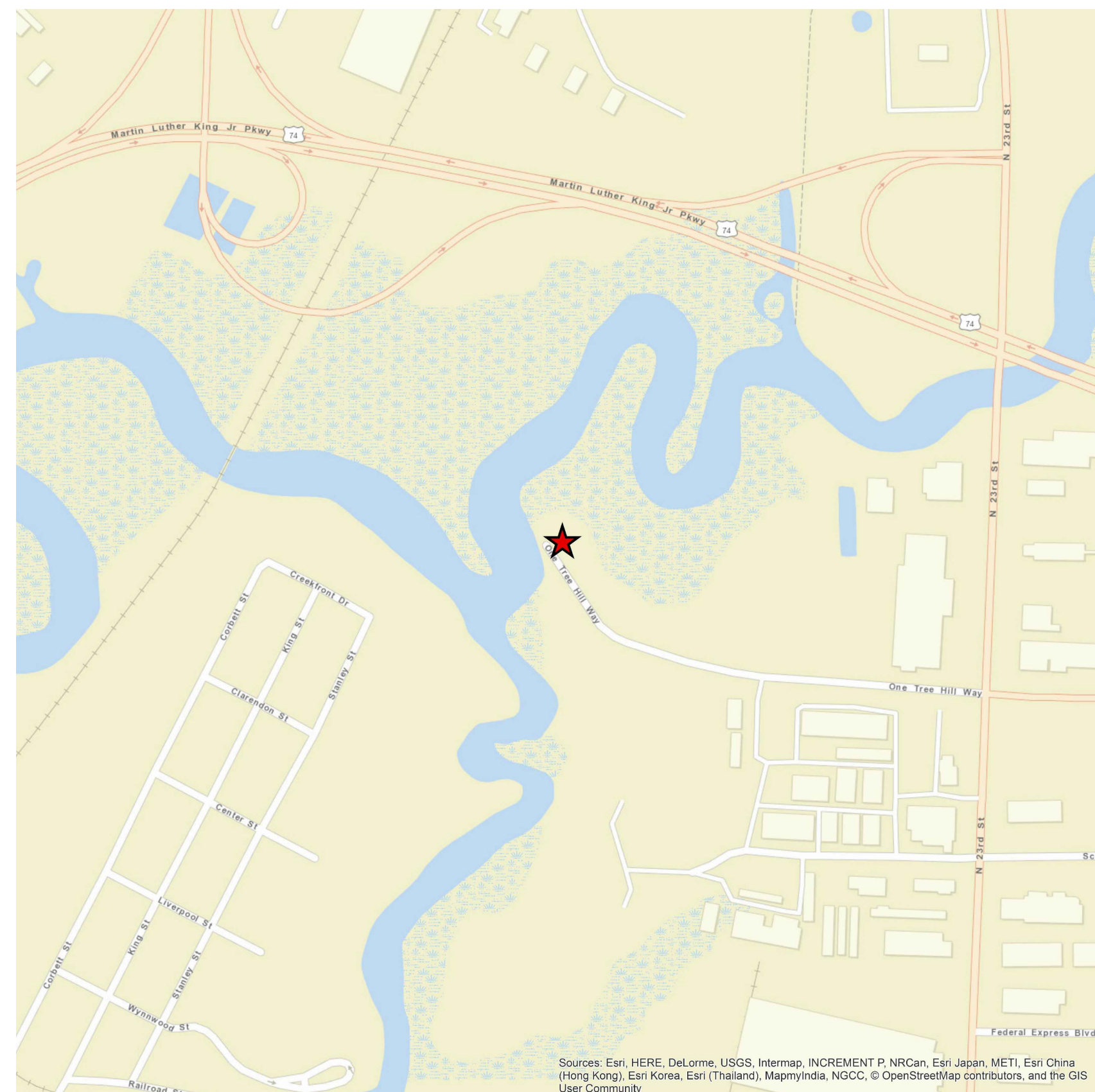


HDR Engineering, Inc.
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Wilmington, NC 28401-4034
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VICINITY MAP

1" = 400'

Contract Drawings For

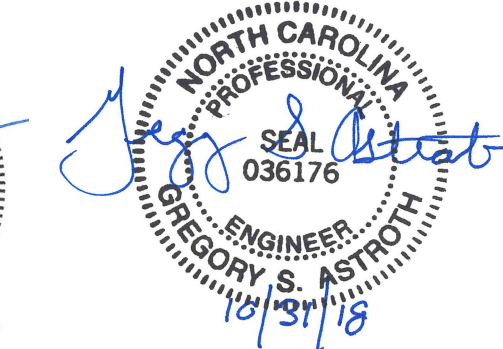
Pump Station #10 Replacement

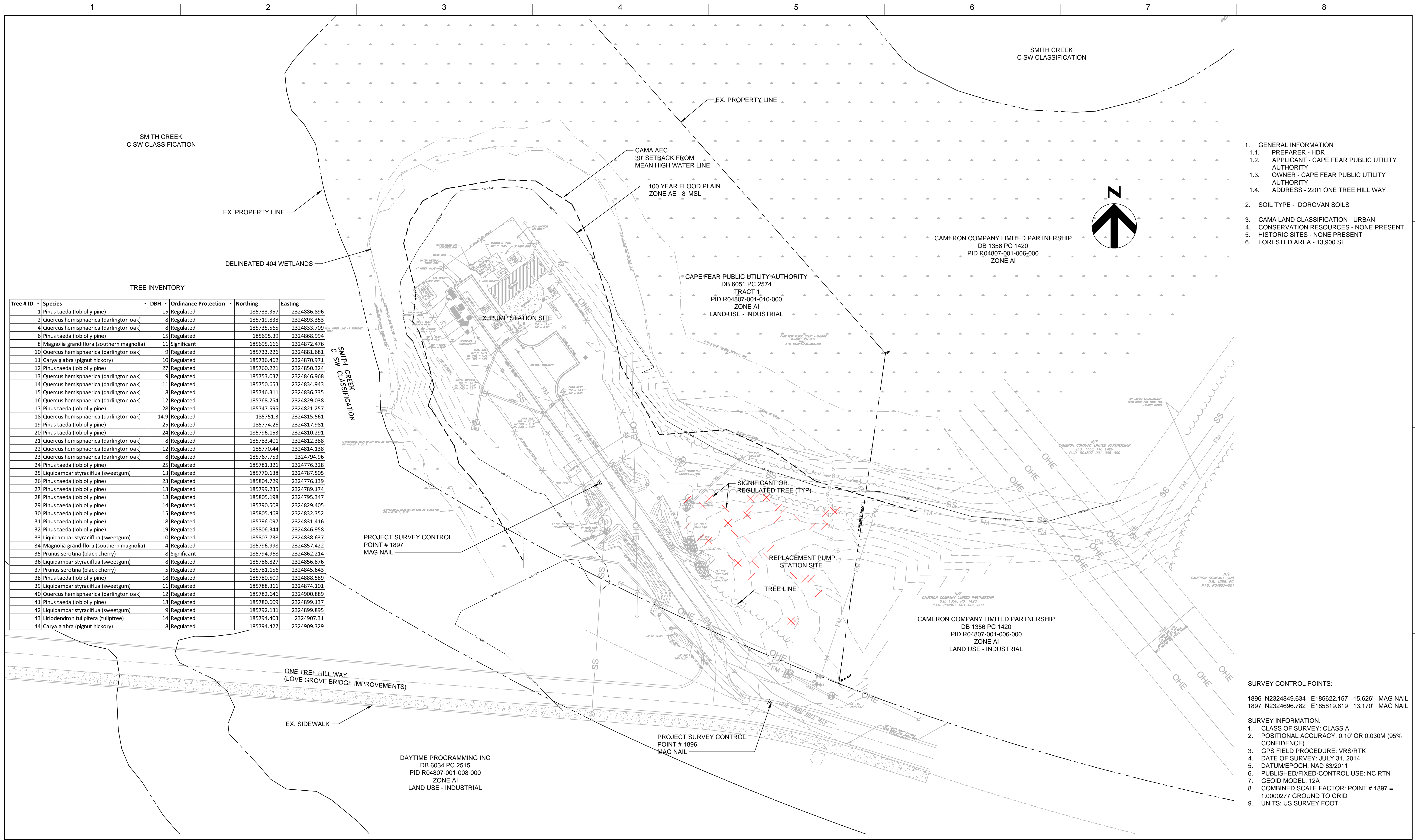
ISSUED FOR CONSTRUCTION

NC DWI Project No.
E-SRP-W-17-0029

HDR Project No.
000000010075083

Wilmington, NC
October 2018



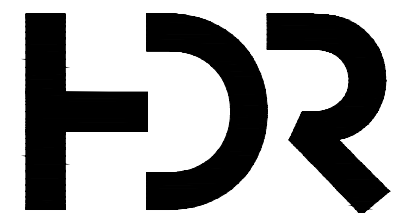


TREE INVENTORY

Tree # ID	Species	DBH	Ordinance Protection	Northing	Easting
1	Pinus taeda (loblolly pine)	15	Regulated	185733.357	2324886.896
2	Quercus hemisphaerica (darlington oak)	8	Regulated	185719.838	2324893.353
4	Quercus hemisphaerica (darlington oak)	8	Regulated	185735.565	2324833.709
6	Pinus taeda (loblolly pine)	15	Regulated	185695.39	2324868.994
8	Magnolia grandiflora (southern magnolia)	11	Significant	185695.166	2324872.476
10	Quercus hemisphaerica (darlington oak)	9	Regulated	185733.226	2324881.681
11	Carya glabra (pignut hickory)	10	Regulated	185736.462	2324870.971
12	Pinus taeda (loblolly pine)	27	Regulated	185760.221	2324850.324
13	Quercus hemisphaerica (darlington oak)	9	Regulated	185753.037	2324846.968
14	Quercus hemisphaerica (darlington oak)	11	Regulated	185750.653	2324834.943
15	Quercus hemisphaerica (darlington oak)	8	Regulated	185746.311	2324836.735
16	Quercus hemisphaerica (darlington oak)	12	Regulated	185768.254	2324829.038
17	Pinus taeda (loblolly pine)	28	Regulated	185747.595	2324821.257
18	Quercus hemisphaerica (darlington oak)	14.9	Regulated	185751.3	2324815.561
19	Pinus taeda (loblolly pine)	25	Regulated	185774.26	2324817.981
20	Pinus taeda (loblolly pine)	24	Regulated	185796.153	2324810.291
21	Quercus hemisphaerica (darlington oak)	8	Regulated	185783.401	2324812.388
22	Quercus hemisphaerica (darlington oak)	12	Regulated	185770.44	2324814.138
23	Quercus hemisphaerica (darlington oak)	8	Regulated	185767.753	2324794.96
24	Pinus taeda (loblolly pine)	25	Regulated	185781.321	2324776.328
25	Liquidambar styraciflua (sweetgum)	13	Regulated	185770.138	2324787.505
26	Pinus taeda (loblolly pine)	23	Regulated	185804.729	2324776.139
27	Pinus taeda (loblolly pine)	13	Regulated	185799.235	2324789.174
28	Pinus taeda (loblolly pine)	18	Regulated	185805.198	2324795.347
29	Pinus taeda (loblolly pine)	14	Regulated	185790.508	2324829.405
30	Pinus taeda (loblolly pine)	15	Regulated	185805.468	2324832.352
31	Pinus taeda (loblolly pine)	18	Regulated	185796.097	2324831.416
32	Pinus taeda (loblolly pine)	19	Regulated	185806.344	2324846.958
33	Liquidambar styraciflua (sweetgum)	10	Regulated	185807.738	2324838.637
34	Magnolia grandiflora (southern magnolia)	4	Regulated	185796.998	2324857.422
35	Prunus serotina (black cherry)	8	Significant	185794.968	2324862.214
36	Liquidambar styraciflua (sweetgum)	8	Regulated	185786.827	2324856.876
37	Prunus serotina (black cherry)	5	Regulated	185781.156	2324845.643
38	Pinus taeda (loblolly pine)	18	Regulated	185780.509	2324888.589
39	Liquidambar styraciflua (sweetgum)	11	Regulated	185788.311	2324874.101
40	Quercus hemisphaerica (darlington oak)	12	Regulated	185782.646	2324900.889
41	Pinus taeda (loblolly pine)	18	Regulated	185780.609	2324899.137
42	Liquidambar styraciflua (sweetgum)	9	Regulated	185792.131	2324899.895
43	Liriodendron tulipifera (tuliptree)	14	Regulated	185794.403	2324907.31
44	Carya glabra (pignut hickory)	8	Regulated	185794.427	2324909.329

1. GENERAL INFORMATION
 - 1.1 PREPARER - HDR
 - 1.2 APPLICANT - CAPE FEAR PUBLIC UTILITY AUTHORITY
 - 1.3 OWNER - CAPE FEAR PUBLIC UTILITY AUTHORITY
 - 1.4 ADDRESS - 2201 ONE TREE HILL WAY
2. SOIL TYPE - DOROVAN SOILS
3. CAMA LAND CLASSIFICATION - URBAN
4. CONSERVATION RESOURCES - NONE PRESENT
5. HISTORIC SITES - NONE PRESENT
6. FORESTED AREA - 13,900 SF

- SURVEY CONTROL POINTS:
- 1896 N2324849.634 E185622.157 15.626' MAG NAIL
 1897 N2324696.782 E185819.619 13.170' MAG NAIL
- SURVEY INFORMATION:
1. CLASS OF SURVEY: CLASS A
 2. POSITIONAL ACCURACY: 0.10' OR 0.030M (95% CONFIDENCE)
 3. GPS FIELD PROCEDURE: VRS/RTK
 4. DATE OF SURVEY: JULY 31, 2014
 5. DATUM/EPOCH: NAD 83/2011
 6. PUBLISHED/FIXED-CONTROL USE: NC RTN
 7. GEOID MODEL: 12A
 8. COMBINED SCALE FACTOR: POINT # 1897 = 1.000277 GROUND TO GRID
 9. UNITS: US SURVEY FOOT



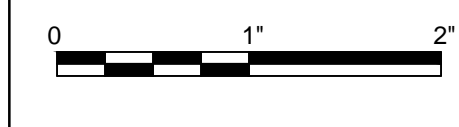
HDR Engineering Inc.
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 101 N. Third Street
 Wilmington NC, 28401
 910-398-9020

ISSUE	DATE	DESCRIPTION
0	10/2018	ISSUED FOR CONSTRUCTION

PROJECT MANAGER	G. ERIC WILLIAMS, PE
DESIGNED BY	J. VANDENBOSCH, PE
CHECKED BY	
DRAWN BY	
PROJECT NUMBER	100075083

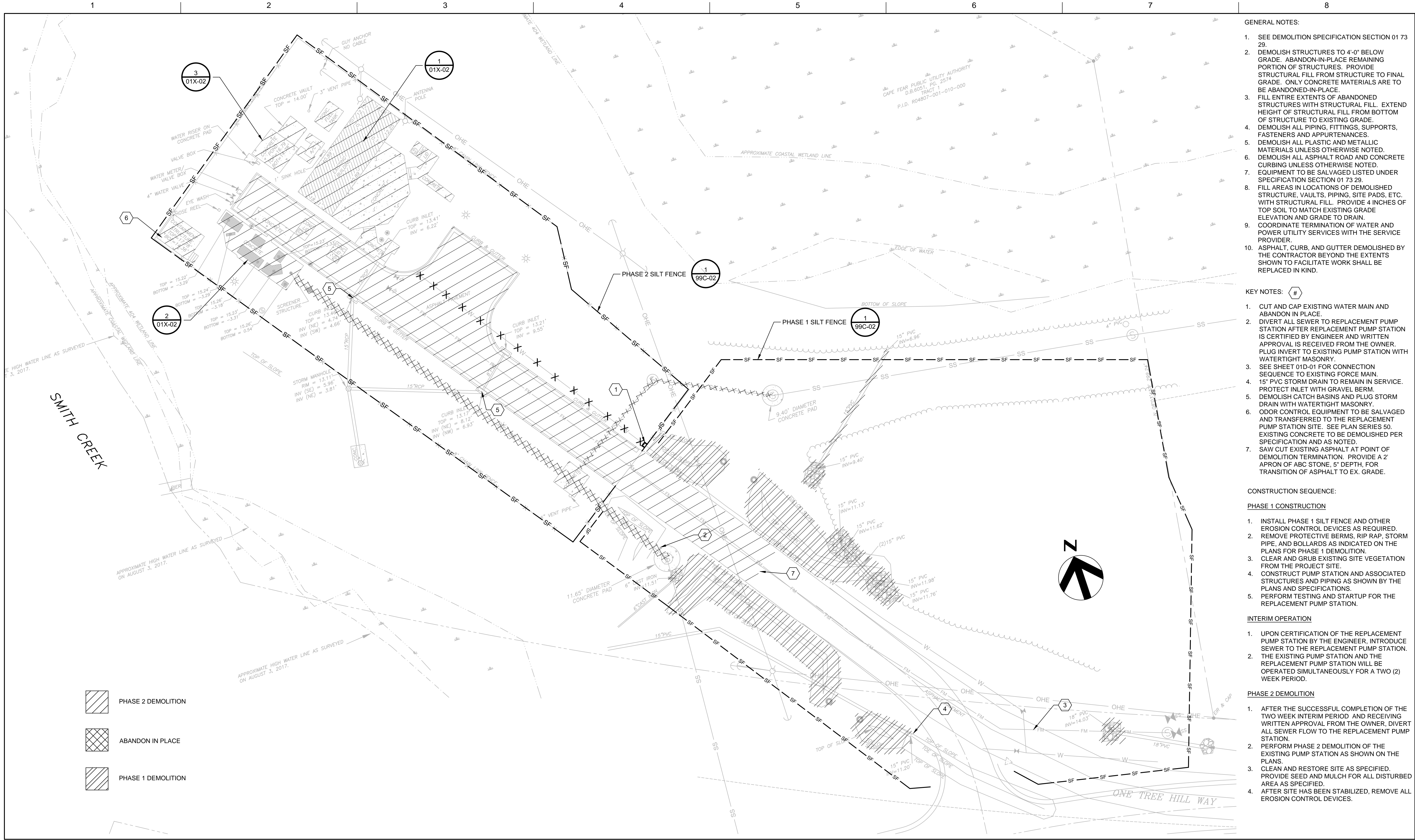


PUMP STATION #10 REPLACEMENT



FILENAME 00V-01B.dwg
 SCALE 1" = 40'

SHEET 01V-01



GENERAL NOTES:

- SEE DEMOLITION SPECIFICATION SECTION 01 73 29.
- DEMOLISH STRUCTURES TO 4'-0" BELOW GRADE. ABANDON-IN-PLACE REMAINING PORTION OF STRUCTURES. PROVIDE STRUCTURAL FILL FROM STRUCTURE TO FINAL GRADE. ONLY CONCRETE MATERIALS ARE TO BE ABANDONED-IN-PLACE.
- FILL ENTIRE EXTENTS OF ABANDONED STRUCTURES WITH STRUCTURAL FILL. EXTEND HEIGHT OF STRUCTURAL FILL FROM BOTTOM OF STRUCTURE TO EXISTING GRADE.
- DEMOLISH ALL PIPING, FITTINGS, SUPPORTS, FASTENERS AND APPURTENANCES.
- DEMOLISH ALL PLASTIC AND METALLIC MATERIALS UNLESS OTHERWISE NOTED.
- DEMOLISH ALL ASPHALT ROAD AND CONCRETE CURBING UNLESS OTHERWISE NOTED.
- EQUIPMENT TO BE SALVAGED LISTED UNDER SPECIFICATION SECTION 01 73 29.
- FILL AREAS IN LOCATIONS OF DEMOLISHED STRUCTURE, VAULTS, PIPING, SITE PADS, ETC. WITH STRUCTURAL FILL. PROVIDE 4 INCHES OF TOP SOIL TO MATCH EXISTING GRADE ELEVATION AND GRADE TO DRAIN.
- COORDINATE TERMINATION OF WATER AND POWER UTILITY SERVICES WITH THE SERVICE PROVIDER.
- ASPHALT, CURB, AND GUTTER DEMOLISHED BY THE CONTRACTOR BEYOND THE EXTENTS SHOWN TO FACILITATE WORK SHALL BE REPLACED IN KIND.

KEY NOTES: #

- CUT AND GAP EXISTING WATER MAIN AND ABANDON IN PLACE.
- DIVERT ALL SEWER TO REPLACEMENT PUMP STATION AFTER REPLACEMENT PUMP STATION IS CERTIFIED BY ENGINEER AND WRITTEN APPROVAL IS RECEIVED FROM THE OWNER. PLUG INVERT TO EXISTING PUMP STATION WITH WATERTIGHT MASONRY.
- SEE SHEET 01D-01 FOR CONNECTION SEQUENCE TO EXISTING FORCE MAIN.
- 15" PVC STORM DRAIN TO REMAIN IN SERVICE. PROTECT INLET WITH GRAVEL BERM.
- DEMOLISH CATCH BASINS AND PLUG STORM DRAIN WITH WATERTIGHT MASONRY.
- ODOR CONTROL EQUIPMENT TO BE SALVAGED AND TRANSFERRED TO THE REPLACEMENT PUMP STATION SITE. SEE PLAN SERIES 50. EXISTING CONCRETE TO BE DEMOLISHED PER SPECIFICATION AND AS NOTED.
- SAW CUT EXISTING ASPHALT AT POINT OF DEMOLITION TERMINATION. PROVIDE A 2' APRON OF ABC STONE, 5" DEPTH, FOR TRANSITION OF ASPHALT TO EX. GRADE.

CONSTRUCTION SEQUENCE:

PHASE 1 CONSTRUCTION

- INSTALL PHASE 1 SILT FENCE AND OTHER EROSION CONTROL DEVICES AS REQUIRED.
- REMOVE PROTECTIVE BERMS, RIP RAP, STORM PIPE, AND BOLLARDS AS INDICATED ON THE PLANS FOR PHASE 1 DEMOLITION.
- CLEAR AND GRUB EXISTING SITE VEGETATION FROM THE PROJECT SITE.
- CONSTRUCT PUMP STATION AND ASSOCIATED STRUCTURES AND PIPING AS SHOWN BY THE PLANS AND SPECIFICATIONS.
- PERFORM TESTING AND STARTUP FOR THE REPLACEMENT PUMP STATION.

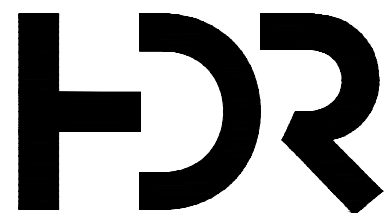
INTERIM OPERATION

- UPON CERTIFICATION OF THE REPLACEMENT PUMP STATION BY THE ENGINEER, INTRODUCE SEWER TO THE REPLACEMENT PUMP STATION.
- THE EXISTING PUMP STATION AND THE REPLACEMENT PUMP STATION WILL BE OPERATED SIMULTANEOUSLY FOR A TWO (2) WEEK PERIOD.

PHASE 2 DEMOLITION

- AFTER THE SUCCESSFUL COMPLETION OF THE TWO WEEK INTERIM PERIOD AND RECEIVING WRITTEN APPROVAL FROM THE OWNER, DIVERT ALL SEWER FLOW TO THE REPLACEMENT PUMP STATION.
- PERFORM PHASE 2 DEMOLITION OF THE EXISTING PUMP STATION AS SHOWN ON THE PLANS.
- CLEAN AND RESTORE SITE AS SPECIFIED. PROVIDE SEED AND MULCH FOR ALL DISTURBED AREA AS SPECIFIED.
- AFTER SITE HAS BEEN STABILIZED, REMOVE ALL EROSION CONTROL DEVICES.

- PHASE 2 DEMOLITION
- ABANDON IN PLACE
- PHASE 1 DEMOLITION



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PROJECT MANAGER	G. ERIC WILLIAMS, PE
DESIGNED BY	J. VANDENBOSCH, PE
CHECKED BY	M. KASPER, PE
DRAWN BY	
PROJECT NUMBER	100075083



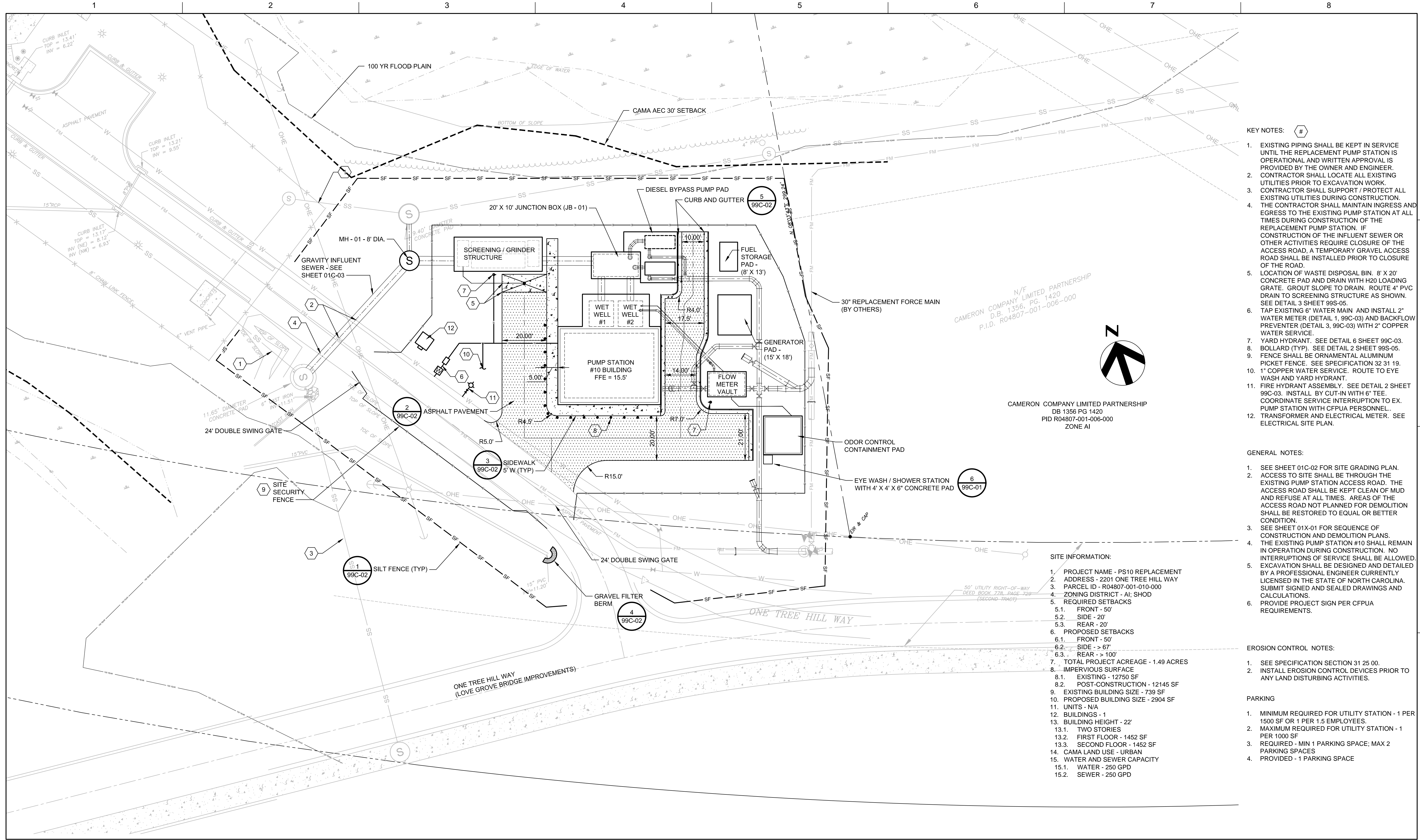
PUMP STATION #10 REPLACEMENT



FILENAME | 00X-01.dwg
SCALE | 1" = 20'

SHEET
01X-01

SITE DEMOLITION PLAN



- KEY NOTES:**
- EXISTING PIPING SHALL BE KEPT IN SERVICE UNTIL THE REPLACEMENT PUMP STATION IS OPERATIONAL AND WRITTEN APPROVAL IS PROVIDED BY THE OWNER AND ENGINEER.
 - CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION WORK.
 - CONTRACTOR SHALL SUPPORT / PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
 - THE CONTRACTOR SHALL MAINTAIN INGRESS AND EGRESS TO THE EXISTING PUMP STATION AT ALL TIMES DURING CONSTRUCTION OF THE REPLACEMENT PUMP STATION. IF CONSTRUCTION OF THE INFLUENT SEWER OR OTHER ACTIVITIES REQUIRE CLOSURE OF THE ACCESS ROAD, A TEMPORARY GRAVEL ACCESS ROAD SHALL BE INSTALLED PRIOR TO CLOSURE OF THE ROAD.
 - LOCATION OF WASTE DISPOSAL BIN. 8' X 20' CONCRETE PAD AND DRAIN WITH H20 LOADING GRATE. GROUT SLOPE TO DRAIN. ROUTE 4" PVC DRAIN TO SCREENING STRUCTURE AS SHOWN. SEE DETAIL 3 SHEET 99S-05.
 - TAP EXISTING 6" WATER MAIN AND INSTALL 2" WATER METER (DETAIL 1, 99C-03) AND BACKFLOW PREVENTER (DETAIL 3, 99C-03) WITH 2" COPPER WATER SERVICE.
 - YARD HYDRANT. SEE DETAIL 6 SHEET 99C-03.
 - BOLLARD (TYP). SEE DETAIL 2 SHEET 99S-05.
 - FENCE SHALL BE ORNAMENTAL ALUMINUM PICKET FENCE. SEE SPECIFICATION 32 31 19.
 - 1" COPPER WATER SERVICE. ROUTE TO EYE WASH AND YARD HYDRANT.
 - FIRE HYDRANT ASSEMBLY. SEE DETAIL 2 SHEET 99C-03. INSTALL BY CUT-IN WITH 6" TEE. COORDINATE SERVICE INTERRUPTION TO EX. PUMP STATION WITH CFPWA PERSONNEL.
 - TRANSFORMER AND ELECTRICAL METER. SEE ELECTRICAL SITE PLAN.

- GENERAL NOTES:**
- SEE SHEET 01C-02 FOR SITE GRADING PLAN.
 - ACCESS TO SITE SHALL BE THROUGH THE EXISTING PUMP STATION ACCESS ROAD. THE ACCESS ROAD SHALL BE KEPT CLEAN OF MUD AND REFUSE AT ALL TIMES. AREAS OF THE ACCESS ROAD NOT PLANNED FOR DEMOLITION SHALL BE RESTORED TO EQUAL OR BETTER CONDITION.
 - SEE SHEET 01X-01 FOR SEQUENCE OF CONSTRUCTION AND DEMOLITION PLANS.
 - THE EXISTING PUMP STATION #10 SHALL REMAIN IN OPERATION DURING CONSTRUCTION. NO INTERRUPTIONS OF SERVICE SHALL BE ALLOWED. EXCAVATION SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER CURRENTLY LICENSED IN THE STATE OF NORTH CAROLINA. SUBMIT SIGNED AND SEALED DRAWINGS AND CALCULATIONS.
 - PROVIDE PROJECT SIGN PER CFPWA REQUIREMENTS.

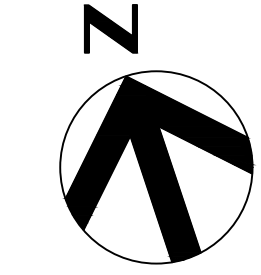
- EROSION CONTROL NOTES:**
- SEE SPECIFICATION SECTION 31 25 00.
 - INSTALL EROSION CONTROL DEVICES PRIOR TO ANY LAND DISTURBING ACTIVITIES.

- PARKING**
- MINIMUM REQUIRED FOR UTILITY STATION - 1 PER 1500 SF OR 1 PER 1.5 EMPLOYEES.
 - MAXIMUM REQUIRED FOR UTILITY STATION - 1 PER 1000 SF.
 - REQUIRED - MIN 1 PARKING SPACE; MAX 2 PARKING SPACES.
 - PROVIDED - 1 PARKING SPACE.

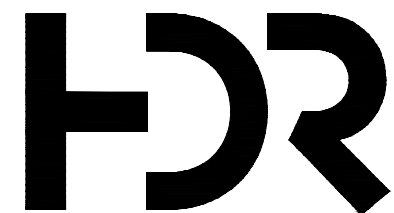
- SITE INFORMATION:**
- PROJECT NAME - PS10 REPLACEMENT
 - ADDRESS - 2201 ONE TREE HILL WAY
 - PARCEL ID - R04807-001-010-000
 - ZONING DISTRICT - AI; SHOD
 - REQUIRED SETBACKS
 - FRONT - 50'
 - SIDE - 20'
 - REAR - 20'
 - PROPOSED SETBACKS
 - FRONT - 50'
 - SIDE - > 67'
 - REAR - > 100'
 - TOTAL PROJECT ACREAGE - 1.49 ACRES
 - IMPERVIOUS SURFACE
 - EXISTING - 12750 SF
 - POST-CONSTRUCTION - 12145 SF
 - EXISTING BUILDING SIZE - 739 SF
 - PROPOSED BUILDING SIZE - 2904 SF
 - UNITS - N/A
 - BUILDINGS - 1
 - BUILDING HEIGHT - 22'
 - FIRST FLOOR - 1452 SF
 - SECOND FLOOR - 1452 SF
 - CAMA LAND USE - URBAN
 - WATER AND SEWER CAPACITY
 - WATER - 250 GPD
 - SEWER - 250 GPD

N/F
CAMERON COMPANY LIMITED PARTNERSHIP
D.B. 1356, PG. 1420
P.I.D. R04807-001-006-000

CAMERON COMPANY LIMITED PARTNERSHIP
DB 1356 PG 1420
PID R04807-001-006-000
ZONE AI



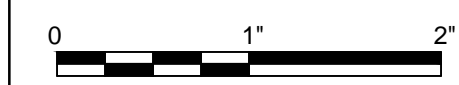
PROJECT MANAGER G. ERIC WILLIAMS, PE		
DESIGNED BY J. VANDENBOSCH, PE		
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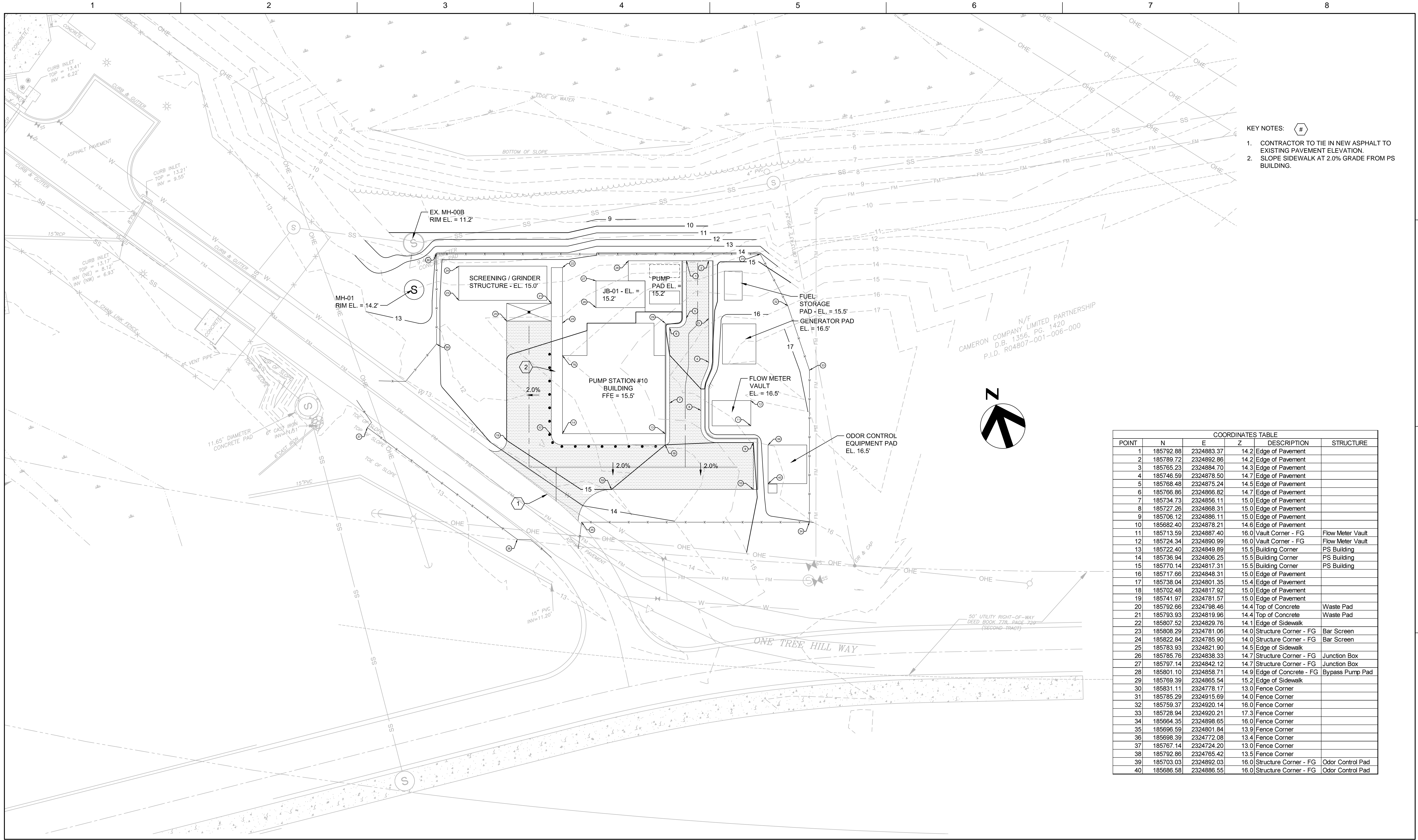
PUMP STATION #10 REPLACEMENT



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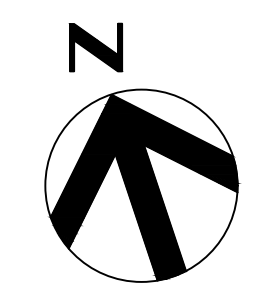
SHEET
01C-01

CIVIL SITE PLAN

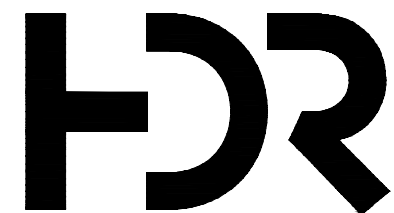


- KEY NOTES: #
- CONTRACTOR TO TIE IN NEW ASPHALT TO EXISTING PAVEMENT ELEVATION.
 - SLOPE SIDEWALK AT 2.0% GRADE FROM PS BUILDING.

N/F
CAMERON COMPANY LIMITED PARTNERSHIP
D.B. 1356, PG. 1420
P.I.D. R04807-001-006-000



COORDINATES TABLE					
POINT	N	E	Z	DESCRIPTION	STRUCTURE
1	185792.88	2324883.37	14.2	Edge of Pavement	
2	185789.72	2324892.86	14.2	Edge of Pavement	
3	185765.23	2324884.70	14.3	Edge of Pavement	
4	185746.59	2324878.50	14.7	Edge of Pavement	
5	185768.48	2324875.24	14.5	Edge of Pavement	
6	185766.86	2324866.82	14.7	Edge of Pavement	
7	185734.73	2324856.11	15.0	Edge of Pavement	
8	185727.26	2324868.31	15.0	Edge of Pavement	
9	185706.12	2324886.11	15.0	Edge of Pavement	
10	185682.40	2324878.21	14.6	Edge of Pavement	
11	185713.59	2324887.40	16.0	Vault Corner - FG	Flow Meter Vault
12	185724.34	2324890.99	16.0	Vault Corner - FG	Flow Meter Vault
13	185722.40	2324849.89	15.5	Building Corner	PS Building
14	185736.94	2324806.25	15.5	Building Corner	PS Building
15	185770.14	2324817.31	15.5	Building Corner	PS Building
16	185717.66	2324848.31	15.0	Edge of Pavement	
17	185738.04	2324801.35	15.4	Edge of Pavement	
18	185702.48	2324817.92	15.0	Edge of Pavement	
19	185741.97	2324781.57	15.0	Edge of Pavement	
20	185792.66	2324798.46	14.4	Top of Concrete	Waste Pad
21	185793.93	2324819.96	14.4	Top of Concrete	Waste Pad
22	185807.52	2324829.76	14.1	Edge of Sidewalk	
23	185808.29	2324781.06	14.0	Structure Corner - FG	Bar Screen
24	185822.84	2324785.90	14.0	Structure Corner - FG	Bar Screen
25	185783.93	2324821.90	14.5	Edge of Sidewalk	
26	185785.76	2324838.33	14.7	Structure Corner - FG	Junction Box
27	185797.14	2324842.12	14.7	Structure Corner - FG	Junction Box
28	185801.10	2324858.71	14.9	Edge of Concrete - FG	Bypass Pump Pad
29	185769.39	2324865.54	15.2	Edge of Sidewalk	
30	185831.11	2324778.17	13.0	Fence Corner	
31	185785.29	2324915.69	14.0	Fence Corner	
32	185759.37	2324920.14	16.0	Fence Corner	
33	185728.94	2324920.21	17.3	Fence Corner	
34	185664.35	2324898.65	16.0	Fence Corner	
35	185696.59	2324801.84	13.9	Fence Corner	
36	185698.39	2324772.08	13.4	Fence Corner	
37	185767.14	2324724.20	13.0	Fence Corner	
38	185792.86	2324765.42	13.5	Fence Corner	
39	185703.03	2324892.03	16.0	Structure Corner - FG	Odor Control Pad
40	185686.58	2324886.55	16.0	Structure Corner - FG	Odor Control Pad



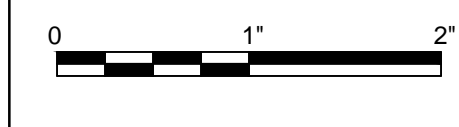
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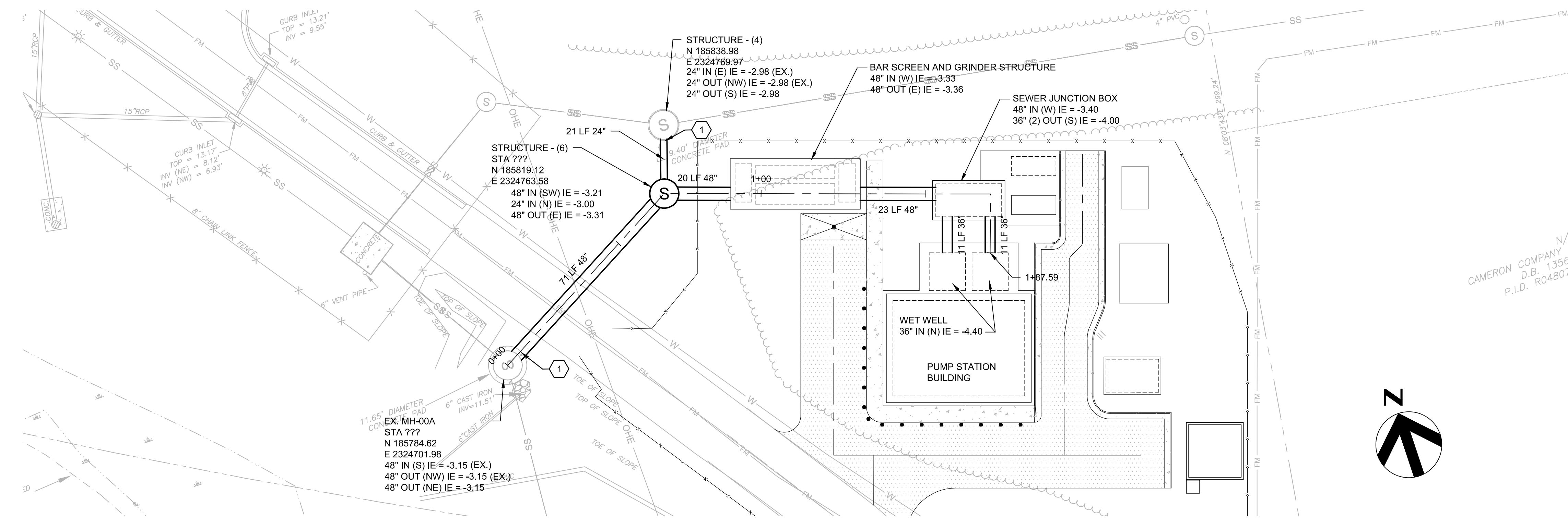
PUMP STATION #10 REPLACEMENT



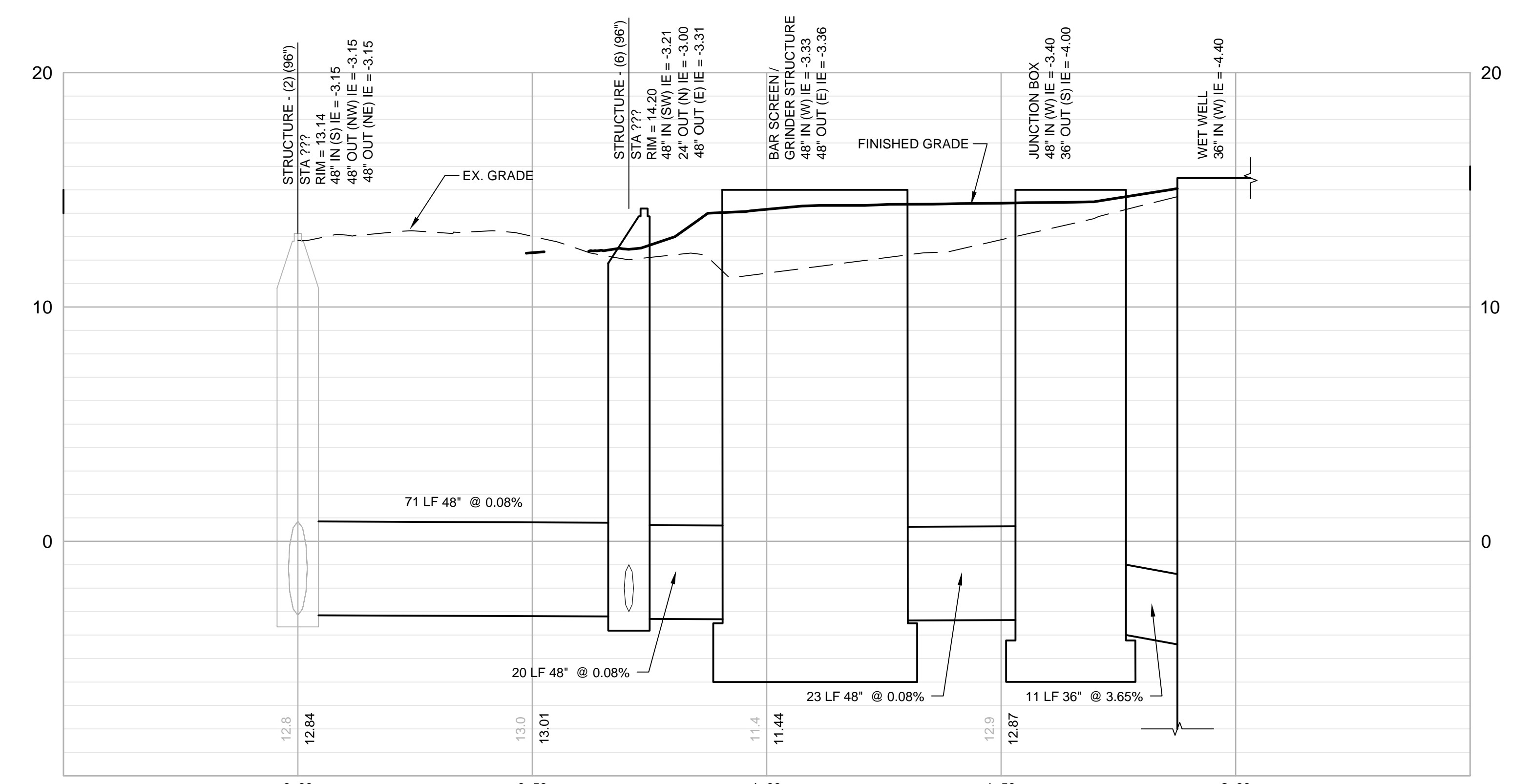
FILENAME | 00C-02.dwg
SCALE | 1" = 20'

SHEET
01C-02

SITE GRADING PLAN



PLAN
1" = 20'



PROFILE
1" = 20' (HORIZONTAL)
1" = 4' (VERTICAL)

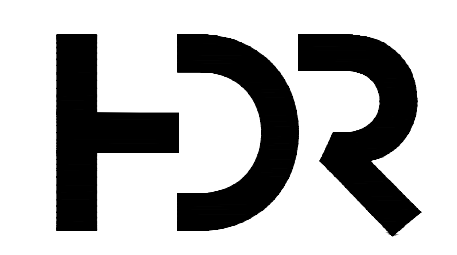
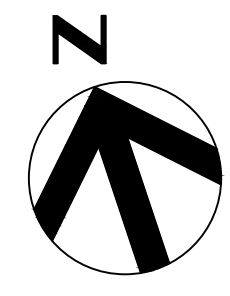
KEY NOTES: #

- CORE DRILL EX. MANHOLE, INSTALL FLEXIBLE WATERTIGHT BOOT, BUILD INVERT AND CONNECT TO GRAVITY SEWER. DIVERT FLOW OF SEWAGE TO REPLACEMENT PUMP STATION AT COMPLETION OF PROJECT AS DIRECTED BY ENGINEER AND WITH WRITTEN APPROVAL OF OWNER. PLUG INVERT TO EXISTING PUMP STATION WITH WATERTIGHT MASONRY.

GENERAL NOTES:

- GRAVITY SEWER PIPE 36" AND LARGER IS PRESSURE CLASS 250 DUCTILE IRON WITH CERAMIC EPOXY LINING. 30" AND SMALLER IS PRESSURE CLASS 350 DUCTILE IRON WITH CERAMIC EPOXY LINING.

CAMERON COMPANY L
N/F
D.B. 1356,
P.I.D. R04807



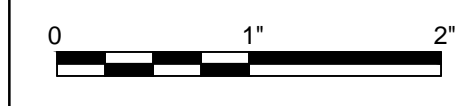
HDR Engineering Inc.
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NC BELS License # F-0116
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Wilmington NC, 28401
910-398-9020

ISSUE	DATE	DESCRIPTION
0	10/2018	ISSUED FOR CONSTRUCTION

PROJECT MANAGER G. ERIC WILLIAMS, PE
DESIGNED BY J. VANDENBOSCH, PE
CHECKED BY M. KASPER, PE
DRAWN BY
PROJECT NUMBER 100075083

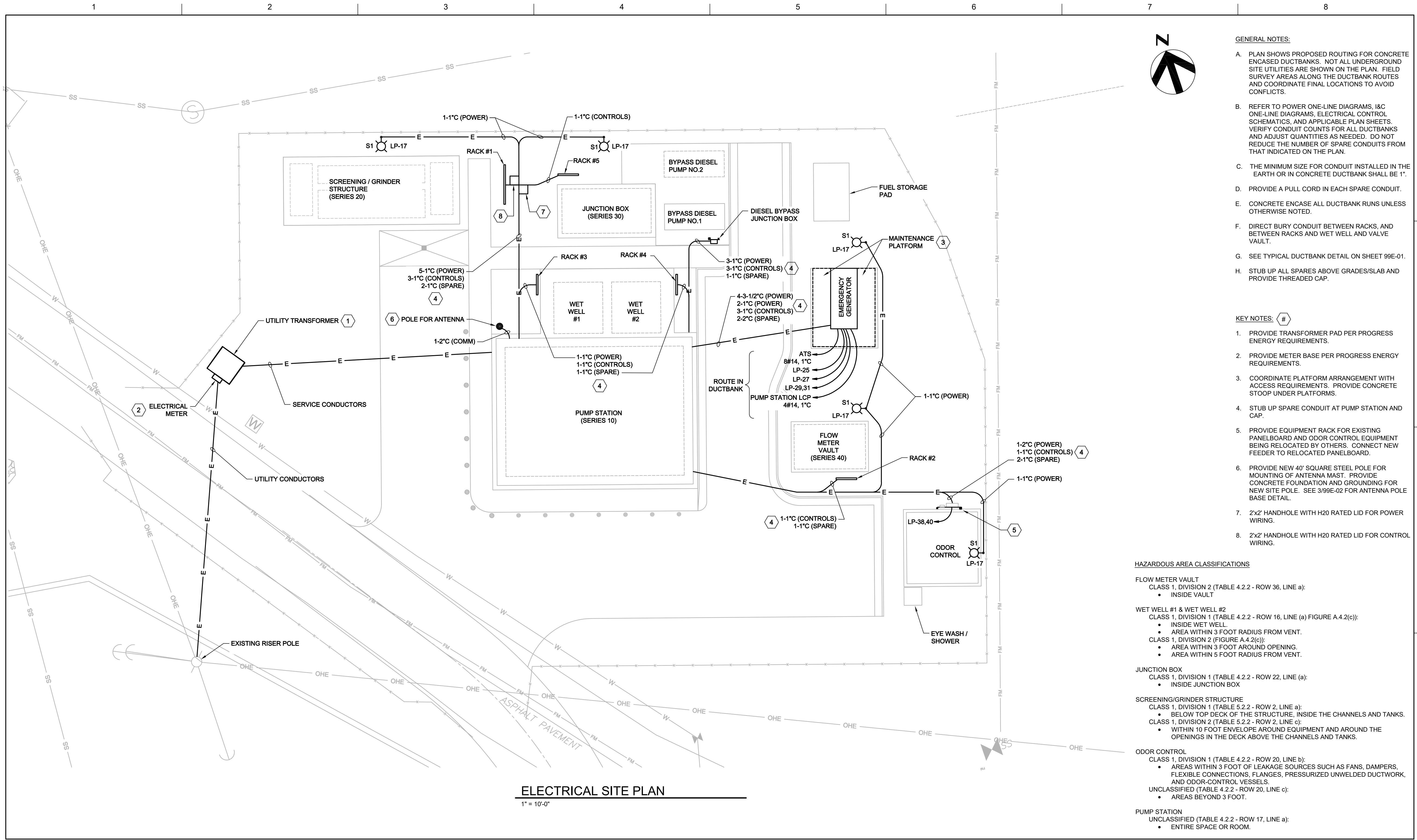


**PUMP STATION #10
REPLACEMENT**



**GRAVITY SEWER
PLAN & PROFILE**
FILENAME | 00C-03.dwg
SCALE | AS NOTED

SHEET
01C-03



- GENERAL NOTES:**
- PLAN SHOWS PROPOSED ROUTING FOR CONCRETE ENCASED DUCTBANKS. NOT ALL UNDERGROUND SITE UTILITIES ARE SHOWN ON THE PLAN. FIELD SURVEY AREAS ALONG THE DUCTBANK ROUTES AND COORDINATE FINAL LOCATIONS TO AVOID CONFLICTS.
 - REFER TO POWER ONE-LINE DIAGRAMS, I&C ONE-LINE DIAGRAMS, ELECTRICAL CONTROL SCHEMATICS, AND APPLICABLE PLAN SHEETS. VERIFY CONDUIT COUNTS FOR ALL DUCTBANKS AND ADJUST QUANTITIES AS NEEDED. DO NOT REDUCE THE NUMBER OF SPARE CONDUITS FROM THAT INDICATED ON THE PLAN.
 - THE MINIMUM SIZE FOR CONDUIT INSTALLED IN THE EARTH OR IN CONCRETE DUCTBANK SHALL BE 1".
 - PROVIDE A PULL CORD IN EACH SPARE CONDUIT.
 - CONCRETE ENCASE ALL DUCTBANK RUNS UNLESS OTHERWISE NOTED.
 - DIRECT BURY CONDUIT BETWEEN RACKS, AND BETWEEN RACKS AND WET WELL AND VALVE VAULT.
 - SEE TYPICAL DUCTBANK DETAIL ON SHEET 99E-01.
 - STUB UP ALL SPARES ABOVE GRADES/SLAB AND PROVIDE THREADED CAP.

- KEY NOTES: (#)**
- PROVIDE TRANSFORMER PAD PER PROGRESS ENERGY REQUIREMENTS.
 - PROVIDE METER BASE PER PROGRESS ENERGY REQUIREMENTS.
 - COORDINATE PLATFORM ARRANGEMENT WITH ACCESS REQUIREMENTS. PROVIDE CONCRETE STOOP UNDER PLATFORMS.
 - STUB UP SPARE CONDUIT AT PUMP STATION AND CAP.
 - PROVIDE EQUIPMENT RACK FOR EXISTING PANELBOARD AND ODOR CONTROL EQUIPMENT BEING RELOCATED BY OTHERS. CONNECT NEW FEEDER TO RELOCATED PANELBOARD.
 - PROVIDE NEW 40' SQUARE STEEL POLE FOR MOUNTING OF ANTENNA MAST. PROVIDE CONCRETE FOUNDATION AND GROUNDING FOR NEW SITE POLE. SEE 3/99E-02 FOR ANTENNA POLE BASE DETAIL.
 - 2'x2' HANDHOLE WITH H20 RATED LID FOR POWER WIRING.
 - 2'x2' HANDHOLE WITH H20 RATED LID FOR CONTROL WIRING.

- HAZARDOUS AREA CLASSIFICATIONS**
- FLOW METER VAULT**
CLASS 1, DIVISION 2 (TABLE 4.2.2 - ROW 36, LINE a):
• INSIDE VAULT
- WET WELL #1 & WET WELL #2**
CLASS 1, DIVISION 1 (TABLE 4.2.2 - ROW 16, LINE (a) FIGURE A.4.2(c)):
• INSIDE WET WELL.
• AREA WITHIN 3 FOOT RADIUS FROM VENT.
CLASS 1, DIVISION 2 (FIGURE A.4.2(c)):
• AREA WITHIN 3 FOOT AROUND OPENING.
• AREA WITHIN 5 FOOT RADIUS FROM VENT.
- JUNCTION BOX**
CLASS 1, DIVISION 1 (TABLE 4.2.2 - ROW 22, LINE (a)):
• INSIDE JUNCTION BOX
- SCREENING/GRINDER STRUCTURE**
CLASS 1, DIVISION 1 (TABLE 5.2.2 - ROW 2, LINE a):
• BELOW TOP DECK OF THE STRUCTURE, INSIDE THE CHANNELS AND TANKS.
CLASS 1, DIVISION 2 (TABLE 5.2.2 - ROW 2, LINE c):
• WITHIN 10 FOOT ENVELOPE AROUND EQUIPMENT AND AROUND THE OPENINGS IN THE DECK ABOVE THE CHANNELS AND TANKS.
- ODOR CONTROL**
CLASS 1, DIVISION 1 (TABLE 4.2.2 - ROW 20, LINE b):
• AREAS WITHIN 3 FOOT OF LEAKAGE SOURCES SUCH AS FANS, DAMPERS, FLEXIBLE CONNECTIONS, FLANGES, PRESSURIZED UNWELDED DUCTWORK, AND ODOR-CONTROL VESSELS.
UNCLASSIFIED (TABLE 4.2.2 - ROW 20, LINE c):
• AREAS BEYOND 3 FOOT.
- PUMP STATION**
UNCLASSIFIED (TABLE 4.2.2 - ROW 17, LINE a):
• ENTIRE SPACE OR ROOM.

ELECTRICAL SITE PLAN
1" = 10'-0"



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CHECKED BY	G. ASTROTH, PE
DRAWN BY	C. SHAW
PROJECT NUMBER	100075083



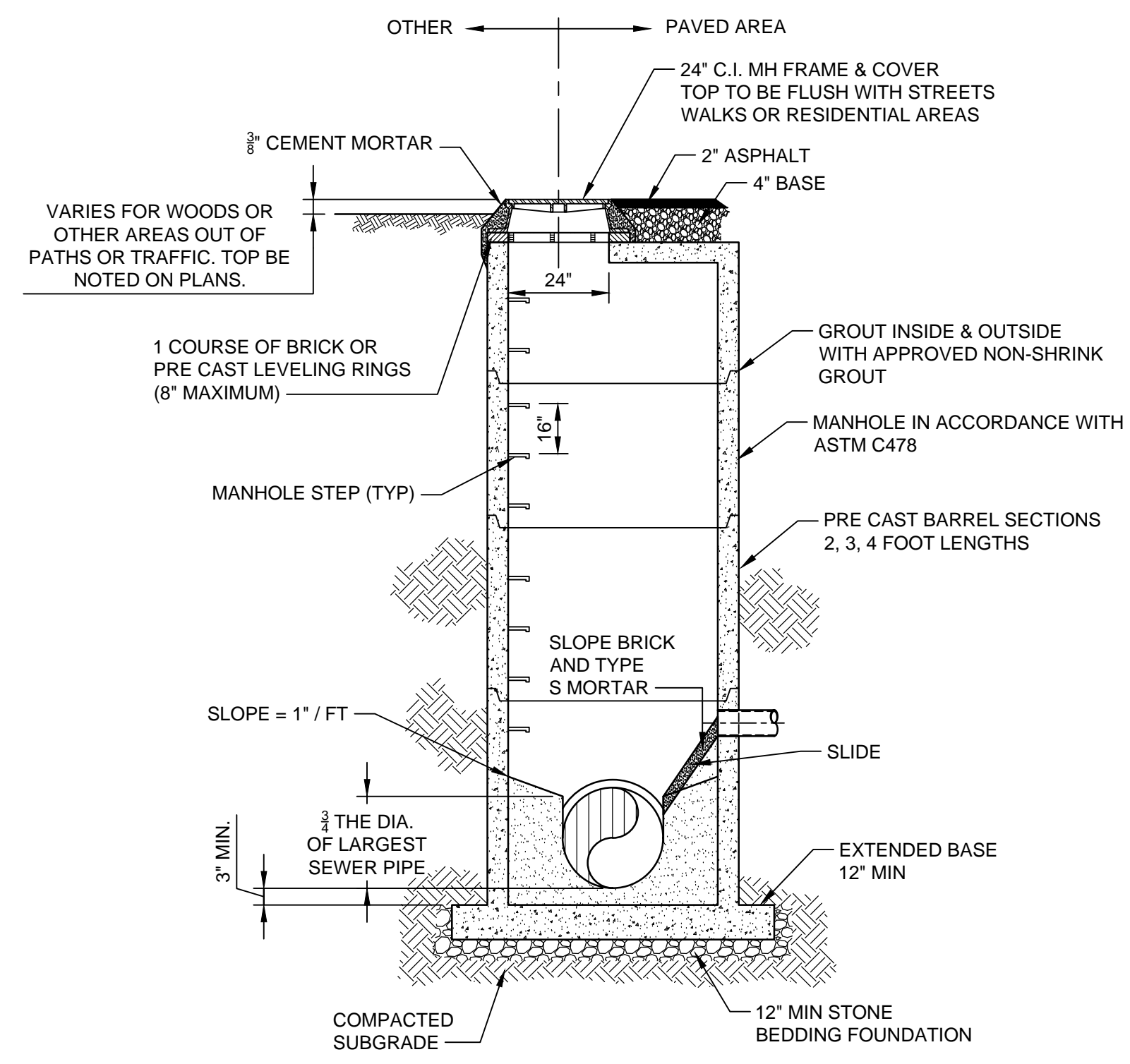
PUMP STATION #10 REPLACEMENT

ELECTRICAL SITE PLAN

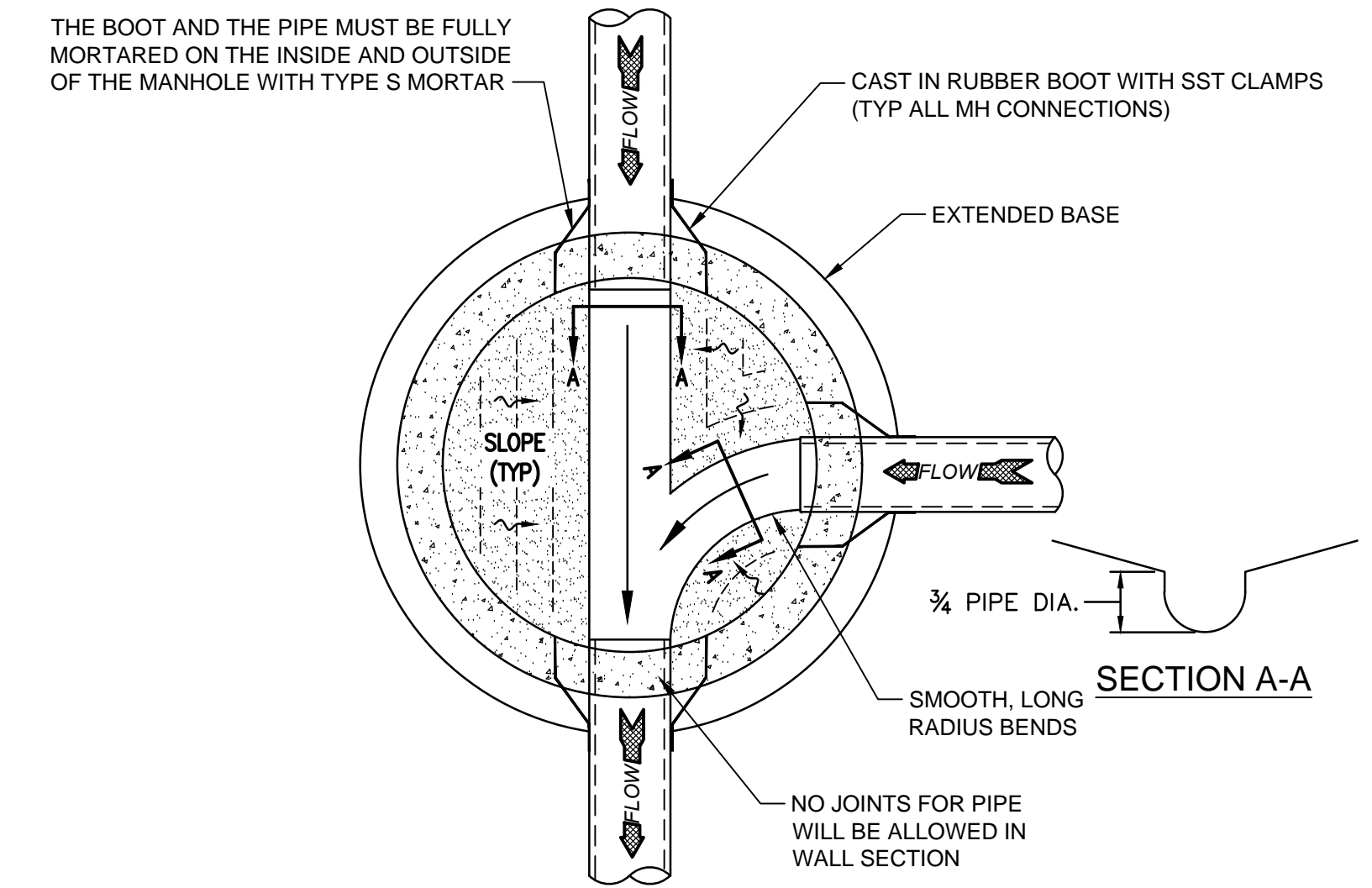


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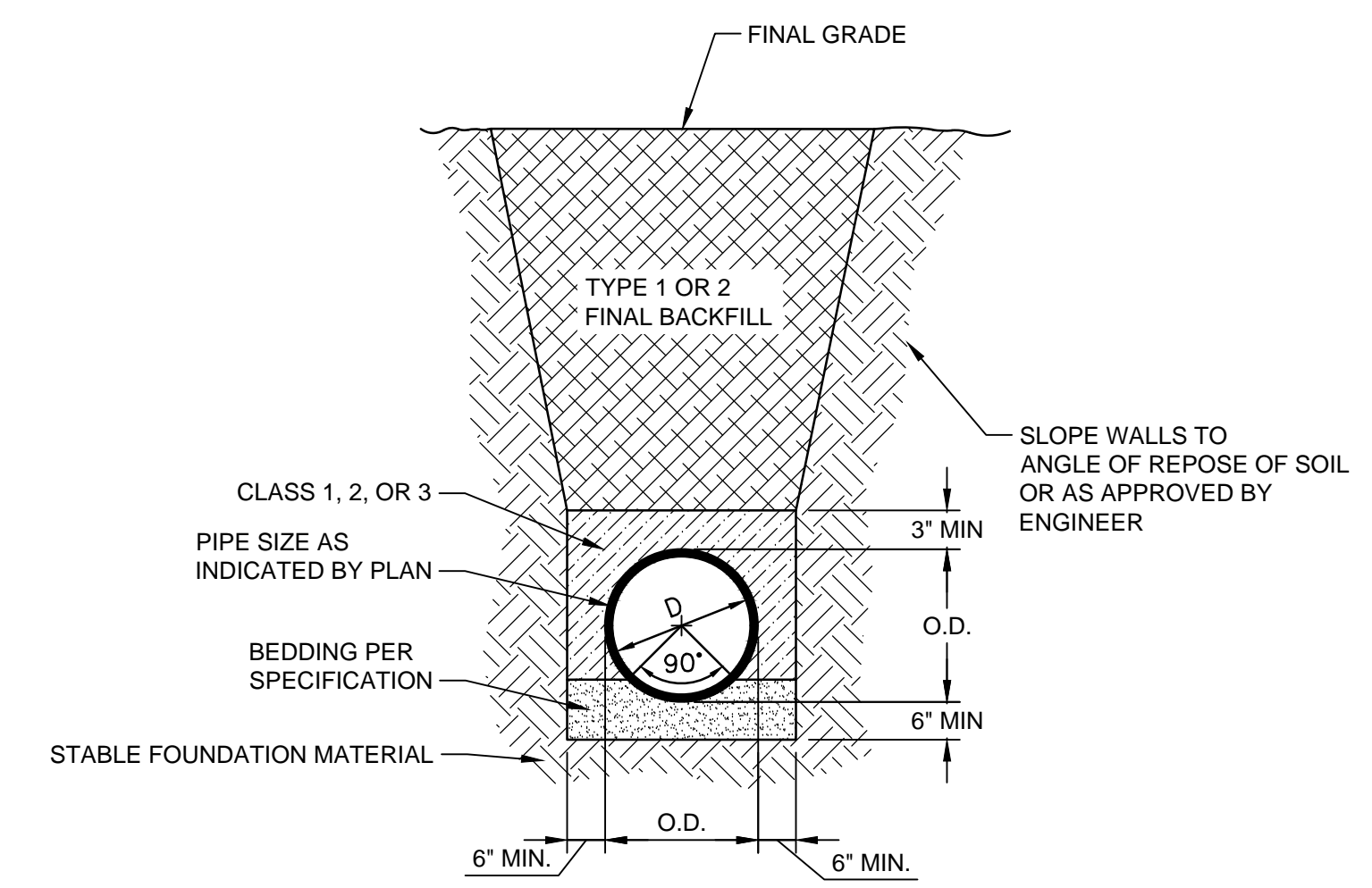
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01E-01



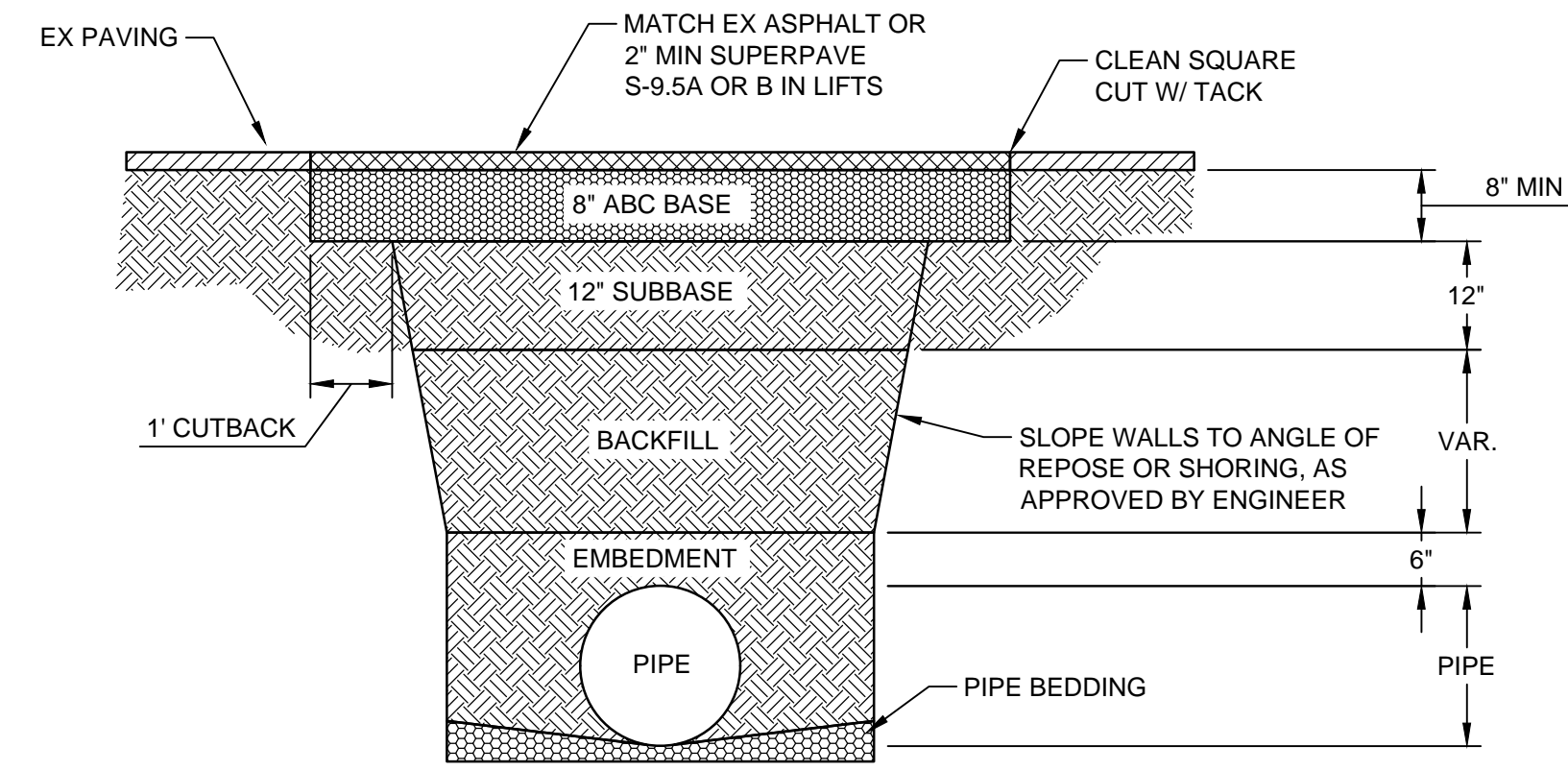
1 PRECAST MANHOLE - FLAT TOP
NOT TO SCALE



2 MANHOLE FLOOR PLAN
NOT TO SCALE

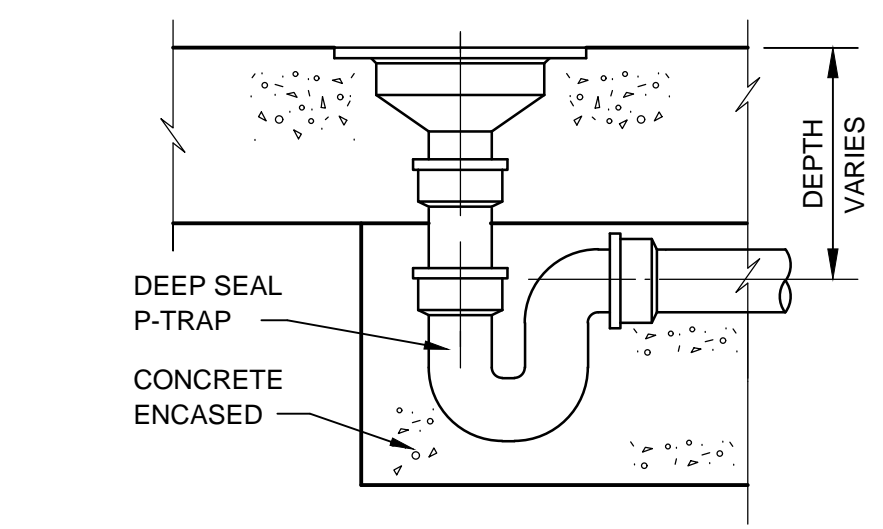


3 PIPE TRENCH DETAIL
NOT TO SCALE

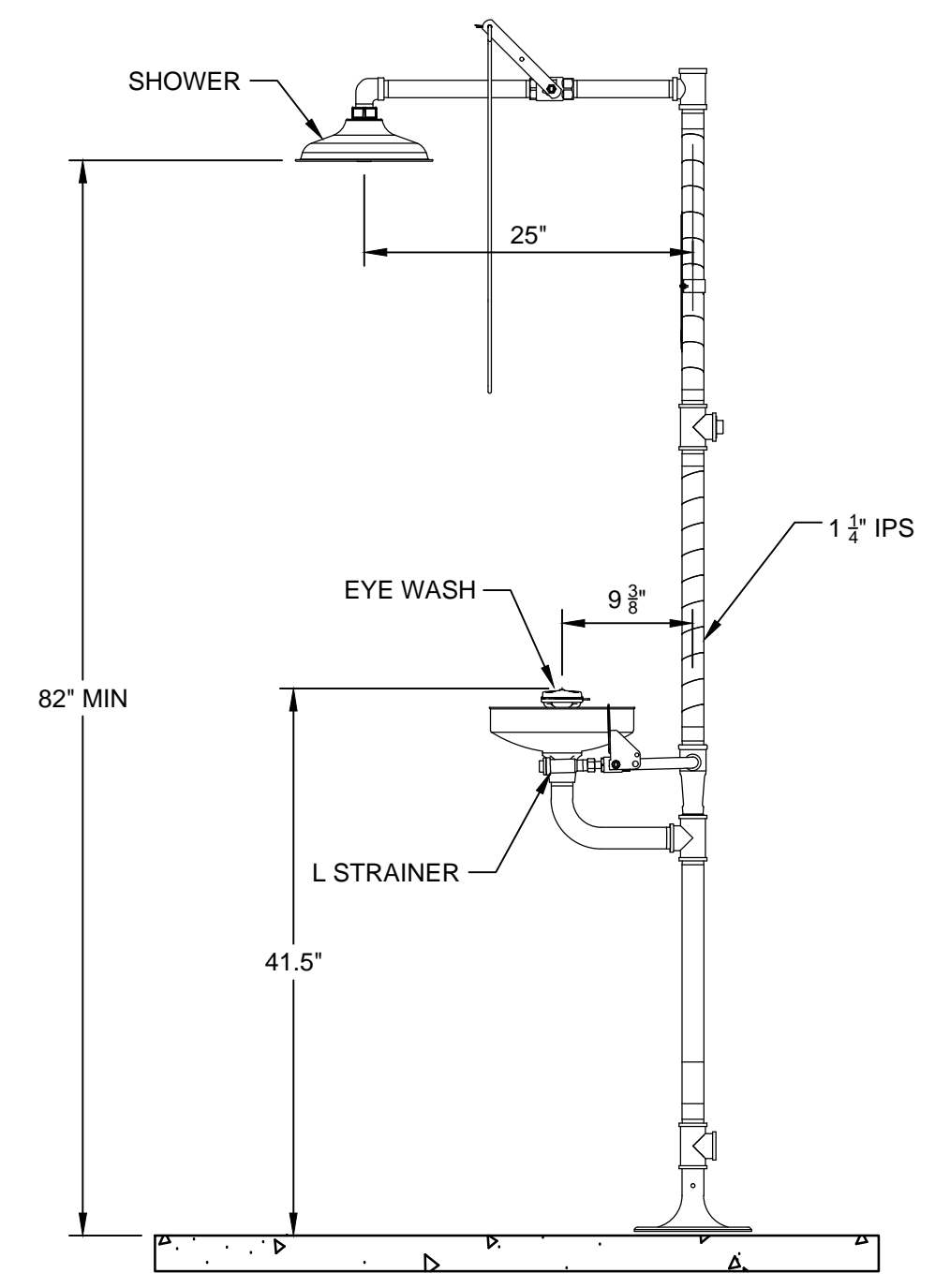


- NOTES:
1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
 2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY OWNER TO ACHIEVE COMPACTION, (IE #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC.)
 3. 8-INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY OF WILMINGTON STREETS.
 4. BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12\"/>

5 ASPHALT OPEN CUT SECTION
NOT TO SCALE

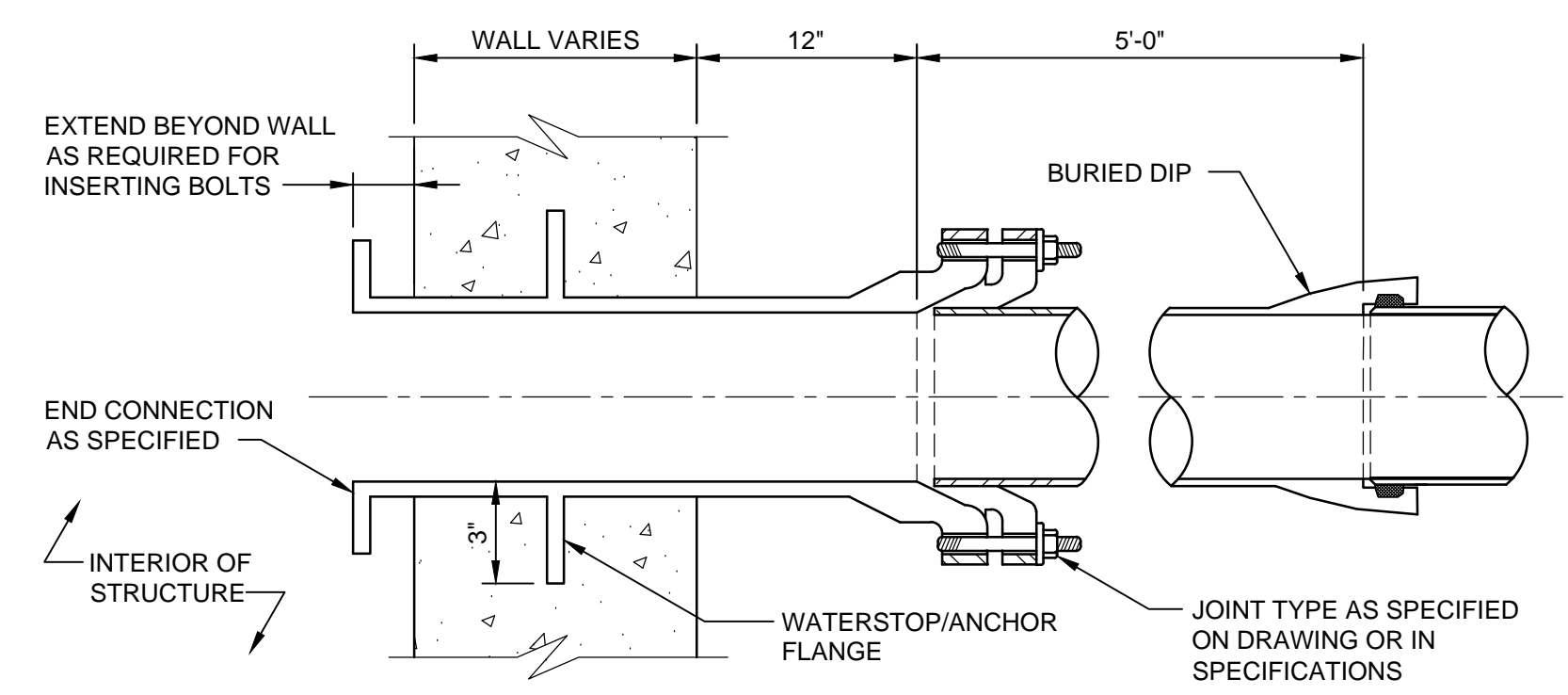


4 DRAIN
NOT TO SCALE



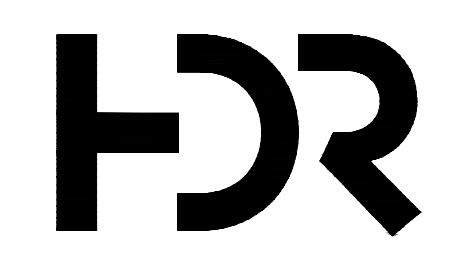
- NOTES:
1. DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON MANUFACTURER.
 2. UNIT SHALL COMPLY WITH ANSI Z358.1, MOST CURRENT VERSION.

6 SHOWER AND EYE WASH STATION
NOT TO SCALE



NOTE:
TYPICAL PENETRATION OF BURIED DIP THROUGH CONCRETE CAST-IN-PLACE STRUCTURE UNLESS OTHERWISE INDICATED.

7 CAST IN PLACE WALL PENETRATION
NOT TO SCALE



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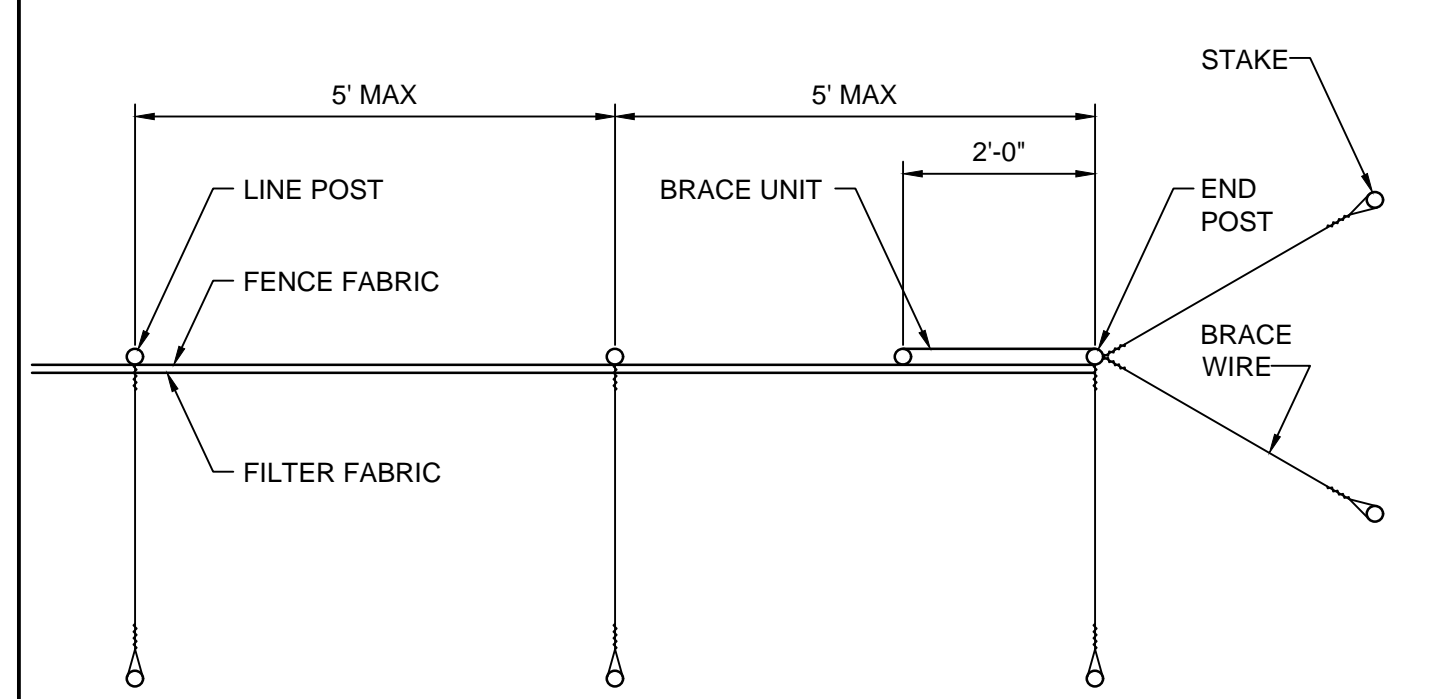
PUMP STATION #10
REPLACEMENT



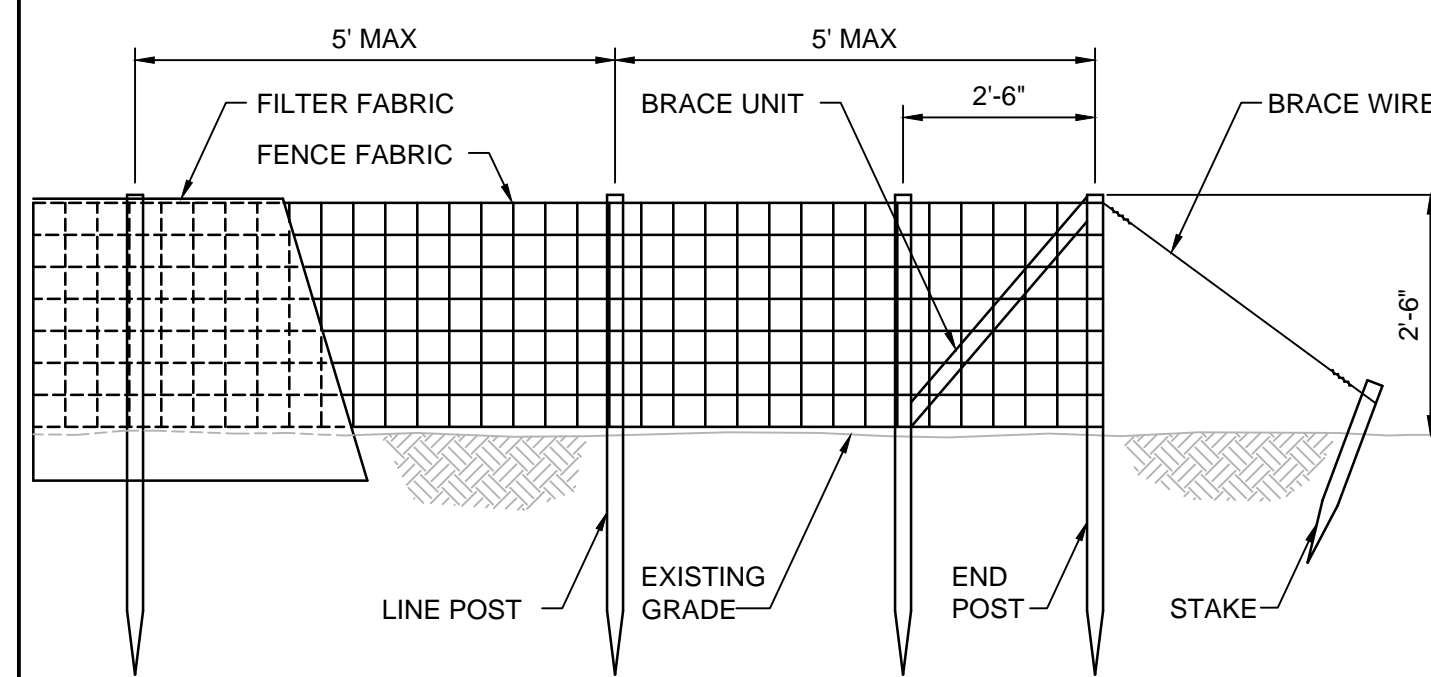
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99C-01

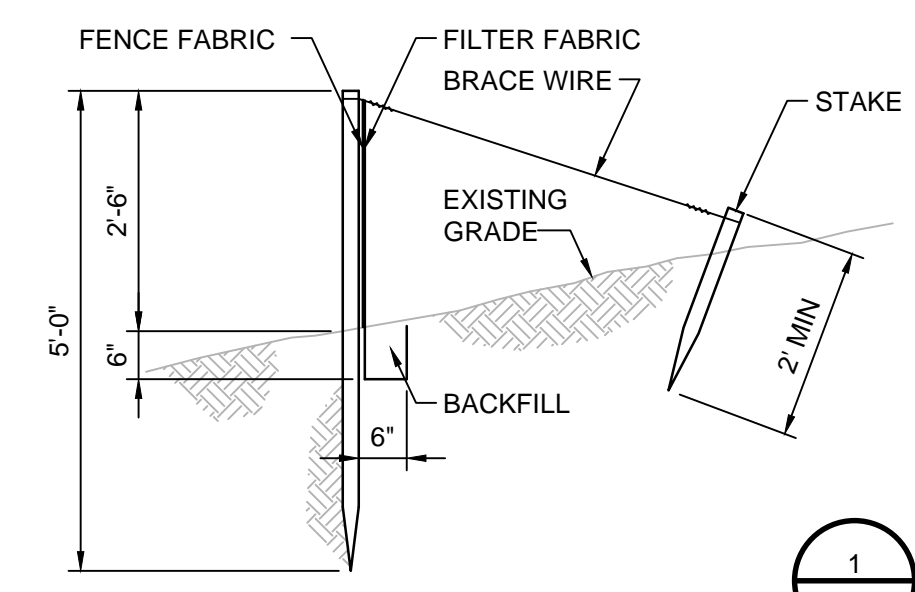
CIVIL DETAILS



PLAN



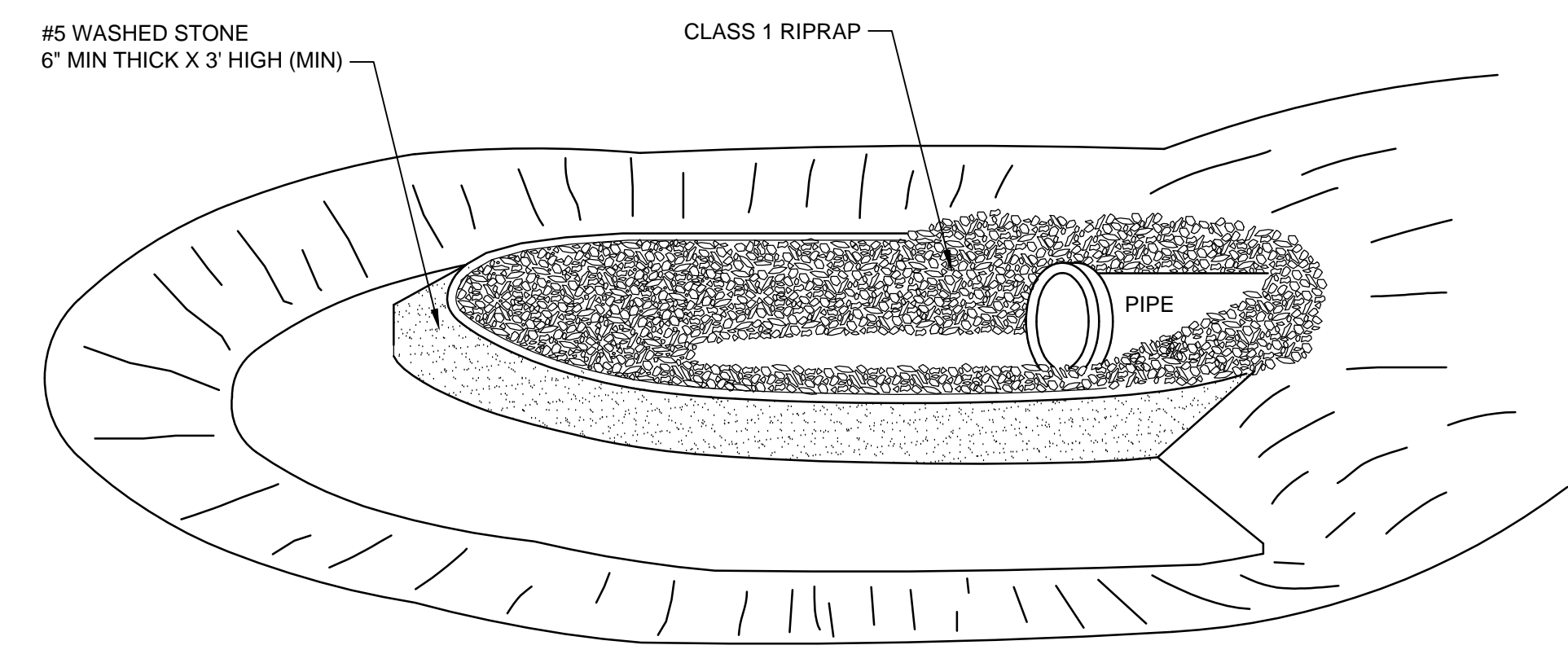
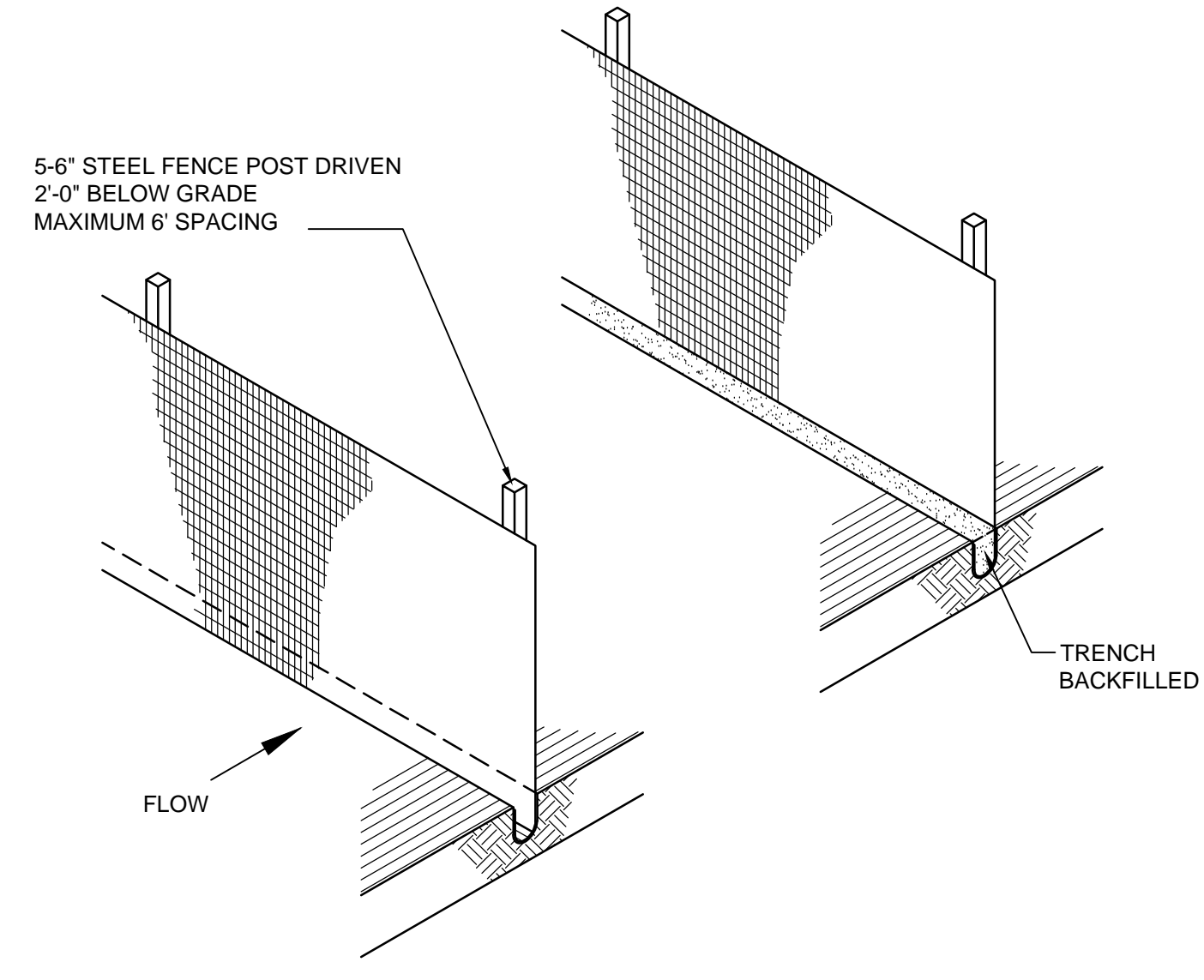
ELEVATION



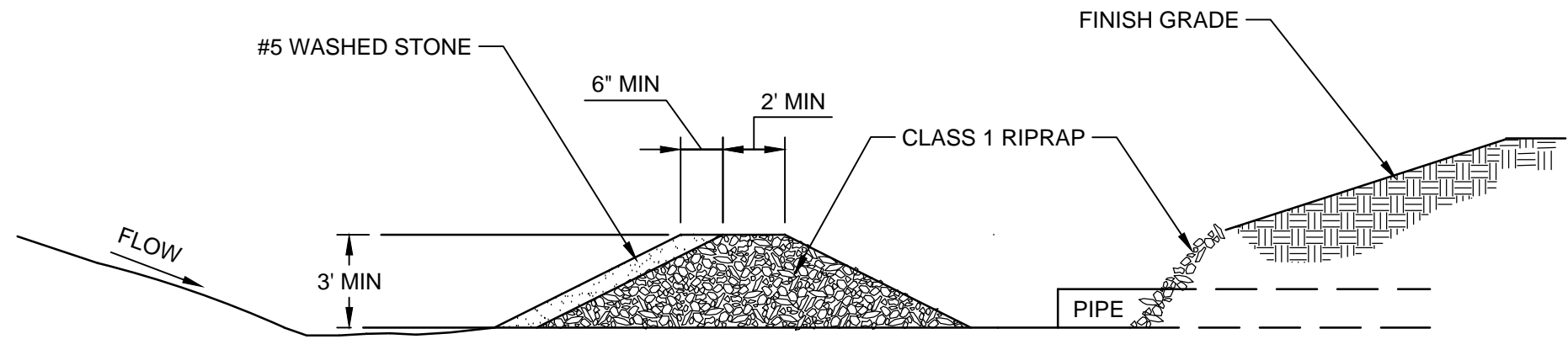
SECTION

1 SILT FENCE NOT TO SCALE

- NOTES:**
- STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
 - SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
 - THE TRENCH SHOULD BE A MINIMUM OF 6" DEEP AND 3"-4" WIDE TO ALLOW FOR THE SILT FENCE TO BE PLACED IN THE GROUND AND BACKFILLED.
 - SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
 - INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - SILT FENCE SHALL BE REMOVED WHEN IT HAS SERVED ITS USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
 - SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE UNIFORMLY DISTRIBUTED ON THE SOURCE AREA PRIOR TO TOPSOILING.

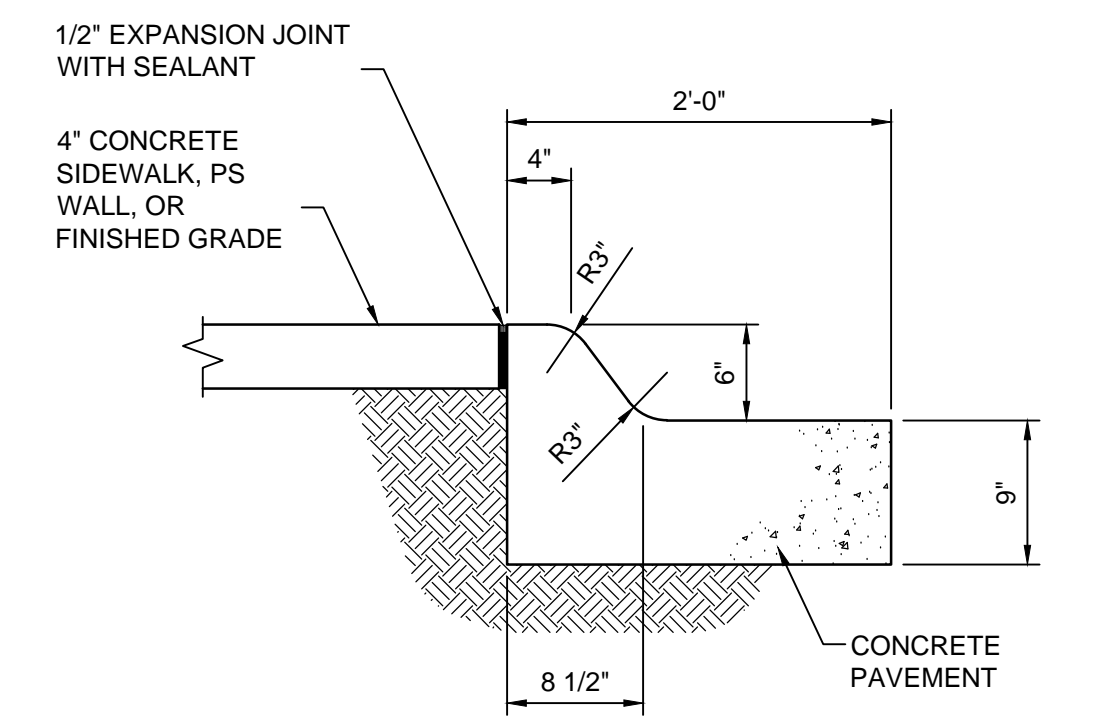


PERSPECTIVE VIEW

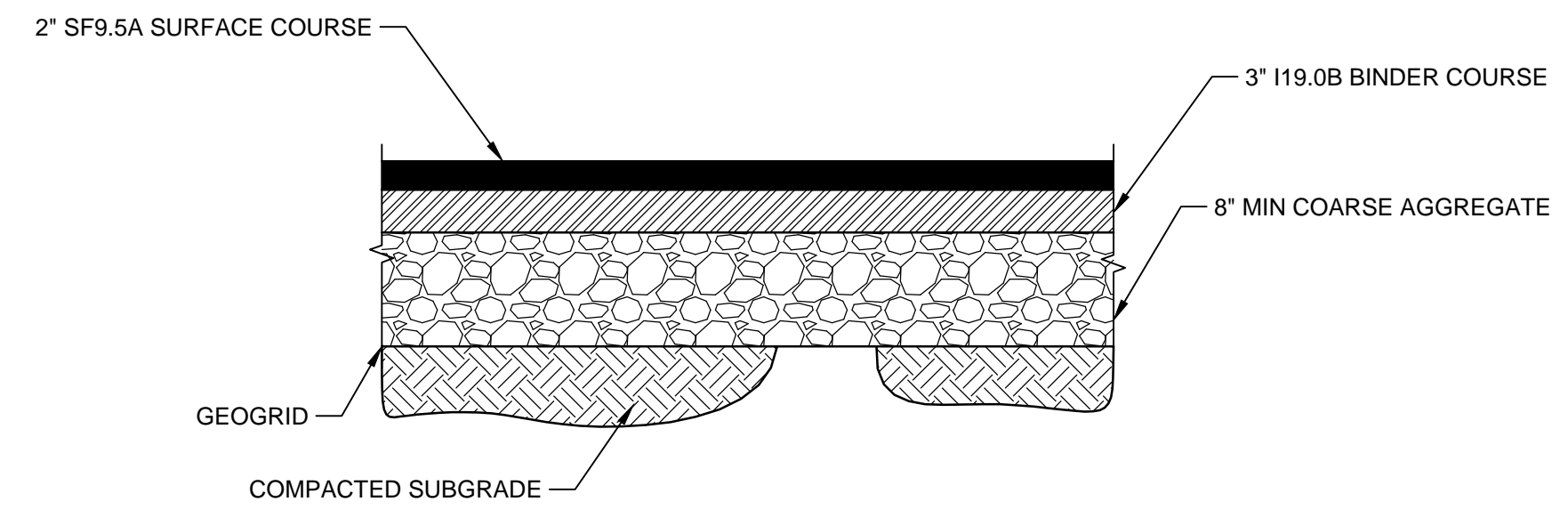


SECTION

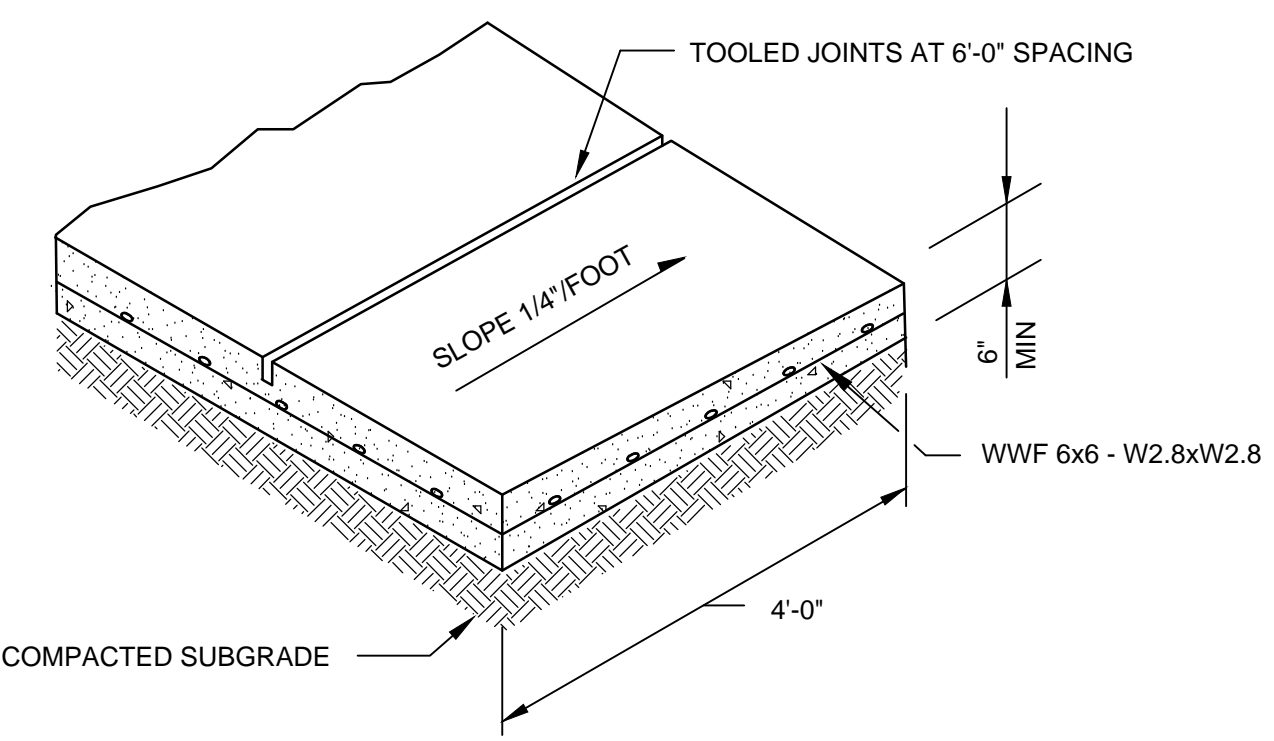
4 GRAVEL FILTER BERM NOT TO SCALE



5 CURB AND GUTTER NOT TO SCALE



2 ASPHALT PAVING SECTION NOT TO SCALE



3 CONCRETE SIDEWALK NOT TO SCALE

AT ALL UTILITY POLES METER BOXES ETC, PROVIDE 1/2" PREMOLDED JT FILLER (FULL DEPTH) ALL AROUND.

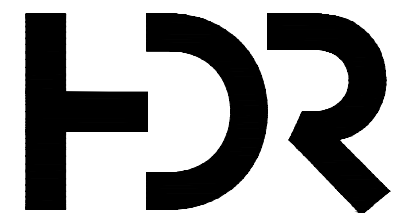
PLACE 3/4" INCH PREFORMED EXPANSION JOINTS AT INTERVALS OF 20 FEET AND AT ALL JUNCTIONS WITH PREVIOUSLY PLACED SIDEWALKS, CURBS OR OTHER STRUCTURES. SEAL SIDEWALK JOINTS WITH POLYURETHANE SEALANT.

DEPTH OF TOOLED JOINT SHALL BE EQUAL TO 1/4 x HEIGHT.

SEEDING SCHEDULE					
PERMANENT SEEDING			TEMPORARY SEEDING ALL AREAS		
SEASON	TYPE	RATE (LBS/AC)	SEASON	TYPE	RATE (LBS/AC)
FALL/SPRING	TALL FESCUE	80	ALL	RYE (GRAIN)	120
	BERMUDA	50		KOBE LESPEDEZA	50
	KOBE LESPEDEZA	40			
SUMMER	BERMUDA	50			
	CENTIPEDE	5			
	GERMAN MILLET	10			

- SEEDING NOTES:**
- APPLY LIMESTONE AT A RATE OF 4,000 LBS PER AC AND FERTILIZER, 5-10-5, AT A RATE OF 500 LBS PER AC.
 - PROVIDE MULCH AT A RATE OF 4 TO 5 STRAWS IN DEPTH OR 1.5 TONS PER AC.
 - SEE SPECIFICATION SECTION 31 25 00 FOR ADDITIONAL REQUIREMENTS.

6 SEEDING SCHEDULE NOT TO SCALE



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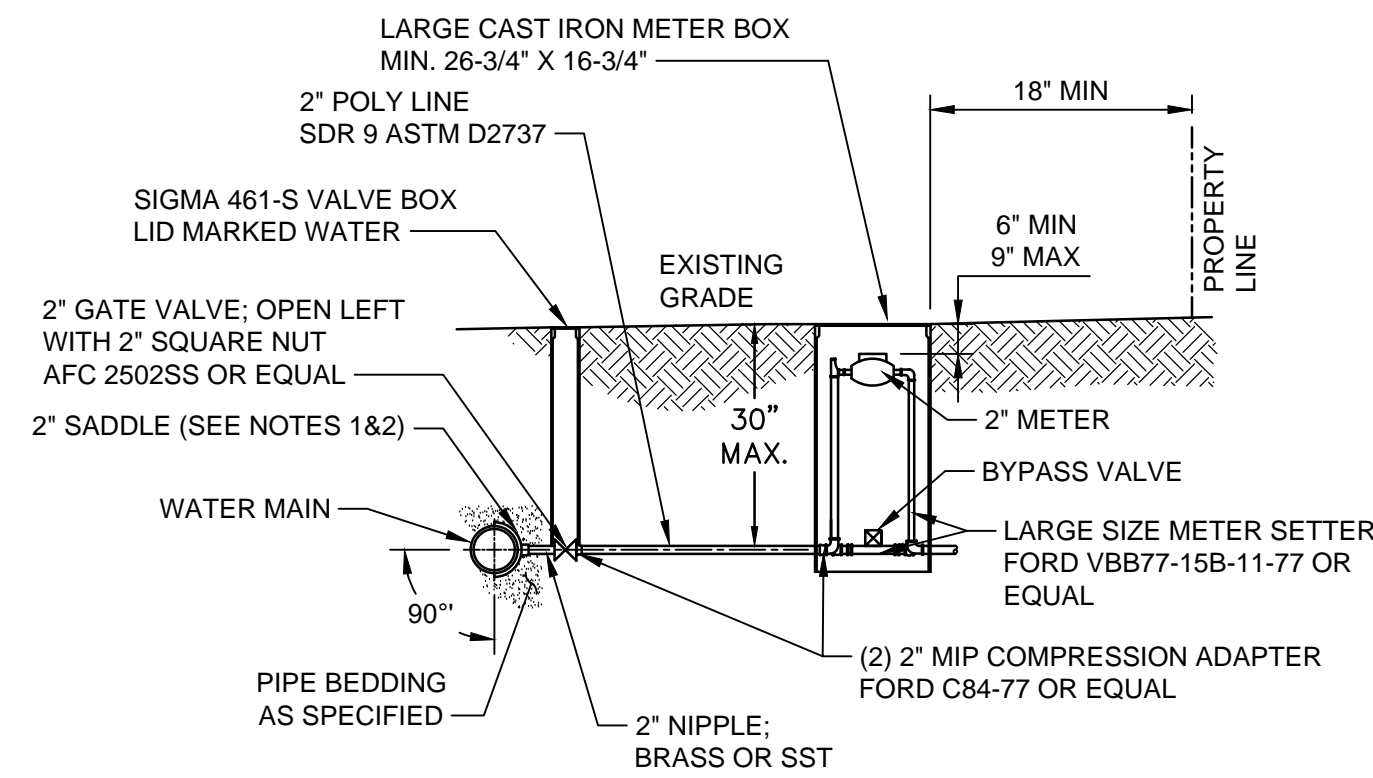
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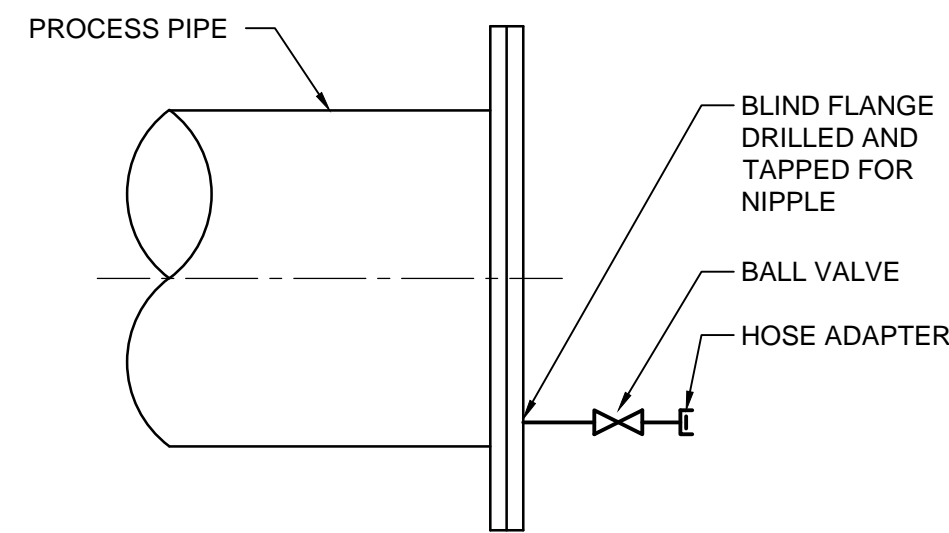
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CIVIL DETAILS



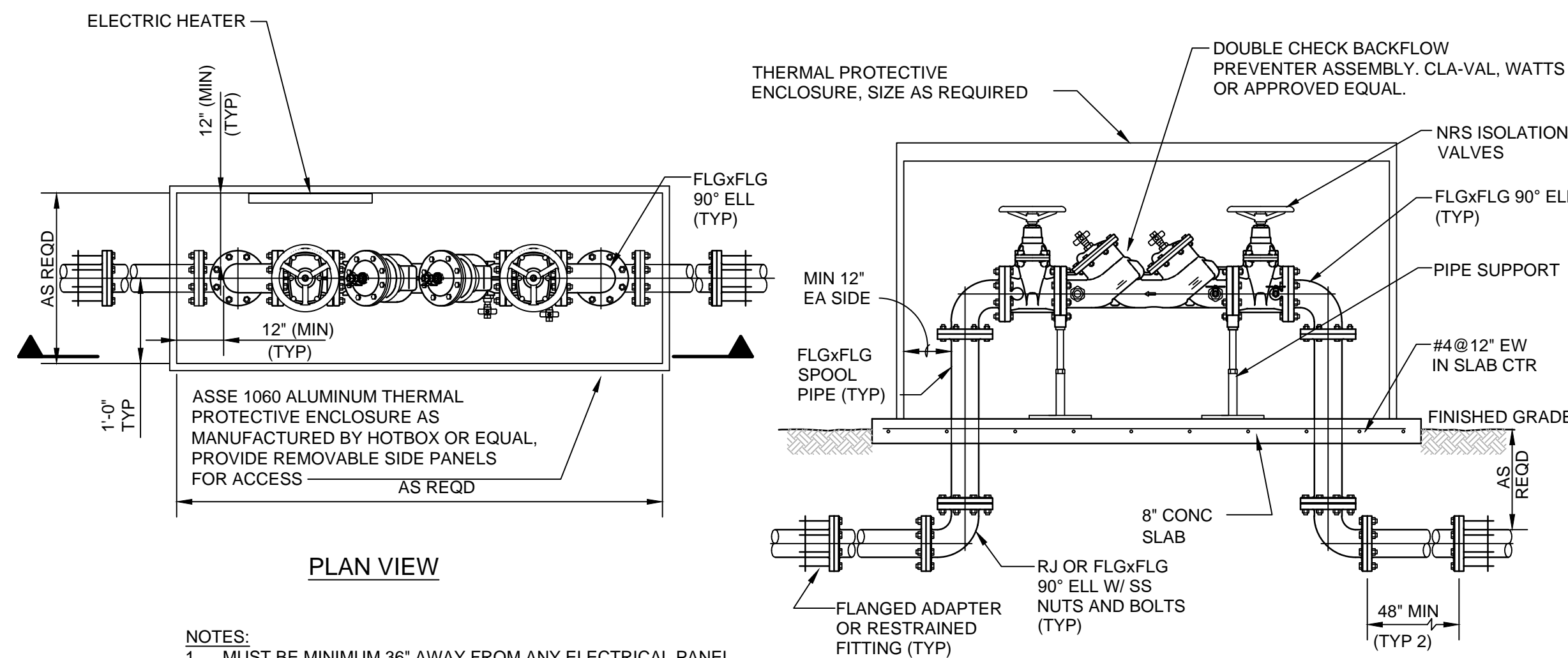
- NOTES:**
1. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 2. SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: MCDONALD 3800, FORD S90 (DOUBLE STRAP) OR EQUAL.
 3. METER BOXES SHALL CONFORM TO ASTM A48, CLASS 30B, AND AASHTO H20 LOADING STANDARDS (OLDCASTLE PRECAST MODEL B1730 OR EQUAL).
 4. 3" CLEAN FILL REQUIRED ALL AROUND 2" POLY SERVICE LINE.

1 WATER SERVICE METER ASSEMBLY
NOT TO SCALE



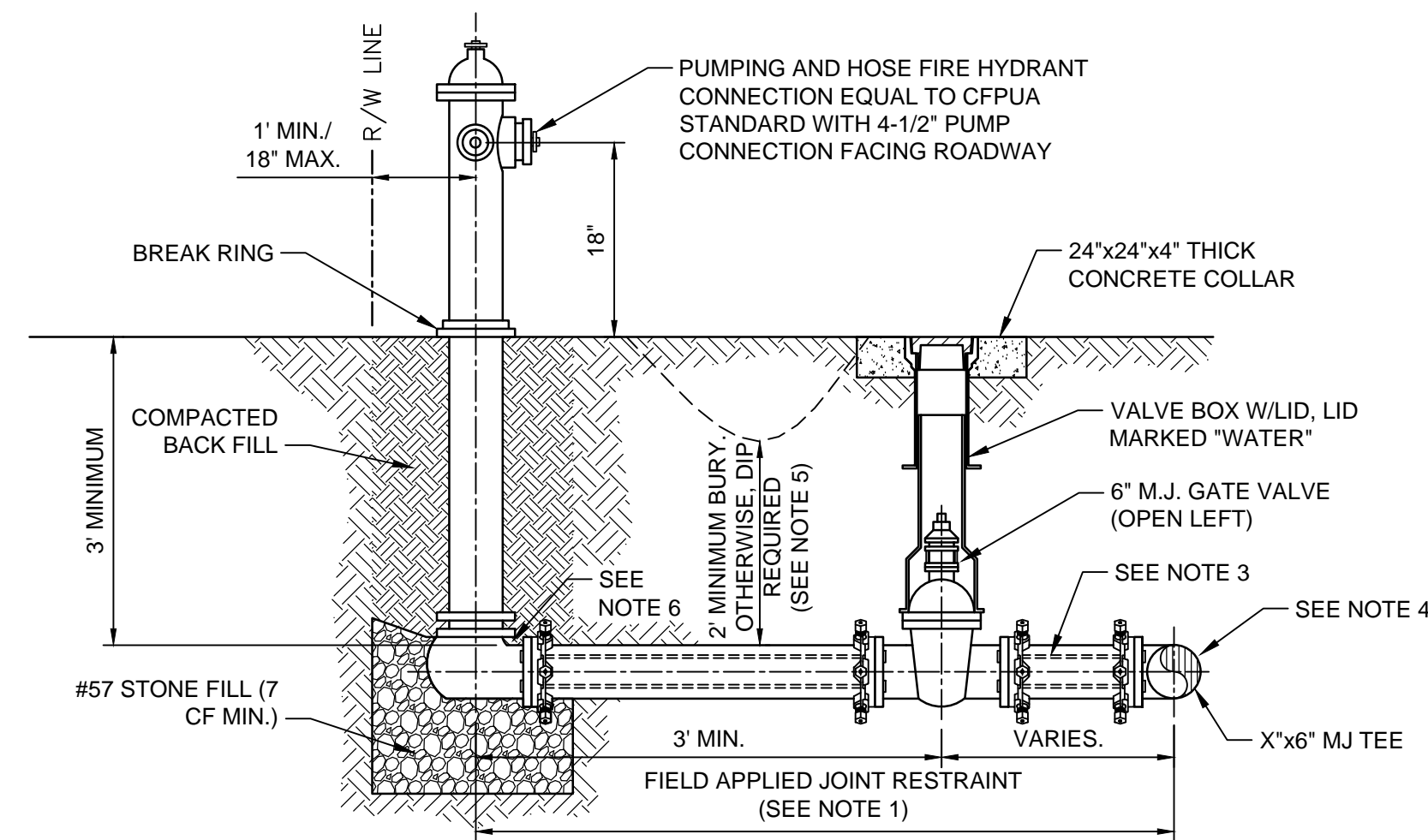
- NOTES:**
1. USE TAPPING SADDLE OR WELDED BOSS FOR PIPE LESS THAN 6" DIAMETER OR WHEN REQUIRED BY PIPE WALL THICKNESS. USE TAPPING SADDLE ON ALL NON-METALLIC PIPE.
 2. PROVIDE 2-INCH FLUSHING CONNECTION.

4 HOSE FLUSHING CONNECTION
NOT TO SCALE



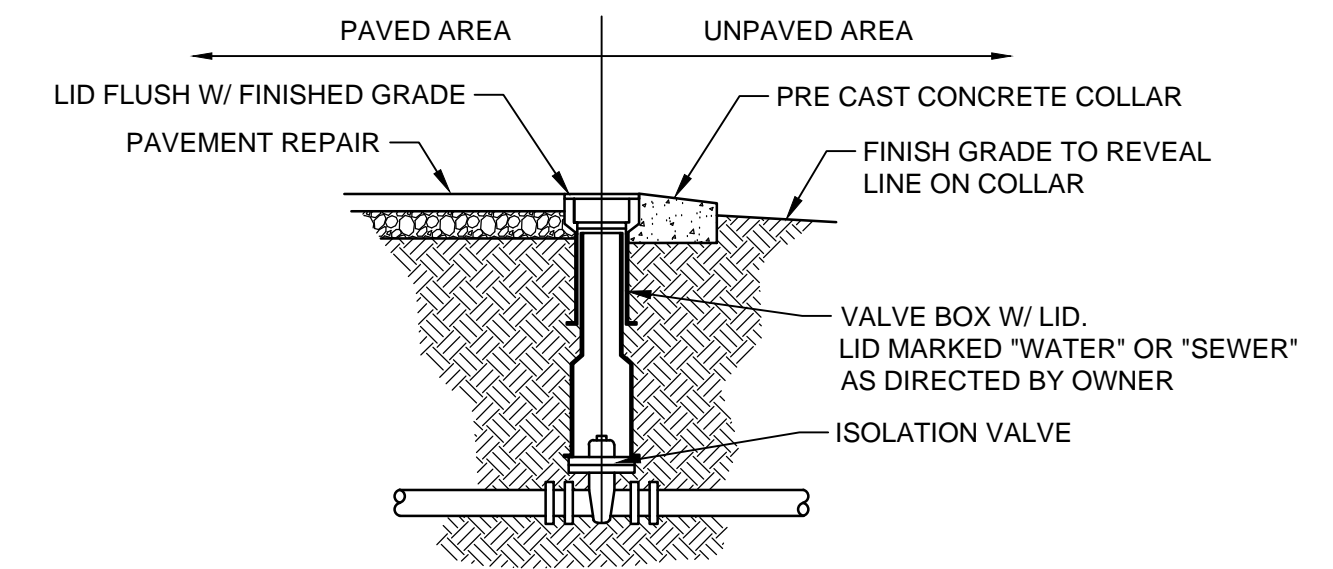
- NOTES:**
1. MUST BE MINIMUM 36" AWAY FROM ANY ELECTRICAL PANEL.
 2. VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY.
 3. VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO OWNER FOR APPROVAL.

3 DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE

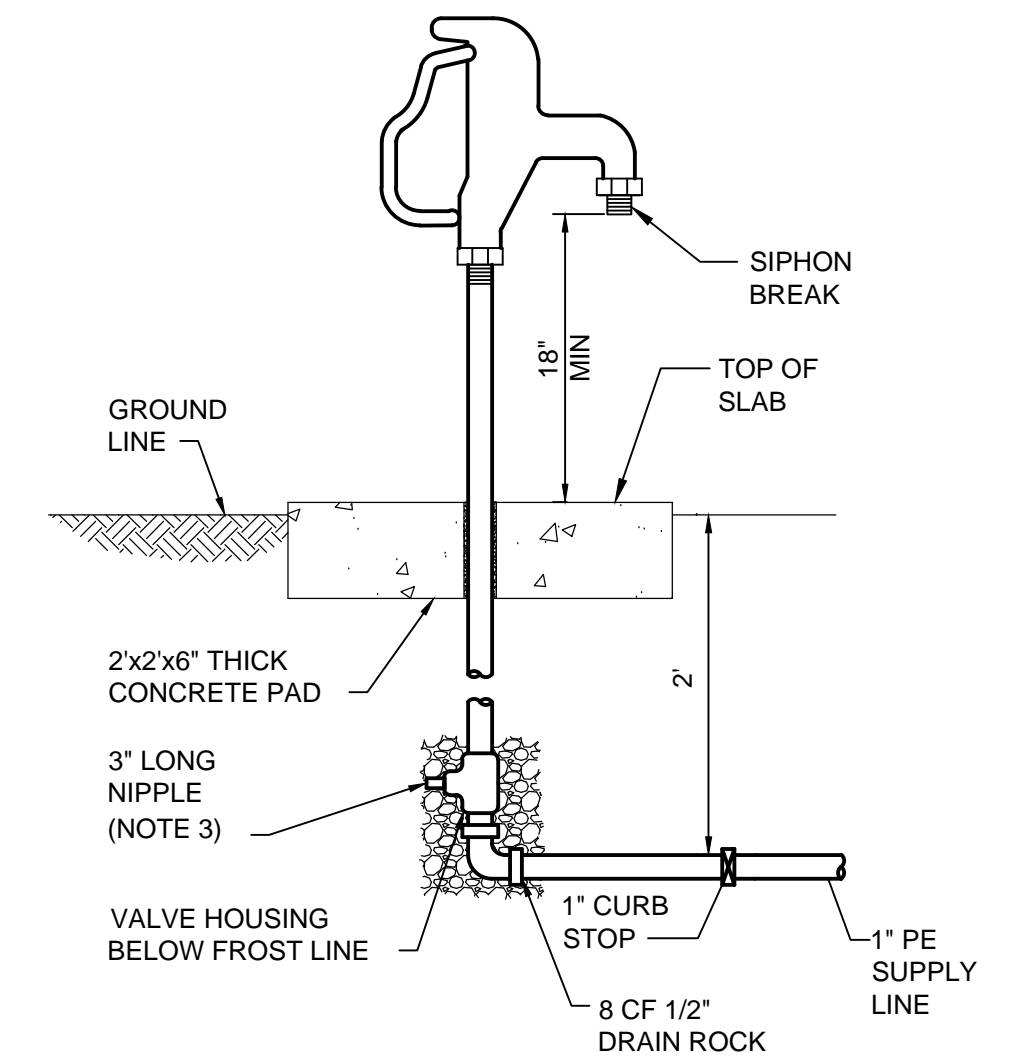


- NOTES:**
1. JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI OR C-900 PVC PIPE AS MANUFACTURED BY EBAA IRON, SIGMA, STAR PIPE PRODUCTS OR APPROVED EQUAL.
 2. WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
 3. CONTINUOUS 316 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH COR-BLUE MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE.
 4. HYDRANT TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS ANY VALVE, FITTING, OR JOINT IN MAIN WITHIN 10-FEET OF HYDRANT TEE.
 5. HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
 6. WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.

2 FIRE HYDRANT ASSEMBLY
NOT TO SCALE

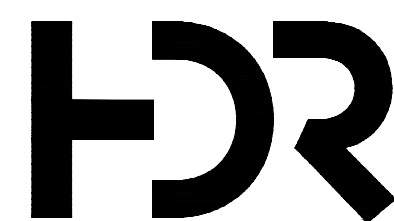


5 BURIED VALVE ASSEMBLY
NOT TO SCALE



- NOTE:**
1. NON-FREEZE POST TYPE.
 2. HOSE BIBB SHALL ACCOMMODATE STANDARD 3/4" GARDEN HOSE.
 3. MATCH DRAIN PORT SIZE PROVIDED BY MANUFACTURER.

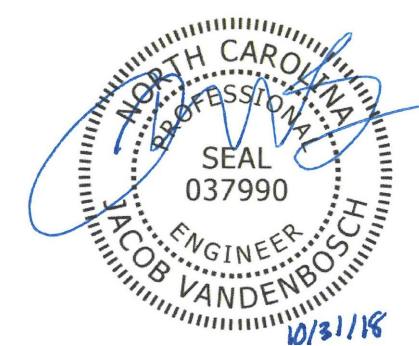
6 YARD HYDRANT
NOT TO SCALE



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PUMP STATION #10 REPLACEMENT



CIVIL DETAILS

FILENAME | 99C-03.dwg
SCALE | 1/4" = 1'0"

SHEET
99C-03