pursuant to Chapter 17.42, the unstable soils and hillside constraints overlay district pursuant to Chapter 17.44, or a water quality resource area pursuant to Chapter 17.49; and
2. The proposed filling or grading activity does not involve more than fifty cubic yards of earth.
B. Engineered Grading Plan. The city shall require an engineered grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer if the proposed activities do not qualify for abbreviated grading plan.
C. Geotechnical Engineering Report. The city shall require a geotechnical engineering report in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer who specializes in geotechnical work when any of the following site conditions may exist in the development area:
1. When any publicly maintained facility (structure, street, pond, utility, park, etc.) will be supported by any engineered fill;
2. When an embankment for a stormwater pond is created by the placement of fill;
3. When, by excavation, the soils remaining in place are greater than three feet high and less than twenty feet wide.
D .Residential Lot Grading Plan. The city shall require a residential lot grading plan in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer for all land divisions creating new residential building lots or where a public improvement project is required to provide access to an existing residential lot.

Finding: Complies with Conditions. As part of the stormwater facility construction plans, the applicant shall provide a Grading Plan as described within Chapter 3 of the Stormwater and Grading Design Standards.

CHAPTER 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.
A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.

Finding: Complies with Conditions. The applicant shall obtain an Erosion Prevention and Sediment Control (EPSC) Permit from the City prior to beginning work associated with the project.

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

17.50.030 Summary of the City's Decision-Making Processes.

Finding: Complies as Proposed. This proposed detailed development plan and natural resources overlay district application is being reviewed pursuant to the Type II process. Public Notice was posted onsite, online and mailed to property owners within 300 feet of the proposed development site, and published in the Clackamas Review / Oregon City News.

17.50.050 Preapplication Conference

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.
B.A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

Finding: Complies as Proposed. The applicant attended a pre-application conference (file PA 15-24) on August 5th, 2015. The land use application was submitted within 6 months of the pre-application conference on December 23rd, 2015. The application was deemed complete on March 4, 2016.

17.50.055 Neighborhood Association Meeting

Finding: Complies as Proposed. The applicant attended the Caufield Neighborhood Association general membership meeting in January 26th, 2016 to present conceptual plans for the proposal. A letter of support from the Caufield Neighborhood Association has been submitted (Exhibit 3b).

17.50.060 Application Requirements.

Finding: Complies as Proposed. All application materials required are submitted with this narrative. The applicant provided full-size plans, narrative, supporting reports and electronic copies of the entire application.

17.50.070 Completeness Review and 120-day Rule.

Finding: Complies as Proposed. This land use application was submitted on December 23rd, 2015. The application was deemed incomplete on January 22nd, 2016 and after the submittal of additional information the application was deemed complete on March 4, 2016. The City has until July 2nd, 2016 to make a final determination.

17.50.080 Complete Application--Required Information.

Finding: See section 17.50.060.

17.50.090 Public Notices.

Finding: Complies as Proposed. Staff provided public notice within 300' of the site via mail, the site was posted with multiple Land Use Notices, posted on the Oregon City website and in a general circulation newspaper. Staff provided email transmittal or the application and notice to affected agencies, the Natural Resource Committee and to all Neighborhood Associations requesting comment.

Notice of the April 25, 2016 public hearing was published in the Clackamas Review / Oregon City News on March 30, 2016 for one week.

17.50.100 Notice Posting Requirements.

Finding: Complies as Proposed. The site was posted with several signs for longer than the minimum requirement.

CHAPTER 17.54.100 - FENCES

Finding: Not Applicable. The applicant indicated that no fences or walls are proposed with this development.

CONCLUSION AND STAFF RECOMMENDATION

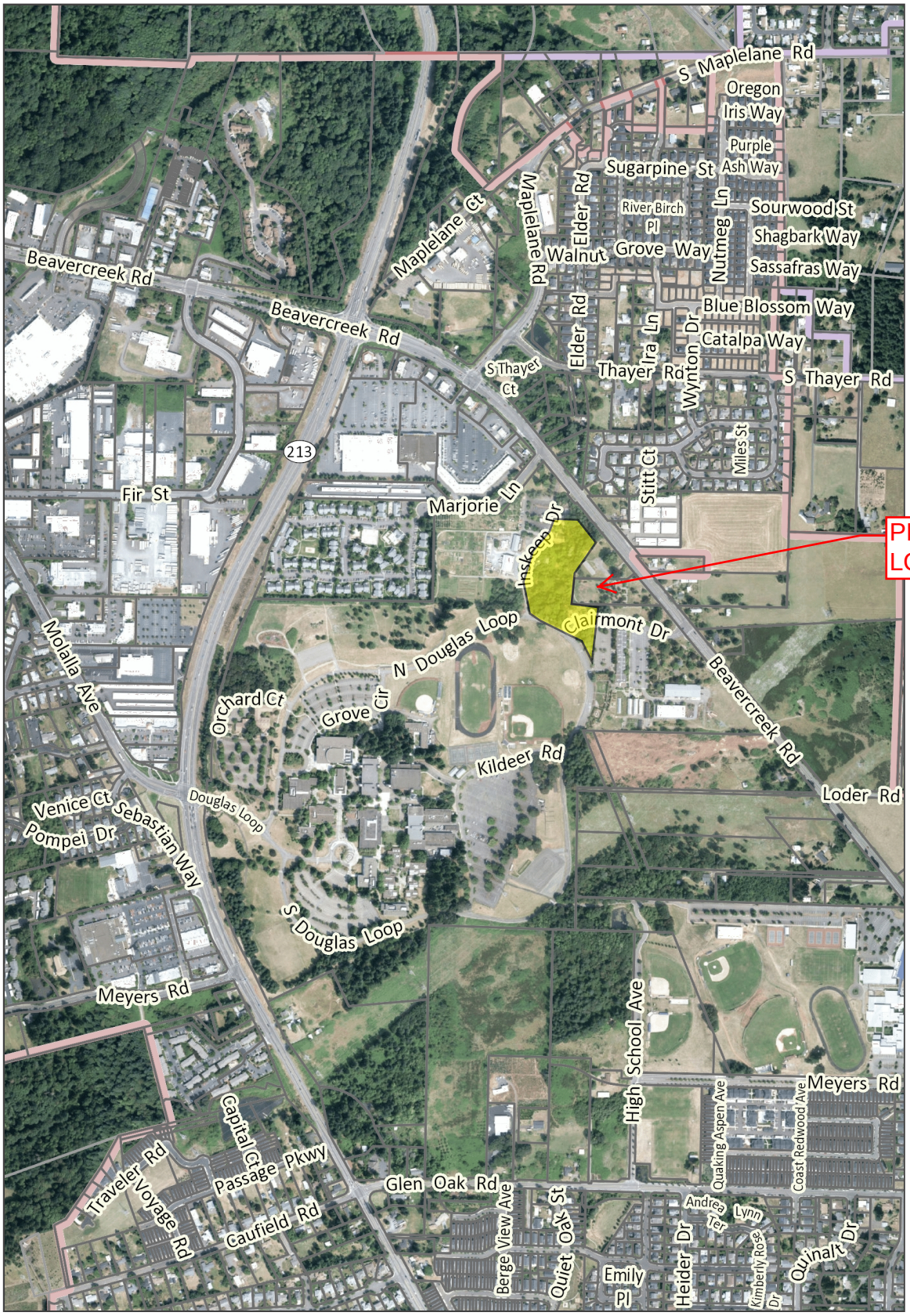
Based on the analysis and findings as described above, Staff recommends that the proposed Detailed Development Plan and Natural Resource Overlay District application for the Environmental Learning Center located at Clackamas Community College, 19600 Molalla Ave #21, Oregon City, OR 97045 and identified as Clackamas County APN 3-2E-09C -00800 can meet the requirements as described in the Oregon City Municipal Code by complying with the Conditions of Approval provided in this report.

Therefore, the Community Development Director recommends that files DP 16-01 / NR 15-08 be approved as submitted with conditions, based upon the findings and exhibits contained in this staff report.

EXHIBITS:

1. Vicinity Map
2. Applicant's Narrative and Plans
3. Public Comments
    a. Caufield Neighborhood Association (Support letter), 03/31/2016.
    b. Oregon City Natural Resources Committee (Support letter), 8/20/2015.
4. Agency Comments (Tri-Met and Tri-City have No Conflicts)
5. Public Notices
6. Pre-Application Conference PA 15-24 Notes

DP 16-01 / NR 15-08: Environmental Learning Center

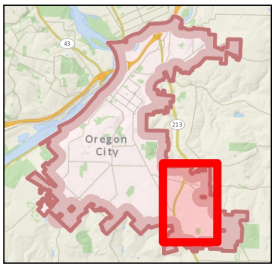


Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- City Limits
- UGB
- Basemap

Notes

Overview Map



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

N

0 968 Feet

1: 11,612

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

Map created 3/4/2016

Land Use Permit Application

for

Clackamas Community College

Environmental Learning Center

19600 Molalla Avenue
Oregon City, Oregon 97045

Prepared by

YGH Architecture
707 SW Washington Street
Suite 1200
Portland, Oregon 97205
503 221.0150

Revised 02.11.2016

YOST GRUBE HALL
ARCHITECTURE

Clackamas Community College
Environmental Learning Center Restoration

Land Use Application Contents

Land Use Application Form

List of Permits Sought with this Application

Pre-Application Conference Summary

Title Report

Caufield Neighborhood meeting notes

Application Narrative

Codes responses

- 17.36 General Industrial District
- 17.39 Institutional District
- 17.41 Tree Protection Standards
- 17.49 Natural Resource Overlay District
- 17.50 Administrative Procedures
- 17.52 Off Street Parking
- 17.62 Site Plan and Design Review

NROD Mitigation Report

Archaeological Study

Drawings

Stormwater Management Report

Wetland Delineation

Material Sample

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
❑ Compatibility Review	❑ Extension	❑ Annexation
❑ Lot Line Adjustment	❑ Detailed Development Review	❑ Code Interpretation / Similar Use
❑ Non-Conforming Use Review	❑ Geotechnical Hazards	❑ Concept Development Plan
❑ Natural Resource (NROD) Verification	❑ Minor Partition (<4 lots)	❑ Conditional Use
	❑ Minor Site Plan & Design Review	❑ Comprehensive Plan Amendment (Text/Map)
	❑ Non-Conforming Use Review	❑ Detailed Development Plan
	❑ Site Plan and Design Review	❑ Historic Review
	❑ Subdivision (4+ lots)	❑ Municipal Code Amendment
	❑ Minor Variance	❑ Variance
	❑ Natural Resource (NROD) Review	❑ Zone Change

File Number(s): PA 15-24

Proposed Land Use or Activity: Habitat restoration and outdoor learning laboratory for natural resources

Project Name: Environmental Learning Center Number of Lots Proposed (If Applicable): NA

Physical Address of Site: 19600 Molalla Avenue Oregon City, OR 97045

Clackamas County Map and Tax Lot Number(s): Map #3 2E 09C tax lot #800

Applicant(s):

Applicant(s) Signature:

Applicant(s) Name Printed: Vice President Jim Huckestein on behalf of Bob Cochran, Dean of Campus Services Date: Dec. 14, 2015

Mailing Address: 19600 Molalla Avenue Oregon City, OR 97045

Phone: 503 594-6790 Fax: 503 594-6798 Email: bobc@clackamas.edu

Property Owner(s):

Property Owner(s) Signature:

Property Owner(s) Name Printed: Clackamas Community College, Vice President Jim Huckestein Date: Dec. 14 , 2015

Mailing Address: 19600 Molalla Avenue Oregon City, OR 97045

Phone: 503 594-6790 Fax: 503 594-6798 Email:

Representative(s):

Representative(s) Signature:

Representative (s) Name Printed: Jerry Waters, YGH Architecture Date: Dec. 18, 2015

Mailing Address: 707 SW Washington St. Suite 1200 Portland, OR 97205

Phone: 503 221-0150 Fax: 503 295-0840 Email: jerryw@ygh.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

Clackamas Community College
Environmental Learning Center Restoration

Land Use Application

Permits Sought with this Application

Type II procedures

Site Plan and Design Review (Detailed Development Plan)

Natural Resource (NROD) Review

City of Oregon City
Pre-Application Conference Summary

Project Number: PA 15-24
Project Name: CCC Environmental Learning Center
Meeting Date: August 5, 2015

Proposed Project:
The applicant has proposed to renovate the environmental learning center at CCC, which includes new pavilion additions, drainage pattern revisions, and native planting. Trails and bridges within the natural resource overlay district are planned.

General Information:

- Location: 19600 Molalla Avenue Oregon City, OR 97045
- Zoning: I - Institutional
- Applicable Overlay Districts: NROD
- Applications anticipated: Detailed Development Plan, NROD Review, Potential Master Plan Amendment

Planning Review and Application Fees:
The 2015 Planning applications and fees include-

- Site Plan and Design Review (Detailed Development Plan)

Project Cost	Fee
Less than $500,000	$2,031 plus 0.7% project cost
$500,000 to $3,000,000	$3,384 plus 0.5% project cost
Over $3,000,000	$11,510 plus 0.3% project cost (Max $53,989)

- NROD review: $1925
- Mailing Labels: $15 – or provided by applicant

Review Process:
Upon a complete application submittal, the applicant is entitled to a decision from the city for a decision of approval, approval with conditions or denial within **120 days** of deeming the application complete, by state law.

Type II decisions are rendered by the Community Development Director, with appeal on the record to the City Commission, and then onto LUBA.

Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards. The decision of the planning commission or historic review board is appealable to the city commission on the record pursuant to Section 17.50.190. The city commission decision on appeal is the city's final decision and is subject to review by LUBA within twenty-one days of when it becomes final, unless otherwise provided by state law.

Planning Notes

The CCC Master Plan in 2007 "locked in" the zoning code in place at the time. The 2007 WQRA applies, unless the College amends the Master Plan to use today's code.

Map from 2007 Master Plan

The Master Plan vests the college with the 2007 land use code, and includes "custom" standards for certain elements of the development. See the code that applies to the ELC below. If the current proposal can meet the criteria in these standards, we might be able to process the application as a Type II (no public hearings) process. If the current proposal does not meet the standards below, the College can propose an amendment to the master plan with an alternative standard to our current Chapter 17.49, which would be processed as a Type III application with a public hearing.

NOTE: The new building/canopy area will count as square footage. If this puts the total footprint over 38,460 square feet, we could accept equal or greater demolition by a date certain to remain under the threshold.

D. New development within ELC WQRA is subject to the following standards, as summarized in Table 14.

Table 14: ELC Water Quality Resource Area Conditions.

Area	***Existing Condition***	***Proposed Condition***
Buildings and Paving Area within the Wetland Resource	*1,041 square feet*	*0 square feet*
Buildings and Paving Area within the Vegetated Buffer	*38,460 square feet*	*Less than 38,460 square feet*

1. *The structural footprint of existing and proposed development within the WQRA may not exceed 38,460 square feet. This figure is the "existing structural footprint" of development within the ELC WQRA. (17.49.050.D.2). Current development impact within the WQRA is shown graphically above in Figure 25, and quantified numerically in Table 14.*

2. *Proposed development must include elimination of the existing encroachment within the ELC water resource. This elimination may be achieved by the relocation of the water resource.*

3. *ELC development within the WQRA that is equal to or less than 38,460 square feet is subject to the following prescribed conditions:*

    a. *New development must have no greater material adverse impact on the water quality resources area than existing development, as determined by a qualified natural resources professional, and*

    b. *The disturbed portion of the water quality resource area must be restored using native vegetation cover. (17.49.050.D.2)*

4. *If total ELC development exceeds this numeric threshold, any new development is a "provisional use" per 17.49.050.E, and is thereby subject to all regular provisions of Chapter 17.49.050.G.*

Applicable Code

Chapter 17.50 - ADMINISTRATION AND PROCEDURES

Chapter 17.62 - SITE PLAN AND DESIGN REVIEW
17.62.010 - Purpose.
17.62.050 - Standards.*
17.62.055 – Institutional and Commercial Buildings

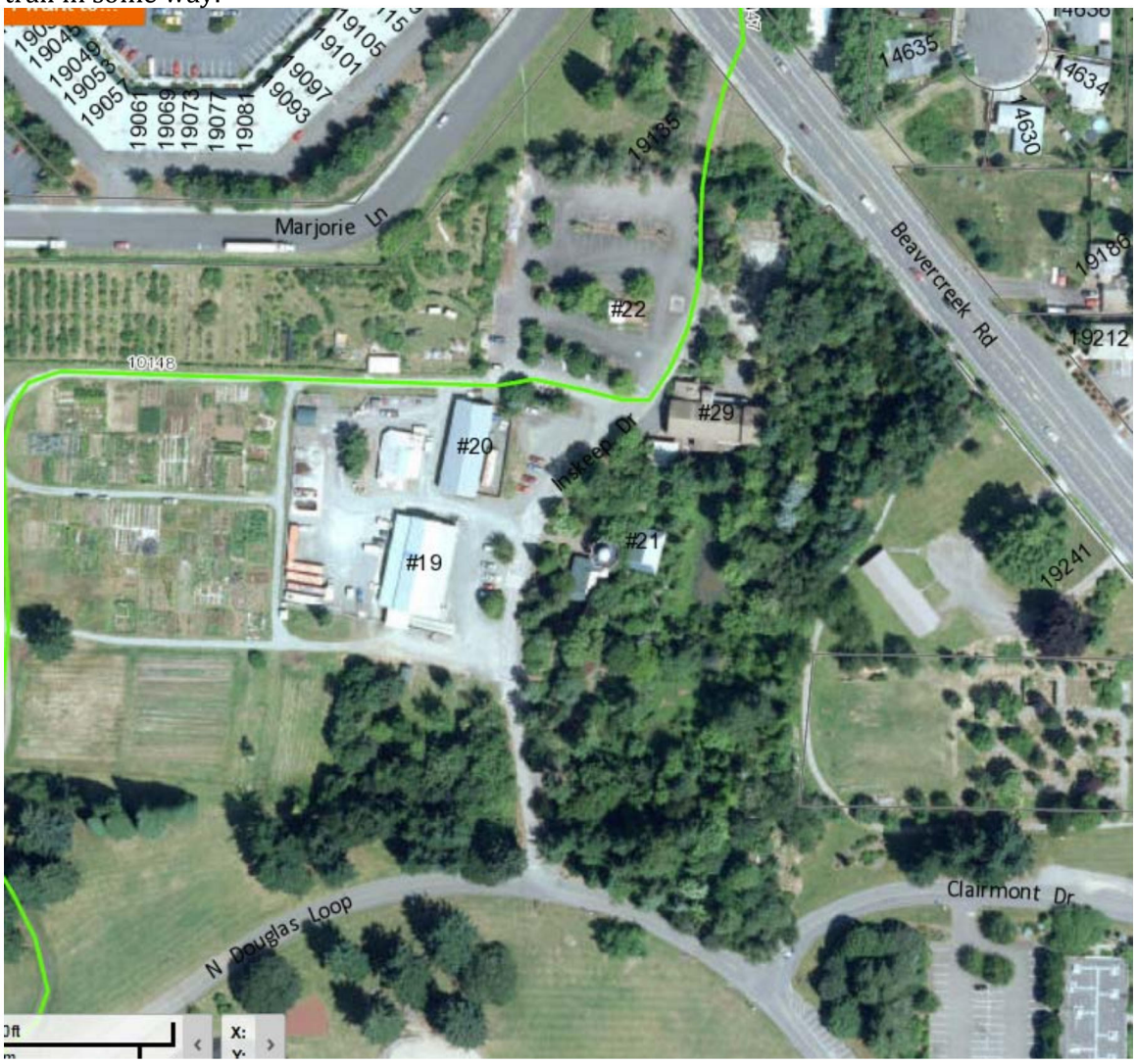
17.52 OFF STREET PARKING AND LOADING
The 2007 Master Plan indicated that the college has adequate parking for phase 1 of the Master Plan. No new parking spaces are required. If total parking is to decrease, please provide a new total for the campus and the total number of students and staff. Requirement is 0.2 spaces per #students/staff.
New bicycle parking may be required if it is not already provided. The required bicycle parking ratio is two spaces per classroom, with 50% of those spaces covered.
Parking lot landscaping standards allow alternative designs for LID techniques as long as the intent of the standards are met. See
https://www.municode.com/library/or/oregon_city/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.52OREPALO_17.52.070ALLAPL

Chapter 17.36 - "GI"—GENERAL INDUSTRIAL DISTRICT
Chapter 17.49 - NATURAL RESOURCE OVERLAY DISTRICT

Transportation

There is no need for any transportation analysis at this time.

The Regional Transportation Plan includes a trail (Oregon City Loop trail) that weaves through the campus and is aligned adjacent to the ELC. Your application should address this trail in some way.



Neighborhood Meeting

A meeting with the Caufield Neighborhood Association is required. Please turn in with your application:

1. A sign-in sheet of meeting attendees
2. A summary of issues discussed

A letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held.

Pre-application conferences are required by Section 17.50.050 of the City Code, as follows:

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the

required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

NOTICE TO APPLICANT: A property owner may apply for any permit they wish for their property. HOWEVER, THERE ARE NO GUARANTEES THAT ANY APPLICATION WILL BE APPROVED. No decisions are made until all reports and testimony have been submitted. This form will be kept by the Community Development Department . A copy will be given to the applicant. IF the applicant does not submit an application within six (6) months from the Pre-application Conference meeting date, a NEW Pre-Application Conference will be required.

First American Title Insurance Company
National Commercial Services
1700 SW Fourth Avenue Suite 102
Portland, OR 97201
(503) 222-3651 - Fax (503) 790-7856

Title Officer: **Katy Oberg**
(503) 219-8742

LOT BOOK SERVICE

Clackamas Community College
19600 S Molalla Avenue
Oregon City, OR 97045

Order No.: NCS-79054-OR2

Attn: Lisa Kelton
Phone No.: (503) 657-6958 Ext. 2212 - Fax No.:
Email:

Re:

Fee: $225.00

We have searched our Tract Indices as to the following described property:

The land referred to in this report is described in Exhibit A attached hereto.

and as of March 19, 2004 at 8:00 a.m.

We find that the last deed of record runs to

Clackamas County Area Education District, known as Clackamas Community College, a municipal corporation of the State of Oregon

We also find the following apparent encumbrances prior to the effective date hereof:

1. An easement for Traffic control facility and incidental purposes, filed January 8, 1986.
   In Favor of: State of Oregon, by and through its Department of Transportation
   Affects: Westerly portion

2. The rights, if any, of a city, public utility or special district to preserve a public easement in as the same was vacated by the document recorded September 1, 1978 as Fee No. 78-37906 of Official Records.

3. An easement for Communications line right-of-way and incidental purposes, recorded March 20, 1992 as Fee No. 92-15825 of Official Records.
   In Favor of: North Willamette Telecom, an Oregon corporation
   Affects:

4. An easement for Underground distribution line and incidental purposes, recorded April 26, 2001 as Fee No. 2001-029633 of Official Records.
   In Favor of: Portland General Electric Company, an Oregon corporation
   Affects:

5. Limited access provisions in favor of the State of Oregon, by and through its State Highway Commission as contained in Decree of Condemnation entered January 8, 1986 in Suit No. 84-1-274 in the Circuit Court for Clackamas County, which provides that no right of easement or right of access to, from or across the State Highway other than expressly therein provided for shall attach to the abutting property.

6. The terms and provisions contained in the document entitled "Covenant" recorded January 24, 2003 as Fee No. 2003-009719 of Official Records.

7. The legal description contained in this preliminary title report covers more property than is intended for the transaction. We will require a surveyor's legal description covering the specific property. A sale or conveyance of said parcel may be in violation of the partition statutes as set out under O.R.S. 92.010-92.190.

8. Unrecorded leases or periodic tenancies, if any.

We have also searched our General Index for Judgments and State and Federal Liens against the Grantee(s) named above and find:

NONE

We also find the following unpaid taxes and city liens:

1. General and special taxes and assessments for the fiscal year 2003-2004 are exempt.

2. City liens, if any, for the city of Oregon City.

3. These premises are within the boundaries of the Clackamas River Water District and are subject to the levies and assessments thereof.

THIS IS NOT a title report since no examination has been made of the title to the above described property. Our search for apparent encumbrances was limited to our Tract Indices, and therefore above listings do not include additional matters which might have been disclosed by an examination of the record title. We assume no liability in connection with this Lot Book Service and will not be responsible for errors or omissions therein. The charge for this service will not include supplemental reports, rechecks or other services.

Exhibit "A"

Part of the Robert Caufield and wife Donation Land Claim No. 53, in Sections 8 and 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows:

Beginning at a point on the East line of said Caufield claim at the Northwest corner of the Andrew Hood Donation Land Claim No. 44, thence Southerly along the East line of said Caufield Clain 2399.35 feet; thence West 568.53 feet to the center of the county road which is known as Secondary State Highway No. 160; thence North 29°43' West along center of said road 3001.7 feet; thence North 89°53' East 617.53 feet; thence South 0°07' East 211.2 feet; thence North 89°53' East 859.8 feet; thence North 0°07' West 380.8 feet; thence North 89°53' East 519.5 feet to the East line of the South portion of said Caufield claim extended North; thence South along said line of the place of beginning.

EXCEPTING THEREFROM A tract of land conveyed to Albert Sandberg and wife by deed recorded in Book 200, page 77, records of Clackamas County, described about as:

Beginning at a point on the East line of said Caufield claim which is 2399.35 feet Southerly from the Northwest corner of the Andrew Hood Donation Land Claim No. 44; thence West 568.53 feet to the center of Secondary Highway No. 160, thence North 29°43' West along the center of said road 1081..00 feet; thence North 63°17' East 538.00 feet; thence South 26°17' East 253.35 feet; thence North 84°00' East 512.75 feet to the West line of said Hood claim; thence Southerly along claim line to the place of beginning.

ALSO EXCEPTING THEREFROM a tract conveyed to John W. Shepherd and wife by deed recorded in Book 411, page 547, records of Clackamas County, described as:

Beginning at an iron pipe South 89°53' West 1379.3 feet distant from the Northwest corner of the Andrew Hood Donation Land Claim No. 44 in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon; thence North 0°07' West 211.2 feet; thence South 89°53' West 617.53 feet to the center line of Market Road No. 22, also known as Secondary State Highway No. 160; thence following said center line South 29°43' East 242.96 feet; thence North 89°53' East 497.55 feet to the place of beginning.

ALSO EXCEPTING THEREFROM a tract conveyed to the State of Oregon, April 14, 1970, Fee No. 706-913.

#4

Clackamas County Official Records
Sherry Hall, County Clerk

2003-009719

00415990200300097190080083

$61.00

01/24/2003 02:20:30 PM

D-OD Cnt=1 Stn=1 ELIZABETH
$40.00 $11.00 $10.00

Upon recording return to:

Hutchison, Hammond & Walsh PC
21790 Willamette Drive
West Linn, OR 97068
Attn: Carrie Richter

COVENANT

THIS COVENANT (this "Covenant") is made and entered into as of ~~December~~ JANUARY 9, 2003 by Clackamas Community College ("CCC") for the benefit of the City of Oregon City, Oregon (the "City").

RECITALS

A. CCC owns that certain real property in Oregon City, Clackamas County, Oregon (the "CCC Property") as more particularly described on *Exhibit A*, attached hereto and incorporated by this reference.

B. On June 28, 2002, CCC obtained conditional use approval from the City, CU 01-09 (the "Approval"), to construct six new buildings, one addition, four building renovations, a parking lot upgrade and related site improvements. The Approval was conditioned on the completion by CCC of a series of conditions of approval including Condition 23 which required that CCC execute and record a covenant that meets the requirements of Oregon City Municipal Code (the "Code") Section 17.50.150.

AGREEMENT

Now, therefore, in consideration of the foregoing and other good and valuable consideration, CCC agrees as follows:

1. CCC shall comply with all applicable requirements of the Code, conditions of approval and any representations made to the City by CCC or CCC's agents during the application review process.

2. CCC hereby agrees that the foregoing commitment shall be binding on its heirs, successors, and assigns.

3. CCC acknowledges that if CCC or its heirs, successors or assigns fails to perform the terms of this Covenant, City may immediately initiate revocation of the Approval or prosecute any other enforcement action available against CCC, its heirs, successors and/or assigns under state law or the Code.

4. CCC shall, at its sole cost and expense, promptly record this Covenant in the real property records of Clackamas County, Oregon, and this Covenant shall run with the CCC Property.

5. Any notice, demand or enforcement of this Covenant shall be sent to CCC at the following address:

Clackamas Community College
19600 S. Molalla Ave.
Oregon City, OR 97045
Attn: Dean of College Services

IN WITNESS WHEREOF, this Covenant has been duly executed as of the date first set forth above.

CLACKAMAS COMMUNITY COLLEGE

By: _____
Name: Al Erdman
Its: Dean of College Services

STATE OF OREGON)
) ss.
COUNTY OF CLACKAMAS)

The foregoing instrument was acknowledged before me this 9 day of January, 2003, ~~2003~~ by Al Erdman, as Dean of CLACKAMAS COMMUNITY COLLEGE.

OFFICIAL SEAL
SARA E SIMMONS
NOTARY PUBLIC - OREGON
COMMISSION NO. 336445
MY COMMISSION EXPIRES SEPT. 18, 2004

Sara E Simmons
Notary Public for Oregon
My commission expires: Sept 18, 2004

Approved:

_____ 1/23/03
City Attorney for Oregon City Date

H:\TSS\CCC Covenant (12-24-02).doc

EXHIBIT A

Order No. 936249

PARCEL I:

That portion of the Northeast one-quarter of Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, lying within the Washington Williams Donation Land Claim No. 56, in the County of Clackamas and State of Oregon, described as follows:

Beginning at the intersection of the South line of said claim with the Westerly line of the Willamette Valley Southern Railroad Company right of way; thence North 3°54' East along said right of way 722.08 feet to the Southwesterly line of Market Road No. 11; thence North 40°59'00" West along said Southwesterly road line 300 feet to the true point of beginning herein, said point also being the most Northerly corner of the tract conveyed to Sam Gregson, et ux, by Deed recorded in Book 602, page 319; thence South 14°39'20" West a distance of 101.50 feet; thence South 8°55'00" West a distance of 150.00 feet; thence South 84°31'00" East a distance of 10.02 feet to the Northwest corner of the tract conveyed to the J. M. Smucker Company by Deed recorded in Book 602, page 318; thence South 84°31' East along the North line of said Smucker Tract 100.18 feet to the East line of the tract conveyed to Sam Gregson, et ux, by Deed recorded in Book 276, page 502; thence North 8°55'00" East along said East line 160.79 feet, more or less, to the Southwesterly line of said Market Road No. 11; thence North 40°59'00" West along said road to the true point of beginning.

EXCEPT that portion conveyed to City of Oregon City for road by Deed recorded May 14, 1991 as Recorder's Fee No. 91-22128.

ALSO EXCEPT that portion conveyed to Clackamas County for road by Deed recorded October 25, 1995 as Recorder's Fee No. 95-066339.

PARCEL II:

Part of the Washington Williams D.L.C. #56 in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows:

Beginning on the South line of said DLC at the intersection thereof with the Westerly line of the Willamette Valley Southern Railroad Company right of way; thence North 3°54' East along said Westerly right of way line 722.08 feet to the Southwesterly line of Market Road No. 11; thence North 40°59' West along said Southwesterly road line 300 feet; thence South 8°55' West 268 feet to the true point of beginning; thence South 8°55' West 250 feet; thence South 81°05' East 100 feet; thence North 8°55' East 250 feet; thence North 81°05' West 100 feet to the true point of beginning.

PARCEL III:

Part of the Washington Williams Claim No. 56 in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows:

Beginning at the most Northerly corner of the Sam and Erana Gregson tract of land as described in deed recorded in Clackamas County deed record Book 276, page 502; thence following the Northwesterly boundary of said tract South 8°55' West 268.00 feet to an iron pipe marking the true point of beginning of the tract herein conveyed; from said true point of beginning; thence South 81°05' East 100.00 feet to an iron pipe in the Southeast boundary of the aforesaid Gregson tract; thence following the last mentioned boundary North 8°55' East 23.00 feet; thence North 84°31' West 100.18 feet to the aforesaid Northwest boundary of the Gregson tract; thence following the last mentioned boundary South 8°55' West 17.00 feet to the hereinbefore mentioned true point of beginning.

PARCEL IV:

A tract of land located in the Washington Williams Claim No. 56, in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, and begin a portion of the tract of land conveyed by James W. Short, et ux to Jack G. and Elizabeth Kassner, and recorded July 16, 1951, in Book 446, page 421, deed records, more particularly described as follows:

Beginning at a stone in the South boundary of the said William Claim that is South 89°00' West 297.00 feet distant from a stone located at the intersection of the West boundary of the Willamette Valley Southern Railway with the South boundary of the said claim, said beginning point also being the Southeasterly corner of the said Kassner tract. From said beginning point; thence North 8°55' East 961.45 feet to an iron pipe located in the Southwesterly boundary of Market Road No. 11; thence following said road boundary North 40°59' West 60.00 feet to an iron pipe; thence South 36°36' West 429.62 feet to a stone marking a re-entrant corner in the said Kassner tract; thence following the West boundary of the said Kassner tract, South 0°29' East 652.70 feet to a stone located in the South boundary of the said Williams Claim; thence following said Claim boundary, North 89°00' East 140.61 feet to the point of beginning of the tract herein described.

EXCEPTING THEREFROM that portion conveyed to Sam Gregson, et ux by deed recorded April 20, 1962, in Book 602, page 319, deed records.

PARCEL V:

A part of the Washington Williams and wife D.L.C. No. 56 in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as:

Beginning at a stone set in the South boundary line of said D.L.C. where the same intersects the Westerly side line of the right of way of the Willamette Valley Southern Railroad Company, said point being the Southeast corner of that certain 17.75 acre tract of land heretofore conveyed to Roselyn R. Robbins by deed recorded in Book 205, page 465, deed records, being also located South 89° West 1454.6 feet from the Northeast corner of the Robert Caufield D.L.C. from said beginning point run North 3°54' East tracing the Westerly side line of said railroad right of way 722.08 feet to an iron pipe driven in the Southwesterly side line of Market Road No. 11, also known as the Oregon City Ringo Road; thence North 40°59' West tracing the Southwesterly side line of said Market Road No. 11, 300.00 feet to an iron pipe; thence Southerly to an iron pipe in the South boundary line of said Washington Williams D.L.C. which is 297 feet Westerly of the place of beginning; thence North 89° East along the South line of said D.L.C. 297 feet to the place of beginning.

EXCEPTING THEREFROM a tract of land 100 feet by 518 feet in the Northwest corner thereof conveyed to Sam Gregson and wife by deed recorded January 28, 1941, in Book 276, page 502, deed records.

ALSO EXCEPTING THEREFROM that portion contained in deed to Berry Heights Limited Partnership recorded July 12, 1995 as Fee No. 95-040110.

PARCEL VI:

A tract of land located within the Northwest one-quarter of Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, and being a part of the Washington Williams D.L.C. No. 56, and also being a part of a certain parcel described as Tract II in a Contract of Sale recorded in Book 579, page 117, deed records, being described as:

Beginning at a stone on the South line of said D.L.C., South 89°30' West 28.73 chains from the Northeast corner of the Robert Caufield D.L.C.; thence North 652.2 feet to a marked stone; thence South

89°30' West, parallel to the South line of said Williams D.L.C., 400.7 feet to an iron rod; thence South 652.2 feet to an iron rod on the South line of said Williams D.L.C.; thence North 89°30' East 400.7 feet to the place of beginning.

EXCEPTING THEREFROM that portion contained in deed to Berry Heights Limited Partnership recorded July 12, 1995 as Fee No. 95-040110.

PARCEL VII:

A parcel of land in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the Washington Williams D.L.C. No. 56, described as follows:

Beginning at an iron pipe driven at the point of intersection of the South boundary of the Washington Williams D.L.C. with the Westerly side line of the Oregon City and Highland Road No. 337, said point being 793.25 feet West of a stone set at the Northeast corner of the Robert Caufield D.L.C.; thence West tracing the line between the Washington Williams D.L.C., and the Robert Caufield D.L.C., 601.12 feet to a stone set at the intersection of said claim line with the Easterly side line of the Clackamas Southern Railroad right of way; thence North 04°54' East tracing the Easterly side line of said right of way 166.8 feet to a stone; thence East 448.4 feet to a stone set in the Westerly side of the above County Road; thence South 39°50' East tracing the Westerly side line of said County Road, 216.2 feet to the place of beginning.

PARCEL VIII:

A parcel of land in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows:

Beginning at a stone on the Southwesterly line of Market Road No. 11 that is North 40°50' West 216.2 feet distant from an iron pipe in the South boundary of the Washington Williams D.L.C., which iron pipe is South 89° West 793.25 feet from a stone at the Northeast corner of the Robert Caufield D.L.C.; thence South 89° West 106.75 feet to an iron pipe; running thence Northeasterly in a straight line of 81.42 feet to an iron pipe on the Southwesterly line of Market Road No. 11, which pipe is North 40°50' West 68.25 feet from the place of beginning; thence South 40°50' East 68.25 feet to the place of beginning.

PARCEL IX:

Part of the Washington Williams D.L.C. No. 56, Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows:

Beginning at a point in the center line of the Oregon City and Ringe County Road which is North 40°50' West 216.2 feet from an iron rod driven at the point of intersection of said road line with the South line of Washington William D.L.C., said point of intersection being South 89° West 753.6 feet from the Northeast corner of the Robert Caufield D.L.C.; thence North 40°50' West, along the center line of said road, 690.95 feet to an iron rod in the Easterly line of the right of way of the Willamette Valley Southern Railroad Co.; thence South 3°54' West, along said Easterly line, 532.25 feet to an iron pipe; thence North 89° East 488.07 feet to the point of beginning.

EXCEPT that portion conveyed to A.R. Lindsley, et ux, by deed recorded in Book 494, Page 122, Clackamas County deed records.

ALSO EXCEPTING THEREFROM that portion contained in Bargain and Sale Deed to Berry Heights Limited Partnership recorded July 12, 1995 as Fee No. 95-040110

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PARCEL X:

A parcel of land in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows:

Beginning on the North line of the Robert Caufield D.L.C. No. 53 in Section 9, Township 3 South , Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, which point is 34.70 chains West of the Northeast corner of said D.L.C., said point is also the Northeast corner of that tract conveyed to Amiel Walker by deed 264, page 369, records of Clackamas County, Oregon; thence South 12.44 chains to the Northwest corner of that tract conveyed to H. Tudor in Book 65, Page 321, deed records of Clackamas County, Oregon; thence East along the North line of said tract, 33.64 chains to the center of the Oregon City and Highland County Road; thence North 41°41' West along said County Road 16.67 chains to the North line of said D.L.C.; thence West along the North line of said D.L.C. 22.54 chains to the place of beginning.

PARCEL XI:

A parcel of land in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows:

Commencing in the center of the Oregon City and Molalla Road at a point 2.60 chains East of the Northwest corner of the Robert Caufield D.L.C., in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, running thence South 30° East in the center of said road 5.50 chains to a stake; thence East 35.68 chains to a stake; thence North to intersect with the North line of said Caulfield Claim; thence West on the said North line to the place of beginning.

EXCEPTING THEREFROM that portion lying within the boundaries of public roads.

ALSO EXCEPTING THEREFROM that portion contained in deed to Oregon City recorded September 13, 1971 as Fee No. 71-22929

ALSO EXCEPTING THEREFROM that portion contained in deed to The Followers of Christ of Oregon City, an Oregon corporation recorded June 13, 1991 as Fee No. 91 27747.

PARCEL XII:

Part of the Robert Caufield and wife D.L.C. No. 53 in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as:

Beginning at the Northeast corner of the Robert Caufield and wife D.L.C. No. 53 in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, thence South 18 chains; thence West 34.70 chains to the Northwest corner of the Andrew Hood D.L.C.; thence North 13.22 chains to the place of beginning of the tract herein described; from said beginning point run thence West 1397.00 feet; thence South 437.6 feet; thence East 1397.00 feet; thence North 437.6 feet to the true point of beginning.

ALSO a tract of land beginning 467.6 feet South and 563.00 feet West of the beginning point of the above described land; thence South 380.3 feet; thence West 573.2 feet, more or less, to the Southeast corner of a tract conveyed to M.F. Bess and J.E. Bess by deed recorded in Book 174, page 412, deed records, thence North 380.3 feet along the East line of said Bess tract to a point; thence East 573.2 feet to the place of beginning;

ALSO a strip of land lying in the Robert Caufield D.L.C. No. 53 in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, more particularly described as follows:

Beginning at the Northeast corner of said Caufield D.L.C.; thence South 1188 feet; thence West 2290.2

feet; thence North 404.92 feet to the true point of beginning of the tract to be described; thence West 1147 feet, more or less, to the Southeast corner of that certain 30 foot roadway reserved in deed to F.R. Beals, recorded October 14, 1913 in deed Book 133, page 46, records of Clackamas County, Oregon; thence North 30 feet; thence East 1147 feet, more or less to a point due North of the point of beginning; thence South 30 feet to the point of beginning.

PARCEL XIII:

A parcel of land in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows:

Commencing at the Southeast corner of the Robert Caufield D.L.C. in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, running thence West on the South line of said claim 34.70 chains to the Northwest corner of the Andrew Hood D.L.C.; thence North 5.56 chains to a stone; thence East 33.64 chains to the center of the Oregon City and Highland Road; thence South 41°40' East tracing the center line of said road 7.45 chains; thence West 3.90 chains to the place of beginning

EXCEPTING THEREFROM that part thereof conveyed to Clackamas Southern Railway Company by deed recorded March 6, 1914, in Book 134, page 392, deed records of Clackamas County, Oregon.

ALSO EXCEPTING THEREFROM all of that property East of the Clackamas Southern Railway Company Railroad.

PARCEL XIV:

Part of the Robert Caufield D.L.C. No. 53, in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows to wit:

Beginning at a point which is 2.60 chains East and South 30° East 900.5 feet and East 681.00 feet from the Northwest corner of the Caufield D.L.C., which beginning point is also the Northeast corner of that tract of land conveyed to Gordon Roberts by deed recorded October 21, 1935, in Book 229, page 297, County of Clackamas Records; from said beginning point running thence East 286.6 feet, more or less, along the South line of a 30 foot strip dedicated to the public by instrument recorded February 28, 1950, in Book 428, page 288, deed records, to the Northwest corner of that tract of land described second in that deed to Christian Grasli recorded February 7, 1918, in Book 148, page 453; running thence South along the West line of said Grasli tract 380.3 feet to the Southwest corner thereof; thence running West 286.6 feet to the East line of a tract conveyed to John W. Shephard, et ux, by deed recorded in Book 411, page 547, deed records; thence North along the East line of said Shephard tract and along the East line of the aforementioned Roberts tract 380.3 feet to the place of beginning.

PARCEL XV:

Part of the Robert Caufield and wife Donation Land Claim No. 53, in Sections 8 and 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as follows:

Beginning at a point on the East line of said Caufield claim at the Northwest corner of the Andrew Hood Donation Land Claim No. 44, thence Southerly along the East line of said Caufield Clain 2399.35 feet; thence West 568.53 feet to the center of the county road which is known as Secondary State Highway No. 160; thence North 29°43' West along center of said road 3001.7 feet; thence North 89°53' East 617.53 feet; thence South 0°07' East 211.2 feet; thence North 89°53' East 859.8 feet; thence North 0°07' West 380.8 feet; thence North 89°53' East 519.5 feet to the East line of the South portion of said Caufield claim extended North; thence South along said line of the place of beginning.

EXCEPTING THEREFROM A tract of land conveyed to Albert Sandberg and wife by deed recorded in Book 200, page 77, records of Clackamas County, described about as:

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EXHIBIT "A" continued
Page 6
Order No. 936249

Beginning at a point on the East line of said Caufield claim which is 2399.35 feet Southerly from the Northwest corner of the Andrew Hood Donation Land Claim No. 44; thence West 568.53 feet to the center of Secondary Highway No. 160, thence North 29°43' West along the center of said road 1081..00 feet; thence North 63°17' East 538.00 feet; thence South 26°17' East 253.35 feet; thence North 84°00' East 512.75 feet to the West line of said Hood claim; thence Southerly along claim line to the place of beginning.

ALSO EXCEPTING THEREFROM a tract conveyed to John W. Shepherd and wife by deed recorded in Book 411, page 547, records of Clackamas County, described as:

Beginning at an iron pipe South 89°53' West 1379.3 feet distant from the Northwest corner of the Andrew Hood Donation Land Claim No. 44 in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon; thence North 0°07' West 211.2 feet; thence South 89°53' West 617.53 feet to the center line of Market Road No. 22, also known as Secondary State Highway No. 160; thence following said center line South 29°43' East 242.96 feet; thence North 89°53' East 497.55 feet to the place of beginning.

ALSO EXCEPTING THEREFROM a tract conveyed to the State of Oregon, April 14, 1970, Fee No. 706-913.

PARCEL XVI:

That part of the Andrew Hood D.L.C. No. 44 in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, described as:

Beginning at the Northwest corner of said claim; thence South 13.80 chains; thence South 89°56' East 14.33 chains to the one-quarter Section line; thence North 13.64 chains to a point .30 chains South of the North line of said Hood D.L.C.; thence South 89°49' East 24.17 chains to the center of the county road (Market Road No. 11); thence North 40°45' West to a point in the North line of said Hood D.L.C.; thence North 89°49' West 38.25 chains to the point of beginning.

PARCEL XVII:

A strip of land 60 feet in width situate in Section 9, Township 3 South, Range 2 East, of the Willamette Meridian, in the City of Oregon City, County of Clackamas and State of Oregon, lying between the center line of Highland Road (Market Road No. 11) and South property line of Martin Robbins land in said section, being a portion of that certain 60 foot right-of-way conveyed to Martin Robbins et ux by deed dated May 15, 1913, and recorded May 15, 1913 in page 639, of Book 130, records of deeds of Clackamas County, Oregon.

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EXHIBIT A
PAGE 6 OF 6

WARRANTY DEED

Vesting

KNOW ALL MEN BY THESE PRESENTS, That ALICE EVANS, a widow, and WILLIAM BURPEE and MARGARET JANE BURPEE, husband and wife, hereinafter called the grantors, for the consideration hereinafter stated, to grantors paid by CLACKAMAS COUNTY AREA EDUCATION DISTRICT, known as Clackamas Community College, a Municipal corporation of the State of Oregon, hereinafter called the grantee, does hereby grant, bargain, sell and convey unto the said grantee, its successors and assigns, that certain real property, with the tenements, hereditaments and appurtenances thereunto belonging or appertaining, situated in the County of Clackamas and State of Oregon, described as follows, to wit:

Part of the Robert Caufield and wife Donation Land Claim No. 53 in secs. 8 and 9, T. 3 S., R. 2 E., of the Willamette meridian, described as follows:

Beginning at a point on the east line of said Caufield claim at the northwest corner of the Andrew Hood Donation Land Claim No. 44, thence southerly along the east line of said Caufield claim 2399.35 feet; thence west 568.53 feet to the center of the county road which is known as Secondary State Highway No. 160; thence north 29° 43' west along center of said road 3001.7 feet; thence north 89° 53' east 617.53 feet; thence south 0° 07' east 211.2 feet; thence north 89° 53' east 859.8 feet; thence north 0° 07' west 380.8 feet; thence north 89° 53' east 519.5 feet to the east line of the south portion of said Caufield claim extended north; thence south along said line to the place of beginning; except the parts thereof described as:

Recorded By Pioneer National Title Insurance Company

A tract of land conveyed to Albert Sandberg and wife by deed recorded in book 200 at page 77, records of Clackamas County, described about as: Beginning at a point on the east line of said Caufield claim which is 2399.35 feet southerly from the northwest corner of the Andrew Hood Donation Land Claim No. 44; thence west 568.53 feet to the center of Secondary Highway No. 160, thence north 29° 43' west along the center of said road 1081.00 feet; thence north 63° 17' east 538.00 feet; thence south 26° 17' east 253.35 feet; thence north 84° 00' east 512.75 feet to the west line of said Hood claim; thence southerly along claim line to the place of beginning.

And also a tract conveyed to John W. Shepherd and wife by deed recorded in book 411 at page 547, records of Clackamas County, described as: Beginning at an iron pipe south 89° 53' west 1379.3 feet distant from the northwest corner of the Andrew Hood Donation Land Claim No. 44 in sec. 9, T. 3 S., R. 2 E., W. M.; thence north 0° 07' west 211.2 feet; thence south 89° 53' west 617.53 feet to the center line of Market Road No. 22, also known as Secondary State Highway No. 160; thence following said center line south 29° 43' east 242.9 feet; thence north 89° 53' east 497.55 feet to the place of beginning.

A tract conveyed to the State of Oregon, April 14, 1970, Fee No. 706-913.

Subject to existing rights-of-way for roads, pipelines, transmission and telephone lines, and appurtenant structures.

71 14368

TO HAVE AND TO HOLD the same unto the said grantee, its successors and assigns forever.

And said grantors hereby covenant to and with said grantee and grantee's successors and assigns, that grantors are lawfully seized in fee simple of the above granted premises, free from all encumbrances and that grantors will warrant and forever defend the above granted premises and every part and parcel thereof against the lawful claims and demands of all persons whomsoever, except those claiming under the above described encumbrances.

The true and actual consideration paid for this transfer, stated in terms of dollars is Seventy-One Thousand Six Hundred ($71,600.00) Dollars.

WITNESS grantors hands this 2nd day of ~~May~~ June, 1971.

Alice Evans (SEAL)
Alice Evans

William Burpee (SEAL)
William Burpee

Margaret Jane Burpee (SEAL)
Margaret Jane Burpee

STATE OF IDAHO)
) ss
County of Ada)

Personally appeared the above named ALICE EVANS, a widow, and WILLIAM BURPEE and MARGARET JANE BURPEE, husband and wife, and acknowledged the foregoing instrument to be their voluntary act and deed.

John H. Welch
Notary Public for Idaho
My Commission expires: 6-10-71

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71 14368

STATE OF OREGON, County of Clackamas, } ss

I, George D. Poppen, County Clerk, Ex-Officio Recorder of Conveyances and Ex-Officio Clerk of the Circuit Court of the State of Oregon, for the County of Clackamas, hereby certify that the within instrument of writing was received for and recorded in the records of

1971 Jun 24 PM 4 22 of said County at

In Book ____ On Page ____

Witness my hand and seal of County affixed.

GEORGE D. POPPEN
County Clerk.

Deputy.

Recording Certificate

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#2

ORDINANCE NO. 1893

AN ORDINANCE VACATING A PORTION OF A PUBLIC ROAD CONTAINED WITHIN THE BOUNDARIES OF PROPERTY OWNED BY CLACKAMAS COMMUNITY COLLEGE WITHIN THE CORPORATE LIMITS OF OREGON CITY, OREGON

WHEREAS, it appears to the City Commission of Oregon City, Oregon, that on the 10th day of November, 1977, RESOLUTION NO. 77-34 was duly adopted initiating action on its own motion pursuant to ORS 271.080 to and including ORS 271.230 for the vacation of a portion of a public road contained within the boundaries of property owned by Clackamas Community College within the corporate limits of Oregon City, Clackamas County, Oregon, and thereafter the City Recorder caused notice to be given by posting and publication as required by law, and that proof of said posting and publication is on file with the City Recorder, and that the matter of said vacation together with a hearing of any objections or claims to be heard and considered concerning said vacation would be heard and considered at 8:00 p.m., on Thursday, the 15th day of December, 1977, in the meeting room of the City Commission in the City Hall, 7th and John Adams Streets, Oregon City, Oregon, and said hearing having been held, and it appearing that no objections or claims have been filed concerning said vacation, that said vacation is in the public interest, that the requisite consents to said vacation have been duly filed herein, and that all expenses and assessments in connection therewith have been paid, now therefore,

OREGON CITY DOES ORDAIN AS FOLLOWS:

That the following described portion of a public road contained within the boundaries of property owned by Clackamas Community College within the corporate limits of Oregon City, Clackamas County, Oregon, to-wit:

> A tract of land in the northwest quarter of Section 9, T. 3 S., R. 2 E., W.M., described as follows:
>
> A portion of that certain road, 30 feet in width, deeded to the public by L. E. Kuppenbender, Opal M. Kuppenbender, Ben Kuppenbender, Mary Kuppenbender, Hubert Kuppenbender and Anna Kuppenbender by deed dated February 6, 1950, and recorded in Book 428, page 488, Deed Records of Clackamas County, said portion being all that part of said road lying east of the southerly projection of the east boundary of that tract of land conveyed to Edward J. Wanke and Leola Wanke, husband and wife, by deed recorded April 24, 1952, in Book 455, page 739, Deed Records of Clackamas County.

be and the same is hereby vacated.

Read first time and ordered published at an adjourned regular meeting of the Commission held on the 12th day of January, 1978, and to come up for second reading and final passage at a regular meeting of the Commission to be held on the 1st day of February, 1978, at the hour of 8:00 p.m.

JOHN A. BUOL, City Recorder

SEAL DOCUMENT

RECORDED 78SEP 1 9:34 A. M GEORGE D. POPPEN, County Clerk

78 37906

#3

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3-2E-9C-800
3-2E-9C-100
3-2E-9A-1600
3-2E-9A-1300

COMMUNICATIONS LINE RIGHT-OF-WAY EASEMENT

For good and valuable consideration received, CLACKAMAS COMMUNITY COLLEGE DISTRICT (hereinafter referred to as Grantor) hereby grants to NORTH WILLAMETTE TELECOM, an Oregon corporation, its successors and assigns, (hereinafter referred to as the Company), the right to operate and maintain an underground communications facilities system, together with all necessary wires and fixtures incidental thereto, under and upon that real property situated in Clackamas County, Oregon and more particularly described as follows:

PARCEL 1: A strip of land ten (10) feet in width, the centerline of said strip being contiguous to the centerline traverse of underground communications facilities, as they exist on December 4, 1991, located in a parcel of land situated in the W½ Section 9, T.3S., R.2E., W.M., said parcel being more particularly described in that Warranty Deed recorded June 24, 1971 in Book 71 of Deeds at Page 14368 of Clackamas County Records, EXCEPTING THEREFROM that portion thereof lying within State Highway No. 213.

PARCEL 2: A strip of land ten (10) feet in width, the centerline of said strip being contiguous to the centerline traverse of underground communications facilities, as they exist on December 4, 1991, located in a parcel of land situated in the S½ Section 9, T.3S., R.2E., W.M., said parcel being more particularly described in that Contract recorded in Book 69 of Deeds at Page 5775 of Clackamas County Records.

PARCEL 3: A strip of land ten (10) feet in width, the centerline of said strip being contiguous to the centerline traverse of underground communications facilities, as they exist on December 4, 1991, located in a parcel of land situated in Section 9, T.3S., R.2E., W.M., said parcel being more particularly described in that Contract recorded August 8, 1968 in Book 68 of Deeds at Page 16273 of Clackamas County Records, EXCEPTING THEREFROM that portion thereof lying East of the Westerly boundary of the old Willamette Valley Southern Railroad right-of-way (abandoned).

PARCEL 4: A strip of land ten (10) feet in width, the centerline of said strip being contiguous to the centerline traverse of underground communications facilities, as they exist on December 4, 1991, located in a parcel of land situated in the N½ Section 9, T.3S., R.2E., W.M., said parcel being more particularly described in that Warranty Deed recorded June 26, 1968 in Book 68 of Deeds at Page 12069 of Clackamas County Records.

It is agreed that the Company, its successors and assigns, shall have access to said premises for the purposes stated and shall be responsible for any damage to said premises caused by said Company, its agents or employees, while placing and maintaining construction. Said premises shall be restored, as nearly as reasonably possible, to prior condition in a workmanlike manner.

The Company shall, within six (6) months following receipt of written notice from Grantor and at the sole expense of the Company, relocate or repair its cable if

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3-2E-9C-800
3-2E-9C-100
3-2E-9A-1600
3-2E-9A-1300

necessitated by any future construction on that portion of Grantor's property crossed by the Company's facilities constructed hereunder, provided that any such relocation of the Company's facilities shall be to a reasonably usable location to be provided by Grantor.

Dated: 1/21/92

Clackamas Community College District

by: Gary Dirrim

Title: Dean of College Services

North Willamette Telecom

by: Eugene Gale

Title: President

STATE OF Oregon)
) ss.
COUNTY OF Clackamas)

BE IT REMEMBERED, That on this 31 day of January, 1992 before me, the undersigned, a Notary Public in and for said County and State, personally appeared Gary DIRRIM, known to me to be the person who signed as Dean of College Services of CLACKAMAS COMMUNITY COLLEGE DISTRICT, the corporation that executed the within instrument and acknowledged to me that such corporation executed the same.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

REBA GREEN NOTARY PUBLIC STATE OF OREGON

Rena Green
Notary Public in and for the State of Oregon
My Commission expires: 3-13-93

STATE OF OREGON)
) ss.
COUNTY OF CLACKAMAS)

BE IT REMEMBERED, That on this 11th day of March, 1992, before me, the undersigned, a Notary Public in and for said County and State, personally appeared Eugene L. Gale, known to me to be the person who signed as President of NORTH WILLAMETTE TELECOM, the corporation that executed the within instrument and acknowledged to me that such corporation executed the same.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

D.N. MALMSTROM, JR.
NOTARY PUBLIC-OREGON
My Commission Expires 9-7-93

D N Malmstrom JR
Notary Public in and for the State of OREGON
My Commission expires: 9-7-93

AFFILIATED LAND SERVICES, INC.
P.O. BOX 17035
SALEM, OREGON 97305

STATE OF OREGON
County of Clackamas } ss

I, John Kaufman, County Clerk for the County of Clackamas, do hereby certify that the instrument of writing was received for recording in the records of said county at

92 MAR 20 AM 11: 33

COUNTY OF CLACKAMAS
STATE OF OREGON

Witness my hand and seal affixed

JOHN KAUFMAN
County Clerk

Recording Certificate
CCR-R4 (P...)

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#4

RECORDED IN CLACKAMAS COUNTY
JOHN KAUFFMAN, COUNTY CLERK 2001-029633

$31.00

00136581200100296330020020

04/26/2001 01:41:08 PM

D-E Cnt=1 Stn=3 BEVERLY
$10.00 $11.00 $10.00

After recording
Return to Portland General Electric Company
Attn: Property Services
121 SW Salmon St, 1WTC-04
Portland, OR 97204

UNDERGROUND DISTRIBUTION LINE EASEMENT

In consideration of the receipt of One dollar ($1.00), the receipt of which is hereby acknowledged, Clackamas Community College ("Grantors") hereby conveys to PORTLAND GENERAL ELECTRIC COMPANY ("PGE"), an Oregon corporation, a non-exclusive, perpetual easement over, under, upon and across the following described property (the "Property"), situated in Clackamas County, State of Oregon, being a strip of land 6 feet in width, extending 3 feet on each side of a center line, more particularly described as follows:

Situated in Section 9, Township 3 South, Range 2 East, Willamette Meridian.

Commencing at the East line of Highway 213 and the North line of Section 9 also the North line of DLC No. 53. Thence South 10° West 1650 feet +/- to the true point of beginning. Thence Easterly 66 feet +/- to terminus of said centerline.

SEE ATTACHED DRAWING

TERMS, CONDITIONS, AND COVENANTS

1. This non-exclusive easement shall be for the right to enter upon the Property and to install, maintain, repair, rebuild, operate and patrol underground electrical power lines and signal or communications lines, and all uses directly or indirectly necessary thereto, including but not limited to the right to install surface or subsurface mounted transformers, surface mounted connection boxes, meter cabinets and temporary overhead service lines.

2. The purchase price named herein is accepted by the Grantors as full compensation for all damages incidental to this easement, including, but not limited to the value of all growing crops, brush, timber, or structures on the Property damaged or removed during any installation, repairs or rebuilding.

3. Grantors shall have the right to use the Property for all purposes not inconsistent with the uses and purposes of this easement, except Grantors shall not build or erect any structure or improvement upon, over or under the Property without the prior written consent of PGE, or allow any encroachments which could interfere with or compromise PGE's ability to exercise its rights under this easement. In the event any such encroachment occurs, Grantors shall have no right to claim additional compensation based upon the removal or damage to the source of the encroachment.

4. Grantors warrant that they have marketable title to the Property and that PGE may peaceably enjoy the rights and benefits of this easement.

5. If PGE shall fail to use this easement for a continuous period of five years after the installation of underground power lines, then this easement shall terminate and all rights granted hereunder shall revert to Grantors.

6. As used herein, the singular shall include the plural and vice versa.

7. This easement inures to the benefit of and binds the parties hereto, their heirs, devisees, administrators, executors, successors and assigns.

IN WITNESS WHEREOF, the Grantors have executed this easement this 16 day of April ,2001.

Clackamas Community College

By: Peter Angstadt
Grantor
Title: Dean.

Grantor

OFFICIAL SEAL
SARA E SIMMONS
NOTARY PUBLIC - OREGON
COMMISSION NO. 336445
MY COMMISSION EXPIRES SEPT. 18, 2004

State of Oregon)
) ss.
County of Clackamas)

On the 16 day of April , 2001, the above-named Peter Angstadt, Dean personally appeared before me and acknowledged the foregoing instrument to be their voluntary act and deed.

Sara E Simmons
Notary Public for Oregon
My Commission Expires: Sept 18, 2004

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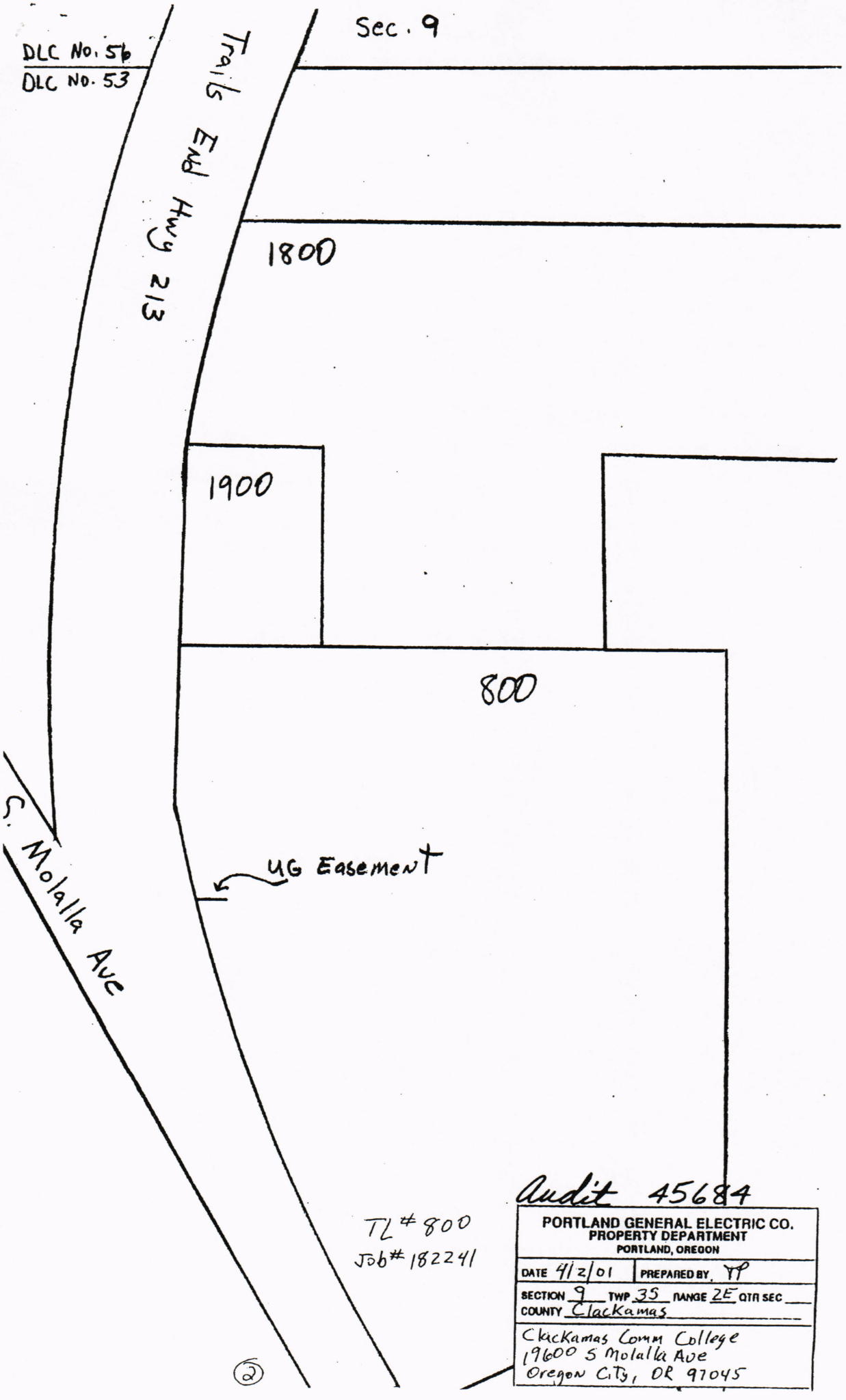
FORM APPROVED 04/15/98 BY VWL PGE LEGAL
EFFECTIVE THROUGH 12/31/01
Audit 45684 Job # 182241



Audit 45684

TL # 800
Job # 182241

PORTLAND GENERAL ELECTRIC CO.
PROPERTY DEPARTMENT
PORTLAND, OREGON

DATE 4/2/01 | PREPARED BY TP

SECTION 9 TWP 3S RANGE 2E QTR SEC ___
COUNTY Clackamas

Clackamas Comm College
19600 S Molalla Ave
Oregon City, OR 97045

Clackamas Community College
Environmental Learning Center Restoration
Land Use Narrative

The project site is located within the Clackamas Community College (CCC) campus. The site is at the north end of campus and is bordered by Inskeep Dr to the west, S Beavercreek Rd to the northeast and N Douglas Loop to the south. The total project site is approximately 5 Acres with the scope of work of this project taking on just over 3 acres. The project site consists mostly of forest land with wetlands and manmade trails running throughout the site. The site is also at the headwater of Newell Creek, with the initial channel running north along the east border of the site which bypasses the ELC facility. The site generally slopes from south to north, to a 42-inch pipe that passes under Beavercreek Rd to lower reaches of Newell Creek.

The primary purpose of this project is to redevelop and enhance the existing ELC ponds that were once considered a state-of-the-art stormwater management system, but have since been overrun with invasive plants and no longer function effectively. The proposed modifications to the ELC site will improve the quality of water flowing off-site and into Newell Creek. The modifications include excavation of sediment from the ponds, creation of east-west oriented berms within the ponds that will be planted, and which will allow shading and cooling of water, improving the drainage channel connected to the parking lot west of the site, and improvements to existing weirs to direct the flow of water through the pond system or a high flow bypass down the existing upper reach of Newell Creek. Fine grading of the ponds will create benches at appropriate depths to establish a variety of emergent and submergent plant communities to improve the water quality. There are additional components to the project related to habitat enhancement, community education, and recreation among others.

Background and site description: Clackamas Community College's John Inskeep Environmental Learning Center (ELC) is a five-acre natural area located at the headwaters of Newell Creek on the college campus in Oregon City. It is part of the 1800-acre Newell Creek watershed, a steep forested canyon that is bordered by the neighborhoods and businesses of Oregon City. Although most of the watershed is in private ownership, several hundred acres are owned by Metro and the city of Oregon City.

The ELC contains a small isolated wetland, two former settling ponds, with a fringe of wetland below the ordinary high water mark and an excavated channel that flows through the eastern portion of the property. The channel is hydrologically connected to the former settling ponds; however, most of the water in the channel flows through the ELC and into Newell Creek via a culvert beneath Beavercreek Road.

Located on the former site of a Smucker's processing plant, the ELC was created to demonstrate what people can do to reclaim industrial sites, address stormwater issues, and restore wildlife habitat in urban areas. The ELC has a rich history as an educational resource for the college, regional schools, industry, and the community; serves as an important stormwater facility for the college campus; and provides critical wetland

habitat for resident and migratory birds such as great blue heron, wood duck, and merganser.

The ELC is a conduit for stormwater for nearly half of the college's 275-acre campus, an unknown amount from Oregon City High School, and an unknown amount from Beavercreek Road. Although once considered state-of-the-art, the system for managing stormwater on the ELC site no longer functions effectively. As such, impaired water flows from the ELC downstream into the Newell Creek system. Because the ELC occupies the headwaters of Newell Creek, the site plays a vital role in the overall health of the watershed. According to a 2003 report "Newell Creek Watershed Management and Restoration Strategy," Newell Creek will not be adequately protected until the water that flows through the ELC site can be effectively cooled and filtered. In addition, invasive plants are starting to dominate the site. This is decreasing native plant abundance, impacting urban wildlife, and limiting the opportunities to educate about the value of native landscaping.

Efforts to restore the degraded site and expand educational activities began in 2006 when the college started to partner with local and state agencies and educational institutions to create a strategic vision for the site. Severe budget cuts halted this initial effort. In 2011, the college was awarded a Metro Nature in Neighborhoods planning grant to continue the strategic visioning process and develop a conceptual site design for the ELC site. Successfully completed in December 2012, the college is now moving forward with plan implementation.

Goals and Objectives: The primary goal of the project is to redevelop the ELC into a regionally important outdoor learning laboratory, demonstration site, and natural area that showcases innovations in stormwater management, landscape design, and sustainable living practices. This project will allow the college to achieve the following long term objectives:

1. Enhance the water quality within the Newell Creek watershed; especially critical for coho salmon and steelhead trout
2. Increase the capacity of the ELC to serve as a valuable educational resource for college students, schools and teachers, industry members, and families
3. Provide passive recreation for the local community
4. Leverage the on-going support of a network of community partners committed to protecting the health and sustainability of the Newell Creek watershed

Until 1972, the ELC was the location of a Smucker's berry processing plant. The plant included two settling ponds and an excavated channel. The ponds are still present, though sediment has accumulated in the ponds over time and lack of adequate shade heats up the water during the summer. The channel is also present and although well shaded has very little detention time. As such, the quality of the water reaching Newell Creek is impaired and adversely affects its salmonid population, which depends on cool, clean water.

Much of the water flowing into the ELC is from the campus. The portions of the campus that drain to the ELC has relatively few trees, a significant amount of impervious surface in the form of roofs, parking lots, and roads, and a formal drainage system of catch basins and pipes. These features increase both the rate and the volume of runoff from the campus. An increase in the rate of runoff produces higher peak flows for a given amount of precipitation. An increase in the volume of runoff provides an increase in the duration of the peak flows and reduces infiltration and groundwater recharge. The development of the campus has caused a significant change in the hydrology of the ELC.

The proposed modifications to the ELC will improve the quality of water flowing off-site and into Newell Creek. The modification includes the excavation of sediment from the pond, the creation of east-west oriented berms within the ponds that will be planted and which will allow the shading and cooling of the water, and the improvements to existing weirs to direct the flow of water through the pond system and down the bypass channel. Improving and using existing weirs will ensure that the majority of the runoff flowing into the ELC will flow through the ponds, while high flows will be directed through the channel.

The creation of the berms will reduce the surface area of the ponds. Disturbance to existing vegetation around the ponds will be minimized and the berms will be planted with woody vegetation, which will shade the water, and emergent and submergent vegetation, which will improve the quality of the water. Trees and shrubs to be planted on the berms include western redcedar, Oregon ash, twinberry, Pacific ninebark, red osier dogwood, Spiraea, and Sitka willow. Emergent and submergent plants will include soft-stem bulrush, broadfruit burred, tall mannagrass and pondweed.

Residence time within the pond system will be the main parameter of water quality treatment. With increased residence time, particles in the water column will be deposited along with their sorbed pollutants. Settling times depend on local water velocities, which will be reduced by resistance from submergent vegetation. Pollutants may also be adsorbed to the hydrophobic cuticle of emergent and submergent plant surfaces and removed from the water column by the senescence of plant tissues, which will accumulate within the sediment. Pondweed (*Potamogeton* sp.) will be planted within the deeper potions of the ponds to aid this filtration.

The proposed design relies on passive control of water quality and works with the existing landscape and vegetation to reduce impacts. The ELC design follows the model of other natural treatment facilities, such as the Columbia Slough Water Control Facility and the Fernhill Treatment Wetland currently under design by Clean Water Services. The proposed design rejects the use of engineered water control structures and instead detains and treats water by increasing the flow path through the facility and planting native submergent, emergent and woody vegetation. The size of the channel and the pond system are too limited to detain large and infrequent storm flow events, but they will allow for the water quality treatment of the usual seasonal storms. Larger volumes

of detention for infrequent storms would require the removal of large amounts of the existing vegetation surrounding the ponds, which will adversely affect that treatment of more frequent storm events and also the habitat of the ELC.

Chapter 17.36 - "GI"—GENERAL INDUSTRIAL DISTRICT[16]

Footnotes:

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Editor's note—Ord. No. 08-1014, adopted July 1, 2009, repealed Chapter 17.36 in its entirety and enacted new provisions to read as herein set out. Prior to amendment, Chapter 17.36 pertained to similar subject matter. See Ordinance Disposition List for derivation.

17.36.010 - Designated.

The general industrial district is designed to allow uses relating to manufacturing, processing, production, storage, fabrication and distribution of goods or similar as defined by the community development director. The uses permitted in the general industrial district are intended to protect existing industrial and employment lands to improve the region's economic climate and protect the supply of sites for employment by limiting new and expanded retail commercial uses to those appropriate in type and size to serve the needs of businesses, employees, and residents of the industrial areas.

The Clackamas Community College is an allowed use with its own Master Plan.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

17.36.020 - Permitted uses.

In the GI district, the following uses are permitted if enclosed within a building:

A. Manufacturing and/or fabrication;

B. Distributing, wholesaling and warehousing, excluding explosives and substances which cause an undue hazard to the public health, welfare and safety;

C. Heavy equipment service, repair, sales, rental or storage (includes but is not limited to construction equipment and machinery and farming equipment);

D. Veterinary or pet hospital, kennel;

E. Necessary dwellings for caretakers and watchmen (all other residential uses are prohibited);

F. Retail sales and services, including eating establishments for employees (i.e. a cafe or sandwich shop), located in a single building or in multiple buildings that are part of the same development shall be limited to a maximum of twenty thousand square feet or five percent of the building square footage, whichever is less and the retail sales and services shall not occupy more than ten percent of the net developable portion of all contiguous industrial lands;

G. Emergency service facilities (police and fire), excluding correctional facilities;

H. Outdoor sales and storage;

I. Recycling center and solid waste facility;

J. Wrecking yards;

K. Public utilities, including sub-stations (such as buildings, plants and other structures);

L. Utilities: basic and linear facilities, such as water, sewer, power, telephone, cable, electrical and natural gas lines, not including major facilities such as sewage and water treatment plants, pump stations, water tanks, telephone exchanges and cell towers;

M. Kennels;

N. Storage facilities;

O. Transportation facilities.

The Clackamas Community College is an allowed use with its own Master Plan.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 13-1003, § 1(Exh. 1), 7-17-2013)

17.36.030 - Conditional uses.

The following conditional uses are permitted in this district when authorized and in accordance with the standards contained in Chapter 17.56:

A. Any use in which more than half of the business is conducted outdoors.

B. Hospitals.

The Clackamas Community College is an allowed use with its own Master Plan.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

17.36.040 - Dimensional standards.

Dimensional standards in the GI district are:

A. Minimum lot area, minimum not required;

B. Maximum building height, three stories, not to exceed forty feet;

The existing building is a single story structure.

C. Minimum required setbacks:

1. Front yard, ten feet minimum setback;

2. Interior side yard, no minimum setback;

3. Corner side yard, ten feet minimum setback;

4. Rear yard, ten feet minimum setback;

All setbacks are met

D. Buffer Zone. If a use in this zone abuts or faces a residential or commercial use, a yard of at least twenty-five feet shall be required on the side abutting or facing the adjacent residential use and commercial uses in order to provide a buffer area, and sight obscuring landscaping thereof shall be subject to site plan review. The community development director may waive any of the foregoing requirements if he/she determines that the requirement is unnecessary in the particular case.

This condition is met.

E. Outdoor storage within building or yard space other than required setbacks and such occupied yard space shall be enclosed by a sight-obscuring wall or fence of sturdy construction and uniform color or an evergreen hedge not less than six feet in height located outside the required yard, further provided that such wall or fence shall not be used for advertising purposes. ***No storage proposed.***

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

Chapter 17.39 - [I] INSTITUTIONAL DISTRICT[18]

Footnotes:

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Editor's note—Ord. No. 08-1014, adopted July 1, 2009, repealed Chapter 17.39 in its entirety and enacted new provisions to read as herein set out. Prior to amendment, Chapter 17.39 pertained to similar subject matter. See Ordinance Disposition List for derivation.

17.39.010 - Designated.

The purpose of this district is designed to facilitate the development of major public institutions, government facilities and parks and ensure the compatibility of these developments with surrounding areas. The I—Institutional zone is consistent with the public/quasi public and park designations on the comprehensive plan map.

Clackamas Community College is a major public institution recognized within the comprehensive plan.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

17.39.020 - Permitted uses.

Permitted uses in the institutional district are:

A. Private and/or public educational or training facilities;

B. Parks, playgrounds, playfields and community or neighborhood community centers;

C. Public facilities and services including courts, libraries and general government offices and maintenance facilities;

D. Stadiums and arenas;

E. Banquet, conference facilities and meeting rooms;

F. Government offices;

G. Transportation facilities.

Clackamas Community College is a public educational institution and a permitted use.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 13-1003, § 1(Exh. 1), 7-17-2013)

17.39.030 - Accessory uses.

The following uses are permitted outright if they are accessory to and related to the primary institutional use:

A. Offices;

B. Retail (not to exceed twenty percent of total gross floor area of all building);

C. Child care centers or nursery schools;

D. Scientific, educational, or medical research facilities and laboratories;

E. Religious institutions.

The Environmental Learning Center offers an outdoor learning opportunity within the college campus and is integrated into varies curriculum offerings by the college. The ELC project will improve and restore habitat at the headwaters of Newell Creek.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

17.39.040 - Conditional uses.

Uses requiring conditional use permit are:

A. Any uses listed under Section 17.39.030 that are not accessory to the primary institutional use;

B. Boarding and lodging houses, bed and breakfast inns;

C. Cemeteries, crematories, mausoleums, and columbariums;

D. Correctional facilities;

E. Helipad in conjunction with a permitted use;

F. Parking lots not in conjunction with a primary use;

G. Public utilities, including sub-stations (such as buildings, plants and other structures);

H. Fire stations.

Clackamas Community College is an allowed use.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

17.39.050 - Dimensional standards.

Dimensional standards in the I district are:

A. Maximum building height: Within one hundred feet of any district boundary, not to exceed thirty-five feet; elsewhere, not to exceed seventy feet.

B. Minimum required setbacks: Twenty-five feet from property line except when the development is adjacent to a public right-of-way. When adjacent to a public right-of-way, the minimum setback is zero feet and the maximum setback is five feet.

The ELC project meets these dimensional standards, no new building structure is propose for this project.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

17.39.060 - Relationship to master plan.

A. A master plan is required for any development within the I district on a site over ten acres in size that:

1. Is for a new development on a vacant property;

2. Is for the redevelopment of a property previously used an a non-institutional use; or

3. Increases the floor area of the existing development by ten thousand square feet over existing conditions

The college has an approved Master Plan.

B. Master plan dimensional standards that are less restrictive than those of the Institutional district require adjustments. Adjustments will address the criteria of Section 17.65.70 and will be processed concurrently with the master plan application.

The college has an approved Master Plan.

C. Modifications to other development standards in the code may be made as part of the phased master plan adjustment process. All modifications must be in accordance with the requirements of the master plan adjustment process identified in Section 17.65.070.

The ELC project is not seeking any Master Plan adjustments.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

17.41.010 - Protection of trees—Intent.

The intent of this chapter is to ensure that new development is designed in a manner that preserves trees to the maximum extent practicable. As a requirement of any Type II land use application, the siting of structures, roadways and utility easements, shall provide for the protection of tree resources to the maximum extent practicable. This chapter applies to all subdivision, partition and site plan and design review applications.

Site improvements have been located to avoid impacts to existing healthy trees to the maximum extent possible. Site grading has been minimized to protect impacts to existing tree roots while still allowing ADA access to site features. Trees removed are located in areas essential for ADA access or habitat restoration improvements.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.020 - Tree protection—Applicability.

1. Applications for development subject to Chapters 16.08 or 16.12 (Subdivision or Minor Partition) or Chapter 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments.

   Provided tree mitigation complies with all requirements.

2. For public capital improvement projects, the city engineer shall demonstrate compliance with these standards pursuant to a Type II process. ***Noted***

3. Tree canopy removal greater than twenty-five percent on sites greater than twenty-five percent slope, unless exempted under Section 17.41.040, shall be subject to these standards.

   Tree canopy removal is less than 25%

4. A heritage tree or grove which has been designated pursuant to the procedures of Chapter 12.08.050 shall be subject to the standards of this section. ***The site has no heritage trees.***

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.030 - Tree protection—Conflicting code provisions.

Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in Section 17.04, shall govern.

NROD requirements have been met for all areas within the NROD boundary on site.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.040 - Same—Exemptions.

These regulations are not intended to regulate normal cutting, pruning and maintenance of trees on private property except where trees are located on lots that are undergoing development review or are otherwise protected within the Natural Resource Overlay District (NROD) of section 17.49. These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930. The community development director has the authority to modify or waive compliance in this case.

A portion of the site is located within the NROD boundary. All NROD mitigation requirements have been met for the area within the NROD boundary. See sheet L3.03 for tree mitigation plan.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.050 - Same—Compliance options.

Applicants for review shall comply with these requirements through one or a combination of the following procedures:

A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.

   All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city. Required mitigation trees and shrubs will be planted on site for all trees removed.

B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to Sections 17.41.080—17.41.100; or ***N/A***

C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to Sections 17.41.110—17.41.120; or ***N/A***

D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130. ***N/A***

A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.

The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:

1. Preclude achieving eighty percent of minimum density with reduction of lot size; or ***N/A***
2. Preclude meeting minimum connectivity requirements for subdivisions. ***N/A***

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.060 - Tree removal and replanting—Mitigation (Option 1).

A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in Chapter 17.04 to the extent practicable. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. At the applicant's expense, the city may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under section 12.08—Community Forest and Street Trees.

All mitigation trees and shrubs will be planted on the site, and outside of the required parking lot planting areas. Required parking lot plantings will not count as mitigation plantings.

B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:

1. Trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or ***Mitigation planting will be provided for all trees removed, both within the NROD boundary according to those requirements and outside the NROD boundary according to the requirements on table 17.41.060-1. See L3.03 Tree Mitigation Plan for locations.***

2. Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in Section 17.04.1360, may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.

   Required mitigation trees have been provided for all tree removed, regardless of existing tree health.

Table 17.41.060-1
Tree Replacement Requirements
All replacement trees shall be either:
Two-inch caliper deciduous, or
Six-foot high conifer

Size of tree removed (DBH)	Column 1 Number of trees to be planted. (If removed Outside of construction area)	Column 2 Number of trees to be planted. (If removed Within the construction area)
6 to 12"	3	1
13 to 18"	6	2

19 to 24"	9	3
25 to 30"	12	4
31 and over"	15	5

Mitigation trees and shrubs to be planted meet the requirements of the above table. See L3.03 Tree Mitigation Plan.

Steps for calculating the number of replacement trees:

1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.
2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.
3. Document any trees that are currently diseased or hazardous.
4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.
5. Define the construction area (as defined in Chapter 17.04).
6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.
7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.
8. Determine the total number of replacement trees from steps 6. and 7.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.070 - Planting area priority for mitigation (Option 1).

Development applications which opt for removal of trees with subsequent replanting pursuant to section 17.41.050A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:

A. First Priority. Replanting on the development site.

All required mitigation planting will occur on site.

B. Second Priority. Off-site replacement tree planting locations. If the community development director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and must be approved by the community development director.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.075 - Alternative mitigation plan.

The community development director may, subject to a Type II procedure, approve an alternative mitigation plan that adequately protects habitat pursuant to the standards for the natural resource overlay district alternative mitigation plan, Section 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

17.41.080 - Tree preservation within subdivisions and partitions—Dedicated tract (Option 2).

A. Applicants for new subdivision and partition plats may delineate and show the regulated trees or groves as either a separate tract or part of a larger tract that meets the requirements of subsection D. of this section. ***N/A***

B. The standards for land divisions subject to this section shall apply in addition to the requirements of the city land division ordinance and zoning ordinance, provided that the minimum lot area, minimum average lot width, and minimum average lot depth standards of the base zone may be superseded in order to allow for a reduction of dimensional standards pursuant to Section 17.41100 below. ***N/A***

C. Prior to preliminary plat approval, the regulated tree or grove area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection D. of this section, which shall not be a part of any parcel used for construction of a structure. The size of the tract shall be the minimum necessary as recommended by a consulting arborist to adequately encompass the dripline of the tree, protect the critical root zone and ensure long term survival of the tree or grove. ***N/A***

D. Prior to final plat approval, ownership of the regulated tree or grove tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following: ***N/A***

    1. Private open space held by the owner or a homeowners association; or

    2. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or

    3. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or

    4. Any other ownership proposed by the owner and approved by the community development director. (Ord. 99-1013 §10(part), 1999).

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.090 - Density transfers incentive for tree protection tracts (Option 2). ***N/A***

A. The purpose of this section is to allow dimensional adjustments within a regulated tree protection tract to be transferred outside said tract to the remainder of the site. This provision applies on-site and density shall not be transferred beyond the boundaries of the development site.

B. Development applications for subdivisions and minor partitions that request a density transfer shall:

    1. Provide a map showing the net buildable area of the tree protection tract;

2. Provide calculations justifying the requested dimensional adjustments;
3. Demonstrate that the minimum lot size requirements can be met based on an average of all lots created, including the tree protection tract created pursuant to Section 17.41.080;
4. Demonstrate that, with the exception of the tree protection tract created pursuant to Section 17.41.080, no parcels have been created which would be unbuildable in terms of minimum yard setbacks;
5. Meet all other standards of the base zone except as modified in section 17.41.100.

C. The area of land contained in a tree protection tract may be excluded from the calculations for determining compliance with minimum density requirements of the zoning code.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.100 - Permitted modifications to dimensional standards (Option 2 only). ***N/A***

A. An applicant proposing to protect trees in a dedicated tract pursuant to section 17.41.080 may request, and the community development director, pursuant to a Type II procedure, may grant a reduction to, the lot size, width, depth, and setbacks of the underlying zone district in approving a subdivision or partition if necessary to retain a regulated tree or grove in a tract, as long as the calculation of average lot size, including tree protection tracts, meet the minimum lot size for the zone. The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the area of the tree tract.

Table 17.41.100 A
Lot Size Reduction

ZONE	Min. Lot Size [sq. feet]	Min. Lot Width	Min. Lot Depth
R-10	5,000 sq. feet	50'	65'
R-8	4,000 sq. feet	45'	60'
R-6	3,500 sq. feet	35'	55'
R-5	3,000 sq. feet	30'	50'
R-3.5	1,800 sq. feet	20'	45'

Table 17.41.100 B
Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot

					Coverage
8,000—9,999 square feet	15 feet	20 feet	7/9 feet	15 feet	40%
6,000—7,999 square feet	10 feet	15 feet	5/7 feet	15 feet	40%
4,000—5,999 square feet	10 feet	15 feet	5/5 feet	10 feet	40%
1,800—3,999 square feet	5 feet	15 feet	5/5 feet	10 feet	55%

Table 17.41.100 C
Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot Coverage
3,500—7,000 square feet	10 feet	15 feet	5/0* feet	10 feet	40%
1,800—3,499 square feet	5 feet	15 feet	5/0* feet	10 feet	55%

*0 foot setback is only allowed on single-family attached units

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Editor's note— Ord. No. 10-1003, § 1(Exh. 1), adopted July 7, 2010, renamed section 17.41.090 from "Density transfers incentive for tree protection tracts (Option 2)" to Incentive for tree protection tracts (Option 2).

17.41.110 - Tree protection by restrictive covenant (Option 3). ***N/A***

Any regulated tree or grove which cannot be protected in a tract pursuant to Section 17.41.080 above shall be protected with a restrictive covenant in a format to be approved by the community

development director. Such covenant shall be recorded against the property deed and shall contain provisions to permanently protect the regulated tree or grove unless such tree or grove, as determined by a certified arborist and approved by the community development director, are determined to be diseased or hazardous.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.120 - Permitted adjustments (Option 3 Only). ***N/A***

A. The community development director, pursuant to a Type II procedure, may grant an adjustment to the side, front and rear yard setback standards by up to 50 percent if necessary to retain a Regulated Tree or Grove through a restrictive covenant pursuant to this section. In no case may the side yard setback be reduce less than three feet. The adjustment shall be the minimum necessary to accomplish preservation of trees on the lot and shall not conflict with other conditions imposed on the property.

B. The community development director, pursuant to a Type II procedure, may grant an adjustment to street standards, pursuant to adopted public works standards, in order to preserve a tree. This may include flexibility to redesign sidewalk and planter strip sizes and locations and allow placement of sidewalks and planter strips in an easement within private lots.

C. The community development director, pursuant to a Type II procedure, may allow other adjustments in order to preserve any healthy tree that cannot be moved due to its size, but will contribute to the landscape character of the area and will not present a foreseeable hazard if retained.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.41.1[25] - Cash-in-lieu of planting (tree bank/fund) (Option 4). ***N/A***

The applicant may choose this option in-lieu-of or in addition to Compliance Options 1 through 3. In this case, the community development director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above.

A. The cash-in-lieu payment per tree shall be as listed on the adopted fee schedule and shall be adjusted annually based on the Consumer Price Index (Index). The price shall include the cost of materials, transportation and planting.

B. The amount of the cash-in-lieu payment into the tree bank shall be calculated as the difference between the value of the total number of trees an applicant is required to plant, including cost of installation and adjusted for Consumer Price Index, minus the value of the trees actually planted. The value of the trees shall be based on the adopted fee schedule.

(Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Editor's note— Ord. No. 10-1003, § 1(Exh. 1), adopted July 7, 2010 enacted new provisions to read as section 17.41.130. Seeing as provisions are already set out as section 17.41.130 and in keeping with the numbering style of this Code these provisions have been renumbered as section 17.41.125.

17.41.130 - Regulated tree protection procedures during construction.

A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for

removal shall be removed without prior written approval from the community development director. ***All required tree protection measures will be in place during construction.***

B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures: ***All tree protection measures will meet the below requirements.***

1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.
2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the community development director.
3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.
4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.
5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.
6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.
7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.
8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.
9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.
10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.

C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.

Site construction will include the above tree protection requirements related to soil compaction, soil hydrology, and site drainage within the tree protection areas.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.[0]10 - Purpose.

The Natural Resource Overlay District designation provides a framework for protection of Metro Titles 3 and 13 lands, and Statewide Planning Goal 5 resources within Oregon City. The Natural Resource Overlay District (NROD) implements the Oregon City Comprehensive Plan Natural Resource Goals and Policies, as well as Federal Clean Water Act requirements for shading of streams and reduction of water temperatures, and the recommendations of the Metro ESEE Analysis. It is intended to resolve conflicts between development and conservation of habitat, stream corridors, wetlands, and floodplains identified in the city's maps. The NROD contributes to the following functional values:

A. Protect and restore streams and riparian areas for their ecologic functions and as an open space amenity for the community.

B. Protect floodplains and wetlands, and restore them for improved hydrology, flood protection, aquifer recharge, and habitat functions.

C. Protect upland habitats, and enhance connections between upland and riparian habitat.

D. Maintain and enhance water quality and control erosion and sedimentation through the revegetation of disturbed sites and by placing limits on construction, impervious surfaces, and pollutant discharges.

E. Conserve scenic, recreational, and educational values of significant natural resources.

The NROD ecological functions listed above are planned for integration with existing neighborhoods and new residential and commercial developments. The long-term goal of the NROD is to restore and enhance stream corridors, wetlands, and forests to more natural vegetated conditions, recognizing that existing homes and other existing uses will continue in the district. This chapter does not regulate the development within the identified water resource. Separate permits from the Division of State Lands and the Army Corp of Engineers may be required for work within a stream or wetland.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

General

17.49.020 - NROD identifying documents.

A. The NROD protects as one connected system the habitats and associated functions of the streams, riparian corridors, wetlands and the regulated upland habitats found in Oregon City. These habitats and functions are described in the following documents upon which the NROD is based:

1. The 1999 Oregon City Local Wetland Inventory.
2. The Oregon City Water Quality Resource Area Map (Ord. 99-1013).
3. 2004 Oregon City slope data and mapping (LIDAR).
4. Metro Regionally Significant Habitat Map (Aerial Photos taken 2002).
5. National Wetland Inventory (published 1992).
6. Beavercreek Road Concept Plan (adopted September 2008).
7. Park Place Concept Plan (adopted April 2008).

The NROD provisions apply only to properties within the NROD as shown on the NROD Map, as amended.

The intent of these regulations is to provide applicants the ability to choose a clear and objective review process or a discretionary review process. The NROD provisions do not affect existing uses and development, or the normal maintenance of existing structures, driveways/parking areas, public facilities, farmland and landscaped areas. New public facilities such as recreation trails, planned road and utility line crossings and stormwater facilities, are allowed within the overlay district under prescribed conditions as described in Section 17.49.090. In addition, provisions to allow a limited portion of the NROD to be developed on existing lots of record that are entirely or mostly covered by the NROD ("highly constrained") are described in Section 17.49.120.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Editor's note— Ord. No. 10-1003, § 1(Exh. 1), adopted July 7, 2010, renamed section 17.49.020 from "How the NROD works" to "NROD identifying documents."

17.49.[0]30 - Map as reference.

This chapter applies to all development within the Natural Resources Overlay District as shown on the NROD Map, which is a regulatory boundary mapped ten feet beyond the required vegetated corridor width specified in section 17.49.110. The mapped NROD boundary is based on a GIS-supported application of the adopted documents, plans and maps listed in Sections 17.49.020A.1.—17.19.020A.8., however the adopted map may not indicate the true location of protected features. Notwithstanding changing field conditions or updated mapping approved by the city (and processed as a Type I Verification per OCMC 17.49.255), the applicant may choose to either accept the adopted NROD boundary or provide a verifiable delineation of the true location of the natural resource feature pursuant to the Type I or Type II procedure in accordance with this chapter. The NROD boundary shall be shown on all development permit applications and its location shall be verified in the field before development activity (including grading) commences. The official NROD map can only be amended by the city commission. Verification of the map shall be processed pursuant to Section 17.49.250.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.[0]35 - Addition of wetlands to map following adoption.

The NROD boundary shall be expanded to include a wetland identified during the course of a development permit review if it is within or partially within the mapped NROD boundary and meets the State of Oregon's definition of a "Locally Significant Wetland". In such cases the entire wetland and its required vegetated corridor as defined in Table 17.49.110 shall be regulated pursuant to the standards of this chapter. The NROD boundary shall be added to the NROD map by the community development director after the development permit becomes final.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *PHS identified Wetlands B, C, and D and Tributary 1 within the ELC site during the 2015 wetland delineation (WD2015-0398). These wetland and water resources are within or partially within the mapped NROD boundary and meet the definition of a "Locally Significant Wetland." As such, the wetlands and waters and their required vegetated corridors will be added to the NROD map as shown on sheet LU1.01 and regulated pursuant to the standards of this chapter.*

17.49.[0]40 - NROD permit.

An NROD permit is required for those uses regulated under Section 17.49.90, Uses Allowed under Prescribed Conditions. An NROD permit shall be processed under the Type II development permit procedure, unless an adjustment of standards pursuant to Section 17.49.200 is requested or the application is being processed in conjunction with a concurrent application or action requiring a Type III or Type IV development permit. Applications for development on properties affected by the NROD shall delineate or verify the exact location of the NROD as part of a Type I or II development review process unless exempted pursuant to section 17.40.080.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *The applicant is requesting an NROD permit for the proposed uses regulated under Section 17.49.090. The proposed project includes habitat enhancement to improve water quality and ecological functions and site re-development to improve and conserve the scenic, recreational, and educational values of the site.*

17.49.[0]50 - Emergencies.

The provisions of this ordinance do not apply to work necessary to protect, repair, maintain, or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies. After the emergency has passed, any disturbed native vegetation areas shall be replanted with similar vegetation found in the Oregon City Native Plant List pursuant to the mitigation standards of Section 17.49.180. For purposes of this section emergency shall mean any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to fire, explosion, flood, severe weather, drought, earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.[0]60 - Consistency and relationship to other regulations.

A. Where the provisions of the NROD are less restrictive or conflict with comparable provisions of the Oregon City Municipal Code, other City requirements, regional, state or federal law, the provisions that provides the greater protection of the resource shall govern.

B. Compliance with Federal and State Requirements.

   a. If the proposed development requires the approval of any other governmental agency, such as the Division of State Lands or the U.S. Army Corps of Engineers, the applicant shall make application for such approval prior to or simultaneously with the submittal of its development application to the City. The planning division shall coordinate City approvals with those of other agencies to the extent necessary and feasible. Any permit issued by the City pursuant to this chapter shall not become valid until other agency approvals have been obtained or those agencies indicate that such approvals are not required.

   b. The requirements of this chapter apply only to areas within the NROD and to locally significant wetlands that may be added to the boundary during the course of development review pursuant to Section 17.49.035. If, in the course of a development review, evidence suggests that a property outside the NROD may contain a wetland or other protected water resource, the provisions of this chapter shall not be applied to that development review. However, the omission shall not excuse the applicant from satisfying any state and federal wetland requirements which are otherwise applicable. Those requirements apply in addition to, and apart from the requirements of the City's comprehensive plan and this code.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *The applicant has submitted a Joint Permit Application to the Department of State Lands (DSL) and the US Army Corps of Engineers (Corps) for the proposed project. The wetland resources within the proposed project area were delineated by PHS in February 2015. The DSL concurred with the findings in October 2015. The jurisdictional determination is valid for five years unless new information necessitates a revision.*

A DEQ 1200-C NPDES Stormwater Discharge Permit will be submitted once the City provides Conditions of Approval for the Land Use application.

Prohibited, Exempted and Regulated Uses

17.49.[0]70 - Prohibited uses.

The following development and activities are not allowed within the NROD:

A. Any new gardens, lawns, structures, development, other than those allowed outright (exempted) by the NROD or that is part of a regulated use that is approved under prescribed conditions. Note: Gardens and lawns within the NROD that existed prior to the time the overlay district was applied to a subject property are allowed to continue but cannot expand further into the overlay district.

B. New lots that would have their buildable areas for new development within the NROD are prohibited.

C. The dumping of materials of any kind is prohibited except for placement of fill as provided in subsection D. below. The outside storage of materials of any kind is prohibited unless they existed before the overlay district was applied to a subject property. Uncontained areas of hazardous materials as defined by the Oregon Department of Environmental Quality (ORS 466.005) are also prohibited.

D. Grading, the placement of fill in amounts greater than ten cubic yards, or any other activity that results in the removal of more than ten percent of the existing native vegetation on any lot within the NROD is prohibited, unless part of an approved development activity.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *Elements of the proposed project will be either allowed outright (exempted) by the NROD or are part of a regulated use that is approved under prescribed conditions as detailed in the code responses below.*

17.49.[0]80 - Uses allowed outright (exempted).

The following uses are allowed within the NROD and do not require the issuance of an NROD permit:

A. Stream, wetland, riparian, and upland restoration or enhancement projects as authorized by the city.

Response: *The proposed modifications to the existing water resources and their riparian areas (habitat enhancement) within the ELC site meets the definition of an enhancement project per this section and the definition provided in Section 17.04.375. The proposed project will improve the water quality and ecological functions that have been degraded through past human activity (i.e. operation of the Smucker's facility).*

The ELC forms the headwaters of Newell Creek, with discharge from a small watershed (less than 0.2 square miles). Most of the water flowing into the ELC originates from an older system of pipes carrying mostly untreated stormwater from the campuses buildings roofs, paved areas, roads, and parking lots. The two ponds have accumulated sediment and have become generally shallow; raising the water temperature in the summer, which impacts Newell Creek downstream. Higher flows during storm events bypass the ponds with little detention time and little treatment.

The proposed modifications for habitat enhancement will occur over approximately 25,000 square feet, largely within wetlands and waters areas. A joint permit application for impacts to wetlands and waters has been submitted to DSL and the Corps. The proposed habitat enhancement is considered an allowed use, discussed in 17.49.[0]80.A in the NROD Development Standards section below. Trees removed during implementation of the habitat enhancement project are detailed in Table 1, below. Though mitigation is not required for the removal of these trees, the proposed habitat enhancement plantings discussed below and detailed on sheet LU1.04 are expected to more than adequately compensate for the removed trees.

The proposed modifications for habitat enhancement will improve habitat within the wetland system and the quality of water flowing off-site into Newell Creek. Water quality and habitat improvements within the two ponds include the creation of four east-west oriented berms. These will be planted with a variety of native vegetation and will lengthen the travel path and residence time for water flowing through the system. The tops of the berms will be planted with trees and shrubs to shade and cool the water. Trees and shrubs to be planted on the berms include western red cedar, Oregon ash, twinberry, Pacific ninebark, red osier dogwood, Spiraea, and Sitka willow. Fine grading within the ponds and along the edges of the berms will create benches at appropriate depths to establish both submergent and emergent vegetation for shading and filtering in order to capture and adsorb targeted pollutants. Emergent and submergent plants will include soft-stem rush, broadfruit bur-reed, and pondweed.

Five weirs will be installed. Four will replace existing weirs, while one will be new. The new weir will be constructed toward the upstream end of the main channel north of Douglas Loop to retain water in a proposed forebay. The channel will be excavated upstream of the weir to establish a pool approximately 4-feet deep to drop sediment out of the water. The base of the forebay will be lined with pavers to provide a firm subbase to facilitate sediment removal with an excavator. A new stabilized path on the adjacent upland will allow access for maintenance equipment. The other four weirs are replacements of existing weirs placed during the 1970s. These include one at the inlet to the two ponds to restrict peak flows entering during larger storm events, one within the main channel located just past the inlet channel to the ponds, one south of the outlet channel from the ponds to ensure a permanent pool of water in the pond and one north of the outlet from the ponds at a fork in the main channel. This weir, with a high flow bypass, will divert lower flows to a more winding channel before flowing under Beavercreek Road.

All of the weirs will be calibrated to allow inflow and release rates to be monitored for educational opportunities. They will be monitored and altered as water quality data is collected. Dr. James Nurmi and his students are already collecting data at the ELC. Their data collection abilities will be expanded to quantify the water quality benefits that will be gained from the system at several monitoring locations throughout the ELC.

B. Farming practices as defined in ORS 215.203 and farm uses, excluding buildings and structures, as defined in ORS 215.203.

C. Utility service using a single utility pole or where no more than one hundred square feet of ground surface is disturbed outside of the top-of-bank of water bodies and where the disturbed area is restored to the pre-construction conditions.

D. Boundary and topographic surveys leaving no cut scars greater than three inches in diameter on live parts of native plants listed in the Oregon City Native Plant List.

E. Soil tests, borings, test pits, monitor well installations, and other minor excavations necessary for geotechnical, geological or environmental investigation, provided that disturbed areas are restored to pre-existing conditions as approved by the community development director.

F. Trails meeting all of the following:

1. Construction shall take place between May 1 and October 30 with hand held equipment;

2. Widths shall not exceed forty-eight inches and trail grade shall not exceed twenty percent;

3. Construction shall leave no scars greater than three inches in diameter on live parts of native plants;

4. Located no closer than twenty-five feet to a wetland or the top of banks of a perennial stream or ten feet of an intermittent stream;

5. No impervious surfaces; and

6. No native trees greater than one-inch in diameter may be removed or cut, unless replaced with an equal number of native trees of at least two-inch diameter and planted within ten feet of the trail.

G. Land divisions provided they meet the following standards, and indicate the following on the final plat:

1. Lots shall have their building sites (or buildable areas) entirely located at least five feet from the NROD boundary shown on the city's adopted NROD map. For the purpose of this subparagraph, "building site" means an area of at least three thousand five hundred square feet with minimum dimensions of forty feet wide by forty feet deep;

2. All public and private utilities (including water lines, sewer lines or drain fields, and stormwater disposal facilities) are located outside the NROD;

3. Streets, driveways and parking areas where all pavement shall be located at least ten feet from the NROD; and

4. The NROD portions of all lots are protected by:

a. A conservation easement; or

b. A lot or tract created and dedicated solely for unimproved open space or conservation purposes.

H. Site Plan and Design Review applications where all new construction is located outside of the NROD boundary shown on the city's adopted NROD map, and the NROD area is protected by a conservation easement approved in form by the city.

I. Routine repair and maintenance of existing structures, roadways, driveways and utilities.

J. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased.

Response: *The project will redevelop a number of areas in and around the ELC to improve visitor access and educational opportunities. Much of the proposed development will occur in areas with existing development, which will be considered exempt pursuant to this section. Improvements associated with a new entry pavilion, improved trail areas, a new amphitheater,*

and a new access road are in areas with existing development within the ELC site as shown on sheet LU1.02. Approximately 285 square feet within the entry pavilion area, 5,956 square feet within the existing trail system, 237 square feet within the amphitheater area, and 207 square feet within the new access road area contain existing development, the improvement of which will be allowed pursuant to this section. The additional ground level impervious surface areas associated with these improvements will be subject to Section 17.49.130 (entry pavilion and amphitheater), 17.49.150 (bridges and access road), or 17.49.170 (trails/paths).

An existing storm pipe will be replaced between the proposed parking area west of Inskeep Drive and Ditch 1. The replacement will temporarily disturb vegetation within the NROD, but will not result in the removal of any native trees or any new impervious surface area. Temporarily disturbed areas will be restored to their original grade and seeded with a native mix following pipe installation and backfill.

Two existing bridges will be replaced as shown on sheet LU1.02. The replacement bridges will be the same size as the existing bridges (approximately 200 square feet) and will not require additional grading or disturbance area.

K. Measures mandated by the City of Oregon City to remove or abate nuisances or hazardous conditions.

L. Planting of native vegetation and the removal of non-native, invasive vegetation (as identified on the Oregon City Native Plant List), and removal of refuse and fill, provided that:

1. All work is done using hand-held equipment;
2. No existing native vegetation is disturbed or removed; and
3. All work occurs outside of wetlands and the top-of-bank of streams.

Response: *The proposed mitigation plantings detailed on sheet LU1.04 will be conducted pursuant to this section. The removal of existing development detailed on sheet LU1.03 will be conducted with light construction equipment that will not result in the removal of existing native vegetation to be protected. Mitigation for project-related encroachments will be provide and is detailed in Section 17.49.180 below.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.[0]90 - Uses allowed under prescribed conditions.

Response: *Many aspects of the ELC have become neglected including the educational and recreational components of the site. The project will redevelop a number of areas in and around the ELC to improve visitor access and educational opportunities. Much of the proposed development will occur in areas with existing development, which will be considered exempt pursuant to Section 17.49.080J. However, a new entry canopy, pedestrian bridges, circulation pathways, amphitheater, and access road will result in small encroachments beyond areas of existing development. A summary of the proposed improvements and their effects on the NROD is shown on sheet LU1.02 and a description of these project elements is included below:*

Improvements to Inskeep Drive and Parking Area:

Surface runoff from the existing Inskeep Drive will be collected by new catch basins located in the gutter and conveyed to Ditch 1. Ditch 1, which was originally excavated by the College to capture runoff from the road, will be vegetated to improve its capacity to treat stormwater. Improvements to Inskeep Drive will have a zero net change in impervious area since the existing surface is asphalt and no separate stormwater detention is proposed.

A new parking area and access drive isle will be added west of Inskeep Drive within an area of existing asphalt and gravel. Surface runoff from the new asphalt parking stalls and access drive aisle will be collected by sheet flow into a new vegetated flow-through basin that will be created within existing impervious surface area. The basin will be adequately sized to treat drainage from the water quality storm event. Filtered drainage and overflow from this facility will discharge to a new storm line that discharges to Ditch 1. The new storm line will replace an existing storm pipe.

Currently, stormwater from Inskeep Drive and the existing impervious surface area west of Inskeep Drive is untreated prior to entering Ditch 1. The proposed project will create new stormwater facilities within areas already developed that will improve the condition of water quality within the system without increasing the development footprint within the NROD. As such, these proposed improvements will be considered an allowed use, discussed in 17.49.[0]80.J in the NROD Development Standards section below.

Improvements to the Existing Entry Pavilion:

The existing entry pavilion building will be renovated to accommodate up to 40 students. The sides of the building will be able to be opened to essentially function as an outdoor classroom. A new canopy will be added to the building that will extend from the pavilion building to an improved guest entrance. Most of the area affected by the proposed improvements is already developed and will be subject to the standards of Section 17.49.[0]80.J. However, an additional 184 square feet of development within the NROD will be considered an allowed use under prescribed conditions, discussed in 17.49.[0]90.A in the NROD Development Standards section below. Because this area is less than 500 square feet, the application can be processed as a Type II permit per Section 17.49130.A.1. Although two trees will be removed from the development area, the trees are within ten feet of the proposed structure, which is allowed per Section 17.49.100.A. Mitigation for the removal of these trees will be provided as detailed in Section 17.49.180.

Pathways, Trails, and Amphitheater

The existing system of trails, paths, and educational features within the ELC site will be improved by the proposed project. Several existing trails will be widened and improved and new trails will be installed to allow ADA accessibility to portions of the site. New or improved pathways will route visitors through the natural areas or to various view points, and allow access to platforms near the water's edge for classes or workshop participants to collect water quality data. The trail system includes several benches throughout the site and within the amphitheater area. Permeable trail materials will be used to reduce impacts to the NROD,

however, the new or improved trails will be wider than 48 inches and several areas will be closer than 25 feet to a wetland or stream. As such, the new or improved trails will be considered an allowed use under prescribed conditions, discussed in 17.49.170 - Standards for Trails in the NROD Development Standards section below. Approximately 5,012 square feet of new trail surface will be created that will require mitigation. In addition, five trees will be removed from the NROD to accommodate new or improved trails. These trees are detailed in Table 1 below.

An amphitheater within the improved path system will provide a central location where classes and visitors can learn about the ecology of the ELC. The amphitheater will be within an area that is largely covered by existing compacted gravel paths south of the pavilion. However, approximately 379 square feet of new development will result within the NROD and will be considered an allowed use under prescribed conditions, discussed in 17.49.[0]90.A in the NROD Development Standards section below. Because this area is less than 500 square feet, the application can be processed as a Type II permit per Section 17.49130.A.1.

Bridges and Access Road

There are ten existing bridges within the NROD at the ELC, two of which will be removed by the proposed project. Five new bridges will be installed to allow new or improved trails to cross wetlands or streams, and two existing bridges will be replaced. The replaced bridges will not result in additional development area and as such will be considered an allowed use, discussed in 17.49.[0]80.J in the NROD Development Standards section below. The new bridges will be considered an allowed use under prescribed conditions, discussed in 17.49.[0]90.F in the NROD Development Standards section below. Approximately 592 square feet of new bridge area will require mitigation. The removed bridges will result in approximately 300 square feet of development removed from the NROD, and will count towards the mitigation requirement discussed in Section 17.49.180.

A new access road will be constructed at the southern end of the ELC site to provide access to a new weir and a proposed sediment forebay. Two trees will be removed from the NROD to accommodate the new access road. A portion of the new access road area is currently developed with a concrete vault and spillway. This portion of the new access road (approximately 207 square feet) will be considered an allowed use, discussed in 17.49.[0]80.J in the NROD Development Standards section below. The remaining development area for the new access road (1,322 square feet) will be considered an allowed use under prescribed conditions, discussed in 17.49.[0]90.F/G in the NROD Development Standards section below. Trees to be removed are detailed in Table 1 below.

Table 1: Species, diameter, and quality of trees to be removed from the NROD

Tree ID	*Species*	*Diameter (inches)*	*Condition*
186	*Big-leaf maple (Acer macrophyllum)*	*12*	*Good*
*188**	*Norway maple (Acer platanoides)*	*14*	*Good*
*201***	*American sweetgum (Liquidambar styraciflua)*	*14*	*Good*
*204***	*Big-leaf maple (Acer macrophyllum)*	*12*	*Good to fair*
*209***	*Scots pine (Pinus sylvestris)*	*21*	*Good to fair*

Tree ID	*Species*	*Diameter (inches)*	*Condition*
253	*Birch (Betula species)*	*12*	*Fair to poor*
260	*Apple (Malus species)*	*6*	*Good*
265	*Cherry (Prunus species)*	*11*	*Fair to poor*
266	*Cherry (Prunus species)*	*8*	*Fair*
267	*Oak (Quercus species)*	*17*	*Fair*
280	*Maple (Acer species)*	*10*	*Good*
*281***	*Cottonwood (Populus species)*	*6*	*Good*
284	*Maple (Acer species)*	*6*	*Good*
*306***	*Red maple (Acer rubrum)*	*8*	*Good*
*323***	*Big-leaf maple (Acer macrophyllum)*	*18*	*Good*
*324***	*Alder (Alnus species)*	*7*	*Good*
*569***	*Big-leaf maple (Acer macrophyllum)*	*18*	*Good*
*573***	*Douglas-fir (Pseudotsuga menziesii)*	*20*	*Good*
574,***	*Norway maple (Acer platanoides)*	*16*	*Good*
*593***	*Red alder (Alnus rubra)*	*13*	*Good*
*595***	*Red alder (Alnus rubra)*	*6*	*Good*
*596***	*Alder (Alnus species)*	*8*	*Good*
*812***	*Willow (Salix species)*	*6*	*Good*

**Tree is on the Oregon City Nuisance Plant. Removal does not require mitigation per 17.49.100.A*
***Tree removed as part of the habitat enhancement project. Removal does not require mitigation per 17.49.[0]80*

The following uses within the NROD are subject to the applicable standards listed in Sections 17.49.100 through 17.49.190 pursuant to a Type II process:

A. Alteration to existing structures within the NROD when not exempted by Section 17.49.080, subject to Section 17.49.130.

Response: *The 184 square feet of the new entry pavilion area and 379 square feet of amphitheater area not exempted by Section 17.49.080.J will be considered an allowed use under the prescribed conditions of Section 17.49.130 detailed below.*

B. A residence on a highly constrained vacant lot of record that has less than three thousand square feet of buildable area, with minimum dimensions of fifty feet by fifty feet, remaining outside the NROD portion of the property, subject to the maximum disturbance allowance prescribed in subsection 17.49.120.A.

C. A land division that would create a new lot for an existing residence currently within the NROD, subject to Section 17.49.160.

D. Land divisions when not exempted by Section 17.49.080, subject to the applicable standards of Section 17.49.160.

E. Trails/pedestrian paths when not exempted by Section 17.49.080, subject to Section 17.49.170 (for trails) or Section 17.49.150 (for paved pedestrian paths).

Response: *The 5,012 square feet of proposed trails and pedestrian paths not exempted by Section 17.49.080.J will be considered an allowed use under the prescribed conditions of Section 17.49.170 detailed below.*

F. New roadways, bridges/creek crossings, utilities or alterations to such facilities when not exempted by Section 17.49.080.

G. Roads, bridges/creek crossings Subject to Section 17.49.150.

Response: *The portions of the new access road (1,322 square feet) and the five new bridges (592 square feet) that are not exempted by Section 17.49.080J will be subject to Section 17.49.150 detailed below.*

H. Utility lines subject to Section 17.49.140.

I. Stormwater detention or pre-treatment facilities subject to Section 17.49.155.

J. Institutional, industrial or commercial development on a vacant lot of record situated in an area designated for such use that has more than seventy-five percent of its area covered by the NROD, subject to subsection 17.49.120B.

K. City, county and state capital improvement projects, including sanitary sewer, water and storm water facilities, water stations, and parks and recreation projects.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Development Standards

17.49.100 - General development standards.

The following standards apply to all Uses Allowed under Prescribed Conditions within the NROD with the exception of rights of ways (subject to Section 17.49.150), trails (subject to Section 17.49.170), utility lines (subject to Section 17.49.140), land divisions (subject to Section 17.49.160), and mitigation projects (subject to Section 17.49.180 or 17.49.190):

A. Native trees may be removed only if they occur within ten feet of any proposed structures or within five feet of new driveways or if deemed not wind-safe by a certified arborist. Trees listed on the Oregon City Nuisance Plant List or Prohibited Plant List are exempt from this standard and may be removed. A protective covenant shall be required for any native trees that remain;

B. The community development director may allow the landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites in the Natural Resource Overlay District.

C. All vegetation planted in the NROD shall be native and listed on the Oregon City Native Plant List;

D. Grading is subject to installation of erosion control measures required by the City of Oregon;

E. The minimum front, street, or garage setbacks of the base zone may be reduced to any distance between the base zone minimum and zero in order to minimize the disturbance area within the NROD portion of the lot;

F. Any maximum required setback in any zone, such as for multi-family, commercial or institutional development, may be increased to any distance between the maximum and the distance necessary to minimize the disturbance area within the NROD portion of the lot;

G. Fences are allowed only within the disturbance area;

H. Incandescent lights exceeding two hundred watts (or other light types exceeding the brightness of a two hundred watt incandescent light) shall be placed or shielded so that they do not shine directly into resource areas;

I. If development will occur within the one hundred-year floodplain, the FEMA floodplain standards of Chapter 17.42 shall be met; and

J. Mitigation of impacts to the regulated buffer is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

***Response**: The proposed project will comply with the general development standards of this section. Native trees removed for uses allowed under prescribed conditions within the NROD are associated with rights of way (subject to Section 17.49.150), trails (subject to Section 17.49.170), or are within 10 feet of a proposed structure (allowed pursuant to Section 17.49.100.A). Remaining native trees will be conserved through a protective covenant. Mitigation will be provided for impacts to the vegetated corridor with native vegetation proposed from the Oregon City Native Plant List as shown on sheet LU1.04. Development is not within the FEMA floodplain, as such the standards of Chapter 17.42 do not apply. Erosion control measures required by Oregon City will be installed for grading within the NROD.*

17.49.110 - Width of vegetated corridor.

A. Calculation of Vegetated Corridor Width within City Limits. The NROD consists of a vegetated corridor measured from the top of bank or edge of a protected habitat or water feature. The minimum required width is the amount of buffer required on each side of a stream, or on all sides of a feature if non-linear. The width of the vegetated corridor necessary to adequately protect the habitat or water feature is specified in Table 17.49.110.

Table 17.49.110

Protected Water Feature Type (see definitions)	Slope Adjacent to Protected Water Feature	Starting Point for Measurements from Water Feature	Width of Vegetated Corridor (see Note 1)
Anadromous fish-bearing streams	Any slope	• Edge of bankfull flow	200 feet
Intermittent streams with slopes less than 25 percent and which drain less than 100 acres	< 25 percent	• Edge of bankfull flow	15 feet
All other protected water features	< 25 percent	•Edge of bankfull flow • Delineated edge of Title 3 wetland	50 feet
	≥25 percent for 150 feet or more (see Note 2)		200 feet
	≥25 percent for less than 150 feet (see Note 2)		Distance from starting point of measurement to top of ravine (break in ≥25 percent slope) (See Note 3) plus 50 feet.

Notes:

1. Required width (measured horizontally) of vegetated corridor unless reduced pursuant to the provisions of Section 17.49.050(I).
2. Vegetated corridors in excess of fifty feet apply on steep slopes only in the uphill direction from the protected water feature.
3. Where the protected water feature is confined by a ravine or gully, the top of the ravine is the break in the ≥25 percent slope.

B. Habitat Areas within City Parks. For habitat and water features identified by Metro as regionally significant which are located within city parks, the NROD Boundary shall correspond to the Metro Regionally Significant Habitat Map.

C. Habitat Areas outside city limit/within UGB. For habitat and water features identified by Metro as regionally significant which are located outside of the city limits as of the date of adoption of this ordinance, the minimum corridor width from any non-anadramous fish bearing stream or wetland shall be fifty feet.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *The width of the vegetated corridor is 50 feet from protected water features as specified in Table 17.49.110 and shown on sheet LU1.01. Streams within the ELC are perennial, but do not support anadromous fish. All slopes adjacent to protected water features are less than 25 percent.*

17.49.120 - Maximum disturbance allowance for highly constrained lots of record.

In addition to the General Development Standards of Section 17.49.100, the following standards apply to a vacant lot of record that is highly constrained by the NROD, per subsections 17.49.90(B) and 17.49.90(F):

A. Standard for Residential Development. In the NROD where the underlying zone district is zoned Residential (R-10, R-8, R-6, R-5, R-3.5): the maximum disturbance area allowed for new residential development within the NROD area of the lot is three thousand square feet.

B. Standard for all developments not located in R-10, R-8, R-6, R-5, and R-3.5. For all other underlying zone districts, including R-2 multifamily, the maximum disturbance area allowed for a vacant, constrained lot of record development within the NROD is that square footage which when added to the square footage of the lot lying outside the NROD portion equals twenty-five percent of the total lot area.

   [1] Lots that are entirely covered by the NROD will be allowed to develop twenty-five percent of their area.

   [1] Note: This can be determined by (1) Multiplying the total square footage of the lot by .25; (2) Subtracting from that amount the square footage of the lot that is located outside the NROD; (3) The result is the maximum square footage of disturbance to be allowed in the NROD portion of the lot. If the result is < or = to 0, no disturbance is permitted and the building shall be located outside of the boundary.

C. In all areas of Oregon City, the disturbance area of a vacant, highly constrained lot of record within the NROD shall be set back at least fifty feet from the top of bank on Abernethy Creek, Newell Creek, or Livesay Creek or twenty-five feet from the top of bank of any tributary of the aforementioned Creeks, other water body, or from the delineated edge of a wetland located within the NROD area.

D. If the highly constrained lot of record cannot comply with the above standards, a maximum one thousand five hundred square foot disturbance within the NROD area may be allowed.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.130 - Existing development standards.

In addition to the General Development Standards of Section 17.49.100, the following standards apply to alterations and additions to existing development within the NROD, except for trails, rights of way, utility lines, land divisions and mitigation projects. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased are exempt from review pursuant to Section 17.49.080J. As of June 1, 2010, applicants for alterations and additions to existing development that are not exempt pursuant to Section 17.49.080J. shall submit a Type II or Type III application pursuant to this section. The application shall include a site plan which delineates a permanent disturbance area that includes all existing buildings, parking and loading areas, paved or graveled areas, patios and decks. The same delineated disturbance area shall be shown on every subsequent proposal for alterations and additions meeting this standard.

A. The following alterations and additions to existing development are permitted subject to the following standards.

   1. Alterations or additions that cumulatively total up to a maximum of five hundred square feet of additional disturbance area after June 1, 2010 shall be processed as a Type II permit pursuant to this chapter. The new disturbance area shall not encroach closer than one-half of the distance of the regulated NROD buffer.

   2. Alterations or additions that cumulatively exceed five hundred square feet of additional disturbance area or which propose encroachment closer than one-half of the distance of the regulated NROD buffer after June 1, 2010 shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

B. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *As described above, approximately 285 square feet within the entry pavilion area, 5,956 square feet of the improved trail area, 237 square feet within the amphitheater area, and 207 square feet within the new access road contain existing development (as shown on sheet LU1.02), the improvement of which will be allowed pursuant to Section 17.49.080.J. The additional development areas associated with these improvements will be subject to the standards of this section. Approximately 184 square feet of additional development is proposed within the NROD for the improved entry pavilion. Two trees will be removed from the area, though they are within 10 feet of the new structure and as such are allowed per Section 17.49.100.A. Approximately 379 square feet of additional development is proposed within the NROD for the amphitheater. These additional development areas are less than 500 square feet each. As such, these additional development areas will be allowed and processed as a Type II permit. The additional development associated with the new access road and improved trails will be subject to the standards of Sections 17.49.150 and 17.49.170 below.*

17.49.140 - Standards for utility lines.

The following standards apply to new utilities, private connections to existing or new utility lines, and upgrades of existing utility lines within the NROD:

A. The disturbance area for private connections to utility lines shall be no greater than ten feet wide;

B. The disturbance area for the upgrade of existing utility lines shall be no greater than fifteen feet wide;

C. New utility lines shall be within the right-of-way, unless reviewed under subsection D.

D. New utility lines that cross above or underneath a drainage way, wetland, stream, or ravine within the NROD but outside of a right-of-way shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

E. No fill or excavation is allowed within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;

F. The Division of State Lands must approve any work that requires excavation or fill in a wetland;

G. Native trees more than ten inches in diameter shall not be removed unless it is shown that there are no feasible alternatives; and

H. Each six to ten-inch diameter native tree cut shall be replaced at a ratio of three trees for each one removed. Each eleven-inch or greater diameter native tree shall be replaced at a ratio of five trees for each removed. The replacement trees shall be a minimum one-half inch diameter and selected from the Oregon City Native Plant List. All trees shall be planted on the applicant's site. Where a utility line is approximately parallel with the stream channel, at least half of the replacement trees shall be planted between the utility line and the stream channel.

I. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.150 - Standards for vehicular or pedestrian paths and roads.

The following standards apply to public rights-of-way and private roads within the NROD, including roads, bridges/stream crossings, driveways and pedestrian paths with impervious surfaces:

A. Stream crossings shall be limited to the minimum number and width necessary to ensure safe and convenient pedestrian, bicycle and vehicle connectivity, and shall cross the stream at an angle as close to perpendicular to the stream channel as practicable. Bridges shall be used instead of culverts wherever practicable.

B. Where the right-of-way or private road crosses a stream the crossing shall be by bridge or a bottomless culvert;

C. No fill or excavation shall occur within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;

D. If the Oregon Department of State Lands (DSL) has jurisdiction over any work that requires excavation or fill in a wetland, required permits or authorization shall be obtained from DSL prior to release of a grading permit;

E. Any work that will take place within the banks of a stream shall be conducted between June 1 and August 31, or shall be approved by the Oregon Department of Fish and Wildlife; and

F. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Editor's note— Ord. No. 10-1003, § 1(Exh. 1), adopted July 7, 2010, renamed section 17.49.150 from "Standards for rights-of-ways" to "Standards for vehicular or pedestrian paths and roads."

Response: *A new access road and five new bridges are proposed as shown on sheet LU1.02. The access road will be in the southern portion of the site and will provide maintenance and monitoring access to a new weir and the sediment forebay. The new access road will result in approximately 1,322 square feet of new development and the removal of two trees within the NROD. Mitigation for these encroachments will be provide and is detailed in Section 17.49.180 below.*

The five new bridges will provide safe and convenient pedestrian crossings of the streams and ponds within the ELC site. The number of new crossings is the minimum necessary to provide recreational and educational access to all portions of the ELC site, in accordance with the CCC Master Plan goals. Each crossing is as close to perpendicular as possible given the existing site conditions and trail approach angles. One of the new bridges will facilitate the removal of an existing culvert associated with the habitat enhancement project. New bridges will result in approximately 592 square feet of new development within the NROD. Mitigation for this encroachment will be provide and is detailed in Section 17.49.180 below.

17.49.155 - Standards for stormwater facilities.

Approved facilities that infiltrate stormwater on-site in accordance with Public Works Low-Impact Development standards, including but not limited to; vegetated swales, rain gardens, vegetated filter strips, and vegetated infiltration basins, and their associated piping, may be placed within the NROD boundary pursuant to the following standards:

A. The forest canopy within the driplines of existing trees shall not be disturbed.

B. Only vegetation from the Oregon City Native Plant List shall be planted within these facilities.

C. Mitigation is required, subject to Sections 17.49.180 or 17.49.190.

D. The storm water facility may encroach up to one-half the distance of the NROD corridor.

E. The stormwater facility shall not impact more than one thousand square feet of the NROD. Impacts greater than one thousand square feet shall be process as a Type III application.

F. The community development director may allow landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites within the Natural Resource Overlay District.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.160 - Standards for land divisions.

Other than those land divisions exempted by Section 17.49.070G., new residential lots created within the NROD shall conform to the following standards.

A. For a lot for an existing residence currently within the NROD. This type of lot is allowed within the NROD for a residence that existed before the NROD was applied to a subject property. A new lot for an existing house may be created through a partition or subdivision process when all of the following are met:

1. There is an existing house on the site that is entirely within the NROD area; and

2. The existing house will remain; and

3. The new lot is no larger than required to contain the house, minimum required side setbacks, garage, driveway and a twenty-foot deep rear yard, with the remaining NROD area beyond that point protected by a conservation easement, or by dedicating a conservation tract or public open space.

B. Subdivisions.

1. Prior to preliminary plat approval, the NROD area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection 3. of this section, which shall not be a part of any parcel used for construction of a dwelling unit.

2. Prior to final plat approval, ownership of the NROD tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:

a. Private open space held by the owner or a homeowners association; or

b. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or

c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or

d. Any other ownership proposed by the owner and approved by the city.

e. Tracts shall be exempt from minimum frontage requirements.

C. Partitions.

1. New partitions shall delineate the NROD area either as a separate tract or conservation easement that meets the requirements of subsection 2. of this section.

2. Prior to final plat approval, ownership and maintenance of the NROD area shall be identified to distinguish it from the buildable areas of the development site. The NROD area may be identified as any one of the following:

   a. A tract of private open space held by the owner or homeowners association; or

   b. For residential land divisions, a tract of private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or

   c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit;

   d. Conservation easement area pursuant to Section 17.49.180G. and approved in form by the community development director;

   e. Any other ownership proposed by the owner and approved by the community development director.

   f. Tracts shall be exempt from minimum frontage requirements.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.170 - Standards for trails.

The following standards apply to trails within the NROD:

A. All trails that are not exempt pursuant to Section 17.49.80F., except as designated in the Oregon City Parks, Open Space and Trails Master Plans; and

B. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *New or improved trails are proposed within the ELC site to provide safe and convenient pedestrian access to the site and facilitate educational opportunities. The 5,956 square feet of existing trails within improved trail areas will be allowed per Section 17.49.080.J and will not require mitigation. The portion of improved trails not exempt per Section 17.49.080.J and new trails will be subject to the standards of this section as the proposed trails will be wider than 48 inches and several will be within 25 feet of protected water resources. New or improved trail areas will result in approximately 5,012 square feet of new development and the removal of five existing trees within the NROD. Mitigation for these encroachments will be provide and is detailed in Section 17.49.180 below.*

17.49.180 - Mitigation standards.

The following standards (or the alternative standards of Section 17.49.190) apply to required mitigation:

A. Mitigation shall occur at a two-to-one ratio of mitigation area to proposed NROD disturbance area. Mitigation of the removal or encroachment of a wetland or stream shall not be part of this chapter and will be reviewed by the Division of State Lands or the Army Corp of Engineers during a separate review process;

***Response**: The proposed disturbance area not exempted by Section 17.49.080 is 7,489 square feet, requiring 14,978 square feet of mitigation at a two-to-one ratio. Mitigation will be provided through a combination of development removal (restoration) within the NROD and NROD enhancement according to Mitigation Planting Option 2. The total area of development removal within the NROD is 7,454 square feet, as shown on sheets LU1.02 and LU1.03. An abandoned hatchery structure, impervious surface associated with the old Smucker's facility, several concrete retaining walls, existing trail segments not included in the proposed trail plan, and other existing structures and impervious surfaces will be removed. Areas of development removal will be revegetated with appropriate native plantings as described in this section.*

NROD enhancement will include invasive plant species removal and native plantings. A majority of the proposed NROD enhancement plantings will occur in or near the 15,238 square feet of upland area shown as Planting Zone 1 on sheet LU1.04. However, due to existing canopy coverage, plantings may occur within other portions of the undeveloped NROD within the ELC site. Invasive plant species will be removed from all planting zones, which in combination with the proposed plantings will bring these areas into good condition. Sheet LU1.04 also details the planting plan for the habitat enhancement areas, which is being reviewed by the Department of State Lands and the US Army Corps of Engineers.

B. Mitigation shall occur on the site where the disturbance occurs, except as follows:

1. The mitigation is required for disturbance associated with a right-of-way or utility in the right-of-way;
2. The mitigation shall occur first on the same stream tributary, secondly in the Abernethy, Newell or Livesay Creek or a tributary thereof, or thirdly as close to the impact area as possible within the NROD; and
3. An easement that allows access to the mitigation site for monitoring and maintenance shall be provided as part of the mitigation plan.

***Response:** The proposed mitigation will be within the existing NROD area of the ELC site.*

C. Mitigation shall occur within the NROD area of a site unless it is demonstrated that this is not feasible because of a lack of available and appropriate area. In such cases, the proposed mitigation area shall be contiguous to the existing NROD area so the NROD boundary can be easily extended in the future to include the new resource site.

***Response:** The proposed mitigation will be within the existing NROD area of the ELC site.*

D. Invasive and nuisance vegetation shall be removed within the mitigation area;

***Response**: Invasive vegetation listed on the Oregon City Nuisance Plant List including, but not limited to English ivy, Himalayan blackberry, and Norway maple will be removed within the mitigation area.*

E. Required Mitigation Planting. An applicant shall meet Mitigation Planting Option 1 or 2 below, whichever option results in more tree plantings, except that where the disturbance area is one acre or more, Mitigation Option 2 shall be required. All trees, shrubs and ground cover shall be selected from the Oregon City Native Plant List.

NOTE: Applications on sites where no trees are present or which are predominantly covered with invasive species shall be required to mitigate the site, remove the invasive species and plant trees and native plants pursuant to Option 2.

Response: *Mitigation Planting Option 2 will be used as it results in a greater number of trees and shrubs to be planted. All trees, shrubs, and groundcover(herbaceous) selected for the mitigation plan are from the Oregon City Native Plant List. The proposed plant quantities and species shown on the Mitigation Plan sheet (LU1.04) are listed in Table 2.*

Table 2. Proposed plant list for mitigation plantings.

Botanical Name	**Common Name**
TREES (minimum of 75 plantings)	
Acer circinatum	Vine maple
Alnus rubra	Red alder
Amelanchier alnifolia	Western serviceberry
Fraxinus latifolia	Oregon ash
Thuja plicata	Western red cedar
SHRUBS (minimum of 374 plantings)	
Cornus sericea	Red-osier dogwood
Lonicera involucrata	Twinberry
Physocarpus capitatus	Nine-bark
Salix sitchensis	Sitka willow
Spiraea douglasii	Douglas' spirea
HERBACEOUS	
Agrostis exerata	Spike bentgrass
Deschampsia cespitosa	Tufted hairgrass
Festuca romeri	Roemer's fescue

1. Mitigation Planting Option 1.

   a. Option 1 - Planting Quantity. This option requires mitigation planting based on the number and size of trees that are removed from the site pursuant to Table 17.49.180E.1.a. Conifers shall be replaced with conifers. Bare ground shall be planted or seeded with native grasses and ground cover species.

Table 17.49.180E.1.a.—Required Planting Option 1

Size of Tree to be Removed (DBH)	Number of Trees and Shrubs to be Replanted
6 to 12"	2 trees and 3 shrubs
13 to 18"	3 trees and 6 shrubs
19 to 24"	5 trees and 12 shrubs
25 to 30"	7 trees and 18 shrubs
Over 30"	10 trees and 30 shrubs

b. Option 1 - Plant Size. Replacement trees shall be at least one-half inch in caliper on average, measured at six inches above the ground level for field grown trees or above the soil line for container grown trees. Oak, madrone, ash or alder may be one gallon size. Conifers shall be a minimum of six feet in height. Shrubs must be in at least one-gallon container size or the equivalent in ball and burlap, and shall be at least twelve inches in height at the time of planting. All other species shall be a minimum of four-inch pots;

c. Option 1 - Plant Spacing. Except for the outer edges of mitigation areas, trees and shrubs shall be planted in a non-linear fashion. Plant spacing for new species shall be measured from the driplines of existing trees when present. Trees shall be planted on average between eight and twelve feet on center, and shrubs shall be planted on average between four and five feet on center, or clustered in single species groups of no more than four plants, with each cluster planted on average between eight and ten feet on center.

d. Option 1 - Mulching and Irrigation. Mulch new plantings a minimum of three inches in depth and eighteen inches in diameters. Water new plantings one inch per week from June 30th to September 15th, for the three years following planting.

e. Option 1 — Plant Diversity. Shrubs shall consist of at least two different species. If ten trees or more are planted, no more than one-half of the trees may be of the same genus.

Response: *The mitigation planting quantity in Option 1 is based on the number and size of trees that are planned for removal pursuant to Table 17.49.180E.1.a. Sixteen (16) replacement trees and thirty (24) replacement shrubs would be required under this option as shown in the following table.*

Table 3: Quality and diameter of trees to be removed from the NROD and required number of mitigation plantings.

Tree ID	***Diameter (inches)***	***Condition***	***Replacement Trees***	***Replacement Shrubs***
186	*12*	*Good*	*2*	*3*
*188**	*14*	*Good*	*Not required*	*Not required*
*201***	*14*	*Good*	*Not required*	*Not required*
*204***	*12*	*Good to fair*	*Not required*	*Not required*
*209***	*21*	*Good to fair*	*Not required*	*Not required*
253	*12*	*Fair to poor*	*2*	*3*

Tree ID	*Diameter (inches)*	*Condition*	*Replacement Trees*	*Replacement Shrubs*
260	*6*	*Good*	*2*	*3*
265	*11*	*Fair to poor*	*2*	*3*
266	*8*	*Fair*	*2*	*3*
267	*17*	*Fair*	*2*	*3*
280	*10*	*Good*	*2*	*3*
*281***	*6*	*Good*	*Not required*	*Not required*
284	*6*	*Good*	*2*	*3*
*306***	*8*	*Good*	*Not required*	*Not required*
*323***	*18*	*Good*	*Not required*	*Not required*
*324***	*7*	*Good*	*Not required*	*Not required*
*569***	*18*	*Good*	*Not required*	*Not required*
*573***	*20*	*Good*	*Not required*	*Not required*
574,***	*16*	*Good*	*Not required*	*Not required*
*593***	*13*	*Good*	*Not required*	*Not required*
*595***	*6*	*Good*	*Not required*	*Not required*
*596***	*8*	*Good*	*Not required*	*Not required*
*812***	*6*	*Good*	*Not required*	*Not required*
Total			***16***	***24***

Tree is on the Oregon City Nuisance Plant. Removal does not require mitigation per 17.49.100.A

****Tree removed as part of the habitat enhancement project. Removal does not require mitigation per 17.49.[0]80***

2. Mitigation Planting Option 2.

   a. Option 2 - Planting Quantity. In this option, the mitigation requirement is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by five hundred, and then multiplying that result times five trees and twenty-five shrubs, and rounding all fractions to the nearest whole number of trees and shrubs; for example, if there will be three hundred thirty square feet of disturbance area, then three hundred thirty divided by five hundred equals .66, and .66 times five equals 3.3, so three trees must be planted, and .66 times twenty-five equals 16.5, so seventeen shrubs must be planted). Bare ground must be planted or seeded with native grasses or herbs. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.

   b. Option 2 - Plant Size. Plantings may vary in size dependent on whether they are live cuttings, bare root stock or container stock, however, no initial plantings may be shorter than twelve inches in height.

   c. Option 2 - Plant Spacing. Trees shall be planted at average intervals of seven feet on center. Shrubs may be planted in single-species groups of no more than four plants, with clusters planted on average between eight and ten feet on center.

d. Option 2 — Mulching and Irrigation shall be applied in the amounts necessary to ensure eighty percent survival at the end of the required five-year monitoring period.

e. Option 2 — Plant Diversity. Shrubs shall consist of at least three different species. If twenty trees or more are planted, no more than one-third of the trees may be of the same genus.

Response: *The mitigation planting quantity in Option 2 is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by five hundred, and then multiplying that result times five trees and twenty-five shrubs, and rounding all fractions to the nearest whole number of trees and shrubs. The 7,489 square feet of new development within the NROD would require 75 trees (7,489/500 multiplied by 5 trees) and 374 shrubs (7,489/500 multiplied by 25 shrubs) to be planted.*

Option 2 will be used for the mitigation plan as it results in a greater number of trees and shrubs to be planted than Option 1. The plant species listed on sheet LU1.04 are subject to adjustment based on site conditions and plant availability at the time of planting. However, no more than one-third of the trees will be of the same genus, and shrubs will consist of at least three different species, as required in Section 17.49.180(E)(2)(e). All plantings will be a minimum of twelve inches in height and will be live cuttings, bare root stock, and/or container stock. Trees will be planted at average intervals of seven feet on center. Shrubs will be planted in single-species groups of no more than four plants, with clusters planted on average between eight and ten feet on center. Bare ground will be planted or seeded with native grasses and groundcover species. New plantings will be mulched and planting areas will be watered for a minimum of three years following planting.

An alternative planting plan using native plants may be approved in order to create a new wetland area, if it is part of a wetlands mitigation plan that has been approved by the DSL or the U.S. Army Corps of Engineers (USACE) in conjunction with a wetland joint removal/fill permit application.

F. Monitoring and Maintenance. The mitigation plan shall provide for a five-year monitoring and maintenance plan with annual reports in a form approved by the director of community development. Monitoring of the mitigation site is the on-going responsibility of the property owner, assign, or designee, who shall submit said annual report to the city's planning division, documenting plant survival rates of shrubs and trees on the mitigation site. Photographs shall accompany the report that indicate the progress of the mitigation. A minimum of eighty percent survival of trees and shrubs of those species planted is required at the end of the five-year maintenance and monitoring period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than ten square feet that remain at the end the five-year monitoring period shall be replanted or reseeded with native grasses and ground cover species.

Response: *The proposed mitigation will be monitored and maintained for a minimum of five years, with approved annual progress reports submitted to the City's planning division. The mitigation area will be inspected annually during the active growing season. During site monitoring, survival rates of planted trees and shrubs and invasive plant species cover will be documented. This information, along with photo-documentation of the mitigation area, will be used to inform the annual progress report. Should survival rate drop below 80 percent or invasive plant coverage exceed 10 percent at any time during the maintenance period, immediate remedial action will be taken. Monitoring and maintenance is the on-going responsibility of the property owner, assign, or designee.*

G. Covenant or Conservation Easement. Applicant shall record a restrictive covenant or conservation easement, in a form provided by the city, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the city to complete mitigation work in the event of default by the responsible party. Costs borne by the city for such mitigation shall be borne by the owner.

Response: *The applicant will record a restrictive covenant or conservation easement in the form provided by the city, that will require owners and assigns of the property to comply with the applicable mitigation requirements. The covenant or easement will run with the land and permit the city to complete mitigation work in the event of default by the responsible party. Should the city need to complete the mitigation work, such cost will be borne by the owner. The covenant or conservation easement is the responsibility of the property owner, assign, or designee.*

H. Financial Guarantee. A financial guarantee for establishment of the mitigation area, in a form approved by the city, shall be submitted before development within the NROD disturbance area commences. The city will release the guarantee at the end of the five-year monitoring period, or before, upon it's determination that the mitigation plan has been satisfactorily implemented pursuant to this section.

Response: *A financial guarantee will be provided to the city prior to development within the NROD disturbance area. The financial guarantee is the responsibility of the property owner, assign, or designee.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.190 - Alternative mitigation standards.

In lieu of the above mitigation standards of Section 17.49.180, the following standards may be used. Compliance with these standards shall be demonstrated in a mitigation plan report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the city may require the report to be reviewed by an environmental consultant.

[A.] The report shall document the existing condition of the vegetated corridor as one of the following categories:

Good Existing Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and there is more than fifty percent tree canopy coverage in the vegetated corridor.
Marginal Existing Vegetated Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and twenty-five to fifty percent canopy coverage in the vegetated corridor.
Degraded Existing Vegetated Corridor:	Less vegetation and canopy coverage than marginal vegetated corridors, and/or greater than ten percent surface coverage of any non-native species.

B. The proposed mitigation shall occur at a minimum two-to-one ratio of mitigation area to proposed disturbance area;

C. The proposed mitigation shall result in a significant improvement to Good Existing Condition as determined by a qualified environmental professional;

D. There shall be no detrimental impact on resources and functional values in the area designated to be left undisturbed;

E. Where the proposed mitigation includes alteration or replacement of development in a stream channel, wetland, or other water body, there shall be no detrimental impact related to the migration, rearing, feeding or spawning of fish;

F. Mitigation shall occur on the site of the disturbance to the extent practicable. If the proposed mitigation cannot practically occur on the site of the disturbance, then the applicant shall possess a legal instrument, such as an easement, sufficient to carryout and ensure the success of the mitigation.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.200 - Adjustment from standards.

If a regulated NROD use cannot meet one or more of the applicable NROD standards then an adjustment may be issued if all of the following criteria are met. Compliance with these criteria shall be demonstrated by the applicant in a written report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant. Such requests shall be processed under the Type III development permit procedure. The applicant shall demonstrate:

A. There are no feasible alternatives for the proposed use or activity to be located outside the NROD area or to be located inside the NROD area and to be designed in a way that will meet all of the applicable NROD development standards;

B. The proposal has fewer adverse impacts on significant resources and resource functions found in the local NROD area than actions that would meet the applicable environmental development standards;

C. The proposed use or activity proposes the minimum intrusion into the NROD area that is necessary to meet development objectives;

D. Fish and wildlife passage will not be impeded;

E. With the exception of the standard(s) subject to the adjustment request, all other applicable NROD standards can be met; and

F. The applicant has proposed adequate mitigation to offset the impact of the adjustment.

***Response**: The applicant is not requesting an adjustment from standards.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Application Requirements

17.49.210 - Type II development permit application.

Unless otherwise directed by the NROD standards, proposed development within the NROD shall be processed as a Type II development permit application. All applications shall include the items required for a complete application by Sections 17.49.220—17.49.230, and Section 17.50.080 of the Oregon City Municipal Code as well as a discussion of how the proposal meets all of the applicable NROD development standards 17.49.100—17.49.170.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.220 - Required site plans.

Site plans showing the following required items shall be part of the application:

A. For the entire subject property (NROD and non-NROD areas):

1. The NROD district boundary. This may be scaled in relation to property liens from the NROD Map;
2. One hundred-year floodplain and floodway boundary (if determined by FEMA);
3. Creeks and other waterbodies;
4. Any wetlands, with the boundary of the wetland that will be adjacent to the proposed development determined in a wetlands delineation report prepared by a professional wetland specialist and following the Oregon Division of State Lands wetlands delineation procedures;
5. Topography shown by contour lines of two or one foot intervals for slopes less than fifteen percent and by ten-foot intervals for slopes fifteen percent or greater;
6. Existing improvements such as structures or buildings, utility lines, fences, driveways, parking areas, etc.
7. Extent of the required Vegetated Corridor required by Table 17.49.110.

Response: *Shown on sheet LU1.01.*

B. Within the NROD area of the subject property:

1. The distribution outline of shrubs and ground covers, with a list of most abundant species;
2. Trees six inches or greater in diameter, identified by species. When trees are located in clusters they may be described by the approximate number of trees, the diameter range, and a listing of dominant species;
3. An outline of the disturbance area that identifies the vegetation that will be removed. All trees to be removed with a diameter of six inches or greater shall be specifically identified as to number, trunk diameters and species;
4. If grading will occur within the NROD, a grading plan showing the proposed alteration of the ground at two foot vertical contours in areas of slopes less than fifteen percent and at five foot vertical contours of slopes fifteen percent or greater.

Response: *Shown on sheets LU1.01 and LU1.02.*

C. A construction management plan including:

1. Location of site access and egress that construction equipment will use;
2. Equipment and material staging and stockpile areas;
3. Erosion control measures that conform to City of Oregon City erosion control standards;
4. Measures to protect trees and other vegetation located outside the disturbance area.

Response: *Shown on sheet LU1.03.*

D. A mitigation site plan demonstrating compliance with Section 17.49.180 or 17.49.190, including:

1. Dams, weirs or other in-water features;

2. Distribution, species composition, and percent cover of ground covers to be planted or seeded;
3. Distribution, species composition, size, and spacing of shrubs to be planted;
4. Location, species and size of each tree to be planted;
5. Stormwater management features, including retention, infiltration, detention, discharges and outfalls;
6. Water bodies or wetlands to be created, including depth;
7. Water sources to be used for irrigation of plantings or for a water source for a proposed wetland.

Response: *Shown on sheet LU1.04.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.230 - Mitigation plan report.

A mitigation plan report that accompanies the above mitigation site plan is also required. The report shall be prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. The mitigation plan report shall, at a minimum, discuss:

A. Written responses to each applicable Mitigation Standard [Section] 17.49.180 or 17.49.190 indicating how the proposed development complies with the mitigation standards;
B. The resources and functional values to be restored, created, or enhanced through the mitigation plan;
C. Documentation of coordination with appropriate local, regional, state and federal regulatory/resource agencies such as the Oregon Department of State Lands (DSL) and the United States Army Corps of Engineers (USACE);
D. Construction timetables;
E. Monitoring and Maintenance practices pursuant to Section 17.49.230.F and a contingency plan for undertaking remedial actions that might be needed to correct unsuccessful mitigation actions during the first five years of the mitigation area establishment.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *A mitigation plan report will be provided by a certified Landscape Architect.*

Miscellaneous

17.49.240 - Density transfer.

The NROD allocates urban densities to the Non-NROD portions of properties located partially within the NROD, generally resulting in a substantial increase in net development potential.

For lots of record that are located within the NROD, additional density transfer credits are allowed, subject to the following provisions:

A. Density may be transferred from the NROD to non-NROD portions of the same property or of contiguous properties within the same development site;

B. The residential transfer credit shall be as follows: for new residential partitions and subdivisions, one-third of the area of the NROD tract or conservation easement area may be added to the net developable area outside of the tract or conservation easement area within the boundary of the development site in order to calculate the allowable number of lots.

C. Permitted Modifications to Residential Dimensional Standards. In order to allow for a transfer of density pursuant to subsection B. above, the dimensional standards of the base zone may be modified in order minimize disturbance to the NROD. The permissible reductions are specified in Tables 17.49.240C.—17.49.240D.

D. The applicant shall demonstrate that the minimum lot size of the underlying zone has been met. The area of the NROD in subsection B. above that is used to transfer density may be included in the calculation of the average minimum lot size.

E. The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the areas of the NROD Tract.

Table 17.49.240 A
Lot Size Reduction

ZONE	Min. Lot Size (%)	Min. Lot Width	Min. Lot Depth
R-10	5,000 sq. feet	50'	65'
R-8	4,000 sq. feet	45'	60'
R-6	3,500 sq. feet	35'	55'
R-5	3,000 sq. feet	30'	50'
R-3.5	1,800 sq. feet	20'	45'

Table 17.49.240 B
Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot Coverage
8,000—9,999 square feet	15 feet	20 feet	7/9 feet	15 feet	40%
6,000—7,999 square feet	10 feet	15 feet	5/7 feet	15 feet	40%
4,000—5,999 square feet	10 feet	15 feet	5/5 feet	10 feet	40%
1,800—3,999 square feet	5 feet	15 feet	5/5 feet	10 feet	55%

Table 17.49.240 C
Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot Coverage
3,500—7,000 square feet	10 feet	15 feet	5/0* feet	10 feet	40%
1,800—3,499 square feet	5 feet	15 feet	5/0* feet	10 feet	55%

*0 foot setback is only allowed on single-family attached units

F. Transfers for properties zoned Commercial, Institutional, Industrial or Multi-Family uses the transfer credit is ten thousand sq[uare] f[ee]t per acre of land within the NROD;

G. The area of land contained in the NROD area may be excluded from the calculations for determining compliance with minimum density requirements of the land division code.

H. The owner of the transferring property shall execute a covenant with the city that records the transfer of density. The covenant shall be found to meet the requirements of this section and be recorded before building permits are issued; and

I. All other applicable development standards, including setbacks, building heights, and maximum lot coverage shall continue to apply when a density transfer occurs.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.250 - Verification of NROD boundary.

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.255 - Type I verification.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.

B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:

1. No soil, vegetation, hydrologic features have been disturbed;

2. No hydrologic features have been changed;

3. There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.

4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.
5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.
6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.

There is an existing physical barrier between the site and a protected water feature, including:

a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.

b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.

C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.6. above are met the verification application shall be denied. An applicant may then opt to apply for an verification through the Type II process defined below.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.260. - Type II verification.

Verifications of the NROD which cannot be determined pursuant to the standards of Section 17.49.255 may be processed under the Type II permit procedure.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220 as applicable.

B. Such requests may be approved provided that there is evidence that demonstrates in an environmental report prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry, that a resource function(s) and/or land feature(s) does not apply to a site-specific area.

C. Verification to remove a recently developed area from the NROD shall show that all of the following have been met:

1. All approved development in the NROD has been completed;
2. All mitigation required for the approved development, located within the NROD, has been successful; and
3. The previously identified resources and functional values on the developed site no longer exist or have been subject to a significant detrimental impact.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.265 - Corrections to violations.

For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met then the applicant's remediation plan shall demonstrate that there will be:

A. No permanent loss of any type of resource or functional value listed in Section 17.49.10, as determined by a qualified environmental professional;

B. A significant improvement of at least one functional value listed in section 17.49.10, as determined by a qualified environmental professional; and

C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Chapter 17.50 - ADMINISTRATION AND PROCEDURES[26]

Footnotes:

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Editor's note—Ord. No. 08-1014, adopted July 1, 2009, repealed Chapter 17.50 in its entirety and enacted new provisions to read as herein set out. Prior to amendment, Chapter 17.50 pertained to similar subject matter. See Ordinance Disposition List for derivation.

17.50.010 - Purpose.

This chapter provides the procedures by which Oregon City reviews and decides upon applications for all permits relating to the use of land authorized by ORS Chapters 92, 197 and 227. These permits include all form of land divisions, land use, limited land use and expedited land division and legislative enactments and amendments to the Oregon City comprehensive plan and Titles 16 and 17 of this code. Pursuant to ORS 227.175, any applicant may elect to consolidate applications for two or more related permits needed for a single development project. Any grading activity associated with development shall be subject to preliminary review as part of the review process for the underlying development. It is the express policy of the city that development review not be segmented into discrete parts in a manner that precludes a comprehensive review of the entire development and its cumulative impacts.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.030 - Summary of the city's decision-making processes.

The following decision-making processes chart shall control the city's review of the indicated permits:

Table 17.50.030
PERMIT APPROVAL PROCESS

PERMIT TYPE	I	II	III	IV	Expedited Land Division
Compatibility Review	X				
Code Interpretation			X		
General Development Plan			X		
Conditional Use			X		
Detailed Development Plan[1]		X	X		
Extension		X			

Final Plat	X				
Geologic Hazards		X			
Historic Review			X		
Lot Line Adjustment and Abandonment	X				
Major Modification to a Prior Approval[2]	X	X	X	X	X
Minor Modification to a Prior Approval	X				
Minor Partition		X			
Nonconforming Use, Structure and Lots Review	X	X			
Reconsideration	X				
Revocation				X	
Site Plan and Design Review		X			
Subdivision		X			X
Variance		X	X		
Zone Change & Plan Amendment				X	
Zone Change Upon Annexation with No Discretion	X			X	
Zone Change Upon Annexation with Discretion				X	
Natural Resource Exemption	X				
Natural Resource Review		X			

This project is submitting for a Detailed Development Plan accompanied with a Natural Resource Review, both Type II in nature.

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If any provision or element of the master plan requires a deferred Type III procedure, the detailed development plan shall be processed through a Type III procedure.

A major modification to a prior approval shall be considered using the same process as would be applicable to the initial approval.

A. Type I decisions do not require interpretation or the exercise of policy or legal judgment in evaluating approval criteria. Because no discretion is involved, Type I decisions do not qualify as a land use, or limited land use, decision. The decision making process requires no notice to any party other than the applicant. The community development director's decision is final and not appealable by any party through the normal city land use process.

B. Type II decisions involve the exercise of limited interpretation and discretion in evaluating approval criteria, similar to the limited land use decision-making process under state law. Applications evaluated through this process are assumed to be allowable in the underlying zone, and the inquiry typically focuses on what form the use will take or how it will look. Notice of application and an invitation to comment is mailed to the applicant, recognized active neighborhood association(s) and property owners within three hundred feet. The community development director accepts comments for a minimum of fourteen days and renders a decision. The community development director's decision is appealable to the city commission with notice to the planning commission, by any party with standing under ORS 227.175(10)(a)(c). The city commission decision is the city's final decision and is subject to review by the land use board of appeals (LUBA) within twenty-one days of when it becomes final.

From Clackamas Community College Master Plan (CP 07-01), approved by Oregon City Planning Commission, June 23, 2008.

Detailed development plans will be prepared in the future, as specific building and infrastructure plans become more fixed. Detailed development plans will follow the requirements of this concept development plan, including any adjustments. Detailed development plans are subject to a Type II public review process. Pp46.

C. Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards, yet are not heard by the city commission, except upon appeal. In the event that any decision is not classified, it shall be treated as a Type III decision. The process for these land use decisions is controlled by ORS 197.763. Notice of the application and the planning commission or the historic review board hearing is published and mailed to the applicant, recognized neighborhood association(s) and property owners within three hundred feet. Notice must be issued at least twenty days pre-hearing, and the staff report must be available at least seven days pre-hearing. At the evidentiary hearing held before the planning commission or the historic review board, all issues are addressed. The decision of the planning commission or historic review board is appealable to the city commission on the record pursuant to Section 17.50.190. The city commission decision on appeal is the city's final decision and is subject to review by LUBA within twenty-one days of when it becomes final, unless otherwise provided by state law.

D. Type IV decisions include only quasi-judicial plan amendments and zone changes. These applications involve the greatest amount of discretion and evaluation of subjective approval standards and must be heard by the city commission for final action. The process for these land use decisions is controlled by ORS 197.763. At the evidentiary hearing held before the planning commission, all issues are addressed. If the planning commission denies the application, any party with standing (i.e., anyone who appeared before the planning commission either in person or in writing within the comment period) may appeal the planning commission denial to the city commission. If the planning commission denies the application and no appeal has been received within fourteen days of the issuance of the final decision then the action of the planning commission becomes the final decision of the city. If the planning commission votes to approve the application, that decision is forwarded as a recommendation to the city commission for final consideration. In either case, any review by the city commission is on the record and only issues

raised before the planning commission may be raised before the city commission. The city commission decision is the city's final decision and is subject to review by the land use board of appeals (LUBA) within twenty-one days of when it becomes final.

E. The expedited land division (ELD) process is set forth in ORS 197.360 to 197.380. To qualify for this type of process, the development must meet the basic criteria in ORS 197.360(1)(a) or (b). While the decision-making process is controlled by state law, the approval criteria are found in this code. The community development director has twenty-one days within which to determine whether an application is complete. Once deemed complete, the community development director has sixty-three days within which to issue a decision. Notice of application and opportunity to comment is mailed to the applicant, recognized neighborhood association and property owners within one hundred feet of the subject site. The community development director will accept written comments on the application for fourteen days and then issues a decision. State law prohibits a hearing. Any party who submitted comments may call for an appeal of the community development director's decision before a hearings referee. The referee need not hold a hearing; the only requirement is that the determination be based on the evidentiary record established by the community development director and that the process be "fair." The referee applies the city's approval standards, and has forty-two days within which to issue a decision on the appeal. The referee is charged with the general objective to identify means by which the application can satisfy the applicable requirements without reducing density. The referee's decision is appealable only to the court of appeals pursuant to ORS 197.375(8) and 36.355(1).

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010; Ord. No. 13-1005, § 1(Exh. 1), 3-6-2013)

17.50.040 - Development review in overlay districts and for erosion control.

For any development subject to regulation of Geologic Hazards under city code Chapter 17.44; Natural Resource under Chapter 17.49; Willamette River Greenway under Chapter 17.48; and erosion control under Chapter 17.47, compliance with the requirements of these chapters shall be reviewed as part of the review process required for the underlying development for the site. ***See Chapter 17.49 Natural Resource Overlay District narrative included in this application.***

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.050 - Preapplication conference.

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

A pre-Application conference was held on August 5, 2015. Project Number PA 15-24

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year. ***The application is within the six month period.***

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Editor's note— Ord. No. 10-1003, § 1(Exh. 1), adopted July 7, 2010, renamed section 17.50.050 from "Preapplication conference and neighborhood meeting" to "Preapplication conference."

17.50.055 - Neighborhood association meeting.

A. Neighborhood Association Meeting. The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.

1. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, planning commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the city-recognized neighborhood association in whose territory the application is proposed. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.
2. The applicant shall send, by certified mail, return receipt requested letter to the chairperson of the neighborhood association and the citizen involvement committee describing the proposed project. Other communication methods may be used if approved by the neighborhood association.
3. A meeting shall be scheduled within thirty days of the notice. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall hold their own meeting after six p.m. or on the weekend, with notice to the neighborhood association, citizen involvement committee, and all property owners within three hundred feet. If the applicant holds their own meeting, a copy of the certified letter requesting a neighborhood association meeting shall be required for a complete application. The meeting held by the applicant shall be held within the boundaries of the neighborhood association or in a city facility.
4. If the neighborhood association is not currently recognized by the city, is inactive, or does not exist, the applicant shall request a meeting with the citizen involvement committee.
5. To show compliance with this section, the applicant shall submit a sign-in sheet of meeting attendees, a summary of issues discussed, and letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.

   The project was scheduled to be on the Caufield Neighborhood Association meeting agenda last October, however the Mayor bumped the project from the schedule. The project will be on the January 2016 agenda and the required documentation submitted.

(Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.060 - Application requirements.

A permit application may only be initiated by the record property owner or contract purchaser, the city commission or planning commission. If there is more than one record owner, then the city will not accept an application without signed authorization from all record owners. All permit applications must be submitted on the form provided by the city, along with the appropriate fee and all necessary supporting documentation and information, sufficient to demonstrate compliance with all applicable approval criteria. The applicant has the burden of demonstrating, with evidence, that all applicable approval criteria are, or can be, met. ***See application.***

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.070 - Completeness review and one hundred twenty-day rule.

A. Upon submission, the community development director shall date stamp the application form and verify that the appropriate application fee has been submitted. The community development director will then review the application and all information submitted with it and evaluate whether the application is complete enough to process. Within thirty days of receipt of the application, the community development director shall complete this initial review and issue to the applicant a written statement indicating whether the application is complete enough to process, and if not, what information must be submitted to make the application complete.

B. The applicant has one hundred eighty days from the date the application was made to submit the missing information or, on the one hundred eighty-first-day, the application shall be rejected and all materials (except one copy of the application) and the unused portion of the application fee returned to the applicant. If the applicant submits the requested information within the one hundred eighty-day period, the community development director shall again verify whether the application, as augmented, is complete. Each such review and verification shall follow the procedure in subsection A. of this section.

The application will be deemed complete for the purpose of this section upon receipt by the community development director of:

1. All the missing information;
2. Some of the missing information and written notice from the applicant that no other information will be provided; or
3. Written notice from the applicant that none of the missing information will be provided.

C. Once the community development director determines the application is complete enough to process, or the applicant refuses to submit any more information, the city shall declare the application complete. Pursuant to ORS 227.178, the city will reach a final decision on an application within one hundred twenty calendar days from the date that the application is determined to be or deemed complete unless the applicant agrees to suspend the one hundred twenty calendar day time line or unless State law provides otherwise. The one hundred twenty-day period, however, does not apply in the following situations:

1. Any hearing continuance or other process delay requested by the applicant shall be deemed an extension or waiver, as appropriate, of the one hundred twenty-day period.
2. Any delay in the decision-making process necessitated because the applicant provided an incomplete set of mailing labels for the record property owners within three hundred feet of the subject property shall extend the one hundred twenty-day period for the amount of time required to correct the notice defect.
3. The one hundred twenty-day period does not apply to any application for a permit that is not wholly within the city's authority and control.

4. The one hundred twenty-day period does not apply to any application for an amendment to the city's comprehensive plan or land use regulations nor to any application for a permit, the approval of which depends upon a plan amendment.

D. The one hundred twenty-day period specified in Section 17.50.070C. may be extended for a specified period of time at the written request of the applicant. The total of all extensions may not exceed two hundred forty-five calendar days.

E. The approval standards that control the city's review and decision on a complete application are those which were in effect on the date the application was first submitted.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.080 - Complete application—Required information.

Unless stated elsewhere in City code Titles 16 or 17, a complete application includes all the materials listed in this subsection. The community development director may waive the submission of any of these materials if not deemed to be applicable to the specific review sought. Likewise, within thirty days of when the application is first submitted, the community development director may require additional information, beyond that listed in this subsection or elsewhere in Titles 16 or 17, such as a traffic study or other report prepared by an appropriate expert. In any event, the applicant is responsible for the completeness and accuracy of the application and all of the supporting documentation, and the city will not deem the application complete until all information required by the community development director is submitted. At a minimum, the applicant must submit the following:

A. One copy of a completed city application form that includes the following information:

1. An accurate legal description, tax account number(s), map and location of all properties that are the subject of the application;

2. Name, address, telephone number and authorization signature of all record property owners or contract owners, and the name, address and telephone number of the applicant, if different from the property owner(s);

B. A complete list of the permit approvals sought by the applicant;

C. A current preliminary title report for the subject property(ies);

D. A complete and detailed narrative description of the proposed development that describes existing site conditions, existing buildings, public facilities and services, presence of wetlands, steep slopes and other natural features, a discussion of the approval criteria for all permits required for approval of the development proposal that explains how the criteria are or can be met, and any other information indicated by staff at the preapplication conference as being required;

E. Up to twenty-one legible copies of all reports, plans, site plans and other documents required by the section of this code corresponding to the specific approval(s) sought;

F. At least one copy of the site plan and all related drawings shall be in a readable/legible eight and one-half by eleven-inch format for inclusion into the city's bound record of the application;

G. Mailing labels for notice to all parties entitled under Section 17.50.090 to receive mailed notice of the application. The applicant shall use the names and addresses of property owners within the notice area indicated on the most recent property tax rolls;

H. All required application fees;

I. Annexation agreements (if applicable);

J. Additional documentation as needed by the community development director.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.090 - Public notices.

All public notices issued by the city with regard to a land use matter, announcing applications or public hearings of quasi-judicial or legislative actions, shall comply with the requirements of this section.

A. Notice of Type II Applications. Once the planning manager has deemed a Type II application complete, the city shall prepare and send notice of the application, by first class mail, to all record owners of property within three hundred feet of the subject property and to any city-recognized neighborhood association whose territory includes the subject property. Pursuant to Section 17.50.080G., the applicant is responsible for providing an accurate and complete set of mailing labels for these property owners and for posting the subject property with the city-prepared notice in accordance with Section 17.50.100. The city's Type II notice shall include the following information:

   1. Street address or other easily understood location of the subject property and city-assigned planning file number;

   2. A description of the applicant's proposal, along with citations of the approval criteria that the city will use to evaluate the proposal;

   3. A statement that any interested party may submit to the city written comments on the application during a fourteen-day comment period prior to the city's deciding the application, along with instructions on where to send the comments and the deadline of the fourteen-day comment period;

   4. A statement that any issue which is intended to provide a basis for an appeal must be raised in writing during the fourteen-day comment period with sufficient specificity to enable the city to respond to the issue;

   5. A statement that the application and all supporting materials may be inspected, and copied at cost, at city hall during normal business hours;

   6. The name and telephone number of the planning staff person assigned to the application or is otherwise available to answer questions about the application.

   7. The notice shall state that a city-recognized neighborhood association requesting an appeal fee waiver pursuant to Section 17.50.290C. must officially approve the request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal.

B. Notice of Public Hearing on a Type III or IV Quasi-Judicial Application. Notice for all public hearings concerning a quasi-judicial application shall conform to the requirements of this subsection. At least twenty days prior to the hearing, the city shall prepare and send, by first class mail, notice of the hearing to all record owners of property within three hundred feet of the subject property and to any city-recognized neighborhood association whose territory includes the subject property. The city shall also publish the notice in a newspaper of general circulation within the city at least twenty days prior to the hearing. Pursuant to Section 17.50.080H., the applicant is responsible for providing an accurate and complete set of mailing labels for these property owners and for posting the subject property with the city-prepared notice in accordance with Section 17.50.100. Notice of the application hearing shall include the following information:

   1. The time, date and location of the public hearing;

   2. Street address or other easily understood location of the subject property and city-assigned planning file number;

   3. A description of the applicant's proposal, along with a list of citations of the approval criteria that the city will use to evaluate the proposal;

4. A statement that any interested party may testify at the hearing or submit written comments on the proposal at or prior to the hearing and that a staff report will be prepared and made available to the public at least seven days prior to the hearing;

5. A statement that any issue which is intended to provide a basis for an appeal to the city commission must be raised before the close of the public record. Issues must be raised and accompanied by statements or evidence sufficient to afford the city and all parties to respond to the issue;

6. The notice shall state that a city-recognized neighborhood association requesting an appeal fee waiver pursuant to Section 17.50.290C. must officially approve the request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal.

7. A statement that the application and all supporting materials and evidence submitted in support of the application may be inspected at no charge and that copies may be obtained at reasonable cost at city hall during normal business hours; and

8. The name and telephone number of the planning staff person responsible for the application or is otherwise available to answer questions about the application.

C. Notice of Public Hearing on a Legislative Proposal. At least twenty days prior to a public hearing at which a legislative proposal to amend or adopt the city's land use regulations or comprehensive plan is to be considered, the planning manager shall issue a public notice that conforms to the requirements of this subsection. Notice shall be sent to affected governmental entities, special districts, providers of urban services, including Tri-Met, Oregon Department of Transportation and Metro, any affected recognized neighborhood associations and any party who has requested in writing such notice. Notice shall also be published in a newspaper of general circulation within the city. Notice issued under this subsection shall include the following information:

1. The time, date and location of the public hearing;

2. The city-assigned planning file number and title of the proposal;

3. A description of the proposal in sufficient detail for people to determine the nature of the change being proposed;

4. A statement that any interested party may testify at the hearing or submit written comments on the proposal at or prior to the hearing; and

5. The name and telephone number of the planning staff person responsible for the proposal and who interested people may contact for further information.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.100 - Notice posting requirements.

Where this chapter requires notice of a pending or proposed permit application or hearing to be posted on the subject property, the requirements of this section shall apply.

A. City Guidance and the Applicant's Responsibility. The city shall supply all of the notices which the applicant is required to post on the subject property and shall specify the dates the notices are to be posted and the earliest date on which they may be removed. The city shall also provide a statement to be signed and returned by the applicant certifying that the notice(s) were posted at the correct time and that if there is any delay in the city's land use process caused by the applicant's failure to correctly post the subject property for the required period of time and in the correct location, the applicant agrees to extend the one hundred-twenty-day period in a timely manner.

B. Number and Location. The applicant must place the notices on each frontage of the subject property. If the property's frontage exceeds six hundred feet, the applicant shall post one copy of the notice for each six hundred feet or fraction thereof. Notices do not have to be posted adjacent to alleys or unconstructed right-of-way. Notices shall be posted within ten feet of the street and shall be visible to pedestrians and motorists. Notices shall not be posted within the public right-of-way or on trees. The applicant shall remove all signs within ten days following the event announced in the notice.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.110 - Assignment of decision-makers.

The following city entity or official shall decide the following types of applications:

A. Type I Decisions. The community development director shall render all Type I decisions. The community development director's decision is the city's final decision on a Type I application.

B. Type II Decisions. The community development director shall render the city's decision on all Type II permit applications, which are then appealable to the city commission with notice to the planning commission. The city's final decision is subject to review by LUBA.

C. Type III Decisions. The planning commission or historic review board, as applicable, shall render all Type III decisions. Such decision is appealable to the city commission, on the record. The city commission's decision is the city's final decision and is subject to review by LUBA within twenty-one days of when it becomes final.

D. Type IV Decisions. The planning commission shall render the initial decision on all Type IV permit applications. If the planning commission denies the Type IV application, that decision is final unless appealed in accordance with Section 17.50.190. If the planning commission recommends approval of the application, that recommendation is forwarded to the city commission. The city commission decision is the city's final decision on a Type IV application and is subject to review LUBA.

E. ELD. The community development director shall render the initial decision on all ELD applications. The community development director's decision is the city's final decision unless appealed in accordance to ORS 197.375 to a city-appointed hearings referee. The hearings referee decision is the city's final decision which is appealable to the Oregon Court of Appeals.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010; Ord. No. 13-1005, § 1(Exh. 1), 3-6-2013)

17.50.120 - Quasi-judicial hearing process.

All public hearings pertaining to quasi-judicial permits, whether before the planning commission, historic review board, or city commission, shall comply with the procedures of this section. In addition, all public hearings held pursuant to this chapter shall comply with the Oregon Public Meetings Law, the applicable provisions of ORS 197.763 and any other applicable law.

A. Once the community development director determines that an application for a Type III or IV decision is complete, the planning division shall schedule a hearing before the planning commission or historic review board, as applicable. Once the community development director determines that an appeal of a Type II, Type III or Type IV decision has been properly filed under Section 17.50.190, the planning division shall schedule a hearing pursuant to Section 17.50.190.

B. Notice of the Type III or IV hearing shall be issued at least twenty days prior to the hearing in accordance with Section 17.50.090B.

C. Written notice of an appeal hearing shall be sent by regular mail no later than fourteen days prior to the date of the hearing to the appellant, the applicant if different from the appellant, the property owner(s) of the subject site, all persons who testified either orally or in writing before the hearing body and all persons that requested in writing to be notified.

D. The community development director shall prepare a staff report on the application which lists the applicable approval criteria, describes the application and the applicant's development proposal, summarizes all relevant city department, agency and public comments, describes all other pertinent facts as they relate to the application and the approval criteria and makes a recommendation as to whether each of the approval criteria are met.

E. At the beginning of the initial public hearing at which any quasi-judicial application or appeal is reviewed, a statement describing the following shall be announced to those in attendance:

1. That the hearing will proceed in the following general order: staff report, applicant's presentation, testimony in favor of the application, testimony in opposition to the application, rebuttal, record closes, commission deliberation and decision;

2. That all testimony and evidence submitted, orally or in writing, must be directed toward the applicable approval criteria. If any person believes that other criteria apply in addition to those addressed in the staff report, those criteria must be listed and discussed on the record. The meeting chairperson may reasonably limit oral presentations in length or content depending upon time constraints. Any party may submit written materials of any length while the public record is open;

3. Failure to raise an issue on the record with sufficient specificity and accompanied by statements or evidence sufficient to afford the city and all parties to respond to the issue, will preclude appeal on that issue to the state land use board of appeals;

4. Any party wishing a continuance or to keep open the record must make that request while the record is still open; and

5. That the commission chair shall call for any ex-parte contacts, conflicts of interest or bias before the beginning of each hearing item.

6. For appeal hearings, only those persons who participated either orally or in writing in the decision or review or who have standing pursuant to ORS 197.175(10)(a)(C) will be allowed to participate either orally or in writing on the appeal.

F. Requests for continuance and to keep open the record: The hearing may be continued to allow the submission of additional information or for deliberation without additional information. New notice of a continued hearing need not be given so long as a time-certain and location is established for the continued hearing. Similarly, hearing may be closed but the record kept open for the submission of additional written material or other documents and exhibits. The chairperson may limit the factual and legal issues that may be addressed in any continued hearing or open record period.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010; Ord. No. 13-1005, § 1(Exh. 1), 3-6-2013)

17.50.130 - Conditions of approval and notice of decision.

A. All city decision-makers have the authority to impose reasonable conditions of approval designed to ensure that all applicable approval standards are, or can be, met.

B. Failure to comply with any condition of approval shall be grounds for revocation of the permit(s) and grounds for instituting code enforcement proceedings pursuant to Chapter 1.20 of this code and ORS 30.315.

C. Notice of Decision. The city shall send, by first class mail, a notice of all decisions rendered under this chapter to all persons with standing, i.e., the applicant, all others who participated either orally or in writing before the close of the public record and those who specifically requested notice of the decision. The notice of decision shall include the following information:

1. The file number and date of decision;
2. The name of the applicant, owner and appellant (if different);
3. The street address or other easily understood location of the subject property;
4. A brief summary of the decision, and if an approval, a description of the permit approved;
5. A statement that the decision is final unless appealed and description of the requirements for perfecting an appeal;
6. The contact person, address and a telephone number whereby a copy of the final decision may be inspected or copies obtained.

D. Modification of Conditions. Any request to modify a condition of permit approval is to be considered either minor modification or a major modification. A minor modification shall be processed as a Type I. A major modification shall be processed in the same manner and shall be subject to the same standards as was the original application. However, the decision-maker may at their sole discretion, consider a modification request and limit its review of the approval criteria to those issues or aspects of the application that are proposed to be changed from what was originally approved.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.140 - Performance guarantees.

When conditions of permit approval require a permitee to construct certain improvements, the city may, in its discretion, allow the permitee to submit a performance guarantee in lieu of actual construction of the improvement. Performance guarantees shall be governed by this section.

A. Form of Guarantee. Performance guarantees shall be in a form approved by the city attorney approvable methods of performance guarantee include irrevocable standby letters of credit to the benefit of the city issued by a recognized lending institution, certified checks, dedicated bank accounts or allocations of construction loans held in reserve by the lending institution for the benefit of the city. The form of guarantee shall be specified by the city engineer and, prior to execution and acceptance by the city shall be reviewed and approved by the city attorney. The guarantee shall be filed with the city engineer.

B. Timing of Gurantee. A permittee shall be required to provide a performance guarantee as follows.

1. After Final Approved Design By The City: A permitee may request the option of submitting a performance guarantee when prepared for temporary/final occupancy. The guarantee shall be one hundred twenty percent of the estimated cost of constructing the remaining public improvements as submitted by the permittee's engineer. The engineer's estimated costs shall be supported by a verified engineering estimate and approved by the city engineer.
2. Before Complete Design Approval And Established Engineered Cost Estimate: A permitee may request the option of submitting a performance guarantee before public improvements are designed and completed. The guarantee shall be one hundred fifty percent of the estimated cost of constructing the public improvements as submitted by the permittee's engineer and approved by the city engineer. The engineer's estimated costs shall be supported by a verified engineering estimate and approved by the city engineer. This scenario applies for a fee-in-lieu situation to ensure adequate funds for the future work involved in design, bid, contracting, and construction management and contract closeout. In this case, the fee-in-lieu must be submitted as cash, certified check, or other negotiable instrument as approved to form by the city attorney.

C. Duration of the Guarantee. The guarantee shall remain in effect until the improvement is actually constructed and accepted by the city. Once the city has inspected and accepted the improvement, the city shall release the guarantee to the permittee. If the improvement is not completed to the city's satisfaction within the time limits specified in the permit approval, the city engineer may, at their discretion, draw upon the guarantee and use the proceeds to construct or complete construction of the improvement and for any related administrative and legal costs incurred by the city in completing the construction, including any costs incurred in attempting to have the permittee complete the improvement. Once constructed and approved by the city, any remaining funds shall be refunded to the permittee. The city shall not allow a permittee to defer construction of improvements by using a performance guarantee, unless the permittee agrees to construct those improvements upon written notification by the city, or at some other mutually agreed-to time. If the permittee fails to commence construction of the required improvements within six months of being instructed to do so, the city may, without further notice, undertake the construction of the improvements and draw upon the permittee's performance guarantee to pay those costs.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.150 - Covenant with the city.

A. The city may impose as a condition of final approval of a quasi-judicial permit, the requirement that the applicant execute a covenant with the city agreeing to comply with all conditions of approval. Any such covenant shall include the following elements:

1. An agreement that the applicant will comply with all applicable code requirements, conditions of approval and any representations made to the city by the applicant or the applicant's agents during the application review process, in writing. This commitment shall be binding on the applicant and all of the applicant's successors, heirs and assigns;

2. If the owner fails to perform under the covenant, the city may immediately institute revocation of the approval or any other enforcement action available under state law or this code. The covenant may also provide for payment of attorney fees and other costs associated with any such enforcement action; and

3. Where the development rights of one site are dependent on the performance of conditions by the owner of another property (such as joint access), the covenants are judicially enforceable by the owner of one site against the owner of another.

B. Adopting the covenant: The form of all covenants shall be approved by the city attorney. The covenant shall run with the land and shall be placed in the county deed records prior to the issuance of any permits or development activity pursuant to the approval. Proof of recording shall be made prior to the issuance of any permits and filed with the planning division. Recording shall be at the applicant's expense. Any covenant required under this section shall be properly signed and executed within thirty days after permit approval with conditions; provided, however, that the community development director may grant reasonable extensions, not to exceed an additional thirty days, in cases of practical difficulty. Failure to sign and record the covenant within the prescribed period shall require a new application for any use of the subject property.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.160 - Ex parte contact, conflict of interest and bias.

The following rules shall govern any challenges to a decision-maker's participation in a quasi-judicial or legislative action:

A. Ex parte Contacts. Any factual information obtained by a decision-maker outside the context of a quasi-judicial hearing shall be deemed an ex parte contact. Prior to the close of the record in any particular matter, any decision-maker that has obtained any materially factual information through an ex parte contact shall declare the content of that contact and allow any interested party to rebut the substance of that contact. This rule does not apply to legislative proceedings.

B. Conflict of Interest. Whenever a decision-maker, or any member of a decision-maker's immediate family or household, has a financial interest in the outcome of a particular quasi-judicial or legislative matter, that decision-maker shall not participate in the deliberation or decision on that matter.

C. Bias. All decisions in quasi-judicial matters shall be fair, impartial and based on the applicable approval standards and the evidence in the record. Any decision-maker who is unable to render a decision on this basis in any particular matter shall refrain from participating in the deliberation or decision on that matter. This rule does not apply to legislative proceedings.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.170 - Legislative hearing process.

A. Purpose. Legislative actions involve the adoption or amendment of the city's land use regulations, comprehensive plan, maps, inventories and other policy documents that affect the entire city or large portions of it. Legislative actions which affect land use must begin with a public hearing before the planning commission.

B. Planning Commission Review.

1. Hearing Required. The planning commission shall hold at least one public hearing before recommending action on a legislative proposal. Any interested person may appear and provide written or oral testimony on the proposal at or prior to the hearing. The community development director shall notify the Oregon Department of Land Conservation and Development (DLCD) as required by the post-acknowledgment procedures of ORS 197.610 to 197.625, as applicable.

2. The community development director's Report. Once the planning commission hearing has been scheduled and noticed in accordance with Section 17.50.090(C) and any other applicable laws, the community development director shall prepare and make available a report on the legislative proposal at least seven days prior to the hearing.

3. Planning Commission Recommendation. At the conclusion of the hearing, the planning commission shall adopt a recommendation on the proposal to the city commission. The planning commission shall make a report and recommendation to the city commission on all legislative proposals. If the planning commission recommends adoption of some form of the proposal, the planning commission shall prepare and forward to the city commission a report and recommendation to that effect.

C. City Commission Review.

1. City Commission Action. Upon a recommendation from the planning commission on a legislative action, the city commission shall hold at least one public hearing on the proposal. Any interested person may provide written or oral testimony on the proposal at or prior to the hearing. At the conclusion of the hearing, the city commission may adopt, modify or reject the legislative proposal, or it may remand the matter to the planning commission for further consideration. If the decision is to adopt at least some form of the proposal, and thereby amend the city's land use regulations, comprehensive plan, official zoning maps or some component of any of these documents, the city commission decision shall be enacted as an ordinance.

2. Notice of Final Decision. Not later than five days following the city commission final decision, the community development director shall mail notice of the decision to DLCD in accordance with ORS 197.615(2).

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.180 - Objections to procedure.

Any party who objects to the procedure followed in any particular matter, including bias, conflict of interest and undisclosed ex parte contacts, must make a procedural objection prior to the city rendering a final decision. Procedural objections may be raised at any time prior to a final decision, after which they are deemed waived. In making a procedural objection, the objecting party must identify the procedural requirement that was not properly followed and identify how the alleged procedural error harmed that person's substantial rights.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.190 - Appeals.

Appeals of any non-final decisions by the city must comply with the requirements of this section.

A. Type I decisions by the planning manager are not appealable to any other decision-maker within the city.

B. A notice of appeal of any Type II, III or IV decision must be received in writing by the planning division within fourteen calendar days from the date notice of the challenged decision is provided to those entitled to notice. Late filing of any appeal shall be deemed a jurisdictional defect and will result in the automatic rejection of any appeal so filed.

C. The following must be included as part of the notice of appeal:

1. The city planning file number and date the decision to be appealed was rendered;

2. The name, mailing address and daytime telephone number for each appellant;

3. A statement of how each appellant has an interest in the matter and standing to appeal;

4. A statement of the specific grounds for the appeal;

5. The appropriate appeal fee. Failure to include the appeal fee within appeal period is deemed to be a jurisdictional defect and will result in the automatic rejection of any appeal so filed. If a city-recognized neighborhood association with standing to appeal has voted to request a fee waiver pursuant to Section 17.50.290C., no appeal fee shall be required for an appeal filed by that association. In lieu of the appeal fee, the neighborhood association shall provide a duly adopted resolution of the general membership or board approving the request for fee waiver.

D. Standing to Appeal. The following rules prescribe who has standing to appeal:

1. For Type II decisions, only those persons or recognized neighborhood associations who have standing pursuant to ORS 197.175(10)(a)(C) may appeal a planning manager decision. The city commission shall hold a de novo hearing on the appeal. New evidence and new issues be raised at the hearing before the city commission.

2. For Type III and IV decisions, only those persons or recognized neighborhood associations who have participated either orally or in writing have standing to appeal the decision of the planning commission or historic review board, as applicable. Grounds for appeal are limited to those issues raised either orally or in writing before the close of the public record. No new evidence shall be allowed.

E. Notice of the Appeal Hearing. The planning division shall issue notice of the appeal hearing to all parties who participated either orally or in writing before the close of the public record in accordance with Section 17.50.090B. Notice of the appeal hearing shall contain the following information:

1. The file number and date of the decision being appealed;
2. The time, date and location of the public hearing;
3. The name of the applicant, owner and appellant (if different);
4. The street address or other easily understood location of the subject property;
5. A description of the permit requested and the applicant's development proposal;
6. A brief summary of the decision being appealed and the grounds for appeal listed in the notice of appeal;
7. A statement that the appeal hearing is confined to the issues raised in the notice of appeal;
8. A general explanation of the requirements for participation and the city's hearing procedures.

F. Appeal Hearing—Scope of Review. Appeal hearings shall comply with the procedural requirements of Section 17.50.120. Appeal hearings shall be conducted by the city commission, planning commission or historic review board, as applicable. The decision shall be on the record and the issues under consideration shall be limited to those listed in the notice of appeal.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010; Ord. No. 13-1005, § 1(Exh. 1), 3-6-2013)

17.50.200 - Expiration of an approval.

A. When approvals become void: All Type I—IV approvals, except for zone changes, comprehensive plan map amendments, conditional uses and master plans automatically become void if any of the following events occur:
   1. If, within two years of the date of the final decision, a building permit has not been issued.
   2. If, within two years of the date of the final decision for all land divisions, the activity approved in the permit has not commenced or, in situations involving only the creation of lots, the public improvements and conditions of approval have not been completed or financial guarantee (surety) provided.
   3. Annexations become void if a vote of the citizens rejects the application.

B. New application required: Expiration of an approval shall require a new application for any use on the subject property that is not otherwise allowed outright.

C. Deferral of the expiration period due to appeals: If a permit decision is appealed beyond the jurisdiction of the city, the expiration period shall not begin until review before the land use board of appeals and the appellate courts has been completed, including any remand proceedings before the city. The expiration period provided for in this section will begin to run on the date of final disposition of the case (the date when an appeal may no longer be filed).

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.210 - Extension of an approval.

A. The community development director may extend, prior to its expiration, any approved permit for a period of one year- provided- that the applicant has provided evidence of implementation of the permit. Any request for an extension shall be reviewed and decided upon by the community development director as a Type I- decision.

B. Substantial implementation of a permit shall require at a minimum, demonstrable evidence in a written application showing:

1. The permit holder has applied for the permits required as a condition of the land use or limited land use permit;
2. The request for an extension is not sought for purposes of avoiding any responsibility imposed by this code or the permit or any condition thereunder; and
3. There have been no changes in circumstances or the law likely to necessitate significant modifications of the development approval or conditions of approval.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.220 - Reapplication limited.

If the application is denied or withdrawn following the close of the public hearing, no reapplication for the same or substantially similar proposal may be made for one year following the date of final decision denying the permit.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.230 - Interpretation.

Where a provision of Title 16 or Title 17 conflicts with another city ordinance or requirement, the provision or requirement that is more restrictive or specific shall control.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.240 - Conformity of permits.

The city shall not accept any application for a permit, certificate or other approval, including building permit applications, for any property that is not in full compliance with all applicable provisions of Title 16 and Title 17 and any permit approvals previously issued by the city.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.260 - Reconsideration of a final decision.

Under this section, parties with standing may seek reconsideration of a final decision rendered pursuant to a Type II, Type III, or Type IV process. Reconsideration is warranted where the city's decision indicates the decision-maker failed to understand or consider certain relevant facts in the record or misinterpreted the application in some material way. Any request for reconsideration must be received by the planning division within ten days of when the decision in question was rendered and must specifically describe the alleged misunderstanding or misinterpretation. A request for reconsideration shall not stay the effectiveness of the city's final decision, nor shall it affect any applicable appeal deadlines to the land use board of appeals. If the request is granted, the community development director shall notify all affected parties that the decision will be reconsidered. Any request for reconsideration by the applicant shall be deemed a waiver of the one hundred-twenty-day deadline under Section 17.50.070.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.270 - Revocation of a previously approved permit.

In the event an applicant, or the applicant's successor in interest, fails to fully comply with all conditions of permit approval or otherwise does not comply fully with the city's approval, the city may institute a revocation or modification proceeding under this section.

A. Situations when Permit Approvals May Be Revoked or Modified. All quasi-judicial permits may be revoked or modified if the planning commission determines a substantial likelihood that any of the following situations exists:

   1. One or more conditions of the approval have not been implemented or have been violated;

   2. The activities of the use, or the use itself, are substantially different from what was approved; or

   3. The use is subject to the nonconforming use regulations, the applicant has not obtained approval, and has substantially changed its activities or substantially increased the intensity of its operations since the use became nonconforming.

B. Process for Revocation and Modification. Revocation or modification shall be processed as a Type IV decision. The planning division or any private complaining party shall have the burden of proving, based on substantial evidence in the whole record, that the applicant or the applicant's successor has in some way violated the city's approval.

C. Possible Actions at the Revocation Hearing. Depending on the situation, the planning commission may take any of the actions described below. The planning commission may not approve the new use or a use that is more intense than originally approved unless the possibility of this change has been stated in the public notice. Uses or development which are alleged to have not fulfilled conditions, violate conditions or the use is not consistent with the city's approval may be subject to the following actions:

   1. The planning commission may find that the use or development is complying with the conditions of the approval. In this case, the use or development shall be allowed to continue.

   2. The planning commission may modify the approval if it finds that the use or development does not meet the standards for revocation and that the use can comply with the original approval criteria if certain conditions are met. In this case, the planning commission may modify the existing conditions, add new conditions to ensure compliance with the approval criteria, or refer the case to the code compliance officer for enforcement of the existing conditions.

   3. The planning commission may revoke the approval if it finds there are substantial violations of conditions or failure to implement conditions of prior land use decisions, such that the original approval criteria for the use or development are not being met.

D. Effect of Revocation. In the event permit approval is revoked, the use or development becomes illegal. The use or development shall be terminated within thirty days of the date the revocation final order is approved by the planning commission, unless the decision provides otherwise. In the event the decision-maker's decision on a revocation request is appealed, the revocation action shall be stayed pending a final, unappealed decision.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.280 - Transfer of approval rights.

Unless otherwise stated in the city's permit decision, any approval granted under Title 16 or Title 17 of this code runs with the land and is transferred with ownership of the land. Any conditions, time limits or other restrictions imposed with a permit approval shall bind all subsequent owners of the property for which the permit was granted.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.50.290 - Fees.

The city may adopt by resolution, and revise from time to time, a schedule of fees for applications and appeals. Fees shall be based upon the city's actual or average cost of processing the application or conducting the appeal process. The only exception shall be the appeal fee for a Type II decision, which shall be limited by ORS 227.175.10.b. The requirements of this section shall govern the payment, refund and reimbursement of fees.

A. Payment. All fees shall be due and payable at the time the application or appeal is submitted. No application or appeal shall be accepted without the proper fee being paid.

B. Refunds. Fees will only be refunded as provided in this subsection:

1. When a fee is paid for an application which is later found to not be required, the city shall refund the fee.

2. Errors. When an error is made in calculating a fee, overpayment will be refunded.

3. Refund upon Withdrawal of an Application. In the event an applicant withdraws an application, the planning department shall refund the unused portion of the fee. In this case, the planning department will deduct from the fee the city's actual costs incurred in processing the application prior to withdrawal.

C. Fee Waivers. The planning division may waive all or any portion of an application fee if, in the opinion of the director, a particular application must be resubmitted because of an error made by the city. Appeal fees may be waived, wholly or in part, by the city commission, if the city commission finds that, considering fairness to the applicant and to opposing parties, a full or partial waiver of the appeal fee is warranted. Appeal fees shall not be charged for an appeal filed by a city-recognized neighborhood association, so long as the appeal has been officially approved by the general membership or board of the neighborhood association at a duly announced meeting.

D. Major Projects. The fees for a major project shall be the city's actual costs, which shall include, but not be limited to, the actual costs for staff time, as well as any consultants, including contract planners, attorneys and engineers. The costs of major projects will not be included in any average used to establish other fees under this section. For purposes of this subsection only, a "major project" is defined to include any combined plan and zone change and any project with an estimated construction cost over one million dollars.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.52.010 - Applicability.

The construction of a new structure or parking lot, or alterations to the size or use of an existing structure, parking lot or property use shall require site plan review approval and compliance with this chapter. This chapter does not apply to single- and two-family residential dwellings.

We are not adding any new square feet of building or parking surface to the campus. On p.41 of the approved 2007 campus Master Plan it states that up to 50,000 SF of building area can be added to the campus without needing any parking increase. We are, however, improving the surface of the existing 23 gravel parking stalls so that ADA parking may be provided for the site, and pedestrian connections are improved. All parking areas improved will meet all applicable City requirements.

(Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.52.015 - Planning commission adjustment of parking standards. ***N/A***

A. Purpose: The purpose of permitting a planning commission adjustment to parking standards is to provide for flexibility in modifying parking standards in all zoning districts, without permitting an adjustment that would adversely impact the surrounding or planned neighborhood. The purpose of an adjustment is to provide flexibility to those uses which may be extraordinary, unique or to provide greater flexibility for areas that can accommodate a denser development pattern based on existing infrastructure and ability to access the site by means of walking, biking or transit. An adjustment to a minimum or maximum parking standard may be approved based on a determination by the planning commission that the adjustment is consistent with the purpose of this Code, and the approval criteria can be met.

B. Procedure: A request for a planning commission parking adjustment shall be initiated by a property owner or authorized agent by filing a land use application. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development and parking plan, the extent of the adjustment requested along with findings for each applicable approval criteria. A request for a parking adjustment shall be processed as a Type III application as set forth in Chapter 17.50.

C. Approval criteria for the adjustment are as follows:

    1. Documentation: The applicant shall document that the individual project will require an amount of parking that is different from that required after all applicable reductions have been taken.

    2. Parking analysis for surrounding uses and on-street parking availability: The applicant must show that there is a continued fifteen percent parking vacancy in the area adjacent to the use during peak parking periods and that the applicant has permission to occupy this area to serve the use pursuant to the procedures set forth by the community development director.

        a. For the purposes of demonstrating the availability of on street parking as defined in [Section] 17.52.020.B.3., the applicant shall undertake a parking study during time periods specified by the community development director. The time periods shall include those during which the highest parking demand is anticipated by the proposed use. Multiple observations during multiple days shall be required. Distances are to be calculated as traversed by a pedestrian that utilizes sidewalks and legal crosswalks or an alternative manner as accepted by the community development director.

        b. The onsite parking requirements may be reduced based on the parking vacancy identified in the parking study. The amount of the reduction in onsite parking shall be calculated as follows:

i. Vacant on-street parking spaces within three hundred feet of the site will reduce onsite parking requirements by 0.5 parking spaces; and

ii. Vacant on-street parking spaces between three hundred and six hundred feet of the [site] will reduce onsite parking requirements by 0.2 parking spaces.

3. Function and Use of Site: The applicant shall demonstrate that modifying the amount of required parking spaces will not significantly impact the use or function of the site and/or adjacent sites.

4. Compatibility: The proposal is compatible with the character, scale and existing or planned uses of the surrounding neighborhood.

5. Safety: The proposal does not significantly impact the safety of adjacent properties and rights-of-way.

6. Services: The proposal will not create a significant impact to public services, including fire and emergency services.

(Ord. No. 13-1003, § 1(Exh. 1), 7-17-2013)

17.52.020 - Number of automobile spaces required.

According to the master plan, as a result of not adding any new square footage, program or FTE to the college, no new parking is required. 23 parking stalls are being improved to meet ADA requirements.

A. The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated. ***No New parking stalls are required.***

Table 17.52.020		
LAND USE	PARKING REQUIREMENTS	
	MINIMUM	MAXIMUM
	MINIMUM	MAXIMUM
Multi-Family: Studio	1.00 per unit	1.5 per unit
Multi-Family: 1 bedroom	1.25 per unit	2.00 per unit
Multi-Family: 2 bedroom	1.5 per unit	2.00 per unit
Multi-Family: 3 bedroom	1.75 per unit	2.50 per unit
Hotel, Motel	1.0 per guest room	1.25 per guest room

Correctional Institution	1 per 7 beds	1 per 5 beds
Senior housing, including congregate care, residential care and assisted living facilities; nursing homes and other types of group homes	1 per 7 beds	1 per 5 beds
Hospital	2.00	4.00
Preschool Nursery/Kindergarten	2.00	3.00
Elementary/Middle School	1 per classroom	1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium
High School, College, Commercial School for Adults	0.20 per # staff and students	0.30 per # staff and students
Auditorium, Meeting Room, Stadium, Religious Assembly Building, movie theater,	.25 per seat	0.5 per seat
Retail Store, Shopping Center, Restaurants	4.10	5.00
Office	2.70	3.33
Medical or Dental Clinic	2.70	3.33
Sports Club, Recreation Facilities	Case Specific	5.40
Storage Warehouse, Freight Terminal	0.30	0.40
Manufacturing, Wholesale Establishment	1.60	1.67
Light Industrial, Industrial Park	1.3	1.60

1. Multiple Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately. ***No off-street parking will be provided.***

2. Requirements for types of buildings and uses not specifically listed herein shall be determined by the community development director, based upon the requirements of comparable uses listed. ***N/A***

3. Where calculation in accordance with the above list results in a fractional space, any fraction less than one-half shall be disregarded and any fraction of one-half or more shall require one space. ***N/A***

4. The minimum required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only, and shall not be used for storage of vehicles or materials or for the parking of vehicles used in conducting the business or use. ***All parking stalls will be used for parking only, not storage.***

5. A change in use within an existing habitable building located in the MUD Design District or the Willamette Falls Downtown District is exempt from additional parking requirements. Additions to an existing building and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage. ***N/A***

B. Parking requirements can be met either onsite, or offsite by meeting the following conditions: ***The site has no new parking stall requirements, according to the Campus Master Plan.***

1. Mixed Uses. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (e.g. the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced accordingly, up to a maximum reduction of fifty percent, as determined by the community development director.

2. Shared Parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlay (e.g., uses primarily of a daytime versus nighttime nature), that the shared parking facility is within one thousand feet of the potential uses, and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument authorizing the joint use.

3. On-Street Parking. On-street parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:

   a. Dimensions. The following constitutes one on-street parking space:

1. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;

2. [Forty-five/sixty] degree diagonal, each with [fifteen] feet of curb;

3. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.

4. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.

C. Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced in the Downtown Parking Overlay District: Fifty percent reduction in the minimum number of spaces required is allowed prior to seeking further reductions in [sub]sections 2. and 3. below: ***N/A***

1. Transit Oriented Development. For projects not located within the Downtown Parking Overlay District, the community development director may reduce the required number of parking stalls up to twenty-five percent when it is determined that a project in a commercial center (sixty thousand square feet or greater of retail or office use measured cumulatively within a five hundred-foot radius) or multi-family development with over eighty units, is adjacent to or within one thousand three hundred twenty feet of an existing or planned public transit street and is within one thousand three hundred twenty feet of the opposite use (commercial center or multi-family development with over eighty units).

2. Reduction in Parking for Tree Preservation. The community development director may grant an adjustment to any standard of this requirement provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction must take into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the community development director. This reduction is discretionary.

3. Transportation Demand Management. The community development director may reduce the required number of parking stalls up to twenty-five percent when a parking-traffic study prepared by a traffic engineer demonstrates:

   a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of Transportation Engineers vehicle trip generation rates and further that the transportation demand management program promotes or achieves parking utilization lower than minimum city parking requirements.

   b. Transportation demand management (TDM) program has been developed for approval by, and is approved by the city engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the city determines the plan is not successful, the plan may be revised. If the city determines that no good-faith effort has been made to implement the plan, the city may take enforcement actions.

(Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010; Ord. No. 13-1003, § 1(Exh. 1), 7-17-2013; Ord. No. 14-1016, § 1(Att. B), 11-5-2014)

17.52.030 - Standards for automobile parking.

A. Access. Ingress and egress locations on public thoroughfares shall be located in the interests of public traffic safety. Groups of more than four parking spaces shall be so located and served by driveways so that their use will require no backing movements or other maneuvering within a street right-of-way other than an alley. No driveway with a slope of greater than fifteen percent shall be permitted without approval of the city engineer.

The parking stalls are located so that no parking movements are required into a street, right-of-way, or alley. All driveways have slopes less than fifteen percent.

B. Surfacing. Required off-street parking spaces and access aisles shall have paved surfaces adequately maintained. The use of pervious asphalt/concrete and alternative designs that reduce storm water

runoff and improve water quality pursuant to the city's stormwater and low impact development design standards are encouraged.

All improved parking stalls will have paved surfaces and meet the City's stormwater mitigation requirements by use of vegetated swales.

C. Drainage. Drainage shall be designed in accordance with the requirements of Chapter 13.12 and the city public works stormwater and grading design standards. ***All City drainage requirements will be met.***

D. Dimensional Standards.

1. Requirements for parking developed at varying angles are according to the table included in this section. A parking space shall not be less than seven feet in height when within a building or structure, and shall have access by an all-weather surface to a street or alley. Parking stalls in compliance with the American with Disabilities Act may vary in size in order to comply with the building division requirements. Up to thirty-five percent of the minimum required parking may be compact, while the remaining required parking stalls are designed to standard dimensions. The community development director may approve alternative dimensions for parking stalls in excess of the minimum requirement which comply with the intent of this chapter. ***All improved parking stalls will meet City requirements for standard stall size. All ADA stalls will meet City and Federal requirements.***

2. Alternative parking/plan. Any applicant may propose an alternative parking plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. In such situations, the community development director may approve an alternative parking lot plan with variations to parking dimensions of this section. The alternative shall be consistent with the intent of this chapter and shall create a safe space for automobiles and pedestrians while providing landscaping to the quantity and quality found within parking lot landscaping requirements. ***N/A***

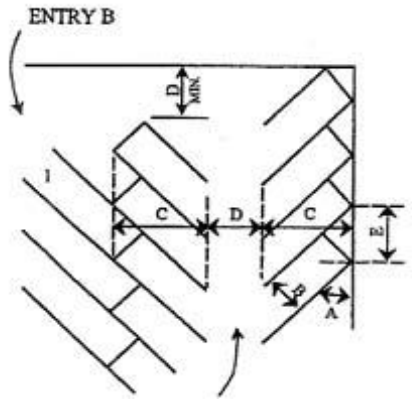
PARKING STANDARD
PARKING ANGLE SPACE DIMENSIONS

A Parking Angle		B Stall Width	C Stall to Curb	D Aisle Width	E Curb Length	F Overhang
0 degrees		8.5	9.0	12	20	0
30 degrees	Standard Compact	9' 8'	17.3' 14.9'	11' 11'	18' 16'	
45 degrees	Standard Compact	8.5 8.5	19.8' 17.0'	13' 13'	12.7' 11.3'	1.4

60 degrees	Standard Compact	9' 8'	21' 17.9'	18' 16'	10.4' 9.2'	1.7
90 degrees	Standard Compact	9' 8'	19.0' 16.0'	24' 22'	9' 8'	1.5

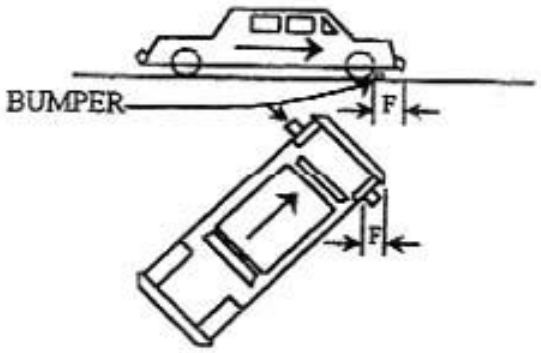
All dimensions are to the nearest tenth of a foot.

TYPICAL PARKING LAYOUT



ENTRY A

NOTE: SPACE 1 CONTINGENT UPON ENTRY B



OVERHANG

NOTE: Overhang dimensions are intended to indicate possible location from parking area edge for location of bumpers.

E. Carpool and Vanpool Parking. New developments with seventy-five or more parking spaces, and new hospitals, government offices, group homes, nursing and retirement homes, schools and transit park-and-ride facilities with fifty or more parking spaces, shall identify the spaces available for employee, student and commuter parking and designate at least five percent, but not fewer than two, of those spaces for exclusive carpool and vanpool parking. Carpool and vanpool parking spaces shall be located closer to the main employee, student or commuter entrance than all other employee, student or commuter parking spaces with the exception of ADA accessible parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only."

This site is not a new development. According to the Campus Master Plan, no new parking stalls are required on site.

(Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010; Ord. No. 13-1003, § 1(Exh. 1), 7-17-2013)

17.52.040 - Bicycle parking standards.

Two bike parking stalls are required, 4 stalls have been provided. Bike parking stalls will meet all City requirements.

A. Purpose-Applicability. To encourage bicycle transportation to help reduce principal reliance on the automobile, and to ensure bicycle safety and security, bicycle parking shall be provided in conjunction with all uses other than single-family dwellings or duplexes.

B. Number of Bicycle Spaces Required. For any use not specifically mentioned in Table A, the bicycle parking requirements shall be the same as the use which, as determined by the community development director, is most similar to the use not specifically mentioned. Calculation of the number of bicycle parking spaces required shall be determined in the manner established in Section 17.52.020 for determining automobile parking space requirements. Modifications to bicycle parking requirements may be made through the site plan and design, conditional use, or master plan review process.

TABLE A Required Bicycle Parking Spaces*

Where two options for a requirement are provided, the option resulting in more bicycle parking applies. Where a calculation results in a fraction, the result is rounded up to the nearest whole number.

USE	MINIMUM BICYCLE PARKING	MINIMUM BICYCLE PARKING - COVERED - The following percentage of bicycle parking is required to be covered
Multi-family (three or more units)	1 per 10 units (minimum of 2)	50% (minimum of 1)
Institutional		
Correctional institution	1 per 15 auto spaces (minimum of 2)	30% (minimum of 1)
Nursing home or care facility	1 per 30 auto spaces (minimum of 2)	30% (minimum of 1)
Hospital	1 per 20 auto spaces (minimum of 2)	30% (minimum of 1)
Park-and-ride lot	1 per 5 auto spaces (minimum of 2)	50% (minimum of 1)

Transit center	1 per 5 auto spaces (minimum of 2)	50% (minimum of 1)
Parks and open space	1 per 10 auto spaces (minimum of 2)	0%
Public parking lots	1 per 10 auto spaces (minimum of 2)	50% (minimum of 1)
Automobile parking structures	1 per 10 auto spaces (minimum of 4)	80% (minimum of 2)
Religious institutions, movie theater, auditorium or meeting room	1 per 10 auto spaces (minimum of 2)	30% (minimum of 1)
Libraries, museums	1 per 5 auto spaces (minimum of 2)	30% (minimum of 1)
Preschool, nursery, kindergarten	2 per classroom (minimum of 2)	50% (minimum of 1)
Elementary	4 per classroom (minimum of 2)	50% (minimum of 1)
Junior high and High school	2 per classroom (minimum of 2)	50% (minimum of 2)
College, business/commercial schools	2 per classroom (minimum of 2)	50% (minimum of 1)
Swimming pools, gymnasiums, ball courts	1 per 10 auto spaces (minimum of 2)	30% (minimum of 1)

Retail stores and shopping centers	1 per 20 auto spaces (minimum of 2)	50% (minimum of 2)
Retail stores handling exclusively bulky merchandise such as automobile, boat or trailer sales or rental	1 per 40 auto spaces (minimum of 2)	0%
Bank, office	1 per 20 auto spaces (minimum of 2)	50% (minimum of 1)
Medical and dental clinic	1 per 20 auto spaces (minimum of 2)	50% (minimum of 1)
Eating and drinking establishment	1 per 20 auto spaces (minimum of 2)	0%
Gasoline service station	1 per 10 auto spaces (minimum of 2)	0%

* Covered bicycle parking is not required for developments with two or fewer stalls.

C. Security of Bicycle Parking. Bicycle parking facilities shall be secured. Acceptable secured bicycle parking area shall be in the form of a lockable enclosure onsite, secure room in a building onsite, a covered or uncovered rack onsite, bicycle parking within the adjacent right-of-way or another form of secure parking where the bicycle can be stored, as approved by the decision maker. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience and, when in the right-of-way shall comply with clearance and ADA requirements.

Bike parking will be provided with 2 racks, surface mounted and securely fastened to the paving by tamper-resistant bolts.

D. Bicycle parking facilities shall offer security in the form of either a lockable enclosure or a stationary rack to which the bicycle can be locked. All bicycle racks and lockers shall be securely anchored to

the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience.

Bike racks meet the above requirements for dimensions that allow bikes to be securely locked without undue inconvenience. Bike parking will be provided with 2 racks, surface mounted and securely fastened to the paving by tamper-resistant bolts.

Location of Bicycle Parking:

1. Bicycle parking shall be located on-site, in one or more convenient, secure and accessible location. The city engineer and the community development Director may permit the bicycle parking to be provided within the right-of-way provided adequate clear zone and ADA requirements are met. If sites have more than one building, bicycle parking shall be distributed as appropriate to serve all buildings. If a building has two or more main building entrances, the review authority may require bicycle parking to be distributed to serve all main building entrances, as it deems appropriate.

   Bike parking is located near the main building entrance.

2. Bicycle parking areas shall be clearly marked or visible from on-site buildings or the street. If a bicycle parking area is not plainly visible from the street or main building entrance, a sign must be posted indicating the location of the bicycle parking area. Indoor bicycle parking areas shall not require stairs to access the space unless approved by the community development director. ***Bike parking is plainly visible from the street and main building entrance.***

3. All bicycle parking areas shall be located to avoid conflicts with pedestrian and motor vehicle movement.

   a. Bicycle parking areas shall be separated from motor vehicle parking and maneuvering areas and from arterial streets by a barrier or a minimum of five feet.

      Bike parking is separated from motor vehicle parking and maneuvering areas.

   b. Bicycle parking areas shall not obstruct pedestrian walkways; provided, however, that the review authority may allow bicycle parking in the right-of-way where this does not conflict with pedestrian accessibility.

      Bike parking is located so as to not obstruct the pedestrian walkways.

4. Accessibility.

   a. Outdoor bicycle areas shall be connected to main building entrances by pedestrian accessible walkways.

      Bike parking is connected to the main building entrance by pedestrian accessible walkways.

   b. Outdoor bicycle parking areas shall have direct access to a right-of-way.

      The site is located on private property and is not in close proximity to the right-of-way, so bike parking does not have direct access to the right-of-way.

   c. Outdoor bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle space, or fifty feet, whichever is less, unless otherwise determined by the community development director, city engineer, or planning commission. ***Bike parking is located no farther from the main building entrance than the distance to the closest vehicle space.***

(Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010; Ord. No. 13-1003, § 1(Exh. 1), 7-17-2013)

17.52.060 - Parking lot landscaping.

Purpose. The purpose of this code section includes the following:

1. To enhance and soften the appearance of parking lots;
2. To limit the visual impact of parking lots from sidewalks, streets and particularly from residential areas;
3. To shade and cool parking areas;
4. To reduce air and water pollution;
5. To reduce storm water impacts and improve water quality; and
6. To establish parking lots that are more inviting to pedestrians and bicyclists.

A. Development Standards.

1. The landscaping shall be located in defined landscaped areas that are uniformly distributed throughout the parking or loading area. ***Landscaping is located in defined landscaped areas uniformly distributed throughout the parking area.***

2. All areas in a parking lot not used for parking, maneuvering, or circulation shall be landscaped. ***All areas in the parking lot not used for parking, maneuvering, or circulation are landscaped.***

3. Parking lot trees shall be a mix of deciduous shade trees and coniferous trees. The trees shall be evenly distributed throughout the parking lot as both interior and perimeter landscaping to provide shade.

   Parking area is not adjacent to a property line or a right-of-way and therefore has no required perimeter parking lot landscaping. Interior trees are a mix of deciduous shade trees and coniferous trees, evenly distributed throughout the parking lot.

4. Required landscaping trees shall be of a minimum two-inch minimum caliper size (though it may not be standard for some tree types to be distinguished by caliper), planted according to American Nurseryman Standards, and selected from the Oregon City Street Tree List; ***Deciduous parking lot trees will be a minimum of 2" cal and Coniferous parking lot trees will be a minimum of 6' ht.***

5. Landscaped areas shall include irrigation systems unless an alternate plan is submitted, and approved by the community development director, that can demonstrate adequate maintenance; ***All parking lot landscaping will be irrigated with a permanent underground irrigation system.***

6. All plant materials, including trees, shrubbery and ground cover should be selected for their appropriateness to the site, drought tolerance, year-round greenery and coverage and staggered flowering periods. Species found on the Oregon City Native Plant List are strongly encouraged and species found on the Oregon City Nuisance Plant List are prohibited.

   No plants from the Oregon City Nuisance Plant List are used. All parking lot trees, shrubs and groundcover are native and or naturalized.

7. The landscaping in parking areas shall not obstruct lines of sight for safe traffic operation and shall comply with all requirements of Chapter 10.32, Traffic Sight Obstructions.

   No landscaping in the parking areas will obstruct lines of sight. All required vision triangles will be protected.

8. Landscaping shall incorporate design standards in accordance with Chapter 13.12, Stormwater Management.

Stormwater management is provided through stormwater conveyance swales that meet the City requirements stated in the original site master plan.

B. Perimeter Parking Lot Landscaping and Parking Lot Entryway/Right-of-Way Screening. Parking lots shall include a five-foot wide landscaped buffer where the parking lot abuts the right-of-way and/or adjoining properties. In order to provide connectivity between non-single-family sites, the community development director may approve an interruption in the perimeter parking lot landscaping for a single driveway where the parking lot abuts property designated as multi-family, commercial or industrial. Shared driveways and parking aisles that straddle a lot line do not need to meet perimeter landscaping requirements. ***No Perimeter Parking Lot Landscaping is required.***

1. The perimeter parking lot are[a] shall include:

    a. Trees spaced a maximum of thirty-five feet apart (minimum of one tree on either side of the entryway is required). When the parking lot is adjacent to a public right-of-way, the parking lot trees shall be offset from the street trees;

    b. Ground cover, such as wild flowers, spaced a maximum of 16-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and

    c. An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average. The hedge/shrubs shall be parallel to and not nearer than two feet from the right-of-way line. The required screening shall be designed to allow for free access to the site and sidewalk by pedestrians. Visual breaks, no more than five feet in width, shall be provided every thirty feet within evergreen hedges abutting public right-of-ways.

C. Parking Area/Building Buffer. Parking areas shall be separated from the exterior wall of a structure, exclusive of pedestrian entranceways or loading areas, by one of the following:

Parking areas are separated from the adjacent buildings by a pedestrian sidewalk and a 5' wide planter strip.

1. Minimum five-foot wide landscaped planter strip (excluding areas for pedestrian connection) abutting either side of a parking lot sidewalk with:

    a. Trees spaced a maximum of thirty-five feet apart;

    b. Ground cover such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and

    c. An evergreen hedge of thirty to forty-two inches or shrubs placed no more than four feet apart on average; or

2. Seven-foot sidewalks with shade trees spaced a maximum of thirty-five feet apart in three-foot by five-foot tree wells.

D. Interior Parking Lot Landscaping. Surface parking lots shall have a minimum ten percent of the interior of the gross area of the parking lot devoted to landscaping to improve the water quality, reduce storm water runoff, and provide pavement shade. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum total site landscaping required by Section 17.62.050(1) unless otherwise permitted by the dimensional standards of the underlying zone district. Pedestrian walkways or any impervious surface in the landscaped areas are not to be counted in the percentage. Interior parking lot landscaping shall include:

    a. A minimum of one tree per six parking spaces. ***More than the required 1 tree per 6 stalls has been provided.***

    b. Ground cover, such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch

shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

Groundcover and shrubs will cover 100% of the exposed ground within 3 years. No groundcover is spaced farther than 16" on center.

c. Shrubs spaced no more than four feet apart on average.

No shrubs are spaced more than 4' apart.

d. No more than eight contiguous parking spaces shall be created without providing an interior landscape strip between them. Landscape strips shall be provided between rows of parking shall be a minimum of six feet in width and a minimum of ten feet in length.

Interior landscape strips are provided every 6 parking stalls or less.

e. Pedestrian walkways shall have shade trees spaced a maximum of every thirty-five feet in a minimum three-foot by five-foot tree wells; or

Interior parking lot trees have been located to provide shade for walkways and interior parking lot stalls. No trees have been located in the parking lot stormwater conveyance swales.

Trees spaced every thirty-five feet, shrubs spaced no more than four feet apart on average, and ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

E. Installation.

1. All landscaping shall be installed according to accepted planting procedures, according to American Nurseryman Standards.

All landscaping will be installed according to accepted planting procedures, according to American Nurseryman Standards.

2. The site, soils and proposed irrigation systems shall be appropriate for the healthy and long-term maintenance of the proposed plant species.

The site, soils and proposed irrigation systems will be appropriate for the healthy and long-term maintenance of the proposed plant species.

3. Certificates of occupancy shall not be issued unless the landscaping requirements have been met or other arrangements have been made and approved by the city, such as the posting of a surety.

(Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.52.070 - Alternative landscaping plan. ***N/A***

Any applicant may propose an alternative landscaping plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. Alternative plans may include the use of low impact development techniques and minimized landscaping requirements. In such situations, the community development director may approve variations to the landscaping standards of section 17.52.060.

A. General Review Standard. The alternative shall be meet or exceed the intent of this chapter and shall create a safe space for automobiles and pedestrians. The alternative landscaping plan shall be prepared by a licensed landscape architect.

B. Credit for Pervious/Low Impact Development. The community development director may count up to fifty percent of the square footage of any pervious hardscaped landscape material within a parking lot that is designed and approved pursuant to the city's adopted stormwater and low

impact development design standards toward minimum landscaping requirements for the site. (This includes porous pavement detention, open celled block pavers, porous asphalt, porous concrete pavement, porous turf, porous gravel, etc).

(Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.52.080 - Maintenance.

The owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of the site including but not limited to the off-street parking and loading spaces, bicycle parking and all landscaping which shall be maintained in good condition so as to present a healthy, neat and orderly appearance and shall be kept free from refuse and debris.

All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:

a. It will not interfere with the maintenance or repair of any public utility;

b. It will not restrict pedestrian or vehicular access; and

c. It will not constitute a traffic hazard due to reduced visibility.

All required landscaping maintenance will be provided by the College.

(Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.52.090 - Loading areas.

A. Purpose.

1. The purpose of this section is to provide adequate loading areas for commercial, office, retail and industrial uses that do not interfere with the operation of adjacent streets.

B. Applicability.

1. Section 17.52.090 applies to uses that are expected to have service or delivery truck visits with a forty-foot or longer wheelbase, at a frequency of one or more vehicles per week. The city engineer and decision maker shall determine through site plan and design review the number, size, and location of required loading areas, if any.

The existing loading dock will be preserved. Adequate access to and within the loading area will remain. The loading area and entrance driveway will be resurfaced with asphalt.

C. Standards.

1. The off-street loading space shall be large enough to accommodate the largest vehicle that is expected to serve the use without obstructing vehicles or pedestrian traffic on adjacent streets and driveways. Applicants are advised to provide complete and accurate information about the potential need for loading spaces because the city engineer or decision maker may restrict the use of other public right-of-way to ensure efficient loading areas and reduce interference with other uses.

Access to the existing loading dock will not obstruct vehicles or pedestrians on adjacent streets or driveways.

2. Where parking areas are prohibited between a building and the street, loading areas are also prohibited. ***N/A***

3. The city engineer and decision maker, through site plan and design review, may approve a loading area adjacent to or within a street right-of-way when all of the following loading and unloading operations conditions are met: ***N/A no new loading areas are provided.***

    a. Short in duration (i.e., less than one hour);

    b. Infrequent (less than three operations daily between 5:00 a.m. and 12:00 a.m. or all operations between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);

    c. Does not obstruct traffic during peak traffic hours;

    d. Does not interfere with emergency response services; and

    e. Is acceptable to the applicable roadway authority.

    (Ord. No. 13-1003, § 1(Exh. 1), 7-17-2013)

(Ord. No. 13-1003, § 1(Exh. 1), 7-17-2013)

Chapter 17.62 - SITE PLAN AND DESIGN REVIEW

17.62.010 - Purpose.

The purposes of site plan and design review are to: encourage site planning in advance of construction; protect lives and property from potential adverse impacts of development; consider natural or man-made hazards which may impose limitations on development; conserve the city's natural beauty and visual character and minimize adverse impacts of development on the natural environment as much as is reasonably practicable; assure that development is supported with necessary public facilities and services; ensure that structures and other improvements are properly related to their sites and to surrounding sites and structure; and implement the city's comprehensive plan and land use regulations with respect to development standards and policies.

The primary purpose of this project is to redevelop and enhance the existing ELC ponds that were once considered a state-of-the-art stormwater management system, but have since been overrun with invasive plants and no longer function effectively. The proposed modifications to the ELC site will improve the quality of water flowing off-site and into Newell Creek. The modifications include excavation of sediment from the ponds, creation of east-west oriented berms within the ponds that will be planted, and which will allow shading and cooling of water, improving the drainage channel connected to the parking lot west of the site, and improvements to existing weirs to direct the flow of water through the pond system or a high flow bypass down the existing upper reach of Newell Creek. Fine grading of the ponds will create benches at appropriate depths to establish a variety of emergent and submergent plant communities to improve the water quality. There are additional components to the project related to habitat enhancement, community education, and recreation among others, but this memorandum focuses on the drainage design.

PROPOSED IMPROVEMENTS

In coordination with the storm facility grading and planting improvements the Habitat Restoration and Water Quality Enhancement/Education Project will redevelop a number of areas throughout the site for new parking and improved access by visitors, expanded outdoor classroom and event space, new pedestrian bridges, and new circulation pathways. These improvements are illustrated in the drawings included with this application.

Additional stormwater management measures will need to be implemented in the various improvement areas to comply with the 2014 City of Oregon City Stormwater and Grading Design Standards. These standards urge applicants to manage stormwater by infiltration to

the maximum extent feasible. Unfortunately, site soils are not well suited for infiltration and alternate low impact development alternatives will be considered.

This project will target the use of vegetated swales or vegetated flow-through facilities to meet water quality treatment requirements. Detention, or flow control requirements will comply with the CCC Master Plan approved through land use that must not increase peak flows reaching the public system under developed conditions for the 2, 5 & 25-yr storm events. The baseline, or target release rates are based on 2005 existing conditions which for this site are consistent with the existing conditions observed today. The proposed improvements will meet the stormwater requirements at various locations as summarized below.

Existing and Improved Portions of Inskeep Drive

Surface runoff from the existing Inskeep Drive will be collected by new catch basin structures located in the gutter and conveyed to a vegetated swale. The swale will be adequately sized to treat drainage from the water quality storm event. The improvements have a zero net change in impervious area since the existing surface is asphalt and no separate detention is proposed. The swale enters the new ELC facility.

New Parking Stalls

Surface runoff from the new asphalt parking stalls and associated access drive aisle west of Inskeep Drive will be collected by sheet flow into a vegetated stormwater swale and vegetated flow-through basin. The vegetated facilities will be adequately sized to treat drainage from the water quality storm event. The improvements have a zero net change in impervious area since the existing surface is asphalt and gravel. While no detention will be required, there will be some attenuation of flows during smaller storm events as the runoff collects and percolates in the flow-through basin. Filtered drainage and overflow from these facilities will discharge to a conveyance line that discharges to the same swale noted above that enters the new ELC facility.

New Entry Canopy at Existing Pavilion

Rain downspouts from the new entry pavilion roof will be conveyed in a shallow swale or pipe to the same vegetated swale noted above that enters the new ELC facility. The new roof will be approximately 1,000 sf, however, there are currently no provisions to provide detention for this new impervious area. There are other areas within the project where impervious surfaces are being removed and the project will be evaluated to establish the overall net reduction in impervious area within the WQRA when submitting for building permit.

ELC Pathways, Bridges, Amphitheater and Plantings

The grades throughout the ELC visitor areas will direct runoff by sheet flow to shallow swales or into planted areas. The drainage will either percolate into the planting soil or ultimately flow into the ELC facility. The landscape plan illustrates the use of permeable trail materials that mitigates the extent of surface runoff. No additional water quality treatment or detention facilities are required to manage runoff from permeable surfaces.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.015 - Modifications that will better meet design review requirements.

The review body may consider modification of site-related development standards. These modifications are done as part of design review and are not required to go through the Variance process pursuant to section 17.60.020. Adjustments to use-related development standards (such as floor area ratios, intensity of use, size of the use, number of units, or concentration of uses) are required to go through the Variance process pursuant to section 17.60.020. Modifications that are denied through design review may be requested as Variance through the Variance process pursuant to section 17.60.020. The review body may approve requested modifications if it finds that the applicant has shown that the following approval criteria are met:

A. The modification will result in a development that better meets design guidelines; and

B. The modification meets the intent of the standard. On balance, the proposal will be consistent with the purpose of the standard for which a modification is requested.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.020 - Preapplication conference.

Prior to filing for site plan and design review approval, the applicant shall confer with the community development director pursuant to Section 17.50.030. The community development director shall identify and explain the relevant review procedures and standards.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

17.62.030 - When required.

Site plan and design review shall be required for all development of real property in all zones except the R-10, R-8, R-6, R-5 and R-3.5 zoning districts, unless otherwise provided for by this title or as a condition of approval of a permit. Site plan and design review shall also apply to all conditional uses, cottage housing development, multi-family and non-residential uses in all zones. No building permit or other permit authorization for development shall be issued prior to site plan and design review approval. Parking lots and parking areas accessory to uses regulated by this chapter also shall require site plan and design review approval. Site plan and design review shall not alter the type and category of uses permitted in zoning districts.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.035 - Minor site plan and design review.

This section provides for a minor site plan and design review process. Minor Site Plan Review is a Type II decision subject to administrative proceedings described in OCMC 17.50 section and may be utilized as the appropriate review process only when authorized by the community development director. The purpose of this type of review is to expedite design review standards for uses and activities that require only a minimal amount of review, typical of minor modifications and/or changes to existing uses or buildings.

A. Generally. Minor site plan and design review applies to the following uses and activities:

1. Modification of an office, commercial, industrial, institutional, public or multi-family structure for the purpose of enhancing the aesthetics of the building and not increasing the interior usable space (for example covered walkways or entryways, addition of unoccupied features such as clock tower, etc.).

2. Modification to parking lot layout and landscaping or the addition of up to 5 parking spaces.

3. A maximum addition of up to one thousand square feet to a commercial, office, institutional, public, multi-family, or industrial building provided that the addition is not more than thirty-five percent of the original building square footage.

4. Other land uses and activities may be added if the community development director makes written findings that the activity/use will not increase off-site impacts and is consistent with the type and/or scale of activities/uses listed above.

B. Application. The application for the minor site plan and design review shall contain the following elements:

1. The submittal requirements of Chapter 17.50.

2. A narrative explaining all aspects of the proposal in detail and addressing each of the criteria listed in Section 17.62.035C. below.

3. Site plan drawings showing existing conditions/uses and proposed conditions/uses.

4. Architectural drawings, including building elevations and envelopes, if architectural work is proposed.

5. Additional submittal material may be required by the community development director on a case-by-case basis.

C. Development Standards for Minor Site Plan and Design Review.

1. All development shall comply with Section 17.62.050(1.—7. and 8.—15. and 20.—22.) when deemed applicable by the community development director. Other sections may apply, as directed by the community development director when applicable, in order to show compliance with this chapter, such as the commercial and institutional standards of section 17.62.055.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.040 - Plans required.

A complete application for site plan and design review shall be submitted. Except as otherwise in subsection I of this section, the application shall include the following plans and information:

A. A site plan or plans, to scale, containing the following:

1. Vicinity information showing streets and access points, pedestrian and bicycle pathways, transit stops and utility locations;

   Please refer to site diagrams labeled 'Pedestrian Circulation' and 'Utilities' at the end of this document. Sidewalks, bike lanes, bus stops and the Oregon City Loop Trail are located and identified within the college campus and adjacent properties. Sanitary, fire hydrants, and city water are located and identified on the following "Utilities' diagram. The main campus entry point is Douglas Loop with a secondary campus entry off of Beavercreek Road. The ELC is accessed from within campus off of the northern point of Douglas Loop.

2. The site size, dimensions, and zoning, including dimensions and gross area of each lot or parcel and tax lot and assessor map designations for the proposed site and immediately adjoining properties;

   The area of work is approximately 3.04 acres as identified on Sheet LU 0.01, consisting of a very organic shape. The area of work is completely contained within the Clackamas Community College campus which is recognized as an Institutional District having its own adopted Master Plan. Map 3-2E-09C Tax Lot 800.

3. Contour lines at two-foot contour intervals for grades zero to ten percent, and five-foot intervals for grades over ten percent;

   Contour lines, existing and proposed, are drawn at 1 foot intervals.

4. The location of natural hazard areas on and within one hundred feet of the boundaries of the site, including:

   a. Areas indicated on floodplain maps as being within the one hundred-year floodplain,

   The project is not within the 100 year floodplain.

   b. Unstable slopes, as defined in Section 17.44.020,

   This section of the Code appears to have been moved to a different number. I do not believe there are any unstable slope conditions.

   c. Areas identified on the seismic conditions map in the comprehensive plan as subject to earthquake and seismic conditions;

   The seismic hazard identified for this site is designated as 'low' in the comprehensive plan.

5. The location of natural resource areas on and within one hundred feet of the boundaries of the site, including fish and wildlife habitat, existing trees (six inches or greater in caliper measured four feet above ground level), wetlands, streams, natural areas, wooded areas, areas of significant trees or vegetation, and areas designated as being within the natural resources overlay district;

   The existing ponds and water are designated as part of the Natural Resource Overlay District, see drawing sheets LU1.10-LU1.04. Fish, wildlife, trees and natural areas are address on these LU sheets and with the narrative of 17.49 NROD.

6. The location of inventoried historic or cultural resources on and within one hundred feet of the boundaries of the site;

   There are no inventoried historic or cultural resources on or within 100 feet of the site as surveyed by Archaeological Investigations Northwest in August of 2007.

7. The location, dimensions, and setback distances of all existing permanent structures, improvements and utilities on or within twenty-five feet of the site, and the current or proposed uses of the structures;

   Currently adjacent to the scope of work of this project are the existing college structures consisting of (2) two-story campus facility buildings and the old Art Center building now used for storage. Within the ELC proper are Lakeside Hall, the Pavilion (to be renovated) and the observatory. Within the ELC and to be removed are a metal storage building used by campus facilities and a wood concessions building. The uses of the campus buildings will remain the same after the completion of the ELC restoration. See drawings C0.20 for existing conditions, including utilities.

8. The location, dimensions, square footage, building orientation and setback distances of proposed structures, improvements and utilities, and the proposed uses of the structures by square footage;

   There is a proposed new entry canopy to the ELC site and associated with the existing pavilion structure, though not actually connected to the pavilion structure. See drawings L2.01 and A1.01. The current unmarked gravel lot to the east of the facilities buildings will be improved with pavement, parking, lighting, striping and storm water treatment. See drawings C0.20 for existing conditions and C2.10 and L2.01 for proposed improvements.

9. The location, dimension and names, as appropriate, of all existing and platted streets, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle accessways and other pedestrian and bicycle ways, transit street and facilities, neighborhood activity centers, and easements on and within two hundred fifty feet of the boundaries of the site;

   See sheet C0.20 and diagrams labeled 'pedestrian circulation' for existing streets, public ways, and transit. There are not any neighborhood activity centers or easements within 250 feet of the scope of work of this project.

10. The location, dimension and names, as appropriate, of all proposed streets, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle accessways and other pedestrian and bicycle ways, transit streets and facilities, neighborhood activity centers, and easements on and within two hundred fifty feet of the boundaries of the site;

    No new streets or other public ways are proposed in the scope of this project. The improved parking area to the east of the existing facilities buildings will have an added sidewalk component for improved circulation between the parking area and the ELC site. See drawing L2.01.

11. All parking, circulation, loading and servicing areas, including the locations of all carpool, vanpool and bicycle parking spaces as required in Chapter 52 of this title;

    No new parking is required for this project as no new building square footage is being added to the campus building stock with this project. The proposed improved parking area is improving an existing unmarked gravel lot currently used by facilities. It is unclear as to if or how many parking spaces may be included in the campus inventory for the gravel lot, therefore new and improved or merely improved parking is undetermined. The parking is addressed further in Section 52.

12. Site access points for automobiles, pedestrians, bicycles and transit;

The site access point for automobiles is from Douglas loop onto Inskeep Drive. Pedestrian and bicycles can access the site the same as autos, however there isn't any sidewalk along most of Douglas Loop or Inskeep Drive, or off of Beavercreek Road onto Inskeep Drive, which has been closed off to automobile traffic. The nearest transit stop is in the heart of the main campus.

13. On-site pedestrian and bicycle circulation;

    On site pedestrian and bicycle circulation is limited to mostly road sharing with the automobile. There are not any dedicated bicycle lanes near the site and the proposed sidewalk between the improved parking area and the ELC will be the only sidewalk in the area.

14. Outdoor common areas proposed as open space;

    Nearly all of the ELC restoration project is an open space common area, see plans.

15. Total impervious surface created (including buildings and hard ground surfaces).

    The total new impervious area is 16,040 SF (14,900SF of which is the improved parking and sidewalk area). The new impervious area within the NROD boundary is 1140 SF, with 3986 SF of impervious area being removed within the NROD boundary, consisting of the old fish hatchery, the concessions building, and the storage and paved area just south of the old Smucker building.

16. The proposed location, dimensions and materials of fences and walls.

    There is a low dry-stacked stone wall along the southern most walking path used for bank stabilization, see drawing L2.01.

B. A landscaping plan, drawn to scale, showing the location and types of existing trees (six inches or greater in caliper measured four feet above ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas, the varieties, sizes and spacings of trees and plant materials to be planted on the site, other pertinent landscape features, and irrigation systems required to maintain plant materials.

   For existing trees to be preserved and trees to be removed see drawing L101. For proposed landscape plantings see L3.01 with planting schedule on L3.02 and the irrigation zoning on sheet L4.01.

C. Architectural drawings or sketches, drawn to scale and showing floor plans, elevations accurately reflected to grade, and exterior materials of all proposed structures and other improvements as they will appear on completion of construction.

   For the renovation of the existing pavilion structure and the proposed ELC entry canopy see drawing A1.01.

D. A materials board, no larger size than eleven inches by seventeen inches clearly depicting all building materials with specifications as to type, color and texture of exterior materials of proposed structures. An electronic version may be accepted as an alternative if approved by the community development director.

   The entry canopy is the only proposed new structure, which will be composed entirely of coated dark brown steel. See submitted sample.

E. An erosion/sedimentation control plan, in accordance with the requirements of Chapter 17.47 and the Public Works Erosion and Sediment Control Standards, and a drainage plan developed in accordance with city drainage master plan requirements, Chapter 13.12 and the Public Works Stormwater and Grading Design Standards. The drainage plan shall identify the location of drainage patterns and drainage courses on and within one hundred feet of the boundaries of the site. Where development is proposed within an identified hazard area, these plans shall reflect concerns identified in the hydrological/geological/geotechnical development impact statement.

An erosion control plan and details have been provided, see drawings EC1.20 and EC1.30. See also the included Stormwater Management Report.

F. The legal description of the site.

Legal description is Map 3-2E-09C tax lot 800, which is included on sheet LU0.01.

G. An exterior lighting plan, drawn to scale, showing type, height, and area of illumination.

See drawing L5.01

H. Archeological Monitoring Recommendation. For all projects that will involve ground disturbance, the applicant shall provide:

1. A letter or email from the Oregon State Historic Preservation Office Archaeological Division indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the Oregon State Historic Preservation Office and that the Oregon State Historic Preservation Office had not commented within forty-five days of notification by the applicant; and

   See the attached Cultural Resource Survey that addresses the Oregon State Historic Preservation Office Archaeological Division.

2. A letter or email from the applicable tribal cultural resource representative of the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the applicable tribal cultural resource representative and that the applicable tribal cultural resource representative had not commented within forty-five days of notification by the applicant.

   The associated tribes where notified as part of the Army Corps of Engineers application and no comments were received. The Corps permit application was submitted 10.6.2015 and issued on 01.12.2016.

If, after forty-five days notice from the applicant, the Oregon State Historic Preservation Office or the applicable tribal cultural resource representative fails to provide comment, the city will not require the letter or email as part of the completeness review. For the purpose of this section, ground disturbance is defined as the movement of native soils.

I. Such special studies or reports as the community development director may require to obtain information to ensure that the proposed development does not adversely affect the surrounding community or identified natural resource areas or create hazardous conditions for persons or improvements on the site. The community development director shall require an applicant to submit one or more development impact statements, as described in Section

16.12.050, upon determination that (1) there is a reasonable likelihood that traffic safety or capacity improvements may be required; (2) the proposal could have significant adverse impacts on identified natural resource areas, including areas designated as being within the natural resources overlay district; or (3) the proposal would be located on or could have significant adverse impacts on natural hazard areas, including the geologic hazard and flood plain overlay districts. The community development director shall determine which types of development impact statements are necessary and provide written reasons for requiring the statement(s). The development impact statements shall include the information described in Sections 16.12.070, 16.12.080, and 16.12.120 [and this Section] 17.62.040.

J. The community development director may waive the submission of information for specific requirements of this section or may require information in addition to that required by a specific provision of this section, as follows:

1. The community development director may waive the submission of information for a specific requirement upon determination either that specific information is not necessary to evaluate the application properly, or that a specific approval standard is not applicable to the application. If submission of information is waived, the community development director shall, in the decision, identify the waived requirements, explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority. If the matter is forwarded to the planning commission for initial review, the information required by this paragraph shall be included in the staff report;

2. The community development director may require information in addition to that required by a specific provision of this section upon determination that the information is needed to evaluate the application properly and that the need can be justified on the basis of a special or unforeseen circumstance. If additional information is required, the community development director shall, in the decision, explain the reasons for requiring the additional information.

K. If the applicant has not already done so as some other part of the land use review process, the applicant shall submit an erosion control plan that complies with the applicable requirements of Chapter 17.74 of this code.

This has been included in this application.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.050 - Standards.

A. All development shall comply with the following standards:

1. Landscaping, A minimum of fifteen percent of the lot shall be landscaped. Existing native vegetation shall be retained to the maximum extent practicable. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.

The site landscape exceeds the 15% minimum and as much of the existing vegetation as possible is being retained. All nuisance vegetation is scheduled to be removed prior to new planting.

a. Except as allowed elsewhere in the zoning and land division chapters of this Code, all areas to be credited towards landscaping must be installed with growing plant materials. A reduction of up to twenty-five percent of the overall required landscaping may be approved by the community development director if the same or greater amount of pervious material is incorporated in the non-parking lot portion of the site plan (pervious material within parking lots are regulated in OCMC 17.52.070).

NA

b. Pursuant to Chapter 17.49, landscaping requirements within the Natural Resource Overlay District, other than landscaping required for parking lots, may be met by preserving, restoring and permanently protecting native vegetation and habitat on development sites.

This is precisely the case with this proposal, see section 17.49 narrative.

c. The landscaping plan shall be prepared by a registered landscape architect and include a mix of vertical (trees and shrubs) and horizontal elements (grass, groundcover, etc.) that within three years will cover one hundred percent of the Landscape area. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. The community development department shall maintain a list of trees, shrubs and vegetation acceptable for landscaping. ***The landscape design and plan is being prepared by Lango Hanson Landscape Architects PC. Native vertical trees, ground cover and water plants are all included in the design, see planting plan and plant schedule. No mulch or bark chips will be used beyond these regulations.***

d. For properties within the Downtown Design District, or for major remodeling in all zones subject to this chapter, landscaping shall be required to the extent practicable up to the ten percent requirement. ***This is achieved.***

e. Landscaping shall be visible from public thoroughfares to the extent practicable.

The ELC and associated landscape is visible and bordered by Beavercreek Road, Clairmont Drive, North Douglas Loop and accessed from Inskeep Drive.

f. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum, unless otherwise permitted by the dimensional standards of the underlying zone district.

Not necessary.

2. Vehicular Access and Connectivity.

a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.

The proposed parking will be behind the existing ELC Pavilion, Observatory and Lakeside Hall across Inskeep Drive.

b. Ingress and egress locations on thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.

The ingress and egress to the ELC site are existing and not being changed. Emergency service access is provided.

c. Alleys or vehicular access easements shall be provided in the following Districts: R-2, MUC-1, MUC-2, MUD and NC zones unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker. The corners of alley intersections shall have a radius of not less than ten feet. ***NA***

d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director. ***NA***

e. Where no alley access is available, the development shall be configured to allow only one driveway per frontage. On corner lots, the driveway(s) shall be located off of the side street

(unless the side street is an arterial) and away from the street intersection. Shared driveways shall be required as needed to accomplish the requirements of this section. The location and design of pedestrian access from the sidewalk shall be emphasized so as to be clearly visible and distinguishable from the vehicular access to the site. Special landscaping, paving, lighting, and architectural treatments may be required to accomplish this requirement.

Access and driveways to the ELC are existing as per the Clackamas Community College Master Plan. Pedestrian access from the parking area is being improved and clearly marked with a new cross walk. A new sidewalk between the parking and Inskeep Drive is also being added. The entrance to the ELC is being improved with a new monument sign, wayfinding map and entrance canopy. The canopy and entrance area of the ELC will have improved lighting.

f. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites. ***All driveways are existing.***

g. Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Such easements shall be required in addition to applicable street dedications as required in Chapter 12.04. ***Refer to CCC Master Plan***

h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed impracticable by the city. NA

i. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements. ***NA***

j. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future. ***NA, refer to CCC Master Plan***

k. Parcels larger than three acres shall provide streets as required in Chapter 12.04. The streets shall connect with existing or planned streets adjacent to the site. ***NA, refer to CCC Master Plan***

l. Parking garage entries shall not dominate the streetscape. They shall be designed and situated to be ancillary to the use and architecture of the ground floor. This standard applies to both public garages and any individual private garages, whether they front on a street or private interior access road. ***NA***

m. Buildings containing above-grade structured parking shall screen such parking areas with landscaping or landscaped berms, or incorporate contextual architectural elements that complement adjacent buildings or buildings in the area. Upper level parking garages shall use articulation or fenestration treatments that break up the massing of the garage and/or add visual interest. ***NA***

3. Building structures shall be complimentary to the surrounding area. All exterior surfaces shall present a finished appearance. All sides of the building shall include materials and design characteristics consistent with those on the front. Use of inferior or lesser quality materials for side or rear facades or decking shall be prohibited.

The ELC structures are existing. Some renovation is proposed to the existing Pavilion building, which includes upgrading the restrooms in order to make them ADA accessible, and the installation of new wood and glass accordion doors to allow the Pavilion to be used as a semi-outdoor classroom. All renovation will be kept in the spirit of the original structure with materials and colors matched as closely as possible. The new entry canopy is proposed to be made of steel in order to be as light and visually minimal as possible, not detracting from the original structures.

a. Alterations, additions and new construction located within the McLoughlin Conservation District, Canemah National Register District, and the Downtown Design District and when abutting a designated Historic Landmark shall utilize materials and a design that incorporates the architecture of the subject building as well as the surrounding district or abutting Historic Landmark. Historic materials such as doors, windows and siding shall be retained or replaced with in kind materials unless the community development director determines that the materials cannot be retained and the new design and materials are compatible with the subject building, and District or Landmark. The community development director may utilize the Historic Review Board's Guidelines for New Constriction (2006) to develop findings to show compliance with this section. NA, this project does not fall within any of these areas.

b. In historic areas and where development could have a significant visual impact, the review authority may request the advisory opinions of appropriate experts designated by the community development director from the design fields of architecture, landscaping and urban planning. The applicant shall pay the costs associated with obtaining such independent professional advice; provided, however, that the review authority shall seek to minimize those costs to the extent practicable. NA, this is not a historic area.

4. Grading shall be in accordance with the requirements of Chapter 15.48 and the public works stormwater and grading design standards.

   An Engineered Grading plan will be developed in compliance with the Geotechnical Engineering Report recommendations and Public Works Stormwater and Grading Design Standards. See the site grading and drainage design plan that is included with this response package.

5. Development subject to the requirements of the Geologic Hazard overlay district shall comply with the requirements of that district. ***NA, not in the overlay district.***

6. Drainage shall be provided in accordance with city's drainage master plan, Chapter 13.12, and the public works stormwater and grading design standards.

   The proposed drainage design and stormwater management will be designed in compliance with the Public Works Stormwater and Grading Design Standards and the approved Clackamas Community College Master Plan. See the site grading and drainage design plan along with the draft stormwater report that is included with this response package.

7. Parking, including carpool, vanpool and bicycle parking, shall comply with city off-street parking standards, Chapter 17.52. ***See Chapter 17.52 narrative***.

8. Sidewalks and curbs shall be provided in accordance with the city's transportation master plan and street design standards. Upon application, the community development director may waive this requirement in whole or in part in those locations where there is no probable need, or comparable alternative location provisions for pedestrians are made.

   A new sidewalk and curb is proposed along Inskeep Drive and the improved parking area which will be designed to meet the standards, see landscape drawings.

9. A well-marked, continuous and protected on-site pedestrian circulation system meeting the following standards shall be provided:

   a. Pathways between all building entrances and the street are required. Pathways between the street and buildings fronting on the street shall be direct. Exceptions may be allowed by the director where steep slopes or protected natural resources prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.

      The pathway between the parking, crossing Inskeep Drive and the ELC is direct, and clearly marked.

b. The pedestrian circulation system shall connect all main entrances on the site. For buildings fronting on the street, the sidewalk may be used to meet this standard. Pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.

The pedestrian circulation system connects the existing campus facilities buildings with the proposed parking and improved entry to the existing ELC facility and natural resource area. New circulation paths throughout the restored ELC provide access to all the existing, new and improved amenities.

c. Elevated external stairways or walkways that provide pedestrian access to multiple dwelling units located above the ground floor of any building are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard. ***NA***

d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site. ***The new circulation system connects the ELC with the campus facility buildings across Inskeep Drive.***

e. The pedestrian circulation system shall connect the principal building entrance to those of buildings on adjacent commercial and residential sites where practicable. Walkway linkages to adjacent developments shall not be required within industrial developments or to industrial developments or to vacant industrially-zoned land. ***See CCC Master Plan***

f. On-site pedestrian walkways shall be hard surfaced, well drained and at least five feet wide. Surface material shall contrast visually to adjoining surfaces. When bordering parking spaces other than spaces for parallel parking, pedestrian walkways shall be a minimum of seven feet in width unless curb stops are provided. When the pedestrian circulation system is parallel and adjacent to an auto travel lane, the walkway shall be raised or separated from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps for each direction of travel. Pedestrian walkways that cross drive isles or other vehicular circulation areas shall utilize a change in textual material or height to alert the driver of the pedestrian crossing area.

All pedestrian walkways near the parking area are concrete and a minimum of 5' wide, with direct connections to the buildings. The parking stalls adjacent to the pedestrian walkways have concrete wheel stops. All pedestrian walkways are raised and separated by a 6" curb, and when space allows, also a 5' wide planting strip. Curb ramps are provided at all intersections. Pedestrian walkways that cross vehicular circulation areas are striped for crosswalks. On the ELC site, accessible compacted gravel pedestrian walkways connect the parking area to the main site features such as the outdoor classroom, the amphitheater, and the weir overlook and two water access points. Accessible gravel is used to provide permeability for stormwater and to limit environmental habitat impact in this sensitive habitat restoration area.

10. There shall be provided adequate means to ensure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency. ***CCC has maintenance staff.***

11. Site planning shall conform to the requirements of OCMC Chapter 17.41 Tree Protection. ***See narrative of section 17.41***

12. Development shall be planned, designed, constructed and maintained to protect water resources and habitat conservation areas in accordance with the requirements of the city's Natural

Resources Overlay District, Chapter 17.49, as applicable. ***See Chapter 17.49 narrative included in this application.***

13. All development shall maintain continuous compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.

    Permit applications for this project have been submitted to the Army Corps of Engineers, Department of State Lands and Department of Environmental Quality.

14. Adequate public water and sanitary sewer facilities sufficient to serve the proposed or permitted level of development shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. Service providers shall be presumed correct in the evidence, which they submit. All facilities shall be designated to city standards as set out in the city's facility master plans and public works design standards. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The city may require over sizing of facilities where necessary to meet standards in the city's facility master plan or to allow for the orderly and efficient provision of public facilities and services. Where over sizing is required, the developer may request reimbursement from the city for over sizing based on the city's reimbursement policy and fund availability, or provide for recovery of costs from intervening properties as they develop.

    The Clackamas Community College campus is supplied with city water and then distributes it throughout the campus privately. The campus maintains its own sanitary system. No new or increased demand for water and sanitary is required for this project.

15. Adequate right-of-way and improvements to streets, pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the city's transportation master plan and design standards and this title. Consideration shall be given to the need for street widening and other improvements in the area of the proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. Compliance with [Chapter] 12.04, Streets, Sidewalks and Public Places shall be sufficient to achieve right-of-way and improvement adequacy. ***The Oregon City Loop Trail has a brief 40' tangential relationship with the north end of the improved parking area before running west along the facilities building and storage yard. The integration of the trail into the campus experience along with campus standards would be best addressed in a Master Plan amendment. No transportation analysis was requested for this project during the pre-application. See Master Plan.***

16. If a transit agency, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an agency adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the transportation system plan. ***None requested during pre-application.***

17. All utility lines shall be placed underground. ***No new utility lines are required for this project.***

18. Access and facilities for physically handicapped people shall be incorporated into the site and building design consistent with applicable federal and state requirements, with particular attention to providing continuous, uninterrupted access routes.

    The new parking area will have designated ADA parking spaces, the Pavilion bathrooms are being upgraded to meet ADA standards and the primary circulation system within the ELC will provide access to all the amenities.

19. For a residential development, site layout shall achieve at least eighty percent of the maximum density of the base zone for the net developable area. Net developable area excludes all areas for required right-of-way dedication, land protected from development through Natural Resource or Geologic Hazards protection, and required open space or park dedication. ***NA, this is not a residential development.***

20. Screening of Mechanical Equipment:

    a. Rooftop mechanical equipment, including HVAC equipment and utility equipment that serves the structure, shall be screened. Screening shall be accomplished through the use of parapet walls or a sight-obscuring enclosure around the equipment constructed of one of the primary materials used on the primary facades of the structure, and that is an integral part of the building's architectural design. The parapet or screen shall completely surround the rooftop mechanical equipment to an elevation equal to or greater than the highest portion of the rooftop mechanical equipment being screened. In the event such parapet wall does not fully screen all rooftop equipment, then the rooftop equipment shall be enclosed by a screen constructed of one of the primary materials used on the primary facade of the building so as to achieve complete screening.

       No new rooftop mechanical equipment will be added in this project.

    b. Wall-mounted mechanical equipment shall not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment, including air conditioning or HVAC equipment and groups of multiple utility meters, that extends six inches or more from the outer building wall shall be screened from view from streets; from residential, public, and institutional properties; and from public areas of the site or adjacent sites through the use of (a) sight-obscuring enclosures constructed of one of the primary materials used on the primary facade of the structure, (b) sight-obscuring fences, or (c) trees or shrubs that block at least eighty percent of the equipment from view or (d) painting the units to match the building. Wall-mounted mechanical equipment that extends six inches or less from the outer building wall shall be designed to blend in with the color and architectural design of the subject building. ***No new wall mounted mechanical equipment will be added as part of this project.***

    c. Ground-mounted above-grade mechanical equipment shall be screened by ornamental fences, screening enclosures, trees, or shrubs that block at least eighty percent of the view. Placement and type of screening shall be determined by the community development director. ***No new ground mounted mechanical equipment will be added as part of this project.***

    d. All mechanical equipment shall comply with the standards in this section. If mechanical equipment is installed outside of the site plan and design review process, planning staff shall review the plans to determine if additional screening is required. If the proposed screening meets this section, no additional planning review is required. ***No new mechanical equipment is proposed as part of this project.***

    e. This section shall not apply to the installation of solar energy panels, photovoltaic equipment or wind power generating equipment. ***None of these items are proposed as part of this project.***

21. Building Materials.

a. Preferred building materials. Building exteriors shall be constructed from high quality, durable materials. Preferred exterior building materials that reflect the city's desired traditional character are as follows:

i. Brick. ***Not proposed on this project.***

ii. Basalt stone or basalt veneer. ***Not proposed on this project.***

iii. Narrow horizontal wood or composite siding (generally five inches wide or less); wider siding will be considered where there is a historic precedent.

The existing Pavilion has horizontal ship-lap cedar siding, where patching is required the existing siding will be matched in dimension and profile.

iv. Board and baton siding. ***Not proposed on this project.***

v. Other materials subject to approval by the community development director.

The proposed entry canopy will be constructed from steel with an applied blackened patina finish. See material sample.

vi. Plywood with battens or fiber/composite panels with concealed fasteners and contagious aluminum sections at each joint that are either horizontally or vertically aligned. ***Not proposed on this project.***

vii. Stucco shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods. ***Not proposed on this project.***

b. Prohibited materials. The following materials shall be prohibited in visible locations unless an exception is granted by the community development director based on the integration of the material into the overall design of the structure.

i. Vinyl or plywood siding (including T-111 or similar plywood). ***Not proposed on this project.***

ii. Glass block or highly tinted, reflected, translucent or mirrored glass (except stained glass) as more than ten percent of the building facade. ***Not proposed on this project.***

iii. Corrugated fiberglass. ***Not proposed on this project.***

iv. Chain link fencing (except for temporary purposes such as a construction site or as a gate for a refuse enclosure). ***Not proposed on this project.***

[v.] Crushed colored rock/crushed tumbled glass. ***Not proposed on this project.***

[vi.] Non-corrugated and highly reflective sheet metal. ***Not proposed on this project.***

c. Special material standards: The following materials are allowed if they comply with the requirements found below:

1. Concrete block. When used for the front facade of any building, concrete blocks shall be split, rock- or ground-faced and shall not be the prominent material of the elevation. Plain concrete block or plain concrete may be used as foundation material if the foundation material is not revealed more than three feet above the finished grade level adjacent to the foundation wall. ***Not proposed on this project.***

2. Metal siding. Metal siding shall have visible corner moldings and trim and incorporate masonry or other similar durable/permanent material near the ground level (first two feet above ground level). ***Not proposed on this project.***

3. Exterior Insulation and Finish System (EIFS) and similar toweled finishes shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods. ***Not proposed on this project.***

4. Building surfaces shall be maintained in a clean condition and painted surfaces shall be maintained to prevent or repair peeling, blistered or cracking paint. ***The pavilion is proposed to be repainted, the college has staff facilities that work to maintain their building stock.***

22. Conditions of Approval. The review authority may impose such conditions as it deems necessary to ensure compliance with these standards and other applicable review criteria, including standards set out in city overlay districts, the city's master plans, and city public works design standards. Such conditions shall apply as described in Sections 17.50.310, 17.50.320 and 17.50.330. The review authority may require a property owner to sign a waiver of remonstrance against the formation of and participation in a local improvement district where it deems such a waiver necessary to provide needed improvements reasonably related to the impacts created by the proposed development. To ensure compliance with this chapter, the review authority may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the city attorney. ***Sections 17.50.310, 17.50.320 and 17.50.330 do not appear to be in the code any longer.***

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010; Ord. No. 13-1003, § 1(Exh. 1), 7-17-2013)

17.62.055 - Institutional and commercial building standards.

A. Purpose. The primary objective of the regulations contained in this section is to provide a range of design choices that promote creative, functional, and cohesive development that is compatible with surrounding areas. Buildings approved through this process are intended to serve multiple tenants over the life of the building, and are not intended for a one-time occupant. The standards encourage people to spend time in the area, which also provides safety though informal surveillance. Finally, this section is intended to promote the design of an urban environment that is built to human scale by creating buildings and streets that are attractive to pedestrians, create a sense of enclosure, provide activity and interest at the intersection of the public and private spaces, while also accommodating vehicular movement.

The purpose of the ELC project is to restore and rehabilitate the water and natural habitat areas associated with the Environmental Learning Center and to also do the same for the thirty plus year old Pavilion building, breathing new life and purpose into an existing resource while leveraging the history and teaching opportunities for both the college and the greater community.

B. Applicability. In addition to Section 17.62.050 requirements, institutional and commercial buildings shall comply with design standards contained in this section. ***See also Campus Master Plan***

C. Relationship between zoning district design standards and requirements of this section.

1. Building design shall contribute to the uniqueness of the underlying zoning district by applying appropriate materials, elements, features, color range and activity areas tailored specifically to the site and its context.

The ELC is a unique site and facility providing a natural resource area and learning environment at the Newell Creek headwaters and within the Clackamas Community College. The design features and activity areas within the restored ELC are tailored to habitat restoration and creating age appropriate learning opportunities from early childhood through college. The design will provide multiple outdoor teaching and lab opportunities for curriculum offer by the college.

2. A standardized prototype or franchise design shall be modified if necessary to meet the provisions of this section. ***NA***

3. In the case of a multiple building development, each individual building shall include predominant characteristics, architectural vocabulary and massing shared by all buildings in the development so that the development forms a cohesive place within the underlying zoning district or community.

   The (2) thirty plus year old buildings that make up the ELC are of a similar unified design, heavy timber pole structures with ship-lap siding. The design and overall character of these structure will remain. The new entry canopy is designed to be as minimal as possible and not be obtrusive to the existing Pavilion, in fact, not even touch the structure, only provide cover as one enters the site and to keep the ADA ramp and access area of the improved restrooms dry.

4. With the exception of standards for building orientation and building front setbacks, in the event of a conflict between a design standard in this section and a standard or requirement contained in the underlying zoning district, the standard in the zoning district shall prevail. ***NA***

5. On sites with one hundred feet or more of frontage at least sixty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line, unless a greater setback is accepted under the provisions of Section 17.62.055D. For sites with less than one hundred feet of street frontage, at least fifty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line unless a greater setback is accepted under the provisions of Section 17.62.055D. ***NA, see Campus Master Plan***

D. Relationship of Buildings to Streets and Parking.

1. Buildings shall be placed no farther than five feet from the front property line. A larger front yard setback may be approved through site plan and design review if the setback area incorporates at least one element from the following list for every five feet of increased setback requested:

   a. Tables, benches or other approved seating area.

   b. Cobbled, patterned or paved stone or enhanced concrete.

   c. Pedestrian scale lighting.

   d. Sculpture/public art.

   e. Fountains/Water feature.

   f. At least twenty square feet of landscaping or planter boxes for each tenant facade fronting on the activity area.

   g. Outdoor café.

   h. Enhanced landscaping or additional landscaping.

   i. Other elements, as approved by the community development director,that can meet the intent of this section.

      Many of these features are included in the ELC, including pedestrian scaled lighting, sculpture, water feature, and landscaping, however the Campus Plan seems to be more applicable.

2. The front most architecturally significant facade shall be oriented toward the street and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined and recessed or framed by a sheltering element such as an awning, arcade or portico in order to provide shelter from the summer sun and winter weather.

   The proposed entry canopy faces the street with a new sidewalk, clearly marks the entrance to the ELC and provides shelter from the elements.

3. Entryways. The primary entranceway for each commercial or retail establishment shall face the major street. The entrance may be recessed behind the property line a maximum of five feet unless a larger setback is approved pursuant to Section 17.62.055.D.1 and shall be accessed

from a public sidewalk. Primary building entrances shall be clearly defined, highly visible and recessed or framed by a sheltering element including at least four of the following elements, listed below. ***NA, this is neither a commercial nor a retail establishment.***

a. Canopies or porticos;

b. Overhangs;

c. Recesses/projections;

d. Arcades;

e. Raised corniced parapets over the door;

f. Peaked roof forms;

g. Arches;

h. Outdoor patios;

i. Display windows;

j. Architectural details such as tile work and moldings which are integrated into the building structure and design;

k. Integral planters or wing walls that incorporate landscaped areas and/or places for sitting.

l. Planter boxes and street furniture placed in the right-of-way shall be approved for use according to materials, scale and type.

4. Where additional stores will be located in the large retail establishment, each such store shall have at least one exterior customer entrance, which shall conform to the same requirements. (Ord. 01-1002 §2, 2001) ***NA***

5. Trellises, canopies and fabric awnings may project up to five feet into front setbacks and public rights-of-way, provided that the base is not less than eight feet at the lowest point and no higher than ten feet above the sidewalk. Awnings shall be no longer than a single storefront. ***NA***

E. Corner Lots. ***NA***

For buildings located at the corner of intersections, the primary entrance of the building shall be located at the corner of the building or within twenty-five feet of the corner of the building. Additionally, one of the following treatments shall be required:

1. Incorporate prominent architectural elements, such as increased building height or massing, cupola, turrets, or pitched roof, at the corner of the building or within twenty-five feet of the corner of the building.

2. Chamfer the corner of the building (i.e. cut the corner at a forty-five-degree angle and a minimum of ten feet from the corner) and incorporate extended weather protection (arcade or awning), special paving materials, street furnishings, or plantings in the chamfered area.

F. Commercial First Floor Frontage. ***NA***

In order to ensure that the ground floor of structures have adequate height to function efficiently for retail uses, the first floor height to finished ceiling of new infill buildings in the mixed use and neighborhood commercial districts shall be no lower than fourteen feet floor to floor. Where appropriate, the exterior facade at the ceiling level of new structures shall include banding, a change of materials or relief which responds to the cornice lines and window location of existing buildings that abut new structures.

G. Variation in Massing.

1. A single, large, dominant building mass shall be avoided in new buildings and, to the extent reasonably feasible, in development projects involving changes to the mass of existing buildings. ***The campus building is existing, only a new entry canopy is proposed.***

2. Horizontal masses shall not exceed a height: width ratio of one-to-three without substantial variation in massing that includes a change in height and projecting or recessed elements.

The campus building is existing, only a new entry canopy is proposed.

3. Changes in mass shall be related to entrances, the integral structure and/or the organization of interior spaces and activities and not merely for cosmetic effect.

The campus building is existing, only a new entry canopy is proposed.

H. Minimum Wall Articulation.

1. Facades shall add architectural interest and variety and avoid the effect of a single, long or massive wall with no relation to human size. No wall that faces a street or connecting walkway shall have a blank, uninterrupted length exceeding thirty feet without including, but not be limited to, at least two of the following:

   i. Change in plane,

   ii. Change in texture or masonry pattern or color,

   iii. Windows, treillage with landscaping appropriate for establishment on a trellis.

   iv. An equivalent element that subdivides the wall into human scale proportions.

   The campus building is existing, only a new entry canopy is proposed.

2. Facades greater than one hundred feet in length, measured horizontally, shall incorporate wall plane projections or recesses having a depth of at least three percent of the length of the facade and extending at least twenty percent of the length of the facade. No uninterrupted length of any facade shall exceed one hundred horizontal feet. ***NA***

3. Ground floor facades that face public streets shall have arcades, display windows, entry areas, awnings or other such features along no less than sixty percent of their horizontal length. ***NA***

4. Building facades must include a repeating pattern that includes any one or more of the following elements:

   a. Color change;

   b. Texture change;

   c. Material module change.

   The campus building is existing, only a new entry canopy is proposed.

5. Facades shall have an expression of architectural or structural bays through a change in plane no less than twelve inches in width, such as an offset, reveal or projecting rib.

   The campus building is existing, only a new entry canopy is proposed.

6. Facades shall have at least one of elements subsections H.4. or H.5. of this section repeat horizontally. All elements shall repeat at intervals of no more than thirty feet, either horizontally or vertically. ***The campus building is existing, only a new entry canopy is proposed.***

I. Facade Transparency.

1. Transparent windows or doors facing the street are required. The main front elevation shall provide at least sixty percent windows or transparency at the pedestrian level. Facades on corner lots shall provide at least sixty percent windows or transparency on all corner-side facades. All other side elevations shall provide at least thirty percent transparency. The transparency is measured in lineal fashion. For example, a one hundred-foot long building elevation shall have at least sixty feet (sixty percent of one hundred feet) of transparency in length. Reflective, glazed, mirrored or tinted glass is limited to ten percent of the lineal footage of windows on the street facing facade. Highly reflective or glare-producing glass with a reflective factor of one-quarter or greater is prohibited on all building facades. Any glazing materials shall have a maximum fifteen

percent outside visual light reflectivity value. No exception shall be made for reflective glass styles that appear transparent when internally illuminated.

The campus building is existing, the new entry canopy addresses the private access road. The proposed wood and glass accordion doors will provide views toward the water feature and the improved meadow. The ability to open the two walls allows for a near open air classroom increasing the usability and connection to the outdoors as a learning environment.

2. Side or rear walls that face walkways may include false windows and door openings only when actual doors and windows are not feasible because of the nature of the use of the interior use of the building. False windows located within twenty feet of a right-of-way shall be utilized as display windows with a minimum display depth of thirty-six inches. ***NA***

J. Roof Treatments.

1. All facades shall have a recognizable "top" consisting of, but not limited to:

   a. Cornice treatments, other than just colored "stripes" or "bands," with integrally textured materials such as stone or other masonry or differently colored materials; or

   b. Sloping roof with overhangs and brackets; or ***The existing building has a sloped roof with substantial overhangs.***

   c. Stepped parapets;

   d. Special architectural features, such as bay windows, decorative roofs and entry features may project up to three feet into street rights-of-way, provided that they are not less than nine feet above the sidewalk.

2. Mixed use buildings: For flat roofs or facades with a horizontal eave, fascia, or parapet, the minimum vertical dimension of roofline modulation is the greater of two feet or 0.1 multiplied by the wall height (finish grade to top of wall). The maximum length of any continuous roofline shall be seventy-five feet. ***NA***

3. Other roof forms consistent with the design standards herein may satisfy this standard if the individual segments of the roof with no change in slope or discontinuity are less than forty feet in width (measured horizontally). ***NA***

K. Drive-through facilities shall: ***NA***

1. Be located at the side or rear of the building.

2. Be designed to maximize queue storage on site.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.056 - Additional standards for large retail establishments.

A. This section is intended to ensure that large retail building development is compatible with its surrounding area.

B. Large retail establishment shall mean a retail building occupying more than ten thousand gross square feet of floor area.

C. In addition to Sections 17.62.050 and 17.62.055 requirements, large retail buildings shall comply with design standards contained in this section.

D. Development Standards.

1. Roofs. Roofs shall include at least two of the following features:

a. Parapets concealing flat roofs and rooftop equipment from public view. The average height of such parapets shall not exceed fifteen percent of the height of the supporting wall and such parapets shall not at any point exceed one-third of the height of the supporting wall. Such parapets shall feature three-dimensional cornice treatment;

b. Overhanging eaves, extending no less than three feet past the supporting walls;

c. Sloping roofs that do not exceed the average height of the supporting walls, with an average slope greater than or equal to one foot of vertical rise for every three feet of horizontal run and less than or equal to one foot of vertical rise for every one foot of horizontal run;

d. Three or more roof slope planes.

2. Site Design and Relationship to Surrounding Community. Retail buildings occupying more than twenty-five thousand gross square feet of floor area shall contribute to the establishment or enhancement of community and public spaces by providing at least two of the following:

a. Patio/seating area;

b. Pedestrian plaza with benches;

c. Transportation center;

d. Window shopping walkway;

e. Outdoor playground area;

f. Kiosk area, water feature;

g. Clock tower;

h. Or other such deliberately shaped area and/or a focal feature or amenity that, in the judgment of the appropriate decision maker, adequately enhances such community and public spaces. Any such areas shall have direct access to the public sidewalk network and such features shall not be constructed of materials that are inferior to the principle materials of the building and landscape.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.057 - Multi-family standards.

A. Purpose. The standards of this section are intended to promote high-quality multi-family residential development and construction; encourage visual variety and architectural compatibility; and promote an integrated character with Oregon City's existing neighborhoods. Specifically, the standards shall:

1. Promote architectural variety that adds visual interest to the neighborhood.

2. Reduce the apparent bulk and scale of large buildings.

3. Provide for a variety of housing types for a range of households and age groups.

4. Enhance public safety, residential streetscape and the pedestrian environment by diminishing the prominence of garages and parking areas.

5. Improve the compatibility of multi-family residential development with the residential character of surrounding neighborhoods.

6. Promote the use of durable materials that which are appropriate for multi-family residential use and which reduce long-term maintenance costs and depreciation.

B. Applicability. In addition to Section 17.62.050 requirements, all multi-family buildings shall comply with the design standards contained in this section. Cottage Housing Development shall follow OCMC 17.62.58 instead of this section.

C. Setbacks. Multi-family developments shall be placed no farther than twenty feet from the front property line. A deeper front yard setback may be approved through site plan and design review if the setback area incorporates enhanced pedestrian spaces and amenities, including but not limited to, street furniture, public art or other such deliberately shaped area and/or a feature or amenity that, in the judgment of the community development director, integrates well with adjoining areas. Setbacks may also be increased in order to protect wildlife habitat and water resources pursuant to Section 17.49.100F., and trees and tree groves pursuant to and Section 17.41.120A.

D. Entrances. Every building abutting a street shall have a street facing front facade. The facade shall be oriented to the street and include windows, doorways, and a structured transition from public to private areas using built elements such as porch features, arbors, low walls, trellis work and/or similar elements integrated with planting.

E. Percentage of Frontage. On sites with one hundred feet or more of street frontage at least fifty percent of the site frontage width shall be occupied by buildings placed within twenty feet from the property line, unless a greater setback is accepted under the provisions of Section 17.62.057C. For sites with less than one hundred feet of street frontage, at least forty percent of the site frontage width shall be occupied by buildings placed within twenty feet of the property line, unless a greater setback is accepted under the provisions of Section 17.62.056D.

F. Pedestrian Circulation.

1. Pathways between dwelling units entrances and the street are required. Such pathways between the street and buildings fronting on the street shall be in a straight line. Exceptions may be allowed by the director where steep slopes prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.

2. The pedestrian circulation system shall connect all main entrances on the site. For townhouses or other residential units fronting on the street, the sidewalk may be used to meet this standard. For multiple-family developments, pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.

3. Elevated external stairways or walkways, which provide pedestrian access to dwelling units located above the ground floor are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard.

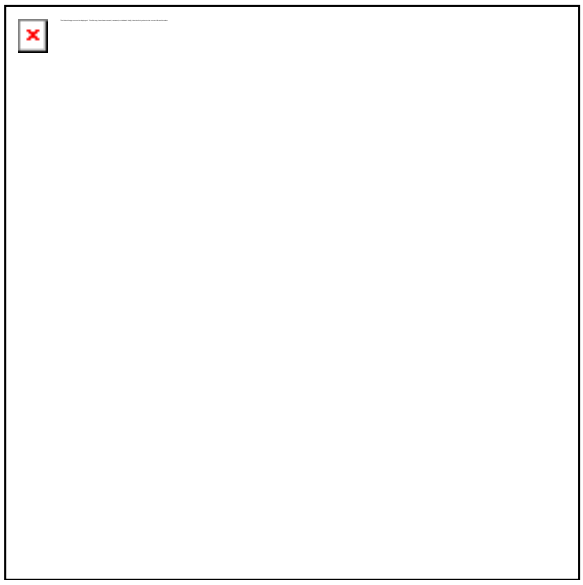
G. Architectural and Material Standards. Building articulation and modulation - multifamily residential buildings and residential portions of mixed-use buildings. An alternative to the standards in subsection G. below may be approved by the community development director if the design is consistent with the intent of the standards and a specific architectural or building use exists that prohibits the full implementation of the standard.

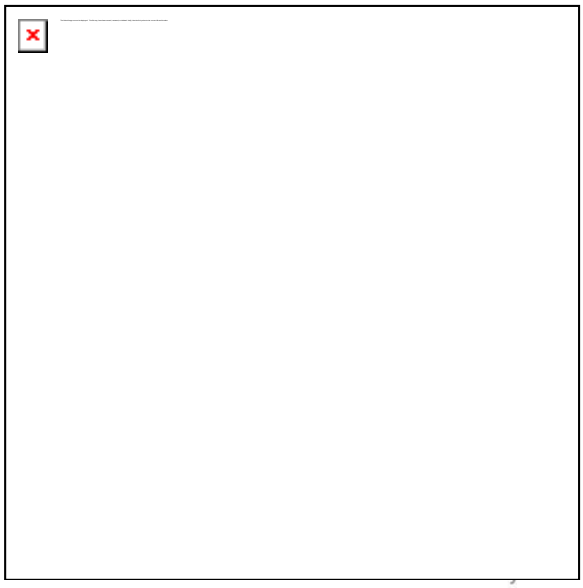
1. Articulation and modulation of buildings is essential in providing the ability for new buildings to be compatible with the surrounding commercial and residential development. All residential buildings and residential portions of mixed-use buildings shall include at least three of the following modulation and/or articulation features at intervals of no more than thirty feet along all facades facing a street, common open space, and common parking areas:

a. Repeating distinctive window patterns at intervals less than the required interval. Vertical building modulation. Minimum depth and width of modulation is thirty-six inches and four feet (respectively) if tied to a change in color or building material and/or roofline modulation. Otherwise, minimum depth of modulation is ten feet and minimum width for each modulation is fifteen feet. Balconies may not be used to meet modulation option unless they are recessed or projected from the facade and integrated with the building's architecture as determined by the community development director, balconies that appear to be "tacked on" to the facade will not qualify for this option.

b. Horizontal modulation (upper level step-backs). The minimum horizontal modulation for buildings higher than two stories shall be five feet. A dormer- set five feet back from the front facade-is an example of an acceptable horizontal modulation.

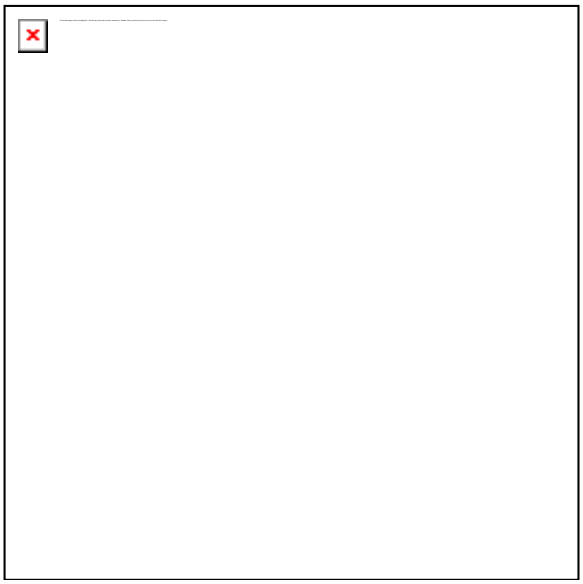
c. Articulation of the building's top, middle, and bottom. This typically includes a distinctive ground floor or lower floor design, consistent articulation of middle floors, and a distinctive roofline.

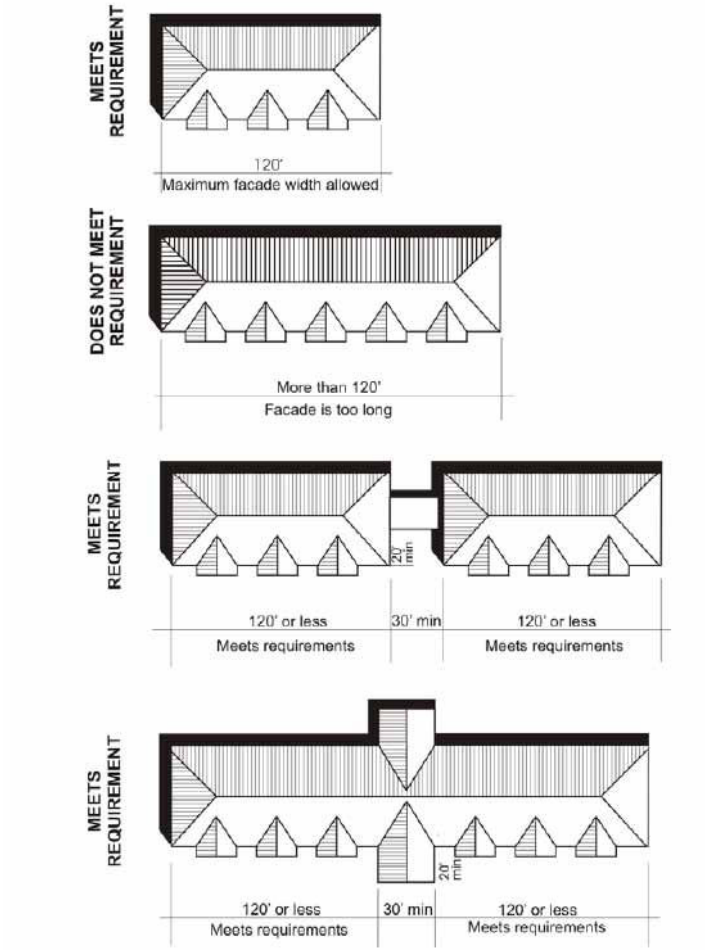




This multifamily building uses a combination of horizontal and vertical modulation, roofline modulation, distinctive window patterns, and clear articulation of the building's top, middle, and bottom to help reduce its perceived architectural scale and add visual interest.

2. Maximum facades width. Buildings visible from the street must use design techniques to break up long continuous building walls, reduce the architectural scale of the building, and add visual interest. Buildings exceeding one hundred twenty feet in width along the street front shall be divided by a thirty-foot wide modulation of the exterior wall, so that the maximum length of a particular facade is one hundred twenty feet. Such modulation must be at least twenty feet or deeper and extend through all floors. Decks and roof overhangs may encroach up to three feet (per side) into the modulation. The director will consider other design methods that are effective at reducing the perceived width of the building. Examples could include a combination of vertical and/or horizontal building modulation with a change in building materials or finishes, a clear change in building articulation and/or fenestration technique.





3. Roofline standards.

   a. Single purpose residential buildings in residential districts must provide a pitched roof with minimum 6:12 roof pitch. The maximum width of any continuous roofline shall be thirty-five feet for single purpose residential buildings. Alternative roof designs will be considered

provided design elements are included to help the building and its roofline fit into the site's context.

b. Mixed use buildings and stand-alone residential in commercial districts shall incorporate a roofline modulation. Specifically: For flat roofs or facades with a horizontal eave, fascia, or parapet, the minimum vertical dimension of roofline modulation is the greater of two feet or 0.1 multiplied by the wall height (finish grade to top of wall). The maximum length of any continuous roofline shall be seventy-five feet.

c. Other roof forms consistent with the design standards herein may satisfy this standard if the individual segments of the roof with no change in slope or discontinuity are less than forty feet in width (measured horizontally).

H. Diversity of building types. Multi-building developments of four or more buildings shall be required to provide different architectural designs to provide interest and variety. This is particularly important where multiple buildings front on the same street. Simple changes in building colors or reversal of basic facade designs are not sufficient to comply with this standard. Consider changes in vertical and/or horizontal articulation, fenestration, building materials, architectural style, and/or roof design.

I. Diversity of unit types. Multifamily buildings with more than twenty-five units are required to provide a diversity of housing types to allow for a range of households and age groups. Unit types are defined as the following:

Studio, one-bedroom, two-bedroom and three-bedroom units or an ADA accessible master bedroom and bathroom (ground floor or elevator access).

1. Developments of twenty-five to fifty units must provide two unit types representing a minimum of ten percent of the total units per unit type.

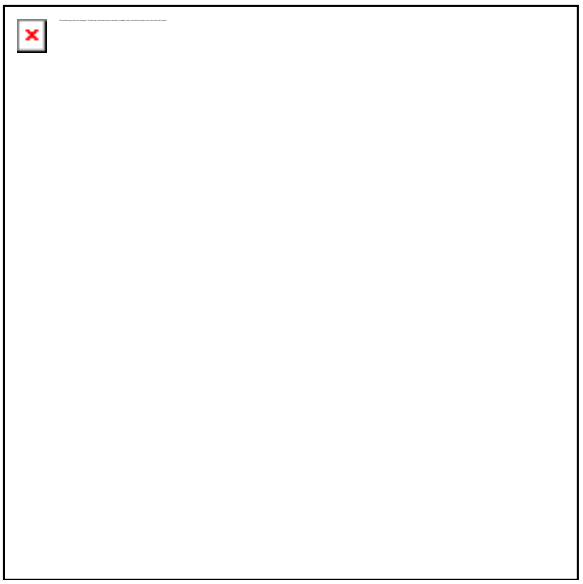
2. Developments of fifty-one to seventy-five units must provide three unit types representing a minimum of ten percent of the total units per unit type.

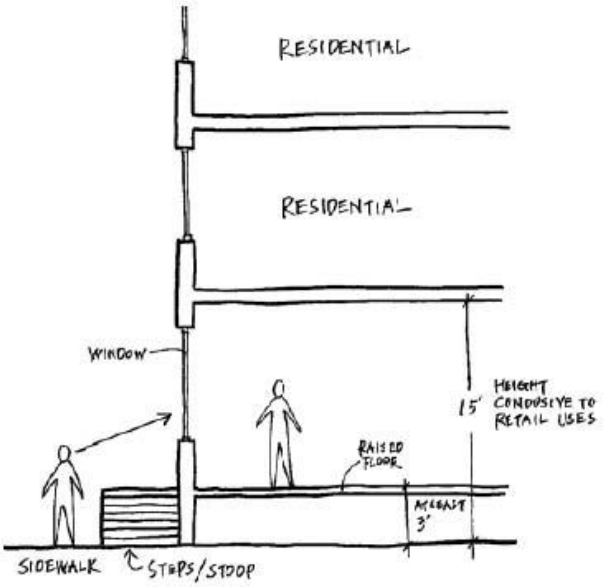
3. Developments of seventy-six units and above must provide four unit types representing a minimum of ten percent of the total units per unit type.

J. Raised Ground Floor.

This is particularly important when dwelling units are within fifteen feet of a sidewalk or common parking area or for buildings in established neighborhoods that have an established pattern with raised dwelling units.

Where ground floor residential uses are permitted on the ground floor in commercial districts, developments shall incorporate a thirteen-foot tall ground floor height to allow future conversion to commercial uses where desirable. Such projects can utilize a false floor thirty-six inches above the ground for residential uses to increase residents' privacy.





K. Building Materials.

All multifamily buildings shall be enhanced with appropriate details. Each of the types of details listed below are worth one point. Multifamily buildings must achieve the equivalent of five points worth of architectural details.

1. Decorative porch design with distinct design and use of materials.
2. Decorative treatment of windows and doors, such as decorative molding/framing details around all ground floor windows and doors, bay windows, decorative glazing, or door designs, and/or unique window designs.
3. Landscaped trellises or other decorative element that incorporates landscaping near the building entry or entries.
4. Decorative light fixtures with a diffuse visible light source, such as a globe or "acorn" that is non-glaring or a decorative shade or mounting for each building entry on the facade.

5. Brick or stonework covering more than fifteen percent of the facade.

6. Decorative building materials that add visual interest, including:

    a. Individualized patterns or continuous wood details.

    b. Decorative moldings, brackets, wave trim or lattice work.

    c. Other materials with decorative or textural qualities as approved by the director. The applicant must submit architectural drawings and material samples for approval.

7. Decorative roofline design, including multiple gables and/or dormers, decorative parapet or other design that adds distinct visual interest.

8. Decorative railings, grill work, or terraced landscape beds integrated along the facade of the building.

9. Other details that meet the intent of the guidelines as approved by the director.

L. Window Design.

1. Transparent windows or doors facing the street are required. To meet this requirement, at least fifteen percent of the facade must be transparent. Transparency is measured at the first floor only.

2. All windows on all elevations shall recess or project individual windows at least two inches from the facade and incorporate window trim at least four inches in width that features color that contrasts with the base building color. Exceptions will be considered by the community development director where buildings employ other distinctive window or facade treatment that adds visual interest to the building.

M. Common Open Space Requirements.

1. Intent. Creating areas of common open space that are easily accessed by residents provides focal points for community recreation and interaction and adds to the overall quality of life for residents. Given the environmental and recreational benefits of common open space, it should be integrated purposefully into the overall design of a development and not merely be residual areas left over after buildings and parking lots are sited.

2. Common Open Space Required. All new multi-family developments in all zones except for the Mixed Use Corridor, Neighborhood Commercial or Mixed Use Downtown Districts, shall set aside a percentage of the net site acreage as common open space for the use and enjoyment of the development's residents. The common open space shall be aggregated into meaningful, quality open spaces. Clustering of buildings is encouraged to minimize small, narrow, unassigned strips in front of and between buildings. Open space areas shall be clearly identified on the development plan. Such designated common open space can be in a natural, undisturbed state, or may be landscaped for more formal courtyards or plazas, or may be developed for active or passive recreation. Phasing shall not be used to circumvent common open space standards.

3. Minimum Amount Required. The minimum amount of common open space (as a percentage of net land area) shall be: Fifteen percent

4. Areas Not Allowed as Part of Common Open Space. The following shall not count toward common open space set-aside requirements:

    a. Private lots, yards, balconies and patios dedicated for use by a specific unit;

    b. Public right-of-way or private streets and drives;

    c. Open parking areas and driveways for dwellings;

    d. Land covered by structures except for ancillary structures associated with the use of the open space such as gazebos and picnic shelters or recreation building.

    e. Designated outdoor storage areas;

f. Land areas between buildings and parking lots or driveways of less than twenty feet;

g. Required perimeter setbacks; and

h. Detention/retention facilities, including drainage swales, except that detention or retention areas and stormwater management structures or facilities may be used to meet up to one hundred percent of the required common open space amount provided such areas or facilities are accessible and useable, as determined by the city, as year-round community amenities by the residents of the development (e.g., picnic areas, passive recreation areas, playgrounds, ponds for fishing and/or boating, etc.)

[5.] Required Greenway Linkages. Where a greenway linkage, natural or water resource area or other public park is dedicated to or acquired by the city, the area may be credited toward one-half the minimum amount of common open space required. The dedicated lands are not to be calculated in the net land area.

[6.] Design Criteria for Open Space. All common open space lands shall meet the following design criteria, as relevant:

[a.] Connectivity required. To the maximum extent practicable, common open space shall be organized to create integrated systems of open space that connect with the following types of lands located within or adjacent to the development:

1. Dedicated public park, greenway, or habitat lands;

2. Dedicated school sites;

3. Other dedicated open spaces;

4. Common open space located adjacent to the development;

5. Portions of the regional trail and open space system;

[7.] Compact and Contiguous. To the maximum extent practicable, common open space land shall be compact and contiguous unless the land is used as a continuation of an existing greenway, trail, or other linear park, or unless specific topographic features require a different configuration. An example of such topographic features would be the provision of open space along a scenic creek.

[8.] Accessible to Residents. Common open space shall be reasonably accessible to all of the residents of the development. The city may require access to be restricted if it would degrade, destroy, or adversely interfere with sensitive environmental or natural areas or with significant historic or cultural resources.

[9.] Recreational Facilities. If an applicant constructs recreational facilities in the common open space as a community amenity, such recreational facilities shall be constructed in accordance with applicable city standards regarding, but not limited to, size, siting, use, materials, and similar matters. The recreational facilities shall be built with long-lasting and sturdy materials. A long-term maintenance schedule may be required to ensure that there is sufficient funding and management set in place for the amenity to be maintained and replaced if needed.

[10.] Design Criteria. Common open spaces, other than those preserved as natural features or areas, should include gardens, courtyards, recreation, or play areas. Required common open space areas over ten thousand square feet of non-natural area shall provide a minimum of five amenities from the list below. Open space of ten thousand feet or less of non-natural area shall provide three amenities.

[a.] Seasonal planting/community gardening areas.

[b.] Large trees.

[c.] Seating.

[d.] Pedestrian-scaled lighting.

[e.] Gazebos or other decorative shelters.

[f.] Play structures for children.

[g.] On-site community recreation amenities.

[h.] Roof gardens or shared patio decks.

[i.] An alternative amenity as approved by the community development director.

[11.] Exceptions to the common open space standard may be granted for the following:

a. For multi-unit developments of up to twenty-five units (or for the first twenty-five units of a larger project) no common open space shall be required when such developments are within one-quarter mile (measured walking distance) to a public park of three acres or more; and there is a direct, improved, permanent, public, Americans with Disabilities Act (ADA) - accessible, lighted, maintained pedestrian trail or sidewalk between the sites. An exception shall be granted only when the nearby park provides an active and fully improved recreation area.

b. For multi-unit developments with required common open space in excess of fifteen thousand square feet, the required open space may be reduced by one-half if access to the public is provided. The qualifying open space area shall be for active use, be maintained by the home owners association and not be within the boundaries of a Water Resource Buffer area.

N. Private Open Space.

1. Private Open Space Required. All new multi-family developments in all zones except for the Mixed Use Corridor, Neighborhood Commercial or Mixed Use Downtown Districts, shall set aside a private open space for the use and enjoyment of the development's residents. Private open space is a semi-enclosed area, which is intended for use strictly by the occupants of one dwelling unit. Private open space may include porches, balconies, terraces, roof top gardens, verandas, and decks. Dwellings located at finished grade, or within five feet of finished grade, shall provide a minimum of ninety-six square feet of private open space per dwelling unit, with no dimension less than six feet. Dwellings located more than five feet above finished grade shall provide a minimum of forty-eight square feet with no dimension less then six feet. Ground level private open space shall be visually and physically separated from common open space through the use of perimeter landscaping or fencing.

2. Common And Private Open Space Requirements For Multifamily Dwelling Units In The Mixed Use Corridor, Neighborhood Commercial Or Mixed Use Downtown Districts. All residential development in the Mixed Use Corridor, Neighborhood Commercial or Mixed Use Downtown Districts must provide a portion of the project area for private open space or common open space. Fifty square feet of private or common open space is required for each dwelling unit. The open space may be allocated exclusively for private or common use or may be a combination of the two uses.

a. Common Open Space: Common open space may be provided in the form of decks, shared patios, roof gardens, recreation rooms, lobbies or other gathering spaces created strictly for the tenants and not associated with storage or circulation. Landscape buffer areas may not be used as common open space unless active and passive uses are integrated into the space and its use will not adversely affect abutting properties.

b. Private Open Space: Private open space may be provided in the forms of decks, screened patios, roof gardens or an alternate private space as approved by the community development director.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.059 - Cottage housing.

A. Applicability.

These guidelines apply to all cottage developments in any applicable zone within the city. Cottages are considered multi-family development and are subject to all the applicable sections of OCMC 17.62. Site Plan and Design Review and OCMC 17.52 Off Street Parking and Loading. However, this section replaces OCMC 17.62.057—Multifamily. The proposed development shall be processed under the Type II Land Use process and shall remain one lot. Where there is a conflict between these standards and the standards in other chapters, the Cottage Housing standards shall apply.

B. Intent.

1. To provide a housing type that responds to changing household sizes and ages (e.g., retirees, small families, single person households).
2. To encourage creation of more usable open space for residents of the development through flexibility in density and lot standards.
3. To ensure that the overall size, including bulk and mass of cottage structures and cottage housing developments, remain smaller and incur less visual impact than standard sized single-family dwellings, particularly given the allowed intensity of cottage dwellings.
4. To provide centrally located and functional common open space that fosters a sense of community and a sense of openness in cottage housing developments.
5. To provide private area around the individual dwellings to enable diversity in landscape design and foster a sense of ownership.
6. To ensure minimal visual impact from vehicular use and storage areas for residents of the cottage housing development as well as adjacent properties, and to maintain a single-family character along public streets.

Cottage Clusters

C. Density Bonus. For developments in, R6, R8 and R-10 Zoning Districts: The city shall allow up to two cottage units for each regular dwelling unit allowed under existing standards in applicable zoning districts. For developments in the R 3.5 and R-5 zoning district: The city shall allow up to 1.5 cottage units for each regular dwelling unit allowed under existing standards in the applicable zoning district. At no time shall the proposed project fall below the minimum required density of the underlying district.

D. Dimensional Standards For Cottage Housing.

Dimensional Standards for Cottage Housing

Standard Requirement.

1. Average gross floor area eight hundred square feet per dwelling.
2. Maximum gross floor area one thousand two hundred square feet per dwelling.
3. Minimum gross floor area six hundred square feet per dwelling.
4. Maximum footprint (not including porches) seven hundred square feet per dwelling.
5. Maximum accessory building footprint for parking or community use six hundred square feet.
6. Maximum accessory building gross floor area for parking or community use eight hundred square feet.
7. Minimum common space four hundred square feet per dwelling.

8. Minimum private open space two hundred square feet per dwelling.
9. Maximum height twenty-five feet.
10. Setbacks (to exterior property lines) same as the underlying zone.
11. Setbacks for non-habitable accessory buildings two hundred square feet or less to follow OCMC 17.54.010(b)2.
12. Minimum distance separating dwelling units (excluding accessory structures) ten feet.
13. Minimum roof slope of all structures 6:12.
14. Minimum parking spaces one and one-half space per dwelling.
15. Clustered Developments shall contain a minimum of four and a maximum of twelve cottage housing units located in a cluster group to encourage a sense of community among the residents. A development site may contain more than one group.
16. Minimum Lot size ten thousand square feet.
17. The total square footage of a cottage dwelling unit may not be increased. A deed restriction shall be placed on the title to the property for purpose of notifying future property owners that any increase in the total square footage of a cottage is prohibited for the life of the cottage or the duration of the city cottage housing regulations.

E. Cottage Open Space Design Standards:

1. Common open space requirements for cottage developments:
    a. Shall abut at least fifty percent of the cottages in a cottage housing development.
    b. Shall have cottages abutting on at least two sides of the common open space.
    c. Cottages shall be oriented around and have an entry facing the common open space.
    d. Cottages shall be within sixty feet walking distance of the common open space.

e. Shall be at least twenty feet in width.

f. Shall be designed and maintained as an amenity for residents of the development.

g. Up to twenty-five percent of the required common open space may be utilized through a community building built for the sole use of the cottage housing residents.

h. The applicant shall implement a mechanism, acceptable to the community development director to ensure the continued care and maintenance of the common areas. A typical example would be creation of a management, home owner's association or condominium association with authority and funding necessary to maintain the common areas.

2. Required private open space for cottage dwelling units shall be adjacent to each dwelling unit and for the exclusive use of the cottage resident(s). The private space shall be a minimum of two hundred square feet and shall be:

a. Usable (not on a steep slope).

b. Oriented toward the common open space as much as possible.

c. No dimension less than ten feet.

3. Alternative open space configurations may be permitted by the community development director provided they present a hierarchy of usable semi-private and public open spaces that meet the intent of the guidelines.

F. Porches and covered entry standards for cottages:

1. Cottage facades facing the common open space, common pathway, or street shall feature a roofed porch at least sixty square feet in size with a minimum dimension of six feet. The front porch shall be covered and must be a minimum of eighteen inches above average grade and contain railings.

2. Exemption: House styles that do not contain porches or require a reduction in the size of the porch or its location may request an exemption from the community development director from (a) above, if another type of pronounced entryway is provided. Pronounced entrances may include a rounded front door, canopy or other articulated entrances, columns, and/or other similar features provided they are compatible with the architectural style of the house. A reduced porch may be allowed if there is sufficient architectural or topographical reason to reduce the size of the porch.

G. Architectural Styles. Structures shall be consistent with historic architectural styles.

Approved architectural styles include Western Farmhouse/Vernacular, Bungalow and Queen Anne Vernacular. Examples and architectural descriptions of Oregon City historic single-family residential styles can be found in the 2006 Historic Review Board's Design Guidelines for New Construction. An alternate architectural style may be approved by the community development director if it meets the intent of this chapter.

Western Farmhouse/Vernacular

Bungalow (Craftsman)

Queen Anne Vernacular

H. Architectural Details. Dwelling units shall contain architectural details.

1. Each of the types of details listed below are worth one point unless otherwise noted. Dwelling units must achieve the equivalent of five points worth of architectural details.
    a. Stonework detailing on columns or across foundation.
    b. Brick or stonework covering more than ten percent of the facade.
    c. Wood, cladded wood, or fiberglass windows on all four elevations of the building. (Two points).
    e. Decorative roofline elements including roof brackets or multiple dormers.
    f. Decorative porch elements including scrolls, or brackets, or railings.
    g. Decorative shingle designs.
    h. Decorative paint schemes (three or more colors).
    i. Other architectural detailing may be approved by the by the community development director if they are constructed with quality material, have a high level of craftsmanship and are consistent with the architectural style of the dwelling.
2. Approved siding materials.
    a. Brick.
    b. Basalt stone or basalt veneer.
    c. Narrow horizontal wood or composite siding (five inches wide or less); wider siding will be considered where there is a historic precedent.
    d. Board and baton siding solely as an accent element unless the design has historic precedent and is approved by the community development director through the exemption process.
3. Other materials may be approve by the community development director if they are consistent with the quality of the approved siding materials and have historic precedence in Oregon City.

I. Windows.

All windows on all elevations must be recessed at least two inches from the facade and incorporate window trim at least four inches in width. Windows on corner lots must provide an average of one window every fifteen feet of linear elevation on each floor of the side elevation.

J. Cottage parking shall be:

1. Located on the same property as the cottage development.
2. Screened from public streets and adjacent residential uses by landscaping or architectural screening.
3. Located in clusters of not more than five adjoining spaces (except where parking areas are adjacent to an alley).
4. Parking spaces are prohibited in the front, interior or and side yard setback areas. Drive aisles and access driveways may be allowed in the side or rear yard setback.
5. A pitched roof design is required for all detached parking structures. Detached parking structures/garages shall be six hundred square feet or less and are not counted as part of the gross floor area of the cottage.
6. Garages may be attached to individual cottages provided all other design standards have been met and the footprint of the ground floor, including the garage, is included as part of the gross floor area calculations. Such garages shall be located away from common open spaces, shall not gain access off a public street and shall have garage doors of ten feet or less in width and be architecturally subordinate to the cottage. No accessory dwelling units (ADU) are allowed within a cottage housing development.

K. Fences.

All fences on the interior of the development shall be no more than thirty-six inches in height. Fences along the exterior property lines are subject to the fence requirements of OCMC 17.54.100. Chain link fences shall not be allowed.

L. Existing Dwelling Unit Onsite.

An existing single-family home incorporated into a Cottage Housing Development that does not meet the requirements of this chapter is permitted to remain on a site developed for cottage housing and shall be considered a dwelling in the development. The size of the existing single family dwelling unit may be over the one thousand two hundred square foot maximum. The existing dwelling unit shall not be part of the average gross floor area calculations. Modifications or additions to the existing dwelling unit not consistent with the provisions of this chapter shall not be permitted.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.065 - Outdoor lighting.

A. Purpose. The general purpose of this section is to require outdoor lighting that is adequate for safety and convenience; in scale with the activity to be illuminated and its surroundings; directed to the surface or activity to be illuminated; and designed to clearly render people and objects and contribute to a pleasant nighttime environment.

All site lighting provided will be adequate for safety and convenience; in scale with the activity to be illuminated and its surroundings; directed to the surface or activity to be illuminated; and designed to clearly render people and objects and contribute to a pleasant nighttime environment. Site lighting levels will also account for the surrounding sensitive habitat and the presence of the observatory.

Additional specific purposes are to:

1. Provide safety and personal security as well as convenience and utility in areas of public use or traverse, for uses where there is outdoor public activity during hours of darkness;

All safety and security requirements will be met.

2. Control glare and excessive brightness to improve visual performance, allow better visibility with relatively less light, and protect residents from nuisance and discomfort;

   Glare and brightness will be controlled and not excessive.

3. Control trespass light onto neighboring properties to protect inhabitants from the consequences of stray light shining in inhabitants' eyes or onto neighboring properties;

   Site lighting will not produce any light trespass.

4. Result in cost and energy savings to establishments by carefully directing light at the surface area or activity to be illuminated, using only the amount of light necessary; and

   Light at the surface area or activity will not be excessive and will meet the minimum requirements for safety and security.

5. Control light pollution to minimize the negative effects of misdirected light and recapture views to the night sky.

   Light fixtures will point down, so that no light will be misdirected and the night sky will be protected.

B. Applicability.

1. General.

   a. All exterior lighting for any type of commercial, mixed-use, industrial or multi-family development shall comply with the standards of this section, unless excepted in subsection B.3.

      See response to subsection B.3 below.

   b. The city engineer/public works director shall have the authority to enforce these regulations on private property if any outdoor illumination is determined to present an immediate threat to the public health, safety and welfare.

      Lighting on this project is not anticipated to present any such immediate threat.

2. Lighting Plan Requirement.

All commercial, industrial, mixed-use, cottage housing and multi-family developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights.

Photometric plan included in resubmittal.

3. Excepted Lighting.

The following types of lighting are excepted from the requirements of this section.

   a. Residential lighting for single-family attached and detached homes, and duplexes. ***N/A.***

   b. Public street and right-of-way lighting. ***N/A.***

   c. Temporary decorative seasonal lighting provided that individual lamps have a light output of sixty watts or less. ***N/A.***

d. Temporary lighting for emergency or nighttime work and construction. ***N/A.***

e. Temporary lighting for theatrical, television, and performance areas, or for special public events. ***N/A.***

f. Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.

This site is the location of the observatory and a sensitive habitat area. As such, we are lighting the pathway to a lesser standard than a heavily travelled pathway. Night time visitors are not to be on site unless visiting the observatory.

g. Lighting required and regulated by the Federal Aviation Administration. ***N/A.***

C. General Review Standard. If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design standards of subsection D. below shall be deemed to not adversely affect adjacent properties or the community.

Exterior lighting installed on this project will meet the functional security needs without adversely affecting either adjacent properties, the community, or the stated purpose of the subject facility.

D. Design and Illumination Standards.

General Outdoor Lighting Standard and Glare Prohibition.

1. Outdoor lighting, if provided, shall be provided in a manner that enhances security, is appropriate for the use, avoids adverse impacts on surrounding properties, and the night sky through appropriate shielding as defined in this section. Glare shall not cause illumination on other properties in excess of a measurement of 0.5 footcandles of light as measured at the property line. In no case shall exterior lighting add more than 0.5 footcandle to illumination levels at any point off-site. Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:

We are installing lighting for public safety, and feel that we are meeting the intent of the design standards.

2. Any light source or lamp that emits more than nine hundred lumens (thirteen watt compact fluorescent or sixty watt incandescent) shall be concealed or shielded with a full cut-off style fixture in order to minimize the potential for glare and unnecessary diffusion on adjacent property. All fixtures shall utilize one of the following bulb types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high pressure sodium with a color rendering index above seventy.

Lighting sources on this project are scheduled to be LED, with color rendering index well above seventy as well as better efficacy than most sources included in this prescriptive list. All luminaires will be cutoff type with no light emitted above horizontal.

3. The maximum height of any lighting pole serving a multi-family residential use shall be twenty feet. The maximum height serving any other type of use shall be twenty-five feet, except in parking lots larger than five acres, the maximum height shall be thirty-five feet if the pole is located at least one hundred feet from any residential use.

Pole mounted lighting in parking lot are at 20 feet. Bollard lights are at 3.5 feet.

4. Lighting levels:

Table 1-17.62.065. Foot-candle Levels

Location	Min	Max	Avg
Pedestrian Walkways	0.5	7:1 max/min ratio	1.5
Pedestrian Walkways in Parking Lots		10:1 max/min ratio	0.5
Pedestrian Accessways	0.5	7:1 max/min ratio	1.5
Building Entrances	3		
Bicycle Parking Areas	3		
Abutting property	N/A	.05	

As described above, we feel the intent of "Pedestrian Walkways" has been met at the main access to the building. The other pathways are lit to a more subdued level due to the purpose of the facility.

4. Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize pedestrian scale lighting that defines the space without glare.

   The intent of this has been met.

5. Any on-site pedestrian circulation system shall be lighted to enhance pedestrian safety and allow employees, residents, customers or the public to use the walkways at night. Pedestrian walkway lighting through parking lots shall be lighted to light the walkway and enhance pedestrian safety pursuant to Table 1.

   The lighting has been designed to enhance wayfinding but also with consideration to the fact that the major nighttime use of the facility is limited to the observatory.

7. Pedestrian Accessways. To enhance pedestrian and bicycle safety, pedestrian accessways required pursuant to OCMC 12.28 shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances. Lamps shall include a high-pressure sodium bulb with an unbreakable lens. ***N/A.***

8. Floodlights shall not be utilized to light all or any portion of a building facade between ten p.m. and six a.m. ***No floodlights are on the project.***

9. Lighting on automobile service station, convenience store, and other outdoor canopies shall be fully recessed into the canopy and shall not protrude downward beyond the ceiling of the canopy.

   While the lighting in the canopy may protrude below the beam depth, the fixtures will be fully cutoff type and will emit no glare. We believe this addresses the intent of this requirement.

10. The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site. ***Noted, and done.***

11. In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site. ***This will be the case.***

12. All outdoor light not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.

    Lighting is anticipated to be turned off during non-operating hours.

13. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object. ***N/A.***

14. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roofline. ***No upward directed lighting on project.***

15. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting. ***None will be installed.***

16. Wireless Sites. Unless required by the Federal Aviation Administration or the Oregon Aeronautics Division, artificial lighting of wireless communication towers and antennas shall be prohibited. Strobe lighting of wireless communication facilities is prohibited unless required by the Federal Aviation Administration. Security lighting for equipment shelters or cabinets and other on-the-ground auxiliary equipment on wireless communication facilities shall be initiated by motion detecting lighting. ***N/A.***

17. Lighting for outdoor recreational uses such as ball fields, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards: ***N/A.***

    i. Maximum permitted light post height: eighty feet.

    ii. Maximum permitted illumination at the property line: 0.5 foot-candles.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.080 - Special development standards along transit streets.

A. Purpose. This section is intended to provide direct and convenient pedestrian access to retail, office and institutional buildings from public sidewalks and transit facilities and to promote pedestrian and transit travel to commercial and institutional facilities.

B. Applicability. Except as otherwise provide in this section, the requirements of this section shall apply to the construction of new retail, office and institutional buildings which front on a transit street.

C. Development Standards.

   1. All buildings shall have at least one main building entrance oriented towards the transit street. A main building entrance is oriented toward a transit street if it is directly located on the transit street,

or if it is linked to the transit street by an on-site pedestrian walkway that does not cross off-street parking or maneuvering areas.

a. If the site has frontage on more than one transit street, or on a transit street and a street intersecting a transit street, the building shall provide one main building entrance oriented to the transit street or to the corner where the two streets intersect.

b. For building facades over three hundred feet in length on a transit street, two or more main building entrances shall be provided as appropriate and oriented towards the transit street.

2. Main building entrances shall be well lighted and visible from the transit street. The minimum lighting level for building entries shall be three foot-candles. Lighting shall be a pedestrian scale with the source light shielded to reduce glare.

3. In the event a requirement of this section conflicts with other requirements in Title 17, the requirements of this section shall control.

D. Exemptions. The following permitted uses are exempted from meeting the requirements of subsection C. of this section:

1. Heavy equipment sales;

2. Motor vehicle service stations, including convenience stores associated therewith;

3. Solid waste transfer stations; and

4. Truck stops, including convenience stores, eating or drinking establishments, overnight accommodations or other similar services associated therewith. A use found by the community development director to be similar to the exempt uses above.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.085 - Refuse and recycling standards for commercial, industrial, and multi-family developments.

The purpose and intent of these provisions is to provide an efficient, safe and convenient refuse and recycling enclosure for the public as well as the local collection firm. All new development, change in property use, expansions or exterior alterations to uses other than single-family or duplex residences shall include a refuse and recycling enclosure. The area(s) shall be:

A. Sized appropriately to meet the needs of current and expected tenants, including an expansion area if necessary;

B. Designed with sturdy materials, which are compatible to the primary structure(s);

C. Fully enclosed and visually screened;

D. Located in a manner easily and safely accessible by collection vehicles;

E. Located in a manner so as not to hinder travel lanes, walkways, streets or adjacent properties;

F. On a level, hard surface designed to discharge surface water runoff and avoid ponding;

G. Maintained by the property owner;

H. Used only for purposes of storing solid waste and recyclable materials;

I. Designed in accordance with applicable sections of the Oregon City Municipal Code (including Chapter 8.20—Solid Waste Collection and Disposal) and city adopted policies.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.090 - Enforcement.

A. Applications for site plan and design review shall be reviewed in the manner provided in Chapter 17.50. The city building official may issue a certificate of occupancy only after the improvements required by site plan and design review approval have been completed, or a schedule for completion and a bond or other financial guarantee have been accepted by the city.

B. In performing site plan and design review, the review authority shall consider the effect of additional financial burdens imposed by such review on the cost and availability of needed housing types. Consideration of such factors shall not prevent the imposition of conditions of approval found necessary to meet the requirements of this section. The cost of such conditions of approval shall not unduly increase the cost of housing beyond the minimum necessary to achieve the provisions of this title, nor shall such cost prevent the construction of needed housing types. The use of the site plan and design review provisions of this section shall have no effect on dwelling unit densities.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.095 - Performance guarantees.

A. Purpose. This section states the requirements for performance guarantees when they are required of an applicant by this section or as a condition of a site plan and design review approval.

B. Types of guarantees. Guarantees by the applicant may be in the form of a performance bond payable to the city in cash, by certified check, time certificate of deposit, irrevocable letter of credit, or other form acceptable to the city. Indemnity agreements may be used by other governmental agencies. Guarantees must be accompanied by a contract. The form of the guarantee and contract must be approved by the city attorney. The community development director is authorized to accept and sign the contract for the city, and to accept the guarantee. The guarantee must be filed with the city recorder.

C. Amount of guarantee. The amount of the performance guarantee must be equal to at least one hundred ten percent of the estimated cost of performance. The applicant must provide written estimates by three contractors with their names and addresses. The estimates must include as separate items all materials, labor, and other costs of the required action.

D. Completion. An inspection and approval of the action or improvement covered by the performance guarantee is required before the performance guarantee is returned. The inspection is done by the Planning Division or by other appropriate city departments. If the action or improvement is not completed satisfactorily within the stated time limits, the city may have the necessary action or improvement completed and seek reimbursement for the work from the performance guarantee. Any remaining funds will be returned to the applicant.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.62.100 - Fees.

Pursuant to Section 17.50.480, a nonrefundable application fee shall accompany the application for site plan and review.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Natural Resource Overlay District Mitigation Report for the Environmental Learning Center in Oregon City, Oregon

(Township 3 South, Range 2 East, Sections 9A, 9B, and 9C, Portion of Tax Lot 800)

Prepared for

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PHS Project Number: 5523

February 11, 2016

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1.0 INTRODUCTION

Pacific Habitat Services, Inc. (PHS) conducted a natural resource assessment for Clackamas Community College's (CCC's) John Inskeep Environmental Learning Center (ELC) site in Oregon City, Oregon (Township 3 South, Range 2 East, Sections 9A, 9B, and 9C, Portion of Tax Lot 800); see Figures 1, 2A and 2B, Appendix A for limits of the study area. All figures and plan sheets are in Appendix A.

CCC is proposing to redevelop the ELC into a regionally important outdoor learning laboratory, demonstration site, and natural area that showcases habitat restoration and passive stormwater management. This report addresses the Natural Resource Overlay District (NROD) mitigation plan report requirements for impacts resulting from the proposed project, as required by the City of Oregon City (Chapter 17.49). The field component of the natural resource assessment for this site was completed on February 11, 2015.

2.0 EXISTING CONDITIONS

The ELC is located on the Clackamas Community College campus in Oregon City, approximately 2,000 feet southeast of the intersection of Oregon Highway 213 and S. Beavercreek Road. The study area consists of the northeastern portion of the tax lot (800) as shown in the attached figures and plan sheets (Appendix A). The City of Oregon City's (City's) NROD map (Figure 3) includes wetlands and several channels as well as the vegetated corridor (VC) associated with these features.

The ELC is a five-acre natural area located at the headwaters of Newell Creek. The ELC is located on the site of a former Smucker's berry processing plant, which started in 1948 and closed in 1970. At the ELC site, Smucker's sorted, washed and froze fruit before shipping it to other Smucker's plants that processed it into jams, etc. To aid in their operation, Smucker's constructed two large rectangular ponds and excavated a channel allowing water to flow from the property through a culvert beneath S. Beavercreek Road downstream into Newell Creek. Downstream of the ELC is the approximately 1,800-acre Newell Creek watershed: a steep forested canyon that provides habitat for coho salmon and steelhead trout; both of which are listed as Threatened under the federal Endangered Species Act.

CCC became the owners of the property in 1970. During the 1970s, CCC focused on restoring the habitat within the ELC, which included recontouring and improving the two ponds, planting thousands of trees and shrubs and improving its hydrology. Most of the stormwater flowing into the ELC originates from the campus and is untreated. Without manipulation, this water would flow unimpeded through the ELC and into Newell Creek. Part of the restoration plan in the 1970s, was the excavation and improvement of connecting channels between the main channel and the ponds and the installation of weirs to direct the flow through the two recontoured ponds. This not only improved the quality of the water in the ponds and in Newell Creek downstream, but also improved the habitat in the ponds for a variety of wildlife, including great blue heron, amphibians and turtles.

Almost 40 years have passed since the initial work was conducted and many aspects of the ELC have become neglected. The hydrology of the system no longer functions to ensure water flowing downstream into Newell Creek is improved; invasive species have become prevalent throughout the ELC; and the ability to provide an "outdoor classroom" where students can collect meaningful data on water quality improvements is very limited. CCC's original commitment to enhancing the property was based on achieving multiple goals, which have not appreciably changed today. As such, CCC developed plans to restore and redevelop the site to meet these goals according to the 2007 CCC Master Plan.

PHS delineated the limits of the wetlands on the site based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* ("The 1987 Manual") and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. The delineation was conducted on February 11, 2015; PHS identified four wetlands, two ponds, the excavated main north-south channel (referred to as Newell Creek in the wetland delineation report), and several side channels within the ELC site (DSL Concurrence Letter, Appendix B), as shown on Sheet LU1.01.

Existing ELC buildings, gravel paths and trails, bridges, and parking areas are also present within the site. However, the site is largely forested, with upland areas dominated by Grand fir, big-leaf maple, Norway maple, red alder, paper birch, cottonwood, cherry, Douglas-fir, and Western red cedar ranging in size from 6 inches diameter at breast height (dbh) to over 30 inches dbh. Various ornamental trees comprise a large component of the overstory; however, no one ornamental species would be considered dominant. Large areas within the upland understory have been landscaped or cleared of woody vegetation, though some areas do have shrubs and groundcover. Where an understory is present, Himalayan blackberry, red-osier dogwood, snowberry, bamboo, sword fern, and English ivy are the dominant species. The ponds and other wetlands are dominated by Oregon ash, cottonwood, willow, red-osier dogwood, hawthorn, and/or reed canarygrass. A more detailed discussion of vegetation within the NROD of the ELC site is provided below.

3.0 NATURAL RESOURCE OVERLAY DISTRICT ASSESSMENT

3.1 Vegetated Corridor Extent

The slopes adjacent to the delineated edges of the wetlands, ponds, and channels were assessed to determine the width of the vegetated corridor (VC). The slopes within the study area were all determined to be less than 25 percent, and the reach of Newell Creek does not support anadromous fish species, resulting in a 50-foot wide VC around all wetlands, ponds, and streams according to *Table 17.49-110* of the Natural Resource Overlay District code. Approximately 167,410 square feet (3.84 acres) of VC surrounds the 48,409 square feet (1.11 acres) of water resources within the ELC site. The extent of existing development within the VC totals 57,242 square feet (1.31 acres) and includes the existing ELC buildings and structures, compacted gravel paths, trails (approximately 4 feet wide), a concrete stormwater vault and spillway, bridges, parking areas, Douglas Loop, Inskeep Drive, and Beaver Creek Road as shown on sheet LU1.01. Replacement, additions, alterations, and rehabilitation within existing development within the NROD is considered exempt pursuant to Section 17.49.080J.

3.2 Vegetated Corridor Condition

The condition of the VC is defined by the combined coverage of trees, shrubs, and groundcover; overall tree canopy coverage; and the coverage of non-native species as described in section *17.49.190*. As described above, large areas within the upland understory have been landscaped or cleared of woody vegetation. The resulting combination of trees, shrubs, and ground cover in the VC averages less than 80 percent coverage and is considered degraded. The average tree canopy coverage is approximately 28 percent, which is considered marginal canopy coverage. The coverage of Himalayan blackberry and English ivy is greater than 10 percent in some locations, which is considered degraded. The overall condition of the VC is *degraded* corridor condition. An inventory of vegetation, including percentage ground and canopy coverage is in Appendix C.

4.0 PROPOSED PROJECT

The primary purpose of the proposed project is to redevelop the ELC into a regionally important outdoor learning laboratory, demonstration site, and natural area that showcases habitat restoration and passive stormwater management. The overall project includes two major components:

1. Habitat enhancement that will ensure viable habitat for amphibians, reptiles, and birds as well as enhance the water quality within the Newell Creek watershed, which is especially critical for coho salmon and steelhead trout, and
2. Site redevelopment that will re-establish the site as an educational resource and opportunity for passive recreation for the local community.

4.1 Habitat Enhancement Project

The two ponds have accumulated sediment and have become generally shallow; raising the water temperature in the summer, which impacts Newell Creek downstream. Higher flows during storm events bypass the ponds with little detention time and little treatment. The proposed modifications for habitat enhancement will improve habitat within the wetland system and the quality of water flowing off-site into Newell Creek.

The proposed habitat enhancement is considered an allowed use, discussed in *17.49.[0]80.A* in the *NROD Development Standards* section below. Several trees will be removed during implementation of the habitat enhancement project (detailed in Table 3, below); however, the proposed habitat enhancement plantings listed in Table 1 and detailed on Sheet LU1.04 are expected to more than adequately compensate for the removed trees. All proposed species are on the Oregon City Native Plant List and are readily available commercially and/or are being propagated by CCC's horticultural department.

Table 1. Plantings Proposed for the Habitat Enhancement Area

Botanical Name	Common Name
SHRUBS	
Cornus alba	Red osier dogood
Lonicera involucrata	Twinberry
Physocarpus capitatus	Pacific ninebark
Salix sitchensis	Sitka willow
Spiraea douglasii	Douglas spirea
HERBACEOUS	
Agrostis exarata	Spiked bentgrass
Alisma gramineum	Narrow-leaf water plantain
Callitriche stagnalis	Pond-water starwort
Carex obnupta	Slough sedge
Deschampsia cespitosa	Tufted hairgrass
Eleocharis ovata	Ovate spike rush
Juncus effusus	Lamp rush
Juncus ensifolius	Daggerleaf rush
Leersia oryzoides	Rice cutgrass
Plagiobothrys figuratus	Fragrant popcorn flower
Polygonum coccineum	Water smartweed
Potamogeton crispus	Curly pondweed
Ranunculus sceleratus	Cursed buttercup
Schoenoplectus tabernaemontani	Soft-stem club-rush
Scirpus microcarpus	Small fruited bulrush
Sparganium eurycarpum	Broadfruit bur-reed
Stuckenia pectinate	Sago pondweed
Utricularia macrorhiza	Greater bladderwort

The Oregon Department of State Lands (DSL) and the US Army Corps of Engineers (Corps) have both issued permits for the habitat enhancement project (DSL Permit No: 58510-RF, Corps No: NWP-2015-427).

4.2 Site Re-Development

As described above, many aspects of the ELC have become neglected including educational and recreational aspects of the site. The project will redevelop a number of areas in and around the ELC to improve visitor access and educational opportunities, as shown on Sheet LU1.02.

Much of the proposed development will occur in areas with existing development, which will be considered exempt pursuant to Section 17.49.080J. The improvements to Inskeep Drive and parking area and portions of the entry pavilion, trail system (including bridges), amphitheater, and access road will be considered exempt pursuant to Section 17.49.080J. However, portions of the new entry pavilion, trail system, amphitheater, and access road will result in small encroachments beyond areas of existing development and will require mitigation (Table 2).

Table 2. Summary of Encroachments resulting from Allowed Uses Under Prescribed Conditions (Mitigation Required).

Improvement	Encroachment Beyond Existing Development (Mitigation Required)
Entry Pavilion	184 ft²
Trail System	5,465 ft²
Amphitheater	379 ft²
New Access Road	1,322 ft²
New Trails	592 ft²
Totals	**7,942 ft²**

The habitat enhancement and site re-development project will result in the removal of several trees within the NROD, as shown on Sheet LU1.03. Trees to be removed by the proposed project are detailed in Table 3 and discussed in the code responses section below.

Table 3. Species, diameter, and quality of trees to be removed from the NROD

Tree ID	Species	Diameter (inches)	Condition
186	Big-leaf maple (*Acer macrophyllum*)	12	Good
188[a]	Norway maple (*Acer platanoides*)	14	Good
201[b]	American sweetgum (*Liquidambar styraciflua*)	14	Good
204[b]	Big-leaf maple (*Acer macrophyllum*)	12	Good to fair
209[b]	Scots pine (*Pinus sylvestris*)	21	Good to fair
253	Birch (*Betula* species)	12	Fair to poor
260	Apple (*Malus* species)	6	Good
265	Cherry (*Prunus* species)	11	Fair to poor
266	Cherry (*Prunus* species)	8	Fair
267	Oak (*Quercus* species)	17	Fair
280	Maple (*Acer* species)	10	Good
281[b]	Cottonwood (*Populus* species)	6	Good
284	Maple (*Acer* species)	6	Good
306[b]	Red maple (*Acer rubrum*)	8	Good
323[b]	Big-leaf maple (*Acer macrophyllum*)	18	Good

Tree ID	Species	Diameter (inches)	Condition
324[b]	Alder (*Alnus* species)	7	Good
569[b]	Big-leaf maple (*Acer macrophyllum*)	18	Good
573[b]	Douglas-fir (*Pseudotsuga menziesii*)	20	Good
574[a,b]	Norway maple (*Acer platanoides*)	16	Good
593[b]	Red alder (*Alnus rubra*)	13	Good
595[b]	Red alder (*Alnus rubra*)	6	Good
596[b]	Alder (*Alnus* species)	8	Good
812[b]	Willow (*Salix* species)	6	Good
824[b]	Cottonwood (*Populus* species)	6	Good

[a]Tree is on the Oregon City Nuisance Plant List. Removal does not require mitigation per *17.49.100A*
[b]Tree removed as part of the habitat enhancement project. Removal does not require mitigation per *17.49.[0]80*

5.0 MITIGATION PLAN REPORT REQUIREMENTS

5.1 Mitigation Standards Written Response

As required for the mitigation plan report (Section 17.49.230), a written response to each applicable Mitigation Standard described in Section 17.49.180 indicating how the proposed development complies with the mitigation standards follows:

A. *Mitigation shall occur at a two-to-one ratio of mitigation area to proposed NROD disturbance area […].*

Response: The proposed disturbance area not exempted by Section 17.49.080 is 7,942 square feet, requiring 15,884 square feet of mitigation at a two-to-one ratio. Mitigation will be provided through a combination of development removal (restoration) within the NROD and NROD enhancement according to Mitigation Planting Option 2. The total area of development removal within the NROD is 6,860 square feet, as shown on sheets LU1.02. An abandoned hatchery structure, impervious surface associated with the old Smucker's facility, several concrete retaining walls, existing trail segments not included in the proposed trail plan, three existing pedestrian bridges, and other existing structures and impervious surfaces will be removed. Areas of development removal will be revegetated with appropriate native plantings as described in this section.

The remaining 9,024 square feet of mitigation obligation (15,884 square feet of required mitigation minus 6,860 square feet of development removal) will be accomplished through NROD enhancement, including invasive plant species removal and native plantings as detailed on sheet LU1.04. Because of the project's focus on habitat improvement, an area much larger than the 9,024 square feet required in this section will be enhanced.. A majority of the proposed NROD enhancement tree and shrub plantings will occur in or near the 15,238 square feet of upland area shown as Planting Zone 1 on sheet LU1.04. However, due to existing canopy coverage, plantings may occur within other portions of the undeveloped NROD within the ELC site.

Invasive plant species will be removed from all planting zones, which in combination with the proposed plantings will bring these areas into good condition. Sheet LU1.04 also details the planting plan for the habitat enhancement areas, which has been reviewed by the Department of State Lands and the US Army Corps of Engineers.

B. Mitigation shall occur on the site where the disturbance occurs […]:

Response: The proposed mitigation will be within the existing NROD area of the ELC site.

D. Invasive and nuisance vegetation shall be removed within the mitigation area.

Response: Invasive vegetation listed on the Oregon City Nuisance Plant List including, but not limited to English ivy, Himalayan blackberry, and Norway maple will be removed within the mitigation area.

E. Required Mitigation Planting. An applicant shall meet Mitigation Planting Option 1 or 2 below, whichever option results in more tree plantings[…]. All trees, shrubs, and groundcover shall be selected from the Oregon City Native Plant List.

Response: Mitigation Planting Option 2 will be used as it results in a greater number of trees and shrubs to be planted. All trees, shrubs, and groundcover (herbaceous) selected for the mitigation plan are from the Oregon City Native Plant List. The proposed plant quantities and species detailed on the Mitigation Plan sheet (LU1.04) are listed in Table 4.

Table 4. Proposed plant list for mitigation plantings.

Botanical Name	**Common Name**
TREES (minimum of 79 plantings)	
Acer circinatum	Vine maple
Alnus rubra	Red alder
Amelanchier alnifolia	Western serviceberry
Fraxinus latifolia	Oregon ash
Thuja plicata	Western red cedar
SHRUBS (minimum of 397 plantings)	
Cornus sericea	Red-osier dogwood
Lonicera involucrata	Twinberry
Physocarpus capitatus	Nine-bark
Salix sitchensis	Sitka willow
Spiraea douglasii	Douglas' spirea
HERBACEOUS	
Agrostis exerata	Spike bentgrass
Deschampsia cespitosa	Tufted hairgrass
Festuca romeri	Roemer's fescue

1. Mitigation Planting Option 1.

Response: The mitigation planting quantity in Option 1 is based on the number and size of trees that are planned for removal pursuant to Table 17.49.180E.1.a. Sixteen (16) replacement trees and twenty-four (24) replacement shrubs would be required under this option as shown in the following table.

Table 5. Trees to be Removed from NROD and Replacement Trees and Shrubs Required under Option 1.

Tree ID	Diameter (inches)	Condition	Replacement Trees	Replacement Shrubs
186	12	Good	2	3
188[a]	14	Good	Not required	Not required
201[b]	14	Good	Not required	Not required
204[b]	12	Good to fair	Not required	Not required
209[b]	21	Good to fair	Not required	Not required
253	12	Fair to poor	2	3
260	6	Good	2	3
265	11	Fair to poor	2	3
266	8	Fair	2	3
267	17	Fair	2	3
280	10	Good	2	3
281[b]	6	Good	Not required	Not required
284	6	Good	2	3
306[b]	8	Good	Not required	Not required
323[b]	18	Good	Not required	Not required
324[b]	7	Good	Not required	Not required
569[b]	18	Good	Not required	Not required
573[b]	20	Good	Not required	Not required
574[a,b]	16	Good	Not required	Not required
593[b]	13	Good	Not required	Not required
595[b]	6	Good	Not required	Not required
596[b]	8	Good	Not required	Not required
812[b]	6	Good	Not required	Not required
824[b]	6	Good	Not required	Not required
Total			**16**	**24**

[a]Tree is on the Oregon City Nuisance Plant. Removal does not require mitigation per 17.49.100.A
[b]Tree removed as part of the habitat enhancement project. Removal does not require mitigation per 17.49.[0]80

2. Mitigation Planting Option 2.

Response: The mitigation planting quantity in Option 2 is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by five hundred, and then multiplying that result times five trees and twenty-five shrubs, and rounding all fractions to the nearest whole number of trees and shrubs. The 7,942 square feet of new development within the NROD would require 79 trees (7,942/500 multiplied by 5 trees) and 397 shrubs (7,942/500 multiplied by 25 shrubs) to be planted.

Option 2 will be used for the mitigation plan as it results in a greater number of trees and shrubs to be planted than Option 1. The plant species identified on sheet LU1.04 are subject to adjustment based on site conditions and plant availability at the time of planting. However, no more than one-third of the trees will be of the same genus, and shrubs will consist of at least three different species, as required in Section 17.49.180(E)(2)(e). All plantings will be a minimum of twelve inches in height and will be live cuttings, bare root stock, and/or container stock. Trees will be planted at average intervals of seven feet on center. Shrubs will be planted in single-species groups of no more than four plants, with clusters planted on average between eight and ten feet on center. Bare ground will be planted or seeded with native grasses and groundcover species. New plantings will be mulched and planting areas will be watered for a minimum of three years following planting.

F. Monitoring and Maintenance.

Response: The proposed mitigation will be monitored and maintained for a minimum of five years, with annual progress reports submitted to the City's planning division. The mitigation area will be inspected annually during the active growing season. During site monitoring, survival rates of planted trees and shrubs and invasive plant species cover will be documented. This information, along with photo-documentation of the mitigation area, will be used to inform the annual progress report. Should survival rate drop below 80 percent or invasive plant coverage exceed 10 percent at any time during the maintenance period, immediate remedial action will be taken. Monitoring and maintenance is the on-going responsibility of the property owner, assign, or designee.

G. Covenant or Conservation Easement. Applicant shall record a restrictive covenant or conservation easement, in a form provided by the city, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the city to complete mitigation work in the event of default by the responsible party. Costs borne by the city for such mitigation shall be borne by the owner.

Response: The applicant will record a restrictive covenant or conservation easement in the form provided by the city, that will require owners and assigns of the property to comply with the applicable mitigation requirements. The covenant or easement will run with the land and permit the city to complete mitigation work in the event of default by the responsible party. Should the city need to complete the mitigation work, such cost will be borne by the owner. The covenant or conservation easement is the responsibility of the property owner, assign, or designee.

H. Financial Guarantee. A financial guarantee for establishment of the mitigation area, in a form approved by the city, shall be submitted before development within the NROD disturbance area commences. The city will release the guarantee at the end of the five-year monitoring period, or before, upon its determination that the mitigation plan has been satisfactorily implemented pursuant to this section.

Response: A financial guarantee will be provided to the city prior to development within the NROD disturbance area. The financial guarantee is the responsibility of the property owner, assign, or designee.

5.2 Resources and Functional Values to be Restored, Created, or Enhanced

It is anticipated that the proposed project and mitigation measures will improve the functional value of the site. As described above, most of the VC within the project area is in *degraded* condition and has greater than 10 percent coverage of non-native, invasive plant species. The proposed mitigation measures and additional upland improvements will improve the ecological function of the VC to *good* condition (as defined in Section 17.49.190) by removing invasive species and increasing native plant diversity and coverage. This is also expected to enhance water quality and control erosion and sedimentation through increased vegetation coverage. The habitat enhancement portion of the proposed project will further improve water quality in the Newell Creek basin as well as provide improved habitat in the wetlands, ponds, and streams within the ELC site.

As described above, many aspects of the ELC site have become neglected since CCC made initial improvements in the 1970s. Both the habitat enhancement and site re-development portions of the project will improve the scenic, recreational, and educational values of the ELC site. The project will re-establish the ELC site as a regionally important outdoor learning laboratory, demonstration site, and natural area that showcases habitat restoration and passive stormwater management.

5.3 Local, Regional, State, and Federal Regulatory/Resource Agency Coordination

As described above, DSL and the Corps have both issued permits for the habitat enhancement project (DSL Permit No: 58510-RF, Corps No: NWP-2015-427).

5.4 Construction Timetable

Project construction is estimated to begin in the spring of 2016; construction will be largely complete within one year of project mobilization. Prior to construction, Pacific Habitat Services will obtain a scientific take permit from ODFW and move amphibians and reptiles from the ponds and into the channel and its backwater areas downstream. Inflow and outflow from the ponds will be blocked by the weirs (or sandbags) to ensure complete isolation.

Animals will be captured by seine, dip net, or by hand. American bullfrog is one species to be captured during this effort. All bullfrogs will be euthanized with MS-222 and buried in a pit near the pond. Any non-native turtles will be handled as specified by ODFW. Any native frogs or turtles captured will be temporarily held in an escape-proof container before being transferred into the main channel. Currently, the only reptile known to be in the pond is a red-eared slider (non-native); which if found will be given to ODFW.

Site construction will commence with the implementation of preconstruction erosion control features such as construction entrances, silt fencing, wheel washes, vegetative protection zones, temporary sedimentation ponds, temporary berms and control structures. Typical equipment used for construction will include a front end loader, backhoe, vibrating compactor, dump truck, bulldozer, and other heavy equipment. Site clearing and grubbing will be initiated once utilities are relocated. Construction staging will be to the north of the ELC to the north of the old Smucker's (and art) building. The construction entrances will be in the south off of Douglas Loop Road and the second off of Inskeep Drive to the west.

Work in the main channel will occur between July 15 and September 30, which is the in-water work period for Newell Creek. Work in the main channel includes the placement of four weirs, the excavation of the forebay area and laying the gravel and concrete pavers within the forebay. Prior to construction within the ponds, a pump will be installed that will pump water from the ponds into the adjacent main channel. The ponds will be hydrologically isolated. As such, if necessary, work will be constructed outside of the in-water work period.

Disturbed areas of the site will be seeded. Woody vegetation will be planted during late winter or early spring when the vegetation is dormant. Reintroduction of flows through the site will occur only when the site is stable and the risk of erosion is minimal. The full construction cycle should take several months to one year.

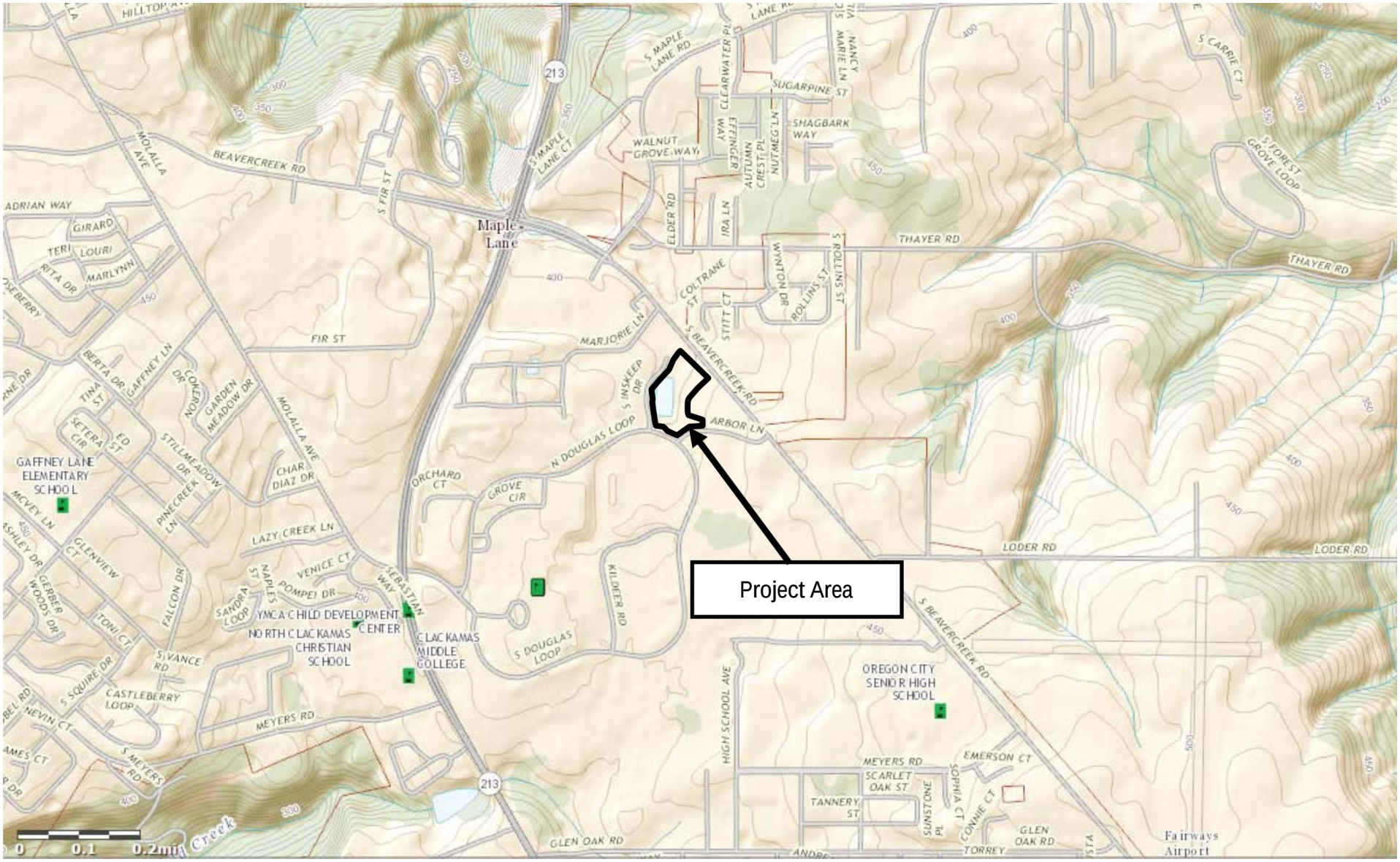
5.5 Monitoring, Maintenance, and Contingency Plan

As described above, the proposed mitigation will be monitored and maintained for a minimum of five years, with annual progress reports submitted to the City's planning division. The mitigation area will be inspected annually during the active growing season. During site monitoring, survival rates of planted trees and shrubs and invasive plant species cover will be documented. This information, along with photo-documentation of the mitigation area, will be used to inform the annual progress report.

Should the survival rate drop below 80 percent or invasive plant coverage exceed 10 percent at any time during the maintenance period, immediate remedial action will be taken. Remedial actions may include replanting with the same species or evaluating if alternative species from the Oregon City Native Plant List should be planted. Monitoring and maintenance is the on-going responsibility of the property owner, assign, or designee.

Appendix A

Figures and Plan Sheets



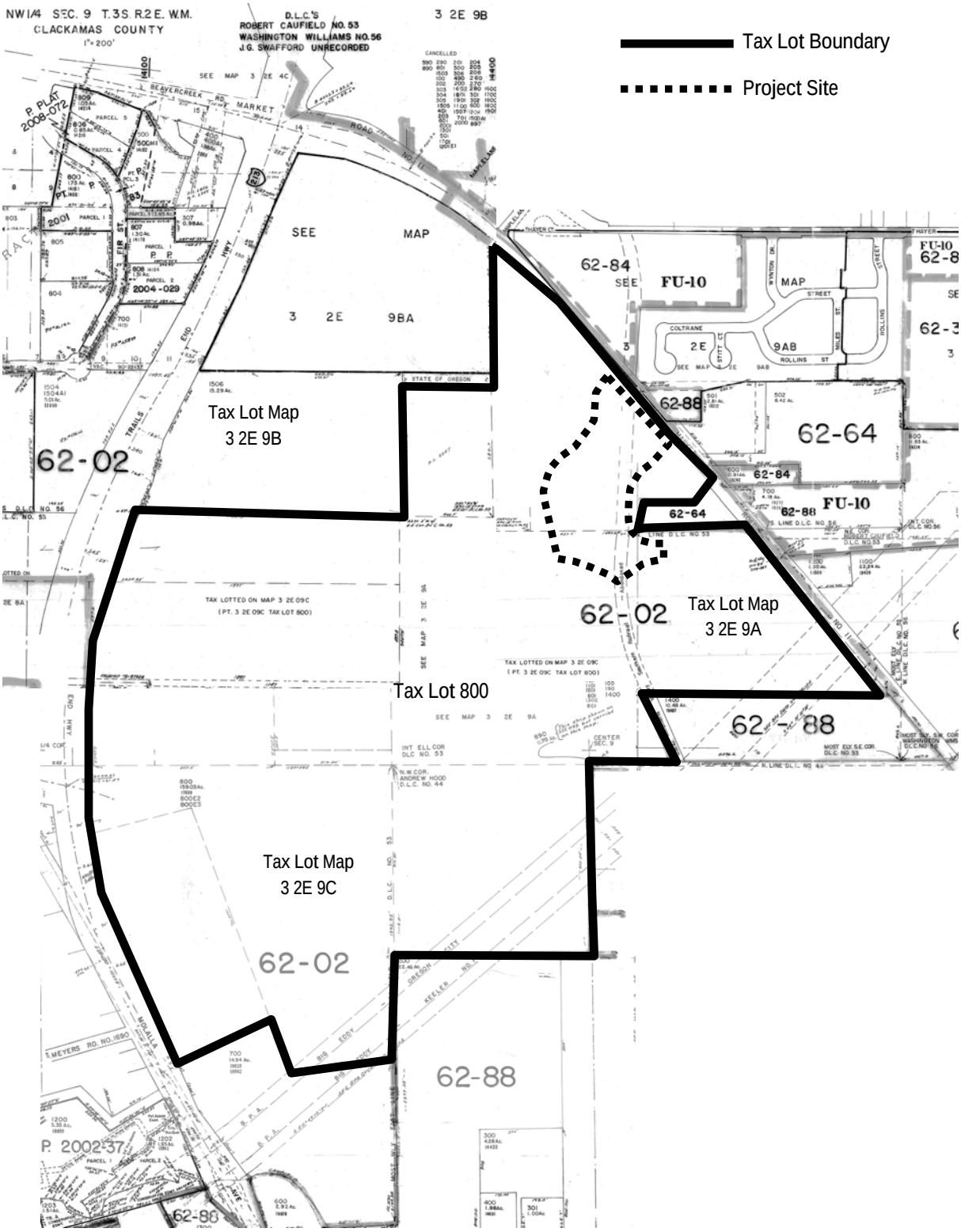
5523
04/29/15

PHS

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

General Location and Topography
Environmental Learning Center - Oregon City, Oregon
(USGS The National Map Viewer, Oregon City Quadrangle, 2015)

FIGURE
1

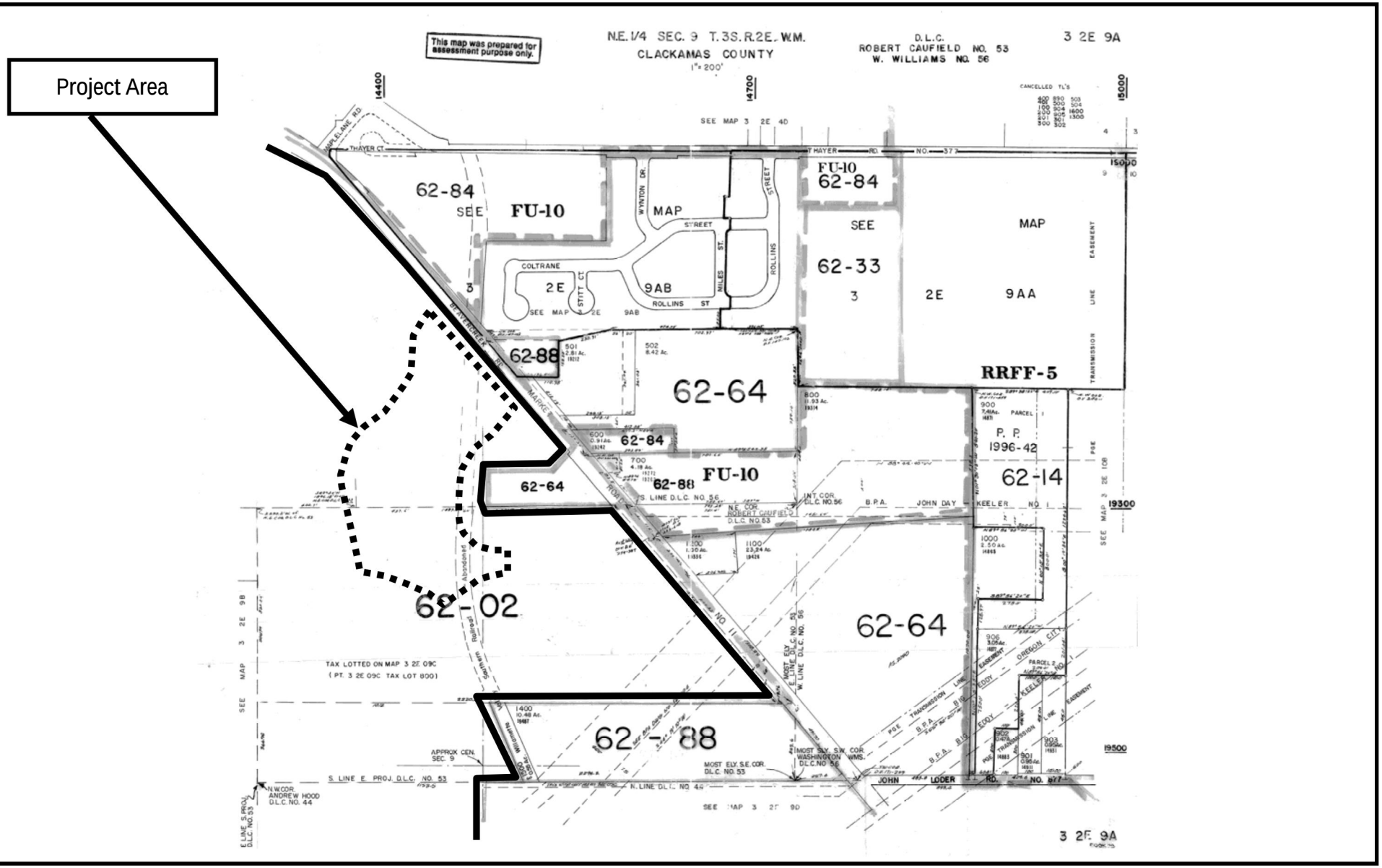


#5523
4/30/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Tax Lot Map Overview (3 2E 9A, 9B, 9C), Tax Lot 800 Clackamas County
Environmental Learning Center - Oregon City, Oregon
(ormap.net, 2015)

FIGURE
2A



5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Tax Lot Map3 2E 9A, portion of tax lot 800 Clackamas County
Environmental Learning Center - Oregon City, Oregon
(ormap.net, 2015)

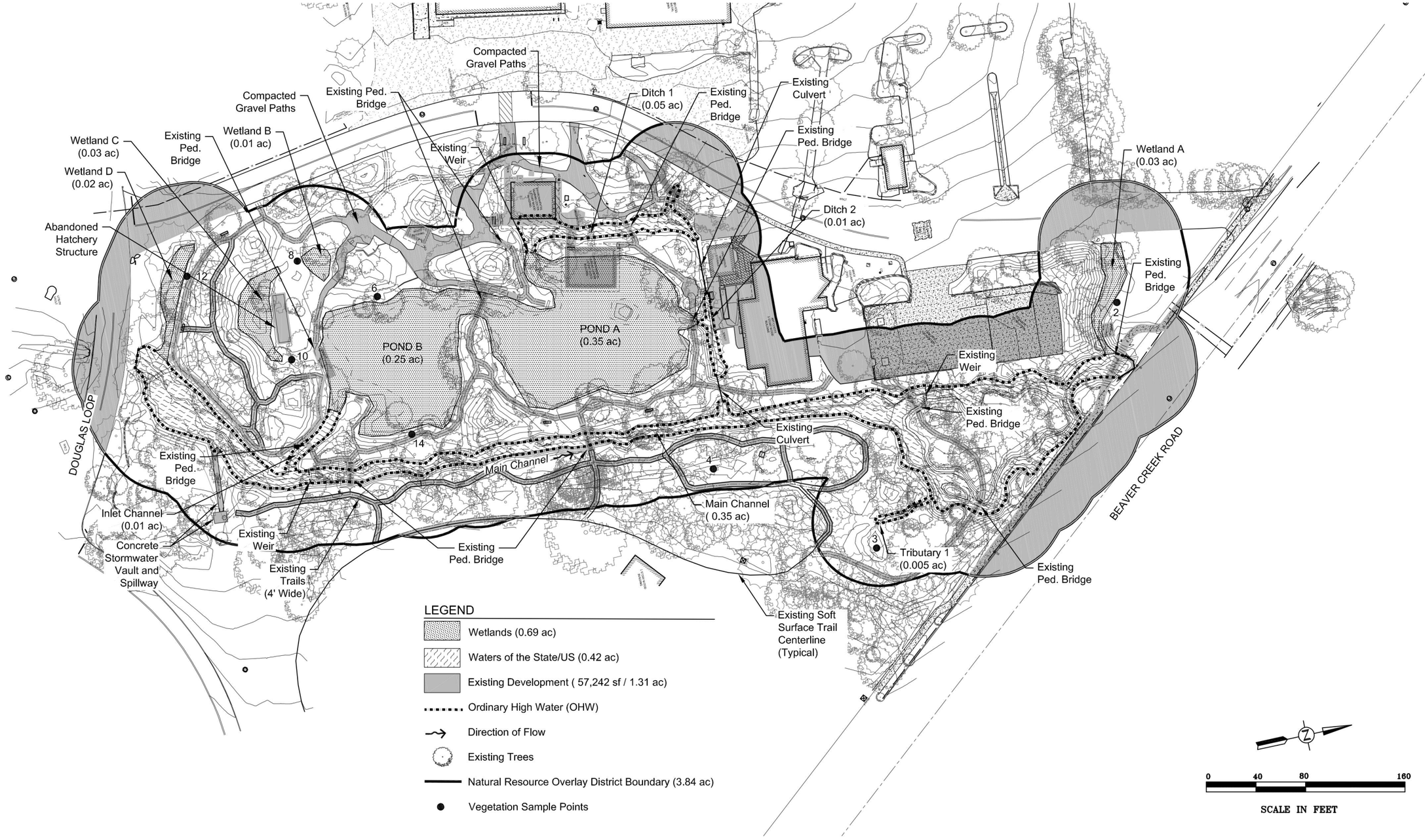
FIGURE
2B

5523
12/14/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Natural Resource Overlay District Map
Environmental Learning Center - Oregon City, Oregon
(Oregon City Web Maps, 2015)

FIGURE
3



Pacific Habitat Services,Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax (503) 570-0855

Plan Provided by KPFF and Lango Hansen

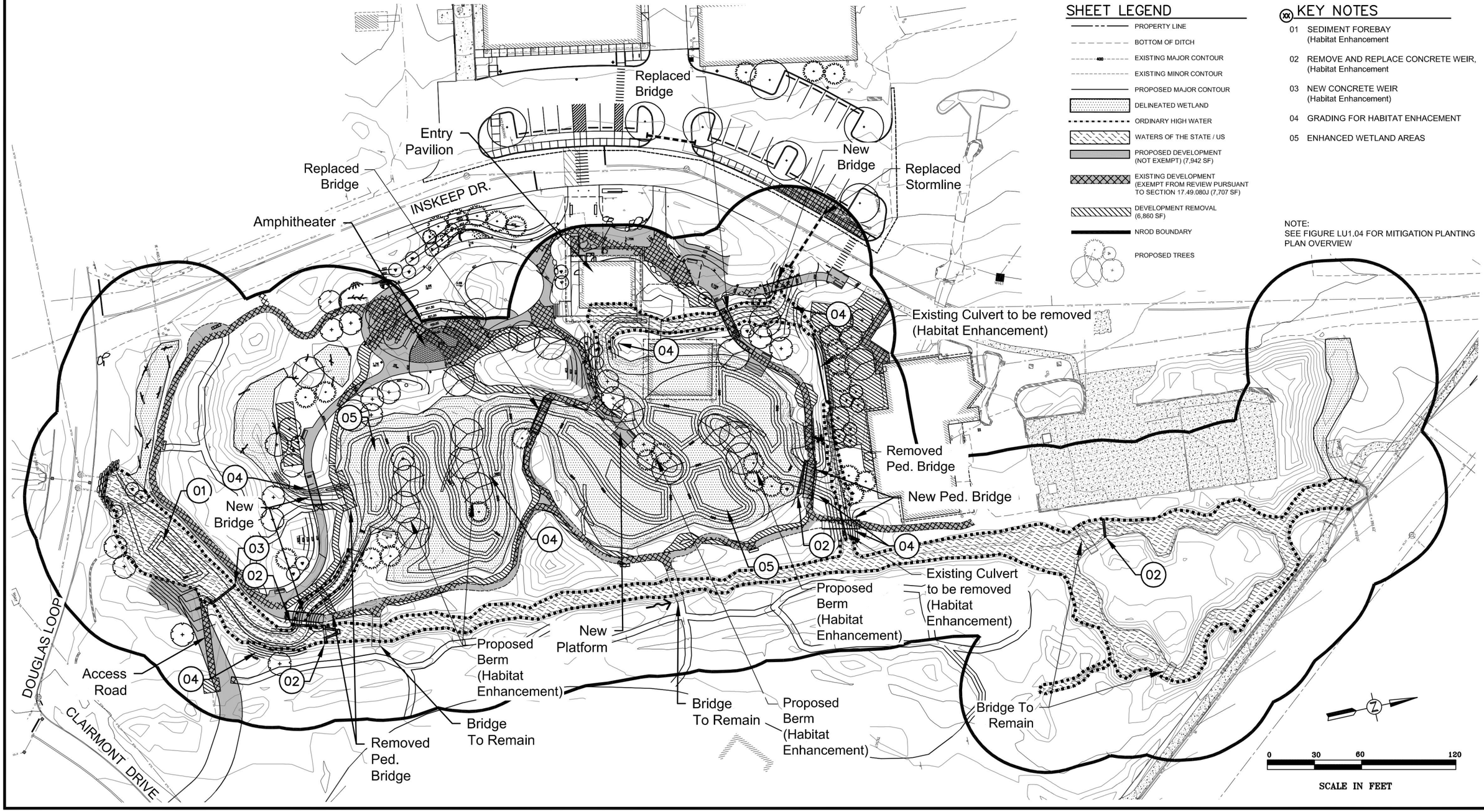
Existing Conditions

Environmental Learning Center- Oregon City, Oregon

FIGURE LUI.01

2-11-2016

X:\Project Directories\5500\5523 ELC Site Restoration\AutoCAD\Plot Dwg\NROD Figures\Fig4 Exist Cond.dwg, 2/9/2016 4:49:17 PM



SHEET LEGEND

- PROPERTY LINE
- BOTTOM OF DITCH
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- DELINEATED WETLAND
- ORDINARY HIGH WATER
- WATERS OF THE STATE / US
- PROPOSED DEVELOPMENT (NOT EXEMPT) (7,942 SF)
- EXISTING DEVELOPMENT (EXEMPT FROM REVIEW PURSUANT TO SECTION 17.49.080J (7,707 SF)
- DEVELOPMENT REMOVAL (6,860 SF)
- NROD BOUNDARY
- PROPOSED TREES

(XX) KEY NOTES

01 SEDIMENT FOREBAY (Habitat Enhancement

02 REMOVE AND REPLACE CONCRETE WEIR, (Habitat Enhancement

03 NEW CONCRETE WEIR (Habitat Enhancement)

04 GRADING FOR HABITAT ENHACEMENT

05 ENHANCED WETLAND AREAS

NOTE:
SEE FIGURE LU1.04 FOR MITIGATION PLANTING PLAN OVERVIEW

PHS
Pacific Habitat Services,Inc.
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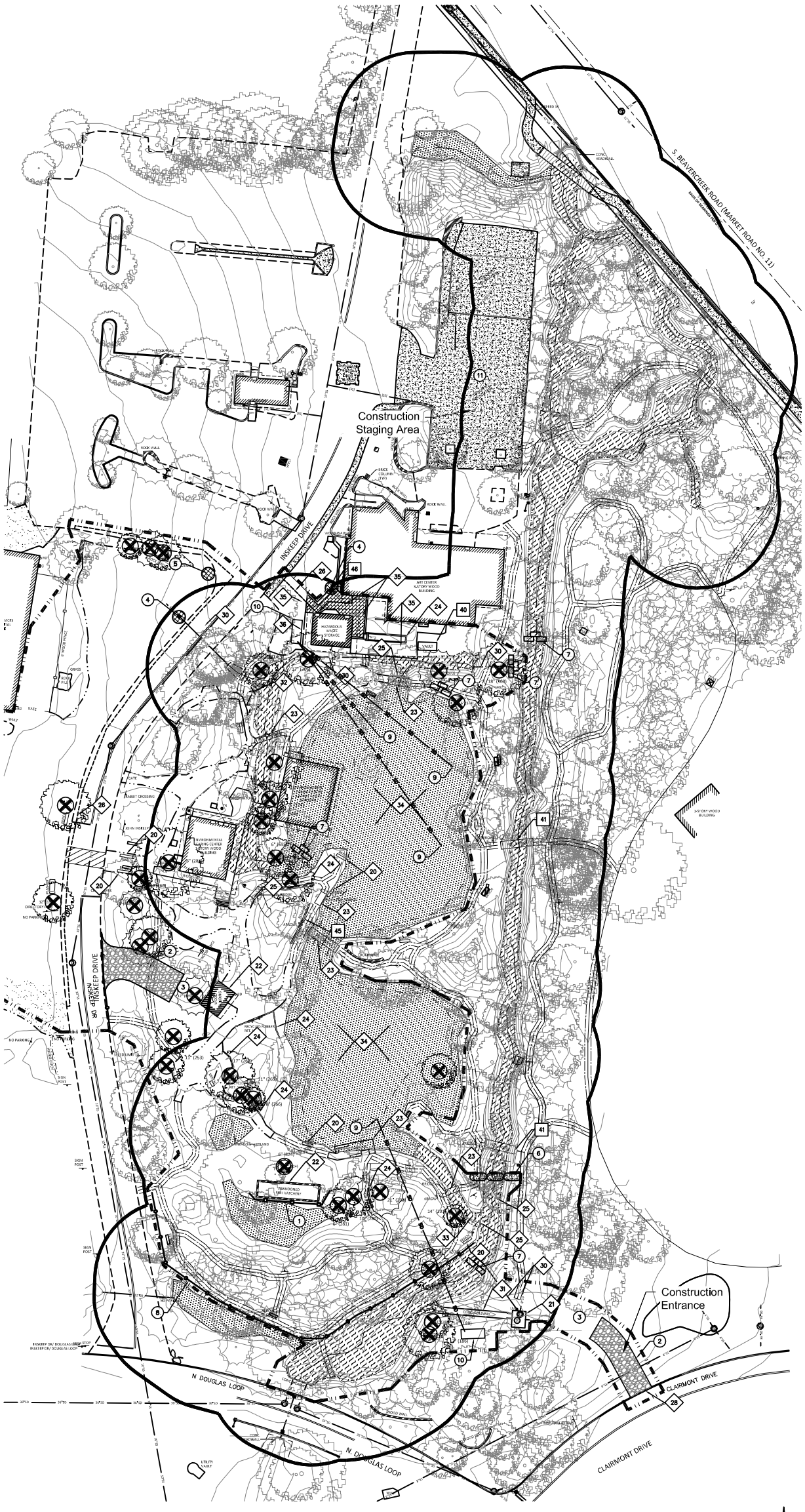
Phone: (503) 570-0800 Fax (503) 570-0855

Plan Provided by KPFF and Lango Hansen

Proposed Site Plan (Habitat Enhancement)
Environmental Learning Center- Oregon City, Oregon

FIGURE LUI.02

2-11-2016



X PROTECTION KEY NOTES

40 PROTECT VAULT

41 PROTECT PED. FOOTBRIDGE

42 PROTECT UNDERGROUND UTILITIES

43 PROTECT TREE

44 PROTECT MONUMENTATION

45 PROTECT WALL

46 PROTECT AREAS OF CONCRETE WALKWAY TO REMAIN, SEE LANDSCAPING SHEETS

SHEET LEGEND

PROPERTY LINE

ORDINARY HIGH WATER

DEMOLITION/WORK LIMITS

SAWCUT LINE

REMOVE OR ABANDON UTILITY LINE IN PLACE

TREES REMOVED WITHIN BUFFER (23)

DELINEATED WETLAND

WATERS OF THE STATE/ US

NROD BUFFER

(X) EROSION CONTROL KEY NOTES

1 INSTALL SEDIMENT FENCE

2 STABILIZED CONSTRUCTION ENTRANCE

3 TEMPORARY WHEEL WASH

4 INSTALL INLET PROTECTION OVER EXISTING INLET

5 INSTALL INLET PROTECTION OVER NEW INLET

6 INSTALL GRAVEL BAG BARRIER

7 INSTALL BIO FILTER BAG SEDIMENT BARRIER

8 STRAW WATTLES

9 INSTALL DE-WATERING SUMP WITH SURFACE MOUNTED DISCHARGE LINE

10 PORTABLE BAKER TANK, OR APPROVED EQUAL TO TREAT PUMPED WATER PRIOR TO CREEK DISCHARGE

11 FENCED CONTRACTOR STAGING AREA

SHEET NOTES

1. CONTRACTOR MAY STAGE WITHIN LIMITS OF DEMOLITION AND PAVED STAGING AREA INDICATED ON EC1.20.
2. REMOVE ALL SITE COMPONENTS AND RECYCLE COMPONENTS AS REQUIRED IN THE SPECIFICATIONS.
3. GENERAL DEMOLITION PERMIT SHALL BE SECURED BY THE CONTRACTOR.
4. ALL TRADE LICENSES AND PERMITS NECESSARY FOR THE PROCUREMENT AND COMPLETION OF THE WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING DEMOLITION.
5. THE CONTRACTOR SHALL PRESERVE AND PROTECT FROM DAMAGE ALL EXISTING RIGHT-OF-WAY SURVEY MONUMENTATION DURING DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PAYING FOR THE REPLACEMENT BY A LICENSED SURVEYOR OF ANY DAMAGED OR REMOVED MONUMENTS.
6. PROTECT ALL ITEMS ON ADJACENT PROPERTIES AND IN THE RIGHT OF WAY INCLUDING BUT NOT LIMITED TO SIGNAL EQUIPMENT, PARKING METERS, SIDEWALKS, STREET TREES, STREET LIGHTS, CURBS, PAVEMENT AND SIGNS. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY DAMAGED ITEMS TO ORIGINAL CONDITION.
7. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, AND OTHER FACILITIES IMMEDIATELY ADJACENT TO EXCAVATIONS FROM DAMAGES CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS.
8. SAWCUT STRAIGHT LINES IN SIDEWALK, AS NECESSARY.
9. CONTRACTOR IS RESPONSIBLE TO CONTROL DUST AND MUD DURING THE DEMOLITION PERIOD, AND DURING TRANSPORTATION OF DEMOLITION DEBRIS. ALL STREET SURFACES OUTSIDE THE CONSTRUCTION ZONE MUST BE KEPT CLEAN.
10. ALL EXPOSED PORTIONS OF UNDERGROUND UTILITIES TO BE ABANDONED SHALL BE PLUGGED PER DETAIL X/CXXX.
11. SEE LANDSCAPE PLANS FOR TREE PROTECTION AND ADDITIONAL VEGETATION REMOVAL.

(X) DEMOLITION KEY NOTES

20 REMOVE BENCH (116 SF)

21 REMOVE STORM DRAIN VAULT (91 SF)

22 REMOVE BUILDING/STRUCTURE (446 SF)

23 REMOVE PED. FOOTBRIDGE (336 SF PERMANENT REMOVAL)

24 REMOVE WALL (114 SF)

25 REMOVE CONCRETE WIER

26 SAWCUT LINE AND REMOVE ASPHALT

27 REMOVE EXISTING UNDERGROUND ELECTRICAL SERVICE.

28 REMOVE CATCH BASIN

29 MONUMENTATION (BRASS SCREW) IN AREA TO BE RECONSTRUCTED. SEE GENERAL NOTES ON SHEET C0.20.

30 REMOVE STORM PIPE

31 REMOVE CONCRETE CHANNEL (208 SF)

32. REMOVE PUMP HOUSE (11 SF)

33. REMOVE UTILITY CROSSING

34. REMOVE SEDIMENT AND LAYOUT TO DRY AND REUSE. COORDINATE WITH THE OWNER FOR THE STORAGE LOCATION.

35. REMOVE CONCRETE WALKWAY

36. REMOVE HAZARDOUS WASTE STORAGE BUILDING DEVELOPMENT AREA (3,069 SF) INCLUDES CONCRETE WALKWAY.

PHS
Pacific Habitat Services,Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax (503) 570-0855

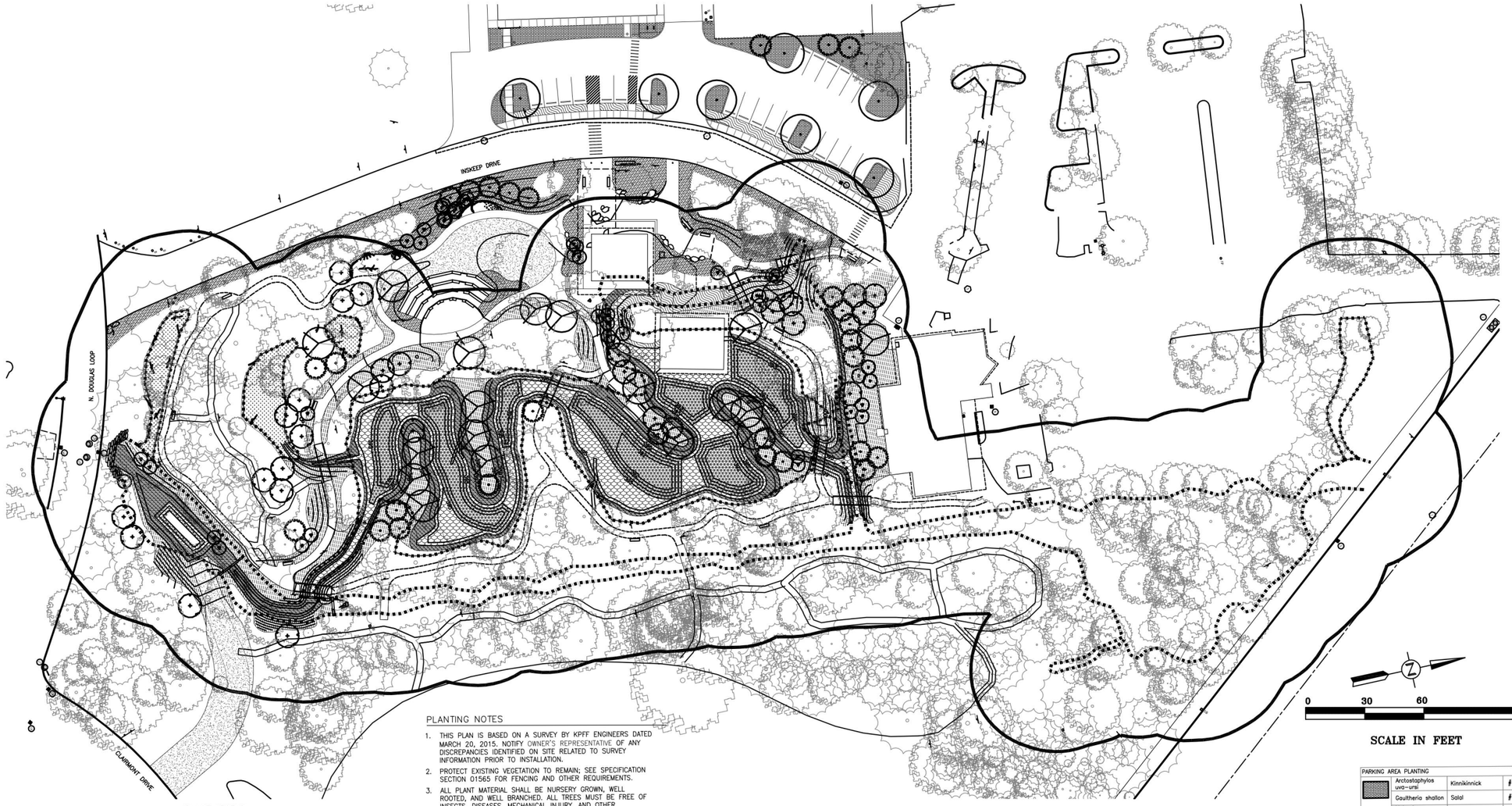
Plan Provided by KPFF and Lango Hansen

Demolition Plan

Environmental Learning Center- Oregon City, Oregon

FIGURE LUI.03

2-11-2016



PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/ CONDITION	SPACING
TREES				
	Acer circinatum	Vine Maple	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	AS SHOWN
	Alnus rubra	Red Alder	1/2" CAL./B&B	AS SHOWN
	Amelanchier alnifolia	Western Serviceberry	1.5" CAL./B&B	AS SHOWN
	Fraxinus latifolia	Oregon Ash	1/2" CAL./B&B	AS SHOWN
	Cornus 'Eddie's White Wonder'	Eddie's White Wonder Hybrid Dogwood	2" CAL./B&B	AS SHOWN
	Thuja plicata	Western Red Cedar	6' HT MIN/B&B	AS SHOWN
ADDITIONAL REQUIRED MITIGATION TREES				
To Meet mitigation requirements, a minimum of 79 trees in one gallon containers and 397 shrubs (Minimum 12" height) will be planted around the site under direction of the Landscape Architect.				
PLANTING ZONE 1 – ELS. ABOVE 398 IN RESTORATION ZONE				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	4LBS/ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	36" O.C.
	Physocarpus capitatus	Pacific Ninebark	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.
	Spiraea douglasii	Douglas spirea	#1/CONT.	36" O.C.
PLANTING ZONE 2 – ELEVATIONS BTWN 396 AND 398				
	Agrostis exarata	Spike Bentgrass	SEED	2LBS/ACRE
	Carex obnupta	Slough Sedge	PLUG	18" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	2LBS/ACRE
	Plagiobothrys figuratus	Fragrant Popcorn Flower	PLUG	18" O.C.
	Ranunculus sceleratus	Cursed Buttercup	PLUG	18" O.C.
PLANTING ZONE 3 – ELEVATIONS BTWN 395 AND 396				
	Alisma gramineum	Narrow–leaf Water Plantain	PLUG	18" O.C.
	Juncus effusus	Lamp Rush	PLUG	18" O.C.
	Juncus ensifolius	Daggerleaf Rush	PLUG	18" O.C.
	Leersia oryzoides	Rice Cutgrass	PLUG	18" O.C.
	Polygonum coccineum	Water Smartweed	PLUG	18" O.C.
	Scirpus microcarpus	Small Fruited Bulrush	PLUG	18" O.C.
	Sparganium eurycarpum	Broadfruit Bur–reed	PLUG	18" O.C.
	Schoenoplectus tabernaemontani	Soft–stem club–rush	PLUG	18" O.C.
PLANTING ZONE 4 – ELEVATIONS BELOW 395				
	Callitriche stagnalis	Pond–water Starwort	PLUG	18" O.C.
	Potamogeton crispus	Curly Pondweed	PLUG	18" O.C.
	Schoenoplectus tabernaemontani	Soft–stem Clubrush	PLUG	18" O.C.
	Stuckenia pectinata	Sago Pondweed	PLUG	18" O.C.
	Utricularia macrorhiza	Greater Bladderwort	PLUG	18" O.C.
MEADOW PLANTING				
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF
WETLAND PLANTING				
	Glyceria elata	Fowl Manna Grass	SEED	12LBS/ ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	6' O.C.
	Physocarpus capitatus	Ninebark	#1/CONT.	6' O.C.
	Spiraea douglasii	Douglas Spirea	#1/CONT.	6' O.C.
NATIVE ORNAMENTAL PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	24" O.C.
	Aquilegia formosa	Western Columbine	#1/CONT.	24" O.C.
	Blechnum spicant	Deer Fern	#1/CONT.	24" O.C.
	Erigeron speciosus	Aspen Fleabane	#1/CONT.	24" O.C.
	Festuca idahoensis	Idaho Fescue	#1/CONT.	24" O.C.
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF
	Fragaria vesca	Woodland Strawberry	#1/CONT.	12" O.C.
	Iris douglasiana	Douglas Iris	#1/CONT.	24" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Mahonia repens	Creeping Mahonia	#2/CONT.	24" O.C.
	Oemleria cerasiformis	Indian Plum	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	72" O.C.
	Philadelphus lewisii	Wild Mock Orange	#5/CONT.	42" O.C.
	Phlox adsurgens	Northern Phlox	#1/CONT.	24" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Sedum lanceolatum	Lanceleaf Stonecrop	#1/CONT.	12" O.C.
	Sedum oreganum	Oregon Stonecrop	#1/CONT.	12" O.C.
	Trillium ovatum	Trillium	#1/CONT.	24" O.C.
PARKING AREA PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	24" O.C.
	Gaultheria shallon	Salal	#1/CONT.	36" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Vaccinium ovatum	Evergreen Huckleberry	#3/CONT.	36" O.C.
STORMWATER PLANTING – PER OREGON CITY STANDARDS				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Eleocharis ovata	Ovate Spike Rush	#1/CONT.	12" O.C.
	Fragaria chiloensis	Coast Strawberry	SP/#4/CONT.	12" O.C.
	Juncus patens	Spreading Rush	#1/CONT.	12" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Rosa pisocarpa	Swamp Rose	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.

0 30 60 120

SCALE IN FEET

ABBREVIATIONS

B&B	BALLED & BURLAPPED
CAL	CALIPER
CONT	CONTAINER
CON	CONIFER
DECID	DECIDUOUS
DIA	DIAMETER
DBH	DIAMETER AT BREAST HEIGHT
EQ	EQUAL
EX	EXISTING
HT	HEIGHT
MIN	MINIMUM
MAX	MAXIMUM
NO	NUMBER
O.C.	ON CENTER
SIM	SIMILAR
SL	SEEDED LAWN
SPECS	SPECIFICATIONS
TYP	TYPICAL
#	CONTAINER SIZE

PLANT LEGEND

- PLANTING ZONE 1 (15,238 SF) ELEVATIONS ABOVE 398 IN RESTORATION ZONE
- PLANTING ZONE 2 ELEVATIONS BTWN 396 AND 398
- PLANTING ZONE 3 ELEVATIONS BTWN 395 AND 396
- PLANTING ZONE 4 ELEVATIONS BELOW 395
- MEADOW PLANTING
- WETLAND PLANTING
- NATIVE ORNAMENTAL PLANTING
- PARKING AREA PLANTING
- STORMWATER PLANTING PER OREGON CITY STANDARDS

PLANTING NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT EXISTING VEGETATION TO REMAIN; SEE SPECIFICATION SECTION 01565 FOR FENCING AND OTHER REQUIREMENTS.
3. ALL PLANT MATERIAL SHALL BE NURSERY GROWN, WELL ROOTED, AND WELL BRANCHED. ALL TREES MUST BE FREE OF INSECTS, DISEASES, MECHANICAL INJURY, AND OTHER OBJECTIONABLE FEATURES WHEN PLANTED. ALL PLANT MATERIAL SHALL CONFORM TO "AMERICAN STOCK STANDARDS" LATEST EDITION.
4. ALL PLANT MATERIAL TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SEE SPECIFICATIONS.
5. PLANT SPACING SHALL TAKE PRECEDENCE OVER VALVE BOX LOCATIONS. INSTALLED VALVE BOXES THAT CONFLICT WITH ACCEPTED PLANT LAYOUT SHALL BE MOVED TO POSITION BETWEEN PLANTS.
6. CLEAR PLANT BEDS OF ALL GRAVEL AND DEBRIS PRIOR TO SOIL PREPARATION AND PLANTING, FOR APPROVAL BY LANDSCAPE ARCHITECT.
7. ALL LANDSCAPE AREAS THAT HAVE A SLOPE GREATER THAN 1 VERTICAL FOOT IN 3 HORIZONTAL FEET SHALL RECEIVE JUTE MATTING, SEE SPECIFICATIONS.
8. ALL PLANTING AREAS ADJACENT TO NEW PARKING AREAS ARE TO BE IRRIGATED WITH A PERMANENT AUTOMATIC IRRIGATION SYSTEM. ALL AREAS WITHIN THE EXISTING ELC ARE TO BE IRRIGATED WITH TEMPORARY ABOVE–GROUND IRRIGATION FOR A PERIOD OF 3 YEARS MINIMUM.
9. ALL PARKING LOT AND STREET TREES MUST HAVE 6' CLEAR HEIGHT TO LOWEST BRANCHES.

NOTE:
THE PROPOSED PLANTING PLAN WAS DESIGNED TO MEET THE STANDARDS OF SECTION 17.41 (TREE PROTECTION STANDARDS), 17.49 (NATURAL RESOURCE OVERLAY DISTRICT), AND OTHER APPLICABLE LANDSCAPE PLAN STANDARDS. PLANTING WITHIN WETLANDS OR WATERS WILL BE REVIEWED BY THE DEPARTMENT OF STATE LANDS AND THE U.S. ARMY CORPS OF ENGINEERS.

LEGEND

- Existing Development (57,242 sf / 1.31 ac)
- Wetlands / Waters
- Existing Trees
- Natural Resource Overlay District Boundary (3.84 ac)

PHS
Pacific Habitat Services,Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax (503) 570-0855

lango.hansen LANDSCAPE ARCHITECTS PC

Proposed Mitigation Planting Plan Overview
Environmental Learning Center- Oregon City, Oregon

FIGURE
LUI.04

2-11-2016

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Appendix B

Wetland Delineation Concurrence Letter

Oregon
Kate Brown, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregon.gov/dsl

October 12, 2015

State Land Board

Kate Brown
Governor

Jeanne P. Atkins
Secretary of State

Ted Wheeler
State Treasurer

Clackamas Community College
Attn: Bob Cochran, Dean of Campus Services
Lewelling Building 107
19600 Molalla Avenue
Oregon City, OR 97045

Re: WD #2015-0398 Wetland Delineation Report for the Proposed Redevelopment of the John Inskeep Environmental Learning Center, Clackamas County;
T 3S R 2E S 9C Portion of TL 800; App. #58510;
City of Oregon City Local Wetlands Inventory, Wetland NE9A

Dear Mr. Cochran:

The Department of State Lands has reviewed the wetland delineation report prepared by Pacific Habitat Services for the site referenced above. Please note that the study area includes only a portion of the tax lot described above (see the attached map). Based upon the information presented in the report, we concur with the wetland and waterway boundaries as mapped in Figure 6 of the report. Within the study area, four wetlands and two ponds (totaling approximately 0.69 acres), and segments of three waterways, including Newell Creek and a side channel and an unnamed tributary to the creek were identified.

The wetlands and waterways are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high water line (OHWL) of a waterway (or the 2 year recurrence interval flood elevation if OHWL cannot be determined).

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or

agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. Please phone me at 503-986-5232 if you have any questions.

Sincerely,

Peter Ryan, PWS
Jurisdiction Coordinator

Approved by

Kathy Verble, CPSS
Aquatic Resource Specialist

Enclosures

ec: Tina Farrelly, Pacific Habitat Services
City of Oregon City Planning Department (Map enclosed for updating LWI)
Dominic Yballe, Corps of Engineers
Anita Huffman, DSL

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach this form to the front of an unbound report or include a hard copy of the completed form with a CD/DVD that includes a single PDF file of the report cover form and report (minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.** A single PDF attachment of the completed cover from and report may be e-mailed to **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail instructions on how to access the file from your ftp or other file sharing website. Fees can be paid by check or credit card. Make the check payable to the Oregon Department of State Lands. To pay the fee by credit card, call 503-986-5200.

☒ Applicant ☐ Owner Name, Firm and Address: **Clackamas Community College; Lewelling Building 107** **Attn: Bob Cochran, Dean of Campus Services** **19600 Molalla Ave** **Oregon City, OR 97045**	Business phone # **503-594-6790** Mobile phone # (optional) E-mail: **BobC@clackamas.edu**
☒ Authorized Legal Agent, Name and Address: SAME	Business phone # Mobile phone # E-mail: SAME

RECEIVED
SEP 01 2015
RECEIVED $ 406.00
DEPARTMENT OF STATE LANDS
CK # 2807

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.
Typed/Printed Name: ROBERT COCHRAN Signature:
Date: Special instructions regarding site access:

Project and Site Information (using decimal degree format for lat/long., enter centroid of site or start & end points of linear project)

Project Name: **ELC Site Restoration**	Latitude: **45.327865** Longitude: **-122.569668**
Proposed Use: **Redevelop Clackamas Community College's John Inskeep Environmental Learning Center into an outdoor learning laboratory, demonstration site, and natural area.**	Tax Map # **3S2E9A, 3S2E9B, and 3S2E9C**
Project Street Address (or other descriptive location): **Northeast portion of the CCC campus (29 Inskeep Drive).** City: **Oregon City** County: **Clackamas**	Township **3S** Range **2E** Section **9A, 9B, 9C** QQ Tax Lot(s) **800** Waterway: **Newell Creek** River Mile: **N/A** NWI Quad(s): **Oregon City**

Wetland Delineation Information

Wetland Consultant Name, Firm and Address: **Pacific Habitat Services** **Attn: Tina Farrelly** 9450 SW Commerce Circle, Suite 180 Wilsonville, OR 97070	Phone # **(503) 570-0800** Mobile phone # E-mail: **tf@pacifichabitat.com**

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.
Consultant Signature: Tina Farrelly Date: 8/17/15

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No | Study Area size: **5.6** | Total Wetland / Water Acreage: **0.69 ac / 0.42 ac**

Check Box Below if Applicable:	**Fees:**
☐ R-F permit application submitted	☒ Fee payment submitted **$ 406**
☐ Mitigation bank site	☐ Fee ($100) for resubmittal of rejected report
☐ Wetland restoration/enhancement project (not mitigation)	☐ No fee for request for reissuance of an expired report
☐ Industrial Land Certification Program Site	
☐ Reissuance of a recently expired delineation Previous DSL # Expiration date ____	

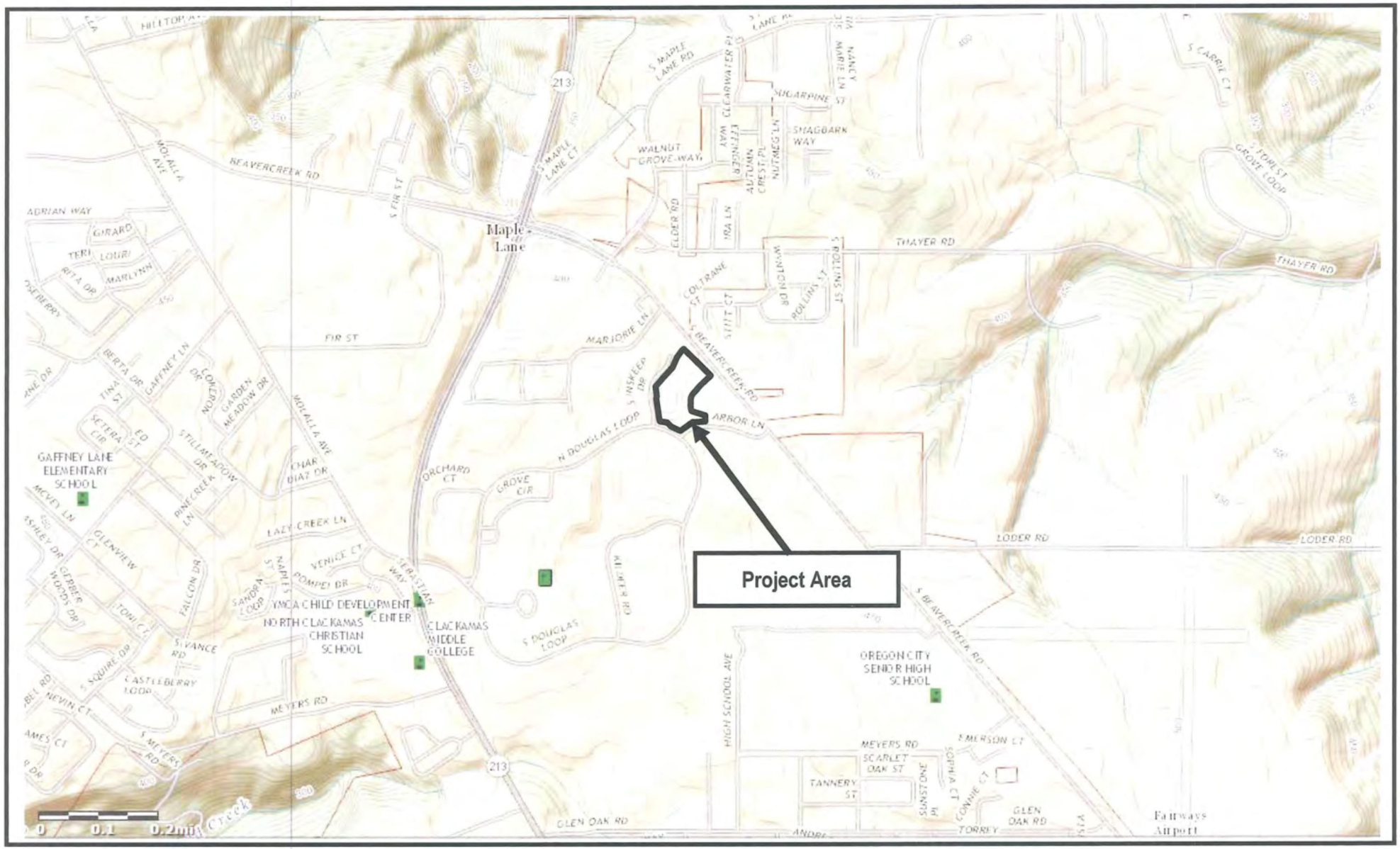
Other Information:	Y	N	
Has previous delineation/application been made on parcel?	☒	☐	If known, previous DSL # WD04-0131
Does LWI, if any, show wetland or waters on parcel?	☒	☐	

For Office Use Only

DSL Reviewer: PR	Fee Paid Date: 9/1/15	DSL WD # 2015-0398
Date Delineation Received: 9/1/15	DSL Project # 56504	DSL Site #
Scanned: ☒ Final Scan: ☐	DSL WN #	DSL App. # 58510

Form Updated 01/03/2013

WD2015-0398



5523
04/29/15

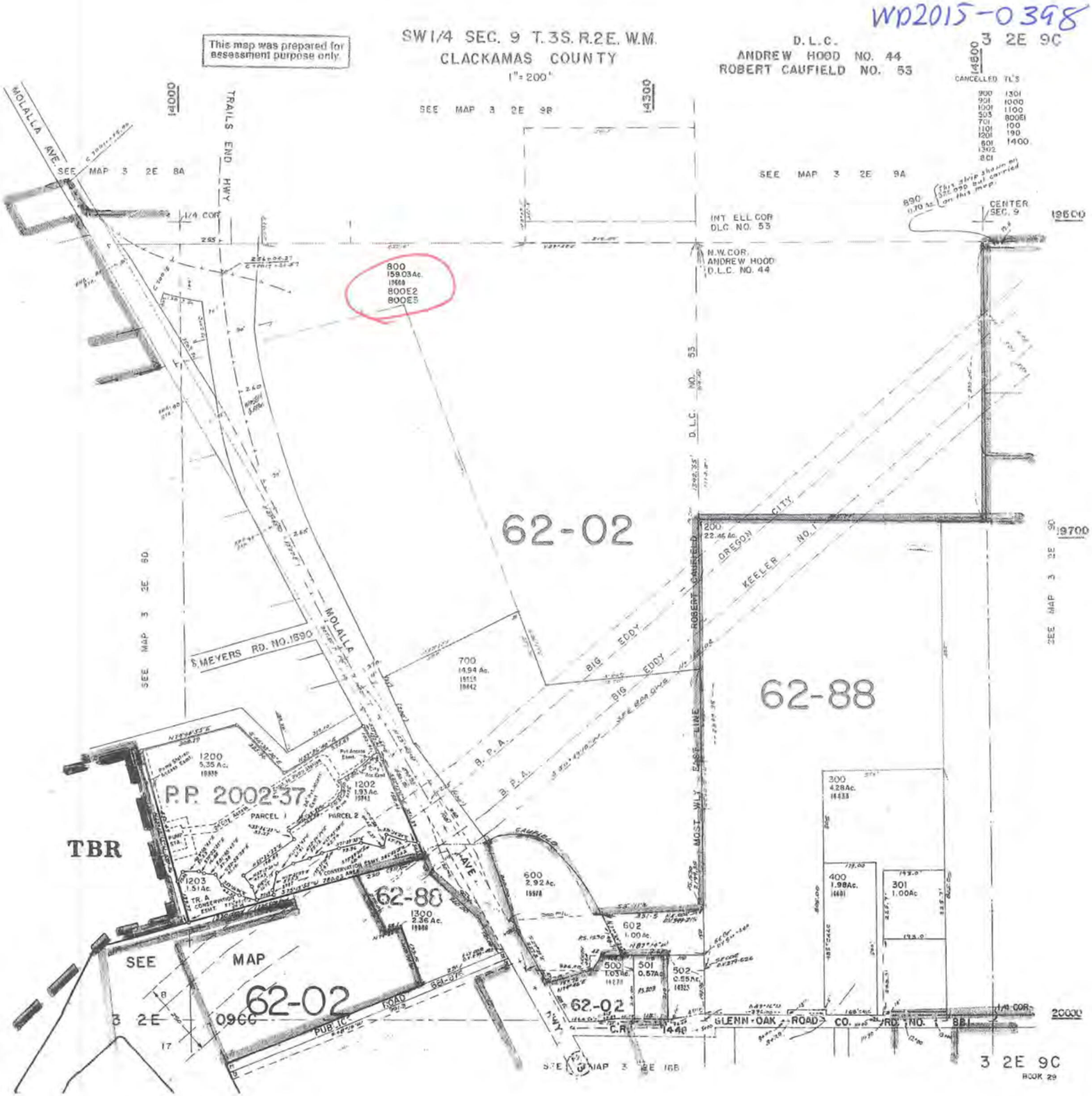
PHS

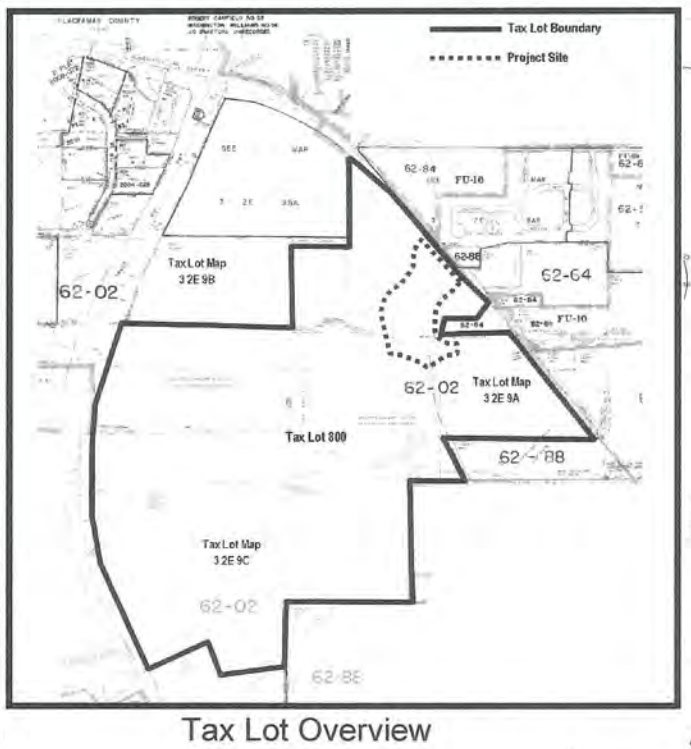
Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

General Location and Topography
Environmental Learning Center - Oregon City, Oregon
(USGS The National Map Viewer, Oregon City Quadrangle, 2015)

FIGURE
1

WD2015-0398


This map was prepared for assessment purpose only.
SW1/4 SEC. 9 T.3S. R.2E. W.M.
CLACKAMAS COUNTY
1"= 200'
D.L.C.
ANDREW HOOD NO. 44
ROBERT CAUFIELD NO. 53
3 2E 9C
CANCELLED TL'S
900 1301
901 1000
1001 1100
503 800E1
701 100
1201 190
1001 1400
601
1302
801
MOLALLA AVE.
TRAILS END HWY
SEE MAP 3 2E 8A
SEE MAP 3 2E 9B
SEE MAP 3 2E 9A
14000
14300
1/4 COR
INT ELL COR DLC NO. 53
CENTER SEC. 9
19600
N.W.COR. ANDREW HOOD D.L.C. NO. 44
800 159.03Ac. 17668 800E2 800E5
62-02
62-88
S. MEYERS RD. NO. 1590
MOLALLA
700 14.94 Ac. 15118 18942
OREGON CITY
KEELER
NO. 1
200 22.46 Ac.
ROBERT CAUFIELD
BIG EDDY
B.P.A.
EASE LINE
MOST WLY
19700
SEE MAP 3 2E 8D
SEE MAP 3 2E 9D
P.P. 2002-37
PARCEL 1
PARCEL 2
1200 5.35 Ac. 19888
1202 1.93 Ac. 19942
1203 1.51 Ac.
TR. A
CONSERVATION EASEMENT
TBR
600 2.92 Ac. 19878
602 1.00 Ac.
300 4.28 Ac. 16433
400 1.98 Ac. 16431
301 1.00 Ac.
500 1.03 Ac. 16233
301 0.57 Ac. 15209
502 0.55 Ac. 14325
62-88
1300 2.36 Ac. 19880
SEE MAP 62-02
62-02
3 2E 09CC
17
PUB. RD.
C.R. 1446
GLENN OAK ROAD CO. RD. NO. 881
1/4 COR
20000
SEE MAP 3 2E 16B
3 2E 9C
BOOK 29



Tax Lot Overview

Wetland A
(1,123 sf/ 0.03 ac)

BEAVER CREEK ROAD

Existing
Weir

Tributary 1
(211 sf /
0.005 ac)

Newell Creek Side Channel
(488 sf / 0.01 ac)

Existing
Ped. Bridge
(Typical)

Existing
Culvert

Newell Creek
(14,967 sf / 0.34 ac)

INSKEEP ROAD

Existing
Culvert

Newell Creek

Newell Creek Side Channel
(2,003 sf / 0.05 ac)

POND A
(15,222 sf / 0.35 ac)

Existing
Weir

Existing
Ped.
Bridge

POND B
(11,008 sf / 0.25 ac)

Wetland B
(414 sf/ 0.01 ac)

Newell Creek
Side Channel
(504 sf / 0.01 ac)

Existing
Weir

Wetland C
(1,430 sf/ 0.03 ac)

TAXLOT 800

Wetland D
(1,039 sf/ 0.02 ac)

DOUGLAS LOOP

LEGEND

- Study Area Boundary (243,784 sf/ 5.6 ac)
- Wetland (Total 30,236 sf/ 0.69 ac)
- Waters of the State/US (Total 18,173 sf / 0.42 ac)
- Ordinary High Water (OHW)
- Direction of Flow
- Sample Point
- Photo Point

DSL WD # 2015-0398
Approval Issued 10/12/15
Approval Expires 10/12/20

0 30 60 120
SCALE IN FEET

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax (503) 570-0855

Survey provided by KPFF.
Survey accuracy is sub-centimeter. Sample points accuracy is sub-centimeter except sample point 14 accuracy is ± 3 feet.

Wetland Delineation
Environmental Learning Center - Oregon City, Oregon

FIGURE 6

7-21-2015

Appendix C

Vegetated Corridor Data Sheets

Vegetated Corridor Sample Sites

Plant Community	A								
Sample Point	**2**	**3**	**4**	**6**	**8**	**10**	**12**	**14**	
TREES									
Native									
Acer macrophyllum				15	30	40			
Alnus rubra									
Fraxinus latifolia									
Pseudotsuga menziesii	5	10					30		
Populus balsamifera				40				20	
Salix scouleriana									
Thuja plicata		30							
Nuisance Plant									
Crataegus monogyna									
Prunus avium									
SHRUBS & SAPLINGS									
Native									
Acer macrophyllum					10	5			
Amelanchier alnifolia									
Berberis aquifolium									
Corylus cornuta					10				
Crataegus douglasii	10								
Frangula purshiana									
Gaultheria shallon									
Mahonia aquifolium									
Oomleria cerasiformis									
Physocarpus capitatus									
Populus balsamifera				10					
Rubus ursinus	25	10							
Rosa gymnocarpa									
Rosa pisocarpa									
Rubus ursinus			20						
Sambucus racemosa									
Symphoricarpos albus					10		20		
Thuja plicata									
Nuisance Plant									
Ilex aquifolium						5			
Philadelphus species							20		
Rubus armeniacus	60	5		35	5	5			
HERBS									
Native									
Carex leptopoda									
Equisetum arvense									
Galium aparine									
Geum macropyllum					10	10			
Impatiens noli-tangere									
Juncus effusus				5					
Juncus tenuis									
Polystichum munitum	5			5					
Pteridium aquilinum									
Rubus ursinus									
Urica dioica									
Nuisance Plant									
Cardamine oligosperma				5					
Cirsium vulgare									
Clematis ligusticifolia									
Clematis vitabla									
Convolvulus sp.									
Cytsus scoparius									
Geranium robertianum					3				
Hedera Helix			30			10			
Hypericum species				5					
Lythrum salicaria									
Phalaris arundinacea									
Polygonum cuspidatum									
Taraxacum officinale			25						
	A								Average
Canopy cover	**5**	**40**	**0**	**55**	**30**	**40**	**30**	**20**	**28**
% Native Species	**43**	**91**	**27**	**63**	**90**	**73**	**71**	**100**	**70**
% Invasive Species	**57**	**9**	**40**	**29**	**6**	**20**	**0**	**0**	**20**

Findings: (-)
County: Clackamas
Township, Range, Section: T3S, R2E, Section 9
USGS Quadrangle: *Oregon City, Oreg.*, 7.5, 1961, Photorevised 1985
Total Project Acres: 5
Total Acres Surveyed: 5
Project Type: Survey
Field Notes Location: AINW

CULTURAL RESOURCE SURVEY OF THE PROPOSED CLACKAMAS COMMUNITY COLLEGE ENVIRONEMENTAL LEARNING CENTER IMPROVEMENT PROJECT IN OREGON CITY, OREGON

Prepared for
Pacific Habitat Services, Inc.
Wilsonville, Oregon

August 8, 2007

REPORT NO. 1973

Archaeological Investigations Northwest, Inc.
2632 SE 162nd Ave. • Portland, OR • 97236 Phone 503 761-6605 • Fax 503 761-6620

CULTURAL RESOURCE SURVEY OF THE PROPOSED CLACKAMAS COMMUNITY COLLEGE ENVIRONMENTAL LEARNING CENTER IMPROVEMENT PROJECT IN OREGON CITY, OREGON

PROJECT SITE: Proposed Clackamas Community College Environmental Learning Center Improvement Project in Oregon City, Oregon

TYPE: Cultural Resource Survey

LOCATION: Section 9, Township 3 South, Range 2 East, Willamette Meridian

COUNTY: Clackamas

USGS QUAD: *Oregon City, Oreg.*, 7.5-minute, 1961 (Photorevised 1985)

TOTAL AREA SURVEYED: Approximately five acres

FINDINGS: No cultural resources were identified. A finding of "No historic properties affected" is recommended

PREPARERS: Kelsey W. Buchanan, M.A., and David V. Ellis, M.P.A.

INTRODUCTION

Archaeological Investigations Northwest, Inc. (AINW), conducted a cultural resource literature search and pedestrian archaeological survey for the proposed Clackamas Community College Environmental Learning Center Improvement Project in Oregon City, Clackamas County, Oregon, for Pacific Habitat Services, Inc., of Wilsonville, Oregon. The proposed project includes filling and grading portions of an existing man-made wetland, in order to remove the existing vegetation, and to reconfigure the existing wetland into a hydrologically continuous system. This project requires obtaining a Section 404 permit under the Clean Water Act from the U.S. Army Corps of Engineers (USACE). Issuance of the permit is an "undertaking" as defined in the implementing regulations (36 CFR 800) of the National Historic Preservation Act and must also address the provisions of Appendix C of 33 CFR 325 of the USACE. Pacific Habitat Services, Inc., contracted with AINW to address the USACE cultural resource requirements.

The area surveyed encompassed the areas delineated for the proposed improvements and measured approximately five acres. The Clackamas Community College Environmental Learning Center (CCC ELC) is located on the Oregon City CCC campus. The project area is bounded by Beavercreek Road to the northeast, Inskeep Drive to the west, and Douglas Loop to the south. The project area is located in the northeast and southeast quarters of the northwest quarter of Section 9 of Township 3 South, Range 2 East, Willamette Meridian.

The project area was surveyed for archaeological resources and a literature search was conducted for historic, ethnographic, and traditional cultural uses. No prehistoric or historic-period archaeological resources were identified during the survey.

ENVIRONMENTAL SETTING

The project area is located in western Clackamas County, within the eastern edge of the Willamette Valley. The Willamette Valley physiographic province extends from Cottage Grove, Oregon, in the south to the Columbia River in the north. It is bordered by the Coast Range on the west and the Cascade Range on the east (Baldwin 1964; Orr et al. 1992). The Willamette Valley is characterized by low relief terrain ranging in elevation from 15 to 137 meters (m) (50 to 450 feet [ft]) (Balster and Parsons 1968). Miocene flood basalts from the Columbia Rover Basalt Group are overlain by up to 500 m (1,650 ft) of Neogene and Quaternary fill (O'Connor et al. 2001; Orr at al. 1992). The fill has accumulated from the adjacent ranges and from the Columbia River during the Missoula Floods. A reduced energy flow through the Columbia River near Rainier, Oregon, resulted in backflooding into the Willamette Valley, which is referred to as Lake Allison. The floods deposited approximately the top 100 m (330 ft) of sediments at the end of the Pleistocene during at least 40 flood events (McDowell 1991; Orr and Orr 1996). The flood-derived soils of the Willamette Valley are known as the Willamette Formation. The eastern margin of the Willamette Valley also contains glaciofluvial deposits in some places (McDowell 1991).

The soils in the project area are mapped as Bornstedt silt loam, 0 to 8 percent slopes (Gerig 1985). This soil series consists of deep, moderately well drained soils that formed in mixed old alluvium, and has slow to medium runoff and slow permeability (USDA-NRCS 1998). The headwaters of Newell Creek originate a short distance away from the current project area. The creek meanders throughout the project area before entering a forested canyon west of Highway 213 (CCC ELC 2007). Newell Creek winds north to its confluence with Abernathy Creek, a tributary of the Willamette River, approximately 3.9 kilometers (km) (2.4 miles [mi]) away from the current project area.

According to the 1852 General Land Office (GLO) map of Township 3 South, Range 2 East, Willamette Meridian, the current project area was situated on land that was "considerably rolling." The soil was "1st and good 2nd rate," supporting fir, cedar, alder, and maple, in addition to vine maple, hazel, and fern.

CULTURAL CONTEXT

The lower Clackamas River drainage lies within the traditional homeland of the Clackamas Indians. The Clackamas Indians were among the Chinookans who occupied the Columbia River valley from The Dalles to the Pacific Ocean and up the Willamette River as far as Willamette Falls. The Clackamas people occupied the Clackamas River drainage from the foothills of the Cascade Range down to the confluence of the Clackamas and Willamette rivers. The people who lived at Willamette Falls (known historically as the Clowewalla or Tumwaters) may have been part of the Clackamas or were closely related to them. The Clackamas Indians are known to have had close ties to the Native groups of the Columbia River Gorge, with whom they shared the same dialect of Upper Chinookan.

The Clackamas first appear in Euroamerican historical records in the journals of the Lewis and Clark Expedition of 1805-1806. The explorers never visited the Willamette Falls or Clackamas River, but from Indian information they reported that there were eleven Clackamas villages along both sides of the Clackamas River, beginning some distance above its mouth. These were not mapped or otherwise located, but the total population was estimated at 1,800 in the spring of 1806 (Moulton 1990:486).

In 1850, Congress passed the Donation Land Act, which provided up to 640 acres of free land for families that settled in the Oregon Country. The passage of the act stimulated increased migration to the Willamette Valley and spurred efforts to extinguish the Indian title to lands in the Willamette Valley. In 1851, Territorial Governor Joseph Lane and Oregon Superintendent of Indian Affairs Anson Dart began a series of treaty negotiations with the Indians of western Oregon to arrange for cession of Indian title. These treaties included the Clackamas Indians. The territory ceded by the Clackamas in this treaty extended from the Columbia River on the north, east to the Cascade Range, west to the Willamette River, and south to the lands ceded by the Molala Indians. The Clackamas treaty did not include creation of a reservation for this group.

The treaties of 1851 were never ratified by Congress due to settler opposition to Indian reservations in the Willamette Valley. Beginning in 1854, the new Oregon Superintendent of Indian Affairs, Joel Palmer, negotiated a second series of treaties that did not provide for any reservations in the Willamette Valley. In January 1855, Palmer initiated new treaty negotiations with the "confederated bands of Indians residing in the Willamette Valley." The area ceded to the United States by this collectivity of groups extended from the Columbia River south to the Calapooya Mountains (the divide between the Willamette and Umpqua river drainages) and from the Coast Range on the west to the Cascade Range on the east. No reservation was to be created under the terms of this treaty. Instead, the treaty directed that the bands were "to remain within the limits of the country ceded, and on such temporary reserves as may be made for them by the superintendent of Indian affairs, until a suitable district of country shall be designated for their permanent home." The treaty was ratified in March 1855 (Kappler 1904:665).

Most Indians from northwest Oregon were moved to the Grand Ronde Agency, including the Clackamas. The process of getting Indians on the reservation was erratic, however, and never completely carried out. Some people never went at all and some moved from one reservation to another to join relatives (Beckham 1991:44-49). In the late 1920s, anthropologist Melville Jacobs interviewed Mrs. Victoria Howard, one of the last Native speakers of Clackamas, who was then living at West Linn. Some Clackamas Indians therefore managed to remain in their traditional homeland well into the 1900s.

The 1852 GLO map for Township 3 South, Range 2 East, Willamette Meridian, shows four farms less than 1.6 km (1 mi) to the south of the current project area. The farms and two structures appear to belong to Robert Caufield. Two roads labeled "Road to Oregon City," running north-south and east-northwest, are in the vicinity of the project area. According to the 1860 GLO map for the area, the project area was within Donation Land Claims belonging to Robert Caufield (No. 53) and Washington Williams (No. 56). Caufield was born in 1805 in Ireland, and arrived in Oregon before 1850 (Gurley 1975). He was married to Jane Burnside, also of Ireland, and died in 1891. Williams, of Kentucky, was born in 1806 and married to Hester (Hessey) Stevens of Indiana (Gurley 1975). He also settled in Oregon prior to 1850.

Oregon City was officially platted and named in 1842 by Dr. John McLoughlin, chief factor for the Hudson Bay Company's Columbia department (Koler/Morrison Planning Consultants 1990). Oregon City was incorporated in 1844, the first city west of the Rockies to do so. The Oregon City post office was established in 1847, with David Hill as the postmaster (McArthur and McArthur 2003). Oregon City was the Oregon Territory's first capital until it was moved to Salem in 1852, at which time the pace of growth in Oregon City began to slow. The area continues to be known for its wood and timber industries.

PREVIOUS CULTURAL RESOURCE STUDIES

A literature search and records review was conducted for the project area. Records from the State Historic Preservation Office (SHPO) and historic-period GLO maps from the Bureau of Land Management were reviewed to identify known prehistoric or historic-period resources. Other historic-period maps and published secondary sources, on file at AINW, were examined to determine the likelihood of prehistoric or historic resources in the project area. The literature review and records search indicate that no previous archaeological survey work has been done within the current project area.

There have been at least four cultural resource surveys preformed within approximately 1.6 km (1 mi) of the project area (Becker and Roulette 2005; Fagan et al. 1994; Kent 1977; Van Ingen 1985), which have recorded at least three archaeological sites (Becker 2005; Darby 1991; Reese and Donald 1991). Most of the surveys that have been conducted in the vicinity of the project area have been linear pipeline or road surveys. The two prehistoric sites and one historic-period site were over 0.8 km (0.5 mi) to the east and southeast of the current project area. Both prehistoric sites were located near creeks, and the historic-period site was recorded as the Ventura Barn and Chicken House.

AINW PEDESTRIAN FIELD SURVEY METHODS AND FINDINGS

On July 18, 2007, AINW Supervising Archaeologist Kelsey W. Buchanan, M.A., conducted a pedestrian archaeological survey of the proposed Clackamas Community College Environmental Learning Center Improvement Project area. The survey area encompassed five acres of the proposed wetland reconfiguration. The proposed project includes filling and grading portions of an existing man-made wetland, in order to remove the existing vegetation, and to reconfigure the existing wetland into a hydrologically continuous system.

Until 1972, the project area was the location of a Smucker's factory and berry field. In the late 1970s, CCC initiated the "Ecology Pond Project," which transformed the berry fields and factory into a nature center. Included in that project was the redesigning of a settling pond, creation of foot bridges and numerous trails, and restoration of Newell Creek (Photos 1 and 2). The current project area has therefore been heavily disturbed on at least two occasions: when the factory was constructed, and when the current nature area was created. It is clear from a 1975 aerial photograph that the project area was not always a wetland nature area, as structures associated with the Smucker's factory are visible on the aerial photograph (Figure 3).

The project area was surveyed in meandering transects, approximately 10 m (32.8 ft) apart, often following the existing dirt and gravel paths throughout the 5-acre wetland area (Photo 3). Some impenetraable areas that were thickly covered with trees and bushes were not surveyed. The landscape at the project area includes over 250 species of trees, shrubs, and flowers, including non-native species such as Japanese maple, blackberry, and ivy (CCC ELC 2007). Currently, only native species are being planted there, and the center is in the process of removing some of the non-native species. The visibility of mineral soil varied from poor to good (0-50%) over the project area. No prehistoric or historic-period artifacts were observed during the pedestrian survey.

CONCLUSIONS AND RECOMMENDATIONS

No evidence of prehistoric Native American or historic-period archaeological resources was observed during the pedestrian survey of the project area. The current project area has been heavily disturbed as a result of the construction and destruction of the Smucker's factory, and the subsequent construction of the wetland nature area. As a result of the fieldwork and archival research, it is AINW's professional opinion that it is unlikely that a significant archaeological site is present within the project area. AINW therefore recommends no additional studies for the proposed Clackamas Community College Environmental Learning Center Improvement Project. AINW recommends a finding of "No historic properties affected" for the proposed project.

It is possible that some archaeological resources may be present for which there is no surface evidence. To ensure compliance with relevant state and federal requirements, should evidence of archaeological or historical resources be encountered during construction, all ground-disturbing activity in the vicinity of the find(s) should be halted immediately and the USACE, and the SHPO, should be promptly notified. Ground-disturbing activity may not resume in the vicinity of the find(s) without prior approval of the USACE and SHPO. If evidence of human remains or Indian burials is encountered in any of the excavations, all ground-disturbing activity in the vicinity of the find(s) should be halted immediately and the USACE, the SHPO, the appropriate Tribes, the Commission on Indian Services, the Oregon State Police, and the Clackamas County Medical Examiner should be promptly notified pursuant to ORS 97.745(4).

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Van Ingen, Richard
1985 *Cultural Resources Report Beavercreek Road Extension Project.* Clackamas County Department of Transportation and Development, Planning and Economic Development Division, Oregon City, Oregon.

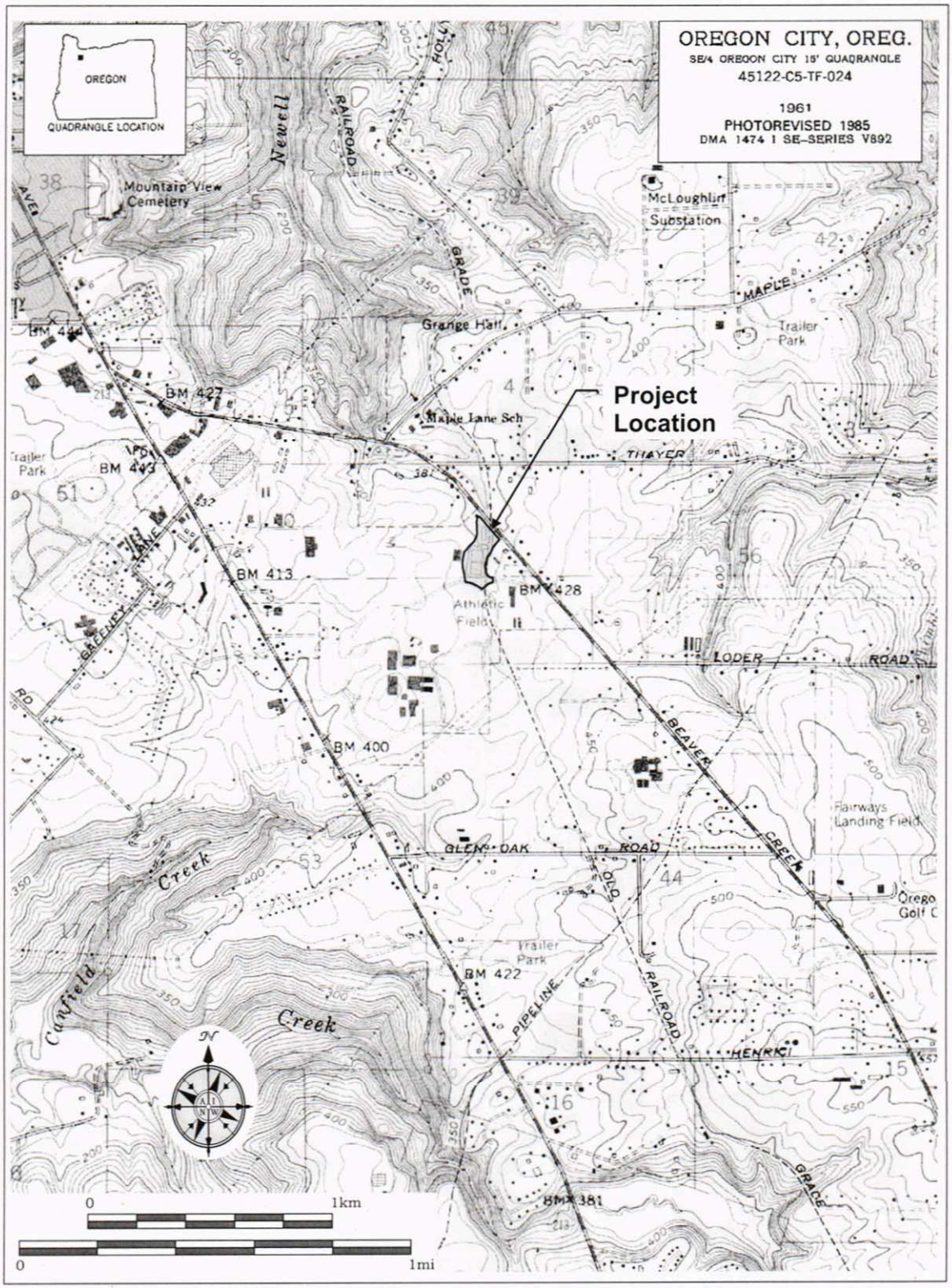

Figure 1. Clackamas Community College project location.

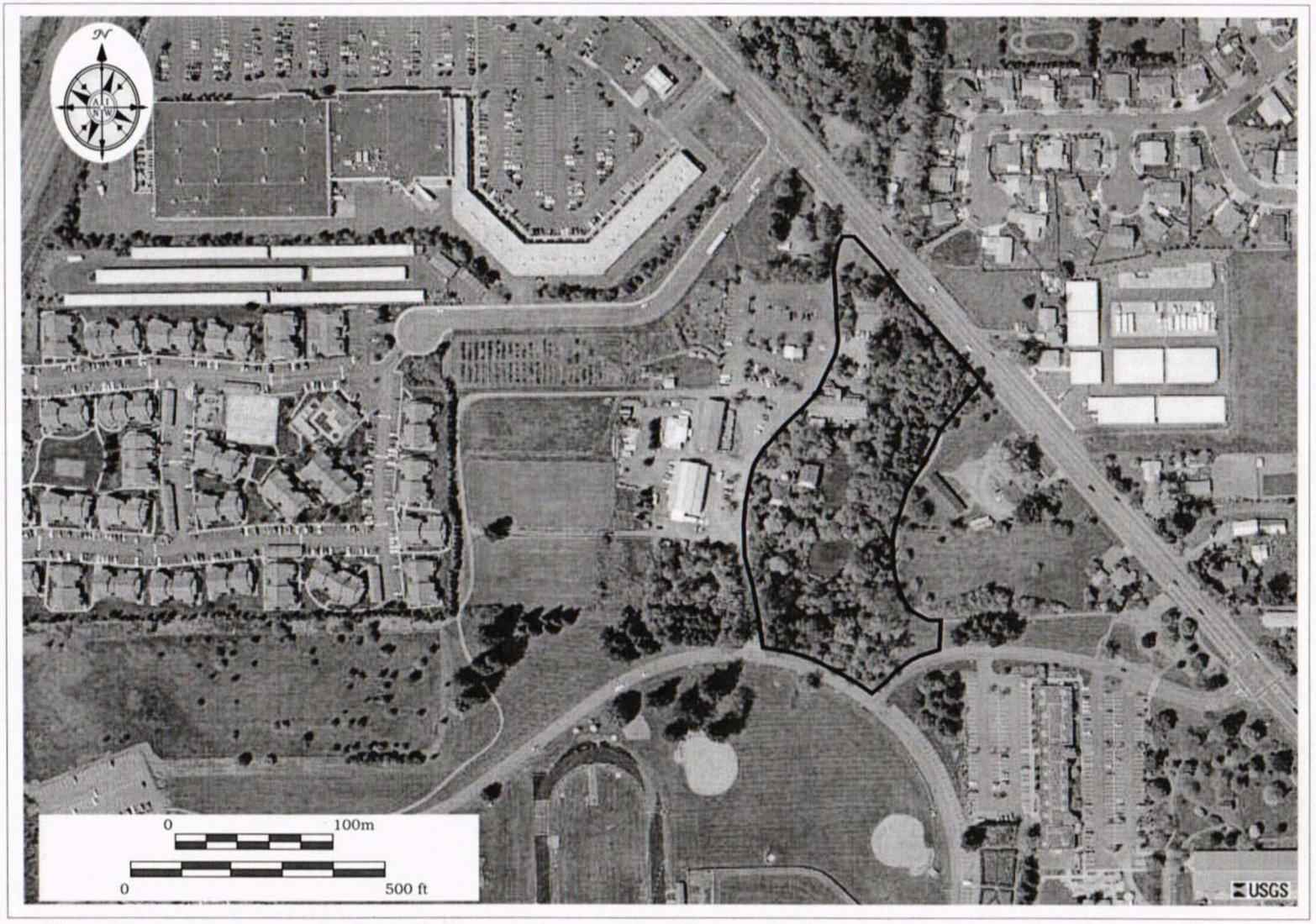

Figure 2. Aerial photograph of the Clackamas Community College project area.

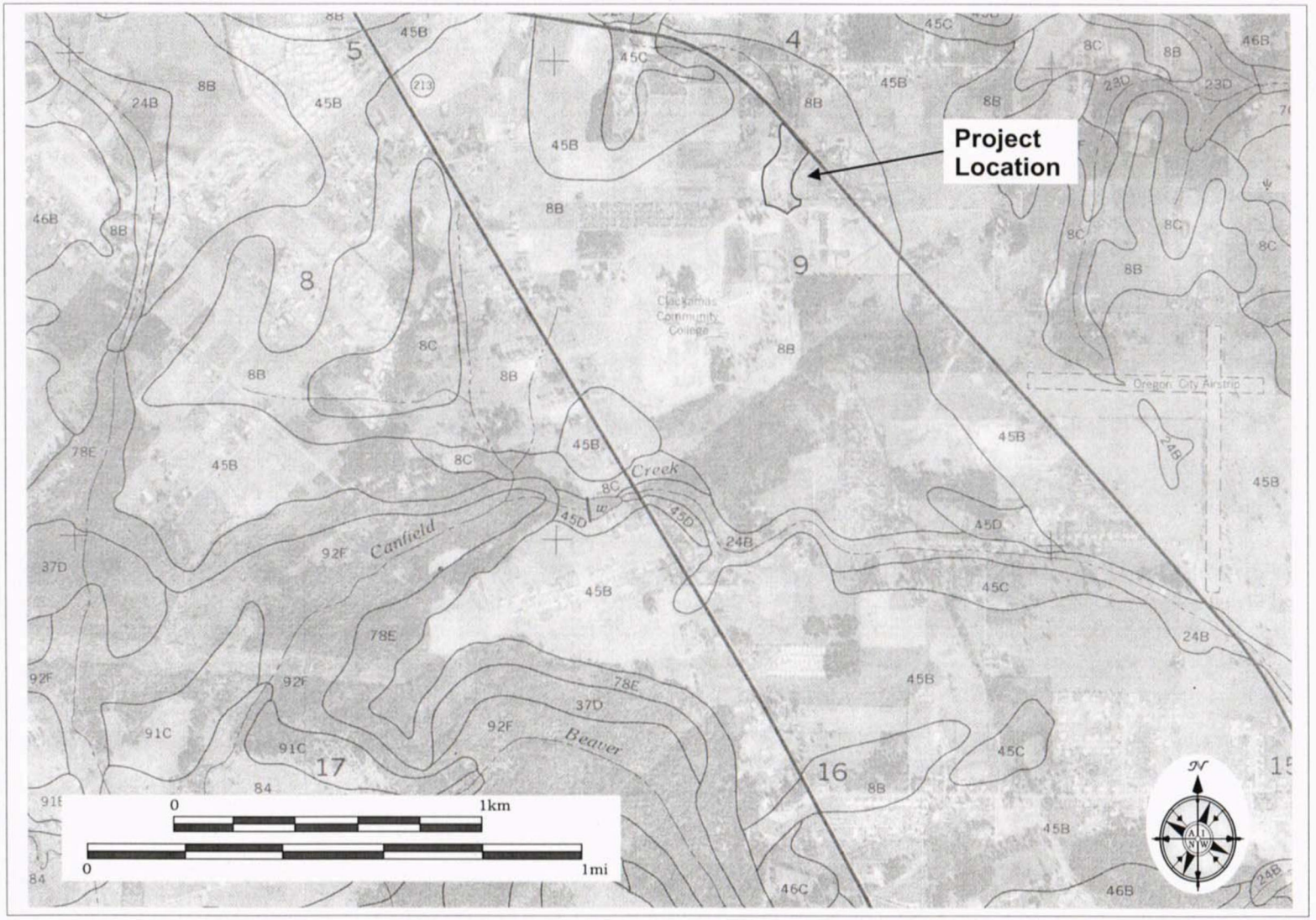

Figure 3. Approximate project location shown on a 1975 aerial photograph.

Photo 1. View of the creek in the eastern portion of the project area, facing north-northwest.

Photo 2. Overview of the settling pond, with an ELC building to the southwest, facing south.

Photo 3. Overview of a portion of the project area, facing east.

Oregon
Theodore R. Kulongoski, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St. NE, Suite C
Salem, OR 97301-1266
(503) 986-0707
FAX (503) 986-0793
www.hcd.state.or.us

Nature HISTORY Discovery

received 9/13/07

9/10/2007

Mr. John Fagan
Archaeological Investigations NW Inc
2632 SE 162nd
Portland, OR 97236

RE: SHPO Case No. 07-2258
Clackamas Comm College Enviro Learning Center Project
3S 2E 9, Oregon City, Clackamas County

Dear John:

Our office recently received your report (SHPO # 21391) about the project referenced above. I have reviewed your report and agree that the project will have no affect on any known cultural resources. No further archaeological research is needed with this project.

Please be aware, however, that if during development activities you or your staff encounters any cultural material (i.e., historic or prehistoric), all activities should cease immediately and an archaeologist should be contacted to evaluate the discovery. Under state law (ORS 358.905-955) it is a Class B misdemeanor to impact an archaeological site on public or private land in Oregon. Impacts to Native American graves and cultural items are considered a Class C felony (ORS 97.740-760). If you have any questions regarding any future discovery or my letter, feel free to contact our office at your convenience.

Dennis Griffin

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@state.or.us

Archaeological Investigations Northwest, Inc.

E-mail: ainw@ainw.com
Vancouver Phone 360 696-7473

2632 SE 162nd Ave. • Portland, OR • 97236
Phone 503 761-6605 • Fax 503 761-6620

MEMO

Date: July 6, 2007

To: John van Staveren, PHS

From: David V. Ellis, Senior Archaeologist

Re: Clackamas Community College – Environmental Learning Center Improvement Project
Cultural resources survey

Per your request and based on the information you provided, Archaeological Investigations Northwest, Inc. (AINW), is prepared to conduct the requested cultural resource survey to address the requirements of the U.S. Army Corps of Engineers (USACE) under Section 106 of the National Historic Preservation Act. We have developed the following scope of work to identify known or likely cultural resources for the Clackamas Community College – Environmental Learning Center Improvement Project. We have defined the following three tasks to meet these requirements:

1. AINW will review the records of the Oregon State Historic Preservation Office (SHPO) to determine if there have been previous cultural resource studies conducted at or in the immediate vicinity of the Clackamas Community College – Environmental Learning Center Improvement Project location and if cultural resources have been identified at or in the immediate vicinity of that property.
2. AINW will conduct a systematic pedestrian survey or inspection of the project location following the guidance provided in the communication from Jan Stuart of the USACE.
3. AINW will prepare a brief technical report that presents the results of the SHPO records search and the field survey. This report would also provide relevant background cultural and environmental information. Recommendations for further actions that might be required to meet state and federal cultural resource requirements will be included in the report as needed. The report will meet state and federal standards.

Projected costs for these tasks are $3,250.95; detailed costing data are attached. Our cost proposal addresses only the three tasks defined above and assumes that no archaeological or historical resources will be identified at the project location. We would initiate the first two tasks within five business days of receiving notice to proceed. A draft report would be provided within five business days of completing the second task. The final report would be provided within five business days of receiving review comments on the draft.

Please let me know if you have any questions regarding our proposal. We look forward to the opportunity to work with you on this project. Thank you.

(dve:P518)

Pacific Habitat Services:Clackamas Community College ELC Project
Cultural Resources Survey

Labor

Task	Staff position	Hours	Hourly rate	Total	
Task 1. Project management & coordination	Senior archaeologist	4	$66.71	$266.84	
	Project asst	2	$47.89	$95.78	
	SHPO researcher	4	$49.46	$197.84	
Task 1 subtotal					$560.46
Task 2. Field survey	Senior archaeologist	2	$66.71	$133.42	
	Supervising archaeologist	6	$49.46	$296.76	
Task 2 subtotal					$430.18
Task 3. Technical report	Senior archaeologist	6	$66.71	$400.26	
	Supervising archaeologist	24	$49.46	$1,187.04	
	Graphics/GIS	4	$43.23	$172.92	
	Report production	6	$47.89	$287.34	
Task 3 subtotal					$2,047.56
Labor subtotal		54			$3,038.20

Expenses

Task 1			
Personal vehicle mileage	150 miles @ $0.485/mi	$72.75	
Photocopying (SHPO)		$15.00	
Communications		$10.00	
Task 1 expenses			$97.75
Task 2			
AINW vehicle	1 day @ $65/day	$65.00	
AINW vehicle fuel		$25.00	
Communications		$10.00	
Task 2 expenses			$100.00
Task 3			
Communications		$15.00	
Task 3 expenses			$15.00
Estimated project total			$3,250.95

Sidewalks
Bike lanes
Bus stops
Oregon City Loop trail

Pedestrian Circulation

Clackamas Community College
Environmental Learning Center
Land Use Application- December 18, 2015
YGH Architecture

Sanitary
Fire Hydrants
City Water

Utilities

Clackamas Community College
Environmental Learning Center
Land Use Application- December 18, 2015
YGH Architecture

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1 VICINTY MAP
SCALE N.T.S.

Drawing List

Land Use
LU0.01 Overall Site Plan
LU1.01 Existing Conditions
LU1.02 Site Plan and NROD Encroachments
LU1.03 Construction Management & Demolition Plan
LU1.04 Mitigation Plan and Details

Civil
C0.20 Existing Conditions
C1.10 Demolition Plan
C2.10 Site Plan
C2.20 Grading and Drainage Plan
C3.10 Details

Erosion Control
EC1.20 Erosion and Sediment Control Plan
EC1.30 Erosion and Sediment Control Details

Landscape
L1.01 Tree Protection Plan
L2.01 Materials Plan
L3.01 Planting Plan
L3.02 Planting Plan -Plant Schedule
L4.01 Irrigation Zoning Plan

Architectural
A1.01 Pavilion Plans & Elevations

Consultants

Lango Hansen Landscape Architects PC
1100 NW Glisan #3B Portland, OR 97209
503 295.2437

KPFF Engineers
111 SW 5th Ave
Suite 2400
Portland, OR 97204
503 227.3251

Pacific Habitat Services, Inc.
9450 SW Commerce Circle
Suite 180
Wilsonville, OR 97070
503 570.0855

Land Use Application

NOT FOR CONSTRUCTION

Consultant

YOST GRUBE HALL ARCHITECTURE
707 SW Washington St #1200
Portland, OR 97205

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
COVER

Drawing No.
A0.00

Scale as noted
Date December 18, 2015
Project No. 104500

6/19/2015 9:27:48 AM

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MAP 3-2E-09C TAX LOT 800

Land Use Application

6/19/2015 9:27:48 AM

Consultant

YOST GRUBE HALL
ARCHITECTURE
707 SW Washington St #1200
Portland, OR 97205

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
OVERALL
SITE PLAN

Drawing No.
LU 0.01

Scale 1"=20'
Date December 18, 2015
Project No. 104500

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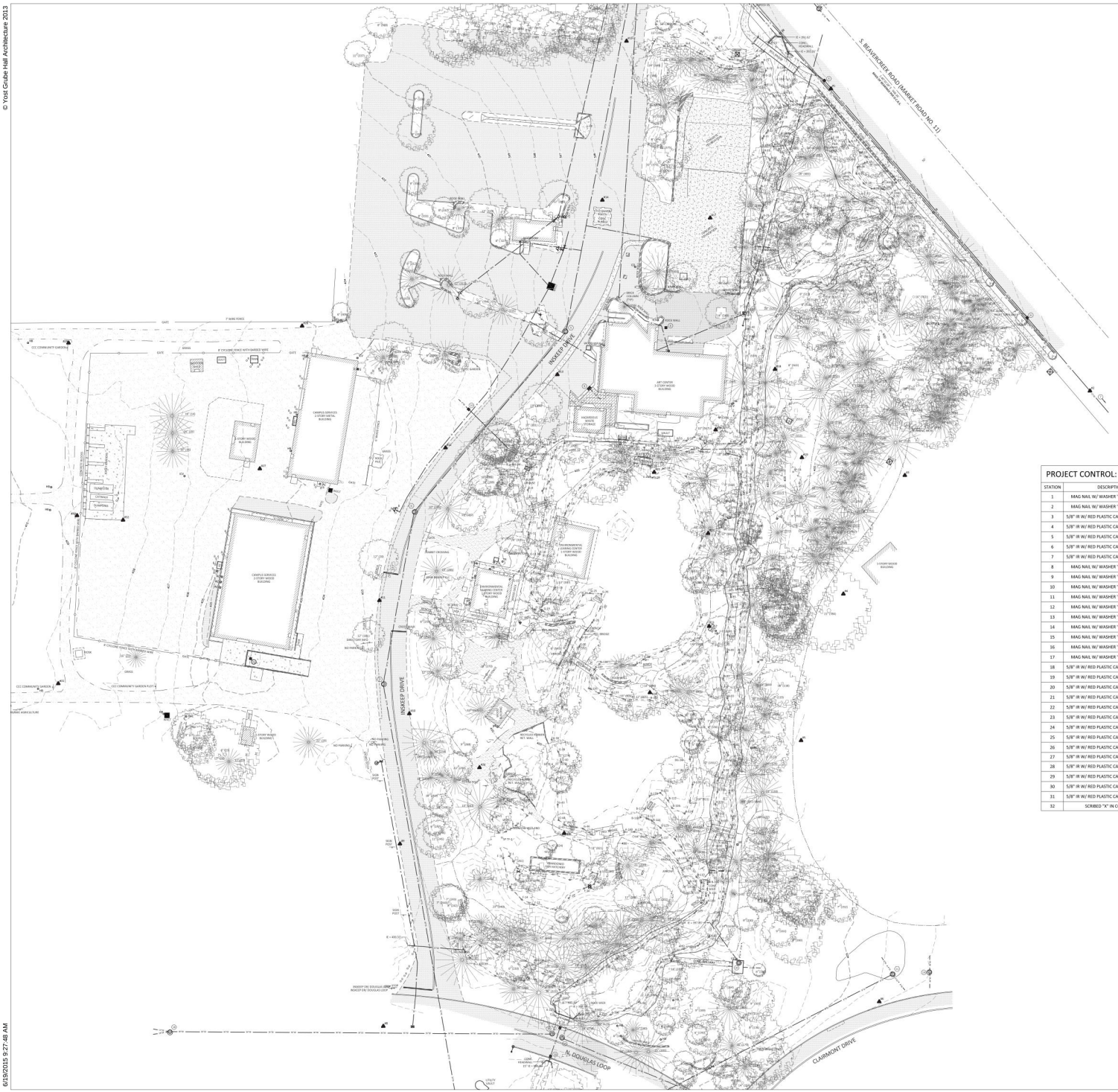

STORM TABLE:

1. STORM MANHOLE
RIM = 394.56'
IE 24" IN (SE) = 389.66'
IE 36" OUT (N) = 389.66'

2. FLOW CONRTOL STORM MANHOLE
RIM = 394.64
IE 42" IN (SE) = 390.04'
IE 36" IN (NW) = 389.94'
IE 42" OUT (NE) = 389.64'

3. CURB INLET W/ STORM MANHOLE
RIM = 393.35'
FLOW LINE = 393.35'
UNABLE TO OPEN (LOCKED)

4. STORM MANHOLE
RIM = 394.14'
IE 24" IN (SW) = 390.64
IE 36" OUT (SE) = 390.59'

5. CATCH BASIN
RIM = 396.61
IE 12" IN (SE) = 393.31'
IE 12" OUT (NW) = 393.11'

6. CATCH BASIN
RIM = 402.90'
IE 12" IN (SE) = 400.10'
IE 12" OUT (NW) = 399.90'

7. CATCH BASIN
RIM = 409.87'
IE 12" IN (SE) = 406.87'
IE 12" OUT (NW) = 406.67'

8. CATCH BASIN (SUMP TYPE)
RIM = 395.08'
WATER LEVEL = 394.58'

9. CURB INLET
FLOW LINE = 396.27'
IE 4" OUT (SE) = 396.07'

10. CATCH BASIN
RIM = 400.01'
IE 6" IN (NW) = 398.51
IE 18" OUT (SE) = 397.81'

11. CATCH BASIN
RIM = 402.79'
IE 15" IN (SW) = 398.49'
IE 8" OUT (NE) = 398.49'

12. CATCH BASIN
RIM = 402.72'
NO PIPES VISIBLE
BOTTOM OF STRUCTURE = 398.12'

13. STORM MANHOLE
RIM = 403.05'
IE 36" IN (SE) = 397.58'
IE 24" OUT (NE) = 397.58'

14. STORM MANHOLE
RIM = 403.11'
IE 36" IN (W) = 397.76'
IE 24" OUT (NE) = 397.71'

15. CATCH BASIN
RIM = 405.15'
IE 8" IN (SE) = 400.95'
IE 8" OUT (W) = 400.85'

16. CATCH BASIN
RIM = 405.70'
IE 8" IN (NW) = 401.75'
IE 8" OUT (S) = 401.75'

17. STORM MANHOLE
RIM = 405.30'
IE 8" IN (E) = 399.85'
IE 36" IN (SE) = 399.00'
IE 36" OUT (NW) = 398.30'

18. STORM MANHOLE
RIM = 406.44'
IE 12" IN (NW) = 398.74'
IE 18" IN (W) = 398.59'
IE 36" OUT (E) = 398.49'

19. STORM MANHOLE
RIM = 406.95'
IE 36" IN (S) = 396.90'
IE 36" OUT (N) = 396.80'

20. STORM MANHOLE
RIM = 405.70'
IE 8" IN (N) = 401.85'
IE 15" IN (E) = 398.10'
IE 15" OUT (NW) = 397.90'

21. CATCH BASIN (SUMP TYPE)
RIM = 401.69'
WATER LEVEL = 399.44'

SANITARY TABLE:

1. SANITARY MANHOLE
RIM = 397.84'
IE 6" IN (NE) = 388.76'
IE 12" IN (SE) = 388.56'
IE 12" OUT (NW) = 388.56'

2. SANITARY MANHOLE
RIM = 395.91'
IE 12" IN (SE) = 388.41'
IE 12" OUT (W) = 388.11'

3. SANITARY MANHOLE
RIM = 393.92'
IE 12" IN (NE) = 384.92'
IE 12" IN (NE) = 387.62'
IE 10" IN (S) = 385.17'
IE 8" IN (SE) = 385.27'
IE 12" OUT (NW) = 384.90'

4. SANITARY MANHOLE
RIM = 394.70'
IE 12" IN (SE) = 381.50'
IE 12" OUT (NW) = 381.10'

5. SANITARY MANHOLE
RIM = 397.04'
IE 10" IN (SW) = 389.24'
IE 10" OUT (N) = 389.04'

6. SANITARY MANHOLE
RIM = 402.22'
IE 10" IN (S) = 392.32'
IE 10" OUT (NE) = 392.22'

7. SANITARY MANHOLE
RIM = 402.72'
IE 10" IN (S) = 393.42'
IE 10" OUT (N) = 393.37'

8. SANITARY MANHOLE
RIM = 401.88'
IE 4" IN (S) = 396.08'
IE 10" IN (E) = 395.43'
IE 10" OUT (N) = 395.38'

9. SANITARY MANHOLE
RIM = 401.55'
IE 4" IN (E) = 396.30'
IE 8" IN (SE) = 396.25'
IE 8" IN (NE) = 396.20
IE 10" OUT (W) = 395.85'

10. SANITARY MANHOLE
RIM = 403.16'
IE 8" IN (NE) = 401.14'
IE 8" IN (W) = 397.44'
IE 8" OUT (SW) = 397.24'

11. SANITARY MANHOLE
RIM = 406.46'
IE 4" IN (SE) = 402.46'
IE 4" IN (NW) = 402.41'
IE 8" OUT (SW) = 402.41'

PROJECT CONTROL:

STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	MAG NAIL W/ WASHER "KPFF CONTROL"	101718.61	374584.09	397.04'
2	MAG NAIL W/ WASHER "KPFF CONTROL"	101476.60	374791.68	405.23'
3	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101408.95	374643.31	401.43'
4	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101313.96	374594.04	401.55'
5	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101196.61	374560.16	402.20'
6	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	100987.40	374622.80	406.86'
7	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	100822.52	374532.40	406.02'
8	MAG NAIL W/ WASHER "KPFF CONTROL"	100967.72	374225.31	403.99'
9	MAG NAIL W/ WASHER "KPFF CONTROL"	101113.83	374238.65	402.80'
10	MAG NAIL W/ WASHER "KPFF CONTROL"	101218.10	374246.16	402.56'
11	MAG NAIL W/ WASHER "KPFF CONTROL"	101308.75	374222.21	402.77'
12	MAG NAIL W/ WASHER "KPFF CONTROL"	101431.04	374275.14	401.32'
13	MAG NAIL W/ WASHER "KPFF CONTROL"	101489.69	374364.82	397.44'
14	MAG NAIL W/ WASHER "KPFF CONTROL"	101629.43	374400.88	396.23'
15	MAG NAIL W/ WASHER "KPFF CONTROL"	101756.78	374420.23	394.99'
16	MAG NAIL W/ WASHER "KPFF CONTROL"	101903.48	374425.22	393.58'
17	MAG NAIL W/ WASHER "KPFF CONTROL"	101615.19	374487.27	395.65'
18	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101493.96	374539.28	398.95'
19	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101423.26	374560.81	398.98'
20	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101445.44	374491.65	399.81'
21	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101411.46	374442.39	398.40'
22	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101362.56	374485.63	398.56'
23	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101288.10	374486.46	399.12'
24	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101234.98	374438.99	398.98'
25	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101122.30	374370.25	399.03'
26	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101174.89	374302.41	400.12'
27	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101414.26	374126.33	405.80'
28	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101528.61	374160.23	405.08'
29	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101515.00	373973.03	407.61'
30	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101376.73	373979.87	408.78'
31	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101242.18	373964.80	408.86'
32	SCRIBED "X" IN CONCRETE	101373.16	374016.73	408.91'

LEGEND:

- BUILDING OUTLINE WITH DOOR
- CONCRETE SURFACE
- ASPHALT SURFACE
- WALL
- BUILDING OVERHANG
- RIGHT-OF-WAY LINE
- CURB LINE
- EDGE OF ASPHALT
- TOP OF BANK
- EDGE OF WATER
- CENTERLINE OF PATH
- ELECTRICAL LINE
- TRAFFIC SIGNAL LINE
- TELECOMMUNICATIONS LINE
- STORM LINE
- SANITARY SEWER LINE
- WATER LINE
- GAS LINE
- OVERHEAD UTILITY LINES
- HYDRO DITCH CENTERLINE
- WETLAND BOUNDARY
- UNDERGROUND LINE PER AS-BUILTS
- SIGN
- DOUBLE POST SIGN
- BOLLARD
- FP — FLAG POLE
- MB — MAILBOX
- D/W — DRIVEWAY ENTRY
- HCR — HANDICAP RAMP
- RD — ROOF DRAIN
- E — ELECTRICAL METER
- EC — ELECTRICAL CABINET
- GUY ANCHOR
- GROUND FLOOD LIGHT
- POWER POLE
- OVERHEAD LIGHT
- POWER POLE/OVERHEAD LIGHT
- TRANS — TRANSFORMER
- EVLT — ELECTRICAL VAULT
- G — GAS METER
- GV — GAS VALVE
- SANITARY MANHOLE WITH STRUCTURE
- STORM MANHOLE WITH STRUCTURE
- CATCH BASIN/AREA DRAIN
- CURB INLET
- CO — SANITARY/STORM CLEAN OUT
- SANITARY/STORM STRUCTURE #
- TELVLT — TELECOMMUNICATIONS VAULT
- TR — TELECOMMUNICATIONS RISER
- SB — TRAFFIC SIGNAL BOX
- WATER VALVE
- FIRE HYDRANT
- PIV — POST INDICATOR VALVE
- FIRE DEPARTMENT CONNECT
- WATER MANHOLE
- WVLT — WATER VAULT
- HB — HOSE BIB
- ICV — IRRIGATION CONTROL VALVE
- UV — UNKNOWN UTILITY VALVE
- UB — UNKNOWN UTILITY BOX
- TRASH CAN
- DECIDUOUS TREE W/ (TAG NO.) -PERIMETER REPRESENTS DRIPLINE
- CONIFEROUS TREE W/ (TAG NO.) -PERIMETER REPRESENTS DRIPLINE
- #1 — PROJECT CONTROL POINT
- WETLAND FLAG
- TOS — TOP OF SILT
- BOS — BOTTOM OF SILT
- UTL X-ING — UTILITY CROSSING
- PED. — PEDESTRIAN

SCALE 1 INCH = 30 FEET
30 0 30 60

LAND USE APPLICATION

PRELIMINARY NOT FOR CONSTRUCTION

Consultant
kpff
111 SW Fifth Ave., Suite 2600
Portland, OR 97204
T: 503.227.3251
F: 503.227.4937
www.kpff.com

YOST GRUBE HALL ARCHITECTURE
707 SW Washington St #1200
Portland, OR 97205

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK	DATE	DESCRIPTION

Sheet Title
EXISTING CONDITIONS

Drawing No.
C0.20

Scale

Date 12.18.15

Project No. 104500

6/19/2015 9:27:48 AM
File: N:\x\xp\2014\37475-CCC-John-Inskeep-ELC\CAD\PLOT\37475-C0.20-EX.dwg TAB:C0.20
Plotted: 12/18/15 at 10:20am By: delmore

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SHEET NOTES

1. CONTRACTOR MAY STAGE WITHIN LIMITS OF DEMOLITION AND PAVED STAGING AREA INDICATED ON EC1.20.
2. REMOVE ALL SITE COMPONENTS AND RECYCLE COMPONENTS AS REQUIRED IN THE SPECIFICATIONS.
3. GENERAL DEMOLITION PERMIT SHALL BE SECURED BY THE CONTRACTOR.
4. ALL TRADE LICENSES AND PERMITS NECESSARY FOR THE PROCUREMENT AND COMPLETION OF THE WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING DEMOLITION.
5. THE CONTRACTOR SHALL PRESERVE AND PROTECT FROM DAMAGE ALL EXISTING RIGHT-OF-WAY SURVEY MONUMENTATION DURING DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PAYING FOR THE REPLACEMENT BY A LICENSED SURVEYOR OF ANY DAMAGED OR REMOVED MONUMENTS.
6. PROTECT ALL ITEMS ON ADJACENT PROPERTIES AND IN THE RIGHT OF WAY INCLUDING BUT NOT LIMITED TO SIGNAL EQUIPMENT, PARKING METERS, SIDEWALKS, STREET TREES, STREET LIGHTS, CURBS, PAVEMENT AND SIGNS. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY DAMAGED ITEMS TO ORIGINAL CONDITION.
7. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, AND OTHER FACILITIES IMMEDIATELY ADJACENT TO EXCAVATIONS FROM DAMAGES CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS.
8. SAWCUT STRAIGHT LINES IN SIDEWALK, AS NECESSARY.
9. CONTRACTOR IS RESPONSIBLE TO CONTROL DUST AND MUD DURING THE DEMOLITION PERIOD, AND DURING TRANSPORTATION OF DEMOLITION DEBRIS. ALL STREET SURFACES OUTSIDE THE CONSTRUCTION ZONE MUST BE KEPT CLEAN.
10. ALL EXPOSED PORTIONS OF UNDERGROUND UTILITIES TO BE ABANDONED SHALL BE PLUGGED PER DETAIL X/CXXX.
11. SEE LANDSCAPE PLANS FOR TREE PROTECTION AND ADDITIONAL VEGETATION REMOVAL.

◇X DEMOLITION KEY NOTES

20 REMOVE BENCH
21 REMOVE STORM DRAIN VAULT
22 REMOVE BUILDING/STRUCTURE
23 REMOVE PED. FOOTBRIDGE
24 REMOVE WALL
25 REMOVE CONCRETE WIER
26 SAWCUT LINE AND REMOVE ASPHALT
27 REMOVE EXISTING UNDERGROUND ELECTRICAL SERVICE.
28 REMOVE CATCH BASIN
29 MONUMENTATION (BRASS SCREW) IN AREA TO BE RECONSTRUCTED. SEE GENERAL NOTES ON SHEET C0.20.
30 REMOVE STORM PIPE
31 REMOVE CONCRETE CHANNEL
32. REMOVE PUMP HOUSE
33. REMOVE UTILITY CROSSING
34. REMOVE SEDIMENT AND LAYOUT TO DRY AND REUSE. COORDINATE WITH THE OWNER FOR THE STORAGE LOCATION.
35. REMOVE CONCRETE WALKWAY
36. REMOVE HAZARDOUS WASTE STORAGE BUILDING
37. COORDINATE FIRE HYDRANT REMOVAL AFTER NEW FIRE HYDRANT IS INSTALLED
38. REMOVE PAVEMENT MARKINGS

[X] PROTECTION KEY NOTES

40 PROTECT VAULT
41 PROTECT PED. FOOTBRIDGE
42 PROTECT UNDERGROUND UTILITIES
43 PROTECT TREE
44 PROTECT MONUMENTATION
45 PROTECT WALL
46 PROTECT AREAS OF CONCRETE WALKWAY TO REMAIN, SEE LANDSCAPING SHEETS
47 PROTECT CONCRETE RAMP

SHEET LEGEND

PROPERTY LINE
DEMOLITION/WORK LIMITS
SAWCUT LINE
REMOVE OR ABANDON UTILITY LINE IN PLACE
WETLAND BOUNDARY
EDGE OF WATER
REMOVE TREE

SCALE 1 INCH = 20 FEET
20 0 20 40

LAND USE APPLICATION

PRELIMINARY NOT FOR CONSTRUCTION

Consultant
kpff
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OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK	DATE	DESCRIPTION

Sheet Title
DEMOLITION PLAN

Drawing No.
C1.10

Scale	1" = 20'
Date	12.18.15
Project No.	104500

6/15/2015 9:27:48 AM
Plotted: 12/18/15 at 10:22am By: delmore
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SHEET NOTES

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.
2. SEE SHEET C2.20 FOR SITE GRADING AND STRUCTURE INVERT INFORMATION.

KEY NOTES

01 SEDIMENT FOREBAY
02 STABILIZED GRASS-PAVE MAINTENANCE ACCESS ROAD
03 ASPHALT PARKING LOT. SEE LANDSCAPE MATERIALS PLAN.
04 DRIVEWAY CUT IN CURB WITH ASPHALT PATCH
05 CONCRETE WEIR, SEE SHEET C2.20
06 ENHANCED WETLAND AREA
07 VEGETATED WATER QUALITY BASIN

SHEET LEGEND

PROPERTY LINE
SAWCUT LINE
BOTTOM OF DITCH
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
PROPOSED MAJOR CONTOUR
PROPOSED MINOR CONTOUR
WETLAND BOUNDARY
EDGE OF WATER

SCALE 1 INCH = 30 FEET
30 0 30 60

LAND USE APPLICATION

PRELIMINARY NOT FOR CONSTRUCTION

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OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
SITE PLAN

Drawing No.
C2.10

Scale 1" = 30'-0"
Issue Date 12.18.15
Project No. 104500

6/19/2015 9:27:48 AM
Plotted: 12/18/15 at 10:24am By: delmore
File: N:\Job\20141\14175-CDC-John Inskeep-ELC\CAD\PLOT\14175-C2.10-ST.dwg HAB-C2.10

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SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 10/C3.10.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

KEY NOTES

01 MATCH EXISTING GRADES

02 FIELD VERIFY IE OF EXISTING 6" LATERAL PRIOR TO CONSTRUCTION

03 BRIDGE, SEE LANDSCAPE MATERIALS PLAN

04 INSTALL RELOCATED FIRE HYDRANT ASSEMBLY

05 IRRIGATION POINT OF CONNECTION, SEE LANDSCAPE PLANS

UTILITY LABEL LEGEND

STRUCTURE LABEL

UTILITY TYPE (SD=STORM DRAINAGE)
STRUCTURE TYPE CALLOUT
ID NUMBER (WHERE APPLICABLE)

XX XX–XX
N: XXXX.XX
E: XXXX.XX
RIM=
IE IN = XX.X
IE OUT = XX.X

LOCATION (WHERE APPLICABLE)
STRUCTURE INFO (WHERE APPLICABLE)

PIPE LABEL

UTILITY LENGTH
UTILITY SIZE
UTILITY TYPE

XXLF – XX" XX

S=X.XX%

SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
DC	DOUBLE CHECK BACKFLOW ASSEMBLY	
FH	FIRE HYDRANT	
OF	OUTFALL	
OV	OVERFLOW INLET	

SHEET LEGEND

PROPERTY LINE
SAWCUT LINE
BOTTOM OF DITCH
400 EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
400 PROPOSED MAJOR CONTOUR
PROPOSED MINOR CONTOUR
SLOPE/FLOW DIRECTION
WETLAND BOUNDARY
EDGE OF WATER

SCALE 1 INCH = 30 FEET
30 0 30 60

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19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK	DATE	DESCRIPTION

Sheet Title
GRADING AND DRAINAGE PLAN

Drawing No.
C2.20

Scale 1" = 30'
Date 12.18.15
Project No. 104500

6/19/2015 9:27:48 AM
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Plotted: 12/18/15 at 10:25am By: delmore

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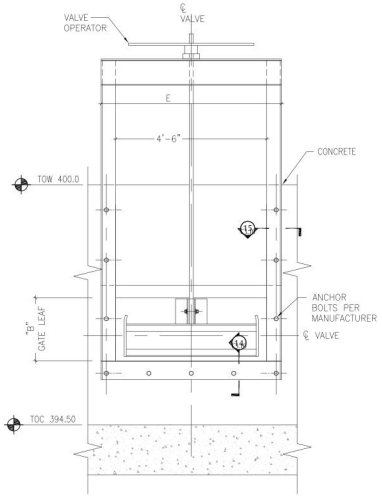
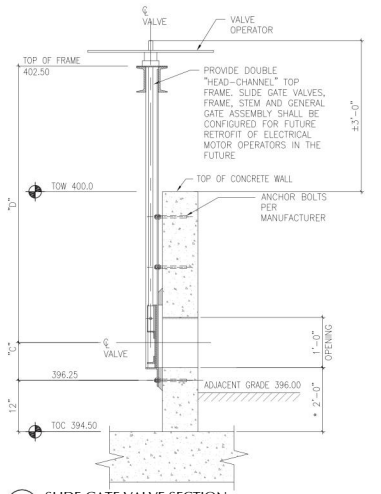
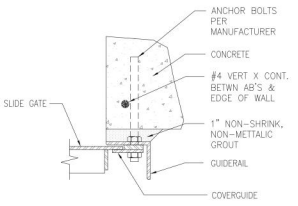


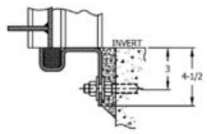
12 SLIDE GATE VALVE DETAIL
SCALE: NTS



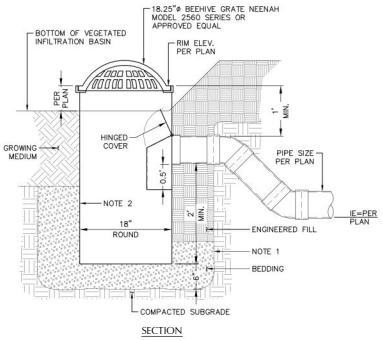
13 SLIDE GATE VALVE SECTION
SCALE: NTS



15 FLAT BACK SEAT-SIDE VIEW
SCALE: NTS

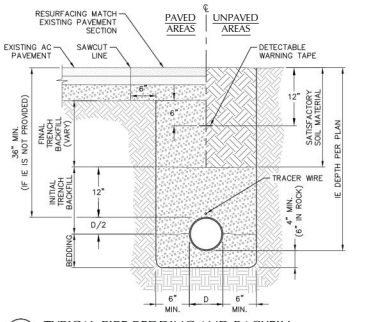


14 SURFACE MOUNT BOTTOM DETAIL
SCALE: NTS

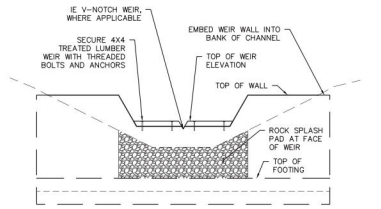


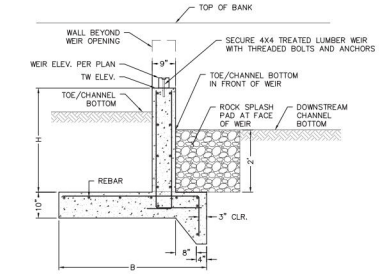
NOTES:
1. CONTRACTOR TO WIDEN EXCAVATION AS REQUIRED TO OBTAIN COMPACTION WITH CONTRACTORS COMPACTION EQUIPMENT.
2. 10 GA STEEL PLATE, BITUMINOUS COATED BASIN AS MANUFACTURED BY GIBSON STEEL, GRATEMASTER OR APPROVED EQUAL.

9 OVERFLOW INLET - TYPE 2
SCALE: NTS

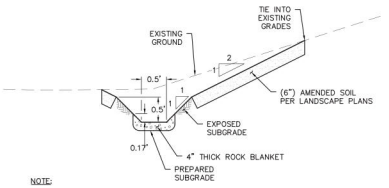


10 TYPICAL PIPE BEDDING AND BACKFILL
SCALE: NTS



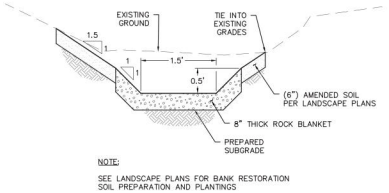


11 TYPICAL WEIR WALL
SCALE: NTS



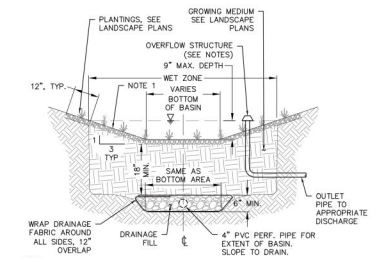
NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

6 NORTH CONVEYANCE DITCH
SCALE: NTS



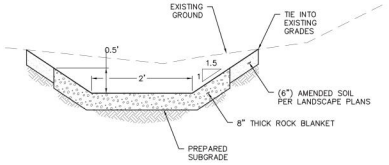
NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

1 INLET CHANNEL
SCALE: NTS



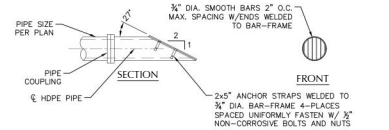
NOTE:
1. INSTALL GEOJUTE PLUS OR COCONUT FIBER MATTING PER DETAIL 800/EC-6

7 TYP. VEGETATED WATER QUALITY BASIN
SCALE: NTS



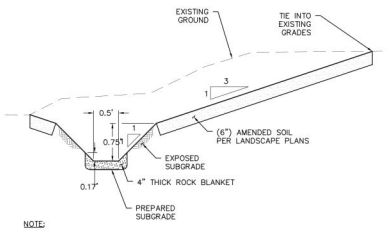
NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

2 NEWELL CREEK SECTION
SCALE: NTS



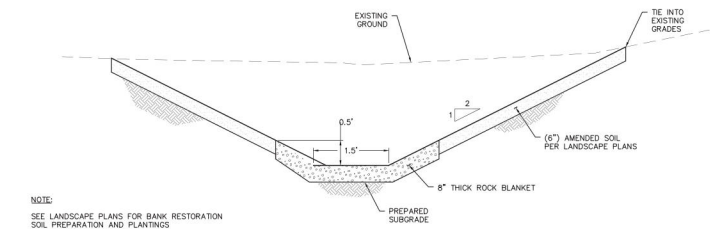
NOTES:
1. ALL TRASH RACK PARTS AND CONNECTORS MUST BE ALUMINUM, OR ASPHALT COATED GALVANIZED STEEL (TREATMENT 1 OR BETTER).
2. WELD AT ALL JOINTS.
3. SHOP DRAWINGS REQUIRED.

8 MITERED OUTFALL W/ TRASH RACK (2:1)
SCALE: NTS



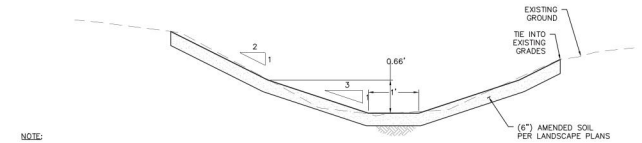
NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

3 SPRING CHANNEL
SCALE: NTS



NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

4 OUTLET CHANNEL
SCALE: NTS



NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

5 WATER QUALITY SWALE
SCALE: NTS

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Project
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MARK DATE DESCRIPTION

Sheet Title
DETAILS

Drawing No.
C3.10

Scale

Date 12.18.15

Project No. 104500

LAND USE APPLICATION

File: N:\Up\2014\104175-ccc-dim-makeup-ELC\CAD\PLOT\104175-c3.10-07.dwg TAB:c3.10
Plotted: 6/19/2015 9:27:48 AM
By: dennore
XREFs: 4175-xb

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SHEET LEGEND

- SITE LIMITS OF DISTURBANCE
- SEDIMENT FENCE
- STRAW WATTLES
- INLET PROTECTION
- GRAVEL BAG BARRIER
- BIO FILTER BAG SEDIMENT BARRIER
- DRAINAGE FLOW DIRECTION ARROWS
- 401 EXISTING CONTOUR
- 401 PROPOSED CONTOUR
- WETLAND BOUNDARY
- EDGE OF WATER
- COIR MATTING

(X) EROSION CONTROL KEY NOTES

1. INSTALL SEDIMENT FENCE — (1 / EC1.30)
2. STABILIZED CONSTRUCTION ENTRANCE — (2 / EC1.30)
3. TEMPORARY WHEEL WASH — (3 / EC1.30)
4. INSTALL INLET PROTECTION OVER EXISTING INLET — (4 / EC1.30)
5. INSTALL INLET PROTECTION OVER NEW INLET — (4 / EC1.30)
6. INSTALL GRAVEL BAG BARRIER — (6 / EC1.30)
7. INSTALL BIO FILTER BAG SEDIMENT BARRIER — (7 / EC1.30)
8. STRAW WATTLES — (5 / EC1.30)
9. INSTALL DE-WATERING SUMP WITH SURFACE MOUNTED DISCHARGE LINE — (8 / EC1.30)
10. PORTABLE BAKER TANK, OR APPROVED EQUAL TO TREAT PUMPED WATER PRIOR TO CREEK DISCHARGE
11. FENCED CONTRACTOR STAGING AREA

SHEET NOTES

1. FOR DEQ NOTES SEE SHEET EC1.10.
2. EROSION CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH OREGON DEQ AND OREGON CITY EROSION AND SEDIMENT CONTROL MANUAL.
3. CONSTRUCTION ENTRANCES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD ADJUST LOCATION AND NUMBER OF ENTRANCES TO ENSURE THAT SEDIMENT IS NOT CONVEYED TO ADJACENT STREETS.
4. CONTRACTOR TO DETERMINE THE DETAILS OF THE MASS EXCAVATION DEWATERING SYSTEM INCLUDING NUMBER OF HOSES IN THE PIT, TYPE OF FILTRATION SYSTEM, AND SIMILAR ATTRIBUTES.
5. TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE IMPLEMENTED. THE CONTRACTOR SHALL ADHERE TO OREGON DEQ FOR MINIMUM EROSION CONTROL MEASURES. THE EROSION CONTROL FACILITIES SHOWN IN THESE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, EROSION CONTROL FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.
6. SOLID WASTE STORAGE HAZARDOUS WASTE STORAGE, FUEL STORAGE, AND FUELING ARE NOT ANTICIPATED TO OCCUR ON-SITE. THE LOCATION INDICATED IS A PLACE HOLDER IF THESE FUNCTIONS DO OCCUR DURING CONSTRUCTION.
7. THE AREA WITHIN THE LIMITS OF DISTURBANCE SHOWN IS AN AREA OF PROPOSED CUT.
8. REFER TO LANDSCAPE PLANS FOR TREE PROTECTION FENCING AND TREE REMOVAL.

CONSTRUCTION TRAFFIC NOTE

TO PREVENT DISTURBANCE AND SOFTENING OF THE SUBGRADE SOILS DURING WET WEATHER OR GROUND CONDITIONS, THE MOVEMENT OF CONSTRUCTION TRAFFIC SHOULD BE LIMITED TO GRANULAR HAUL ROADS AND WORK PADS. IN GENERAL, A MINIMUM OF 18" TO 24" OF RELATIVELY CLEAN, GRANULAR MATERIAL IS REQUIRED TO SUPPORT CONCENTRATED CONSTRUCTION TRAFFIC, SUCH AS DUMP TRUCKS AND CONCRETE TRUCK TRAFFIC AND LIGHT CONSTRUCTION OPERATIONS. A 12" THICK GRANULAR WORK PAD SHOULD BE SUFFICIENT TO SUPPORT OCCASIONAL TRUCK TRAFFIC AND LIGHT CONSTRUCTION OPERATIONS. A GEOTEXTILE SEPARATION FABRIC PLACED ON THE EXPOSED SUBGRADE PRIOR TO PLACEMENT AND COMPACTION OF THE GRANULAR WORK PAD MAY IMPROVE THE PERFORMANCE OF WORK PADS AND HAUL ROADS.

N

SCALE
30 0 30 60
1 INCH = 30 FEET

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MARK	DATE	DESCRIPTION

Sheet Title
EROSION AND SEDIMENT CONTROL PLAN

Drawing No.
EC1.20

Scale	Issue Date
Date	12.18.15
Project No.	104500

6/19/2015 9:27:48 AM
Plotted: 12/18/15 at 10:27am By: delmore
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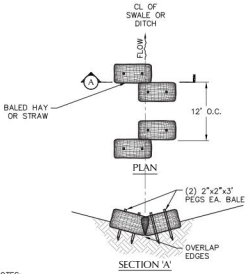
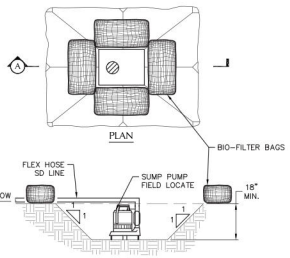
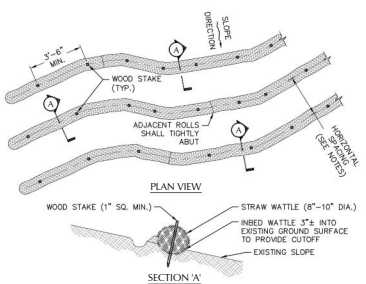


NOTES:
1. EMBED BALES 4" TO 6".
2. DRIVE STAKES MINIMUM 12" INTO GROUND SURFACE.

7 BIO-FILTER BAG SEDIMENT BARRIER IN DITCHES OR SWALES
SCALE: NTS

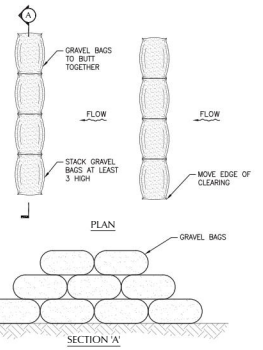


8 DEWATERING SUMP
SCALE: NTS



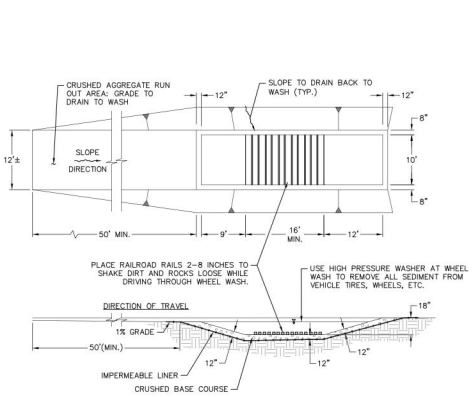
NOTES:
1. STRAW WATTLES TO BE PLACED ALONG SITE CONTOURS.
2. HORIZONTAL SPACING VARIES DEPENDING ON SOIL TYPE AND STEEPNESS, SEE PLAN (5' MIN – 25' MAX.)
3. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
4. STRAW WATTLE SHALL BE RICE STRAW ONLY. USE OF FIBER ROLLS, WHEAT GRASS, OR RYE STRAW NOT PERMITTED.

5 STRAW WATTLE ON SLOPE
SCALE: NTS



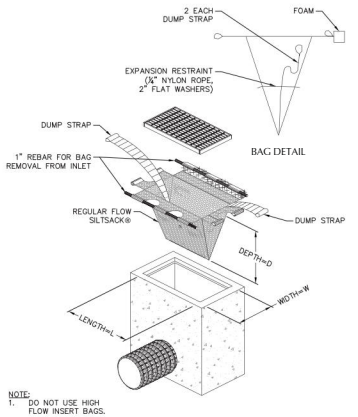
NOTES:
1. GRAVEL BAGS SHALL BE STACKED AS A PYRAMID WITH THE FOLLOWING DIMENSIONS:
   HEIGHT = 18" MAX.
   WIDTH = 24" MIN. FOR 3 OR MORE LAYERS
   SIDE SLOPE = 2:1 MAX.
2. EACH GRAVEL BAG SHALL BE APPROXIMATELY 18"L X 12"W X 3" THICK WITH AN APPROXIMATE MASS = 33 LBS.
3. EACH GRAVEL BAG SHALL BE FILLED WITH CLASS 2, AGGREGATE BASE, CLEAN AND FREE FROM CLAY, ORGANIC MATTER, AND OTHER DELETERIOUS MATERIAL, OR OTHER SUITABLE OPEN-GRADED, NON-COHESIVE, POROUS GRAVEL.

6 GRAVEL BAG BARRIER
SCALE: NTS



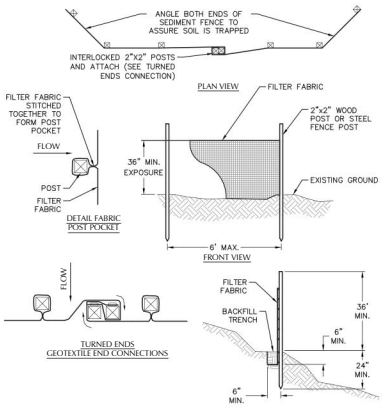
NOTES:
1. CONTRACTOR SHALL PROVIDE SUMP PUMP, ABOVE GROUND PIPE, AND LARGE SIZE ORIFICE SPRINKLER TO SPREAD OVER EXISTING VEGETATION. SUBMIT DESIGNATED SPRINKLER AREA TO ENGINEER FOR APPROVAL.
2. CONTRACTOR TO MAINTAIN WHEELWASH DAILY BY REMOVING ACCUMULATED SEDIMENT AND SEDIMENT LADEN WATER FROM WHEEL WASH WHEN ACCUMULATION REACHES 50% OF VOLUME. THEN FILL WITH WATER TO MAINTAIN 12" OF WATER IN WHEELWASH AT ALL TIMES.
3. CONTRACTOR RESPONSIBLE FOR ENSURING PROPER PERFORMANCE OF THIS ESC MEASURE INCLUDING DRAINAGE TO AND AWAY FROM MEASURE.
4. CONTRACTOR TO REPAIR IMMEDIATELY ANY PROBLEMS PREVENTING PROPER PERFORMANCE OF THIS ESC MEASURE OR ITS UPSTREAM/ DOWNSTREAM CONVEYANCE STRUCTURES.
5. SEDIMENT REMOVED SHALL BE DISPOSED OF ON-SITE IN SOIL STOCKPILE AREA FOR RE-USE OR OFF-SITE TO A CITY APPROVED DISPOSAL FACILITY.

3 TEMPORARY WHEEL WASH
SCALE: NTS



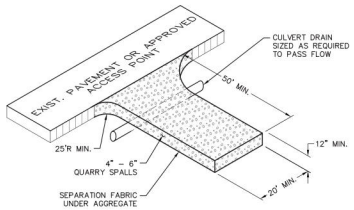
NOTE:
1. DO NOT USE HIGH FLOW INSERT BAGS.

4 INLET SEDIMENT PROTECTION
SCALE: NTS



NOTES:
1. THE FILTER FABRIC SHALL BE (36" MIN. WIDTH) PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST, OR OVERLAP 2"x2" POSTS AND ATTACH AS SHOWN ON DETAIL SHEET.
2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS WHERE FEASIBLE. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6-FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24-INCHES.
3. THE FILTER FABRIC SHALL HAVE A MINIMUM VERTICAL BURIAL OF 6-INCHES. ALL EXCAVATED MATERIAL FROM FILTER FABRIC FENCE INSTALLATION, SHALL BE BACKFILLED AND COMPACTED, ALONG THE ENTIRE DISTURBED AREA.
4. STANDARD OR HEAVY DUTY FILTER FABRIC SHALL HAVE MANUFACTURED STITCHED LOOPS FOR 2"x2" POST INSTALLATION. STITCHED LOOPS WITH STAKES SHALL BE INSTALLED ON THE DOWN-HILL SIDE OF THE SLOPED AREA.
5. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UP-SLOPE AREA HAS BEEN PERMANENTLY PROTECTED AND STABILIZED.
6. FILTER FABRIC FENCES SHALL BE INSPECTED BY CONTRACTOR IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

1 SEDIMENT FENCE
SCALE: NTS



NOTES:
1. THE ENTRANCE SHALL BE MAINTEINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS: 50' LONG BY 20' WIDE 3-6" CLEAN ROCK. GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

2 CONSTRUCTION ENTRANCE
SCALE: NTS

LAND USE APPLICATION

PRELIMINARY NOT FOR CONSTRUCTION

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MARK	DATE	DESCRIPTION

Sheet Title
EROSION AND SEDIMENT CONTROL DETAILS

Drawing No.
EC1.30

Scale	Issue Date
Date	12.18.15
Project No.	104500

Plotted: 12/18/15 at 10:27am By: delmore
File: N:\Job\20014.134175-CCC-John Inskeep-ELC\CAD\PLOT\PLOTS-EC1.10-EC.dwg TAB: C4.20
6/19/2015 9:27:48 AM

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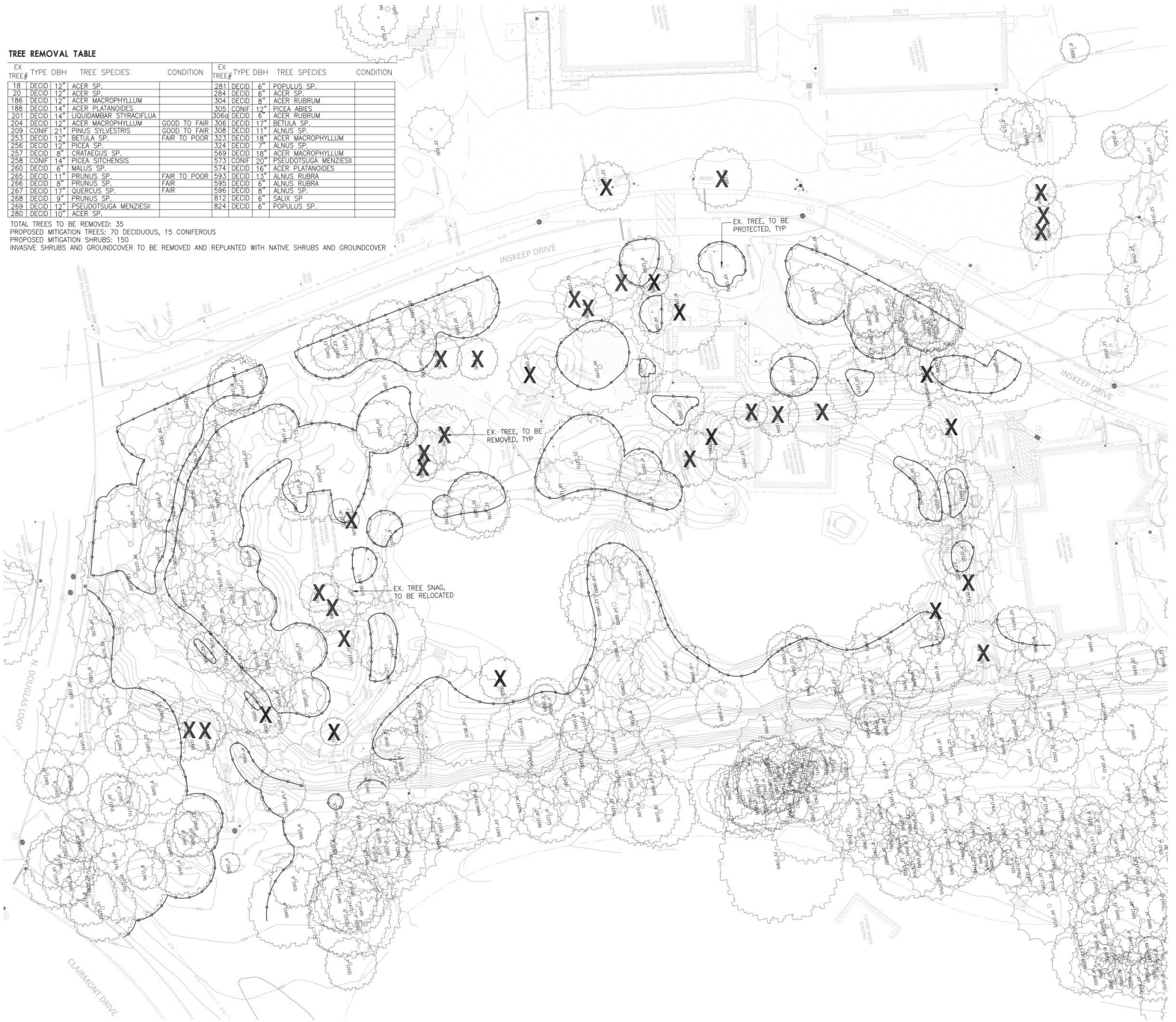
TREE REMOVAL TABLE

EX. TREE#	TYPE	DBH	TREE SPECIES	CONDITION	EX. TREE#	TYPE	DBH	TREE SPECIES	CONDITION
18	DECID	12"	ACER SP.		281	DECID	6"	POPULUS SP.	
20	DECID	12"	ACER SP.		284	DECID	6"	ACER SP.	
186	DECID	12"	ACER MACROPHYLLUM		304	DECID	8"	ACER RUBRUM	
188	DECID	14"	ACER PLATANOIDES		305	CONIF	12"	PICEA ABIES	
201	DECID	14"	LIQUIDAMBAR STYRACIFLUA		306a	DECID	6"	ACER RUBRUM	
204	DECID	12"	ACER MACROPHYLLUM	GOOD TO FAIR	306	DECID	17"	BETULA SP.	
209	CONIF	21"	PINUS SYLVESTRIS	GOOD TO FAIR	308	DECID	11"	ALNUS SP.	
253	DECID	12"	BETULA SP.	FAIR TO POOR	323	DECID	18"	ACER MACROPHYLLUM	
256	DECID	12"	PICEA SP.		324	DECID	7"	ALNUS SP.	
257	DECID	8"	CRATAEGUS SP.		569	DECID	18"	ACER MACROPHYLLUM	
258	CONIF	14"	PICEA SITCHENSIS		573	CONIF	20"	PSEUDOTSUGA MENZIESII	
260	DECID	6"	MALUS SP.		574	DECID	16"	ACER PLATANOIDES	
265	DECID	11"	PRUNUS SP.	FAIR TO POOR	593	DECID	13"	ALNUS RUBRA	
266	DECID	8"	PRUNUS SP.	FAIR	595	DECID	6"	ALNUS RUBRA	
267	DECID	17"	QUERCUS SP.	FAIR	596	DECID	8"	ALNUS SP.	
268	DECID	9"	PRUNUS SP.		812	DECID	6"	SALIX SP	
269	DECID	12"	PSEUDOTSUGA MENZIESII		824	DECID	6"	POPULUS SP.	
280	DECID	10"	ACER SP.						

TOTAL TREES TO BE REMOVED: 35
PROPOSED MITIGATION TREES: 70 DECIDUOUS, 15 CONIFEROUS
PROPOSED MITIGATION SHRUBS: 150
INVASIVE SHRUBS AND GROUNDCOVER TO BE REMOVED AND REPLANTED WITH NATIVE SHRUBS AND GROUNDCOVER



1. TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40'

LEGEND

- CENTER LINE OF EXISTING FOOT PATHS
- EXISTING DECIDUOUS TREE TO BE PROTECTED
- EXISTING CONIFEROUS TREE TO BE PROTECTED
- X — EXISTING DECIDUOUS TREE TO BE REMOVED
- X — EXISTING CONIFEROUS TREE TO BE REMOVED
- TREE PROTECTION FENCING, SEE NOTES AND SPECS

ABBREVIATIONS

ARCH	ARCHITECTURAL
CAL	CALIPER
CONC	CONCRETE
DIA	DIAMETER
DBH	DIAMETER AT BREAST HEIGHT
DWG	DRAWINGS
EQ	EQUAL
HT	HEIGHT
N/A	NOT APPLICABLE
NO	NUMBER
O.C.	ON CENTER
PA	PLANTING AREA
SF	SQUARE FEET
SIM	SIMILAR

NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT ALL TREES INDICATED TO REMAIN, INCLUDING BARK AND ROOT ZONES. INSTALL PROTECTIVE FENCING WHERE INDICATED ON THE TREE PROTECTION PLAN. PROTECTIVE BARRIERS SHALL BE PLACED BEFORE PHYSICAL DEVELOPMENT STARTS AND SHALL STAY IN PLACE UNTIL AFTER PLANNING OFFICIAL AUTHORIZES THEIR REMOVAL OR A FINAL CERTIFICATE OF OCCUPANCY IS ISSUED, WHICHEVER OCCURS FIRST.
3. TREE PROTECTION FENCING SHALL BE CHAIN LINK, MINIMUM OF 6' HEIGHT, SECURED WITH STEEL POSTS, INSTALLED 5' BEYOND THE EDGE OF THE DRIP LINE OR AS INDICATED ON THE TREE REMOVAL AND PROTECTION PLAN.
4. EXCAVATION WITHIN THE TREE PROTECTION ZONE WILL BE PERFORMED USING ONLY NON-MOTORIZED HANDHELD TOOLS AND SHALL BE THE MINIMUM NECESSARY TO ACCOMPLISH THE PURPOSE FOR THE EXCAVATION AND TO ENSURE LONG-TERM SURVIVAL OF THE TREE.
5. TREE PROTECTION FENCING SHALL BE FLUSH WITH THE INITIAL UNDISTURBED GRADE.
6. APPROVED SIGNS SHALL BE ATTACHED TO PROTECTION FENCING, AND VISIBLY STATING THAT INSIDE THE FENCING IS A TREE PROTECTION ZONE, NOT TO BE DISTURBED UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE COUNTY MANAGER.
7. NO CONSTRUCTION ACTIVITY SHALL OCCUR WITHIN THE TREE PROTECTION ZONE, INCLUDING, BUT NOT LIMITED TO DUMPING OR STORAGE OF MATERIALS SUCH AS BUILDING SUPPLIES, SOIL, WASTE ITEMS, OR PARKED VEHICLES AND EQUIPMENT.
8. THE TREE PROTECTION ZONE SHALL REMAIN FREE OF CHEMICALLY INJURIOUS MATERIALS AND LIQUIDS SUCH AS PAINTS, THINNERS, CLEANING SOLUTIONS, PETROLEUM PRODUCTS, AND CONCRETE OR DRY WALL EXCESS, CONSTRUCTION DEBRIS, OR RUNOFF.
9. NO EXCAVATION, TRENCHING, GRADING, ROOT PRUNING OR OTHER ACTIVITY SHALL OCCUR WITHIN THE TREE PROTECTION ZONE UNLESS DIRECTED BY AN ARBORIST PRESENT ON SITE AND APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR.
10. NO MACHINERY REPAIR OR CLEANING SHALL BE PERFORMED WITHIN TEN FEET OF THE DRIPLINE OF ANY TREES IDENTIFIED FOR PROTECTION.
11. DIGGING A TRENCH FOR PLACEMENT OF PUBLIC OR PRIVATE UTILITIES OR OTHER STRUCTURE WITHIN THE CRITICAL ROOT ZONE OF A TREE TO BE PROTECTED IS PROHIBITED. BORING UNDER OR THROUGH THE TREE PROTECTION ZONE MAY BE PERMITTED IF APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR AND PURSUANT TO THE APPROVED WRITTEN RECOMMENDATIONS OF AN ON-SITE GUIDANCE AND SUPERVISION OF A CERTIFIED ARBORIST.
12. NO FILL OR COMPACTION SHALL OCCUR WITHIN THE CRITICAL ROOT ZONES OF ANY OF THE TREES. IF COMPACTION IS UNAVOIDABLE, MEASURES SHALL BE TAKEN AS RECOMMENDED BY A CERTIFIED ARBORIST TO REDUCE OR MITIGATE THE IMPACT OF THE FILL OR COMPACTION.
13. THE CITY MAY REQUIRE THAT A CERTIFIED ARBORIST BE PRESENT DURING ANY CONSTRUCTION OR GRADING ACTIVITIES THAT MAY AFFECT THE DRIPLINE OF TREES TO BE PROTECTED.
14. THE COMMUNITY DEVELOPMENT DIRECTOR MAY IMPOSE CONDITIONS TO AVOID DISTURBANCE TO TREE ROOTS FROM GRADING ACTIVITIES AND TO PROTECT TREES AND OTHER SIGNIFICANT VEGETATION IDENTIFIED FOR RETENTION FROM HARM. SUCH CONDITIONS AY INCLUDE, IF NECESSARY, THE ADVISORY EXPERTISE OF A QUALIFIED CONSULTING ARBORIST OR HORTICULTURIST OR BOTH DURING AND AFTER SITE PREPARATION, AND A SPECIAL MAINTENANCE/MANAGEMENT PROGRAM TO PROVIDE PROTECTION TO THE RESOURCE AS RECOMMENDED BY THE ARBORIST OR HORTICULTURIST.
15. CHANGES IN SOIL HYDROLOGY DUE TO SOIL COMPACTION AND SITE DRAINAGE WITHIN TREE PROTECTION AREAS SHALL BE AVOIDED. DRAINAGE AND GRADING PLANS SHALL INCLUDE PROVISION TO ENSURE THAT DRAINAGE OF THE SITE DOES NOT CONFLICT WITH THE TREE PROTECTION REQUIREMENTS. EXCESSIVE SITE RUN-OFF SHALL BE DIRECTED TO APPROPRIATE STORM DRAINAGE FACILITIES AND AWAY FROM TREES DESIGNATED FOR PROTECTION.

Land Use Application

NOT FOR CONSTRUCTION

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MARK DATE DESCRIPTION

Sheet Title
TREE PROTECTION PLAN

Drawing No.
L1.01

Scale 1"=20'-0"
Date December 18, 2015
Project No. 104500

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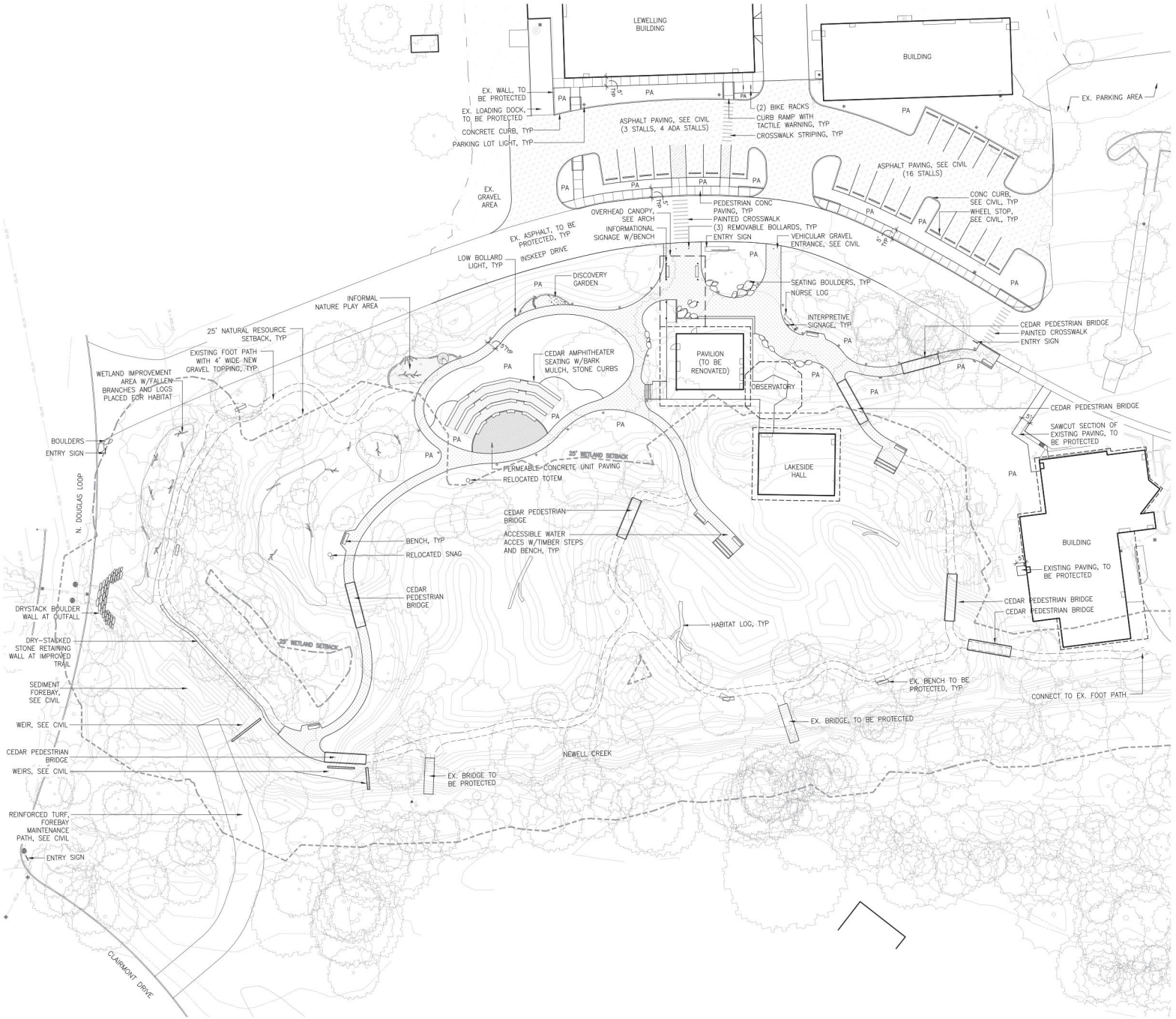


1. MATERIALS PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40'

N

LEGEND

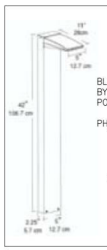
- 25' NATURAL RESOURCE SETBACK LINE
- EXISTING 4' TRAILS W/NEW GRAVEL ADDED
- CONCRETE CURB
- CONCRETE WHEELSTOP
- PEDESTRIAN CONCRETE PAVING
- PERMEABLE PEDESTRIAN CONCRETE UNIT PAVERS
- PERMEABLE COMPACTED GRAVEL ACCESSIBLE PATH
- BARK MULCH
- ASPHALT PAVING
- LOW BOLLARD LIGHT
- BENCH WITH BACK
- SEATING BOULDERS
- EXISTING DECIDUOUS TREE TO BE PROTECTED
- EXISTING CONIFEROUS TREE TO BE PROTECTED

ABBREVIATIONS

ARCH	ARCHITECTURAL
CONC	CONCRETE
DWG	DRAWINGS
ELEC	ELECTRICAL
MECH	MECHANICAL
NIC	NOT IN CONTRACT
PA	PLANTING AREA
SIM	SIMILAR
SPECS	SPECIFICATIONS
STRUC	STRUCTURAL
TYP	TYPICAL
W/	WITH

MATERIALS NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT EXISTING VEGETATION TO REMAIN. SEE SPECIFICATIONS FOR FENCING AND OTHER REQUIREMENTS.
3. SEE CIVIL DRAWINGS FOR GRADING PLAN AND LOCATION OF UTILITIES.



BLED13N LIGHT BOLLARD
BY RAB LIGHTING,
POWDERCOATED COLOR: BRONZE

PHOTOMETRICS:
1 FOOTCANDLE
7' IN FRONT
5' ON BOTH SIDES
NO LIGHT BEHIND FIXTURE
0.1 FOOTCANDLE:
9' IN FRONT
10' ON BOTH SIDES
NO LIGHT BEHIND FIXTURE

2 LOW BOLLARD LIGHT

Axon
NTS

Land Use Application

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MARK DATE DESCRIPTION

Sheet Title
MATERIALS PLAN

Drawing No.
L2.01

Scale 1"=20'-0"
Date December 18, 2015
Project No. 104500

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PLANT LEGEND

SEE SHEET L3.02 FOR PLANT SCHEDULE AND NOTES

- PLANTING ZONE 1 ELEVATIONS ABOVE 398 IN RESTORATION ZONE
- PLANTING ZONE 2 ELEVATIONS BTWN 396 AND 398
- PLANTING ZONE 3 ELEVATIONS BTWN 395 AND 396
- PLANTING ZONE 4 ELEVATIONS BELOW 395
- MEADOW PLANTING
- WETLAND PLANTING
- NATIVE ORNAMENTAL PLANTING
- PARKING AREA PLANTING
- STORMWATER PLANTING PER OREGON CITY STANDARDS

1. PLANTING PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40' N

Land Use Application

NOT FOR CONSTRUCTION

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MARK DATE DESCRIPTION

Sheet Title
PLANTING PLAN

Drawing No.
L3.01

Scale 1"=20'-0"
Date February 11, 2016
Project No. 104500

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PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/ CONDITION	SPACING
TREES				
	Acer circinatum	Vine Maple	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	AS SHOWN
	Alnus rubra	Red Alder	1/2" CAL./B&B	AS SHOWN
	Amelanchier alnifolia	Western Serviceberry	1.5" CAL./B&B	AS SHOWN
	Fraxinus latifolia	Oregon Ash	1/2" CAL./B&B	AS SHOWN
	Cornus 'Eddie's White Wonder'	Eddie's White Wonder Hybrid Dogwood	2" CAL./B&B	AS SHOWN
	Thuja plicata	Western Red Cedar	6' HT MIN/B&B	AS SHOWN
PLANTING ZONE 1 – ELS. ABOVE 398 IN RESTORATION ZONE				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	4LBS/ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	36" O.C.
	Physocarpus capitatus	Pacific Ninebark	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.
	Spiraea douglasii	Douglas spirea	#1/CONT.	36" O.C.
PLANTING ZONE 2 – ELEVATIONS BTWN 396 AND 398				
	Agrostis exarata	Spike Bentgrass	SEED	2LBS/ACRE
	Carex obnupta	Slough Sedge	PLUG	18" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	2LBS/ACRE
	Plagiobothrys figuratus	Fragrant Popcorn Flower	PLUG	18" O.C.
	Ranunculus sceleratus	Cursed Buttercup	PLUG	18" O.C.
PLANTING ZONE 3 – ELEVATIONS BTWN 395 AND 396				
	Alisma gramineum	Narrow–leaf Water Plantain	PLUG	18" O.C.
	Juncus effusus	Lamp Rush	PLUG	18" O.C.
	Juncus ensifolius	Daggerleaf Rush	PLUG	18" O.C.
	Leersia oryzoides	Rice Cutgrass	PLUG	18" O.C.
	Polygonum coccineum	Water Smartweed	PLUG	18" O.C.
	Scirpus microcarpus	Small Fruited Bulrush	PLUG	18" O.C.
	Sparganium eurycarpum	Broadfruit Bur–reed	PLUG	18" O.C.
	Schoenoplectus tabernaemontani	Soft–stem Club–rush	PLUG	18" O.C.
PLANTING ZONE 4 – ELEVATIONS BELOW 395				
	Callitriche stagnalis	Pond–water Starwort	PLUG	18" O.C.
	Potamogeton crispus	Curly Pondweed	PLUG	18" O.C.
	Schoenoplectus tabernaemontani	Soft–stem Clubrush	PLUG	18" O.C.
	Stuckenia pectinata	Sago Pondweed	PLUG	18" O.C.
	Utricularia macrorhiza	Greater Bladderwort	PLUG	18" O.C.
MEADOW PLANTING				
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF

PLANT SCHEDULE CONT.

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/ CONDITION	SPACING
WETLAND PLANTING				
	Glyceria elata	Fowl Manna Grass	SEED	12LBS/ ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	6' O.C.
	Physocarpus capitatus	Ninebark	#1/CONT.	6' O.C.
	Spiraea douglasii	Douglas Spirea	#1/CONT.	6' O.C.
NATIVE ORNAMENTAL PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	24" O.C.
	Aquilegia formosa	Western Columbine	#1/CONT.	24" O.C.
	Blechnum spicant	Deer Fern	#1/CONT.	24" O.C.
	Erigeron speciosus	Aspen Fleabane	#1/CONT.	24" O.C.
	Festuca idahoensis	Idaho Fescue	#1/CONT.	24" O.C.
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF
	Fragaria vesca	Woodland Strawberry	#1/CONT.	12" O.C.
	Iris douglasiana	Douglas Iris	#1/CONT.	24" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Mahonia repens	Creeping Mahonia	#2/CONT.	24" O.C.
	Oemleria cerasiformis	Indian Plum	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	72" O.C.
	Philadelphus lewisii	Wild Mock Orange	#5/CONT.	42" O.C.
	Phlox adsurgens	Northern Phlox	#1/CONT.	24" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Sedum lanceolatum	Lanceleaf Stonecrop	#1/CONT.	12" O.C.
	Sedum oreganum	Oregon Stonecrop	#1/CONT.	12" O.C.
	Trillium ovatum	Trillium	#1/CONT.	24" O.C.
PARKING AREA PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	12" O.C.
	Gaultheria shallon	Salal	#1/CONT.	36" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Vaccinium ovatum	Evergreen Huckleberry	#3/CONT.	36" O.C.
STORMWATER PLANTING – PER OREGON CITY STANDARDS				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Eleocharis ovata	Ovate Spike Rush	#1/CONT.	12" O.C.
	Fragaria chiloensis	Coast Strawberry	SP#4/CONT.	12" O.C.
	Juncus patens	Spreading Rush	#1/CONT.	12" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Rosa pisocarpa	Swamp Rose	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.

ABBREVIATIONS

B&B	BALLED & BURLAPPED
CAL	CALIPER
CONT	CONTAINER
CON	CONIFER
DECID	DECIDUOUS
DIA	DIAMETER
DBH	DIAMETER AT BREAST HEIGHT
EQ	EQUAL
EX	EXISTING
HT	HEIGHT
MIN	MINIMUM
MAX	MAXIMUM
NO	NUMBER
O.C.	ON CENTER
SIM	SIMILAR
SL	SEEDED LAWN
SPECS	SPECIFICATIONS
TYP	TYPICAL
#	CONTAINER SIZE

PLANTING NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT EXISTING VEGETATION TO REMAIN; SEE SPECIFICATION SECTION 01565 FOR FENCING AND OTHER REQUIREMENTS.
3. ALL PLANT MATERIAL SHALL BE NURSERY GROWN, WELL ROOTED, AND WELL BRANCHED. ALL TREES MUST BE FREE OF INSECTS, DISEASES, MECHANICAL INJURY, AND OTHER OBJECTIONABLE FEATURES WHEN PLANTED. ALL PLANT MATERIAL SHALL CONFORM TO "AMERICAN STOCK STANDARDS" LATEST EDITION.
4. ALL PLANT MATERIAL TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SEE SPECIFICATIONS.
5. PLANT SPACING SHALL TAKE PRECEDENCE OVER VALVE BOX LOCATIONS. INSTALLED VALVE BOXES THAT CONFLICT WITH ACCEPTED PLANT LAYOUT SHALL BE MOVED TO POSITION BETWEEN PLANTS.
6. CLEAR PLANT BEDS OF ALL GRAVEL AND DEBRIS PRIOR TO SOIL PREPARATION AND PLANTING, FOR APPROVAL BY LANDSCAPE ARCHITECT.
7. ALL LANDSCAPE AREAS THAT HAVE A SLOPE GREATER THAN 1 VERTICAL FOOT IN 3 HORIZONTAL FEET SHALL RECEIVE JUTE MATTING, SEE SPECIFICATIONS.
8. ALL PLANTING AREAS ADJACENT TO NEW PARKING AREAS ARE TO BE IRRIGATED WITH A PERMANENT AUTOMATIC IRRIGATION SYSTEM. ALL AREAS WITHIN THE EXISTING ELC ARE TO BE IRRIGATED WITH TEMPORARY ABOVE–GROUND IRRIGATION FOR A PERIOD OF 3 YEARS MINIMUM.
9. ALL PARKING LOT AND STREET TREES MUST HAVE 6' CLEAR HEIGHT TO LOWEST BRANCHES.

CODE REQUIREMENTS
INTERIOR PARKING LOT LANDSCAPING

1 TREE PER 6 PARKING STALLS

GROUNDCOVER OR SHRUBS
TO COVER 100% OF LANDSCAPED AREA WITHIN 3 YEARS

Land Use Application

NOT FOR CONSTRUCTION

Consultant
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Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
PLANTING SCHEDULE AND NOTES

Drawing No.
L3.02

Scale 1"=20'-0"
Date February 11, 2016
Project No. 104500

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1. TREE MITIGATION PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40' N

LEGEND

- NROD BOUNDARY
- CONIFEROUS TREE, TO BE REMOVED
- DECIDUOUS TREE, TO BE REMOVED
- CONIFEROUS TREE, TO BE PROTECTED
- DECIDUOUS TREE, TO BE PROTECTED
- MITIGATION TREES FOR TREES REMOVED OUTSIDE NROD BOUNDARY

TREE MITIGATION INSIDE NROD

7,942 SF DISTURBED AREA

OPTION 2 REQUIRED PLANTING
5 TREES AND 25 SHRUBS PER 500SF DISTURBED AREA

OPTION 2 PROVIDED PLANTING
5 TREES AND 25 SHRUBS PER 500SF DISTURBED AREA

PROVIDED MITIGATION TREES = 79

- (18) ACER CIRCINATUM, MIN 7'-8' HT, MULTI-TRUNK
- (24) ALNUS RUBRA, 2" CAL
- (3) AMELANCHIER ALNIFOLIA, MIN 7'-8' HT, MULTI-TRUNK
- (16) FRAXINUS LATIFOLIA, 2" CAL
- (18) THUJA PLICATA, MIN 6'HT

PROVIDED MITIGATION SHRUBS = 397, MIN 12" HT
SEE PLANTING PLAN L3.01 FOR SHRUB LOCATIONS.
SHRUBS TO BE PLANTED IN GROUPS WITH NO MORE THAN 4 SINGLE-SPECIES.

ALL MITIGATION PLANTS TO BE IRRIGATED TO ENSURE A MINIMUM 80% SURVIVAL RATE AFTER 5 YEARS.

TREE MITIGATION OUTSIDE NROD

10 TREES REMOVED WITHIN THE CONSTRUCTION AREA	REQUIRED REPLACEMENT
1. 9" PRUNUS SP.	(1)
2. 12" PSEUDOTSUGA MENZIESII	(1)
3. 12" PICEA SP.	(1)
4. 8" CRATAEGUS SP.	(1)
5. 6" MALUS SP.	(1)
6. 12" ACER SP.	(1)
7. 12" ACER SP.	(1)
8. 6" ACER RUBRUM	(1)
9. 12" PICEA ABIES	(1)
10. 8" ACER RUBRUM	(1)

PROVIDED REQUIRED MITIGATION TREES

1. (1) FRAXINUS LATIFOLIA, 2" CAL
2. (1) THUJA PLICATA, MIN 6' HT
3. (1) THUJA PLICATA, MIN 6' HT
4. (1) ALNUS RUBRA, 2" CAL
5. (1) FRAXINUS LATIFOLIA, 2" CAL
6. (1) FRAXINUS LATIFOLIA, 2" CAL
7. (1) FRAXINUS LATIFOLIA, 2" CAL
8. (1) ALNUS RUBRA, 2" CAL
9. (1) THUJA PLICATA, MIN 6' HT
10. (1) ALNUS RUBRA, 2" CAL

1 TREE REMOVED OUTSIDE THE CONSTRUCTION AREA	REQUIRED REPLACEMENT
11. 14" PICEA SITCHENSIS	(6)

PROVIDED REQUIRED MITIGATION TREES

11. (6) THUJA PLICATA, MIN 6' HT

Land Use Application

NOT FOR CONSTRUCTION

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MARK DATE DESCRIPTION

Sheet Title
TREE MITIGATION PLAN

Drawing No.
L3.03

Scale 1"=20'-0"
Date February 11, 2016
Project No. 104500

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IRRIGATION LEGEND

- NATIVE ORNAMENTAL PLANTING
  RAINBIRD DRIP LINE, PERMANENT
- MEADOW PLANTING
  MP ROTATORS, PERMANENT
- PARKING LOT PLANTERS
  MP ROTATORS, PERMANENT
- HABITAT RESTORATION/
  WATER QUALITY ENHANCEMENT
  MP ROTATORS, TEMPORARY

IRRIGATION NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. WATER SUPPLY POINT OF CONNECTION: A NEW IRRIGATION SERVICE LATERAL TO BE LOCATED OFF THE WATER MAIN IN INSKEEP DRIVE. SEE CIVIL.
3. PRIOR TO COMMENCEMENT OF ANY IRRIGATION WORK, VERIFY MINIMUM FLOW RATE OF 25 GPM AND MINIMUM DYNAMIC (WORKING) PRESSURE OF 55 PSI WHEN FLOWING AT 25 GPM AT THE POINT OF CONNECTION.
4. PROVIDE SLEEVES UNDER ALL PAVED AREAS FOR IRRIGATION MAINLINE AND LATERALS.
5. NO TRENCHING UNDER DRIPLINE OF EXISTING PLANTING TO BE PROTECTED.
6. PLACE ALL VALVES IN VALVE BOXES AND IN A MANNER THAT FACILITATES ACCESS FOR MAINTENANCE. SIZE BOXES TO ACCOMMODATE COMPLETE VALVE ASSEMBLY. MAINTAIN MIN. 4" BETWEEN VALVE BOXES AND PAVEMENT.
7. PERMANENT IRRIGATION AREAS TO BE UNDERGROUND. TEMPORARY IRRIGATION AREAS TO USE ABOVE-GROUND LATERALS AND SPRAY HEADS, WITH UNDERGROUND MAINLINE THAT IS TO BE REMOVED AFTER 2 YEARS.

1. IRRIGATION ZONING PLAN

SCALE: 1" = 20'-0"

Land Use Application

NOT FOR CONSTRUCTION

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19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
IRRIGATION ZONING PLAN

Drawing No.
L4.01

Scale 1"=20'-0"
Date December 18, 2015
Project No. 104500

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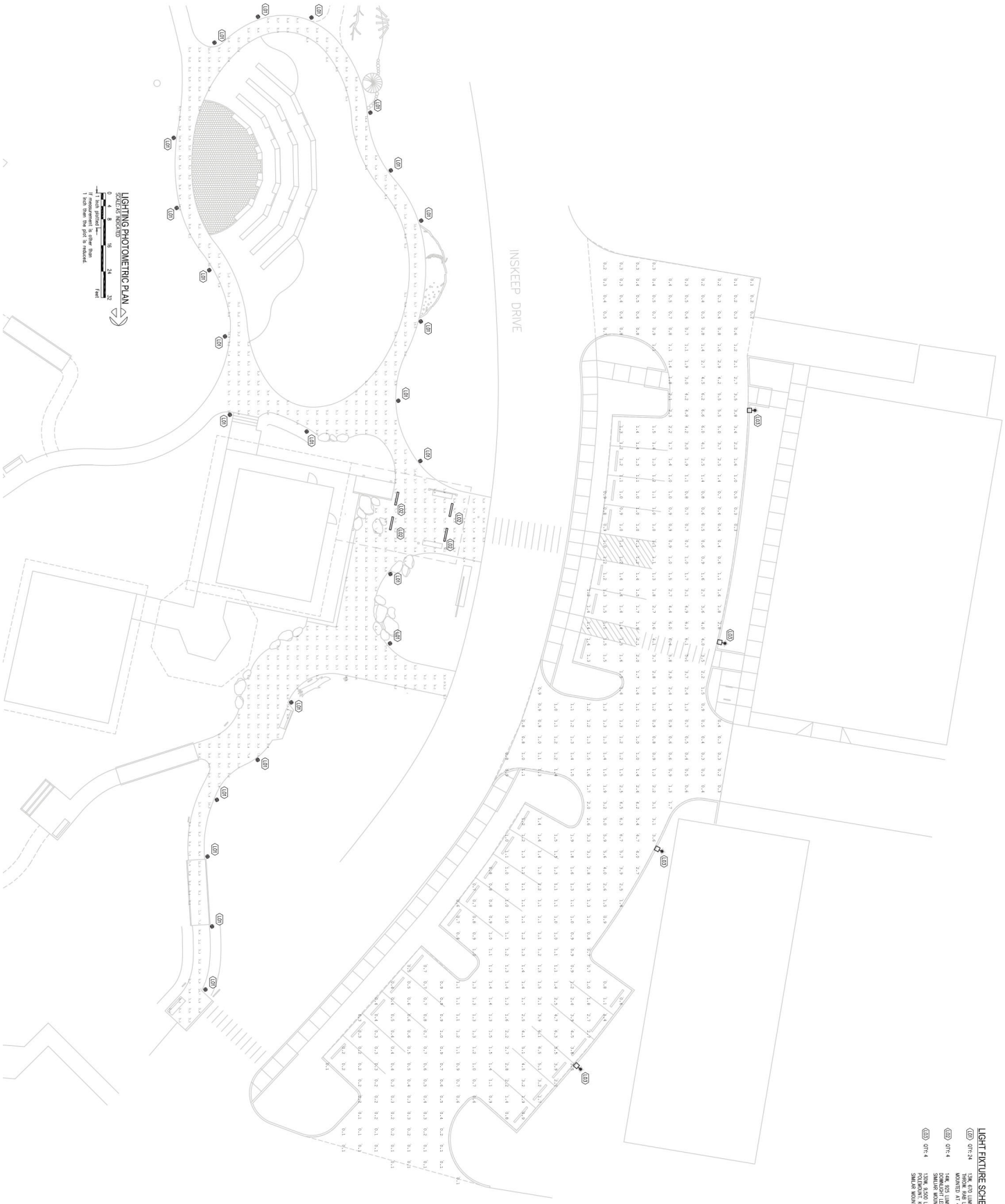

LIGHT FIXTURE SCHEDULE

L27	QTY: 24	TYPE D LUMINAIRE MOUNTED ON POLE WITH 3 BRANCH THROW, RAB LIGHTING WELLTON OR SIMILAR POST MOUNTED AT 42" ABOVE GROUND.
L32	QTY: 4	14W, 925 LUMEN, 4000K LAMP, 48" LONG EXTERIOR SURFACE MOUNTED LED LINEAR FIXTURE, RAB BALDER 1 NEW OR SIMILAR MOUNTED TO CANOPY ABOVE.
L33	QTY: 4	132W, 9,500 LUMEN, 4000K, FULL CUTOFF, LENS POLEMOUNT, RAB LIGHTING ARCHETYPE AR SERIES OR SIMILAR MOUNTED ON 20' POLE.

Not For Construction

Project No.	104500
Date	02.11.16
Scale	3/32" = 1'-0"
Sheet	L5.01
Revisions	
Lighting Photometric Plan	

Project
ENVIRONMENTAL LEARNING CENTER
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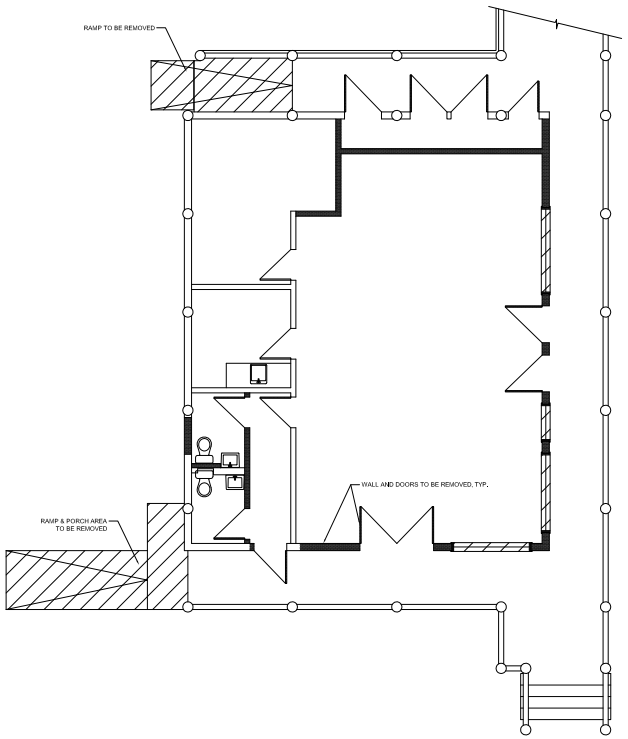
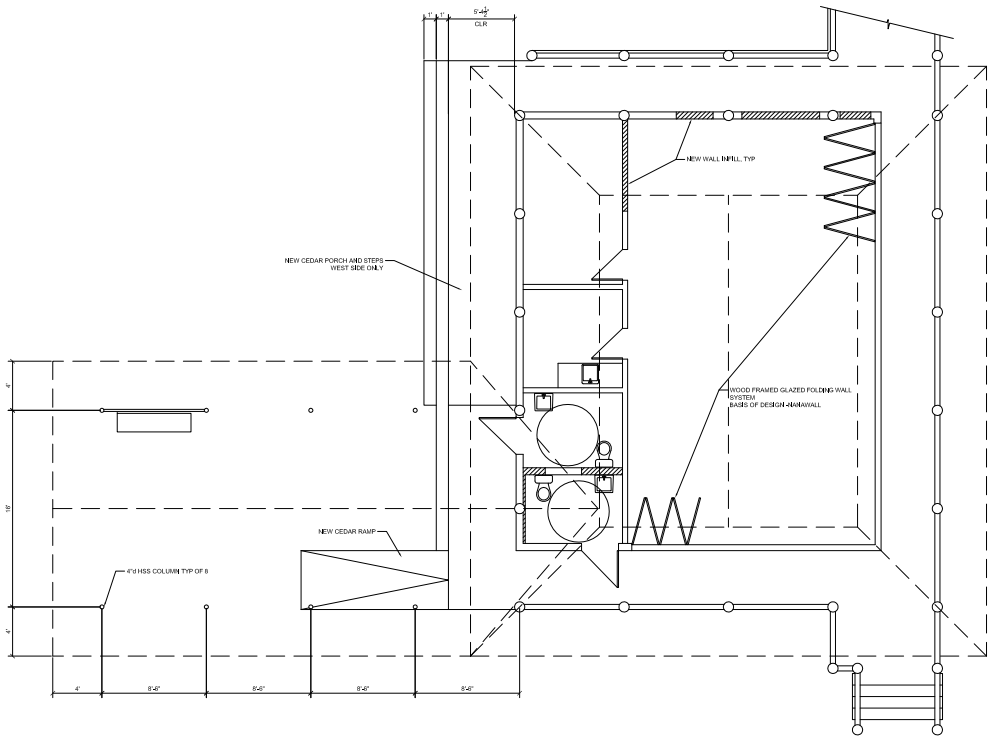
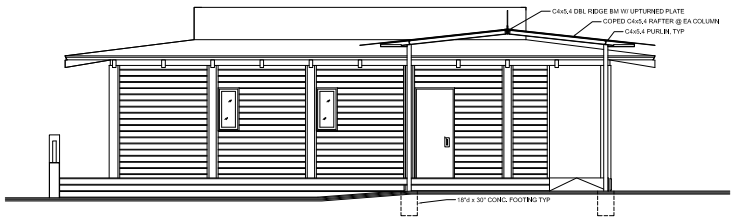


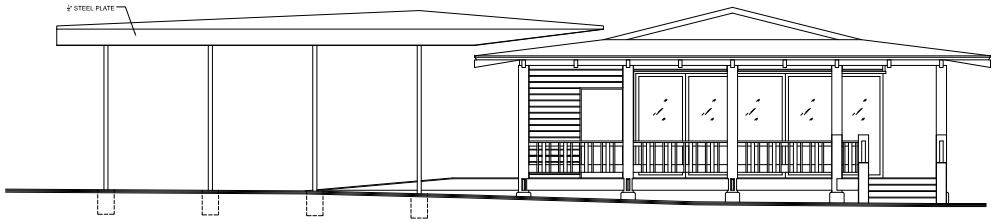
2 DEMO PLAN
SCALE 1/4"=1'-0"



1 PROPOSED PLAN
SCALE 1/4"=1'-0"



4 WEST ELEVATION
SCALE 1/4"=1'-0"



3 SOUTH ELEVATION
SCALE 1/4"=1'-0"

NOT FOR CONSTRUCTION

Consultant

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ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
PAVILION PLANS & ELEVATIONS

Drawing No.
A1.01

Scale as noted
Date December 18, 2015
Project No. 104500

Land Use Application

17.49.[0]10 - Purpose.

The Natural Resource Overlay District designation provides a framework for protection of Metro Titles 3 and 13 lands, and Statewide Planning Goal 5 resources within Oregon City. The Natural Resource Overlay District (NROD) implements the Oregon City Comprehensive Plan Natural Resource Goals and Policies, as well as Federal Clean Water Act requirements for shading of streams and reduction of water temperatures, and the recommendations of the Metro ESEE Analysis. It is intended to resolve conflicts between development and conservation of habitat, stream corridors, wetlands, and floodplains identified in the city's maps. The NROD contributes to the following functional values:

A. Protect and restore streams and riparian areas for their ecologic functions and as an open space amenity for the community.

B. Protect floodplains and wetlands, and restore them for improved hydrology, flood protection, aquifer recharge, and habitat functions.

C. Protect upland habitats, and enhance connections between upland and riparian habitat.

D. Maintain and enhance water quality and control erosion and sedimentation through the revegetation of disturbed sites and by placing limits on construction, impervious surfaces, and pollutant discharges.

E. Conserve scenic, recreational, and educational values of significant natural resources.

The NROD ecological functions listed above are planned for integration with existing neighborhoods and new residential and commercial developments. The long-term goal of the NROD is to restore and enhance stream corridors, wetlands, and forests to more natural vegetated conditions, recognizing that existing homes and other existing uses will continue in the district. This chapter does not regulate the development within the identified water resource. Separate permits from the Division of State Lands and the Army Corp of Engineers may be required for work within a stream or wetland.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

General

17.49.020 - NROD identifying documents.

A. The NROD protects as one connected system the habitats and associated functions of the streams, riparian corridors, wetlands and the regulated upland habitats found in Oregon City. These habitats and functions are described in the following documents upon which the NROD is based:

1. The 1999 Oregon City Local Wetland Inventory.
2. The Oregon City Water Quality Resource Area Map (Ord. 99-1013).
3. 2004 Oregon City slope data and mapping (LIDAR).
4. Metro Regionally Significant Habitat Map (Aerial Photos taken 2002).
5. National Wetland Inventory (published 1992).
6. Beavercreek Road Concept Plan (adopted September 2008).
7. Park Place Concept Plan (adopted April 2008).

The NROD provisions apply only to properties within the NROD as shown on the NROD Map, as amended.

The intent of these regulations is to provide applicants the ability to choose a clear and objective review process or a discretionary review process. The NROD provisions do not affect existing uses and development, or the normal maintenance of existing structures, driveways/parking areas, public facilities, farmland and landscaped areas. New public facilities such as recreation trails, planned road and utility line crossings and stormwater facilities, are allowed within the overlay district under prescribed conditions as described in Section 17.49.090. In addition, provisions to allow a limited portion of the NROD to be developed on existing lots of record that are entirely or mostly covered by the NROD ("highly constrained") are described in Section 17.49.120.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Editor's note— Ord. No. 10-1003, § 1(Exh. 1), adopted July 7, 2010, renamed section 17.49.020 from "How the NROD works" to "NROD identifying documents."

17.49.[0]30 - Map as reference.

This chapter applies to all development within the Natural Resources Overlay District as shown on the NROD Map, which is a regulatory boundary mapped ten feet beyond the required vegetated corridor width specified in section 17.49.110. The mapped NROD boundary is based on a GIS-supported application of the adopted documents, plans and maps listed in Sections 17.49.020A.1.—17.19.020A.8., however the adopted map may not indicate the true location of protected features. Notwithstanding changing field conditions or updated mapping approved by the city (and processed as a Type I Verification per OCMC 17.49.255), the applicant may choose to either accept the adopted NROD boundary or provide a verifiable delineation of the true location of the natural resource feature pursuant to the Type I or Type II procedure in accordance with this chapter. The NROD boundary shall be shown on all development permit applications and its location shall be verified in the field before development activity (including grading) commences. The official NROD map can only be amended by the city commission. Verification of the map shall be processed pursuant to Section 17.49.250.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.[0]35 - Addition of wetlands to map following adoption.

The NROD boundary shall be expanded to include a wetland identified during the course of a development permit review if it is within or partially within the mapped NROD boundary and meets the State of Oregon's definition of a "Locally Significant Wetland". In such cases the entire wetland and its required vegetated corridor as defined in Table 17.49.110 shall be regulated pursuant to the standards of this chapter. The NROD boundary shall be added to the NROD map by the community development director after the development permit becomes final.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *PHS identified Wetlands B, C, and D and Tributary 1 within the ELC site during the 2015 wetland delineation (WD2015-0398). These wetland and water resources are within or partially within the mapped NROD boundary and meet the definition of a "Locally Significant Wetland." As such, the wetlands and waters and their required vegetated corridors will be added to the NROD map as shown on Sheet LU1.01 and regulated pursuant to the standards of this chapter.*

17.49.[0]40 - NROD permit.

An NROD permit is required for those uses regulated under Section 17.49.90, Uses Allowed under Prescribed Conditions. An NROD permit shall be processed under the Type II development permit procedure, unless an adjustment of standards pursuant to Section 17.49.200 is requested or the application is being processed in conjunction with a concurrent application or action requiring a Type III or Type IV development permit. Applications for development on properties affected by the NROD shall delineate or verify the exact location of the NROD as part of a Type I or II development review process unless exempted pursuant to section 17.40.080.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *The applicant is requesting an NROD permit for the proposed uses regulated under Section 17.49.090. The proposed project includes habitat enhancement to improve water quality and ecological functions and site re-development to improve and conserve the scenic, recreational, and educational values of the site.*

17.49.[0]50 - Emergencies.

The provisions of this ordinance do not apply to work necessary to protect, repair, maintain, or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies. After the emergency has passed, any disturbed native vegetation areas shall be replanted with similar vegetation found in the Oregon City Native Plant List pursuant to the mitigation standards of Section 17.49.180. For purposes of this section emergency shall mean any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to fire, explosion, flood, severe weather, drought, earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.[0]60 - Consistency and relationship to other regulations.

A. Where the provisions of the NROD are less restrictive or conflict with comparable provisions of the Oregon City Municipal Code, other City requirements, regional, state or federal law, the provisions that provides the greater protection of the resource shall govern.

B. Compliance with Federal and State Requirements.

   a. If the proposed development requires the approval of any other governmental agency, such as the Division of State Lands or the U.S. Army Corps of Engineers, the applicant shall make application for such approval prior to or simultaneously with the submittal of its development application to the City. The planning division shall coordinate City approvals with those of other agencies to the extent necessary and feasible. Any permit issued by the City pursuant to this chapter shall not become valid until other agency approvals have been obtained or those agencies indicate that such approvals are not required.

   b. The requirements of this chapter apply only to areas within the NROD and to locally significant wetlands that may be added to the boundary during the course of development review pursuant to Section 17.49.035. If, in the course of a development review, evidence suggests that a property outside the NROD may contain a wetland or other protected water resource, the provisions of this chapter shall not be applied to that development review. However, the omission shall not excuse the applicant from satisfying any state and federal wetland requirements which are otherwise applicable. Those requirements apply in addition to, and apart from the requirements of the City's comprehensive plan and this code.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *The applicant has submitted a Joint Permit Application to the Department of State Lands (DSL)(APP0058510) and the US Army Corps of Engineers (Corps)(NWP-2015-427) for the proposed project. The wetland resources within the proposed project area were delineated by PHS in February 2015. The DSL concurred with the findings in October 2015. The jurisdictional determination is valid for five years unless new information necessitates a revision.*

A DEQ 1200-C NPDES Stormwater Discharge Permit will be submitted once the City provides Conditions of Approval for the Land Use application.

Prohibited, Exempted and Regulated Uses

17.49.[0]70 - Prohibited uses.

The following development and activities are not allowed within the NROD:

A. Any new gardens, lawns, structures, development, other than those allowed outright (exempted) by the NROD or that is part of a regulated use that is approved under prescribed conditions. Note: Gardens and lawns within the NROD that existed prior to the time the overlay district was applied to a subject property are allowed to continue but cannot expand further into the overlay district.

B. New lots that would have their buildable areas for new development within the NROD are prohibited.

C. The dumping of materials of any kind is prohibited except for placement of fill as provided in subsection D. below. The outside storage of materials of any kind is prohibited unless they existed before the overlay district was applied to a subject property. Uncontained areas of hazardous materials as defined by the Oregon Department of Environmental Quality (ORS 466.005) are also prohibited.

D. Grading, the placement of fill in amounts greater than ten cubic yards, or any other activity that results in the removal of more than ten percent of the existing native vegetation on any lot within the NROD is prohibited, unless part of an approved development activity.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *Elements of the proposed project will be either allowed outright (exempted) by the NROD or are part of a regulated use that is approved under prescribed conditions as detailed in the code responses below.*

17.49.[0]80 - Uses allowed outright (exempted).

The following uses are allowed within the NROD and do not require the issuance of an NROD permit:

A. Stream, wetland, riparian, and upland restoration or enhancement projects as authorized by the city.

Response: *The proposed modifications to the existing water resources and their riparian areas (habitat enhancement) within the ELC site meets the definition of an enhancement project per this section and the definition provided in Section 17.04.375. The proposed project will improve the water quality and ecological functions that have been degraded through past human activity (i.e. operation of the Smucker's facility).*

The ELC forms the headwaters of Newell Creek, with discharge from a small watershed (less than 0.2 square miles). Most of the water flowing into the ELC originates from an older system of pipes carrying mostly untreated stormwater from the campuses buildings roofs, paved areas, roads, and parking lots. The two ponds have accumulated sediment and have become generally shallow; raising the water temperature in the summer, which impacts Newell Creek downstream. Higher flows during storm events bypass the ponds with little detention time and little treatment.

The proposed modifications for habitat enhancement will occur over approximately 25,000 square feet, largely within wetlands and waters areas (Sheet LU1.02). A joint permit application for impacts to wetlands and waters has been submitted to DSL and the Corps. The proposed habitat enhancement is considered an allowed use, discussed in 17.49.[0]80.A in the NROD Development Standards section below. Trees removed during implementation of the habitat enhancement project are detailed in Table 1, below and shown on Sheet LU1.03. Though mitigation is not required for the removal of these trees, the proposed habitat enhancement plantings discussed below and detailed on Sheet LU1.04 are expected to more than adequately compensate for the removed trees.

The proposed modifications for habitat enhancement will improve habitat within the wetland system and the quality of water flowing off-site into Newell Creek (see Sheet LU1.02). Water quality and habitat improvements within the two ponds include the creation of four east-west oriented berms. These will be planted with a variety of native vegetation and will lengthen the travel path and residence time for water flowing through the system. The tops of the berms will be planted with trees and shrubs to shade and cool the water. Trees and shrubs to be planted on the berms include western red cedar, Oregon ash, twinberry, Pacific ninebark, red osier dogwood, Spiraea, and Sitka willow. Fine grading within the ponds and along the edges of the berms will create benches at appropriate depths to establish both submergent and emergent vegetation for shading and filtering in order to capture and adsorb targeted pollutants. Emergent and submergent plants will include soft-stem rush, broadfruit bur-reed, and pondweed.

Five weirs will be installed. Four will replace existing weirs, while one will be new. The new weir will be constructed toward the upstream end of the main channel north of Douglas Loop to retain water in a proposed forebay. The channel will be excavated upstream of the weir to establish a pool approximately 4-feet deep to drop sediment out of the water. The base of the forebay will be lined with pavers to provide a firm subbase to facilitate sediment removal with an excavator. A new stabilized path on the adjacent upland will allow access for maintenance equipment. The other four weirs are replacements of existing weirs placed during the 1970s. These include one at the inlet to the two ponds to restrict peak flows entering during larger storm events, one within the main channel located just past the inlet channel to the ponds, one south of the outlet channel from the ponds to ensure a permanent pool of water in the pond and one north of the outlet from the ponds at a fork in the main channel. This weir, with a high flow bypass, will divert lower flows to a more winding channel before flowing under Beavercreek Road.

All of the weirs will be calibrated to allow inflow and release rates to be monitored for educational opportunities. They will be monitored and altered as water quality data is collected. Dr. James Nurmi and his students are already collecting data at the ELC. Their data collection abilities will be expanded to quantify the water quality benefits that will be gained from the system at several monitoring locations throughout the ELC.

B. Farming practices as defined in ORS 215.203 and farm uses, excluding buildings and structures, as defined in ORS 215.203.

C. Utility service using a single utility pole or where no more than one hundred square feet of ground surface is disturbed outside of the top-of-bank of water bodies and where the disturbed area is restored to the pre-construction conditions.

D. Boundary and topographic surveys leaving no cut scars greater than three inches in diameter on live parts of native plants listed in the Oregon City Native Plant List.

E. Soil tests, borings, test pits, monitor well installations, and other minor excavations necessary for geotechnical, geological or environmental investigation, provided that disturbed areas are restored to pre-existing conditions as approved by the community development director.

F. Trails meeting all of the following:

1. Construction shall take place between May 1 and October 30 with hand held equipment;

2. Widths shall not exceed forty-eight inches and trail grade shall not exceed twenty percent;

3. Construction shall leave no scars greater than three inches in diameter on live parts of native plants;

4. Located no closer than twenty-five feet to a wetland or the top of banks of a perennial stream or ten feet of an intermittent stream;

5. No impervious surfaces; and

6. No native trees greater than one-inch in diameter may be removed or cut, unless replaced with an equal number of native trees of at least two-inch diameter and planted within ten feet of the trail.

G. Land divisions provided they meet the following standards, and indicate the following on the final plat:

1. Lots shall have their building sites (or buildable areas) entirely located at least five feet from the NROD boundary shown on the city's adopted NROD map. For the purpose of this subparagraph, "building site" means an area of at least three thousand five hundred square feet with minimum dimensions of forty feet wide by forty feet deep;

2. All public and private utilities (including water lines, sewer lines or drain fields, and stormwater disposal facilities) are located outside the NROD;

3. Streets, driveways and parking areas where all pavement shall be located at least ten feet from the NROD; and

4. The NROD portions of all lots are protected by:

a. A conservation easement; or

b. A lot or tract created and dedicated solely for unimproved open space or conservation purposes.

H. Site Plan and Design Review applications where all new construction is located outside of the NROD boundary shown on the city's adopted NROD map, and the NROD area is protected by a conservation easement approved in form by the city.

I. Routine repair and maintenance of existing structures, roadways, driveways and utilities.

J. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased.

Response: *The project will redevelop a number of areas in and around the ELC to improve visitor access and educational opportunities. Much of the proposed development will occur in areas with existing development, which will be considered exempt pursuant to this section.*

Improvements associated with a new entry pavilion, improved trail areas, a new amphitheater, and a new access road are in areas with existing development within the ELC site as shown on sheet LU1.02. Approximately 285 square feet within the entry pavilion area, 6,978 square feet within the proposed trail system, 237 square feet within the amphitheater area, and 207 square feet within the new access road area contain existing development, the improvement of which will be allowed pursuant to this section. The additional ground level impervious surface areas associated with these improvements will be subject to Section 17.49.130 (entry pavilion and amphitheater), 17.49.150 (bridges and access road), or 17.49.170 (trails/paths).

An existing storm pipe will be replaced between the proposed parking area west of Inskeep Drive and Ditch 1. The replacement will temporarily disturb vegetation within the NROD, but will not result in the removal of any native trees or any new impervious surface area. Temporarily disturbed areas will be restored to their original grade and seeded with a native mix following pipe installation and backfill.

Two existing bridges will be replaced as shown on sheet LU1.02. The replacement bridges will be the same size as the existing bridges (approximately 200 square feet) and will not require additional grading or disturbance area.

K. Measures mandated by the City of Oregon City to remove or abate nuisances or hazardous conditions.

L. Planting of native vegetation and the removal of non-native, invasive vegetation (as identified on the Oregon City Native Plant List), and removal of refuse and fill, provided that:

   1. All work is done using hand-held equipment;

   2. No existing native vegetation is disturbed or removed; and

   3. All work occurs outside of wetlands and the top-of-bank of streams.

Response: *The proposed mitigation plantings detailed on sheet LU1.04 will be conducted pursuant to this section. The removal of existing development detailed on sheet LU1.03 will be conducted with light construction equipment that will not result in the removal of existing native vegetation to be protected. Mitigation for project-related encroachments will be provided and is detailed in Section 17.49.180 below.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.[0]90 - Uses allowed under prescribed conditions.

Response: *Many aspects of the ELC have become neglected including the educational and recreational components of the site. The project will redevelop a number of areas in and around the ELC to improve visitor access and educational opportunities. Much of the proposed development will occur in areas with existing development, which will be considered exempt pursuant to Section 17.49.080J. However, a new entry canopy, pedestrian bridges, circulation pathways, amphitheater, and access road will result in small encroachments beyond areas of existing development. A summary of the proposed improvements and their effects on the NROD is shown on sheet LU1.02 and a description of these project elements is included below:*

Improvements to Inskeep Drive and Parking Area:

Surface runoff from the existing Inskeep Drive will be collected by new catch basins located in the gutter and conveyed to Ditch 1. Ditch 1, which was originally excavated by the College to capture runoff from the road, will be vegetated to improve its capacity to treat stormwater. Improvements to Inskeep Drive will have a zero net change in impervious area since the existing surface is asphalt and no separate stormwater detention is proposed.

A new parking area and access drive isle will be added west of Inskeep Drive within an area of existing asphalt and gravel. Surface runoff from the new asphalt parking stalls and access drive aisle will be collected by sheet flow into a new vegetated flow-through basin that will be created within existing impervious surface area. The basin will be adequately sized to treat drainage from the water quality storm event. Filtered drainage and overflow from this facility will discharge to a new storm line that discharges to Ditch 1. The new storm line will replace an existing storm pipe.

Currently, stormwater from Inskeep Drive and the existing impervious surface area west of Inskeep Drive is untreated prior to entering Ditch 1. The proposed project will create new stormwater facilities within areas already developed that will improve the condition of water quality within the system without increasing the development footprint within the NROD. As such, these proposed improvements will be considered an allowed use, discussed in 17.49.[0]80.J in the NROD Development Standards section below.

Improvements to the Existing Entry Pavilion:

The existing entry pavilion building will be renovated to accommodate up to 40 students. The sides of the building will be able to be opened to essentially function as an outdoor classroom. A new canopy will be added to the building that will extend from the pavilion building to an improved guest entrance. Most of the area affected by the proposed improvements is already developed and will be subject to the standards of Section 17.49.[0]80.J. However, an additional 184 square feet of development within the NROD will be considered an allowed use under prescribed conditions, discussed in 17.49.[0]90.A in the NROD Development Standards section below. Because this area is less than 500 square feet, the application can be processed as a Type II permit per Section 17.49130.A.1. Although two trees will be removed from the development area, the trees are within ten feet of the proposed structure, which is allowed per Section 17.49.100.A. Mitigation for the removal of these trees will be provided as detailed in Section 17.49.180.

Pathways, Trails, and Amphitheater

The existing system of trails, paths, and educational features within the ELC site will be improved by the proposed project. Several existing trails will be widened and improved and new trails will be installed to allow ADA accessibility to portions of the site. New or improved pathways will route visitors through the natural areas or to various view points, and allow access to platforms near the water's edge for classes or workshop participants to collect water quality data. The trail system includes several benches throughout the site and within the amphitheater area. Permeable trail materials will be used to reduce impacts to the NROD, however, the new or improved trails will be wider than 48 inches and several areas will be closer than 25 feet to a wetland or stream. As such, the new or improved trails will be considered

an allowed use under prescribed conditions, discussed in 17.49.170 - Standards for Trails in the NROD Development Standards section below. Approximately 5,465 square feet of new trail surface will be created that will require mitigation. In addition, five trees will be removed from the NROD to accommodate new or improved trails. These trees are detailed in Table 1 below.

An amphitheater within the improved path system will provide a central location where classes and visitors can learn about the ecology of the ELC. The amphitheater will be within an area that is largely covered by existing compacted gravel paths south of the pavilion. However, approximately 379 square feet of new development will result within the NROD and will be considered an allowed use under prescribed conditions, discussed in 17.49.[0]90.A in the NROD Development Standards section below. Because this area is less than 500 square feet, the application can be processed as a Type II permit per Section 17.49130.A.1.

Bridges and Access Road

There are ten existing bridges within the NROD at the ELC, three of which will be removed by the proposed project. Five new bridges will be installed to allow new or improved trails to cross wetlands or streams, and two existing bridges will be replaced. The replaced bridges will not result in additional development area and as such will be considered an allowed use, discussed in 17.49.[0]80.J in the NROD Development Standards section below. The new bridges will be considered an allowed use under prescribed conditions, discussed in 17.49.[0]90.F in the NROD Development Standards section below. Approximately 592 square feet of new bridge area will require mitigation. The removed bridges will result in approximately 336 square feet of development removed from the NROD, and will count towards the mitigation requirement discussed in Section 17.49.180.

A new access road will be constructed at the southern end of the ELC site to provide access to a new weir and a proposed sediment forebay. Two trees will be removed from the NROD to accommodate the new access road. A portion of the new access road area is currently developed with a concrete vault and spillway. This portion of the new access road (approximately 207 square feet) will be considered an allowed use, discussed in 17.49.[0]80.J in the NROD Development Standards section below. The remaining development area for the new access road (1,322 square feet) will be considered an allowed use under prescribed conditions, discussed in 17.49.[0]90.F/G in the NROD Development Standards section below. Trees to be removed are detailed in Table 1 below.

Table 1: Species, diameter, and quality of trees to be removed from the NROD

Tree ID	*Species*	*Diameter (inches)*	*Condition*
186	*Big-leaf maple (Acer macrophyllum)*	*12*	*Good*
*188**	*Norway maple (Acer platanoides)*	*14*	*Good*
*201***	*American sweetgum (Liquidambar styraciflua)*	*14*	*Good*
*204***	*Big-leaf maple (Acer macrophyllum)*	*12*	*Good to fair*
*209***	*Scots pine (Pinus sylvestris)*	*21*	*Good to fair*
253	*Birch (Betula species)*	*12*	*Fair to poor*
260	*Apple (Malus species)*	*6*	*Good*

Tree ID	*Species*	*Diameter (inches)*	*Condition*
265	*Cherry (Prunus species)*	*11*	*Fair to poor*
266	*Cherry (Prunus species)*	*8*	*Fair*
267	*Oak (Quercus species)*	*17*	*Fair*
280	*Maple (Acer species)*	*10*	*Good*
*281***	*Cottonwood (Populus species)*	*6*	*Good*
284	*Maple (Acer species)*	*6*	*Good*
*306***	*Red maple (Acer rubrum)*	*8*	*Good*
*323***	*Big-leaf maple (Acer macrophyllum)*	*18*	*Good*
*324***	*Alder (Alnus species)*	*7*	*Good*
*569***	*Big-leaf maple (Acer macrophyllum)*	*18*	*Good*
*573***	*Douglas-fir (Pseudotsuga menziesii)*	*20*	*Good*
*574***	*Norway maple (Acer platanoides)*	*16*	*Good*
*593***	*Red alder (Alnus rubra)*	*13*	*Good*
*595***	*Red alder (Alnus rubra)*	*6*	*Good*
*596***	*Alder (Alnus species)*	*8*	*Good*
*812***	*Willow (Salix species)*	*6*	*Good*
*824***	*Cottonwood (Populus species)*	*6*	*Good*

**Tree is on the Oregon City Nuisance Plant. Removal does not require mitigation per 17.49.100.A*
***Tree removed as part of the habitat enhancement project. Removal does not require mitigation per 17.49.[0]80*

The following uses within the NROD are subject to the applicable standards listed in Sections 17.49.100 through 17.49.190 pursuant to a Type II process:

A. Alteration to existing structures within the NROD when not exempted by Section 17.49.080, subject to Section 17.49.130.

Response: *The 184 square feet of the new entry pavilion area and 379 square feet of amphitheater area not exempted by Section 17.49.080.J will be considered an allowed use under the prescribed conditions of Section 17.49.130 detailed below.*

B. A residence on a highly constrained vacant lot of record that has less than three thousand square feet of buildable area, with minimum dimensions of fifty feet by fifty feet, remaining outside the NROD portion of the property, subject to the maximum disturbance allowance prescribed in subsection 17.49.120.A.

C. A land division that would create a new lot for an existing residence currently within the NROD, subject to Section 17.49.160.

D. Land divisions when not exempted by Section 17.49.080, subject to the applicable standards of Section 17.49.160.

E. Trails/pedestrian paths when not exempted by Section 17.49.080, subject to Section 17.49.170 (for trails) or Section 17.49.150 (for paved pedestrian paths).

Response: *The 5,465 square feet of proposed trails and pedestrian paths not exempted by Section 17.49.080.J will be considered an allowed use under the prescribed conditions of Section 17.49.170 detailed below.*

F. New roadways, bridges/creek crossings, utilities or alterations to such facilities when not exempted by Section 17.49.080.

G. Roads, bridges/creek crossings Subject to Section 17.49.150.

Response: *The portions of the new access road (1,322 square feet) and the five new bridges (592 square feet) that are not exempted by Section 17.49.080J will be subject to Section 17.49.150 detailed below.*

H. Utility lines subject to Section 17.49.140.

I. Stormwater detention or pre-treatment facilities subject to Section 17.49.155.

J. Institutional, industrial or commercial development on a vacant lot of record situated in an area designated for such use that has more than seventy-five percent of its area covered by the NROD, subject to subsection 17.49.120B.

K. City, county and state capital improvement projects, including sanitary sewer, water and storm water facilities, water stations, and parks and recreation projects.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Development Standards

17.49.100 - General development standards.

The following standards apply to all Uses Allowed under Prescribed Conditions within the NROD with the exception of rights of ways (subject to Section 17.49.150), trails (subject to Section 17.49.170), utility lines (subject to Section 17.49.140), land divisions (subject to Section 17.49.160), and mitigation projects (subject to Section 17.49.180 or 17.49.190):

A. Native trees may be removed only if they occur within ten feet of any proposed structures or within five feet of new driveways or if deemed not wind-safe by a certified arborist. Trees listed on the Oregon City Nuisance Plant List or Prohibited Plant List are exempt from this standard and may be removed. A protective covenant shall be required for any native trees that remain;

B. The community development director may allow the landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites in the Natural Resource Overlay District.

C. All vegetation planted in the NROD shall be native and listed on the Oregon City Native Plant List;

D. Grading is subject to installation of erosion control measures required by the City of Oregon;

E. The minimum front, street, or garage setbacks of the base zone may be reduced to any distance between the base zone minimum and zero in order to minimize the disturbance area within the NROD portion of the lot;

F. Any maximum required setback in any zone, such as for multi-family, commercial or institutional development, may be increased to any distance between the maximum and the distance necessary to minimize the disturbance area within the NROD portion of the lot;

G. Fences are allowed only within the disturbance area;

H. Incandescent lights exceeding two hundred watts (or other light types exceeding the brightness of a two hundred watt incandescent light) shall be placed or shielded so that they do not shine directly into resource areas;

I. If development will occur within the one hundred-year floodplain, the FEMA floodplain standards of Chapter 17.42 shall be met; and

J. Mitigation of impacts to the regulated buffer is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

***Response**: The proposed project will comply with the general development standards of this section. Native trees removed for uses allowed under prescribed conditions within the NROD are associated with rights of way (subject to Section 17.49.150), trails (subject to Section 17.49.170), or are within 10 feet of a proposed structure (allowed pursuant to Section 17.49.100.A). Remaining native trees will be conserved through a protective covenant. Mitigation will be provided for impacts to the vegetated corridor with native vegetation proposed from the Oregon City Native Plant List as shown on sheet LU1.04. Development is not within the FEMA floodplain, as such the standards of Chapter 17.42 do not apply. Erosion control measures required by Oregon City will be installed for grading within the NROD.*

17.49.110 - Width of vegetated corridor.

A. Calculation of Vegetated Corridor Width within City Limits. The NROD consists of a vegetated corridor measured from the top of bank or edge of a protected habitat or water feature. The minimum required width is the amount of buffer required on each side of a stream, or on all sides of a feature if non-linear. The width of the vegetated corridor necessary to adequately protect the habitat or water feature is specified in Table 17.49.110.

Table 17.49.110

Protected Water Feature Type (see definitions)	Slope Adjacent to Protected Water Feature	Starting Point for Measurements from Water Feature	Width of Vegetated Corridor (see Note 1)
Anadromous fish-bearing streams	Any slope	• Edge of bankfull flow	200 feet
Intermittent streams with slopes less than 25 percent and which drain less than 100 acres	< 25 percent	• Edge of bankfull flow	15 feet
All other protected water features	< 25 percent	•Edge of bankfull flow • Delineated edge of Title 3 wetland	50 feet
	≥25 percent for 150 feet or more (see Note 2)		200 feet
	≥25 percent for less than 150 feet (see Note 2)		Distance from starting point of measurement to top of ravine (break in ≥25 percent slope) (See Note 3) plus 50 feet.

Notes:

1. Required width (measured horizontally) of vegetated corridor unless reduced pursuant to the provisions of Section 17.49.050(I).
2. Vegetated corridors in excess of fifty feet apply on steep slopes only in the uphill direction from the protected water feature.
3. Where the protected water feature is confined by a ravine or gully, the top of the ravine is the break in the ≥25 percent slope.

B. Habitat Areas within City Parks. For habitat and water features identified by Metro as regionally significant which are located within city parks, the NROD Boundary shall correspond to the Metro Regionally Significant Habitat Map.

C. Habitat Areas outside city limit/within UGB. For habitat and water features identified by Metro as regionally significant which are located outside of the city limits as of the date of adoption of this ordinance, the minimum corridor width from any non-anadramous fish bearing stream or wetland shall be fifty feet.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *The width of the vegetated corridor is 50 feet from protected water features as specified in Table 17.49.110 and shown on sheet LU1.01. Streams within the ELC are perennial, but do not support anadromous fish. All slopes adjacent to protected water features are less than 25 percent.*

17.49.120 - Maximum disturbance allowance for highly constrained lots of record.

In addition to the General Development Standards of Section 17.49.100, the following standards apply to a vacant lot of record that is highly constrained by the NROD, per subsections 17.49.90(B) and 17.49.90(F):

A. Standard for Residential Development. In the NROD where the underlying zone district is zoned Residential (R-10, R-8, R-6, R-5, R-3.5): the maximum disturbance area allowed for new residential development within the NROD area of the lot is three thousand square feet.

B. Standard for all developments not located in R-10, R-8, R-6, R-5, and R-3.5. For all other underlying zone districts, including R-2 multifamily, the maximum disturbance area allowed for a vacant, constrained lot of record development within the NROD is that square footage which when added to the square footage of the lot lying outside the NROD portion equals twenty-five percent of the total lot area.

   [1] Lots that are entirely covered by the NROD will be allowed to develop twenty-five percent of their area.

   [1] Note: This can be determined by (1) Multiplying the total square footage of the lot by .25; (2) Subtracting from that amount the square footage of the lot that is located outside the NROD; (3) The result is the maximum square footage of disturbance to be allowed in the NROD portion of the lot. If the result is < or = to 0, no disturbance is permitted and the building shall be located outside of the boundary.

C. In all areas of Oregon City, the disturbance area of a vacant, highly constrained lot of record within the NROD shall be set back at least fifty feet from the top of bank on Abernethy Creek, Newell Creek, or Livesay Creek or twenty-five feet from the top of bank of any tributary of the aforementioned Creeks, other water body, or from the delineated edge of a wetland located within the NROD area.

D. If the highly constrained lot of record cannot comply with the above standards, a maximum one thousand five hundred square foot disturbance within the NROD area may be allowed.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.130 - Existing development standards.

In addition to the General Development Standards of Section 17.49.100, the following standards apply to alterations and additions to existing development within the NROD, except for trails, rights of way, utility lines, land divisions and mitigation projects. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased are exempt from review pursuant to Section 17.49.080J. As of June 1, 2010, applicants for alterations and additions to existing development that are not exempt pursuant to Section 17.49.080J. shall submit a Type II or Type III application pursuant to this section. The application shall include a site plan which delineates a permanent disturbance area that includes all existing buildings, parking and loading areas, paved or graveled areas, patios and decks. The same delineated disturbance area shall be shown on every subsequent proposal for alterations and additions meeting this standard.

A. The following alterations and additions to existing development are permitted subject to the following standards.

   1. Alterations or additions that cumulatively total up to a maximum of five hundred square feet of additional disturbance area after June 1, 2010 shall be processed as a Type II permit pursuant to this chapter. The new disturbance area shall not encroach closer than one-half of the distance of the regulated NROD buffer.

   2. Alterations or additions that cumulatively exceed five hundred square feet of additional disturbance area or which propose encroachment closer than one-half of the distance of the regulated NROD buffer after June 1, 2010 shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

B. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *As described above, approximately 285 square feet within the entry pavilion area, 6,978 square feet of the improved trail area (including new and replaced bridge areas), 237 square feet within the amphitheater area, and 207 square feet within the new access road contain existing development (as shown on sheet LU1.02), the improvement of which will be allowed pursuant to Section 17.49.080.J. The additional development areas associated with these improvements will be subject to the standards of this section. Approximately 184 square feet of additional development is proposed within the NROD for the improved entry pavilion. Two trees will be removed from the area, though they are within 10 feet of the new structure and as such are allowed per Section 17.49.100.A. Approximately 379 square feet of additional development is proposed within the NROD for the amphitheater. These additional development areas are less than 500 square feet each. As such, these additional development areas will be allowed and processed as a Type II permit. The additional development associated with the new access road and improved trails will be subject to the standards of Sections 17.49.150 and 17.49.170 below.*

17.49.140 - Standards for utility lines.

The following standards apply to new utilities, private connections to existing or new utility lines, and upgrades of existing utility lines within the NROD:

A. The disturbance area for private connections to utility lines shall be no greater than ten feet wide;

B. The disturbance area for the upgrade of existing utility lines shall be no greater than fifteen feet wide;

C. New utility lines shall be within the right-of-way, unless reviewed under subsection D.

D. New utility lines that cross above or underneath a drainage way, wetland, stream, or ravine within the NROD but outside of a right-of-way shall be processed as a Type III permit pursuant to Section 17.49.200, Adjustment from Standards.

E. No fill or excavation is allowed within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;

F. The Division of State Lands must approve any work that requires excavation or fill in a wetland;

G. Native trees more than ten inches in diameter shall not be removed unless it is shown that there are no feasible alternatives; and

H. Each six to ten-inch diameter native tree cut shall be replaced at a ratio of three trees for each one removed. Each eleven-inch or greater diameter native tree shall be replaced at a ratio of five trees for each removed. The replacement trees shall be a minimum one-half inch diameter and selected from the Oregon City Native Plant List. All trees shall be planted on the applicant's site. Where a utility line is approximately parallel with the stream channel, at least half of the replacement trees shall be planted between the utility line and the stream channel.

I. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.150 - Standards for vehicular or pedestrian paths and roads.

The following standards apply to public rights-of-way and private roads within the NROD, including roads, bridges/stream crossings, driveways and pedestrian paths with impervious surfaces:

A. Stream crossings shall be limited to the minimum number and width necessary to ensure safe and convenient pedestrian, bicycle and vehicle connectivity, and shall cross the stream at an angle as close to perpendicular to the stream channel as practicable. Bridges shall be used instead of culverts wherever practicable.

B. Where the right-of-way or private road crosses a stream the crossing shall be by bridge or a bottomless culvert;

C. No fill or excavation shall occur within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;

D. If the Oregon Department of State Lands (DSL) has jurisdiction over any work that requires excavation or fill in a wetland, required permits or authorization shall be obtained from DSL prior to release of a grading permit;

E. Any work that will take place within the banks of a stream shall be conducted between June 1 and August 31, or shall be approved by the Oregon Department of Fish and Wildlife; and

F. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Editor's note— Ord. No. 10-1003, § 1(Exh. 1), adopted July 7, 2010, renamed section 17.49.150 from "Standards for rights-of-ways" to "Standards for vehicular or pedestrian paths and roads."

Response: *A new access road and five new bridges are proposed as shown on sheet LU1.02. The access road will be in the southern portion of the site and will provide maintenance and monitoring access to a new weir and the sediment forebay. The new access road will result in approximately 1,322 square feet of new development and the removal of two trees within the NROD. Mitigation for these encroachments will be provide and is detailed in Section 17.49.180 below.*

The five new bridges will provide safe and convenient pedestrian crossings of the streams and ponds within the ELC site. The number of new crossings is the minimum necessary to provide recreational and educational access to all portions of the ELC site, in accordance with the CCC Master Plan goals. Each crossing is as close to perpendicular as possible given the existing site conditions and trail approach angles. One of the new bridges will facilitate the removal of an existing culvert associated with the habitat enhancement project. New bridges will result in approximately 592 square feet of new development within the NROD. Mitigation for this encroachment will be provide and is detailed in Section 17.49.180 below.

17.49.155 - Standards for stormwater facilities.

Approved facilities that infiltrate stormwater on-site in accordance with Public Works Low-Impact Development standards, including but not limited to; vegetated swales, rain gardens, vegetated filter strips, and vegetated infiltration basins, and their associated piping, may be placed within the NROD boundary pursuant to the following standards:

A. The forest canopy within the driplines of existing trees shall not be disturbed.

B. Only vegetation from the Oregon City Native Plant List shall be planted within these facilities.

C. Mitigation is required, subject to Sections 17.49.180 or 17.49.190.

D. The storm water facility may encroach up to one-half the distance of the NROD corridor.

E. The stormwater facility shall not impact more than one thousand square feet of the NROD. Impacts greater than one thousand square feet shall be process as a Type III application.

F. The community development director may allow landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites within the Natural Resource Overlay District.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.160 - Standards for land divisions.

Other than those land divisions exempted by Section 17.49.070G., new residential lots created within the NROD shall conform to the following standards.

A. For a lot for an existing residence currently within the NROD. This type of lot is allowed within the NROD for a residence that existed before the NROD was applied to a subject property. A new lot for an existing house may be created through a partition or subdivision process when all of the following are met:

1. There is an existing house on the site that is entirely within the NROD area; and

2. The existing house will remain; and

3. The new lot is no larger than required to contain the house, minimum required side setbacks, garage, driveway and a twenty-foot deep rear yard, with the remaining NROD area beyond that point protected by a conservation easement, or by dedicating a conservation tract or public open space.

B. Subdivisions.

1. Prior to preliminary plat approval, the NROD area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection 3. of this section, which shall not be a part of any parcel used for construction of a dwelling unit.

2. Prior to final plat approval, ownership of the NROD tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:

a. Private open space held by the owner or a homeowners association; or

b. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or

c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or

d. Any other ownership proposed by the owner and approved by the city.

e. Tracts shall be exempt from minimum frontage requirements.

C. Partitions.

1. New partitions shall delineate the NROD area either as a separate tract or conservation easement that meets the requirements of subsection 2. of this section.

2. Prior to final plat approval, ownership and maintenance of the NROD area shall be identified to distinguish it from the buildable areas of the development site. The NROD area may be identified as any one of the following:

   a. A tract of private open space held by the owner or homeowners association; or

   b. For residential land divisions, a tract of private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or

   c. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit;

   d. Conservation easement area pursuant to Section 17.49.180G. and approved in form by the community development director;

   e. Any other ownership proposed by the owner and approved by the community development director.

   f. Tracts shall be exempt from minimum frontage requirements.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.170 - Standards for trails.

The following standards apply to trails within the NROD:

A. All trails that are not exempt pursuant to Section 17.49.80F., except as designated in the Oregon City Parks, Open Space and Trails Master Plans; and

B. Mitigation is required, subject to Section 17.49.180 or 17.49.190.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *New or improved trails are proposed within the ELC site to provide safe and convenient pedestrian access to the site and facilitate educational opportunities. The 6,978 square feet of existing trails within improved trail areas will be allowed per Section 17.49.080.J and will not require mitigation. The portion of improved trails not exempt per Section 17.49.080.J and new trails will be subject to the standards of this section as the proposed trails will be wider than 48 inches and several will be within 25 feet of protected water resources. New or improved trail areas will result in approximately 5,465 square feet of new development and the removal of five existing trees within the NROD. Mitigation for these encroachments will be provide and is detailed in Section 17.49.180 below.*

17.49.180 - Mitigation standards.

The following standards (or the alternative standards of Section 17.49.190) apply to required mitigation:

A. Mitigation shall occur at a two-to-one ratio of mitigation area to proposed NROD disturbance area. Mitigation of the removal or encroachment of a wetland or stream shall not be part of this chapter and will be reviewed by the Division of State Lands or the Army Corp of Engineers during a separate review process;

***Response**: The proposed disturbance area not exempted by Section 17.49.080 is 7,942 square feet, requiring 15,884 square feet of mitigation at a two-to-one ratio. Mitigation will be provided through a combination of development removal (restoration) within the NROD and NROD enhancement according to Mitigation Planting Option 2. The total area of development removal within the NROD is 6,860 square feet, as shown on sheets LU1.02. An abandoned hatchery structure, impervious surface associated with the old Smucker's facility, several concrete retaining walls, existing trail segments not included in the proposed trail plan, three existing pedestrian bridges, and other existing structures and impervious surfaces will be removed. Areas of development removal will be revegetated with appropriate native plantings as described in this section.*

The remaining 9,024 square feet of mitigation obligation (15,884 square feet of required mitigation minus 6,860 square feet of development removal and restoration) will be accomplished through NROD enhancement, including invasive plant species removal and native plantings as detailed on sheet LU1.04. Because of the project's focus on habitat improvement, an area much larger than 9,024 square feet will be enhanced as required in this section. A majority of the proposed NROD enhancement tree and shrub plantings will occur in or near the 15,238 square feet of upland area shown as Planting Zone 1 on sheet LU1.04. However, due to existing canopy coverage, plantings may occur within other portions of the undeveloped NROD within the ELC site. Invasive plant species will be removed from all planting zones, which in combination with the proposed plantings will bring these areas into good condition. Sheet LU1.04 also details the planting plan for the habitat enhancement areas, which is being reviewed by the Department of State Lands and the US Army Corps of Engineers.

B. Mitigation shall occur on the site where the disturbance occurs, except as follows:

1. The mitigation is required for disturbance associated with a right-of-way or utility in the right-of-way;
2. The mitigation shall occur first on the same stream tributary, secondly in the Abernethy, Newell or Livesay Creek or a tributary thereof, or thirdly as close to the impact area as possible within the NROD; and
3. An easement that allows access to the mitigation site for monitoring and maintenance shall be provided as part of the mitigation plan.

***Response:** The proposed mitigation will be within the existing NROD area of the ELC site.*

C. Mitigation shall occur within the NROD area of a site unless it is demonstrated that this is not feasible because of a lack of available and appropriate area. In such cases, the proposed mitigation area shall be contiguous to the existing NROD area so the NROD boundary can be easily extended in the future to include the new resource site.

***Response:** The proposed mitigation will be within the existing NROD area of the ELC site.*

D. Invasive and nuisance vegetation shall be removed within the mitigation area;

***Response**: Invasive vegetation listed on the Oregon City Nuisance Plant List including, but not limited to English ivy, Himalayan blackberry, and Norway maple will be removed within the mitigation area.*

E. Required Mitigation Planting. An applicant shall meet Mitigation Planting Option 1 or 2 below, whichever option results in more tree plantings, except that where the disturbance area is one acre or more, Mitigation Option 2 shall be required. All trees, shrubs and ground cover shall be selected from the Oregon City Native Plant List.

NOTE: Applications on sites where no trees are present or which are predominantly covered with invasive species shall be required to mitigate the site, remove the invasive species and plant trees and native plants pursuant to Option 2.

***Response:** Mitigation Planting Option 2 will be used as it results in a greater number of trees and shrubs to be planted. All trees, shrubs, and groundcover (herbaceous) selected for the mitigation plan are from the Oregon City Native Plant List. The proposed plant quantities and species shown on the Mitigation Plan sheet (LU1.04) are listed in Table 2.*

Table 2. Proposed plant list for mitigation plantings.

Botanical Name	**Common Name**
TREES (minimum of 79 plantings)	
Acer circinatum	Vine maple
Alnus rubra	Red alder
Amelanchier alnifolia	Western serviceberry
Fraxinus latifolia	Oregon ash
Thuja plicata	Western red cedar
SHRUBS (minimum of 397 plantings)	
Cornus sericea	Red-osier dogwood
Lonicera involucrata	Twinberry
Physocarpus capitatus	Nine-bark
Salix sitchensis	Sitka willow
Spiraea douglasii	Douglas' spirea
HERBACEOUS	
Agrostis exerata	Spike bentgrass
Deschampsia cespitosa	Tufted hairgrass
Festuca romeri	Roemer's fescue

1. Mitigation Planting Option 1.

   a. Option 1 - Planting Quantity. This option requires mitigation planting based on the number and size of trees that are removed from the site pursuant to Table 17.49.180E.1.a. Conifers shall be replaced with conifers. Bare ground shall be planted or seeded with native grasses and ground cover species.

Table 17.49.180E.1.a.—Required Planting Option 1

Size of Tree to be Removed (DBH)	Number of Trees and Shrubs to be Replanted
6 to 12"	2 trees and 3 shrubs
13 to 18"	3 trees and 6 shrubs
19 to 24"	5 trees and 12 shrubs
25 to 30"	7 trees and 18 shrubs
Over 30"	10 trees and 30 shrubs

   b. Option 1 - Plant Size. Replacement trees shall be at least one-half inch in caliper on average, measured at six inches above the ground level for field grown trees or above the soil line for container grown trees. Oak, madrone, ash or alder may be one gallon size. Conifers shall be a minimum of six feet in height. Shrubs must be in at least one-gallon container size or the equivalent in ball and burlap, and shall be at least twelve inches in height at the time of planting. All other species shall be a minimum of four-inch pots;

   c. Option 1 - Plant Spacing. Except for the outer edges of mitigation areas, trees and shrubs shall be planted in a non-linear fashion. Plant spacing for new species shall be measured from the driplines of existing trees when present. Trees shall be planted on average between eight and twelve feet on center, and shrubs shall be planted on average between four and five feet on center, or clustered in single species groups of no more than four plants, with each cluster planted on average between eight and ten feet on center.

   d. Option 1 - Mulching and Irrigation. Mulch new plantings a minimum of three inches in depth and eighteen inches in diameters. Water new plantings one inch per week from June 30th to September 15th, for the three years following planting.

   e. Option 1 — Plant Diversity. Shrubs shall consist of at least two different species. If ten trees or more are planted, no more than one-half of the trees may be of the same genus.

Response: *The mitigation planting quantity in Option 1 is based on the number and size of trees that are planned for removal pursuant to Table 17.49.180E.1.a. Sixteen (16) replacement trees and thirty (24) replacement shrubs would be required under this option as shown in the following table.*

Table 3: Quality and diameter of trees to be removed from the NROD and required number of mitigation plantings.

Tree ID	*Diameter (inches)*	*Condition*	*Replacement Trees*	*Replacement Shrubs*
186	*12*	*Good*	*2*	*3*
*188**	*14*	*Good*	*Not required*	*Not required*
*201***	*14*	*Good*	*Not required*	*Not required*
*204***	*12*	*Good to fair*	*Not required*	*Not required*
*209***	*21*	*Good to fair*	*Not required*	*Not required*
253	*12*	*Fair to poor*	*2*	*3*
260	*6*	*Good*	*2*	*3*
265	*11*	*Fair to poor*	*2*	*3*
266	*8*	*Fair*	*2*	*3*
267	*17*	*Fair*	*2*	*3*
280	*10*	*Good*	*2*	*3*
*281***	*6*	*Good*	*Not required*	*Not required*
284	*6*	*Good*	*2*	*3*
*306***	*8*	*Good*	*Not required*	*Not required*
*323***	*18*	*Good*	*Not required*	*Not required*
*324***	*7*	*Good*	*Not required*	*Not required*
*569***	*18*	*Good*	*Not required*	*Not required*
*573***	*20*	*Good*	*Not required*	*Not required*
*574***	*16*	*Good*	*Not required*	*Not required*
*593***	*13*	*Good*	*Not required*	*Not required*
*595***	*6*	*Good*	*Not required*	*Not required*
*596***	*8*	*Good*	*Not required*	*Not required*
*812***	*6*	*Good*	*Not required*	*Not required*
*824***	*6*	*Good*	*Not required*	*Not required*
Total			***16***	***24***

***Tree is on the Oregon City Nuisance Plant. Removal does not require mitigation per 17.49.100.A**

****Tree removed as part of the habitat enhancement project. Removal does not require mitigation per 17.49.[0]80**

2. Mitigation Planting Option 2.

    a. Option 2 - Planting Quantity. In this option, the mitigation requirement is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by five hundred, and then multiplying that result times five trees and twenty-five shrubs, and rounding all fractions to the nearest whole number of trees and shrubs; for example, if there will be three hundred thirty square feet of disturbance area, then three hundred thirty divided by five hundred equals .66, and .66 times five equals 3.3, so three trees must be planted, and .66 times twenty-five equals 16.5, so seventeen shrubs must be planted). Bare ground must be planted or seeded with native grasses or herbs. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.

    b. Option 2 - Plant Size. Plantings may vary in size dependent on whether they are live cuttings, bare root stock or container stock, however, no initial plantings may be shorter than twelve inches in height.

    c. Option 2 - Plant Spacing. Trees shall be planted at average intervals of seven feet on center. Shrubs may be planted in single-species groups of no more than four plants, with clusters planted on average between eight and ten feet on center.

    d. Option 2 — Mulching and Irrigation shall be applied in the amounts necessary to ensure eighty percent survival at the end of the required five-year monitoring period.

    e. Option 2 — Plant Diversity. Shrubs shall consist of at least three different species. If twenty trees or more are planted, no more than one-third of the trees may be of the same genus.

Response: *The mitigation planting quantity in Option 2 is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by five hundred, and then multiplying that result times five trees and twenty-five shrubs, and rounding all fractions to the nearest whole number of trees and shrubs. The 7,942 square feet of new development within the NROD would require 79 trees (7,942/500 multiplied by 5 trees) and 397 shrubs (7,942/500 multiplied by 25 shrubs) to be planted.*

Option 2 will be used for the mitigation plan as it results in a greater number of trees and shrubs to be planted than Option 1. The plant species listed on sheet LU1.04 are subject to adjustment based on site conditions and plant availability at the time of planting. However, no more than one-third of the trees will be of the same genus, and shrubs will consist of at least three different species, as required in Section 17.49.180(E)(2)(e). All plantings will be a minimum of twelve inches in height and will be live cuttings, bare root stock, and/or container stock. Trees will be planted at average intervals of seven feet on center. Shrubs will be planted in single-species groups of no more than four plants, with clusters planted on average between eight and ten feet on center. Bare ground will be planted or seeded with native grasses and groundcover species. New plantings will be mulched and planting areas will be watered for a minimum of three years following planting.

An alternative planting plan using native plants may be approved in order to create a new wetland area, if it is part of a wetlands mitigation plan that has been approved by the DSL or the U.S. Army Corps of Engineers (USACE) in conjunction with a wetland joint removal/fill permit application.

F. Monitoring and Maintenance. The mitigation plan shall provide for a five-year monitoring and maintenance plan with annual reports in a form approved by the director of community development. Monitoring of the mitigation site is the on-going responsibility of the property owner, assign, or designee, who shall submit said annual report to the city's planning division, documenting plant survival rates of shrubs and trees on the mitigation site. Photographs shall accompany the report that indicate the progress of the mitigation. A minimum of eighty percent survival of trees and shrubs of those species planted is required at the end of the five-year maintenance and monitoring period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than ten square feet that remain at the end the five-year monitoring period shall be replanted or reseeded with native grasses and ground cover species.

Response: *The proposed mitigation will be monitored and maintained for a minimum of five years, with approved annual progress reports submitted to the City's planning division. The mitigation area will be inspected annually during the active growing season. During site monitoring, survival rates of planted trees and shrubs and invasive plant species cover will be documented. This information, along with photo-documentation of the mitigation area, will be used to inform the annual progress report. Should survival rate drop below 80 percent or invasive plant coverage exceed 10 percent at any time during the maintenance period, immediate remedial action will be taken. Monitoring and maintenance is the on-going responsibility of the property owner, assign, or designee.*

G. Covenant or Conservation Easement. Applicant shall record a restrictive covenant or conservation easement, in a form provided by the city, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the city to complete mitigation work in the event of default by the responsible party. Costs borne by the city for such mitigation shall be borne by the owner.

Response: *The applicant will record a restrictive covenant or conservation easement in the form provided by the city, that will require owners and assigns of the property to comply with the applicable mitigation requirements. The covenant or easement will run with the land and permit the city to complete mitigation work in the event of default by the responsible party. Should the city need to complete the mitigation work, such cost will be borne by the owner. The covenant or conservation easement is the responsibility of the property owner, assign, or designee.*

H. Financial Guarantee. A financial guarantee for establishment of the mitigation area, in a form approved by the city, shall be submitted before development within the NROD disturbance area commences. The city will release the guarantee at the end of the five-year monitoring period, or before, upon its determination that the mitigation plan has been satisfactorily implemented pursuant to this section.

Response: *A financial guarantee will be provided to the city prior to development within the NROD disturbance area. The financial guarantee is the responsibility of the property owner, assign, or designee.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.190 - Alternative mitigation standards.

In lieu of the above mitigation standards of Section 17.49.180, the following standards may be used. Compliance with these standards shall be demonstrated in a mitigation plan report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the city may require the report to be reviewed by an environmental consultant.

[A.] The report shall document the existing condition of the vegetated corridor as one of the following categories:

Good Existing Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and there is more than fifty percent tree canopy coverage in the vegetated corridor.
Marginal Existing Vegetated Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and twenty-five to fifty percent canopy coverage in the vegetated corridor.
Degraded Existing Vegetated Corridor:	Less vegetation and canopy coverage than marginal vegetated corridors, and/or greater than ten percent surface coverage of any non-native species.

B. The proposed mitigation shall occur at a minimum two-to-one ratio of mitigation area to proposed disturbance area;

C. The proposed mitigation shall result in a significant improvement to Good Existing Condition as determined by a qualified environmental professional;

D. There shall be no detrimental impact on resources and functional values in the area designated to be left undisturbed;

E. Where the proposed mitigation includes alteration or replacement of development in a stream channel, wetland, or other water body, there shall be no detrimental impact related to the migration, rearing, feeding or spawning of fish;

F. Mitigation shall occur on the site of the disturbance to the extent practicable. If the proposed mitigation cannot practically occur on the site of the disturbance, then the applicant shall possess a legal instrument, such as an easement, sufficient to carryout and ensure the success of the mitigation.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.200 - Adjustment from standards.

If a regulated NROD use cannot meet one or more of the applicable NROD standards then an adjustment may be issued if all of the following criteria are met. Compliance with these criteria shall be demonstrated by the applicant in a written report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant. Such requests shall be processed under the Type III development permit procedure. The applicant shall demonstrate:

A. There are no feasible alternatives for the proposed use or activity to be located outside the NROD area or to be located inside the NROD area and to be designed in a way that will meet all of the applicable NROD development standards;

B. The proposal has fewer adverse impacts on significant resources and resource functions found in the local NROD area than actions that would meet the applicable environmental development standards;

C. The proposed use or activity proposes the minimum intrusion into the NROD area that is necessary to meet development objectives;

D. Fish and wildlife passage will not be impeded;

E. With the exception of the standard(s) subject to the adjustment request, all other applicable NROD standards can be met; and

F. The applicant has proposed adequate mitigation to offset the impact of the adjustment.

Response: *The applicant is not requesting an adjustment from standards.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Application Requirements

17.49.210 - Type II development permit application.

Unless otherwise directed by the NROD standards, proposed development within the NROD shall be processed as a Type II development permit application. All applications shall include the items required for a complete application by Sections 17.49.220—17.49.230, and Section 17.50.080 of the Oregon City Municipal Code as well as a discussion of how the proposal meets all of the applicable NROD development standards 17.49.100—17.49.170.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.220 - Required site plans.

Site plans showing the following required items shall be part of the application:

A. For the entire subject property (NROD and non-NROD areas):

1. The NROD district boundary. This may be scaled in relation to property liens from the NROD Map;
2. One hundred-year floodplain and floodway boundary (if determined by FEMA);
3. Creeks and other waterbodies;
4. Any wetlands, with the boundary of the wetland that will be adjacent to the proposed development determined in a wetlands delineation report prepared by a professional wetland specialist and following the Oregon Division of State Lands wetlands delineation procedures;
5. Topography shown by contour lines of two or one foot intervals for slopes less than fifteen percent and by ten-foot intervals for slopes fifteen percent or greater;
6. Existing improvements such as structures or buildings, utility lines, fences, driveways, parking areas, etc.
7. Extent of the required Vegetated Corridor required by Table 17.49.110.

Response: *Shown on sheet LU1.01.*

B. Within the NROD area of the subject property:

1. The distribution outline of shrubs and ground covers, with a list of most abundant species;
2. Trees six inches or greater in diameter, identified by species. When trees are located in clusters they may be described by the approximate number of trees, the diameter range, and a listing of dominant species;

3. An outline of the disturbance area that identifies the vegetation that will be removed. All trees to be removed with a diameter of six inches or greater shall be specifically identified as to number, trunk diameters and species;
4. If grading will occur within the NROD, a grading plan showing the proposed alteration of the ground at two foot vertical contours in areas of slopes less than fifteen percent and at five foot vertical contours of slopes fifteen percent or greater.

Response: *Shown on sheets LU1.01, LU1.02, and LU1.03.*

C. A construction management plan including:
1. Location of site access and egress that construction equipment will use;
2. Equipment and material staging and stockpile areas;
3. Erosion control measures that conform to City of Oregon City erosion control standards;
4. Measures to protect trees and other vegetation located outside the disturbance area.

Response: *Shown on sheet LU1.03.*

D. A mitigation site plan demonstrating compliance with Section 17.49.180 or 17.49.190, including:
1. Dams, weirs or other in-water features;
2. Distribution, species composition, and percent cover of ground covers to be planted or seeded;
3. Distribution, species composition, size, and spacing of shrubs to be planted;
4. Location, species and size of each tree to be planted;
5. Stormwater management features, including retention, infiltration, detention, discharges and outfalls;
6. Water bodies or wetlands to be created, including depth;
7. Water sources to be used for irrigation of plantings or for a water source for a proposed wetland.

Response: *Shown on sheet LU1.04.*

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.230 - Mitigation plan report.

A mitigation plan report that accompanies the above mitigation site plan is also required. The report shall be prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. The mitigation plan report shall, at a minimum, discuss:

A. Written responses to each applicable Mitigation Standard [Section] 17.49.180 or 17.49.190 indicating how the proposed development complies with the mitigation standards;

B. The resources and functional values to be restored, created, or enhanced through the mitigation plan;

C. Documentation of coordination with appropriate local, regional, state and federal regulatory/resource agencies such as the Oregon Department of State Lands (DSL) and the United States Army Corps of Engineers (USACE);

D. Construction timetables;

E. Monitoring and Maintenance practices pursuant to Section 17.49.230.F and a contingency plan for undertaking remedial actions that might be needed to correct unsuccessful mitigation actions during the first five years of the mitigation area establishment.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

Response: *A mitigation plan report will be provided by a certified Landscape Architect.*

Miscellaneous

17.49.240 - Density transfer.

The NROD allocates urban densities to the Non-NROD portions of properties located partially within the NROD, generally resulting in a substantial increase in net development potential.

For lots of record that are located within the NROD, additional density transfer credits are allowed, subject to the following provisions:

A. Density may be transferred from the NROD to non-NROD portions of the same property or of contiguous properties within the same development site;

B. The residential transfer credit shall be as follows: for new residential partitions and subdivisions, one-third of the area of the NROD tract or conservation easement area may be added to the net developable area outside of the tract or conservation easement area within the boundary of the development site in order to calculate the allowable number of lots.

C. Permitted Modifications to Residential Dimensional Standards. In order to allow for a transfer of density pursuant to subsection B. above, the dimensional standards of the base zone may be modified in order minimize disturbance to the NROD. The permissible reductions are specified in Tables 17.49.240C.—17.49.240D.

D. The applicant shall demonstrate that the minimum lot size of the underlying zone has been met. The area of the NROD in subsection B. above that is used to transfer density may be included in the calculation of the average minimum lot size.

E. The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the areas of the NROD Tract.

Table 17.49.240 A
Lot Size Reduction

ZONE	Min. Lot Size (%)	Min. Lot Width	Min. Lot Depth
R-10	5,000 sq. feet	50'	65'
R-8	4,000 sq. feet	45'	60'
R-6	3,500 sq. feet	35'	55'
R-5	3,000 sq. feet	30'	50'
R-3.5	1,800 sq. feet	20'	45'

Table 17.49.240 B
Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot Coverage
8,000—9,999 square feet	15 feet	20 feet	7/9 feet	15 feet	40%
6,000—7,999 square feet	10 feet	15 feet	5/7 feet	15 feet	40%
4,000—5,999 square feet	10 feet	15 feet	5/5 feet	10 feet	40%
1,800—3,999 square feet	5 feet	15 feet	5/5 feet	10 feet	55%

Table 17.49.240 C
Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot Coverage
3,500—7,000 square feet	10 feet	15 feet	5/0* feet	10 feet	40%
1,800—3,499 square feet	5 feet	15 feet	5/0* feet	10 feet	55%

*0 foot setback is only allowed on single-family attached units

F. Transfers for properties zoned Commercial, Institutional, Industrial or Multi-Family uses the transfer credit is ten thousand sq[uare] f[ee]t per acre of land within the NROD;

G. The area of land contained in the NROD area may be excluded from the calculations for determining compliance with minimum density requirements of the land division code.

H. The owner of the transferring property shall execute a covenant with the city that records the transfer of density. The covenant shall be found to meet the requirements of this section and be recorded before building permits are issued; and

I. All other applicable development standards, including setbacks, building heights, and maximum lot coverage shall continue to apply when a density transfer occurs.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.250 - Verification of NROD boundary.

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.255 - Type I verification.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.

B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:

1. No soil, vegetation, hydrologic features have been disturbed;
2. No hydrologic features have been changed;
3. There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.
4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.
5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.
6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.

There is an existing physical barrier between the site and a protected water feature, including:

a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.

b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.

C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.6. above are met the verification application shall be denied. An applicant may then opt to apply for an verification through the Type II process defined below.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.260. - Type II verification.

Verifications of the NROD which cannot be determined pursuant to the standards of Section 17.49.255 may be processed under the Type II permit procedure.

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220 as applicable.

B. Such requests may be approved provided that there is evidence that demonstrates in an environmental report prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry, that a resource function(s) and/or land feature(s) does not apply to a site-specific area.

C. Verification to remove a recently developed area from the NROD shall show that all of the following have been met:

1. All approved development in the NROD has been completed;

2. All mitigation required for the approved development, located within the NROD, has been successful; and

3. The previously identified resources and functional values on the developed site no longer exist or have been subject to a significant detrimental impact.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.49.265 - Corrections to violations.

For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met then the applicant's remediation plan shall demonstrate that there will be:

A. No permanent loss of any type of resource or functional value listed in Section 17.49.10, as determined by a qualified environmental professional;

B. A significant improvement of at least one functional value listed in section 17.49.10, as determined by a qualified environmental professional; and

C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

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1 VICINTY MAP
SCALE N.T.S.

Drawing List

Land Use

LU0.01	Overall Site Plan
LU1.01	Existing Conditions
LU1.02	Site Plan and NROD Encroachments
LU1.03	Construction Management & Demolition Plan
LU1.04	Mitigation Plan and Details

Civil

C0.20	Existing Conditions
C1.10	Demolition Plan
C2.10	Site Plan
C2.20	Grading and Drainage Plan
C3.10	Details

Erosion Control

EC1.20	Erosion and Sediment Control Plan
EC1.30	Erosion and Sediment Control Details

Landscape

L1.01	Tree Protection Plan
L2.01	Materials Plan
L3.01	Planting Plan
L3.02	Planting Plan -Plant Schedule
L4.01	Irrigation Zoning Plan

Architectural

A1.01	Pavilion Plans & Elevations

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ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK	DATE	DESCRIPTION

Sheet Title
COVER

Drawing No.
A0.00

Scale as noted

Date December 18, 2015

Project No. 104500

Land Use Application

6/19/2015 9:27:48 AM

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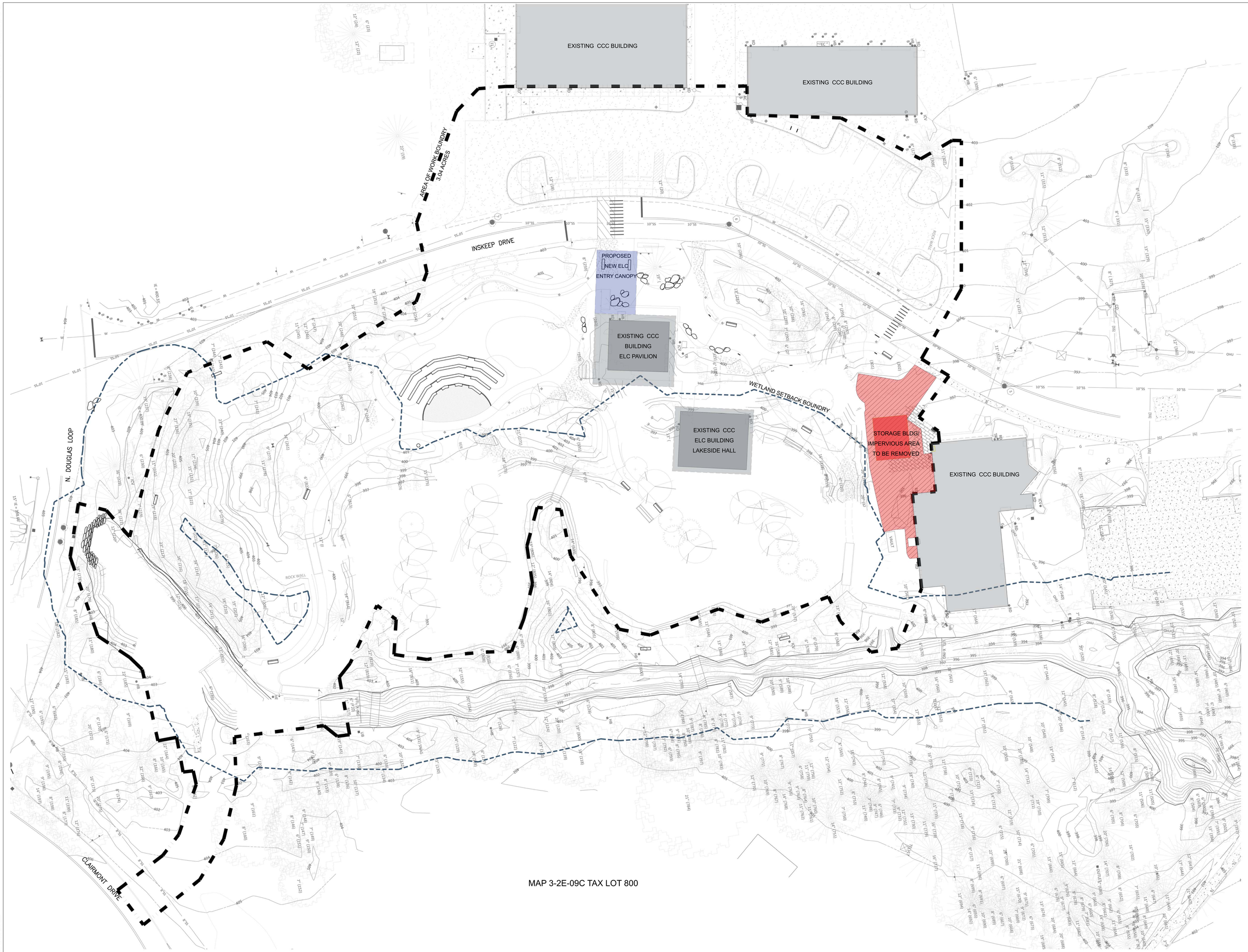

Land Use Application

6/19/2015 9:27:48 AM

Owner
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MARK DATE DESCRIPTION

Sheet Title
OVERALL
SITE PLAN

Drawing No.
LU 0.01

Scale 1"=20'

Date December 18, 2015

Project No. 104500

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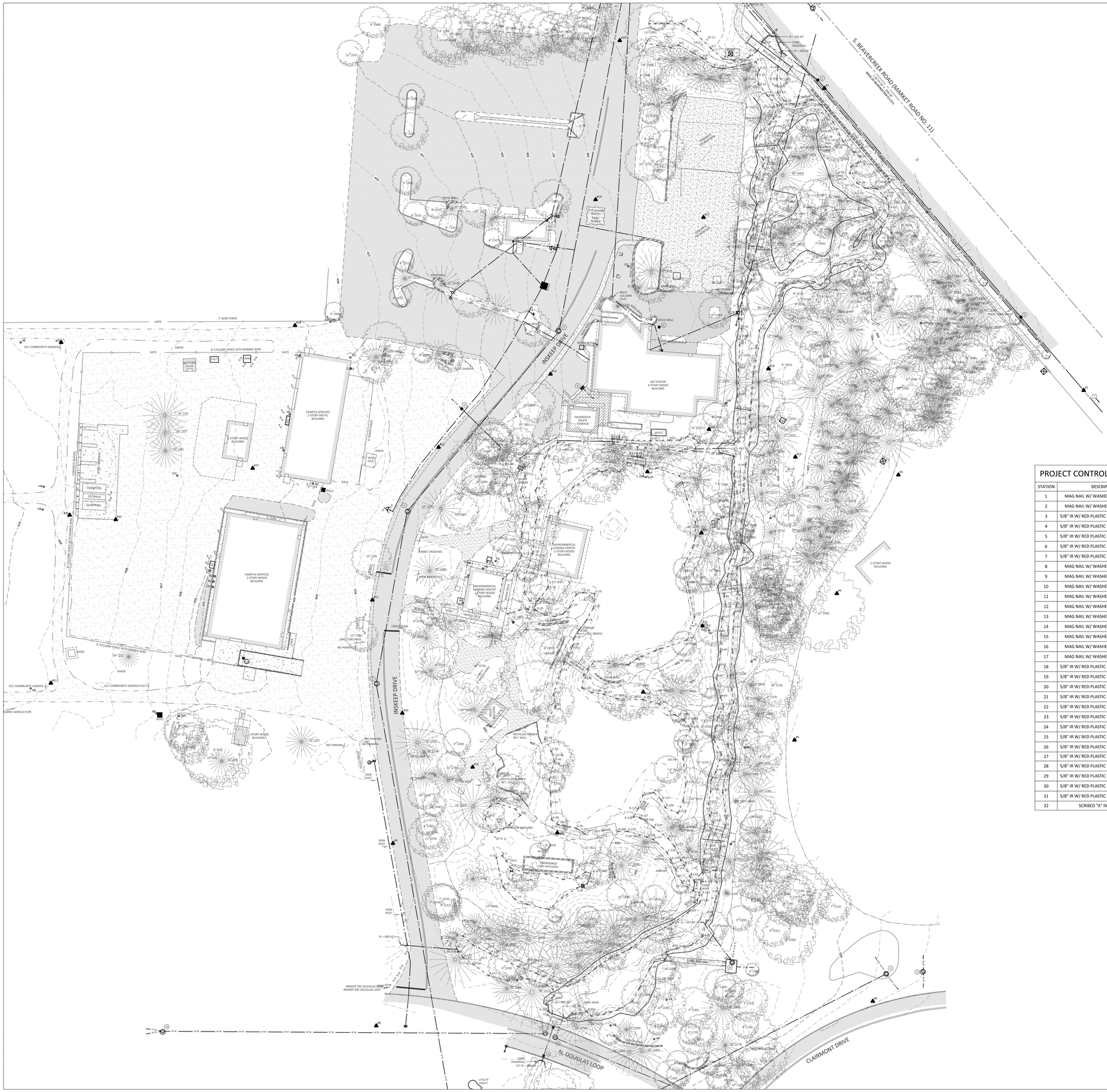

STORM TABLE:

1. STORM MANHOLE
RIM = 394.56'
IE 24" IN (SE) = 389.66'
IE 36" OUT (N) = 389.66'

2. FLOW CONRTOL STORM MANHOLE
RIM = 394.64
IE 42" IN (SE) = 390.04'
IE 36" IN (NW) = 389.94'
IE 42" OUT (NE) = 389.64'

3. CURB INLET W/ STORM MANHOLE
RIM = 393.35'
FLOW LINE = 393.35'
UNABLE TO OPEN (LOCKED)

4. STORM MANHOLE
RIM = 394.14'
IE 24" IN (SW) = 390.64
IE 36" OUT (SE) = 390.59'

5. CATCH BASIN
RIM = 396.61
IE 12" IN (SE) = 393.31'
IE 12" OUT (NW) = 393.11'

6. CATCH BASIN
RIM = 402.90'
IE 12" IN (SE) = 400.10'
IE 12" OUT (NW) = 399.90'

7. CATCH BASIN
RIM = 409.87'
IE 12" IN (SE) = 406.87'
IE 12" OUT (NW) = 406.67'

8. CATCH BASIN (SUMP TYPE)
RIM = 395.08'
WATER LEVEL = 394.58'

9. CURB INLET
FLOW LINE = 396.27'
IE 4" OUT (SE) = 396.07'

10. CATCH BASIN
RIM = 400.01'
IE 6" IN (NW) = 398.51
IE 18" OUT (SE) = 397.81'

11. CATCH BASIN
RIM = 402.79'
IE 15" IN (SW) = 398.49'
IE 8" OUT (NE) = 398.49'

12. CATCH BASIN
RIM = 402.72'
NO PIPES VISIBLE
BOTTOM OF STRUCTURE = 398.12'

13. STORM MANHOLE
RIM = 403.05'
IE 36" IN (SE) = 397.58'
IE 24" OUT (NE) = 397.58'

14. STORM MANHOLE
RIM = 403.11'
IE 36" IN (W) = 397.76'
IE 24" OUT (NE) = 397.71'

15. CATCH BASIN
RIM = 405.15'
IE 8" IN (SE) = 400.95'
IE 8" OUT (W) = 400.85'

16. CATCH BASIN
RIM = 405.30'
IE 8" IN (NW) = 401.75'
IE 8" OUT (S) = 401.75'

17. STORM MANHOLE
RIM = 405.30'
IE 8" IN (E) = 399.85'
IE 36" IN (SE) = 399.00'
IE 36" OUT (NW) = 398.30'

18. STORM MANHOLE
RIM = 406.44'
IE 12" IN (NW) = 398.74'
IE 18" IN (W) = 398.59'
IE 15" IN (E) = 398.10'
IE 15" OUT (NW) = 397.90'

19. STORM MANHOLE
RIM = 406.95'
IE 36" IN (S) = 396.90'
IE 36" OUT (N) = 396.80'

20. STORM MANHOLE
RIM = 405.70'
IE 8" IN (N) = 401.85'
IE 15" IN (E) = 398.10'
IE 15" OUT (NW) = 397.90'

21. CATCH BASIN (SUMP TYPE)
RIM = 401.69'
WATER LEVEL = 399.44'

SANITARY TABLE:

1. SANITARY MANHOLE
RIM = 397.86'
IE 6" IN (NE) = 388.76'
IE 12" IN (SE) = 388.56'
IE 12" OUT (NW) = 388.56'

2. SANITARY MANHOLE
RIM = 395.91'
IE 12" IN (SE) = 388.41'
IE 12" OUT (W) = 388.11'

3. SANITARY MANHOLE
RIM = 393.92'
IE 12" IN (NE) = 384.92'
IE 12" IN (NE) = 387.62'
IE 10" IN (S) = 385.17'
IE 8" IN (SE) = 385.27'
IE 12" OUT (NW) = 384.90'

4. SANITARY MANHOLE
RIM = 394.70'
IE 12" IN (SE) = 381.50'
IE 12" OUT (NW) = 381.10'

5. SANITARY MANHOLE
RIM = 397.04'
IE 10" IN (SW) = 389.24'
IE 10" OUT (N) = 389.04'

6. SANITARY MANHOLE
RIM = 402.22'
IE 10" IN (S) = 392.32'
IE 10" OUT (NE) = 392.22'

7. SANITARY MANHOLE
RIM = 402.72'
IE 10" IN (S) = 393.42'
IE 10" OUT (N) = 393.37'

8. SANITARY MANHOLE
RIM = 401.88'
IE 4" IN (S) = 396.08'
IE 10" IN (E) = 395.43'
IE 10" OUT (N) = 395.38'

9. SANITARY MANHOLE
RIM = 401.55'
IE 4" IN (E) = 396.30'
IE 8" IN (SE) = 396.25'
IE 8" IN (NE) = 396.20
IE 10" OUT (W) = 395.85'

10. SANITARY MANHOLE
RIM = 403.14'
IE 8" IN (NE) = 401.14'
IE 8" IN (NE) = 397.44'
IE 8" OUT (SW) = 397.24'

11. SANITARY MANHOLE
RIM = 406.46'
IE 4" IN (SE) = 402.46'
IE 4" IN (NW) = 402.41'
IE 8" OUT (SW) = 402.41'

PROJECT CONTROL:

STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	MAG NAIL W/ WASHER "KPFF CONTROL"	101718.61	374584.09	397.04'
2	MAG NAIL W/ WASHER "KPFF CONTROL"	101476.60	374791.68	405.23'
3	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101408.95	374643.31	401.43'
4	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101313.96	374594.04	401.55'
5	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101196.61	374560.16	402.20'
6	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	100987.40	374622.80	406.86'
7	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	100822.52	374532.40	406.02'
8	MAG NAIL W/ WASHER "KPFF CONTROL"	100967.72	374225.31	403.99'
9	MAG NAIL W/ WASHER "KPFF CONTROL"	101113.83	374238.65	402.80'
10	MAG NAIL W/ WASHER "KPFF CONTROL"	101218.10	374246.16	402.56'
11	MAG NAIL W/ WASHER "KPFF CONTROL"	101308.75	374222.21	402.77'
12	MAG NAIL W/ WASHER "KPFF CONTROL"	101431.04	374275.14	401.32'
13	MAG NAIL W/ WASHER "KPFF CONTROL"	101489.69	374364.82	397.44'
14	MAG NAIL W/ WASHER "KPFF CONTROL"	101629.43	374400.88	396.23'
15	MAG NAIL W/ WASHER "KPFF CONTROL"	101756.78	374420.23	394.99'
16	MAG NAIL W/ WASHER "KPFF CONTROL"	101903.48	374425.22	393.58'
17	MAG NAIL W/ WASHER "KPFF CONTROL"	101615.19	374487.27	395.60'
18	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101493.96	374539.28	398.95'
19	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101423.26	374560.81	398.98'
20	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101445.44	374491.65	399.81'
21	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101411.46	374442.39	398.40'
22	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101362.56	374485.63	398.56'
23	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101288.10	374486.46	399.12'
24	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101234.98	374438.99	398.98'
25	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101122.30	374370.25	399.03'
26	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101174.89	374302.41	400.12'
27	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101414.26	374126.33	405.80'
28	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101528.61	374160.23	405.08'
29	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101515.00	373973.03	407.61'
30	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101376.73	373979.87	408.78'
31	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101242.18	373964.80	408.86'
32	SCRIBED "X" IN CONCRETE	101373.16	374016.73	408.91'

LEGEND:

- BUILDING OUTLINE WITH DOOR
- CONCRETE SURFACE
- ASPHALT SURFACE
- WALL
- BUILDING OVERHANG
- RIGHT-OF-WAY LINE
- CURB LINE
- EDGE OF ASPHALT
- TOP OF BANK
- EDGE OF WATER
- CENTERLINE OF PATH
- ELECTRICAL LINE
- TRAFFIC SIGNAL LINE
- TELECOMMUNICATIONS LINE
- STORM LINE
- SANITARY SEWER LINE
- WATER LINE
- GAS LINE
- OVERHEAD UTILITY LINES
- HYDRO DITCH CENTERLINE
- WETLAND BOUNDARY
- UNDERGROUND LINE PER AS-BUILTS
- SIGN
- DOUBLE POST SIGN
- B BOLLARD
- FP FLAG POLE
- MB MAILBOX
- D/W DRIVEWAY ENTRY
- HCR HANDICAP RAMP
- RD ROOF DRAIN
- E ELECTRICAL METER
- EC ELECTRICAL CABINET
- GUY ANCHOR
- GROUND FLOOD LIGHT
- POWER POLE
- OVERHEAD LIGHT
- POWER POLE/OVERHEAD LIGHT
- TRAN TRANSFORMER
- EVLT ELECTRICAL VAULT
- G GAS METER
- GV GAS VALVE
- SANITARY MANHOLE WITH STRUCTURE
- STORM MANHOLE WITH STRUCTURE
- CATCH BASIN/AREA DRAIN
- CURB INLET
- CO SANITARY/STORM CLEAN OUT
- SANITARY/STORM STRUCTURE #
- TELEVLT TELECOMMUNICATIONS VAULT
- TR TELECOMMUNICATIONS RISER
- SB TRAFFIC SIGNAL BOX
- WATER VALVE
- FIRE HYDRANT
- PIV POST INDICATOR VALVE
- FIRE DEPARTMENT CONNECT
- W WATER MANHOLE
- WVLT WATER VAULT
- HB HOSE BIB
- ICV IRRIGATION CONTROL VALVE
- UV UNKNOWN UTILITY VALVE
- UB UNKNOWN UTILITY BOX
- T TRASH CAN
- DECIDUOUS TREE W/ (TAG NO.) -PERIMETER REPRESENTS DRIPLINE
- CONIFEROUS TREE W/ (TAG NO.) -PERIMETER REPRESENTS DRIPLINE
- #1 PROJECT CONTROL POINT
- B-1 WETLAND FLAG
- TOS TOP OF SILT
- BOS BOTTOM OF SILT
- UTL. X-ING UTILITY CROSSING
- PED. PEDESTRIAN

SCALE 1 INCH = 30 FEET
30 0 30 60

LAND USE APPLICATION

6/19/2015 9:27:48 AM

File: N:\c\p\2014\31417S-CCC-John-Inskeep-ELC\CAD\PLOT\41775-C0.20-EX.dwg TAB:C0.20

Plotted: 12/18/15 at 10:20am By: delmore

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MARK	DATE	DESCRIPTION

Sheet Title
EXISTING CONDITIONS

Drawing No.
C0.20

Scale

Date 12.18.15

Project No. 104500

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SHEET NOTES

1. CONTRACTOR MAY STAGE WITHIN LIMITS OF DEMOLITION AND PAVED STAGING AREA INDICATED ON EC1.20.
2. REMOVE ALL SITE COMPONENTS AND RECYCLE COMPONENTS AS REQUIRED IN THE SPECIFICATIONS.
3. GENERAL DEMOLITION PERMIT SHALL BE SECURED BY THE CONTRACTOR.
4. ALL TRADE LICENSES AND PERMITS NECESSARY FOR THE PROCUREMENT AND COMPLETION OF THE WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING DEMOLITION.
5. THE CONTRACTOR SHALL PRESERVE AND PROTECT FROM DAMAGE ALL EXISTING RIGHT-OF-WAY SURVEY MONUMENTATION DURING DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PAYING FOR THE REPLACEMENT BY A LICENSED SURVEYOR OF ANY DAMAGED OR REMOVED MONUMENTS.
6. PROTECT ALL ITEMS ON ADJACENT PROPERTIES AND IN THE RIGHT OF WAY INCLUDING BUT NOT LIMITED TO SIGNAL EQUIPMENT, PARKING METERS, SIDEWALKS, STREET TREES, STREET LIGHTS, CURBS, PAVEMENT AND SIGNS. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY DAMAGED ITEMS TO ORIGINAL CONDITION.
7. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, AND OTHER FACILITIES IMMEDIATELY ADJACENT TO EXCAVATIONS FROM DAMAGES CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS.
8. SAWCUT STRAIGHT LINES IN SIDEWALK, AS NECESSARY.
9. CONTRACTOR IS RESPONSIBLE TO CONTROL DUST AND MUD DURING THE DEMOLITION PERIOD, AND DURING TRANSPORTATION OF DEMOLITION DEBRIS. ALL STREET SURFACES OUTSIDE THE CONSTRUCTION ZONE MUST BE KEPT CLEAN.
10. ALL EXPOSED PORTIONS OF UNDERGROUND UTILITIES TO BE ABANDONED SHALL BE PLUGGED PER DETAIL X/CXXX.
11. SEE LANDSCAPE PLANS FOR TREE PROTECTION AND ADDITIONAL VEGETATION REMOVAL.

DEMOLITION KEY NOTES

20	REMOVE BENCH
21	REMOVE STORM DRAIN VAULT
22	REMOVE BUILDING/STRUCTURE
23	REMOVE PED. FOOTBRIDGE
24	REMOVE WALL
25	REMOVE CONCRETE WIER
26	SAWCUT LINE AND REMOVE ASPHALT
27	REMOVE EXISTING UNDERGROUND ELECTRICAL SERVICE.
28	REMOVE CATCH BASIN
29	MONUMENTATION (BRASS SCREW) IN AREA TO BE RECONSTRUCTED. SEE GENERAL NOTES ON SHEET C0.20.
30	REMOVE STORM PIPE
31	REMOVE CONCRETE CHANNEL
32.	REMOVE PUMP HOUSE
33.	REMOVE UTILITY CROSSING
34.	REMOVE SEDIMENT AND LAYOUT TO DRY AND REUSE. COORDINATE WITH THE OWNER FOR THE STORAGE LOCATION.
35.	REMOVE CONCRETE WALKWAY
36.	REMOVE HAZARDOUS WASTE STORAGE BUILDING
37.	COORDINATE FIRE HYDRANT REMOVAL AFTER NEW FIRE HYDRANT IS INSTALLED
38.	REMOVE PAVEMENT MARKINGS

PROTECTION KEY NOTES

40	PROTECT VAULT
41	PROTECT PED. FOOTBRIDGE
42	PROTECT UNDERGROUND UTILITIES
43	PROTECT TREE
44	PROTECT MONUMENTATION
45	PROTECT WALL
46	PROTECT AREAS OF CONCRETE WALKWAY TO REMAIN, SEE LANDSCAPING SHEETS
47	PROTECT CONCRETE RAMP

SHEET LEGEND

- PROPERTY LINE
- DEMOLITION/WORK LIMITS
- SAWCUT LINE
- REMOVE OR ABANDON UTILITY LINE IN PLACE
- WETLAND BOUNDARY
- EDGE OF WATER
- REMOVE TREE

SCALE 1 INCH = 20 FEET
20 0 20 40

LAND USE APPLICATION

PRELIMINARY NOT FOR CONSTRUCTION

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MARK	DATE	DESCRIPTION

Sheet Title
DEMOLITION PLAN

Drawing No.
C1.10

Scale	1" = 20'
Date	12.18.15
Project No.	104500

6/19/2015 9:27:48 AM
File: N:\s\p\2014\314175-CDC-John-Inskeep-ELC\CAD\PLOT\4175-C1.10-DM.dwg TAB:C1.10
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SHEET NOTES

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.
2. SEE SHEET C2.20 FOR SITE GRADING AND STRUCTURE INVERT INFORMATION.

(X) KEY NOTES

01 SEDIMENT FOREBAY

02 STABILIZED GRASS-PAVE MAINTENANCE ACCESS ROAD

03 ASPHALT PARKING LOT. SEE LANDSCAPE MATERIALS PLAN.

04 DRIVEWAY CUT IN CURB WITH ASPHALT PATCH

05 CONCRETE WEIR, SEE SHEET C2.20

06 ENHANCED WETLAND AREA

07 VEGETATED WATER QUALITY BASIN

SHEET LEGEND

- PROPERTY LINE
- SAWCUT LINE
- BOTTOM OF DITCH
- 400 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 400 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- WETLAND BOUNDARY
- EDGE OF WATER

HIGH FLOW BYPASS CENTERLINE
NEWELL CREEK CENTERLINE
NORTH CONVEYANCE DITCH CENTERLINE
FACILITY OUTLET CHANNEL CENTERLINE
PARKING LOT WATER QUALITY SWALE CENTERLINE
NEWELL CREEK CENTERLINE
FACILITY INLET CHANNEL CENTERLINE
NEWELL CREEK CHANNEL CENTERLINE
EXISTING SPRING
SPRING CHANNEL CENTERLINE
N DOUGLAS LOOP
CLAIRMONT DRIVE
INSERT 1/01

SCALE 1 INCH = 30 FEET
30 0 30 60

LAND USE APPLICATION

6/19/2015 9:27:48 AM

File: N:\v\p\2014\3141775-CCC-John-Inskeep-ELC\CAD\PLOT\4175-C2.10-ST.dwg TAB:C2.10

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MARK DATE DESCRIPTION

Sheet Title
SITE PLAN

Drawing No.
C2.10

Scale 1" = 30'
Date 08.12.15
Project No. 104500

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SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 10/C3.10.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

(X) KEY NOTES

01 MATCH EXISTING GRADES

02 FIELD VERIFY IE OF EXISTING 6" LATERAL PRIOR TO CONSTRUCTION

03 BRIDGE, SEE LANDSCAPE MATERIALS PLAN

04 INSTALL RELOCATED FIRE HYDRANT ASSEMBLY

05 IRRIGATION POINT OF CONNECTION, SEE LANDSCAPE PLANS

UTILITY LABEL LEGEND

STRUCTURE LABEL

- UTILITY TYPE (SD=STORM DRAINAGE)
- STRUCTURE TYPE CALLOUT
- ID NUMBER (WHERE APPLICABLE)

XX XX-XX
N: XXXX.XX
E: XXXX.XX — LOCATION (WHERE APPLICABLE)
RIM=
IE IN = XX.X
IE OUT = XX.X — STRUCTURE INFO (WHERE APPLICABLE)

PIPE LABEL

- UTILITY LENGTH
- UTILITY SIZE
- UTILITY TYPE

XXLF - XX" XX

S=X.XX% — SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
DC	DOUBLE CHECK BACKFLOW ASSEMBLY	
FH	FIRE HYDRANT	
OF	OUTFALL	
OV	OVERFLOW INLET	

SHEET LEGEND

- PROPERTY LINE
- SAWCUT LINE
- BOTTOM OF DITCH
- 400 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 400 — PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- SLOPE/FLOW DIRECTION
- WETLAND BOUNDARY
- EDGE OF WATER

SCALE 1 INCH = 30 FEET
30 0 30 60

LAND USE APPLICATION

PRELIMINARY NOT FOR CONSTRUCTION

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Project
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MARK DATE DESCRIPTION

Sheet Title
GRADING AND DRAINAGE PLAN

Drawing No.
C2.20

Scale	1" = 30'
Date	08.12.15
Project No.	104500

6/19/2015 9:27:48 AM
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Plotted: 12/18/15 at 10:25am By: delmore

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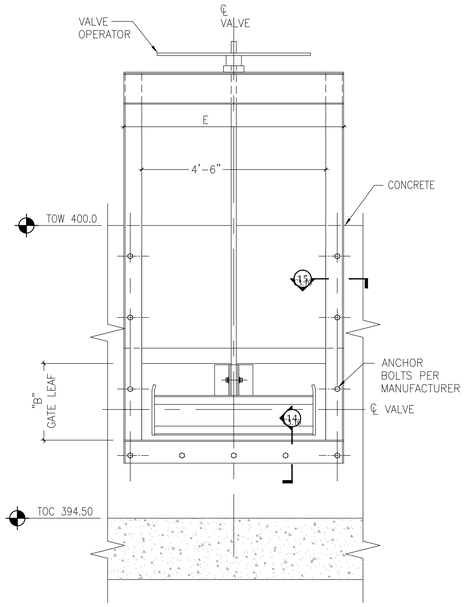
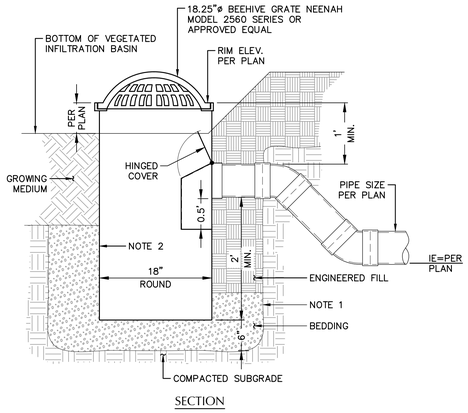


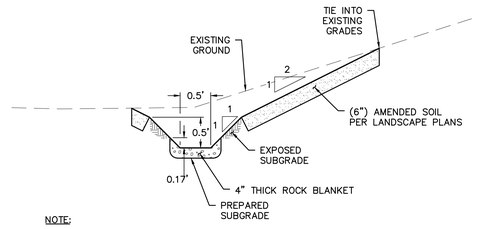
12 SLIDE GATE VALVE DETAIL
SCALE: NTS



SECTION

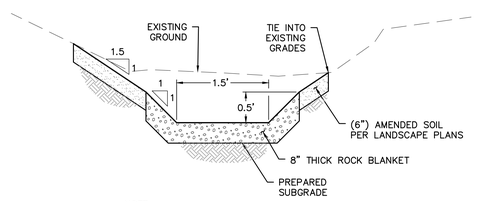
NOTES:
1. CONTRACTOR TO WIDEN EXCAVATION AS REQUIRED TO OBTAIN COMPACTION WITH CONTRACTORS COMPACTION EQUIPMENT.
2. 10 GA STEEL PLATE, BITUMINOUS COATED BASIN AS MANUFACTURED BY GIBSON STEEL, GRATEMASTER OR APPROVED EQUAL.

9 OVERFLOW INLET - TYPE 2
SCALE: NTS



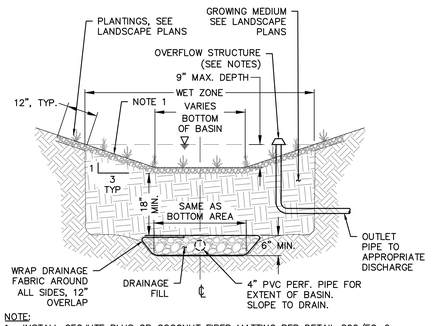
NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

6 NORTH CONVEYANCE DITCH
SCALE: NTS



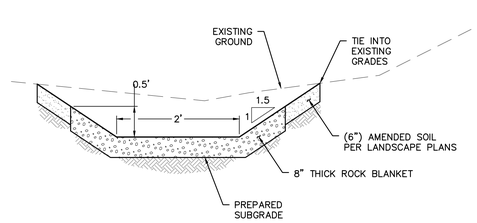
NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

1 INLET CHANNEL
SCALE: NTS



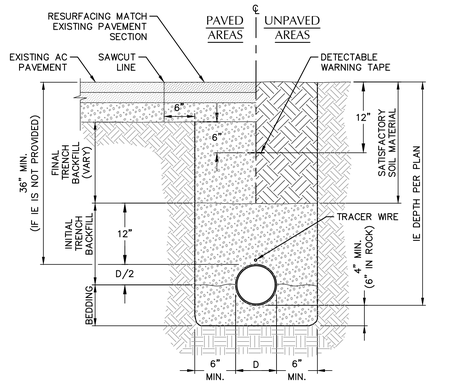
NOTE:
1. INSTALL GEOJUTE PLUS OR COCONUT FIBER MATTING PER DETAIL 800/EC-6

7 TYP. VEGETATED WATER QUALITY BASIN
SCALE: NTS

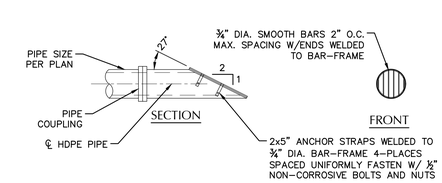


NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

2 NEWELL CREEK SECTION
SCALE: NTS

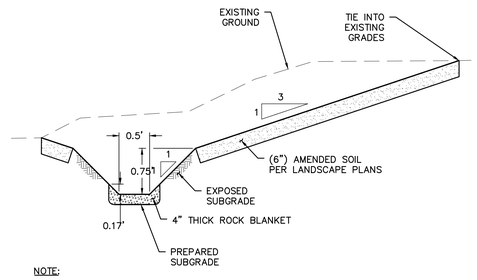


10 TYPICAL PIPE BEDDING AND BACKFILL
SCALE: NTS



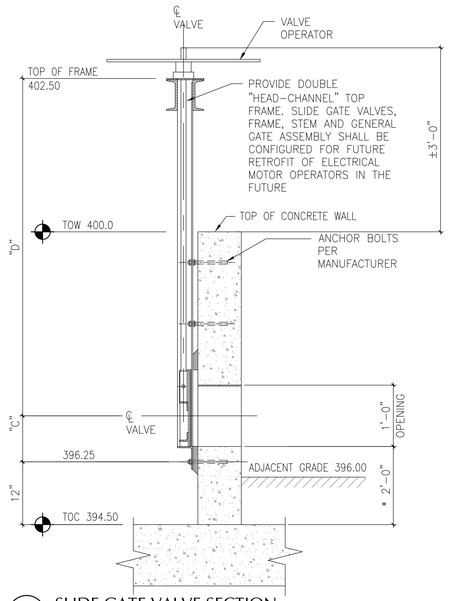
NOTES:
1. ALL TRASH RACK PARTS AND CONNECTORS MUST BE ALUMINUM, OR ASPHALT COATED GALVANIZED STEEL (TREATMENT 1 OR BETTER).
2. WELD AT ALL JOINTS.
3. SHOP DRAWINGS REQUIRED.

8 MITERED OUTFALL W/ TRASH RACK (2:1)
SCALE: NTS

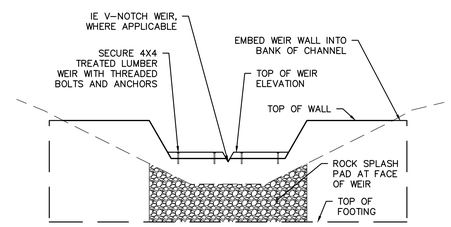


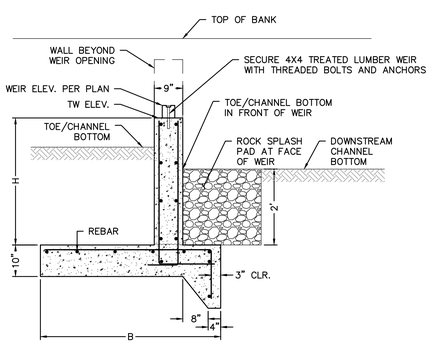
NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

3 SPRING CHANNEL
SCALE: NTS

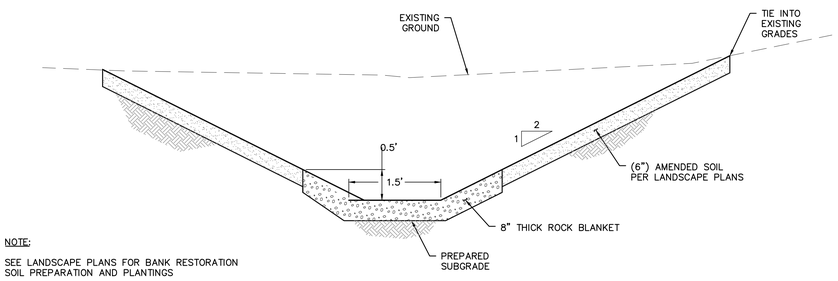


13 SLIDE GATE VALVE SECTION
SCALE: NTS



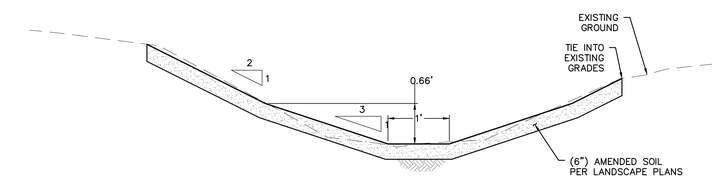


11 TYPICAL WEIR WALL
SCALE: NTS



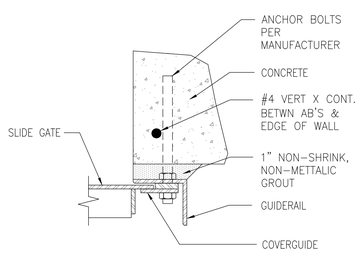
NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

4 OUTLET CHANNEL
SCALE: NTS

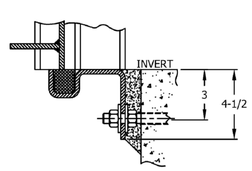


NOTE:
SEE LANDSCAPE PLANS FOR BANK RESTORATION SOIL PREPARATION AND PLANTINGS

5 WATER QUALITY SWALE
SCALE: NTS



15 FLAT BACK SEAT-SIDE VIEW
SCALE: NTS



14 SURFACE MOUNT BOTTOM DETAIL
SCALE: NTS

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MARK DATE DESCRIPTION

Sheet Title
DETAILS

Drawing No.
C3.10

Scale

Date 12.18.15

Project No. 104500

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XREFs: 4175-xtb
6/19/2015 9:27:48 AM

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SHEET LEGEND

- SITE LIMITS OF DISTURBANCE
- SEDIMENT FENCE
- STRAW WATTLES
- INLET PROTECTION
- GRAVEL BAG BARRIER
- BIO FILTER BAG SEDIMENT BARRIER
- DRAINAGE FLOW DIRECTION ARROWS
- 401 EXISTING CONTOUR
- 401 PROPOSED CONTOUR
- WETLAND BOUNDARY
- EDGE OF WATER
- COIR MATTING

(X) EROSION CONTROL KEY NOTES

1. INSTALL SEDIMENT FENCE — 1/EC1.30
2. STABILIZED CONSTRUCTION ENTRANCE — 2/EC1.30
3. TEMPORARY WHEEL WASH — 3/EC1.30
4. INSTALL INLET PROTECTION OVER EXISTING INLET — 4/EC1.30
5. INSTALL INLET PROTECTION OVER NEW INLET — 4/EC1.30
6. INSTALL GRAVEL BAG BARRIER — 6/EC1.30
7. INSTALL BIO FILTER BAG SEDIMENT BARRIER — 7/EC1.30
8. STRAW WATTLES — 5/EC1.30
9. INSTALL DE-WATERING SUMP WITH SURFACE MOUNTED DISCHARGE LINE — 8/EC1.30
10. PORTABLE BAKER TANK, OR APPROVED EQUAL TO TREAT PUMPED WATER PRIOR TO CREEK DISCHARGE
11. FENCED CONTRACTOR STAGING AREA

SHEET NOTES

1. FOR DEQ NOTES SEE SHEET EC1.10.
2. EROSION CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH OREGON DEQ AND OREGON CITY EROSION AND SEDIMENT CONTROL MANUAL.
3. CONSTRUCTION ENTRANCES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD ADJUST LOCATION AND NUMBER OF ENTRANCES TO ENSURE THAT SEDIMENT IS NOT CONVEYED TO ADJACENT STREETS.
4. CONTRACTOR TO DETERMINE THE DETAILS OF THE MASS EXCAVATION DEWATERING SYSTEM INCLUDING NUMBER OF HOSES IN THE PIT, TYPE OF FILTRATION SYSTEM, AND SIMILAR ATTRIBUTES.
5. TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE IMPLEMENTED. THE CONTRACTOR SHALL ADHERE TO OREGON DEQ FOR MINIMUM EROSION CONTROL MEASURES. THE EROSION CONTROL FACILITIES SHOWN IN THESE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, EROSION CONTROL FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.
6. SOLID WASTE STORAGE HAZARDOUS WASTE STORAGE, FUEL STORAGE, AND FUELING ARE NOT ANTICIPATED TO OCCUR ON-SITE. THE LOCATION INDICATED IS A PLACE HOLDER IF THESE FUNCTIONS DO OCCUR DURING CONSTRUCTION.
7. THE AREA WITHIN THE LIMITS OF DISTURBANCE SHOWN IS AN AREA OF PROPOSED CUT.
8. REFER TO LANDSCAPE PLANS FOR TREE PROTECTION FENCING AND TREE REMOVAL.

CONSTRUCTION TRAFFIC NOTE

TO PREVENT DISTURBANCE AND SOFTENING OF THE SUBGRADE SOILS DURING WET WEATHER OR GROUND CONDITIONS, THE MOVEMENT OF CONSTRUCTION TRAFFIC SHOULD BE LIMITED TO GRANULAR HAUL ROADS AND WORK PADS. IN GENERAL, A MINIMUM OF 18" TO 24" OF RELATIVELY CLEAN, GRANULAR MATERIAL IS REQUIRED TO SUPPORT CONCENTRATED CONSTRUCTION TRAFFIC, SUCH AS DUMP TRUCKS AND CONCRETE TRUCK TRAFFIC AND LIGHT CONSTRUCTION OPERATIONS. A 12" THICK GRANULAR WORK PAD SHOULD BE SUFFICIENT TO SUPPORT OCCASIONAL TRUCK TRAFFIC AND LIGHT CONSTRUCTION OPERATIONS. A GEOTEXTILE SEPARATION FABRIC PLACED ON THE EXPOSED SUBGRADE PRIOR TO PLACEMENT AND COMPACTION OF THE GRANULAR WORK PAD MAY IMPROVE THE PERFORMANCE OF WORK PADS AND HAUL ROADS.

SCALE
30 0 30 60
1 INCH = 30 FEET

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MARK	DATE	DESCRIPTION

Sheet Title
EROSION AND SEDIMENT CONTROL PLAN

Drawing No.
EC1.20

Scale	1" = 30'
Date	12.18.15
Project No.	104500

6/19/2015 9:27:48 AM

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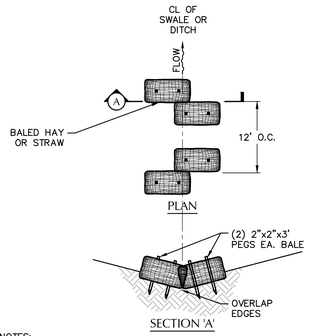
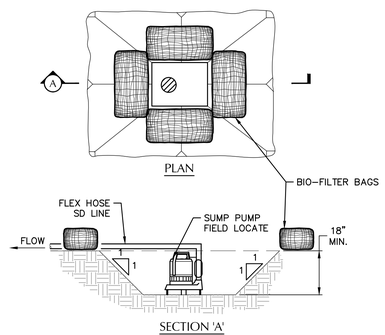


NOTES:
1. EMBED BALES 4" TO 6".
2. DRIVE STAKES MINIMUM 12" INTO GROUND SURFACE.

7 BIO-FILTER BAG SEDIMENT BARRIER IN DITCHES OR SWALES
SCALE: NTS



8 DEWATERING SUMP
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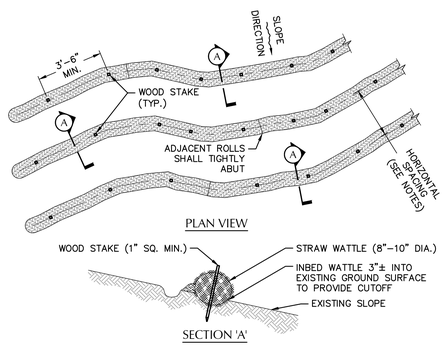
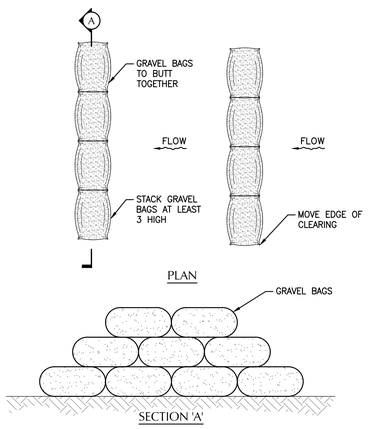


NOTES:
1. STRAW WATTLES TO BE PLACED ALONG SITE CONTOURS.
2. HORIZONTAL SPACING VARIES DEPENDING ON SOIL TYPE AND STEEPNESS, SEE PLAN (5' MIN – 25' MAX.)
3. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
4. STRAW WATTLE SHALL BE RICE STRAW ONLY. USE OF FIBER ROLLS, WHEAT GRASS, OR RYE STRAW NOT PERMITTED.

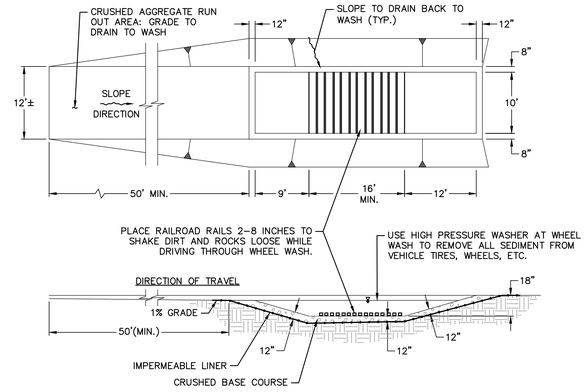
5 STRAW WATTLE ON SLOPE
SCALE: NTS



NOTES:

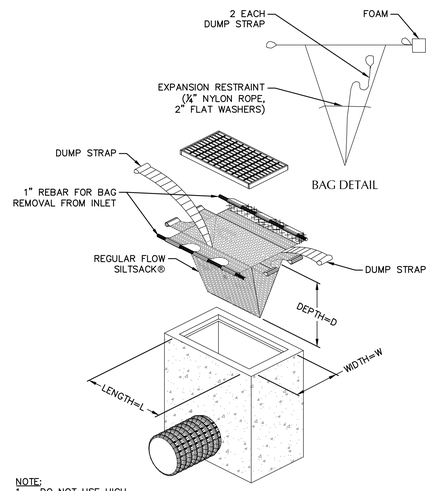
1. GRAVEL BAGS SHALL BE STACKED AS A PYRAMID WITH THE FOLLOWING DIMENSIONS:
   HEIGHT = 18" MAX.
   WIDTH = 24" MIN. FOR 3 OR MORE LAYERS
   SIDE SLOPE = 2:1 MAX.
2. EACH GRAVEL BAG SHALL BE APPROXIMATELY 18"L X 12"W X 3" THICK WITH AN APPROXIMATE MASS = 33 LBS.
3. EACH GRAVEL BAG SHALL BE FILLED WITH CLASS 2, AGGREGATE BASE, CLEAN AND FREE FROM CLAY, ORGANIC MATTER, AND OTHER DELETERIOUS MATERIAL, OR OTHER SUITABLE OPEN-GRADED, NON-COHESIVE, POROUS GRAVEL.

6 GRAVEL BAG BARRIER
SCALE: NTS



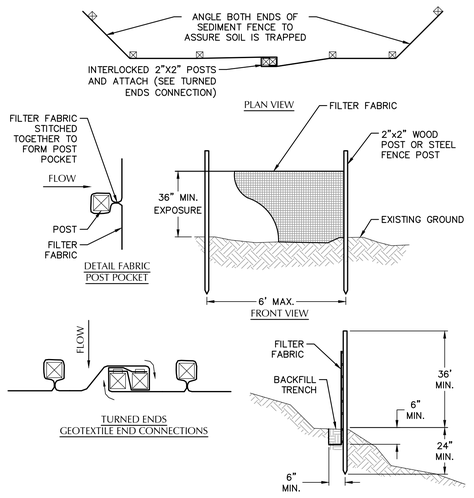
NOTES:
1. CONTRACTOR SHALL PROVIDE SUMP PUMP, ABOVE GROUND PIPE, AND LARGE SIZE ORIFICE SPRINKLER TO SPREAD OVER EXISTING VEGETATION. SUBMIT DESIGNATED SPRINKLER AREA TO ENGINEER FOR APPROVAL.
2. CONTRACTOR TO MAINTAIN WHEELWASH DAILY BY REMOVING ACCUMULATED SEDIMENT AND SEDIMENT LADEN WATER FROM WHEEL WASH WHEN ACCUMULATION REACHES 50% OF VOLUME. THEN FILL WITH WATER TO MAINTAIN 12" OF WATER IN WHEELWASH AT ALL TIMES.
3. CONTRACTOR RESPONSIBLE FOR ENSURING PROPER PERFORMANCE OF THIS ESC MEASURE INCLUDING DRAINAGE TO AND AWAY FROM MEASURE.
4. CONTRACTOR TO REPAIR IMMEDIATELY ANY PROBLEMS PREVENTING PROPER PERFORMANCE OF THIS ESC MEASURE OR ITS UPSTREAM/ DOWNSTREAM CONVEYANCE STRUCTURES.
5. SEDIMENT REMOVED SHALL BE DISPOSED OF ON-SITE IN SOIL STOCKPILE AREA FOR RE-USE OR OFF-SITE TO A CITY APPROVED DISPOSAL FACILITY.

3 TEMPORARY WHEEL WASH
SCALE: NTS



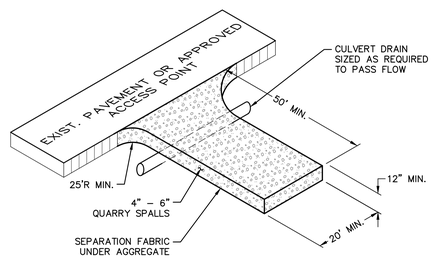
NOTE:
1. DO NOT USE HIGH FLOW INSERT BAGS.

4 INLET SEDIMENT PROTECTION
SCALE: NTS



NOTES:
1. THE FILTER FABRIC SHALL BE (36" MIN. WIDTH) PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST, OR OVERLAP 2"x2" POSTS AND ATTACH AS SHOWN ON DETAIL SHEET.
2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS WHERE FEASIBLE. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6-FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24-INCHES.
3. THE FILTER FABRIC SHALL HAVE A MINIMUM VERTICAL BURIAL OF 6-INCHES. ALL EXCAVATED MATERIAL FROM FILTER FABRIC FENCE INSTALLATION, SHALL BE BACKFILLED AND COMPACTED, ALONG THE ENTIRE DISTURBED AREA.
4. STANDARD OR HEAVY DUTY FILTER FABRIC SHALL HAVE MANUFACTURED STITCHED LOOPS FOR 2"x2" POST INSTALLATION. STITCHED LOOPS WITH STAKES SHALL BE INSTALLED ON THE DOWN-HILL SIDE OF THE SLOPED AREA.
5. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UP-SLOPE AREA HAS BEEN PERMANENTLY PROTECTED AND STABILIZED.
6. FILTER FABRIC FENCES SHALL BE INSPECTED BY CONTRACTOR IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

1 SEDIMENT FENCE
SCALE: NTS



NOTES:
1. THE ENTRANCE SHALL BE MAINTEINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS: 50' LONG BY 20' WIDE 3-6" CLEAN ROCK, GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

2 CONSTRUCTION ENTRANCE
SCALE: NTS

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Sheet Title
EROSION AND SEDIMENT CONTROL DETAILS

Drawing No.
EC1.30

Scale	NTS
Date	12.18.15
Project No.	104500

6/19/2015 9:27:48 AM

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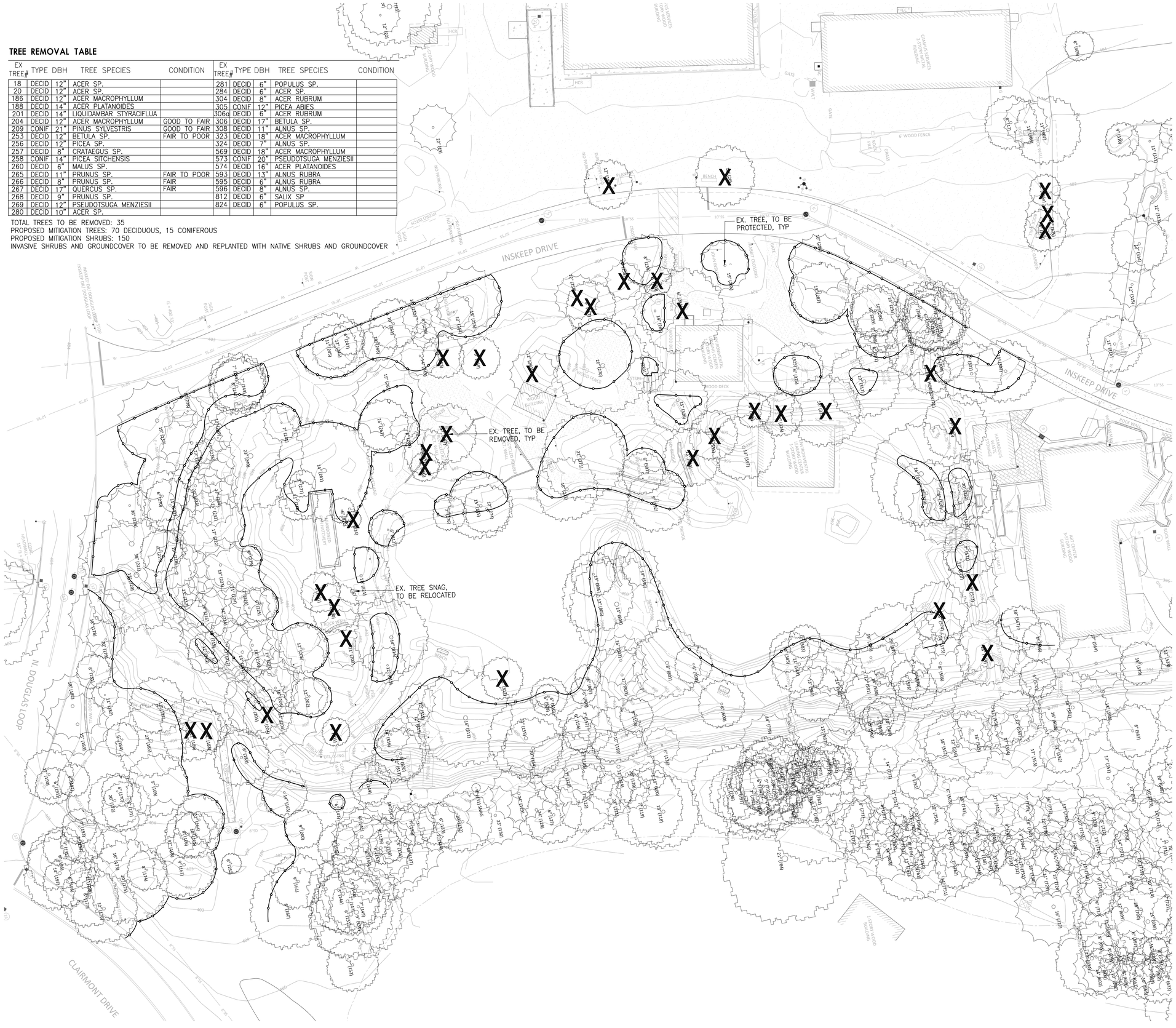
TREE REMOVAL TABLE

EX TREE#	TYPE	DBH	TREE SPECIES	CONDITION
18	DECID	12"	ACER SP.	
20	DECID	12"	ACER SP.	
186	DECID	12"	ACER MACROPHYLLUM	
188	DECID	14"	ACER PLATANOIDES	
201	DECID	14"	LIQUIDAMBAR STYRACIFLUA	
204	DECID	12"	ACER MACROPHYLLUM	GOOD TO FAIR
209	CONIF	21"	PINUS SYLVESTRIS	GOOD TO FAIR
253	DECID	12"	BETULA SP.	FAIR TO POOR
256	DECID	12"	PICEA SP.	
257	DECID	8"	CRATAEGUS SP.	
258	CONIF	14"	PICEA SITCHENSIS	
260	DECID	6"	MALUS SP.	
265	DECID	11"	PRUNUS SP.	FAIR TO POOR
266	DECID	8"	PRUNUS SP.	FAIR
267	DECID	17"	QUERCUS SP.	FAIR
268	DECID	9"	PRUNUS SP.	
269	DECID	12"	PSEUDOTSUGA MENZIESII	
280	DECID	10"	ACER SP.	
281	DECID	6"	POPULUS SP.	
284	DECID	6"	ACER SP.	
304	DECID	8"	ACER RUBRUM	
305	CONIF	12"	PICEA ABIES	
306a	DECID	6"	ACER RUBRUM	
306	DECID	17"	BETULA SP.	
308	DECID	11"	ALNUS SP.	
323	DECID	18"	ACER MACROPHYLLUM	
324	DECID	7"	ALNUS SP.	
569	DECID	18"	ACER MACROPHYLLUM	
573	CONIF	20"	PSEUDOTSUGA MENZIESII	
574	DECID	16"	ACER PLATANOIDES	
593	DECID	13"	ALNUS RUBRA	
595	DECID	6"	ALNUS RUBRA	
596	DECID	8"	ALNUS SP.	
812	DECID	6"	SALIX SP	
824	DECID	6"	POPULUS SP.	

TOTAL TREES TO BE REMOVED: 35
PROPOSED MITIGATION TREES: 70 DECIDUOUS, 15 CONIFEROUS
PROPOSED MITIGATION SHRUBS: 150
INVASIVE SHRUBS AND GROUNDCOVER TO BE REMOVED AND REPLANTED WITH NATIVE SHRUBS AND GROUNDCOVER



1. TREE PROTECTION PLAN

SCALE: 1" = 20'–0"

0 10' 20' 40'

LEGEND

- CENTER LINE OF EXISTING FOOT PATHS
- EXISTING DECIDUOUS TREE TO BE PROTECTED
- EXISTING CONIFEROUS TREE TO BE PROTECTED
- X — EXISTING DECIDUOUS TREE TO BE REMOVED
- X — EXISTING CONIFEROUS TREE TO BE REMOVED
- TREE PROTECTION FENCING, SEE NOTES AND SPECS

ABBREVIATIONS

ARCH	ARCHITECTURAL
CAL	CALIPER
CONC	CONCRETE
DIA	DIAMETER
DBH	DIAMETER AT BREAST HEIGHT
DWG	DRAWINGS
EQ	EQUAL
HT	HEIGHT
N/A	NOT APPLICABLE
NO	NUMBER
O.C.	ON CENTER
PA	PLANTING AREA
SF	SQUARE FEET
SIM	SIMILAR

NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT ALL TREES INDICATED TO REMAIN, INCLUDING BARK AND ROOT ZONES. INSTALL PROTECTIVE FENCING WHERE INDICATED ON THE TREE PROTECTION PLAN. PROTECTIVE BARRIERS SHALL BE PLACED BEFORE PHYSICAL DEVELOPMENT STARTS AND SHALL STAY IN PLACE UNTIL AFTER PLANNING OFFICIAL AUTHORIZES THEIR REMOVAL OR A FINAL CERTIFICATE OF OCCUPANCY IS ISSUED, WHICHEVER OCCURS FIRST.
3. TREE PROTECTION FENCING SHALL BE CHAIN LINK, MINIMUM OF 6' HEIGHT, SECURED WITH STEEL POSTS, INSTALLED 5' BEYOND THE EDGE OF THE DRIP LINE OR AS INDICATED ON THE TREE REMOVAL AND PROTECTION PLAN.
4. EXCAVATION WITHIN THE TREE PROTECTION ZONE WILL BE PERFORMED USING ONLY NON–MOTORIZED HANDHELD TOOLS AND SHALL BE THE MINIMUM NECESSARY TO ACCOMPLISH THE PURPOSE FOR THE EXCAVATION AND TO ENSURE LONG–TERM SURVIVAL OF THE TREE.
5. TREE PROTECTION FENCING SHALL BE FLUSH WITH THE INITIAL UNDISTURBED GRADE.
6. APPROVED SIGNS SHALL BE ATTACHED TO PROTECTION FENCING, AND VISIBLY STATING THAT INSIDE THE FENCING IS A TREE PROTECTION ZONE, NOT TO BE DISTURBED UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE COUNTY MANAGER.
7. NO CONSTRUCTION ACTIVITY SHALL OCCUR WITHIN THE TREE PROTECTION ZONE, INCLUDING, BUT NOT LIMITED TO DUMPING OR STORAGE OF MATERIALS SUCH AS BUILDING SUPPLIES, SOIL, WASTE ITEMS, OR PARKED VEHICLES AND EQUIPMENT.
8. THE TREE PROTECTION ZONE SHALL REMAIN FREE OF CHEMICALLY INJURIOUS MATERIALS AND LIQUIDS SUCH AS PAINTS, THINNERS, CLEANING SOLUTIONS, PETROLEUM PRODUCTS, AND CONCRETE OR DRY WALL EXCESS, CONSTRUCTION DEBRIS, OR RUNOFF.
9. NO EXCAVATION, TRENCHING, GRADING, ROOT PRUNING OR OTHER ACTIVITY SHALL OCCUR WITHIN THE TREE PROTECTION ZONE UNLESS DIRECTED BY AN ARBORIST PRESENT ON SITE AND APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR.
10. NO MACHINERY REPAIR OR CLEANING SHALL BE PERFORMED WITHIN TEN FEET OF THE DRIPLINE OF ANY TREES IDENTIFIED FOR PROTECTION.
11. DIGGING A TRENCH FOR PLACEMENT OF PUBLIC OR PRIVATE UTILITIES OR OTHER STRUCTURE WITHIN THE CRITICAL ROOT ZONE OF A TREE TO BE PROTECTED IS PROHIBITED. BORING UNDER OR THROUGH THE TREE PROTECTION ZONE MAY BE PERMITTED IF APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR AND PURSUANT TO THE APPROVED WRITTEN RECOMMENDATIONS OF AN ON–SITE GUIDANCE AND SUPERVISION OF A CERTIFIED ARBORIST.
12. NO FILL OR COMPACTION SHALL OCCUR WITHIN THE CRITICAL ROOT ZONES OF ANY OF THE TREES. IF COMPACTION IS UNAVOIDABLE, MEASURES SHALL BE TAKEN AS RECOMMENDED BY A CERTIFIED ARBORIST TO REDUCE OR MITIGATE THE IMPACT OF THE FILL OR COMPACTION.
13. THE CITY MAY REQUIRE THAT A CERTIFIED ARBORIST BE PRESENT DURING ANY CONSTRUCTION OR GRADING ACTIVITIES THAT MAY AFFECT THE DRIPLINE OF TREES TO BE PROTECTED.
14. THE COMMUNITY DEVELOPMENT DIRECTOR MAY IMPOSE CONDITIONS TO AVOID DISTURBANCE TO TREE ROOTS FROM GRADING ACTIVITIES AND TO PROTECT TREES AND OTHER SIGNIFICANT VEGETATION IDENTIFIED FOR RETENTION FROM HARM. SUCH CONDITIONS AY INCLUDE, IF NECESSARY, THE ADVISORY EXPERTISE OF A QUALIFIED CONSULTING ARBORIST OR HORTICULTURIST OR BOTH DURING AND AFTER SITE PREPARATION, AND A SPECIAL MAINTENANCE/MANAGEMENT PROGRAM TO PROVIDE PROTECTION TO THE RESOURCE AS RECOMMENDED BY THE ARBORIST OR HORTICULTURIST.
15. CHANGES IN SOIL HYDROLOGY DUE TO SOIL COMPACTION AND SITE DRAINAGE WITHIN TREE PROTECTION AREAS SHALL BE AVOIDED. DRAINAGE AND GRADING PLANS SHALL INCLUDE PROVISION TO ENSURE THAT DRAINAGE OF THE SITE DOES NOT CONFLICT WITH THE TREE PROTECTION REQUIREMENTS. EXCESSIVE SITE RUN–OFF SHALL BE DIRECTED TO APPROPRIATE STORM DRAINAGE FACILITIES AND AWAY FROM TREES DESIGNATED FOR PROTECTION.

Land Use Application

NOT FOR CONSTRUCTION

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MARK	DATE	DESCRIPTION

Sheet Title
TREE PROTECTION PLAN

Drawing No.
L1.01

Scale 1"=20'-0"

Date December 18, 2015

Project No. 104500

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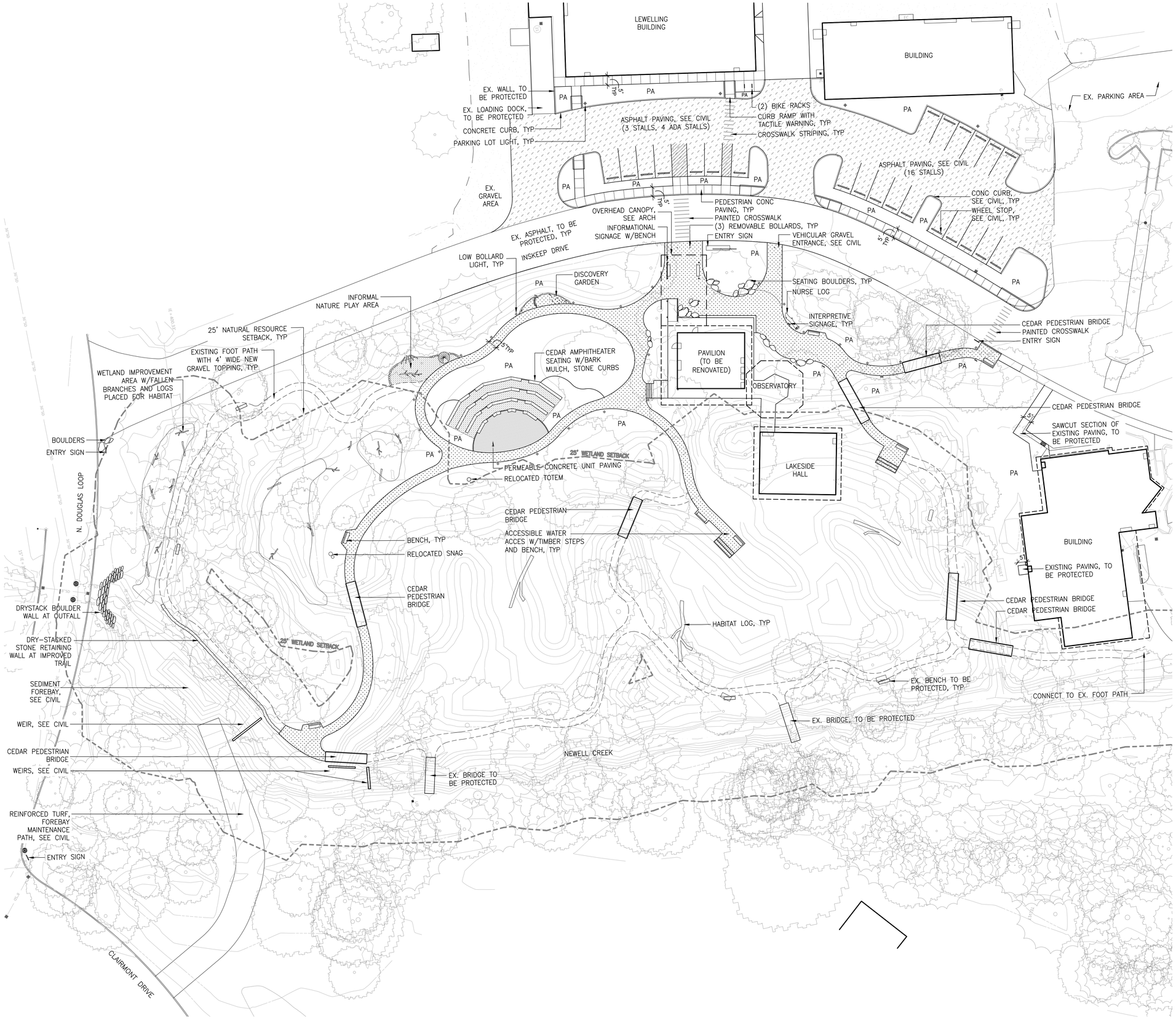


1. MATERIALS PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40'

LEGEND

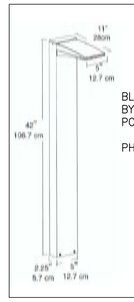
- 25' NATURAL RESOURCE SETBACK LINE
- EXISTING 4' TRAILS W/NEW GRAVEL ADDED
- CONCRETE CURB
- CONCRETE WHEELSTOP
- PEDESTRIAN CONCRETE PAVING
- PERMEABLE PEDESTRIAN CONCRETE UNIT PAVERS
- PERMEABLE COMPACTED GRAVEL ACCESSIBLE PATH
- BARK MULCH
- ASPHALT PAVING
- LOW BOLLARD LIGHT
- BENCH WITH BACK
- SEATING BOULDERS
- EXISTING DECIDUOUS TREE TO BE PROTECTED
- EXISTING CONIFEROUS TREE TO BE PROTECTED

ABBREVIATIONS

ARCH	ARCHITECTURAL
CONC	CONCRETE
DWG	DRAWINGS
ELEC	ELECTRICAL
MECH	MECHANICAL
NIC	NOT IN CONTRACT
PA	PLANTING AREA
SIM	SIMILAR
SPECS	SPECIFICATIONS
STRUC	STRUCTURAL
TYP	TYPICAL
W/	WITH

MATERIALS NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT EXISTING VEGETATION TO REMAIN. SEE SPECIFICATIONS FOR FENCING AND OTHER REQUIREMENTS.
3. SEE CIVIL DRAWINGS FOR GRADING PLAN AND LOCATION OF UTILITIES.



BLED13N LIGHT BOLLARD
BY RAB LIGHTING,
POWDERCOATED COLOR: BRONZE

PHOTOMETRICS:
1 FOOTCANDLE
7' IN FRONT
5' ON BOTH SIDES
NO LIGHT BEHIND FIXTURE
0.1 FOOTCANDLE:
9' IN FRONT
10' ON BOTH SIDES
NO LIGHT BEHIND FIXTURE

2 LOW BOLLARD LIGHT

Axon
NTS

Land Use Application

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MARK DATE DESCRIPTION

Sheet Title
MATERIALS PLAN

Drawing No.
L2.01

Scale 1"=20'-0"
Date December 18, 2015
Project No. 104500

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PLANT LEGEND

SEE SHEET L3.02 FOR PLANT SCHEDULE AND NOTES

- PLANTING ZONE 1
  ELEVATIONS ABOVE 398 IN RESTORATION ZONE
- PLANTING ZONE 2
  ELEVATIONS BTWN 396 AND 398
- PLANTING ZONE 3
  ELEVATIONS BTWN 395 AND 396
- PLANTING ZONE 4
  ELEVATIONS BELOW 395
- MEADOW PLANTING
- WETLAND PLANTING
- NATIVE ORNAMENTAL PLANTING
- PARKING AREA PLANTING
- STORMWATER PLANTING
  PER OREGON CITY STANDARDS

1. PLANTING PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40' N

Land Use Application

NOT FOR CONSTRUCTION

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MARK DATE DESCRIPTION

Sheet Title
PLANTING PLAN

Drawing No.
L3.01

Scale 1"=20'-0"
Date December 18, 2015
Project No. 104500

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PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/ CONDITION	SPACING
TREES				
	Acer circinatum	Vine Maple	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	AS SHOWN
	Alnus rubra	Red Alder	1/2" CAL./B&B	AS SHOWN
	Amelanchier alnifolia	Western Serviceberry	1.5" CAL./B&B	AS SHOWN
	Fraxinus latifolia	Oregon Ash	1/2" CAL./B&B	AS SHOWN
	Cornus 'Eddie's White Wonder'	Eddie's White Wonder Hybrid Dogwood	2" CAL./B&B	AS SHOWN
	Thuja plicata	Western Red Cedar	6' HT MIN/B&B	AS SHOWN
ADDITIONAL REQUIRED MITIGATION TREES				
In addition to the trees shown on the plan, to meet mitigation requirements, 15 Alnus Rubra, 15 Fraxinus latifolia, and 5 Arbutus menziesii in 1 gal containers will be located around the site under direction of the Landscape Architect.				
PLANTING ZONE 1 – ELS. ABOVE 398 IN RESTORATION ZONE				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	4LBS/ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	36" O.C.
	Physocarpus capitatus	Pacific Ninebark	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.
	Spiraea douglasii	Douglas spirea	#1/CONT.	36" O.C.
PLANTING ZONE 2 – ELEVATIONS BTWN 396 AND 398				
	Agrostis exarata	Spike Bentgrass	SEED	2LBS/ACRE
	Carex obnupta	Slough Sedge	PLUG	18" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	2LBS/ACRE
	Plagiobothrys figuratus	Fragrant Popcorn Flower	PLUG	18" O.C.
	Ranunculus scleratus	Cursed Buttercup	PLUG	18" O.C.
PLANTING ZONE 3 – ELEVATIONS BTWN 395 AND 396				
	Alisma gramineum	Narrow–leaf Water Plantain	PLUG	18" O.C.
	Juncus effusus	Lamp Rush	PLUG	18" O.C.
	Juncus ensifolius	Daggerleaf Rush	PLUG	18" O.C.
	Leersia oryzoides	Rice Cutgrass	PLUG	18" O.C.
	Polygonum coccineum	Water Smartweed	PLUG	18" O.C.
	Scirpus microcarpus	Small Fruited Bulrush	PLUG	18" O.C.
	Sparganium eurycarpum	Broadfruit Bur–reed	PLUG	18" O.C.
	Typha latifolia	Cattail	PLUG	18" O.C.
PLANTING ZONE 4 – ELEVATIONS BELOW 395				
	Callitriche stagnalis	Pond–water Starwort	PLUG	18" O.C.
	Potamogeton crispus	Curly Pondweed	PLUG	18" O.C.
	Schoenoplectus tabernaemontani	Soft–stem Clubrush	PLUG	18" O.C.
	Stuckenia pectinata	Sago Pondweed	PLUG	18" O.C.
	Utricularia macrorhiza	Greater Bladderwort	PLUG	18" O.C.

PLANT SCHEDULE CONT.

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/ CONDITION	SPACING
MEADOW PLANTING				
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF
WETLAND PLANTING				
	Festuca occidentalis	Western Fescue	SEED	12LBS/ ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	6' O.C.
	Physocarpus capitatus	Ninebark	#1/CONT.	6' O.C.
	Spiraea douglasii	Douglas Spirea	#1/CONT.	6' O.C.
NATIVE ORNAMENTAL PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	24" O.C.
	Aquilegia formosa	Western Columbine	#1/CONT.	24" O.C.
	Blechnum spicant	Deer Fern	#1/CONT.	24" O.C.
	Erigeron speciosus	Aspen Fleabane	#1/CONT.	24" O.C.
	Festuca idahoensis	Idaho Fescue	#1/CONT.	24" O.C.
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF
	Fragaria vesca	Woodland Strawberry	#1/CONT.	12" O.C.
	Iris douglasiana	Douglas Iris	#1/CONT.	24" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Mahonia repens	Creeping Mahonia	#2/CONT.	24" O.C.
	Oemleria cerasiformis	Indian Plum	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	72" O.C.
	Philadelphus lewisii	Wild Mock Orange	#5/CONT.	42" O.C.
	Phlox adsurgens	Northern Phlox	#1/CONT.	24" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Sedum lanceolatum	Lanceleaf Stonecrop	#1/CONT.	12" O.C.
	Sedum oreganum	Oregon Stonecrop	#1/CONT.	12" O.C.
	Trillium ovatum	Trillium	#1/CONT.	24" O.C.
PARKING AREA PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	12" O.C.
	Gaultheria shallon	Salal	#1/CONT.	36" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Vaccinium ovatum	Evergreen Huckleberry	#3/CONT.	36" O.C.
STORMWATER PLANTING – PER OREGON CITY STANDARDS				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Eleocharis ovata	Ovate Spike Rush	#1/CONT.	12" O.C.
	Fragaria chiloensis	Coast Strawberry	SP#4/CONT.	12" O.C.
	Juncus patens	Spreading Rush	#1/CONT.	12" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Rosa pisocarpa	Swamp Rose	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.

ABBREVIATIONS

B&B	BALLED & BURLAPPED
CAL	CALIPER
CONT	CONTAINER
CON	CONIFER
DECID	DECIDUOUS
DIA	DIAMETER
DBH	DIAMETER AT BREAST HEIGHT
EQ	EQUAL
EX	EXISTING
HT	HEIGHT
MIN	MINIMUM
MAX	MAXIMUM
NO	NUMBER
O.C.	ON CENTER
SIM	SIMILAR
SL	SEEDED LAWN
SPECS	SPECIFICATIONS
TYP	TYPICAL
#	CONTAINER SIZE

PLANTING NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT EXISTING VEGETATION TO REMAIN; SEE SPECIFICATION SECTION 01565 FOR FENCING AND OTHER REQUIREMENTS.
3. ALL PLANT MATERIAL SHALL BE NURSERY GROWN, WELL ROOTED, AND WELL BRANCHED. ALL TREES MUST BE FREE OF INSECTS, DISEASES, MECHANICAL INJURY, AND OTHER OBJECTIONABLE FEATURES WHEN PLANTED. ALL PLANT MATERIAL SHALL CONFORM TO "AMERICAN STOCK STANDARDS" LATEST EDITION.
4. ALL PLANT MATERIAL TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SEE SPECIFICATIONS.
5. PLANT SPACING SHALL TAKE PRECEDENCE OVER VALVE BOX LOCATIONS. INSTALLED VALVE BOXES THAT CONFLICT WITH ACCEPTED PLANT LAYOUT SHALL BE MOVED TO POSITION BETWEEN PLANTS.
6. CLEAR PLANT BEDS OF ALL GRAVEL AND DEBRIS PRIOR TO SOIL PREPARATION AND PLANTING, FOR APPROVAL BY LANDSCAPE ARCHITECT.
7. ALL LANDSCAPE AREAS THAT HAVE A SLOPE GREATER THAN 1 VERTICAL FOOT IN 3 HORIZONTAL FEET SHALL RECEIVE JUTE MATTING, SEE SPECIFICATIONS.
8. ALL PLANTING AREAS ADJACENT TO NEW PARKING AREAS ARE TO BE IRRIGATED WITH A PERMANENT AUTOMATIC IRRIGATION SYSTEM. ALL AREAS WITHIN THE EXISTING ELC ARE TO BE IRRIGATED WITH TEMPORARY ABOVE–GROUND IRRIGATION FOR A PERIOD OF 3 YEARS MINIMUM.
9. ALL PARKING LOT AND STREET TREES MUST HAVE 6' CLEAR HEIGHT TO LOWEST BRANCHES.

TREE REMOVAL TABLE

EX TREE#	TYPE	DBH	REQUIRED TREE REPLACEMENT	REQUIRED SHRUB REPLACEMENT
18	DECID	12"	2	3
20	DECID	12"	2	3
186	DECID	12"	2	3
188	DECID	14"	3	6
201	DECID	14"	3	6
204	DECID	12"	2	3
209	CONIF	21"	5	12
253	DECID	12"	2	3
256	DECID	12"	2	3
257	DECID	8"	2	3
258	CONIF	14"	3	6
260	DECID	6"	2	3
265	DECID	11"	2	3
266	DECID	8"	2	3
267	DECID	17"	3	6
268	DECID	9"	2	3
269	DECID	12"	2	3
280	DECID	10"	2	3
281	DECID	6"	2	3
284	DECID	6"	2	3
304	DECID	8"	2	3
305	CONIF	12"	2	3
306	DECID	6"	2	3
307	DECID	17"	3	6
308	DECID	11"	2	3
323	DECID	18"	3	6
324	DECID	7"	2	3
569	DECID	18"	3	6
573	CONIF	20"	5	12
574	DECID	16"	3	6
593	DECID	13"	3	6
595	DECID	6"	2	3
596	DECID	8"	2	3
812	DECID	6"	2	3
824	DECID	6"	2	3

TOTAL TREES TO BE REMOVED: 35
PROPOSED MITIGATION TREES: 70 DECIDUOUS, 15 CONIFEROUS
PROPOSED MITIGATION SHRUBS: 150

CODE REQUIREMENTS
INTERIOR PARKING LOT LANDSCAPING

1 TREE PER 6 PARKING STALLS

GROUNDCOVER OR SHRUBS
TO COVER 100% OF LANDSCAPED AREA WITHIN 3 YEARS

Land Use Application

NOT FOR CONSTRUCTION

Consultant
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Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
PLANTING SCHEDULE AND NOTES

Drawing No.
L3.02

Scale 1"=20'-0"

Date December 18, 2015

Project No. 104500

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IRRIGATION LEGEND

- NATIVE ORNAMENTAL PLANTING
  RAINBIRD DRIP LINE, PERMANENT
- MEADOW PLANTING
  MP ROTATORS, PERMANENT
- PARKING LOT PLANTERS
  MP ROTATORS, PERMANENT
- HABITAT RESTORATION/
  WATER QUALITY ENHANCEMENT
  MP ROTATORS, TEMPORARY

IRRIGATION NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. WATER SUPPLY POINT OF CONNECTION: A NEW IRRIGATION SERVICE LATERAL TO BE LOCATED OFF THE WATER MAIN IN INSKEEP DRIVE, SEE CIVIL.
3. PRIOR TO COMMENCEMENT OF ANY IRRIGATION WORK, VERIFY MINIMUM FLOW RATE OF 25 GPM AND MINIMUM DYNAMIC (WORKING) PRESSURE OF 55 PSI WHEN FLOWING AT 25 GPM AT THE POINT OF CONNECTION.
4. PROVIDE SLEEVES UNDER ALL PAVED AREAS FOR IRRIGATION MAINLINE AND LATERALS.
5. NO TRENCHING UNDER DRIPLINE OF EXISTING PLANTING TO BE PROTECTED.
6. PLACE ALL VALVES IN VALVE BOXES AND IN A MANNER THAT FACILITATES ACCESS FOR MAINTENANCE. SIZE BOXES TO ACCOMMODATE COMPLETE VALVE ASSEMBLY. MAINTAIN MIN. 4" BETWEEN VALVE BOXES AND PAVEMENT.
7. PERMANENT IRRIGATION AREAS TO BE UNDERGROUND. TEMPORARY IRRIGATION AREAS TO USE ABOVE-GROUND LATERALS AND SPRAY HEADS, WITH UNDERGROUND MAINLINE THAT IS TO BE REMOVED AFTER 2 YEARS.

1. IRRIGATION ZONING PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40' N

Land Use Application

NOT FOR CONSTRUCTION

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MARK DATE DESCRIPTION

Sheet Title
IRRIGATION ZONING PLAN

Drawing No.
L4.01

Scale 1"=20'-0"
Date December 18, 2015
Project No. 104500

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Existing Conditions

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Scale

Date December 18, 2015

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KEY NOTES

(XX)

01 SEDIMENT FOREBAY (Habitat Enhancement

02 REMOVE AND REPLACE CONCRETE WEIR, (Habitat Enhancement

03 NEW CONCRETE WEIR (Habitat Enhancement)

04 GRADING FOR HABITAT ENHACEMENT

05 ENHANCED WETLAND AREAS

NOTE:
SEE FIGURES 6A AND 6B FOR DETAILED SITE PLANS AND FIGURE 9A FOR CROSS SECTIONS OF BERMS AND FOREBAY.

SHEET LEGEND

- PROPERTY LINE
- BOTTOM OF DITCH
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- DELINEATED WETLAND
- ORDINARY HIGH WATER
- WATERS OF THE STATE / US
- PROPOSED DEVELOPMENT (NOT EXEMPT) (7,942 SF)
- EXISTING DEVELOPMENT (EXEMPT FROM REVIEW PURSUANT TO SECTION 17.48.080J (7,707 SF)
- DEVELOPMENT REMOVAL (6,860 SF)
- NROD BOUNDARY

Proposed Development within the ELC

Improvements	Exempt	Redeveloped Area (Mitigation not Required)	New Development (Mitigation Required)
	Square Feet		
Habitat Enhancement	25,000	0	0
Entry Pavilion	0	285	184
Trail System	0	6,978	5,465
Amphitheater	0	237	379
New Access Road	0	207	1,322
New Trails	0		592
Totals	**25,000**	**7,707**	**7,942**

Development Removal: 6,860

Includes: Abandoned hatchery structure, impervious surface associated with the old Smucker's facility, several concrete retaining walls, existing trail segments not included in the proposed trail plan, three existing pedestrian bridges, and other existing structures and impervious surfaces.

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MARK	DATE	DESCRIPTION

Sheet Title
Proposed Site Plan

Drawing No.
LU1.02

Scale

Date December 23, 2015

Project No. 104500

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SHEET NOTES

1. CONTRACTOR MAY STAGE WITHIN LIMITS OF DEMOLITION AND PAVED STAGING AREA INDICATED ON EC1.20.
2. REMOVE ALL SITE COMPONENTS AND RECYCLE COMPONENTS AS REQUIRED IN THE SPECIFICATIONS.
3. GENERAL DEMOLITION PERMIT SHALL BE SECURED BY THE CONTRACTOR.
4. ALL TRADE LICENSES AND PERMITS NECESSARY FOR THE PROCUREMENT AND COMPLETION OF THE WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING DEMOLITION.
5. THE CONTRACTOR SHALL PRESERVE AND PROTECT FROM DAMAGE ALL EXISTING RIGHT-OF-WAY SURVEY MONUMENTATION DURING DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PAYING FOR THE REPLACEMENT BY A LICENSED SURVEYOR OF ANY DAMAGED OR REMOVED MONUMENTS.
6. PROTECT ALL ITEMS ON ADJACENT PROPERTIES AND IN THE RIGHT OF WAY INCLUDING BUT NOT LIMITED TO SIGNAL EQUIPMENT, PARKING METERS, SIDEWALKS, STREET TREES, STREET LIGHTS, CURBS, PAVEMENT AND SIGNS. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY DAMAGED ITEMS TO ORIGINAL CONDITION.
7. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, AND OTHER FACILITIES IMMEDIATELY ADJACENT TO EXCAVATIONS FROM DAMAGES CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS.
8. SAWCUT STRAIGHT LINES IN SIDEWALK, AS NECESSARY.
9. CONTRACTOR IS RESPONSIBLE TO CONTROL DUST AND MUD DURING THE DEMOLITION PERIOD, AND DURING TRANSPORTATION OF DEMOLITION DEBRIS. ALL STREET SURFACES OUTSIDE THE CONSTRUCTION ZONE MUST BE KEPT CLEAN.
10. ALL EXPOSED PORTIONS OF UNDERGROUND UTILITIES TO BE ABANDONED SHALL BE PLUGGED PER DETAIL X/CXXX.
11. SEE LANDSCAPE PLANS FOR TREE PROTECTION AND ADDITIONAL VEGETATION REMOVAL.

⟨X⟩ DEMOLITION KEY NOTES

20 REMOVE BENCH (116 SF)
21 REMOVE STORM DRAIN VAULT (91 SF)
22 REMOVE BUILDING/STRUCTURE (446 SF)
23 REMOVE PED. FOOTBRIDGE (336 SF PERMANENT REMOVAL)
24 REMOVE WALL (114 SF)
25 REMOVE CONCRETE WIER
26 SAWCUT LINE AND REMOVE ASPHALT
27 REMOVE EXISTING UNDERGROUND ELECTRICAL SERVICE.
28 REMOVE CATCH BASIN
29 MONUMENTATION (BRASS SCREW) IN AREA TO BE RECONSTRUCTED. SEE GENERAL NOTES ON SHEET C0.20.
30 REMOVE STORM PIPE
31 REMOVE CONCRETE CHANNEL (208 SF)
32. REMOVE PUMP HOUSE (11 SF)
33. REMOVE UTILITY CROSSING
34. REMOVE SEDIMENT AND LAYOUT TO DRY AND REUSE. COORDINATE WITH THE OWNER FOR THE STORAGE LOCATION.
35. REMOVE CONCRETE WALKWAY
36. REMOVE HAZARDOUS WASTE STORAGE BUILDING DEVELOPMENT AREA (3,069 SF) INCLUDES CONCRETE WALKWAY.

⟨X⟩ PROTECTION KEY NOTES

40 PROTECT VAULT
41 PROTECT PED. FOOTBRIDGE
42 PROTECT UNDERGROUND UTILITIES
43 PROTECT TREE
44 PROTECT MONUMENTATION
45 PROTECT WALL
46 PROTECT AREAS OF CONCRETE WALKWAY TO REMAIN, SEE LANDSCAPING SHEETS

SHEET LEGEND

PROPERTY LINE
ORDINARY HIGH WATER
DEMOLITION/WORK LIMITS
SAWCUT LINE
REMOVE OR ABANDON UTILITY LINE IN PLACE
TREES REMOVED WITHIN BUFFER (23)

(X) EROSION CONTROL KEY NOTES

1 INSTALL SEDIMENT FENCE
2 STABILIZED CONSTRUCTION ENTRANCE
3 TEMPORARY WHEEL WASH
4 INSTALL INLET PROTECTION OVER EXISTING INLET
5 INSTALL INLET PROTECTION OVER NEW INLET
6 INSTALL GRAVEL BAG BARRIER
7 INSTALL BIO FILTER BAG SEDIMENT BARRIER
8 STRAW WATTLES
9 INSTALL DE-WATERING SUMP WITH SURFACE MOUNTED DISCHARGE LINE
10 PORTABLE BAKER TANK, OR APPROVED EQUAL TO TREAT PUMPED WATER PRIOR TO CREEK DISCHARGE
11 FENCED CONTRACTOR STAGING AREA

Table 1: Species, diameter, and quality of trees to be removed from the NROD

Tree ID	Species	Diameter (inches)	Condition
186	Big-leaf maple (Acer macrophyllum)	12	Good
188*	Norway maple (Acer platanoides)	14	Good
201**	American sweetgum (Liquidambar styraciflua)	14	Good
204**	Big-leaf maple (Acer macrophyllum)	12	Good to fair
209**	Scots pine (Pinus sylvestris)	21	Good to fair
253	Birch (Betula species)	12	Fair to poor
260	Apple (Malus species)	6	Good
265	Cherry (Prunus species)	11	Fair to poor
266	Cherry (Prunus species)	8	Fair
267	Oak (Quercus species)	17	Fair
280	Maple (Acer species)	10	Good
281**	Cottonwood (Populus species)	6	Good
284	Maple (Acer species)	6	Good
306**	Red maple (Acer rubrum)	8	Good
323**	Big-leaf maple (Acer macrophyllum)	18	Good
324**	Alder (Alnus species)	7	Good
569**	Big-leaf maple (Acer macrophyllum)	18	Good
573**	Douglas-fir (Pseudotsuga menziesii)	20	Good
574*,**	Norway maple (Acer platanoides)	16	Good
593**	Red alder (Alnus rubra)	13	Good
595**	Red alder (Alnus rubra)	6	Good
596**	Alder (Alnus species)	8	Good
812**	Willow (Salix species)	6	Good
824**	Cottonwood (populus species)	6	Good

**Tree is on the Oregon City Nuisance Plant. Removal does not require mitigation per 17.49.100.A*

***Tree removed as part of the habitat enhancement project. Removal does not require mitigation per 17.49.[0]80*

Land Use Application

NOT FOR CONSTRUCTION

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MARK	DATE	DESCRIPTION

Sheet Title
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Drawing No.
LU1.03

Scale

Date December 18, 2015

Project No. 104500

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PLANTING NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT EXISTING VEGETATION TO REMAIN; SEE SPECIFICATION SECTION 01565 FOR FENCING AND OTHER REQUIREMENTS.
3. ALL PLANT MATERIAL SHALL BE NURSERY GROWN, WELL ROOTED, AND WELL BRANCHED. ALL TREES MUST BE FREE OF INSECTS, DISEASES, MECHANICAL INJURY, AND OTHER OBJECTIONABLE FEATURES WHEN PLANTED. ALL PLANT MATERIAL SHALL CONFORM TO "AMERICAN STOCK STANDARDS" LATEST EDITION.
4. ALL PLANT MATERIAL TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SEE SPECIFICATIONS.
5. PLANT SPACING SHALL TAKE PRECEDENCE OVER VALVE BOX LOCATIONS. INSTALLED VALVE BOXES THAT CONFLICT WITH ACCEPTED PLANT LAYOUT SHALL BE MOVED TO POSITION BETWEEN PLANTS.
6. CLEAR PLANT BEDS OF ALL GRAVEL AND DEBRIS PRIOR TO SOIL PREPARATION AND PLANTING, FOR APPROVAL BY LANDSCAPE ARCHITECT.
7. ALL LANDSCAPE AREAS THAT HAVE A SLOPE GREATER THAN 1 VERTICAL FOOT IN 3 HORIZONTAL FEET SHALL RECEIVE JUTE MATTING, SEE SPECIFICATIONS.
8. ALL PLANTING AREAS ADJACENT TO NEW PARKING AREAS ARE TO BE IRRIGATED WITH A PERMANENT AUTOMATIC IRRIGATION SYSTEM. ALL AREAS WITHIN THE EXISTING ELC ARE TO BE IRRIGATED WITH TEMPORARY ABOVE-GROUND IRRIGATION FOR A PERIOD OF 3 YEARS MINIMUM.
9. ALL PARKING LOT AND STREET TREES MUST HAVE 6' CLEAR HEIGHT TO LOWEST BRANCHES.

NOTE:
THE PROPOSED PLANTING PLAN WAS DESIGNED TO MEET THE STANDARDS OF SECTION 17.41 (TREE PROTECTION STANDARDS), 17.49 (NATURAL RESOURCE OVERLAY DISTRICT), AND OTHER APPLICABLE LANDSCAPE PLAN STANDARDS. PLANTING WITHIN WETLANDS OR WATERS WILL BE REVIEWED BY THE DEPARTMENT OF STATE LANDS AND THE U.S. ARMY CORPS OF ENGINEERS.

PLANT LEGEND

- PLANTING ZONE 1 (15,238 SF) ELEVATIONS ABOVE 398 IN RESTORATION ZONE
- PLANTING ZONE 2 ELEVATIONS BTWN 396 AND 398
- PLANTING ZONE 3 ELEVATIONS BTWN 395 AND 396
- PLANTING ZONE 4 ELEVATIONS BELOW 395
- MEADOW PLANTING
- WETLAND PLANTING
- NATIVE ORNAMENTAL PLANTING
- PARKING AREA PLANTING
- STORMWATER PLANTING PER OREGON CITY STANDARDS

ABBREVIATIONS

B&B	BALLED & BURLAPPED
CAL	CALIPER
CONT	CONTAINER
CON	CONIFER
DECID	DECIDUOUS
DIA	DIAMETER
DBH	DIAMETER AT BREAST HEIGHT
EQ	EQUAL
EX	EXISTING
HT	HEIGHT
MIN	MINIMUM
MAX	MAXIMUM
NO	NUMBER
O.C.	ON CENTER
SIM	SIMILAR
SL	SEEDED LAWN
SPECS	SPECIFICATIONS
TYP	TYPICAL
#	CONTAINER SIZE

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/ CONDITION	SPACING
TREES				
	Acer circinatum	Vine Maple	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	AS SHOWN
	Alnus rubra	Red Alder	1/2" CAL./B&B	AS SHOWN
	Amelanchier alnifolia	Western Serviceberry	1.5" CAL./B&B	AS SHOWN
	Fraxinus latifolia	Oregon Ash	1/2" CAL./B&B	AS SHOWN
	Cornus 'Eddie's White Wonder'	Eddie's White Wonder Hybrid Dogwood	2" CAL./B&B	AS SHOWN
	Thuja plicata	Western Red Cedar	6' HT MIN/B&B	AS SHOWN
ADDITIONAL REQUIRED MITIGATION TREES				
To Meet mitigation requirements, a minimum of 79 trees in one gallon containers and 397 shrubs (Minimum 12" height) will be planted around the site under direction of the Landscape Architect.				
PLANTING ZONE 1 – ELS. ABOVE 398 IN RESTORATION ZONE				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	4LBS/ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	36" O.C.
	Physocarpus capitatus	Pacific Ninebark	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.
	Spiraea douglasii	Douglas spirea	#1/CONT.	36" O.C.
PLANTING ZONE 2 – ELEVATIONS BTWN 396 AND 398				
	Agrostis exarata	Spike Bentgrass	SEED	2LBS/ACRE
	Carex obnupta	Slough Sedge	PLUG	18" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	2LBS/ACRE
	Plagiobothrys figuratus	Fragrant Popcorn Flower	PLUG	18" O.C.
	Ranunculus sceleratus	Cursed Buttercup	PLUG	18" O.C.
PLANTING ZONE 3 – ELEVATIONS BTWN 395 AND 396				
	Alisma gramineum	Narrow–leaf Water Plantain	PLUG	18" O.C.
	Juncus effusus	Lamp Rush	PLUG	18" O.C.
	Juncus ensifolius	Daggerleaf Rush	PLUG	18" O.C.
	Leersia oryzoides	Rice Cutgrass	PLUG	18" O.C.
	Polygonum coccineum	Water Smartweed	PLUG	18" O.C.
	Scirpus microcarpus	Small Fruited Bulrush	PLUG	18" O.C.
	Sparganium eurycarpum	Broadfruit Bur–reed	PLUG	18" O.C.
	Typha latifolia	Cattail	PLUG	18" O.C.
PLANTING ZONE 4 – ELEVATIONS BELOW 395				
	Callitriche stagnalis	Pond–water Starwort	PLUG	18" O.C.
	Potamogeton crispus	Curly Pondweed	PLUG	18" O.C.
	Schoenoplectus tabernaemontani	Soft–stem Clubrush	PLUG	18" O.C.
	Stuckenia pectinata	Sago Pondweed	PLUG	18" O.C.
	Utricularia macrorhiza	Greater Bladderwort	PLUG	18" O.C.
MEADOW PLANTING				
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF
WETLAND PLANTING				
	Festuca occidentalis	Western Fescue	SEED	12LBS/ ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	6' O.C.
	Physocarpus capitatus	Ninebark	#1/CONT.	6' O.C.
	Spiraea douglasii	Douglas Spirea	#1/CONT.	6' O.C.
NATIVE ORNAMENTAL PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	24" O.C.
	Aquilegia formosa	Western Columbine	#1/CONT.	24" O.C.
	Blechnum spicant	Deer Fern	#1/CONT.	24" O.C.
	Erigeron speciosus	Aspen Fleabane	#1/CONT.	24" O.C.
	Festuca idahoensis	Idaho Fescue	#1/CONT.	24" O.C.
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF
	Fragaria vesca	Woodland Strawberry	#1/CONT.	12" O.C.
	Iris douglasiana	Douglas Iris	#1/CONT.	24" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Mahonia repens	Creeping Mahonia	#2/CONT.	24" O.C.
	Oemleria cerasiformis	Indian Plum	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	72" O.C.
	Philadelphus lewisii	Wild Mock Orange	#5/CONT.	42" O.C.
	Phlox adsurgens	Northern Phlox	#1/CONT.	24" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Sedum lanceolatum	Lanceleaf Stonecrop	#1/CONT.	12" O.C.
	Sedum oreganum	Oregon Stonecrop	#1/CONT.	12" O.C.
	Trillium ovatum	Trillium	#1/CONT.	24" O.C.
PARKING AREA PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	24" O.C.
	Gaultheria shallon	Salal	#1/CONT.	36" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Vaccinium ovatum	Evergreen Huckleberry	#3/CONT.	36" O.C.
STORMWATER PLANTING – PER OREGON CITY STANDARDS				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Eleocharis ovata	Ovate Spike Rush	#1/CONT.	12" O.C.
	Fragaria chiloensis	Coast Strawberry	SP#4/CONT.	12" O.C.
	Juncus patens	Spreading Rush	#1/CONT.	12" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Rosa pisocarpa	Swamp Rose	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.

0 30 60 120
SCALE IN FEET

Land Use Application

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MARK	DATE	DESCRIPTION

Sheet Title
Proposed Site Plan

Drawing No.
LU1.04

Scale

Date December 23, 2015

Project No. 104500

Stormwater Management Report

for

Clackamas Community College Environmental Learning Center Site Restoration

Oregon City, Oregon 97045

Prepared For:
Clackamas Community College
19600 Molalla Avenue
Oregon City, OR 97045

Prepared by: Dustin Elmore, PE

KPFF Consulting Engineers
111 SW Fifth Avenue, Suite 2500
Portland, OR 97204

Project Engineer: Paul Dedyo, PE

September 23, 2015

KPFF Project No. 314175

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I. Project Overview and Description 1

II. Proposed Onsite Improvements 2

III. Stormwater Basin Conditions 4

IV. Analysis 6

V. Engineering Conclusions 9

VI. Exhibits 9

Appendix 1: Basin Calculations

Appendix 2: Weir Design

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I. Project Overview and Description

This storm report has been prepared to outline the existing stormwater conditions and proposed design for management of runoff flowing to the John Inskeep Environmental Learning Center (ELC) site. The report also outlines the management and treatment of runoff from new impervious surfaces associated with the ELC enhancement project in accordance with the 2014 Oregon City Stormwater and Grading Design Manual (OC Stormwater Manual).

The existing ELC facility includes two ponds located west of Newell Creek that provide wetland habitat and passive water quality treatment for a portion of the drainage flowing to the headwaters of Newell Creek. This project will redevelop and enhance the existing ELC ponds that were once considered a state-of-the-art stormwater management system, but have since been overrun with invasive plants and no longer function effectively. There are also site improvements associated with the project to enhance the quality of the wetland and habitat resources, reorganize pathways around the ELC, provide water access platforms, add parking, improve pedestrian circulation, and accommodate passive recreation and education opportunities.

The site is located within the Clackamas Community College campus at the headwaters of Newell Creek. The site is at the north end of campus and is bordered by Inskeep Drive to the west, S Beavercreek Road to the northeast, and N Douglas Loop to the south. The total project site is approximately 5-acres and consists mostly of forest land with wetlands and manmade trails running throughout the site. The site is also at the headwater of Newell Creek, with the initial channel running north along the east border of the site, which bypasses the ELC facility. The site generally slopes from south to north, to a 42-inch pipe that passes under Beavercreek Road to lower reaches of Newell Creek. See Exhibit 1 – Site Survey for additional existing conditions information.

The proposed modifications to the ELC site will improve the quality of water flowing offsite and into Newell Creek. The modifications include excavation of sediment from the ponds; creation of east-west oriented berms within the ponds that will be planted, and which will allow shading and cooling of water; improvements to the drainage channel connected to the parking lot west of the site; and improvements to existing weirs to direct the flow of water through the pond system or a high flow bypass down the existing upper reach of Newell Creek. Fine grading of the ponds will create benches at appropriate depths to establish a variety of emergent and submergent plant communities to improve the water quality.

As part of the site improvements, an existing gravel area west of Inskeep Drive will be paved with asphalt to establish a more formal parking area at the main entry to the ELC. Some grading will be required to provide ADA accessible stalls and a new concrete sidewalk. Runoff from this new impervious surface will be captured and treated with a vegetated stormwater facility prior to discharging to the ELC. See Exhibit 2 – Site Plan for additional information on the proposed improvements.

II. Proposed Onsite Improvements

ELC Facility

Strictly related to stormwater management, the primary goal of the ELC project is to enhance the passive water quality treatment of runoff through the wetland facility by removing accumulated sediment, replacing weirs to divert drainage appropriately, adding berms to elongate the travel path and residence time for flows, and to support both submerged and bank vegetation for shading and filtering of drainage to capture and adsorb targeted pollutants.

Among many other goals, the project also aspires to improve the natural habitat function and provide access for recreation and education opportunities. New or improved pathways will route visitors through the natural areas or to various view points, and allow access to platforms near the water's edge for classes or workshop participants with the education programming.

The ELC improvements will preserve existing vegetation and grades along banks of the current ponds where viable to mitigate impacts to the existing natural resource. Proposed berms will blend into the existing grades with new native plantings to enhance the resource. Five existing weir structures will be removed as part of the regrading, and five new weir structures will be installed to modify the hydraulic performance of the facility.

Four new weir structures will be installed in Newell Creek. Three will replace existing weirs, while one will be new. The new weir will be constructed toward the upstream end of Newell Creek to retain water in a proposed forebay. The channel will be excavated upstream of this weir to widen the channel and establish a pool approximately 4-feet deep. This standing pool of water behind the weir causes the inflow to slow down and promotes larger sediment particles to settle out of the runoff. There were some rock filled gabion boxes placed in the creek years ago to serve a similar function, but accumulated sediment and lack of maintenance has reduced the continued effectiveness. The base of the forebay will be lined with pavers or pavement to provide a firm subbase to facilitate sediment removal with an excavator after significant storm events or as part of routine maintenance. A new stabilized corridor will also be provided to allow access to the forebay by maintenance equipment.

The other three weirs to be replaced include one at the inlet to the ELC facility to restrict peak flows entering during larger storm events, one within Newell Creek located just past the facility inlet for high flow bypass to the existing creek, and one north of the ELC at a fork in Newell Creek with a high flow bypass that diverts lower flows to a more winding channel. The two weirs located near the ELC inlet work together to divert low flows into the facility while allowing larger storm events to continue down Newell Creek.

In addition to the flow diversion weirs mentioned above, a weir is proposed at the outlet of the ELC facility to establish a permanent pool and restrict the discharge. All of the weirs can be calibrated to allow inflow and release rates to be monitored for educational opportunities.

Grading of the facility includes both shallow benches to support submerged plant growth and treatment, as well as deeper ponds located throughout the length of the channel to provide a

varied habitat and regulate some heat gain. See Exhibit 2 – Site Plan and Exhibit 3 – Grading Plan for additional facility layout information.

Additional Onsite Improvements

In coordination with the storm facility grading and planting improvements, the Habitat Restoration and Water Quality Enhancement/Education Project will redevelop a number of areas throughout the site for new parking and improved access by visitors, expanded outdoor classroom and event space, new pedestrian bridges, and new circulation pathways. These improvements and stormwater implications are outlined below.

Existing and Improved Portions of Inskeep Drive

Surface runoff from the existing Inskeep Drive will be collected by new catch basin structures located in the gutter and conveyed to a proposed vegetated swale. The swale will be adequately sized to treat drainage from the water quality storm event and capacity to convey the 25-year flows. Since this is existing impervious surface, no detention will be required. The swale enters the new ELC facility along the northwest edge of the site.

New Parking Stalls

Surface runoff from the new asphalt parking stalls and associated access drive aisle west of Inskeep Drive will be collected by sheet flow into a vegetated stormwater swale and vegetated flow-through basin. The vegetated facilities will be adequately sized to treat drainage from the water quality storm event. The improvements have zero net change in impervious area since the existing surface is asphalt and gravel. While no detention will be required, there will be some attenuation of flows during smaller storm events as the runoff collects and percolates in the flow-through basin. Filtered drainage and overflow from these facilities will discharge to a conveyance line that discharges to the same swale noted above that enters the new ELC facility.

New Entry Pavilion

Rain downspouts from the new entry pavilion roof will be conveyed in a shallow swale or pipe to the same vegetated swale noted above that enters the new ELC facility. The new roof will be approximately 1,000 square-feet; however, there are currently no provisions to provide detention for this new impervious area. There are other areas within the project where impervious surfaces are being removed and the project will be evaluated to establish the overall net change when submitting for building permit. Appropriate detention strategies can be implemented at that time if required.

ELC Pathways, Bridges, Amphitheater and Plantings

The grades throughout the ELC visitor areas will direct runoff by sheet flow to shallow swales or into planted areas. The drainage will either percolate into the planting soil or ultimately flow into the ELC facility. The landscape plan illustrates the use of permeable trail materials that mitigates the extent of surface runoff. No additional water quality treatment or detention facilities are required to manage runoff from permeable surfaces.

III. Stormwater Basin Conditions

The drainage basin analysis is based on City of Oregon City GIS mapping, utility mapping, LIDAR survey, field observations and USGS mapping. Additional reference materials were also used which include the Oregon City Drainage Master Plan by OTAK (1988), Clackamas Community College Storm Drainage Facilities Supplementary Analysis of Conditional Use Application by MSA (2002), and IGA Compliance Study by David Evans and Associates (2005) that assessed drainage contributed from the Oregon City High School property.

The basin analysis in this report looks at both the ELC facility and the newly developed impervious areas. The catchment areas contributing runoff to the headwaters of Newell Creek will be referred to as the Overall ELC Basins, while the drainage from the new improvements will be referred to as the Onsite Basins. The analysis for the Overall ELC Basins flowing to the ELC will inform the design of flow diversion weirs, ditch and channel sections, as well as evaluate the capacity of the ELC facility to manage contributing flows. The analysis for the new impervious Onsite Basin areas will inform the sizing of water quality treatment measures applied in accordance with the OC Stormwater Manual.

Stormwater runoff from the overall ELC basins comes from surrounding areas which include, but are not limited to the CCC campus, Oregon City High School and the S Beavercreek Road right-of-way. The total contributing runoff area is approximately 7,660,430 square-feet (175.9-acre). The catchment area is split between industrial/school zoning and open green space. The soil conditions within the contributing area have mostly moderately low percolation rates with areas to the south adjacent to S Beavercreek Road having very low percolation rates leading to higher runoff potential. See Exhibit 4 – Overall ELC Basin Map for additional contributing basin information and Exhibit 5 – Overall Soil Map for soil type and soil percolation information.

Stormwater runoff from new Onsite Basin impervious surfaces must be managed and treated prior to release downstream as noted above. These areas are limited to the new asphalt parking lot, some pedestrian pathways and plazas, and a new entry pavilion. Although these subbasins are identified separately below, they are encompassed within the basin parameters of Overall Basins 0 & 2 that flow into the ELC. See Exhibit 6 – Onsite Basin Map for new impervious areas proposed with the project.

Overall ELC Basins

The peak flow rates from the contributing Overall ELC Basins were determined using the Santa Barbara Urban Hydrograph (SBUH) method of analysis in compliance with City of Oregon City standards. The calculations were completed using the AutoCAD Storm and Sanitary Analysis program with input parameters obtained from review of mapping and field observations, including the basin size and time of concentration. Soil group and zoning maps were used along with Tables H-2 and H-3 of the OC Stormwater Manual to determine the approximate CN value for each basin. Weighted CN values were developed where soil groups and land uses were mixed as identified below for both existing and future full buildout conditions. Precipitation values for modelled storm events were obtained from the OC Stormwater Manual. Input information for the Overall ELC Basins is summarized below in Table 3.1.

TABLE 3.1: Overall ELC Basin Input Properties

Basin	Area (acre)	Soil Group	Existing Development Conditions*	Future Development Conditions*	Tc (min.)	Existing CN	Future CN
0	2.36	B	50% GOS-50% Imp	50% GOS-50% Imp	10.00	84	84
1	8.37	B	50% Ind-50% POS	Ind	13.87	84	88
2	2.38	B	50% Rd- 50% POS	Ind	12.27	84	88
3	27.83	B	50% Rd- 50% FOS	Ind	24.90	83	88
4	11.01	B	GOS	GOS	57.04	61	61
5	21.42	B	Ind	Ind	22.33	88	88
6	37.99	B/D	50% Ind-50% GOS	Ind	20.01	83	88
7	30.04	B/D	GOS	Ind/County	27.38	74	89
8	40.88	B/D	50% Ind-50% GOS	SFD/School	17.93	83	83

*GOS = Good Open Surface; FOS = Fair Open Surface; POS = Poor Open Surface; Imp = Impervious surface; Rd = Road; Ind = Industrial.

For the purpose of this analysis, only the flow rates under future development conditions were used to evaluate the hydraulic performance of the ELC facility. The results of the analysis for each of the basins are summarized below in Table 3.2. Although peak flow rates from the Oregon City High School (Basin 8) are mitigated by an existing detention facility at the northwest corner of the campus, the values below conservatively assume a higher free release condition. Calculated release rates from Basin 8 can be found separately in Appendix A of the Clackamas Community College Water, Sanitary Sewer and Stormwater Infrastructure Technical Report, dated January 26, 2007, and prepared by David Evans & Associates.

TABLE 3.2: Future Developed Modeled Peak Flow Rates

Basin	Peak Flow Rates (cfs)				
	WQ Event	2-year	10-year	25-year	100-year
0	0.23	0.71	1.05	1.32	1.55
1	0.99	3.01	4.23	5.18	6.00
2	0.31	0.92	1.25	1.52	1.76
3	3.03	8.95	12.20	14.83	17.09
4	0.13	0.37	0.50	0.71	0.99
5	2.40	7.09	9.67	11.76	13.55
6	4.39	13.02	17.69	21.51	24.80
7	2.90	9.13	12.85	15.77	18.25
8*	2.79	9.62	14.69	18.83	22.44

* - Values do not reflect detained release rates from Oregon City High School detention pond.

Onsite Basins

Analysis for the Onsite Basins is more focused on providing water quality treatment for new impervious areas created with the improvements. Flow control or detention will be evaluated to confirm no net increase in peak runoff from the campus resulting from the project. This is in contrast to the current OC Stormwater Manual, but is under review with Oregon City staff for approval as presented with the 2008 CCC Master Plan. As noted above, these onsite basins are

limited to the areas that include the new formalized parking lot as well as the new entry pavilion and visitor pathways and plaza. The basin parameters are summarized below in Table 3.3.

TABLE 3.3: Onsite Basin Input Properties

Basin	Total Areas (sf)	Total Areas (acre)	Impervious Areas (sf)	Percent Impervious (%)	Soil Group	Existing Conditions*	Developed Conditions*
11	23,075	0.53	19037	82.5%	D	100% Gravel	100% Imp
12	22,323	0.51	7590	34.0%	D	50% Imp-50% GOS	100% Imp

*GOS = Good Open Surface; Imp = Impervious surface

The results of the analysis are summarized below in Table 3.4 for the water quality event based on the Clackamas County BMP Sizing Tool.

TABLE 3.4: Developed Onsite Water Quality Requirements

Basin	BMP Type	Minimum Treatment Area Required (sf)	Planned Treatment Area (sf)
11	Vegetated Swale	380.7	520.0
12	Vegetated Swale	151.8	1470.0

See Appendix 1 – Basin Calculations for Overall ELC Basin and Onsite Basin hydrologic analyses and supporting documentation.

IV. Analysis

Hydrologic and Hydraulic analyses were completed in conformance with the OC Stormwater Manual as discussed above. The calculated flows were then used to evaluate the hydraulic performance of the ELC facility and to appropriately size water quality facilities and conveyance systems.

ELC Facility

The SSA software was used to route the Overall ELC Basin storm hydrographs through the modeled system with a hydrodynamic routing method. Hydraulic analysis of the pipes and channels were completed based on Manning's Equation. The hydrodynamic routing method runs iterations to balance the calculations and account for any backwater influence due to tailwater conditions created by the weirs or hydraulic capacity of the downstream channel or pipes.

The primary storm used to evaluate the performance of the wetland enhancement is the water quality event, but 2, 10, & 100-year modeled storm events were also considered to assess how the weirs manage larger flow conditions.

Not all of the subbasins evaluated with the Overall ELC Basin enter the facility at the inlet weir. Basin 0 and Basin 2 flow directly into the ELC and Basin 1 enters Newell Creek downstream of the ELC inlet weir. For the combined Basins 3 through 8, each subbasin catchment was modeled independently, but upstream basins were routed through pipes as appropriate to account for lag times for reaching the headwaters of Newell Creek. Peak flows at various points in the system are estimated by combining hydrographs at different nodes in the model.

Table 4.1 below summarizes the peak flows reaching the headwaters of Newell Creek, the peak flows entering directly to the ELC facility, and peak flows routed into Newell Creek downstream of the ELC inlet.

TABLE 4.1: Peak Flow Rates Routed Through ELC Model

Basin	Description	Peak Flow Rates (cfs)				
		WQ Event	2-year	10-year	25-year	100-year
3-8*	Headwater Inflow	15.47	46.67	62.35	79.44	84.95
0&2	ELC Inflow	0.54	1.63	2.30	2.84	3.30
1	Newell Creek Inflow	0.99	3.01	4.23	5.18	6.00

* - Values do not reflect detained release rates from Oregon City High School detention pond.

These flows and hydrographs were then routed through the modeled ELC system, accounting for temporary storage in the channels and ponds while assessing backwater conditions calculated at weirs, channels, and pipes. Multiple iterations of the model were run to evaluate various weir types, weir lengths, weir elevations, channel sections, and ELC facility grading for storage capacity. See Appendix 2 – Weir Design for weir layout and vertical information along with Table 4.2 below for a summary of the weir parameters.

TABLE 4.2: Weir Parameters

Weir #	Description	Weir Type	60-Deg V-Notch IE	Weir Elev.	Weir Length / Dims	Top of Wall Elev.
1	Forebay Weir	Trapezoidal w/ V-Notch	397.5	398.0	10.5’	400.0
2	Inlet Weir	Gate	N/A	396.5	4.5’X1’	400.0
3	Upstream Bypass Weir	Labyrinth	N/A	397.75	16’	400.0
4	Outlet Weir	Trapezoidal w/ V-Notch	396.0	396.5	6’	399.0
5	Downstream Bypass Weir	Rectangular	N/A	395.25	8’	397.5

Routing the various storm hydrographs through the ELC facility model with these weir parameters calculates estimated peak flows and peak water surface elevations at each node of the model. The results at key nodes are summarized below for the multiple storm events in Table 4.3.

TABLE 4.3: Modeled ELC Hydraulics

Location	Storm Event	Peak Inflow (cfs)	Peak Outflow (cfs)	Peak WS Elev. (ft)
Forebay	WQ	15.47	15.44	398.56
	2-yr	46.67	46.59	399.23
	10-yr	62.35	62.22	399.56
	100-yr	84.95	84.73	399.99
ELC Inlet	WQ	15.44	15.32	397.65
	2-yr	46.58	22.61	398.51
	10-yr	62.20	24.88	398.85
	100-yr	84.71	27.31	399.30
Upstream Bypass	WQ	15.44	0.00	397.65
	2-yr	46.58	24.00	398.51
	10-yr	62.20	37.38	398.85
	100-yr	84.71	57.69	399.30
ELC Outlet	WQ	15.72	14.13	397.24
	2-yr	24.12	22.92	397.56
	10-yr	26.99	25.58	397.72
	100-yr	30.39	28.75	397.98
Downstream Bypass	WQ	14.81	0.00	395.01
	2-yr	48.82	9.27	395.73
	10-yr	65.05	16.10	395.94
	100-yr	86.97	32.94	397.02
42-Inch Culvert	WQ	14.79	14.79	392.80
	2-yr	48.70	48.70	394.15
	10-yr	64.40	64.38	394.95
	100-yr	83.70	83.70	396.78

The model suggests that the flow diversion weirs at the facility inlet adequately regulate inlet flow rates to capture the peak water quality flow, while diverting a majority of excess flows to the existing creek during larger storm events. The top of weir elevations and site grading have been coordinated to adequately contain the peak storage volumes and mitigate potential overflow of Newell Creek or the ELC facility.

Onsite Basins

The two onsite stormwater treatment facilities were sized using the Clackamas County BMP Sizing Tool. The facilities were sized for water quality only to treat the runoff from the new and existing impervious areas that drain to the facilities. Peak runoff rates will be evaluated as part of the final design to confirm no net increase in peak runoff from the campus resulting from the project. Future discussions with Oregon City staff may require flow control or detention as part of the project to meet the current OR Stormwater Manual.

The hydraulic capacity of the new pipes and conveyance channels will be evaluated with a future building permit submittal.

V. Engineering Conclusions

This report has shown that the improvements proposed to the ELC site will have a positive effect on overall stormwater management. Based on the requirements of the Oregon City Stormwater and Grading Design Manual (OC Stormwater Manual), all proposed facilities and conveyance components have enough capacity to manage the storm events and should be approved as designed.

VI. Exhibits

The following exhibits are attached to this report:

1. Site Survey
2. Site Plan
3. Grading Plan
4. Overall ELC Basin Map
5. Overall Soil Map
6. Onsite Basin Map

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LEGEND:

- BUILDING OUTLINE WITH DOOR
- CONCRETE SURFACE
- ASPHALT SURFACE
- WALL
- BUILDING OVERHANG
- RIGHT-OF-WAY LINE
- CURB LINE
- EDGE OF ASPHALT
- TOP OF BANK
- EDGE OF WATER
- CENTERLINE OF PATH
- ELECTRICAL LINE
- TRAFFIC SIGNAL LINE
- TELECOMMUNICATIONS LINE
- STORM LINE
- SANITARY SEWER LINE
- WATER LINE
- GAS LINE
- OVERHEAD UTILITY LINES
- UNDERGROUND LINE PER AS-BUILTS
- SIGN
- DOUBLE POST SIGN
- BOLLARD
- FLAG POLE
- DRIVEWAY ENTRY
- HANDICAP RAMP
- ROOF DRAIN
- ELECTRICAL METER
- ELECTRICAL CABINET
- GUY ANCHOR
- GROUND FLOOD LIGHT
- POWER POLE
- OVERHEAD LIGHT
- POWER POLE/OVERHEAD LIGHT
- GAS METER
- GAS VALVE
- SANITARY MANHOLE WITH STRUCTURE
- STORM MANHOLE WITH STRUCTURE
- CATCH BASIN/AREA DRAIN
- CURB INLET
- SANITARY/STORM CLEAN OUT
- SANITARY/STORM STRUCTURE #
- TELECOMMUNICATIONS VAULT
- TELECOMMUNICATIONS RISER
- TRAFFIC SIGNAL BOX
- WATER VALVE
- FIRE HYDRANT
- POST INDICATOR VALVE
- FIRE DEPARTMENT CONNECT
- WATER MANHOLE
- WATER VAULT
- HOSE BIB
- IRRIGATION CONTROL VALVE
- UNKNOWN UTILITY VALVE
- UNKNOWN UTILITY BOX
- TRASH CAN
- DECIDUOUS TREE W/ (TAG NO.) -PERIMETER REPRESENTS DRIPLINE
- CONIFEROUS TREE W/ (TAG NO.) -PERIMETER REPRESENTS DRIPLINE
- PROJECT CONTROL POINT
- WETLAND FLAG
- TOP OF SILT
- BOTTOM OF SILT
- UTILITY CROSSING
- PEDESTRIAN

STORM TABLE:

1. STORM MANHOLE
RIM = 394.56'
IE 24" IN (SE) = 389.66'
IE 36" OUT (N) = 389.66'
2. FLOW CONRTOL STORM MANHOLE
RIM = 394.64
IE 42" IN (SE) = 390.04'
IE 36" IN (NW) = 389.94'
IE 42" OUT (NE) = 389.64'
3. CURB INLET W/ STORM MANHOLE
RIM = 393.35'
FLOW LINE = 393.35'
UNABLE TO OPEN (LOCKED)
4. STORM MANHOLE
RIM = 394.14'
IE 24" IN (SW) = 390.64
IE 36" OUT (SE) = 390.59'
5. CATCH BASIN
RIM = 396.61
IE 12" IN (SE) = 393.31'
IE 12" OUT (NW) = 393.11'
6. CATCH BASIN
RIM = 402.90'
IE 12" IN (SE) = 400.10'
IE 12" OUT (NW) = 399.90'
7. CATCH BASIN
RIM = 409.87'
IE 12" IN (SE) = 406.87'
IE 12" OUT (NW) = 406.67'
8. CATCH BASIN (SUMP TYPE)
RIM = 395.08'
WATER LEVEL = 394.58'
9. CURB INLET
FLOW LINE = 396.27'
IE 4" OUT (SE) = 396.07'
10. CATCH BASIN
RIM = 400.01'
IE 6" IN (NW) = 398.51
IE 18" OUT (SE) = 397.81'
11. CATCH BASIN
RIM = 402.79'
IE 15" IN (SW) = 398.49'
IE 8" OUT (NE) = 398.49'
12. CATCH BASIN
RIM = 402.72'
NO PIPES VISIBLE
BOTTOM OF STRUCTURE = 398.12'
13. STORM MANHOLE
RIM = 403.05'
IE 36" IN (SE) = 397.58'
IE 24" OUT (NE) = 397.58'
14. STORM MANHOLE
RIM = 403.11'
IE 36" IN (W) = 397.76'
IE 24" OUT (NE) = 397.71'
15. CATCH BASIN
RIM = 405.15'
IE 8" IN (SE) = 400.95'
IE 8" OUT (W) = 400.85'
16. CATCH BASIN
RIM = 405.30'
IE 8" IN (NW) = 401.75'
IE 8" OUT (S) = 401.75'
17. STORM MANHOLE
RIM = 405.30'
IE 8" IN (E) = 399.85'
IE 36" IN (SE) = 399.00'
IE 36" OUT (NW) = 398.30'
18. STORM MANHOLE
RIM = 406.44'
IE 12" IN (NW) = 398.74'
IE 18" IN (W) = 398.59'
IE 36" OUT (E) = 398.49'
19. STORM MANHOLE
RIM = 406.95'
IE 36" IN (S) = 396.90'
IE 36" OUT (N) = 396.80'
20. STORM MANHOLE
RIM = 405.70'
IE 8" IN (N) = 401.85'
IE 15" IN (E) = 398.10'
IE 15" OUT (NW) = 397.90'

SANITARY TABLE:

1. SANITARY MANHOLE
RIM = 397.86'
IE 6" IN (NE) = 388.76'
IE 12" IN (SE) = 388.56'
IE 12" OUT (NW) = 388.56'
2. SANITARY MANHOLE
RIM = 395.91'
IE 12" IN (SE) = 388.41'
IE 12" OUT (W) = 388.11'
3. SANITARY MANHOLE
RIM = 393.92'
IE 12" IN (NE) = 384.92'
IE 12" IN (NE) = 387.62'
IE 10" IN (S) = 385.17'
IE 8" IN (SE) = 385.27'
IE 12" OUT (NW) = 384.90'
4. SANITARY MANHOLE
RIM = 394.70'
IE 12" IN (SE) = 381.50'
IE 12" OUT (NW) = 381.10'
5. SANITARY MANHOLE
RIM = 397.04'
IE 10" IN (SW) = 389.24'
IE 10" OUT (N) = 389.04'
6. SANITARY MANHOLE
RIM = 402.22'
IE 10" IN (S) = 392.32'
IE 10" OUT (NE) = 392.22'
7. SANITARY MANHOLE
RIM = 402.72'
IE 10" IN (S) = 393.42'
IE 10" OUT (N) = 393.37'
8. SANITARY MANHOLE
RIM = 401.88'
IE 4" IN (S) = 396.08'
IE 10" IN (E) = 395.43'
IE 10" OUT (W) = 395.38'
9. SANITARY MANHOLE
RIM = 401.55'
IE 4" IN (E) = 396.30'
IE 8" IN (SE) = 396.25'
IE 8" IN (NE) = 396.20
IE 10" OUT (W) = 395.85'
10. SANITARY MANHOLE
RIM = 403.14'
IE 8" IN (NE) = 401.14'
IE 8" IN (NE) = 397.44'
IE 8" OUT (SW) = 397.24'
11. SANITARY MANHOLE
RIM = 406.46'
IE 4" IN (SE) = 402.46'
IE 4" IN (NW) = 402.41'
IE 8" OUT (SW) = 402.41'

PROJECT CONTROL:

STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	MAG NAIL W/ WASHER "KPFF CONTROL"	101718.61	374584.09	397.04'
2	MAG NAIL W/ WASHER "KPFF CONTROL"	101476.60	374791.68	405.23'
3	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101408.95	374643.31	401.43'
4	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101313.96	374594.04	401.55'
5	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101196.61	374560.16	402.20'
6	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	100987.40	374622.80	406.86'
7	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	100822.52	374532.40	406.02'
8	MAG NAIL W/ WASHER "KPFF CONTROL"	100967.72	374225.31	403.99'
9	MAG NAIL W/ WASHER "KPFF CONTROL"	101113.83	374238.65	402.80'
10	MAG NAIL W/ WASHER "KPFF CONTROL"	101218.10	374246.16	402.55'
11	MAG NAIL W/ WASHER "KPFF CONTROL"	101308.75	374222.21	402.77'
12	MAG NAIL W/ WASHER "KPFF CONTROL"	101431.04	374275.14	401.32'
13	MAG NAIL W/ WASHER "KPFF CONTROL"	101489.69	374364.82	397.44'
14	MAG NAIL W/ WASHER "KPFF CONTROL"	101629.43	374400.88	396.23'
15	MAG NAIL W/ WASHER "KPFF CONTROL"	101756.78	374420.23	394.99'
16	MAG NAIL W/ WASHER "KPFF CONTROL"	101903.48	374425.22	393.58'
17	MAG NAIL W/ WASHER "KPFF CONTROL"	101615.19	374487.27	395.60'
18	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101493.96	374539.28	398.95'
19	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101423.26	374560.81	398.98'
20	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101445.44	374491.65	399.81'
21	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101411.46	374442.39	398.40'
22	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101362.56	374485.63	398.56'
23	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101288.10	374486.46	399.12'
24	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101234.98	374438.99	398.98'
25	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101122.30	374370.25	399.03'
26	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	101174.89	374302.41	400.12'

NOTES:

1.) VERTICAL DATUM: NAVD 88 (OCRS, PORTLAND ZONE)
ELEVATION WAS ESTABLISHED THROUGH A 3 MINUTE GPS OBSERVATION ON CONTROL POINT NO. 2 USING THE OREGON REAL-TIME GPS NETWORK (ORGN).

2.) BASIS OF BEARINGS FOR THIS SURVEY IS THE OREGON COORDINATE REFERENCE SYSTEM (OCRS), PORTLAND ZONE THE RESULTANT OF THE CENTERLINE OF S. BEAVERCREEK ROAD IS SOUTH 40°35'28" EAST.

3.) A TITLE REPORT WAS NOT PROVIDED FOR THIS SURVEY. EASEMENTS MAY EXIST AFFECTING SUBJECT PROPERTY.

4.) UTILITY LOCATIONS SHOWN ARE PER FIELD LOCATED UTILITY PAINT MARKS & REFERENCE MAPS MADE AVAILABLE BY THE VARIOUS UTILITY PROVIDERS. UNLESS INDICATED, DEPTHS OF UTILITY LINES ARE NOT AVAILABLE. ALL UTILITY LOCATIONS SHOULD BE FIELD-VERIFIED PRIOR TO CONSTRUCTION.

SCALE 1 INCH = 30 FEET
30 0 30 60

100% DESIGN DEVELOPMENT

PRELIMINARY NOT FOR CONSTRUCTION

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OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Exhibit 1

Sheet Title
EXISTING CONDITIONS

Drawing No.
C0.20

Scale

Date 08.21.15

Project No. 104500

6/19/2015 9:27:48 AM

File: N:\s\p\2014\3\41175-CCC-John-Inskeep-ELC\CAD\PLOT\41175-C0.20-EX.dwg TAB:C0.20

Plotted: 8/21/15 at 12:07pm By: DElmore

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SHEET NOTES

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.
2. SEE SHEET C2.20 FOR SITE GRADING AND STRUCTURE INVERT INFORMATION.

(X) KEY NOTES

01 SEDIMENT FOREBAY

02 STABILIZED GRASS-PAVE MAINTENANCE ACCESS ROAD

03 ASPHALT PARKING LOT. SEE LANDSCAPE MATERIALS PLAN.

04 DRIVEWAY CUT IN CURB WITH ASPHALT PATCH

05 CONCRETE WEIR, SEE SHEET C2.20

06 ENHANCED WETLAND AREA

07 VEGETATED WATER QUALITY BASIN

SHEET LEGEND

- PROPERTY LINE
- SAWCUT LINE
- BOTTOM OF DITCH
- 400 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 400 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR

SCALE 1 INCH = 30 FEET
30 0 30 60

100% DESIGN DEVELOPMENT

PRELIMINARY NOT FOR CONSTRUCTION

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OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Exhibit 2

Sheet Title
SITE PLAN

Drawing No.
C2.10

Scale	1" = 30'
Date	08.12.15
Project No.	104500

Plotted: 9/21/15 at 4:35pm By: PDedyo
File: N:\o\p\2014\314175-CCC-John-Inskeep-ELC\CAD\PLOT\v175-C2.10-ST.dwg TAB: C2.10
6/19/2015 9:27:48 AM

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SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 10/C3.10.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

(X) KEY NOTES

1 MATCH EXISTING GRADES.

2 FIELD VERIFY IE OF EXISTING 6" LATERAL PRIOR TO CONSTRUCTION.

3 BRIDGE, SEE LANDSCAPE MATERIALS PLAN.

UTILITY LABEL LEGEND

STRUCTURE LABEL

UTILITY TYPE (SD=STORM DRAINAGE)
STRUCTURE TYPE CALLOUT
ID NUMBER (WHERE APPLICABLE)

XX XX-XX
N: XXXX.XX
E: XXXX.XX
RIM=
IE IN = XX.X
IE OUT = XX.X

LOCATION (WHERE APPLICABLE)
STRUCTURE INFO (WHERE APPLICABLE)

PIPE LABEL

UTILITY LENGTH
UTILITY SIZE
UTILITY TYPE

XXLF - XX" XX

S=X.XX%
SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
OF	OUTFALL	
OV	OVERFLOW INLET	

SHEET LEGEND

- PROPERTY LINE
- SAWCUT LINE
- BOTTOM OF DITCH
- 400 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 400 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- SLOPE/FLOW DIRECTION

100% DESIGN DEVELOPMENT

PRELIMINARY NOT FOR CONSTRUCTION

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MARK	DATE	DESCRIPTION

Exhibit 3

Sheet Title
GRADING AND DRAINAGE PLAN

Drawing No.
C2.20

Scale	1" = 30'
Date	08.12.15
Project No.	104500

File: N:\o\p\2014\314175-CCC--John--Inskeep-ELC\CAD\PLOT\1475--C2.20--00.dwg 74B:C2.10
6/19/2015 9:27:49 AM
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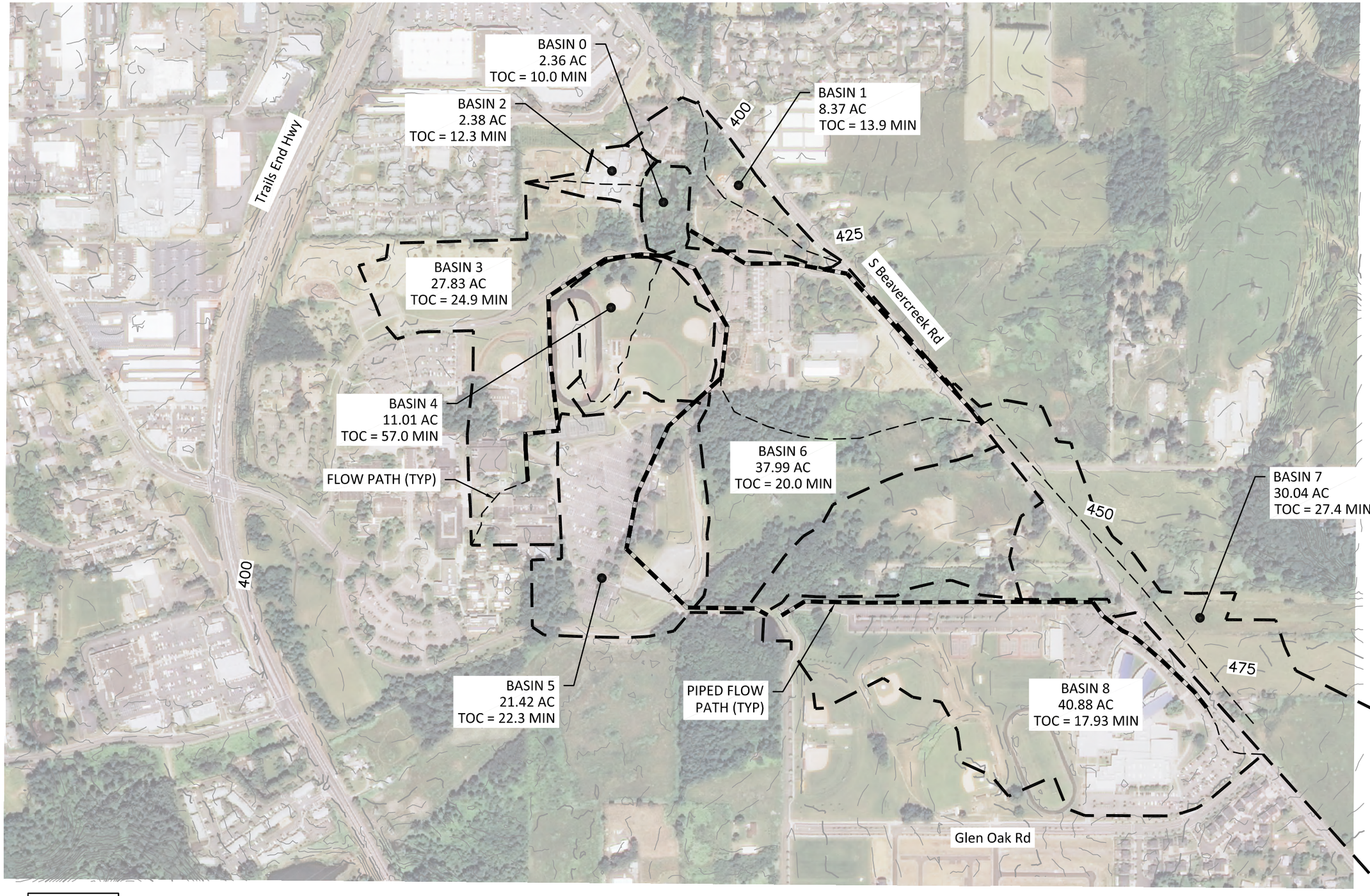

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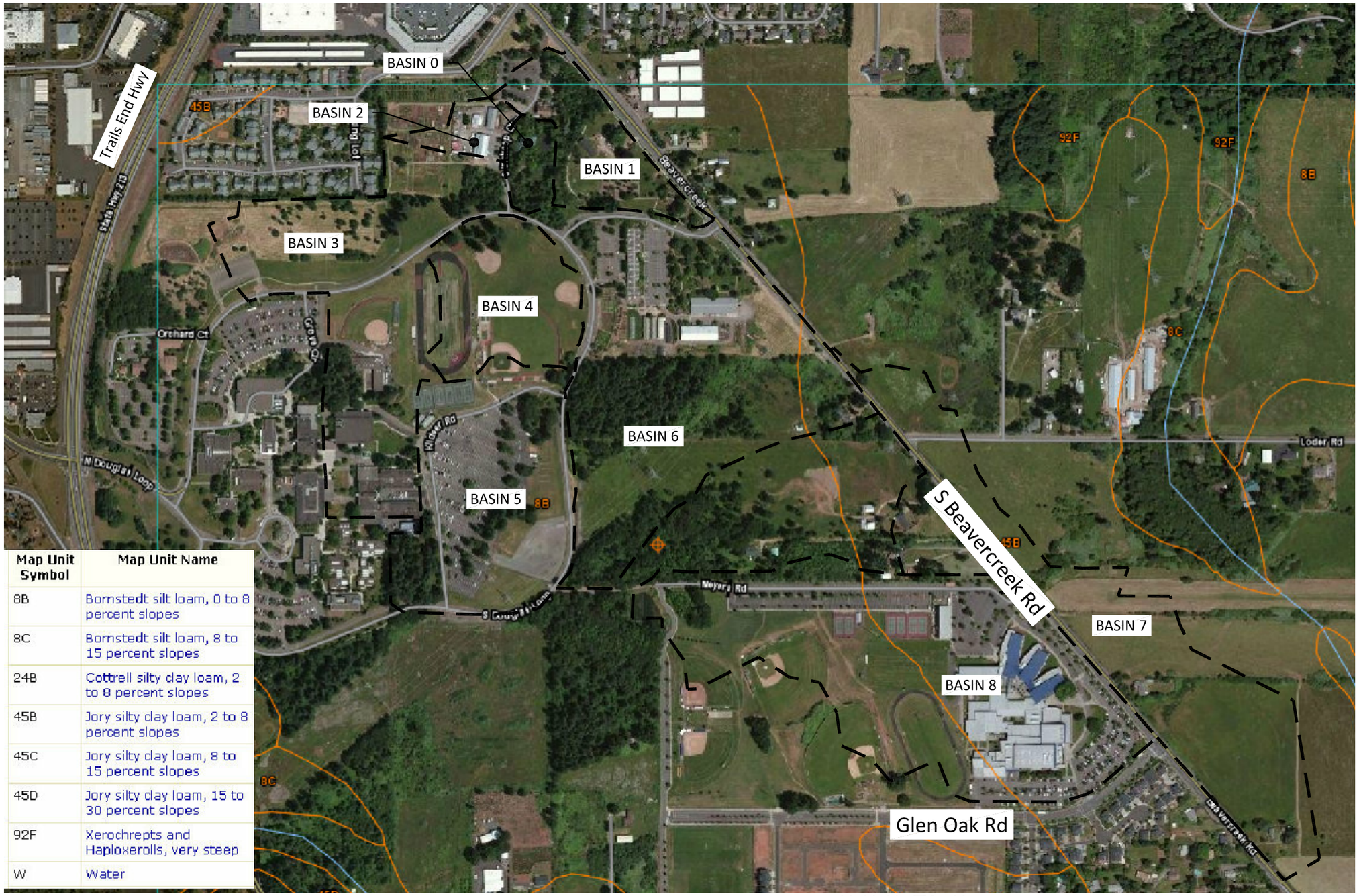
CLACKAMAS COMMUNITY COLLEGE
ENVIRONMENTAL LEARNING CENTER
NEWELL CREEK BASIN ANALYSIS

CCC ELC
Overall Basin Map

SCALE: 1"=500' 0 500' 1000'

SHEET NO.
Exhibit 4

11X17-EXHIBIT File: N:\c\p\2014\314175-CCC-John-Inskeep-ELC\CAD\PLOT\Exhibits\20150803-EXH-Basin.dwg TAB: APP 3



Map Unit Symbol	Map Unit Name
8B	Bornstedt silt loam, 0 to 8 percent slopes
8C	Bornstedt silt loam, 8 to 15 percent slopes
24B	Cottrell silty clay loam, 2 to 8 percent slopes
45B	Jory silty clay loam, 2 to 8 percent slopes
45C	Jory silty clay loam, 8 to 15 percent slopes
45D	Jory silty clay loam, 15 to 30 percent slopes
92F	Xerochrepts and Haploxerolls, very steep
W	Water

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CLACKAMAS COMMUNITY COLLEGE
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NEWELL CREEK BASIN ANALYSIS

CCC ELC
Overall Soil Map

SCALE: 1"=500' 0 500' 1000'

SHEET NO.
Exhibit 5

11X17-EXHIBIT File: N:\c\p\2014\314175-CCC-John-Inskeep-ELC\CAD\PLOT\Exhibits\20150803-EXH-Basin.dwg TAB: APP 4

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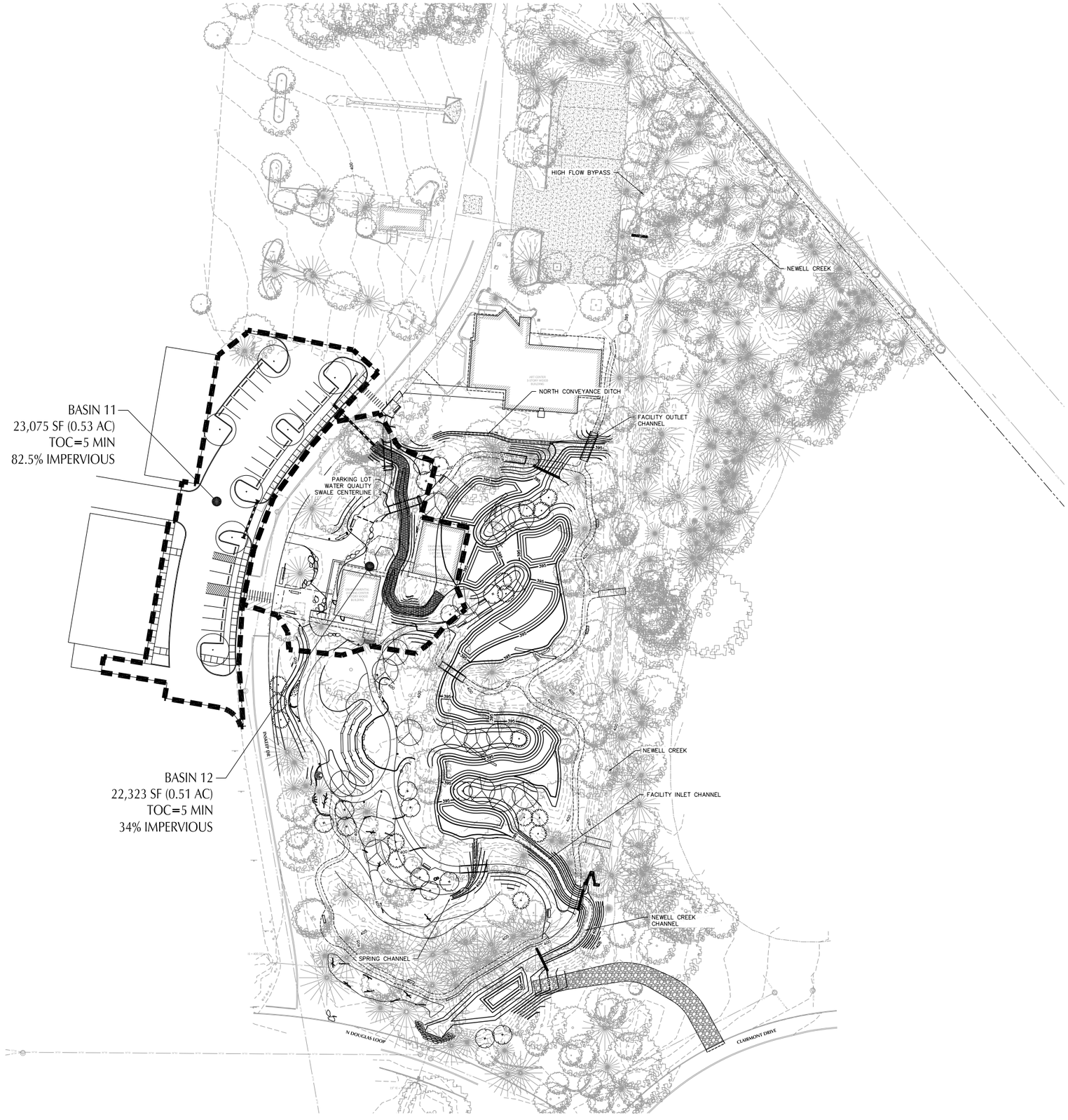

SHEET LEGEND

- PROPERTY LINE
- 400 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 400 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- BASIN BOUNDARY
- TREATMENT FACILITY
- PARKING LOT VEGETATION

SCALE 1 INCH = 30 FEET
30 0 30 60

100% DESIGN DEVELOPMENT

PRELIMINARY NOT FOR CONSTRUCTION

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19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Exhibit 6

Sheet Title
ONSITE BASIN MAP

Drawing No.
1.0

Scale	1" = 30'
Date	09.18.15
Project No.	104500

6/19/2015 9:27:48 AM
File: N:\o\p\2014\314175-CCC--John--Insheep--ELC\CAD\PLOT\Exhibits\20150918-EDH--Onsite-Basin.dwg TAB: C2.10
Plotted: 9/22/15 at 1:41pm By: DElmore

Appendix 1: Basin Calculations

1. Overall Basin Map
2. Onsite Basin Map
3. Overall Soil Map
4. Overall Infiltration Map
5. Overall Zoning Map
6. CN Values
7. Overall Basin Calculations
8. Onsite Basin Calculations

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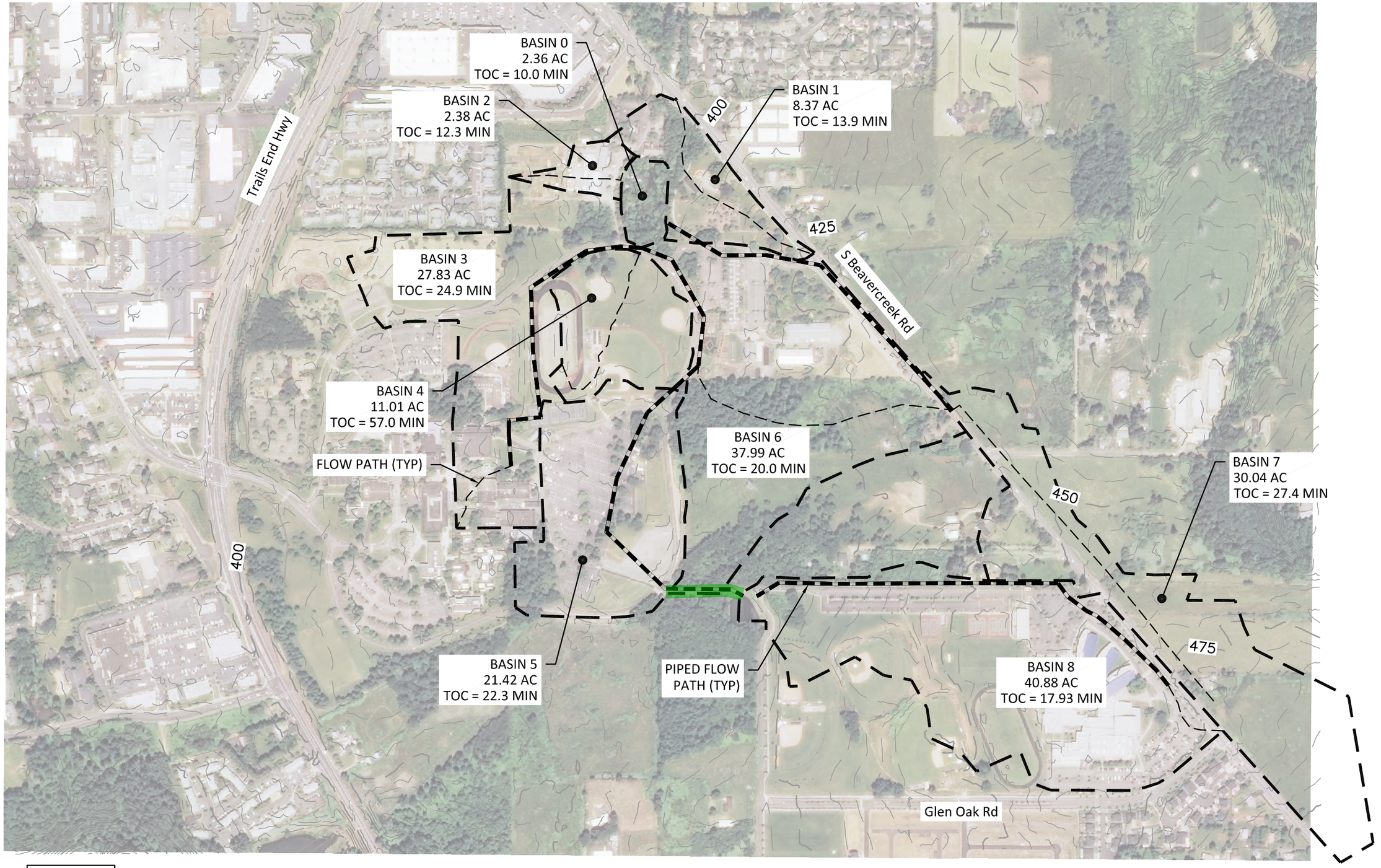

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CLACKAMAS COMMUNITY COLLEGE
ENVIRONMENTAL LEARNING CENTER
NEWELL CREEK BASIN ANALYSIS

CCC ELC
Overall Basin Map

SCALE: 1"=500' 0 500' 1000'

SHEET NO.

11X17-EXHIBIT File: N:\c\p\2014\314175-CCC-John-Inskeep-ELC\CAD\PLOT\Exhibits\20150803-EXH-Basin.dwg TAB: APP 3

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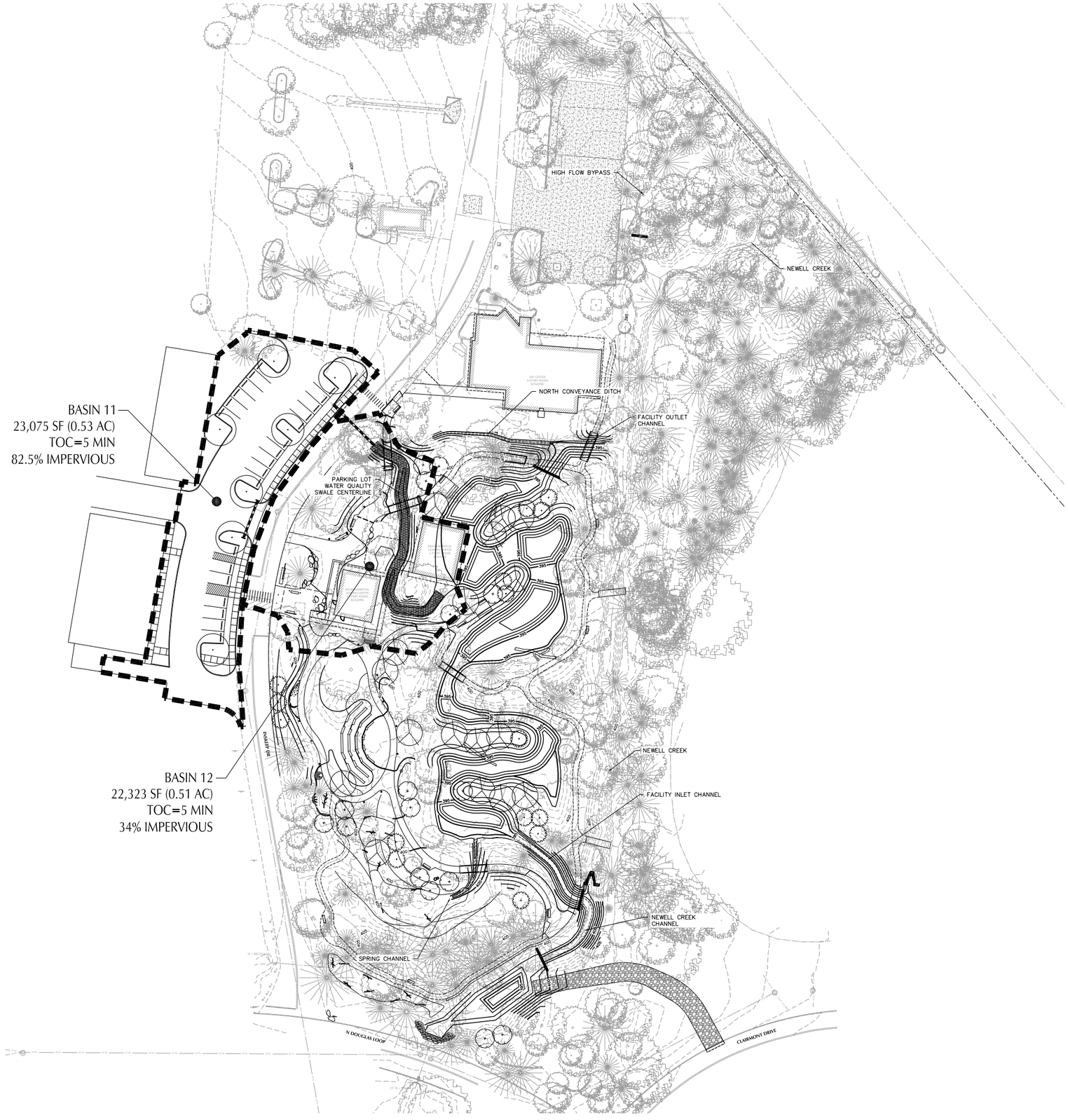

SHEET LEGEND

- PROPERTY LINE
- 400 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 400 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- BASIN BOUNDARY
- TREATMENT FACILITY
- PARKING LOT VEGETATION

SCALE 1 INCH = 30 FEET
30 0 30 60

100% DESIGN DEVELOPMENT

PRELIMINARY NOT FOR CONSTRUCTION

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MARK DATE DESCRIPTION

Sheet Title
ONSITE BASIN MAP

Drawing No.
1.0

Scale	1" = 30'
Date	09.18.15
Project No.	104500

6/19/2015 9:27:48 AM
File: N:\o\p\2014\314175-CCC--John--Insheep--ELC\CAD\PLOT\Exhibits\20150918-EXH--Onsite-Basin.dwg TAB: C2.10
Plotted: 9/22/15 at 1:41pm By: DElmore

Map Unit Symbol	Map Unit Name
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W	Water

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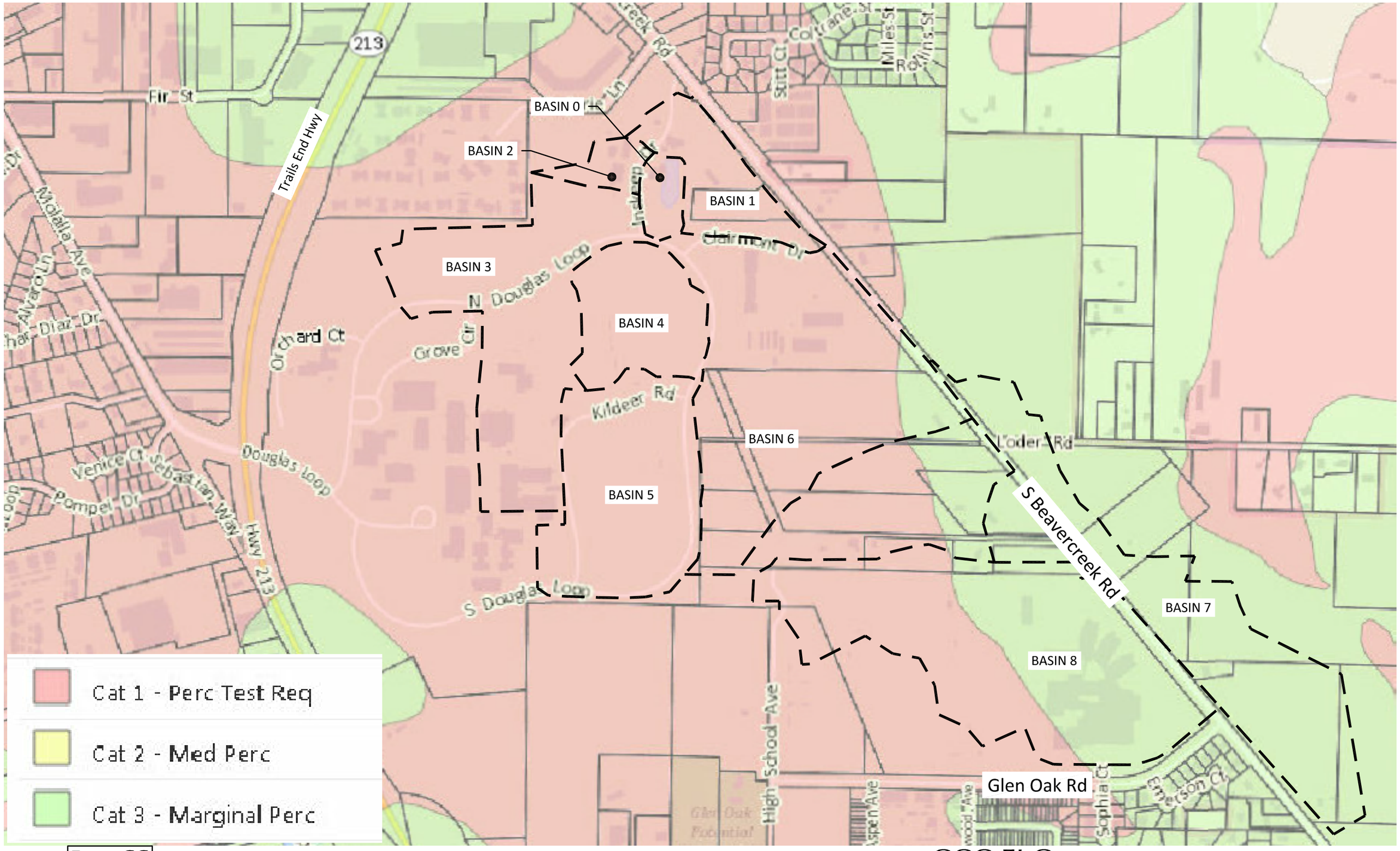
NEWELL CREEK BASIN ANALYSIS

CCC ELC
Overall Soil Map

SCALE: 1"=500' 0 500' 1000'

SHEET NO.

11X17-EXHIBIT File: N:\c\p\2014\314175-CCC-John-Inskeep-ELC\CAD\PLOT\Exhibits\20150803-EXH-Basin.dwg TAB: APP 4



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CLACKAMAS COMMUNITY COLLEGE
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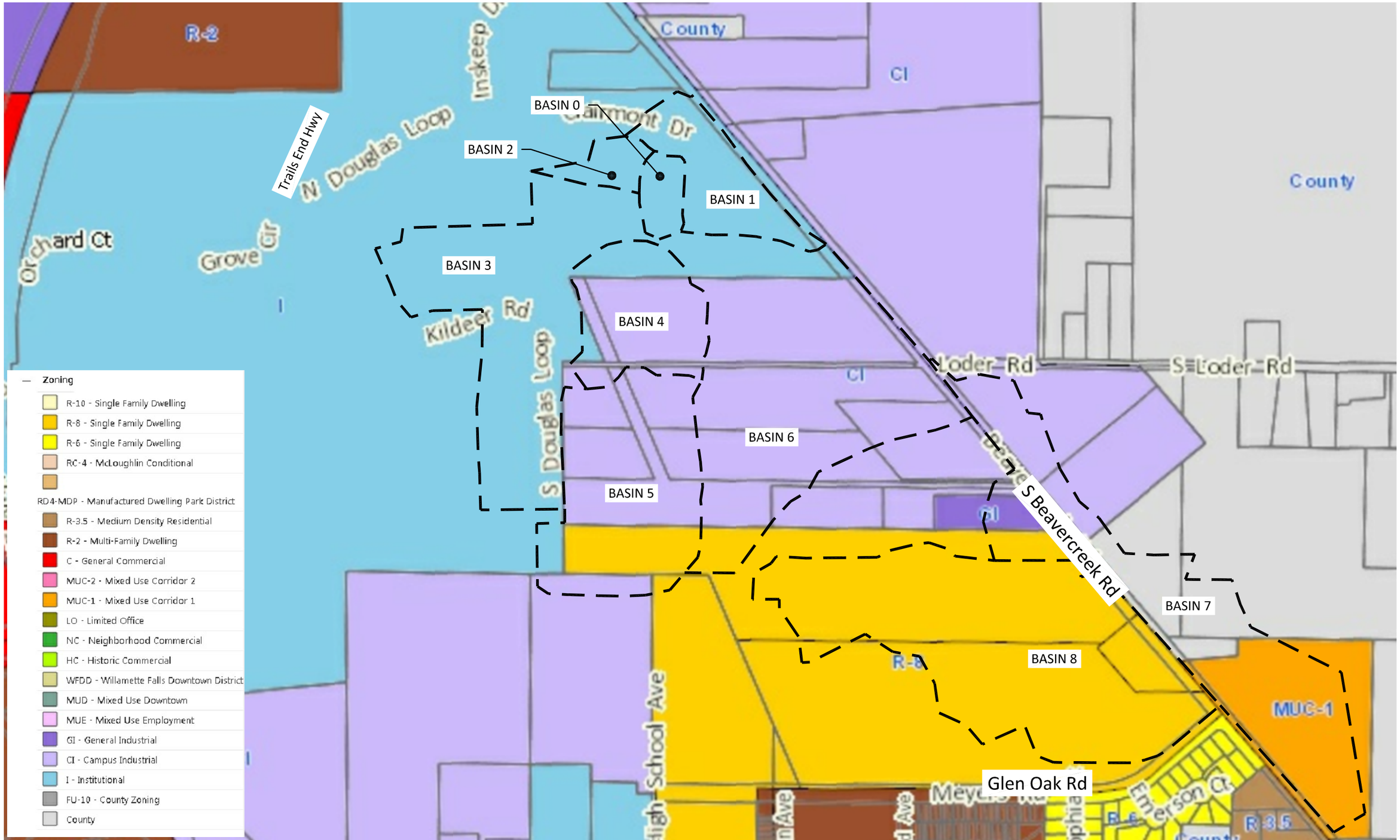
NEWELL CREEK BASIN ANALYSIS

CCC ELC
Overall Infiltration Map

SCALE: 1"=500' 0 500' 1000'

SHEET NO.

11X17-EXHIBIT File: N:\c\p\2014\314175-CCC-John-Inskeep-ELC\CAD\PLOT\Exhibits\20150803-EXH-Basin.dwg TAB: APP 5



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CLACKAMAS COMMUNITY COLLEGE
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NEWELL CREEK BASIN ANALYSIS

CCC ELC
Overall Zoning Map

SCALE: 1"=500' 0 500' 1000'

SHEET NO.

11X17-EXHIBIT File: N:\c\p\2014\314175-CCC-John-Inskeep-ELC\CAD\PLOT\Exhibits\20150803-EXH-Basin.dwg TAB: APP 6

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The curve numbers presented in **Tables H-2 and H-3** are for wet antecedent moisture conditions. Wet conditions assume previous rainstorms have reduced the capacity of soil to absorb water. Given the frequency of rainstorms in the Portland area, wet conditions are most likely, and give conservative hydrographic values.

Hydrologic Soil Group descriptions, critical to determining the appropriate curve numbers are included in **Table H-4**.

Table H-2. Runoff Curve Numbers for Urban Areas*

Cover Descriptions	Average Percent Impervious Area	Curve Numbers for Hydrologic Soil Group			
Cover Type and Hydrologic Condition		A	B	C	D
Open space (lawns, parks, golf courses, cemeteries, etc.)					
Poor condition (grass cover <50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads					
Paved: curbs and stone sewers (excluding right-of-way)		98	98	98	98
Paved: open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Urban districts					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82

**Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release 55, pp. 2.5-2.8, June 1986.*

Table H-3. Runoff Curve Numbers for Other Agricultural Areas*

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range-continuous forage for grazing					
<50% ground cover or heavily grazed with no mulch	Poor	68	79	86	89
50 to 75% ground cover and not heavily grazed	Fair	49	69	79	84
>75% ground cover and lightly or only occasionally grazed	Good	39	61	74	80
Meadow-continuous grass, protected from grazing and generally mowed for hay	-	30	58	71	78
Brush--weed-grass mixture with brush as the major element					
<50% ground cover	Poor	48	67	77	83
50 to 75% ground cover	Fair	35	56	70	77
>75% ground cover	Good	30	48	65	73
Woods-grass combination (orchard or tree farm)	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Cover type	Hydrologic condition	A	B	C	D
Woods					
Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.	Poor	45	66	77	83
Woods are grazed but not burned, and some forest litter covers the soil.	Fair	36	60	73	79
Woods are protected from grazing, and litter and brush adequately cover the soil.	Good	30	55	70	77

*Soil Conservation Service, *Urban Hydrology for Small Watersheds*, Technical Release 55, pp. 2.5-2.8, June 1986.

Table H-4. NRCS Hydrologic Soil Group Descriptions

NRCS Hydrologic Soil Group	Description
Group A	Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of deep, well drained to excessively drained sands or gravels. These soils have a high rate of water transmission.
Group B	Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
Group C	Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils that have a layer that impedes the downward movement of water or soils that have moderately fine texture or fine texture. These soils have a slow rate of water transmission.
Group D	Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clay soils that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a fragipan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Project Description

OVERALL BASINS CALCULATIONS

File Name 20150731-Facility.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... Santa Barbara UH
Time of Concentration (TOC) Method ..... User-Defined
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On	May 19, 2015	00:00:00
End Analysis On	May 20, 2015	00:00:00
Start Reporting On	May 19, 2015	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins.....	9
Nodes.....	17
Junctions	13
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	3
Links.....	20
Channels	9
Pipes	4
Pumps	0
Orifices	1
Weirs	6
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-ORCity	Time Series	WQ	Cumulative	inches	Oregon	Clackamas	1	1.00	SCS Type IA 24-hr
2	Rain Gage-ORCity	Time Series	2-YR	Cumulative	inches	Oregon	Clackamas	2	2.60	SCS Type IA 24-hr
3	Rain Gage-ORCity	Time Series	10-YR	Cumulative	inches	Oregon	Clackamas	10	3.40	SCS Type IA 24-hr
4	Rain Gage-ORCity	Time Series	25-YR	Cumulative	inches	Oregon	Clackamas	25	4.00	SCS Type IA 24-hr
5	Rain Gage-ORCity	Time Series	100-YR	Cumulative	inches	Oregon	Clackamas	100	4.50	SCS Type IA 24-hr

Subbasin Hydrology

Subbasin : Sub-00

Input Data

Area (ac)	2.36
Impervious Area (%)	50.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	70.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	2.36		84

Subbasin : Sub-01

Input Data

Area (ac)	8.37
Impervious Area (%)	65.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	70.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	8.37		88.2

Subbasin : Sub-02

Input Data

Area (ac)	2.38
Impervious Area (%)	70.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	65.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	2.38		88.1

Subbasin : Sub-03

Input Data

Area (ac)	27.83
Impervious Area (%)	70.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	65.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	27.83		88.1

Subbasin : Sub-04

Input Data

Area (ac)	11.01
Impervious Area (%)	10.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	57.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	11.01		61.1

Subbasin : Sub-05

Input Data

Area (ac)	21.42
Impervious Area (%)	70.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	65.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	21.42		88.1

Subbasin : Sub-06

Input Data

Area (ac)	37.99
Impervious Area (%)	70.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	65.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	37.99		88.1

Subbasin : Sub-07

Input Data

Area (ac)	30.04
Impervious Area (%)	64.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	73.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	30.04		89

Subbasin : Sub-08

Input Data

Area (ac)	40.88
Impervious Area (%)	40.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	73.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	40.88		83

Subbasin Summary

RESULTS
WQ MODELED STORM EVENT

SN	Subbasin ID	Area (ac)	Impervious Area (%)	Impervious Area Curve Number	Pervious Area Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-00	2.36	50.00	98.00	70.00	1.00	0.40	0.93	0.23	0 00:10:00
2	Sub-01	8.37	65.00	98.00	70.00	1.00	0.51	4.29	0.99	0 00:13:52
3	Sub-02	2.38	70.00	98.00	65.00	1.00	0.55	1.31	0.31	0 00:12:16
4	Sub-03	27.83	70.00	98.00	65.00	1.00	0.55	15.25	3.03	0 00:24:54
5	Sub-04	11.01	10.00	98.00	57.00	1.00	0.08	0.85	0.13	0 00:57:02
6	Sub-05	21.42	70.00	98.00	65.00	1.00	0.55	11.74	2.40	0 00:22:19
7	Sub-06	37.99	70.00	98.00	65.00	1.00	0.55	20.86	4.39	0 00:20:00
8	Sub-07	30.04	64.00	98.00	73.00	1.00	0.51	15.20	2.90	0 00:27:22
9	Sub-08	40.88	40.00	98.00	73.00	1.00	0.32	13.25	2.79	0 00:17:55

Subbasin Summary

RESULTS
2-YR MODELED STORM EVENT

SN	Subbasin ID	Area (ac)	Impervious Area (%)	Impervious Area Curve Number	Pervious Area Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-00	2.36	50.00	98.00	70.00	2.60	1.43	3.37	0.71	0 00:10:00
2	Sub-01	8.37	65.00	98.00	70.00	2.60	1.71	14.27	3.01	0 00:13:52
3	Sub-02	2.38	70.00	98.00	65.00	2.60	1.75	4.17	0.92	0 00:12:16
4	Sub-03	27.83	70.00	98.00	65.00	2.60	1.74	48.45	8.95	0 00:24:54
5	Sub-04	11.01	10.00	98.00	57.00	2.60	0.35	3.80	0.37	0 00:57:02
6	Sub-05	21.42	70.00	98.00	65.00	2.60	1.74	37.34	7.09	0 00:22:19
7	Sub-06	37.99	70.00	98.00	65.00	2.60	1.74	66.25	13.02	0 00:20:00
8	Sub-07	30.04	64.00	98.00	73.00	2.60	1.72	51.67	9.13	0 00:27:22
9	Sub-08	40.88	40.00	98.00	73.00	2.60	1.31	53.51	9.62	0 00:17:55

Subbasin Summary

RESULTS
10-YR MODELED STORM EVENT

SN	Subbasin ID	Area (ac)	Impervious Area (%)	Impervious Area Curve Number	Pervious Area Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-00	2.36	50.00	98.00	70.00	3.39	2.05	4.83	1.05	0 00:10:00
2	Sub-01	8.37	65.00	98.00	70.00	3.39	2.37	19.87	4.23	0 00:13:52
3	Sub-02	2.38	70.00	98.00	65.00	3.39	2.41	5.74	1.25	0 00:12:16
4	Sub-03	27.83	70.00	98.00	65.00	3.39	2.40	66.82	12.20	0 00:24:54
5	Sub-04	11.01	10.00	98.00	57.00	3.39	0.63	6.93	0.50	0 00:57:02
6	Sub-05	21.42	70.00	98.00	65.00	3.39	2.40	51.47	9.67	0 00:22:19
7	Sub-06	37.99	70.00	98.00	65.00	3.39	2.41	91.37	17.69	0 00:20:00
8	Sub-07	30.04	64.00	98.00	73.00	3.39	2.40	72.04	12.85	0 00:27:22
9	Sub-08	40.88	40.00	98.00	73.00	3.39	1.92	78.33	14.69	0 00:17:55

Subbasin Summary

RESULTS
25-YR MODELED STORM EVENT

SN	Subbasin ID	Area (ac)	Impervious Area (%)	Impervious Area Curve Number	Pervious Area Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-00	2.36	50.00	98.00	70.00	3.99	2.53	5.98	1.32	0 00:10:00
2	Sub-01	8.37	65.00	98.00	70.00	3.99	2.89	24.22	5.18	0 00:13:52
3	Sub-02	2.38	70.00	98.00	65.00	3.99	2.93	6.97	1.52	0 00:12:16
4	Sub-03	27.83	70.00	98.00	65.00	3.99	2.91	81.07	14.83	0 00:24:54
5	Sub-04	11.01	10.00	98.00	57.00	3.99	0.89	9.84	0.71	0 00:57:02
6	Sub-05	21.42	70.00	98.00	65.00	3.99	2.92	62.46	11.76	0 00:22:19
7	Sub-06	37.99	70.00	98.00	65.00	3.99	2.92	110.85	21.51	0 00:20:00
8	Sub-07	30.04	64.00	98.00	73.00	3.99	2.92	87.84	15.77	0 00:27:22
9	Sub-08	40.88	40.00	98.00	73.00	3.99	2.40	98.11	18.83	0 00:17:55

Subbasin Summary

RESULTS
100-YR MODELED STORM EVENT

SN	Subbasin ID	Area (ac)	Impervious Area (%)	Impervious Area Curve Number	Pervious Area Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-00	2.36	50.00	98.00	70.00	4.49	2.95	6.97	1.55	0 00:10:00
2	Sub-01	8.37	65.00	98.00	70.00	4.49	3.34	27.92	6.00	0 00:13:52
3	Sub-02	2.38	70.00	98.00	65.00	4.49	3.37	8.01	1.76	0 00:12:16
4	Sub-03	27.83	70.00	98.00	65.00	4.49	3.35	93.17	17.09	0 00:24:54
5	Sub-04	11.01	10.00	98.00	57.00	4.49	1.14	12.57	0.99	0 00:57:02
6	Sub-05	21.42	70.00	98.00	65.00	4.49	3.35	71.78	13.55	0 00:22:19
7	Sub-06	37.99	70.00	98.00	65.00	4.49	3.35	127.42	24.80	0 00:20:00
8	Sub-07	30.04	64.00	98.00	73.00	4.49	3.37	101.26	18.25	0 00:27:22
9	Sub-08	40.88	40.00	98.00	73.00	4.49	2.82	115.16	22.44	0 00:17:55

WES BMP Sizing Software Version 1.6.0.1, August 2015

WES BMP Sizing Report

Project Information

Project Name	CCC - ELC
Project Type	Commercial
Location	
Stormwater Management Area	30222
Project Applicant	Clackamas Community College
Jurisdiction	CCSD1NCSA

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
Basin 11 - Parking Lot	19,037	Grass	ConventionalConcrete	D	Basin 11 - Swale
Basin 12 - Roadway	2,145	Forested	ConventionalConcrete	D	Basin 12 Swale
Basin 12 - Roofs	5,445	Forested	Roofs	D	Basin 12 Swale

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
Basin 12 Swale	WaterQuality	Vegetated Swale - Infiltration	B1	151.8	1,470.0	0.0
Basin 11 - Swale	WaterQuality	Vegetated Swale - Infiltration	B1	380.7	520.0	0.0

Pond Sizing Details

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only

2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation layer and growing media).

3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.

4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.

Appendix 2: Weir Design

1. Site Plan
2. Grading Plan
3. Trapezoidal Weir Exhibit
4. Rectangular Weir Exhibit
5. Labyrinth Weir Exhibit
6. Slide Weir Exhibit
7. ELC Facility SSA Calculations

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SHEET NOTES

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.
2. SEE SHEET C2.20 FOR SITE GRADING AND STRUCTURE INVERT INFORMATION.

(X) KEY NOTES

01 SEDIMENT FOREBAY

02 STABILIZED GRASS-PAVE MAINTENANCE ACCESS ROAD

03 ASPHALT PARKING LOT. SEE LANDSCAPE MATERIALS PLAN.

04 DRIVEWAY CUT IN CURB WITH ASPHALT PATCH

05 CONCRETE WEIR, SEE SHEET C2.20

06 ENHANCED WETLAND AREA

07 VEGETATED WATER QUALITY BASIN

SHEET LEGEND

- PROPERTY LINE
- SAWCUT LINE
- BOTTOM OF DITCH
- 400 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 400 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR

SCALE 1 INCH = 30 FEET
30 0 30 60

100% DESIGN DEVELOPMENT

PRELIMINARY NOT FOR CONSTRUCTION

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Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
SITE PLAN

Drawing No.
C2.10

Scale	1" = 30'
Date	08.12.15
Project No.	104500

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Plotted: 9/21/15 at 4:35pm By: PDedyo

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SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 10/C3.10.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.

(X) KEY NOTES

1 MATCH EXISTING GRADES.

2 FIELD VERIFY IE OF EXISTING 6" LATERAL PRIOR TO CONSTRUCTION.

3 BRIDGE, SEE LANDSCAPE MATERIALS PLAN.

UTILITY LABEL LEGEND

STRUCTURE LABEL

UTILITY TYPE (SD=STORM DRAINAGE)
STRUCTURE TYPE CALLOUT
ID NUMBER (WHERE APPLICABLE)

XX XX-XX
N: XXXX.XX
E: XXXX.XX
RIM=
IE IN = XX.X
IE OUT = XX.X

LOCATION (WHERE APPLICABLE)
STRUCTURE INFO (WHERE APPLICABLE)

PIPE LABEL

UTILITY LENGTH
UTILITY SIZE
UTILITY TYPE

XXLF - XX" XX

S=X.XX%
SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
OF	OUTFALL	
OV	OVERFLOW INLET	

SHEET LEGEND

- PROPERTY LINE
- SAWCUT LINE
- BOTTOM OF DITCH
- 400 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 400 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- SLOPE/FLOW DIRECTION

100% DESIGN DEVELOPMENT

PRELIMINARY NOT FOR CONSTRUCTION

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OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
GRADING AND DRAINAGE PLAN

Drawing No.
C2.20

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Date	08.12.15
Project No.	104500

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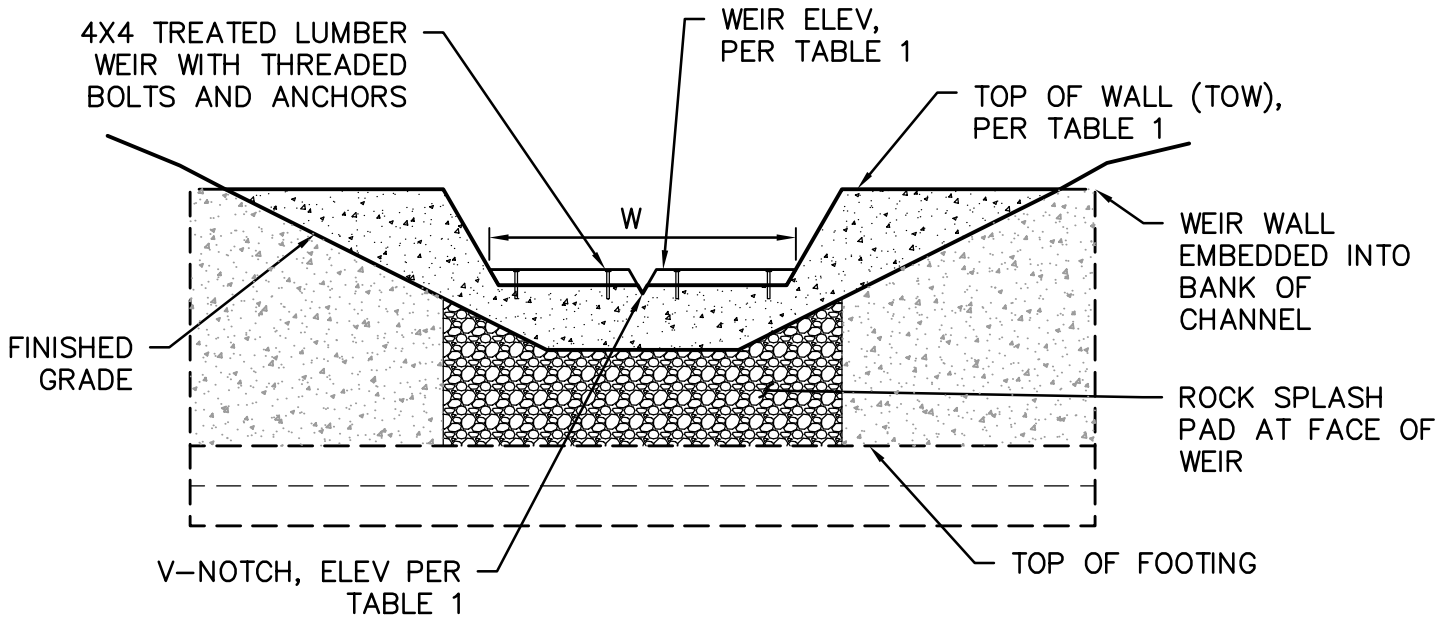

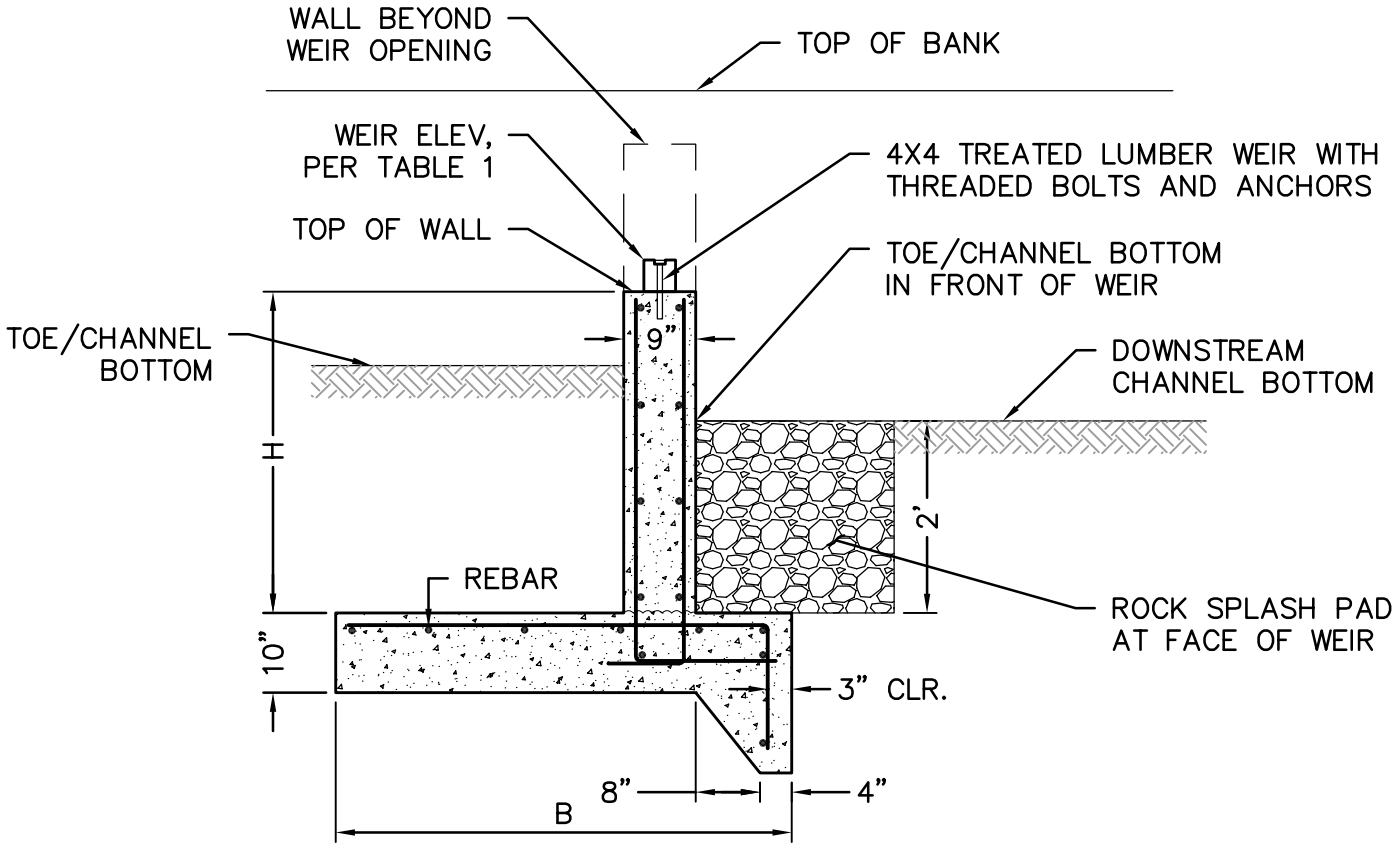

TABLE 1

STRUCTURE.	WEIR ELEV	V-NOTCH ELEV	H	B	W	TOW
FOREBAY	398.00	397.50	2.67'	4.00'	10.5'	400.00
ELC OUTLET	396.50	396.00	3.17'	4.80'	6.0'	399.00

STANDARD CONCRETE TRAPEZOIDAL WEIR

N.T.S

SHEET NO.

EX-01

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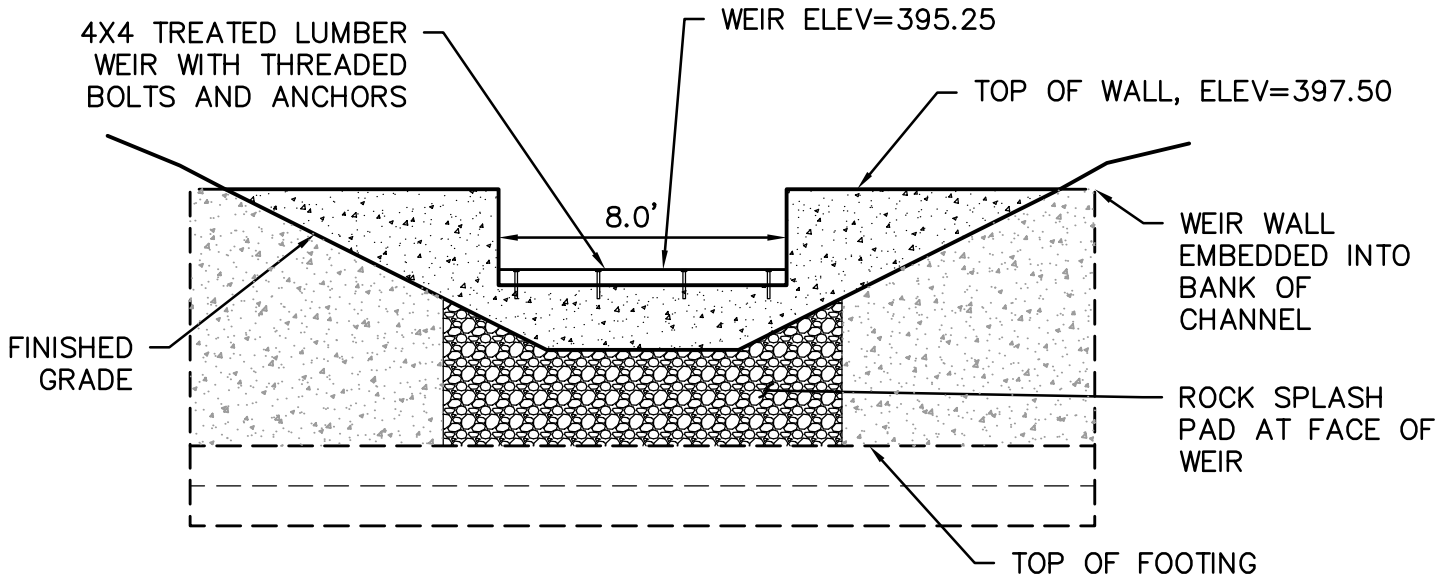

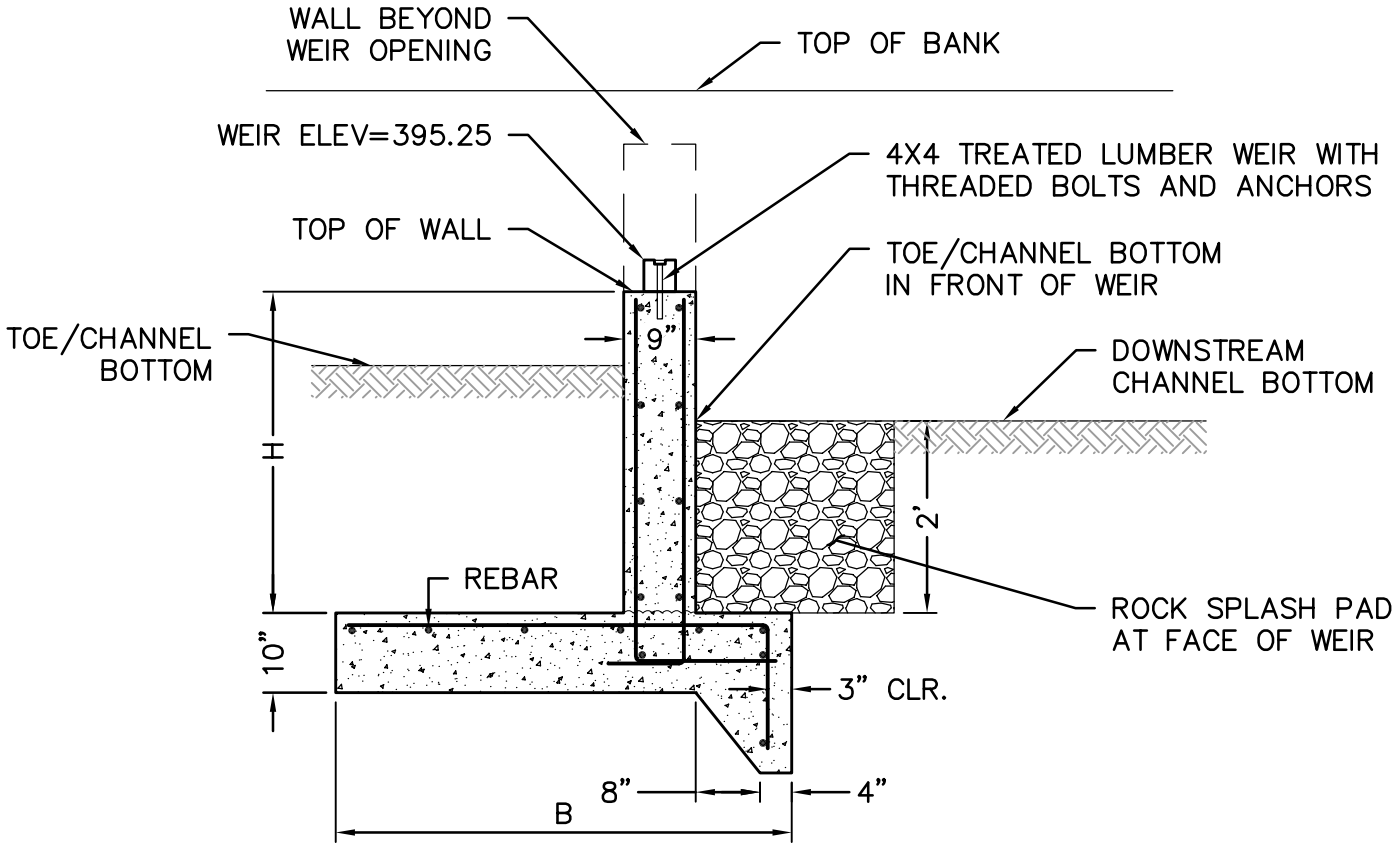

CONCRETE RECTANGULAR WEIR - DOWNSTREAM BYPASS

N.T.S

SHEET NO.

EX-02

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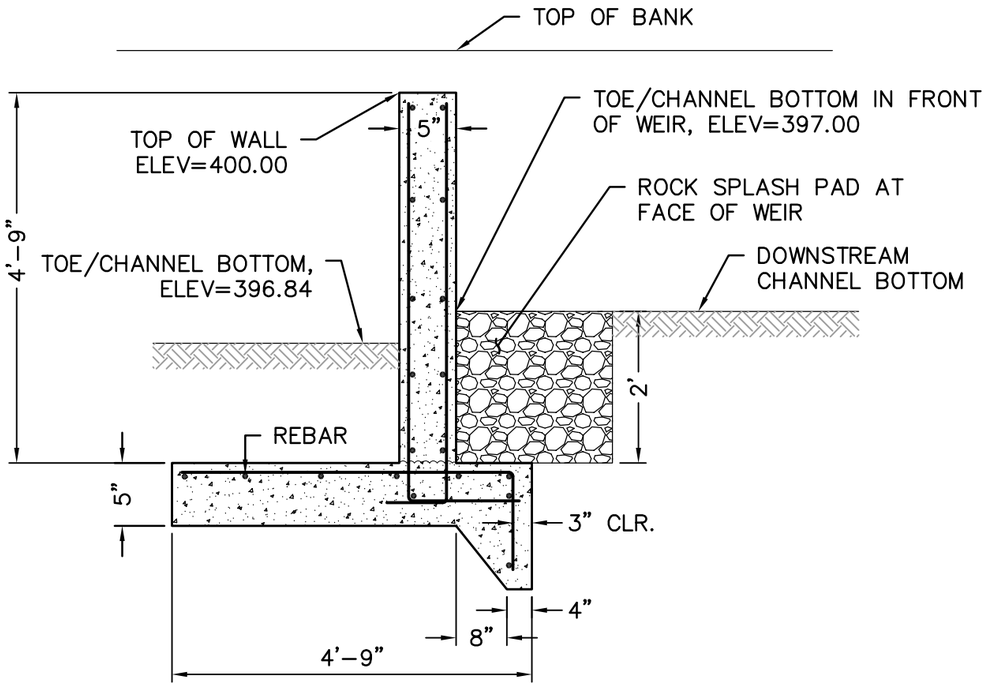

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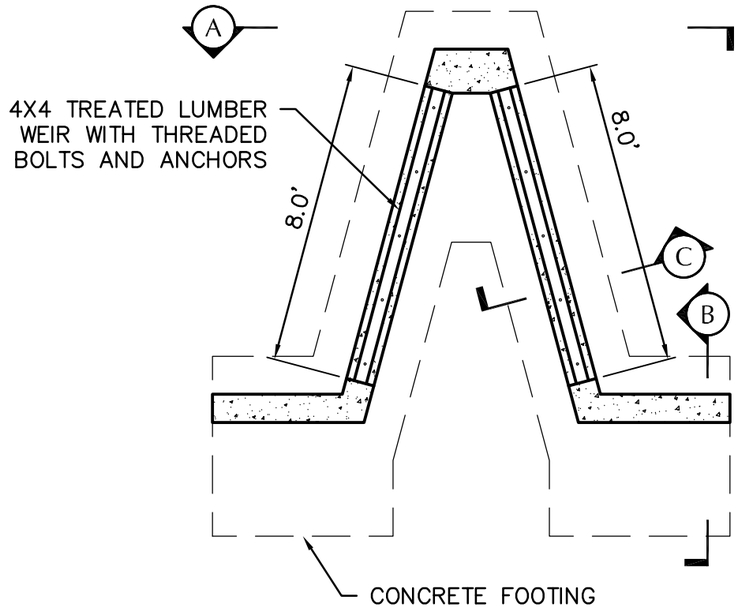
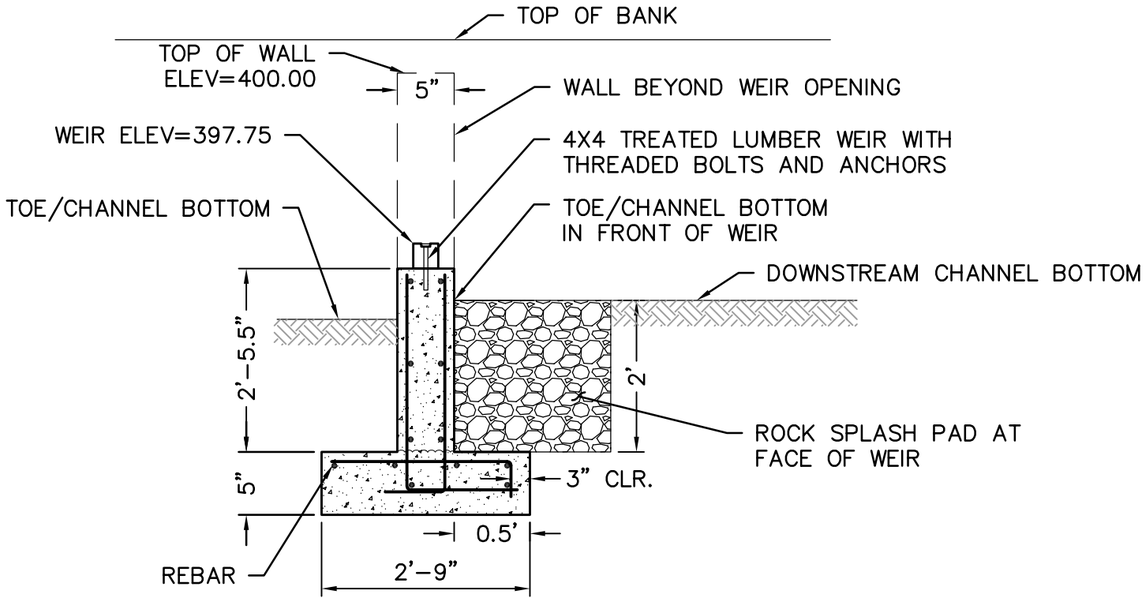


PLAN VIEW



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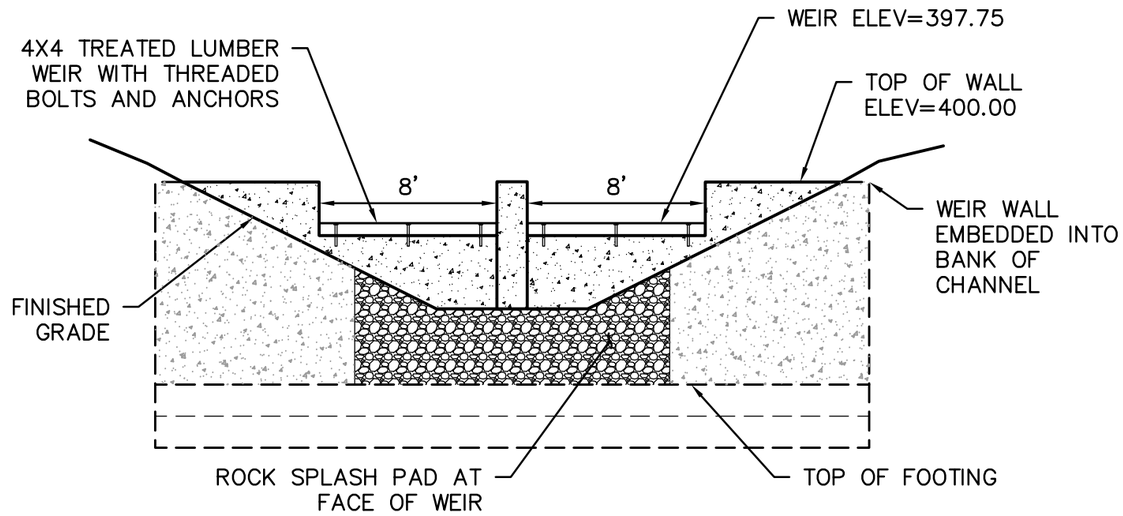

SECTION A

CONCRETE LABARYNTH WEIR - NEWELL CREEK (STA 20+33.44)

N.T.S

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EX-03

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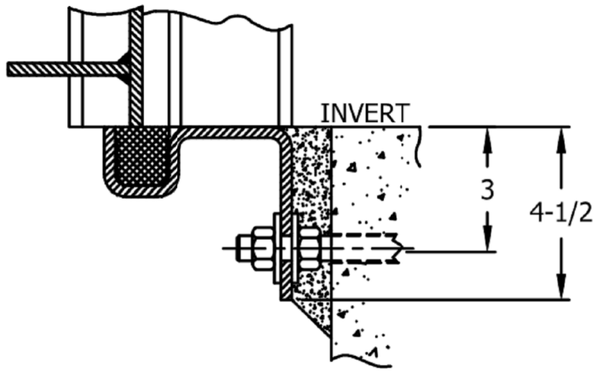

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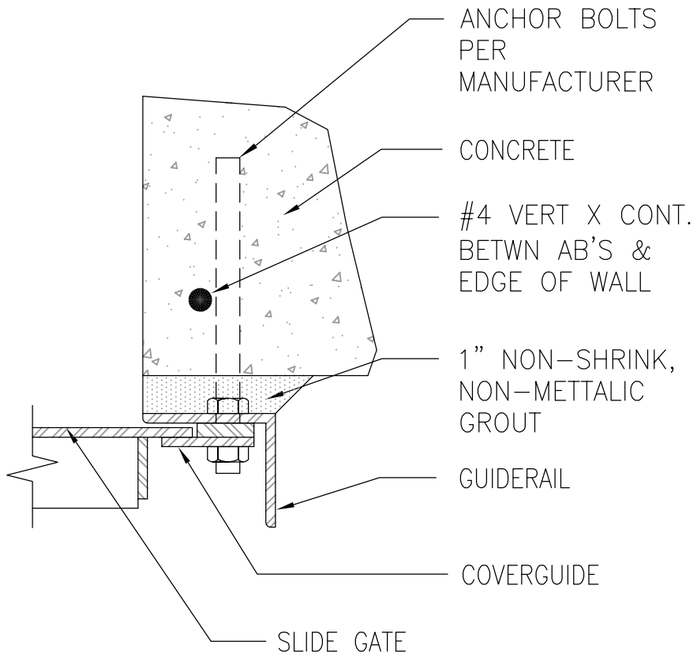

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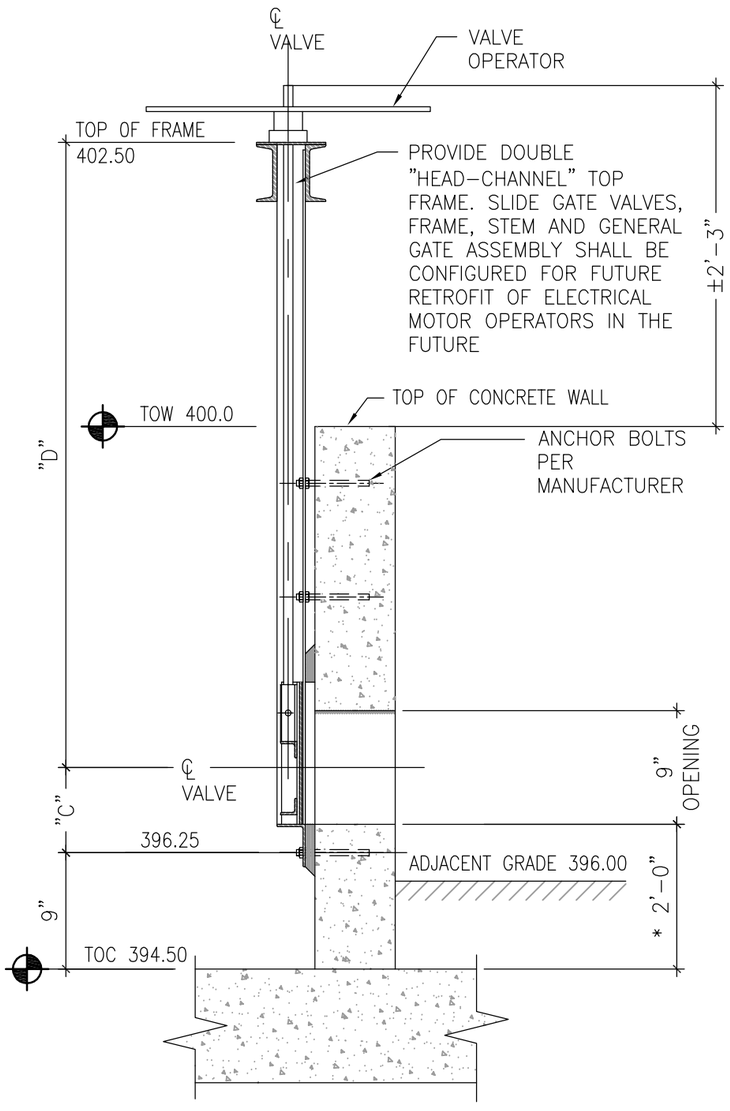

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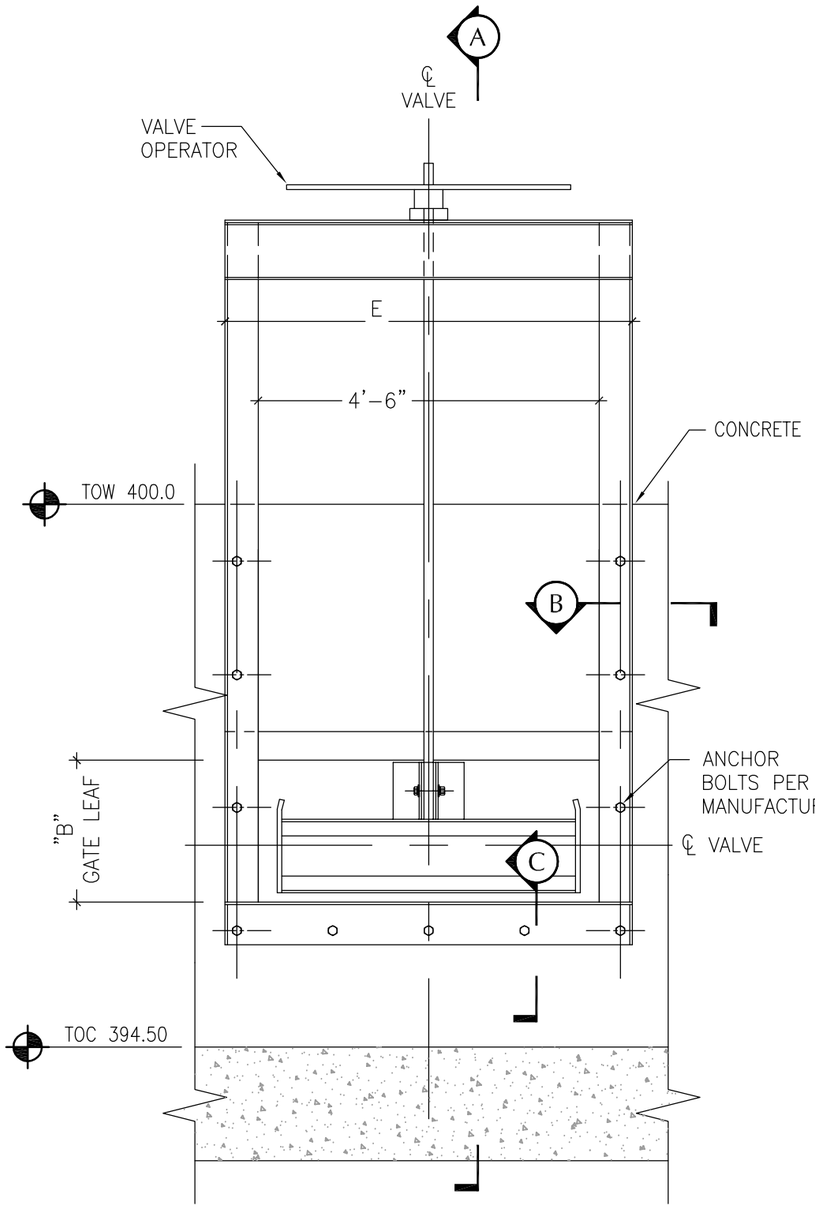

PROFILE VIEW

SLIDE GATE WEIR - ELC INLET

N.T.S

SHEET NO.

EX-04

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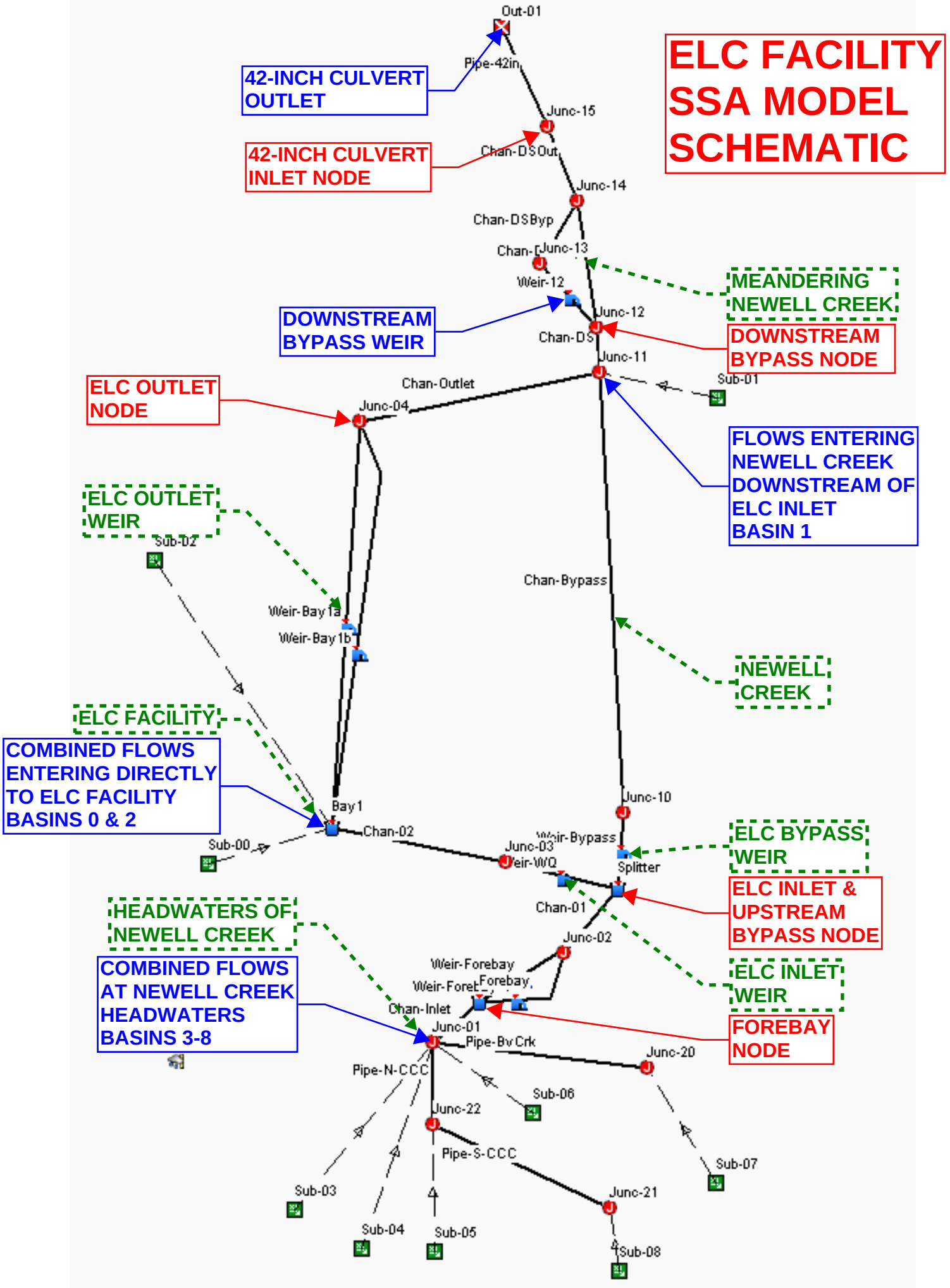

ELC FACILITY SSA MODEL SCHEMATIC
42-INCH CULVERT OUTLET
42-INCH CULVERT INLET NODE
DOWNSTREAM BYPASS WEIR
ELC OUTLET NODE
ELC OUTLET WEIR
ELC FACILITY
COMBINED FLOWS ENTERING DIRECTLY TO ELC FACILITY BASINS 0 & 2
HEADWATERS OF NEWELL CREEK
COMBINED FLOWS AT NEWELL CREEK HEADWATERS BASINS 3-8
MEANDERING NEWELL CREEK
DOWNSTREAM BYPASS NODE
FLOWS ENTERING NEWELL CREEK DOWNSTREAM OF ELC INLET BASIN 1
NEWELL CREEK
ELC BYPASS WEIR
ELC INLET & UPSTREAM BYPASS NODE
ELC INLET WEIR
FOREBAY NODE
Out-01
Pipe-42in
Junc-15
Chan-DSOut
Junc-14
Chan-DSByp
Junc-13
Weir-12
Junc-12
Chan-DS
Junc-11
Sub-01
Chan-Outlet
Junc-04
Sub-02
Chan-Bypass
Weir-Bay1a
Weir-Bay1b
Bay1
Chan-02
Sub-00
Junc-10
Weir-Bypass
Junc-03
Weir-WQ
Splitter
Chan-01
Junc-02
Weir-Forebay
Forebay
Chan-Inlet
Junc-01
Pipe-BvCrk
Junc-20
Pipe-N-CCC
Sub-06
Junc-22
Pipe-S-CCC
Sub-07
Sub-03
Junc-21
Sub-04
Sub-05
Sub-08

Project Description

SSA MODEL INPUT DATA AND RESULTS

File Name 20150731-Facility.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Santa Barbara UH
Time of Concentration (TOC) Method	User-Defined
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	May 19, 2015	00:00:00
End Analysis On	May 20, 2015	00:00:00
Start Reporting On	May 19, 2015	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	9
Nodes	17
Junctions	13
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	3
Links	20
Channels	9
Pipes	4
Pumps	0
Orifices	1
Weirs	6
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-ORCity	Time Series	WQ	Cumulative	inches	Oregon	Clackamas	1	1.00	SCS Type IA 24-hr
2	Rain Gage-ORCity	Time Series	2-YR	Cumulative	inches	Oregon	Clackamas	2	2.60	SCS Type IA 24-hr
3	Rain Gage-ORCity	Time Series	10-YR	Cumulative	inches	Oregon	Clackamas	10	3.40	SCS Type IA 24-hr
4	Rain Gage-ORCity	Time Series	25-YR	Cumulative	inches	Oregon	Clackamas	25	4.00	SCS Type IA 24-hr
5	Rain Gage-ORCity	Time Series	100-YR	Cumulative	inches	Oregon	Clackamas	100	4.50	SCS Type IA 24-hr

Subbasin Hydrology

Subbasin : Sub-00

Input Data

Area (ac)	2.36
Impervious Area (%)	50.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	70.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	2.36		84

Subbasin : Sub-01

Input Data

Area (ac)	8.37
Impervious Area (%)	65.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	70.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	8.37		88.2

Subbasin : Sub-02

Input Data

Area (ac)	2.38
Impervious Area (%)	70.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	65.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	2.38		88.1

Subbasin : Sub-03

Input Data

Area (ac)	27.83
Impervious Area (%)	70.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	65.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	27.83		88.1

Subbasin : Sub-04

Input Data

Area (ac)	11.01
Impervious Area (%)	10.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	57.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	11.01		61.1

Subbasin : Sub-05

Input Data

Area (ac)	21.42
Impervious Area (%)	70.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	65.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	21.42		88.1

Subbasin : Sub-06

Input Data

Area (ac)	37.99
Impervious Area (%)	70.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	65.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	37.99		88.1

Subbasin : Sub-07

Input Data

Area (ac)	30.04
Impervious Area (%)	64.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	73.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	30.04		89

Subbasin : Sub-08

Input Data

Area (ac)	40.88
Impervious Area (%)	40.00
Impervious Area Curve Number	98.00
Pervious Area Curve Number	73.00
Rain Gage ID	Rain Gage-ORCity

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Composite Area & Weighted CN	40.88		83

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft²)
1	Junc-01	397.50	402.00	4.50	397.50	0.00	0.00	-402.00	0.00
2	Junc-02	397.00	400.00	3.00	0.00	-397.00	0.00	-400.00	0.00
3	Junc-03	396.00	400.00	4.00	396.00	0.00	0.00	-400.00	0.00
4	Junc-04	395.00	400.00	5.00	0.00	-395.00	0.00	-400.00	0.00
5	Junc-10	397.00	400.00	3.00	0.00	-397.00	0.00	-400.00	0.00
6	Junc-11	394.50	399.00	4.50	0.00	-394.50	0.00	-399.00	0.00
7	Junc-12	394.00	398.00	4.00	0.00	-394.00	0.00	-398.00	0.00
8	Junc-13	394.00	399.00	5.00	0.00	-394.00	0.00	-399.00	0.00
9	Junc-14	392.00	399.00	7.00	0.00	-392.00	0.00	-399.00	0.00
10	Junc-15	391.62	398.00	6.38	0.00	-391.62	0.00	-398.00	0.00
11	Junc-20	435.00	438.00	3.00	0.00	-435.00	0.00	-438.00	0.00
12	Junc-21	420.00	430.00	10.00	0.00	-420.00	0.00	-430.00	0.00
13	Junc-22	405.00	415.00	10.00	0.00	-405.00	0.00	-415.00	0.00

Channel Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Shape	Height (ft)	Width (ft)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate
1	Chan-01	70.00	397.00	0.00	396.00	0.00	1.00	1.4300	Trapezoidal	4.000	16.000	0.0270	0.0000	0.0000	0.0000	0.50	No
2	Chan-02	60.00	396.00	0.00	395.00	0.00	1.00	1.6700	Trapezoidal	4.000	15.000	0.0270	0.0000	0.0000	0.0000	0.50	No
3	Chan-Bypass	330.00	397.00	0.00	394.50	0.00	2.50	0.7600	Trapezoidal	4.000	21.000	0.0500	0.0000	0.0000	0.0000	0.00	No
4	Chan-DS	136.00	394.50	0.00	394.00	0.00	0.50	0.3700	Trapezoidal	5.000	16.000	0.0500	0.0000	0.0000	0.0000	0.00	No
5	Chan-DSByp	142.00	394.00	0.00	392.00	0.00	2.00	1.4100	Trapezoidal	4.000	18.000	0.0500	0.0000	0.0000	0.0000	0.00	No
6	Chan-DSLoop	242.00	394.00	0.00	392.00	0.00	2.00	0.8300	Trapezoidal	4.000	17.000	0.0500	0.0000	0.0000	0.0000	0.00	No
7	Chan-DSOut	66.00	392.00	0.00	391.62	0.00	0.38	0.5800	Trapezoidal	5.000	15.000	0.0500	0.0000	0.0000	0.0000	0.00	No
8	Chan-Inlet	20.00	397.50	0.00	397.00	0.00	0.50	2.5000	Trapezoidal	4.000	26.000	0.0400	0.5000	0.0000	0.0000	0.00	No
9	Chan-Outlet	75.00	395.00	0.00	394.50	0.00	0.50	0.6700	Trapezoidal	4.000	15.000	0.0270	0.0000	0.0000	0.0000	0.00	No

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Pipe-42in	196.00	391.62	0.00	390.30	0.00	1.32	0.6700	CIRCULAR	42.000	42.000	0.0150	0.5000	0.5000	0.0000	0.00	No	1
2	Pipe-BvCrk	1905.00	435.00	0.00	397.50	0.00	37.50	1.9700	CIRCULAR	15.000	15.000	0.0150	0.5000	0.5000	0.0000	0.00	No	1
3	Pipe-N-CCC	962.00	405.00	0.00	397.50	0.00	7.50	0.7800	CIRCULAR	30.000	30.000	0.0150	0.5000	0.5000	0.0000	0.00	No	1
4	Pipe-S-CCC	1721.00	420.00	0.00	405.00	0.00	15.00	0.8700	CIRCULAR	24.000	24.000	0.0150	0.5000	0.5000	0.0000	0.00	No	1

Storage Nodes

Storage Node : Bay1

Input Data

Invert Elevation (ft) 395.00
Max (Rim) Elevation (ft) 399.00
Max (Rim) Offset (ft) 4.00
Initial Water Elevation (ft) 396.00
Initial Water Depth (ft) 1.00
Ponded Area (ft²) 2800.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	11415	0.000
1	14995	13205.00
2	20775	31090.00
3	27190	55072.50
4	34865	86100.00

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bay1a	Rectangular	No	396.50	1.50	5.50	2.50	3.33
2	Weir-Bay1b	V-Notch	No	396.00	1.00	3.46	3.00	2.40

Storage Node : Forebay

Input Data

Invert Elevation (ft) 397.00
Max (Rim) Elevation (ft) 401.00
Max (Rim) Offset (ft) 4.00
Initial Water Elevation (ft) 397.50
Initial Water Depth (ft) 0.50
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1070	0.000
1	1775	1422.50
2	2485	3552.50
3	3090	6340.00

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Forebay	Rectangular	No	398.00	1.00	10.00	3.00	3.33
2	Weir-Forebay-V	V-Notch	No	397.50	0.50	3.46	3.00	2.40

Storage Node : Splitter

Input Data

Invert Elevation (ft) 396.00
Max (Rim) Elevation (ft) 400.00
Max (Rim) Offset (ft) 4.00
Initial Water Elevation (ft) 396.50
Initial Water Depth (ft) 0.50
Ponded Area (ft²) 500.00
Evaporation Loss 0.00

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bypass	Rectangular	No	397.75	1.75	16.00	2.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Weir-WQ	Side	Rectangular	No		12.00	54.00	396.50	0.63

Subbasin Summary

WQ MODELED STORM EVENT

SN	Subbasin ID	Area (ac)	Impervious Area (%)	Impervious Area Curve Number	Pervious Area Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-00	2.36	50.00	98.00	70.00	1.00	0.40	0.93	0.23	0 00:10:00
2	Sub-01	8.37	65.00	98.00	70.00	1.00	0.51	4.29	0.99	0 00:13:52
3	Sub-02	2.38	70.00	98.00	65.00	1.00	0.55	1.31	0.31	0 00:12:16
4	Sub-03	27.83	70.00	98.00	65.00	1.00	0.55	15.25	3.03	0 00:24:54
5	Sub-04	11.01	10.00	98.00	57.00	1.00	0.08	0.85	0.13	0 00:57:02
6	Sub-05	21.42	70.00	98.00	65.00	1.00	0.55	11.74	2.40	0 00:22:19
7	Sub-06	37.99	70.00	98.00	65.00	1.00	0.55	20.86	4.39	0 00:20:00
8	Sub-07	30.04	64.00	98.00	73.00	1.00	0.51	15.20	2.90	0 00:27:22
9	Sub-08	40.88	40.00	98.00	73.00	1.00	0.32	13.25	2.79	0 00:17:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Junc-01	Junction	397.50	402.00	397.50	0.00	0.00	15.52	398.57	0.00	3.43	0 00:00	0.00	0.00
2	Junc-02	Junction	397.00	400.00	0.00	0.00	0.00	15.44	397.70	0.00	3.30	0 00:00	0.00	0.00
3	Junc-03	Junction	396.00	400.00	396.00	0.00	0.00	15.32	397.23	0.00	2.77	0 00:00	0.00	0.00
4	Junc-04	Junction	395.00	400.00	0.00	0.00	0.00	14.13	395.95	0.00	4.05	0 00:00	0.00	0.00
5	Junc-10	Junction	397.00	400.00	0.00	0.00	0.00	0.00	397.00	0.00	4.00	0 00:00	0.00	0.00
6	Junc-11	Junction	394.50	399.00	0.00	0.00	0.00	14.83	395.70	0.00	3.80	0 00:00	0.00	0.00
7	Junc-12	Junction	394.00	398.00	0.00	0.00	0.00	14.81	395.01	0.00	4.24	0 00:00	0.00	0.00
8	Junc-13	Junction	394.00	399.00	0.00	0.00	0.00	0.00	394.00	0.00	5.25	0 00:00	0.00	0.00
9	Junc-14	Junction	392.00	399.00	0.00	0.00	0.00	14.80	393.17	0.00	5.83	0 00:00	0.00	0.00
10	Junc-15	Junction	391.62	398.00	0.00	0.00	0.00	14.79	392.80	0.00	5.20	0 00:00	0.00	0.00
11	Junc-20	Junction	435.00	438.00	0.00	0.00	0.00	2.90	435.52	0.00	2.48	0 00:00	0.00	0.00
12	Junc-21	Junction	420.00	430.00	0.00	0.00	0.00	2.79	420.53	0.00	9.47	0 00:00	0.00	0.00
13	Junc-22	Junction	405.00	415.00	0.00	0.00	0.00	5.16	405.68	0.00	9.32	0 00:00	0.00	0.00
14	Out-01	Outfall	390.30					14.79	391.38					
15	Bay1	Storage Node	395.00	399.00	396.00		2800.00	15.72	397.24				0.00	0.00
16	Forebay	Storage Node	397.00	401.00	397.50		0.00	15.47	398.56				0.00	0.00
17	Splitter	Storage Node	396.00	400.00	396.50		500.00	15.44	397.65				0.00	0.00

PEAK FLOWS AT JUNCTIONS

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)
1	Pipe-42in	Pipe	Junc-15	Out-01	196.00	391.62	390.30	0.6700	42.000	0.0150	14.79	71.56	0.21	5.49	1.13	0.32	0.00
2	Pipe-BvCrk	Pipe	Junc-20	Junc-01	1905.00	435.00	397.50	1.9700	15.000	0.0150	2.89	7.85	0.37	3.51	0.79	0.64	0.00
3	Pipe-N-CCC	Pipe	Junc-22	Junc-01	962.00	405.00	397.50	0.7800	30.000	0.0150	5.12	31.39	0.16	3.35	0.87	0.35	0.00
4	Pipe-S-CCC	Pipe	Junc-21	Junc-22	1721.00	420.00	405.00	0.8700	24.000	0.0150	2.76	18.30	0.15	3.48	0.60	0.30	0.00
5	Chan-01	Channel	Junc-02	Splitter	70.00	397.00	396.00	1.4300	48.000	0.0270	15.44	441.21	0.04	2.39	1.17	0.29	0.00
6	Chan-02	Channel	Junc-03	Bay1	60.00	396.00	395.00	1.6700	48.000	0.0270	15.24	414.97	0.04	1.73	1.73	0.43	0.00
7	Chan-Bypass	Channel	Junc-10	Junc-11	330.00	397.00	394.50	0.7600	48.000	0.0500	0.00	232.46	0.00	0.00	0.60	0.15	0.00
8	Chan-DS	Channel	Junc-11	Junc-12	136.00	394.50	394.00	0.3700	60.000	0.0500	14.81	193.63	0.08	1.89	1.10	0.22	0.00
9	Chan-DSByp	Channel	Junc-13	Junc-14	142.00	394.00	392.00	1.4100	48.000	0.0500	0.00	299.29	0.00	0.00	0.59	0.15	0.00
10	Chan-DSLoop	Channel	Junc-12	Junc-14	242.00	394.00	392.00	0.8300	48.000	0.0500	14.80	205.06	0.07	2.05	1.09	0.27	0.00
11	Chan-DSOut	Channel	Junc-14	Junc-15	66.00	392.00	391.62	0.5800	60.000	0.0500	14.79	213.86	0.07	2.03	1.18	0.24	0.00
12	Chan-Inlet	Channel	Junc-01	Forebay	20.00	397.50	397.00	2.5000	48.000	0.0400	15.47	795.91	0.02	0.93	1.31	0.33	0.00
13	Chan-Outlet	Channel	Junc-04	Junc-11	75.00	395.00	394.50	0.6700	48.000	0.0270	14.13	262.45	0.05	2.85	1.08	0.27	0.00
14	Weir-WQ	Orifice	Splitter	Junc-03		396.00	396.00		12.000		15.32						
15	Weir-12	Weir	Junc-12	Junc-13		394.00	394.00				0.00						
16	Weir-Bay1a	Weir	Bay1	Junc-04		395.00	395.00				11.74						
17	Weir-Bay1b	Weir	Bay1	Junc-04		395.00	395.00				2.39						
18	Weir-Bypass	Weir	Splitter	Junc-10		396.00	397.00				0.00						
19	Weir-Forebay	Weir	Forebay	Junc-02		397.00	397.00				13.86						
20	Weir-Forebay-V	Weir	Forebay	Junc-02		397.00	397.00				1.58						

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)	
1	Junc-01	15.52	7.53	398.57	1.07	0.00	3.43	398.12	0.62	0 08:07	0 00:00	0.00	0.00	← INFLOW TO FOREBAY
2	Junc-02	15.44	0.00	397.70	0.70	0.00	3.30	397.26	0.26	0 08:07	0 00:00	0.00	0.00	← FOREBAY DISCHARGE
3	Junc-03	15.32	0.00	397.23	1.23	0.00	2.77	396.66	0.66	0 08:22	0 00:00	0.00	0.00	← INFLOW TO ELC
4	Junc-04	14.13	0.00	395.95	0.95	0.00	4.05	395.37	0.37	0 08:21	0 00:00	0.00	0.00	← ELC DISCHARGE
5	Junc-10	0.00	0.00	397.00	0.00	0.00	4.00	397.00	0.00	0 00:00	0 00:00	0.00	0.00	← BYPASS ELC
6	Junc-11	14.83	0.99	395.70	1.20	0.00	3.80	394.97	0.47	0 08:22	0 00:00	0.00	0.00	
7	Junc-12	14.81	0.00	395.01	1.01	0.00	4.24	394.39	0.39	0 08:23	0 00:00	0.00	0.00	
8	Junc-13	0.00	0.00	394.00	0.00	0.00	5.25	394.00	0.00	0 00:00	0 00:00	0.00	0.00	
9	Junc-14	14.80	0.00	393.17	1.17	0.00	5.83	392.44	0.44	0 08:24	0 00:00	0.00	0.00	
10	Junc-15	14.79	0.00	392.80	1.18	0.00	5.20	392.10	0.48	0 08:24	0 00:00	0.00	0.00	
11	Junc-20	2.90	2.90	435.52	0.52	0.00	2.48	435.22	0.22	0 08:06	0 00:00	0.00	0.00	
12	Junc-21	2.79	2.79	420.53	0.53	0.00	9.47	420.22	0.22	0 08:04	0 00:00	0.00	0.00	
13	Junc-22	5.16	2.40	405.68	0.68	0.00	9.32	405.29	0.29	0 08:07	0 00:00	0.00	0.00	

Channel Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Chan-01	15.44	0 08:07	441.21	0.04	2.39	0.49	1.17	0.29	0.00		
2	Chan-02	15.24	0 08:08	414.97	0.04	1.73	0.58	1.73	0.43	0.00		
3	Chan-Bypass	0.00	0 00:00	232.46	0.00	0.00		0.60	0.15	0.00		
4	Chan-DS	14.81	0 08:22	193.63	0.08	1.89	1.20	1.10	0.22	0.00		
5	Chan-DSByp	0.00	0 00:00	299.29	0.00	0.00		0.59	0.15	0.00		
6	Chan-DSLoop	14.80	0 08:23	205.06	0.07	2.05	1.97	1.09	0.27	0.00		
7	Chan-DSOut	14.79	0 08:24	213.86	0.07	2.03	0.54	1.18	0.24	0.00		
8	Chan-Inlet	15.47	0 08:06	795.91	0.02	0.93	0.36	1.31	0.33	0.00		
9	Chan-Outlet	14.13	0 08:21	262.45	0.05	2.85	0.44	1.08	0.27	0.00		

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Pipe-42in	14.79	0 08:25	71.56	0.21	5.49	0.60	1.13	0.32	0.00		Calculated
2	Pipe-BvCrk	2.89	0 08:07	7.85	0.37	3.51	9.05	0.79	0.64	0.00		Calculated
3	Pipe-N-CCC	5.12	0 08:07	31.39	0.16	3.35	4.79	0.87	0.35	0.00		Calculated
4	Pipe-S-CCC	2.76	0 08:05	18.30	0.15	3.48	8.24	0.60	0.30	0.00		Calculated

Storage Node : Bay1

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bay1a	Rectangular	No	396.50	1.50	5.50	2.50	3.33
2	Weir-Bay1b	V-Notch	No	396.00	1.00	3.46	3.00	2.40

Output Summary Results

Peak Inflow (cfs)	15.72
Peak Lateral Inflow (cfs)	0.54
Peak Outflow (cfs)	14.13
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	397.24
Max HGL Depth Attained (ft)	2.24
Average HGL Elevation Attained (ft)	396.66
Average HGL Depth Attained (ft)	1.66
Time of Max HGL Occurrence (days hh:mm)	0 08:21
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Forebay	Rectangular	No	398.00	1.00	10.00	3.00	3.33
2	Weir-Forebay-V	V-Notch	No	397.50	0.50	3.46	3.00	2.40

Output Summary Results

Peak Inflow (cfs) 15.47
Peak Lateral Inflow (cfs) 0.00
Peak Outflow (cfs) 15.44
Peak Exfiltration Flow Rate (cfm) 0.00
Max HGL Elevation Attained (ft) 398.56
Max HGL Depth Attained (ft) 1.56
Average HGL Elevation Attained (ft) 398.12
Average HGL Depth Attained (ft) 1.12
Time of Max HGL Occurrence (days hh:mm) 0 08:07
Total Exfiltration Volume (1000-ft³) 0.000
Total Flooded Volume (ac-in) 0
Total Time Flooded (min) 0
Total Retention Time (sec) 0.00

Storage Node : Splitter

Input Data

Invert Elevation (ft)	396.00
Max (Rim) Elevation (ft)	400.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	396.50
Initial Water Depth (ft)	0.50
Ponded Area (ft²)	500.00
Evaporation Loss	0.00

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bypass	Rectangular	No	397.75	1.75	16.00	2.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Weir-WQ	Side	Rectangular	No		12.00	54.00	396.50	0.63

Output Summary Results

Peak Inflow (cfs)	15.44
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	15.32
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	397.65
Max HGL Depth Attained (ft)	1.65
Average HGL Elevation Attained (ft)	396.89
Average HGL Depth Attained (ft)	0.89
Time of Max HGL Occurrence (days hh:mm)	0 08:12
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

COMBINED INLET & BYPASS WEIR SEE JUNCTION RESULTS

PEAK STAGE AT ELC INLET

Subbasin Summary

2-YR MODELED STORM EVENT

SN	Subbasin ID	Area (ac)	Impervious Area (%)	Impervious Area Curve Number	Pervious Area Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-00	2.36	50.00	98.00	70.00	2.60	1.43	3.37	0.71	0 00:10:00
2	Sub-01	8.37	65.00	98.00	70.00	2.60	1.71	14.27	3.01	0 00:13:52
3	Sub-02	2.38	70.00	98.00	65.00	2.60	1.75	4.17	0.92	0 00:12:16
4	Sub-03	27.83	70.00	98.00	65.00	2.60	1.74	48.45	8.95	0 00:24:54
5	Sub-04	11.01	10.00	98.00	57.00	2.60	0.35	3.80	0.37	0 00:57:02
6	Sub-05	21.42	70.00	98.00	65.00	2.60	1.74	37.34	7.09	0 00:22:19
7	Sub-06	37.99	70.00	98.00	65.00	2.60	1.74	66.25	13.02	0 00:20:00
8	Sub-07	30.04	64.00	98.00	73.00	2.60	1.72	51.67	9.13	0 00:27:22
9	Sub-08	40.88	40.00	98.00	73.00	2.60	1.31	53.51	9.62	0 00:17:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Junc-01	Junction	397.50	402.00	397.50	0.00	0.00	46.73	399.25	0.00	2.75	0 00:00	0.00	0.00
2	Junc-02	Junction	397.00	400.00	0.00	0.00	0.00	46.59	398.43	0.00	2.57	0 00:00	0.00	0.00
3	Junc-03	Junction	396.00	400.00	396.00	0.00	0.00	22.61	397.54	0.00	2.46	0 00:00	0.00	0.00
4	Junc-04	Junction	395.00	400.00	0.00	0.00	0.00	22.92	396.80	0.00	3.20	0 00:00	0.00	0.00
5	Junc-10	Junction	397.00	400.00	0.00	0.00	0.00	24.00	398.30	0.00	2.70	0 00:00	0.00	0.00
6	Junc-11	Junction	394.50	399.00	0.00	0.00	0.00	48.88	396.77	0.00	2.73	0 00:00	0.00	0.00
7	Junc-12	Junction	394.00	398.00	0.00	0.00	0.00	48.82	395.73	0.00	3.52	0 00:00	0.00	0.00
8	Junc-13	Junction	394.00	399.00	0.00	0.00	0.00	9.27	394.60	0.00	4.65	0 00:00	0.00	0.00
9	Junc-14	Junction	392.00	399.00	0.00	0.00	0.00	48.81	394.43	0.00	4.57	0 00:00	0.00	0.00
10	Junc-15	Junction	391.62	398.00	0.00	0.00	0.00	48.70	394.15	0.00	3.85	0 00:00	0.00	0.00
11	Junc-20	Junction	435.00	438.00	0.00	0.00	0.00	9.13	438.00	0.00	0.00	0 08:06	0.27	21.00
12	Junc-21	Junction	420.00	430.00	0.00	0.00	0.00	9.62	421.03	0.00	8.97	0 00:00	0.00	0.00
13	Junc-22	Junction	405.00	415.00	0.00	0.00	0.00	16.69	406.29	0.00	8.71	0 00:00	0.00	0.00
14	Out-01	Outfall	390.30					48.70	392.42					
15	Bay1	Storage Node	395.00	399.00	396.00		2800.00	24.12	397.56				0.00	0.00
16	Forebay	Storage Node	397.00	401.00	397.50		0.00	46.67	399.23				0.00	0.00
17	Splitter	Storage Node	396.00	400.00	396.50		500.00	46.58	398.51				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)
1	Pipe-42in	Pipe	Junc-15	Out-01	196.00	391.62	390.30	0.6700	42.000	0.0150	48.70	71.56	0.68	7.18	2.33	0.66	0.00
2	Pipe-BvCrk	Pipe	Junc-20	Junc-01	1905.00	435.00	397.50	1.9700	15.000	0.0150	8.34	7.85	1.06	6.94	1.25	1.00	27.00
3	Pipe-N-CCC	Pipe	Junc-22	Junc-01	962.00	405.00	397.50	0.7800	30.000	0.0150	16.62	31.39	0.53	5.30	1.52	0.61	0.00
4	Pipe-S-CCC	Pipe	Junc-21	Junc-22	1721.00	420.00	405.00	0.8700	24.000	0.0150	9.60	18.30	0.52	5.09	1.16	0.58	0.00
5	Chan-01	Channel	Junc-02	Splitter	70.00	397.00	396.00	1.4300	48.000	0.0270	46.58	441.21	0.11	3.42	1.97	0.49	0.00
6	Chan-02	Channel	Junc-03	Bay1	60.00	396.00	395.00	1.6700	48.000	0.0270	22.53	414.97	0.05	1.90	2.05	0.51	0.00
7	Chan-Bypass	Channel	Junc-10	Junc-11	330.00	397.00	394.50	0.7600	48.000	0.0500	23.97	232.46	0.10	1.57	1.78	0.45	0.00
8	Chan-DS	Channel	Junc-11	Junc-12	136.00	394.50	394.00	0.3700	60.000	0.0500	48.82	193.63	0.25	3.05	2.00	0.40	0.00
9	Chan-DSByp	Channel	Junc-13	Junc-14	142.00	394.00	392.00	1.4100	48.000	0.0500	9.27	299.29	0.03	0.74	1.51	0.38	0.00
10	Chan-DSLoop	Channel	Junc-12	Junc-14	242.00	394.00	392.00	0.8300	48.000	0.0500	39.55	205.06	0.19	2.42	2.08	0.52	0.00
11	Chan-DSOut	Channel	Junc-14	Junc-15	66.00	392.00	391.62	0.5800	60.000	0.0500	48.70	213.86	0.23	2.64	2.48	0.50	0.00
12	Chan-Inlet	Channel	Junc-01	Forebay	20.00	397.50	397.00	2.5000	48.000	0.0400	46.67	795.91	0.06	1.68	1.99	0.50	0.00
13	Chan-Outlet	Channel	Junc-04	Junc-11	75.00	395.00	394.50	0.6700	48.000	0.0270	22.97	262.45	0.09	2.91	2.03	0.51	0.00
14	Weir-WQ	Orifice	Splitter	Junc-03		396.00	396.00		12.000		22.61						
15	Weir-12	Weir	Junc-12	Junc-13		394.00	394.00				9.27						
16	Weir-Bay1a	Weir	Bay1	Junc-04		395.00	395.00				19.01						
17	Weir-Bay1b	Weir	Bay1	Junc-04		395.00	395.00				3.92						
18	Weir-Bypass	Weir	Splitter	Junc-10		396.00	397.00				24.00						
19	Weir-Forebay	Weir	Forebay	Junc-02		397.00	397.00				41.61						
20	Weir-Forebay-V	Weir	Forebay	Junc-02		397.00	397.00				4.99						

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)	
1	Junc-01	46.73	22.26	399.25	1.75	0.00	2.75	398.49	0.99	0 08:06	0 00:00	0.00	0.00	← INFLOW TO FOREBAY
2	Junc-02	46.59	0.00	398.43	1.43	0.00	2.57	397.64	0.64	0 08:07	0 00:00	0.00	0.00	← FOREBAY DISCHARGE
3	Junc-03	22.61	0.00	397.54	1.54	0.00	2.46	397.08	1.08	0 08:17	0 00:00	0.00	0.00	← INFLOW TO ELC
4	Junc-04	22.92	0.00	396.80	1.80	0.00	3.20	395.87	0.87	0 08:10	0 00:00	0.00	0.00	← ELC DISCHARGE
5	Junc-10	24.00	0.00	398.30	1.30	0.00	2.70	397.19	0.19	0 08:08	0 00:00	0.00	0.00	← BYPASS ELC
6	Junc-11	48.88	3.01	396.77	2.27	0.00	2.73	395.62	1.12	0 08:10	0 00:00	0.00	0.00	
7	Junc-12	48.82	0.00	395.73	1.73	0.00	3.52	394.92	0.92	0 08:11	0 00:00	0.00	0.00	
8	Junc-13	9.27	0.00	394.60	0.60	0.00	4.65	394.07	0.07	0 08:11	0 00:00	0.00	0.00	
9	Junc-14	48.81	0.00	394.43	2.43	0.00	4.57	393.10	1.10	0 08:13	0 00:00	0.00	0.00	
10	Junc-15	48.70	0.00	394.15	2.53	0.00	3.85	392.75	1.13	0 08:13	0 00:00	0.00	0.00	
11	Junc-20	9.13	9.13	438.00	3.00	0.00	0.00	435.63	0.63	0 08:00	0 08:06	0.27	21.00	
12	Junc-21	9.62	9.62	421.03	1.03	0.00	8.97	420.51	0.51	0 08:06	0 00:00	0.00	0.00	
13	Junc-22	16.69	7.09	406.29	1.29	0.00	8.71	405.63	0.63	0 08:06	0 00:00	0.00	0.00	

Channel Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Chan-01	46.58	0 08:06	441.21	0.11	3.42	0.34	1.97	0.49	0.00		
2	Chan-02	22.53	0 08:03	414.97	0.05	1.90	0.53	2.05	0.51	0.00		
3	Chan-Bypass	23.97	0 08:08	232.46	0.10	1.57	3.50	1.78	0.45	0.00		
4	Chan-DS	48.82	0 08:10	193.63	0.25	3.05	0.74	2.00	0.40	0.00		
5	Chan-DSByp	9.27	0 08:11	299.29	0.03	0.74	3.20	1.51	0.38	0.00		
6	Chan-DSLoop	39.55	0 08:11	205.06	0.19	2.42	1.67	2.08	0.52	0.00		
7	Chan-DSOut	48.70	0 08:12	213.86	0.23	2.64	0.42	2.48	0.50	0.00		
8	Chan-Inlet	46.67	0 08:06	795.91	0.06	1.68	0.20	1.99	0.50	0.00		
9	Chan-Outlet	22.97	0 08:21	262.45	0.09	2.91	0.43	2.03	0.51	0.00		

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Pipe-42in	48.70	0 08:13	71.56	0.68	7.18	0.45	2.33	0.66	0.00		Calculated
2	Pipe-BvCrk	8.34	0 08:28	7.85	1.06	6.94	4.57	1.25	1.00	27.00		SURCHARGED
3	Pipe-N-CCC	16.62	0 08:06	31.39	0.53	5.30	3.03	1.52	0.61	0.00		Calculated
4	Pipe-S-CCC	9.60	0 08:06	18.30	0.52	5.09	5.64	1.16	0.58	0.00		Calculated

Storage Node : Bay1

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bay1a	Rectangular	No	396.50	1.50	5.50	2.50	3.33
2	Weir-Bay1b	V-Notch	No	396.00	1.00	3.46	3.00	2.40

Output Summary Results

Peak Inflow (cfs)	24.12
Peak Lateral Inflow (cfs)	1.63
Peak Outflow (cfs)	22.92
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	397.56
Max HGL Depth Attained (ft)	2.56
Average HGL Elevation Attained (ft)	397.09
Average HGL Depth Attained (ft)	2.09
Time of Max HGL Occurrence (days hh:mm)	0 08:16
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Forebay	Rectangular	No	398.00	1.00	10.00	3.00	3.33
2	Weir-Forebay-V	V-Notch	No	397.50	0.50	3.46	3.00	2.40

Output Summary Results

Peak Inflow (cfs)	46.67
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	46.59
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	399.23
Max HGL Depth Attained (ft)	2.23
Average HGL Elevation Attained (ft)	398.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 08:06
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Splitter

Input Data

Invert Elevation (ft)	396.00
Max (Rim) Elevation (ft)	400.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	396.50
Initial Water Depth (ft)	0.50
Ponded Area (ft²)	500.00
Evaporation Loss	0.00

Outflow Weirs

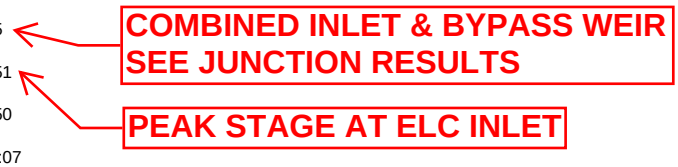
SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bypass	Rectangular	No	397.75	1.75	16.00	2.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Weir-WQ	Side	Rectangular	No		12.00	54.00	396.50	0.63

Output Summary Results

Peak Inflow (cfs)	46.58
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	46.55
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	398.51
Max HGL Depth Attained (ft)	2.51
Average HGL Elevation Attained (ft)	397.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 08:07
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00



Subbasin Summary

10-YR MODELED STORM EVENT

SN	Subbasin ID	Area (ac)	Impervious Area (%)	Impervious Area Curve Number	Pervious Area Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-00	2.36	50.00	98.00	70.00	3.39	2.05	4.83	1.05	0 00:10:00
2	Sub-01	8.37	65.00	98.00	70.00	3.39	2.37	19.87	4.23	0 00:13:52
3	Sub-02	2.38	70.00	98.00	65.00	3.39	2.41	5.74	1.25	0 00:12:16
4	Sub-03	27.83	70.00	98.00	65.00	3.39	2.40	66.82	12.20	0 00:24:54
5	Sub-04	11.01	10.00	98.00	57.00	3.39	0.63	6.93	0.50	0 00:57:02
6	Sub-05	21.42	70.00	98.00	65.00	3.39	2.40	51.47	9.67	0 00:22:19
7	Sub-06	37.99	70.00	98.00	65.00	3.39	2.41	91.37	17.69	0 00:20:00
8	Sub-07	30.04	64.00	98.00	73.00	3.39	2.40	72.04	12.85	0 00:27:22
9	Sub-08	40.88	40.00	98.00	73.00	3.39	1.92	78.33	14.69	0 00:17:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Junc-01	Junction	397.50	402.00	397.50	0.00	0.00	62.43	399.58	0.00	2.42	0 00:00	0.00	0.00
2	Junc-02	Junction	397.00	400.00	0.00	0.00	0.00	62.22	398.77	0.00	2.23	0 00:00	0.00	0.00
3	Junc-03	Junction	396.00	400.00	396.00	0.00	0.00	24.88	397.69	0.00	2.31	0 00:00	0.00	0.00
4	Junc-04	Junction	395.00	400.00	0.00	0.00	0.00	25.58	397.14	0.00	2.86	0 00:00	0.00	0.00
5	Junc-10	Junction	397.00	400.00	0.00	0.00	0.00	37.38	398.64	0.00	2.36	0 00:00	0.00	0.00
6	Junc-11	Junction	394.50	399.00	0.00	0.00	0.00	65.11	397.13	0.00	2.37	0 00:00	0.00	0.00
7	Junc-12	Junction	394.00	398.00	0.00	0.00	0.00	65.05	395.94	0.00	3.31	0 00:00	0.00	0.00
8	Junc-13	Junction	394.00	399.00	0.00	0.00	0.00	16.10	395.17	0.00	4.08	0 00:00	0.00	0.00
9	Junc-14	Junction	392.00	399.00	0.00	0.00	0.00	64.84	395.13	0.00	3.87	0 00:00	0.00	0.00
10	Junc-15	Junction	391.62	398.00	0.00	0.00	0.00	64.40	394.95	0.00	3.05	0 00:00	0.00	0.00
11	Junc-20	Junction	435.00	438.00	0.00	0.00	0.00	12.85	438.00	0.00	0.00	0 08:06	3.08	68.00
12	Junc-21	Junction	420.00	430.00	0.00	0.00	0.00	14.69	421.35	0.00	8.65	0 00:00	0.00	0.00
13	Junc-22	Junction	405.00	415.00	0.00	0.00	0.00	24.34	406.65	0.00	8.35	0 00:00	0.00	0.00
14	Out-01	Outfall	390.30					64.38	392.90					
15	Bay1	Storage Node	395.00	399.00	396.00		2800.00	26.99	397.72				0.00	0.00
16	Forebay	Storage Node	397.00	401.00	397.50		0.00	62.35	399.56				0.00	0.00
17	Splitter	Storage Node	396.00	400.00	396.50		500.00	62.20	398.85				0.00	0.00

PEAK FLOWS AT JUNCTIONS

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)
1	Pipe-42in	Pipe	Junc-15	Out-01	196.00	391.62	390.30	0.6700	42.000	0.0150	64.38	71.56	0.90	7.41	2.97	0.85	0.00
2	Pipe-BvCrk	Pipe	Junc-20	Junc-01	1905.00	435.00	397.50	1.9700	15.000	0.0150	8.35	7.85	1.06	6.95	1.25	1.00	75.00
3	Pipe-N-CCC	Pipe	Junc-22	Junc-01	962.00	405.00	397.50	0.7800	30.000	0.0150	24.26	31.39	0.77	6.17	1.87	0.75	0.00
4	Pipe-S-CCC	Pipe	Junc-21	Junc-22	1721.00	420.00	405.00	0.8700	24.000	0.0150	14.67	18.30	0.80	5.82	1.50	0.75	0.00
5	Chan-01	Channel	Junc-02	Splitter	70.00	397.00	396.00	1.4300	48.000	0.0270	62.20	441.21	0.14	3.62	2.31	0.58	0.00
6	Chan-02	Channel	Junc-03	Bay1	60.00	396.00	395.00	1.6700	48.000	0.0270	24.76	414.97	0.06	1.96	2.20	0.55	0.00
7	Chan-Bypass	Channel	Junc-10	Junc-11	330.00	397.00	394.50	0.7600	48.000	0.0500	37.34	232.46	0.16	1.90	2.13	0.53	0.00
8	Chan-DS	Channel	Junc-11	Junc-12	136.00	394.50	394.00	0.3700	60.000	0.0500	65.05	193.63	0.34	3.44	2.28	0.46	0.00
9	Chan-DSByp	Channel	Junc-13	Junc-14	142.00	394.00	392.00	1.4100	48.000	0.0500	15.92	299.29	0.05	0.87	2.15	0.54	0.00
10	Chan-DSLoop	Channel	Junc-12	Junc-14	242.00	394.00	392.00	0.8300	48.000	0.0500	48.94	205.06	0.24	2.44	2.53	0.63	0.00
11	Chan-DSOut	Channel	Junc-14	Junc-15	66.00	392.00	391.62	0.5800	60.000	0.0500	64.40	213.86	0.30	2.65	3.23	0.65	0.00
12	Chan-Inlet	Channel	Junc-01	Forebay	20.00	397.50	397.00	2.5000	48.000	0.0400	62.35	795.91	0.08	1.84	2.32	0.58	0.00
13	Chan-Outlet	Channel	Junc-04	Junc-11	75.00	395.00	394.50	0.6700	48.000	0.0270	25.66	262.45	0.10	2.91	2.38	0.60	0.00
14	Weir-WQ	Orifice	Splitter	Junc-03		396.00	396.00		12.000		24.88						
15	Weir-12	Weir	Junc-12	Junc-13		394.00	394.00				16.10						
16	Weir-Bay1a	Weir	Bay1	Junc-04		395.00	395.00				21.01						
17	Weir-Bay1b	Weir	Bay1	Junc-04		395.00	395.00				4.59						
18	Weir-Bypass	Weir	Splitter	Junc-10		396.00	397.00				37.38						
19	Weir-Forebay	Weir	Forebay	Junc-02		397.00	397.00				54.88						
20	Weir-Forebay-V	Weir	Forebay	Junc-02		397.00	397.00				7.33						

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)	
1	Junc-01	62.43	30.31	399.58	2.08	0.00	2.42	398.65	1.15	0 08:06	0 00:00	0.00	0.00	← INFLOW TO FOREBAY
2	Junc-02	62.22	0.00	398.77	1.77	0.00	2.23	397.82	0.82	0 08:07	0 00:00	0.00	0.00	← FOREBAY DISCHARGE
3	Junc-03	24.88	0.00	397.69	1.69	0.00	2.31	397.23	1.23	0 08:17	0 00:00	0.00	0.00	← INFLOW TO ELC
4	Junc-04	25.58	0.00	397.14	2.14	0.00	2.86	396.09	1.09	0 08:10	0 00:00	0.00	0.00	← ELC DISCHARGE
5	Junc-10	37.38	0.00	398.64	1.64	0.00	2.36	397.36	0.36	0 08:08	0 00:00	0.00	0.00	← BYPASS ELC
6	Junc-11	65.11	4.23	397.13	2.63	0.00	2.37	395.89	1.39	0 08:10	0 00:00	0.00	0.00	
7	Junc-12	65.05	0.00	395.94	1.94	0.00	3.31	395.12	1.12	0 08:11	0 00:00	0.00	0.00	
8	Junc-13	16.10	0.00	395.17	1.17	0.00	4.08	394.16	0.16	0 08:15	0 00:00	0.00	0.00	
9	Junc-14	64.84	0.00	395.13	3.13	0.00	3.87	393.42	1.42	0 08:15	0 00:00	0.00	0.00	
10	Junc-15	64.40	0.00	394.95	3.33	0.00	3.05	393.07	1.45	0 08:15	0 00:00	0.00	0.00	
11	Junc-20	12.85	12.85	438.00	3.00	0.00	0.00	435.92	0.92	0 07:46	0 08:06	3.08	68.00	
12	Junc-21	14.69	14.69	421.35	1.35	0.00	8.65	420.64	0.64	0 08:06	0 00:00	0.00	0.00	
13	Junc-22	24.34	9.67	406.65	1.65	0.00	8.35	405.79	0.79	0 08:06	0 00:00	0.00	0.00	

Channel Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Chan-01	62.20	0 08:06	441.21	0.14	3.62	0.32	2.31	0.58	0.00		
2	Chan-02	24.76	0 08:03	414.97	0.06	1.96	0.51	2.20	0.55	0.00		
3	Chan-Bypass	37.34	0 08:08	232.46	0.16	1.90	2.89	2.13	0.53	0.00		
4	Chan-DS	65.05	0 08:10	193.63	0.34	3.44	0.66	2.28	0.46	0.00		
5	Chan-DSByp	15.92	0 08:12	299.29	0.05	0.87	2.72	2.15	0.54	0.00		
6	Chan-DSLoop	48.94	0 08:11	205.06	0.24	2.44	1.65	2.53	0.63	0.00		
7	Chan-DSOut	64.40	0 08:14	213.86	0.30	2.65	0.42	3.23	0.65	0.00		
8	Chan-Inlet	62.35	0 08:06	795.91	0.08	1.84	0.18	2.32	0.58	0.00		
9	Chan-Outlet	25.66	0 08:24	262.45	0.10	2.91	0.43	2.38	0.60	0.00		

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Pipe-42in	64.38	0 08:15	71.56	0.90	7.41	0.44	2.97	0.85	0.00		Calculated
2	Pipe-BvCrk	8.35	0 07:45	7.85	1.06	6.95	4.57	1.25	1.00	75.00		SURCHARGED
3	Pipe-N-CCC	24.26	0 08:06	31.39	0.77	6.17	2.60	1.87	0.75	0.00		Calculated
4	Pipe-S-CCC	14.67	0 08:06	18.30	0.80	5.82	4.93	1.50	0.75	0.00		Calculated

Storage Nodes

Storage Node : Bay1

Input Data

Invert Elevation (ft)	395.00
Max (Rim) Elevation (ft)	399.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	396.00
Initial Water Depth (ft)	1.00
Ponded Area (ft²)	2800.00
Evaporation Loss	0.00

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bay1a	Rectangular	No	396.50	1.50	5.50	2.50	3.33
2	Weir-Bay1b	V-Notch	No	396.00	1.00	3.46	3.00	2.40

Output Summary Results

Peak Inflow (cfs)	26.99
Peak Lateral Inflow (cfs)	2.30
Peak Outflow (cfs)	25.58
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	397.72
Max HGL Depth Attained (ft)	2.72
Average HGL Elevation Attained (ft)	397.24
Average HGL Depth Attained (ft)	2.24
Time of Max HGL Occurrence (days hh:mm)	0 08:17
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay

Input Data

Invert Elevation (ft)	397.00
Max (Rim) Elevation (ft)	401.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	397.50
Initial Water Depth (ft)	0.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Forebay	Rectangular	No	398.00	1.00	10.00	3.00	3.33
2	Weir-Forebay-V	V-Notch	No	397.50	0.50	3.46	3.00	2.40

Output Summary Results

Peak Inflow (cfs)	62.35
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	62.22
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	399.56
Max HGL Depth Attained (ft)	2.56
Average HGL Elevation Attained (ft)	398.64
Average HGL Depth Attained (ft)	1.64
Time of Max HGL Occurrence (days hh:mm)	0 08:06
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Splitter

Input Data

Invert Elevation (ft)	396.00
Max (Rim) Elevation (ft)	400.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	396.50
Initial Water Depth (ft)	0.50
Ponded Area (ft²)	500.00
Evaporation Loss	0.00

Outflow Weirs

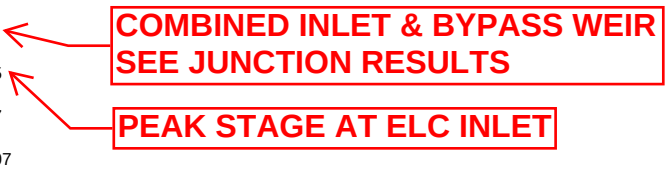
SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bypass	Rectangular	No	397.75	1.75	16.00	2.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Weir-WQ	Side	Rectangular	No		12.00	54.00	396.50	0.63

Output Summary Results

Peak Inflow (cfs)	62.20
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	62.15
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	398.85
Max HGL Depth Attained (ft)	2.85
Average HGL Elevation Attained (ft)	397.77
Average HGL Depth Attained (ft)	1.77
Time of Max HGL Occurrence (days hh:mm)	0 08:07
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00



Subbasin Summary

100-YR MODELED STORM EVENT

SN	Subbasin ID	Area (ac)	Impervious Area (%)	Impervious Area Curve Number	Pervious Area Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-00	2.36	50.00	98.00	70.00	4.49	2.95	6.97	1.55	0 00:10:00
2	Sub-01	8.37	65.00	98.00	70.00	4.49	3.34	27.92	6.00	0 00:13:52
3	Sub-02	2.38	70.00	98.00	65.00	4.49	3.37	8.01	1.76	0 00:12:16
4	Sub-03	27.83	70.00	98.00	65.00	4.49	3.35	93.17	17.09	0 00:24:54
5	Sub-04	11.01	10.00	98.00	57.00	4.49	1.14	12.57	0.99	0 00:57:02
6	Sub-05	21.42	70.00	98.00	65.00	4.49	3.35	71.78	13.55	0 00:22:19
7	Sub-06	37.99	70.00	98.00	65.00	4.49	3.35	127.42	24.80	0 00:20:00
8	Sub-07	30.04	64.00	98.00	73.00	4.49	3.37	101.26	18.25	0 00:27:22
9	Sub-08	40.88	40.00	98.00	73.00	4.49	2.82	115.16	22.44	0 00:17:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Junc-01	Junction	397.50	402.00	397.50	0.00	0.00	84.90	400.02	0.00	1.98	0 00:00	0.00	0.00
2	Junc-02	Junction	397.00	400.00	0.00	0.00	0.00	84.73	399.21	0.00	1.79	0 00:00	0.00	0.00
3	Junc-03	Junction	396.00	400.00	396.00	0.00	0.00	27.31	397.96	0.00	2.04	0 00:00	0.00	0.00
4	Junc-04	Junction	395.00	400.00	0.00	0.00	0.00	28.75	397.64	0.00	2.36	0 00:00	0.00	0.00
5	Junc-10	Junction	397.00	400.00	0.00	0.00	0.00	57.69	399.04	0.00	1.96	0 00:00	0.00	0.00
6	Junc-11	Junction	394.50	399.00	0.00	0.00	0.00	87.89	397.63	0.00	1.87	0 00:00	0.00	0.00
7	Junc-12	Junction	394.00	398.00	0.00	0.00	0.00	86.97	397.02	0.00	2.23	0 00:00	0.00	0.00
8	Junc-13	Junction	394.00	399.00	0.00	0.00	0.00	32.94	396.87	0.00	2.38	0 00:00	0.00	0.00
9	Junc-14	Junction	392.00	399.00	0.00	0.00	0.00	84.44	396.84	0.00	2.16	0 00:00	0.00	0.00
10	Junc-15	Junction	391.62	398.00	0.00	0.00	0.00	83.70	396.78	0.00	1.22	0 00:00	0.00	0.00
11	Junc-20	Junction	435.00	438.00	0.00	0.00	0.00	18.25	438.00	0.00	0.00	0 08:06	9.62	115.00
12	Junc-21	Junction	420.00	430.00	0.00	0.00	0.00	22.44	430.00	0.00	0.00	0 07:55	0.22	12.00
13	Junc-22	Junction	405.00	415.00	0.00	0.00	0.00	35.36	415.00	0.00	0.00	0 07:59	0.00	0.00
14	Out-01	Outfall	390.30					83.70	393.80					
15	Bay1	Storage Node	395.00	399.00	396.00		2800.00	30.39	397.98				0.00	0.00
16	Forebay	Storage Node	397.00	401.00	397.50		0.00	84.95	399.99				0.00	0.00
17	Splitter	Storage Node	396.00	400.00	396.50		500.00	84.71	399.30				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)
1	Pipe-42in	Pipe	Junc-15	Out-01	196.00	391.62	390.30	0.6700	42.000	0.0150	83.70	71.56	1.17	8.70	3.50	1.00	46.00
2	Pipe-BvCrk	Pipe	Junc-20	Junc-01	1905.00	435.00	397.50	1.9700	15.000	0.0150	8.35	7.85	1.06	6.94	1.25	1.00	123.00
3	Pipe-N-CCC	Pipe	Junc-22	Junc-01	962.00	405.00	397.50	0.7800	30.000	0.0150	34.53	31.39	1.10	7.05	2.50	1.00	9.00
4	Pipe-S-CCC	Pipe	Junc-21	Junc-22	1721.00	420.00	405.00	0.8700	24.000	0.0150	22.04	18.30	1.20	7.02	2.00	1.00	28.00
5	Chan-01	Channel	Junc-02	Splitter	70.00	397.00	396.00	1.4300	48.000	0.0270	84.71	441.21	0.19	3.83	2.75	0.69	0.00
6	Chan-02	Channel	Junc-03	Bay1	60.00	396.00	395.00	1.6700	48.000	0.0270	27.13	414.97	0.07	1.98	2.47	0.62	0.00
7	Chan-Bypass	Channel	Junc-10	Junc-11	330.00	397.00	394.50	0.7600	48.000	0.0500	57.64	232.46	0.25	2.25	2.57	0.64	0.00
8	Chan-DS	Channel	Junc-11	Junc-12	136.00	394.50	394.00	0.3700	60.000	0.0500	86.97	193.63	0.45	3.72	3.08	0.62	0.00
9	Chan-DSByp	Channel	Junc-13	Junc-14	142.00	394.00	392.00	1.4100	48.000	0.0500	32.84	299.29	0.11	0.91	3.44	0.86	0.00
10	Chan-DSLoop	Channel	Junc-12	Junc-14	242.00	394.00	392.00	0.8300	48.000	0.0500	58.70	205.06	0.29	2.42	3.51	0.88	0.00
11	Chan-DSOut	Channel	Junc-14	Junc-15	66.00	392.00	391.62	0.5800	60.000	0.0500	83.70	213.86	0.39	2.65	4.92	0.98	0.00
12	Chan-Inlet	Channel	Junc-01	Forebay	20.00	397.50	397.00	2.5000	48.000	0.0400	84.95	795.91	0.11	2.06	2.76	0.69	0.00
13	Chan-Outlet	Channel	Junc-04	Junc-11	75.00	395.00	394.50	0.6700	48.000	0.0270	28.90	262.45	0.11	2.92	2.89	0.72	0.00
14	Weir-WQ	Orifice	Splitter	Junc-03		396.00	396.00		12.000		27.31						
15	Weir-12	Weir	Junc-12	Junc-13		394.00	394.00				32.94						
16	Weir-Bay1a	Weir	Bay1	Junc-04		395.00	395.00				23.28						
17	Weir-Bay1b	Weir	Bay1	Junc-04		395.00	395.00				5.52						
18	Weir-Bypass	Weir	Splitter	Junc-10		396.00	397.00				57.69						
19	Weir-Forebay	Weir	Forebay	Junc-02		397.00	397.00				73.45						
20	Weir-Forebay-V	Weir	Forebay	Junc-02		397.00	397.00				11.28						

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)	
1	Junc-01	84.90	42.64	400.02	2.52	0.00	1.98	398.86	1.36	0 08:06	0 00:00	0.00	0.00	← INFLOW TO FOREBAY
2	Junc-02	84.73	0.00	399.21	2.21	0.00	1.79	398.05	1.05	0 08:07	0 00:00	0.00	0.00	← FOREBAY DISCHARGE
3	Junc-03	27.31	0.00	397.96	1.96	0.00	2.04	397.37	1.37	0 08:21	0 00:00	0.00	0.00	← INFLOW TO ELC
4	Junc-04	28.75	0.00	397.64	2.64	0.00	2.36	396.35	1.35	0 08:15	0 00:00	0.00	0.00	← ELC DISCHARGE
5	Junc-10	57.69	0.00	399.04	2.04	0.00	1.96	397.67	0.67	0 08:07	0 00:00	0.00	0.00	← BYPASS ELC
6	Junc-11	87.89	6.00	397.63	3.13	0.00	1.87	396.21	1.71	0 08:15	0 00:00	0.00	0.00	
7	Junc-12	86.97	0.00	397.02	3.02	0.00	2.23	395.42	1.42	0 08:19	0 00:00	0.00	0.00	
8	Junc-13	32.94	0.00	396.87	2.87	0.00	2.38	394.47	0.47	0 08:19	0 00:00	0.00	0.00	
9	Junc-14	84.44	0.00	396.84	4.84	0.00	2.16	393.92	1.92	0 08:19	0 00:00	0.00	0.00	
10	Junc-15	83.70	0.00	396.78	5.16	0.00	1.22	393.61	1.99	0 08:19	0 00:00	0.00	0.00	
11	Junc-20	18.25	18.25	438.00	3.00	0.00	0.00	436.19	1.19	0 07:37	0 08:06	9.62	115.00	
12	Junc-21	22.44	22.44	430.00	10.00	0.00	0.00	421.20	1.20	0 07:55	0 07:55	0.22	12.00	
13	Junc-22	35.36	13.55	415.00	10.00	0.00	0.00	406.09	1.09	0 07:59	0 07:59	0.00	0.00	

Channel Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Chan-01	84.71	0 08:06	441.21	0.19	3.83	0.30	2.75	0.69	0.00		
2	Chan-02	27.13	0 08:01	414.97	0.07	1.98	0.51	2.47	0.62	0.00		
3	Chan-Bypass	57.64	0 08:07	232.46	0.25	2.25	2.44	2.57	0.64	0.00		
4	Chan-DS	86.97	0 08:08	193.63	0.45	3.72	0.61	3.08	0.62	0.00		
5	Chan-DSByp	32.84	0 08:18	299.29	0.11	0.91	2.60	3.44	0.86	0.00		
6	Chan-DSLoop	58.70	0 08:01	205.06	0.29	2.42	1.67	3.51	0.88	0.00		
7	Chan-DSOut	83.70	0 08:19	213.86	0.39	2.65	0.42	4.92	0.98	0.00		
8	Chan-Inlet	84.95	0 07:59	795.91	0.11	2.06	0.16	2.76	0.69	0.00		
9	Chan-Outlet	28.90	0 08:36	262.45	0.11	2.92	0.43	2.89	0.72	0.00		

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Pipe-42in	83.70	0 08:19	71.56	1.17	8.70	0.38	3.50	1.00	46.00		SURCHARGED
2	Pipe-BvCrk	8.35	0 07:36	7.85	1.06	6.94	4.57	1.25	1.00	123.00		SURCHARGED
3	Pipe-N-CCC	34.53	0 08:00	31.39	1.10	7.05	2.27	2.50	1.00	9.00		SURCHARGED
4	Pipe-S-CCC	22.04	0 07:59	18.30	1.20	7.02	4.09	2.00	1.00	28.00		SURCHARGED

Storage Nodes

Storage Node : Bay1

Input Data

Invert Elevation (ft)	395.00
Max (Rim) Elevation (ft)	399.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	396.00
Initial Water Depth (ft)	1.00
Ponded Area (ft²)	2800.00
Evaporation Loss	0.00

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bay1a	Rectangular	No	396.50	1.50	5.50	2.50	3.33
2	Weir-Bay1b	V-Notch	No	396.00	1.00	3.46	3.00	2.40

Output Summary Results

Peak Inflow (cfs)	30.39
Peak Lateral Inflow (cfs)	3.30
Peak Outflow (cfs)	28.75
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	397.98
Max HGL Depth Attained (ft)	2.98
Average HGL Elevation Attained (ft)	397.39
Average HGL Depth Attained (ft)	2.39
Time of Max HGL Occurrence (days hh:mm)	0 08:21
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay

Input Data

Invert Elevation (ft)	397.00
Max (Rim) Elevation (ft)	401.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	397.50
Initial Water Depth (ft)	0.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Forebay	Rectangular	No	398.00	1.00	10.00	3.00	3.33
2	Weir-Forebay-V	V-Notch	No	397.50	0.50	3.46	3.00	2.40

Output Summary Results

Peak Inflow (cfs)	84.95
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	84.73
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	399.99
Max HGL Depth Attained (ft)	2.99
Average HGL Elevation Attained (ft)	398.85
Average HGL Depth Attained (ft)	1.85
Time of Max HGL Occurrence (days hh:mm)	0 08:06
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Splitter

Input Data

Invert Elevation (ft)	396.00
Max (Rim) Elevation (ft)	400.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	396.50
Initial Water Depth (ft)	0.50
Ponded Area (ft²)	500.00
Evaporation Loss	0.00

Outflow Weirs

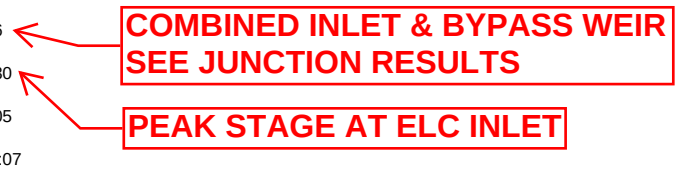
SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-Bypass	Rectangular	No	397.75	1.75	16.00	2.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Weir-WQ	Side	Rectangular	No		12.00	54.00	396.50	0.63

Output Summary Results

Peak Inflow (cfs)	84.71
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	84.66
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	399.30
Max HGL Depth Attained (ft)	3.3
Average HGL Elevation Attained (ft)	398.05
Average HGL Depth Attained (ft)	2.05
Time of Max HGL Occurrence (days hh:mm)	0 08:07
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00



Wetland Delineation for the Environmental Learning Center in Oregon City, Oregon

(Township 3 South, Range 2 East, Sections 9A, 9B, and 9C, Portion of tax lot 800)

Prepared for

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I. INTRODUCTION

Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation for the John Inskeep Environmental Learning Center (ELC) on the Clackamas Community College campus in Oregon City. The site will be redeveloped into a regionally important outdoor learning laboratory, demonstration project, and natural area that showcases innovations in stormwater management, landscape design, and sustainable living practices. The study area is in the northeast portion of Tax Lot 800 (Township 3 South, Range 2 East, Section 9C).

This report presents the results of PHS's wetland delineation within the study area. Figures, including a map depicting the location of wetlands and waters within the study area, are located in Appendix A. Data sheets documenting on-site conditions are provided in Appendix B. Ground-level photographs documenting site conditions are provided in Appendix C. A discussion of the wetland delineation methodology is provided for the client in Appendix D.

II. RESULTS AND DISCUSSION

A. Landscape Setting and Land Use

The study area is located approximately 2,000 feet southeast of the intersection of Oregon Highway 213 and S. Beavercreek Road in Oregon City. The study area consists of the northeastern portion of tax lot 800 as shown in the attached figures (Appendix A). The parcel is zoned as "Industrial" (Oregon City WebMaps, 2015). Surrounding parcels are zoned as residential, industrial, and commercial.

The 5.6-acre ELC site is a natural area containing the headwaters of Newell Creek. The site is within the Abernethy Creek watershed (HUC 170900070404). Newell Creek flows north through the site and is connected to two permanently flooded ponds. Existing ELC buildings and paths (primarily gravel) are present within the study area.

The site is largely forested, with upland areas dominated by Douglas-fir, big-leaf maple, Western red cedar, ornamental trees, Himalayan blackberry, sword fern, and English ivy. Large areas within the upland understory have been landscaped or cleared of woody vegetation, though some areas do have shrubs and groundcover. The ponds and other wetlands are dominated by Oregon ash, cottonwood, willow, red-osier dogwood, hawthorn, and/or reed canarygrass. Table 1 includes the vegetation species observed within the study area.

Table 1. Vegetation within the Study Area.

Common Name	Latin Name	Wetland Indicator Status
Big-leaf maple	*Acer macrophyllum*	FACU
Maple	*Acer* species	Assumed FAC
Little western bittercress	*Cardamine oligosperma*	FAC
Red-osier dogwood	*Cornus alba*	FACW
Hazelnut	*Corylus cornuta*	FACU
Douglas hawthorn	*Crataegus douglasii*	FAC

Common Name	Latin Name	Wetland Indicator Status
Oregon ash	*Fraxinus latifolia*	FACW
Lesser herb-robert	*Geranium robertianum*	FACU
Large-leaf avens	*Geum macrophyllum*	FAC
English ivy	*Hedera helix*	FACU
Aaron's beard	*Hypericum calycinum*	UPL
English Holly	*Ilex aquifolium*	FACU
Lamp rush	*Juncus effusus*	FACW
Reed canarygrass	*Phalaris arundinacea*	FACW
Mock orange	*Philadelphus* species	Assumed FAC
Pacific ninebark	*Physocarpus capitatus*	FACW
Sword fern	*Polystichum munitum*	FACU
Black cottonwood	*Populus balsamifera*	FAC
Douglas-fir	*Pseudotsuga menziesii*	FACU
Creeping buttercup	*Ranunculus repens*	FAC
Himalayan blackberry	*Rubus armeniacus*	FACU
Trailing blackberry	*Rubus ursinus*	FACU
Willow	*Salix* species	FAC
Douglas spirea	*Spiraea douglasii*	FACW
Snowberry	*Symphoricarpos albus*	FACU
Dandelion	*Taraxacum officinale*	FACU
Western red cedar	*Thuja plicata*	FAC
Unidentified turf grasses	Various species	Assumed FAC

B. Site Alterations

The ELC site was formerly associated with a Smucker's cannery facility. Clackamas Community College acquired the industrial site when the cannery closed, and developed it into an educational and environmental resource for the community. Several existing weirs are present within the Newell Creek channel, and several pedestrian bridges cross the channel along a network of trails within the site. Two culverts conduct a portion of the side channel between Pond A and the main-stem of Newell under existing paths and development. A non-functioning pump is located in the northern portion of the site, adjacent to Wetland A. Campus roads and several buildings, including the Haggart Observatory, were constructed in and adjacent to the site. These developments and the construction of Beavercreek Road occurred decades ago.

Aside from on-going vegetation management activities, there is no evidence of recent fill or site alterations beyond those described above.

C. Precipitation Data and Analysis

The wetland delineation was conducted on February 11, 2015. The Oregon City weather station recorded 0.02 inch of rain on the date of the field investigation and 3.93 inches during the previous two previous weeks (NRCS, 2015). However, precipitation data are missing for February 3rd and 10th. On these dates, the Molalla weather station recorded 0.28 inch and 0.01 inch of rain.

Table 1 shows the observed and average monthly precipitation in Oregon City for the water year (October 1, 2014 through February 28, 2015), as well as the upper and lower values considered within normal ranges for the period of record (NRCS WETS table for Oregon City, 2002). Precipitation data is missing from the Oregon City weather station record for multiple dates during the 2014/2015 water year. A date with missing precipitation data is considered to have had "0" precipitation on that date, though precipitation could have occurred. As such, the actual monthly precipitation values may be higher than the recorded monthly precipitation totals (shown in the "Observed Precipitation" column in Table 2).

Table 2. Average Monthly Precipitation (NRCS WETS Table for Oregon City) and Observed Monthly Precipitation for the 2014/2015 water year.

Month	Average*	2 Years in 10 Will Have		Observed Precipitation**
		Less than	More than	
October 2014	3.48	1.85	4.25	6.86
November 2014	6.79	4.43	8.16	3.39
December 2014	7.23	4.85	8.65	5.08
January 2015	6.59	4.23	7.94	3.28
February 2015	5.51	3.83	6.56	3.99
TOTALS	**29.60**	**19.19**	**35.56**	**22.60**

*Average Monthly Rainfall (NRCS WETS Table for Oregon City, Oregon)
**Recorded monthly rainfall for Oregon City, Oregon (National Weather Service).

Precipitation for the water year (October 1, 2014 through February 28, 2015) was 22.60 inches, which is 76 percent of normal. Precipitation recorded during November and January was both below average and below the normal range for the period of record. December and February precipitation was also below average, but was within the normal range. October was exceptionally wet, both above average and above the normal range.

The precipitation fluctuations are not expected to have affected the 2015 wetland delineation, as the wetlands were clearly defined by topography, hydrophytic vegetation, hydric soils, and indicators of wetland hydrology. Upland areas did not satisfy the hydric soils or wetland hydrology criteria, had much fewer hydrophytic plant species, and were topographically higher than the wetland area.

D. Methods

PHS delineated the limits of the wetlands on the site based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* ("The 1987 Manual") and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. The delineation was conducted on February 11, 2015.

The entire study area was investigated for the presence of wetlands or other waters. The wetland boundary for Wetlands A, B, C, and D was determined based upon a shift in vegetation from a predominance of FAC or wetter species in the wetland to FAC or drier species in the upland, the presence/absence of surface water or a high water table, and the presence/absence of hydric soils. These shifts corresponded to a clear topographic break that is apparent on the topographic survey. One set of paired sample points was used to document the boundary for each wetland.

The ordinary high water line (OHWL) of the ponds and streams was determined by field indicators including a scour line, sediment marks on the bank, topography, and vegetation changes. Two sets of paired sample points were taken along the banks of Pond B where bank slopes were gradual and vegetated. Paired sample points were not taken along the banks of Pond A as armoring and/or the proximity of trails precluded soil sampling.

In addition to the twelve sample points collected to document wetland boundaries and pond edges, two sample points were taken in upland locations to document conditions in two low-lying areas (Sample Points 3 and 4).

E. Description of all Wetlands and Other Non-Wetland Waters

PHS identified four wetlands, two ponds, Newell Creek (including side channels between Newell Creek and ponds), and a Tributary to Newell Creek within the study area.

Wetland A

Wetland A is approximately 1,123 square feet (0.03 acre) within the northwestern portion of the study area. The Cowardin class is palustrine scrub-shrub, seasonally flooded (PSSC), and the Hydrogeomorphic (HGM) class is Slope. Wetland A connects to the Newell Creek channel.

Vegetation within Wetland A (Sample Point 1) is dominated by Douglas hawthorn and willow. A small amount of large-leaf avens and trailing blackberry is also present in the wetland, though groundcover was sparse at the time of survey (late winter). Soils within the wetland met the definition for redox dark surface (F6) and are considered hydric. The wetland area had surface water at the time of survey. Drainage patterns and a low relative geomorphic position also indicated hydrology in Wetland A.

Vegetation in the upland adjacent to Wetland A (Sample Point 2) is dominated by Douglas-fir, Himalayan blackberry, Douglas hawthorn, sword fern, and trailing blackberry, though large portions of the understory are unvegetated. Soils in the upland were very rocky and did not satisfy the hydric soils criteria. There were no indicators of wetland hydrology in the upland surrounding Wetland A.

As stated above, Wetland A drains to Newell Creek and appears to be a backwater area associated with the main channel.

Wetland B

Wetland B is approximately 414 square feet (0.01 acre) within the southwestern portion of the study area. The Cowardin class is palustrine scrub-shrub/emergent, seasonally flooded (PSS/EMC), and the Hydrogeomorphic (HGM) class is Slope. Wetland B is a small, shallow depression near Pond B and Wetland C, though it has no surface connection to these features.

Vegetation within Wetland B (Sample Point 7) is dominated by red-osier dogwood and reed canarygrass. Soils within the wetland met the definition for redox dark surface (F6) and are considered hydric. The wetland area had a high water table and saturation at the time of survey. The FAC-neutral test also indicated hydrology in Wetland B.

Vegetation in the upland adjacent to Wetland B (Sample Point 8) is dominated by big-leaf maple, snowberry, hazelnut, large-leaf avens, and lesser herb-robert, though large portions of the understory are unvegetated. Soils in the upland did not satisfy the hydric soils criteria. Saturation and a high water table within the upper 12 inches were present within the upland sample plot, though this is likely a result of heavy rainfall during the two weeks preceding the sample date (3.93 inches).

As stated above, Wetland B does not have an apparent surface connection to Wetland C, though during extremely wet weather the water table between these features can be within 12 inches of the soil surface.

Wetland C

Wetland C is approximately 1,430 square feet (0.03 acre) within the southwestern portion of the study area. The Cowardin class is palustrine, unconsolidated bottom, semi-permanently flooded (PUBF) and the HGM class is depressional. Wetland C is associated with an abandoned fish hatchery.

The central portion of Wetland C was unvegetated at the time of survey. The edge of the wetland has some sparse vegetation (Sample Point 9), including willow, Pacific ninebark, Himalayan blackberry, large-leaf avens (not in sample area), and lesser herb-robert (not in sample area).

Soils within the wetland met the definition for redox dark surface (F6) and are considered hydric. The edge of the wetland had a high water table and saturation at the time of survey. A low geomorphic position and the FAC-neutral test also indicated hydrology in Wetland C.

The upland surrounding Wetland C (Sample Points 8 and 10) is dominated by big-leaf maple, an unidentified maple species, English holly, snowberry, hazelnut, Himalayan blackberry, English ivy, lesser herb-robert, and large-leaf avens, though large portions of the understory are unvegetated.

Soils in the upland did not satisfy the hydric soils criteria. Saturation and a high water table within the upper 12 inches were present within Sample Point 8, though this is likely a result of heavy rainfall during the two weeks preceding the sample date (3.93 inches). Sample Point 10 lacked indicators of wetland hydrology.

Wetland D

Wetland D is approximately 1,039 square feet (0.02 acre) within the southwestern portion of the study area. The Cowardin class is palustrine forested/emergent, seasonally flooded (PFO/EMC), the Hydrogeomorphic (HGM) class is Slope. Wetland D connects to the Newell Creek channel.

Vegetation within Wetland D (Sample Point 11) is dominated by Oregon ash, reed canarygrass (outside of sample plot area), and creeping buttercup. Soils within the wetland met the definition for depleted matrix (F3) and are considered hydric. The wetland area had surface water at the time of survey. A low relative geomorphic position and the FAC-neutral test also indicated hydrology in Wetland D.

Vegetation in the upland adjacent to Wetland D (Sample Point 12) is dominated by Douglas-fir, mock orange, snow berry, and sword fern (outside of sample area), though large portions of the understory are unvegetated. Soils in the upland did not satisfy the hydric soils criteria and there were no indicators of wetland hydrology in the upland surrounding Wetland D.

As stated above, Wetland D drains to Newell Creek and appears to be a backwater area associated with the main channel. An adjacent irrigation system may also contribute to the hydrology of Wetland D.

Pond A

Pond A is approximately 15,222 square feet (0.35 acre) within the study area. The Cowardin class is palustrine, aquatic bed, permanently flooded (PABH) and the HGM class is depressional. Pond A is located west of the main stem of Newell Creek and north of Pond B (described below). One building associated with the ELC is located over Pond A. Water from Pond A flows west into a side channel of Newell Creek.

Sampling within the pond was not conducted due to the presence of surface water and unconsolidated sediment. Much of the upland area around Pond A could not be sampled due to armoring and/or the presence of trails. The OHWL was evident based on topography, sediment deposits on the bank, and a distinct change in vegetation.

Pond B

Pond B is approximately 11,008 square feet (0.25 acre) within the study area. The Cowardin class is PABH and the HGM class is depressional. Pond B is located west of the main stem of Newell Creek, however, it is connected to Newell Creek through a side channel.

The central portion of Pond B was unvegetated at the time of survey, though emergent and aquatic vegetation is apparent in aerial photography (GoogleEarth, 2015). The edge of the pond has some vegetation (Sample Points 5 and 13), including black cottonwood, willow, and lamp rush.

Soils within the pond were mucky and had a hydrogen sulfide odor (Sample Plot 5) or met the definition for depleted matrix (F3) and are considered hydric. The edge of the pond had surface water at the time of survey. A low geomorphic position and the FAC-neutral test also indicated hydrology in Pond B.

The upland surrounding Pond B (Sample Points 6 and 14) is dominated by black cottonwood, an unidentified maple species, Himalayan blackberry, English ivy, and Aaron's beard, though large portions of the understory are unvegetated.

As with Pond A, much of the area around Pond B could not be sampled due to armoring and/or the presence of trails. Where sampling was possible, soils in the upland around Pond B did not satisfy the hydric soils criteria and lacked indicators of wetland hydrology.

Newell Creek and Side Channels

Newell Creek flows north through the ELC site, and is approximately 17,962 square feet (0.41 acre) within the study area (including side channels). The Cowardin class is palustrine, unconsolidated bottom, permanently flooded (PUBH) and the HGM class is riverine. Newell Creek flows off-site to the north under Beavercreek Road through a large box culvert.

Newell Creek forks on the southeast side of Pond B. The main stem of Newell Creek continues to flow north though the study area while the side channel flows northwest, into Pond B. The water flow path continues north through Pond A, then west and back into a side channel of Newell Creek. The side channel flows north then east around Pond A, connecting back to the main stem of Newell Creek northeast of Pond A. Newell Creek splits again around an upland island in the northern portion of the site.

The OHWL was evident based on topography, sediment deposits on the bank, and a distinct change in vegetation.

Tributary 1

Tributary 1 is within the northeastern portion of the site, and flows north for approximately 50 feet before entering Newell Creek. Tributary 1 is approximately 211 square feet (0.005 acre) within the study area. The Cowardin class is PUBH and the HGM class is riverine.

The stream emerges from a spring or buried culvert (no culvert could be found during the field investigation) on a hillslope. The OHWL was evident based on topography, sediment deposits on the bank, and a distinct change in vegetation.

F. Deviation from LWI or NWI

The City of Oregon City Local Wetland Inventory (LWI) maps four wetlands and two streams and indicated that a previous delineation (WD#04-0131) was conducted within the study area. The LWI-mapped wetlands correspond to Wetland A, Tributary 1, Pond A, and Pond B. The LWI-mapped streams correspond to the main stem and side channels of Newell Creek. PHS also delineated Wetlands B, C, and D within the ELC site. LWI maps are generated through air photo interpretation and "ground truthing" when access is granted. The lack of access for the LWI is likely one reason for the discrepancy with PHS's findings.

G. Mapping Method

PHS flagged the boundary of wetlands and the OHWL of waters with blue flagging tape. Sample points were marked with lime-green flagging tape. KPFF then performed a professional land survey of the delineated boundaries and all but one of the sample points. The accuracy of the survey and sample points is sub-centimeter, with the exception of Sample Point 14, which has an estimated accuracy of plus or minus three feet. This sample point location was hand-drawn into a CAD file based on the survey file and field notes.

H. Additional Information

Newell Creek supports Coho salmon and steelhead, as well as resident populations of cutthroat trout and brook lamprey. Other wildlife in the watershed include red-legged frogs, raccoon, beaver, river otter, fox, mink, black-tailed deer, raptors, and resident and migratory songbirds.

I. Results and Conclusions

PHS delineated Wetlands A, B, C, and D; Ponds A and B, and Newell Creek and side channels within the study area. The total area of waters within the study area boundary is 18,173 square feet (0.42 acre) and the total area of wetlands is 30,236 square feet (0.69 acre) as summarized in the following table.

Table 2. Total wetland and other waters within the study area

Feature	Area (sq. ft. / acre)	Cowardin Class	HGM Class
Newell Creek/side channels	17,962 / 0.41	PUBH	Riverine
Tributary 1	211 / 0.005	PUBH	Riverine
Total Waters	**18,173 / 0.42**		
Wetland A	1,123 / 0.03	PSSC	Slope
Wetland B	414 / 0.01	PSS/EMC	Slope
Wetland C	1,430 / 0.03	PUBF	Depressional
Wetland D	1,039 / 0.02	PFO/EMC	Slope
Pond A	15,222 / 0.35	PABH	Depressional
Pond B	11,008 / 0.25	PABH	Depressional
Total Wetland	**30,236 / 0.69**		

J. Required Disclaimer

This report documents the investigation, best professional judgment and conclusions of the investigators. It is correct and complete to the best of our knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.

III. REFERENCES

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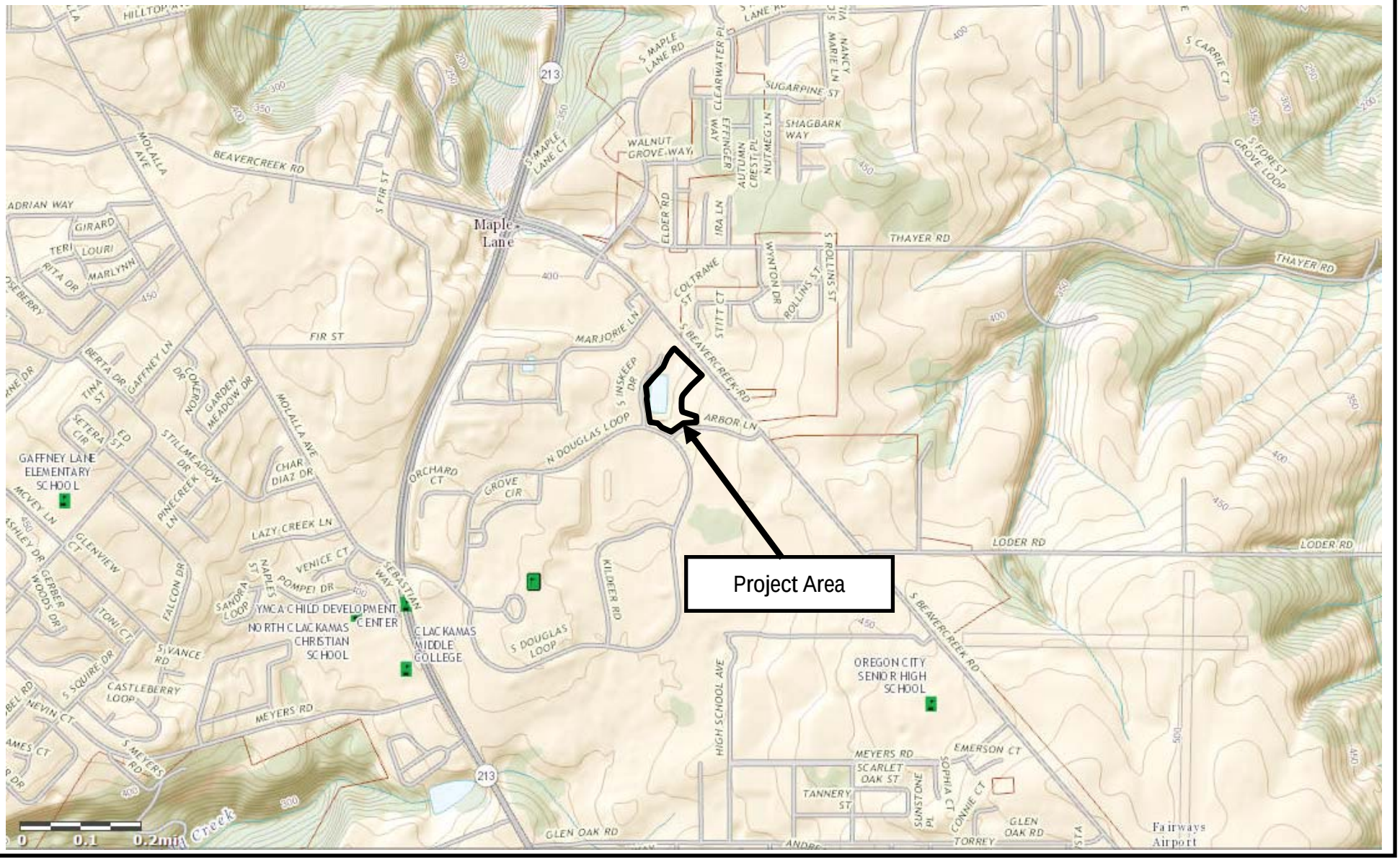
Appendix A

Figures

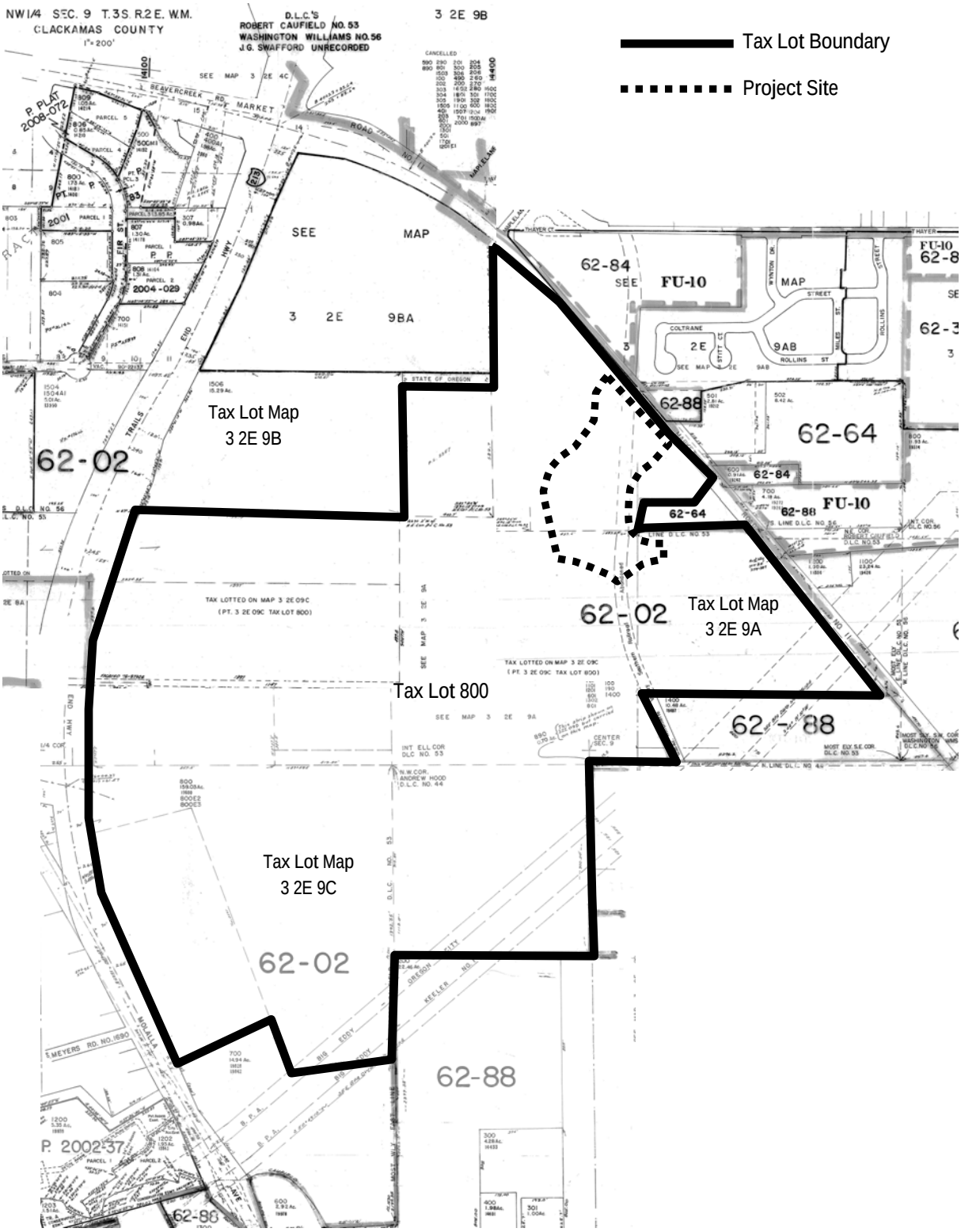


5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

General Location and Topography
Environmental Learning Center - Oregon City, Oregon
(USGS The National Map Viewer, Oregon City Quadrangle, 2015)

FIGURE
1

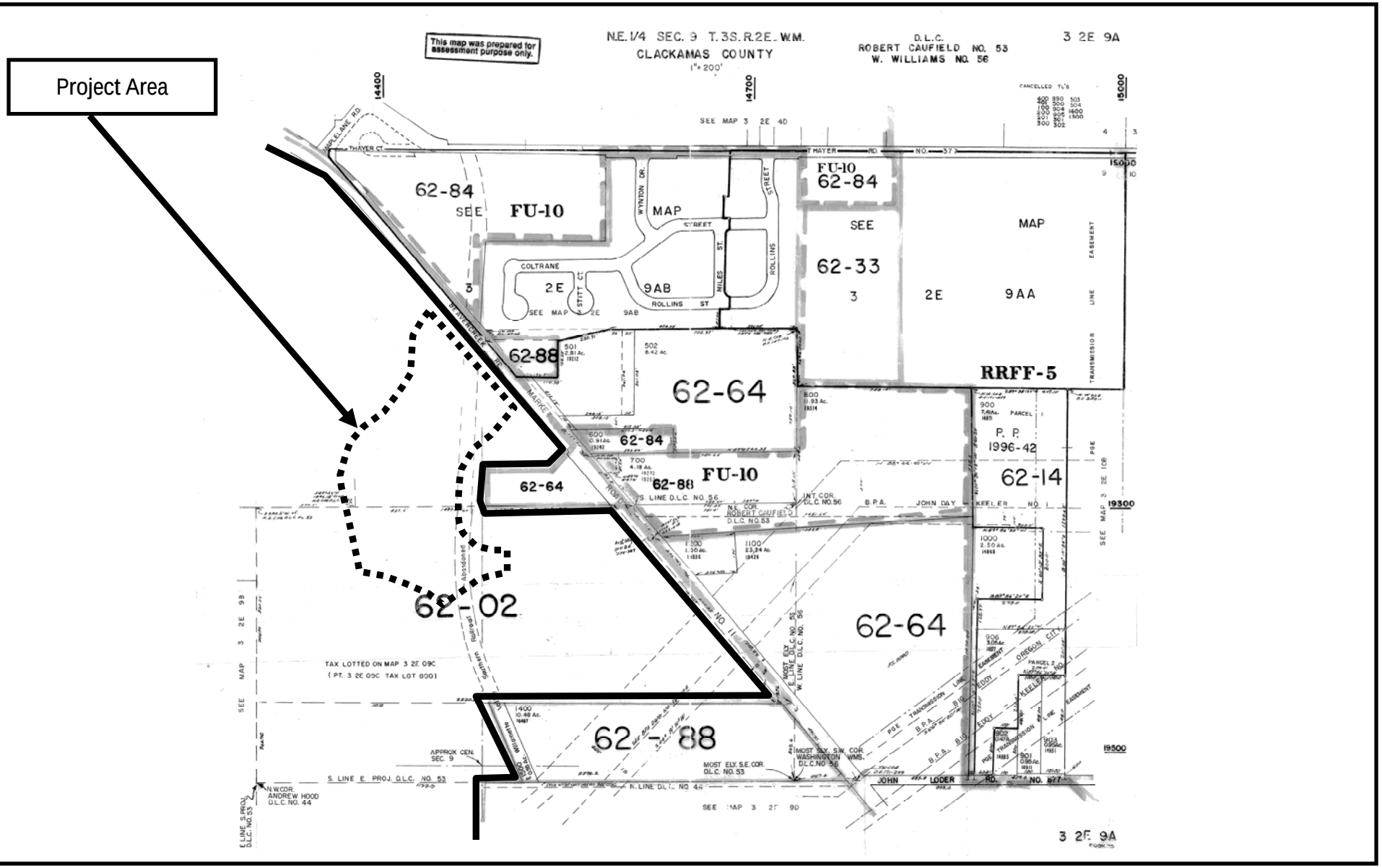


#5523
4/30/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Tax Lot Map Overview (3 2E 9A, 9B, 9C), Tax Lot 800 Clackamas County
Environmental Learning Center - Oregon City, Oregon
(ormap.net, 2015)

FIGURE
2A

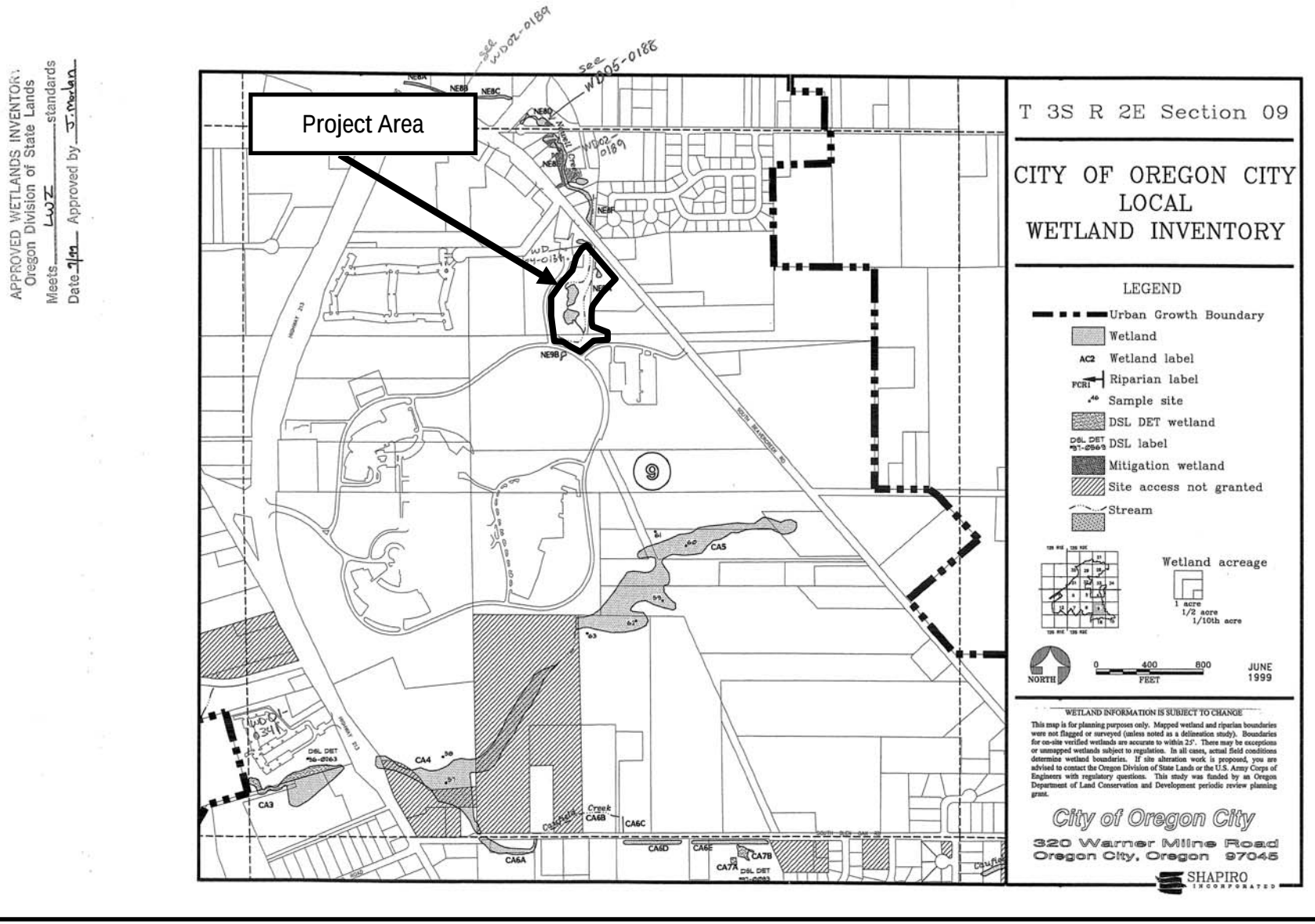


5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Tax Lot Map3 2E 9A, portion of tax lot 800 Clackamas County
Environmental Learning Center - Oregon City, Oregon
(ormap.net, 2015)

FIGURE
2B



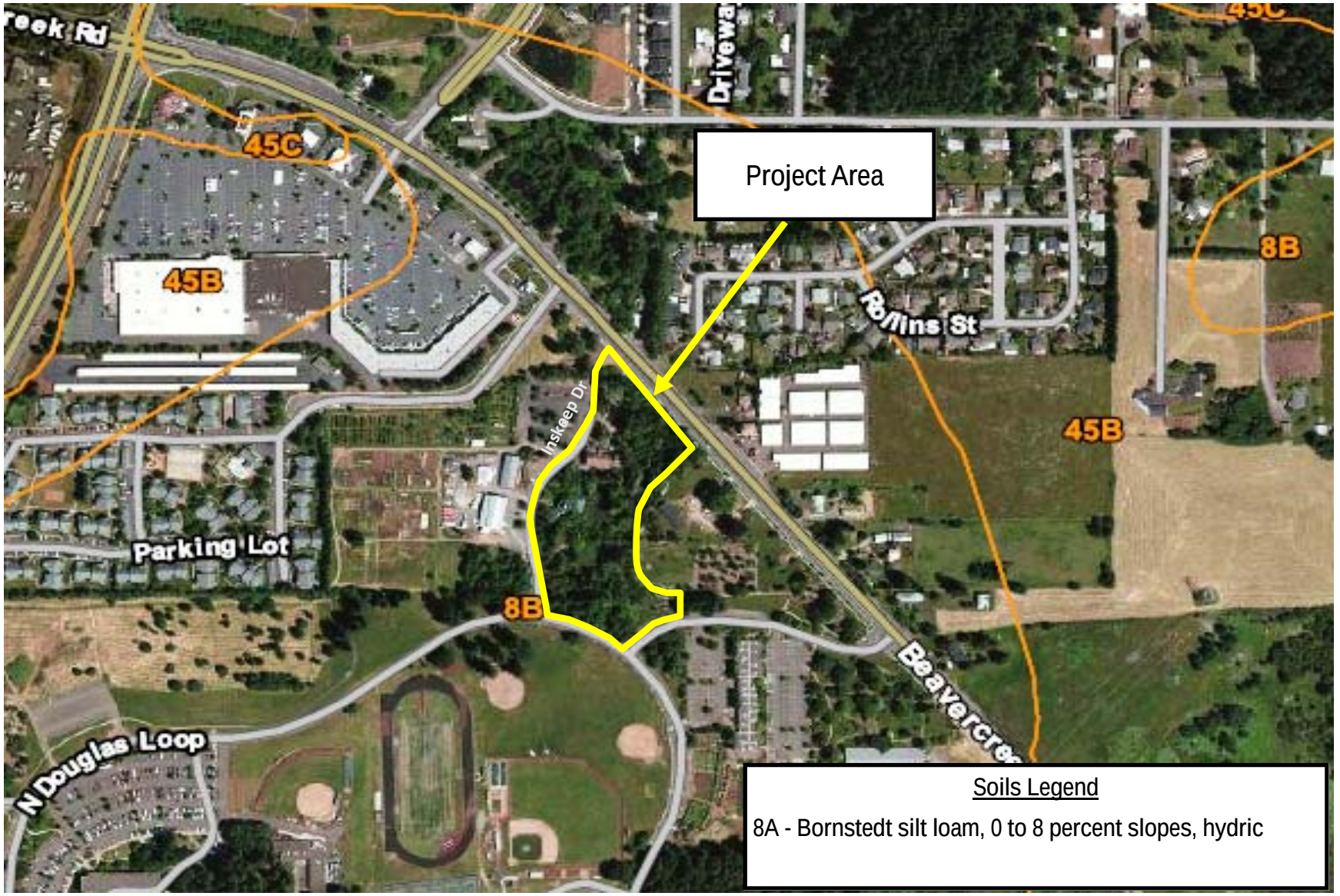
5523
04/29/15

PHS

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Local Wetlands Inventory
Environmental Learning Center - Oregon City, Oregon
(Shapiro & Associates, Inc., 1999)

FIGURE
3

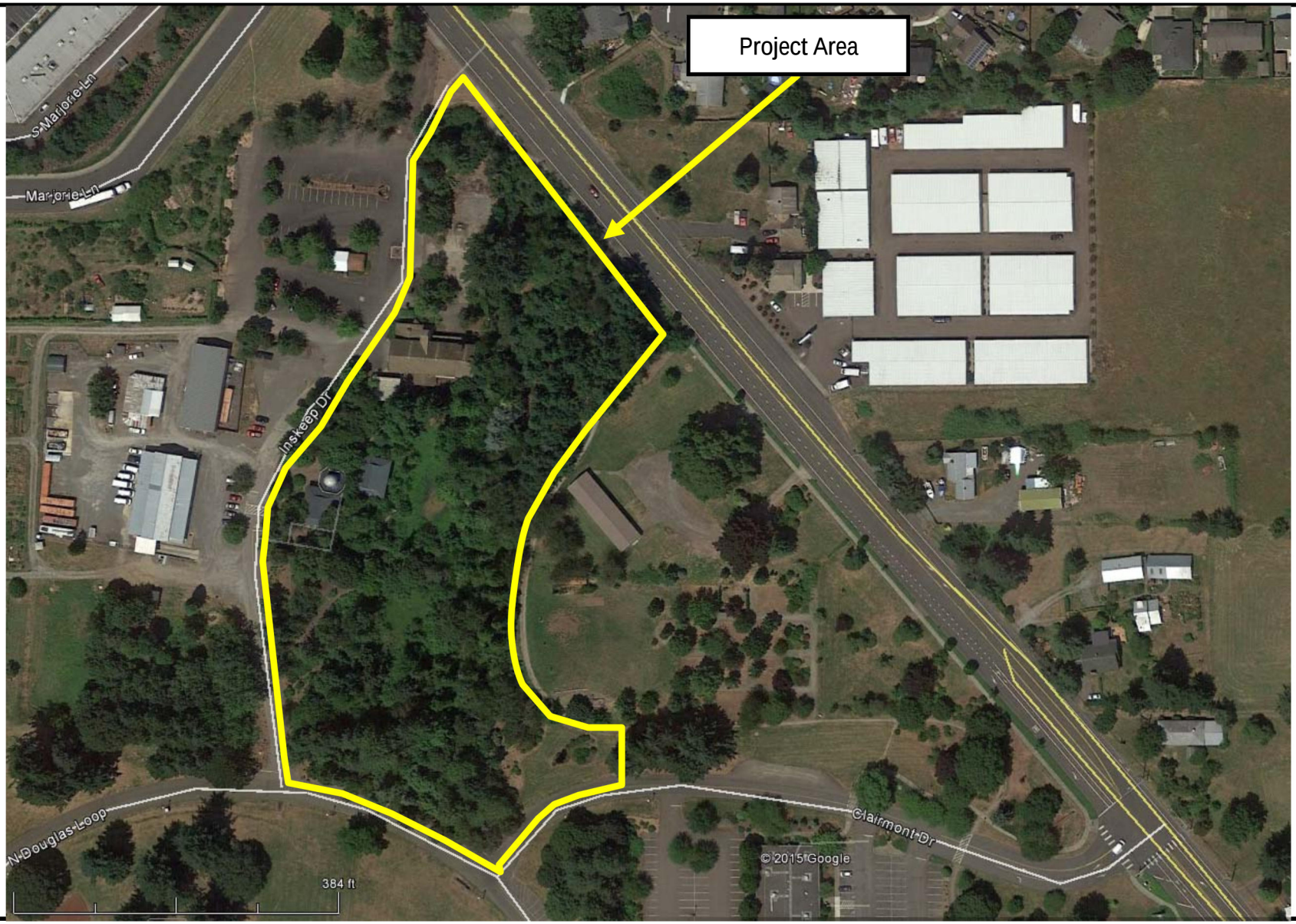


5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Soil Survey - Clackamas County
Environmental Learning Center - Oregon City, Oregon
(NRCS Web Soil Survey, 2015)

FIGURE
4

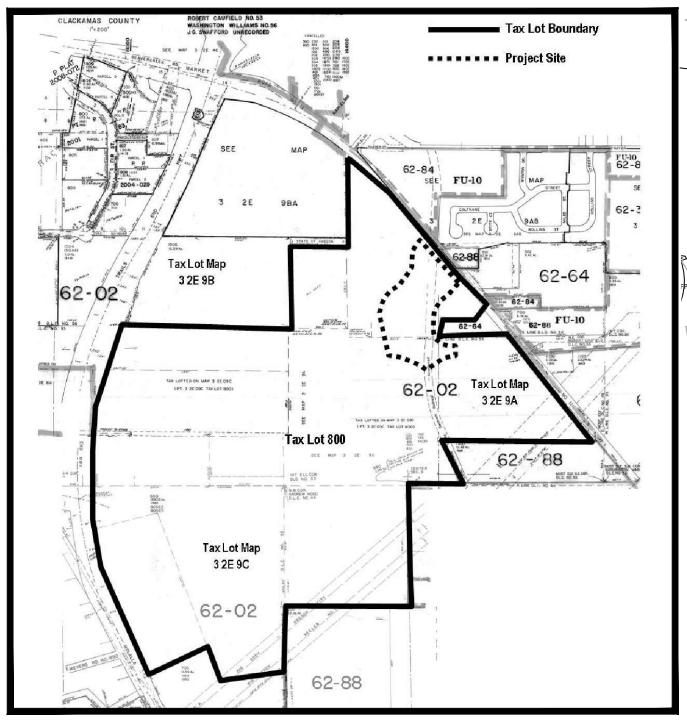


5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Aerial Photo
Environmental Learning Center - Oregon City, Oregon
(Google Earth, 2015)

FIGURE
5



Tax Lot Overview

Pacific Habitat Services,Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax (503) 570-0855

Survey provided by KPFF.
Survey accuracy is sub-centimeter. Sample points accuracy is sub-centimeter except sample point 14 accuracy is ± 3 feet.

Wetland Delineation

Environmental Learning Center - Oregon City, Oregon

FIGURE 6

7-21-2015

Appendix B

Wetland Determination Data Sheets

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **1**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **concave** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No		
Hydric Soil Present?	Yes	**X**	No	**Is Sampled Area within a Wetland?**	Yes **X** No
Wetland Hydrology Present?	Yes	**X**	No		

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: **5**)			
1 ***Crataegus douglasii***	**30**	**X**	**FAC**
2 ***Rubus ursinus***	**2**		
3			
4			
5			
	32	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Geum macrophyllum***	**3**		**FAC**
2			
3			
4			
5			
6			
7			
8			
	3	= Total Cover	
Woody Vine Stratum (plot size: **5**)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **70**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

- ____ 1- Rapid Test for Hydrophytic Vegetation
- **X** 2- Dominance Test is >50%
- ____ 3-Prevalence Index is ≤ 3.0[1]
- ____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
- ____ 5- Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks:

SOIL PHS # **5523** Sampling Point: **1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	**10YR 3/2**	**90**	**10YR 4/6**	**10**	**C**	**M**	**Silt Loam**	**Medium**
11-16	**10YR 4/2**	**85**	**7.5YR 4/6**	**15**	**C**	**M**	**Silty Clay Loam**	**Medium**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Redox (S5)
	Histic Epipedon (A2)		Stripped Matrix (S6)
	Black Histic (A3)		Loamy Mucky Mineral (F1) **(except MLRA 1)**
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Depleted Below Dark Surface (A11)		Depleted Matrix (F3)
	Thick Dark Surface (A12)	**X**	Redox Dark Surface (F6)
	Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Red Parent Material (TF2)
	Very Shallow Dark Surface (TF12)
	Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

X	Surface Water (A1)		Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**		Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
X	High Water Table (A2)				
X	Saturation (A3)		Salt Crust (B11)	**X**	Drainage Patterns (B10)
	Water Marks (B1)		Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C3)	**X**	Geomorphic Position (D2)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
	Iron Deposits (B5)		Recent Iron Reduction in Plowed Soils (C6)		Fac-Neutral Test (D5)
	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) **(LRR A)**		Raised Ant Mounds (D6) **(LRR A)**
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Frost-Heave Hummocks (D7)
	Sparsely Vegetated Concave Surface (B8)				

Field Observations:

Surface Water Present?	Yes	**X**	No	Depth (inches):	**1**	
Water Table Present?	Yes	**X**	No	Depth (inches):	**Surface**	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes	**X**	No	Depth (inches):	**Surface**	**Yes X No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **2**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **none** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	X	**Is Sampled Area within a Wetland?** Yes ____ No **X**
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present?	Yes		No	X	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: 30)			
1 ***Pseudotsuga menziesii***	5	X	FACU
2			
3			
4			
	5	= Total Cover	
Sapling/Shrub Stratum (plot size: 5)			
1 ***Rubus armeniacus***	60	X	FACU
2 ***Crataegus douglasii***	10		FAC
3 ***Rubus ursinus***	25	X	FACU
4			
5			
	95	= Total Cover	
Herb Stratum (plot size: 5)			
1 ***Polystichum munitum***	5	X	FACU
2			
3			
4			
5			
6			
7			
8			
	5	= Total Cover	
Woody Vine Stratum (plot size: 5)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **95**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	0
FACW species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
UPL Species		x 5 =	0
Column Totals	0 (A)		0 (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No **X**

Remarks:

SOIL PHS # **5523** Sampling Point: **2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 3/2**	**100**					**Silt Loam**	**Rock, gravel throughout**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Fac-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No **X**	Depth (inches):	___
Water Table Present?	Yes	___	No **X**	Depth (inches):	**>8**
Saturation Present? (includes capillary fringe)	Yes	___	No **X**	Depth (inches):	**>8**

Wetland Hydrology Present?

Yes ___ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **3**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **terrace** Local relief (concave, convex, none): **concave** Slope (%): **0**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	X	**Is Sampled Area within a Wetland?** Yes ____ No **X**
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present?	Yes		No	X	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: 5)			
1 ***Thuja plicata***	30	X	FAC
2 ***Pseudotsuga menziesii***	10	X	FACU
3			
4			
	40	= Total Cover	
Sapling/Shrub Stratum (plot size: 5)			
1 ***Rubus armeniacus***	5	X	FACU
2 ***Rubus ursinus***	10	X	FACU
3			
4			
5			
	15	= Total Cover	
Herb Stratum (plot size: ____)			
1			
2			
3			
4			
5			
6			
7			
8			
	0	= Total Cover	
Woody Vine Stratum (plot size: 5)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **80**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **25%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	0
FACW species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
UPL Species		x 5 =	0
Column Totals	0 (A)		0 (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No **X**

Remarks:

SOIL PHS # **5523** Sampling Point: **3**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	**10YR 3/6**	**95**					**Silt Loam**	**Gravelly**
	10YR 4/2	**5**					**Silty Clay Loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Fac-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	**X**	Depth (inches):	___
Water Table Present?	Yes	___	No	**X**	Depth (inches):	**>16**
Saturation Present? (includes capillary fringe)	Yes	___	No	**X**	Depth (inches):	**>16**

Wetland Hydrology Present?

Yes ___ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **4**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **terrace** Local relief (concave, convex, none): **concave** Slope (%): **0**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No **X**	**Is Sampled Area within a Wetland?**	Yes ____	No **X**
Hydric Soil Present?	Yes ____	No **X**			
Wetland Hydrology Present?	Yes ____	No **X**			

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: ____)			
1 ***Rubus ursinus***	**20**	**X**	**FACU**
2			
3			
4			
5			
	20	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Taraxacum officinale***	**25**	**X**	**FACU**
2			
3			
4			
5			
6			
7			
8			
	25	= Total Cover	
Woody Vine Stratum (plot size: **5**)			
1 ***Hedera helix***	**30**	**X**	**FACU**
2			
	30	= Total Cover	

% Bare Ground in Herb Stratum **25**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species	____	x 1 =	**0**
FACW species	____	x 2 =	**0**
FAC Species	____	x 3 =	**0**
FACU Species	____	x 4 =	**0**
UPL Species	____	x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No **X**

Remarks:

SOIL

PHS # 5523 Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	**10YR 3/3**	**100**					**Silt Loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _____ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Fac-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):	
Water Table Present?	Yes		No **X**	Depth (inches):	**>16**
Saturation Present? (includes capillary fringe)	Yes		No **X**	Depth (inches):	**>16**

Wetland Hydrology Present?

Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **5**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **none** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No		
Hydric Soil Present?	Yes	**X**	No	**Is Sampled Area within a Wetland?**	Yes **X** No
Wetland Hydrology Present?	Yes	**X**	No		

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: **30**)			
1 ***Populus balsamifera***	**40**	**X**	**FAC**
2			
3			
4			
	40	= Total Cover	
Sapling/Shrub Stratum (plot size: **5**)			
1 ***Salix sp.***	**60**	**X**	**(FAC)**
2			
3			
4			
5			
	60	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Juncus effusus***	**5**	**X**	**FACW**
2			
3			
4			
5			
6			
7			
8			
	5	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **95**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

- ____ 1- Rapid Test for Hydrophytic Vegetation
- **X** 2- Dominance Test is >50%
- ____ 3-Prevalence Index is ≤ 3.0[1]
- ____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
- ____ 5- Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks:

SOIL PHS # **5523** Sampling Point: **5**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	**10YR 3/1**	**100**						**Organic**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Redox (S5)
	Histic Epipedon (A2)		Stripped Matrix (S6)
	Black Histic (A3)		Loamy Mucky Mineral (F1) **(except MLRA 1)**
X	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Depleted Below Dark Surface (A11)		Depleted Matrix (F3)
	Thick Dark Surface (A12)		Redox Dark Surface (F6)
X	Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Red Parent Material (TF2)
	Very Shallow Dark Surface (TF12)
	Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

X	Surface Water (A1)		Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**		Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
X	High Water Table (A2)				
X	Saturation (A3)		Salt Crust (B11)		Drainage Patterns (B10)
	Water Marks (B1)		Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C3)	X	Geomorphic Position (D2)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
	Iron Deposits (B5)		Recent Iron Reduction in Plowed Soils (C6)	X	Fac-Neutral Test (D5)
	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) **(LRR A)**		Raised Ant Mounds (D6) **(LRR A)**
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Frost-Heave Hummocks (D7)
	Sparsely Vegetated Concave Surface (B8)				

Field Observations:

Surface Water Present?	Yes	X	No	Depth (inches):	1	
Water Table Present?	Yes	X	No	Depth (inches):	Surface	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes	X	No	Depth (inches):	Surface	**Yes X No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **6**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **none** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No		**Is Sampled Area within a Wetland?** Yes ____ No **X**
Hydric Soil Present?	Yes		No	**X**	
Wetland Hydrology Present?	Yes		No	**X**	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: **30**)			
1 ***Populus balsamifera***	**40**	**X**	**FAC**
2 ***Acer sp.***	**15**	**X**	**(FAC)**
3			
4			
	55	= Total Cover	
Sapling/Shrub Stratum (plot size: **5**)			
1 ***Populus balsamifera***	**10**	**X**	**FAC**
2 ***Rubus armeniacus***	**35**	**X**	**FACU**
3			
4			
5			
	45	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Hypericum sp.***	**70**	**X**	**(FAC)**
2 ***Juncus effusus***	**5**		**FACW**
3 ***Cardamine oligosperma***	**5**		**FAC**
4 ***Polystichum munitum***	**5**		**FACU**
5			
6			
7			
8			
	85	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **15**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

X 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL PHS # **5523** Sampling Point: **6**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 3/2**	**99**	**10YR 4/6**	**1**	**C**	**M**	**Sandy Loam**	**Fine**
4-16	**10YR 4/3**	**60**	**7.5YR 4/6**	**5**	**C**	**M**	**Silt Loam**	**Coarse**
	10YR 4/2	**35**						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _____ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Fac-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):	
Water Table Present?	Yes		No **X**	Depth (inches):	**>16**
Saturation Present? (includes capillary fringe)	Yes		No **X**	Depth (inches):	**>16**

Wetland Hydrology Present?

Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **7**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **none** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No		
Hydric Soil Present?	Yes	**X**	No	**Is Sampled Area within a Wetland?**	Yes **X** No
Wetland Hydrology Present?	Yes	**X**	No		

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: **5**)			
1 ***Corylus cornuta***	**10**		**FACU**
2 ***Cornus alba***	**60**	**X**	**FACW**
3 ***Rubus armeniacus***	**10**		**FACU**
4 ***Spiraea douglasii***	**10**		**FACW**
5			
	90	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Polystichum munitum***	**5**		**FACU**
2 ***Phalaris arundinacea***	**40**	**X**	**FACW**
3			
4			
5			
6			
7			
8			
	45	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **55**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

- ____ 1- Rapid Test for Hydrophytic Vegetation
- **X** 2- Dominance Test is >50%
- ____ 3-Prevalence Index is ≤ 3.0[1]
- ____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
- ____ 5- Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks:

SOIL PHS # **5523** Sampling Point: **7**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 3/2**	**95**	**10YR 3/4**	**5**	**C**	**M**	**Sandy Loam**	**5% cobble fine**
8-16	**10YR 3/2**	**75**	**10YR 3/4**	**5**	**C**	**M**	**Sandy Loam**	**5% cobble medium**
8-16	**10YR 2/2**	**10**	**5YR 4/6**	**10**	**C**	**M**		**Coarse**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Redox (S5)
	Histic Epipedon (A2)		Stripped Matrix (S6)
	Black Histic (A3)		Loamy Mucky Mineral (F1) **(except MLRA 1)**
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Depleted Below Dark Surface (A11)		Depleted Matrix (F3)
	Thick Dark Surface (A12)	**X**	Redox Dark Surface (F6)
	Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Red Parent Material (TF2)
	Very Shallow Dark Surface (TF12)
	Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

	Surface Water (A1)		Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**		Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
X	High Water Table (A2)				
X	Saturation (A3)		Salt Crust (B11)		Drainage Patterns (B10)
	Water Marks (B1)		Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C3)		Geomorphic Position (D2)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
	Iron Deposits (B5)		Recent Iron Reduction in Plowed Soils (C6)	**X**	Fac-Neutral Test (D5)
	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) **(LRR A)**		Raised Ant Mounds (D6) **(LRR A)**
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Frost-Heave Hummocks (D7)
	Sparsely Vegetated Concave Surface (B8)				

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):		
Water Table Present?	Yes	**X**	No	Depth (inches):	**10**	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes	**X**	No	Depth (inches):	**6**	**Yes X No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **8**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **none** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	X	**Is Sampled Area within a Wetland?** Yes ____ No **X**
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present?	Yes	X	No		

Remarks:

VEGETATION - Use scientific names of plants.

		absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: 30)				
1	***Acer macrophyllum***	30	X	FACU
2				
3				
4				
		30	= Total Cover	
Sapling/Shrub Stratum (plot size: 5)				
1	***Acer macrophyllum***	10	X	FACU
2	***Symphoricarpos albus***	10	X	FACU
3	***Rubus armeniacus***	5		FACU
4	***Corylus cornuta***	10	X	FACU
5				
		35	= Total Cover	
Herb Stratum (plot size: 5)				
1	***Geranium robertianum***	3	X	FACU
2	***Geum macrophyllum***	10	X	FAC
3				
4				
5				
6				
7				
8				
		13	= Total Cover	
Woody Vine Stratum (plot size:)				
1				
2				
		0	= Total Cover	

% Bare Ground in Herb Stratum **87**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **17%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	0
FACW species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
UPL Species		x 5 =	0
Column Totals	0 (A)		0 (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No **X**

Remarks:

SOIL PHS # **5523** Sampling Point: **8**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 2/2**	**100**					**Sandy Loam**	**Many small cobbles**
8-16	**10YR 3/3**	**100**					**Sandy Loam**	**Many small cobbles**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ **No X**

Remarks:

Cobble in 30 % of matrix

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- **X** High Water Table (A2)
- **X** Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Fac-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No **X**	Depth (inches):	___
Water Table Present?	Yes	**X**	No ___	Depth (inches):	**12**
Saturation Present? (includes capillary fringe)	Yes	**X**	No ___	Depth (inches):	**10**

Wetland Hydrology Present?

Yes X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was present at the time of survey, though an exceptional amount of rain had fallen during the previous two weeks (3.93 inches). As wetland vegetation and hydric soils are absent, it is unlikely that this area has a high water table for extended periods during the growing season.

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **9**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **concave** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No		
Hydric Soil Present?	Yes	**X**	No	**Is Sampled Area within a Wetland?**	Yes **X** No
Wetland Hydrology Present?	Yes	**X**	No		

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: **30**)			
1 ***Salix sp.***	**30**	**X**	**(FAC)**
2			
3			
4			
	30	= Total Cover	
Sapling/Shrub Stratum (plot size: **5**)			
1 ***Physocarpus capitatus***	**30**	**X**	**FACW**
2 ***Rubus armeniacus***	**5**		**FACU**
3			
4			
5			
	35	= Total Cover	
Herb Stratum (plot size: **5**)			
1			
2			
3			
4			
5			
6			
7			
8			
	0	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **100**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

- ____ 1- Rapid Test for Hydrophytic Vegetation
- **X** 2- Dominance Test is >50%
- ____ 3-Prevalence Index is ≤ 3.0[1]
- ____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
- ____ 5- Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL PHS # **5523** Sampling Point: **9**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 2/2**	**98**	**10YR 4/4**	**2**	**C**	**M**	**Sandy Loam**	**Fine**
8-16	**10YR 2/2**	**80**	**10YR 4/6**	**20**	**C**	**M**	**Sandy Loam**	**Medium**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Redox (S5)
	Histic Epipedon (A2)		Stripped Matrix (S6)
	Black Histic (A3)		Loamy Mucky Mineral (F1) **(except MLRA 1)**
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Depleted Below Dark Surface (A11)		Depleted Matrix (F3)
	Thick Dark Surface (A12)	**X**	Redox Dark Surface (F6)
	Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Red Parent Material (TF2)
	Very Shallow Dark Surface (TF12)
	Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

10 % cobbles thru out

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

	Surface Water (A1)		Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**		Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
X	High Water Table (A2)				
X	Saturation (A3)		Salt Crust (B11)		Drainage Patterns (B10)
	Water Marks (B1)		Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C3)	**X**	Geomorphic Position (D2)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
	Iron Deposits (B5)		Recent Iron Reduction in Plowed Soils (C6)	**X**	Fac-Neutral Test (D5)
	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) **(LRR A)**		Raised Ant Mounds (D6) **(LRR A)**
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Frost-Heave Hummocks (D7)
	Sparsely Vegetated Concave Surface (B8)				

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):		
Water Table Present?	Yes	**X**	No	Depth (inches):	**Surface**	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes	**X**	No	Depth (inches):	**Surface**	**Yes X No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **10**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **concave** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No **X**	**Is Sampled Area within a Wetland?**	Yes ____	No **X**
Hydric Soil Present?	Yes ____	No **X**			
Wetland Hydrology Present?	Yes ____	No **X**			

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: **30**)			
1 ***Acer macrophyllum***	**20**	**X**	**FACU**
2 ***Acer sp.***	**20**	**X**	**(FAC)**
3			
4			
	40	= Total Cover	
Sapling/Shrub Stratum (plot size: **5**)			
1 ***Ilex aquifolium***	**5**	**X**	**FACU**
2 ***Acer sp.***	**5**	**X**	**(FAC)**
3 ***Rubus armeniacus***	**5**	**X**	**FACU**
4			
5			
	15	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Hedera helix***	**10**	**X**	**FACU**
2 ***Geum macrophyllum***	**10**	**X**	**FAC**
3			
4			
5			
6			
7			
8			
	20	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **80**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **43%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species	____	x 1 =	**0**
FACW species	____	x 2 =	**0**
FAC Species	____	x 3 =	**0**
FACU Species	____	x 4 =	**0**
UPL Species	____	x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No **X**

Remarks:

SOIL PHS # **5523** Sampling Point: **10**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	**10YR 3/2**	**100**					**Sandy Loam**	
10-16	**10YR 3/3**	**100**					**Sandy Loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ **No X**

Remarks:

30% Cobbles throughout

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Fac-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches):		
Water Table Present?	Yes ___	No **X**	Depth (inches):	**>16**	
Saturation Present? (includes capillary fringe)	Yes ___	No **X**	Depth (inches):	**>16**	

Wetland Hydrology Present?

Yes ___ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **11**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **none** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No		
Hydric Soil Present?	Yes	**X**	No	**Is Sampled Area within a Wetland?**	Yes **X** No
Wetland Hydrology Present?	Yes	**X**	No		

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: **30**)			
1 ***Fraxinus latifolia***	**30**	**X**	**FACW**
2			
3			
4			
	30	= Total Cover	
Sapling/Shrub Stratum (plot size: ____)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Ranunculus repens***	**40**	**X**	**FAC**
2			
3			
4			
5			
6			
7			
8			
	40	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **60**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

- ____ 1- Rapid Test for Hydrophytic Vegetation
- **X** 2- Dominance Test is >50%
- ____ 3-Prevalence Index is ≤ 3.0[1]
- ____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
- ____ 5- Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks:

SOIL PHS # **5523** Sampling Point: **11**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 3/2**	**100**					**Silt Loam**	
6-12	**5YR 4/1**	**50**	**5YR 4/6**	**50**	**C**	**M**	**Silt Loam**	**Medium**
12-16	**5YR 5/4**	**40**	**5YR 5/6**	**60**	**C**	**M**	**Silt Loam**	**Medium**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Redox (S5)
	Histic Epipedon (A2)		Stripped Matrix (S6)
	Black Histic (A3)		Loamy Mucky Mineral (F1) **(except MLRA 1)**
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Depleted Below Dark Surface (A11)	**X**	Depleted Matrix (F3)
	Thick Dark Surface (A12)		Redox Dark Surface (F6)
	Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Red Parent Material (TF2)
	Very Shallow Dark Surface (TF12)
	Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (2 or more required)	
X	Surface Water (A1)		Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**		Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
X	High Water Table (A2)				
X	Saturation (A3)		Salt Crust (B11)		Drainage Patterns (B10)
	Water Marks (B1)		Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C3)	**X**	Geomorphic Position (D2)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
	Iron Deposits (B5)		Recent Iron Reduction in Plowed Soils (C6)	**X**	Fac-Neutral Test (D5)
	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) **(LRR A)**		Raised Ant Mounds (D6) **(LRR A)**
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Frost-Heave Hummocks (D7)
	Sparsely Vegetated Concave Surface (B8)				

Field Observations:

Surface Water Present?	Yes	**X**	No	Depth (inches):	**1**	
Water Table Present?	Yes	**X**	No	Depth (inches):	**Surface**	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes	**X**	No	Depth (inches):	**Surface**	**Yes X No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **12**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **none** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No **X**	**Is Sampled Area within a Wetland?**	Yes ____	No **X**
Hydric Soil Present?	Yes ____	No **X**			
Wetland Hydrology Present?	Yes ____	No **X**			

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: **30**)			
1 ***Pseudotsuga menziesii***	**30**	**X**	**FACU**
2			
3			
4			
	30	= Total Cover	
Sapling/Shrub Stratum (plot size: **5**)			
1 ***Philadelphus species***	**20**	**X**	**(UPL)**
2 ***Symphoricarpos albus***	**20**	**X**	**FACU**
3			
4			
5			
	40	= Total Cover	
Herb Stratum (plot size: **5**)			
1			
2			
3			
4			
5			
6			
7			
8			
	0	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **100**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species	____	x 1 =	**0**
FACW species	____	x 2 =	**0**
FAC Species	____	x 3 =	**0**
FACU Species	____	x 4 =	**0**
UPL Species	____	x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No **X**

Remarks:

SOIL PHS # **5523** Sampling Point: **12**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**7.5YR 3/2**	**100**					**Silt Loam**	
6-16	**5YR 3/3**	**100**					**Silt Loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Fac-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	___	No	**X**	Depth (inches):	___
Water Table Present?	Yes	___	No	**X**	Depth (inches):	**>16**
Saturation Present? (includes capillary fringe)	Yes	___	No	**X**	Depth (inches):	**>16**

Wetland Hydrology Present?

Yes ___ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **13**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **none** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No		
Hydric Soil Present?	Yes	**X**	No	**Is Sampled Area within a Wetland?**	Yes **X** No
Wetland Hydrology Present?	Yes	**X**	No		

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: ____)			
1			
2			
3			
4			
	0	= Total Cover	
Sapling/Shrub Stratum (plot size: ____)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb Stratum (plot size: **5**)			
1 ***Juncus effusus***	**30**	**X**	**FACW**
2			
3			
4			
5			
6			
7			
8			
	30	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **70**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

- ____ 1- Rapid Test for Hydrophytic Vegetation
- **X** 2- Dominance Test is >50%
- ____ 3-Prevalence Index is ≤ 3.0[1]
- ____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)
- ____ 5- Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL PHS # **5523** Sampling Point: **13**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 3/2**	**100**					**Silt Loam**	
6-10	**7.5YR 4/1**	**50**	**7.5YR 5/6**	**50**	**C**	**PL**	**Silty Clay Loam**	**Medium**
10-16	**7.5YR 5/4**	**50**	**5YR 5/6**	**50**	**C**	**M**	**Silty Clay Loam**	**Medium**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Redox (S5)
	Histic Epipedon (A2)		Stripped Matrix (S6)
	Black Histic (A3)		Loamy Mucky Mineral (F1) **(except MLRA 1)**
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Depleted Below Dark Surface (A11)	**X**	Depleted Matrix (F3)
	Thick Dark Surface (A12)		Redox Dark Surface (F6)
	Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Red Parent Material (TF2)
	Very Shallow Dark Surface (TF12)
	Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

X	Surface Water (A1)		Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**		Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
X	High Water Table (A2)				
X	Saturation (A3)		Salt Crust (B11)		Drainage Patterns (B10)
	Water Marks (B1)		Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C3)	**X**	Geomorphic Position (D2)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
	Iron Deposits (B5)		Recent Iron Reduction in Plowed Soils (C6)	**X**	Fac-Neutral Test (D5)
	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) **(LRR A)**		Raised Ant Mounds (D6) **(LRR A)**
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Frost-Heave Hummocks (D7)
	Sparsely Vegetated Concave Surface (B8)				

Field Observations:

Surface Water Present?	Yes **X**	No	Depth (inches):	**6**	
Water Table Present?	Yes **X**	No	Depth (inches):	**Surface**	**Wetland Hydrology Present?**
Saturation Present? (includes capillary fringe)	Yes **X**	No	Depth (inches):	**Surface**	**Yes X No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PHS # 5523

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Environmental Learning Center** City/County: **Oregon City/Clackamas** Sampling Date: **2/11/2015**

Applicant/Owner: **Clackamas Community College** State: **OR** Sampling Point: **14**

Investigator(s): **T Farrelly, C Rim, D Groff** Section, Township, Range: **S3, T2E, R9C**

Landform (hillslope, terrace, etc.:) **slope** Local relief (concave, convex, none): **none** Slope (%): **1%**

Subregion (LRR): **LRRA** Lat: **45.327922** Long: **-122.569577** Datum: **WGS84**

Soil Map Unit Name: **Bornstedt silt loam, 0 to 8 percent slopes (8B)** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No ____ (if no, explain in Remarks)

Are vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ____ Soil ____ or Hydrology ____ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	**X**	No		**Is Sampled Area within a Wetland?** Yes ____ No **X**
Hydric Soil Present?	Yes		No	**X**	
Wetland Hydrology Present?	Yes		No	**X**	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: **30**)			
1 ***Populus balsamifera***	**20**	**X**	**FAC**
2			
3			
4			
	20	= Total Cover	
Sapling/Shrub Stratum (plot size: ____)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb Stratum (plot size: **5**)			
1			
2			
3			
4			
5			
6			
7			
8			
	0	= Total Cover	
Woody Vine Stratum (plot size: ____)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum **100**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	**0**
FACW species		x 2 =	**0**
FAC Species		x 3 =	**0**
FACU Species		x 4 =	**0**
UPL Species		x 5 =	**0**
Column Totals	**0** (A)		**0** (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

X 2- Dominance Test is >50%

____ 3-Prevalence Index is ≤ 3.0[1]

____ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ 5- Wetland Non-Vascular Plants[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No** ____

Remarks:

SOIL PHS # **5523** Sampling Point: **14**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 3/2**	**100**					**Silt Loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _____ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water stained Leaves (B9) **(MLRA1, 2, 4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Fac-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):	
Water Table Present?	Yes		No **X**	Depth (inches):	**>8**
Saturation Present? (includes capillary fringe)	Yes		No **X**	Depth (inches):	**>8**

Wetland Hydrology Present?

Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix C

Site Photos

Photo A:

Looking west at Wetland A. An existing pump is present in frame right.

Photo B:

Looking northeast at the Newell Creek channel, an existing pedestrian bridge, and the culvert under Beavercreek Road.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Both Photos taken on February 11, 2015.

Photo C:

Looking northwest at the Newell Creek channel.

Photo D:

Looking west at a backwater area along the Newell Creek channel.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Both Photos taken on February 11, 2015.

Photo E:

Looking north at the Newell Creek channel from a pedestrian bridge.

Photo F:

Looking south at the Newell Creek channel from a pedestrian bridge.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Both Photos taken on February 11, 2015.

Photo G:

Looking northeast at an upland island in the Newell Creek channel.

Photo H:

Looking north at a spring (Tributary 1) that drains to Newell Creek.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Both Photos taken on February 11, 2015.

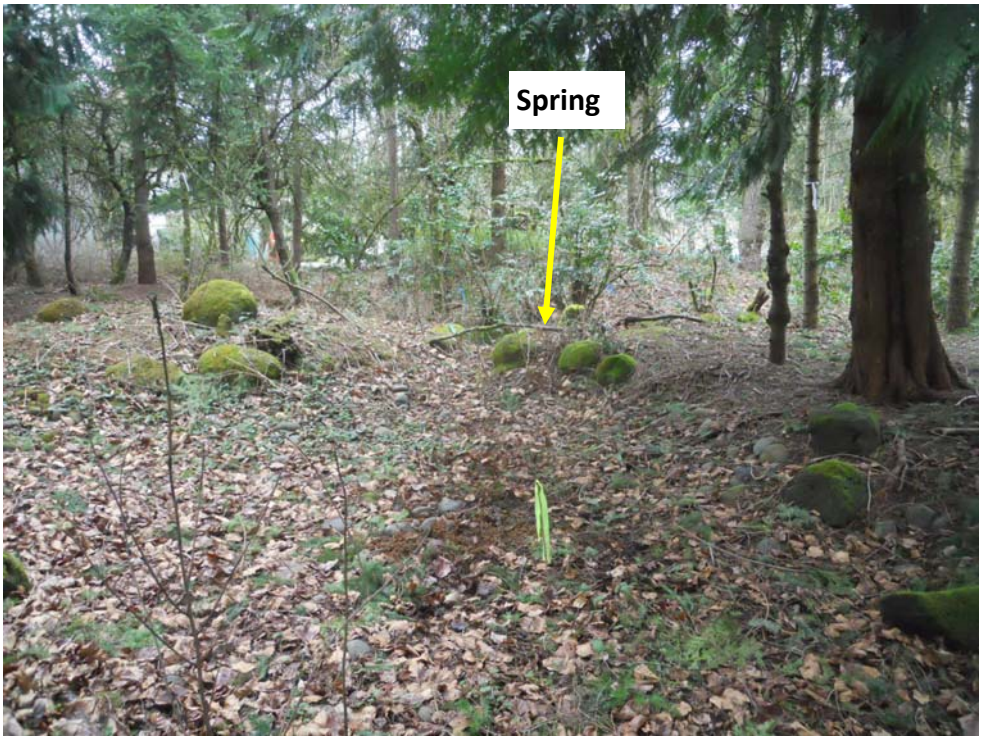


Photo I:

Looking northwest at Sample Point 3. The spring (Tributary 1) that drains to Newell Creek is visible in the background.

Photo J:

Looking south at Sample Point 4.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Both Photos taken on February 11, 2015.

Photo K:

Looking south at Pond A.

Photo L:

Looking southwest at a side channel between Pond A and Newell Creek.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Both Photos taken on February 11, 2015.

Photo M:

Looking west at ELC buildings adjacent to Pond A.

Photo N:

Looking south at the eastern edge of Pond B and Sample Points 13 and 14.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Both Photos taken on February 11, 2015.

Photo O:

Looking south towards Wetland C and Sample Points 9 and 10. Photo taken on a pedestrian bridge along Pond B.

Photo P:

Looking north at Wetland B and Sample Points 7 and 8.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Both Photos taken on February 11, 2015.

Photo Q:

Looking south at Wetland C. A portion of the abandoned fish hatchery is visible in frame left.

Photo R:

Looking northwest at Wetland D.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Both Photos taken on February 11, 2015.

Photo S:

Looking southeast at a concrete headwall at N. Douglas Loop.

5523
04/29/15

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Photo documentation
Environmental Learning Center - Oregon City, Oregon
Photo taken on February 11, 2015.

Appendix D

Wetland Definitions and Methodology and References

WATERS OF THE STATE AND WETLAND DEFINITION AND CRITERIA

Regulatory Jurisdiction

Wetlands and water resources in Oregon are regulated by the Oregon Department of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (COE) through Section 404 of the Clean Water Act.

The primary source documents for wetland delineations within Oregon is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2010), which are required by both DSL and COE.

Waters of This State and Wetland Definition

Waters of This State are defined as "all natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and nonnavigable bodies of water in this state and those portions of the ocean shore …" (DSL, 2009).

Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (DSL 2009).

Wetland Criteria

Based on the above definition, three major factors characterize a wetland: hydrology, substrate, and biota.

Wetland Hydrology

Wetland hydrology is related to duration of saturation, frequency of saturation, and critical depth of saturation. The 1987 manual defines wetland hydrology as inundation or saturation within a major portion of the root zone (usually above 12 inches), typically for at least 12.5% of the growing season. The wetland hydrology criterion can be met, however, if saturation within the major portion of the root zone is present for only 5% of the growing season, depending on other evidence.

The growing season is defined as the portion of the year when soil temperatures at 12.0 inches below the soil surface are higher than biological zero (41 degrees Fahrenheit, 5 degrees Celsius), but also allows approximation from frost free days, based on air temperature. The growing season for any given site or location is determined from US Natural Resources Conservation Service, (formerly Soil Conservation Service) data and information.

Wetland hydrologic indicators include the following: visual observation of inundation or saturation, watermarks, drift lines, sediment deposits, and/or oxidized rhizospheres with living roots. Oxidized rhizospheres are defined as yellowish-red zones around the roots and rhizomes of some plants that grow in frequently saturated soils. Other indicators of hydrology, including algal mats or crust, iron deposits, surface soil cracks, sparsely vegetated concave surface, salt crust, aquatic invertebrates, hydrogen sulfide odor, reduced iron, iron reduction in tilled soils, and stunted or stressed plants can also be used to determine the presence of wetland hydrology.

Wetland Substrate (Soils)

Most wetlands are characterized by hydric soils. Hydric soils are those that are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions. Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma. The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include: organic content of greater than 50% by volume, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soil must meet one of the 16 definitions for hydric soil indicators, or be classified as a "problem soil" in the Interim Regional Supplement.

Wetland Biota (Vegetation)

Wetland biota is defined as hydrophytic vegetation. A hydrophyte is a plant species that is capable of growing in substrates that are periodically deficient in oxygen as a result of saturated soil conditions. The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands*, has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status", are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL). Table 1 gives a definition of the plant indicator codes.

Table 1. Description of Wetland Plant Indicator Status Codes

Indicator Code	Status
OBL	Obligate wetland. Estimated to occur almost exclusively in wetlands (>99%)
FACW	Facultative wetland. Estimated to occur 67-99% of the time in wetlands.
FAC	Facultative. Occur equally in wetlands and non-wetlands (34-66%).
FACU	Facultative upland. Usually occur in non-wetlands (67-99%).
UPL	Obligate upland. Estimated to occur almost exclusively in non-wetlands (>99%). If a species is not assigned to one of the four groups described above it is assumed to be obligate upland.
NI	Has not yet received a wetland indicator status, but is probably not obligate upland.

Observations of hydrology, soils, and vegetation, were made using the "Routine On-site" delineation method as defined in the 1987 manual and the Interim Regional Supplement for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated to 20 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual absolute-cover estimate of the dominant species of the plant community was performed using soil pit locations as a center of reference. Dominant plant species are based on estimates of absolute cover for herbaceous, and shrub species within a 5 foot radius of the sample point, and basal area cover for tree and woody vine species within a 30 foot radius of the sample point. Plant species in each vegetative layer, which are estimated at less than 20% of the total cover, are not considered to be dominant. The wetland indicator status is then used to determine if there is an overall dominance (greater than 50%) of wetland or upland plant species. If less than 50% of the dominant species are hydrophytic, then the prevalence index may be used to determine if the subdominant species are hydrophytic. If the prevalence index is less than or equal to 3, hydrophytic vegetation criterion is met.

During data collection, the soil profiles were examined for hydric soil and wetland hydrology field indicators. Plant species and cover were recorded. Data was recorded on standard data sheets which contain the information specified in the 1987 Corps Manual and the Interim Regional Supplement.

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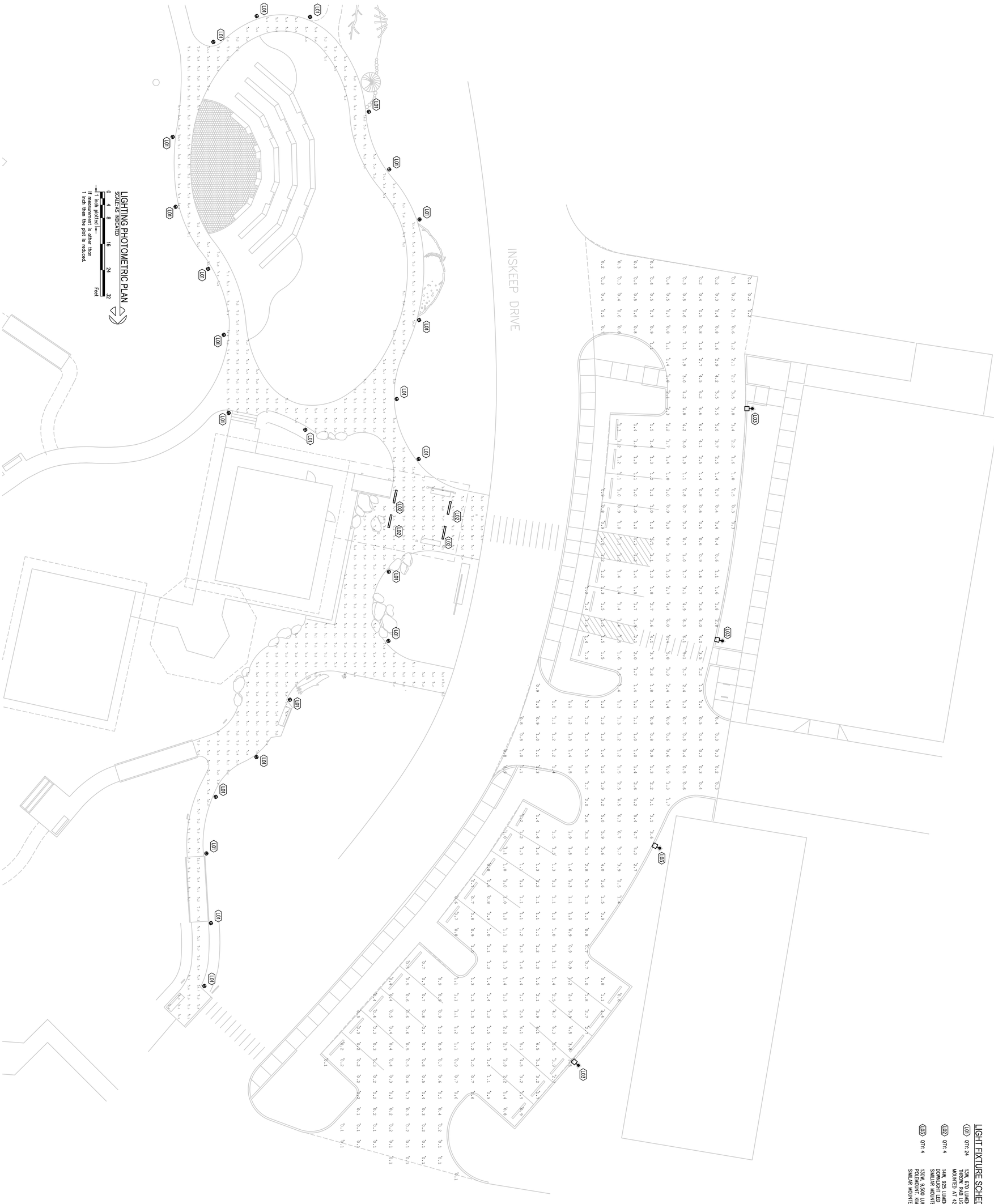

LIGHT FIXTURE SCHEDULE

L01	QTY: 24	13W, 670 LUMEN, 4000K LED FIXTURE WITH FORWARD THROW, PAR LIGHTING WPLED13N OR SIMILAR POST MOUNTED AT 42" ABOVE GROUND.
L02	QTY: 4	14W, 925 LUMEN, 4000K LAMP, 48" LONG EXTERIOR DOWNLIGHT LED FIXTURE, INSIGHT MEDLEY VIEW OR SIMILAR MOUNTED TO CANOPY ABOVE.
L03	QTY: 4	130W, 9,500 LUMEN, 4000K, FULL CUTOFF LENS POLEMOUNT, KIM LIGHTING ARCHETYPE AR SERIES OR SIMILAR MOUNTED ON 20' POLE.

Not For Construction

Revisions	Project ENVIRONMENTAL LEARNING CENTER 19600 MOLALLA AVENUE OREGON CITY, OR 97045	Owner CLACKAMAS COMMUNITY COLLEGE 19600 MOLALLA AVENUE OREGON CITY, OR 97045	YOST GRUBE HALL ARCHITECTURE 707 SW Washington St, Suite 1200, Portland, Oregon 97205 t 503.221.0150	Consultant Stantec 733 SW Oak Street Suite 200 Portland Oregon 97205-3710 (503) 273-0060	

Lighting Photometric Plan

L5.01

3/32" = 1'-0"

Date 02.11.16

Project No. 104500

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PLANT LEGEND

SEE SHEET L3.02 FOR PLANT SCHEDULE AND NOTES

- PLANTING ZONE 1 ELEVATIONS ABOVE 398 IN RESTORATION ZONE
- PLANTING ZONE 2 ELEVATIONS BTWN 396 AND 398
- PLANTING ZONE 3 ELEVATIONS BTWN 395 AND 396
- PLANTING ZONE 4 ELEVATIONS BELOW 395
- MEADOW PLANTING
- WETLAND PLANTING
- NATIVE ORNAMENTAL PLANTING
- PARKING AREA PLANTING
- STORMWATER PLANTING PER OREGON CITY STANDARDS

1. PLANTING PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40' N

Land Use Application

NOT FOR CONSTRUCTION

Consultant

LANDSCAPE ARCHITECTS PC
lango hansen
1100 nw glisan #3B portland OR 97209 T 503.295.2437

YOST GRUBE HALL
ARCHITECTURE

707 SW Washington St.#1200
Portland, OR 97205

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
PLANTING PLAN

Drawing No.
L3.01

Scale 1"=20'-0"
Date February 11, 2016
Project No. 104500

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PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/ CONDITION	SPACING
TREES				
	Acer circinatum	Vine Maple	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	AS SHOWN
	Alnus rubra	Red Alder	1/2" CAL./B&B	AS SHOWN
	Amelanchier alnifolia	Western Serviceberry	1.5" CAL./B&B	AS SHOWN
	Fraxinus latifolia	Oregon Ash	1/2" CAL./B&B	AS SHOWN
	Cornus 'Eddie's White Wonder'	Eddie's White Wonder Hybrid Dogwood	2" CAL./B&B	AS SHOWN
	Thuja plicata	Western Red Cedar	6' HT MIN/B&B	AS SHOWN
PLANTING ZONE 1 – ELS. ABOVE 398 IN RESTORATION ZONE				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	4LBS/ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	36" O.C.
	Physocarpus capitatus	Pacific Ninebark	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.
	Spiraea douglasii	Douglas spirea	#1/CONT.	36" O.C.
PLANTING ZONE 2 – ELEVATIONS BTWN 396 AND 398				
	Agrostis exarata	Spike Bentgrass	SEED	2LBS/ACRE
	Carex obnupta	Slough Sedge	PLUG	18" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	2LBS/ACRE
	Plagiobothrys figuratus	Fragrant Popcorn Flower	PLUG	18" O.C.
	Ranunculus sceleratus	Cursed Buttercup	PLUG	18" O.C.
PLANTING ZONE 3 – ELEVATIONS BTWN 395 AND 396				
	Alisma gramineum	Narrow–leaf Water Plantain	PLUG	18" O.C.
	Juncus effusus	Lamp Rush	PLUG	18" O.C.
	Juncus ensifolius	Daggerleaf Rush	PLUG	18" O.C.
	Leersia oryzoides	Rice Cutgrass	PLUG	18" O.C.
	Polygonum coccineum	Water Smartweed	PLUG	18" O.C.
	Scirpus microcarpus	Small Fruited Bulrush	PLUG	18" O.C.
	Sparganium eurycarpum	Broadfruit Bur–reed	PLUG	18" O.C.
	Schoenoplectus tabemaemontani	Soft–stem Club–rush	PLUG	18" O.C.
PLANTING ZONE 4 – ELEVATIONS BELOW 395				
	Callitriche stagnalis	Pond–water Starwort	PLUG	18" O.C.
	Potamogeton crispus	Curly Pondweed	PLUG	18" O.C.
	Schoenoplectus tabernaemontani	Soft–stem Clubrush	PLUG	18" O.C.
	Stuckenia pectinata	Sago Pondweed	PLUG	18" O.C.
	Utricularia macrorhiza	Greater Bladderwort	PLUG	18" O.C.
MEADOW PLANTING				
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF

PLANT SCHEDULE CONT.

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/ CONDITION	SPACING
WETLAND PLANTING				
	Glyceria elata	Fowl Manna Grass	SEED	12LBS/ ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	6' O.C.
	Physocarpus capitatus	Ninebark	#1/CONT.	6' O.C.
	Spiraea douglasii	Douglas Spirea	#1/CONT.	6' O.C.
NATIVE ORNAMENTAL PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	24" O.C.
	Aquilegia formosa	Western Columbine	#1/CONT.	24" O.C.
	Blechnum spicant	Deer Fern	#1/CONT.	24" O.C.
	Erigeron speciosus	Aspen Fleabane	#1/CONT.	24" O.C.
	Festuca idahoensis	Idaho Fescue	#1/CONT.	24" O.C.
	Festuca romeri	Roemer's Fescue	SEED	8LBS/ 1000SF
	Fragaria vesca	Woodland Strawberry	#1/CONT.	12" O.C.
	Iris douglasiana	Douglas Iris	#1/CONT.	24" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Mahonia repens	Creeping Mahonia	#2/CONT.	24" O.C.
	Oemleria cerasiformis	Indian Plum	7–8' HT MIN/BARE ROOT/ MULTI–TRUNK	72" O.C.
	Philadelphus lewisii	Wild Mock Orange	#5/CONT.	42" O.C.
	Phlox adsurgens	Northern Phlox	#1/CONT.	24" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Sedum lanceolatum	Lanceleaf Stonecrop	#1/CONT.	12" O.C.
	Sedum oreganum	Oregon Stonecrop	#1/CONT.	12" O.C.
	Trillium ovatum	Trillium	#1/CONT.	24" O.C.
PARKING AREA PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	12" O.C.
	Gaultheria shallon	Salal	#1/CONT.	36" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Vaccinium ovatum	Evergreen Huckleberry	#3/CONT.	36" O.C.
STORMWATER PLANTING – PER OREGON CITY STANDARDS				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Eleocharis ovata	Ovate Spike Rush	#1/CONT.	12" O.C.
	Fragaria chiloensis	Coast Strawberry	SP#4/CONT.	12" O.C.
	Juncus patens	Spreading Rush	#1/CONT.	12" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Rosa pisocarpa	Swamp Rose	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.

ABBREVIATIONS

B&B	BALLED & BURLAPPED
CAL	CALIPER
CONT	CONTAINER
CON	CONIFER
DECID	DECIDUOUS
DIA	DIAMETER
DBH	DIAMETER AT BREAST HEIGHT
EQ	EQUAL
EX	EXISTING
HT	HEIGHT
MIN	MINIMUM
MAX	MAXIMUM
NO	NUMBER
O.C.	ON CENTER
SIM	SIMILAR
SL	SEEDED LAWN
SPECS	SPECIFICATIONS
TYP	TYPICAL
#	CONTAINER SIZE

PLANTING NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT EXISTING VEGETATION TO REMAIN; SEE SPECIFICATION SECTION 01565 FOR FENCING AND OTHER REQUIREMENTS.
3. ALL PLANT MATERIAL SHALL BE NURSERY GROWN, WELL ROOTED, AND WELL BRANCHED. ALL TREES MUST BE FREE OF INSECTS, DISEASES, MECHANICAL INJURY, AND OTHER OBJECTIONABLE FEATURES WHEN PLANTED. ALL PLANT MATERIAL SHALL CONFORM TO "AMERICAN STOCK STANDARDS" LATEST EDITION.
4. ALL PLANT MATERIAL TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SEE SPECIFICATIONS.
5. PLANT SPACING SHALL TAKE PRECEDENCE OVER VALVE BOX LOCATIONS. INSTALLED VALVE BOXES THAT CONFLICT WITH ACCEPTED PLANT LAYOUT SHALL BE MOVED TO POSITION BETWEEN PLANTS.
6. CLEAR PLANT BEDS OF ALL GRAVEL AND DEBRIS PRIOR TO SOIL PREPARATION AND PLANTING, FOR APPROVAL BY LANDSCAPE ARCHITECT.
7. ALL LANDSCAPE AREAS THAT HAVE A SLOPE GREATER THAN 1 VERTICAL FOOT IN 3 HORIZONTAL FEET SHALL RECEIVE JUTE MATTING, SEE SPECIFICATIONS.
8. ALL PLANTING AREAS ADJACENT TO NEW PARKING AREAS ARE TO BE IRRIGATED WITH A PERMANENT AUTOMATIC IRRIGATION SYSTEM. ALL AREAS WITHIN THE EXISTING ELC ARE TO BE IRRIGATED WITH TEMPORARY ABOVE–GROUND IRRIGATION FOR A PERIOD OF 3 YEARS MINIMUM.
9. ALL PARKING LOT AND STREET TREES MUST HAVE 6' CLEAR HEIGHT TO LOWEST BRANCHES.

CODE REQUIREMENTS

INTERIOR PARKING LOT LANDSCAPING

1 TREE PER 6 PARKING STALLS

GROUNDCOVER OR SHRUBS
TO COVER 100% OF LANDSCAPED AREA WITHIN 3 YEARS

NOT FOR CONSTRUCTION

Consultant
lango hansen LANDSCAPE ARCHITECTS PC
1100 nw gilsan #3B portland OR 97209 T 503.295.2437

YOST GRUBE HALL ARCHITECTURE
707 SW Washington St.#1200
Portland, OR 97205

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK	DATE	DESCRIPTION

Sheet Title
PLANTING SCHEDULE AND NOTES

Drawing No.
L3.02

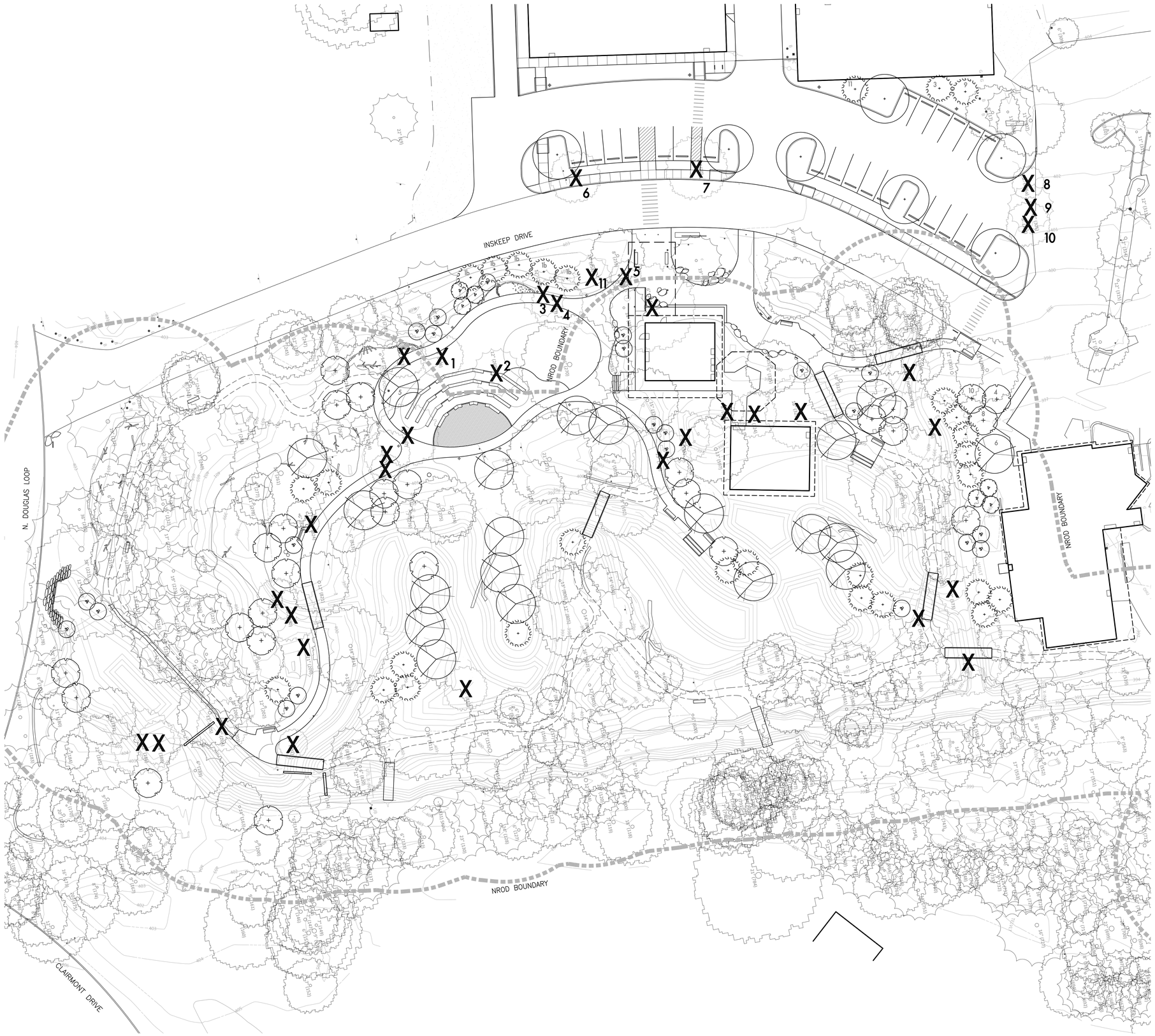
Scale 1"=20'-0"

Date February 11, 2016

Project No. 104500

Land Use Application

© Yost Grube Hall Architecture 2013



1. TREE MITIGATION PLAN

SCALE: 1" = 20'–0"

0 10' 20' 40' N

LEGEND

- NROD BOUNDARY
- CONIFEROUS TREE, TO BE REMOVED
- DECIDUOUS TREE, TO BE REMOVED
- CONIFEROUS TREE, TO BE PROTECTED
- DECIDUOUS TREE, TO BE PROTECTED
- MITIGATION TREES FOR TREES REMOVED OUTSIDE NROD BOUNDARY

TREE MITIGATION INSIDE NROD

7,942 SF DISTURBED AREA

OPTION 2 REQUIRED PLANTING
5 TREES AND 25 SHRUBS PER 500SF DISTURBED AREA

OPTION 2 PROVIDED PLANTING
5 TREES AND 25 SHRUBS PER 500SF DISTURBED AREA

PROVIDED MITIGATION TREES = 79

- (18) ACER CIRCINATUM, MIN 7'–8' HT, MULTI–TRUNK
- (24) ALNUS RUBRA, 2" CAL
- (3) AMELANCHIER ALNIFOLIA, MIN 7'–8' HT, MULTI–TRUNK
- (16) FRAXINUS LATIFOLIA, 2" CAL
- (18) THUJA PLICATA, MIN 6'HT

PROVIDED MITIGATION SHRUBS = 397, MIN 12" HT
SEE PLANTING PLAN L3.01 FOR SHRUB LOCATIONS.
SHRUBS TO BE PLANTED IN GROUPS WITH NO MORE THAN 4 SINGLE–SPECIES.

ALL MITIGATION PLANTS TO BE IRRIGATED TO ENSURE A MINIMUM 80% SURVIVAL RATE AFTER 5 YEARS.

TREE MITIGATION OUTSIDE NROD

10 TREES REMOVED WITHIN THE CONSTRUCTION AREA	REQUIRED REPLACEMENT
1. 9" PRUNUS SP.	(1)
2. 12" PSEUDOTSUGA MENZIESII	(1)
3. 12" PICEA SP.	(1)
4. 8" CRATAEGUS SP.	(1)
5. 6" MALUS SP.	(1)
6. 12" ACER SP.	(1)
7. 12" ACER SP.	(1)
8. 6" ACER RUBRUM	(1)
9. 12" PICEA ABIES	(1)
10. 8" ACER RUBRUM	(1)

PROVIDED REQUIRED MITIGATION TREES

1. (1) FRAXINUS LATIFOLIA, 2" CAL
2. (1) THUJA PLICATA, MIN 6' HT
3. (1) THUJA PLICATA, MIN 6' HT
4. (1) ALNUS RUBRA, 2" CAL
5. (1) FRAXINUS LATIFOLIA, 2" CAL
6. (1) FRAXINUS LATIFOLIA, 2" CAL
7. (1) FRAXINUS LATIFOLIA, 2" CAL
8. (1) ALNUS RUBRA, 2" CAL
9. (1) THUJA PLICATA, MIN 6' HT
10. (1) ALNUS RUBRA, 2" CAL

1 TREE REMOVED OUTSIDE THE CONSTRUCTION AREA	REQUIRED REPLACEMENT
11. 14" PICEA SITCHENSIS	(6)

PROVIDED REQUIRED MITIGATION TREES

11. (6) THUJA PLICATA, MIN 6' HT

Land Use Application

NOT FOR CONSTRUCTION

Consultant
lango hansen LANDSCAPE ARCHITECTS PC
1100 nw gilsan # 3B portland OR 97209 T 503.295.2437

YOST GRUBE HALL ARCHITECTURE
707 SW Washington St.#1200
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19600 MOLALLA AVENUE
OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK	DATE	DESCRIPTION

Sheet Title
TREE MITIGATION PLAN

Drawing No.
L3.03

Scale 1"=20'-0"
Date February 11, 2016
Project No. 104500

V:\2048\ACTIVE\204819533\CAD-BIM\L5.01 Mar 07, 2016 4:02 PM By:MWMARTIN

File Name: L5.01.dwg Last Saved Date and Time: 07 Mar 2016, 4:01pm

©Yost Grube Hall Architecture 2010

LIGHTING PHOTOMETRIC PLAN

SCALE: AS INDICATED

0 4 8 16 24 32 Feet

1 inch plotted

If measurement is other than 1 inch then the plot is reduced.

LIGHT FIXTURE SCHEDULE

L02	QTY: 24	13W, 670 LUMEN, 4000K LED FIXTURE WITH FORWARD THROW. RAB LIGHTING WPLED13N OR SIMILAR POST MOUNTED AT 42" ABOVE GROUND.
	QTY: 4	14W, 925 LUMEN, 4000K LAMP, 48" LONG EXTERIOR DOWNLIGHT LED FIXTURE. INSIGHT MEDLEY VIEW OR SIMILAR MOUNTED TO CANOPY ABOVE.
L03	QTY: 4	130W, 9,500 LUMEN, 4000K, FULL CUTOFF LENS POLEMOUNT, KIM LIGHTING ARCHETYPE AR SERIES OR SIMILAR MOUNTED ON 20' POLE.

75% CD & BUDGET REVIEW SET

REVISIONS

Sheet Title: LIGHTING PHOTOMETRIC PLAN

Drawing No.: L5.01

Project No. 104500

Date 03.07.16

Scale AS INDICATED

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

YOST GRUBE HALL ARCHITECTURE
707 SW Washington St, Suite 1200, Portland, Oregon 97205
t 503.221.0150

Consultant
Stantec
733 SW Oak Street Suite 200
Portland Oregon 97205-3710
(503) 273-0060

OREGON CITY

Caufield Neighborhood Association

Robert Malchow, Chairman
(503) 888-1622

March 31, 2016

Pete Walter, Chief Planner
Oregon City Community Development Dept.
Planning Division
221 Molalla Ave, Ste. 200
Oregon City, OR 97045

Dear Mr. Walter,

Please be advised that on behalf of the Caufield Neighborhood Association, we feel that the construction proposed by Clackamas Comm. College at the Environmental Learning Center (located on campus and designated by Oregon City Planning as "DP 16-01: Detailed Development Plan ") does not conflict with the interests of our local citizens.

Mr. Bob Cochran, Dean of CCC's Campus Services Dept., presented the proposed plan to our citizens at our January meeting, and it was greeted with much enthusiasm.

Cordially,

Robert Malchow

Robert Malchow
CNA Co-Chairman

OREGON CITY

Natural Resources Committee

P.O. Box 3040 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

August 20, 2015

Mr. Greg Fitzgerald, Executive Director
Clackamas Community College Foundation
19600 Molalla Avenue
Oregon City, OR 97045

Subject: Environmental Learning Center Design for Upper Newell Creek Restoration

Dear Mr. Fitzgerald:

An overview of the proposed design for the Environmental Learning Center was presented to the City of Oregon City Natural Resource Committee (NRC) by Bob Cochran and his consultants on August 12. The presentation was very professional, thorough and informative for an area that has been important to the college, community and region for approximately 40 years. As you know, Jerry Herrmann who was instrumental in designing and implementing the design for the ELC 40 years ago is a member of the NRC.

Architecture and adjustments to the built-environment were presented that will accommodate visitors and students in a manner that will showcase the project, provide learning opportunities, and ultimately protect the integrity and purpose of the area. Habitat and water quality approaches that are state of the art, and land and vegetation adjustments that will occur to facilitate restoration of upper Newell Creek were discussed.

The seven NRC members had several questions that needed clarification from the design team. Those questions were answered to our satisfaction. After discussion the members voted to provide this letter of support for the proposed project. We would like to commend the presenters for the presentation and for providing clarifications based on NRC questions.

We look forward to continuing updates on the design that was presented.

Ginger Redlinger, Chairperson
Gerry Herrmann
Bill Clark
Richard Craven
Bryon Boyce
Doug Neeley
Doug DeHart

From: Finley, Tim
To: Pete Walter
Subject: RE: Oregon City Notice and Transmittal of Limited Land Use Action: DP 16-01 / NR 15-08: CCC Environmental Learning Center
Date: Monday, March 14, 2016 11:35:28 AM
Attachments: image001.png

Pete.
The Tri-City service district has no comments on this application.

Tim Finley

From: Pete Walter [mailto:pwalter@ci.oregon-city.or.us]
Sent: Wednesday, March 09, 2016 4:33 PM
Subject: Oregon City Notice and Transmittal of Limited Land Use Action: DP 16-01 / NR 15-08: CCC Environmental Learning Center

ShareFile Attachments

Title	Size
DP 16-01 NR 15-08 Notice.pdf	157 KB
DP 16-01 NR 15-08 Transmittal.pdf	130.4 KB
Vicinity Map.pdf	4.8 MB

Download Attachments

Pete Walter uses ShareFile to share documents securely. Learn More.

COMMENTS DUE BY: **March 24, 2015 (Public Comment Deadline)**
HEARING BODY: _XX_Staff Review; _ __PC; ___ _HRB; ___CC
FILE # & TYPE: DP 16-01: Detailed Development Plan
NR 15-08: Natural Resource Overlay District
PLANNER: Pete Walter, AICP, Planner (503) 496-1568 Email: pwalter@orcity.org
APPLICANT: Clackamas Community College
REQUEST: Restoration of ELC ponds and facilities
ZONING: "I" Institutional District
LOCATION: 19600 Molalla Ave #21, Oregon City, OR 97045
Clackamas County Map 3-2E-09C -00800
WEBPAGE: http://www.orcity.org/planning/landusecase/dp-16-01-nr-15-08

This application material is referred to you for your information, study and official comments. If extra copies are required, please contact the Planning Department. Your recommendations and suggestions will be used to guide the Planning staff when reviewing this proposal. If you wish to have your comments considered and incorporated into the staff report, please return the attached copy of this form to facilitate the processing of this application and will insure prompt consideration of your recommendations. Please check the appropriate spaces below.

____ The proposal does not conflict with our interests.
_____ The proposal conflicts with our interests for the reasons attached.
____ The proposal would not conflict our interests if the changes noted below are included.

_____
_____
_____

Signed _____

PLEASE RETURN YOUR COPY OF THE APPLICATION AND MATERIAL WITH THIS FORM.

Pete Walter, AICP, Planner
pwalter@orcity.org
Community Development Department
Planning Division
221 Molalla Avenue, Ste. 200
Oregon City, Oregon 97045
503-496-1568 Direct
503-722-3789 Front Desk

503-722-3880 Fax
Website: www.orcity.org
New Hours(Sept 2): 8:30 AM – 3:30 PM, M-F

Need Zoning and other Tax Lot Information? - Generate a Property Report
Online Mapping is available at OCWebMaps

Please consider the environment before printing

PUBLIC RECORDS LAW DISCLOSURE: This e-mail is subject to the State Retention Schedule and may be made available to the public.

From: O"Connell, Grant
To: Pete Walter
Subject: RE: Oregon City Notice and Transmittal of Limited Land Use Action: DP 16-01 / NR 15-08: CCC Environmental Learning Center
Date: Thursday, March 17, 2016 2:16:37 PM
Attachments: image003.png
image004.png
image005.png
image007.png
image008.png

Thank you for the opportunity to review, Pete. The proposal does not conflict with our interests.

Regards,

GO► **GRANT O'CONNELL**
Planner II
TriMet Capital Projects
1800 SW 1st Ave., Suite 300, Portland, OR 97201
Office: 503-962-6478 **Email:** o'connelg@trimet.org

From: Pete Walter [mailto:pwalter@ci.oregon-city.or.us]
Sent: Wednesday, March 09, 2016 4:33 PM
Subject: Oregon City Notice and Transmittal of Limited Land Use Action: DP 16-01 / NR 15-08: CCC Environmental Learning Center

ShareFile Attachments

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NR 15-08: Natural Resource Overlay District
PLANNER: Pete Walter, AICP, Planner (503) 496-1568 Email: pwalter@orcity.org
APPLICANT: Clackamas Community College
REQUEST: Restoration of ELC ponds and facilities
ZONING: "I" Institutional District
LOCATION: 19600 Molalla Ave #21, Oregon City, OR 97045
Clackamas County Map 3-2E-09C -00800
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_____

_____

_____

Signed _____

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Pete Walter, AICP, Planner
pwalter@orcity.org
Community Development Department
Planning Division
221 Molalla Avenue, Ste. 200
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503-496-1568 Direct
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OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

NOTICE OF PUBLIC HEARING (TYPE III) – SECOND NOTICE

Mailed on: March 29th, 2016

COMMENT DEADLINE:	On Monday, April 25th, 2016, the City of Oregon City Planning Commission will conduct a public hearing at 7:00 p.m. in the Commission Chambers at City Hall, 615 Center Street, Oregon City 97045 on the following Type III applications. Any interested party may testify at the public hearings or submit written testimony at or prior to the close of the City Commission hearing.
FILE NUMBER:	DP 16-01: Detailed Development Plan NR 15-08: Natural Resource Overlay District
APPLICANT:	Clackamas Community College, Attn: Bob Cochran, P.E., Dean of Campus Services 19600 Molalla Ave, Oregon city, OR 97045
OWNER:	Clackamas Community College, 19600 Molalla Ave, Oregon City, OR 97045
PROPOSAL:	Restoration and habitat enhancement of existing ELC ponds and adjacent wetland areas for improved stormwater management and water quality, with modifications to ELC building, trail improvements and interpretative features. The application requires a Type III review for cumulative additions to existing structures within the NROD exceeding 500 square feet.
LOCATION: (See Map Other Side)	Clackamas Community College – Inskeep Environmental Learning Center Inskeep Drive, CCC Campus (See Map Other Side) 19600 Molalla Ave #21, Oregon City, OR 97045 Clackamas County Map 3-2E-09C -00800
WEBPAGE:	http://www.orcity.org/planning/landusecase/dp-16-01-nr-15-08
CONTACT PERSON:	Peter Walter AICP, Associate Planner (503) 496-1568 Email: pwalter@orcity.org
NEIGHBORHOOD:	Caufield Neighborhood Association
CRITERIA:	Natural Resources Overlay District in Chapter 17.49, Administration and Procedures are set forth in Chapter 17.50, "I" Institutional District in Chapter 17.39, Site Plan and Design Review in Chapter 17.62, Off-Street Parking and Loading in Chapter 17.52, Master Plans (Detailed Development Plan) in Chapter 17.65. The City Code Book is available on-line at www.orcity.org.

This application and all documents and evidence submitted by or on behalf of the applicant are available for inspection at no cost at the Oregon City Planning Division, 221 Molalla Avenue, Suite 200 from 8:30 AM - 3:30 PM, Monday – Friday. The staff report, with all the applicable approval criteria, will also be available for inspection seven days prior to the hearing. Copies of these materials may be obtained for a reasonable cost in advance. Any interested party may testify at the public hearing and/or submit written testimony at or prior to the close of the City Commission hearing. Written comments must be received by close of business at City Hall 10 days before the scheduled hearing to be included in the staff report. Written comments received within 10 days of the hearing will be provided to the Commission at the hearing. The public record will remain open until the City Commission closes the public hearing. Please be advised that any issue that is intended to provide a basis for appeal must be raised before the close of the City Commission hearing, in person or by letter, with sufficient specificity to afford the Commission and the parties an opportunity to respond to the issue. Failure to raise an issue with sufficient specificity will preclude any appeal on that issue. Parties with standing may appeal the decision of the City Commission to the Land Use Board of Appeals. Any appeal will be based on the record. The procedures that govern the hearing will be posted at the hearing and are found in OCMC Chapter 17.50 and ORS 197.763.

A city-recognized neighborhood association requesting an appeal fee waiver must officially approve the request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal pursuant to OCMC 17.50.190(C)(5) to and 17.50.290(C).

COMMUNITY NEWSPAPERS
6605 SE Lake Road, Portland, OR 97222
PO Box 22109, Portland, OR 97269-2109
Phone: 503-684-0360 Fax: 503-620-3433
E-mail: legals@commnewspapers.com

AFFIDAVIT OF PUBLICATION

State of Oregon, County of Clackamas, SS

I, Charlotte Allsop, being the first duly sworn, depose and say that I am Accounting Manager of *Clackamas Review/Oregon City News and Estacada News*, a newspaper of general circulation, published at Clackamas, in the aforesaid county and state, as defined by ORS 193.010 and 193.020, that

City of Oregon City
Notice of Public Hearing – DP16-01; NR 15-08, Clackamas Community College
CLK13573

a copy of which is hereto annexed, was published in the entire issue of said newspaper for
1
week in the following issue:
March 30, 2016

Charlotte Allsop
Charlotte Allsop (Accounting Manager)

Subscribed and sworn to before me this March 30, 2016.

Desirae A Marglin
NOTARY PUBLIC FOR OREGON

PO: PETE WALTER
Acct #500291
Attn: Pete Walter
City of Oregon City
PO Box 3040
Oregon City, OR 97045-0304

Size: 2 x 7"
Amount Due: $165.90*
*Please remit to address above.

OFFICIAL STAMP
DESIRAE ANN MARGLIN
NOTARY PUBLIC - OREGON
COMMISSION NO. 936708
MY COMMISSION EXPIRES MARCH 02, 2019

NOTICE OF PUBLIC HEARING

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19600 Molalla Ave, Oregon city, OR 97045
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NEIGHBORHOOD: Caufield Neighborhood Association
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Publish 03/30/2016. CLK13573

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION TRANSMITTAL (Revised)

March 29, 2016

IN-HOUSE DISTRIBUTION OF APPLICATION

- ❑ Building Official✓
- ❑ Development Services Manager✓
- ❑ Public Works Operations✓
- ❑ City Engineer / Public Works Director✓
- ❑ GIS✓
- ❑ Parks Manager✓
- ❑ Addressing✓
- ❑ Police
- ❑ Traffic Engineer✓
- ❑ City Attorney

NOTICE OF THE APPLICATION MAILED TO

- ❑ All Properties within 300 feet ✓
- ❑ Hamlet of Beavercreek ✓
- ❑ Holcomb Outlook CPO ✓
- ❑ Central Point / Leland Road / New Era CPO ✓

MAIL-OUT DISTRIBUTION OF APPLICATION

- ❑ OREGON CITY NEIGHBORHOOD ASSOCIATIONS✓
  - ❑ CIC Chair
  - ❑ N.A. Chair Caufield ✓
- ❑ N.A. Land Use Chair Caufield ✓
- ❑ Clackamas County Transportation and Planning ✓
- ❑ Clackamas Fire District #1 ✓
- ❑ ODOT – Division Review
- ❑ School District# 62 ✓
- ❑ Tri-Met ✓
- ❑ Metro ✓
- ❑ Oregon City Postmaster
- ❑ DLCD / DEQ / DSL / USACE (circle) ✓
- ❑ DEA (NROD) ✓

STAFF REPORT DUE:	**April 18, 2016**
HEARING BODY:	____Staff Review; **_XX_Planning Commission**; ___ _HRB; ___CC
HEARING DATE:	April 25th, 2016
FILE # & TYPE:	DP 16-01: Detailed Development Plan
	NR 15-08: Natural Resource Overlay District (Type III)
PLANNER:	Pete Walter, AICP, Planner (503) 496-1568 Email: pwalter@orcity.org
APPLICANT:	Clackamas Community College, Environmental Learning Center
REQUEST:	Restoration of ELC ponds and facilities
ZONING:	"I" Institutional District
LOCATION:	19600 Molalla Ave #21, Oregon City, OR 97045
	Clackamas County Map 3-2E-09C -00800
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____ The proposal does not conflict with our interests.
____ The proposal conflicts with our interests for the reasons attached.
____ The proposal would not conflict our interests if the changes noted below are included.

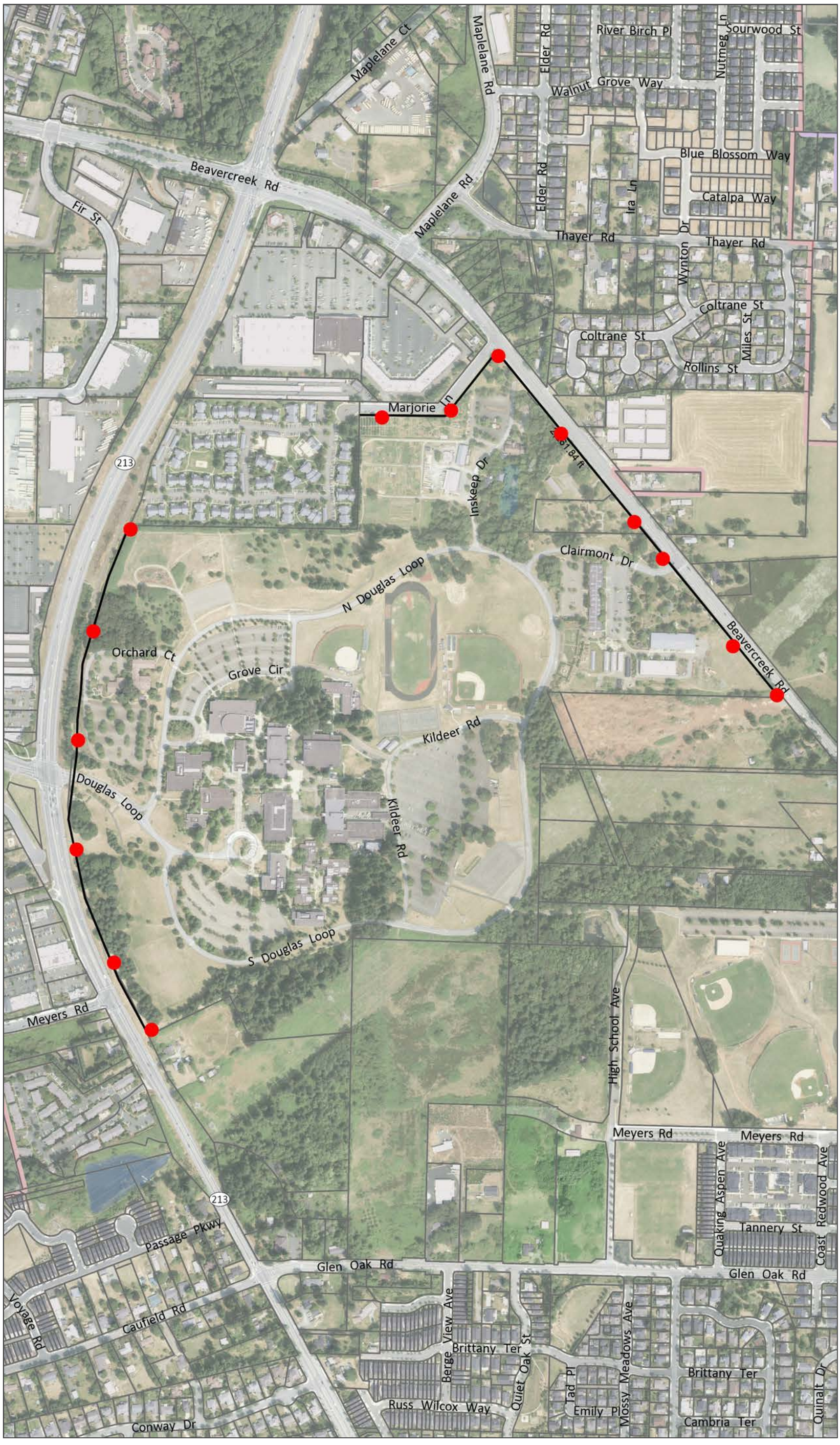
_____

_____

Signed _____

PLEASE RETURN YOUR COPY OF THE APPLICATION AND MATERIAL WITH THIS FORM.

CCC - ELC Sign Locations

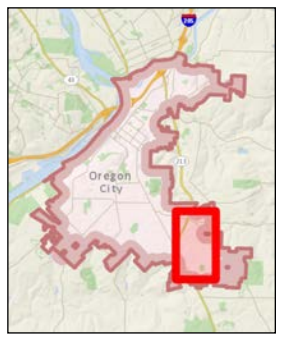


Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- City Limits
- UGB
- Basemap

Notes

Overview Map



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

N

0 500 1,000 1,500 Feet

1: 6,000

Map created 3/28/2016

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

From: LFaxon@CommNewspapers.com
To: Pete Walter
Subject: RE: Oregon City Public Notice
Date: Tuesday, March 22, 2016 12:19:16 PM
Attachments: image001.png

Good Afternoon Pete,

Notice received. I will get this notice in the **March 30th editions** of the **Oregon City News and Clackamas Review**. Once published, I will send affidavits of publication to your attention.

Thank you,

Louise Faxon
Legal Advertising
Community Newspapers/Portland Tribune
6605 SE Lake Rd, Portland 97222-2161
PO Box 22109, Portland OR 97269-2109
Please note new phone number: (971) 204-7752
Fax (503) 620-3433
lfaxon@commnewspapers.com or lfaxon@pamplinmedia.com
Legals Notices are online at: http://publicnotices.portlandtribune.com

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From: Pete Walter [mailto:pwalter@ci.oregon-city.or.us]
Sent: Monday, March 21, 2016 2:58 PM
To: Louise Faxon
Subject: Oregon City Public Notice

Good afternoon Louise,

Please can you publish the attached public notice by April 4 and send invoice?

Thanks,

Pete Walter

Pete Walter, AICP, Planner
pwalter@orcity.org
Community Development Department
Planning Division
221 Molalla Avenue, Ste. 200
Oregon City, Oregon 97045
503-496-1568 Direct
503-722-3789 Front Desk
503-722-3880 Fax
Website: www.orcity.org
New Hours(Sept 2): 8:30 AM – 3:30 PM, M-F

Need Zoning and other Tax Lot Information? - Generate a Property Report

Online Mapping is available at OCWebMaps

Please consider the environment before printing

PUBLIC RECORDS LAW DISCLOSURE: This e-mail is subject to the State Retention Schedule and may be made available to the public.

City of Oregon City
Pre-Application Conference Summary

Project Number: PA 15-24
Project Name: CCC Environmental Learning Center
Meeting Date: August 5, 2015

Proposed Project:
The applicant has proposed to renovate the environmental learning center at CCC, which includes new pavilion additions, drainage pattern revisions, and native planting. Trails and bridges within the natural resource overlay district are planned.

General Information:

- Location: 19600 Molalla Avenue Oregon City, OR 97045
- Zoning: I - Institutional
- Applicable Overlay Districts: NROD
- Applications anticipated: Detailed Development Plan, NROD Review, Potential Master Plan Amendment

Planning Review and Application Fees:
The 2015 Planning applications and fees include-

- Site Plan and Design Review (Detailed Development Plan)

Project Cost	Fee
Less than $500,000	$2,031 plus 0.7% project cost
$500,000 to $3,000,000	$3,384 plus 0.5% project cost
Over $3,000,000	$11,510 plus 0.3% project cost (Max $53,989)

- NROD review: $1925
- Mailing Labels: $15 – or provided by applicant

Review Process:
Upon a complete application submittal, the applicant is entitled to a decision from the city for a decision of approval, approval with conditions or denial within **120 days** of deeming the application complete, by state law.

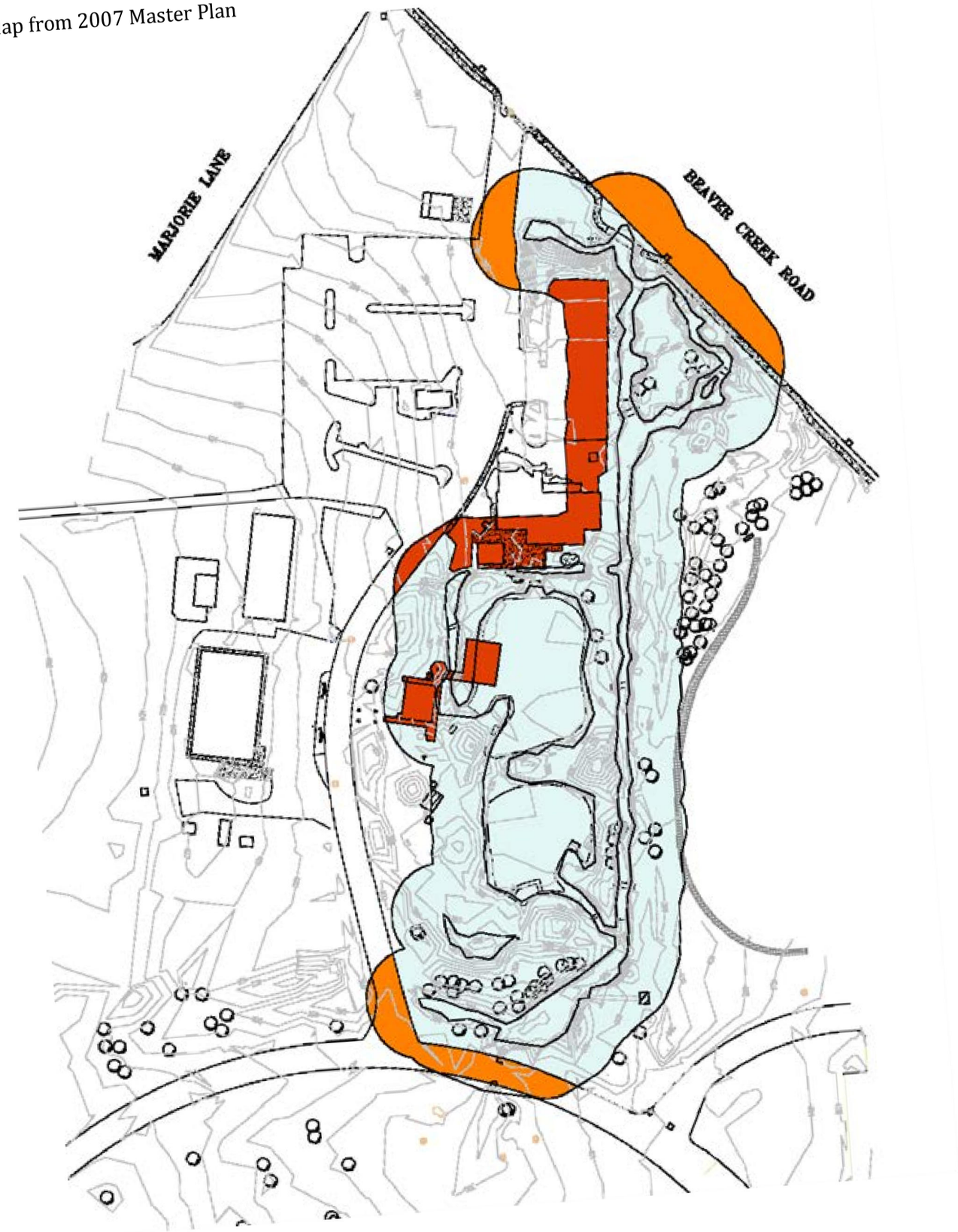
Type II decisions are rendered by the Community Development Director, with appeal on the record to the City Commission, and then onto LUBA.

Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards. The decision of the planning commission or historic review board is appealable to the city commission on the record pursuant to Section 17.50.190. The city commission decision on appeal is the city's final decision and is subject to review by LUBA within twenty-one days of when it becomes final, unless otherwise provided by state law.

Planning Notes

The CCC Master Plan in 2007 "locked in" the zoning code in place at the time. The 2007 WQRA applies, unless the College amends the Master Plan to use today's code.

Map from 2007 Master Plan



The Master Plan vests the college with the 2007 land use code, and includes "custom" standards for certain elements of the development. See the code that applies to the ELC below. If the current proposal can meet the criteria in these standards, we might be able to process the application as a Type II (no public hearings) process. If the current proposal does not meet the standards below, the College can propose an amendment to the master plan with an alternative standard to our current Chapter 17.49, which would be processed as a Type III application with a public hearing.

NOTE: The new building/canopy area will count as square footage. If this puts the total footprint over 38,460 square feet, we could accept equal or greater demolition by a date certain to remain under the threshold.

D. New development within ELC WQRA is subject to the following standards, as summarized in Table 14.

Table 14: ELC Water Quality Resource Area Conditions.

Area	***Existing Condition***	***Proposed Condition***
Buildings and Paving Area within the Wetland Resource	*1,041 square feet*	*0 square feet*
Buildings and Paving Area within the Vegetated Buffer	*38,460 square feet*	*Less than 38,460 square feet*

1. *The structural footprint of existing and proposed development within the WQRA may not exceed 38,460 square feet. This figure is the "existing structural footprint" of development within the ELC WQRA. (17.49.050.D.2). Current development impact within the WQRA is shown graphically above in Figure 25, and quantified numerically in Table 14.*

2. *Proposed development must include elimination of the existing encroachment within the ELC water resource. This elimination may be achieved by the relocation of the water resource.*

3. *ELC development within the WQRA that is equal to or less than 38,460 square feet is subject to the following prescribed conditions:*

    a. *New development must have no greater material adverse impact on the water quality resources area than existing development, as determined by a qualified natural resources professional, and*

    b. *The disturbed portion of the water quality resource area must be restored using native vegetation cover. (17.49.050.D.2)*

4. *If total ELC development exceeds this numeric threshold, any new development is a "provisional use" per 17.49.050.E, and is thereby subject to all regular provisions of Chapter 17.49.050.G.*

Applicable Code

Chapter 17.50 - ADMINISTRATION AND PROCEDURES

Chapter 17.62 - SITE PLAN AND DESIGN REVIEW
17.62.010 - Purpose.
17.62.050 - Standards.*
17.62.055 – Institutional and Commercial Buildings

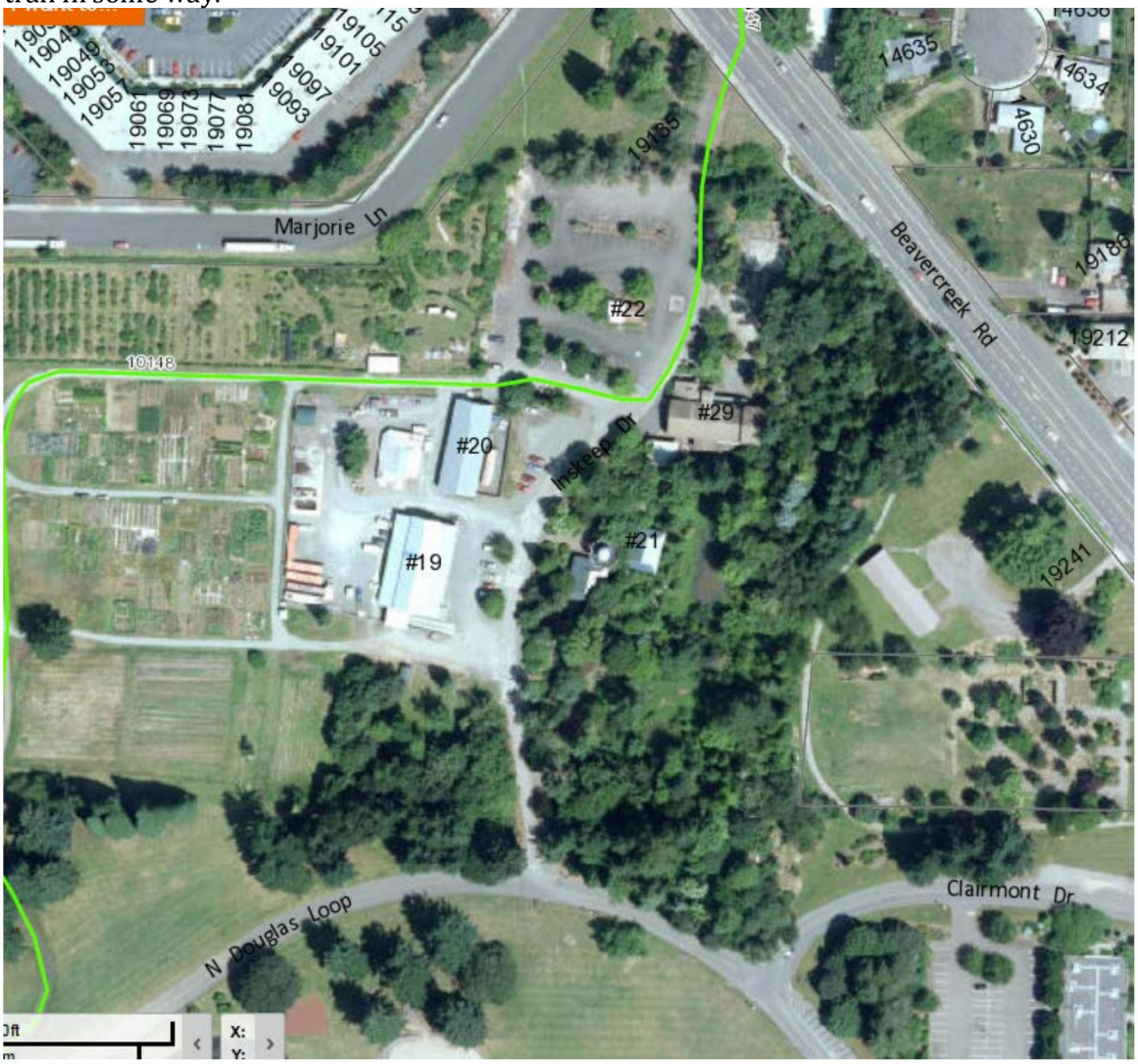
17.52 OFF STREET PARKING AND LOADING
The 2007 Master Plan indicated that the college has adequate parking for phase 1 of the Master Plan. No new parking spaces are required. If total parking is to decrease, please provide a new total for the campus and the total number of students and staff. Requirement is 0.2 spaces per #students/staff.
New bicycle parking may be required if it is not already provided. The required bicycle parking ratio is two spaces per classroom, with 50% of those spaces covered.
Parking lot landscaping standards allow alternative designs for LID techniques as long as the intent of the standards are met. See
https://www.municode.com/library/or/oregon_city/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.52OREPALO_17.52.070ALLAPL

Chapter 17.36 - "GI"—GENERAL INDUSTRIAL DISTRICT
Chapter 17.49 - NATURAL RESOURCE OVERLAY DISTRICT

Transportation

There is no need for any transportation analysis at this time.

The Regional Transportation Plan includes a trail (Oregon City Loop trail) that weaves through the campus and is aligned adjacent to the ELC. Your application should address this trail in some way.



Neighborhood Meeting

A meeting with the Caufield Neighborhood Association is required. Please turn in with your application:

1. A sign-in sheet of meeting attendees
2. A summary of issues discussed

A letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held.

Pre-application conferences are required by Section 17.50.050 of the City Code, as follows:

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the

required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

NOTICE TO APPLICANT: A property owner may apply for any permit they wish for their property. HOWEVER, THERE ARE NO GUARANTEES THAT ANY APPLICATION WILL BE APPROVED. No decisions are made until all reports and testimony have been submitted. This form will be kept by the Community Development Department . A copy will be given to the applicant. IF the applicant does not submit an application within six (6) months from the Pre-application Conference meeting date, a NEW Pre-Application Conference will be required.

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

PRE-APPLICATION MEETING NOTES

Date: 7-30-15

Planning Project Number:	PA 15-24
Address:	19600 Molalla Avenue
Map Number:	3-2E-09C
Tax Lot:	800
Project Name:	Environmental Learning Center
Meeting Date:	8-5-15
Reviewer:	Wendy Marshall

GENERAL COMMENTS

1. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements.

2. The Applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement.

3. The Applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval. + 1200 C

4. All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance.

5. A grading permit shall be obtained for the onsite work with the approval of the complete construction plans for the project from Public Works Engineering Development Services.

ENGINEERING - UTILITIES

Streets

1. The proposed project includes frontage on Beavercreek Road, which is functionally classified as a Major Arterial (Residential). For a residential major arterial the code requirements include: 126-foot ROW, pavement width of 94-feet, public access strips 0.5 feet wide, sidewalks 5 feet wide, landscape strips 10.5 feet wide (including curb), five 12-foot wide travel lanes, 8 feet street parking on each side of the street, 6-foot wide bike lanes on each side of the street, and a 6-foot wide median. Additional requirements include curb, gutter, street trees, and street lights.

2. Beavercreek Road along the frontage with the proposed project has an approximate 43-foot ROW to centerline. The paved section of Beavercreek Road along the frontage of the site includes approximately 35 feet of pavement to centerline, with two 11-foot wide travel lanes,

a 12-foot wide center lane, an 8-foot wide bike lane, and no median. A 6-foot wide, curb tight sidewalk with curb and gutter are provided. There is no street lighting on this portion of Beavercreek Road.

3. Due to the limited transportation impact of the proposed project, as well as the lack of a connection between the college and this portion of Beavercreek Road, no transportation improvements will be required as part of the proposed project.

Stormwater

4. The City has adopted new Stormwater and Grading Design Standards that will go into effect on August 18, 2015. The revised standards are available on the City's website, at: http://www.orcity.org/sites/default/files/final_manual.pdf. It is our understanding that this project will be governed by the stormwater standards agreed to during the 2007 Master Plan approval process (CP-07-01), so the newly adopted stormwater standards are provided to the applicant as a general reference for Low Impact Design (LID) and other design elements. The applicant is encouraged to utilize these new design standards as part of this project.

5. The college has a private storm sewer collection system that discharges to the stormwater pond system that this project is designed to renovate. This system discharges to Newell Creek.

6. Because the modifications to the stormwater pond system will impact public stormwater facilities, review of the modifications by the City will be required.

7. It appears that this project will not result in any new stormwater flows or any new connections to the City storm sewer system. No modifications to any public stormwater collection system are expected to be required.

8. Stormwater infrastructure associated with the proposed project will need to be designed in accordance with the restrictions of both the Natural Resources Overlay District and the high water table area.

9. A storm report is required for the land use application. Refer to the City Stormwater and Grading Design Manual for requirements of the report.

Water

10. The college has a private water distribution system.

11. It appears that this project will not result in any new water demands or any new connections to the City water system. No public water improvements are expected to be necessary for the proposed project.

12. Two private fire hydrants are located near the proposed project. New fire hydrants shall be located per Clackamas Fire District No. 1.

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

Sanitary Sewer

13. There is a private 8-inch and 10-inch PVC sanitary sewer pipe in Douglas Loop, Inskeep Drive, and Clairmont Drive. The college also has a separate, private sanitary sewer collection system.

14. It appears that this project will not result in any new sanitary sewer flows or any new connections to the City sanitary sewer system. No public sanitary sewer improvements are expected to be necessary for the proposed project.

Other

15. The proposed project is located within a Natural Resources Overlay District.

16. The proposed project is located within a high groundwater area. Due to the scope of the project, a geotechnical report will not be required for this project.

17. The proposed project is not located within any known floodplain or geologic hazard area.

P:\CommunityDevelopment\2015 Permits-Projects\PA - Pre-Application Conferences\PA 15-24 CCC Environmental Learning Center\PA-15-24 engr comments 7-27-15.docx

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1 VICINTY MAP
SCALE N.T.S.

Drawing List

Civil
C0.01 Existing Conditions Plan
C1.01 Grading and Drainage Plan

Landscape
L1.01 Materials Plan
L2.01 Planting Plan

Architectural
A1.01 Pavilion Plans & Elevations

PreApplication

6/19/2015 9:27:48 AM

Consultant

YOST GRUBE HALL
ARCHITECTURE
707 SW Washington St #1200
Portland, OR 97205

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
COVER

Drawing No.
A0.00

Scale as noted
Date July 10, 2015
Project No. 104500

XREF-EXHIBIT File: N:\c\p\2014\314175-CCC-John-Inskeep-ELC\CAD\PLOT\Exhibits\20150709-EXH-Ex-Cond.dwg TAB: C0.01

Plotted: 7/9/15 at 3:36pm By: DElmore

6/19/2015 9:27:48 AM

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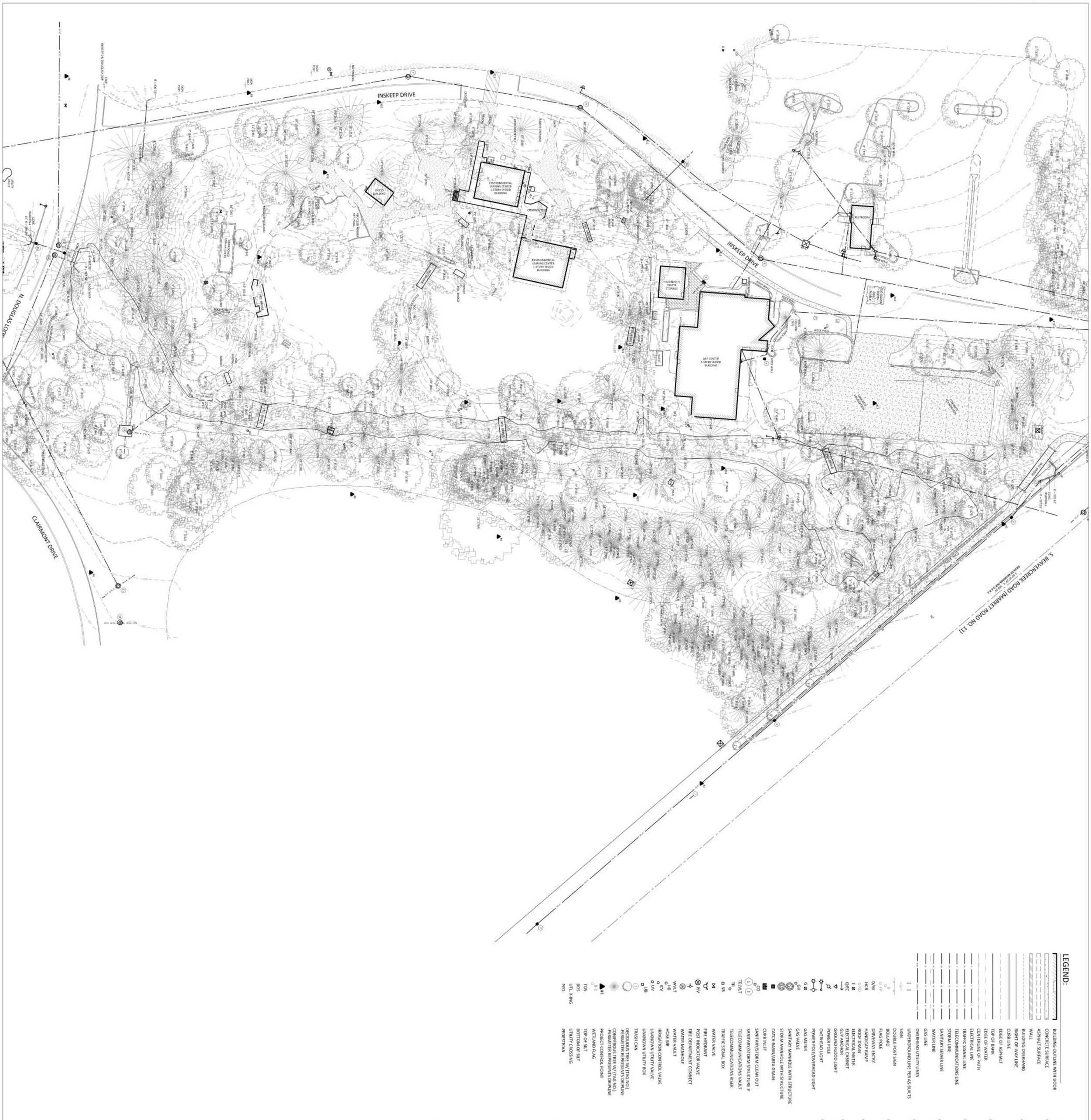

STORM TABLE:

1. STORM MANHOLE
   RIM = 394.56'
   IE 24" IN (SE) = 389.66'
   IE 36" OUT (N) = 389.66'
2. FLOW CONTROL STORM MANHOLE
   RIM = 394.64
   IE 42" IN (SE) = 390.04'
   IE 36" IN (NW) = 389.94'
   IE 42" OUT (NE) = 389.64'
3. CURB INLET W/ STORM MANHOLE
   RIM = 393.35'
   FLOW LINE = 393.35'
   UNABLE TO OPEN (LOCKED)
4. STORM MANHOLE
   RIM = 394.24'
   IE 24" IN (SW) = 390.64
   IE 36" OUT (SE) = 390.59'
5. CATCH BASIN
   RIM = 396.61
   IE 12" IN (SE) = 393.31'
   IE 12" OUT (NW) = 393.11'
6. CATCH BASIN
   RIM = 402.90'
   IE 12" IN (SE) = 400.10'
   IE 12" OUT (NW) = 399.90'
7. CATCH BASIN
   RIM = 409.87'
   IE 12" IN (SE) = 406.87'
   IE 12" OUT (NW) = 406.67'
8. CATCH BASIN (SUMP TYPE)
   RIM = 395.08'
   WATER LEVEL = 394.58'
9. CURB INLET
   FLOW LINE = 396.27'
   IE 4" OUT (SE) = 396.07'
10. CATCH BASIN
    RIM = 400.01'
    IE 6" IN (NW) = 398.51
    IE 18" OUT (SE) = 397.81'
11. CATCH BASIN
    RIM = 402.79'
    IE 15" IN (SW) = 398.49'
    IE 8" OUT (NE) = 398.49'
12. CATCH BASIN
    RIM = 402.27'
    NO PIPES VISIBLE
    BOTTOM OF STRUCTURE = 398.12'
13. STORM MANHOLE
    RIM = 403.05'
    IE 36" IN (SE) = 397.58'
    IE 24" OUT (NE) = 397.58'
14. STORM MANHOLE
    RIM = 403.11'
    IE 36" IN (W) = 397.76'
    IE 24" OUT (NE) = 397.71'
15. CATCH BASIN
    RIM = 405.15'
    IE 8" IN (SE) = 400.95'
    IE 8" OUT (W) = 400.85'
16. CATCH BASIN
    RIM = 405.30'
    IE 8" IN (NW) = 401.75'
    IE 8" OUT (S) = 401.75'
17. STORM MANHOLE
    RIM = 405.30'
    IE 8" IN (E) = 399.85'
    IE 36" IN (SE) = 399.00'
    IE 36" OUT (NW) = 398.30'
18. STORM MANHOLE
    RIM = 406.44'
    IE 12" IN (NW) = 398.74'
    IE 18" IN (W) = 398.59'
    IE 36" OUT (E) = 398.49'
19. STORM MANHOLE
    RIM = 406.95'
    IE 36" IN (S) = 396.90'
    IE 36" OUT (N) = 396.80'
20. STORM MANHOLE
    RIM = 405.70'
    IE 8" IN (W) = 401.85'
    IE 15" IN (E) = 398.10'
    IE 15" OUT (NW) = 397.90'

SANITARY TABLE:

1. SANITARY MANHOLE
   RIM = 397.86'
   IE 6" IN (NE) = 388.76'
   IE 12" IN (SE) = 388.56'
   IE 12" OUT (NW) = 388.56'
2. SANITARY MANHOLE
   RIM = 395.91'
   IE 12" IN (SE) = 388.41'
   IE 12" OUT (W) = 388.11'
3. SANITARY MANHOLE
   RIM = 393.52'
   IE 12" IN (NE) = 384.92'
   IE 12" IN (S) = 385.17'
   IE 8" IN (SE) = 385.27'
   IE 12" OUT (NW) = 384.90'
4. SANITARY MANHOLE
   RIM = 394.70'
   IE 12" IN (SE) = 381.50'
   IE 12" OUT (NW) = 381.10'
5. SANITARY MANHOLE
   RIM = 397.00'
   IE 10" IN (SW) = 389.24'
   IE 10" OUT (N) = 389.04'
6. SANITARY MANHOLE
   RIM = 402.22'
   IE 10" IN (S) = 392.32'
   IE 10" OUT (NE) = 392.22'
7. SANITARY MANHOLE
   RIM = 402.72'
   IE 10" IN (S) = 393.42'
   IE 10" OUT (N) = 393.37'
8. SANITARY MANHOLE
   RIM = 401.88'
   IE 4" IN (S) = 396.08'
   IE 10" IN (E) = 395.43'
   IE 10" OUT (N) = 395.38'
9. SANITARY MANHOLE
   RIM = 401.55'
   IE 4" IN (E) = 396.30'
   IE 8" IN (SE) = 396.25'
   IE 8" IN (NE) = 396.20'
   IE 10" OUT (W) = 395.85'
10. SANITARY MANHOLE
    RIM = 403.14'
    IE 8" IN (NE) = 401.14'
    IE 8" IN (NE) = 397.44'
    IE 8" OUT (SW) = 397.24'
11. SANITARY MANHOLE
    RIM = 406.46'
    IE 4" IN (SE) = 402.46'
    IE 4" IN (NW) = 402.41'
    IE 8" OUT (SW) = 402.41'

PROJECT CONTROL:

STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	MAG NAIL W/ WASHER "KPFF CONTROL"	1017718.61	3745804.09	397.04'
2	MAG NAIL W/ WASHER "KPFF CONTROL"	1017476.60	3747791.68	405.23'
3	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1014808.95	3746483.31	401.43'
4	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1013113.96	3745934.04	401.55'
5	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1011596.61	3745660.16	402.20'
6	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1009887.40	3746622.80	406.86'
7	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1008822.52	3745532.40	406.02'
8	MAG NAIL W/ WASHER "KPFF CONTROL"	1009672.72	3744225.31	403.99'
9	MAG NAIL W/ WASHER "KPFF CONTROL"	1011113.83	3743236.65	402.80'
10	MAG NAIL W/ WASHER "KPFF CONTROL"	1012218.10	3742846.16	402.55'
11	MAG NAIL W/ WASHER "KPFF CONTROL"	1013308.75	3742222.21	402.77'
12	MAG NAIL W/ WASHER "KPFF CONTROL"	1014431.04	3742175.14	401.32'
13	MAG NAIL W/ WASHER "KPFF CONTROL"	1014889.69	3743564.82	397.44'
14	MAG NAIL W/ WASHER "KPFF CONTROL"	1016629.43	3744008.88	396.23'
15	MAG NAIL W/ WASHER "KPFF CONTROL"	1017756.78	3744420.23	394.99'
16	MAG NAIL W/ WASHER "KPFF CONTROL"	1018903.48	3744425.22	393.58'
17	MAG NAIL W/ WASHER "KPFF CONTROL"	1016515.19	3744487.27	395.60'
18	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1014493.96	3745539.28	398.95'
19	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1014423.26	3745560.81	398.98'
20	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1014545.44	3744915.65	399.81'
21	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1014411.46	3744442.39	398.40'
22	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1013562.56	3744485.63	398.56'
23	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1013388.10	3744486.46	399.12'
24	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1012334.98	3744438.99	398.98'
25	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1011222.30	3743870.25	399.03'
26	5/8" IR W/ RED PLASTIC CAP "KPFF CONTROL"	1011174.89	3743803.41	400.12'

PRE APPLICATION

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
EXISTING CONDITIONS PLAN

Drawing No.
C0.01

Scale 1" = 30'
Date 07.10.15
Project No. 104500

YOST GRUBE HALL ARCHITECTURE
707 SW Washington St #1200
Portland, OR 97205

Consultant
kpff
111 SW Fifth Ave., Suite 2400
Portland, OR 97204
O: 503.227.3251
F: 503.224.4681
www.kpff.com

YOST GRUBE HALL File: N:\c\p\2014\314175-CCC-John-Inskeep-ELC\CAD\PLOT\Exhibits\20150702-EXH-Site.dwg TAB:C1.0

Plotted: 7/9/15 at 3:37pm By: DEimore

6/19/2015 9:27:48 AM

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Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

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Portland, OR 97205

Consultant
kpff
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Portland, OR 97204
O: 503.227.3251
F: 503.224.4681
www.kpff.com

MARK DATE DESCRIPTION

Sheet Title GRADING AND DRAINAGE PLAN

Drawing No. C1.01

Scale 1" = 30'

Date 07.10.15

Project No. 104500

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LEWELLING BUILDING
BUILDING
EX. WALL
EX. LOADING DOCK, TO BE PROTECTED
CONCRETE CURB, TYP
NEW ASPHALT PARKING AREA 3 STALLS, 2 ADA STALLS
NEW ASPHALT PARKING AREA 16 STALLS
EX. PARKING AREA
EX. GRAVEL AREA
PROTECT EX. ASPHALT
INSKEEP DRIVE
OVERHEAD CANOPY, SEE ARCH
INFORMATIONAL SIGNAGE W/BENCH
PEDESTRIAN CONC PAVING, TYP
PAINTED CROSSWALK
(2) REMOVABLE BOLLARDS, TYP
ENTRY SIGN
VEHICULAR GRAVEL ENTRANCE
LOW BOLLARD LIGHT, TYP
DISCOVERY GARDEN
INFORMAL NATURE PLAY AREA
25' NATURAL RESOURCE SETBACK, TYP
EXISTING FOOT PATH WITH 4' WIDE NEW GRAVEL TOPPING, TYP
WETLAND IMPROVEMENT AREA W/FALLEN BRANCHES AND LOGS PLACED FOR HABITAT
CEDAR AMPHITHEATER SEATING W/BARK MULCH, STONE CURBS
PAVILION (TO BE RENOVATED)
OBSERVATORY
LAKESIDE HALL
SHED
CEDAR PEDESTRIAN BRIDGE
PAINTED CROSSWALK
ENTRY SIGN
VINYL COATED CHAIN LINK FENCE
CEDAR PEDESTRIAN BRIDGE
BUILDING OVERHANG, TYP
ENTRY SIGN
N. DOUGLAS LOOP
PERMEABLE CONCRETE UNIT PAVING
RELOCATED TOTEM
CEDAR PEDESTRIAN BRIDGE
ACCESSIBLE WATER ACCES W/TIMBER STEPS AND BENCH, TYP
BENCH, TYP
RELOCATED SNAG
CEDAR PEDESTRIAN BRIDGE
HABITAT LOG, TYP
DRYSTACK BOULDER WALL AT OUTFALL
TIMBER RETAINING WALL AT GRAVEL PATH, W/STEPS DOWN TO IMPROVED TRAIL
SEDIMENT FOREBAY, SEE CIVIL
WEIR, SEE CIVIL
CEDAR PEDESTRIAN BRIDGE
WEIRS, SEE CIVIL
FOREBAY ASPHALT MAINTENANCE PATH, SEE CIVIL
ENTRY SIGN
EX. BRIDGE TO BE PROTECTED
NEWELL CREEK
EX. BENCH TO BE PROTECTED, TYP
EX. BRIDGE, TO BE PROTECTED
CONNECT TO EX. FOOT PATH
PA
5' TYP
402
401
400
399
398

1. MATERIALS PLAN

SCALE: 1" = 20'–0"

0 10' 20' 40'

N

LEGEND

- 25' NATURAL RESOURCE SETBACK LINE
- EXISTING 4' TRAILS W/NEW GRAVEL ADDED
- CONCRETE CURB
- CONCRETE WHEELSTOP
- PEDESTRIAN CONCRETE PAVING
- PERMEABLE PEDESTRIAN CONCRETE UNIT PAVERS
- PERMEABLE COMPACTED GRAVEL ACCESSIBLE PATH
- BARK MULCH
- ASPHALT PAVING
- LOW BOLLARD LIGHT
- BENCH WITH BACK
- SEATING BOULDERS
- EXISTING DECIDUOUS TREE TO BE PROTECTED
- EXISTING CONIFEROUS TREE TO BE PROTECTED

ABBREVIATIONS

ARCH	ARCHITECTURAL
CONC	CONCRETE
DWG	DRAWINGS
ELEC	ELECTRICAL
MECH	MECHANICAL
NIC	NOT IN CONTRACT
PA	PLANTING AREA
SIM	SIMILAR
SPECS	SPECIFICATIONS
STRUC	STRUCTURAL
TYP	TYPICAL
W/	WITH

MATERIALS NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT EXISTING VEGETATION TO REMAIN. SEE SPECIFICATIONS FOR FENCING AND OTHER REQUIREMENTS.
3. SEE CIVIL DRAWINGS FOR GRADING PLAN AND LOCATION OF UTILITIES.

PreApplication

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Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
MATERIALS PLAN

Drawing No.
L1.01

Scale	1"=20'-0"
Date	July 10, 2015
Project No.	104500

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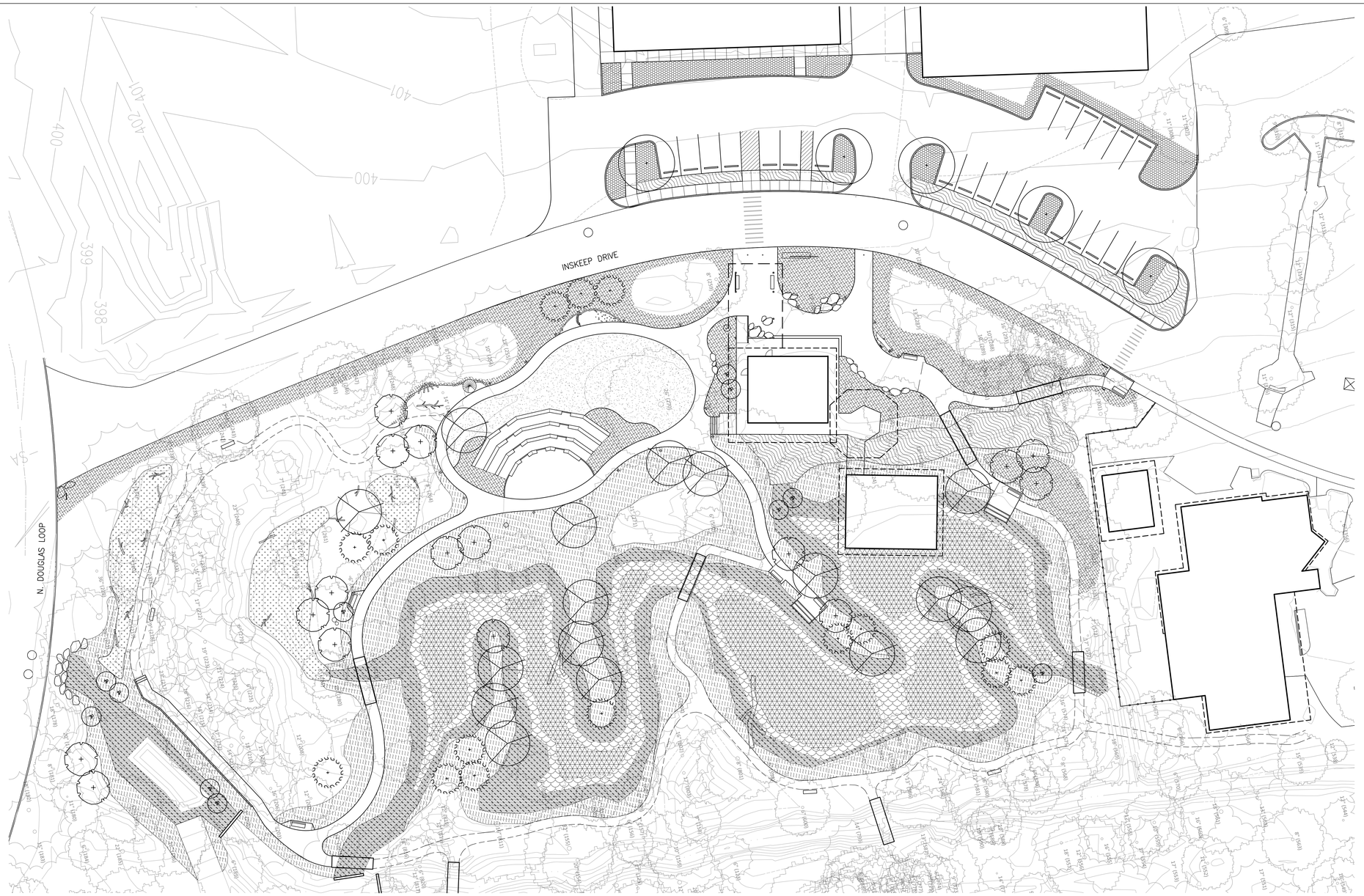

1. PLANTING PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40' N

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/CONDITION	SPACING
TREES				
	Acer circinatum	Vine Maple	7–8' HT MIN/BARE ROOT/MULTI–TRUNK	AS SHOWN
	Alnus rubra	Red Alder	.5" CAL./B&B	AS SHOWN
	Fraxinus latifolia	Oregon Ash	.5" CAL./B&B	AS SHOWN
	Fraxinus pennsylvanica 'Urbanite'	Urbanite Ash	2.5" CAL./B&B	AS SHOWN
	Thuja plicata	Western Red Cedar	6' HT MIN/B&B	AS SHOWN

PLANTING ZONE 1 – ELS. ABOVE 398 IN RESTORATION ZONE				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	4LBS/ACRE
	Lonicera involucrata	Twinberry	#1/CONT.	36" O.C.
	Physocarpus capitatus	Pacific Ninebark	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.
	Spiraea douglasii	Douglas spirea	#1/CONT.	36" O.C.
PLANTING ZONE 2 – ELEVATIONS BTWN 396 AND 398				
	Agrostis exarata	Spike Bentgrass	SEED	2LBS/ACRE
	Carex obnupta	Slough Sedge	PLUG	18" O.C.
	Deschampsia cespitosa	Tufted Hairgrass	SEED	2LBS/ACRE
	Plagiobothrys figuratus	Fragrant Popcorn Flower	PLUG	18" O.C.
	Ranunculus sceleratus	Cursed Buttercup	PLUG	18" O.C.

PLANTING ZONE 3 – ELEVATIONS BTWN 395 AND 396				
	Alisma gramineum	Narrow–leaf Water Plantain	PLUG	18" O.C.
	Juncus effusus	Lamp Rush	PLUG	18" O.C.
	Juncus ensifolius	Daggerleaf Rush	PLUG	18" O.C.
	Leersia oryzoides	Rice Cutgrass	PLUG	18" O.C.
	Polygonum coccineum	Water Smartweed	PLUG	18" O.C.
	Scirpus microcarpus	Small Fruited Bulrush	PLUG	18" O.C.
	Sparganium eurycarpum	Broadfruit Bur–reed	PLUG	18" O.C.
	Typha latifolia	Cattail	PLUG	18" O.C.
PLANTING ZONE 4 – ELEVATIONS BELOW 395				
	Callitriche stagnalis	Pond–water Starwort	PLUG	18" O.C.
	Potamogeton crispus	Curly Pondweed	PLUG	18" O.C.
	Schoenoplectus tabernaemontani	Soft–stem Clubrush	PLUG	18" O.C.
	Stuckenia pectinata	Sago Pondweed	PLUG	18" O.C.
	Utricularia macrorhiza	Greater Bladderwort	PLUG	18" O.C.
MEADOW PLANTING				
	Festuca rubra	Creeping Red Fescue	SEED	8LBS/1000 SF

NATIVE ORNAMENTAL PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	24" O.C.
	Aquilegia formosa	Western Columbine	#1/CONT.	24" O.C.
	Blechnum spicant	Deer Fern	#1/CONT.	24" O.C.
	Festuca roemeri	Idaho Fescue	#1/CONT.	24" O.C.
	Festuca rubra	Red Fescue	SEED	8LBS/1000 SF
	Iris douglasiana	Douglas Iris	#1/CONT.	24" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Mahonia repens	Creeping Mahonia	#2/CONT.	24" O.C.
	Oemleria cerasiformis	Indian Plum	7–8' HT MIN/BARE ROOT/MULTI–TRUNK	72" O.C.
	Philadelphus lewisii	Wild Mock Orange	#5/CONT.	42" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Trillium ovatum	Trillium	#1/CONT.	24" O.C.

PARKING AREA PLANTING				
	Arctostaphylos uva–ursi	Kinnikinnick	#1/CONT.	24" O.C.
	Gaultheria shallon	Salal	#1/CONT.	36" O.C.
	Mahonia aquifolium	Oregon Grape	#3/CONT.	36" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Ribes sanguineum	Red Flowering Currant	#5/CONT.	42" O.C.
	Vaccinium ovatum	Evergreen Huckleberry	#3/CONT.	36" O.C.
STORMWATER PLANTING – PER OREGON CITY STANDARDS				
	Cornus sericea	Red Osier Dogwood	#1/CONT.	36" O.C.
	Eleocharis ovata	Ovate Spike Rush	#1/CONT.	12" O.C.
	Fragaria chiloensis	Coast Strawberry	SP#4/CONT.	12" O.C.
	Juncus patens	Spreading Rush	#1/CONT.	12" O.C.
	Polystichum munitum	Western Sword Fern	#1/CONT.	36" O.C.
	Rosa pisocarpa	Swamp Rose	#1/CONT.	36" O.C.
	Salix sitchensis	Sitka Willow	#1/CONT.	36" O.C.

ABBREVIATIONS

B&B	BALLED & BURLAPPED
CAL	CALIPER
CONT	CONTAINER
CON	CONIFER
DECID	DECIDUOUS
DIA	DIAMETER
DBH	DIAMETER AT BREAST HEIGHT
EQ	EQUAL
EX	EXISTING
HT	HEIGHT
MIN	MINIMUM
MAX	MAXIMUM
NO	NUMBER
O.C.	ON CENTER
SIM	SIMILAR
SL	SEEDED LAWN
SPECS	SPECIFICATIONS
TYP	TYPICAL
#	CONTAINER SIZE

PLANTING NOTES

1. THIS PLAN IS BASED ON A SURVEY BY KPFF ENGINEERS DATED MARCH 20, 2015. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES IDENTIFIED ON SITE RELATED TO SURVEY INFORMATION PRIOR TO INSTALLATION.
2. PROTECT EXISTING VEGETATION TO REMAIN; SEE SPECIFICATION SECTION 01565 FOR FENCING AND OTHER REQUIREMENTS.
3. ALL PLANT MATERIAL SHALL BE NURSERY GROWN, WELL ROOTED, AND WELL BRANCHED. ALL TREES MUST BE FREE OF INSECTS, DISEASES, MECHANICAL INJURY, AND OTHER OBJECTIONABLE FEATURES WHEN PLANTED. ALL PLANT MATERIAL SHALL CONFORM TO "AMERICAN STOCK STANDARDS" LATEST EDITION.
4. ALL PLANT MATERIAL TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SEE SPECIFICATIONS.
5. PLANT SPACING SHALL TAKE PRECEDENCE OVER VALVE BOX LOCATIONS. INSTALLED VALVE BOXES THAT CONFLICT WITH ACCEPTED PLANT LAYOUT SHALL BE MOVED TO POSITION BETWEEN PLANTS.
6. CLEAR PLANT BEDS OF ALL GRAVEL AND DEBRIS PRIOR TO SOIL PREPARATION AND PLANTING, FOR APPROVAL BY LANDSCAPE ARCHITECT.
7. ALL LANDSCAPE AREAS THAT HAVE A SLOPE GREATER THAN 1 VERTICAL FOOT IN 3 HORIZONTAL FEET SHALL RECEIVE JUTE MATTING, SEE SPECIFICATIONS.
8. ALL PLANTING AREAS ADJACENT TO NEW PARKING AREAS ARE TO BE IRRIGATED WITH A PERMANENT AUTOMATIC IRRIGATION SYSTEM. ALL AREAS WITHIN THE EXISTING ELC ARE TO BE IRRIGATED WITH TEMPORARY ABOVE–GROUND IRRIGATION FOR A PERIOD OF 3 YEARS MINIMUM.
9. ALL PARKING LOT AND STREET TREES MUST HAVE 6' CLEAR HEIGHT TO LOWEST BRANCHES.

TREE REMOVAL MITIGATION TABLE

EX TREE#	TYPE	DBH	REQUIRED TREE REPLACEMENT	REQUIRED SHRUB REPLACEMENT
162	DECID	6"	2	3
188	DECID	14"	3	6
204	DECID	12"	2	3
209	CON	21"	5	12
253	DECID	11"	2	3
256	CON	12"	2	3
257	DECID	8"	2	3
258	CON	14"	3	6
260	DECID	6"	2	3
265	DECID	11"	2	3
266	DECID	8"	2	3
267	DECID	17"	3	6
268	DECID	9"	2	3
269	CON	12"	2	3
284	DECID	6"	2	3
304	DECID	8"	2	3
305	CON	12"	2	3
306	DECID	6"	2	3
593	DECID	13"	3	6
824	DECID	6"	2	3

TOTAL TREES TO BE REMOVED: 20
PROPOSED MITIGATION TREES: 33 DECIDUOUS, 14 CONIFEROUS
PROPOSED MITIGATION SHRUBS: 69

PreApplication

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OREGON CITY, OR 97045

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

MARK DATE DESCRIPTION

Sheet Title
PLANTING PLAN

Drawing No.
L2.01

Scale 1"=20'-0"
Date July 10, 2015
Project No. 104500

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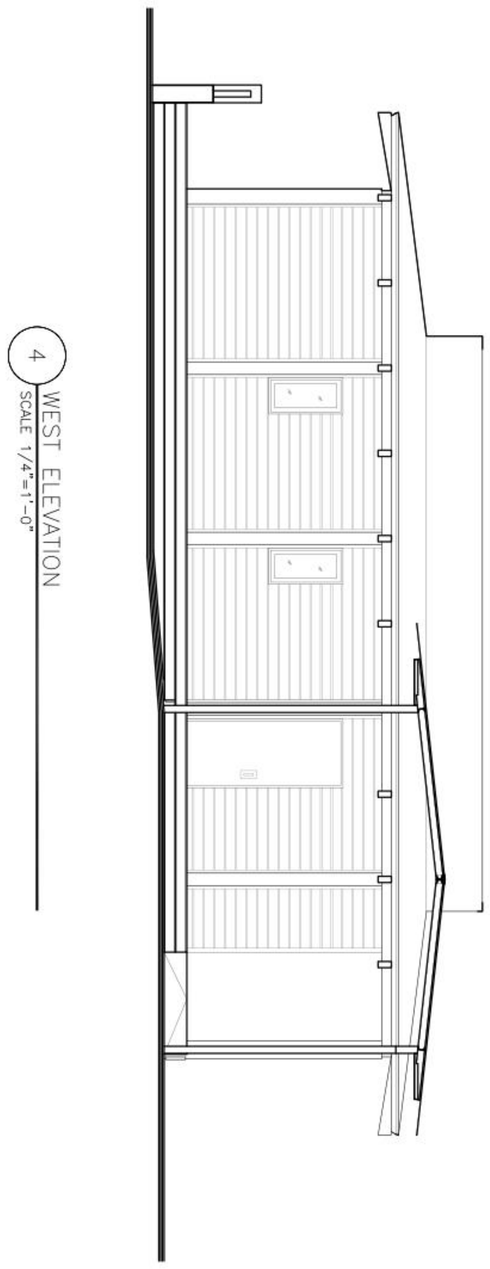
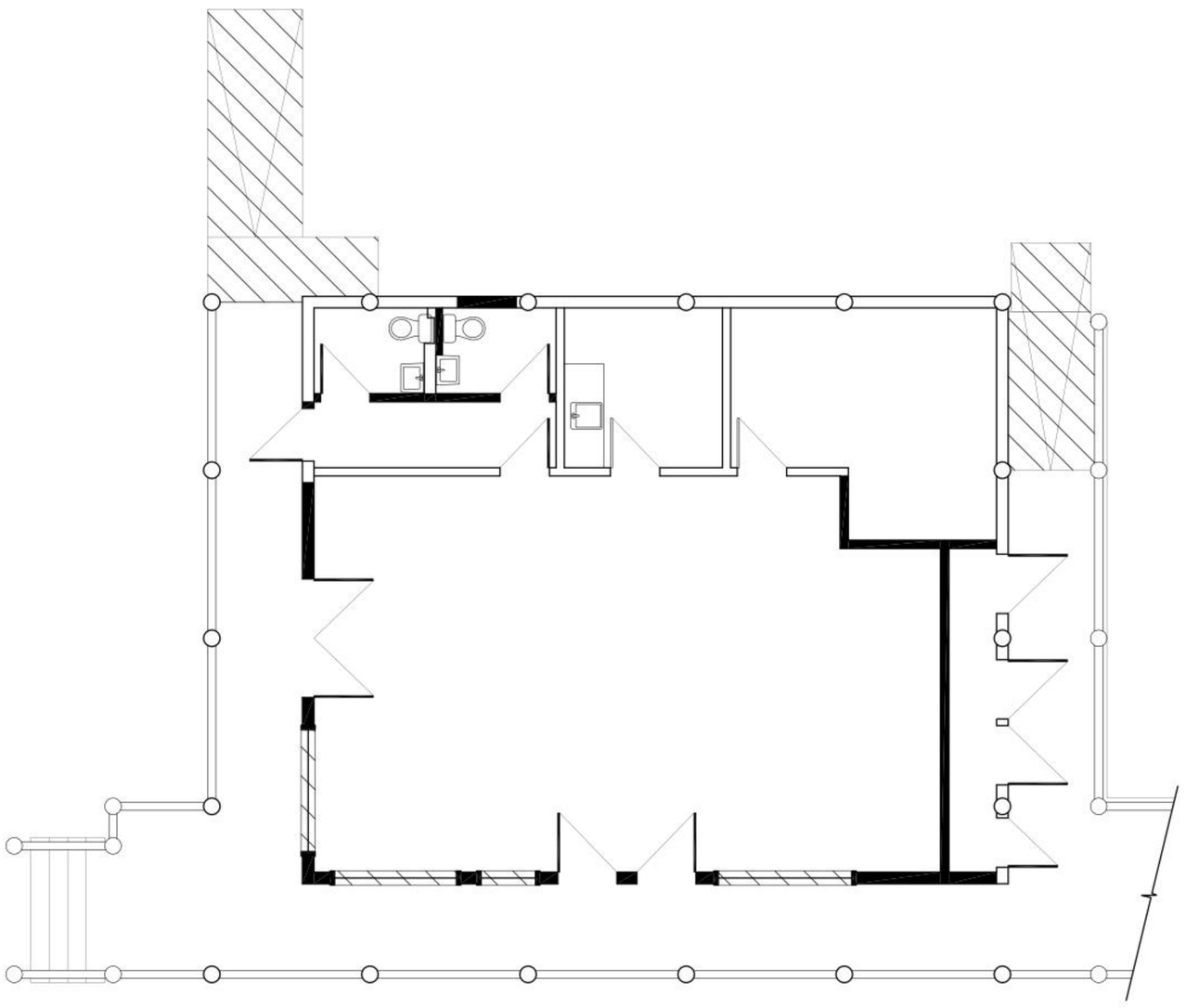
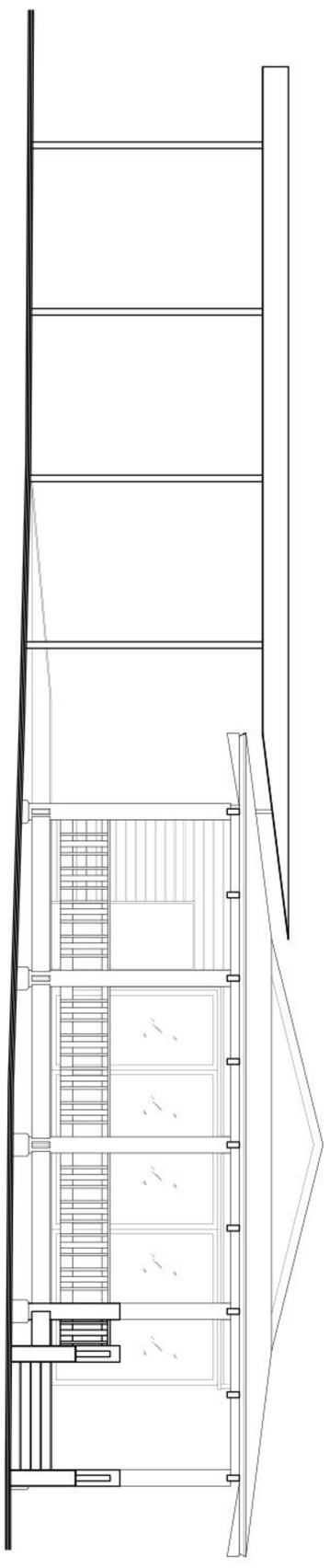


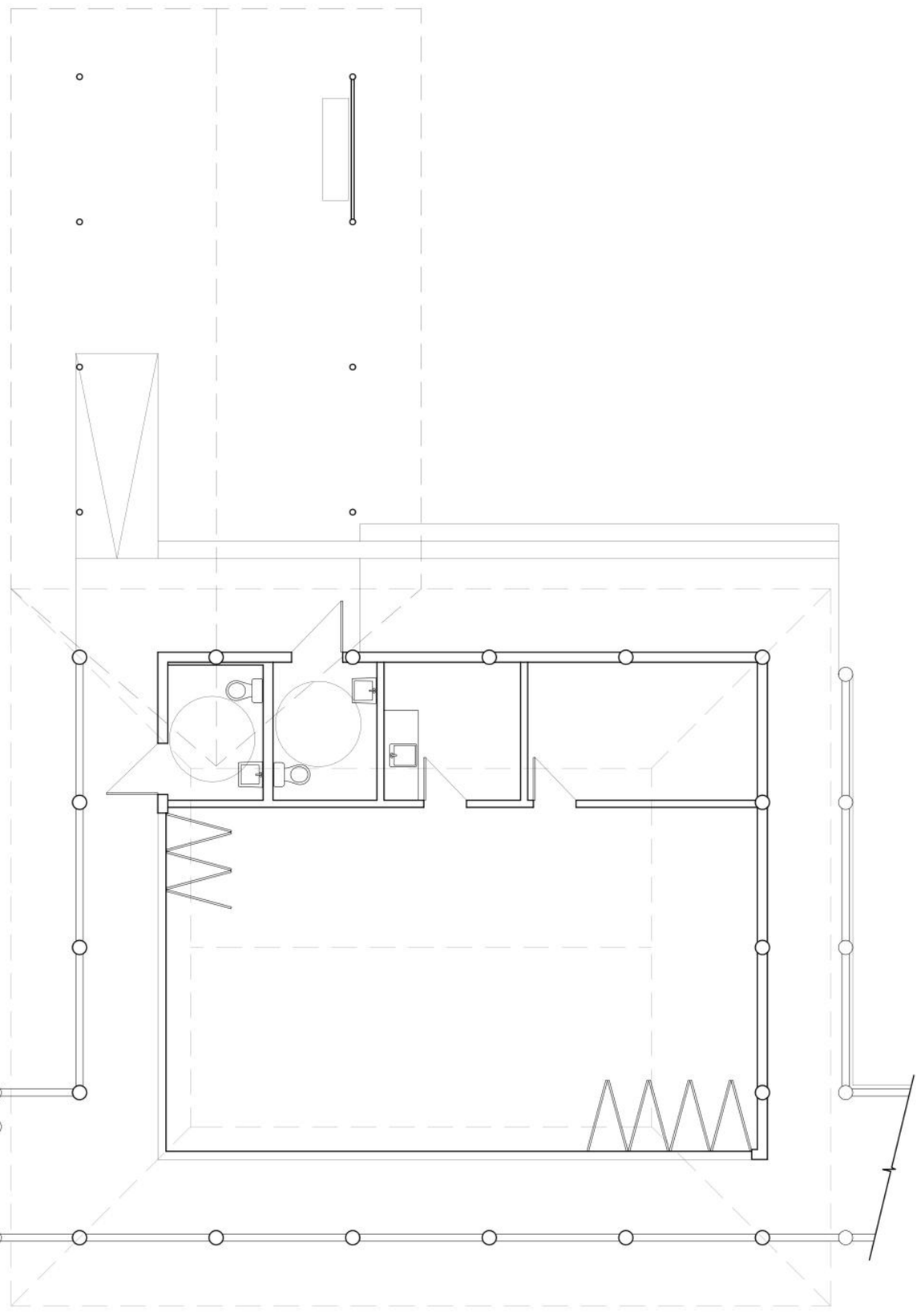
4 WEST ELEVATION
SCALE 1/4"=1'-0"



2 DEMO PLAN
SCALE 1/4"=1'-0"



3 SOUTH ELEVATION
SCALE 1/4"=1'-0"



1 PROPOSED PLAN
SCALE 1/4"=1'-0"

PreApplication

Sheet Title
PAVILION PLANS & ELEVATIONS

Drawing No.
A1.01

Scale as noted

Date July 10, 2015

Project No. 104500

MARK DATE DESCRIPTION

Project
ENVIRONMENTAL LEARNING CENTER
19600 MOLALLA AVENUE, OREGON CITY, OR 97045

Owner
CLACKAMAS COMMUNITY COLLEGE
19600 MOLALLA AVENUE
OREGON CITY, OR 97045

YOST GRUBE HALL
ARCHITECTURE
707 SW Washington St #1200
Portland, OR 97205

Consultant

Published on *City of Oregon City* (http://www.orcity.org)

Submission information

Form: Pre-Application Conference Request Form
Submitted by Visitor
Friday, July 10, 2015 - 10:55am
38.101.164.82

Applicant Name(s):
Clackamas Community College

Applicant's Representative:
Jerry Waters

Company:
YGH Architecture

Mailing Address:
707 SW Washington St. Suite 1200 Portland, OR 97205

Phone Number:
503 221-0150

Email Address:
jerryw@ygh.com

Project Description:
I PROJECT OVERVIEW AND DESCRIPTION

The project site is located within the Clackamas Community College (CCC) campus. The site is at the north end of campus and is bordered by Inskeep Dr to the west, S Beavercreek Rd to the northeast and N Douglas Loop to the south. The total project site is approximately 5 Acres. The project site consists mostly of forest land with wetlands and manmade trails running throughout the site. The site is also at the headwater of Newell Creek, with the initial channel running north along the east border of the site which bypasses the ELC facility. The site generally slopes from south to north, to a 42-inch pipe that passes under Beavercreek Rd to lower reaches of Newell Creek.
The primary purpose of this project is to redevelop and enhance the existing ELC ponds that were once considered a state-of-the-art stormwater management system, but have since been overrun with invasive plants and no longer function effectively. The proposed modifications to the ELC site will improve the quality of water flowing off-site and into Newell Creek. The modifications include excavation of sediment from the ponds, creation of east-west oriented berms within the ponds that will be planted, and which will allow shading and cooling of water,

improving the drainage channel connected to the parking lot west of the site, and improvements to existing weirs to direct the flow of water through the pond system or a high flow bypass down the existing upper reach of Newell Creek. Fine grading of the ponds will create benches at appropriate depths to establish a variety of emergent and submergent plant communities to improve the water quality. There are additional components to the project related to habitat enhancement, community education, and recreation among others, but this memorandum focuses on the drainage design.

Project Address:
19600 Molalla Avenue Oregon City, OR 97045

Map and Taxlot Number:
map#3 2E 09C tax lot #800

Site Size:
5 acres

Existing or Previous Use (within last 10 years):
Environmental Learning Center

Existing Zoning:
I - Institutional

Overlay Districts:
Natural Resource

Check if "yes":
- Public Water Available?
- Public Sewer Available?
- Public Stormwater Available?
- Is the site within a concept plan area boundary?

If any boxes above are checked, please explain:
Public water, sewer and stormwater is available at the edges of the Clackamas Community College campus. Internally these services are handled privately.
The College has a 2007 Master Plan

Past land use actions on this property:
There is an amendment to the 2007 Master Plan being submitted by the College

Anticiapted New Impervious Surface:
none

Proposed Stormwater Disposal Methods:
In coordination with the storm facility grading and planting improvements the Habitat Restoration and Water Quality Enhancement/Education Project will redevelop a number of areas throughout the site for new parking and improved access by visitors, expanded outdoor classroom and event space, new pedestrian bridges, and new circulation pathways. These improvements are illustrated in the Materials Plan included with this application.

Additional stormwater management measures will need to be implemented in the various

improvement areas to comply with the 2014 City of Oregon City Stormwater and Grading Design Standards. These standards urge applicants to manage stormwater by infiltration to the maximum extent feasible. Unfortunately, site soils are not well suited for infiltration and alternate low impact development alternatives will be considered.

This project will target the use of vegetated swales or vegetated flow-through facilities to meet water quality treatment requirements. Detention, or flow control requirements will comply with the CCC Master Plan approved through land use that must not increase peak flows reaching the public system under developed conditions for the 2, 5 & 25-yr storm events. The baseline, or target release rates are based on 2005 existing conditions which for this site are consistent with the existing conditions observed today. The proposed improvements will meet the stormwater requirements at various locations as summarized below.

Existing and Improved Portions of Inskeep Drive
Surface runoff from the existing Inskeep Drive will be collected by new catch basin structures located in the gutter and conveyed to a vegetated swale. The swale will be adequately sized to treat drainage from the water quality storm event. The improvements have a zero net change in impervious area since the existing surface is asphalt and no separate detention is proposed. The swale enters the new ELC facility.

New Parking Stalls
Surface runoff from the new asphalt parking stalls and associated access drive aisle west of Inskeep Drive will be collected by sheet flow into a vegetated stormwater swale and vegetated flow-through basin. The vegetated facilities will be adequately sized to treat drainage from the water quality storm event. The improvements have a zero net change in impervious area since the existing surface is asphalt and gravel. While no detention will be required, there will be some attenuation of flows during smaller storm events as the runoff collects and percolates in the flow-through basin. Filtered drainage and overflow from these facilities will discharge to a conveyance line that discharges to the same swale noted above that enters the new ELC facility.

New Entry Canopy at Existing Pavilion
Rain downspouts from the new entry pavilion roof will be conveyed in a shallow swale or pipe to the same vegetated swale noted above that enters the new ELC facility. The new roof will be approximately 1,000 sf, however, there are currently no provisions to provide detention for this new impervious area. There are other areas within the project where impervious surfaces are being removed and the project will be evaluated to establish the overall net change when submitting for building permit. Appropriate detention strategies can be implemented at that time if required.

ELC Pathways, Bridges, Amphitheater and Plantings
The grades throughout the ELC visitor areas will direct runoff by sheet flow to shallow swales or into planted areas. The drainage will either percolate into the planting soil or ultimately flow into the ELC facility. The landscape plan illustrates the use of permeable trail materials that mitigates the extent of surface runoff. No additional water quality treatment or detention facilities are required to manage runoff from permeable surfaces.

Transportation System Plan (TSP) Projects on or near the site:
There are TSP street extensions proposed on the campus but not near this project site. There is an RTP near the site.
A transportation study completed for the Master Plan update currently being submitted allows 50,000GSF of new building construction without a TSP update.

Subdivisions: Show density calculations:
NA

Block lengths:
NA

Additional information:
Background and site description: Clackamas Community College's John Inskeep Environmental Learning Center (ELC) is a five-acre natural area located at the headwaters of Newell Creek on the college campus in Oregon City. It is part of the 1800-acre Newell Creek watershed, a steep forested canyon that is bordered by the neighborhoods and businesses of Oregon City. Although most of the watershed is in private ownership, several hundred acres are owned by Metro and the city of Oregon City.

The ELC contains a small isolated wetland, two former settling ponds, with a fringe of wetland below the ordinary high water mark and an excavated channel that flows through the eastern portion of the property. The channel is hydrologically connected to the former settling ponds; however, most of the water in the channel flows through the ELC and into Newell Creek via a culvert beneath Beavercreek Road.

Located on the former site of a Smucker's processing plant, the ELC was created to demonstrate what people can do to reclaim industrial sites, address stormwater issues, and restore wildlife habitat in urban areas. The ELC has a rich history as an educational resource for the college, regional schools, industry, and the community; serves as an important stormwater facility for the college campus; and provides critical wetland habitat for resident and migratory birds such as great blue heron, wood duck, and merganser.

The ELC is a conduit for stormwater for nearly half of the college's 275-acre campus, an unknown amount from Oregon City High School, and an unknown amount from Beavercreek Road. Although once considered state-of-the-art, the system for managing stormwater on the ELC site no longer functions effectively. As such, impaired water flows from the ELC downstream into the Newell Creek system. Because the ELC occupies the headwaters of Newell Creek, the site plays a vital role in the overall health of the watershed. According to a 2003 report "Newell Creek Watershed Management and Restoration Strategy," Newell Creek will not be adequately protected until the water that flows through the ELC site can be effectively cooled and filtered. In addition, invasive plants are starting to dominate the site. This is decreasing native plant abundance, impacting urban wildlife, and limiting the opportunities to educate about the value of native landscaping.

Efforts to restore the degraded site and expand educational activities began in 2006 when the college started to partner with local and state agencies and educational institutions to create a strategic vision for the site. Severe budget cuts halted this initial effort. In 2011, the college was awarded a Metro Nature in Neighborhoods planning grant to continue the strategic visioning process and develop a conceptual site design for the ELC site. Successfully completed in December 2012, the college is now moving forward with plan implementation.

Goals and Objectives: The primary goal of the project is to redevelop the ELC into a regionally important outdoor learning laboratory, demonstration site, and natural area that showcases innovations in stormwater management, landscape design, and sustainable living practices. This project will allow the college to achieve the following long term objectives:

1. Enhance the water quality within the Newell Creek watershed; especially critical for coho salmon and steelhead trout
2. Increase the capacity of the ELC to serve as a valuable educational resource for college students, schools and teachers, industry members, and families
3. Provide passive recreation for the local community
4. Leverage the on-going support of a network of community partners committed to protecting the health and sustainability of the Newell Creek watershed

Until 1972, the ELC was the location of a Smucker's berry processing plant. The plant included two settling ponds and an excavated channel. The ponds are still present, though sediment has accumulated in the ponds over time and lack of adequate shade heats up the water during the summer. The channel is also present and although well shaded has very little detention time. As such, the quality of the water reaching Newell Creek is impaired and adversely affects its salmonid population, which depends on cool, clean water.

Much of the water flowing into the ELC is from the campus. The portions of the campus that drain to the ELC has relatively few trees, a significant amount of impervious surface in the form of roofs, parking lots, and roads, and a formal drainage system of catch basins and pipes. These features increase both the rate and the volume of runoff from the campus. An increase in the rate of runoff produces higher peak flows for a given amount of precipitation. An increase in the volume of runoff provides an increase in the duration of the peak flows and reduces infiltration and groundwater recharge. The development of the campus has caused a significant change in the hydrology of the ELC.

The proposed modifications to the ELC will improve the quality of water flowing off-site and into Newell Creek. The modification includes the excavation of sediment from the pond, the creation of east-west oriented berms within the ponds that will be planted and which will allow the shading and cooling of the water, and the improvements to existing weirs to direct the flow of water through the pond system and down the bypass channel. Improving and using existing weirs will ensure that the majority of the runoff flowing into the ELC will flow through the ponds, while high flows will be directed through the channel.

The creation of the berms will reduce the surface area of the ponds. Disturbance to existing vegetation around the ponds will be minimized and the berms will be planted with woody vegetation, which will shade the water, and emergent and submergent vegetation, which will improve the quality of the water. Trees and shrubs to be planted on the berms include western redcedar, Oregon ash, twinberry, Pacific ninebark, red osier dogwood, Spiraea, and Sitka willow. Emergent and submergent plants will include soft-stem bulrush, broadfruit burred, tall mannagrass and pondweed.

Residence time within the pond system will be the main parameter of water quality treatment. With increased residence time, particles in the water column will be deposited along with their sorbed pollutants. Settling times depend on local water velocities, which will be reduced by resistance from submergent vegetation. Pollutants may also be adsorbed to the hydrophobic cuticle of emergent and submergent plant surfaces and removed from the water column by the senescence of plant tissues, which will accumulate within the sediment. Pondweed (Potamogeton sp.) will be planted within the deeper potions of the ponds to aid this filtration.

The proposed design relies on passive control of water quality and works with the existing landscape and vegetation to reduce impacts. The ELC design follows the model of other natural

treatment facilities, such as the Columbia Slough Water Control Facility and the Fernhill Treatment Wetland currently under design by Clean Water Services. The proposed design rejects the use of engineered water control structures and instead detains and treats water by increasing the flow path through the facility and planting native submergent, emergent and woody vegetation. The size of the channel and the pond system are too limited to detain large and infrequent storm flow events, but they will allow for the water quality treatment of the usual seasonal storms. Larger volumes of detention for infrequent storms would require the removal of large amounts of the existing vegetation surrounding the ponds, which will adversely affect that treatment of more frequent storm events and also the habitat of the ELC.

Questions:
Is the 2007 Master Plan WQRA map or the updated NROD map going to be used to determine the WQRA boundary?
Can we get a Type II process instead of Type III?
What setback distance from the NROD boundary will be required, exceptions?

Meeting Date:
08/05/2015

Alternate Date:
08/11/2015

Vicinity Map:
20150710_preapp_cover.pdf

Site Plan/ Layout:
20150710_consult_preapp.pdf

Building Elevation Drawings:
20150710_a1.01.pdf

Shadow Plat (for subdivisions only):

Other Attachments:

Disclaimer:
Select to acknowledge you read and understand the paragraph below.

Source URL (retrieved on *07/13/2015 - 2:48pm*): http://www.orcity.org/node/11392/submission/5614

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Meeting Minutes - Draft

Planning Commission

Monday, November 23, 2015 | **7:00 PM** | **Commission Chambers**

1. Call to Order

Chair Kidwell called the meeting to order at 7:00 p.m.

Present: 7 - Charles Kidwell, Tom Geil, Robert Mahoney, Zachary Henkin, Paul Espe, Denyse McGriff and Damon Mabee

Staffers: 4 - Tony Konkol, Pete Walter, Laura Terway and William Kabeiseman

2. Public Hearing

2a. PC 15-229 File LE-15-0003: Re-adoption of the Beavercreek Road Concept Plan.

Chair Kidwell announced the first item on the agenda as the readoption of the Beavercreek Road Concept Plan, File LE-15-003. He asked if members of the Commission had a conflict of interest to declare. There were no conflicts of interest to declare, except Commissioner Henkin had family living off Loder Road.

Pete Walter, Planner, and John Replinger, Transportation Consultant, presented the staff report. Mr. Walter used a PowerPoint presentation to present his report, and entered several exhibits into the record. 1) Final opinion and order from LUBA remanding the concept plan back to the City. 2) All PowerPoint presentations given to committees since September 2015. 3) Copy of the City's Home Occupation Code, 17.04.580. 4) Letter received today from Metro Planner, Tim O'Brien, regarding Title IV. 5) Tonight's PowerPoint. 6) Email from Wes Rogers of Oregon City School District. 7) Two documents from Jim Nicita, a copy of City Commission minutes from 07/20/2011 and the LUBA record for the North Plains Concept Plan.

Mr. Walter presented the PowerPoint including slides given to several committees throughout the process and slides used during the 2007 presentation on the Beavercreek Road Concept Plan (BRCP). He stated the City Commission remanded the file back to the Planning Commission to reopen the record on a limited basis to address the Title IV Industrial Lands issue; the Transportation System Plan (TSP) adopted in August 2013; sewer, water, and stormwater master plans; and fire/police/emergency services in the concept plan area. He addressed the following topics and stated that the staff findings addressed many of the topics:

1. *10 Concept Plan goals*
2. *Embracing the vision, goals, and principles*
3. *Overview map of the area identified*
4. *Map of the Concept Plan area*
5. *Metro Code - Title 11, Planning for New Urban Areas*
6. *Metro Code - Title 4, Employment and Industrial Land. The letter from Tom O'Brien stated the City was in compliance with the proposed plan.*
7. *Oregon City Comprehensive Plan and how it affects the BRCP*
8. *Comprehensive Plan Goal 2.6*

9. Statewide Planning Goals that pertain to the BRCP
10. Map of the Concept Plan showing the implemented hybrid plan. In 2010, Metro revised its industrial lands map to reflect the City's hybrid adopted plan, providing for gross acreage of 151 acres of industrial lands.
11. 2006-2007 BRCP process meetings
12. Map of open space areas including trails
13. Map of North Employment Campus Framework
14. Map of Central Village Mixed Employment Village Framework across from the Oregon City High School
15. Map of Mixed Use Neighborhood Framework
16. Map of stormwater systems
17. Map of transportation network in the BRCP to serve land use and walkability in the Plan area
18. List of projects likely to be funded in the Transportation System Plan
19. Illustrations of TSP street and intersection expansions
20. TSP conceptual walking solutions
21. Map of TSP biking solutions
22. Map of TSP shared walking and biking solutions
23. Illustration of Beavercreek Road improvements
24. Findings for the Transportation System Plan
25. Chart of the gross and net acreage divisions for each area of the Plan
26. Chart of the estimated number of new jobs generated and needed housing in the Plan area
27. List of the meetings held from September - December 2015 regarding the BRCP readoption

Mr. Walter stated that staff recommends the Planning Commission approve the Beavercreek Road Concept Plan, File LE 15-0003, and if the Planning Commission required further information from staff, to leave the hearing open and continue it to December 14, 2015.

Mr. Walter explained the steps to implementing the proposed concept plan, including the timeline for the scope of the development code amendments and drafting of the Alternative Mobility Standards. John Replinger added that the development of the Alternative Mobility Standards would be through a deliberative public process.

Tony Konkol, Community Development Director, referred to the minutes from the 2011 adoption of the plan. He asked for the Commission's direction on whether the recommendations in the concept plan were sufficient to rely on the home occupation code for cottage manufacturing and cottage industrial purposes, or to bring back the zoning code to reduce densities in the area to increase these types of uses in the permitted uses.

Mr. Walter added that the Sanitary Sewer Master Plan and the TSP are updated to reflect the Concept Plan.

Commissioner Mahoney asked if TriMet had responded to the needs of the Concept Plan area, and Mr. Walter responded that a formal response had not been received from TriMet. Chair Kidwell added he was concerned that ODOT had not formally responded.

Commissioner McGriff referred to Mr. Konkol's comments on cottage industrial and stated that the live/work apartment complex required adherence to the home occupation standards, rather than a work/live complex that had commercial standards. She strongly suggested more provision for campus industrial incubator spaces in future zoning code revisions. Mr. Walter stated that live/work standards

were adopted in the zoning code 2010, and there were also supporting building codes for live/work. Chair Kidwell stated that the definition of live/work needed to be clarified. Mr. Konkol suggested clarifing the definition in a future zoning code revision.

Chair Kidwell opened the public hearing.

Tammy Stevens, Hamlet of Beavercreek, and Norman Andreen, were present representing the Board and the citizens of Beavercreek and both had experience as Clackamas County Commissioners. She stated they were not against development, but against poorly planned development. She referred to City Ordinance No. 92-1002 outlining a remedy for the Beavercreek Road/Hwy. 213 intersection. She stated that transportation was a great concern, especially the intersection. She stated that to approve the Concept Plan without a plan to improve roads or fix intersections was seriously irresponsible.

Norman Andreen addressed water in the Concept Plan area. He stated that Oregon City did not have the water pressure to provide services to the Concept Plan area. He stated that Clackamas River Water had stated that the long-term stability of the Clackamas River as a source of drinking water trumped the need for greener lawns and greater revenue. He stated the sewer lids would need to be bolted down in the Glen Oak Road area to avoid overflowing. He noted that the City had acknowledged a sewer bottleneck at Hwy. 213 and the college, and he stated that extensive sewer planning and funding was critical.

Ms. Stevens and Mr. Andreen submitted their written letter and a map for the public record.

Paul Edgar, Oregon City, stated the ITE manual (Institute for Transportation Engineers) governing evaluation of congestion should be used for guidance, and he noted that case studies identified the Hwy. 213/Beavercreek Road intersection at Level F - failing. He stated that volume over capacity could not be used because there was no related code. He believed the current plan was inadequate, and the transportation plan needs to be reviewed before the Concept Plan was approved.

James Nicita, Oregon City, referred to the July 2011 minutes regarding the cottage housing and recommended the Commission watch the video of the meeting. He requested the Commission continue the hearing and keep the record open. He referred to page 12 of the proposed findings and was glad to see the City agreed that compliance with statewide planning goals was required for specific changes to the City's Comprehensive Plan. He referred to a case in North Plains that indicated the need to comply with the goals, and that air and water quality issues in Goal 6 was also applicable to Oregon City's issues with air and water quality standards.

Elizabeth Graser-Lindsey, Beavercreek, distributed a packet of information to the Commission for the record and referred to a section of the document on industrial lands. She pointed out that decisions had been made to reduce the amount of industrial land in the Concept Plan area. She presented a map showing loss in industrial use land, and what was left of the industrial land was in poorer quality land areas. She pointed out that Goal 9, the City's Comprehensive Plan, Section 2.6 requiring enough industrial land to meet the City's needs, citizen involvement requirements, and others were being violated.

Doug Neeley, Oregon City, stated that the map the City Commission adopted of the BRCP included a great amount of citizen input. He stated the residents of Fairway Downs did not want industrial lands across from them, and a map was developed to

transition from residential to employment lands to industrial lands. He pointed out that if people move into a work/live area, there would be no right to complain because of the approved zoning.

Christine Kosinski, unincorporated Clackamas County, distributed a packet of information to the Commission for the record. She asked for a continuance of the hearing. She stated the City had no transportation plan to move traffic from Beavercreek Road to the I- 205 corridor. She recalled the failed effort of the residents on Holly Lane to keep Holly Lane out of the Concept Plan area. She read from a report from Scott Burns on the challenges of obtaining landslide insurance, which was a concern for the Beavercreek Road area. She stated that development was taking place without citizens' knowledge of the inability to obtain landslide insurance. She felt that cities should approach the state for help in resolving this concern.

Rose Holden, unincorporated Clackamas County, spoke in support of the BRCP and asked that the scare tactics presented tonight would be taken for what they are.

The meeting recessed at 8:54 p.m. and reconvened at 9:00 p.m.

Commissioner Mahoney stated there was a record submitted tonight that challenged the integrity of staff and he took exception to it and felt it should not be entered into the record as written. He felt it had no purpose for the Commission's consideration. Bill Kabeiseman, City Attorney, responded it could not be struck from the record. The Commission felt the comments could be separated from their analysis.

Motion by Damon Mabee, second by Paul Espe, to continue the hearing to December 14, 2015 and to keep the record open.

Aye: 7 - Charles Kidwell, Tom Geil, Robert Mahoney, Zachary Henkin, Paul Espe, Denyse McGriff and Damon Mabee

3. Work Session

Chair Kidwell announced the Planning Commission regular meeting was completed at 9:02 p.m. and immediately convened into the Planning Commission Work Session. The only changes to the roll call from the regular meeting were that Bill Kabeiseman, City Attorney, was not present for the work session, and Wendy Marshall, Development Services Manager, attended the work session.

3a. PC 15-226 Cove Phase I Application: Work Session Explaining files CP 15-01: Concept (Master) Plan Amendment, DP 15-01: Detailed Development Plan, NR 15-05: Natural Resources Overlay District Review and US 15-06: Geologic Hazards Overlay District Review

Chair Kidwell opened the Planning Commission Work Session at 9:03 p.m.

Laura Terway, Planner, presented the staff report with a PowerPoint presentation, explaining the purpose was to give a summary of the applicant's proposal for the master plan, detailed development plan, and environmental overlays for the Cove project. The applicant is Grand Cove, LLC. She stated the master plan had a 10-year guide for how the plan would develop. She reviewed the changes to the phasing plan schedule including a 2019 end date, the order that construction would be done, and a decrease in the number of phases. Proposed amendments to the plan include the following::

1. Increasing the number of dwelling units and include commercial use space for the

garden apartments, and an increase in the number of dwelling units for the multi-family housing areas.
2. Construct a temporary trailhead parking lot
3. Allow a permanent trailhead parking lot
4. Amend the Main Street design to include a roundabout
5. Amend the Agnes Street design
6. Amend Agnes Street extension
7. Amend applicable sections of the Code - five were proposed

Ms. Terway stated the property was in the floodplain and the developed area would be raised up through the required code requirements. Wendy Marshall, Development Services Manager, described the grading that would take place in the north park and other areas and the earth used to raise the Lot 2 apartment complex.

Commissioner Espe asked if the State Historic and Preservation Office was notified about the development. Ms. Terway replied affirmatively and said she would send their response to the Commission. Chair Kidwell asked if there were preservation regulations controlling the excavation and grading that were proposed, and Ms. Terway replied that work was required to stop if an artifact was found. She added that the State Historical Preservation Office (SHPO), the Corp of Engineers, and the Department of State Lands would be consulted throughout the process.

Ms. Terway stated the Natural Resource Overlay District protected the waterways. The developer hired a consultant to conduct a natural resource report, and the City hired a consultant to review the report. The developer would conduct mitigation as needed.

Ms. Terway described the proposed development plan for the apartment complex including the apartment buildings, landscaping, parking lots, garages, community room, and other features of the design. She stated that the development would be reviewed by the Building Division. She added that public improvements on Main Street were included in the developer's plans including the majority of the abutting portion of Main Street, the shed and cross section at the roundabout, and a sidewalk on the Cove side.

Ms. Terway stated the staff report for the December 14, 2015 Planning Commission meeting would be posted online by December 4th to allow the Commission time for adequate review.

Commissioner Mahoney commented that he reviewed applications from the perspective of the public interest and let the developer exercise their right to the freedom of design. He did not believe it was the Commission's responsibility to get into the details. Mr. Konkol confirmed that it was staff's responsibility to address the details through clear and objective standards.

4. Communications

Mr. Konkol stated the City was applying for a $600,000 EPA brownfield grant with Metro and Clackamas County focusing on the 99E corridor from the Blue Heron site north to the north industrial lands of Milwaukie. The purpose was to identify brownfields with willing property owners for Phase I and Phase II environmental assessments. The application was due December 18, 2015, and offered to write a letter of support from the Planning Commission if they so desired. There was consensus from the Commission to support the grant.

Commissioner Mahoney reported that the County successfully zoned McLoughlin Blvd. from Oregon City to Milwaukie as residential in 1960.

Chair Kidwell reported he gave the Planning Commission annual report to the City Commission at the last Commission meeting.

5. Adjournment

Chair Kidwell adjourned the meeting at 10:10 p.m.

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Meeting Minutes - Draft

Planning Commission

Monday, November 9, 2015 | **7:00 PM** | **Commission Chambers**

1. Call to Order

Chair Kidwell called the meeting to order at 7:00 p.m.

Present: 6 - Charles Kidwell, Robert Mahoney, Zachary Henkin, Paul Espe, Denyse McGriff and Damon Mabee

Absent: 1 - Tom Geil

Staffers: 4 - Tony Konkol, Carrie Richter, Kelly Reid and Laura Terway

2. Public Comments

3. Public Hearing

3a. PC 15-223 CU 15-01 and SP 15-10: Conditional Use and Site Plan Design Review for PGE Substation Expansion on 18th Street and Main Street Extension

Chair Kidwell read the standard hearing procedures for a quasi-judicial hearing for agenda item 3a. He asked if Commission members had any ex parte contacts and he asked if Commissioners had visited the site. All Commissioners stated they were PGE customers. All Commissioners had either driven by the site on a regular basis or had visited the site, except for Commissioner Mahoney. The audience did not have any comments on these declarations.

Kelly Reid, Assistant Planner, introduced the agenda item for CU 15-01 and SP 15-10, conditional use and site plan design review for the PGE substation expansion on 18th Street and Main Street extension and used a PowerPoint presentation. The proposal included expanding the substation at 306 Main Street that would include new equipment and enclose the new area of the substation with an 8-foot stone wall surrounded by landscaping, including barbed wire inside the fence. She stated there was no traffic impact resulting from the proposed project. She explained two additional conditions of approval in addition to those in the staff report, as follows:
1. Additional landscaping for screening purposes
2. Street trees along Main Street and 18th Street

Ms. Reid stated that staff recommended approval with conditions, and she entered the PowerPoint into the record.

Commissioner McGriff noted the sidewalk was narrow along Main Street and suggested that the condition not be a fee in lieu of tree planting.

Mary Dorman, Land Use Planner with Angelo Planning Group in Portland, Oregon, was present representing the applicant, PGE. She stated the applicant supported the

staff report and conditions of approval. She stated the applicant would support Commissioner McGriff's suggestion regarding the planting of street trees on Main Street. She spoke regarding the dedication of right-of-way along the Main Street frontage and stated that PGE had enlisted help from a surveyor to confirm that the right-of-way dedication was accurate on the site plan.

Jim Vondenkamp, PGE Project Manager for the Abernethy Substation Expansion project, stated there was a monthly landscape check at the substation. The Commission preferred that PGE avoid arborvitae plantings and use native shrubs wherever possible.

Commissioner Espe asked if addidtional detailing could be built into the wall, such as wider pilasters and integrating native shrub vegetation. There was consensus among the Commission to include additional design in the wall and integrating native shrub vegetation in the conditions of approval.

Chair Kidwell opened the public hearing. There was no testimony, and Chair Kidwell closed the public hearing.

Ms. Reid suggested the following language for the added condition: The proposed wall shall be less monolythic through the use of wider pilasters, more texture, openings, or a color variety. The Commission agreed to the language.

Motion by Denyse McGriff, second by Paul Espe, to approve CU 15-01 and SP 15-10, for the PGE substation expansion on 18th Street and Main Street extension, as amended. The motion carried by the following vote.

Aye: 6 - Charles Kidwell, Robert Mahoney, Zachary Henkin, Paul Espe, Denyse McGriff and Damon Mabee

3b. PC 15-220 ZC 15-04: Zone Change, PZ 15-02: Amendment to the Comprehensive Plan and CP 15-02: Master Plan Amendment

Chair Kidwell read the standard hearing procedures for a quasi-judicial hearing for agenda item 3b. He asked if Commission members had ex parte contacts, conflicts of interest, or statements to declare, and he asked if Commissioners had visited the site. Commissioner McGriff stated she had ex parte contact by attending meetings identified in the record on June 4, 2015 and June 30, 2015, and a CIC meeting where the matter was discussed. She also declared she had been a patient at Willamette Falls Hospital, lived in the neighborhood where the development will take place, and previously worked professionally on projects at the site. Commissioner Mabee stated he was present at the June 4, 2015 neighborhood meeting and lived near the site. Commissioner Mahoney stated he was familiar with the area and had visited the site. Commissioner Henkin stated he had no ex parte contacts and was familiar with the site. Commissioner Espe stated he had been to the site and worked on projects at the site in the past. Chair Kidwell stated he had no ex parte contacts and had worked on projects at the site in the past. There were no objections to the declarations.

Laura Terway, Planner, presented the staff report using a PowerPoint presentation for a Zone Change from "R-6" Single-Family Dwelling District to "MUE" Mixed-Use Employment district and an amendment to the Comprehensive Plan Map from Low Density Residential to "MUE" Mixed Use Employment as well as amendments to the approved Master Plan. The changes would accommodate expansion at the Providence Willamette Falls Hospital in Oregon City. She stated the first master plan amendment included expansion of the master plan boundary, adding two properties on 16th Street and 4 properties on 15th Street; increase the campus boundary by one acre for future medical office building and

parking. The second master plan amendment included consolidating and decreasing the size of medical offices. The third amendment to the master plan revised the phasing, in which all phases of construction would be in phase 2, completed by 2021. The second request was for a zone change of 1/2 acre at 1714 & 1716 16th Street, adjacent to the hospital boundary. The third request was an amendment to the comprehensive plan from Low Density Residential to Mixed Use Employment District. Staff recommended approval with conditions. Ms. Terway submitted the following documents into the record that were not included in the packet:
1. Public comments received after October 30, 2015
2. Letters of support from the Oregon City Chamber of Commerce and Oregon City Business Alliance
3. Request for continuance from McLoughlin Neighborhood Assn.
4. A comment from Jim Nicita requesting a continuance and identifying a potential issue with the notice, which the city attorney had reviewed and found no error had occurred.

Stefanie Slyman, Planner at Harper Houf Peterson Righellis, Inc., representing the applicant, introduced Sherri Paris, COO of Providence Willamette Falls Hospital, who gave a history of the hospital's services in the community, the Foundation's activity, and community partner involvement and excellence. She stated that their existing office building was full and additional space was needed to respond to the growth in the community. She addressed their efforts to mitigate parking issues throughout the years.

Josh Kolberg, PKA Architects, pointed out that one building up to 35,000 sf would satisfy the hospital's physical needs for the next 10 years. He stated the requirement for off-street parking was paramount in their decision to propose a new building on the west side of Division.

Commissioner McGriff expressed her parking concerns, and Ms. Slyman further explained the blended parking approach for a mixed-use medical facility as 2.0 spaces required per thousand square feet of leasable area across the campus. The new medical office building would generate higher traffic resulting in the need to provide a location suitable for the building and the parking lot. The hospital developed parking policies to monitor and enforce the parking concerns and can implement parking techniques to reduce the parking needs. Ms. Paris explained the techniques to the Commission.

The Commissioners discussed the parking options, techniques, and concerns.

Chair Kidwell opened the public hearing.

Jay Pierce, Oregon City, lives in the McLoughlin Historic District, spoke favor of the amendments and rezoning due to the excellent services, including rehabilitation, provided by the hospital.

Tiffany Mumma, Oregon City, lived near the hospital and spoke in favor of the applications, but felt that the four properties on 15th proposed to be included in the master plan encroaches upon and interrupts the continuity of the neighborhood. She felt the hospital had other properties available for expansion.

James Nicita, Oregon City, referred to OCMC 17.68.020 and pointed out the criteria for a zone change. He stated this section of the code provided criteria for a zone change, rather than a zone change and a comprehensive plan amendment. He said the criteria for a comprehensive plan amendment were given in the statewide planning goals. He maintained the position outlined in his letter submitted for the

record.

Tony Konkol, Community Development Director, stated he agreed with the Ms. Richter's opinion regarding the validity of the process and noticing for comprehensive plan amendments.

Kelly Edwards, Oregon City, resident near the hospital, stated her home was one that was proposed to be removed during construction, and the potential loss of her home had brought stress to her family. She felt the parking lot across the street from the hospital was hazardous to pedestrians.

Renee King, Communications, Providence Willamette Falls Medical Center, stated she had spoken to Ms. Edwards and intended to be thoughtful to the renters of the properties proposed for destruction by giving them four months notice, a moving allowance in the amount of one month's rent, and relocation services.

Ms. Richter suggested the rebuttal take place if the item was continued.

Motion by Damon Mabee, second by Zachary Henkin, to continue item 3b to November 30, 2015 and keep the public record open. The motion carried by the following vote.

Aye: 6 - Charles Kidwell, Robert Mahoney, Zachary Henkin, Paul Espe, Denyse McGriff and Damon Mabee

3c. PC 15-222 ZC 15-03: Zone Change and PZ 15-01: Comprehensive Plan Amendment

Chair Kidwell asked if there were ex parte contacts and there were none. Commissioners were familiar with the site. There were no comments from the audience regarding disclosures.

Laura Terway, Planner, presented the staff report with a PowerPoint presentation for approval of a zone change from "R-3.5" Dwelling District, "R-6" Single-Family Dwelling District and "R-10" Single-Family Dwelling District to "MUC-2" Mixed-Use Corridor 2 and an amendment to the Comprehensive Plan Map from Low Density Residential and Medium Density Residential to "MUC" Mixed Use Corridor. The location of the project includes 14228, 14268, 14275, 14289, 14297, 14338 & 14362 Maplelane Ct., 14375 Maplelane Rd., 3391 Beavercreek Rd. The site was approximately 16-1/2 acres. She described the proposed limitations for uses, including a limitation for the transportation impact and the trip cap. The applicant was not proposing a subdivision development at this time.

Commissioner Mahoney asked Carrie Richter, City Attorney, for the legalities of the applicant's proposal. Ms. Richter responded that trips were controlled based on what traffic engineers determined were the assigned number of trips for a particular use. She added that the transportation planning rule stated there cannot be a significant affect on an intersection. She proposed a condition requiring a recorded covenant to put future property owners on notice that a trip cap was in place requiring modification before a land use approval was obtained.

Ms. Terway referred to Condition #3 and added that the first developer to propose a development would need to: 1) review transportation impacts; 2) address improvements required by code; 3) determine how to phase in the improvements. She explained that when a traffic study was done during the first phase of development, staff would consider a reasonable worst-case scenario based on the permitted uses. The Commission discussed how this might play out in a proposed development.

Ms. Terway stated the application met the policies of the comprehensive plan, and staff recommended approval with conditions.

Dan Fowler, applicant, Historic Properties, LLC; Mark Foley, applicant; Tom Sisul of Sisul Engineering; Lloyd Hill of Hill Architects; and Mike Gard from Lancaster Engineering, traffic consultant, were present to give the applicant's report. Mr. Fowler stated the applicant's values were to be a good neighbor, do the right thing, and refrain from over-trafficking the area by limiting the development and capping the transportation impacts on themselves. He stated he was in agreement with the added condition of the recorded covenant on the property. He stated it was their intent to remove high traffic generating development such as retail by eliminating those uses from the permitted uses in the future. Trips were calculated under the current zoning, and he and his partner intended to hold themselves to those trip caps and would not exceed that number in the future with proposed developments. He affirmed that the proposed zone change would not create any more trips than the current zoning.

Mike Gard, traffic consultant from Lancaster Engineering, stated that the applicant consulted with ODOT, Clackamas County and City staff to learn the standards for evaluating future development. He stated that ODOT did not find a traffic impact and had no further comment. He explained that Clackamas County commented that the developer could include more trips under the existing zoning and set the trip cap higher, and the applicant made a minor adjustment that raised the trip count by six during the PM peak hour.

Mr. Fowler stated the first use they would propose for development was an independent senior living facility followed by an assisted living and memory care facility and then a rehabilitation center. He added that if there was interest, a hotel would be proposed, and if there was still trip capacity, they may propose live/work housing. They concluded that they could stay within the 168 with these uses.

Chair Kidwell opened the public hearing.

Bob Nelson commented on landslide ordinance discussion from previous years. He referred to a map he distributed showing a mapped landslide near Holly Lane Court. The back of three lots were within feet of the mapped landslide, and he stated that infiltration ponds would be needed when development occurred. He felt the City should put development in this area on hold until landslide ordinances were developed.

James Nicita, Oregon City, stated that compliance with statewide land use goals and proper noticing was required to engage citizen input. He was concerned about the development because of the stormwater that flowed into Newell Creek and felt that Goal 6 was applicable. Under ORS 468B, the stormwater system would be a disposal system, requiring a permit from the Dept. of Environmental Quality. He stated Goal 5, fish and wildlife and streamflow issues , was also implicated. He felt the current condition of stormwater discharge into Newell Creek should be known before further discharge from new development occurred. He raised an issue from Goal 7, wildfires, and felt the north end of Newell Creek was subject to wildfires, especially if an elderly population was proposed to be added to the area.

Christine Kosinski, unincorporated Clackamas County, submitted documents for the record. She requested a continuance of the hearing. She explained why she felt the City could not meet statewide land use goal #7 that reduced risk to people and property from natural hazards. She stated Lloyds of London was the only insurance company in the world that provided landslide insurance, and upon application, she

was denied coverage due to the landslides in the proposed development area. She asked the City to work with the state and federal governments to work on a program seeking solutions to provide property owners with insurance for landslides and earthquakes in hazardous areas. She asked the Commission to deny the application. She asked that Holly Lane be removed from the Transportation System Plan.

Elizabeth Graser-Lindsey objected to the process due to a procedural error of not including some of the proper review criteria. She explained that the transportation planning rule, the statewide planning goals, and the regulations for zone changes and plan amendments were not met. She stated the sewer system was not adequate for the development to be in compliance.

Paul Edgar, Oregon City, stated the intersection at Hwy. 213 and Beavercreek Road was failing, and the City needed to develop a plan to fix the problem. He suggested updating all the system plans for the area before ruling on the proposed application.

Commissioner McGriff asked staff to consider further options for involving the public in the process.

Motion by Damon Mabee, second by Zachary Henkin, to continue the hearing to November 30, 2015 and keep the public record open. The motion carried by the following vote.

Aye: 6 - Charles Kidwell, Robert Mahoney, Zachary Henkin, Paul Espe, Denyse McGriff and Damon Mabee

4. Communications

5. Adjournment

Chair Kidwell adjourned the meeting at 10:26 p.m.

From:	Paul Edgar
To:	Laura Terway
Cc:	Smith, Tootie; Martha Schrader - County Commissioner; Paul Savas - County Commissioner; Jim Bernard - CC.Commission; John Ludlow - Chair BOCC; Christina Robertson-Gardiner; Tony Konkol; Tom Hughes - Metro Chair; Carlotta Collette
Subject:	Fwd: Some Critical Thinking Is Needed, to create reasonable solutions when a possible 6,000 new people come daily to Oregon City"s WFLP
Date:	Monday, April 11, 2016 10:47:51 AM

TO: PC & TAC, joint meeting 4/11/2016, Oregon City

Submittable Comments

The PC and TAC will decide together this evening as to if public comments will be allowed at the joint work session, so here are my written comments in advance.

I had Christina Robertson-Gardiner, one of the Chief Planners for the Willamette Falls Legacy Project tell me, "we are going to have to live with a new level of congestion, here". She was talking about Oregon Highway 99E, going through Oregon City, which is critical to Clackamas County, Canby and area's south. The congestion on OR Hwy 99E is terrible (LOS "F"), with today's traffic going through Oregon City.

I had taken a moment to attempt to talk to her on how to mitigate, with options and thinking of what could realistically make a difference. I am just afraid that most everyone has their heads in the sand, on how great the congestion problem could truly become, or that they do not care.

I think you guy's have to get involved, or OR Hwy 99E will be shutdown with everyone screaming and those who need a free flowing highway for the people and commerce will have their backs against the wall.

I just believe ODOT is looking in another direction, (I question the leadership) just like what they accepted allowing for the creation of unacceptable levels of congestion at Oregon Highway 213 and Beavercreek Road. They are on what appears to be a plan, where they will allow the use of Volume over Capacity (V/C) methods and criteria, over that of Level of Service (LOS) which is the only ODOT standard for measuring congestion on State of Oregon Highways, as this (I believe) can lead to challenges, at LCDC.

Oregon City changed how congestion is measured on these two State of Oregon Highways to this V/C methodology, which creates an ability where Strategic/Critical Urban Freight Routes to acheive unacceptable costly levels of congestion, that hurts the overall regions economies.

When congestion gets to a point, where it causes the cost to operate a business and/or when it makes businesses become unprofitable, we all loose.

I support the vision of the Willamette Falls Legacy Project and this first effort in creating the "River Walk", but they are not even close to getting a handle on the logistics of getting people in and out of Oregon City.

Thanks, we need your help, Paul Edgar

-------- Forwarded Message --------

From: 50 2016 <>
X-Mozilla-Status: 0001
X-Mozilla-Status2: 00800000
X-Mozilla-Keys:
From: Paul Edgar <pauloedgar@q.com>
Subject: Some Critical Thinking Is Needed, to create reasonable solutions when 6,000 new people come daily to Oregon City's WFLP
Reply-To: pauloedgar@q.com
To: Jon Makler - ODOT Region 1, Planning Mgr
Cc: Rian Windsheimer - ODOT, Matthew L. Garrett - ODOT
Message-ID: <57047AB5.9060207@q.com>
Date: Tue, 5 Apr 2016 19:55:49 -0700
User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:38.0) Gecko/20100101 Thunderbird/38.7.0
MIME-Version: 1.0
Content-Type: text/plain; charset=utf-8; format=flowed
Content-Transfer-Encoding: 7bit

We need new accurate Trip Counts for OR - Hwy-99E, to advance the Willamette Falls Legacy Project (WFLP).

If some of the projections are half way correct, new incidents of travel can ramp up, bringing in 2,000, 4,000 or maybe even 6,000 people into this WFLP site, daily.

It appears that OR-Hwy-99E at Main St. in Oregon City is at LOS - F in the PM Peak Period - for about 3-hours - every weekday afternoon, right now. As we know it is a strategic Urban Freight Route at the same time.

AM Peak Period and through out the day has equally high activity, because of Canby and their commercial and residential needs.

We need new accurate new trip counts to establish V/C.1 Rating .

We also need to arrive at reasonable assumptions on how these people will arrive in Oregon City, by mode of vehicle. What percentage will be in: cars, buses, commuter rail, limo's, boats, bike and PED.

How can we distribute this number of additional vehicles, where do you put them? Cars will probably represent the dominate mode of travel and most people believe cars will bring in greater then 80% of all

people.

The additional problem/opportunity is "Cars (in that many) in totality - on the highways, arriving at one place" as a significant critical issue to plan for, with ODOT.

Just creating a place to park these cars, which might well require creating parking places, a quarter or half mile away that results in limiting negative impacts creating unacceptable to congestion of this Oregon HWY 99E Urban Freight Route is a big time opportunity.

Then you need to create some reasonable alternative modes, that will transit these people from a distance to the main gate/entry point and it then also another big deal.

You need a head start on this!!!!!!

Paul

PS: You should get a copy of the April 2009 - Findings and Recommendations of the "Downtown Oregon City Parking Study". It is only 7-years old and very accurate.

From:	Paul Edgar
To:	Laura Terway
Cc:	Smith, Tootie; Martha Schrader - County Commissioner; Paul Savas - County Commissioner; Jim Bernard - CC.Commission; John Ludlow - Chair BOCC; Christina Robertson-Gardiner; Tony Konkol; Tom Hughes - Metro Chair; Carlotta Collette
Subject:	Fwd: Some Critical Thinking Is Needed, to create reasonable solutions when a possible 6,000 new people come daily to Oregon City"s WFLP
Date:	Monday, April 11, 2016 10:47:51 AM

TO: PC & TAC, joint meeting 4/11/2016, Oregon City

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