

STANDARD ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AD	ACCESS DOOR
APPROX	APPROXIMATE
ARV	AIR RELIEF VALVE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AVE	AVENUE
BLVD	BOULEVARD
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICES
BV	BALL VALVE
BW	BOTTOM OF WALL
CFR	CODE OF FEDERAL REGULATIONS
CIPP	CURED-IN-PLACE PIPE
CLR	CLEAR / CLEARANCE
ℓ	CENTER LINE
CONC	CONCRETE
CR	MONORAIL AND CRANE HOIST
CARV	COMBINATION AIR RELIEF AND VACUUM VALVE
CSOTF	COMBINED SEWER OVERFLOW TREATMENT FACILITY
CTRD	CENTERED
CV	CHECK VALVE
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DJ	DISMANTLING JOINT
DWG	DRAWING
E	EAST
EBPS	EMERGENCY BACKUP PUMP STATION
EF	EACH FACE
EJ	EXPANSION JOINT
EPB	ELECTRIC POWER BOARD OF CHATTANOOGA
EPD	ENVIRONMENTAL PROTECTION DIVISION
EL / ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
ES&PC	EROSION, SEDIMENT, AND POLLUTION CONTROL
EW	EACH WAY
EXIST / EX	EXISTING
fc	SPECIFIED 28 DAY COMPRESSIVE STRENGTH OF CONCRETE
FY / fy	YIELD STRESS
FL	LIQUID LEVEL FLOAT CONTROL
FLG	FLANGE
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET
GAB	GRADED AGGREGATE BASE
GALV	GALVANIZED
GJ	GROOVE JOINT
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HW	HEADWALL
IE	INVERT ELEVATION
ID	INSIDE DIAMETER / INSIDE DIMENSIONS
INC	INCORPORATED
IPF	IRON PIN FOUND
IPS	IRON PIN SET
INV	INVERT
KSI	KIPS PER SQUARE INCH
LDP	LAND DISTURBANCE PERMIT
LF	LINEAR FOOT
LL	LAND LOT
MAX	MAXIMUM
MFG	MANUFACTURER
MFM	MAGNETIC FLOW METER
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NOM	NOMINAL
N	NORTH

N/F	NOW OR FORMALLY
NIC	NOT IN CONTRACT
NO / #	NUMBER
NOI	NOTICE OF INTENT
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ACT
PCF	POUNDS PER CUBIC FOOT
PE	POLYETHYLENE
PE	PLAIN END
PKWY	PARKWAY
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLV	PLUG VALVE
PP	POWER POLE
PS	PUMP STATION
PSI	POUNDS PER SQUARE INCH
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE PIPE
PVMT	PAVEMENT
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REINF	REINFORCED
REQ	REQUIRED
REV	REVISED / REVISION
RJ	RESTRAINED JOINT / ROUGHENED JOINT
RPZBFP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
RW	RIGHT-OF-WAY
S	SOUTH
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCH / SCHED	SCHEDULE
SG	SLIDE GATE
SP	SUBMERSIBLE PUMP
SQ FT / SF	SQUARE FOOT
SR	STATE ROUTE
SS	SANITARY SEWER
SST	STAINLESS STEEL
SSFM	SANITARY SEWER FORCE MAIN
SSMH	SANITARY SEWER MANHOLE
SSPC	SOCIETY FOR PROTECTIVE COATINGS
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
SW	SIDEWALK
T&B	TOP AND BOTTOM
TBM	TRUE BENCHMARK
TCP	TERRACOTTA CLAY PIPE
TDEC	TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION
TDOT	TENNESSEE DEPARTMENT OF TRANSPORTATION
TN	TENNESSEE
TN	TONS
TVA	TENNESSEE VALLEY AUTHORITY
TW	TOP OF WALL
TYP	TYPICAL
ULT	ULTRASONIC LEVEL SENSOR AND TRANSMITTER
UNO	UNLESS OTHERWISE NOTED
USACE	UNITED STATES ARMY CORP OF ENGINEERS
USGS	UNITED STATES GEOLOGICAL SURVEY
VC	VITRIFIED CLAY
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
WL	WATER LINE
WV	WATER VALVE
WW	WASTEWATER
WWTP	WASTEWATER TREATMENT PLANT
±	APPROXIMATELY
∅	DIAMETER

LEGEND

	PROPERTY BOUNDARY
	ROAD RIGHT-OF-WAY
	EXISTING ROADWAY
	EXISTING SIDEWALK
	EXISTING PAVEMENT TO BE REMOVED
	PROPOSED CONCRETE PAVEMENT
	EXISTING STRUCTURE / BUILDING
	EXISTING STRUCTURE TO DEMOLISH
	PROPOSED STRUCTURE
	EXISTING SANITARY SEWER PIPE
	EXISTING SANITARY SEWER FORCE MAIN PIPE
	PROPOSED SEWER FORCE MAIN
	EXISTING SANITARY SEWER MANHOLE
	EXISTING WATER LINE
	EXISTING STORM SEWER
	EXISTING STORM STRUCTURE
	EXISTING OVERHEAD ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	EXISTING POWER POLE AND GUY WIRE
	EXISTING CHAIN LINK FENCE
	EXISTING FENCE TO BE REMOVED
	PROPOSED CHAIN LINK FENCE
	EXISTING HAND RAIL
	EXISTING GUARD RAIL
	EXISTING GUARD RAIL TO BE REMOVED
	EXISTING GATE
	PROPOSED GATE
	EXISTING TOP OF BANK
	LIMITS OF CONSTRUCTION / DISTURBANCE
	STREAM BUFFER DO NOT DISTURB
	EXISTING STONE STABILIZATION
	TEMPORARY CONSTRUCTION EXIT
	TEMPORARY SILT FENCING
	TEMPORARY COFFER DAM
	TEMPORARY VEGETATION
	PERMANENT VEGETATION
	TEMPORARY MULCH
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	FLOOD PLAIN BOUNDARY
	DRAINAGE DITCH
	LIMITS OF CONSTRUCTION

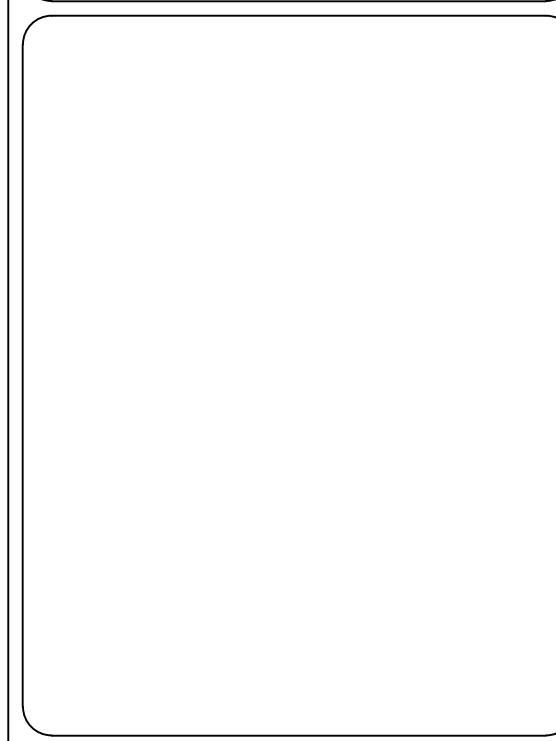
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CITICO PUMP RELIABILITY IMPROVEMENTS

CITY OF CHATTANOOGA, TN

CONSENT DECREE PROGRAM

REV	DATE	ISSUED FOR CONSTRUCTION	REVISION DESCRIPTION
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PROJECT NO: 95307

DATE: 04/14/17

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PMB	SDA	ALW

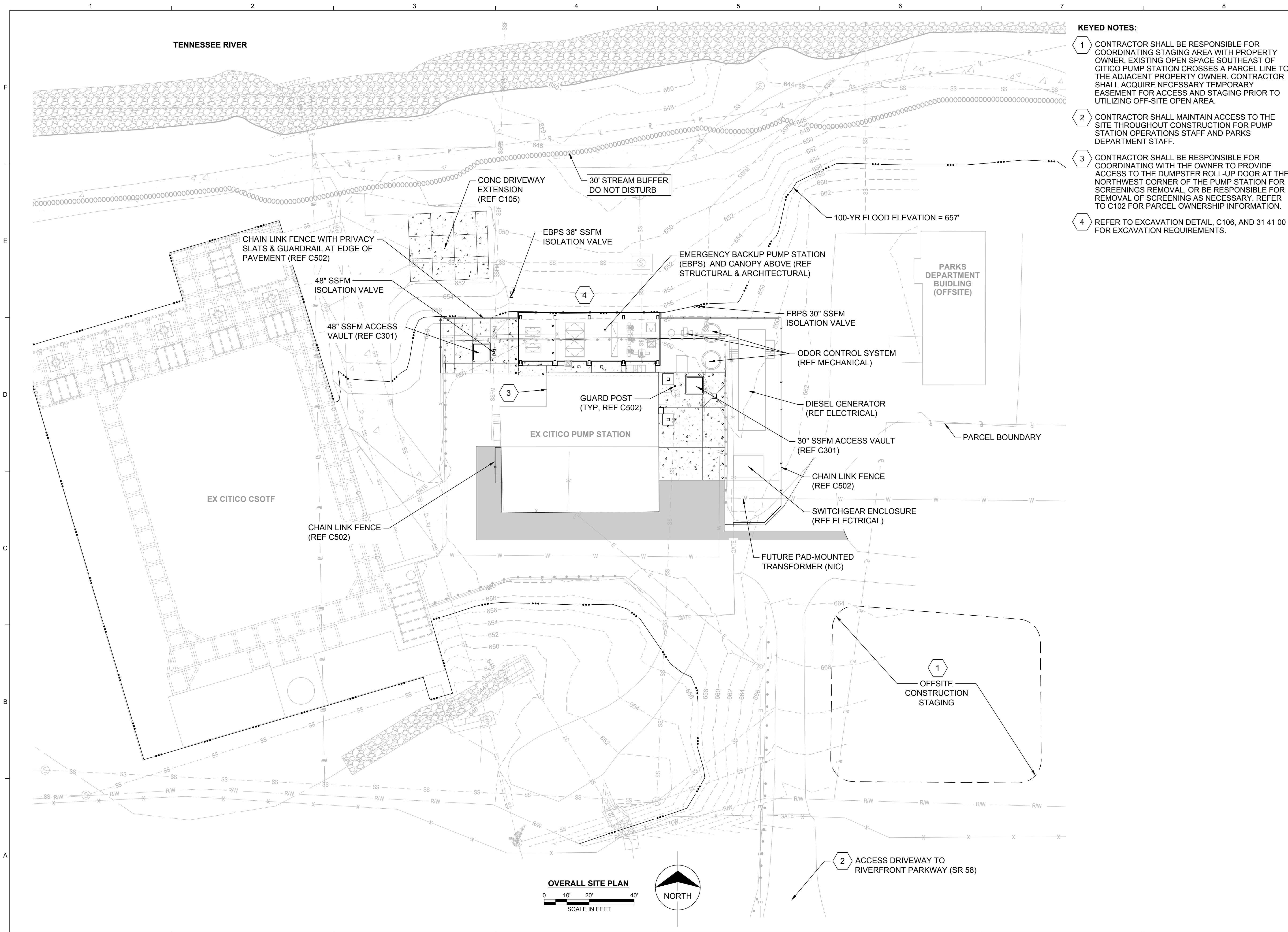
SHEET TITLE: CIVIL

CIVIL LEGEND,
ABBREVIATIONS &
NOTES

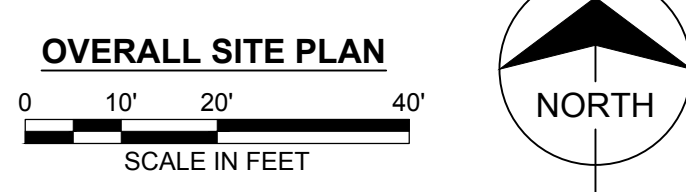
SHEET **C001** REV **0**

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- KEYED NOTES:**
- 1 CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING STAGING AREA WITH PROPERTY OWNER. EXISTING OPEN SPACE SOUTHEAST OF CITICO PUMP STATION CROSSES A PARCEL LINE TO THE ADJACENT PROPERTY OWNER. CONTRACTOR SHALL ACQUIRE NECESSARY TEMPORARY EASEMENT FOR ACCESS AND STAGING PRIOR TO UTILIZING OFF-SITE OPEN AREA.
 - 2 CONTRACTOR SHALL MAINTAIN ACCESS TO THE SITE THROUGHOUT CONSTRUCTION FOR PUMP STATION OPERATIONS STAFF AND PARKS DEPARTMENT STAFF.
 - 3 CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNER TO PROVIDE ACCESS TO THE DUMPSTER ROLL-UP DOOR AT THE NORTHWEST CORNER OF THE PUMP STATION FOR SCREENINGS REMOVAL, OR BE RESPONSIBLE FOR REMOVAL OF SCREENINGS AS NECESSARY. REFER TO C102 FOR PARCEL OWNERSHIP INFORMATION.
 - 4 REFER TO EXCAVATION DETAIL, C106, AND 31 41 00 FOR EXCAVATION REQUIREMENTS.



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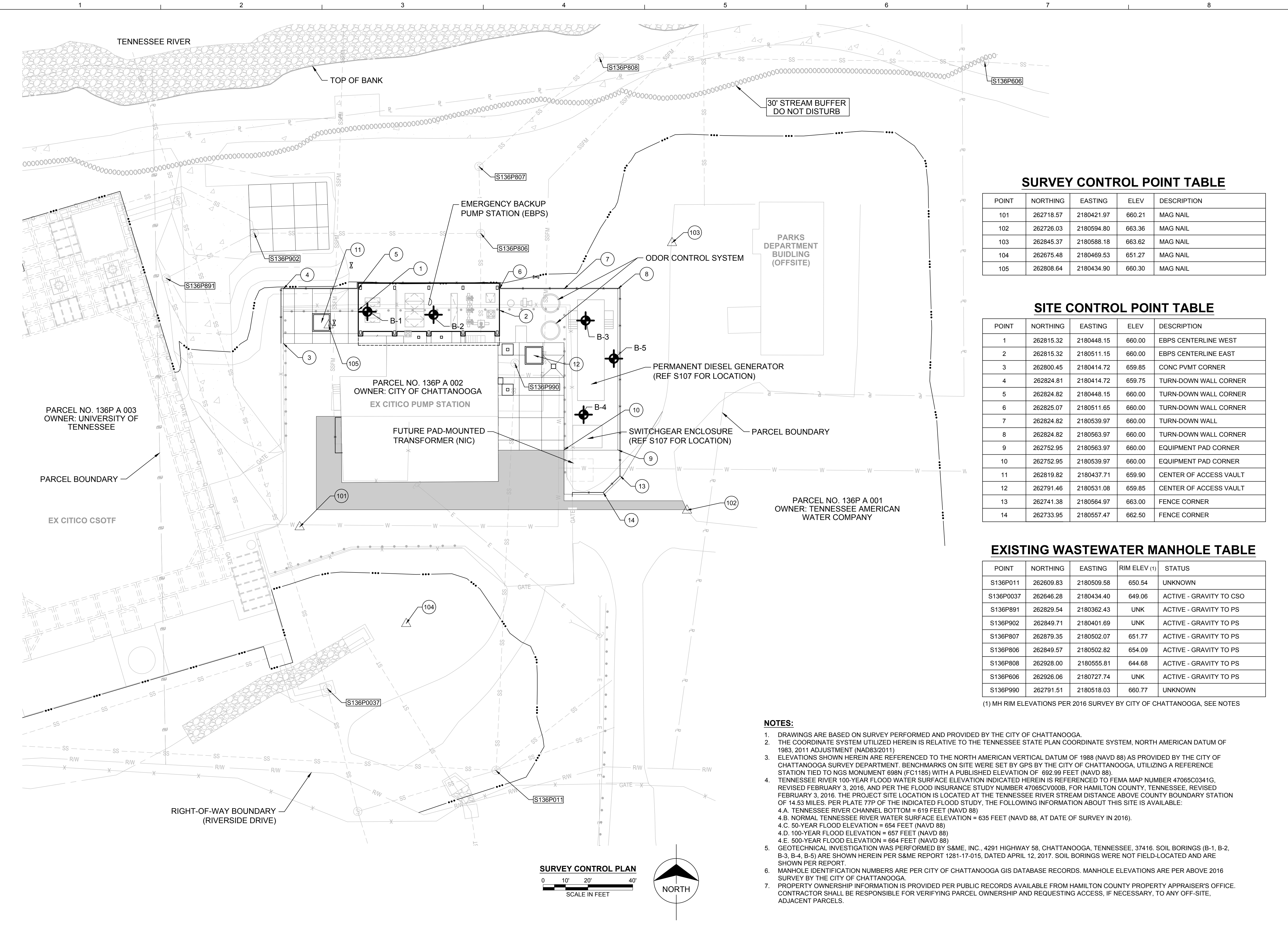


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 OVERALL SITE PLAN
 SHEET: C101 REV: 0

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SURVEY CONTROL POINT TABLE

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
101	262718.57	2180421.97	660.21	MAG NAIL
102	262726.03	2180594.80	663.36	MAG NAIL
103	262845.37	2180588.18	663.62	MAG NAIL
104	262675.48	2180469.53	651.27	MAG NAIL
105	262808.64	2180434.90	660.30	MAG NAIL

SITE CONTROL POINT TABLE

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
1	262815.32	2180448.15	660.00	EBPS CENTERLINE WEST
2	262815.32	2180511.15	660.00	EBPS CENTERLINE EAST
3	262800.45	2180414.72	659.85	CONC PVMT CORNER
4	262824.81	2180414.72	659.75	TURN-DOWN WALL CORNER
5	262824.82	2180448.15	660.00	TURN-DOWN WALL CORNER
6	262825.07	2180511.65	660.00	TURN-DOWN WALL CORNER
7	262824.82	2180539.97	660.00	TURN-DOWN WALL
8	262824.82	2180563.97	660.00	TURN-DOWN WALL CORNER
9	262752.95	2180563.97	660.00	EQUIPMENT PAD CORNER
10	262752.95	2180539.97	660.00	EQUIPMENT PAD CORNER
11	262819.82	2180437.71	659.90	CENTER OF ACCESS VAULT
12	262791.46	2180531.08	659.85	CENTER OF ACCESS VAULT
13	262741.38	2180564.97	663.00	FENCE CORNER
14	262733.95	2180557.47	662.50	FENCE CORNER

EXISTING WASTEWATER MANHOLE TABLE

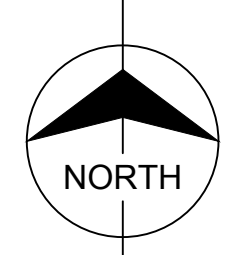
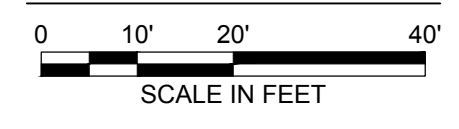
POINT	NORTHING	EASTING	RIM ELEV (1)	STATUS
S136P011	262609.83	2180509.58	650.54	UNKNOWN
S136P0037	262646.28	2180434.40	649.06	ACTIVE - GRAVITY TO CSO
S136P891	262829.54	2180362.43	UNK	ACTIVE - GRAVITY TO PS
S136P902	262849.71	2180401.69	UNK	ACTIVE - GRAVITY TO PS
S136P807	262879.35	2180502.07	651.77	ACTIVE - GRAVITY TO PS
S136P806	262849.57	2180502.82	654.09	ACTIVE - GRAVITY TO PS
S136P808	262928.00	2180555.81	644.68	ACTIVE - GRAVITY TO PS
S136P606	262926.06	2180727.74	UNK	ACTIVE - GRAVITY TO PS
S136P990	262791.51	2180518.03	660.77	UNKNOWN

(1) MH RIM ELEVATIONS PER 2016 SURVEY BY CITY OF CHATTANOOGA, SEE NOTES

NOTES:

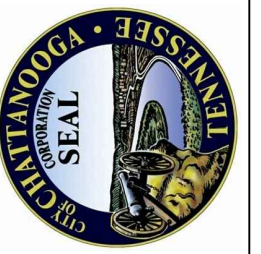
- DRAWINGS ARE BASED ON SURVEY PERFORMED AND PROVIDED BY THE CITY OF CHATTANOOGA.
- THE COORDINATE SYSTEM UTILIZED HEREIN IS RELATIVE TO THE TENNESSEE STATE PLAN COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT (NAD83/2011)
- ELEVATIONS SHOWN HEREIN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AS PROVIDED BY THE CITY OF CHATTANOOGA SURVEY DEPARTMENT. BENCHMARKS ON SITE WERE SET BY GPS BY THE CITY OF CHATTANOOGA, UTILIZING A REFERENCE STATION TIED TO NGS MONUMENT 698N (FC1185) WITH A PUBLISHED ELEVATION OF 692.99 FEET (NAVD 88).
- TENNESSEE RIVER 100-YEAR FLOOD WATER SURFACE ELEVATION INDICATED HEREIN IS REFERENCED TO FEMA MAP NUMBER 47065C0341G, REVISED FEBRUARY 3, 2016, AND PER THE FLOOD INSURANCE STUDY NUMBER 47065C0000B, FOR HAMILTON COUNTY, TENNESSEE, REVISED FEBRUARY 3, 2016. THE PROJECT SITE LOCATION IS LOCATED AT THE TENNESSEE RIVER STREAM DISTANCE ABOVE COUNTY BOUNDARY STATION OF 14.53 MILES. PER PLATE 77P OF THE INDICATED FLOOD STUDY, THE FOLLOWING INFORMATION ABOUT THIS SITE IS AVAILABLE:
 - TENNESSEE RIVER CHANNEL BOTTOM = 619 FEET (NAVD 88)
 - NORMAL TENNESSEE RIVER WATER SURFACE ELEVATION = 635 FEET (NAVD 88, AT DATE OF SURVEY IN 2016).
 - 50-YEAR FLOOD ELEVATION = 654 FEET (NAVD 88)
 - 100-YEAR FLOOD ELEVATION = 657 FEET (NAVD 88)
 - 500-YEAR FLOOD ELEVATION = 664 FEET (NAVD 88)
- GEOTECHNICAL INVESTIGATION WAS PERFORMED BY S&ME, INC., 4291 HIGHWAY 58, CHATTANOOGA, TENNESSEE, 37416. SOIL BORINGS (B-1, B-2, B-3, B-4, B-5) ARE SHOWN HEREIN PER S&ME REPORT 1281-17-015, DATED APRIL 12, 2017. SOIL BORINGS WERE NOT FIELD-LOCATED AND ARE SHOWN PER REPORT.
- MANHOLE IDENTIFICATION NUMBERS ARE PER CITY OF CHATTANOOGA GIS DATABASE RECORDS. MANHOLE ELEVATIONS ARE PER ABOVE 2016 SURVEY BY THE CITY OF CHATTANOOGA.
- PROPERTY OWNERSHIP INFORMATION IS PROVIDED PER PUBLIC RECORDS AVAILABLE FROM HAMILTON COUNTY PROPERTY APPRAISER'S OFFICE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING PARCEL OWNERSHIP AND REQUESTING ACCESS, IF NECESSARY, TO ANY OFF-SITE, ADJACENT PARCELS.

SURVEY CONTROL PLAN



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CITICO PUMP RELIABILITY IMPROVEMENTS
 CITY OF CHATTANOOGA, TN
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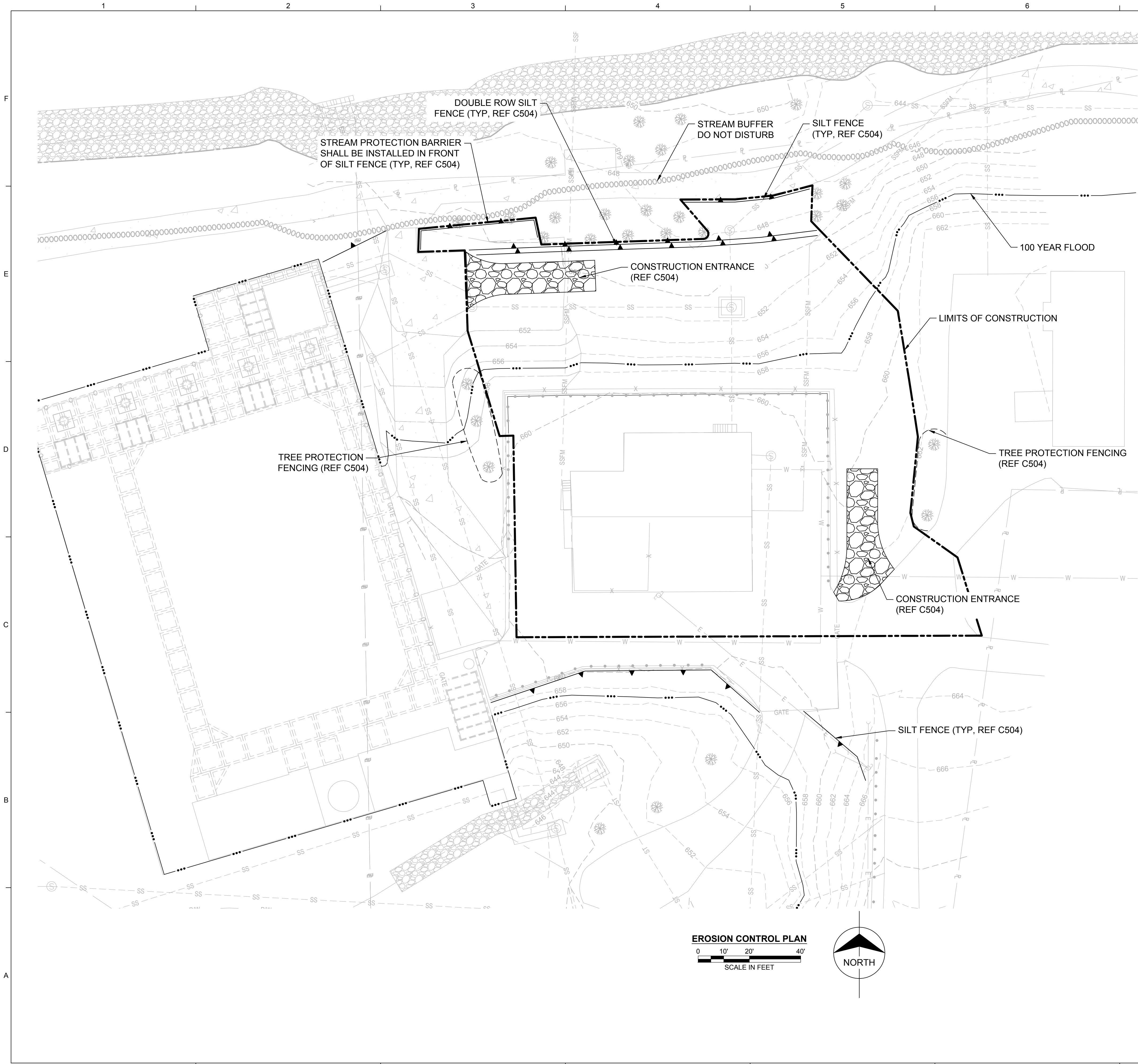


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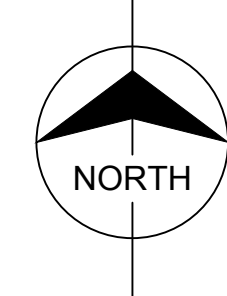
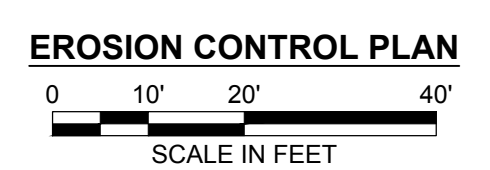
SHEET TITLE: CIVIL
SURVEY CONTROL PLAN

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NOTES:

1. REFER TO EROSION CONTROL DETAILS, SHEETS C503 AND C504.
2. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, STORAGE, OR DISTURBANCE OF VEGETATION WITHIN THE STREAM BUFFER EXCEPT AS PERMITTED IN WRITING BY THE CITY OF CHATTANOOGA'S SITE DEVELOPMENT MANAGER.
3. CONTRACTOR SHALL PROTECT ANY OFFSITE AREAS USED FOR STAGING OR LAYDOWN IN ACCORDANCE WITH THE STANDARD EROSION CONTROL DETAILS.



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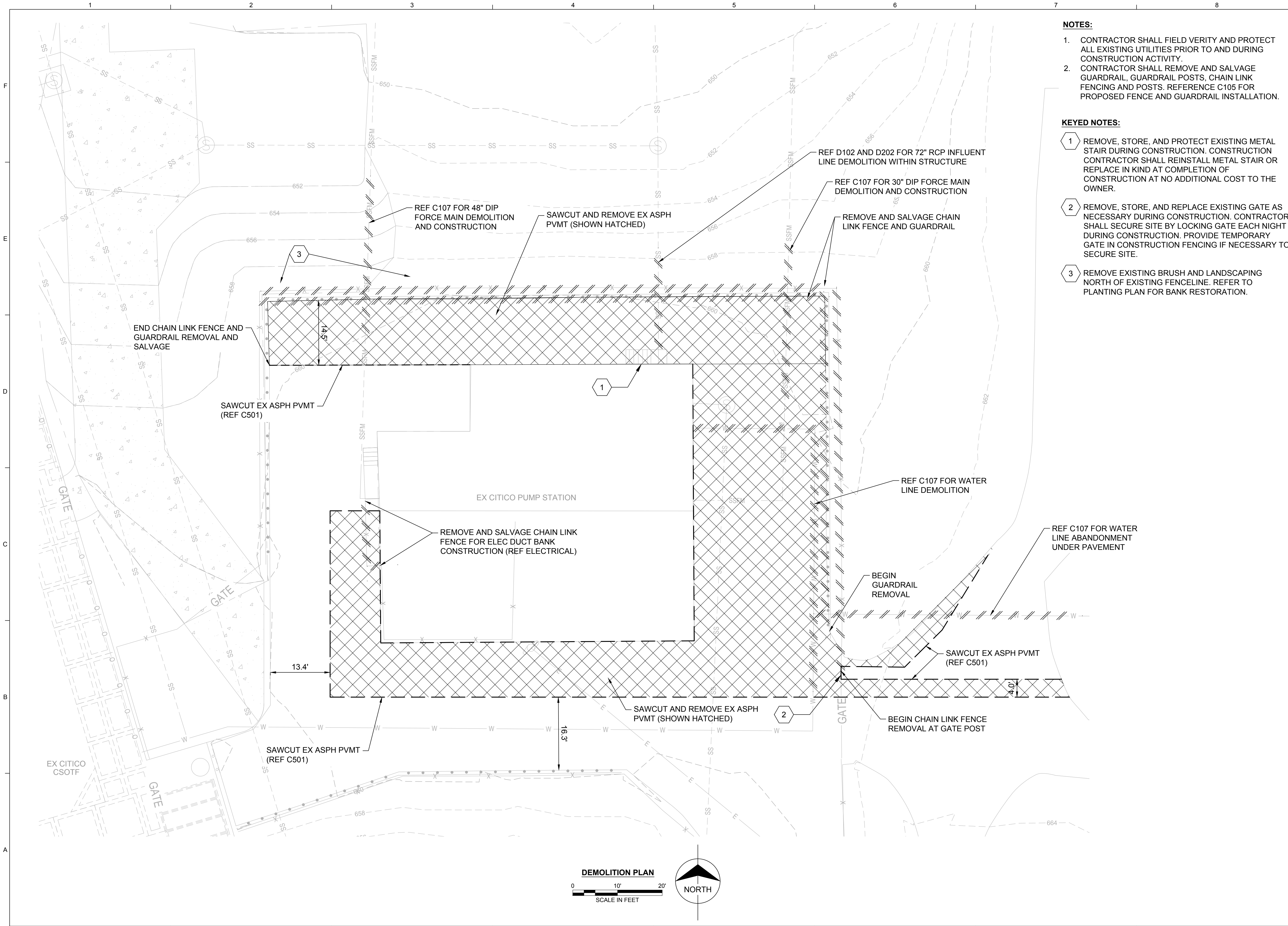
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SHEET TITLE: CIVIL
EROSION CONTROL PLAN

SHEET **C103** REV **0**

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NOTES:

- CONTRACTOR SHALL FIELD VERIFY AND PROTECT ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION ACTIVITY.
- CONTRACTOR SHALL REMOVE AND SALVAGE GUARDRAIL, GUARDRAIL POSTS, CHAIN LINK FENCING AND POSTS. REFERENCE C105 FOR PROPOSED FENCE AND GUARDRAIL INSTALLATION.

KEYED NOTES:

- REMOVE, STORE, AND PROTECT EXISTING METAL STAIR DURING CONSTRUCTION. CONSTRUCTION CONTRACTOR SHALL REINSTALL METAL STAIR OR REPLACE IN KIND AT COMPLETION OF CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- REMOVE, STORE, AND REPLACE EXISTING GATE AS NECESSARY DURING CONSTRUCTION. CONTRACTOR SHALL SECURE SITE BY LOCKING GATE EACH NIGHT DURING CONSTRUCTION. PROVIDE TEMPORARY GATE IN CONSTRUCTION FENCING IF NECESSARY TO SECURE SITE.
- REMOVE EXISTING BRUSH AND LANDSCAPING NORTH OF EXISTING FENCELINE. REFER TO PLANTING PLAN FOR BANK RESTORATION.

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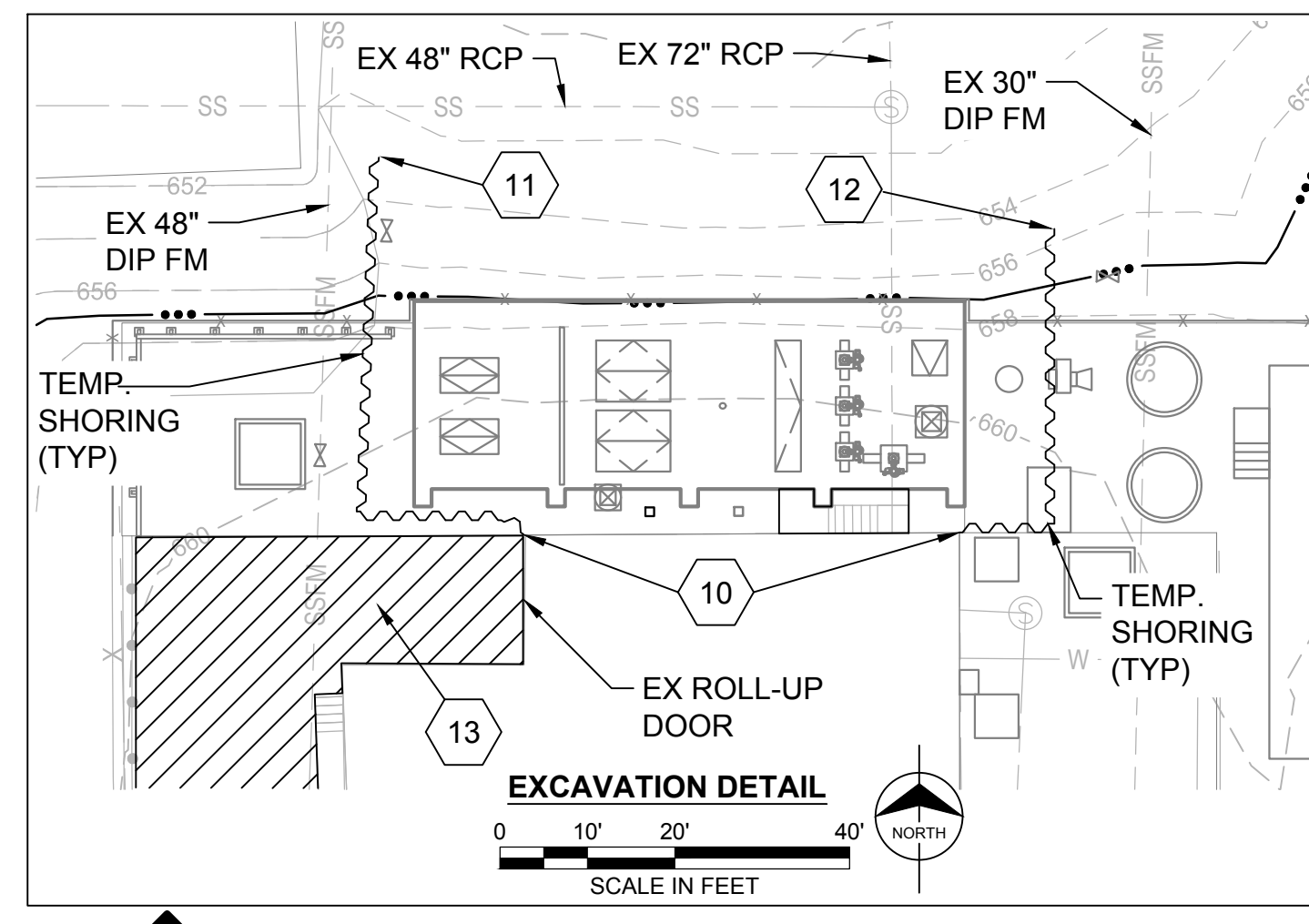
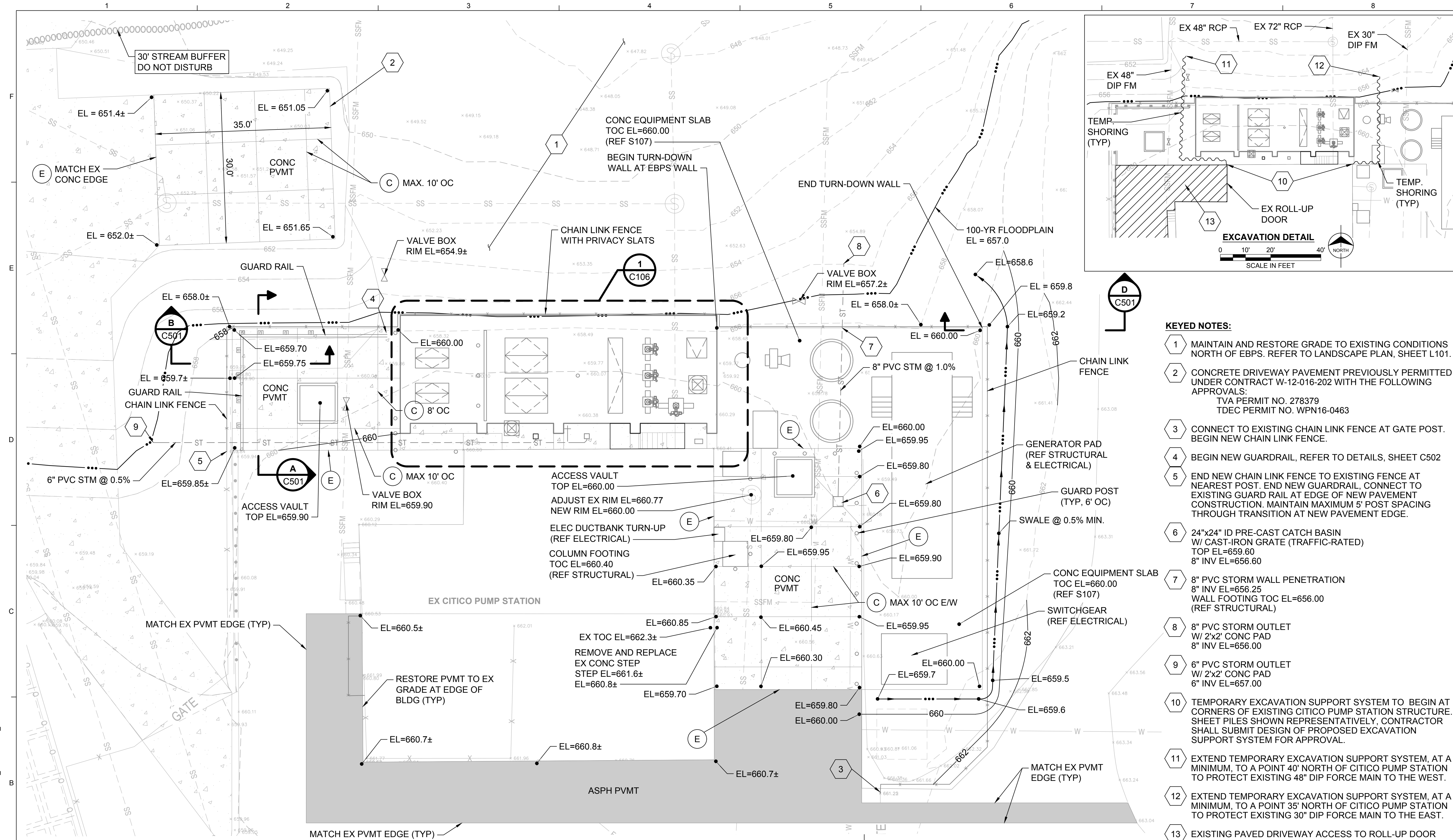
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SHEET TITLE: CIVIL
DEMOLITION PLAN

SHEET **C104** REV **0**

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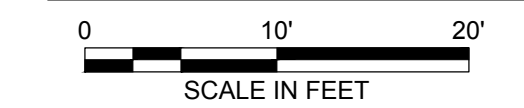
KEYED NOTES:

- 1 MAINTAIN AND RESTORE GRADE TO EXISTING CONDITIONS NORTH OF EBPS. REFER TO LANDSCAPE PLAN, SHEET L101.
- 2 CONCRETE DRIVEWAY PAVEMENT PREVIOUSLY PERMITTED UNDER CONTRACT W-12-016-202 WITH THE FOLLOWING APPROVALS:
TVA PERMIT NO. 278379
TDEC PERMIT NO. WPN16-0463
- 3 CONNECT TO EXISTING CHAIN LINK FENCE AT GATE POST. BEGIN NEW CHAIN LINK FENCE.
- 4 BEGIN NEW GUARDRAIL, REFER TO DETAILS, SHEET C502
- 5 END NEW CHAIN LINK FENCE TO EXISTING FENCE AT NEAREST POST. END NEW GUARDRAIL, CONNECT TO EXISTING GUARDRAIL AT EDGE OF NEW PAVEMENT CONSTRUCTION. MAINTAIN MAXIMUM 5' POST SPACING THROUGH TRANSITION AT NEW PAVEMENT EDGE.
- 6 24"x24" ID PRE-CAST CATCH BASIN W/ CAST-IRON GRATE (TRAFFIC-RATED)
TOP EL=659.60
8" INV EL=656.60
- 7 8" PVC STORM WALL PENETRATION
8" INV EL=656.25
WALL FOOTING TOC EL=656.00 (REF STRUCTURAL)
- 8 8" PVC STORM OUTLET W/ 2'x2' CONC PAD
8" INV EL=656.00
- 9 6" PVC STORM OUTLET W/ 2'x2' CONC PAD
6" INV EL=657.00
- 10 TEMPORARY EXCAVATION SUPPORT SYSTEM TO BEGIN AT CORNERS OF EXISTING CITICO PUMP STATION STRUCTURE. SHEET PILES SHOWN REPRESENTATIVELY. CONTRACTOR SHALL SUBMIT DESIGN OF PROPOSED EXCAVATION SUPPORT SYSTEM FOR APPROVAL.
- 11 EXTEND TEMPORARY EXCAVATION SUPPORT SYSTEM, AT A MINIMUM, TO A POINT 40' NORTH OF CITICO PUMP STATION TO PROTECT EXISTING 48" DIP FORCE MAIN TO THE WEST.
- 12 EXTEND TEMPORARY EXCAVATION SUPPORT SYSTEM, AT A MINIMUM, TO A POINT 35' NORTH OF CITICO PUMP STATION TO PROTECT EXISTING 30" DIP FORCE MAIN TO THE EAST.
- 13 EXISTING PAVED DRIVEWAY ACCESS TO ROLL-UP DOOR (SHOWN HATCHED) TO REMAIN IN SERVICE DURING CONSTRUCTION. TEMPORARY EXCAVATION SUPPORT SYSTEM AT NORTH EDGE OF PAVEMENT SHALL BE DESIGNED TO MAINTAIN H-20 TRAFFIC LOAD RATING ON DRIVEWAY PAVEMENT.

NOTES:

1. REFER TO C102 FOR SURVEY CONTROL POINTS.
2. REFER TO SITE DETAILS, SHEET C501.
3. REFER TO ENLARGED GRADING PLAN, SHEET C106, FOR AREA BETWEEN EXISTING PUMP STATION AND EBPS.
4. REFER TO ELECTRICAL DRAWINGS FOR DUCT BANK TRENCH PAVEMENT REPLACEMENT.
5. CHAIN LINK FENCE, PVC-COATED, BLACK COLOR, SHALL HAVE FULL-HEIGHT PRIVACY SLATS ALONG NORTH SIDE OF SITE. CONTRACTOR SHALL SUBMIT EXCAVATION PLAN IN ACCORDANCE WITH 31 20 00. EXCAVATION PLAN SHALL, AT MINIMUM, INCLUDE THE FOLLOWING:
 - 6.A. HORIZONTAL LOCATION AND GRADE OF TEMPORARY SLOPES
 - 6.B. HORIZONTAL LOCATION OF EXCAVATION SUPPORT SYSTEMS. REFER TO EXCAVATION DETAIL, THIS SHEET.
 - 6.C. SEPARATION DISTANCES BETWEEN EXCAVATION SUPPORT SYSTEMS AND EXISTING STRUCTURES AND UNDERGROUND UTILITIES
 - 6.D. EXCAVATION PHASING
7. PRIOR TO FINAL ACCEPTANCE BY THE CITY ENGINEER AND/OR ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE CONTRACTOR SHALL:
 - 7.A. COMPLY WITH ALL PERMANENT LANDSCAPING REQUIREMENTS AND SCHEDULE A LANDSCAPE INSPECTION WITH THE CITY OF CHATTANOOGA'S LANDSCAPE INSPECTOR. AN APPOINTMENT MAY BE SCHEDULED BY CALLING 423-643-5837 A MINIMUM OF TWO BUSINESS DAYS BEFORE THE DESIRED INSPECTION APPOINTMENT.
 - 7.B. COMPLY WITH ALL EROSION AND SEDIMENT CONTROL PRACTICES CONSISTENT WITH THE CURRENT EDITION OF THE TENNESSEE EROSION & SEDIMENT CONTROL MANUAL, THE CITY OF CHATTANOOGA BMP MANUAL, AND THE TDEC CONSTRUCTION GENERAL PERMIT (IF APPLICABLE).

PAVING AND GRADING PLAN



BURNS MEDONNELL
3650 MANSELL ROAD, SUITE 300
ALPHARETTA, GA 30022
770-587-4776

CITICO PUMP RELIABILITY IMPROVEMENTS
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PROJECT NO: 95307
DATE: 04/14/17
DISC. LEAD: PMB DESIGNER: SDA CHECKER: ALW

SHEET TITLE CIVIL
PAVING AND GRADING PLAN

SHEET **C105** REV **0**

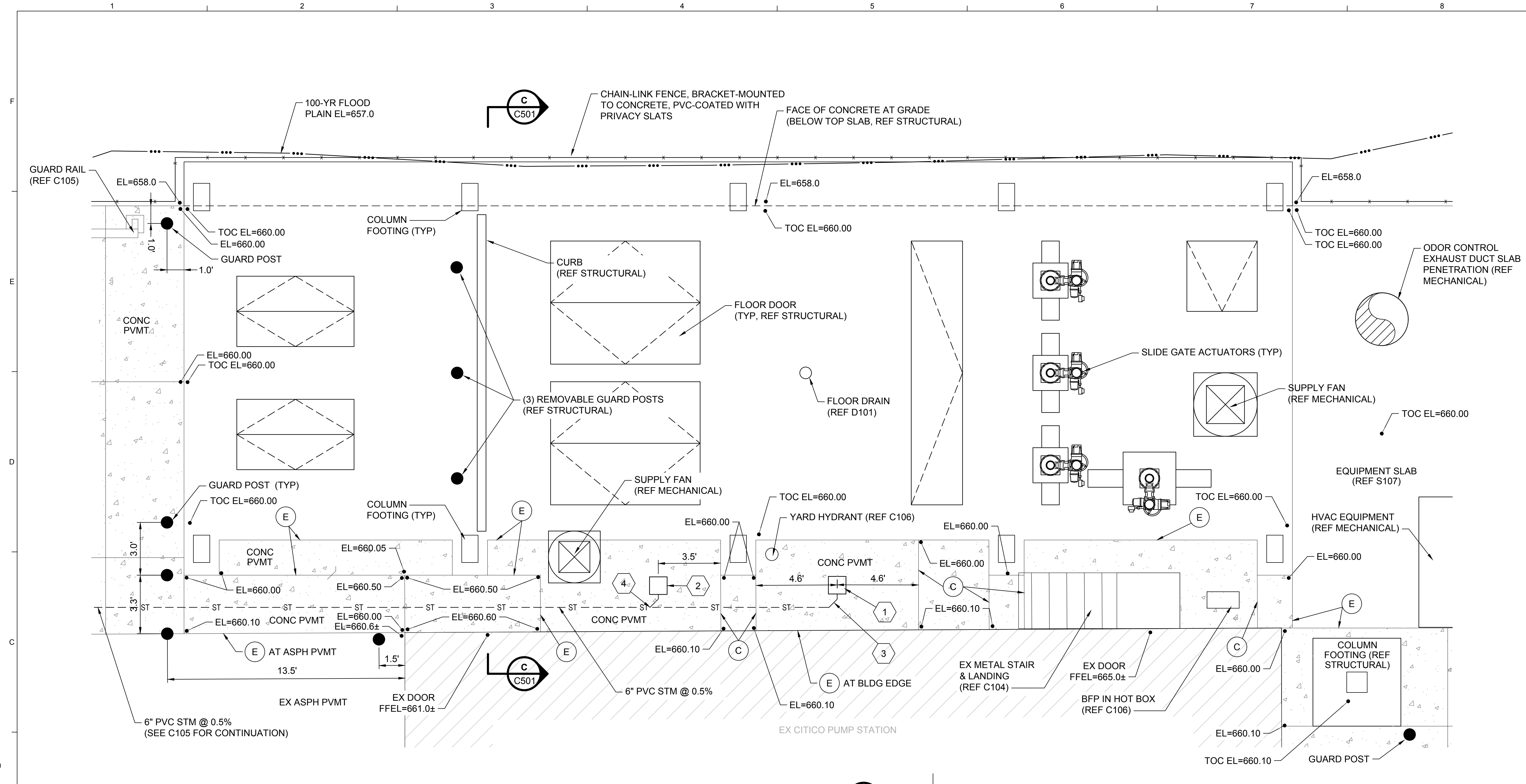
CITICO PUMP RELIABILITY IMPROVEMENTS
 CITY OF CHATTANOOGA, TN
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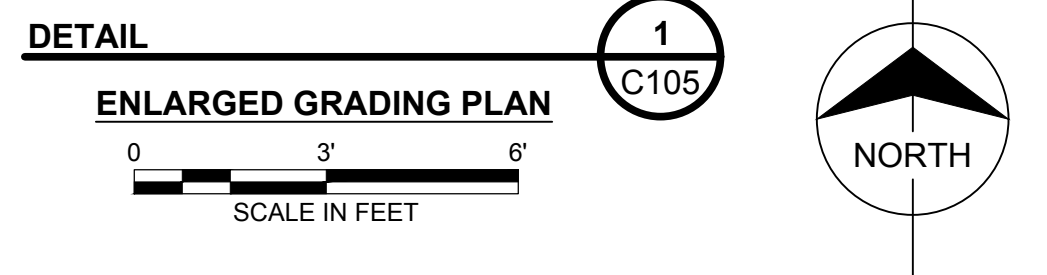
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 DISC. LEAD: DESIGNER: CHECKER:
 PMB SDA ALW
 SHEET TITLE: CIVIL

ENLARGED GRADING PLAN



- KEYED NOTES:**
- 1 12"x12" ADS YARD DRAIN WITH CAST-IRON GRATE
 (1) 6" 90° VERTICAL BEND
 TOP EL=659.75
 6" INV EL=657.50
 - 2 12"x12" ADS YARD DRAIN WITH CAST-IRON GRATE
 (1) 6" 90° VERTICAL BEND
 TOP EL=659.75
 6" INV EL=657.50
 - 3 (2) 6" 45° PVC BENDS
 6" INV EL=657.50
 - 4 (1) 6" 45° WYE
 (1) 6" 45° BEND
 6" INV EL=657.45

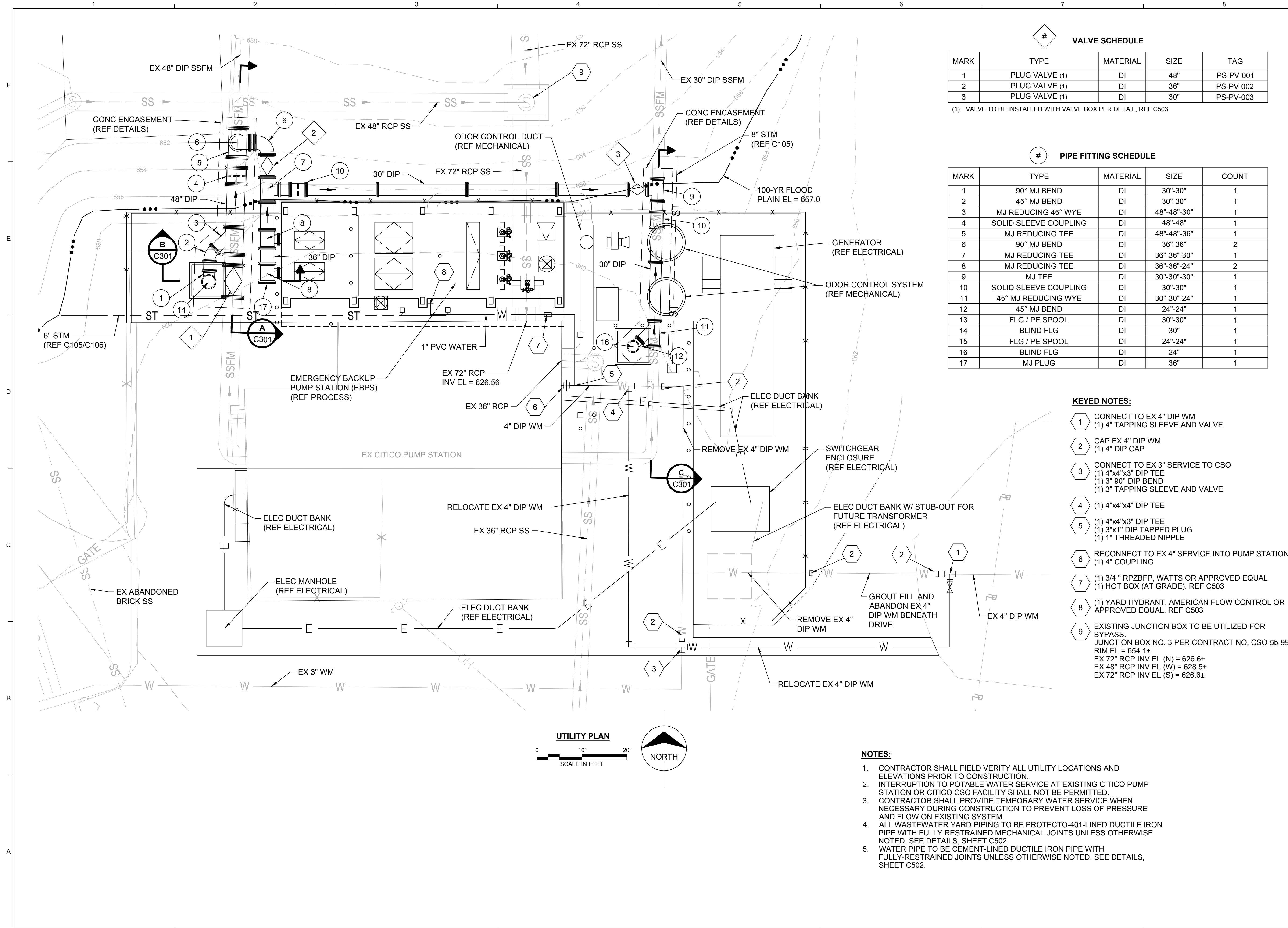


- NOTES:**
1. REFER TO C102 FOR SURVEY CONTROL POINTS.
 2. REFER TO SITE DETAILS, SHEET C501.
 3. CHAIN LINK FENCE ALONG NORTH SIDE OF SITE SHALL HAVE FULL-HEIGHT PRIVACY SLATS.

- PAVEMENT JOINTING LEGEND**
 REFER TO TYPICAL PAVEMENT JOINTS DETAILS, SHEET C501
- (C) CONTRACTION JOINT
 - (E) EXPANSION JOINT

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VALVE SCHEDULE

MARK	TYPE	MATERIAL	SIZE	TAG
1	PLUG VALVE (1)	DI	48"	PS-PV-001
2	PLUG VALVE (1)	DI	36"	PS-PV-002
3	PLUG VALVE (1)	DI	30"	PS-PV-003

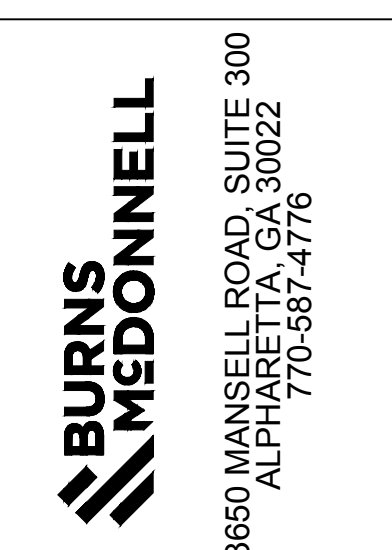
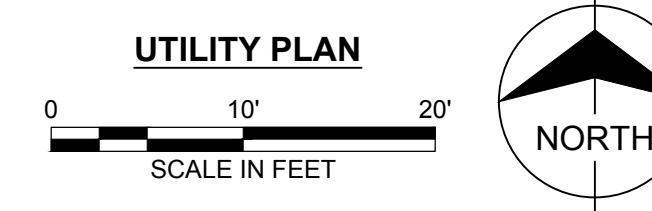
(1) VALVE TO BE INSTALLED WITH VALVE BOX PER DETAIL, REF C503

PIPE FITTING SCHEDULE

MARK	TYPE	MATERIAL	SIZE	COUNT
1	90° MJ BEND	DI	30"-30"	1
2	45° MJ BEND	DI	30"-30"	1
3	MJ REDUCING 45° WYE	DI	48"-48"-30"	1
4	SOLID SLEEVE COUPLING	DI	48"-48"	1
5	MJ REDUCING TEE	DI	48"-48"-36"	1
6	90° MJ BEND	DI	36"-36"	2
7	MJ REDUCING TEE	DI	36"-36"-30"	1
8	MJ REDUCING TEE	DI	36"-36"-24"	2
9	MJ TEE	DI	30"-30"-30"	1
10	SOLID SLEEVE COUPLING	DI	30"-30"	1
11	45° MJ REDUCING WYE	DI	30"-30"-24"	1
12	45° MJ BEND	DI	24"-24"	1
13	FLG / PE SPOOL	DI	30"-30"	1
14	BLIND FLG	DI	30"	1
15	FLG / PE SPOOL	DI	24"-24"	1
16	BLIND FLG	DI	24"	1
17	MJ PLUG	DI	36"	1

- KEYED NOTES:**
- 1 CONNECT TO EX 4" DIP WM
(1) 4" TAPPING SLEEVE AND VALVE
 - 2 CAP EX 4" DIP WM
(1) 4" DIP CAP
 - 3 CONNECT TO EX 3" SERVICE TO CSO
(1) 4"x4"x3" DIP TEE
(1) 3" 90° DIP BEND
(1) 3" TAPPING SLEEVE AND VALVE
 - 4 (1) 4"x4"x4" DIP TEE
 - 5 (1) 4"x4"x3" DIP TEE
(1) 3"x1" DIP TAPPED PLUG
(1) 1" THREADED NIPPLE
 - 6 RECONNECT TO EX 4" SERVICE INTO PUMP STATION
(1) 4" COUPLING
 - 7 (1) 3/4" RPZBFP, WATTS OR APPROVED EQUAL
(1) HOT BOX (AT GRADE). REF C503
 - 8 (1) YARD HYDRANT, AMERICAN FLOW CONTROL OR APPROVED EQUAL. REF C503
 - 9 EXISTING JUNCTION BOX TO BE UTILIZED FOR BYPASS.
JUNCTION BOX NO. 3 PER CONTRACT NO. CSO-5b-99
RIM EL = 654.1±
EX 72" RCP INV EL (N) = 626.6±
EX 48" RCP INV EL (W) = 628.5±
EX 72" RCP INV EL (S) = 626.6±

- NOTES:**
- CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
 - INTERRUPTION TO POTABLE WATER SERVICE AT EXISTING CITICO PUMP STATION OR CITICO CSO FACILITY SHALL NOT BE PERMITTED.
 - CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE WHEN NECESSARY DURING CONSTRUCTION TO PREVENT LOSS OF PRESSURE AND FLOW ON EXISTING SYSTEM.
 - ALL WASTEWATER YARD PIPING TO BE PROTECTO-401-LINED DUCTILE IRON PIPE WITH FULLY RESTRAINED MECHANICAL JOINTS UNLESS OTHERWISE NOTED. SEE DETAILS, SHEET C502.
 - WATER PIPE TO BE CEMENT-LINED DUCTILE IRON PIPE WITH FULLY-RESTRAINED JOINTS UNLESS OTHERWISE NOTED. SEE DETAILS, SHEET C502.



CITICO PUMP RELIABILITY IMPROVEMENTS
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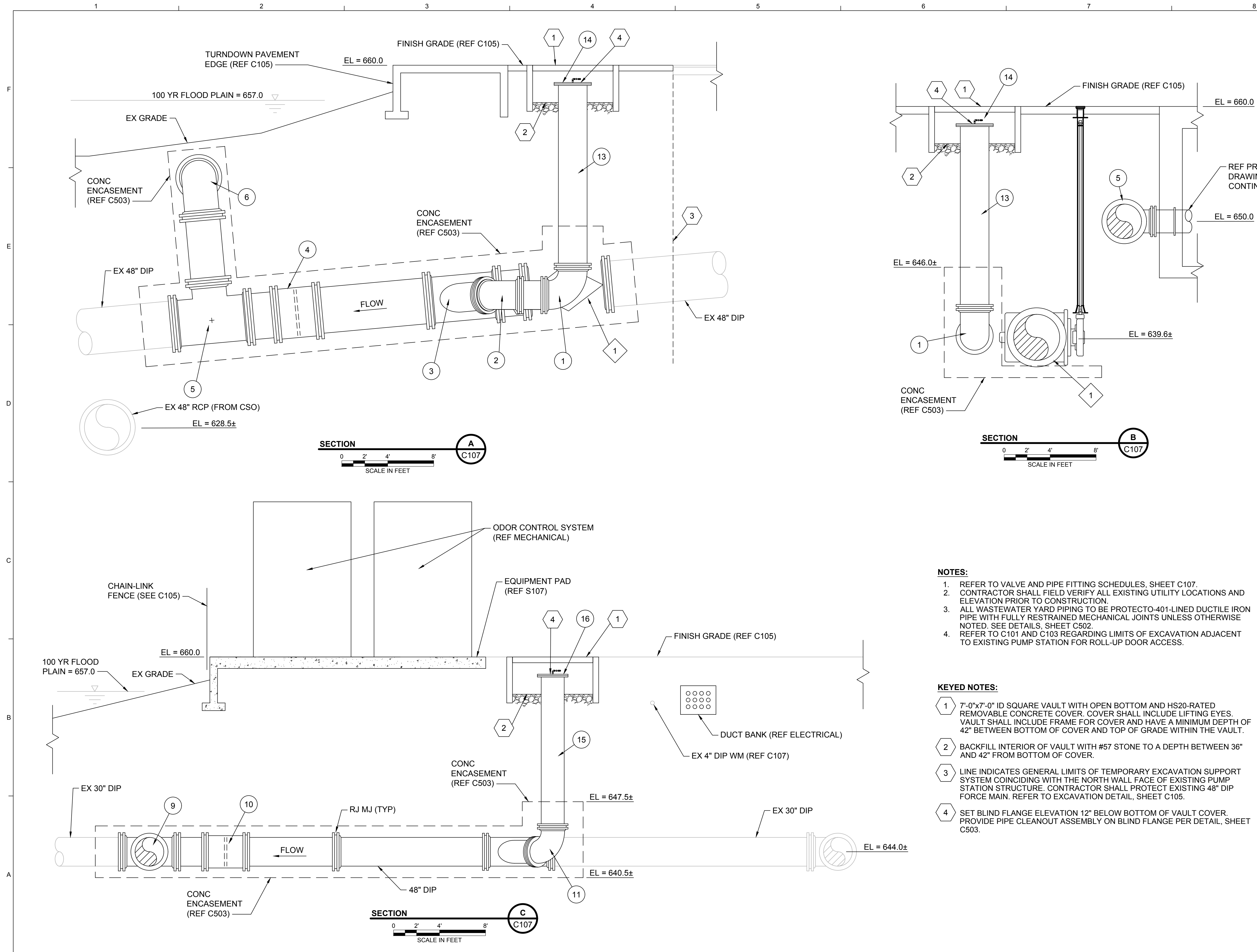
PROJECT NO: 95307
 DATE: 04/14/17
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SHEET TITLE: CIVIL

UTILITY PLAN

SHEET **C107** REV **0**

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- NOTES:**
- REFER TO VALVE AND PIPE FITTING SCHEDULES, SHEET C107.
 - CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LOCATIONS AND ELEVATION PRIOR TO CONSTRUCTION.
 - ALL WASTEWATER YARD PIPING TO BE PROTECTO-401-LINED DUCTILE IRON PIPE WITH FULLY RESTRAINED MECHANICAL JOINTS UNLESS OTHERWISE NOTED. SEE DETAILS, SHEET C502.
 - REFER TO C101 AND C103 REGARDING LIMITS OF EXCAVATION ADJACENT TO EXISTING PUMP STATION FOR ROLL-UP DOOR ACCESS.

- KEYED NOTES:**
- 7'-0"x7'-0" ID SQUARE VAULT WITH OPEN BOTTOM AND HS20-RATED REMOVABLE CONCRETE COVER. COVER SHALL INCLUDE LIFTING EYES. VAULT SHALL INCLUDE FRAME FOR COVER AND HAVE A MINIMUM DEPTH OF 42" BETWEEN BOTTOM OF COVER AND TOP OF GRADE WITHIN THE VAULT.
 - BACKFILL INTERIOR OF VAULT WITH #57 STONE TO A DEPTH BETWEEN 36" AND 42" FROM BOTTOM OF COVER.
 - LINE INDICATES GENERAL LIMITS OF TEMPORARY EXCAVATION SUPPORT SYSTEM COINCIDING WITH THE NORTH WALL FACE OF EXISTING PUMP STATION STRUCTURE. CONTRACTOR SHALL PROTECT EXISTING 48" DIP FORCE MAIN. REFER TO EXCAVATION DETAIL, SHEET C105.
 - SET BLIND FLANGE ELEVATION 12" BELOW BOTTOM OF VAULT COVER. PROVIDE PIPE CLEANOUT ASSEMBLY ON BLIND FLANGE PER DETAIL, SHEET C503.

BURNS MEDONNELL
3650 MANSELL ROAD, SUITE 300
ALPHARETTA, GA 30022
770-587-4776

CITICO PUMP RELIABILITY IMPROVEMENTS
CITY OF CHATTANOOGA, TN
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PROJECT NO: 95307
DATE: 04/14/17
DISC. LEAD: PMB DESIGNER: SDA CHECKER: ALW

SHEET TITLE: CIVIL

UTILITY SECTIONS

SHEET **C301** REV **0**

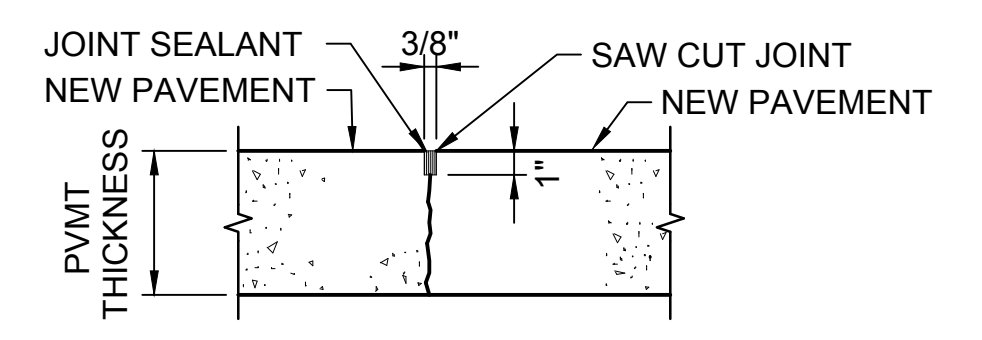


CITICO PUMP RELIABILITY IMPROVEMENTS
 CITY OF CHATTANOOGA, TN
 CONSENT DECREE PROGRAM

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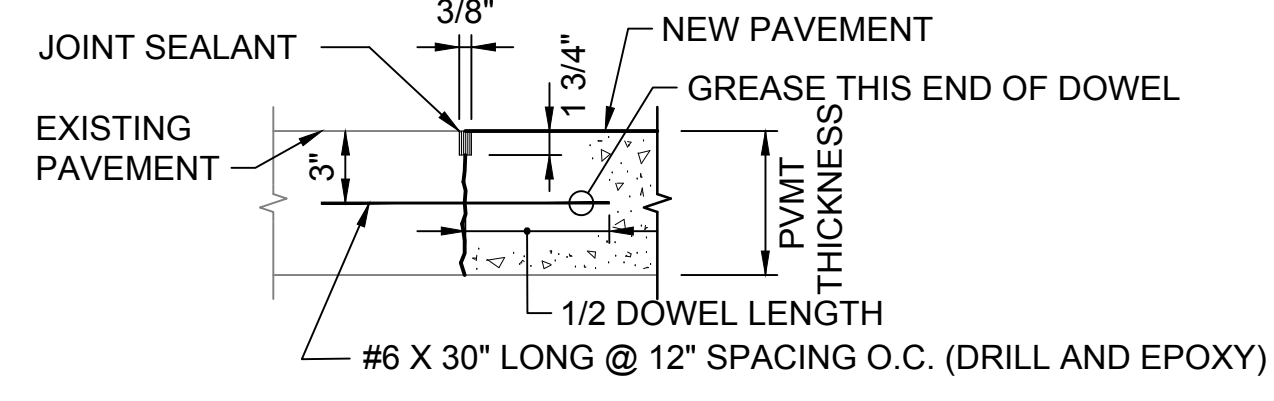
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 PROJECT NO: 95307
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 PMB SDA ALW
 SHEET TITLE: CIVIL

SITE DETAILS 1



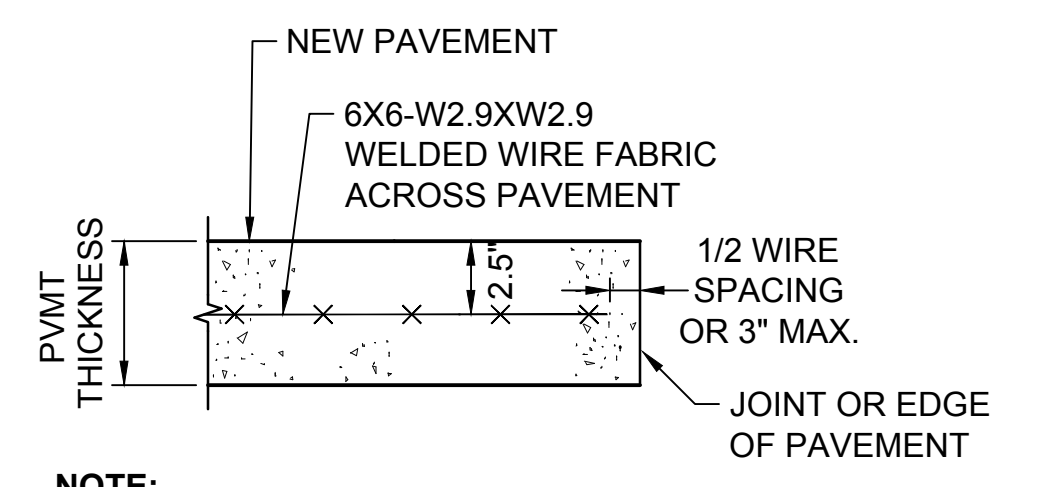
- NOTE:**
1. GRADED AGGREGATE BASE AND CONCRETE PAVING MATERIALS AND CONSTRUCTION SHALL MEET THE "STANDARD SPECIFICATIONS OF THE DEPARTMENT OF TRANSPORTATION, STATE OF TENNESSEE" AND THE PROJECT SPECIFICATIONS.
 2. PROVIDE SMOOTH, FLUSH TRANSITION BETWEEN EXISTING AND NEW PAVEMENT.
 3. PROVIDE CONTRACTION JOINTS AT 10' O.C. LONGITUDINALLY AND LATERALLY ALONG NEW CONCRETE PAVEMENT, OR WHERE INDICATED IN THE DRAWINGS, PROVIDE DOWELING REINFORCEMENT FOR CONNECTIONS TO EXISTING CONCRETE PAVEMENT.
 4. PROVIDE 6X6-W2.9XW2.9 WELDED WIRE FABRIC WITHIN ALL NEW CONCRETE PAVEMENT.

CONTRACTION JOINT
NOT TO SCALE



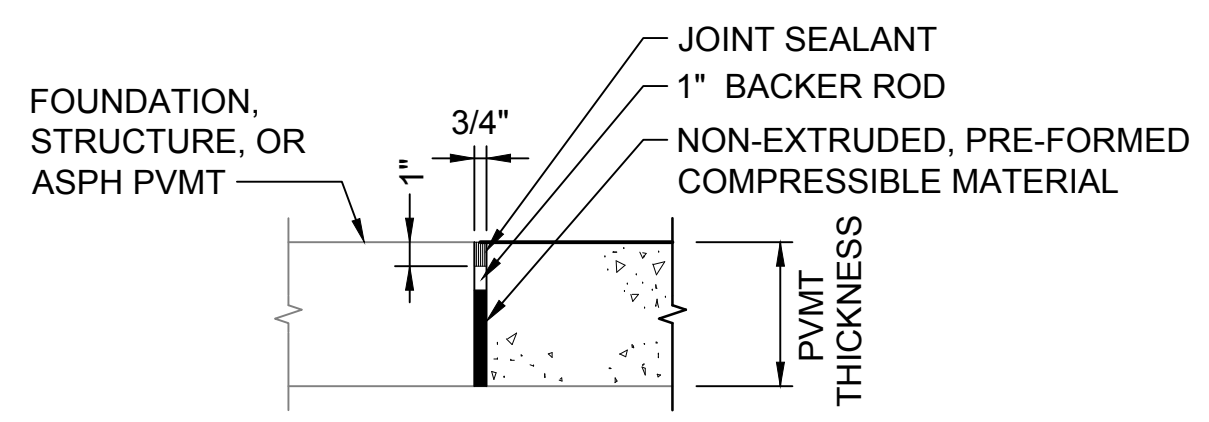
- NOTE:**
1. HOLES APPROXIMATELY 1/8 INCH GREATER IN DIAMETER THAN THE DOWEL SHALL BE DRILLED IN THE EXISTING CONCRETE AND THE DOWELS SHALL BE BONDED IN THE DRILLED HOLES USING EPOXY RESIN GROUT. PAINT AND OIL END OF DOWEL IN NEW PAVEMENT.

DOWELED EXPANSION JOINT
NOT TO SCALE



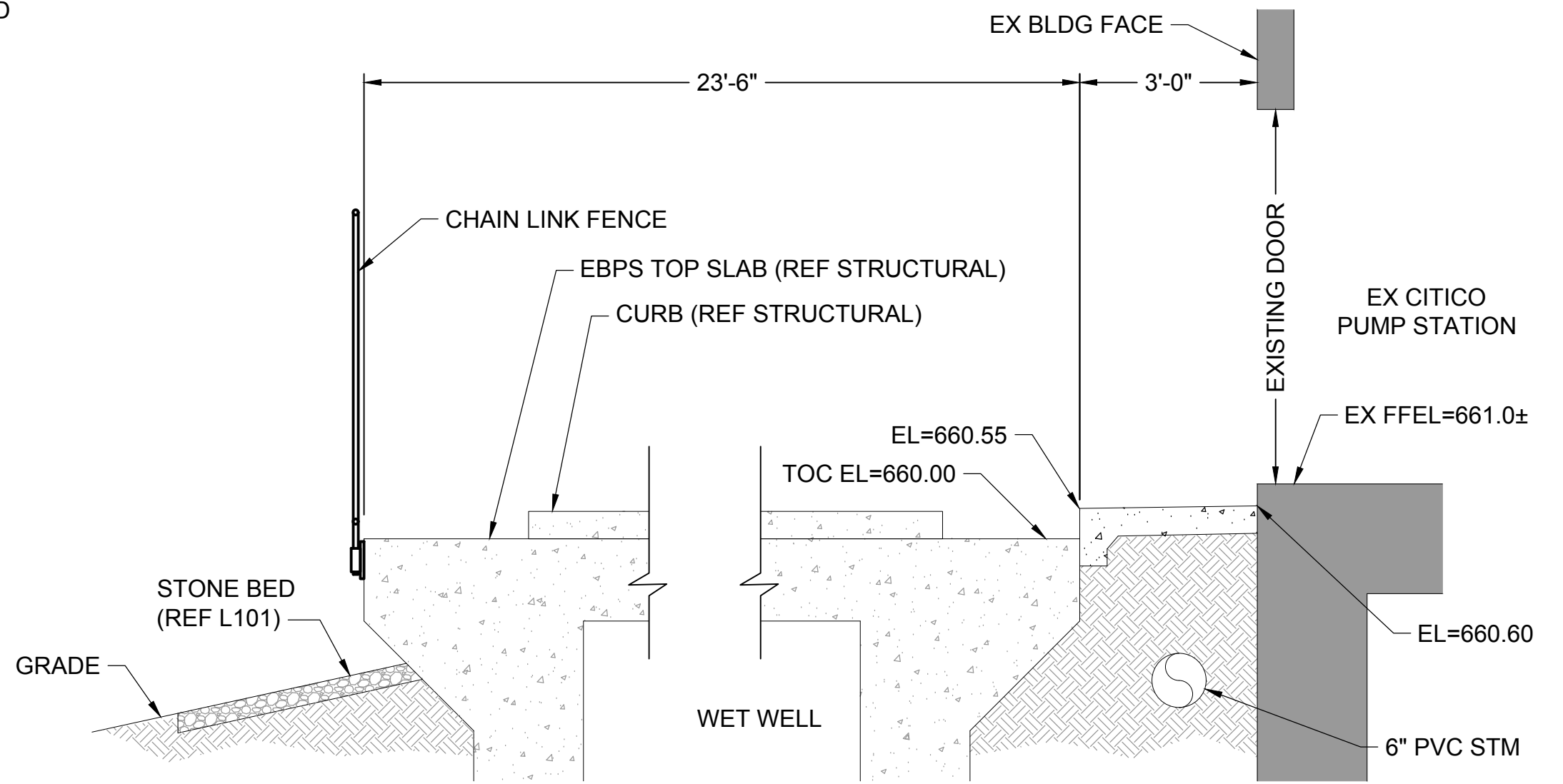
- NOTE:**
1. WELDED WIRE FABRIC SHALL BE OVERLAPPED FOR A DISTANCE EQUAL TO AT LEAST ONE SPACING OF WIRE IN THE FABRIC OR 32 WIRE DIAMETERS, WHICHEVER IS GREATER. THE WIRES IN THE LAP SHALL BE WIRED OR OTHERWISE SECURELY FASTENED TO PREVENT SEPARATION DURING CONCRETE PLACEMENT.

TYPICAL REINFORCEMENT DETAIL
NOT TO SCALE

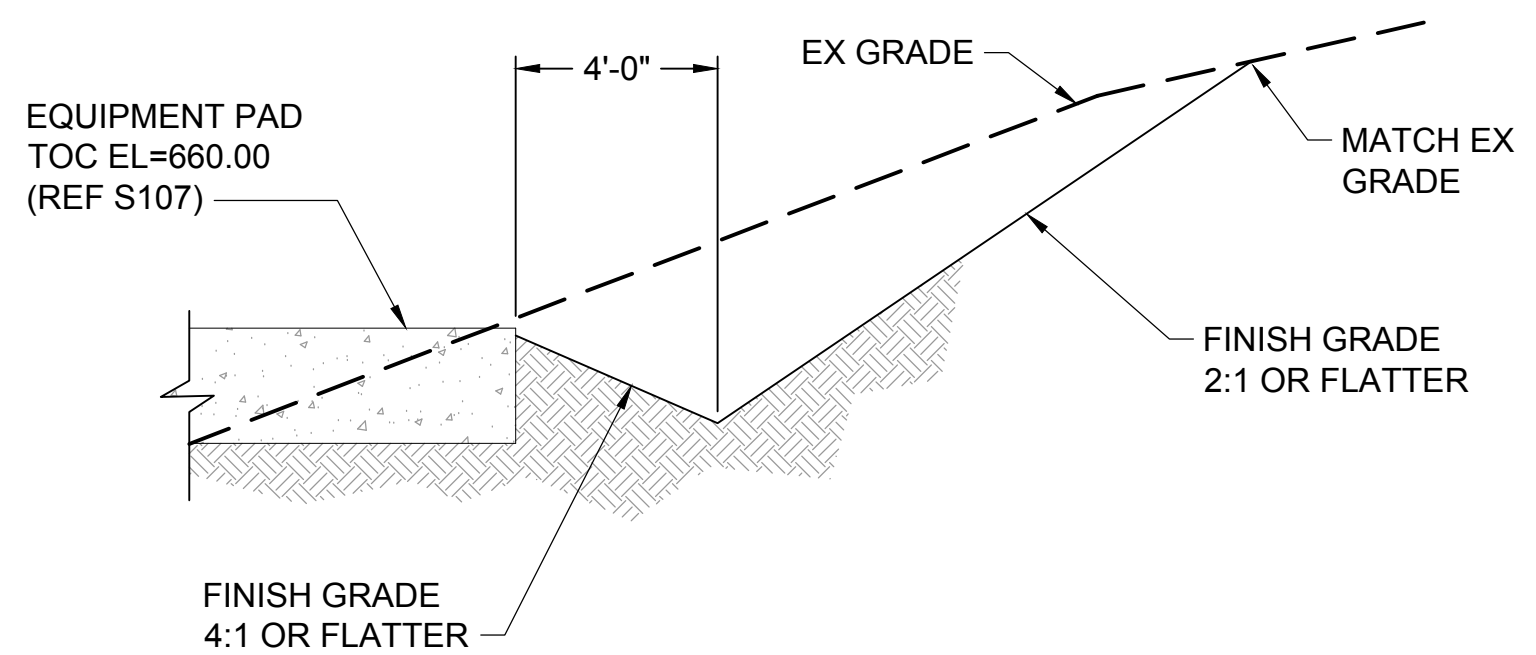


- NOTE:**
1. PROVIDE EXPANSION JOINT BETWEEN NEW PAVEMENT AND ALL PROPOSED OR EXISTING STRUCTURES, EQUIPMENT PADS, FOUNDATIONS/FOOTINGS, DRAINAGE STRUCTURES, AND ASPHALT TO CONCRETE TRANSITIONS.

EXPANSION JOINT
NOT TO SCALE

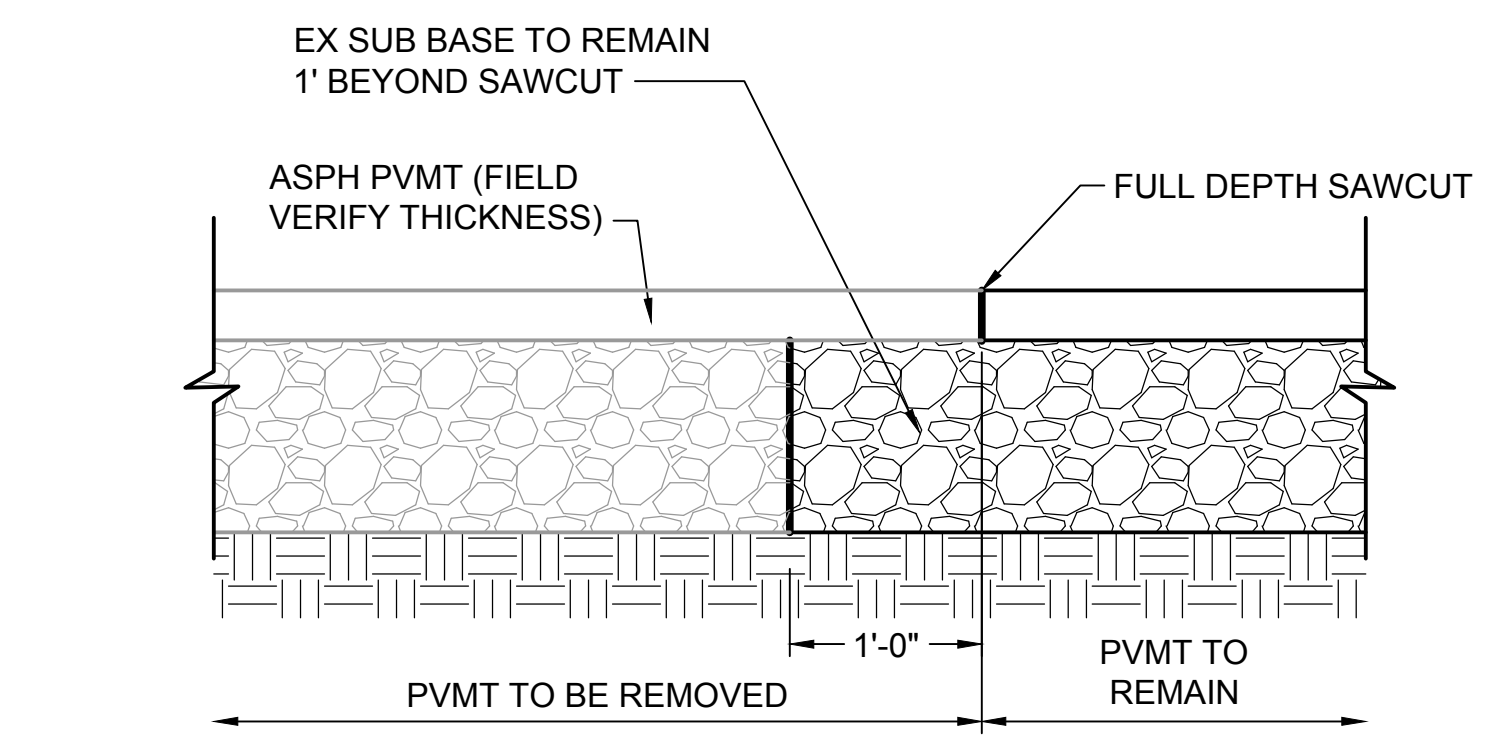


SECTION C
NOT TO SCALE
C106

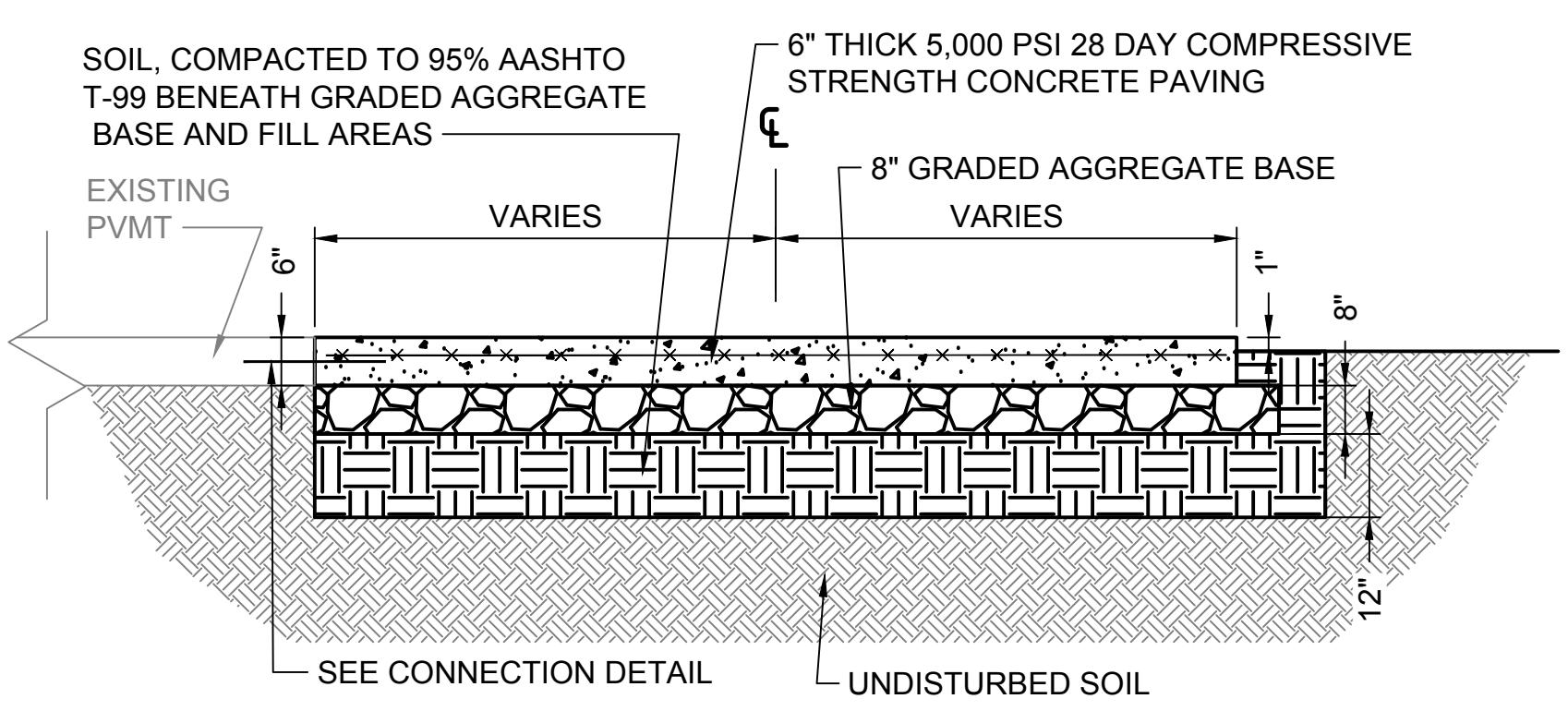


- NOTE:**
1. REFER TO GRADING PLAN, SHEET C105 FOR FINISH GRADES
 2. SOD DITCH PER LANDSCAPE PLAN, SHEET L101

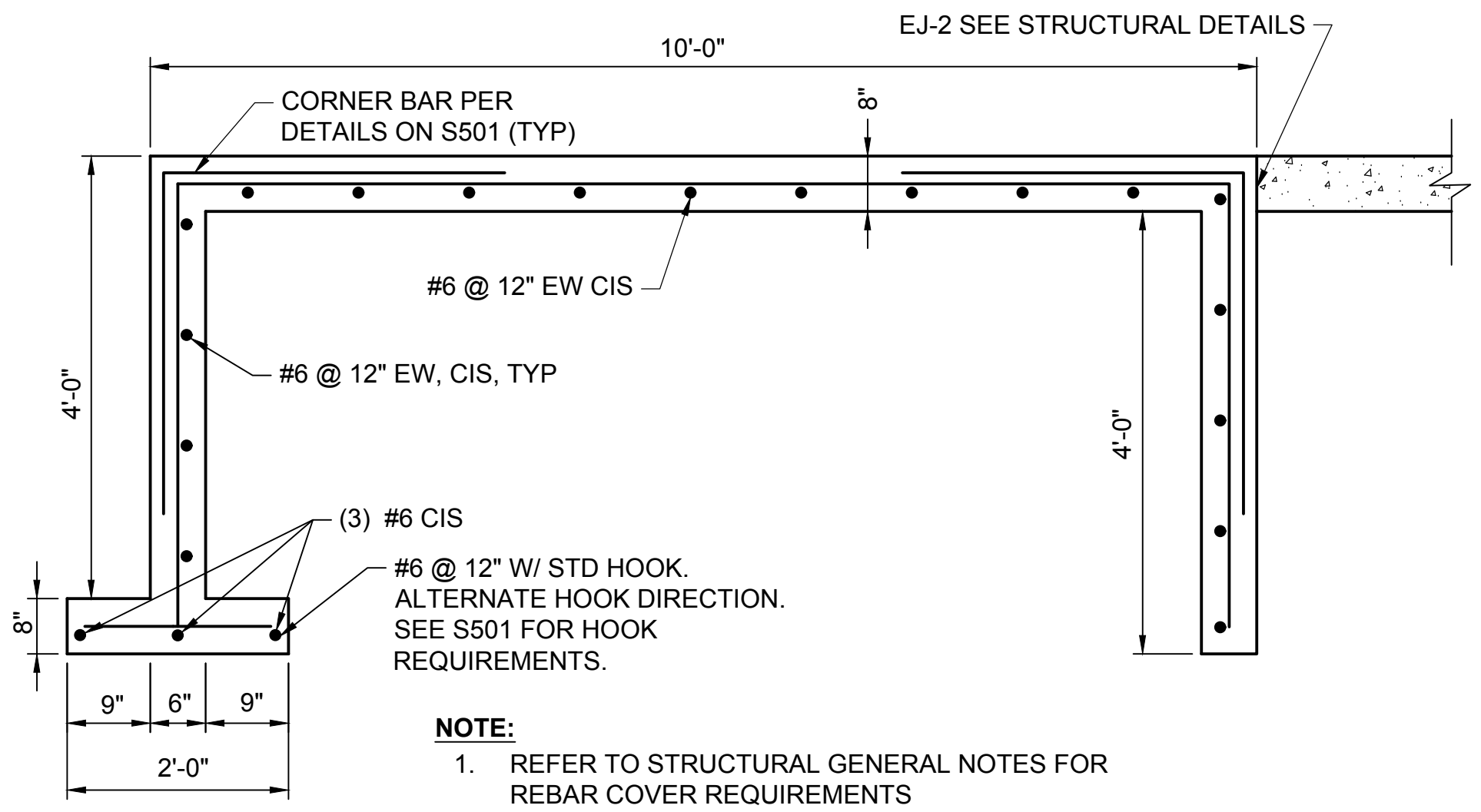
SECTION D
NOT TO SCALE
C105



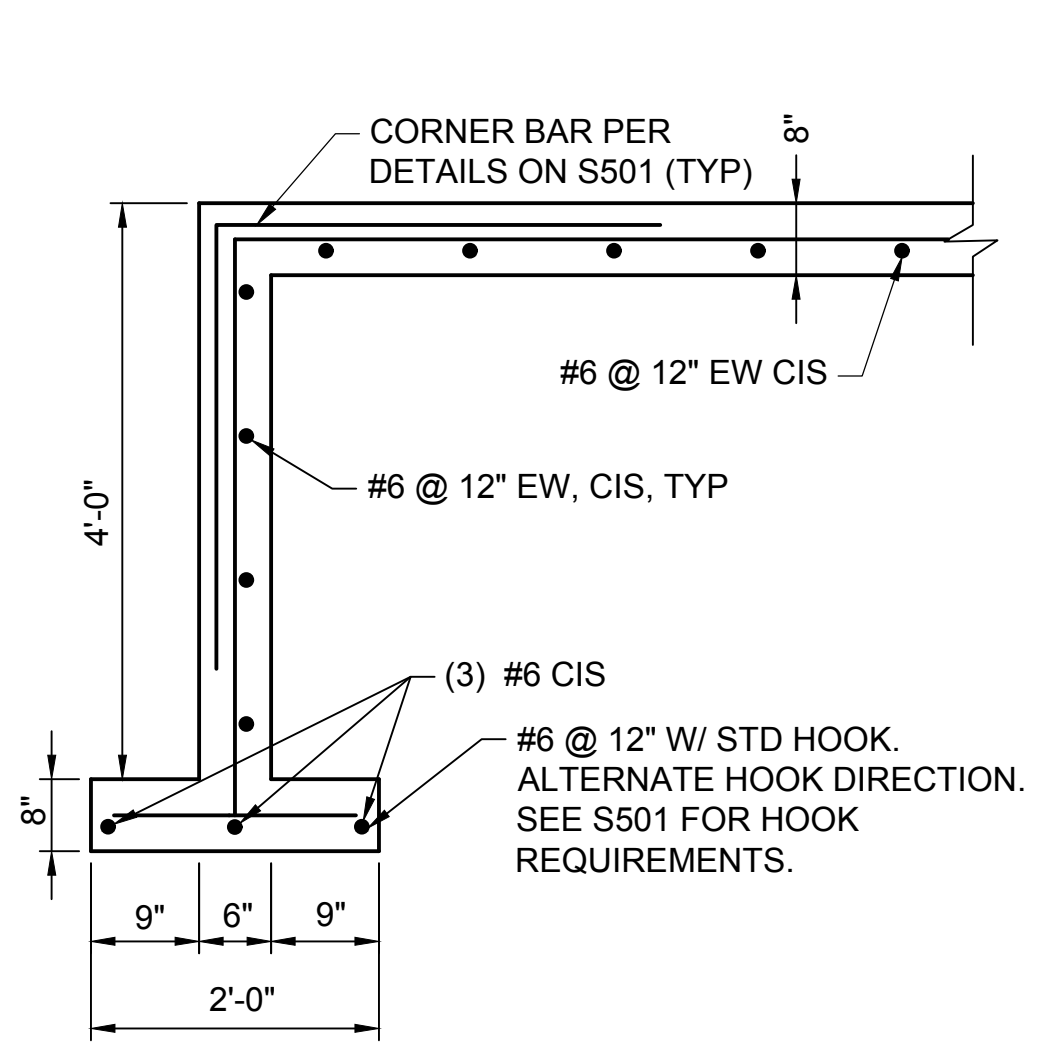
PAVEMENT SAWCUT
NOT TO SCALE



CONCRETE PAVEMENT TYPICAL SECTION
NOT TO SCALE

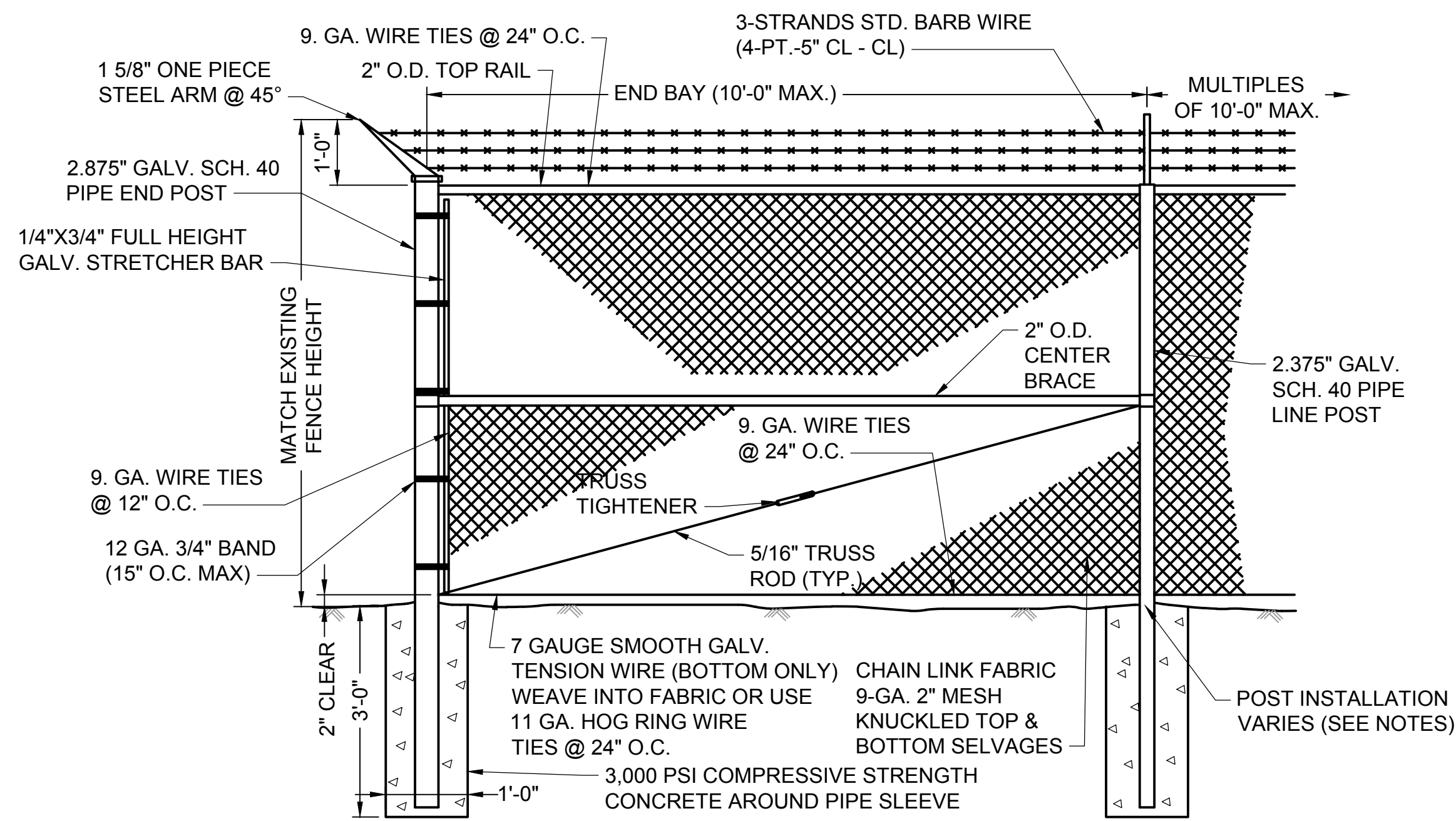


SECTION A
CONCRETE PAVEMENT TURN-DOWN, NORTH FACE
NOT TO SCALE
C105



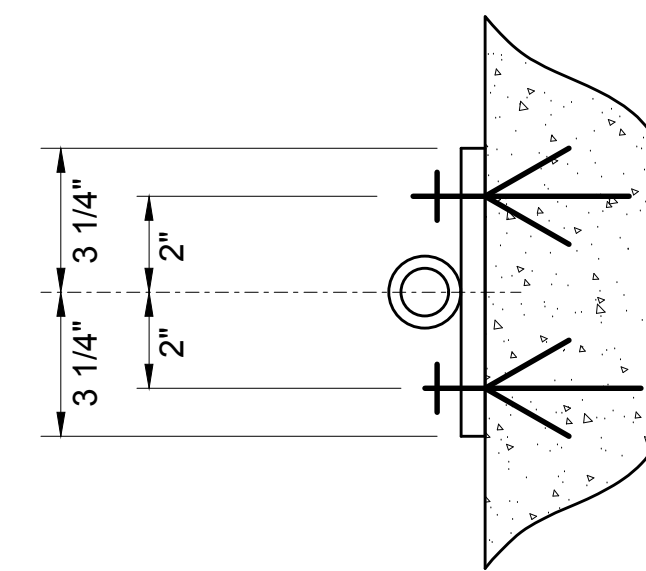
SECTION B
CONCRETE PAVEMENT TURN-DOWN, WEST FACE
NOT TO SCALE
C105

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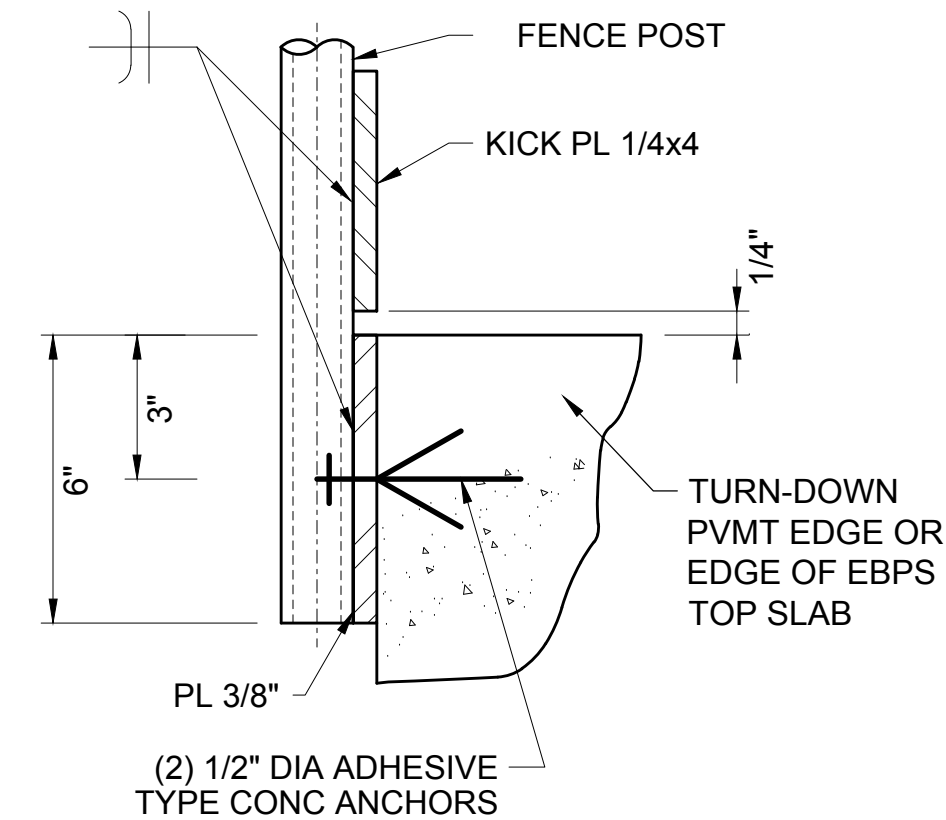


- NOTES:**
1. CONTRACTOR SHALL SALVAGE AND REUSE EXISTING CHAIN LINK FENCE AS POSSIBLE.
 2. INSTALL FENCE WITH POSTS EMBEDDED IN GROUND PER DETAIL EXCEPT ALONG NORTH SIDE OF PUMP STATION SITE. ALONG NORTH SIDE, FASTEN FENCE POSTS TO FACE OF CONCRETE WALL PER FENCE POST BRACKET DETAIL, THIS SHEET.
 3. PROVIDE FULL-HEIGHT PRIVACY SLATS ON NORTH-FACING FENCE.

CHAIN LINK FENCE
NOT TO SCALE



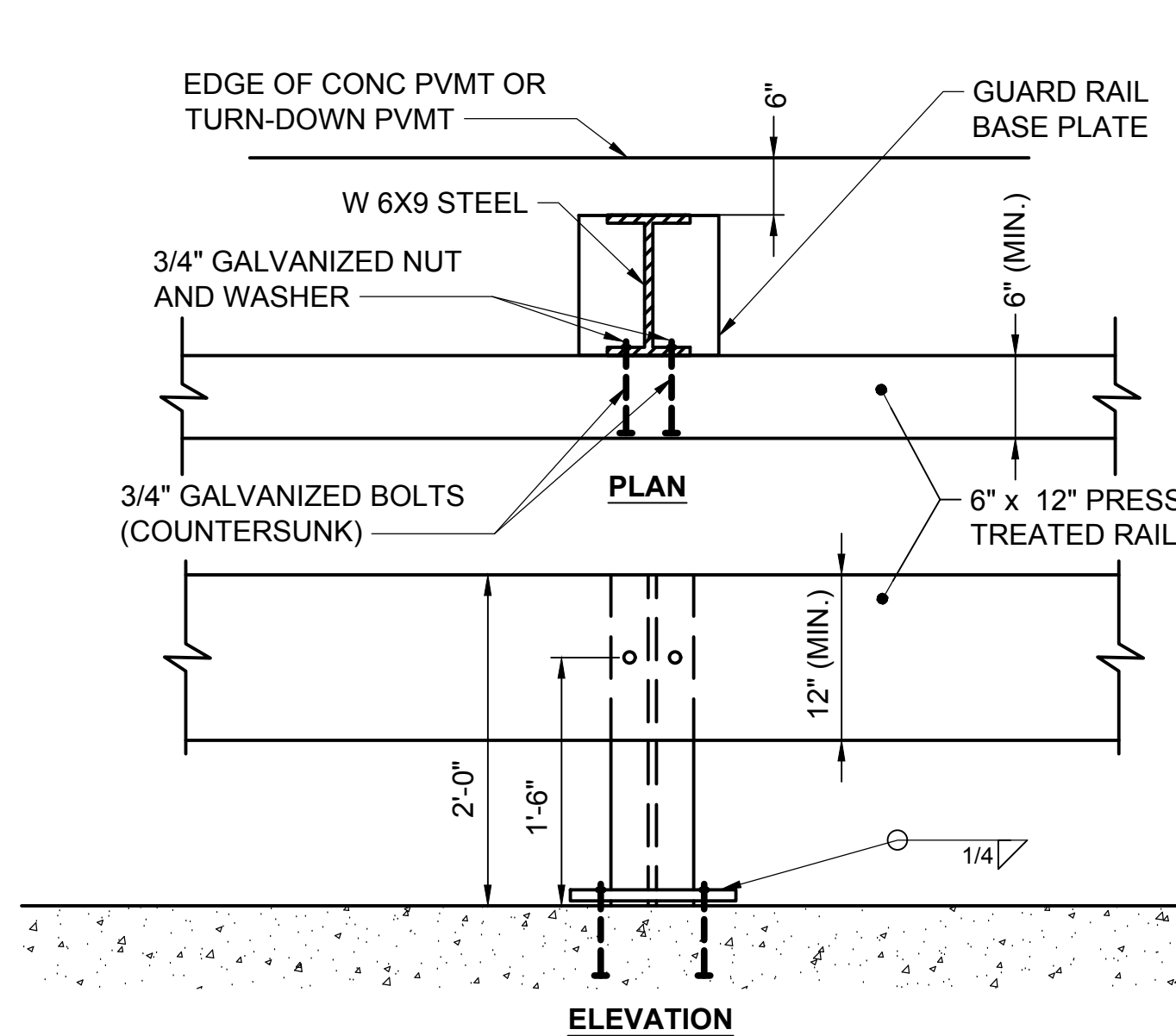
PLAN



SECTION

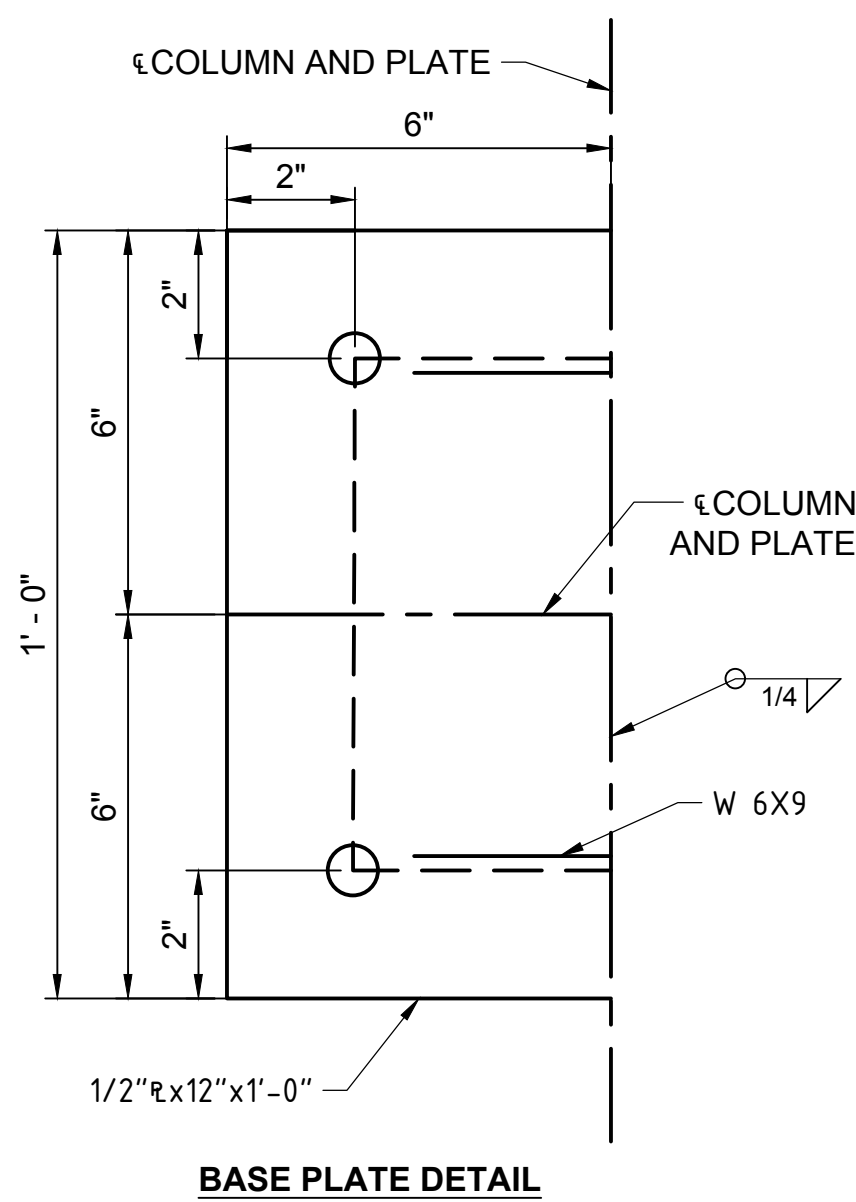
- NOTES:**
1. PROVIDE FABRICATED POST MOUNTING BRACKET SHOP DRAWING OR MANUFACTURED PRODUCT CUT SHEET FOR APPROVAL PRIOR TO CONSTRUCTION.
 2. INSTALL BRACKET MOUNTED FENCE POST TO FACE OF TURN-DOWN PAVEMENT EDGE WHERE FINISH GRADE BEYOND PAVEMENT EXCEEDS 6" VERTICAL DROP. TRANSITION TO FENCE POST IN CONCRETE AUGER HOLE PER CHAIN LINK FENCE DETAIL, THIS SHEET, WHEN GRADE TO PAVEMENT DELTA GOES BELOW 6".
 3. INSTALL FENCE PER DETAIL, THIS SHEET.

CHAIN LINK FENCE POST BRACKETS
NOT TO SCALE

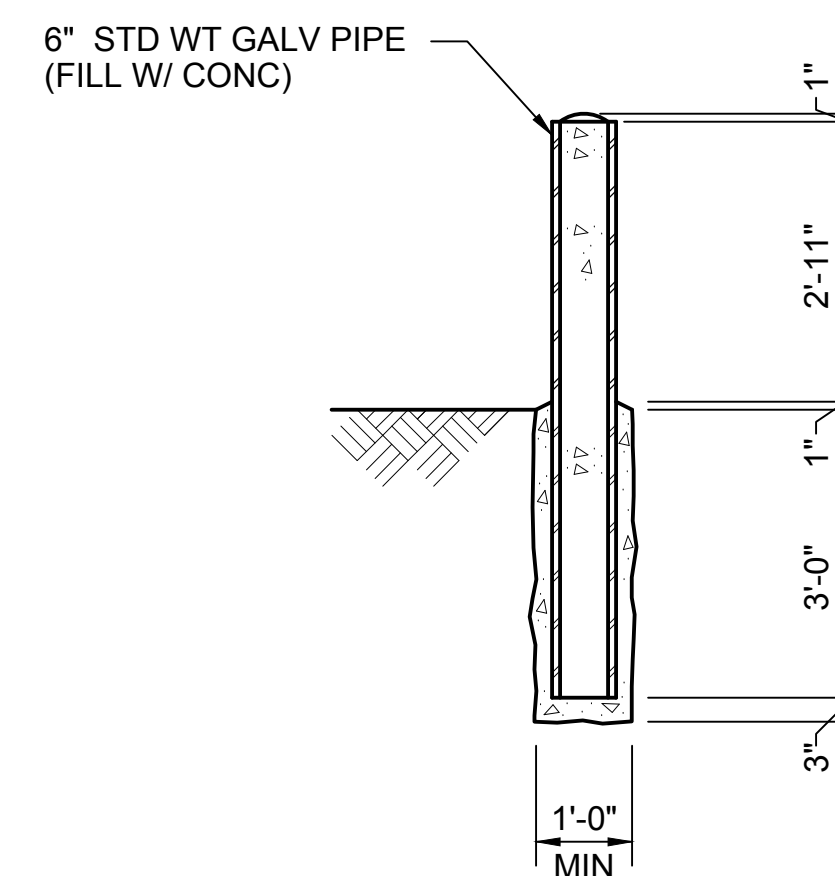


- NOTES:**
1. INSTALL GUARD RAIL POSTS 5-FOOT ON CENTER
 2. RAILING TIMBER TO BE 10-FOOT LONG, OVERLAPPING AT END POSTS
 3. CONTRACTOR SHALL SALVAGE AND REUSE EXISTING TIMBER RAILS AS POSSIBLE.

GUARD RAIL DETAIL
NOT TO SCALE



BASE PLATE DETAIL



- NOTES:**
1. INSTALL GUARD POST IN LANDSCAPE AS SHOWN.
 2. GUARD POSTS INSTALLED IN FINISHED PAVEMENT SHALL BE 3'-0" FROM GRADE TO TOP OF PIPE, NOT INCLUDING CONCRETE DOME TOP.

GUARD POST DETAIL
NOT TO SCALE



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PROJECT NO: 95307

DATE: 04/14/17

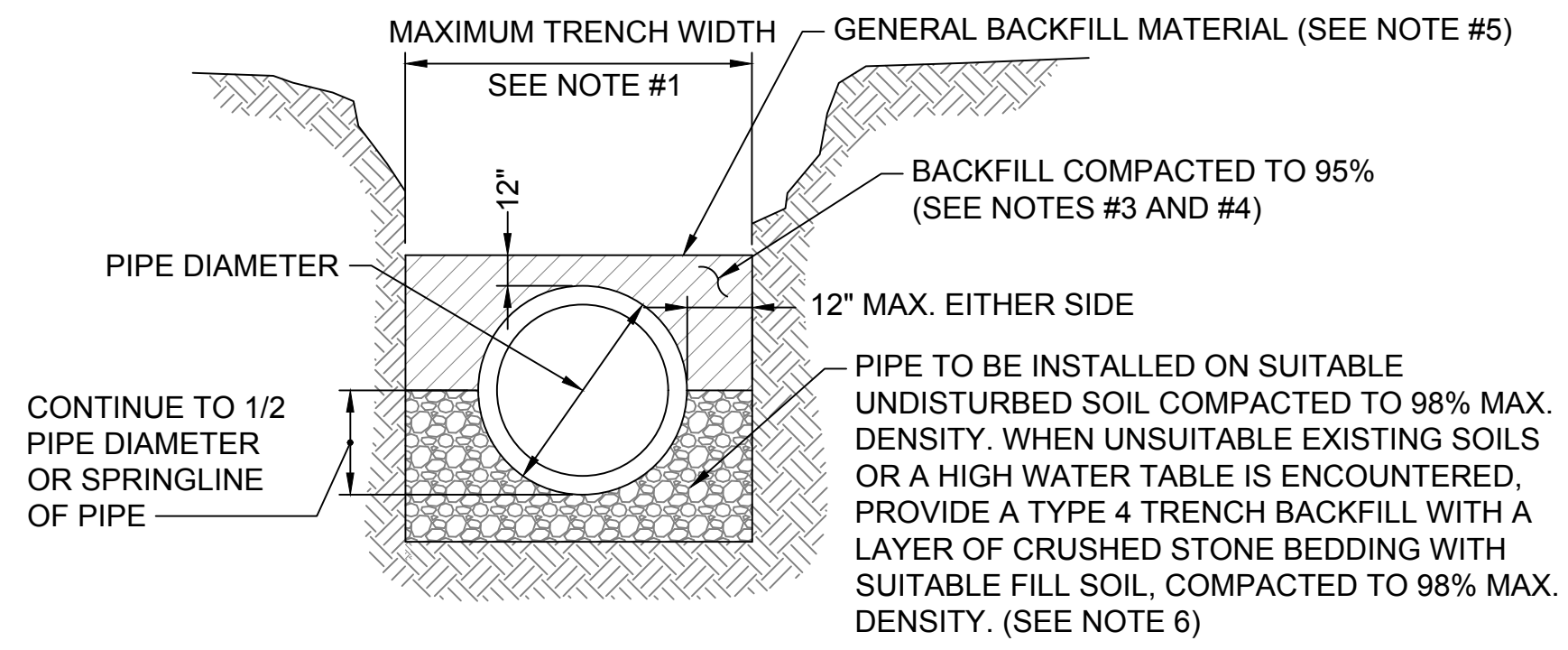
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PMB SDA ALW

SHEET TITLE

CIVIL

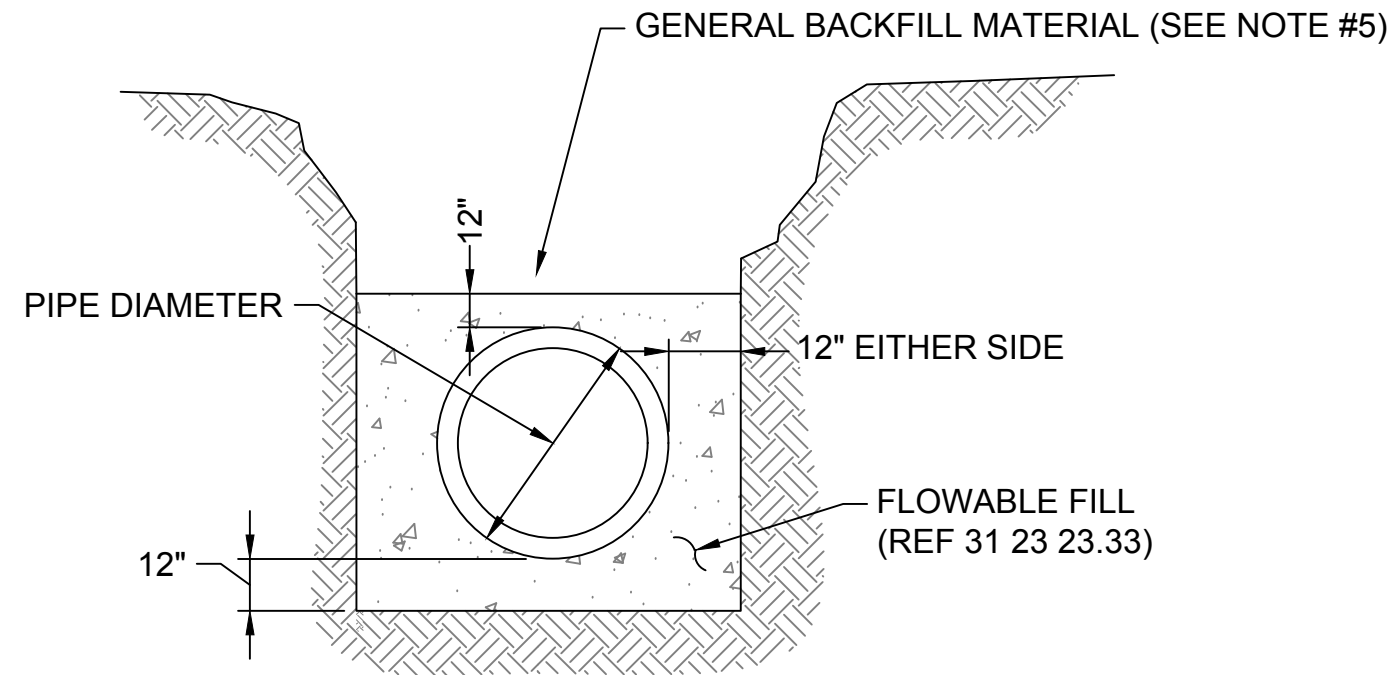
SITE DETAILS 2



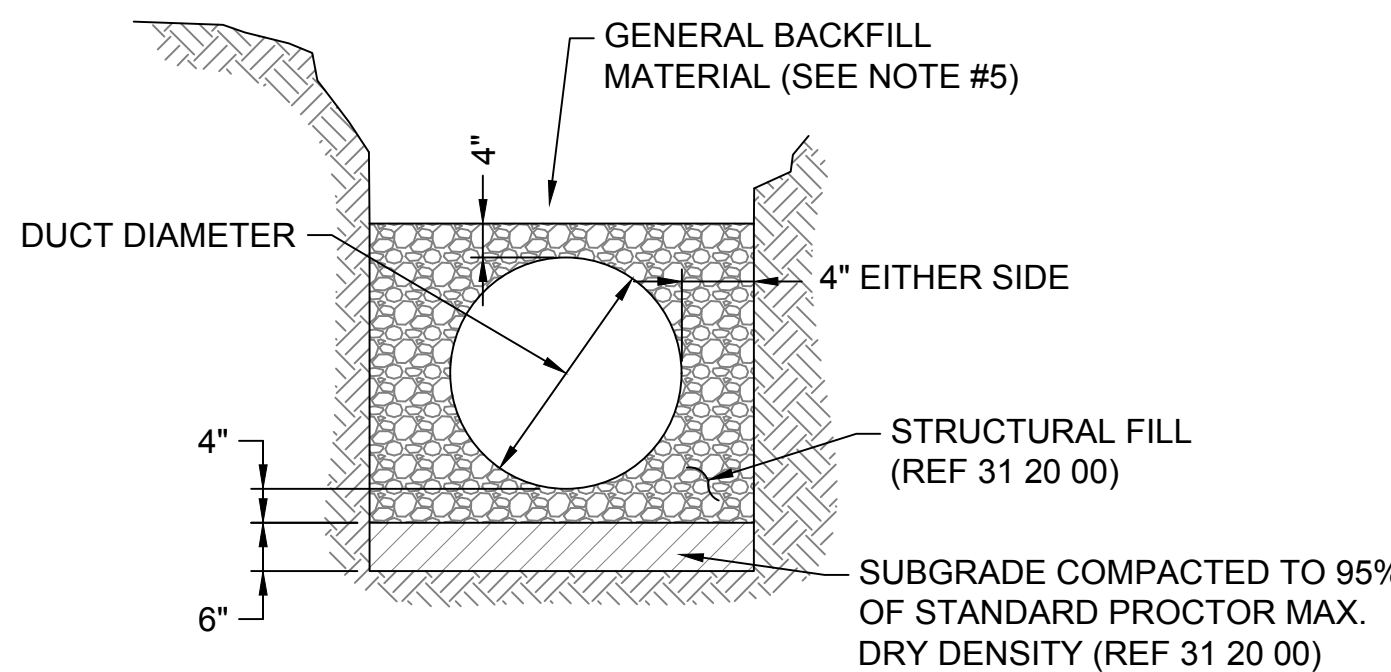
TYPICAL UTILITY TRENCH
NOT TO SCALE

UTILITY TRENCHING NOTES:

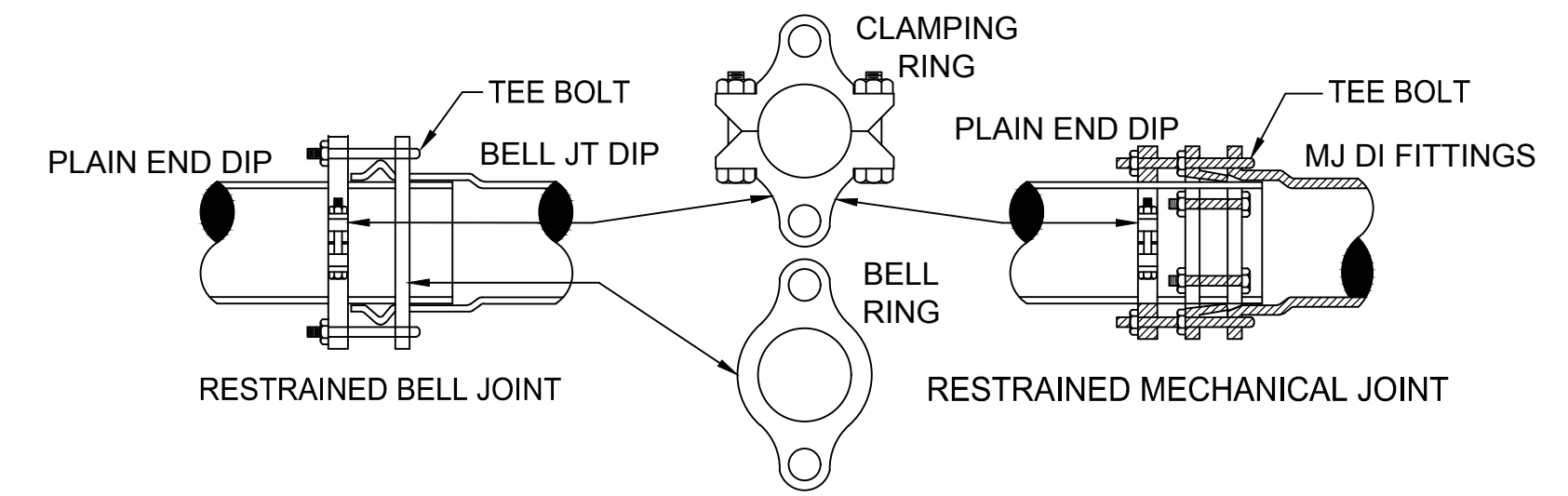
- TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE; OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS.
- BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOULDERS OR LOOSE ROCKS LARGER THAN 3/4 INCH IN SIZE WILL NOT BE PERMITTED IN BACKFILL UP TO 1 FOOT ABOVE THE TOP OF THE PIPE.
- BACK FILL MATERIAL UP TO A LEVEL OF 1 FOOT OVER THE PIPE SHALL CONSIST OF AASHTO CLASS A-3 SOIL (SUITABLE SOIL) AND SHALL EXCLUDE CLAY MATERIALS AND LOOSE ROCKS LARGER THAN 3/4 INCH SIZE.
- BACKFILL MATERIAL UP TO A LEVEL 1 FOOT OVER THE TOP OF PIPE OR BOTTOM OF STRUCTURES SHALL BE PLACED IN 6 INCH COMPACTED THICKNESS LAYERS AND SHALL BE COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
- SEE SPECIFICATION SECTION 31 20 00 FOR EARTHWORK REQUIREMENTS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, COMPACTION, AND DENSITY TESTING.
- FOR INSTALLATIONS WITHIN UNSUITABLE SOILS OR LOCATIONS WITH HIGH WATER TABLE, PROVIDE CRUSHED STONE BEDDING TO 1/8 PIPE DIAMETER (4\"/>



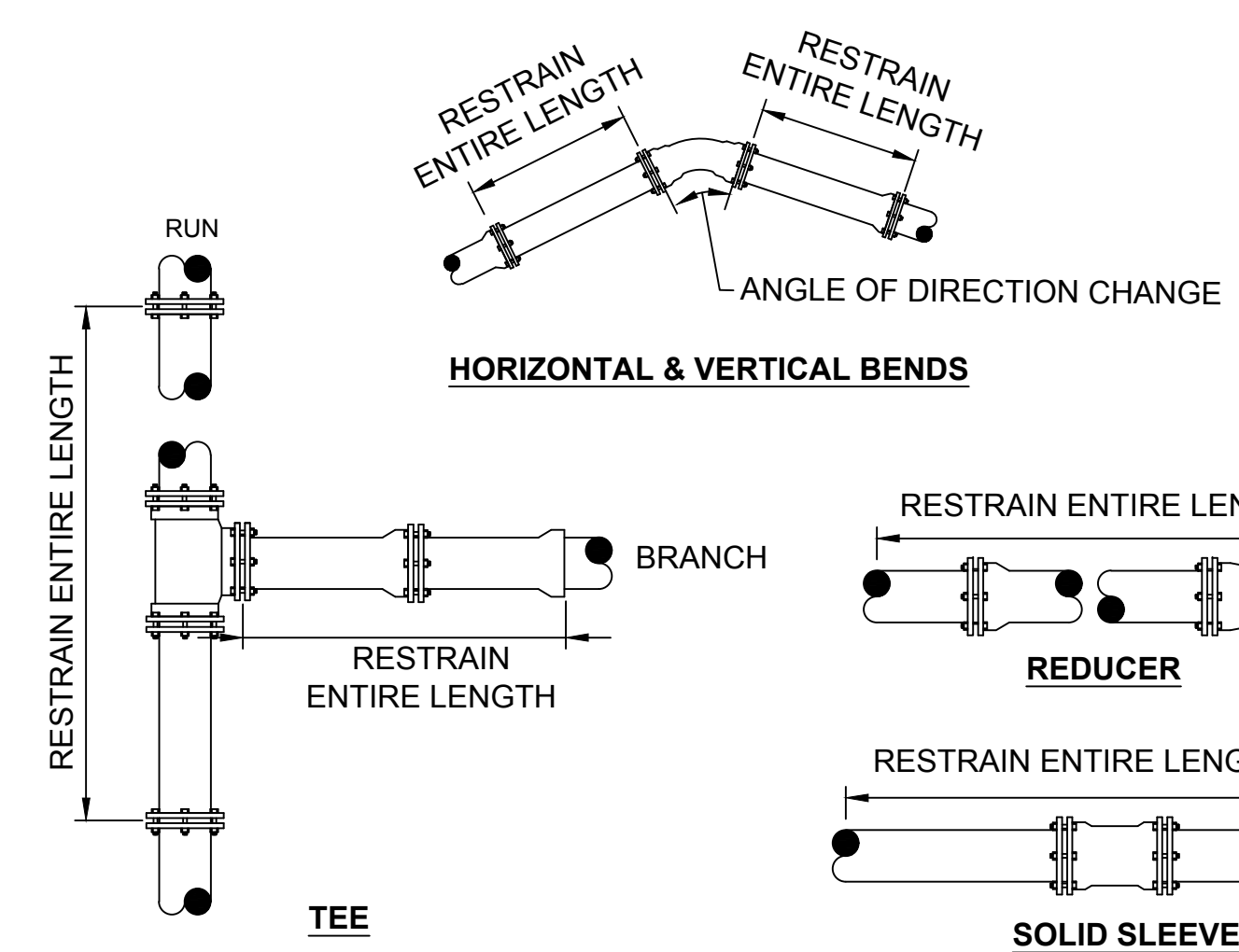
CONCRETE PIPE ENCASEMENT
NOT TO SCALE



UNDERGROUND FRP DUCT ENCASEMENT
NOT TO SCALE



TYPICAL SECTION

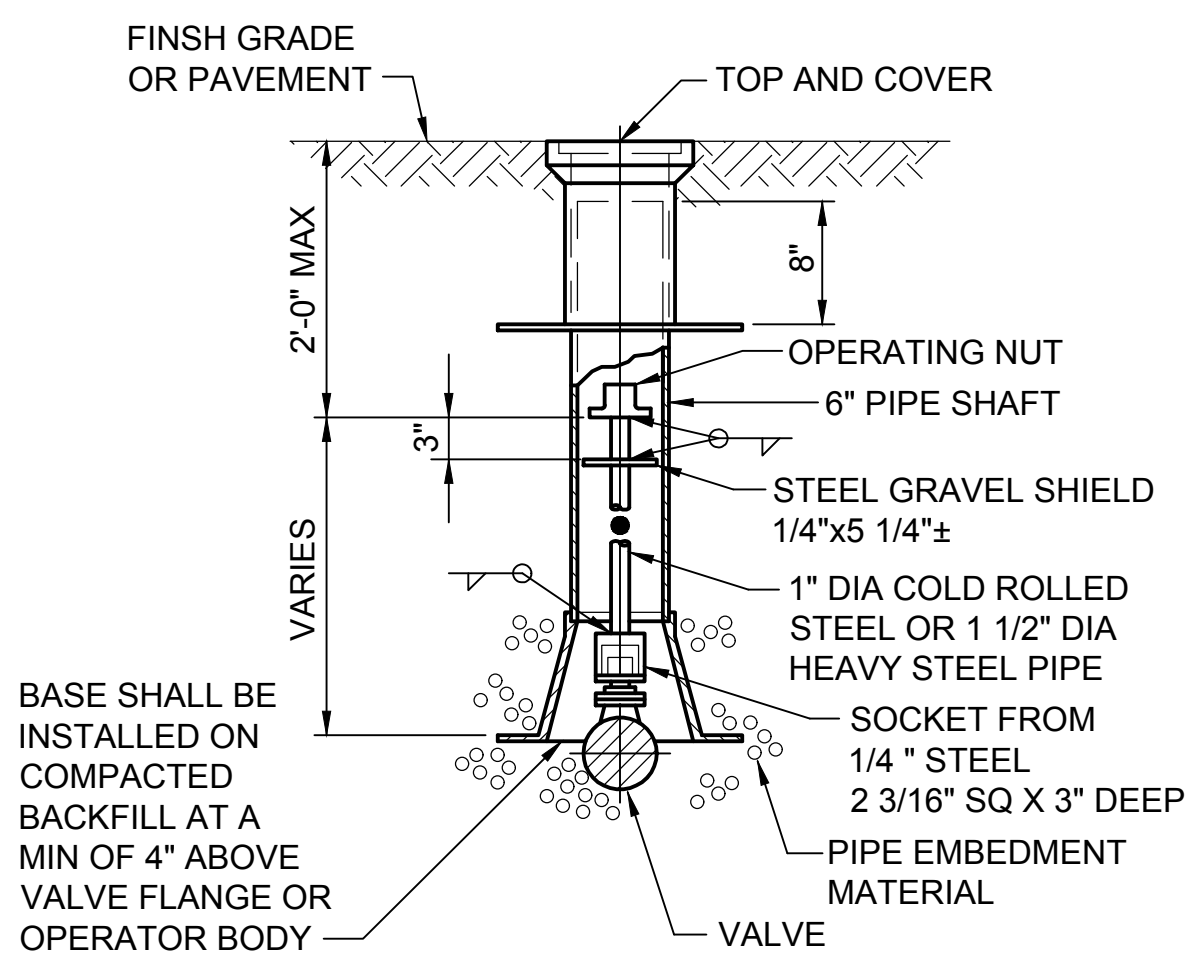


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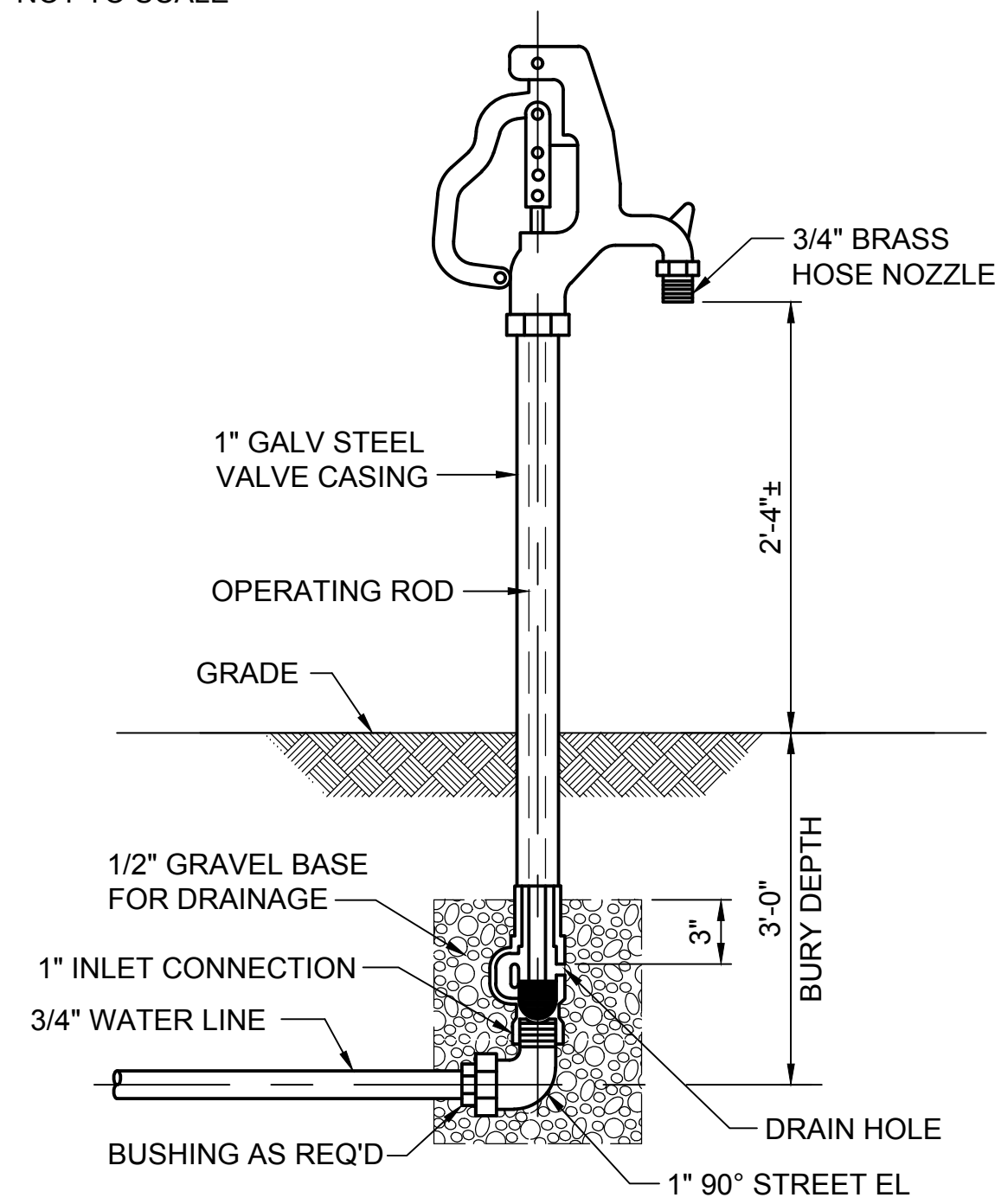
- ALL BURIED FITTINGS AND LENGTHS OF SEWERS AND FORCE MAINS SHALL BE FULLY RESTRAINED ALONG THE ENTIRE LENGTH OF INSTALLATION.
- ALL EXPOSED (NON-BURIED) PIPE AND FITTINGS SHALL HAVE FLANGED JOINTS.
- BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.

MECHANICAL PIPE RESTRAINT
NOT TO SCALE

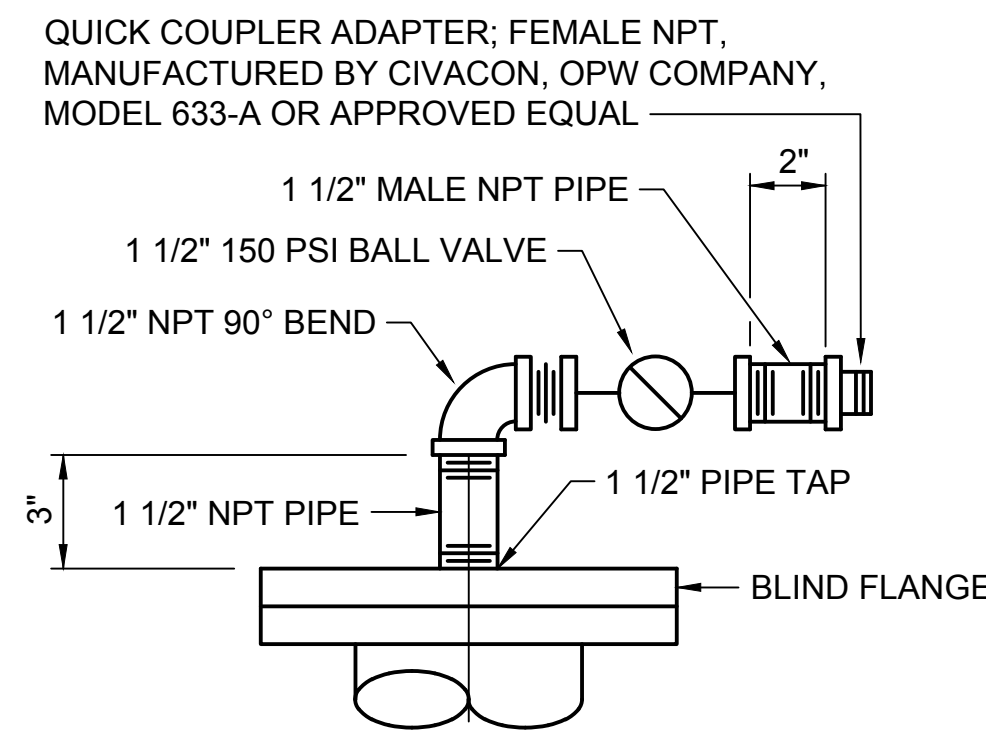
UTILITY TRENCHING DETAILS
NOT TO SCALE



VALVE BOX - PIPE SHAFT TYPE
NOT TO SCALE



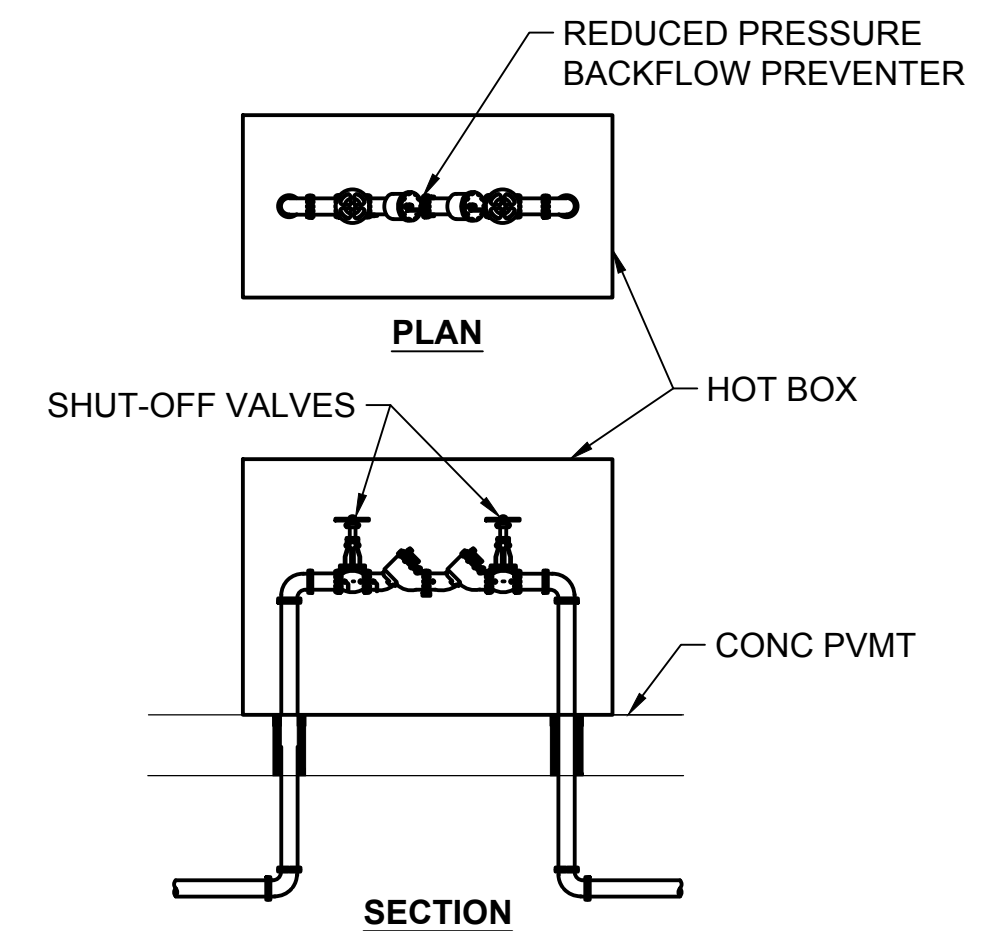
YARD HYDRANT DETAIL
NOT TO SCALE



NOTE:

- PROVIDE PIPE CLEANOUT ASSEMBLY ON PIPE RISER WITHIN ACCESS VAULT AS INDICATED ON C301.

PIPE CLEANOUT ASSEMBLY
NOT TO SCALE



NOTE:

- PROVIDE HOT BOX OVER BACKFLOW PREVENTER. SUBMIT MANUFACTURER'S DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.

BACKFLOW PREVENTER WITH HOT BOX
NOT TO SCALE

BURNS MEDONNELL
3650 MANSELL ROAD, SUITE 300
ALPHARETTA, GA 30022
770-587-4776

CITICO PUMP RELIABILITY IMPROVEMENTS
CITY OF CHATTANOOGA, TN
CONSENT DECREE PROGRAM

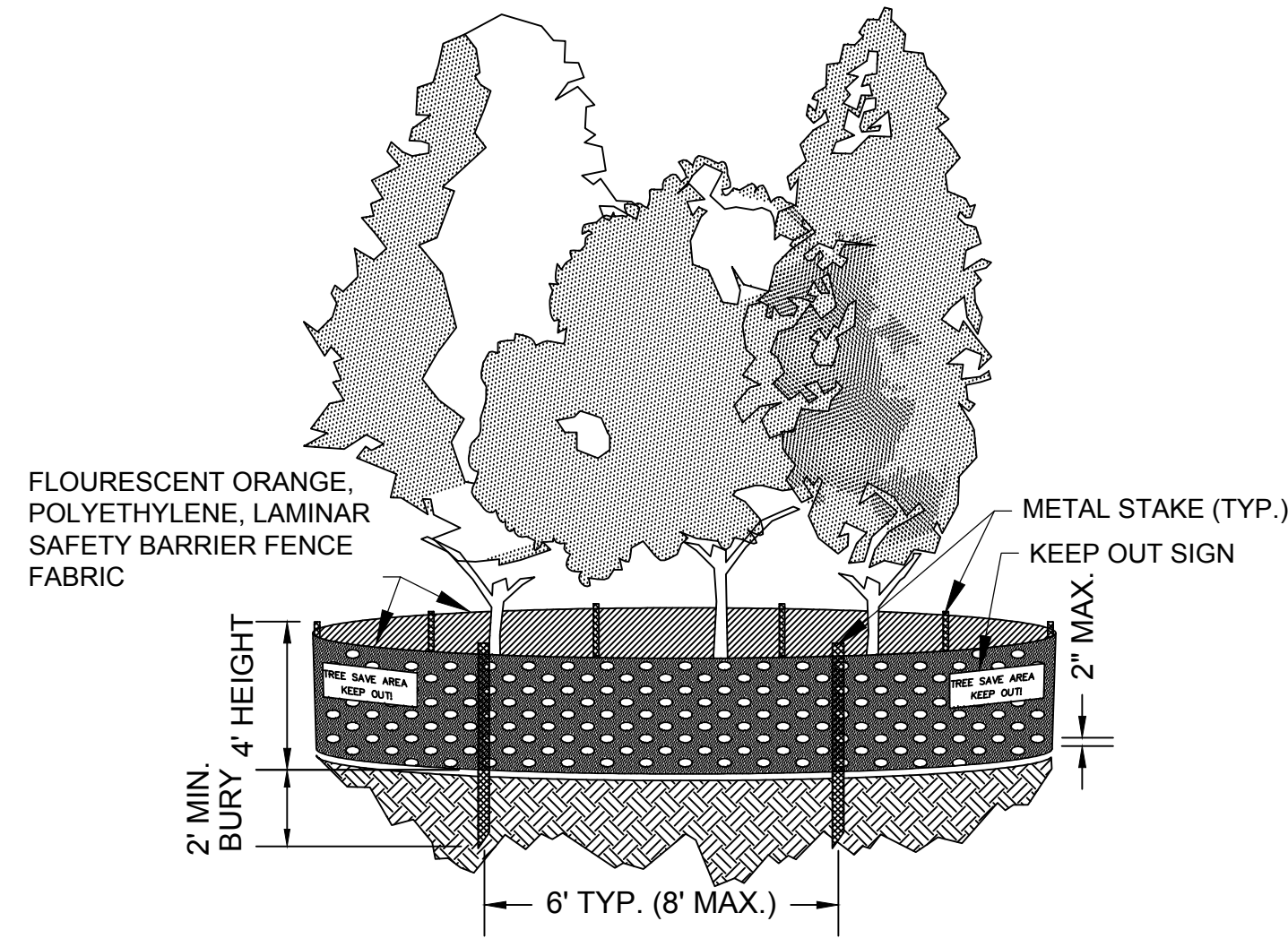


REV	DATE	ISSUED FOR CONSTRUCTION	REVISION DESCRIPTION
0	5/15/17		

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THIS DRAWING MUST BE USED IN CONJUNCTION WITH THE APPLICABLE OR GOVERNING TECHNICAL SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.
PROJECT NO: 95307
DATE: 04/14/17
DISC. LEAD: PMB DESIGNER: SDA CHECKER: ALW
SHEET TITLE: CIVIL

SITE DETAILS 3

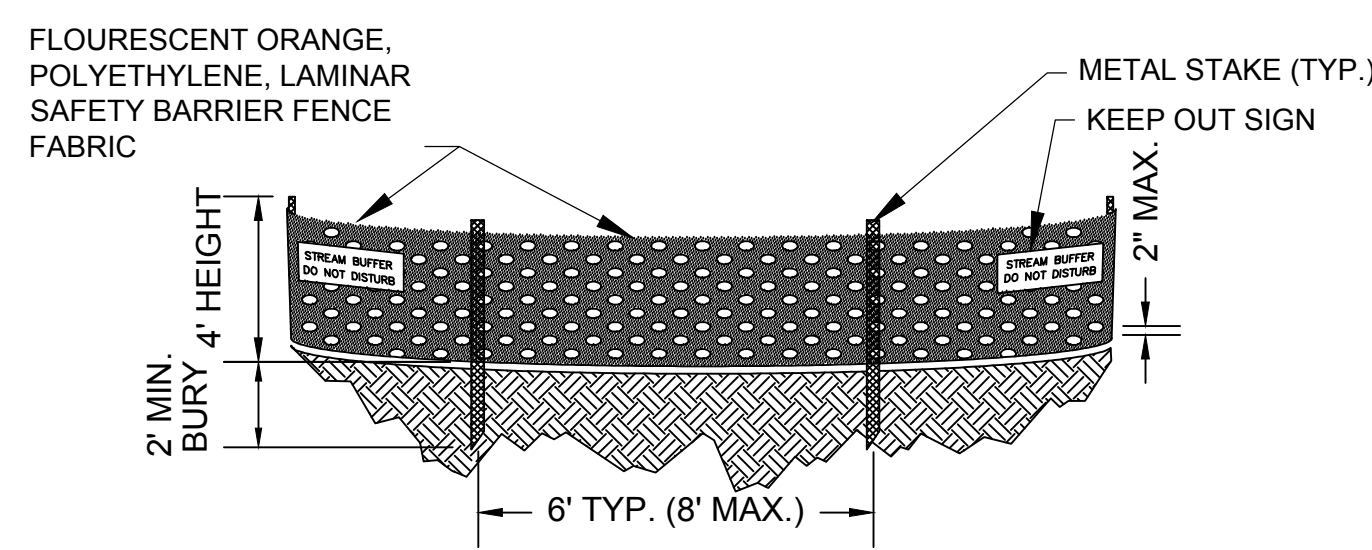
SHEET **C503** REV **0**



NOTES:

1. CONTRACTOR SHALL COORDINATE WITH CITY OF CHATTANOOGA FORESTER TO DETERMINE THE PRESENCE OF "HIGH VALUE TREES" (E.G. LARGE DIAMETER DECIDUOUS TREES) TO PROTECT ON SITE. CONTRACTOR SHALL ERECT TREE PROTECTION FENCING IN ACCORDANCE WITH CITY FORESTER REQUIREMENTS AROUND "HIGH VALUE TREES" AND BAT HABITAT TREES.
2. TREE PROTECTION FENCING SHALL BE ERECTED AT A RADIUS FROM THE TREE TRUNK EQUIVALENT TO 1-FOOT FOR EVERY INCH OF TREE TRUNK DIAMETER, OR TO THE TREE DRIPLINE, WHICHEVER IS GREATER. FENCE SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING, GRADING, OR OTHER CONSTRUCTION ACTIVITY.
3. NO STORAGE OR CONSTRUCTION ACTIVITY OF ANY KIND MAY TAKE PLACE WITHIN THE TREE PROTECTION ZONE. ALL TREE PROTECTION FENCE MUST BE ACCOMPANIED BY "KEEP OUT" OR "TREE SAVE" SIGNAGE.

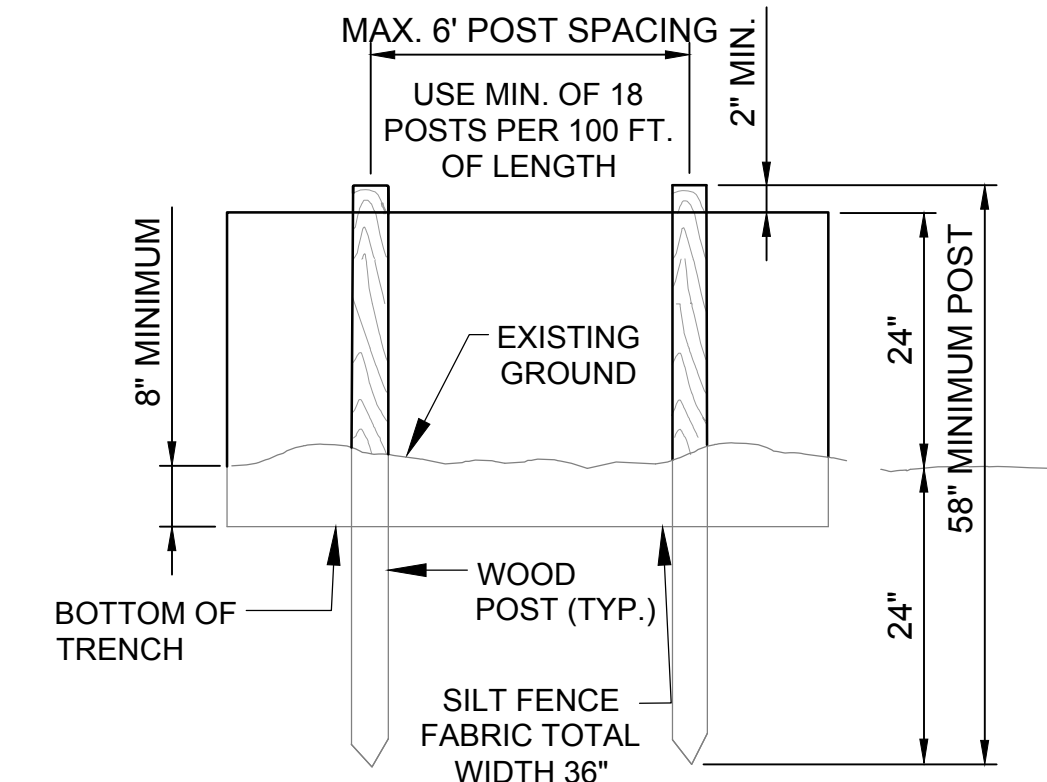
TREE PROTECTION FENCING
NOT TO SCALE



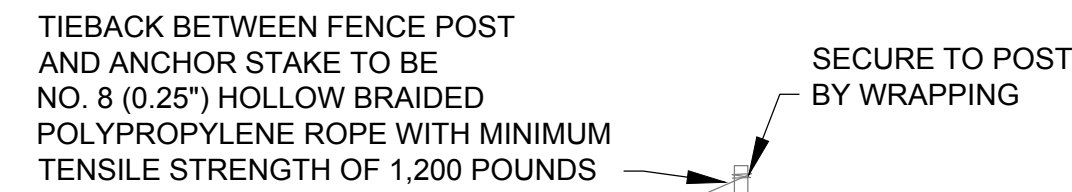
NOTES:

1. PLACE STREAM BUFFER PROTECTION BARRICADE PRIOR TO COMMENCEMENT OF CONSTRUCTION. KEEP IN PLACE UNTIL COMPLETION OF CONSTRUCTION.

STREAM BUFFER PROTECTION BARRICADE
NOT TO SCALE



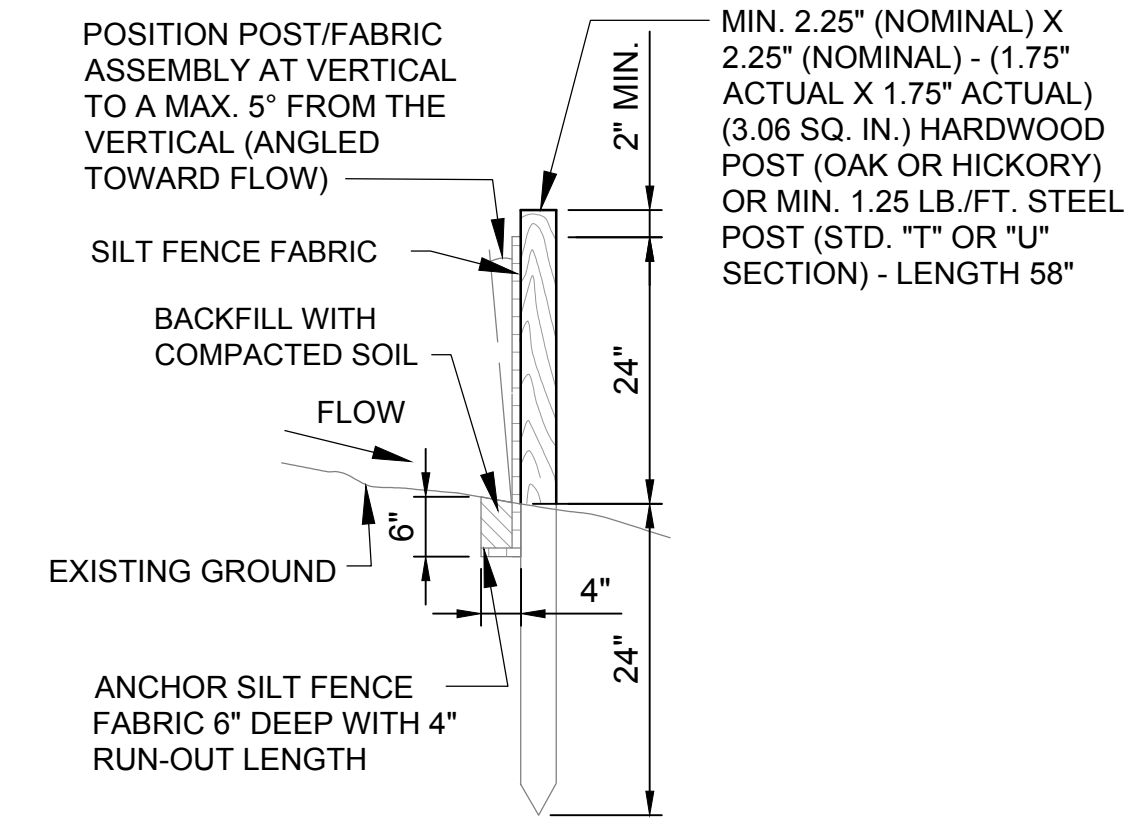
ELEVATION VIEW



SILT FENCE TIEBACK FOR STEEL POSTS OR WOOD POSTS

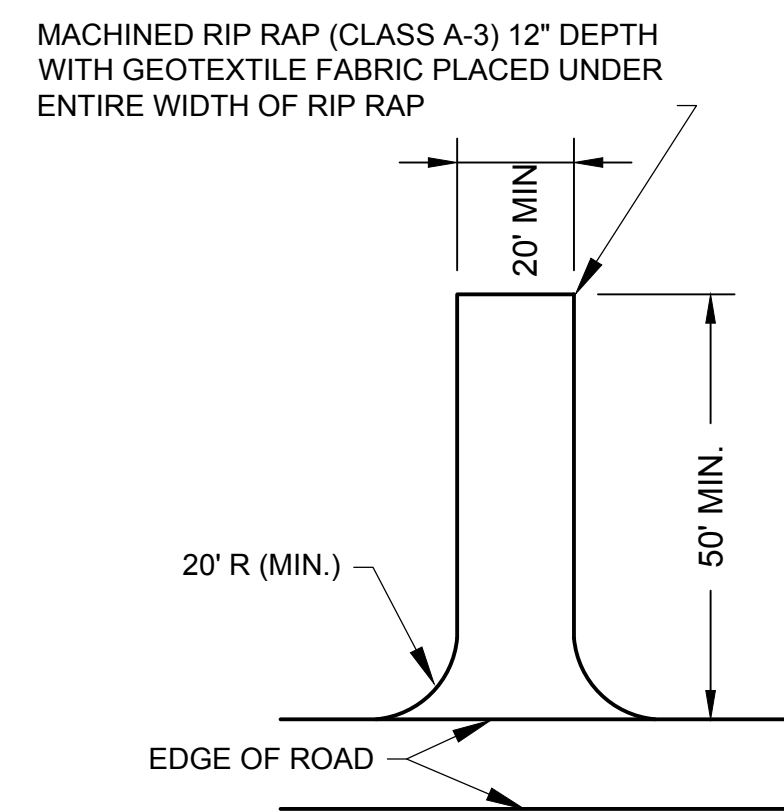
NOTES:

1. INSTALL SILT FENCING TO PROTECT DISTURBED AREAS AND PREVENT THE ESCAPE OF SEDIMENT FROM THE SITE.
2. WHEN REQUIRED BY THE ENGINEER OR NOTED IN THE PLANS, COST TO BE INCLUDED IN ASSOCIATED BID ITEM.



SECTIONAL VIEW

SILT FENCING
NOT TO SCALE



NOTES:

1. LOCATION OF ENTRANCE IS INDICATED ON THE OVERALL SITE LAYOUT DRAWING.
2. UNDERCUT 3" AT ROAD PRIOR TO PLACEMENT OF MACHINED RIP RAP TO FORM KEYED-IN BASE FOR RIP RAP.
3. CONTRACTOR TO REPLACE AGGREGATE AS NEEDED OR DIRECTED BY CONTRACTING OFFICER.
4. CONTRACTOR TO CLEAN ALL CONSTRUCTION DEBRIS FROM ROADS OR STREETS ON A CONTINUAL BASIS BY SWEEPING OR AS DIRECTED BY THE CONTRACTING OFFICER.

CONSTRUCTION ENTRANCE
NOT TO SCALE

BURNS MEDONNELL
3650 MANSELL ROAD, SUITE 300
ALPHARETTA, GA 30022
770-587-4776

CITICO PUMP RELIABILITY IMPROVEMENTS
CITY OF CHATTANOOGA, TN
CONSENT DECREE PROGRAM



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DISC. LEAD: PMB DESIGNER: SDA CHECKER: ALW
SHEET TITLE: CIVIL
EROSION CONTROL DETAILS 1
SHEET **C504** REV **0**

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EROSION CONTROL NOTES

OWNER: CITY OF CHATTANOOGA
DEPARTMENT OF PUBLIC WORKS
WASTE RESOURCES DIVISION
455 MOCCASIN BEND ROAD
CHATTANOOGA, TN 37405
PHONE: (423) 757-5026

CONTRACTOR: TO BE DETERMINED AT TIME OF
CONTRACT AWARD

1. SITE DESCRIPTION
 - A. PROJECT CONDITIONS: THE PROJECT INVOLVES IMPROVEMENTS TO THE CITICO PUMP STATION SITE, INCLUDING THE CONSTRUCTION OF AN EMERGENCY BACKUP PUMP STATION (EBPS) ADJACENT TO THE EXISTING PUMP STATION, NEW ON-SITE BACKUP GENERATOR, NEW ODOR CONTROL SYSTEM, AND NEW ELECTRICAL SWITCHGEAR ENCLOSURE. PAVEMENT DEMOLITION AND REPLACEMENT WILL OCCUR NORTH OF THE EXISTING PUMP STATION, AND THE GENERATOR AND ODOR CONTROL SYSTEM WILL BE CONSTRUCTED IN THE OPEN AREA IMMEDIATELY EAST OF THE EXISTING STATION. THE EXISTING GRADE WITHIN THE FLOODPLAIN NORTH OF THE PUMP STATION SHALL REMAIN AS IS, RESTORED TO EXISTING CONDITIONS FOLLOWING EXCAVATION AND CONSTRUCTION. THE EXISTING SECURITY FENCE WILL BE EXPANDED TO INCLUDE THE NEW SITE FEATURES.
 - B. TOTAL PROJECT AREA IS APPROXIMATELY 0.66 ACRES. TOTAL DISTURBED ACREAGE WILL BE APPROXIMATELY 0.45 ACRES TOTAL (0.00 ACRES WITHIN THE STREAM BUFFER AND 0.21 ACRES WITHIN THE 100-YEAR FLOOD PLAIN AND OUTSIDE THE STREAM BUFFER).
 - C. THE PROJECT IS LOCATED WITHIN EXISTING CITY OF CHATTANOOGA CITICO PUMP STATION AND CSOTF PROPERTY, AT 924 RIVERSIDE DRIVE / S.R. 58, ALONG THE TENNESSEE RIVER. SITE SOILS ARE PRIMARILY (SfB) SEQUATCHIE-URBAN LAND COMPLEX, 2 TO 7 PERCENT SLOPE, TYPE B SOIL. 4,100 SQUARE FEET OF ADDITIONAL IMPERVIOUS SURFACE IS CREATED BY THIS WORK, OF WHICH 1,050 SQUARE FEET WERE PREVIOUSLY PERMITTED UNDER CONTRACT W-12-016-202.
2. PERMANENT VEGETATION, EQUAL TO OR GREATER TO PRE-CONSTRUCTION QUALITY, WILL BE RE-ESTABLISHED ON ALL DISTURBED AREAS UPON COMPLETION OF CONSTRUCTION.
3. PRIOR TO COMMENCING LAND DISTURBING AND CLEARING ACTIVITIES, THE LIMITS OF LAND DISTURBANCE, CLEARING, AND BUFFERS SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, TREE PROTECTION FENCING, OR OTHER APPROPRIATE MEANS AS NEEDED. NO TREES OUTSIDE OF THE PROJECT LIMITS SHALL BE REMOVED. SAFETY FENCING SHALL BE UTILIZED WHERE WORK IS IN CLOSE PROXIMITY TO ADJACENT PROPERTIES, TRAILS, OR OTHER PUBLIC AREAS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR INSIDE THE EXISTING CITY PROPERTY AND LIMITS OF CONSTRUCTION / DISTURBANCE INDICATED. THE CONTRACTOR SHALL USE DUE CARE IN PLACING CONSTRUCTION TOOLS, EQUIPMENT, EXCAVATED MATERIALS, AND PIPELINE MATERIALS AND SUPPLIES, SO AS TO CAUSE THE LEAST POSSIBLE DAMAGE TO THE PROPERTY AND INTERFERENCE WITH FACILITY OPERATIONS.
4. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO CONTROL EROSION AND WATER POLLUTION THROUGHOUT THE CONSTRUCTION PERIOD. EMBANKMENTS AND EXCAVATED AREAS SHALL BE PROMPTLY STABILIZED TO MINIMIZE EROSION. BALED STRAW EROSION CHECKS AND SILT FENCING SHALL BE USED ALONG THE TOE OF FILL SLOPES, IN DITCHES, AND IN OTHER AREAS WHERE EROSION IS A PROBLEM AND SILT-LADEN RUNOFF MAY ENTER A STREAM OR ADJACENT PROPERTY, AND AS DIRECTED BY THE ENGINEER. THESE TEMPORARY MEASURES SHALL BE COORDINATED WITH THE PERMANENT EROSION CONTROL FEATURES TO ASSURE ECONOMIC, EFFECTIVE, AND CONTINUOUS EROSION CONTROL THROUGHOUT THE PROJECT.
6. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
7. ALL EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE CHECKED DAILY AND ANY DEFICIENCIES NOTED WILL BE CORRECTED BY THE END OF EACH DAY BY CONTRACTOR. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY AFTER ON-SITE INSPECTION BY THE ISSUING AUTHORITY. MAINTENANCE OF ALL SOIL AND EROSION CONTROL MEASURES AND PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE CONTRACTOR SHALL INSTALL NO LESS THAN THE EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL AND MAINTAIN EROSION CONTROL MEASURES, IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES MANUAL, AVAILABLE FROM THE ENGINEERING/STORMWATER DIVISION OF THE CITY OF CHATTANOOGA, DEPARTMENT OF PUBLIC WORKS ORDINANCE 9942 AS AMENDED, AND THE "TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK" BY TDEC, FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES OF CONSTRUCTION.
9. ANY ADDITIONAL SILT FENCE, RIP-RAP, MULCHING, OR PERMANENT GRASSING REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION HAS PROCEEDED TO THE POINT THAT THESE MEASURES CAN BE EFFECTIVELY IMPLEMENTED AND SHALL BE MAINTAINED IN PROPER WORKING ORDER UNTIL ALL DISTURBED AREAS ARE STABILIZED AND PERMANENT VEGETATION HAS BEEN ESTABLISHED. AMENDMENTS AND REVISIONS TO THE EROSION CONTROL PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH HYDRAULIC COMPONENTS MUST BE CERTIFIED BY THE ENGINEER.
10. ALL CUT/FILL SLOPES SHALL HAVE SILT FENCE PLACED AT THE SLOPES TOE. SILT FENCE WILL BE PLACED DOWN GRADIENT OF ALL STOCKPILED SOIL OR BORROW AREAS. ALL SPOIL WILL BE PLACED ON TRENCH SIDE AWAY FROM STREAMS AND DITCHES. A NATURAL BUFFER WILL BE MAINTAINED BETWEEN EXPOSED AREAS AND STREAMS.
11. THE EROSION CONTROL MEASURES DETAILED HEREON SHALL BE CONTINUED UNTIL THE PERMANENT VEGETATION IS SUFFICIENTLY ESTABLISHED ON PLANTED GRADES AND SLOPES TO BE AN EFFECTIVE EROSION DETERRENT. THE SEDIMENT REMOVED FROM THE CONTROL STRUCTURES SHALL BE EVENLY DISTRIBUTED UPSTREAM OF EROSION CONTROL MEASURES OR DISPOSED OF OFF SITE. DISPOSED SEDIMENT SHALL BE PERMANENTLY GRASSED. PROVIDE PERMANENT GRASSING OF ALL CONTRACTOR DISTURBED AREAS THAT ARE NOT COVERED BY PAVEMENT, STRUCTURES, STONE AGGREGATE, OR SIMILAR FEATURES.
12. PRIOR TO ANY CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM WORK AREAS LOCATED ADJACENT TO PUBLIC RIGHTS-OF-WAY. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD INTO PUBLIC RIGHTS-OF-WAY. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES SHALL BE INSTALLED. CONTRACTOR SHALL KEEP ROADS AND DRIVES FREE OF DIRT AND DEBRIS AT ALL TIMES.
13. GRADE, FINISH, AND DRESS DISTURBED AREAS AS NECESSARY SO THAT EXCAVATED SURFACES ARE LEFT IN A SMOOTH, NEAT, AND EVEN CONDITION. GRADE SITE DISTURBANCES SO AS TO PREVENT STANDING WATER AND DIRECT FLOWS AWAY FROM STRUCTURES.

14. WHERE APPLICABLE, ALL SOILS SHALL BE PLACED ON TRENCH SIDE AWAY FROM DITCHES AND STREAMS. ANY STOCKPILED SOIL OR FILL MATERIAL SHALL BE LOCATED AND TREATED IN A MANNER TO PREVENT SILT'S ENTERING STREAMS. AT LOCATIONS WHERE THERE IS INSUFFICIENT ROOM TO STOCKPILE EXCAVATED MATERIAL AWAY FROM THE ROAD, DITCHES, AND STREAMS, EXCAVATED MATERIAL SHALL BE REMOVED FROM THE AREA AND RETURNED TO SITE FOR BACKFILL. STOCKPILING MATERIALS ON THE PAVED ROAD OR WITHIN WETLANDS, FLOOD PLAINS, AND BUFFERS WILL NOT BE PERMITTED. NO EXCAVATED MATERIAL SHALL BE DISCHARGED INTO DITCHES.
15. PLACE BACKFILL AND FILL MATERIALS IN LAYERS, COMPACT, AND TEST COMPACTION IN ACCORDANCE WITH SPECIFICATIONS.
16. ALL VEGETATIVE STABILIZATION SHALL BE ACCOMPLISHED AS SOON AS CONSTRUCTION PERMITS. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING. PROVIDE PERMANENT GRASSING OF ALL DISTURBED AREAS. FOLLOW TDOT, CITY, AND COUNTY VEGETATIVE AND PLANTING SCHEDULE GUIDELINES, AND PROVIDE GRASSING TO MATCH EXISTING LAWN TYPE AND CONDITIONS.
17. REFER TO SPECIFICATIONS FOR ADDITIONAL TEMPORARY EROSION AND SEDIMENTATION CONTROL AND GRASSING REQUIREMENTS.
18. GRADE, FINISH, AND DRESS DISTURBED AREAS AS NECESSARY SO THAT EXCAVATED SURFACES ARE LEFT IN A SMOOTH, NEAT, AND EVEN CONDITION. GRADE SITE DISTURBANCES SO AS TO PREVENT STANDING WATER AND DIRECT FLOWS AWAY FROM
19. A COPY OF THE APPROVED LAND DISTURBANCE PERMIT AND USACE AND TVA PERMITS SHALL BE PRESENT ON SITE WHENEVER LAND DISTURBING ACTIVITY IS IN PROGRESS.
20. REMOVE ALL DEBRIS AND WASTE, INCLUDING EXCESS SOIL, CONSTRUCTION AND DEMOLITION DEBRIS, ETC. FROM THE PROJECT SITE AND DISPOSE OF IT IN A LEGAL MANNER. NO DEBRIS OR WASTE MATERIALS ARE TO BE DISCHARGED TO STREAMS, DITCHES, CHANNELS, OR OTHER STORMWATER CONVEYANCE SYSTEMS. REMOVED TREES, NOT USED IN MULCH STABILIZATION, SHALL ALSO BE REMOVED FROM THE SITE. EQUIPMENT, SHALL NOT BE WASHED OR CLEANED OUT ON THE PROJECT EXCEPT IN AREAS WHERE UNUSED PRODUCT CONTAMINANTS CAN BE PREVENTED FROM ENTERING WATERWAYS.
21. STATE WATERS EXIST WITHIN 200 FEET OF THIS SITE. THE RECEIVING WATER IS THE TENNESSEE RIVER; A NAVIGABLE WATERWAY.
22. PETROLEUM PRODUCTS ARE NOT TO BE STORED ON SITE. CONSTRUCTION EQUIPMENT IS TO BE REFUELED OFF SITE. IN THE EVENT OF A PETROLEUM LEAK OR SPILL, THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL CONTAMINATED MATERIALS AND REPLACEMENT WITH UNCONTAMINATED SUITABLE FILL MATERIALS, AND ALL TESTING REQUIRED TO DETERMINE THE PRESENCE OF CONTAMINANTS ONSITE.
23. UPON COMPLETION OF CONSTRUCTION, SITE STABILIZATION, AND SUBSTANTIAL COMPLETION, CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL MEASURES FROM SITE.

THERE DO NOT APPEAR TO BE WETLANDS WITHIN THE LIMITS OF CONSTRUCTION. THE DESIGN PROFESSIONAL, WHOSE SEAL APPEARS HEREON, CERTIFIES THE FOLLOWING: 1) THE NATIONAL WETLAND INVENTORY MAPS HAVE BEEN CONSULTED; AND, 2) THE APPROPRIATE PLAN SHEET DOES NOT INDICATE AREAS OF UNITED STATES ARMY CORPS OF ENGINEERS JURISDICTIONAL WETLANDS AS SHOWN ON THE MAPS; AND 3) IF WETLANDS ARE INDICATED, THE LAND OWNER OR DEVELOPER HAS BEEN ADVISED THAT LAND DISTURBANCE OF PROTECTED WETLANDS SHALL NOT OCCUR UNLESS THE APPROPRIATE FEDERAL WETLANDS ALTERATION ("SECTION 404") PERMIT OR AQUATIC RESOURCE ALTERATION PERMIT HAS BEEN OBTAINED.

THE SUBJECT PROPERTY EXTENDS INTO THE 100-YR FLOODPLAIN. FLOOD INSURANCE STUDY MAPS ISSUED BY FEMA HAVE BEEN CONSULTED AND FEMA PANEL 47065C0341G DESIGNATES THE PROJECT LIMIT OF WORK AREA IS WITHIN THE 100 YEAR FLOOD PLAIN IN SOME LOCATIONS, AS DEMONSTRATED BY THE DRAWINGS. ANY EARTHWORK CONDUCTED WITHIN THE 100-YEAR FLOOD PLAIN WILL RESULT IN NO INCREASE IN FILL AND THEREFORE WILL NOT AFFECT ANY FLOOD PLAIN STORAGE CAPACITY.

STREAM BUFFER DO NOT DISTURB

DESCRIPTION: A STRIP OF UNDISTURBED LAND SURROUNDING THE SITE OR BORDERING A WATERCOURSE OR WETLANDS. FOR TYPICAL STREAMS, THE BUFFER INCLUDES A 30-FOOT WIDE STRIP ADJACENT TO THE WATERCOURSE, MEASURED HORIZONTALLY FROM THE LINE OF WRESTED VEGETATION. FOR IMPAIRED STREAMS OR EXCEPTIONAL TENNESSEE WATERS, THE BUFFER IS EXTENDED TO A 60-FOOT AVERAGE WIDE STRIP ADJACENT TO THE WATERCOURSE, WITH A MINIMUM 30-FOOT WIDE STRIP AT ANY MEASURED LOCATION. CONTRACTOR SHALL PROTECT TREES, SHRUBS, AND OTHER NATURAL VEGETATION WITHIN THE BUFFER ZONE FROM WILDLIFE AND EQUIPMENT DAMAGE. NO DISTURBANCE SHALL OCCUR WITHIN THE BUFFER ZONE. ANY CLEARING CONDUCTED WITHIN EXISTING EASEMENTS IN BUFFER ZONES SHALL BE MINIMIZED WHENEVER POSSIBLE, AND SHALL NOT RESULT IN GRUBBING, STUMP GRINDING, OR OTHER ACTIVITY THAT WILL RESULT IN DISTURBANCES.

STABILIZATION WITH STRAW MULCH MU

USE DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEEDS SEEDS. DRY STRAW OR HAY SHALL BE APPLIED AT THE RATE OF 2.0 TONS PER ACRE. MULCHING SHALL BE USED MULCH WILL BE SPREAD UNIFORMLY WITHIN 24-HOURS AFTER SEEDING. MULCH SHALL BE USED DURING MONTHS THAT GRASSING SHOULD NOT BE APPLIED BASED ON THE SCHEDULE BELOW.

PRESS MULCH INTO SOIL WITH SPECIAL CRIMPERS OR DISK HARROWS. BIND MULCH TO SOIL WITH LIQUID MULCH BINDERS AND TACKIFIERS, OR INSTALL LIGHTWEIGHT NETTINGS OVER MULCH TO HOLD MULCH IN PLACE UPON APPLICATION. DO NOT PLOW SOILS OR OTHERWISE APPLY MULCH ANCHORING THAT WILL RESULT IN ADDITIONAL DISTURBED SURFACES. INSPECT MULCH PERIODICALLY, AND AFTER RAINSTORMS, AND CORRECT ANY NOTED DEFECTS OR FAILURES IN THE MULCH INSTALLATION.

PERMANENT VEGETATION PS

PERMANENT GRASSING SHALL CONSIST OF GROUND PREPARATION, MULCHING AND SEEDING. THE GROUND SHALL BE PREPARED BY PLOWING AND DISKING TO A DEPTH NOT LESS THAN 4", UNLESS WITHIN BUFFER ZONES WHERE NO DISTURBANCE IS ALLOWED. A PH BETWEEN 6.0 AND 6.5 SHOULD BE ACHIEVED WHENEVER POSSIBLE.

WHEN DISTURBED, THE GROUND SHALL BE FINISHED OFF SMOOTH AND UNIFORM AND BE FREE OF ROCKS, CLOUDS, ROOTS AND WEEDS. FERTILIZER SHALL BE APPLIED WHEN WEATHER PERMITS. SEEDING SHALL BE DONE WITHIN 24 HOURS OF FERTILIZER APPLICATION. SEED SHALL BE UNIFORMLY SPREAD AT THE RATES SHOWN BELOW. MULCHING MAY BE REQUIRED AND SHALL BE DONE IMMEDIATELY AFTER SEEDING. MULCH SHALL BE UNIFORMLY APPLIED OVER THE AREA LEAVING APPROXIMATELY 25% OF THE GROUND SURFACE EXPOSED. THE RATE OF APPLICATION SHALL BE DOUBLED ON SLOPES STEEPER THAN 4:1.

PREFERRED SEED MIXES USING NATIVES OR NATURALIZED PLANS AND PLANTING DATES			
ZONE	BEST SEED DATES	MARGINAL SEED DATES	RATE/MIX (LB/AC PLS)
REGION III, <2500 FT ELEV.; STEEP SLOPES	AUG 15 - SEPT 1 MAR 1 - APR 1	SEPT 1 - SEPT 15 APR 1 - JUNE 10	5 PURPLETOP 10 LITTLE BLUESTEM 10 INDIAN GRASS 2 BLACK-EYED SUSAN 0.5 MONARDA (BERGAMOT) 4 MARYLAND SENNA
REGION III, <2500 FT ELEV.; SHALLOW SOILS	AUG 15 - SEPT 1 MAR 1 - APR 1	SEPT 1 - SEPT 15 APR 1 - JUNE 10	4 PURPLETOP 10 LITTLE BLUESTEM 10 BROOMSEDGE 2 PARTRIDGE PEA 2 BLACK-EYED SUSAN 0.5 MONARDA (BERGAMOT)
REGION III, <2500 FT ELEV.; MODERATE SLOPES	AUG 15 - SEPT 1 MAR 1 - APR 1	SEPT 1 - SEPT 15 APR 1 - JUNE 10	4 PURPLETOP 10 LITTLE BLUESTEM 10 INDIAN GRASS 2 BLACK-EYED SUSAN 0.5 MONARDA (BERGAMOT) 4 MARYLAND SENNA
SEED MIXES FROM TENNESSEE EROSION & SEDIMENT CONTROL MANUAL HANDBOOK TABLE 7.9-1			



CITICO PUMP RELIABILITY IMPROVEMENTS

CITY OF CHATTANOOGA, TN
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PROJECT NO: 95307
DATE: 04/14/17

DISC. LEAD:	DESIGNER:	CHECKER:
PMB	SDA	ALW

SHEET TITLE: CIVIL

EROSION CONTROL DETAILS 2

SHEET **C505** REV **0**