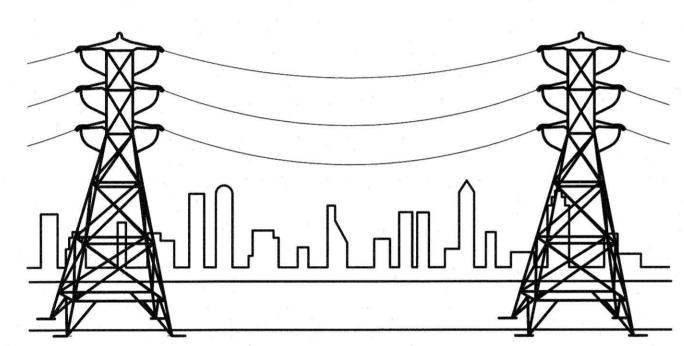


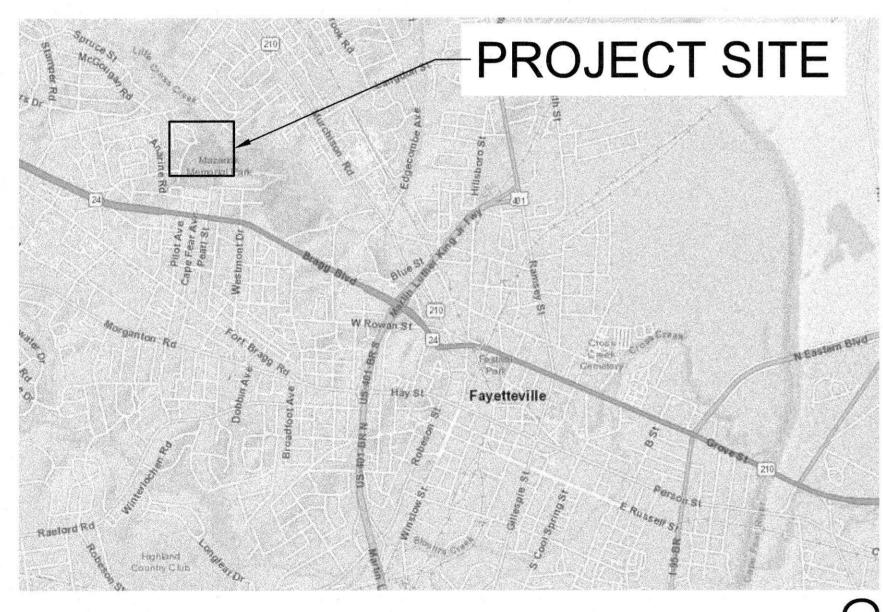
FAYETTEVILLE PUBLIC WORKS COMMISSION

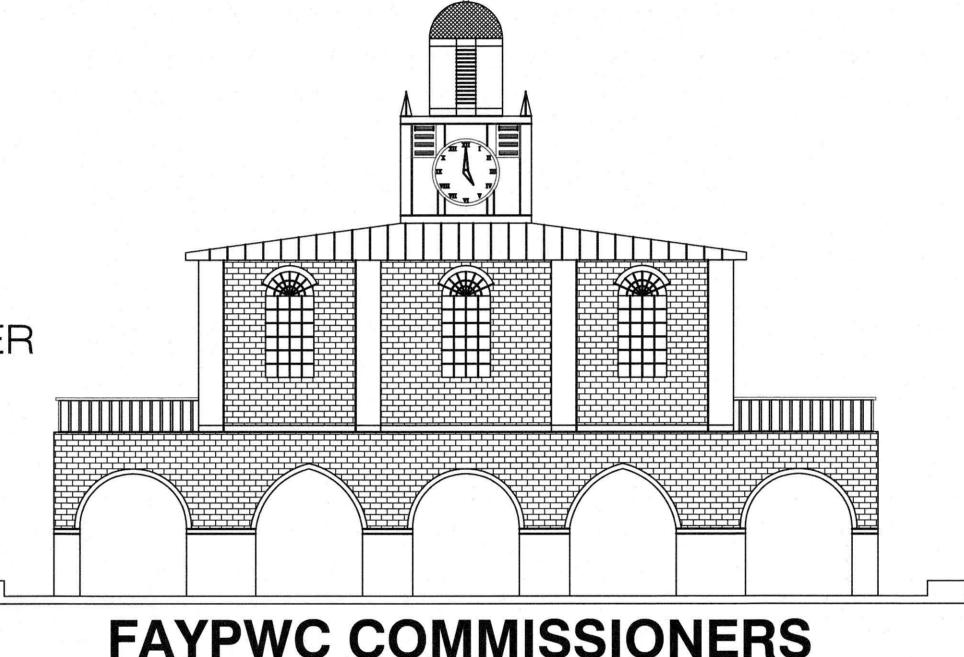
FAYETTEVILLE, N.C.



ELECTRICAL

JON RYNNE-ELEC. SYS. CHIEF OPER. OFFICER





FAYPWC COMMISSIONERS

Chairperson - EVELYN O. SHAW

Vice Chairperson - RONNA ROWE GARRETT

Secretary - DONALD L. PORTER

Treasurer - WADE R. FOWLER JR.

CEO/General Manager - ELAINA BALL

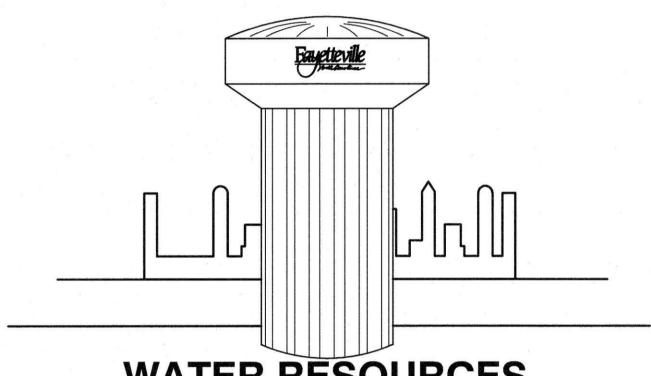








SHADOWLAWN AERIAL CROSSING SEWER REPLACEMENT



WATER RESOURCES

M.J. NOLAND -W/R CHIEF OPER. OFFICER MISTY MANNING -W/R ENGR. MANAGER

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100% SUBMITTAL -ISSUED FOR CONSTRUCTION



Phone: (919) 233-8091, Fax: (919) 233-8031

M&C Project #02532-0024

FAYPWC DWG PWC DWG# DS-15464 CONCRETE

COUPLING

DRIVE WAY

ELEVATION

EDGE OF GRAVEL

EDGE OF PAVEMENT

DRAWING

EXISTING

EXPANSION

LIGHT POLE

FLOOR DRAIN

FIRE HYDRANT

FINISHED

LANGE

LEXIBLE

FORCE MAIN

FIBER OPTIC

FLAT ON TOP

GUTTER LINE

GATE VALVE

HIGH POINT

GAS TEST STATION

HIGH WATER LEVEL

INVERT ELEVATION

IRON POST FOUND

LIMITS OF DISTURBANCE

JUNCTION BOX

LOW POINT

MAIL BOX

MAXIMUM

MANHOLE

MINIMUM

OVERFLOW

PLAIN END

POWER POLE

PLUG VALVE

PER RECORD

REDUCER

STATION

SIDE WALK

TERRA COTTA

TOP OF BANK

TOP OF SLAB

TOP OF WALL

TEST HOLE

TYPICAL

UNKNOWN

WATER LINE

WATER METER

WATER VALVE

YARD INLET

TOP OF CONCRET

TOP OF GRATING

SERVICE

POTABLE WATER

RESTRAINED JOINT

SANITARY SEWER

STAINLESS STEEL

STORM DRAIN MANHOLE

SANITARY SEWER MANHOLE

TEMPORARY BENCH MARK

TREE PROTECTION FENCE

UNLESS NOTED OTHERWISE

VITRIFIED CLAY PIPI

WELDED WIRE FABRIC

SUBSURFACE UTILITY ENGINEERING

RIGHT OF WAY

POLYMER

LONG RADIUS

LOW WATER LEVEL

MECHANICAL JOINT

NORMALLY CLOSED

NOT IN CONTRACT

NORMAL WATER LEVEL

OVER HEAD ELECTRIC

OVER HEAD UTILITIES

PRESSURE REDUCING VALVE

POLYTETRAFLUOROETHYLENE

REINFORCED CONCRETE PIPE

RESTRAINED FLANGE COUPLING ADAPTER

POLY VINYL CHLORIDE

NORMALLY OPEN

JOINT

GRAVEL

GUY WIRE

FLOOR

CHECK VALVE

DUCTILE IRON PIPE

CORRUGATED PLASTIC PIPE

DROP INLET / DUCTILE IRON

LANGE COUPLING ADAPTER

FINISHED FLOOR ELEVATION

FIRE HYDRANT ASSEMBLY

FIBERGLASS REINFORCED PIPE

HIGH-DENSITY POLYETHYLENE

CONC

CPLG

CPP

GRAV

OHE/OE

RFCA

SDMH

SSMH

UNO

UNK

VCP

R/W. ROW

EL OR ELEV

EXISTING SYMBOL LEGEND

DESCRIPTION	SYMBOL
11.25° HORIZONTAL BEND	H
22.50° HORIZONTAL BEND	4
45° HORIZONTAL BEND	4
90° HORIZONTAL BEND	4
AC UNIT	AQ
BENCH MARK	•
TEMP. BENCH MARK	+
BLOW OFF VALVE	₩o
BOLLARD	ово
CABLE TV PEDISTAL	
CATCH BASIN/ DROP INLET	
CLEAN OUT	COO
CONCRETE MONUMENT FOUND	□CMF
CONTROL POINT	<u>A</u>
CROSS	田田
CURB INLET	古
ELECTRIC BOX	[max.]
ELECTRIC MANHOLE	(E)
END OF INFORMATION	•
FLAG POLE	OFP
GAS METER	GM()
GUY POLE	-0
GUY WIRE	^
HANDHOLE	
HYDRANT	X
IRON POST FOUND	OIPF
IRON ROD FOUND	OIPF
LIGHT POLE	OLP
MAIL BOX	MB□
MONITOR WELL	×
	OPP
POWER POLE	
WATER MANHOLE	<u> </u>
PK FOUND	OPKF
RAIL ROAD SPIKE	o RRSPIKE
SANITARY SEWER MANHOLE	<u> </u>
SHRUB	9
SIGN	-0
STORM DRAIN MANHOLE	0
TAPPING SLEEVE AND VALVE	*
TEE	一
TELEPHONE MANHOLE	(T)
TELEPHONE PEDESTAL	
TRAFFIC SIGNAL BOX	
TRANSFORMER	
DECIDUOUS TREE	100 m
PINE TREE	
VALVE	
VALVE	
WATER METER	

EXISTING LINE LEGEND

LINETYPE

DESCRIPTION

UNDERGROUND PER RECORD CABLE TV UNDERGROUND ELECTRIC PER RECORD UNDERGROUND ELECTRIC UDERGROUND FIBER OPTIC PER RECORD UNDERGROUND FIBER OPTIC SANITARY SEWER FORCEMAIN	TV
UNDERGROUND ELECTRIC PER RECORD UNDERGROUND ELECTRIC UDERGROUND FIBER OPTIC PER RECORD UNDERGROUND FIBER OPTIC SANITARY SEWER FORCEMAIN ER RECORD SANITARY SEWER FORCE MAIN	— — E — — — — — — — FO(R) — — — FM — — — — FM(R) — — — — — — — — — — — — — — — — — — —
PER RECORD UNDERGROUND ELECTRIC UDERGROUND FIBER OPTIC PER RECORD UNDERGROUND FIBER OPTIC SANITARY SEWER FORCEMAIN ER RECORD SANITARY SEWER FORCE MAIN	E(R) F0 F0(R) FM(R) G
UDERGROUND FIBER OPTIC PER RECORD UNDERGROUND FIBER OPTIC SANITARY SEWER FORCEMAIN ER RECORD SANITARY SEWER FORCE MAIN	— — FO — — — FM — — — FM(R) — — — G — —
PER RECORD UNDERGROUND FIBER OPTIC SANITARY SEWER FORCEMAIN ER RECORD SANITARY SEWER FORCE MAIN	— — FO(R) — — — FM — — — FM(R) — — — G — —
SANITARY SEWER FORCEMAIN ER RECORD SANITARY SEWER FORCE MAIN	— — FM(R)—
ER RECORD SANITARY SEWER FORCE MAIN	
The state of the s	————G——
UNDERGROUND GAS	
and the second s	
UNDERGROUND PER RECORD GAS	G(R)-
OVER HEAD UTILITIES	OU
	R
	R(R)-
	SS(R)-
STORM DRAINAGE	
Annual State of the Control of the C	T
	T(R) $-$
UNDERGROUND UNKNOWN	
	w(R)-
FENCE	xx
GUARD RAIL	0
BACK OF CURB	· · · · · · · · · · · · · · · · · · ·
EASEMENT	
EDGE OF GRAVEL	
EDGE OF PAVEMENT	AUNTEROSE
PROPERTY LINE	
RIGHT OF WAY	escriptions of the contract contract of
ROAD CENTER LINE	· · · · · · · · · · · · · · · · · · ·
100 YEAR FLOODPLAIN	
DITCH &	
MAJOR CONTOUR	
MINOR CONTOUR	MANAGEMENT CONTROL CON
RIPARIAN BUFFER ZONE 1	Z1
RIPARIAN BUFFER ZONE 2	Z2
TOP OF BANK	-
TREELINE	
WATERCOURSE &	especializations + approximations +
WETLAND BOUNDARY	manufacture administrative WED restrictions are

4 PROPOSED SYMBOL LEGEND

DESCRIPTION	SYMBOL
11.25° HORIZONTAL BEND	Н
22.50° HORIZONTAL BEND	4
45° HORIZONTAL BEND	4
90° HORIZONTAL BEND	Ч
VERTICAL BEND	11
AIR RELEASE VALVE	(A)
VALVE	Н
BLOWOFF VALVE	Ho
HYDRANT	-
CROSS	田
TEE	凸
TAPPING SLEEVE AND VALVE	<u> </u> ¥
CAP/PLUG	_
POTABLE WATER SERVICE METER	M
RECLAIMED WATER SERVICE METER	ß
EXISTING UTILITY SERVICE RECONNECTION	
CONCENTRIC SANITARY SEWER MANHOLE	0
ECCENTRIC SANITARY SEWER MANHOLE	0
FLAT TOP SANITARY SEWER MANHOLE	0
CLEAN OUT	•
ARC FILTER	87%
CHECK DAM	
INLET PROTECTION	6 0
PIPE INLET PROTECTION	_8
SILT FENCE OUTLET	000
WATTLE	00

PROPOSED LINE LEGEND

DESCRIPTION	LINETYPE
PERMANENT EASEMENT	***************************************
TEMPORARY EASEMENT	
SANITARY SEWER FORCE MAIN	——FM——
RECLAIMED WATER LINE	·
GRAVITY SANITARY SEWER	
WATER LINE	
TO BE ABANDONED	1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
TO BE DEMOLISHED	XXXXX XXXX
DIVERSION DITCH	\rightarrow
LIMITS OF DISTURBANCE/CLEARING LIMITS	
COMBINATION SILT FENCE/TREE PROTECTION	csf
TEMPORARY SILT FENCE	SF
TEMPORARY SUPER SILT FENCE	SSF
TEMPORARY TREE PROTECTION FENCE	TPF
COMPOST SOCK	cs
PERMANENT FENCE	
GUARD RAIL	
MAJOR CONTOUR	
MINOR CONTOUR	
AERIAL PIPE GUARD	

PROFILE LINE LEGEND

DESCRIPTION	LINETYPE
EXISTING GRADE PAVEMENT PROFILE	
EXISTING GROUND PROFILE (GIS)	
EXISTING GROUND PROFILE (SURVEY)	No. 1
THEORETICAL 1:1 SLOPE	APPROXIMATION OF PROPERTY AND APPROX
WETLAND CROSSING	

AREA HATCH LEGEND

WETLANDS	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	V V V V
RIP-RAP	
TEMP. SLOPE STABILIZATION	+ + + + + + + + + + + + + + + + + + +
STRAW WITH NET LINER	

8 GENERAL NOTES

GENERAL/ CONSTRUCTION NOTES

- ALL UNDERGROUND UTILITIES ARE APPROXIMATE LOCATION UNLESS OTHERWISE NOTED. CONTRACTOR TO VERIFY SIZE, DEPTH, LOCATION AND MATERIAL OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL CONTACT 'N.C. ONE CALL CENTER' MIN. 72 HOURS PRIOR TO THE START OF CONSTRUCTION (811 OR 1-800-632-4949).
- THE UNDERGROUND UTILITIES INDICATED ON THE PLANS HAVE BEEN TAKEN FROM INFORMATION MADE AVAILABLE FROM THE VARIOUS UTILITY OWNERS. THIS INFORMATION IS NOT INCLUSIVE OF ALL EXISTING UNDERGROUND UTILITIES AND CABLES. THE CONTRACTOR IS ADVISED THAT ADDITIONAL UNDERGROUND UTILITIES AND CABLES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS.
- CONTRACTOR TO INSTALL EROSION CONTROL MEASURES PRIOR TO THE START OF
- CONSTRUCTION. ACCESS TO EACH RESIDENCE AND BUSINESS SHALL BE MAINTAINED AT ALL TIMES. ALL DISTURBED AREAS SHALL BE RESTORED WITH SOD IN RESIDENTIAL AREAS. DISTURBED AREAS LEFT INACTIVE BETWEEN ANY PHASE OF GRADING SHALL BE TEMPORARILY SEEDED WITHIN 7 WORKING DAYS OR 14 CALENDAR DAYS, WHICHEVER IS SHORTER. PROVISIONS FOR PERMANENT GROUND COVER MUST BE ACCOMPLISHED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS, AND IN REMAINING AREAS WITHIN 15
- WORKING DAYS OR 90 CALENDAR DAYS, WHICHEVER IS SHORTER. TRAFFIC FLOW SHALL BE MAINTAINED, WITH A MINIMUM OF ONE LANE OPEN, AT ALL TIMES DURING CONSTRUCTION.
- REPAIR AND REPLACEMENT OF HEADWALLS, MAILBOXES, DRIVEWAY CULVERTS, FENCES, DRAIN PIPES, SIGNS, LANDSCAPING ETC. REQUIRED DUE TO CONSTRUCTION ACTIVITIES BUT NOT SPECIFICALLY LISTED ON THE BID FORM SHALL BE INCLUDED IN THE COST OF THE PIPE. NO SEPARATE PAYMENT SHALL BE MADE UNLESS OTHERWISE INDICATED.
- CONTRACTOR SHALL RESTORE ALL GRAVEL, CONCRETE, AND PAVED AREAS WITH LIKE MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS. ALL STREETS AND PAVED AREAS SHALL BE SWEPT CLEAN OF DIRT AND DEBRIS AT THE END OF EACH WORKING DAY.
- CONTRACTOR SHALL COORDINATE WITH THE FAYETTEVILLE PUBLIC WORKS COMMISSION FOR ANY DISRUPTIONS OF THE NORMAL OPERATION OF WATER AND SEWER SERVICES. 10. CONTRACTOR SHALL PLACE ALL SPOIL MATERIAL ON THE UPHILL SIDE AWAY FROM ALL ROAD SIDE DITCHES, CREEKS, AND WATER COURSES DURING CONSTRUCTION. ALL EXCAVATION SHALL BE BACKFILLED AND ROADWAYS SWEPT AT THE END OF EACH WORK
- 11. LIMITS OF DISTURBANCE (LAND DISTURBANCE) FOR CONSTRUCTION OF THIS PROJECT SHALL BE CONTAINED WITHIN TEMPORARY AND PERMANENT EASEMENTS AS WELL AS ROAD RIGHT-OF-WAYS DENOTED ON THE PLANS.
- 12. TOPOGRAPHIC SURVEY FOR HORIZONTAL AND VERTICAL CONTROL WAS PERFORMED BY MCKIM AND CREED IN FEBRUARY 2020. 13. SOIL BORINGS WERE PERFORMED BY FROEHLING & ROBERTSON, INC. IN MAY 2020. SOIL
- BORING DATA SHOWN ON THE CONSTRUCTION DOCUMENTS IS FOR INFORMATION ONLY AND SHALL NOT BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. 14. WETLAND AND STREAM FEATURES WERE DELINEATED BY FROHLING & ROBERTSON, INC. AND SURVEYED BY MCKIM AND CREED IN FEBRUARY 2020.
- 15. ALLOWABLE BEARING CAPACITY FOR PILES IS 4 TONS PER PILE. 16. DRIVE PILES TO A REQUIRED BEARING CAPACITY OF 12 TONS PER PILE. THE REQUIRED BEARING CAPACITY IS EQUAL TO THE ALLOWABLE BEARING CAPACITY WITH A MINIMUM SAFETY FACTOR OF THREE (3).
- 17. INSTALL PILES TO A MINIMUM DEPTH OF 12 FEET BELOW CONCRETE ENCASEMENT. 18. IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY LESS THAN APPROX. 5,000 FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES. VIBRATORY METHODS SHALL NOT BE USED. PILES SHALL ONLY BE DRIVEN BETWEEN THE HOURS OF 8AM AND 4PM, WEEKDAYS ONLY.
- 19. CONTRACTOR SHALL VERIFY EX. UTILITY MATERIALS AND SIZES. 20. ACCESS TO SITES SHALL BE BY PUBLIC RIGHT-OF-WAYS AND UTILITY EASEMENTS. OTHER ACCESS LOCATIONS REQUIRED SHALL BE SECURED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. SUPPLEMENTAL EROSION CONTROL MEASURES SHALL BE REQUIRED TO INCLUDE CONSTRUCTION ENTRANCES, SILT FENCING, RESTORATION, ETC. ADDITIONAL MEASURES SHALL BE INCLUDED AS PART OF A
- SUPPLEMENTAL EROSION CONTROL PLAN PREPARED BY THE CONTRACTOR THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE CONSTRUCTION STAGING AREA AT HIS EXPENSE.
- 22. THE CONTRACTOR IS EXPECTED AND REQUIRED TO COOPERATE WITH THE PROPERTY OWNERS AFFECTED BY THE WORK. PRIVATE AGREEMENTS WITH PROPERTY OWNERS MUST BE IN WRITING ON A FORM APPROVED BY THE ENGINEER AND A COPY SHALL BE PROVIDED TO THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION ACTIVITIES AFFECTED BY SAID AGREEMENT. THE AGREEMENT MUST SPECIFY THAT FAYPWC. THE CITY AND THE ENGINEER SHALL BE HELD HARMLESS AGAINST ALL CLAIMS ARISING FROM THE AGREEMENT. THE OWNER DISCOURAGES PRIVATE AGREEMENTS BEFORE FINAL ACCEPTANCE, A RELEASE FROM EACH PROPERTY OWNER THAT THE CONTRACTOR HAS MADE AN AGREEMENT WITH SHALL BE REQUIRED. THE PROPERTY OWNER'S RELEASE IS A CONDITION OF FINAL ACCEPTANCE.
- 23. CONTRACTOR SHALL MAINTAIN A NEAT AND CLEAN JOB-SITE TO INCLUDE STAGING/STORAGE AREAS AS FOLLOWS:
- PERFORM DUST CONTROL BY WATERING DAILY OR AS DIRECTED BY THE ENGINEER. SWEEP STREETS A MINIMUM OF ONCE WEEKLY (FRIDAY) OR AS DIRECTED BY THE ENGINEER.
- BLADE, LEVEL, AND RE-COMPACT ALL EXPOSED TRENCHES WEEKLY (OR AS DIRECTED BY THE ENGINEER) TO PRODUCE A SMOOTH "RIDE".
- · PERFORM DAILY CLEAN-UP OF ALL DIRT, DEBRIS, AND SCRAP MATERIALS.
- REMOVE EXCESS EQUIPMENT, MATERIALS, TOOLS, ETC. NOT NEEDED. 24. EXCESS SUITABLE SOIL EXCAVATED DURING CONSTRUCTION SHALL BE STOCKPILED FOR USE ON THE PROJECT OR DISPOSED OF OFF-SITE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOT BE ALLOWED TO STOCKPILE MATERIALS OR EXCESS MATERIALS IN THE STREET RIGHT-OF-WAYS AT ANY TIME. THE CONTRACTOR SHALL PROVIDE A SUFFICIENT AND SUITABLE STOCKPILE AREA AND LOCATION AT THE
- CONTRACTOR'S EXPENSE. 25. CONTRACTOR SHALL PROVIDE MEASURES DURING CONSTRUCTION TO SECURE THE SITE AND EXCAVATION FROM THE GENERAL PUBLIC AND COMPLY WITH ALL O.S.H.A. REGULATIONS. JOB SITE SAFETY IS THE EXCLUSIVE AND SOLE RESPONSIBILITY OF THE CONTRACTOR. OPEN EXCAVATION LEFT UNATTENDED OR OVER NIGHT IS NOT
- ACCEPTABLE AND SHALL BE FILLED IMMEDIATELY. 26. CONTRACTOR SHALL REPAIR OR REPLACE DRIVES DISTURBED BY CONSTRUCTION TO EXISTING OR BETTER CONDITIONS. NO SEPARATE PAYMENT UNLESS OTHERWISE INDICATED.
- 27. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING WHERE FENCES ARE REMOVED FOR CONSTRUCTION. CONTRACTOR SHALL COORDINATE FENCE REMOVAL/REINSTALLATION WITH INDIVIDUAL PROPERTY OWNERS PRIOR TO REMOVAL. CONTRACTOR SHALL REINSTALL ALL SHEDS, FENCES, ETC. TO AS GOOD OR BETTER THAN EXISTING
- CONDITIONS UNLESS OTHERWISE INDICATED. (NO SEPARATE PAYMENT). 28. CONTRACTOR SHALL REPLACE ALL DISTURBED MAILBOXES, SIGNS, ETC. DISTURBED DURING CONSTRUCTION WITHIN 24 HOURS OF DISTURBANCE. PERMANENT ROAD SIGNAGE DISTURBED SHALL BE REPLACED IMMEDIATELY AND IF NECESSARY ROADWAY SIGNS SHALL BE TEMPORARILY INSTALLED IN A LOCATION CONSISTENT WITH THE N.C.M.U.T.C.D. TO PROVIDE CONTINUOUS TRAFFIC AWARENESS OF ROADWAY CONDITIONS. (NO SEPARATE PAYMENT).
- 29. CONTRACTOR SHALL PROVIDE SECURITY FENCING, SECURITY GUARD, AND ANY AND ALL OTHER MEASURES CONTRACTOR DEEMS NECESSARY TO PROTECT EQUIPMENT AND MATERIALS STORED ON THE PROJECT. (NO SEPARATE PAYMENT 30. WHERE CONTRACTOR CEASES WORK OPERATIONS FOR A 72 HOUR PERIOD OR LONGER.
- SUCH AS HOLIDAYS, ETC., THE FOLLOWING SHALL BE ACCOMPLISHED PRIOR TO THE WORK STOPPAGE: a. CONTRACTOR SHALL STORE ALL EQUIPMENT IN THE CONTRACTOR STAGING AREA OR
- OFF SITE. THE CONTRACTOR SHALL SWEEP ALL STREETS, PERFORM GENERAL CLEANUP AND SHALL PERFORM MAINTENANCE ON ALL EXPOSED PATCHES.

CONTRACTOR SHALL SCHEDULE WORK AND MATERIAL DELIVERIES SO THAT STORED

- MATERIAL QUANTITIES ON THE JOB SITE SHALL BE MINIMIZED. 32. CONTRACTOR SHALL STORE ALL MATERIALS IN THE CONTRACTOR STAGING AREA 72 HOURS PRIOR TO INCORPORATING INTO THE WORK TO REDUCE OBSTRUCTIONS TO TRAFFIC AND INCONVENIENCE TO RESIDENTS. WHERE UTILITIES ARE BEING CONSTRUCTED IN EASEMENTS OUT OF TRAFFIC AREAS CONTRACTOR MAY STORE MATERIALS AHEAD OF CONSTRUCTION FOR A DISTANCE NOT GREATER THAN 1800 FEET
- UNLESS APPROVED OTHERWISE BY THE ENGINEER. 33. AT THE PROPERTY OWNER'S REQUEST, THE CONTRACTOR SHALL DIG UP EXISTING SHRUBS AND BUSHES WITHIN UTILITY EASEMENT TO BE DISTURBED BY CONSTRUCTION AND SET OUTSIDE THE UTILITY EASEMENT AREA IN A LOCATION DETERMINED BY THE PROPERTY OWNER (NO SEPARATE PAYMENT). PROPERTY OWNER WILL BE RESPONSIBLE FOR REPLANTING SHRUBS AND BUSHES SO REMOVED, AND SHALL BE RESPONSIBLE FOR

- RE-ESTABLISHING IF NO REQUEST IS MADE BY THE PROPERTY OWNER, DISTURBED SHRUBS AND BUSHES SHALL BE REMOVED AND DISPOSED OF OFF-SITE UNLESS OTHERWISE INDICATED.
- 34. CLEARING AND GRUBBING SHALL BE RESTRICTED TO PERMANENT EASEMENTS ONLY. CONTRACTOR SHALL LIMIT TREE/BUSH CLEARING IN THE TEMPORARY EASEMENTS.
- 35. THE PROPOSED WORK WILL BE CONSTRUCTED WITHIN A FULLY DEVELOPED SUBDIVISION.
- NO SPEEDING WITH EQUIPMENT AND OR VEHICLES (25 MPH MAXIMUM).

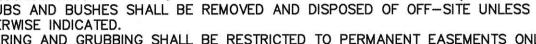
WHICH INCLUDES THE FOLLOWING MANDATORY MINIMUM REQUIREMENTS:

- DO NOT LITTER AT ANY TIME.
- ALL REQUIREMENTS FOR BACK FLOW PREVENTION BY THE PLUMBING CODE WILL BE ADHERED TO.
- DO NOT USE ABUSIVE LANGUAGE, PROFANITY, OR CAT-CALLING. WEAR PROPER PROTECTIVE CLOTHING (HARD HATS, PROPER SHOES, SHIRTS, ETC.). MAINTAIN PROPER SAFETY MEASURES, PARTICULARLY ALONG OPEN TRENCHES,
- CONSTRUCTION IS STOPPED AND THE OPEN TRENCH IS NOT MANNED. PERSONNEL MUST WEAR CITY APPROVED SAFETY VEST AT ALL TIMES WHILE WORKING
- ALL TRAFFIC CONTROL FLAG PERSONS AND AT LEAST ONE PERSON ON EACH WORK

IF THE CONTRACTOR AND/OR SUBCONTRACTORS CANNOT ADEQUATELY PERFORM AND/OR COMPLY WITH THESE REQUIREMENTS, THE INDIVIDUAL, SUBCONTRACTOR, OR EMPLOYEES MAY BE DIRECTED TO LEAVE THE PROJECT PERMANENTLY.

SPECIFICATIONS AND PROVIDE EASY REFERENCE FOR THE CONTRACTOR. IN NO CASE SHALL THESE NOTES VOID ANY PART, SECTION, OR REQUIREMENT OUTLINED IN THE TECHNICAL SPECIFICATIONS CONTAINED IN THE CONTRACT DOCUMENTS. IF CONFLICTS OCCUR BETWEEN THE TECHNICAL SPECIFICATIONS AND THE NOTES CONTAINED HEREIN,

- PRIOR TO COMMENCEMENT OF ANY WORK WITHIN EASEMENTS OR RIGHTS-OF-WAYS THE
- 3. ALL SANITARY SEWER AND WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS OF THE FAYETTEVILLE PUBLIC WORKS COMMISSION. STORM DRAINAGE, STREET CONSTRUCTION AND PAVING SHALL BE IN ACCORDANCE WITH
- ELECTRIC, CABLE, GAS, ETC. 5. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION AND/OR SECURING EXISTING UTILITY POLES AND SIGNS
- SPECIFICATION SECTION UNDERGROUND ELECTRICAL CROSSING REQUIREMENTS. 7. WHERE DEEMED NECESSARY BY THE ENGINEER THAT A SUBSURFACE DRAINAGE SYSTEM IS REQUIRED, THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT, TIE-IN'S TO EXISTING DRAINAGE STRUCTURES AND ALL OTHER INCIDENTALS NECESSARY TO PROVIDE COMPLETE INSTALLATION IN ACCORDANCE WITH CITY OF FAYETTEVILLE STANDARDS. IMPROPERLY INSTALLED AND NON-FUNCTIONING DRAINAGE SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING FRENCH DRAINAGE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AND/OR
- REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER. 8. STORM DRAINAGE REPAIRS BY CONTRACTOR DUE TO CONSTRUCTION DAMAGE AND JOINTS EXPOSED DURING CONSTRUCTION SHALL BE INSPECTED BY THE OWNER PRIOR TO
- 1. CONSTRUCTION LIMITS/CORRIDOR (INCLUDING ROADS AND STOCKPILE AREA) TO A
- 2. POST CONSTRUCTION GROUND CONTOURS AND ELEVATIONS MUST BE RESTORED TO THE
- SOIL EXISTING PRIOR TO CONSTRUCTION.
- TEMPORARY PLACEMENT/STOCKPILE FOR ABSOLUTE MINIMUM PERIOD OF TIME.
- COMPLETION OF THE UTILITY LINE OR IMMEDIATELY AT EACH STREAM CROSSING. NOTIFY COE DISTRICT ENGINEER AND RECEIVE WRITTEN APPROVAL PRIOR TO BEGINNING
- 8. NO FRESH CONCRETE SHALL BE IN CONTACT WITH STREAMS.
- 9. SEEDING SHALL BE IN ACCORDANCE WITH THE SPECIFIED MIXTURE FOR WETLAND AREAS.
- CONTACT INFORMATION . FAYETTEVILLE-CUMBERLAND PARKS & RECREATION MICHAEL GIBSON DIRECTOR
 - 2. NCDEQ FAYETTEVILLE REGIONAL OFFICE TRENT ALLEN ENVIRONMENTAL REGIONAL SUPERVISOR
 - 3. FAYETTEVILLE PWC TIFFANY FAULK, PE PROJECT MANAGER TIFFANY.FAULK@FAYPWC.COM (910) 223-4759



BETWEEN HOUSES, AND ALONG PROPERTY LINES TO ONLY ABSOLUTELY NECESSARY FOR

THE CONTRACTOR IS REQUIRED TO DEVELOP GOOD RELATIONS WITH THE RESIDENTS

DO NOT BLOCK DRIVEWAYS AT ANY TIME.

• DO NOT USE RESIDENT'S WATER WITHOUT THEIR PERMISSION (SIGNED AGREEMENT

RESPOND TO RESIDENT'S COMPLAINTS WITHIN 24 HOURS.

- PLACING CONES ON RAISED MANHOLES, AND BACK FILLING OPEN TRENCHES IF
- IN THE CITY AND/OR NCDOT RIGHT-OF-WAY.
- CREW MUST BE FLUENT IN THE ENGLISH LANGUAGE.

INCONSIDERATE, NON-COOPERATIVE ATTITUDES AND ACTIONS WILL NOT BE TOLERATED.



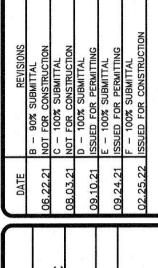
- 1. THE NOTES CONTAINED HEREIN ARE INTENDED TO SUPPLEMENT THE TECHNICAL THE TECHNICAL SPECIFICATIONS SHALL SUPERSEDE.
- 2. PHOTOGRAPHS CONTAINED IN DRAWINGS ARE FOR INFORMATION PURPOSES ONLY AND THE CONTRACTOR SHALL NOT RELY ON THE LIMITED NUMBER OF PHOTOGRAPHS AS BEING REPRESENTATIVE OF ACTUAL SITE CONDITIONS. CONTRACTOR IS CHARGED WITH PERFORMING SITE INVESTIGATIONS TO ASCERTAIN EXISTING SITE CONDITIONS.

UTILITY GENERAL NOTES

- CONTRACTOR IS REQUIRED TO NOTIFY CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH GS 87-102. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. NO SEPARATE PAYMENT. EXISTING UTILITIES SHOWN ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED (IE: TELEPHONE, GAS, CABLE, ETC.).
- 2. THE CONTRACTOR SHALL DIG UP EACH UTILITY WHICH MAY CONFLICT WITH CONSTRUCTION 14 DAYS IN ADVANCE TO VERIFY LOCATIONS (HORIZONTALLY AND VERTICALLY) TO ALLOW THE ENGINEER AN OPPORTUNITY TO ADJUST THE DESIGN TO AVOID CONFLICTS (NO SEPARATE PAYMENT).
- THE CITY OF FAYETTEVILLE.
- 4. UTILITY SERVICES TO INDIVIDUAL PROPERTIES ARE NOT SHOWN IN THE PROFILES FOR SIMPLICITY OF THE DRAWINGS. SERVICES MAY INCLUDE WATER LATERALS, TELEPHONE,
- AND/OR UTILITIES IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS DURING THE
- UTILITY MAIN INSTALLATION AND STREET CONSTRUCTION. (NO SEPARATE PAYMENT). CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS FOR UTILITY CROSSINGS AND REPAIR DAMAGES DUE TO CONSTRUCTION TO THE SATISFACTION OF THE UTILITY INVOLVED AT NO ADDITIONAL EXPENSE TO THE OWNER. UNDERGROUND ELECTRICAL CROSSINGS SHALL BE CROSSED IN ACCORDANCE WITH THE N.E.C. AND TECHNICAL
- BACKFILLING.

WETLAND CONSTRUCTION REQUIREMENTS

- MAXIMUM 40 FOOT WIDTH. ORIGINAL ELEVATIONS.
- 3. THE TOP 6" TO 12" OF THE TRENCH SHALL BE BACKFILLED WITH THE TOPSOIL AND/OR 4. EXCESS MATERIAL MUST BE REMOVED TO UPLAND AREAS AND DISPOSED OF OFF-SITE.
- 5. DISTURBED SLOPES AND STREAM BANKS MUST BE STABILIZED IMMEDIATELY UPON
- CONSTRUCTION. 7. NO FERTILIZER SHALL BE APPLIED WITHIN 10 FEET OF STREAM.
- RECEIVED
- MGIBSON@CI.FAY.C.US (910) 433-3336
- TRENT.ALLEN@NCDENR.GOV (910) 433-3336



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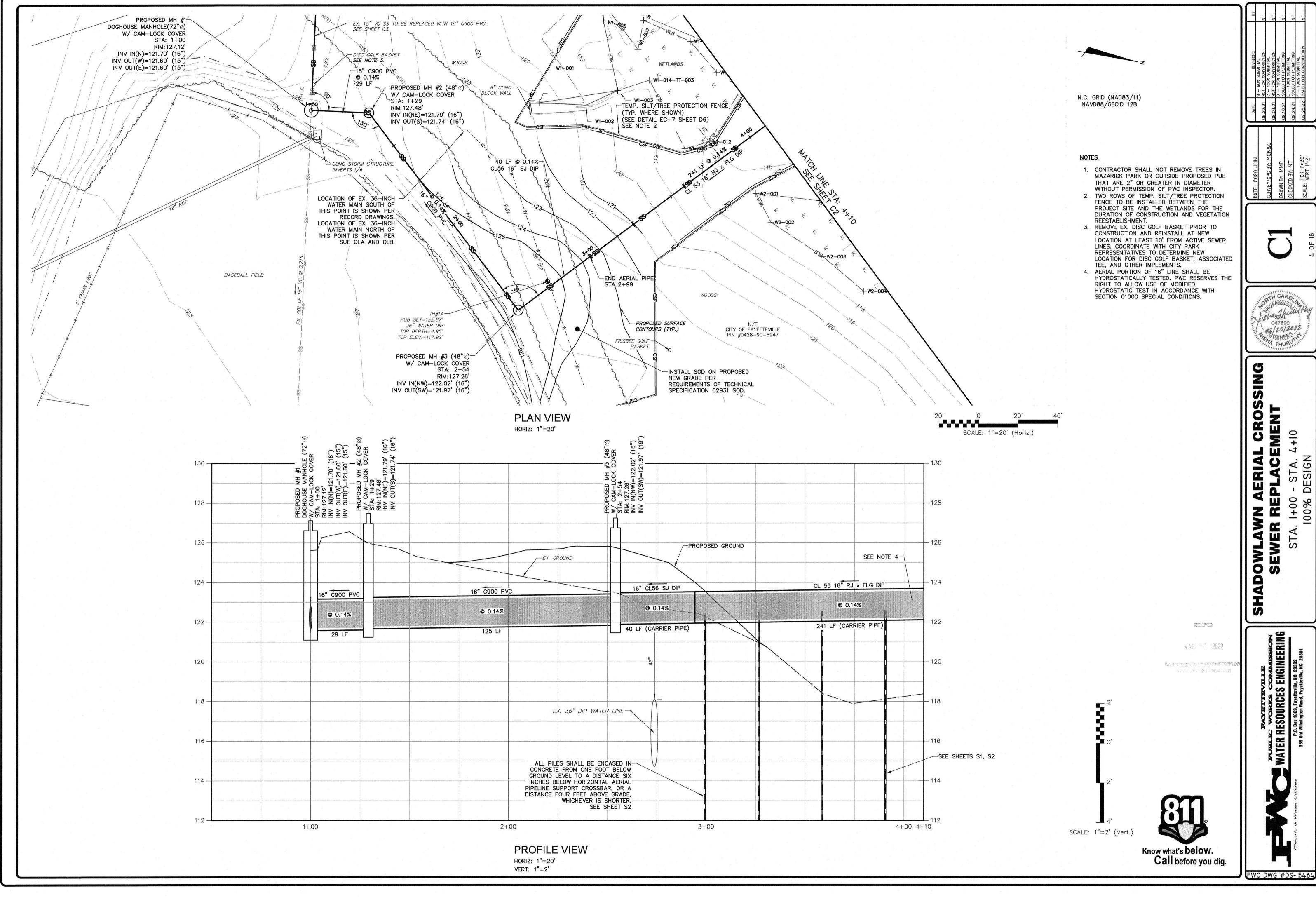
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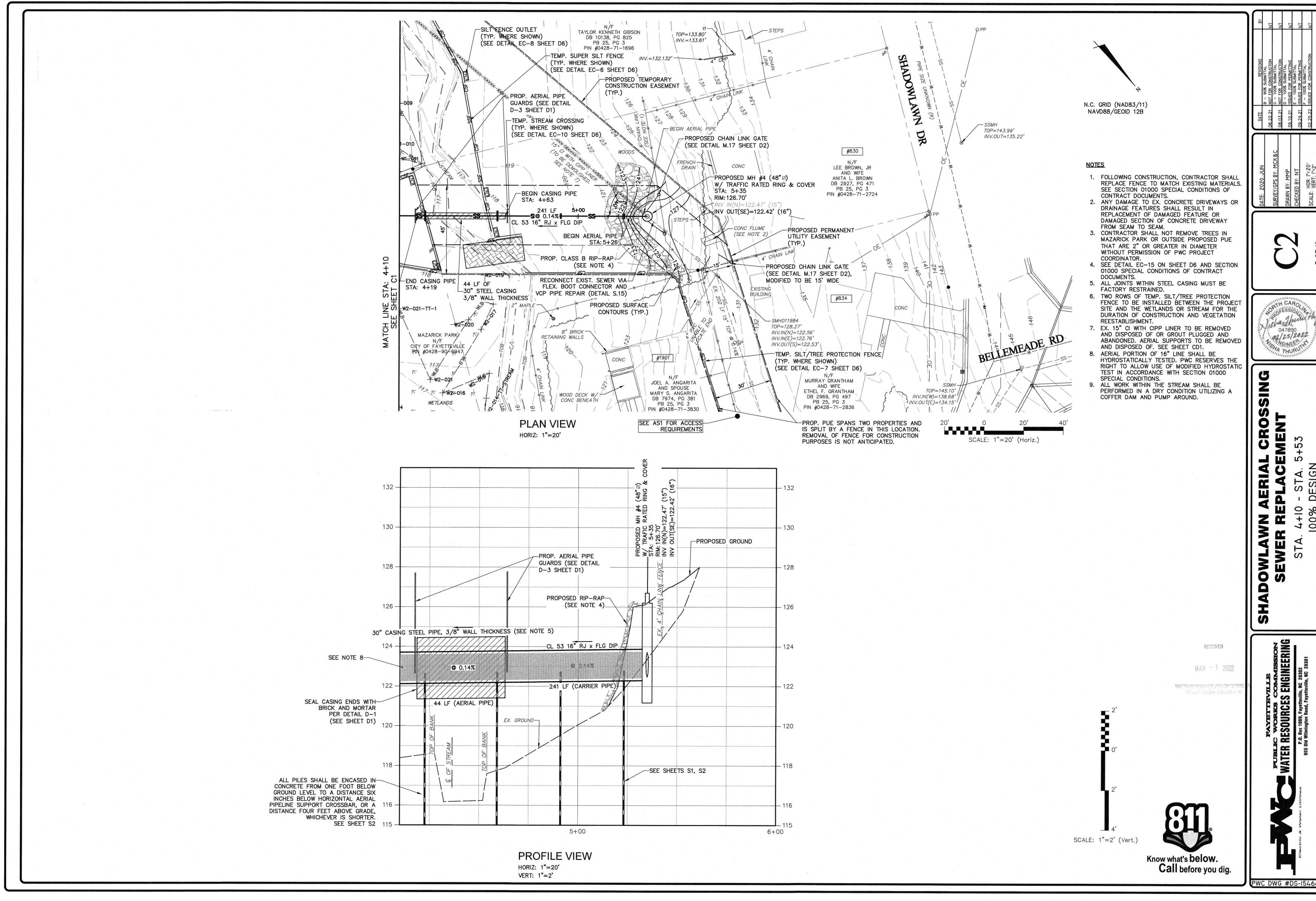
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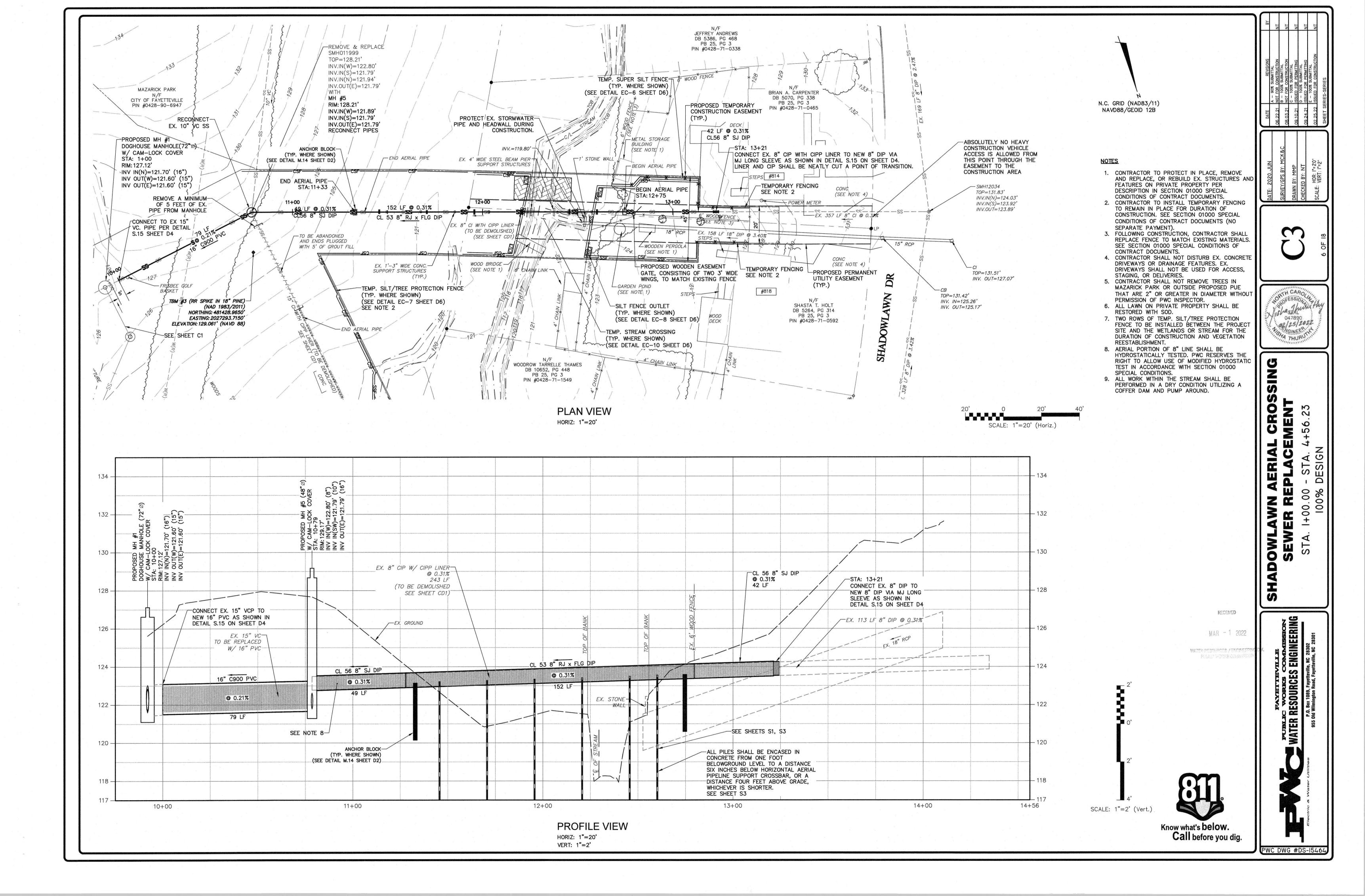


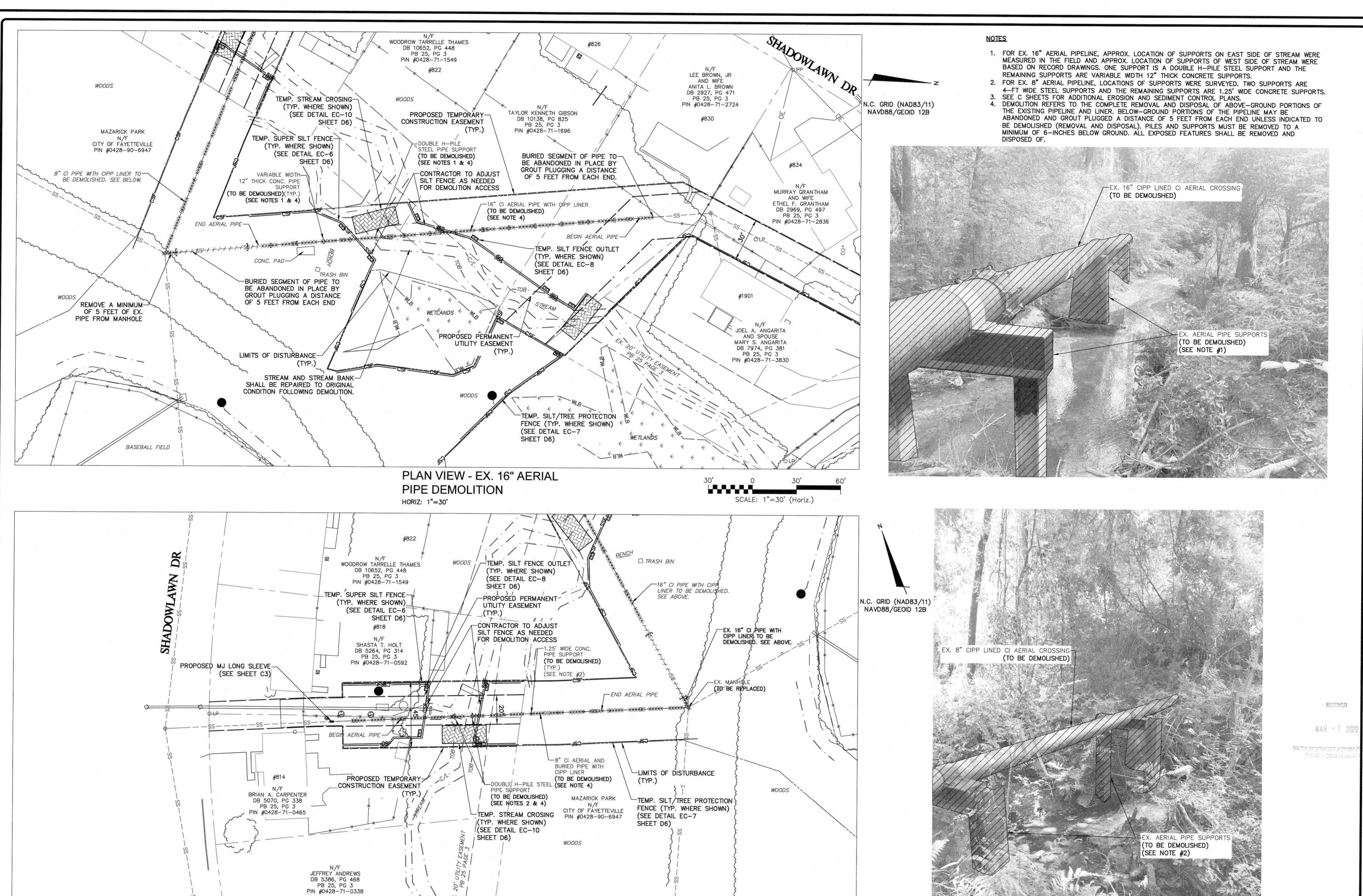






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SCALE: 1"=30' (Horiz.)

PLAN VIEW - EX. 8" AERIAL

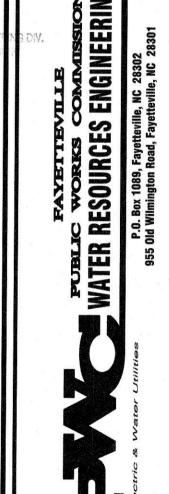
PIPE DEMOLITION

HORIZ: 1"=30'



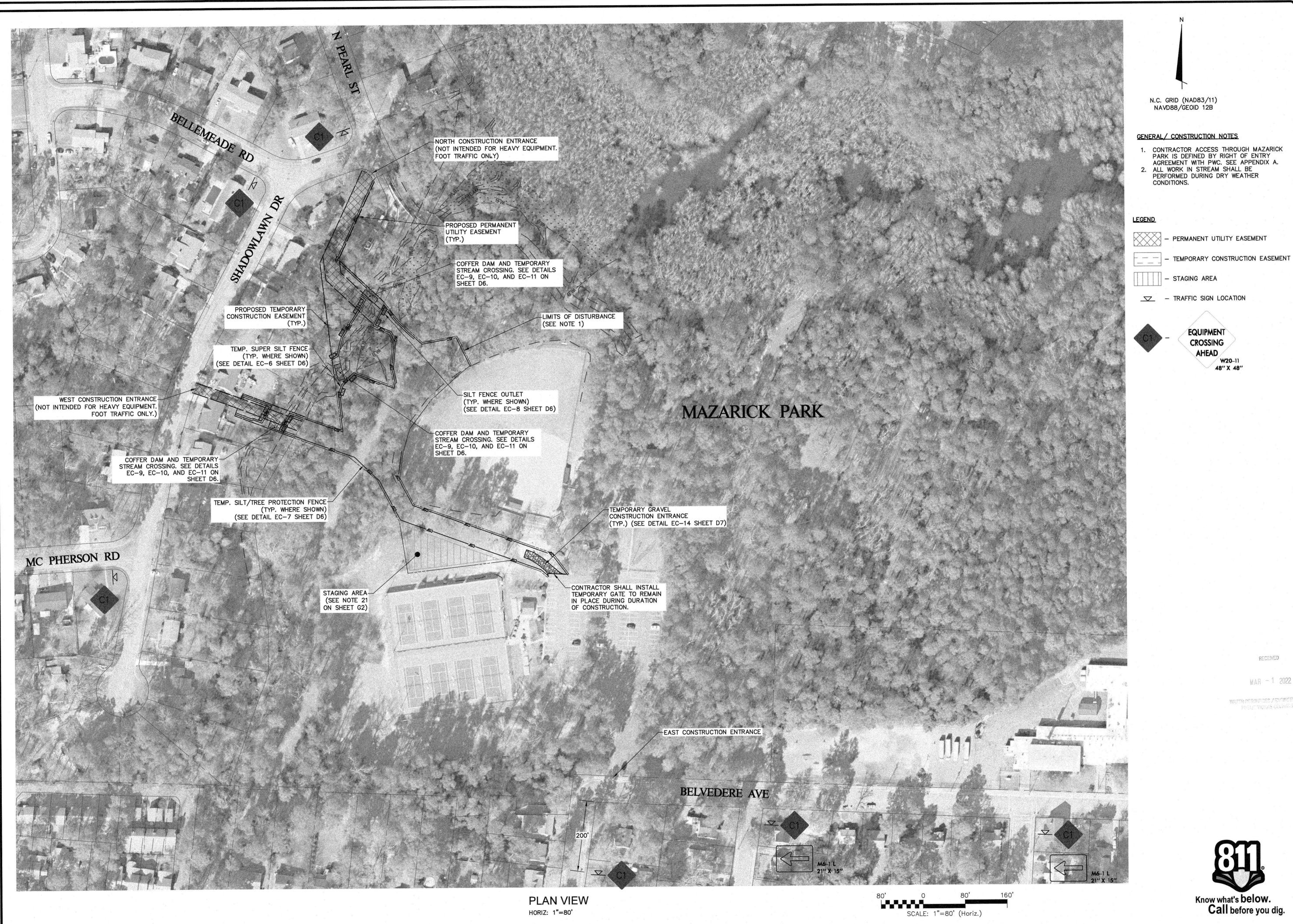
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Know what's below.

Call before you dig.



GENERAL/ CONSTRUCTION NOTES

- PERMANENT UTILITY EASEMENT

- TEMPORARY CONSTRUCTION EASEMENT

- STAGING AREA

EQUIPMENT CROSSING

W20-11 48" X 48"

RECEIVED



1.2 ALL CONSTRUCTION SHALL BE IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION, OR LOCAL BUILDING CODE REQUIREMENTS IF MORE STRINGENT.

1.3 THESE DRAWINGS DO NOT SHOW PROVISIONS FOR SAFETY DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THE REQUIRED BRACING, SHORING, AND SAFETY DEVICES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT.

COORDINATION

2.1 STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH AND COORDINATED WITH CIVIL & DETAIL DRAWINGS. INCLUDING VENDOR SUBMITTAL DRAWINGS AND OTHER CONTRACT DOCUMENTS.

2.2 ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN ON THESE DRAWINGS ARE TO BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE WORK PROCEEDS, INCLUDING ORDERING AND FABRICATING MATERIALS.

2.3 INDEPENDENT TESTING OF MATERIALS SHALL BE PROVIDED AS DEFINED IN PROJECT SPECIFICATIONS. IN GENERAL PROJECT INVOLVES THE FOLLOWING: A. SOIL/FILL COMPACTION & BEARING. B. C.I.P. REINFORCED CONCRETE.

C. STEEL PILES & PILE DRIVING OPERATIONS.

2.4 IF COORDINATION OF INFORMATION PRESENTED CONFLICTS w/ THE PROJECT SPECIFICATIONS, THE DRAWINGS WILL TAKE PRECEDENCE.

2.5 IN GENERAL CALL-OUTS ARE FOR NEW CONSTRUCTION U.N.O.. EXISTING CONSTRUCTION CALL-OUTS, ELEVATIONS AND DIMENSIONS OF EXISTING STRUCTURES ARE BASED ON EXISTING RECORD DRAWINGS PROVIDED TO McKIM & CREED. THE (*) SYMBOL ON INDIVIDUAL FACILITY "STRUCTURAL" DRAWINGS INDICATES EXISTING CONSTRUCTION CALL-OUTS, CONDITIONS ELEVATIONS AND DIMENSIONS TO BE FIELD VERIFIED BY THE GENERAL CONTRACTOR U.N.O. PRIOR TO CONSTRUCTION. INCLUDING ORDERING AND FABRICATING MATERIALS. RECORD DRAWINGS PROVIDED BY FAYETTEVILLE PUBLIC WORKS COMMISSION UTILIZED INCLUDES: A. NONE.

2.6 SPECIAL INSPECTIONS (IF APPLICABLE): ALL DEEP FOUNDATION PILES, C.I.P. CONCRETE & STRUCTURAL STEEL ASSEMBLIES WORK SHALL BE REVIEWED AS STATED IN CONJUNCTION w/ THEIR RESPECTIVE NOTES BELOW, CHAPTER 17 OF THE NORTH CAROLINA STATE BUILDING CODE AND THE PROJECT SPECIAL INSPECTIONS STATEMENT IN THE PROJECT SPECIFICATIONS.

FOUNDATIONS

3.1 DEEP FOUNDATION PILE DESIGN IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AS PREPARED BY FROEHLING & ROBERTSON, INC. (PROJECT No. 66Y-0029, DATED MAY 28,

3.2 PILE ASSEMBLIES SHALL CONSIST OF STEEL H-PILES IN CONFORMANCE w/ ASTM A572 OR ASTM A690.

3.3 STEEL H-PILES CAPACITY PER THE PROJECT GEOTECHNICAL

REPORT IS AS FOLLOWS: a.) 24 KIPS (COMPRESSION).

b.) 4 KIPS (LATERAL). THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THESE VALUES PRIOR TO FOUNDATION CONSTRUCTION, OR DURING IF TEST PILES TO BE UTILIZED AS PRODUCTION PILES. IN AREAS WHERE THE INSTALLATION DOES NOT YIELD THE REQUIRED COMPRESSION & LATERAL LOADS, ADJUSTMENT IN THE PILE INSTALLATIONS MAY BE MADE BY THE ENGINEER BEFORE WORK PROCEEDS/CONTINUES. CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY SUCH ADJUSTMENTS.

3.4 BOTTOM OF PILE & TOP OF PILE ELEVATIONS SHALL NOT BE RAISED OR LOWERED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

3.5 PILE DRIVING INSTALLATION PROCEDURES TO BE IN ACCORDANCE w/ THE REQUIREMENTS OF THE PROJECT GEOTECHNICAL REPORT.

3.6 FABRICATE PILES IN LONGEST LENGTHS PRACTICAL TO ELIMINATE OR MINIMIZE FIELD SPLICING.

3.7 REFERENCE PROJECT GEOTECHNICAL REPORT FOR PILE LOCATIONS THAT MAY REQUIRE/ALLOW PRE-DRILLING.

3.8 PILES DRIVEN w/ DISPLACEMENT EXCEEDING 4" IN PLAN OR EXCEEDING 1% OUT-OF-PLUMB WILL BE REJECTED & REQUIRE

3.9 PILE DRIVING SHALL BE MONITORED & LOGGED & REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE DURING INSTALLATION. ALL MONITORING OF PILE INSTALLATIONS & PILE CONSTRUCTION SHOP DRAWING REVIEWS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 17 OF THE NORTH CAROLINA STATE BUILDING CODE.

NEW RE-DRIVEN PILES AT NO ADDITIONAL COST TO THE OWNER

REINFORCING STEEL

4.1 BARS SHALL BE ROLLED FROM NEW BILLET-STEEL OF DOMESTIC MANUFACTURE CONFORMING TO "STANDARD SPECIFICATION FOR DEFORMED AND PLAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT," ASTM A615, GRADE 60 AND SUPPLEMENTARY REQUIREMENT S-1.

4.2 DETAIL AND FABRICATE REINFORCING STEEL IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "ACI DETAILING MANUAL," LATEST PUBLICATION.

REINFORCING STEEL CTD.

4.3 REINFORCING STEEL IN PLACE SHALL BE REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE. THE REVIEW SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 17 OF THE NORTH CAROLINA STATE BUILDING CODE.

4.4 WELDED WIRE FABRIC SHALL CONFORM TO "STANDARD SPECIFICATION FOR WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT," ASTM A1064.

4.5 FABRICATE CONTINUOUS BARS IN SLABS, WALLS, FOOTINGS AND ENCASEMENTS TO THE LONGEST PRACTICABLE LENGTHS.

4.6 REINFORCING STEEL SHALL NOT BE BENT AFTER BEING PARTIALLY EMBEDDED IN HARDENED CONCRETE.

4.7 BARS SHALL BE COLD BENT AND SHALL NOT BE HEATED FOR ANY REASON.

4.8 REINFORCING BARS SHALL NOT BE WELDED.

4.9 REFERENCE DRAWINGS FOR REQUIREMENTS FOR LAP SPLICING REINFORCING STEEL IN CONCRETE.

4.10 LAP SPLICED BARS IN CONCRETE ARE TO BE WIRE TIED.

CONCRETE

5.1 IN GENERAL CONCRETE SHALL DEVELOP 3,000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS. IN ADDITION REFERENCE "DESIGN CRITERIA" THIS DWG. & NOTE THE CONCRETE MIX WORK SHALL INCLUDE THE FOLLOWING:

a.) CEMENT MATERIAL SUPPLIED SHALL BE TYPE I OR TYPE II PORTLAND CEMENT THAT IS IN CONFORMANCE w/ ASTM C150.

b.) FLY ASH THAT IS IN CONFORMANCE w/ ASTM C618. CLASS F MAY BE INCLUDED IN THE MIX. FLY ASH SHALL BE USED AS A PARTIAL CEMENT REPLACEMENT & NOT EXCEED 25% OF THE TOTAL CEMENTITIOUS CONTENT.

c.) AGGREGATE SHALL BE "NORMAL" WEIGHT THAT IS IN CONFORMANCE w/ ASTM C33.

 d.) WATER SHALL BE IN CONFORMANCE w/ ASTM C94. e.) AIR ENTRAINING ADMIXTURE IS ALLOWED PROVIDED IT IS IN CONFORMANCE w/ ASTM C260. THE TOTAL AIR CONTENT REQUIRED IS 5% ± 1%.

f.) WATER REDUCING ADMIXTURE IS ALLOWED PROVIDED IT IS IN CONFORMANCE w/ ASTM C494, TYPE A OR D. g.) MAXIMUM SLUMP = 3" w/OUT WATER REDUCING

ADMIXTURE & 6" w/ A WATER REDUCING ADMIXTURE h.) WATER/CEMENT RATIO (w/c) = 0.45 MAXIMUM. i.) DO NOT USE PRODUCTS CONTAINING CALCIUM CHLORIDES.

5.2 CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318 (2014) EDITION) & TO "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES", ACI 350 (2006 EDITION).

5.3 PLACE 1/2 INCH EXPANSION JOINT MATERIAL BETWEEN EDGES OF CONCRETE AND VERTICAL SURFACES UNLESS NOTED OTHERWISE.

5.4 PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLABS, WALLS & ENCASEMENTS AT LOCATIONS SHOWN ON DRAWINGS.

5.5 CHAMFER EXPOSED EDGES OF CONCRETE 3/4 INCH, UNLESS NOTED OTHERWISE.

5.6 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER CURING OF ALL CONCRETE. CURING METHODS SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" ACI 318, "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES" ACI 350 AND "STANDARD PRACTICE FOR CURING CONCRETE," ACI 308 (LATEST EDITION).

5.7 UNLESS NOTED OTHERWISE DOWELS SHALL BE THE SAME NUMBER AND SIZE AS THE LARGEST VERTICAL BAR TO WHICH THEY ARE SPLICED.

5.8 FINISH REQUIREMENTS FOR THIS PROJECT ARE AS FOLLOWS: a.) ENCASEMENTS:

TOPS = UNFORMED LEVEL FLOAT FINISH.

SIDES = SMOOTH FORMED FINISH WHERE EXPOSED & ROUGH FORMED FINISH WHERE UNEXPOSED. 5.9 CONTRACTOR SHALL SUBMIT REBAR SHOP DRAWINGS FOR APPROVAL TO OWNER PRIOR TO FABRICATION. DO NOT

FABRICATE REINFORCING PRIOR TO RECEIPT OF APPROVED SHOP

5.10 CONCRETE MIXES TO BE REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE. COMPRESSIVE STRENGTH TEST CYLINDERS TO BE REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE THROUGHOUT CONCRETE CONSTRUCTION OF THE PROJECT. THESE REVIEWS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTERS 17 & 18 OF THE NORTH CAROLINA STATE BUILDING

STRUCTURAL STEEL

8.1 STEEL SHALL CONFORM TO "STANDARD SPECIFICATION FOR STRUCTURAL STEEL," ASTM A36 (Fy=36 ksi) FOR ANGLES, PLATES & CHANNELS. WIDE FLANGE SECTIONS SHALL CONFORM TO ASTM A992 (Fy=50ksi). HOLLOW STEEL SECTIONS (HSS) SHALL CONFORM TO ASTM A500, GRADE B (Fy=46 ksi). STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE B, (Fy=35 ksi).

8.2 STEEL WORK SHALL CONFORM TO "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS", OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC., (LATEST EDITION), INCLUDING ALL SUPPLEMENTS AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", (LATEST EDITION).

8.3 CONNECTION BOLTS SHALL BE 3/4 INCH DIAMETER CONFORMING TO "STANDARD SPECIFICATION FOR HIGH-STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS". ASTM A325, UNLESS NOTED OTHERWISE CONNECTIONS ARE BEARING TYPE WITH THREADS EXCLUDED FROM SHEAR PLANES (A325x).

EDITION OF THE AMERICAN WELDING SOCIETY AWS D1.1 "STRUCTURAL WELDING CODE". WELDING SHALL BE PERFORMED BY CERTIFIED PERSONNEL WHO HAVE BEEN PREVIOUSLY QUALIFIED BY TEST PRESCRIBED IN THE AWS "STRUCTURAL WELDING CODE". ELECTRODES SHALL CONFORM TO AWS 5.5 E70XX.

8.5 THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY BRACING, SHORING, AND GUYING OF STEEL FRAMING AGAINST WIND, CONSTRUCTION LOADS, AND OTHER TEMPORARY FORCES UNTIL SUCH PROTECTION IS NO LONGER REQUIRED FOR THE SAFE SUPPORT OF THE FRAMING.

8.6 ALL COPES, BLOCKS, CUTS, CUT-OFFS AND OTHER CUTTING MEET WITHOUT OFFSET OR CUTTING PAST THE POINT OF TANGENCY.

8.7 ANCHOR BOLTS SHALL BE ASTM F1554 OR ASTM A36 & SHALL BE EITHER HEADED w/ NUTS TACK WELDED TO BOLTS OR NON-HEADED w/ HOOKS AS REQUIRED BY THE DRAWINGS. COLUMNS UNLESS NOTED OTHERWISE. ANCHOR BOLTS FOR EQUIPMENT & OTHER ASSEMBLIES MAY BE POST APPLIED ANCHOR ASSEMBLIES AS INDICATED ON THE DRAWINGS.

8.8 OVERSIZED AND SLOTTED HOLES SHALL NOT BE USED FOR BOLTED CONNECTIONS ON THIS PROJECT EXCEPT AT LOCATIONS NOTED ON DRAWINGS.

8.9 SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER, AS TO LOCATION AND TYPE OF SPLICE. ANY MEMBER HAVING A SPLICE NOT SHOWN AND DETAILED ON THE SHOP DRAWINGS WILL BE

OR DRILLED. FLAME CUTTING OF STEEL IS STRICTLY PROHIBITED.

8.11 ALL DESIGN, DETAILING, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL

FOR OWNER/ENGINEER APPROVAL PRIOR TO FABRICATION, ALL SHOP DRAWINGS MAY BE EXPEDITED IF THE FABRICATOR SHOWN ON THE DRAWINGS.

AND RE-COATED w/ A 98% ZINC RICH OXIDE AND IN

REVIEWED BY THE THE OWNER'S CONSTRUCTION REPRESENTATIVE THROUGHOUT CONCRETE & STEEL CONSTRUCTION OF THE PROJECT. THESE REVIEWS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTERS 17 & 22 OF THE NORTH CAROLINA STATE BUILDING CODE.

GROUT

NOT APPLICABLE.

DRAWINGS.

MASONRY

NOT APPLICABLE.

PRE-ENGR. METAL BLDGS.

NOT APPLICABLE.

13.1 ALL MISCELLANEOUS MATERIALS ARE TO BE DELIVERED TO SITE & STAGED ON SITE PRIOR TO INSTALLATION. STORE ON SITE AS REQUIRED BY THE MATERIAL MANUFACTURER TO AVOID

ABBREVIATIONS

14.1 THE FOLLOWING LIST OF ABBREVIATIONS IS NOT INTENDED TO REPRESENT ALL THOSE USED ON THE DRAWINGS, BUT TO SUPPLEMENT THE MORE COMMON ABBREVIATIONS USED.

ADD'L = ADDITIONAL = ALUMINUM ALT. = ALTERNATE BLDG. = BUILDING BLK. = BLOCK BEAM = B.O. = BOTTOM OF BRG. = BEARING C.I.P. = CAST-IN-PLACE CLR. = CLEAR CMU = CONC. MAS. UNIT C.O. = CLEAN OUT COL. = COLUMN CONC. = CONCRETE CONN. = CONNECTION

CONST. = CONSTRUCTION

CONT. = CONTINUOUS

COORD.= COORDINATE

CTR. = CENTER

DBL. = DOUBLE

DWG. = DRAWING

E.O. = EDGE OF

EXIST. = EXISTING

FLG. = FLANGE

F.S. = FAR SIDE

FTG. = FOOTING

FT. = FEET

GA. = GAGE

EQUIP. = EQUIPMENT

EXP. = EXPANSION

FDN. = FOUNDATION

GALV. = GALVANIZED

GALV'D = GALVANIZED

HORZ. = HORIZONTAL

I/F = INSIDE FACE

= JOINT

L.P. = LOW POINT

MAS. = MASONRY

MAT'L. = MATERIAL

MIN. = MINIMUM

NOM. = NOMINAL

N.S. = NEAR SIDE

N.T.S. = NOT TO SCALE

0/0 = OUT TO OUT

ORIENT.= ORIENTATION

OPNG. = OPENING

OPP. = OPPOSITE

PLCS. = PLACES

RAD. = RADIUS

P.P. = PUMP PAD

REF. = REFERENCE

REQ'D. = REQUIRED

RET. = RETAINING

STD. = STANDARD

T/D = TURN DOWN THK. = THICK

THK'D = THICKENED

T.O.S = TOP OF STEEL

U.N.O. = UNLESS NOTED

= OTHERWISE

= CROSS OR "X"-BRACE

T.O. = TOP OF

TYP. = TYPICAL

VERT. = VERTICAL

W.P. = WORK POINT

ROT. = ROTATE

SPA. = SPACED

SPECS. =

REINF. = REINFORCING

= SIMILAR

S.S. = STAINLESS STEEL

= SHORT SLOTTED

= TOP & BOTTOM

SPECIFICATIONS

= ON CENTER

= OVERHANG

= OUTSIDE FACE

MTL. = METAL

LSL = LONG SLOTTED

MFG. = MANUFACTURER

N/A = NOT APPLICABLE

= KNEE BRACE

LLV = LONG LEG VERTICAL

= LIQUID CONTAINMENT

= LONG LEG HORIZONTAL

STRUCTURES

INFO. = INFORMATION

H.P. = HIGH POINT

HRS. = HOURS

INTR. = INTERIOR

JST. = JOIST

EQ. = EQUAL

EA. = EACH

CTR'D. = CENTERED

DIR. = DIRECTION

DWG.'s. = DRAWINGS

= ELEVATION

8.4 WELDING SHALL BE IN ACCORDANCE WITH THE LATEST

OF STRUCTURAL MEMBERS SHALL HAVE ALL RE-ENTRANT CORNERS SHAPED, AND NOTCH-FREE TO A RADIUS OF AT LEAST 1/2 INCH. THE FILLET AND ITS CONTIGUOUS CUTS SHALL

PROVIDE (2) NUTS AND WASHERS WITH EACH ANCHOR BOLT AT

8.10 ALL HOLES IN STRUCTURAL STEEL ARE TO BE PUNCHED

8.12 IN GENERAL SHOP CONNECTIONS SHALL BE EITHER WELDED OR BOLTED AND FIELD CONNECTIONS SHALL BE BOLTED UNLESS NOTED OTHERWISE.

8.13 FABRICATOR/CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ADHERES CLOSELY TO THE DETAILS, NOTES, AND INSTRUCTIONS.

8.14 ALL GALVANIZED MATERIALS THAT ARE FIELD CUT, FIELD WELDED OR DAMAGED IN SURFACE FINISH SHALL BE CLEANED CONFORMANCE w/ THE PROJECT SPECIFICATIONS.

8.15 STRUCTURAL STEEL FRAMING & DECKING ERECTION TO BE

ALUMINUM

NOT APPLICABLE.

PRECAST CONCRETE

NOT APPLICABLE.

PRE-ENGR. TIMBER TRUSS

NOT APPLICABLE.

MISC. BUILDING MATERIALS

DAMAGE PRIOR TO INSTALLATION.

DESIGN LOADS

DESIGN LOADS BASIS OF DESIGN: NORTH CAROLINA STATE BUILDING CODE 2018 (INTERNATIONAL BUILDING CODE (IBC) 2015 w/ NC AMENDMENTS) & ASCE 7-10 FOR WIND & SEISMIC DESIGN

CARRIER PIPE FLUID WT. ROOF LOAD:

NOT APPLICABLE SNOW LOAD: 10 PSF (GROUND), IMPORTANCE FACTOR (Is) = 1.10

140 mi/hr, EXPOSURE C, OCCUPANCY CATEGORY III CALCULATED WIND BASE SHEARS: Vx = Vy = 1.60 k

COMPONENTS & CLADDING WIND PRESSURES: ZONE 1, ZONE 2 & ZONE 3 ROOF PRESSURES = NOT APPLICABLE ZONE 4 & ZONE 5 WALL PRESSURES = NOT APPLICABLE

SEISMIC DESIGN PARAMETERS: RESPONSE MODIFICATION COEFFICIENT R = 1.25.....SHORT PERIOD S(DS) = 23.5%SPECTRAL RESPONSE ACCELERATION... SPECTRAL RESPONSE ACCELERATION......1 SECOND PERIOD S(D1) = 15.5% SEISMIC OCCUPANCY CATEGORY... = 111 SITE CLASS.. = DSEISMIC DESIGN CATEGORY. SDC = CIMPORTANCE FACTOR. = 1.25

BASIC STRUCTURAL SYSTEM NON-BUILDING TYPE STRUCTURE: "OTHER" SELF SUPPORTED STRUCTURE NOT COVERED BY TABLE 15.4-2.

ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE

ARCHITECTURAL, MECHANICAL COMPONENTS ANCHORED?: Y

SOIL BEARING: REF. "FOUNDATION" STRUCTURAL GENERAL NOTE 3.1

DESIGN CRITERIA

SEISMIC BASE SHEAR: Vx = Vy = 0.90 k

CONCRETE 28 DAY COMPRESSIVE STRENGTH: SLABS-ON-GRADE & NON LCS SLABS f'c = 4,000 psi (NOT APPLICABLE)PIPE & PILE ENCASEMENTS: f'c = 3,000 psiSLABS & WALLS OF LCS: f'c = 4,500 psi (NOT APPLICABLE) BEAMS & COLUMNS OF LCS: f'c = 4,500 psi (NOT APPLICABLE) NON-LCS FOOTINGS, WALLS, COLUMNS & BEAMS: BELOW GRADE & RETAINING WALLS: SIDEWALK, DRIVEWAY, CURB & GUTTER: REINFORCING STEEL: ASTM A615, GRADE 60 WELDED WIRE FABRIC: **ASTM A1064** STRUCTURAL STEEL: REF. STRUCTURAL NOTE 8.1

ALUMINUM: BOLTS SHALL BE 3/4" ASTM A325 OR TYPE 316 S.S.: ANCHOR BOLTS SHALL BE 3/4" ASTM F-1554 OR ASTM A36 (STEEL); TYPE 316 S.S. (ALUMINUM): STEEL ELECTRODES SHALL CONFORM TO:

f'c = 4,000 psi (NOT APPLICABLE) f'c = 4,000 psi (NOT APPLICABLE) f'c = 3,000 psi (NOT APPLICABLE) REF. STRUCTURAL NOTE 9.1

REF. STRUCTURAL NOTES 8.3 & 9.2.d REF. STRUCTURAL NOTE 8.8

AWS 5.5 E70XX (REF. STRUCT. NOTE 8.4) ALUMINUM WELD FILLERS ALLOYS SHALL CONFORM TO: AWS A5.10 (REF. STRUCTURAL NOTE 9.5) REF. "DESIGN LOADS" TABLE

LEGEND

SOIL BEARING CAPACITY:

ENLARGED PLAN AREA, DETAIL CONC. MASONRY BLOCK (EXISTING) BRICK VENEER (EXISTING) CONC. WALL, SLAB, ETC. (EXISTING) . . A . A . GROUT (EXISTING) GRATING (EXISTING) DETAIL OR SECTION NO./SHEET NO. REFERENCE PROJECT NORTH

ELEVATION DATUM ELEVATION NO./SHEET NO.

ELEVATIONS X'-X" (Y.YY')

REFERENCE

X'-X" = DISTANCE TO/FROM FACILITY REFERENCE EL 0'-0"

NORTH

Y.YY' = EQUIVALENT SITE EL VERTICAL DATUM STEP IN FOOTING ELEVATION

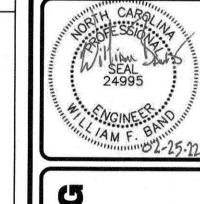
STL. FRAMING COL./BM. MOMENT CONNECTION

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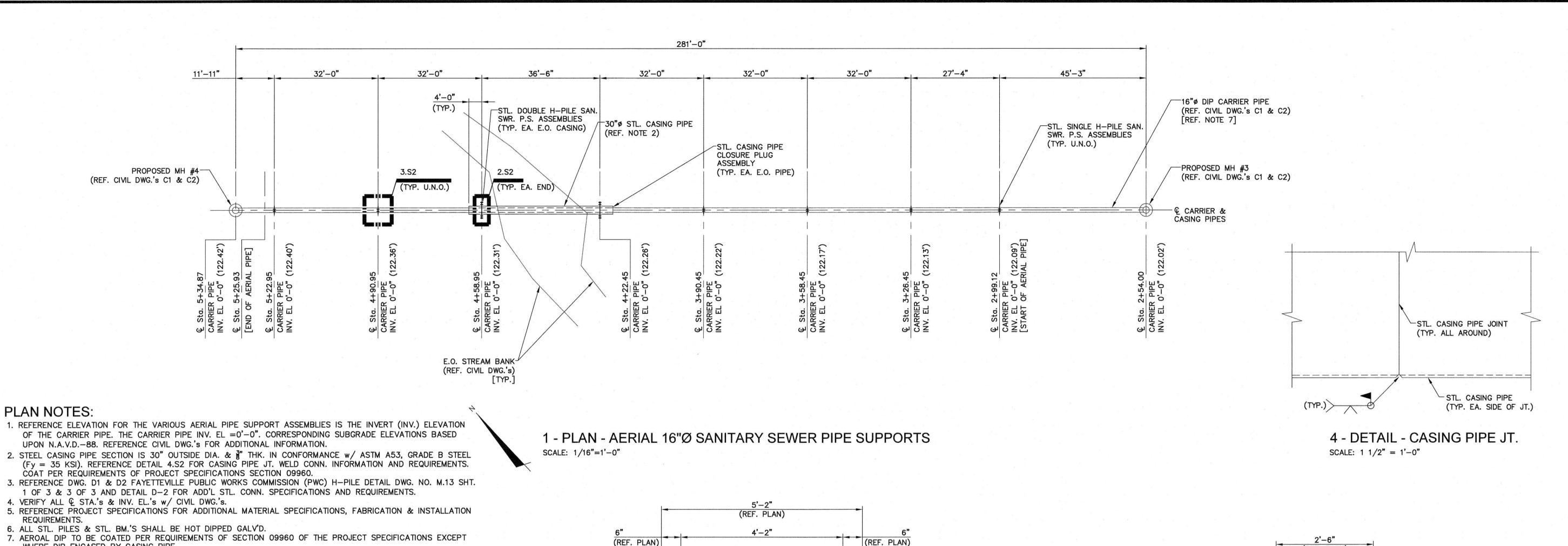
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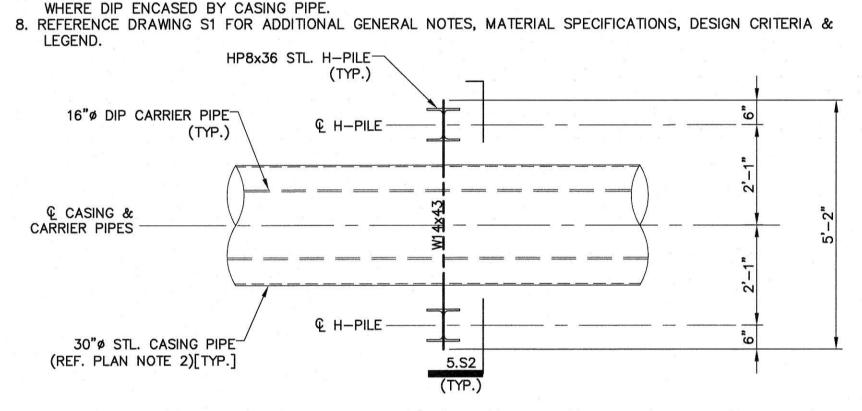


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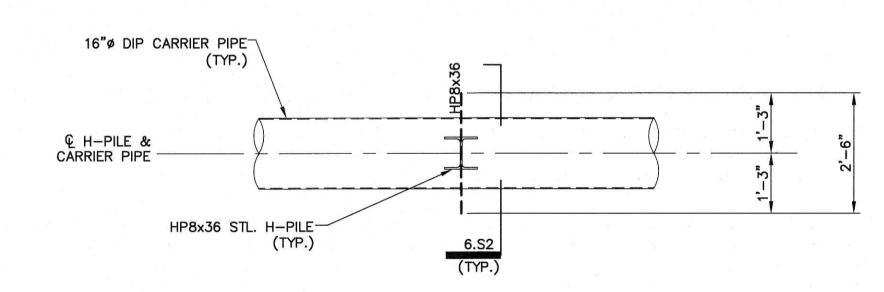
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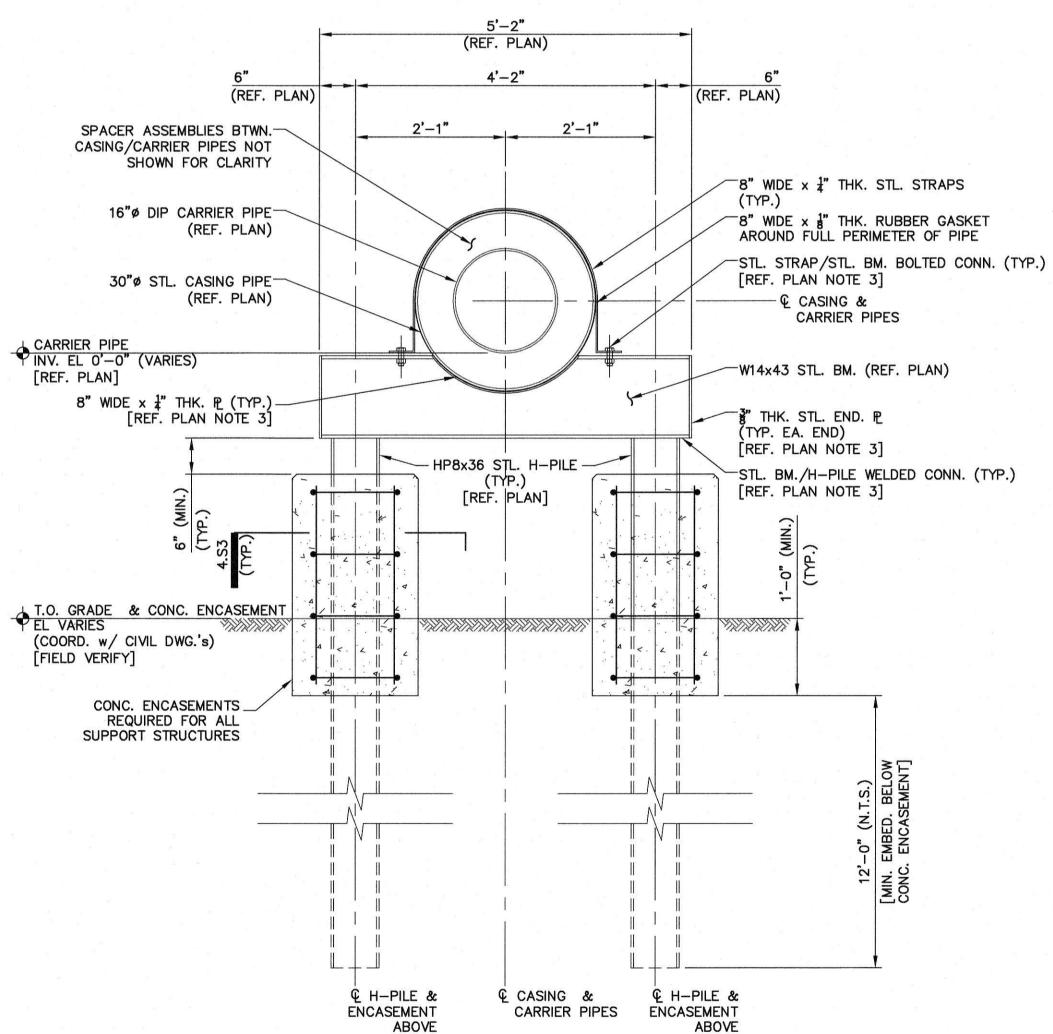




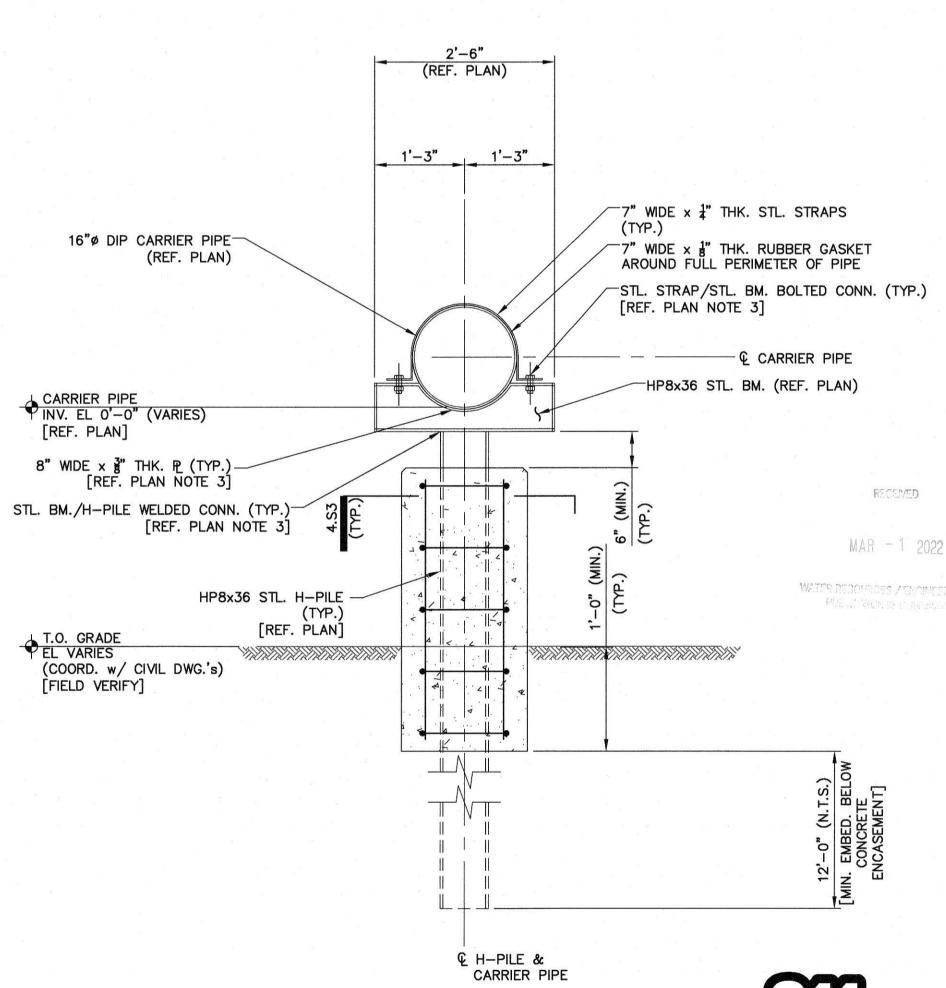
2 - PLAN - TYP. AERIAL DOUBLE H-PILE PIPE SUPPORT DETAIL SCALE: 1/2"=1'-0"



3 - PLAN - TYP. AERIAL SINGLE H-PILE PIPE SUPPORT DETAIL SCALE: 1/2"=1'-0"



5 - SECTION - TYP. AERIAL DOUBLE H-PILE PIPE CASING SUPPT. ASSEMBLY SCALE: 3/4" = 1'-0"



6 - SECTION - TYP. AERIAL SINGLE H-PILE PIPE CASING SUPPT. ASSEMBLY

SCALE: 3/4" = 1'-0"

Know what's below.
Call before you dig.

PUBLIC WORKS COMMISSION
WATER RESOURCES ENGINEERING
PUBLIC WORKS COMMISSION
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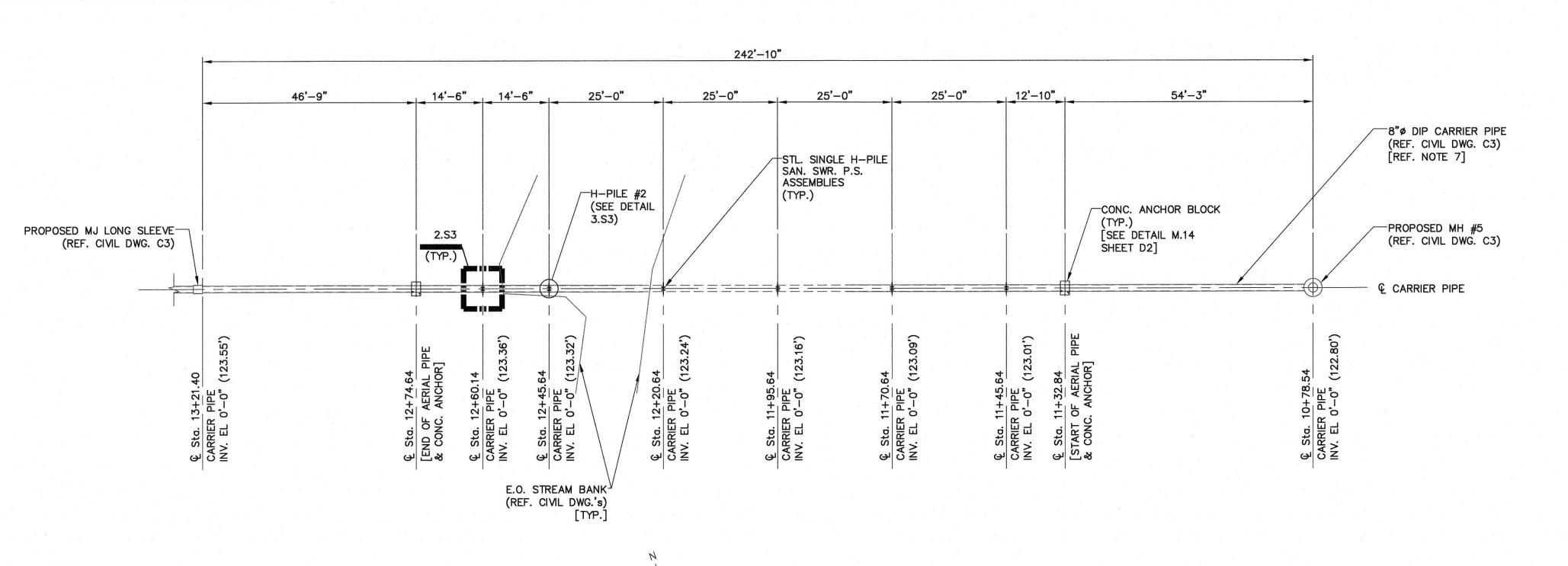
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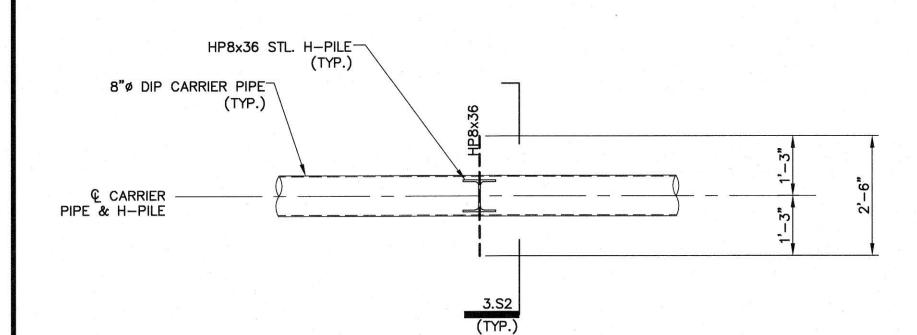
SEWER RE

PWC DWG #DS-15464,



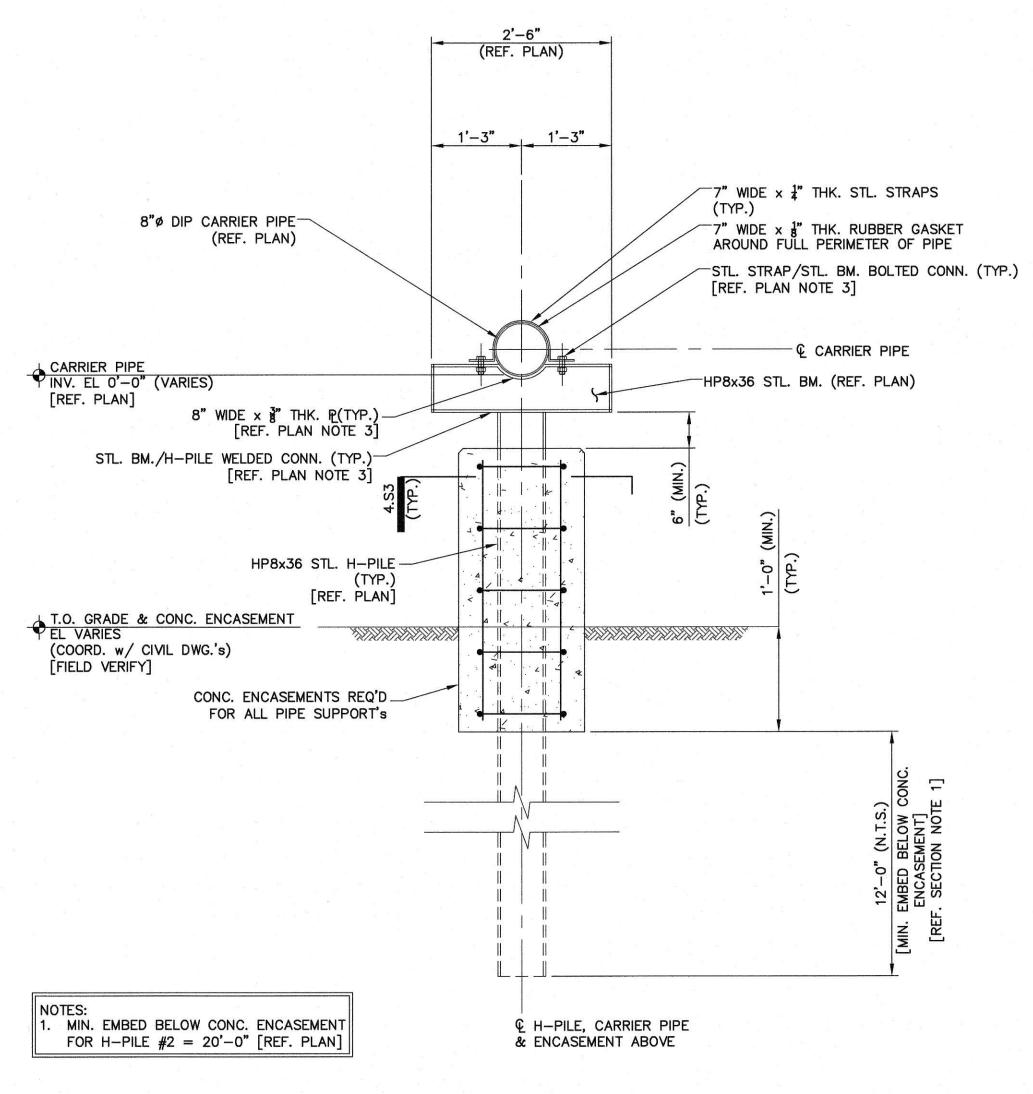
PLAN NOTES:

- 1. REFERENCE ELEVATION FOR THE VARIOUS AERIAL PIPE SUPPORT ASSEMBLIES IS THE INVERT (INV.) ELEVATION OF THE CARRIER PIPE. THE CARRIER PIPE INV. EL =0'-0". CORRESPONDING SUBGRADE ELEVATIONS BASED UPON N.A.V.D.-88. REFERENCE CIVIL DWG.'s FOR ADDITIONAL INFORMATION.
- 2. STEEL CASING PIPE NOT REQUIRED. 3. REFERENCE DWG. D2 FAYETTEVILLE PUBLIC WORKS COMMISSION (PWC) H-PILE DETAIL DWG. NO. M.13 SHEET 3
- OF 3 FOR ADD'L STL. CONN. SPECIFICATIONS AND REQUIREMENTS.
- 4. VERIFY ALL & STA.'s & INV. EL.'s w/ CIVIL DWG.'s.
- 5. REFERENCE PROJECT SPECIFICATIONS FOR ADDITIONAL MATERIAL SPECIFICATIONS, FABRICATION & INSTALLATION REQUIREMENTS.
- 6. ALL STL. PILES & STL. BM.'S SHALL BE HOT DIPPED GALV'D.
 7. AERIAL DIP TO BE COATED PER REQUIREMENTS OF SECTION 09960 OF THE PROJECT SPECIFICATIONS.
 8. REFERENCE DRAWING S1 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS, DESIGN CRITERIA & LEGEND.

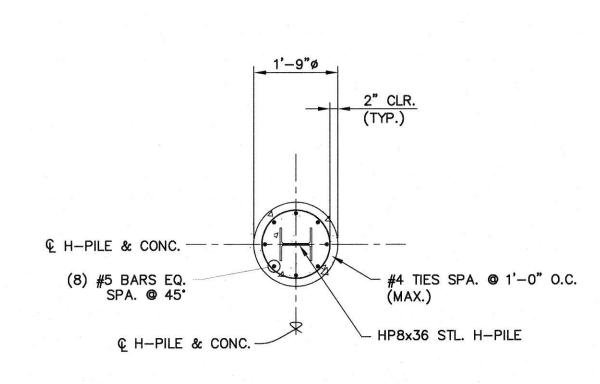


2 - PLAN - TYP. AERIAL SINGLE H-PILE PIPE SUPPORT DETAIL SCALE: 1/2"=1'-0"

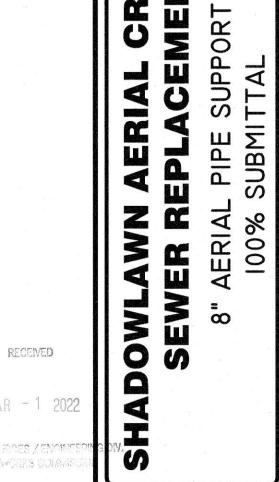
1 - PLAN - AERIAL 8"Ø SANITARY SEWER PIPE SUPPORTS SCALE: 1/16"=1'-0"



3 - SECTION - TYP. AERIAL SINGLE H-PILE PIPE CASING SUPPT. ASSEMBLY SCALE: 3/4" = 1'-0"

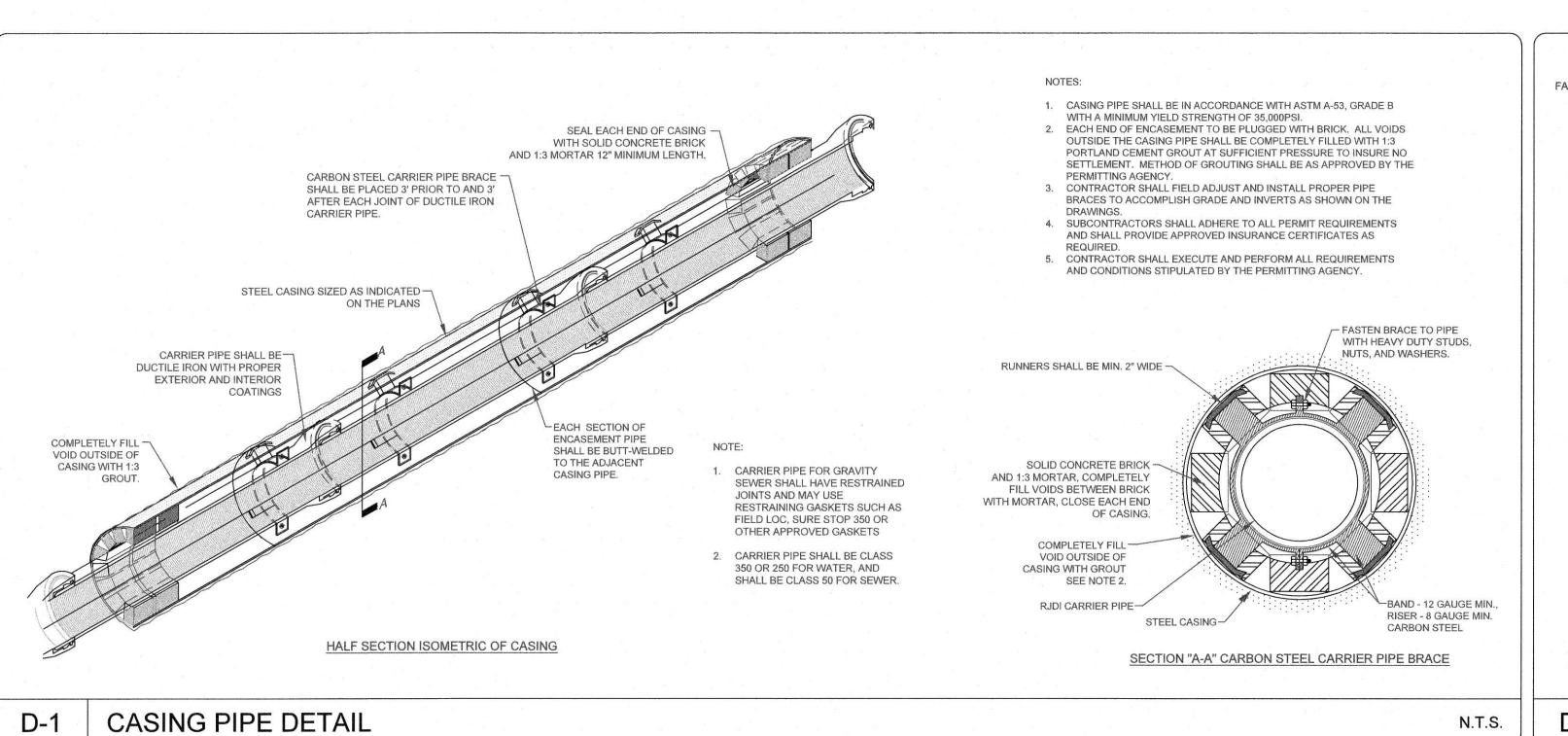


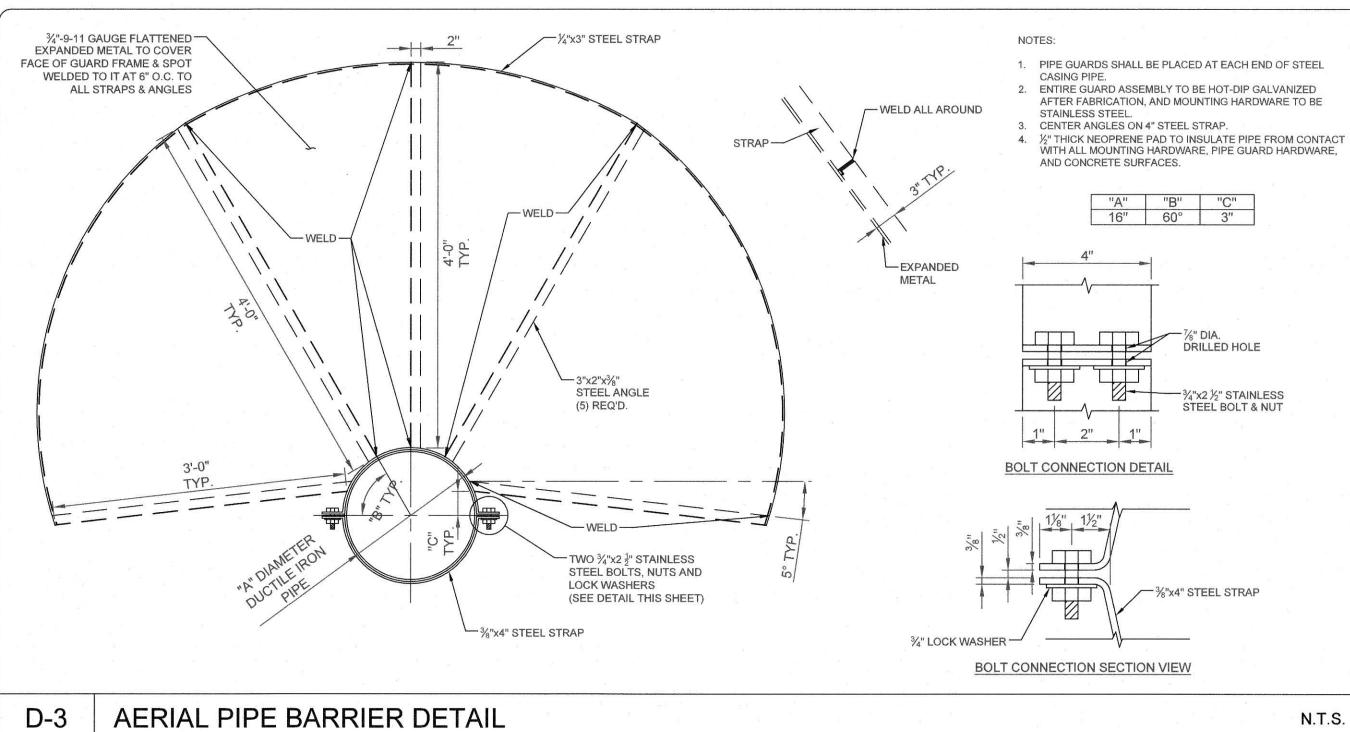
4 - SECTION - THRU CONC. ENCASEMENT SCALE: 1/2" = 1'-0"

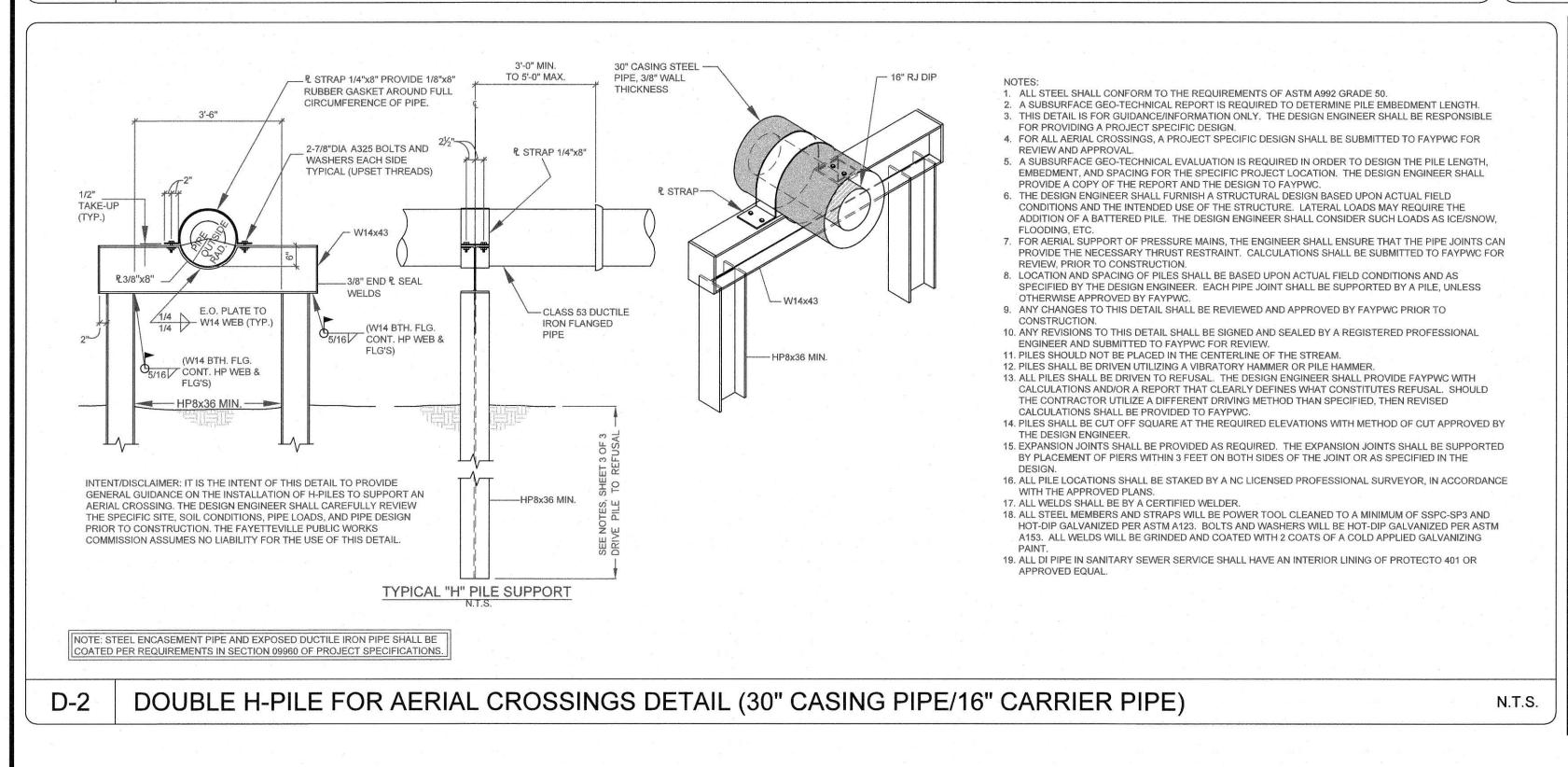


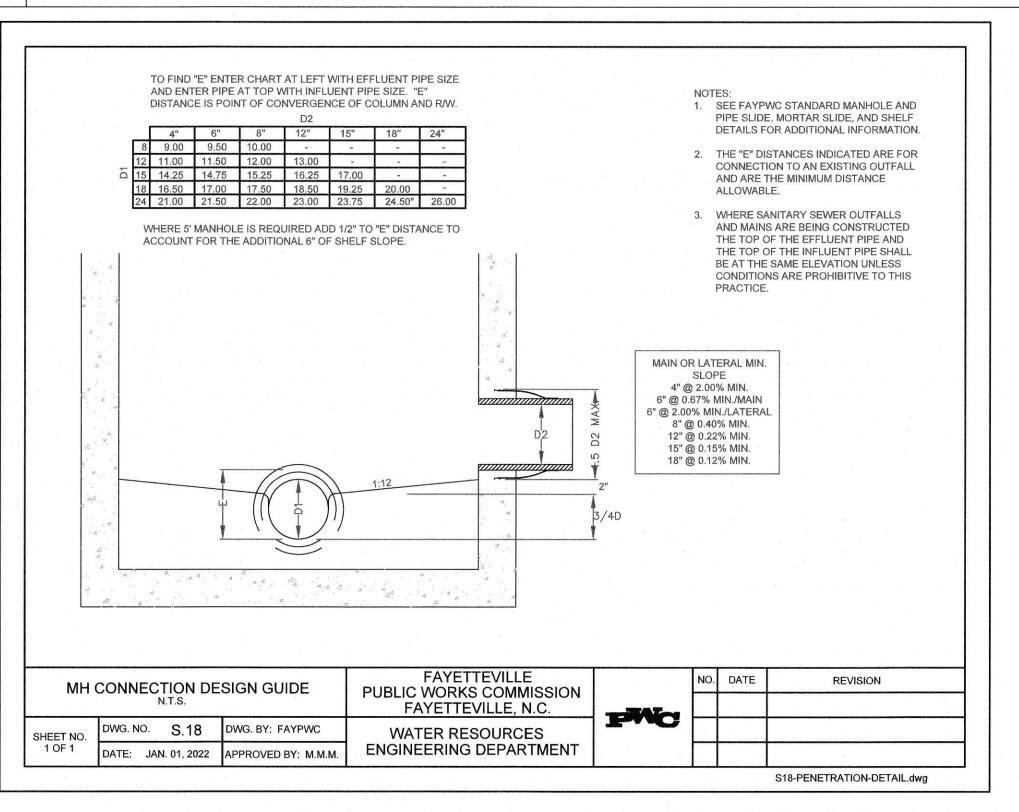
WATER RESOUR

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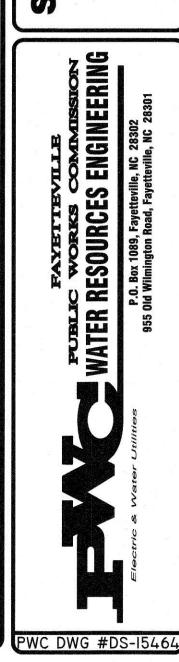




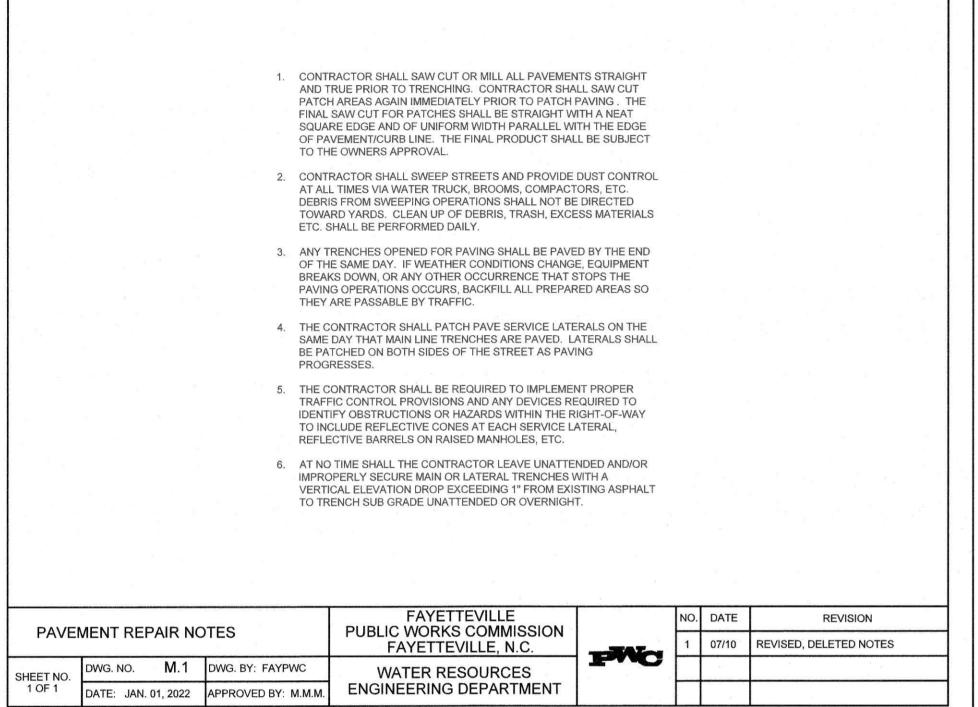




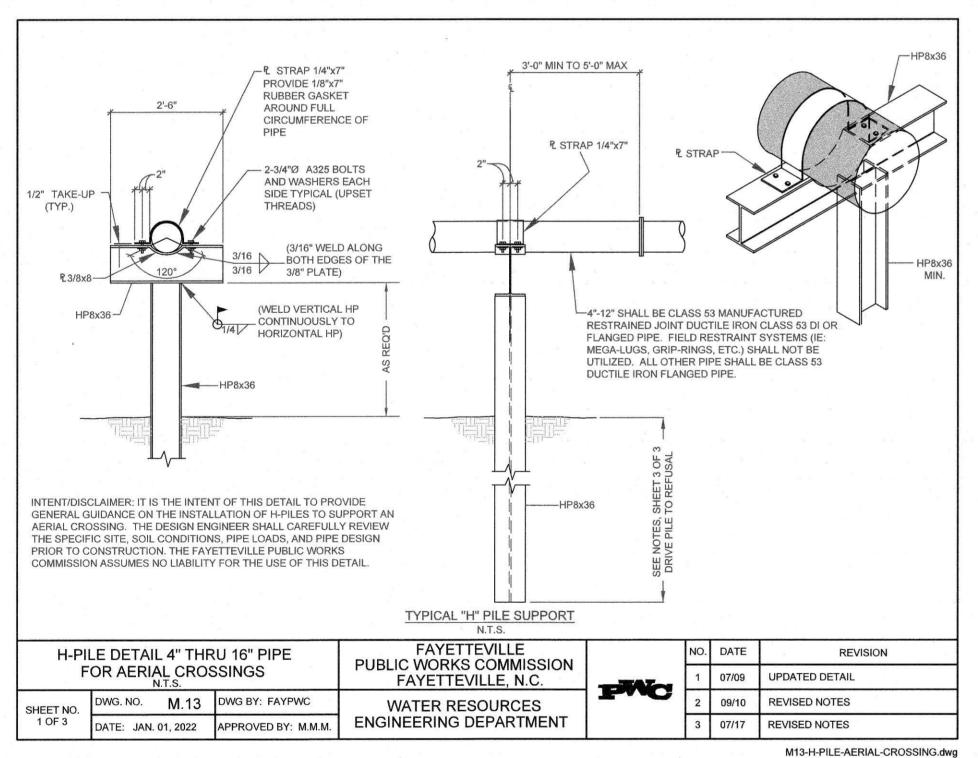


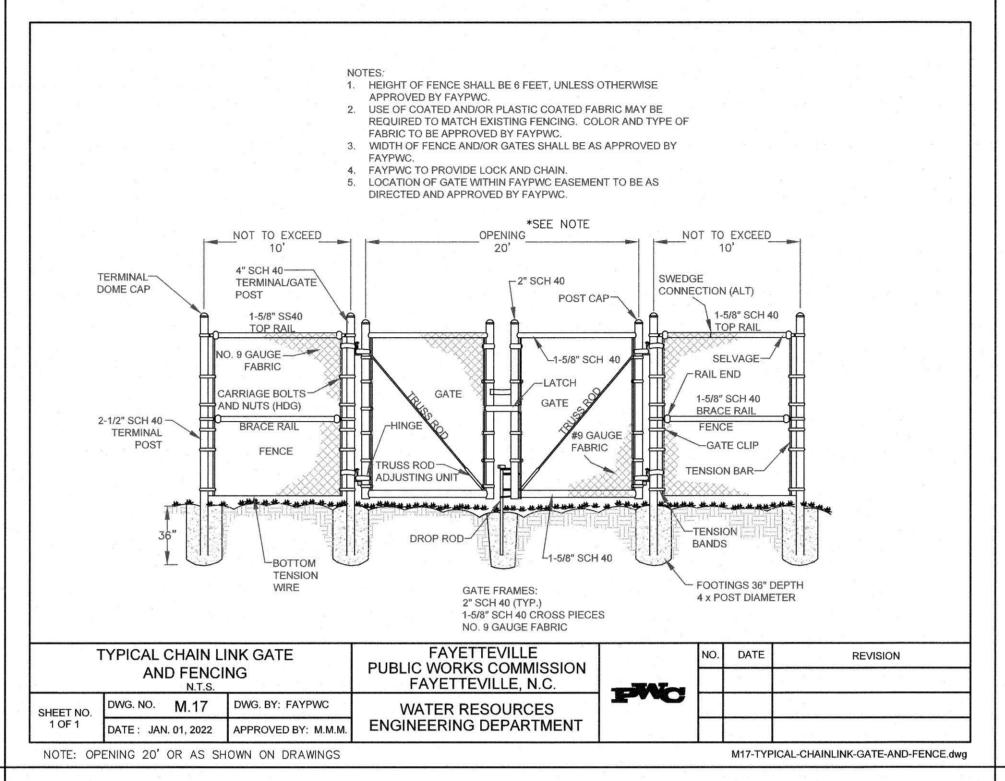


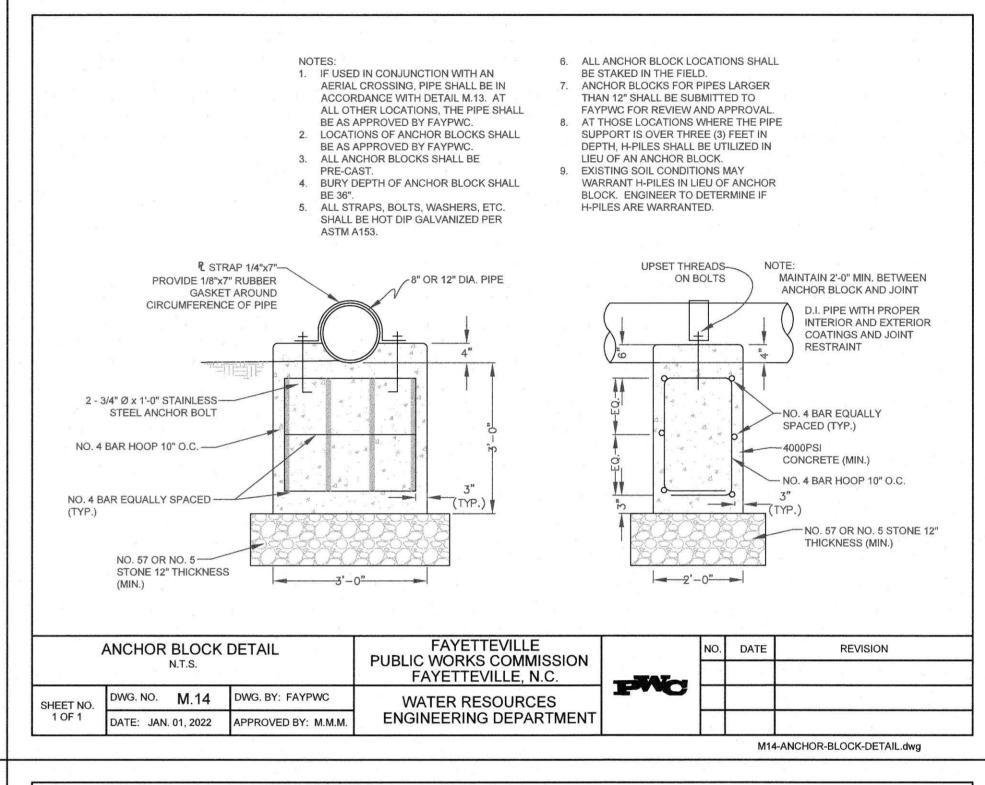
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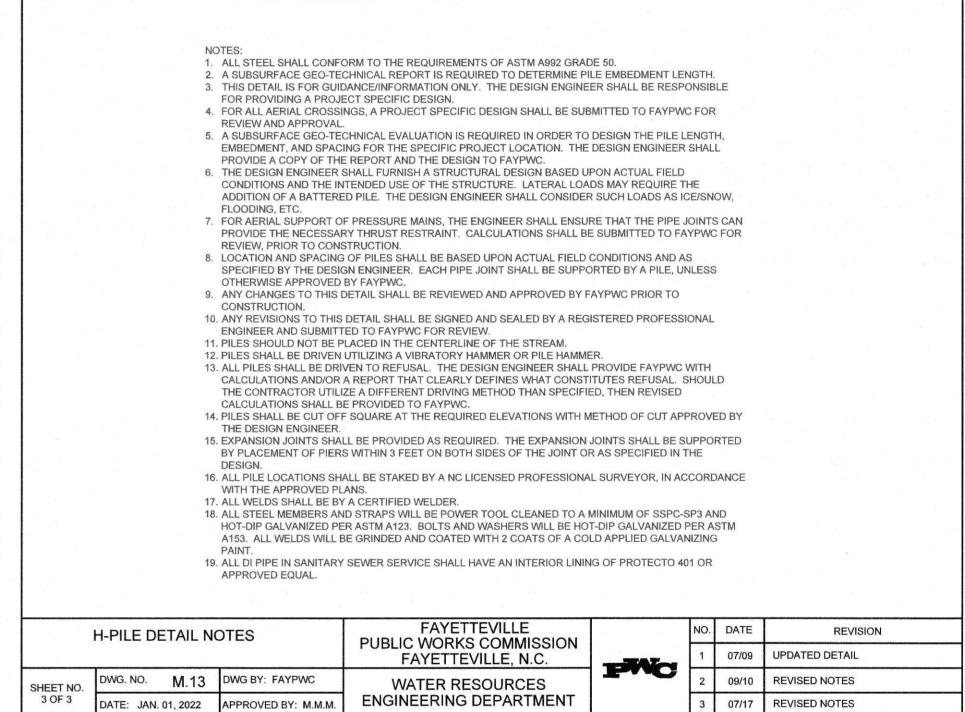


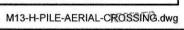
M1-PAVEMENT-REPAIR-NOTES.dwg

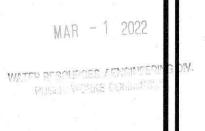












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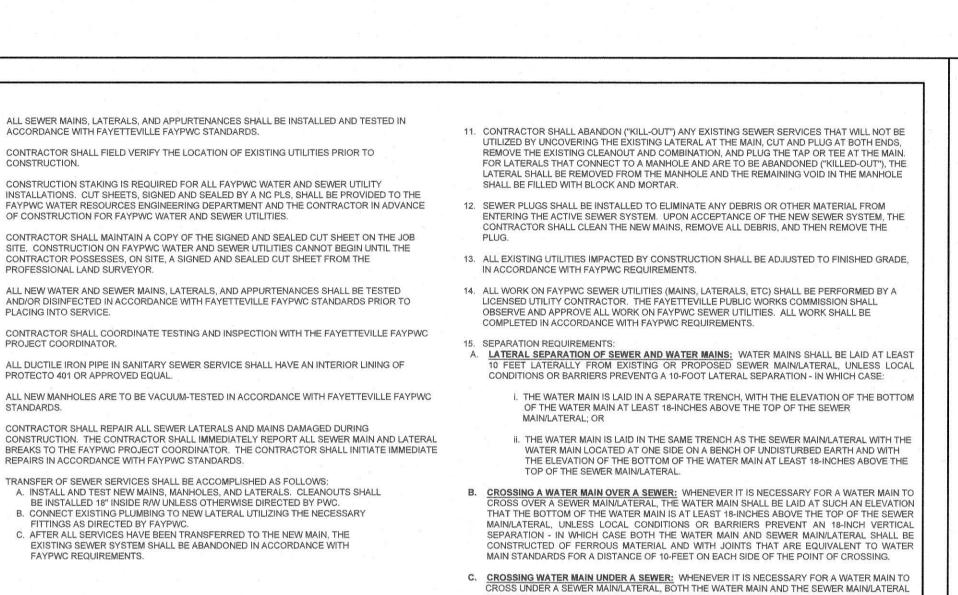
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WATER RESOUR

FOR 1089, F. 955 Old Willmington Ro

ROS



 MANHOLE MEETS ALL REQUIREMENTS WHERE PIPE VERTICAL SEPARATION OF ASTM C478. BETWEEN INVERTS EXCEEDS 2.50'. CONCRETE IS MINIMUM 4,000PSI WITH THE EXCEPTION OF THE MANHOLE BASE SECTION, ALL OTHER COMPRESSIVE STRENGTH. MATERIAL USED TO SEAL AROUND PIPE MATERIALS INSTALLATION AND HE ABOVE CHART REFERS TO SHALL BE NON-SHRINK GROUT. WORKMANSHIP SHALL BE IN THE MINIMUM REQUIREMENTS MANHOLE SHALL BE CONSTRUCTED OF ACCORDANCE WITH THE FAYPWC ACCEPTED BY FAYPWC. THE PRECAST CONCRETE. FIBERGLASS STANDARD MANHOLE DETAILS. MANHOLE DIAMETER MAY MANHOLE IS NOT ACCEPTABLE. DOGHOUSE MANHOLE SHALL BE FREE INCREASE BASED ON PROJECT SPECIFICATIONS. OF LEAKS. 8. SEE STANDARD MANHOLE DETAIL S.2 FOR ADDITIONAL REQUIREMENTS. SEE DETAIL S.4 RING AND COVER AND STEPS ALIGN OVER INVERT OUT - REDUCING SECTION FOR MANHOLES 6' DIA. SECTION A-A AND GREATER. 4" DIA. CONE -- REINFORCING TO MEET - MANHOLE STEPS CONSTRUCT INVERT IN-ASTM A-185 0.12 SQ.IN. ACCORDANCE WITH FAYPWC STANDARDS - CONCRETE BASE TO - SEAL ANNULUS OVER AND (SEE DETAIL S.4) BOTTOM OF PIPE. SEE SHELF DETAIL FOR AROUND PIPE AT DOGHOUSE WITH SOLID BRICK AND SHELF CONSTRUCTION. FLEXIBLE FPDM RUBBER -MORTAR BOOT, SEE STANDARD MANHOLE DETAIL S.2. SEE DETAIL S.4-SEAL ANNULUS OVER (SOLID BRICK & AND AROUND PIPE - MONOLITHIC POUR OF MORTAR) STAINLESS STEEL PIPE -AT DOGHOUSE WITH CONCRETE BASE TO SOLID BRICK AND BOTTOM OF PIPE. MORTAR. NEW SANITARY SEWER -EX. SEWER -8" MIN. IF FORMED, IF UNFORMED EXTEND TO ANHOLE BASE SECTION SHALI NO. 6 REBAR AT 6" OC-UNDISTURBED SOIL AND UP BE SUPPORTED ON 4"x8"x16" EACH WAY (BASE ONLY) TO SPRING LINE OF PIPE. SOLID CONCRETE BLOCKS 180° APART. STACK BLOCKS AS × × × × SEWER OUT DIRECTED BY FAYPWC. NO. 6 REBAR AT 6" OC REMOVE EXISTING TOP OF PIPE ABOVE -EACH WAY (BASE ONLY) -REINFORCED CONCRETE SPRING LINE AFTER ACCEPTANCE OF -18" MIN. COMPACTED SLAB POURED IN PLACE MANHOLE BASE BY FAYPWC NO. 57 STONE MIN. 4,000PSI CONTRACTOR SHALL SAWCUT AND 4"x8"x16" SOLID CONCRETE -- UNDISTURBED REMOVE EXISTING PIPE CROWN TO BLOCKS 180° APART ─18" MIN. COMPACTED SUB GRADE FORM OPEN INVERT TROUGH, NO STACK BLOCKS AS NO. 57 STONE DEBRIS SHALL BE ALLOWED TO ENTER DIRECTED BY PWC. SECTION B-B SANITARY SEWER **FAYETTEVILLE** NO. DATE DOGHOUSE MANHOLE REVISION PUBLIC WORKS COMMISSION (MAINS 16" OR LARGER) 07/16 ADDED SHEET 2 FAYETTEVILLE, N.C. DWG. NO. S.3 DWG. BY: FAYPWC 2 11/25/08 MADE CHANGES TO NOTES WATER RESOURCES 2 OF 2 ENGINEERING DEPARTMENT DATE: JAN. 01, 2022 APPROVED BY: M.M.M. 01/01/19 ADDED MH CHART

PIPE SIZES | MANHOLE SIZE | MIN. WALL THICKNESS | MIN. REINF. STEEL

MANHOLE DIAMETER SIZES MAY BE ADJUSTED ON THE PLANS TO REFLECT SPECIAL CIRCUMSTANCES. REDUCING SLABS ARE

- FLEXIBLE BUTYL RESIN

SMOOTH FINISH

GROUT SEALANT.

SEE NOTE 3

UNDISTURBED SUBGRADE

DATE: JAN. 01, 2022 APPROVED BY: M.M.M. ENGINEERING DEPARTMENT

SEALANT OR RUBBER GASKET

SEAL INSIDE AND OUTSIDE OF

JOINT WITH FAST SET MORTAR

· LIFT HOLES THAT EXTEND THRU THE

NON-SHRINK GROUT, LIFT HOLES THAT

HAVE PVC CAPS THAT DO NOT EXTEND

THRU THE WALL SHALL NOT REQUIRE

- CONC. BRICK AND MORTAR INVERT

PLACED IN FIELD TO 3/4 HEIGHT OF

FAYETTEVILLE

FAYETTEVILLE, N.C.

PUBLIC WORKS COMMISSION

WATER RESOURCES

OUTLET PIPE. SEE SHELF DETAIL.

REINFORCING. SEE CHART ABOVE

----- 6" MIN. COMPACTED NO. 57

WALL SHALL BE SEALED WITH

21" AND LESS 48" DIAMETER

24" - 36" 60" DIAMETER

CAST IRON FRAME AND-

- MAX. (3) 4", (2) 6", OR

JOINT-

SEALER

SEE CHART

SEAL ANNULUS AROUND PIPE AT-Y

STANDARD MANHOLE

DWG. NO. S.2 DWG. BY: FAYPWC

ENTRANCE WITH NON-SHRINK

COVER SEE DETAIL

SEE NOTE 13.

NOT ACCEPTABLE ON MANHOLES LESS THAN 6' DIAMETER.

(1) 2" GRADE RINGS

SEE CHART

SEE NOTE 5 FOR

FLEX, BOOT

CONNECTOR

MIN. BASE THICKNESS

MANUFACTURER -

INSTALLED POLY

PROPYLENE COATED

STEP OVER INVERT

OUT SEE STEP DETAIL.

FAYPWC RING AND COVER.

— CONC. GRADE RING MAX. (3)

ECCENTRIC REDUCER

JOINT SEALER

-SEAL LIFT HOLES

SEAL AROUND PIPE

SEE SHELF DETAIL

FLEXIBLE EPDM RUBBER

--- SANITARY SEWER (OUT)

REVISION

02/07 CREATED S.2A ADDED NOTES 13-17

S2-STANDARD-MANHOLE.dwg

07/13 ADDED SHEET 2 OF 2

JOINT SEALER

BOOT

4", (2) 6" OR (1) 2". SEE NOTE

AND COVER APPV'D)

SEE DETAIL (2 TYPES OF RING

ASTM A-1064 0.12 SQ./IN.

ASTM A-1064 0.15 SQ./IN.

ASTM A-1064 0.15 SQ./IN.

PRECAST REINFORCED CONCRETE MANHOLES SHALL BE IN ACCORDANCE WITH MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000PSI. MANHOLES GREATER THAN 12' DEPTH SHALL HAVE MINIMUM 6" EXTENDED BASE. FLEXIBLE BUTYL RESIN JOINT SEALANT SHALL BE IN ACCORDANCE WITH ASTM C990. RUBBER GASKET JOINTS SHALL BE IN ACCORDANCE WITH ASTM C-443. FLEXIBLE EPDM RUBBER BOOT CONNECTORS SHALL BE IN ACCORDANCE WITH ASTM C923, INSTALLED BY MANUFACTURER WITH STAINLESS STEEL COMPRESSION RING AND TAKE-UP CLAMP. CONNECTION TO MAIN SHALL BE BY CONTRACTOR WITH STAINLESS STEEL PIPE CLAMP. CONNECTIONS TO EXISTING MANHOLES SHALL BE BY CORING MANHOLE AND FIELD INSTALLING A FLEXIBLE EPDM RUBBER BOOT CONNECTOR. DO NOT ALLOW DEBRIS

MORTAR SHALL BE QUICK SETTING, NON-SHRINK GROUT MIXED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS

MANHOLE STEPS SHALL BE IN ACCORDANCE WITH ASTM C478 AND OSHA REGULATIONS. ALIGN STEPS WITH INVERT OUT.

PRECAST INVERTS ARE NOT ALLOWED. VERTICAL DROPS BETWEEN THE INFLOW PIPES AND OUTFLOW PIPES SHALL

A. GREATER THAN 2.5' SEE DROP STRUCTURE DETAIL (MIN. 5' DIAMETER MH REQUIRED).

AN ECCENTRIC CONE SHALL BE UTILIZED ON ALL MANHOLES, UNLESS OTHERWISE 18. NO MORE THAN 5 LATERALS SHALL ENTER A 5' DIAMETER MANHOLE. APPROVED BY FAYPWC.

INVERT ON PLANS IS TO MANHOLE CENTERLINE.

B. LESS THAN 2.5' SEE PIPE SLIDE DETAIL.

CONCRETE GRADE RINGS SHALL NOT BE USED FOR ABOVE GRADE ADJUSTMENTS (IE: OUTFALL AREAS). USE OF GRADE RINGS ARE ALLOWABLE IN YARD AREAS AND PAVEMENT, WHERE THE RING AND COVER ARE AT GROUND LEVEL.

14. THE MINIMUM SLOPE ACROSS THE INVERT OF THE MANHOLE SHALL BE 1%, UNLESS OTHERWISE APPROVED BY FAYPWC. STANDING WATER IN INVERT OF MANHOLE IS

15. THE EXTERIOR MANHOLE RISER JOINTS, INCLUDING THE JOINT AT THE CONE, SHALL BE SEALED ON THE OUTSIDE BY AN APPROVED JOINT WRAP. THE WRAP SHALL BE IN ACCORDANCE WITH FAYPWC SPECIFICATIONS.

16. MANHOLE BOOT FOR 4-INCH LATERALS, SHOULD IT BE NECESSARY TO INSTALL A 4-INCH LATERAL INTO A MANHOLE. THE RUBBER BOOT THAT THE LATERAL IS INSERTED INTO SHALL BE SECURELY FASTENED TO THE CORE HOLE BY UTILIZING A STAINLESS STEEL BAND THAT IS TIGHTENED USING A JACK OR A TORQUE WRENCH (DIRECT DRIVE). BOTH STANDARD SIZE AND STEP DOWN BOOTS ARE ALLOWED. THE TORQUE WRENCH SHALL BE SUPPLIED BY THE MANUFACTURER. NO OTHER TYPE BANDS OR METHOD OF SECURING THE BOOT TO THE MANHOLE SHALL BE ACCEPTED

FOR FOUR (4) INCH SDR 26 LATERALS, THE PIPE OUTSIDE DIAMETER RANGE OF THE BOOT SHALL BE 3.5-INCHES TO 4.25-INCHES.

FOR FOUR (4) INCH DUCTILE IRON LATERALS, THE PIPE OUTSIDE DIAMETER RANGE OF THE BOOT SHALL EITHER BE AS FOR VC OR 4.25-INCHES TO 4.81-INCHES. IN ALL CASES, THE BOOT SHALL BE TIGHTENED ON THE LATERAL BY MEANS OF A

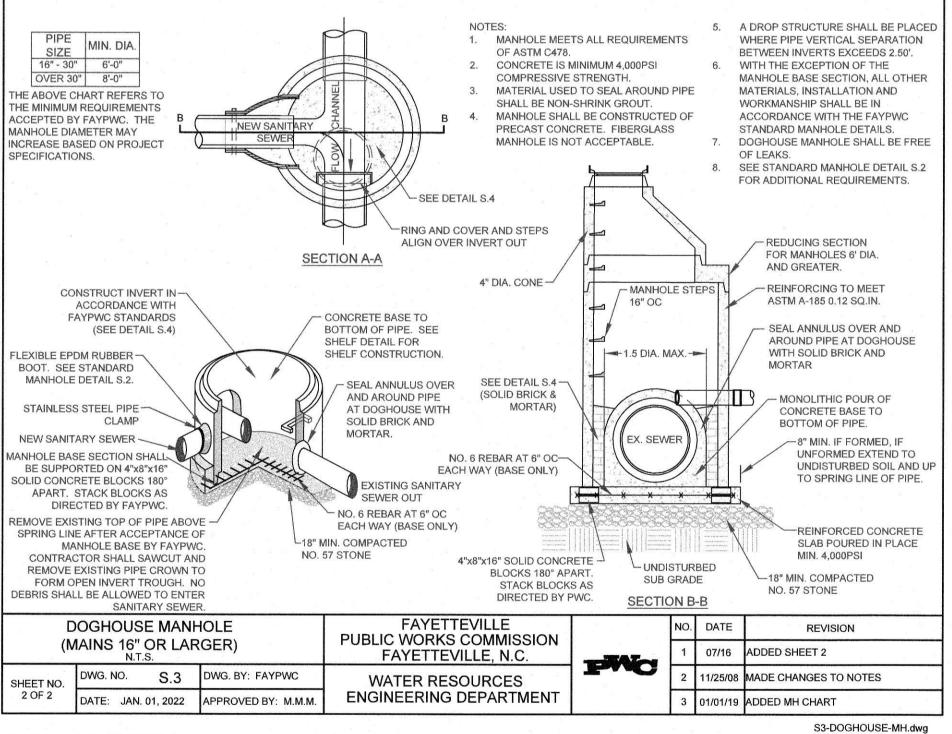
SINGLE STAINLESS STEEL STRAP. THE LATERAL INVERT SHALL BE AT THE TOP O F THE SHELF.

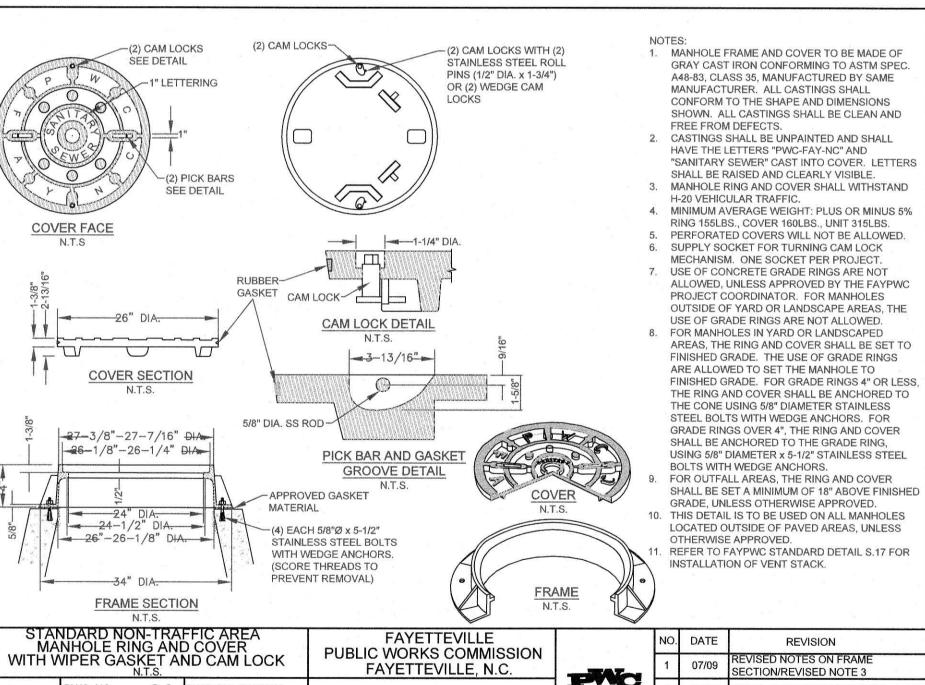
 NO MORE THAN 4, FOUR-INCH LATERALS OR 3, SIX-INCH LATERALS SHALL ENTER A 4' DIAMETER TERMINAL MANHOLE. NO MORE THAN 2 LATERALS (REGARDLESS OF SIZE) SHALL ENTER ALL OTHER 4' DIAMETER MANHOLES. ALL LATERALS SHALL HAVE AN INDIVIDUAL TROUGH. 5' DIAMETER MANHOLES SHALL BE USED IF THE ABOVE CONDITIONS ARE NOT MET.

19. USE OF TEE-WYES ON LATERALS IS NOT ALLOWED.

20. ALL MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH FAYPWC STANDARDS.

FAYETTEVILLE REVISION STANDARD MANHOLE PUBLIC WORKS COMMISSION 01/08 CREATED DETAIL, ADDED NOTES 14-20 FAYETTEVILLE, N.C. 2 07/13 REVISED NOTES 9, 10, 11, 15. DWG. NO. S.2 DWG. BY: FAYPWC WATER RESOURCES CONVERTED TO S.2 SHEET 2 OF 2 ENGINEERING DEPARTMENT DATE: JAN. 01, 2022 APPROVED BY: M.M.M. 3 01/01/19 REVISED NOTES 10, 18 S2-STANDARD-MANHOLE.dwg





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WATER PESOURCES / TAICINGS



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WC DWG #DS-15464

GENERAL NOTES

DATE: JAN. 01, 2022

CONSTRUCT INVERT IN -

ACCORDANCE WITH

FAYPWC STANDARDS

FLEXIBLE EPDM RUBBER-

STAINLESS STEEL PIPE -

NEW SANITARY SEWER-

BOOT. SEE STANDARD

MANHOLE DETAIL S.2.

SANITARY SEWER UTILITY

DWG. NO. S.1 DWG. BY: FAYPWC

APPROVED BY: M.M.M.

RING AND COVER AND STEPS

SOLID BRICK AND

MORTAR.

ALIGN OVER INVERT OUT

D. CROSSING STORM DRAINAGE LINES: A MINIMUM OF 24-INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN A SEWER MAIN/LATERAL CROSSING UNDER A STORM DRAINAGE LINE UNLESS DUCTILE IRON PIPE IS USED. IF DUCTILE IRON PIPE IS USED, A MINIMUM OF SIX(6) INCHES OF SEPARATION SHALL BE MAINTAINED, UNLESS OTHERWISE APPROVED BY FAYPWC. FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.

WATER RESOURCES ENGINEERING DEPARTMENT

1. MANHOLE MEETS ALL REQUIREMENTS

MATERIAL USED TO SEAL AROUND PIPE

CONCRETE IS MINIMUM 4,000PSI

COMPRESSIVE STRENGTH.

SHALL BE NON-SHRINK GROUT.

OF ASTM C478.

ADDED NOTE 6

SHALL BE CONSTRUCTED OF DUCTILE IRON MATERIAL AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10-FEET ON EACH SIDE OF THE POINT OF CROSSING, A

SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

01/18 ADDED NOTES 5, 8 06/21 ADDED NOTES 1-8 AND RENUMBERED

> 4. MANHOLE SHALL BE CONSTRUCTED OF PRECAST CONCRETE, FIBERGLASS MANHOLE IS NOT ACCEPTABLE. A DROP STRUCTURE SHALL BE PLACED WHERE PIPE VERTICAL SEPARATION BETWEEN INVERTS EXCEEDS 2.50'. USE 5' DIAMETER MANHOLES WHEN DROP STRUCTURES ARE NEEDED. WITH THE EXCEPTION OF THE

MANHOLE BASE SECTION. ALL OTHER MATERIALS, INSTALLATION AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE FAYPWC STANDARD MANHOLE DETAILS. DOGHOUSE MANHOLE SHALL BE FREE

OF LEAKS. SEE STANDARD MANHOLE DETAIL S.2 FOR ADDITIONAL REQUIREMENTS.

48" MIN. ----NEW SANITARY CONCRETE BASE TO BOTTOM OF PIPE. SEE SHELF DETAIL FOR SHELF CONSTRUCTION. -NON-SHRINK - SEE SHELF DETAIL (SOLID GROUT BRICK AND MORTAR) - SEAL ANNULUS OVER -REINFORCING TO MEET 1.5D MAX. AND AROUND PIPE ASTM A-185 0.12 SQ.IN. AT DOGHOUSE WITH

TO SPRING LINE OF PIPE. NHOLE BASE SECTION SHALL BE SUPPORTED ON 4"x8"x16" - MONOLITHIC POUR OF CONCRETE EXISTING SANITARY SOLID CONCRETE BLOCKS BASE TO BOTTOM OF PIPE. SEWER OUT STACKED 2 HIGH 180° APART. -6" MIN. COMPACTED REMOVE EXISTING TOP OF PIPE ABOVE --6x6-W8xW8 WWM SPRING LINE AFTER ACCEPTANCE OF NO. 57 STONE BASE ONLY - 6x6-W8xW8 WWM MANHOLE BASE BY FAYPWC -6" MIN. COMPACTED 4"x8"x16" SOLID CONCRETE CONTRACTOR SHALL SAWCUT AND BASE ONLY BLOCKS 180° APART. REMOVE EXISTING PIPE CROWN TO - SEAL ANNULUS OVER AND STACK BLOCKS AS SUB GRADE

FORM OPEN INVERT TROUGH. NO DEBRIS SHALL BE ALLOWED TO ENTER DIRECTED BY FAYPWC. **FAYETTEVILLE** DOGHOUSE MANHOLE PUBLIC WORKS COMMISSION (MAINS 15" OR LESS) FAYETTEVILLE, N.C. DWG. NO. S.3 DWG. BY: FAYPWC WATER RESOURCES ENGINEERING DEPARTMENT DATE: JAN. 01, 2022 APPROVED BY: M.M.M.

WITH SOLID BRICK AND SECTION B-B NO. DATE REVISION 07/16 ADDED SHEET 2

11/25/08 MADE CHANGES TO NOTES

AROUND PIPE AT DOGHOUSE

8" MIN. IF FORMED, IF

UNFORMED EXTEND TO

UNDISTURBED SOIL AND UP

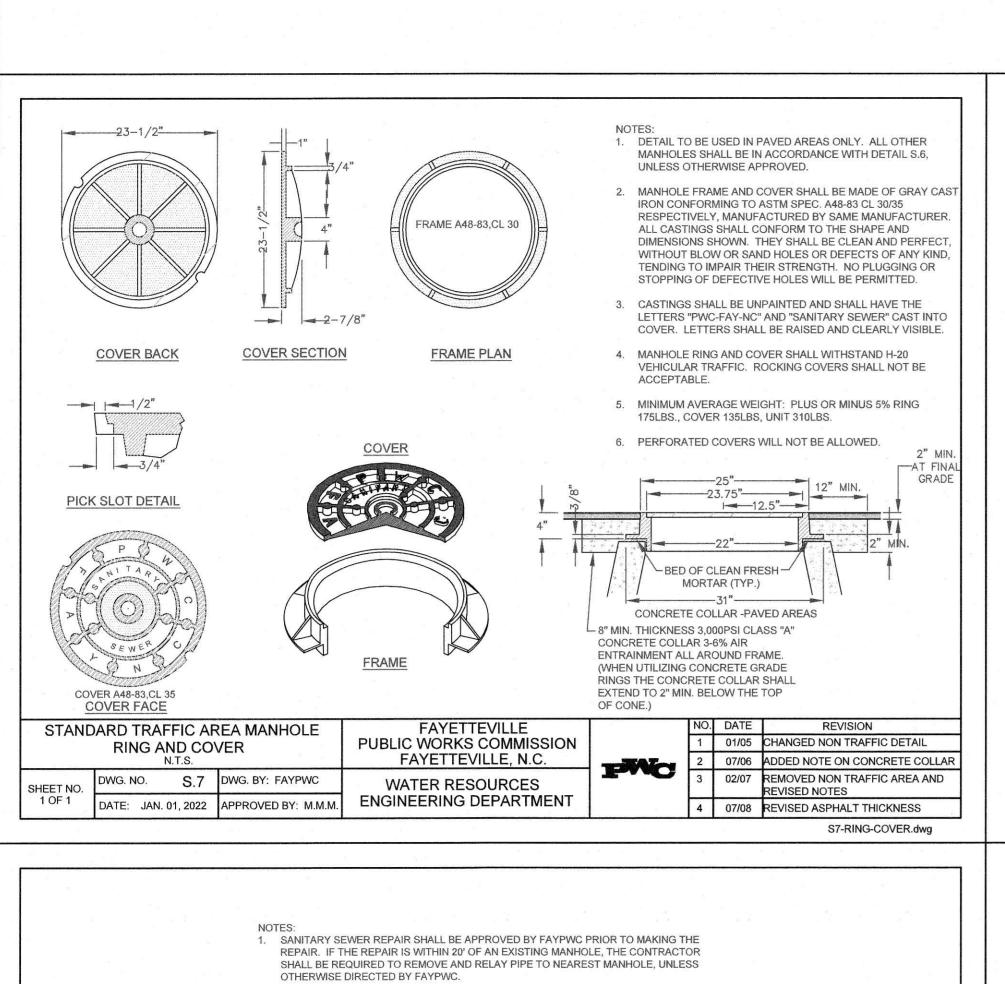
S3-DOGHOUSE-MH.dwg

DWG. NO. S.6 DWG. BY: FAYPWC DATE: JAN. 01, 2022

WATER RESOURCES **ENGINEERING DEPARTMENT** APPROVED BY: M.M.M.

07/17 ADDED NOTE ON WEDGE CAM LOCKS 01/18 UPDATED NOTES 7 AND 8

S6-RING-COVER.dwg



2. ALL MATERIALS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE

STANDARDS AND SPECIFICATIONS OF THE FAYETTEVILLE PUBLIC WORKS

3. CONTRACTOR SHALL PROVIDE ALL NECESSARY PUMPS, HEADER PIPE, PUMPING EQUIPMENT, ETC. PRIOR TO BEGINNING CONSTRUCTION. DUPLICATE SEWAGE HANDLING PUMPS, PIPING, ETC. SHALL BE ON-SITE AND AVAILABLE FOR IMMEDIATE USE SHOULD PRIMARY PUMP OR FORCE MAIN FAIL. INSURE PUMPS, HEADER PIPING,

ETC. ARE PROPERLY SIZED AND OPERATIONAL BEFORE BEGINNING WORK.

5. PIPE SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FAYPWC

VERTICAL ALIGNMENT ARE NOT ACCEPTABLE.

AND THE REPLACEMENT PIPE AT EACH END.

CANNOT BE MET OR AS DIRECTED BY FAYPWC.

STANDARD SPECIFICATION.

STANDARD DETAIL S.13.

OR APPROVED EQUAL.

BY FAYPWC.

GRAVITY SANITARY SEWER PIPE REPAIR

SHEET NO.

1 OF 3

DWG. NO. S.15 DWG. BY: FAYPWC

DATE: JAN. 01, 2022 APPROVED BY: M.M.M.

4. PIPE REPAIR SHALL EXHIBIT STRAIGHT HORIZONTAL ALIGNMENT AND INVERT SHALL

6. REPLACEMENT PIPE SHALL BE PROPERLY BEDDED IN ACCORDANCE WITH FAYPWC

7. THERE SHALL BE NO MORE THAN 1/4" SPACE BETWEEN THE EXISTING SEWER MAIN

8. DAMAGED SECTION SHALL BE CUT OUT WITHOUT DAMAGING THE PIPE TO REMAIN. 9. DI SEWER PIPE AND FITTINGS SHALL HAVE AN INTERIOR COATING OF PROTECTO 401

10. DI PIPE SHALL BE UTILIZED WHEN STATE MINIMUM SEPARATION REQUIREMENTS

11. PIPE REPAIRS ON MATERIALS OTHER THAN SHOWN, SHALL BE AS DIRECTED BY

12. THE MINIMUM LENGTH OF REPAIR SHALL BE 5 FEET, UNLESS OTHERWISE DIRECTED

FAYETTEVILLE

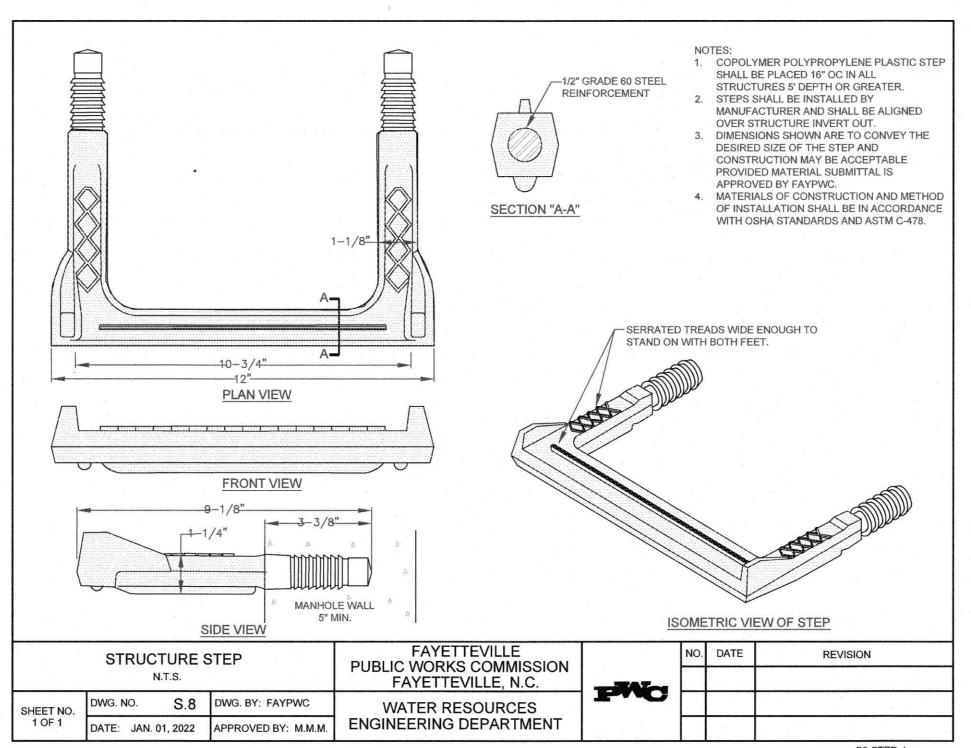
PUBLIC WORKS COMMISSION

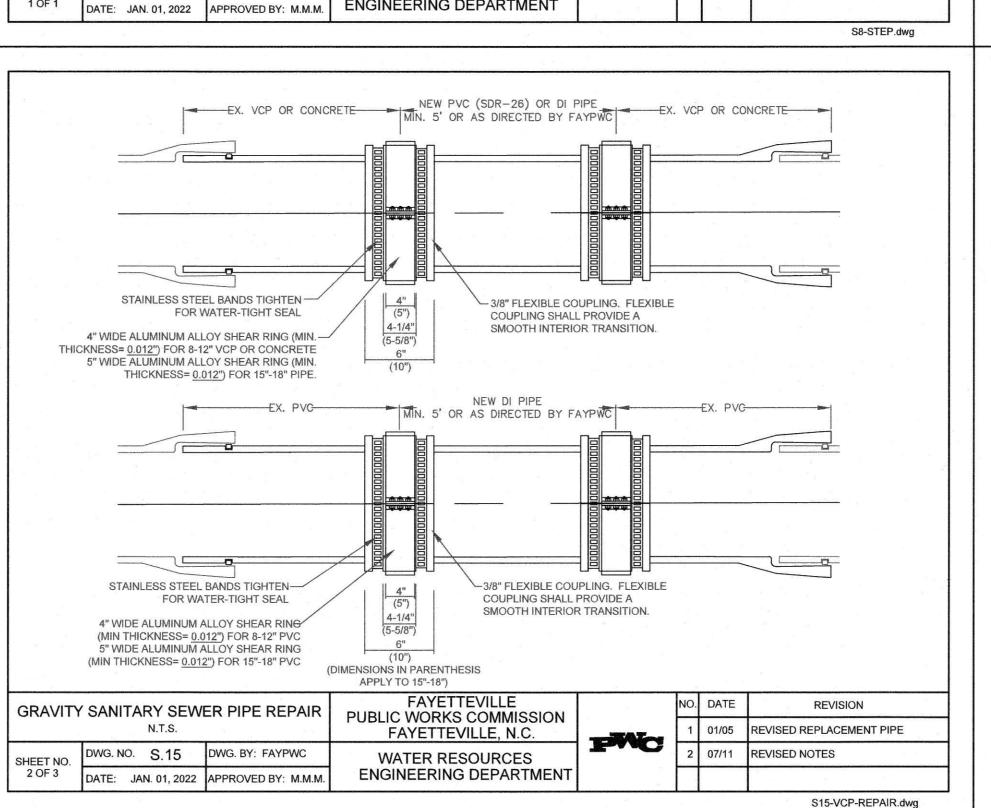
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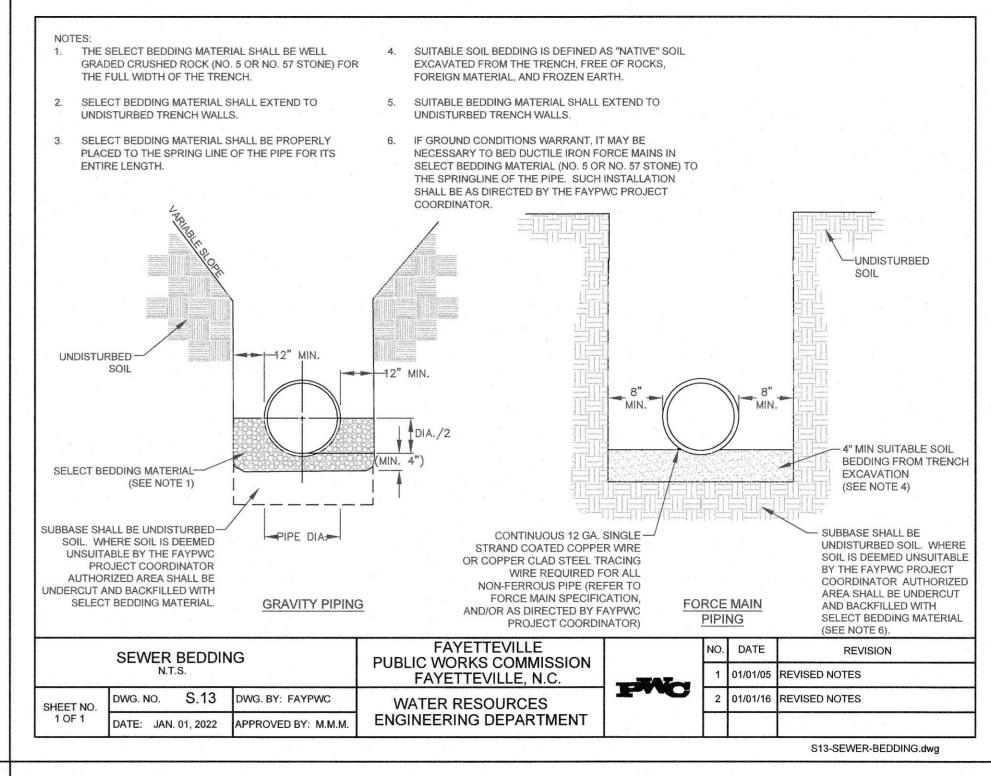
WATER RESOURCES

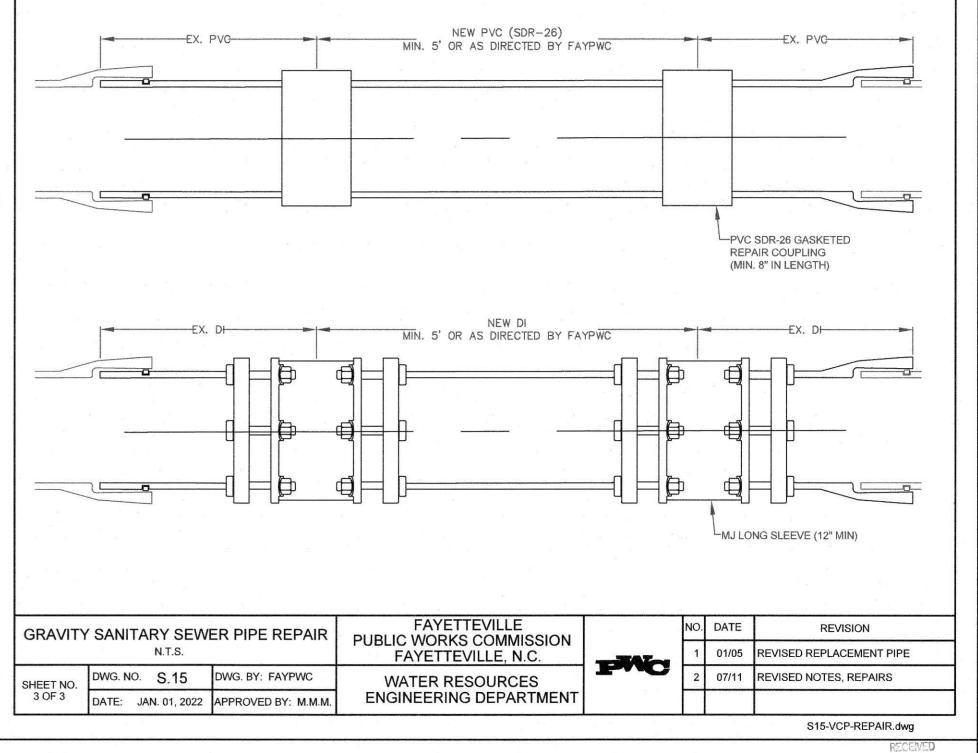
ENGINEERING DEPARTMENT

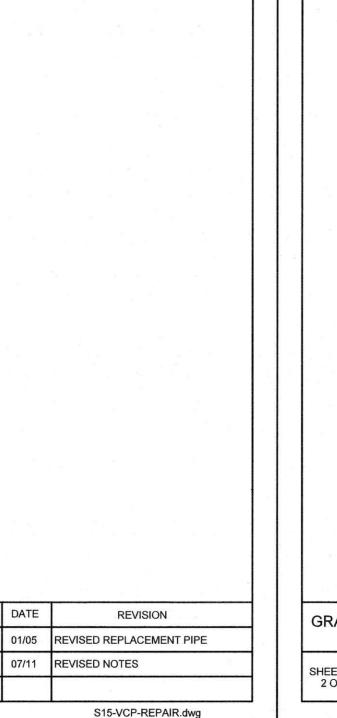
BE THE SAME AS THE EXISTING PIPE SLOPE. DEFLECTIONS OF HORIZONTAL AND











SHADOWLAWN SEWER R

CROS

WATER PERMITTED A ENDING

1. THE INTENT OF THE CONSTRUCTION SEQUENCE IS TO PROVIDE THE CONTRACTOR WITH A GENERAL GUIDE FOR CONSTRUCTION

3. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS. NEEDED REPAIRS SHALL BE

IMPLEMENTATION AND MAINTENANCE, THE CONTRACTOR IS OBLIGATED TO TAKE ADDITIONAL CORRECTIVE ACTION. CONTACT

PURPOSES. THIS SEQUENCE IS NOT INTENDED TO OUTLINE ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NCDEQ SOIL EROSION AND

4. IF IT IS DETERMINED DURING CONSTRUCTION THAT SIGNIFICANT SEDIMENT IS LEAVING THE SITE, DESPITE PROPER

SEDIMENTATION CONTROL ORDINANCE.

MADE IMMEDIATELY.

SEEDING MIXTURE SPECIES RYE (GRAIN) 120 ANNUAL LESPEDEZA (KOBE IN PIEDMONT & COASTAL PLAIN, KOREAN IN MOUNTAINS OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE **SEEDING DATES:** MOUNTAINS (ABOVE 2,500'): FEB. 15 - MAY 15 (BELOW 2,500'): FEB. 1 — MAY 1 PIEDMONT: JAN. 1 - MAY 1 COASTAL PLAIN: DEC. 1 - APR. 15 SOIL AMENDMENTS: FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 Ib/acre GROUND AGRICULTURAL LIMESTONE AND 750 Ib/acre 10-10-10 FERTILIZER APPLY 4.000 lb/acre STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT (min. 400 gal/acre), NETTING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL. * REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER RECOMMENDATIONS FOR FALL SEEDING MIXTURE RATE (lb/acre) RYE (GRAIN) 120 SEEDING DATES: AUG. 15 - DEC. 15 MOUNTAINS: COASTAL PLAIN AND PIEDMONT: AUG. 15 - DEC. 30 SOIL AMENDMENTS: FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 lb/acre GROUND AGRICULTURAL LIMESTONE AND 750 lb/acre 10-10-10 FERTILIZER APPLY 4.000 lb/acre STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT (min. 400 gal/acre), NETTING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL. * MAINTENANCE: REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 Ib/acre OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 Ib/acre KOBE (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH. RECOMMENDATIONS FOR SUMMER SEEDING MIXTURE GERMAN MILLE IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 lb/gcre. SEEDING DATES: MAY 15 - AUG. 15 MOUNTAINS MAY 1 - AUG. 15 PIEDMONT: COASTAL PLAIN: APR. 15 - AUG. 15 SOIL AMENDMENTS: FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 lb/acre GROUND AGRICULTURAL LIMESTONE AND 750 lb/acre 10-10-10 APPLY 4.000 lb/acre STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT (min. 400 gal/acre), NETTING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL. * REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER TEMPORARY SEEDING SCHEDULE N.T.S.

RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

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WATER RESOURCES ENGINE

PWC DWG #DS-1546

PERMANENT SEEDING SCHEDULE

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER

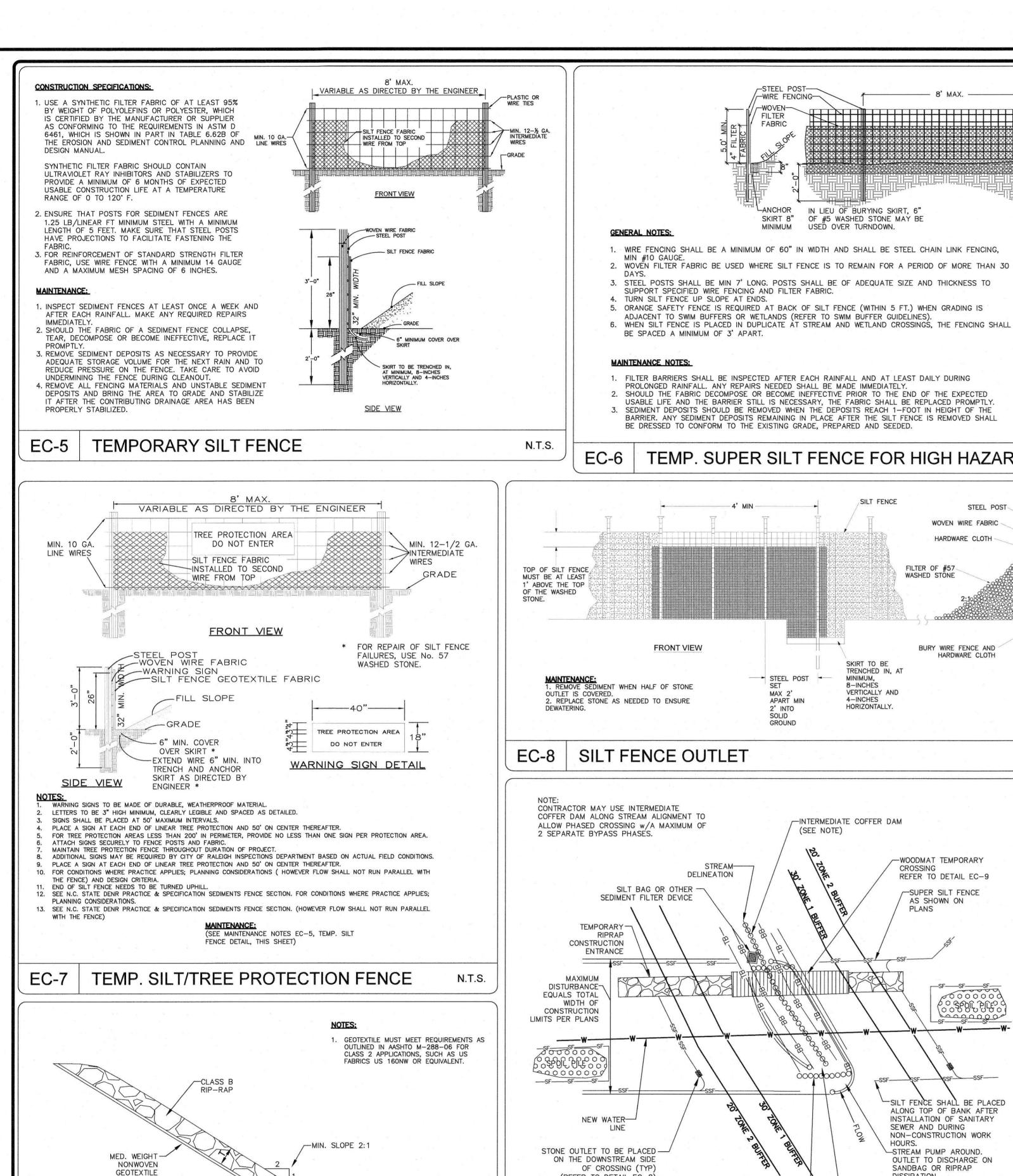
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING

ADVERSE SOIL CONDITIONS, WHERE REQUIRED.

SURFACE REASONABLY SMOOTH AND UNIFORM.

2. RIP THE ENTIRE AREA TO 6 INCHES DEPTH.

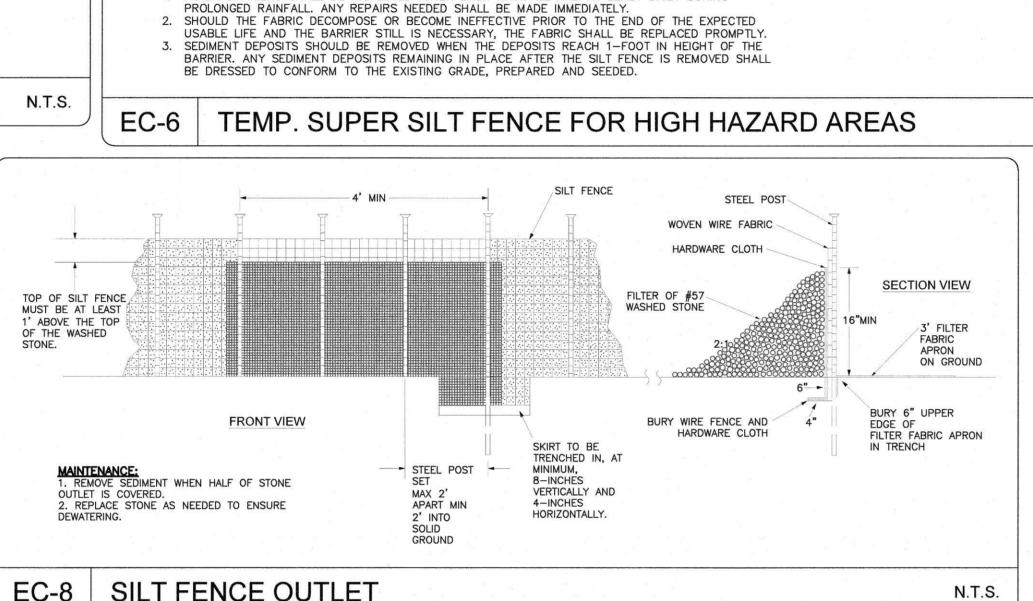
OWLAWN A
SEWER REF



EX. GROUND

MIN. T = 2 FEET

EC-15 RIP-RAP SLOPE STABILIZATION DETAIL



IN LIEU OF BURYING SKIRT, 6

CONSTRUCTION SPECIFICATIONS:

1. USE A SYNTHETIC FILTER FABRIC OF AT

CONFORMING TO THE REQUIREMENTS IN

TABLE 6.62B OF THE EROSION AND

ULTRAVIOLET RAY INHIBITORS AND

MONTHS OF EXPECTED USABLE

RANGE OF 0 TO 120° F.

MANUFACTURER OR SUPPLIER AS

LEAST 95% BY WEIGHT OF POLYOLEFINS OR

ASTM D 6461, WHICH IS SHOWN IN PART IN

SEDIMENT CONTROL PLANNING AND DESIGN

SYNTHETIC FILTER FABRIC SHOULD CONTAIN

STABILIZERS TO PROVIDE A MINIMUM OF 6

N.T.S.

CONSTRUCTION LIFE AT A TEMPERATURE

POLYESTER, WHICH IS CERTIFIED BY THE

SKIRT 8" OF #5 WASHED STONE MAY BE

USED OVER TURNDOWN.

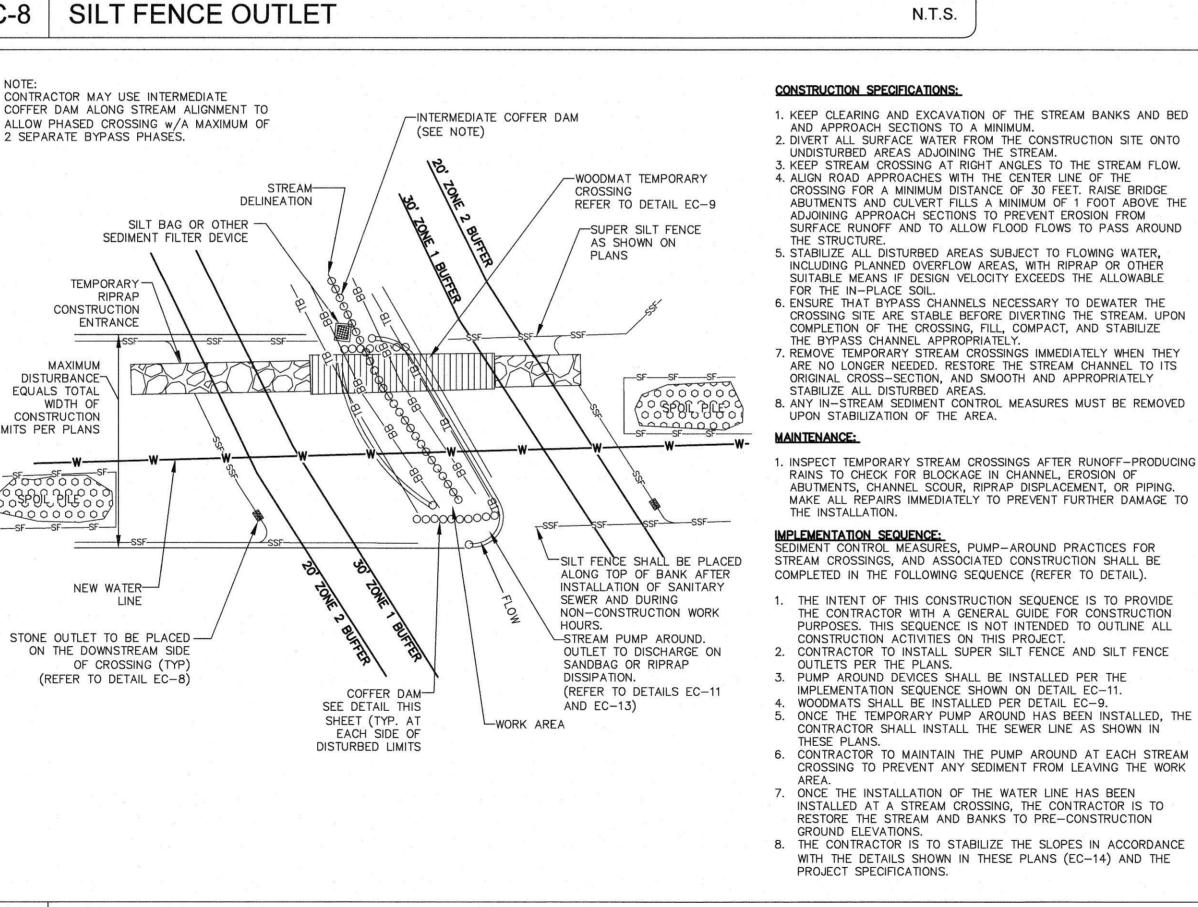
-WIRE FENCING-

-WOVEN-

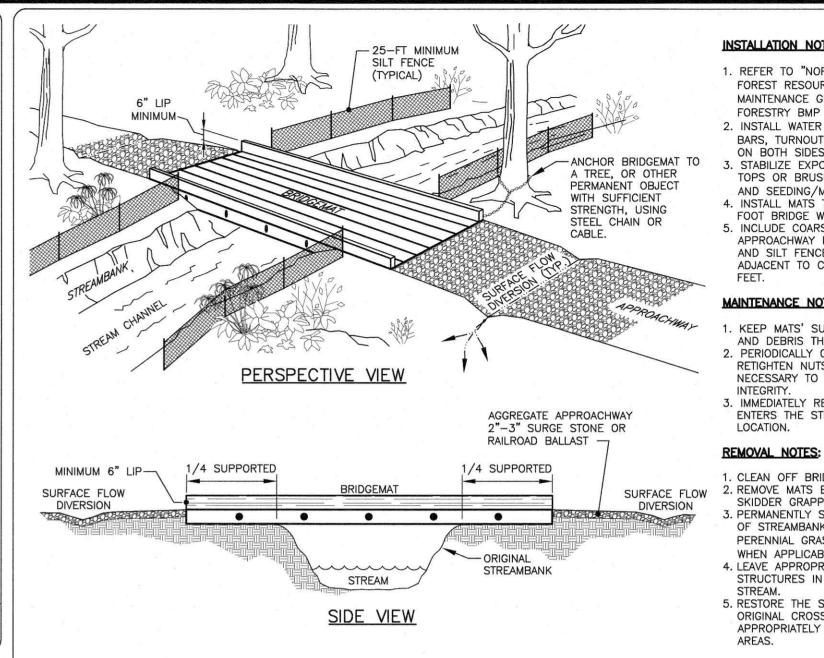
FILTER

FABRIC

MINIMUM



TEMPORARY STREAM CROSSING LAYOUT



INSTALLATION NOTES:

1. REFER TO "NORTH CAROLINA DIVISION OF FOREST RESOURCES" LITERATURE, INSTALLATION MAINTENANCE GUIDELINES, & "NORTH CAROLINA FORESTRY BMP MANUAL-2006".

2. INSTALL WATER DIVERSION DEVICES (WATER BARS, TURNOUTS, BROAD-BASED DIPS, ETC.) ON BOTH SIDES OF THE MATS. STABILIZE EXPOSED MINERAL SOIL WITH TREE TOPS OR BRUSH DURING MAT INSTALLATION,

AND SEEDING/MULCH AFTER MAT REMOVAL. 4. INSTALL MATS TO CREATE A MINIMUM TEN FOOT BRIDGE WIDTH 5. INCLUDE COARSE AGGREGATE ON THE APPROACHWAY FOR A MINIMUM OF 25 FEET AND SILT FENCE ALONG STREAMBANKS ADJACENT TO CROSSING FOR A MINIMUM OF 25

MAINTENANCE NOTES:

KEEP MATS' SURFACE FREE OF MINERAL SOIL AND DEBRIS THAT COULD ENTER STREAM. 2. PERIODICALLY CHECK MAT HARDWARE; RETIGHTEN NUTS & CABLE CLAMPS AS NECESSARY TO MAINTAIN BRIDGE STRENGTH AND

3. IMMEDIATELY REMOVE ANY DEBRIS WHICH ENTERS THE STREAM AT THE CROSSING LOCATION.

1. CLEAN OFF BRIDGE SURFACE. 2. REMOVE MATS BY USING MAT CABLE LOOP OR SKIDDER GRAPPLE. 3. PERMANENTLY STABILIZE DISTURBED PORTIONS OF STREAMBANK AND APPROACH ROADS WITH PERENNIAL GRASSES/MULCH (OR WETLAND MIX WHEN APPLICABLE). 4. LEAVE APPROPRIATE WATER DIVERSION

STRUCTURES IN PLACE ON BOTH SIDES OF 5. RESTORE THE STREAM CHANNEL TO ITS ORIGINAL CROSS-SECTION, AND SMOOTH AND

APPROPRIATELY STABILIZE ALL DISTURBED

TIMBER MATTING FOR TEMP. STREAM CROSSING

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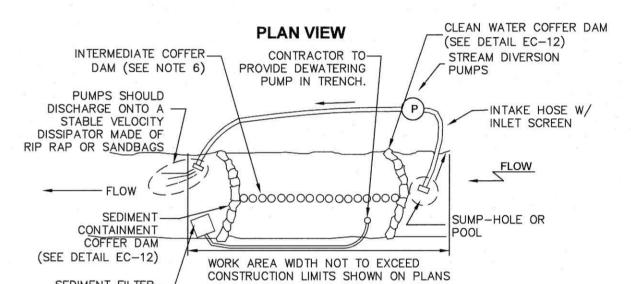
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DESCRIPTION:THE WORK SHALL CONSIST OF INSTALLING A TEMPORARY PUMP AROUND AND SUPPORTING MEASURES TO DIVERT FLOW AROUND CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING PUMPS TO ENSURE ADEQUATE CAPACITY TO KEEP FLOW FROM ENTERING WORK

N.T.S.

- 1. COFFER DAMS SHALL BE SITUATED AT THE ENDS OF THE WORK AREA AS SHOWN ON THE PLANS (REFER TO DETAIL EC-12), AND WATER ON THE UPSIDE OF THE DAM AREA
- 2. THE DIVERSION PUMPS SHALL DISCHARGE ONTO A STABLE VELOCITY DISSIPATER MADE OF RIP-RAP OR SANDBAGS. 3. WATER FROM THE WORK AREA SHALL BE PUMPED TO A SEDIMENT FILTERING MEASURE
- SUCH AS A TEMPORARY WOOD CHIP DEWATERING BASIN, SILT BAG OR OTHER APPROVED SEDIMENT FILTERING MEASURE (REFER TO DETAIL EC-13).
- PUMP INTAKE HOSES, DISSIPATOR PADS AND FILTER MEASURES SHALL BE REMOVED AND
- THEN THE COFFER DAMS SHALL BE REMOVED WHICH CONTRIBUTES BASEFLOW TO THE WORK AREA. THIS SHALL BE ACCOMPLISHED BY LOCATING A COFFER DAM AT THE DOWNSTREAM END OF THE TRIBUTARY OR STORM

EC-11 | COFFER DAM FOR TEMP. STREAM CROSSING

RESOURCES
P.O. Box 1089, Fayetteville

PWC DWG #DS-15464

SEDIMENT FILTER-PUMP-AROUND PRACTICE:
TEMPORARY MEASURE FOR DEWATERING STREAM CROSSING SITES.

IMPLEMENTATION SEQUENCE:
SEDIMENT CONTROL MEASURES, PUMP-AROUND PRACTICES, AND ASSOCIATED CONSTRUCTION SHALL BE COMPLETED IN THE FOLLOWING SEQUENCE (REFER TO DETAIL).

- SHALL BE PUMPED AROUND THE WORK AREA.
- 4. AFTER THE WATER MAIN IS INSTALLED AND THE SLOPES HAVE BEEN STABILIZED, THE
- 5. A PUMP AROUND MUST BE INSTALLED ON ANY TRIBUTARY OR STORM DRAIN OUTFALL
- DRAIN OUTFALL AND PUMPING THE STREAM FLOW AROUND THE WORK AREA. THIS WATER SHALL DISCHARGE ONTO THE SAME VELOCITY DISSIPATER USED FOR THE MAIN
- 6. CONTRACTOR MAY USE INTERMEDIATE COFFER DAM ALONG STREAM ALIGNMENT TO ALLOW PHASED CROSSING W/A MAXIMUM OF 2 SEPARATE BYPASS PHASES.

N.T.S. RECEIVED

- 1. CONTRACTOR SHALL INSTALL COFFER DAMS WITH ENOUGH SEPARATION FROM THE PROJECT CONSTRUCTION
- LIMITS OF DISTURBANCE TO PLACE PUMP INTAKE AND DISCHARGE HOSES, DISSIPATORS AND SEDIMENT
- FILTER STRUCTURES 2. TEMPORARY PRE-FABRICATED COFFER DAMS SUCH AS PORT-A-DAM AND OTHERS MAY BE USED IN
- SUBSTITUTION TO THE SANDBAG/RIP-RAP DAM WITH PRIOR APPROVAL BY THE OWNER AND ENGINEER. TEMPORARY COFFER DAMS BY PORTADAM OR EQUAL SYSTEM ARE ACCEPTABLE. CONTRACTOR SHALL SUBMIT TO ENGINEER PROPOSED TEMPORARY COFFER DAM SYSTEM IN ACCORDANCE WITH THE CONTRACT DOCUMENTS FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.

- 1. MOBILIZATION AREAS FOR PLACEMENT OR CONSTRUCTION SHOULD BE KEPT AS SMALL AS POSSIBLE TO FACILITATE EROSION AND SEDIMENT CONTROL AND SHOULD BE PROTECTED WITH DOWNGRADIENT SEDIMENT
- 2. PLACEMENT ACTIVITIES SHOULD MINIMIZE VEGETATION REMOVAL AND DISTURBANCE OF ADJACENT AREAS TO
- THE MAXIMUM EXTENT PRACTICABLE. 3. WHERE POSSIBLE, USE BARRIER CONTROLS CONSTRUCTED WITHOUT EARTH FILL. ACCEPTABLE COFFER DAM
- MATERIALS INCLUDE SAND BAGS, SAND TOTES, JERSEY WALL SECTIONS, COLLAPSIBLE FABRIC MEMBRANE DAMS, WATER FILLED BAGS/TUBES OR OTHER SUITABLE MATERIALS. 4. FARTH FILL BARRIERS REQUIRE STABILIZATION TO PREVENT EROSION AS BARE SOILS COME INTO CONTACT
- WITH FLOWING WATER. STABILIZATION CAN OFTEN BE ACHIEVED BY COVERING BARE AREAS WITH WEEL-SECURED PLASTIC SHEETING.
- 5. ENSURE THE BARRIER STRUCTURES ARE OF SUFFICIENT HEIGHT TO PREVENT WAVES OR OVERFLOWS FROM FLOODING THE ENCLOSED WORK AREA. 6. FOR DEWATERING A STREAM REACH, INSTALL BARRIERS AT UPSTREAM AND DOWNSTREAM LOCATIONS. IF USED,
- STABILIZE THE BYPASS TRENCH/CHANNEL WITH PLASTIC SHEETING, ROCK, OR OTHER LINER MATERAIL TO PREVENT TURBIDITY DOWNSTREAM.
- 7. DEWATERING OF THE ENCLOSURE TYPICALLY REQUIRES SEDIMENT REMOVAL TO ENSURE THAT TURBID WATER IS NOT DISCHARGED INTO NEARBY WATERBODIES. 8. IF STORED ONSITE, MATERIAL EXCAVATED FROM THE MOBILIZATION SITE, THE ENCLOSURE, OR REMOVED FROM THE DISCHARGE WATER SHOULD BE PLACED IN STOCKPILES PROTECTED WITH EROSION AND SEDIMENT

CONTROL MEASURES, SUCH AS PLASTIC SHEETING OR TARPAULIN COVERS, DOWNGRADIENT SEDIMENT

BARRIERS, TEMPORARY MULCH AND SEED, OR OTHER MEASURES, 9. UPON COMPLETION OF WORK IN THE BARRIER AREA, DEMOBILIZATION AND BACKFILLING SHOULD OCCUR WITH MINIMAL ADDITIONAL SOIL DISTURBANCE AND IN A MANNER THAT MINIMIZES TURBIDITY IN THE NEARBY WATERBODY. BACKFILLING WITH HYDRAULIC DREDGE OR VIA SLURRY APPLICATION SHOULD BE AVOIDED IF

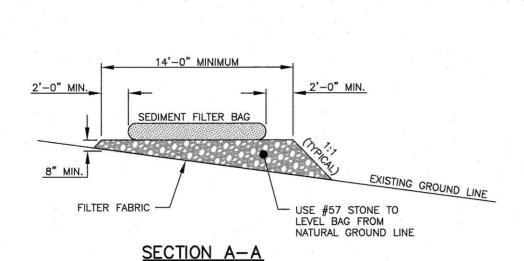
MAINTENANCE:

- 1. WATERS ADJACENT TO THE BARRIER STRUCTURES SHOULD BE INSPECTED FOR TURBIDITY ON A CONTINUOUS BASIS. FIND AND ELIMINATE SOURCES OF TURBIDITY, OR USE FLOATING SILT CURTAINS TO PREVENT TURBID WATERS FROM MIGRATING AWAY FROM THE IMMEDIATE CONSTRUCTION AREA.
- 2. CLEAR SEDIMENT AND DEBRIS FROM DEWATERING PUMP INTAKE SCREENS AND FILTERS AS NEEDED. CLEAN DISCHARGE AREA FILTERS (E.G., FILTER FABRIC, SILT FENCING, ETC.) AND REMOVE ACCUMULATED SEDIMENT BEFORE IT RESTRICTS OR CONSUMES HALF OF THE EFFECTIVE TREATMENT VOLUME OR STORAGE CAPACITY. 3. REPLACE OR CLEAN FILTER BAGS AS NEEDED.

EC-12 COFFER DAM DETAIL

SLEEVE FOR PUMP

DISCHARGE HOSE -



SEDIMENT FILTER BAG GENERAL NOTES:

- CONTRACTOR SHALL EXERCISE CAUTION NOT TO BURST OR DAMAGE THE SEDIMENT FILTER BAG WHEN PUMPING.
- THE LENGTH AND WIDTH OF THE TEMPORARY SEDIMENT BAG SHOWN ON THIS DRAWING MAY VARY PER VENDOR SPECIFICATIONS. THE MINIMUM "FOOTPRINT" OF THE BAG SHALL BE 10 x 15 FEET.
- SEDIMENT FILTER BAGS SHALL BE EQUIPPED WITH A SEWN-IN SLEEVE OF SUFFICIENT SIZE TO ACCEPT A MINIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE DISCHARGE HOSE SHOULD BE EXTENDED INTO THIS SLEEVE A MINIMUM OF 6 INCHES AND BE TIGHTLY SECURED WITH A HOSE CLAMP OR OTHER SUITABLE MEANS TO PREVENT LEAKAGE. HOSE CONNECTION THROUGH A SLIT IN THE BAG WILL NOT BE ACCEPTABLE
- 4. THE PUMP DISCHARGE HOSE CONNECTION SLEEVE SHALL BE SECURELY TIED OFF DURING DISPOSAL OF THE SEDIMENT FILTER BAG IN ORDER TO PREVENT LEAKAGE OF COLLECTED SEDIMENTS.
- 5. SEDIMENT FILTER BAG SHALL BE MAINTAINED AND REPLACED WHEN ONE HALF FULL OF SEDIMENT OR IN ACCORDANCE WITH THE MANUFACTURER'S

MAINTENANCE:

MINIMUM

VARIES W/ GROUND SLOPE (2'-0" MIN.)

- 1. FILTER BAG IS TO BE PLACED ON A LEVEL BED OF
- AGGREGATE 2. INSERT THE DISCHARGE HOSE AND SECURE IT TIGHTLY PER MANUFACTURER RECOMMENDATIONS

PLAN VIEW

CONSTRUCTION SPECIFICATIONS:

- 3. THE BAG IS TO BE MONITORED TO AVOID RUPTURE OR EXCESSIVE LEAKAGE AROUND THE DISCHARGE
- 4. SEDIMENT FILTER BAG AND THE CAPTURED SEDIMENT SHOULD BE DISPOSED OF PER LOCAL REGULATIONS.

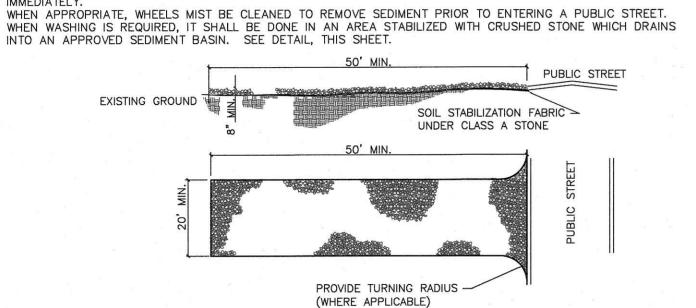
1. INSPECT TEMPORARY STREAM CROSSINGS AFTER RUNOFF-PRODUCING RAINS TO CHECK FOR BLOCKAGE IN CHANNEL, EROSION OF ABUTMENTS, CHANNEL SCOUR, RIPRAP DISPLACEMENT, OR PIPING, MAKE AL REPAIRS IMMEDIATELY TO PREVENT FURTHER DAMAGE TO THE INSTALLATION

SEDIMENT FILTER BAG WITH GRAVEL PAD

N.T.S.

SOIL STOCKPILE MAINTENANCE REQUIREMENTS:

- 1. A STABILIZED ENTRANCE PAD OF 2-3 INCH COURSE AGGREGATE SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR EXIT THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
- 2. FILTER FABRIC OR COMPACTED CRUSHER RUN STONE SHALL BE USED AS A BASE FOR THE CONSTRUCTION
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS WARRANT, AND REPAIR OR CLEAN-OUT OF ANY MEASURES USED TO TRAP
- . ANY SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC STREETS MUST BE REMOVED
- WHEN APPROPRIATE, WHEELS MIST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET.



TEMP. CONSTRUCTION ENTRANCE

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMI

nplementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

	Re	equired Ground Stabil	lization Timeframes
Si	te Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a)	Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b)	High Quality Water (HQW) Zones	7	None
(c)	Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d)	Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e)	Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the

techniques in the table below:	
Temporary Stabilization	
Temporary grass seed covered with so other mulches and tackifiers	
Hydroseeding	

straw or Permanent grass seed covered with straw or other mulches and tackifiers · Geotextile fabrics such as permanent soil Rolled erosion control products with or reinforcement matting

Rolled erosion control products with grass seed

- without temporary grass seed Shrubs or other permanent plantings covered Appropriately applied straw or other mulch with mulch
- Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls

POLYACRYLAMIDES (PAMS) AND FLOCCULANT

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures. Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available
- Locate waste containers on areas that do not receive substantial amounts of runoff
- Cover waste containers at the end of each workday and before storm events or
- Empty waste containers as needed to prevent overflow. Clean up immediately if

- waters unless no other alternatives are reasonably available.
- Containment must be labeled, sized and placed appropriately for the needs of site. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from

- streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- erosion on disturbed soils for temporary or permanent control needs.

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment. . Identify leaks and repair as soon as feasible, or remove leaking equipment from the
- Collect all spent fluids, store in separate containers and properly dispose as
- hazardous waste (recycle when possible) Remove leaking vehicles and construction equipment from service until the problem
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products

CONCRETE WASHOUTS

- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- from upland areas and does not drain directly to a storm drain, stream or wetland.
- provide secondary containment. Repair or replace damaged waste containers. Anchor all lightweight items in waste containers during times of high winds.
- containers overflow.
- Dispose waste off-site at an approved disposal facility.
- 9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

- Do not dump paint and other liquid waste into storm drains, streams or wetlands. Locate paint washouts at least 50 feet away from storm drain inlets and surface
- Contain liquid wastes in a controlled area.

construction sites.

- Install portable toilets on level ground, at least 50 feet away from storm drains,

Provide staking or anchoring of portable toilets during periods of high winds or in high

with properly operating unit

- 4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated

SELF-INSPECTION, RECORDKEEPING AND REPORTING

The approved E&SC plan as well as any approved deviation shall be kept on the site. The

approved E&SC plan must be kept up-to-date throughout the coverage under this permit.

Documentation Requirements

E&SC measure shown on the approved E&SC

the E&SC measures are modified after initial

report to indicate completion of the

Initial and date a copy of the approved E&SC

plan or complete, date and sign an inspection

report to indicate compliance with approved

Complete, date and sign an inspection report

Initial and date a copy of the approved E&SC

report to indicate the completion of the

plan or complete, date and sign an inspection

construction phase.

ground cover specifications.

plan. This documentation is required upon the initial installation of the E&SC measures or if

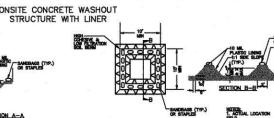
The following items pertaining to the E&SC plan shall be kept on site and available for

(a) Each E&SC measure has been installed Initial and date each E&SC measure on a copy

and does not significantly deviate from the of the approved E&SC plan or complete, date

locations, dimensions and relative elevations | and sign an inspection report that lists each

(b) A phase of grading has been completed. Initial and date a copy of the approved E&SC





3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

THE CONCRETE WASHOUT STRUCTURES SHA BE MAINTAINED WHEN THE LIQUID AND/OR SOL REACHES 70% OF THE STRUCTURES CAPACITY.

Do not discharge concrete or cement slurry from the site.

and state solid waste regulations and at an approved facility.

BELOW GRADE WASHOUT STRUCTURE



3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE. ABOVE GRADE WASHOUT STRUCTURE

Dispose of, or recycle settled, hardened concrete residue in accordance with local Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within

Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or

- discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum,
- spills or overflow. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout

HERBICIDES, PESTICIDES AND RODENTICIDE

- Store and apply herbicides, pesticides and rodenticides in accordance with label
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.

SECTION C: REPORTING

1. Occurrences that Must be Reported

They are 25 gallons or more,

- IAZARDOUS AND TOXIC WASTE
- Create designated hazardous waste collection areas on-site.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

inspection at all times during normal business hours.

Item to Document

shown on the approved E&SC plan.

in accordance with the approved E&SC

(d) The maintenance and repair

this requirement not practical:

have been performed

to E&SC measures.

requirements for all E&SC measures

(e) Corrective actions have been taken

2. Additional Documentation to be Kept on Site

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend o holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: Actions taken to clean up or stabilize the sediment that has left the site limits, Description, evidence, and date of corrective actions taken, and An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). Documentation that the required ground stabilization

soon as possible

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

measures have been provided within the required timeframe or an assurance that they will be provided as

(a) This General Permit as well as the Certificate of Coverage, after it is received. (b) Records of inspections made during the previous twelve months. The permittee shall

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records. All data used to complete the e-NOI and all inspection records shall be maintained for a period

In addition to the E&SC plan documents above, the following items shall be kept on the

Division provides a site-specific exemption based on unique site conditions that make

record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of

of three years after project completion and made available upon request. [40 CFR 122.41]

site and available for inspectors at all times during normal business hours, unless the

3. Documentation to be Retained for Three Years

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,

PART II, SECTION G, ITEM (4)

DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above, (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and

(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,

(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

EFFECTIVE: 04/01/19

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Permittees shall report the following occurrences: (a) Visible sediment deposition in a stream or wetland.

- (b) Oil spills if:
- They are less than 25 gallons but cannot be cleaned up within 24 hours, They cause sheen on surface waters (regardless of volume), or

SELF-INSPECTION, RECORDKEEPING AND REPORTING

- They are within 100 feet of surface waters (regardless of volume). (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA
- (Ref: 40 CFR 302.4) or G.S. 143-215.85. (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the

858-0368.

of this permit that

may endanger

2. Reporting Timeframes and Other Requirements After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800)

Within 24 hours, an oral or electronic notification.
 Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure complian with the federal or state impaired-waters conditions.
Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.

 A report at least ten days before the date of the bypass, if possible. (c) Anticipated The report shall include an evaluation of the anticipated quality and bypasses [40 CFR 122.41(m)(3)] effect of the bypass (d) Unanticipated Within 24 hours, an oral or electronic notification bypasses [40 CFR Within 7 calendar days, a report that includes an evaluation of the 122.41(m)(3)] quality and effect of the bypass. Within 24 hours, an oral or electronic notification (e) Noncompliance with the conditions Within 7 calendar days, a report that contains a description of the

health or the been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and CFR 122.41(I)(7)] prevent reoccurrence of the noncompliance. [40 CFR 122.41(I)(6). Division staff may waive the requirement for a written report on a case-by-case basis.

noncompliance, and its causes; the period of noncompliance,

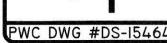
including exact dates and times, and if the noncompliance has not

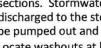








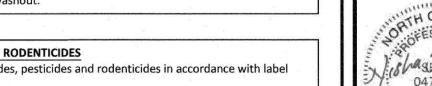




lot perimeter silt fence

install protection of storm drain inlet(s) closest to the washout which could receive

components when no longer functional. When utilizing alternative or proprietary



Do not stockpile these materials onsite

Place hazardous waste containers under cover or in secondary containment. Do not store hazardous chemicals, drums or bagged materials directly on the ground.