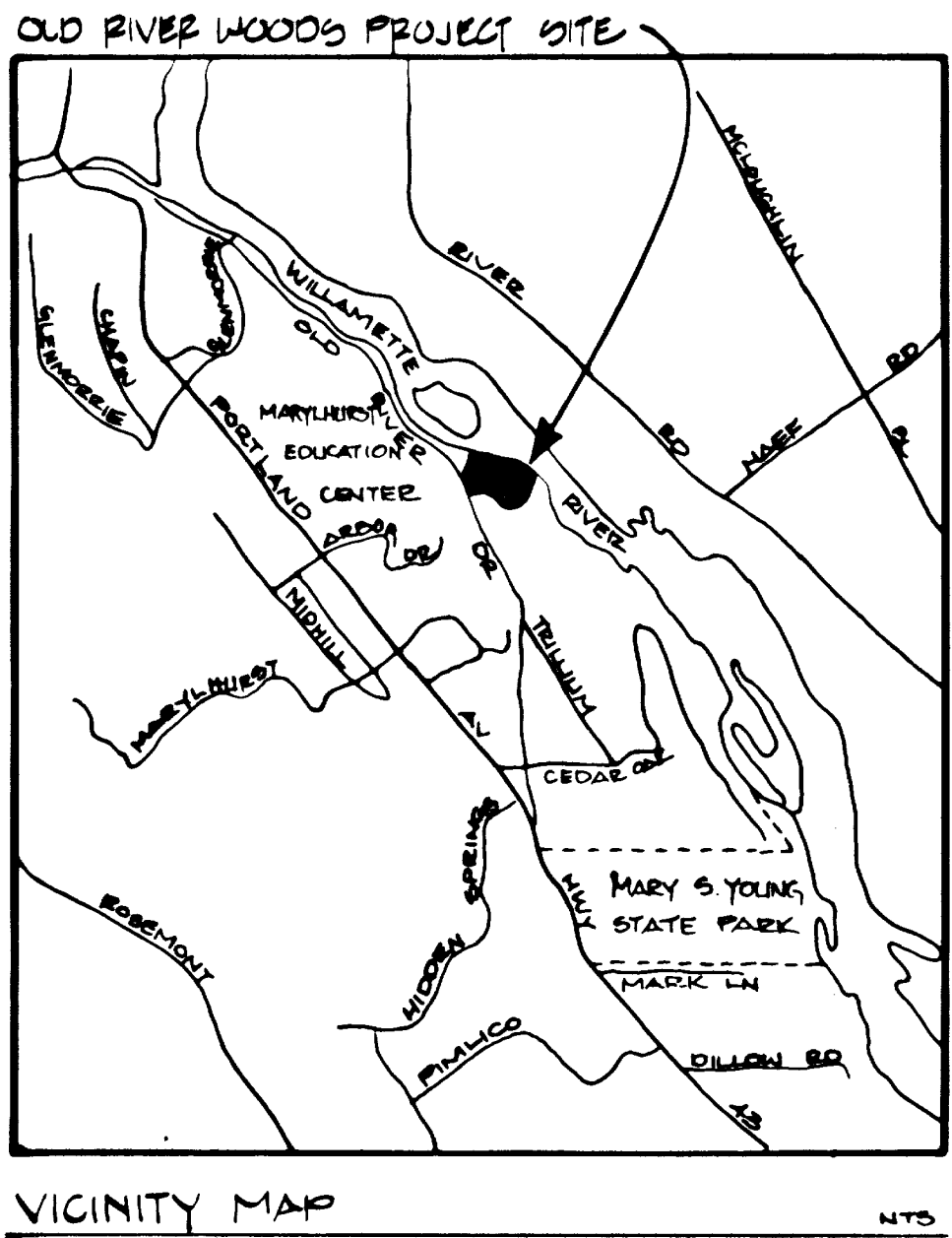


OLD RIVER WOODS



GENERAL NOTES

- ALL CONSTRUCTION AND MATERIAL INCLUDED IN THIS CONTRACT SHALL COMPLY WITH THE CURRENT A.P.W.A. STANDARDS AND SPECIFICATIONS, UNLESS OTHERWISE DETAILED OR SPECIFIED.
- PRIOR TO ANY CONSTRUCTION, LOCATIONS OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR. WHEN ACTUAL CONDITIONS DIFFER FROM THOSE NOW ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- EXCAVATION OF THE ROADWAY AREA SHALL BE TO THE LINE AND GRADE AS SHOWN ON THE PLANS AND WILL BE UNCLASSIFIED.
- AMENDED TOPSOIL MATERIAL 24-INCH DEPTH CONTAINING NO ROCK LARGER THAN 2 INCHES IN DIAMETER SHALL BE USED AS BACKFILL IN THE RAISED ISLANDS AS APPROVED BY THE ENGINEER.
- ROCKS LARGER THAN 12 INCHES IN DIAMETER, ROOTS, BRUSH AND REFUSE OF ANY KIND SHALL BE EXPORTED AND DISPOSED BY THE CONTRACTOR, UNLESS OTHERWISE DIRECTED BY THE ENGINEER, AT NO EXTRA COST TO THE OWNER.
- DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL USE SUCH EROSION CONTROL MEASURES AS NECESSARY TO PREVENT SILTING EXISTING PUBLIC STREETS OR STORM DRAINS AND ADJACENT PROPERTIES. THESE MEASURES MAY INCLUDE PLACEMENT OF STRAW BAILS OR OTHER MEANS APPROVED BY THE ENGINEER. THE COST OF SUCH MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF STREETS AND PIPING SYSTEMS AND SHALL NOT REQUIRE DIRECT PAYMENT.
- CONTRACTOR SHALL NOT CUT ANY TREES LARGER THAN 6 INCHES IN DIAMETER WITHOUT APPROVAL OF ENGINEER.
- SUBGRADE, GRANULAR TRENCH BACKFILL, BASE ROCK AND TOP COURSE WITHIN RIGHT-OF-WAY AREA SHALL BE COMPACTED TO NOT LESS THAN 98 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY A.A.S.H.O. T-99.
- ALL DUCTILE IRON PIPE IS TO BE TYTON JOINT CLASS 52.
- ANY AREAS ACCEPTING FILL SHALL BE STRIPPED OF ORGANIC MATERIAL. FILL SHALL BE PLACED IN 8-INCH LAYERS AND COMPACTED TO 98 PERCENT RELATIVE MAXIMUM DENSITY. A.A.S.H.O. T-99. NATIVE FILL SHALL BE FREE FROM ORGANIC MATERIAL AND ROCKS OVER 12 INCHES IN DIAMETER (STREET AREAS).
- ALL CONCRETE IS TO HAVE MINIMUM 3,000 PSI COMPRESSION STRENGTH AT 28 DAYS.
- STANDARD WHEELCHAIR/BICYCLE RAMPS SHALL BE CONSTRUCTED AS INDICATED AT ALL CURB RETURNS AND INTERMEDIATE POINTS NOTED ON THE PLANS.
- CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR PRIVATE UTILITIES AND TO COORDINATE THE WORK WITH THE UTILITY COMPANIES. THE COSTS OF COORDINATION WITH CABLE UTILITY COMPANIES IS CONSIDERED TO BE INCIDENTAL TO THE COST OF TRENCHING.
- ALL TRENCHING AND PIPE PLACEMENT SHALL BE PER DETAIL ON THE DETAIL SHEET.
- ALL CONCRETE SEWER PIPE SHALL BE A.S.T.M. C-14 CLASS 3 UNLESS OTHERWISE NOTED.
- STORM DRAIN PIPE MAY BE EITHER TONGUE AND GROOVE MORTARED JOINT OR BELL AND SPIGOT WITH GASKET.
- ALL POWER POLES SHALL BE MOVED BY UTILITY COMPANIES. THE CONTRACTOR SHALL COORDINATE THIS EFFORT AT NO ADDITIONAL COST TO THE OWNER.
- WATERLINE SHALL BE CONNECTED AND TESTED TO THE SATISFACTION OF THE CITY.
- CONCRETE THRUST BLOCKING SHALL BE PROVIDED AT ALL WATERLINE FITTINGS. BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH AND CLEAR OF JOINT ACCESSORIES. BEARING AREA OF THRUST BLOCK SHALL BE COMPUTED ON THE BASIS OF SOIL BEARING PRESSURE.
- PVC GRAVITY PIPE SHALL MEET THE REQUIREMENTS OF A.S.T.M. D-3034.
- IN THE LARGE FILL AT BACK OF PROPERTY FOR EMERGENCY ACCESS TO BOAT DOCK, COMPACTION SHALL BE 88 PERCENT OF T-180 TO 2 FEET FROM SUBGRADE. THE LAST 2 FEET SHALL BE COMPACTED TO 92 PERCENT OF T-180.
- INSTALL BENTONITE CHECK DAMS BY MIXING 3/4-INCH TO 1/2 INCH CRUSHED ROCK WITH GS-40 BENTONITE AS BACKFILL AND BEDDING AS DIRECTED BY THE ENGINEER. PLACE AT 50-FOOT INTERVALS ALONG TRENCH TO 2-Feet ABOVE PIPE (IN THE ROADWAY AREA ONLY).
- CONTRACTOR SHALL VERIFY TAMPERPROOF SANITARY LID STYLE PRIOR TO ORDERING.
- WATER METER BOX NOT TO BE LOCATED IN SIDEWALK

INDEX

SHEET NO	DRAWING TITLE
1	TITLE SHEET
2	STREET: STORM - PLAN
3	STREET: STORM - PROFILES
4	STREET: STORM - PROFILES
5	STORM SEWER PROFILES
6	OLD RIVER ROAD / PROFILES
7	SANITARY SEWER PLAN
8	SANITARY SEWER PROFILE
9	WATER PLAN
10	DETAILS
11	DETAILS

These As-Built Plans were compiled from survey data, data collected from others, and periodic observation during construction. It is suggested that these plans be used in conjunction with field verification of location and elevations of improvements in question. These plans are an accurate record of public improvements to the best of my information, knowledge & belief.

David E. Dineen
Signature
Date 12.1987

EJP. 6/86
DESIGNED DATE
EJD. 6/86
DRAWN DATE
CHECKED DATE

REVISIONS



TITLE SHEET

OLD RIVER WOODS

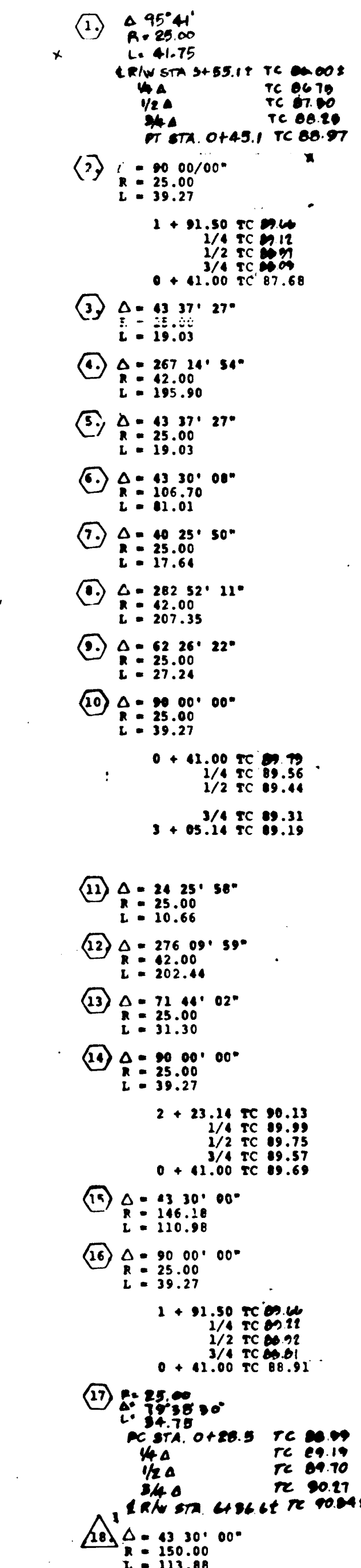
BENEFAN DEVELOPMENT
501 S.E. Hawthorne Blvd.
P.O. Box 6400
Portland, Oregon 97228-6400
(503) 790-1513

otak
1700 S. DOVER STREET
PORTLAND, OREGON 97202

1 / 11
SHEET NO.

1399
PROJECT NO.

LOT # 1	6.6 Below	Top of Curb	
LOT # 2	3.8 Below	Top of Curb	
LOT # 3	2.0 Below	Top of Curb	
LOT # 4	3.0 Below	Top of Curb	
LOT # 5	5.7 Below	Top of Curb	
LOT # 6	3.0 Below	Top of Curb	
LOT # 7	3.3 Below	Top of Curb	
LOT # 8	4.7 Below	Top of Curb	
LOT # 9	2.9 Below	Top of Curb	
LOT #10	2.9 Below	Top of Curb	
LOT #11	3.0 Below	Top of Curb	
LOT #12	3.4 Below	Top of Curb	
LOT #13	1.6 Below	Field Inlet	#4 Grate
LOT #14	2.5 Below	Field Inlet	#4 Grate
LOT #15	2.3 Below	Field Inlet	#2 Grate
LOT #16	4.6 Below	Field Inlet	#1 Grate
LOT #17	2.9 Below	Field Inlet	#3 Grate
LOT #18	6.6 Below	Top of Curb	
LOT #19	5.0 Below	Top of Curb	
LOT #20	2.5 Below	Top of Catch	Basin #7
LOT #21	2.0 Below	Top of Catch	Basin #7
LOT #22	2.7 Below	Top of Catch	Basin #16
LOT #23	N/A		
LOT #24	5.2 Below	Top of Curb	



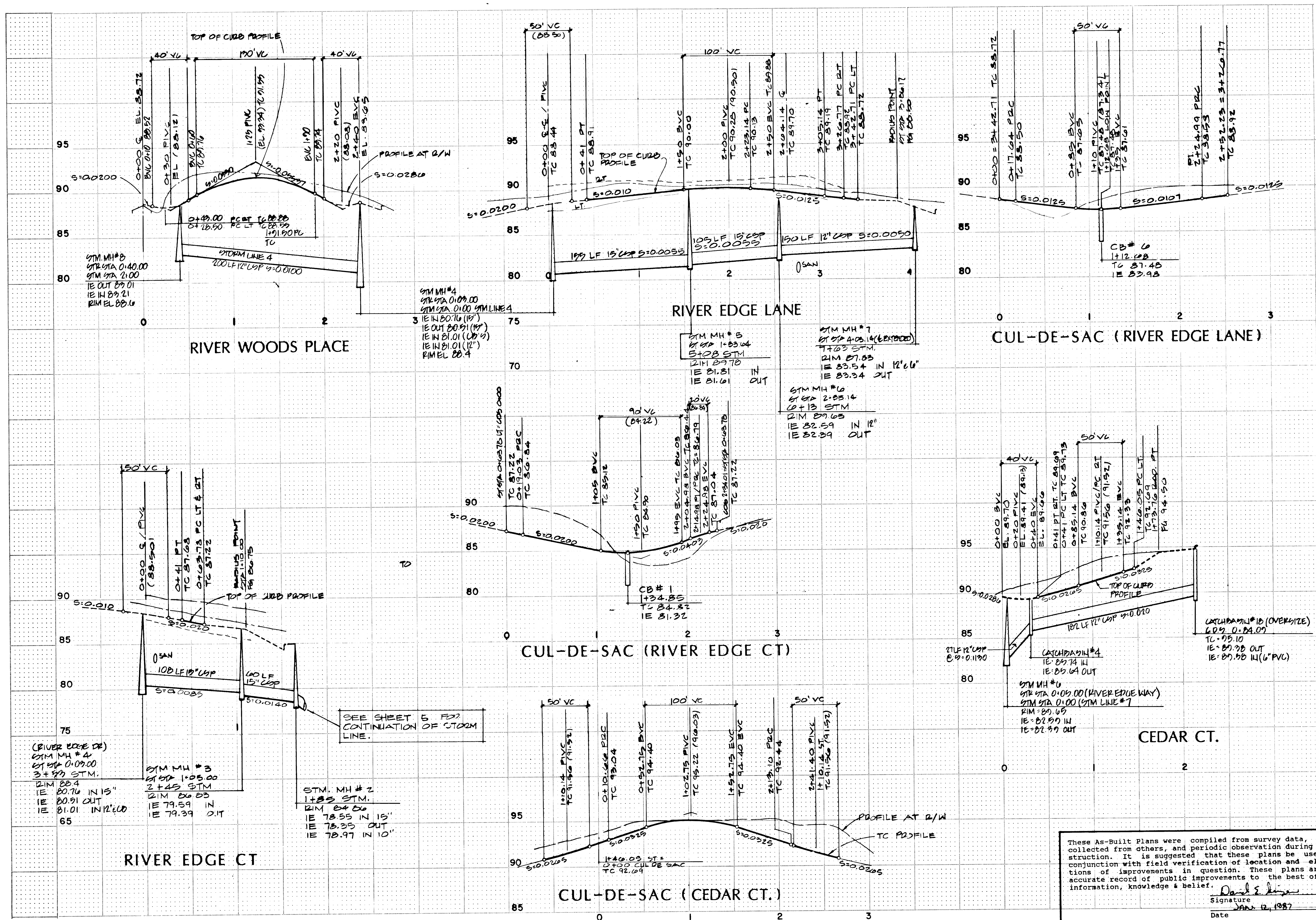
1. 12" DIAMETER MIN. ON ALL PUBLIC STORM SYSTEM.
2. 6" HOUSE LATERALS ARE PRIVATE STORM LINES TO HOUSES FOR ROUNG & ROOF DRAINING
3. ALL MAIN STORM LINES SHALL BE 6" GAUGE ALUMINUM HELICAL, OF 6"X CLASS 5 BELL AND SPIGOT CONC. OF CLASS 5 TONGUE AND GROOVE CONC. WITH MORTARED JOINTS.

(HENRY GANS RD.. CO. RD. 842)

4. ALL 6" PVC STORM LATERAL WITHIN R/W SHALL BE LAID AT 5:00:20 UNLESS OTHERWISE NOTED.

f. David E. Seize
Signature
JAN. 12, 1987
Date

KRK DESIGNED		6/86 DATE	
RJB DRAWN		6/86 DATE	
CHECKED		DATE	
REVISIONS			
SERVICE LATERAL RELOCATION 4-26-88			
			
STREET AND STORM PLAN			
OLD RIVER WOODS			
BENIFRAN DEVELOPMENT 501 S.E. Hawthorne Blvd. P.O. Box 6400 Portland, Oregon 97228-6400 (503)796-1511			
			
2 / 11 SHEET NO.			
PROJECT NO. 1399			



DESIGNED

DATE

DRAWN

DATE

CHECKED

DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER

11-83

11-83

11-83

11-83

11-83

11-83

STREET AND STORM PROFILES

OLD RIVER WOODS

BENFRAN DEVELOPMENT

501 S.E. Hawthorne Blvd.

P.O. Box 6400

Portland, Oregon 97228-6400

(503) 796-1513

otak

3 / 11

SHEET NO.

1399

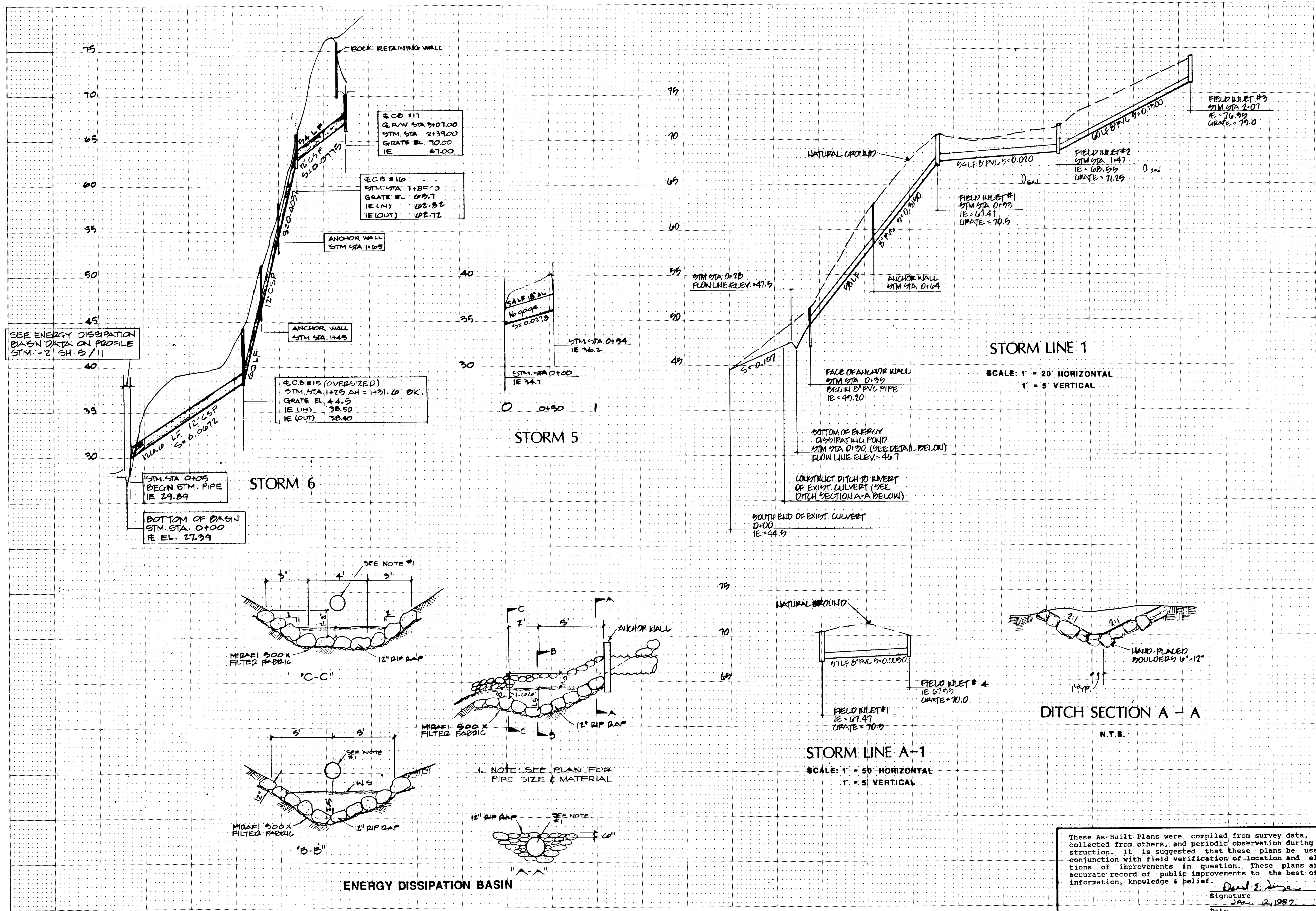
PROJECT NO.

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Signature

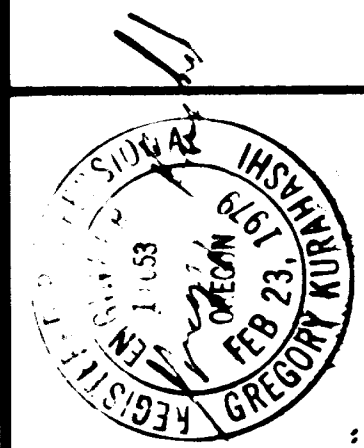
Date

12, 1987



KRK 01/86
DESIGNED DATE
EJB 6/86
DRAWN DATE
CHECKED DATE

REVISIONS



STREET AND STORM PROFILES

OLD RIVER WOODS

BENEFAN DEVELOPMENT
501 S.E. Hawthorne Blvd.
P.O. Box 6400
Portland, Oregon 97228-6400
15031796-1513

otak
otak Engineering
otak Incorporated
otak Engineers
otak Surveyors

4 / 11

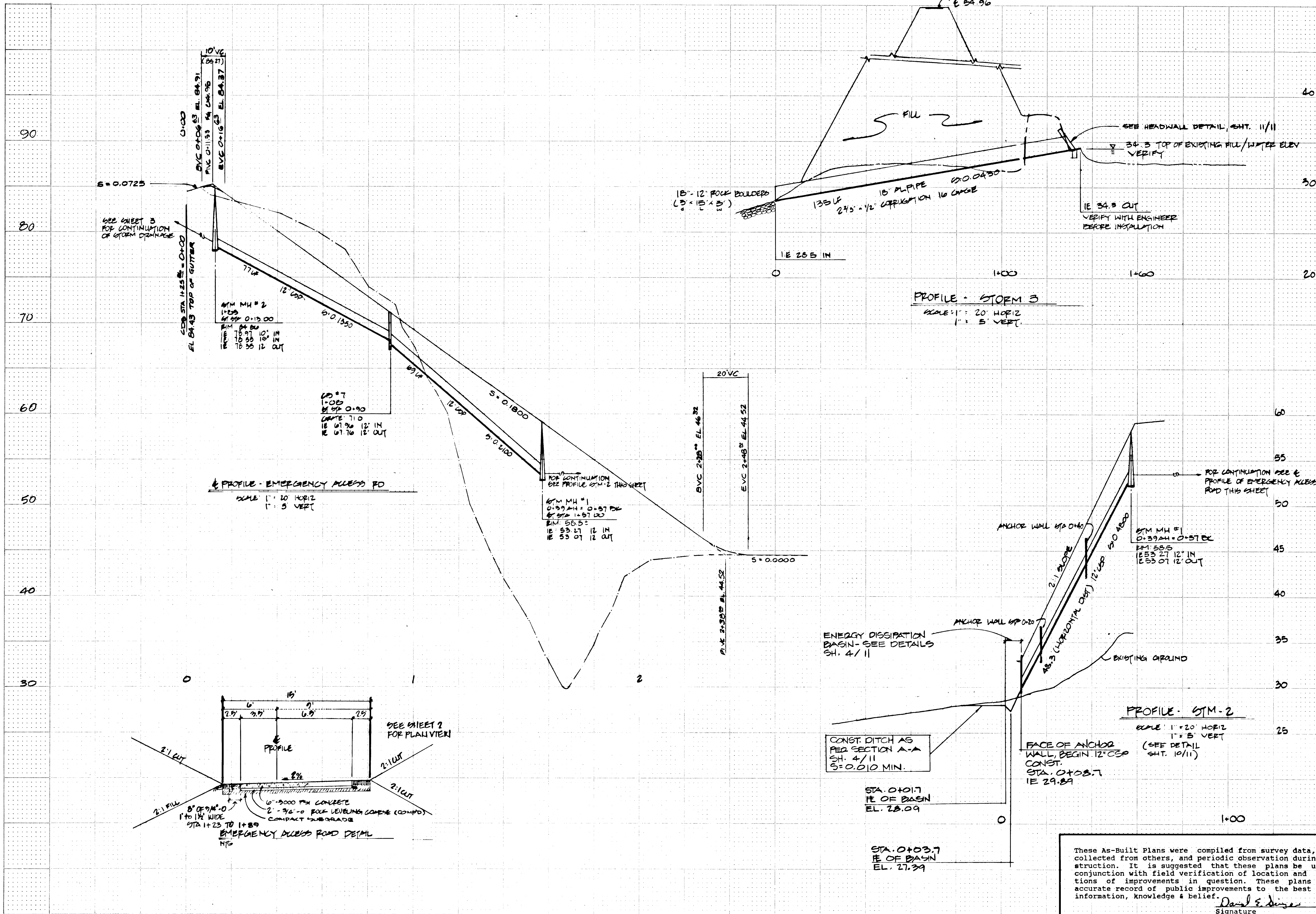
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1399

PROJECT NO.

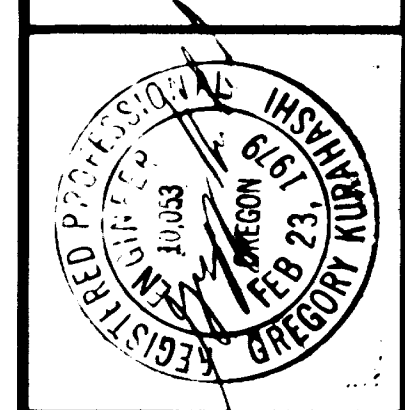
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David E. Dinger
Signature
JAN 12, 1987
Date



KRK
DESIGNED
RJB
DRAWN
CHECKED
DATE
6/86
6/86
DATE

REVISIONS



STORM SEWER PROFILES

OLD RIVER WOODS

BENEFAN DEVELOPMENT
501 S.E. Hawthorne Blvd.
P.O. Box 6400
Portland, Oregon 97228-6400
(503) 796-1513

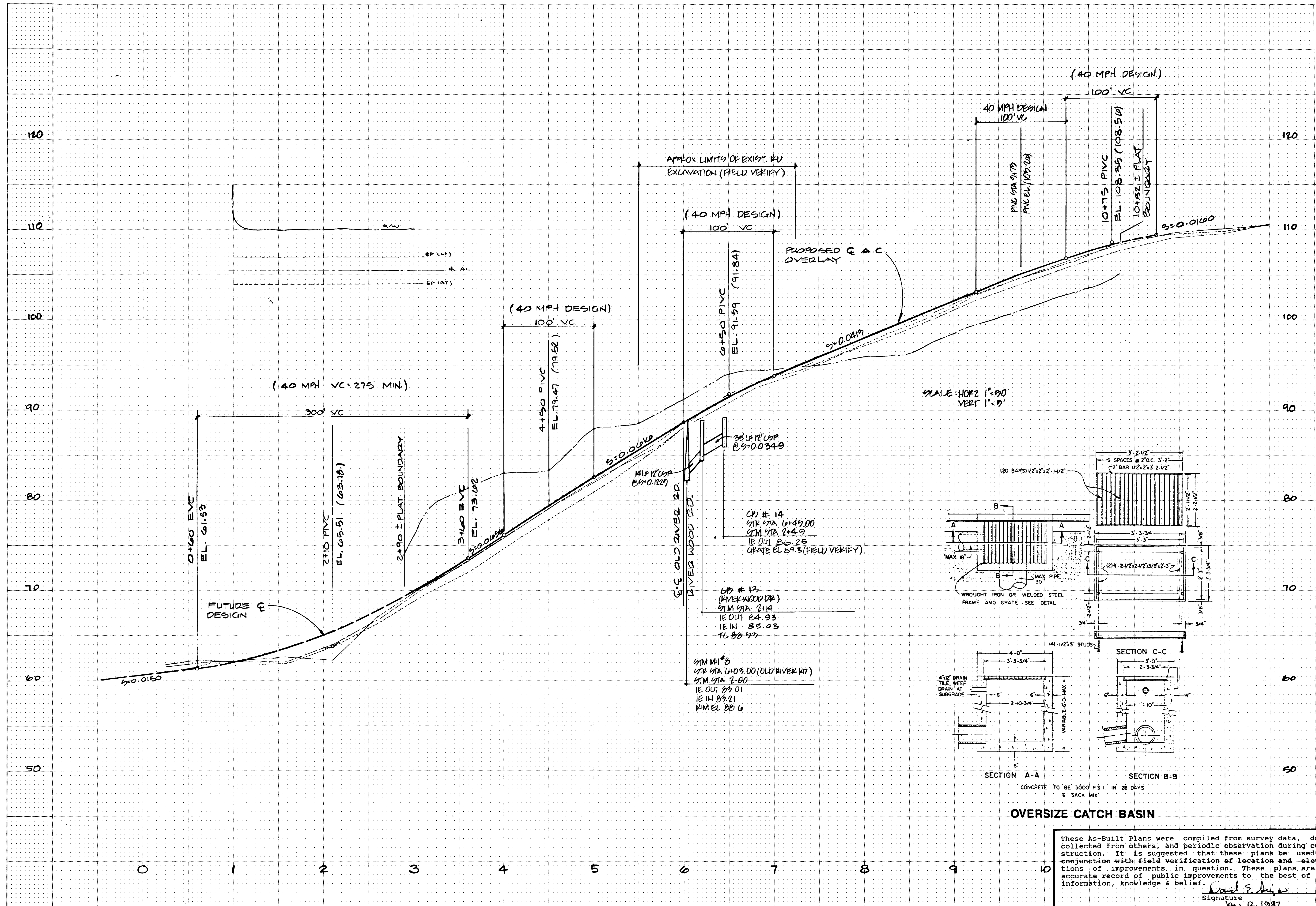
otak

5 / 11
SHEET NO.

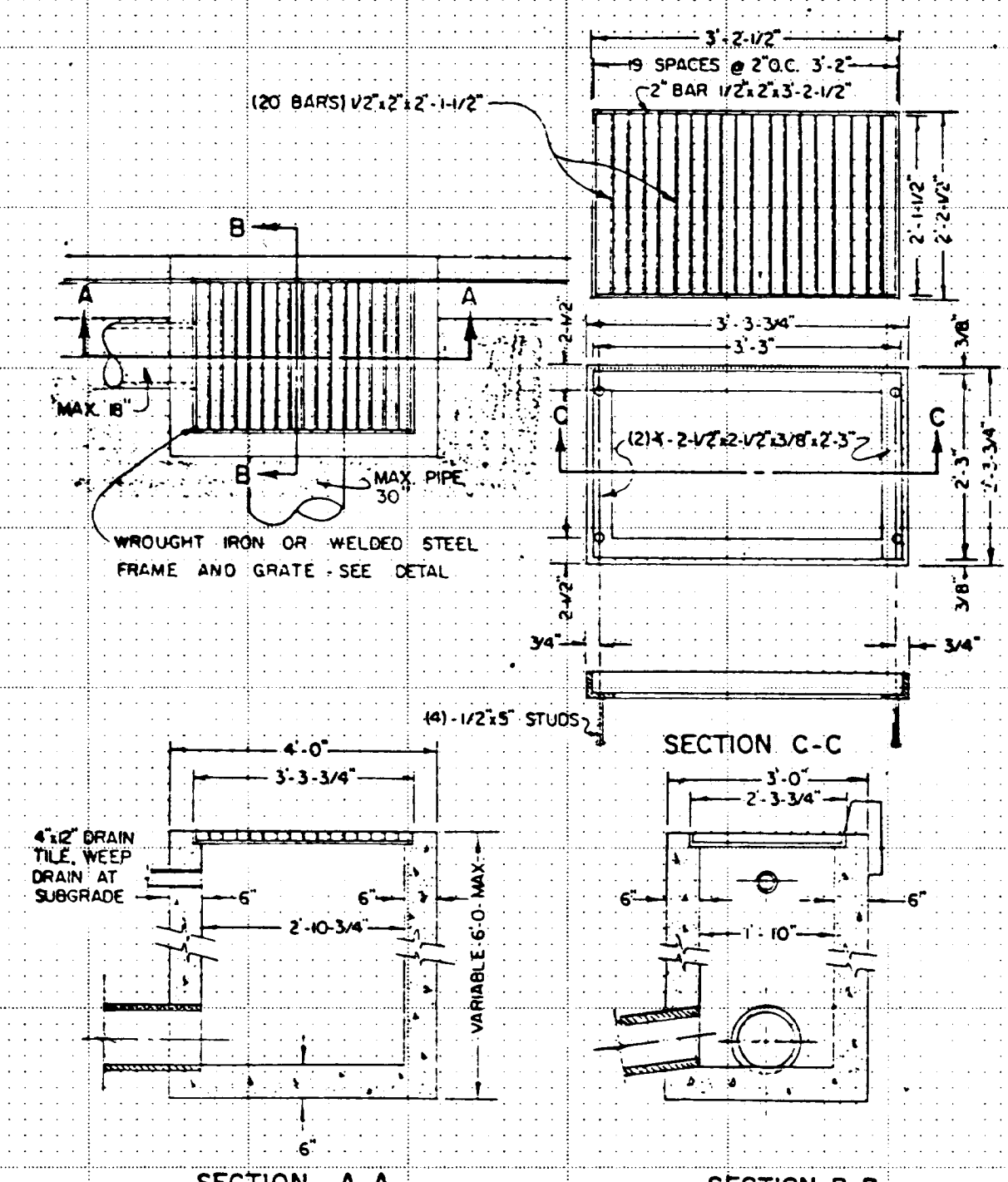
1399
PROJECT NO.

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Daniel E. Dinger
Signature
Date: 12/1987



SCALE: HORIZ 1"=100'
VERT 1"=10'



OVERSIZE CATCH BASIN

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Signature: *David S. Smith*
Date: *Jan. 12, 1987*

DESIGNED
DATE

DRAWN
DATE

CHECKED
DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
STATE OF MARYLAND
LICENSE NO. 1003
DATE 10/23/83
GREGORY H. SMITH

OLD RIVER WOODS

OLD RIVER ROAD / PROFILE

OLD RIVER WOODS

BENEFAN DEVELOPMENT
501 SE Hawthorne Blvd.
P.O. Box 6400
Fort Lauderdale, FL 33301
(503) 796-1513

otak

6 / 11

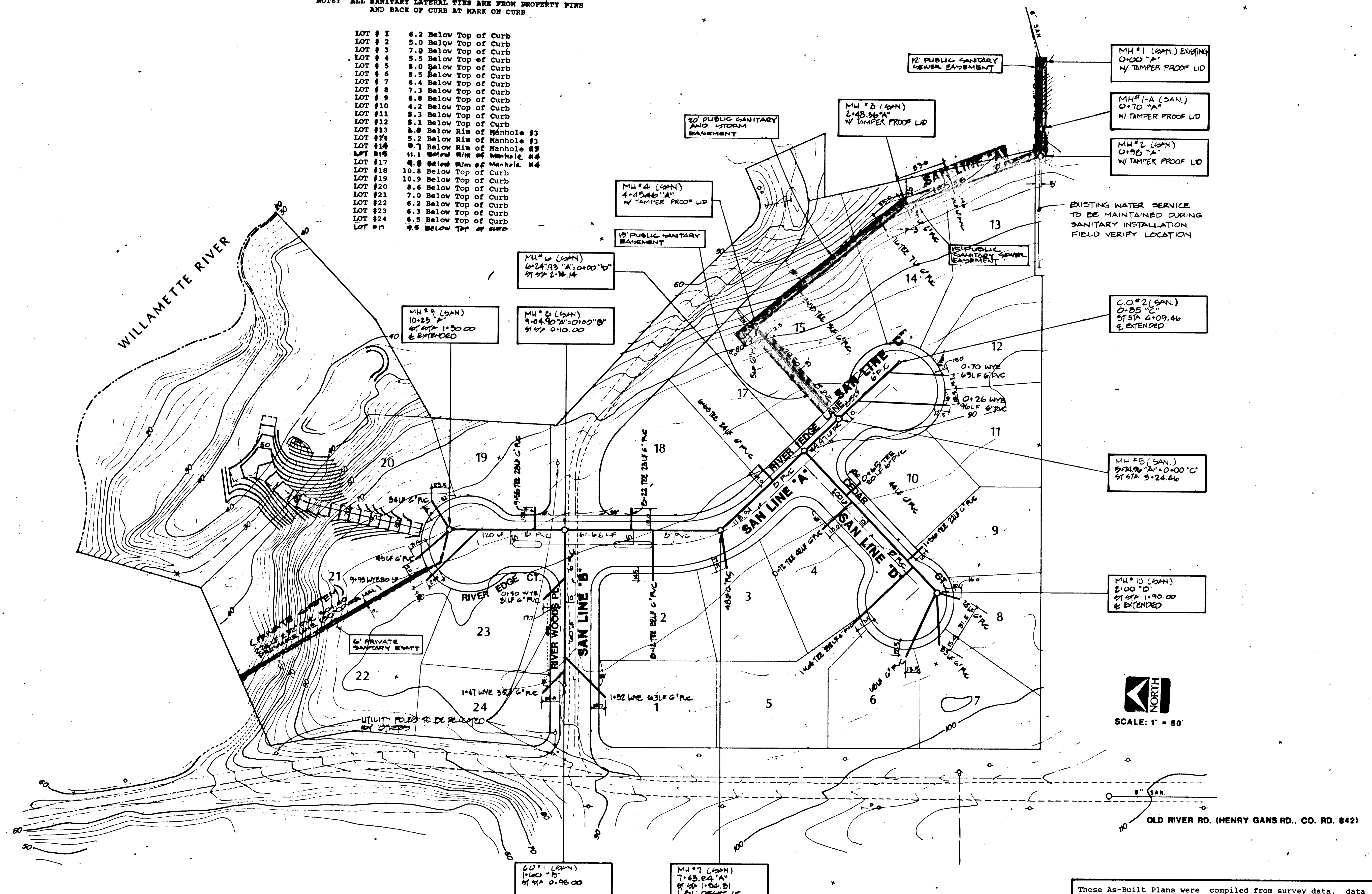
SHEET NO.

1399

PROJECT NO.

NOTE: ALL SANITARY LATERAL TIES ARE FROM PROPERTY PINS AND BACK OF CURB AT MARK ON CURB

LOT # 1	6.2 Below Top of Curb
LOT # 2	5.0 Below Top of Curb
LOT # 3	7.0 Below Top of Curb
LOT # 4	5.5 Below Top of Curb
LOT # 5	8.0 Below Top of Curb
LOT # 6	6.4 Below Top of Curb
LOT # 7	8.5 Below Top of Curb
LOT # 8	7.3 Below Top of Curb
LOT # 9	6.8 Below Top of Curb
LOT # 10	4.2 Below Top of Curb
LOT # 11	5.3 Below Top of Curb
LOT # 12	5.1 Below Top of Curb
LOT # 13	6.0 Below Rim of Manhole #3
LOT # 14	5.2 Below Rim of Manhole #3
LOT # 15	0.7 Below Rim of Manhole #3
LOT # 16	11.1 Below Rim of Manhole #4
LOT # 17	9.0 Below Rim of Manhole #4
LOT # 18	10.8 Below Top of Curb
LOT # 19	10.9 Below Top of Curb
LOT # 20	8.6 Below Top of Curb
LOT # 21	7.0 Below Top of Curb
LOT # 22	6.2 Below Top of Curb
LOT # 23	6.3 Below Top of Curb
LOT # 24	6.5 Below Top of Curb
LOT # 25	9.6 Below Top of Curb



KRK 6/86
DESIGNED DATE
RJB 6/86
DRAWN DATE
CHECKED DATE

LATERAL RELAC.
4-26-88

REVISIONS



SANITARY SEWER PLAN

OLD RIVER WOODS

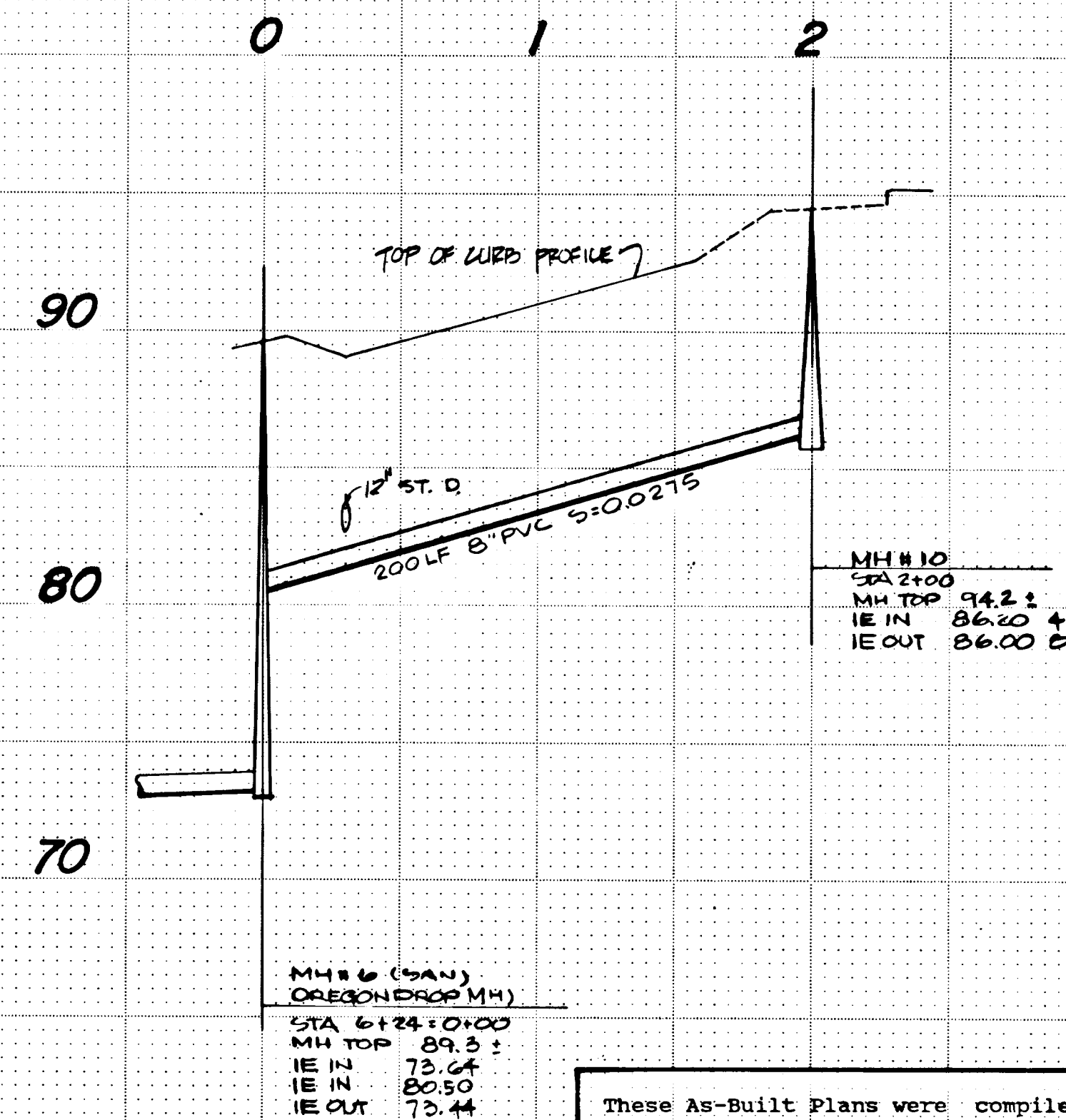
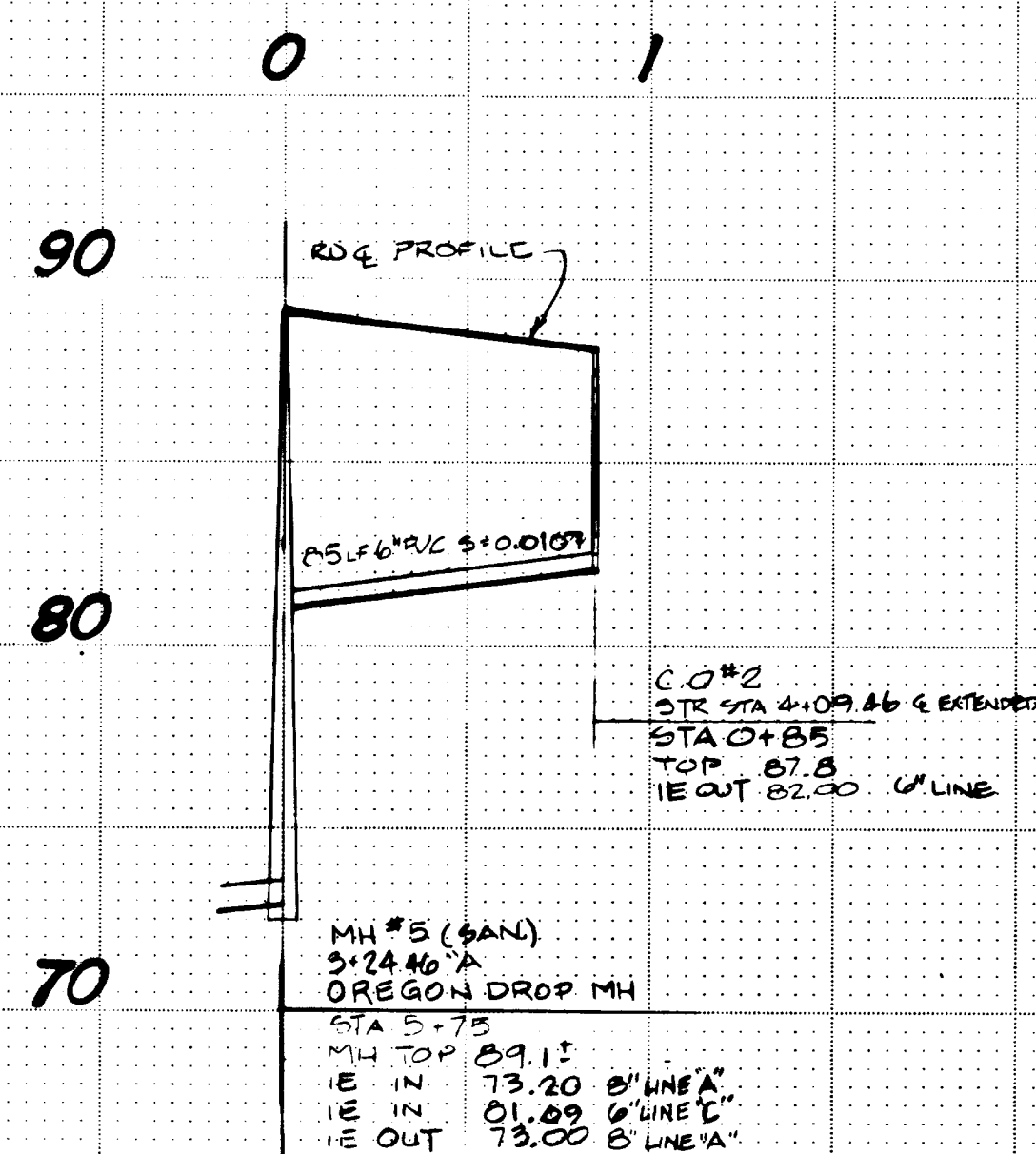
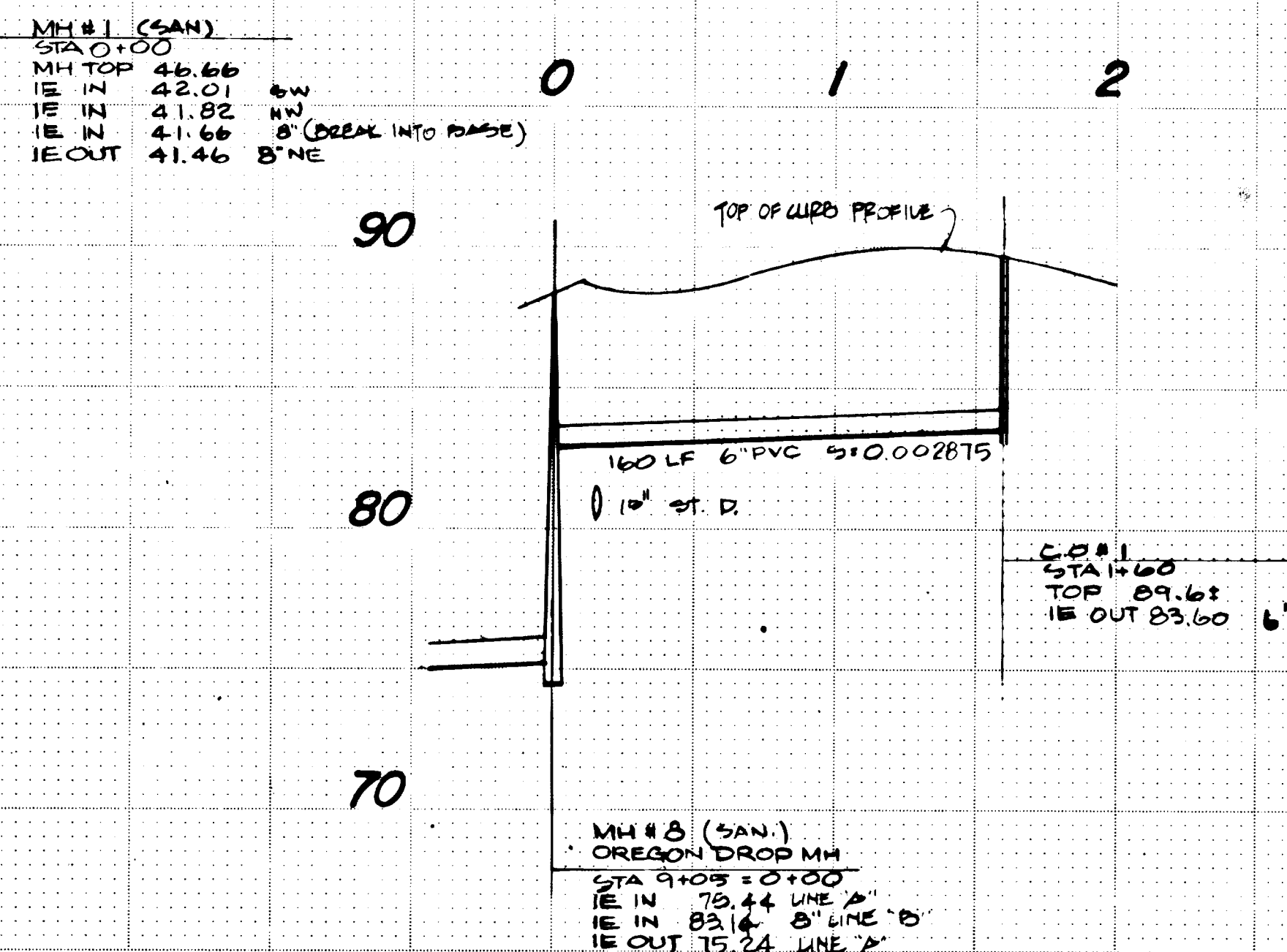
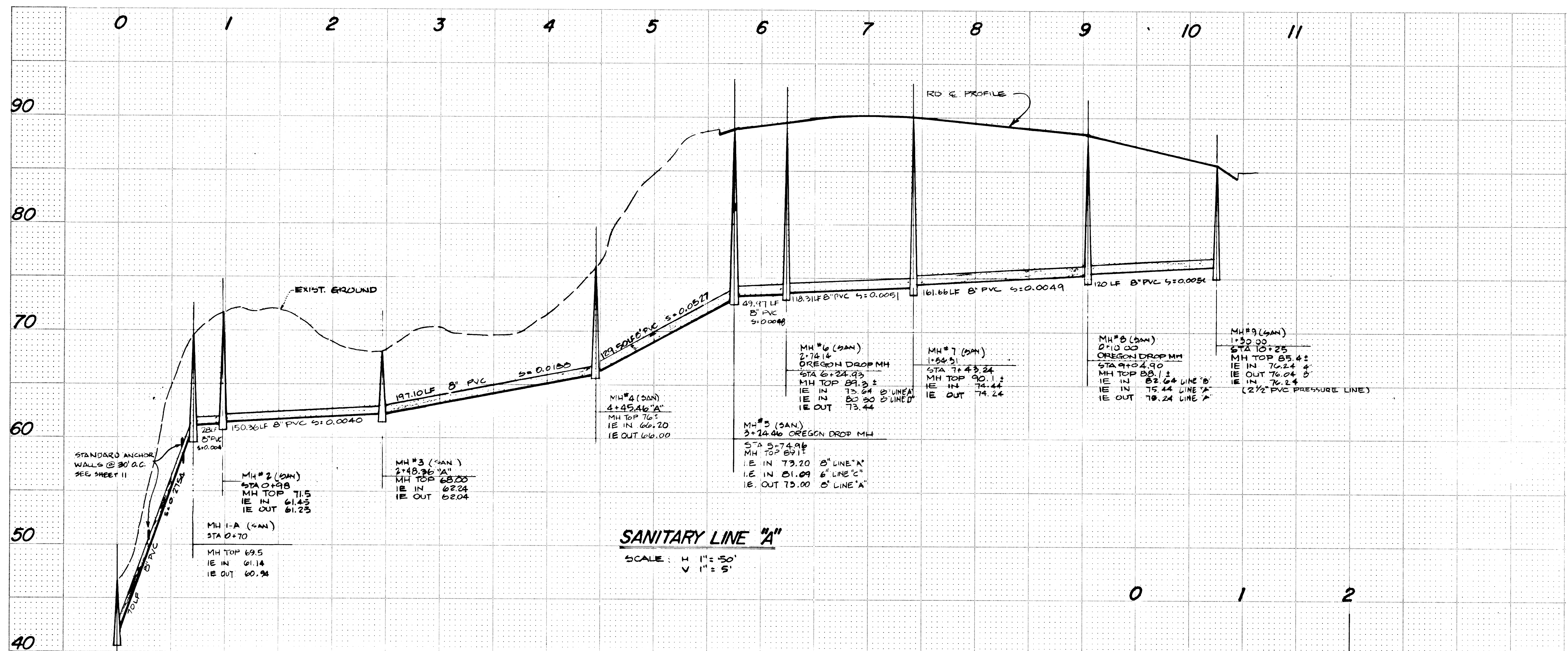
BENEFIT DEVELOPMENT
501 S.E. Hawthorne Blvd.
Portland, Oregon 97228-6400
P.O. Box 6400
15037/96-1515



7/11
SHEET NO.

1399
PROJECT NO.

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David E. Dyer
Signature
Date 12, 1987



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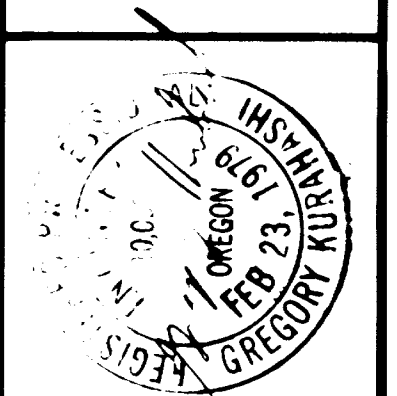
Signature David L. Singer
Date JAN. 12, 1987

<u>KKK</u>	<u>6/86</u>
DESIGNED	DATE
<u>RJB</u>	<u>6/86</u>
DRAWN	DATE
<u> </u>	<u> </u>
CHECKED	DATE

<u>KJB</u>	<u>6/8/6</u>
DRAWN	DATE

CHECKED	DATE
----------------	-------------

REVISIONS



SANITARY SEWER PROFILES
SANITARY LINES "A","B","C","D"

SANITARY LINES "A," "B," "C," "D,"

OLD RIVER WOODS

BENJIFRAN DEVELOPMENT
501 S.E. Hawthorne Blvd.
P.O. Box 6400
Portland, Oregon 97228-6400
503/796-1513

otak othman
tahir
kurashid
incorporated
planners
engineers
surveyors

8 / 11
SHEET NO.

1399

KRK 6/86
DESIGNED DATE
RAB 6/86
DRAWN DATE
CHECKED DATE

△ SERVICE RELOC.
4-26-88

REVISIONS



WATER PLAN

OLD RIVER WOODS

BENIFRAN DEVELOPMENT
501 S.E. Hawthorne Blvd.
P.O. Box 6400
Portland, Oregon 97228-6400
(503) 796-1511



9 / 11
SHEET NO.

1399

PROJECT NO.

WATER NOTES

- ① 6-INCH TAPPING SADDLE AND 6-INCH FL x MJ TAPPING VALVE.
- ② 90 DEGREE ELBOW WITH THRUST BLOCKING.
- ③ ONE 6-INCH ALL MJ GATE VALVE.
- ④ ONE 2-INCH TAPPING SADDLE AND 2-INCH VALVE -- SEE DETAIL SHEET 10/11 "TYPICAL 2-INCH PVC WATER SERVICE".
- ⑤ ONE FIRE HYDRANT ASSEMBLY.
- ⑥ ONE 6-INCH x 6-INCH ALL FLG. CROSS; ONE 6-INCH x 4-INCH FLG. x FLG. REDUCER; ONE 4-INCH FLG. x MJ GATE VALVE; ONE 6-INCH FLG. x MJ ADAPTER; TWO 6-INCH FLG. x MJ GATE VALVES.
- ⑦ ONE 22 1/2-INCH ALL MJ ELBOW WITH BLOCKING.
- ⑧ ONE 6-INCH MJ x 4-INCH FLG. TEE WITH BLOCKING; ONE 4-INCH FLG. x MJ GATE VALVE; ONE 6-INCH x 4-INCH P.E. REDUCER; ONE 4-INCH ALL MJ GATE VALVE.
- ⑨ ONE BLOW-OFF ASSEMBLY.
- ⑩ ONE 6-INCH ALL MJ GATE VALVE.
- ⑪ 2-INCH CAP INSIDE METER BOX.
- ⑫ PROVIDE A UTILITY EASEMENT WITH SAME DIMENSIONS AS THE ACCESS EASEMENT.

- NOTES: 1. ALL PIPE LENGTHS SHOWN ARE FROM PIPE INTERSECTIONS, BENDS OR BLOW-OFFS.
2. WATER METER LOCATIONS VARY WITH THE LOCATION OF THE MEANDERING SIDEWALK. WATER METERS WILL BE LOCATED OUT OF THE SIDEWALK AND IN THE RIGHT-OF-WAY (SEE SIDEWALK PLAN).

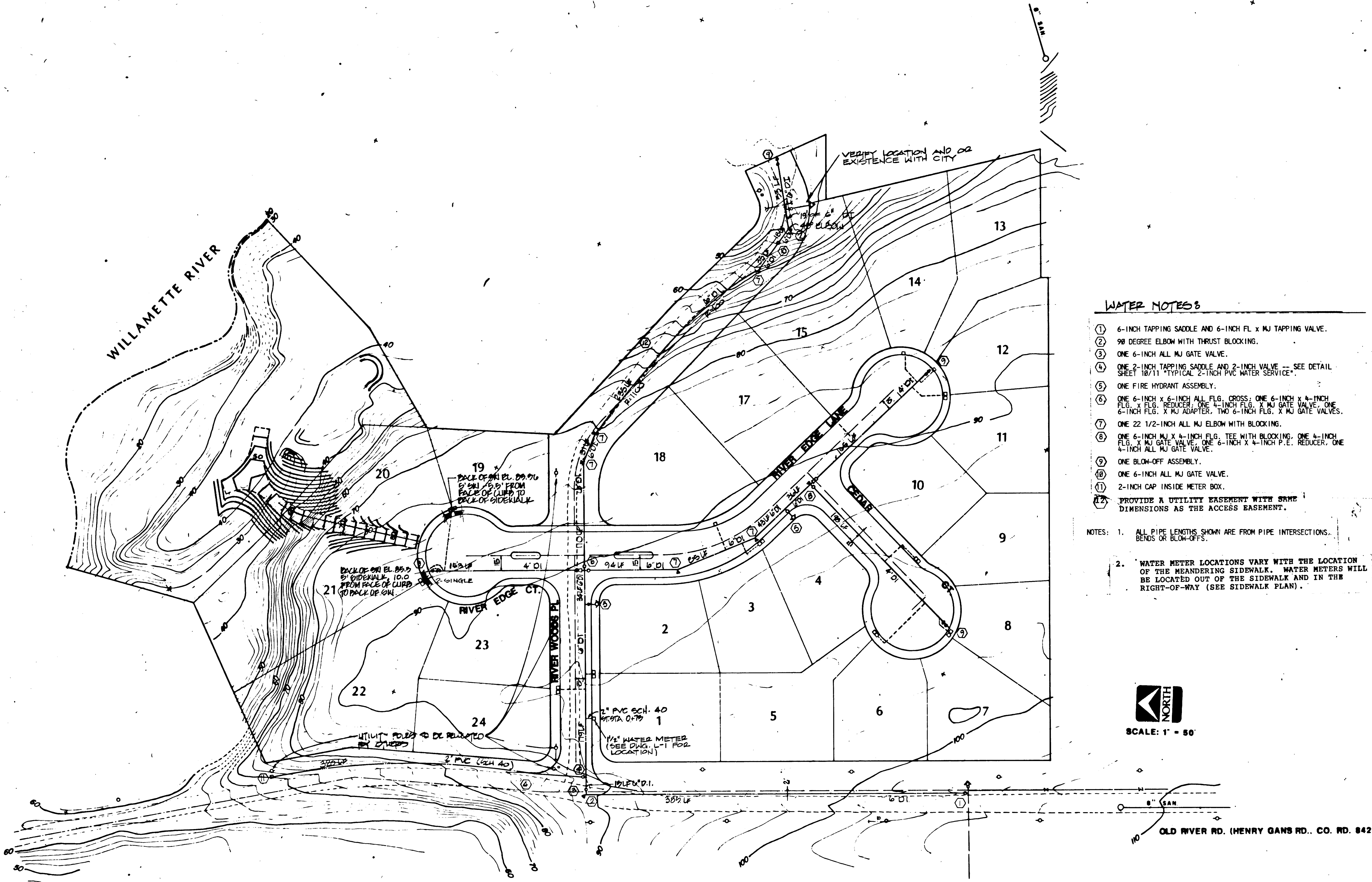


SCALE: 1" = 50'

OLD RIVER RD. (HENRY GANS RD., CO. RD. 842)

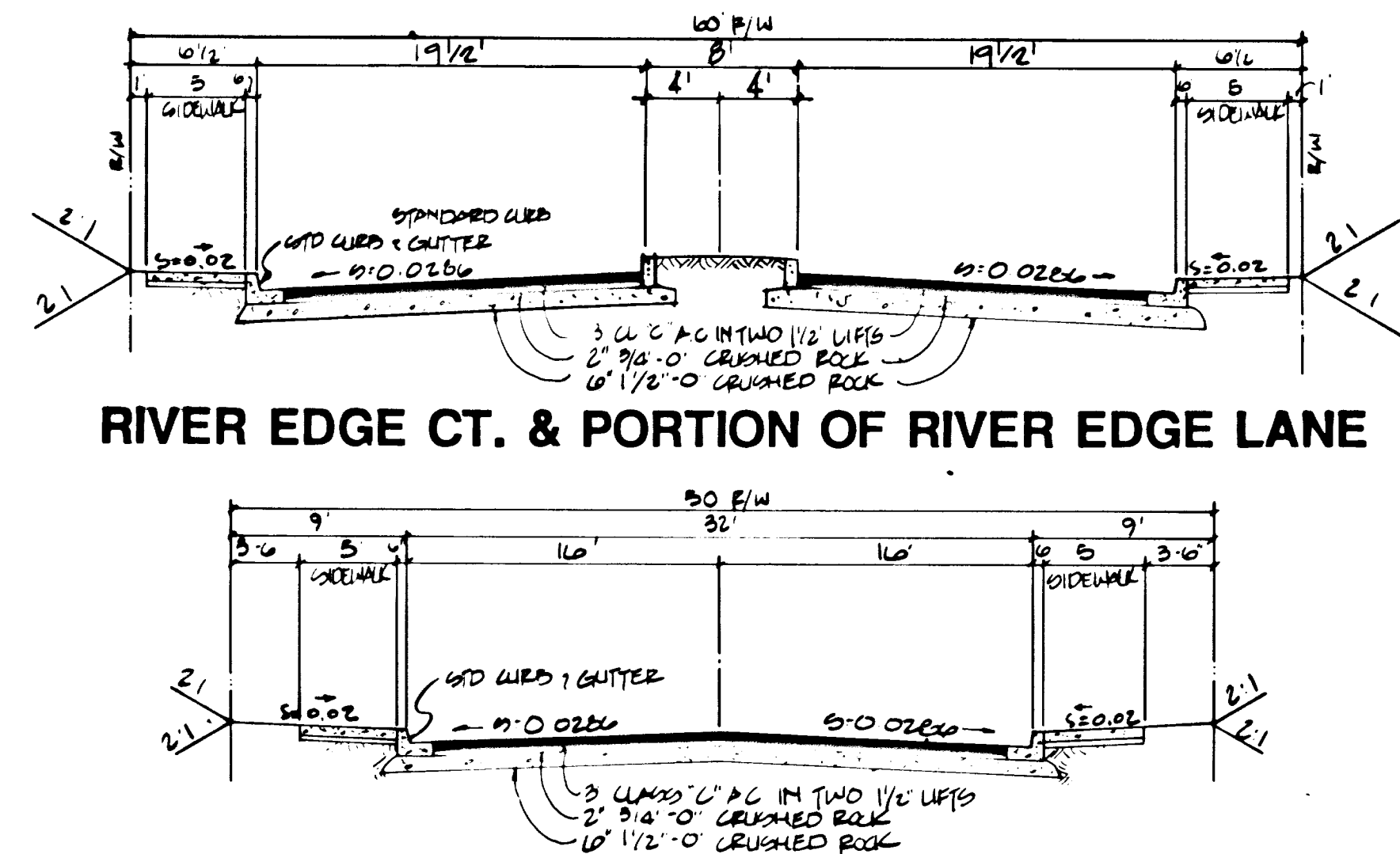
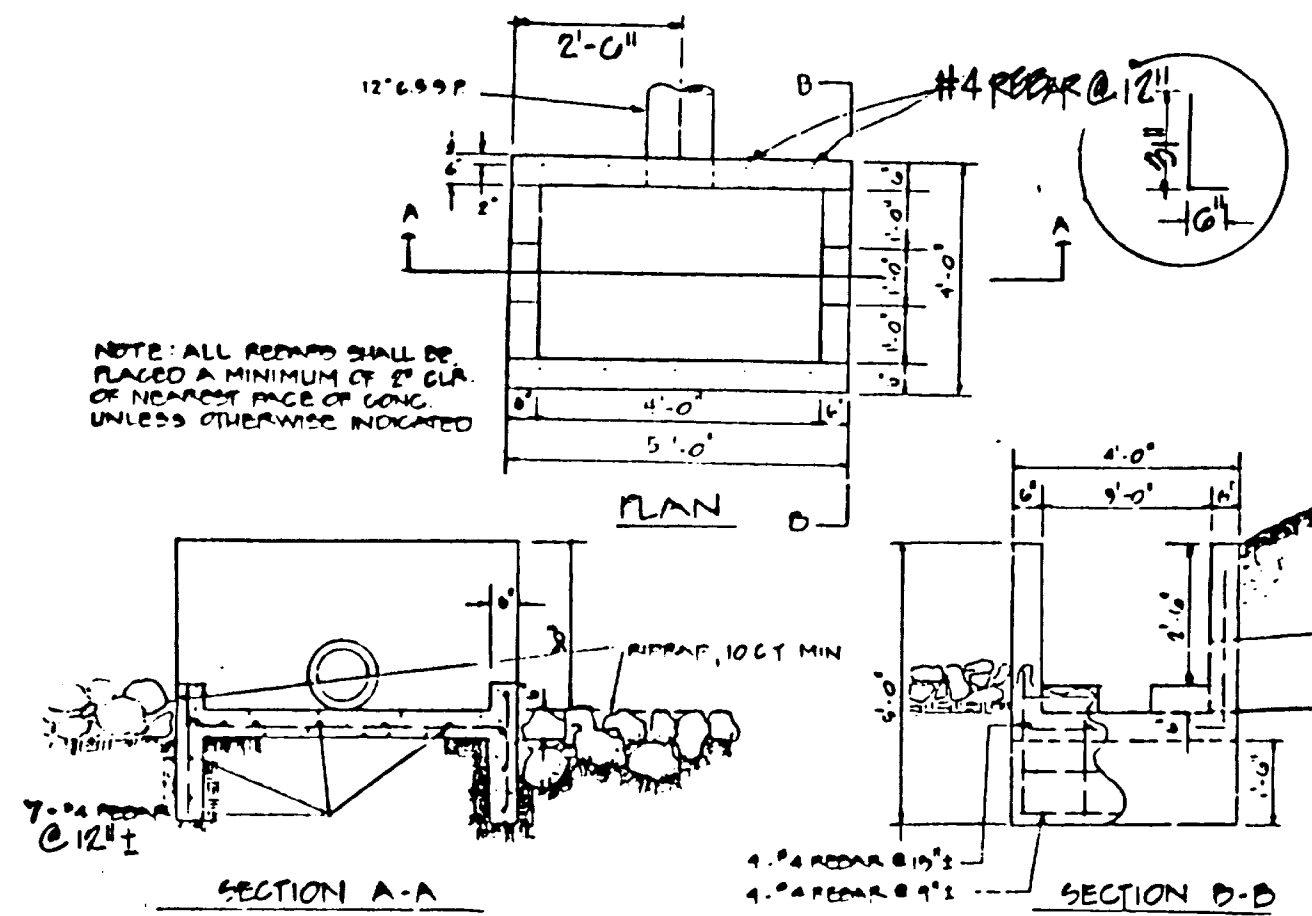
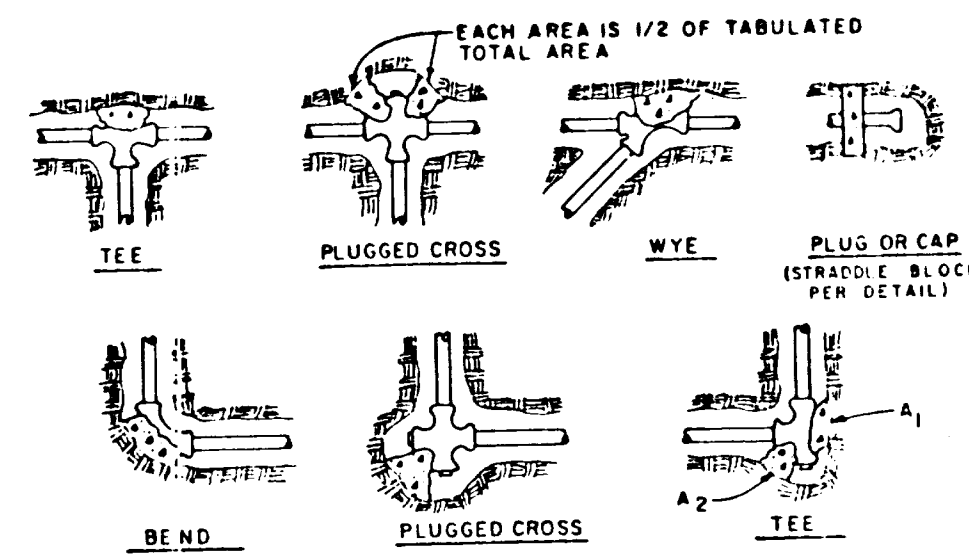
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Signature David S. Dinger
Date JAN. 12, 1987

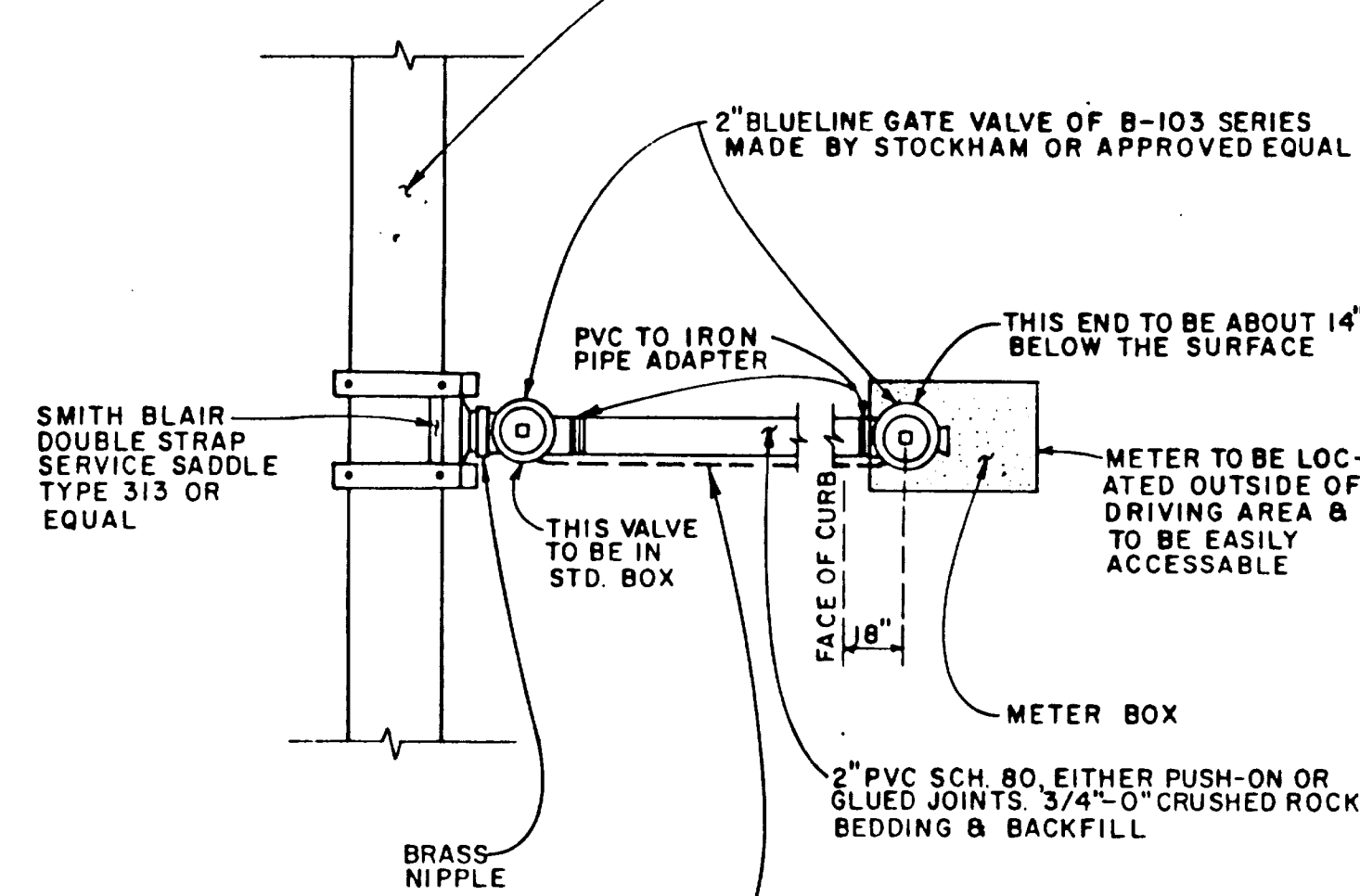


1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
3. IF NOT SHOWN ON PLANS, REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED BY BEARING STRESS. TO COMPUTE BEARING AREAS, USE THE FOLLOWING EQUATION: (S) = ALLOWABLE SOIL BEARING STRESS (PSI) STATED THE SPECIAL SPECIFICATIONS.
4. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.
5. BUILDING PAPER OR VISQUEIN SHALL BE PLACED BETWEEN CONCRETE AND FITTINGS.
6. ALL POURED IN PLACE CONCRETE SHALL HAVE A (28) DAY STRENGTH OF 3,000 P.S.I. AND 3" AND 4" MIN. THICKNESS.
7. BELOW BEARING AREAS BASED ON TEST PRESSURE OF 150 P.S.I. AND AN ALLOWABLE SOIL BEARING STRESS OF 2,000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE) X (2,000 / SOIL BEARING STRESS) X (TABLE VALUE) BEARING AREAS IN SQUARE FEET.

FITTING SIZE (IN.)	TEE, WYE, PLUG OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED RUN		45° BEND	22 1/2° BEND	11 1/4° BEND
			A ₁	A ₂			
4	1.0	1.4	1.9	1.4	1.0	—	—
6	2.0	3.0	4.3	3.0	1.6	1.0	—
8	3.6	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.4	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	46.0	68.0	46.0	26.2	13.6	6.8



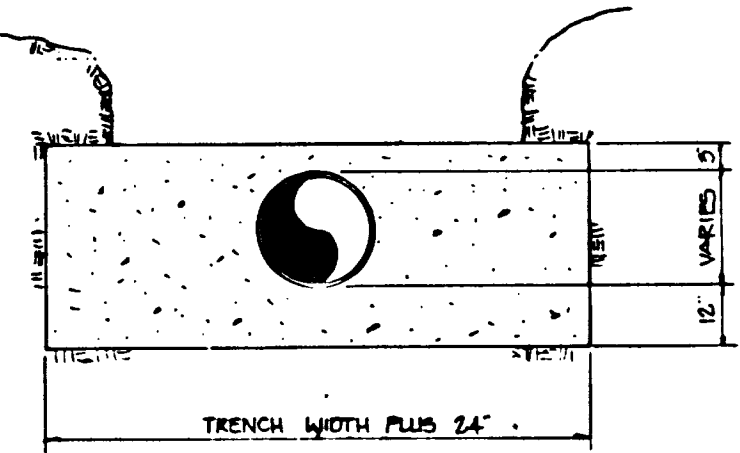
DUCTILE IRON MAIN



CONTINUOUS NO.14, EITHER INSULATED OR BARE WIRE FOR DETECTION, PLACED 12" BELOW SURFACE, 24" OF IT COILED AROUND EACH GATE VALVE INSIDE VALVE BOX WITH TAPE

NOTES:

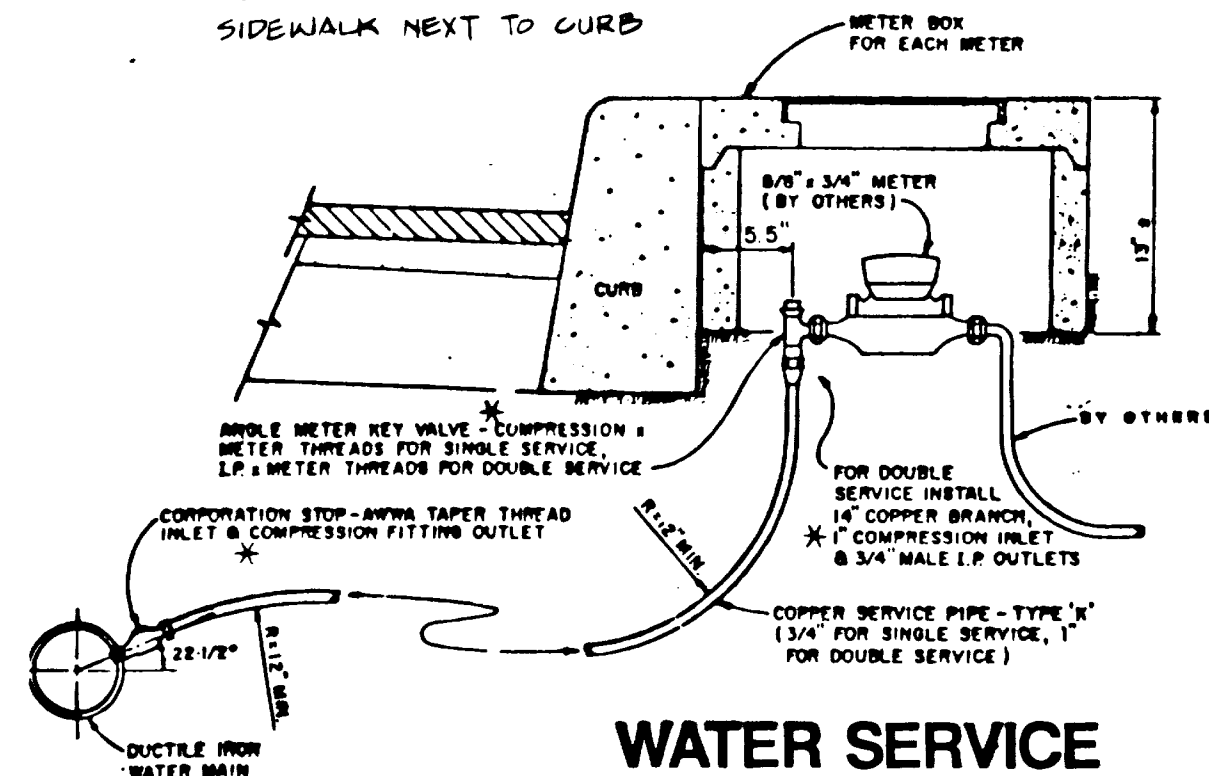
1. ON NEW MAINLINE INSTALLATION CONTRACTOR SHALL INSTALL ALL SERVICE LINE SADDLES PRIOR TO TESTING MAINLINE.



NOTE: ALL POURED IN PLACE CONCRETE SHALL CONFORM TO REQUIREMENTS OF ASTM-C-478. HAVE A 28 DAY STRENGTH OF 3000 PSI & 2" TO 4" SLUMP.

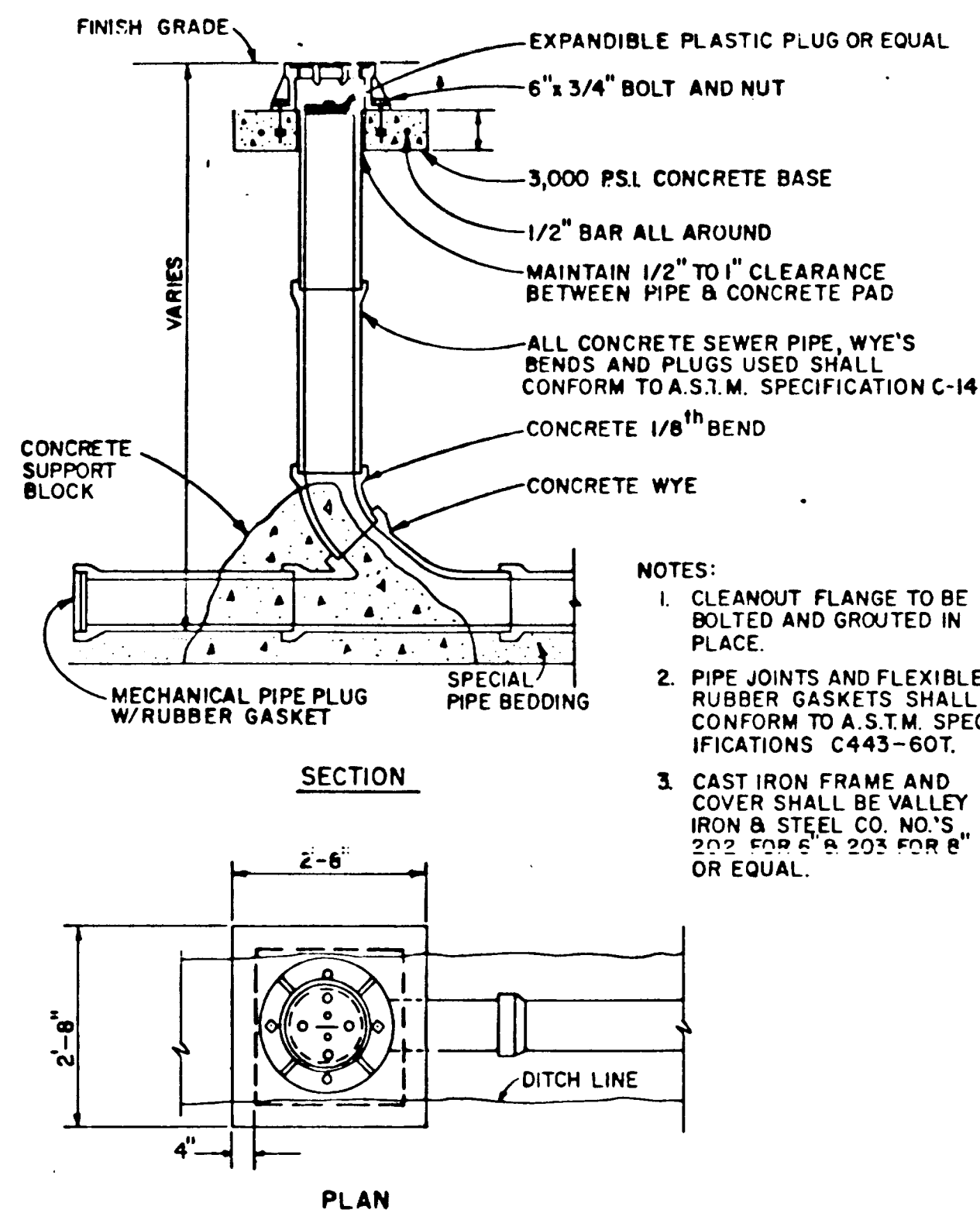
OUTLET STRUCTURE DETAIL

NOTE: METER LOCATIONS ARE TO BE
BEHIND SIDEWALK WHERE
SIDEWALK NEXT TO CURB



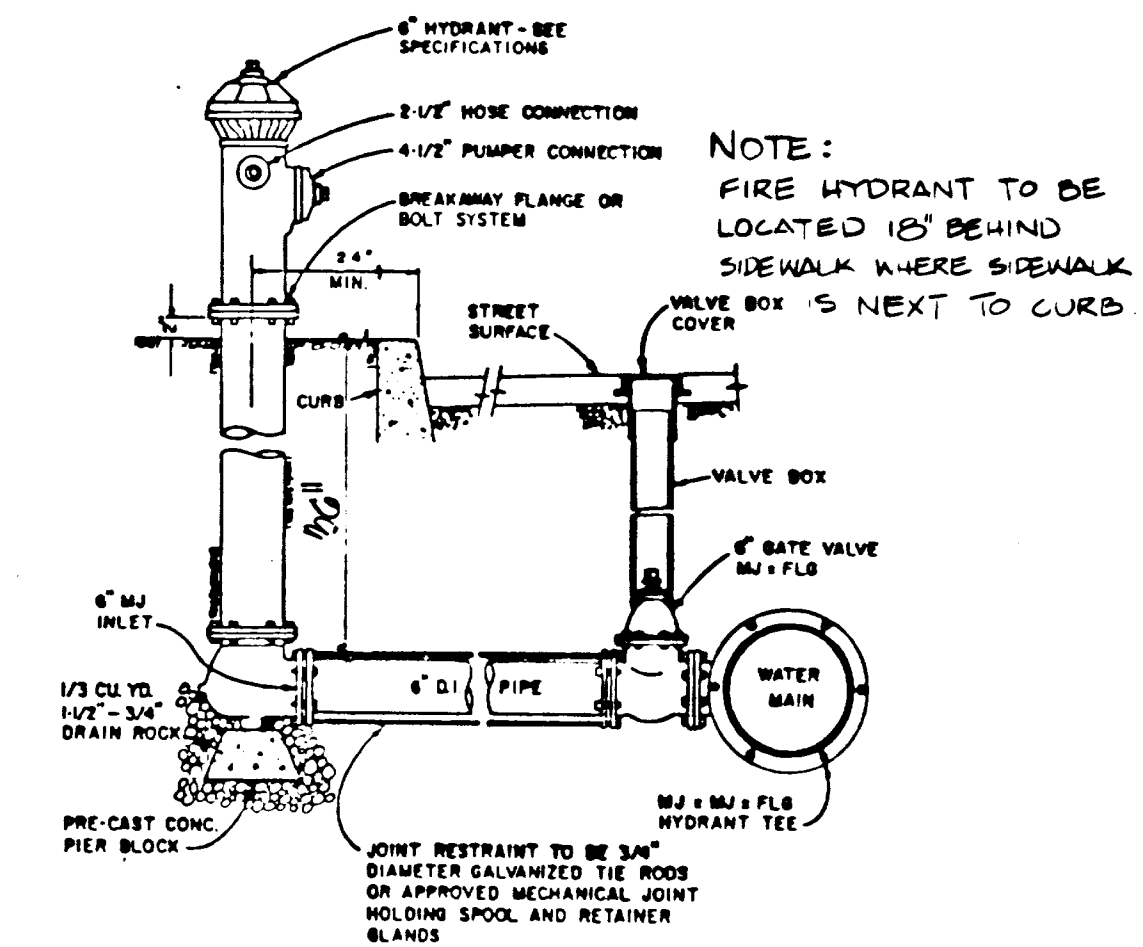
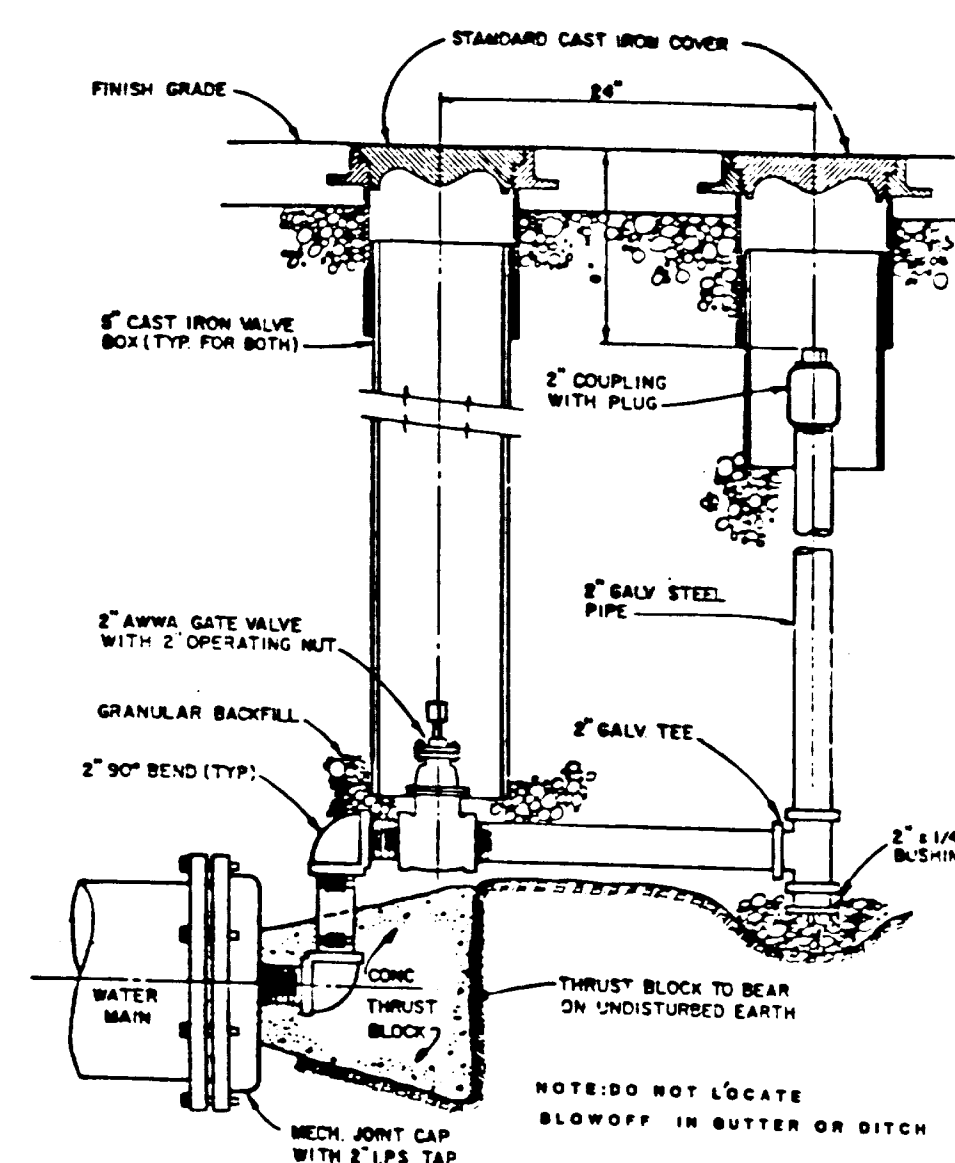
*NOTE:
COMPRESSION FITTINGS
TO BE MADE BY FORD CO.
**WATER METER BOX NOT TO
BE LOCATED IN SIDEWALK**

WATER SERVICE



1. CLEANOUT FLANGE TO BE BOLTED AND GROUTED IN PLACE.
2. PIPE JOINTS AND FLEXIBLE RUBBER GASKETS SHALL CONFORM TO A.S.T.M. SPECIFICATIONS C443-60T.
3. CAST IRON FRAME AND COVER SHALL BE VALLEY IRON & STEEL CO. NO.'S 202 FOR 6" & 203 FOR 8" OR EQUAL.

STANDARD BLOWOFF ASSEMBLY



NOTE:
FIRE HYDRANT TO BE
LOCATED 18" BEHIND
SIDEWALK WHERE SIDEWALK
VALVE BOX IS NEXT TO CURB.

FIRE HYDRANT ASSEMBLY

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Signature _____
Date JAN. 12, 1987 _____

KRK	6/86
DESIGNED	DATE
RTB	6/86
DRAWN	DATE
CHECKED	DATE

REVISIONS

DETAILS

OLD RIVER WOODS

BENJIFRAN DEVELOPMENT
5501 S.E. Hawthorne Blvd.
P.O. Box 6400
Portland, Oregon 97228-6400
503/796-1513

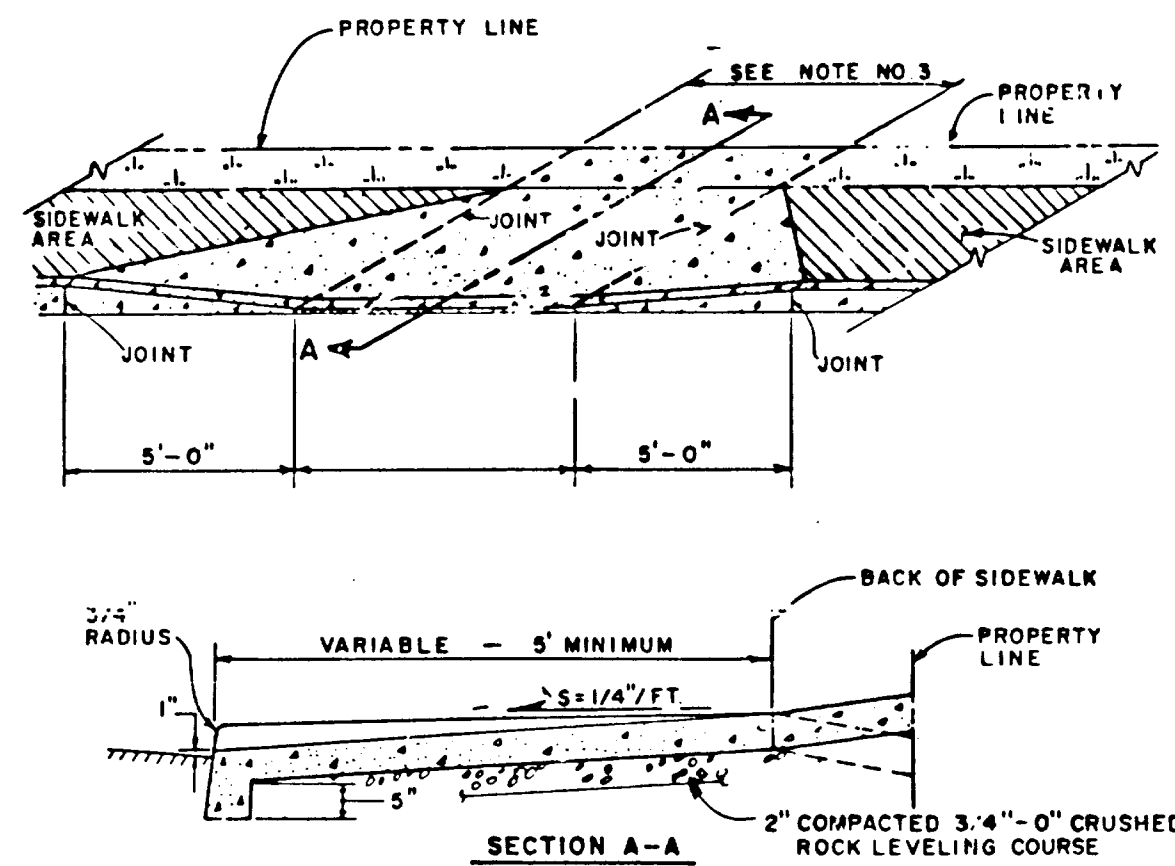
otak othman
kumharan
incorporated
planners
engineers
surveyors

7355 sw boones ferry road
telephone 1503 635 3618
fax 08-060 0regor 97034
1503 635 3618

10 / 11
SHEET NO.

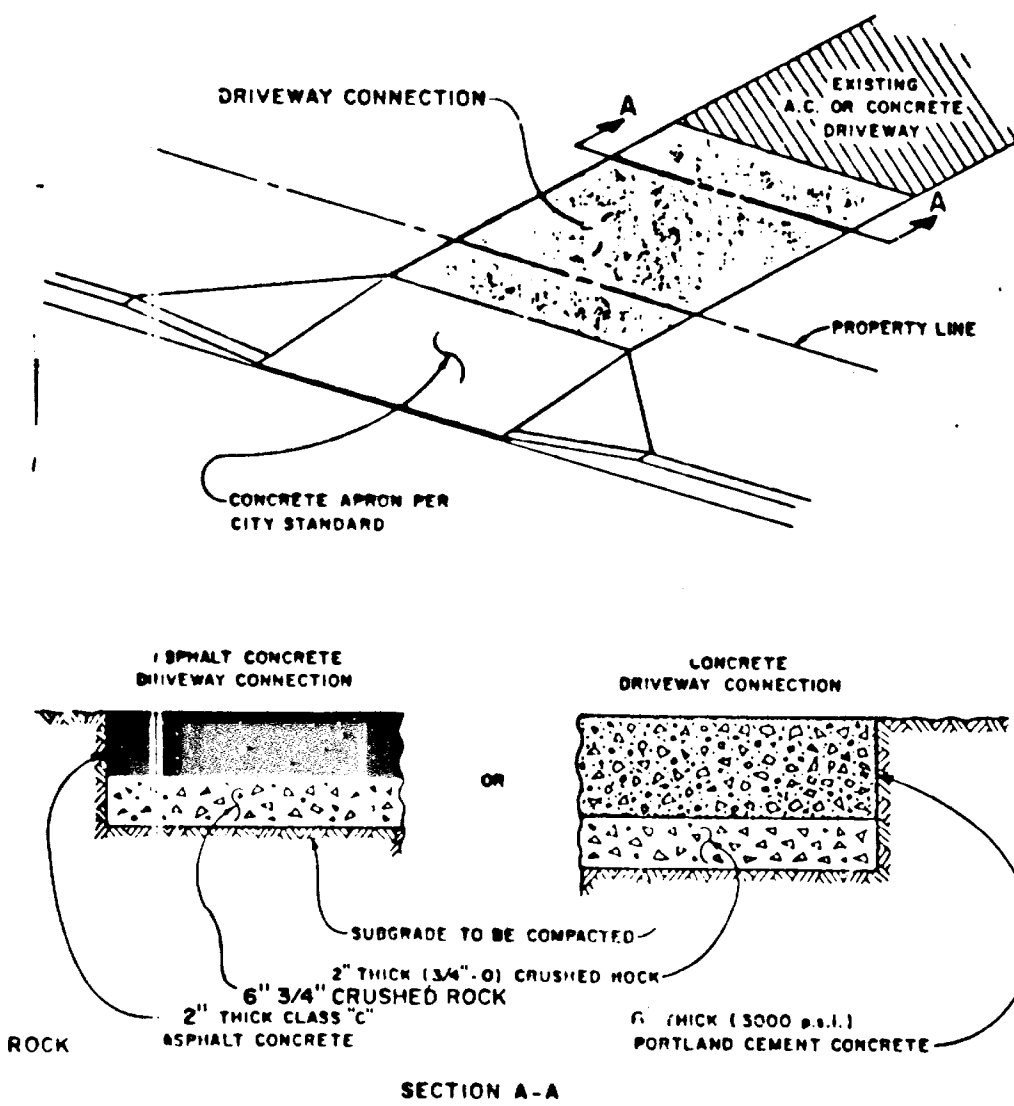
1399

PROJECT NO.

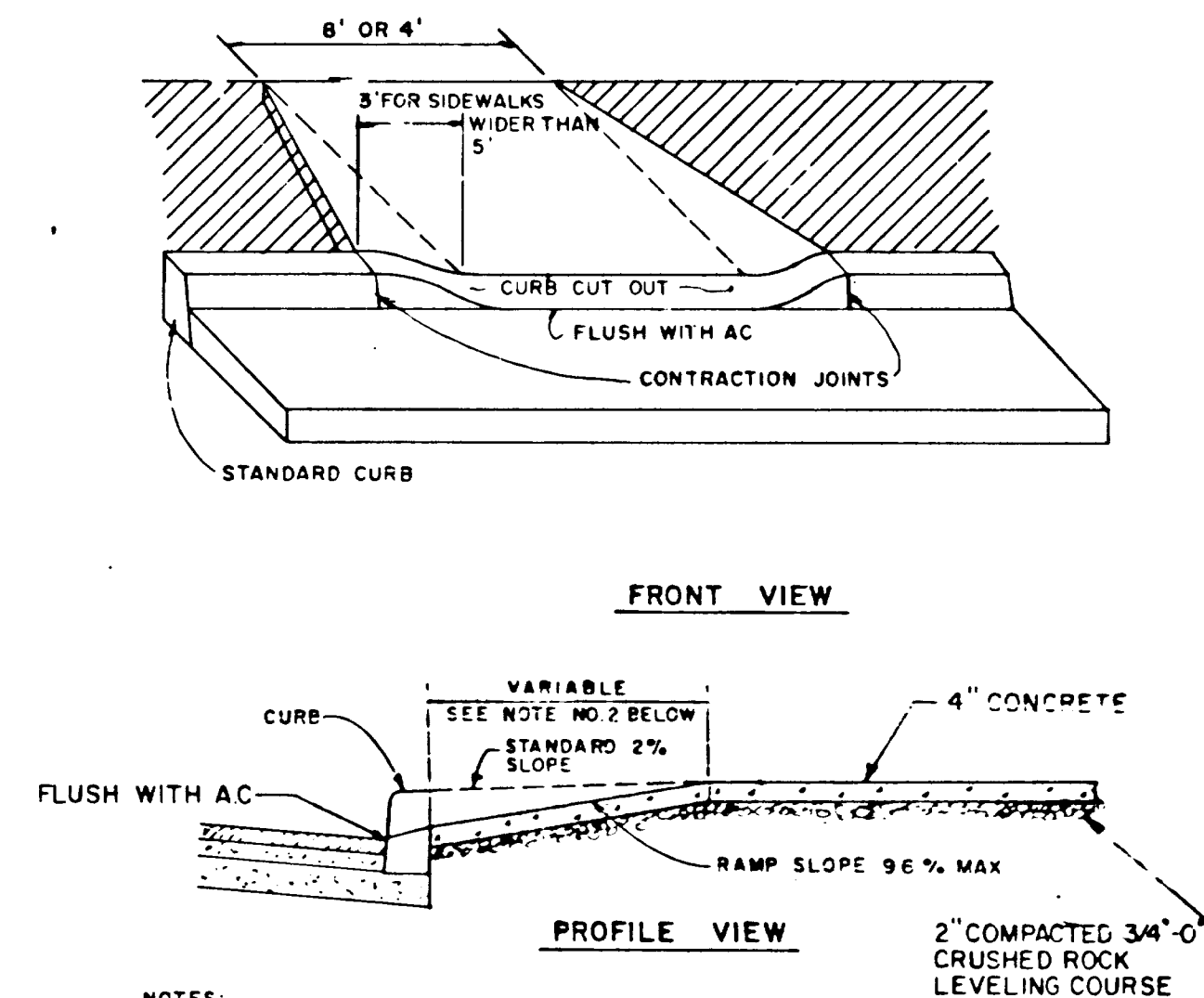


- NOTES:
1. DRIVEWAY TO BE CONSTRUCTED OF 3,000 P.S.I. 2" TO 4" SLUMP CONCRETE 6" THICK WITH BROOM FINISH.
 2. TO BE USED WITH CURB LINE SIDEWALKS AND WHERE DISTANCE FROM BACK OF CURB TO SIDEWALK IS 4' OR LESS

TYPICAL DRIVEWAY APPROACH

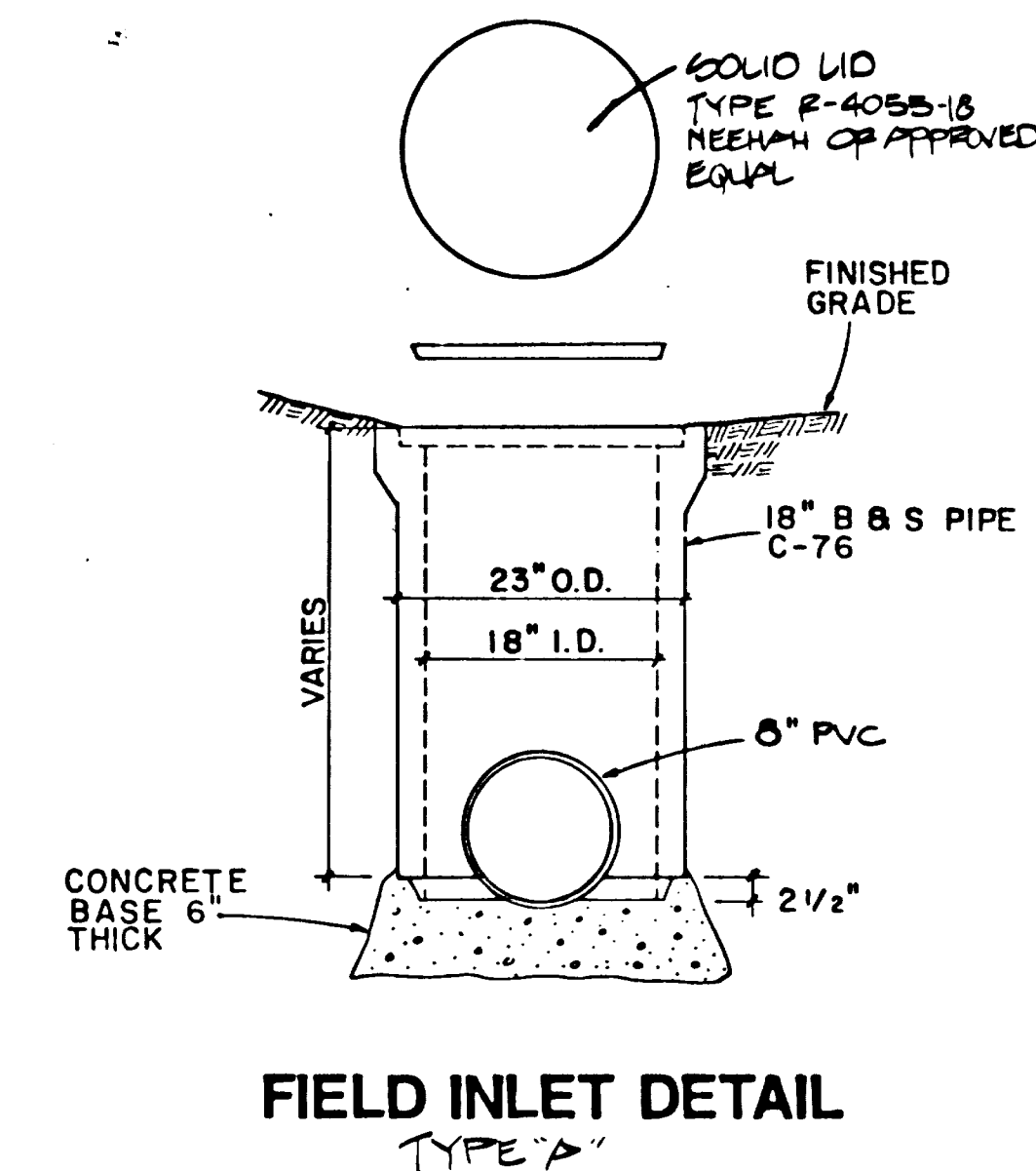


TYPICAL DRIVEWAY REPLACEMENT

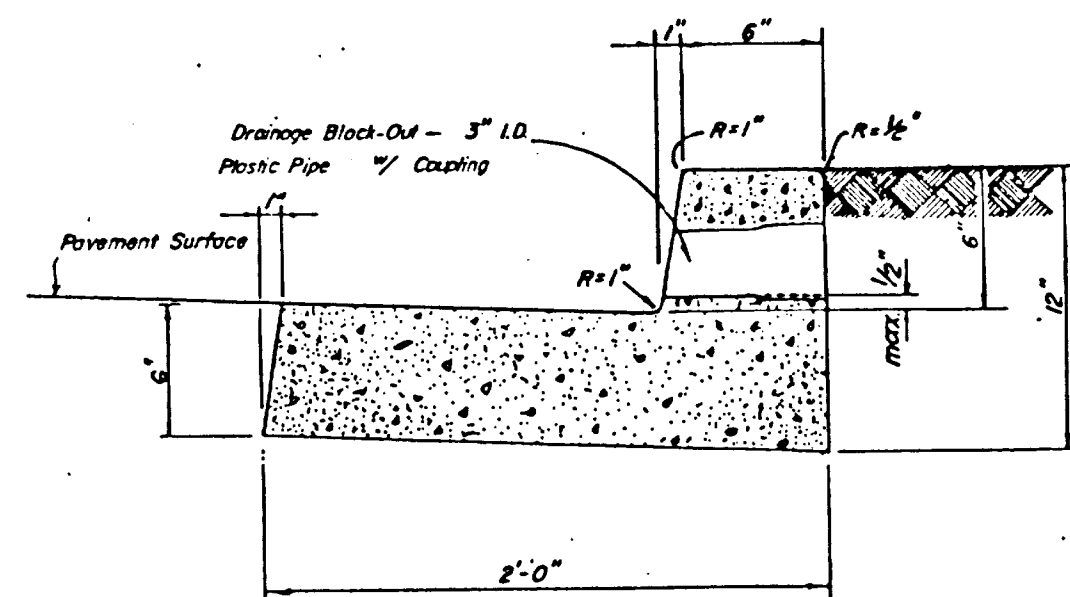


- NOTES:
1. ALL RAMPS TO BE 4" THICK CONCRETE AND SHALL MEET A 3,000 P.S.I. COMPRESSION STRENGTH IN 28 DAYS
 2. RAMP LENGTH: IS TO MATCH BACK OF WALK FOR 5' WALKS AND 6 1/2' LONG FOR ALL OTHER WALK WIDTHS
 3. WHEELCHAIR RAMPS SHALL HAVE A HEAVY BROOM FINISH BRUSHED PERPENDICULAR TO THE STREET

WHEELCHAIR RAMP DETAIL

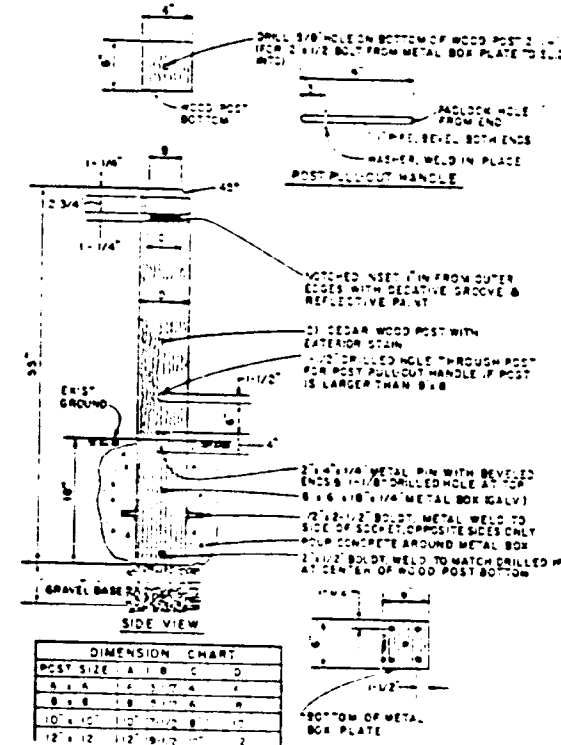


FIELD INLET DETAIL
TYPE "A"

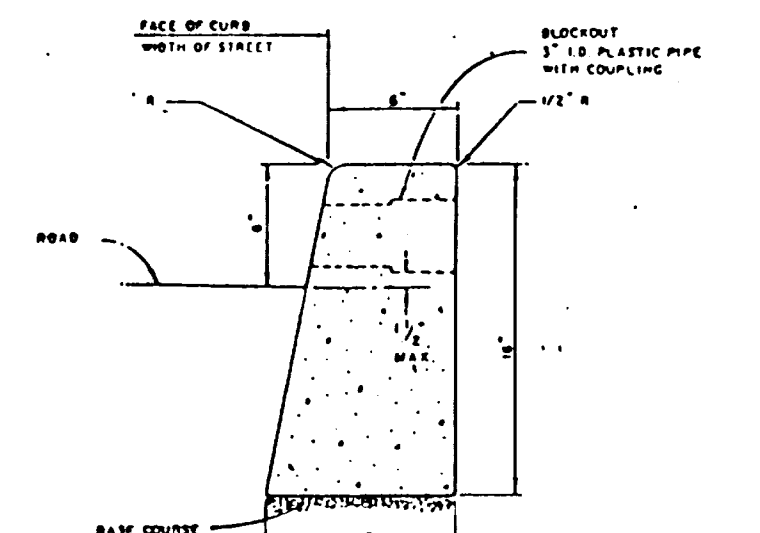


- NOTES:
- Concrete to have breaking strength of 2800 p.s.i. after 28 days.
- Transverse contraction joints:
- 1) Spacing to be not more than 10'
- Drainage blockouts or weep holes:
- 1) Drainage access through existing curbs shall be drilled or sawcut with a minimum top width of 8" to satisfactory patching of curb. (see standard plan no. 40.02)
 - 2) Drainage blockouts shall not be provided unless needed.

STANDARD MONOLITHIC CURB & GUTTER

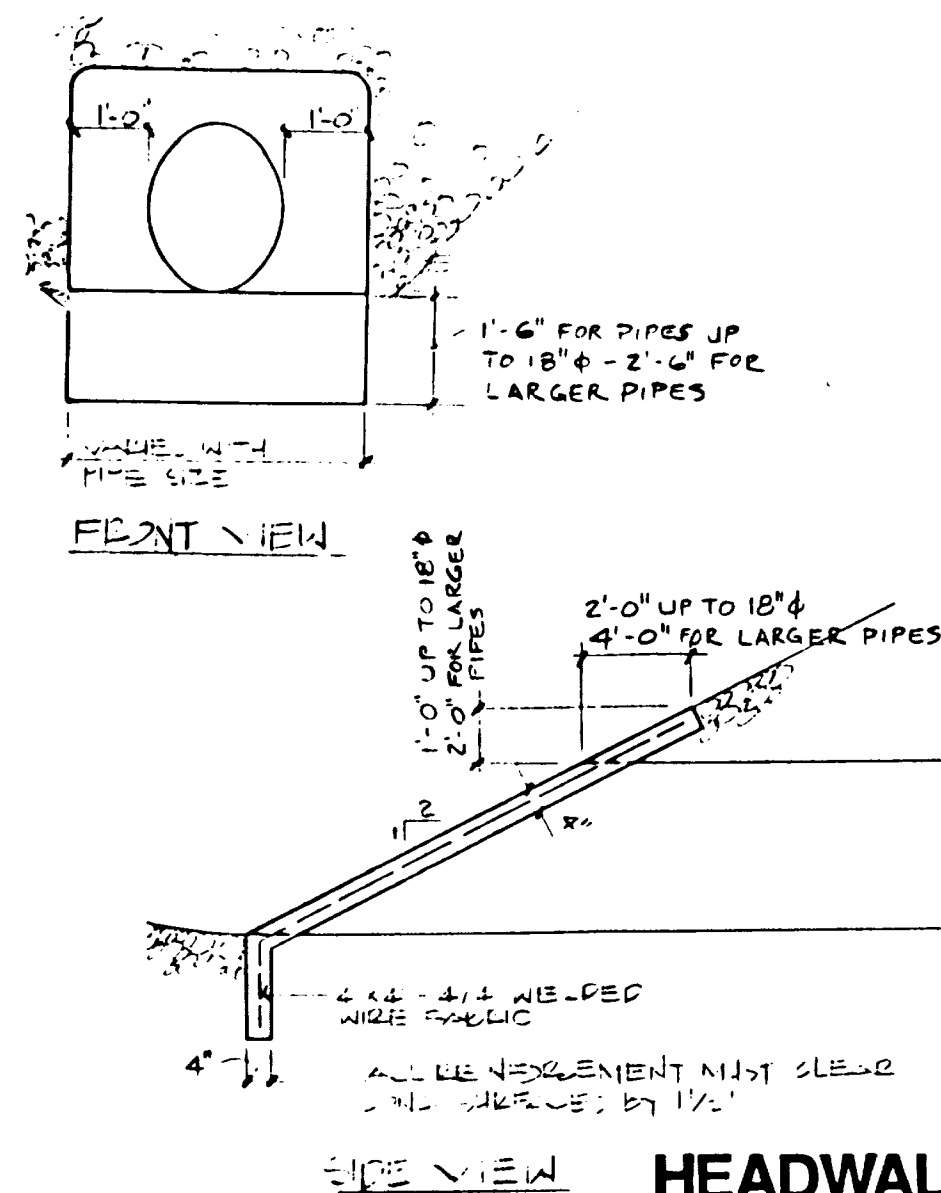


BOLLARD DETAIL

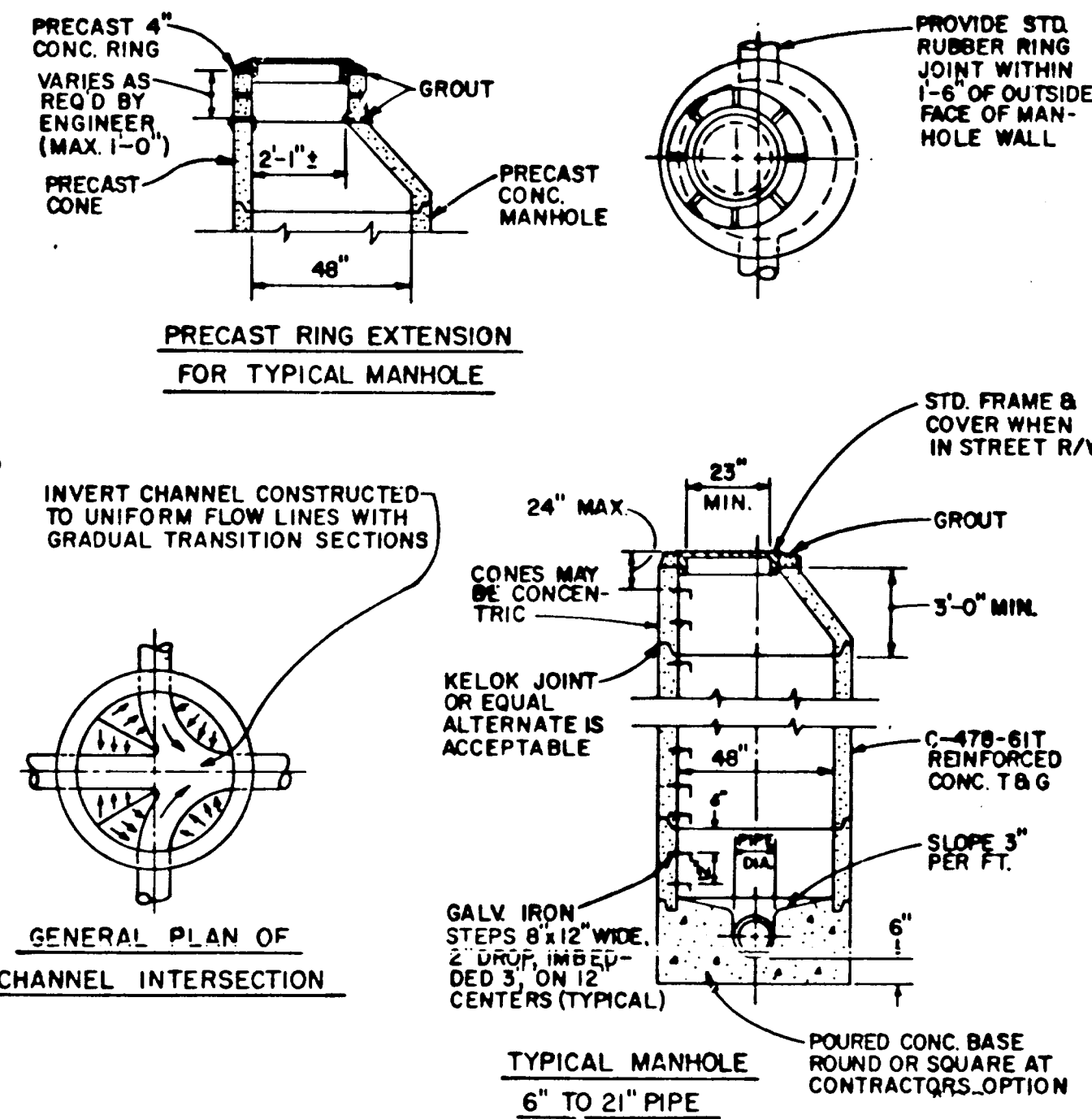


1. CONCRETE TO HAVE A BREAKING STRENGTH OF 3000 PSI AFTER 28 DAYS.
2. CONTRACTION JOINTS:
 - A. JOINTS TO BE NOT MORE THAN 10 FEET
 - B. JOINT DEPTH OF THE JOINT SHALL BE AT LEAST 1 1/2" INCHES.
3. BASE FINISH: 1 1/2" MINUS .93% CONTRACTION. BASE ROCK SHALL BE TO SURFACE OF STREET STRUCTURE OR 4" IN DEPTH, WHICHEVER IS GREATER.
4. DRAINAGE BLOCKOUT: 3" DIA. PLASTIC PIPE.
 - A. 1/2" DIA. PLASTIC PIPE WITH COUPLING.
 - B. MINOR ACCESS THROUGH EXISTING CURBS SHALL BE CORE DRILLED OR CORE SHOT OUT VERTICALLY IN EACH CASE OR ACCESS IS REPORTED TO FULL DEPTH OF CURB.
 - C. MINOR ACCESS BLOCKOUTS SHALL NOT BE PROVIDED UNLESS NEEDED.

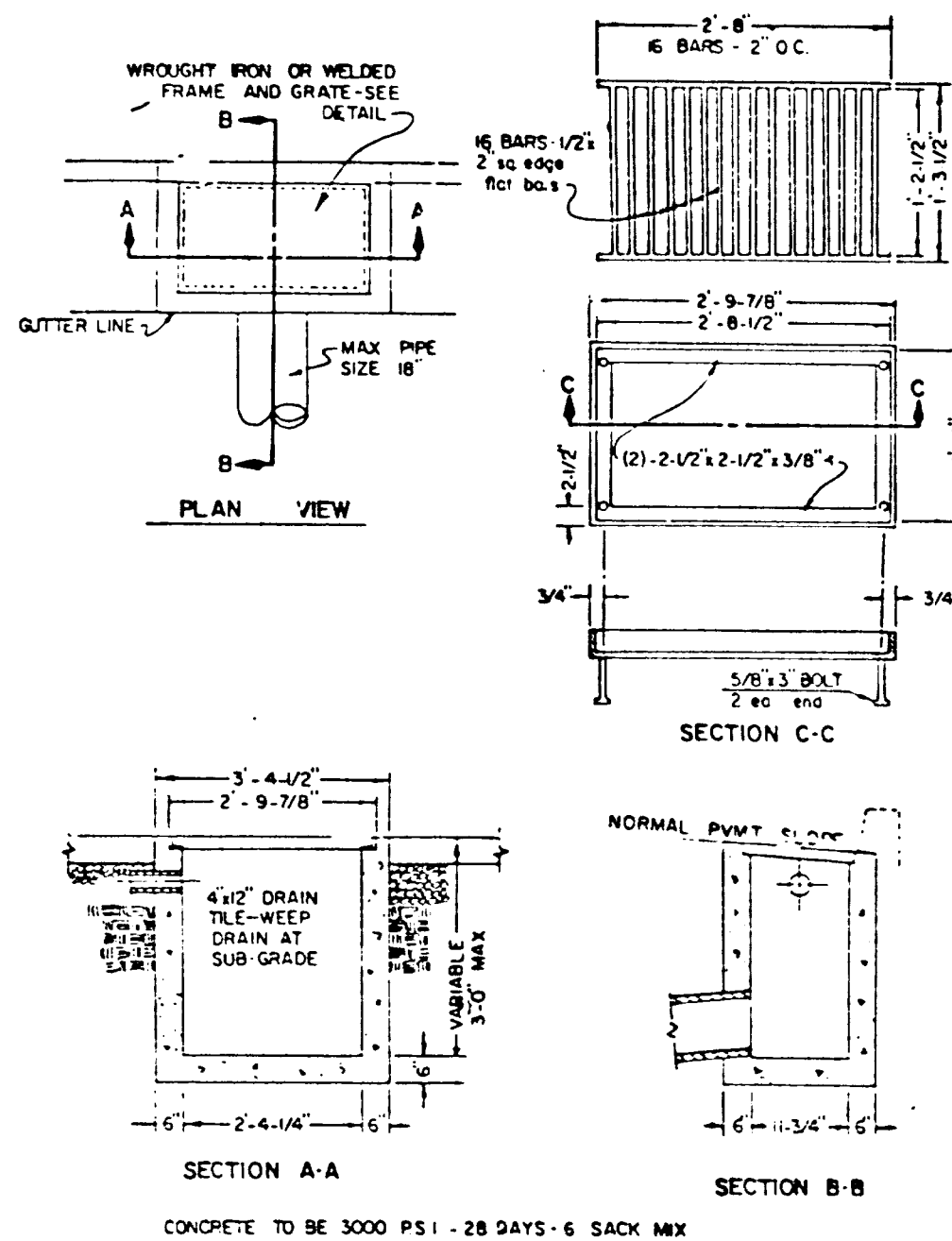
STANDARD CURB



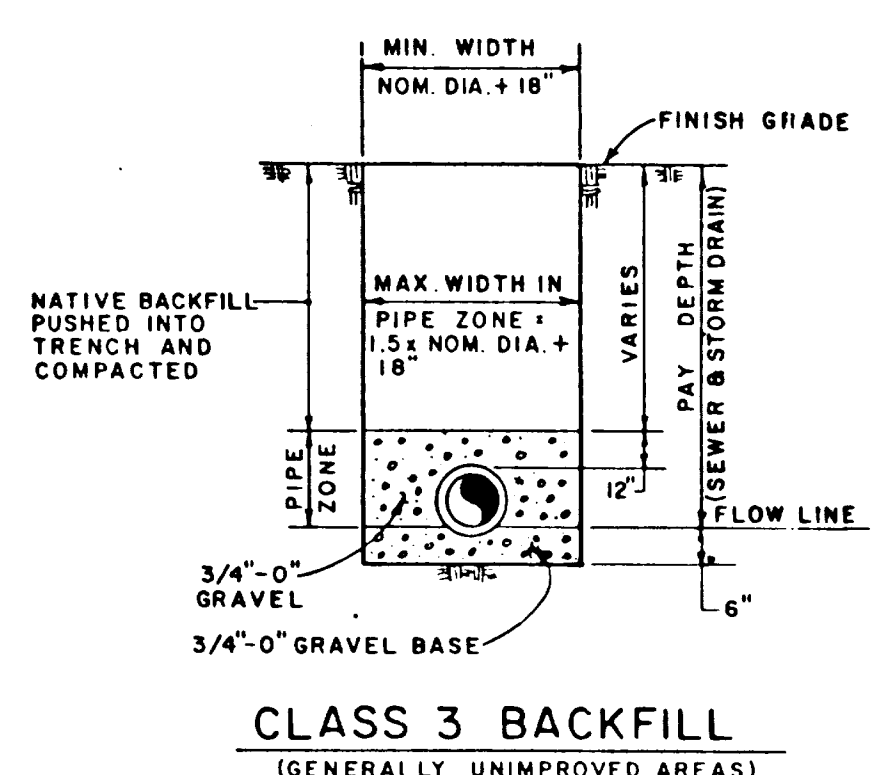
MANHOLE DETAIL



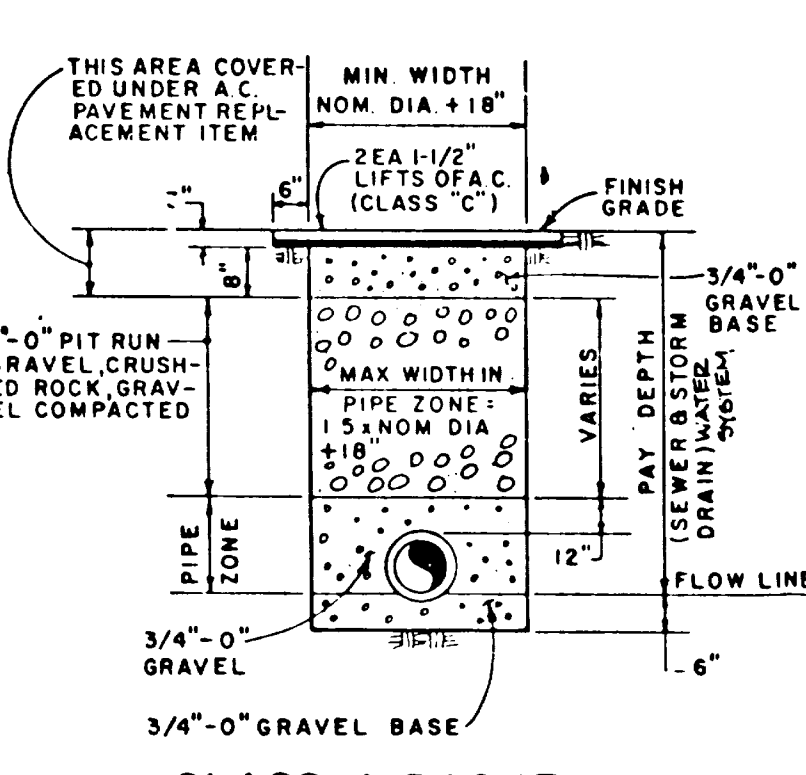
- NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. C-478. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3,000 P.S.I. AND 2" TO 4" SLUMP.
 2. MATERIAL: 3/4" DIA. STRUCTURAL STEEL CONFORMING TO A.S.T.M. A-36 AND GALVANIZED IN CONFORMANCE TO A.S.T.M. A-123, FOR STEPS.



STANDARD CATCH BASIN



CLASS 3 BACKFILL
(GENERALLY UNIMPROVED AREAS)



CLASS 4 BACKFILL
(GENERALLY PAVED AREAS)

TRENCHING DETAIL

HEADWALL DETAIL

DESIGNED
DATE
DRAWN
DATE
CHECKED
DATE

REVISIONS

6/18/84
6/18/84

DETAILS

OLD RIVER WOODS

otak

11 / 11
SHEET NO.

1399
PROJECT NO.

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David E. Dize
Signature
Date 12/19/87

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501 S.E. Hawthorne Blvd.
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Portland, Oregon 97220-6400
(503) 796-1513