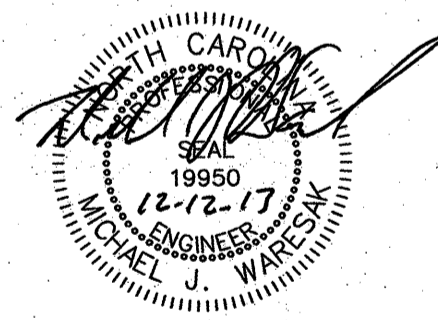


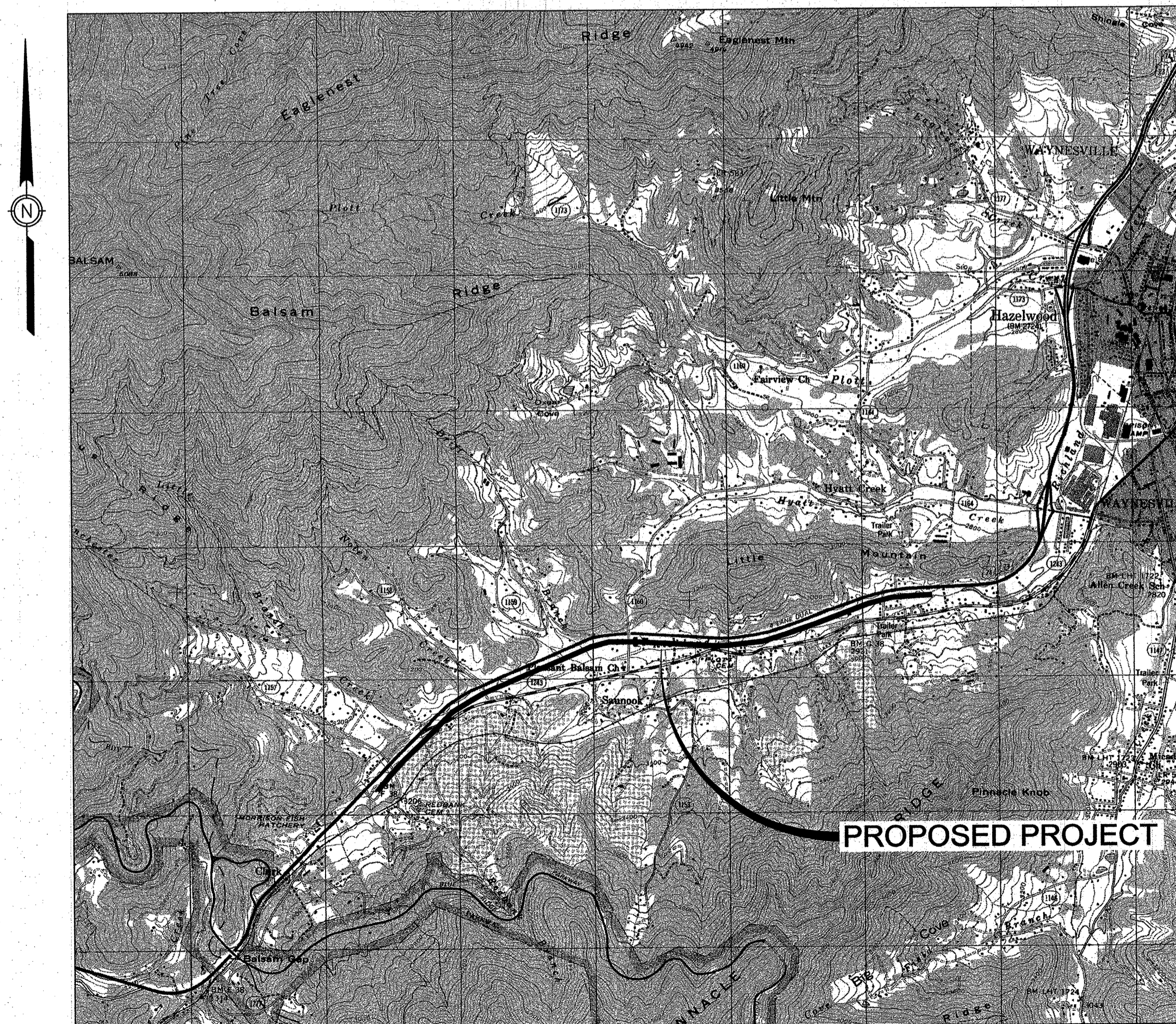
U. S. HIGHWAY 23/74 REST AREA WATER AND SEWER EXTENSIONS NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

HAYWOOD COUNTY, NORTH CAROLINA
NCDOT PROJECT NO. C203202-RA (k-5002)



DECEMBER 2013

McGill
ASSOCIATES
ENGINEERING · PLANNING · FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH. (828) 252-0575 FIRM LICENSE # C-0459



LOCATION MAP

NO SCALE

SCHEDULE OF DRAWINGS

- G-001 . . . COVER SHEET
- G-002 . . . GENERAL NOTES AND LEGENDS
- C-101 . . . SEWER FORCE MAIN 1 PLAN - STA. 10+00 - STA. 41+00
- C-102 . . . SEWER FORCE MAIN 1 PLAN - STA. 41+00 - STA. 73+68
SEWER FORCE MAIN 2 PLAN - STA. 10+00 - STA. 18+00
WATER LINE PLAN - STA. 10+00 - STA. 30+00
- C-103 . . . SEWER FORCE MAIN 2 PLAN - STA. 18+00 - STA. 52+00
- C-104 . . . SEWER FORCE MAIN 2 PLAN - STA. 52+00 - STA. 84+00
- C-105 . . . SEWER FORCE MAIN 2 PLAN - STA. 84+00 - STA. 118+00
- C-106 . . . SEWER FORCE MAIN 2 PLAN - STA. 118+00 - STA. 125+84
GRAVITY SEWER LINE PLAN - STA. 10+00 - STA. 14+00
- C-107 . . . NORTHBOUND REST AREA SITE PLAN
- C-108 . . . SOUTHBOUND REST AREA SITE PLAN
- C-109 . . . ODOR CONTROL BUILDING PLAN AND ELEVATIONS
- C-501 . . . NORTHBOUND SEWER PUMP STATION PLAN AND SECTION
- C-502 . . . SOUTHBOUND SEWER PUMP STATION PLAN AND SECTION
- C-503 . . . MISCELLANEOUS DETAILS
- C-504 . . . MISCELLANEOUS DETAILS
- C-505 . . . MISCELLANEOUS DETAILS
- C-506 . . . MISCELLANEOUS DETAILS
- C-507 . . . MISCELLANEOUS DETAILS
- E-001 . . . ELECTRICAL LEGEND, NOTES, SCHEDULES AND ABBREVIATIONS
- E-101 . . . NORTHBOUND REST AREA PUMP STATION
- E-102 . . . SOUTHBOUND REST AREA PUMP STATION
- E-501 . . . ELECTRICAL DETAILS

NORTH CAROLINA LAND QUALITY SECTION EROSION CONTROL NOTES

REVISION DATE - DECEMBER 10, 2013

GENERAL: ALL EROSION CONTROL MEASURES ARE TO BE PERFORMED IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE COMPLIED WITH FOR ALL WORK.

1. PRIOR TO BEGINNING WORK ON THE PROJECT THE CONTRACTOR SHALL OBTAIN FROM THE OWNER A COPY OF THE "EROSION AND SEDIMENT CONTROL APPROVAL" FROM THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND QUALITY, OR THE LOCAL AUTHORIZED PROGRAM. THE APPROVAL NOTICE MUST BE AVAILABLE ON-SITE DURING ALL GRADING AND CONSTRUCTION ACTIVITIES.
2. INSTALL ALL EROSION CONTROL MEASURES AS REQUIRED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION.
NOTE: ALL UTILITY INSTALLATION WITHIN 24" OF A RIVER OR STREAM BANK SHALL BE INSTALLED PER STREAM PROTECTION DURING EXCAVATION. SEEDING AND MULCHING SHALL BE COMPLETED DAILY IN AREAS NOTED AS STREAM PROTECTION AREAS. SILT FENCE IN THESE AREAS SHALL NOT BE INSTALLED CLOSER THAN 5' FROM CREEK BANK UNLESS FIELD CONDITIONS PREVENT SUFFICIENT CLEARANCE. ALL SILT FENCES SHALL BE INSPECTED AND CLEANED AS NEEDED AFTER EACH RAIN.
3. NO WORK SHALL BE PERFORMED IN STREAM FROM OCTOBER 15 TO APRIL 15 (TO ACCOMMODATE COE AND DWQ RECOMMENDATIONS CONCERNING WORK IN TROUT WATERS.)
4. CONTRACTOR IS TO PLACE PERMANENT STAKES MARKING CLEARLY THE 25' BUFFER FOR STREAMS WHERE SHOWN ON THE PLANS AND THE MARKERS ARE TO BE VISIBLE AT ALL TIMES DURING CONSTRUCTION.
5. OBTAIN CERTIFICATE OF COMPLIANCE THROUGH ON-SITE INSPECTION BY A REPRESENTATIVE OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION.
6. CONSTRUCTION SHALL BE LIMITED TO 2000' OF CONTIGUOUS ROAD CORRIDOR UNTIL ALL CUTS, FILLS, AND DITCHES ARE STABILIZED FOR THAT 2000' SECTION. UPON STABILIZATION OF THAT SECTION ANOTHER 2000' SECTION CAN BE CONSTRUCTED AND STABILIZED.
7. ALL STREAM CROSSINGS AND PERENNIAL STREAMS WILL BE ALIGNED WITH THE NATURAL STREAM PATTERNS ABOVE AND BELOW THE PROPOSED ROAD. ARCH CULVERTS WILL BE USED AND FOOTERS WILL BE CONSTRUCTED IN UNDISTURBED BANKS AWAY FROM THE STREAM FLOW.
8. PROCEED WITH GRADING, CLEARING AND GRUBBING. NOTE: NO OFF SITE DISPOSAL OF MATERIAL IS ALLOWED UNLESS THE DISPOSAL SITE HAS AN APPROVED EROSION CONTROL PLAN.
9. SEED AND PLACE EROSION CONTROL MATTING ON ALL CUT AND FILL SLOPES THAT ARE NOT ROCK IMMEDIATELY UPON COMPLETION OF SLOPE STABILIZATION.
10. ALL TEMPORARY STREAM AND CREEK CROSSINGS FOR EQUIPMENT DURING CONSTRUCTION SHALL BE MADE USING TEMPORARY BARRIERS. NO STREAM BANK OR STREAM BED DISTURBANCE SHALL BE ALLOWED FOR EQUIPMENT CROSSINGS.

STABILIZATION REQUIREMENTS

STABILIZATION FOR THIS PROJECT SHALL COMPLY WITH THE TIME FRAME GUIDELINES AS SPECIFIED BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF LAND QUALITY. TEMPORARY OR PERMANENT GROUND COVER STABILIZATION SHALL OCCUR WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY, WITH THE FOLLOWING EXCEPTIONS IN WHICH TEMPORARY OR PERMANENT GROUND COVER SHALL BE PROVIDED IN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY:

SLOPES BETWEEN 2:1 AND 3:1, WITH A SLOPE LENGTH OF 10 FT. OR LESS SLOPES 3:1 OR FLATTER, WITH A SLOPE LENGTH OF 50 FT. OR LESS SLOPES 4:1 OR FLATTER

THE STABILIZATION TIMEFRAME FOR HIGH QUALITY WATER (HOW) ZONES SHALL BE 7 CALENDAR DAYS WITH NO EXCEPTIONS FOR SLOPE GRADES OR LENGTHS. HIGH QUALITY WATER ZONES (HOW) ZONES ARE DEFINED BY NORTH CAROLINA ADMINISTRATIVE CODE 15A NCAC 04A.0105 (25). TEMPORARY AND PERMANENT GROUND COVER STABILIZATION SHALL BE ACHIEVED IN ACCORDANCE WITH THE PROVISIONS IN THIS CONTRACT AND AS DIRECTED.

SEEDING AND MULCHING

(West)
THE KINDS OF SEED AND FERTILIZER, AND THE RATES OF APPLICATION OF SEED, FERTILIZER, AND LIMESTONE, SHALL BE AS STATED BELOW. DURING PERIODS OF OVERLAPPING DATES, THE KIND OF SEED TO BE USED SHALL BE DETERMINED. ALL RATES ARE IN POUNDS PER ACRE.

SHOULDER AND MEDIAN AREAS

AUGUST 1 - JUNE 1	MAY 1 - SEPTEMBER 1
20# KENTUCKY BLUEGRASS	20# KENTUCKY BLUEGRASS
75# HARD FESCUE	75# HARD FESCUE
10# RYE GRAIN	10# GERMAN OR BROWNTOP MILLET
500# FERTILIZER	500# FERTILIZER
4000# LIMESTONE	4000# LIMESTONE

AREAS BEYOND THE MOWING PATTERN, WASTE AND BORROW AREAS:

AUGUST 1 - JUNE 1	MAY 1 - SEPTEMBER 1
100# TALL FESCUE	100# TALL FESCUE
15# KENTUCKY BLUEGRASS	15# KENTUCKY BLUEGRASS
30# HARD FESCUE	30# HARD FESCUE
25# RYE GRAIN	10# GERMAN OR BROWNTOP MILLET
500# FERTILIZER	500# FERTILIZER
4000# LIMESTONE	4000# LIMESTONE

APPROVED TALL FESCUE CULTIVARS

2ND MILLENNIUM	DUSTER	MAGELLAN	RENDITION
AVENGER	ENDEAVOR	MASTERPIECE	SCORPION
BARLEXAS	ESCALADE	MATADOR	SHELBY
BARLEXAS II	FALCON II, III, IV & V	MATADOR GT	SIGNIA
BARRERA	FIDELITY	MILLENNIUM	SILVERSTAR
BARRINGTON	FINESSE II	MONTAUK	SOUTHERN CHOICE II
BILTMORE	FREBIRD	MUSTANG 3	STETSON
BINGO	FOCUS	OLYMPIC GOLD	TARHEEL
BRAVO	GRANDE II	PADRE	TITAN LTD
CAYENNE	GREENKEEPER	PARAISO	TITANIUM
CHAPEL HILL	GREYSTONE	PICASSO	TOMAHAWK
CHESAPEAKE	INFERNO	PREDWANT	TRACER
CONSTITUTION	JUSTICE	PURE GOLD	TROOPER
CHIPPER	JAGUAR 3	PROSPECT	TURBO
CORONADO	KALAHARI	QUEST	ULTIMATE
COYOTE	KENTUCKY 31	REBEL EXEDA	WATCHDOG
DAWNING	KITTY HAWK	REBEL SEXTRY	WOLFPACK
DYNASTY	KITTY HAWK 2000	REGIMENT II	
DOMINION	LEXINGTON	REBRANDT	

APPROVED KENTUCKY BLUEGRASS CULTIVARS:

ALPINE	BARRIS	BNVCTA	RUGBY
APOLLO	BEDAZZLED	IMPACT	RUGBY II
ARCADIA	BORDEAUX	KEN BLUE	SHOWCASE
ARROW	CHAMPAGNE	MIDNIGHT	SONOMA
AWARD	CHICAGO II	MIDNIGHT II	

APPROVED HARD FESCUE CULTIVARS:

CHARIOT	NORDIC	RHINO	WARWICK
FIRELY	OVERBIRD	SCALDS II	
HERON	RELANT II	SPARTAN II	
MINOTAUR	RELANT IV	STONEHENGE	

ON CUT AND FILL SLOPES 2:1 OR STEEPER ADD 20# SERICEA LESPEDEZA JANUARY 1 - DECEMBER 31.

FERTILIZER SHALL BE 10-20-20 ANALYSIS. A DIFFERENT ANALYSIS OF FERTILIZER MAY BE USED PROVIDED THE 1-2-2 RATIO IS MAINTAINED AND THE RATE OF APPLICATION ADJUSTED TO PROVIDE THE SAME AMOUNT OF PLANT FOOD AS A 10-20-20 ANALYSIS AND AS DIRECTED.

TEMPORARY SEEDING

FERTILIZER SHALL BE THE SAME ANALYSIS AS SPECIFIED FOR SEEDING AND MULCHING AND APPLIED AT THE RATE OF 400 POUNDS AND SEEDED AT THE RATE OF 50 POUNDS PER ACRE. GERMAN MILLET, OR BROWNTOP MILLET

SHALL BE USED IN SUMMER MONTHS AND RYE GRAIN DURING THE REMAINDER OF THE YEAR. THE ENGINEER WILL DETERMINE THE EXACT DATES FOR USING EACH KIND OF SEED.

FERTILIZER TOPDRESSING

FERTILIZER USED FOR TOPDRESSING SHALL BE 16-8-8 GRADE AND SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. A DIFFERENT ANALYSIS OF FERTILIZER MAY BE USED PROVIDED THE 2-1-1 RATIO IS MAINTAINED AND THE RATE OF APPLICATION ADJUSTED TO PROVIDE THE SAME AMOUNT OF PLANT FOOD AS 16-8-8 ANALYSIS AND AS DIRECTED.

SUPPLEMENTAL SEEDING

THE KINDS OF SEED AND PROPORTIONS SHALL BE THE SAME AS SPECIFIED FOR SEEDING AND MULCHING, AND THE RATE OF APPLICATION MAY VARY FROM 25# TO 75# PER ACRE. THE ACTUAL RATE PER ACRE WILL BE DETERMINED PRIOR TO THE TIME OF TOPDRESSING AND THE CONTRACTOR WILL BE NOTIFIED IN WRITING OF THE RATE PER ACRE. TOTAL QUANTITY NEEDED, AND AREAS ON WHICH TO APPLY THE SUPPLEMENTAL SEED, MINIMUM TILLAGE EQUIPMENT, CONSISTING OF A SOD SEEDER SHALL BE USED FOR INCORPORATING SEED INTO THE SOIL AS TO PREVENT DISTURBANCE OF EXISTING VEGETATION. A GLOBUSTER (BALL AND CHAIN) MAY BE USED WHERE DEGREE OF SLOPE PREVENTS THE USE OF A SOD SEEDER.

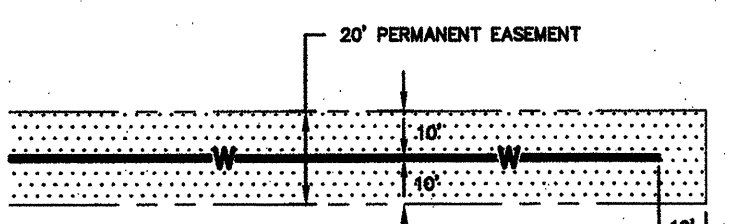
MOWING

THE MINIMUM MOWING HEIGHT ON THIS PROJECT SHALL BE SIX INCHES.

GENERAL WATER NOTES

REVISION DATE - NOVEMBER 19, 2010

1. ALL CONSTRUCTION OUTSIDE RIGHTS-OF-WAY SHALL TAKE PLACE WITHIN THE PERMANENT AND TEMPORARY ACCESS EASEMENTS SHOWN.
2. CONTRACTOR SHALL REPAIR ALL DISTURBED AREAS TO EQUAL OR BETTER CONDITION THAN THE ORIGINAL SITE, OR AS NOTED.
3. LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE ONLY. EXACT LOCATIONS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. AT LEAST THREE DAYS PRIOR TO CONSTRUCTION, CONTRACTOR MUST NOTIFY EXISTING UTILITY OWNERS. CALL 811 BEFORE YOU DIG.
4. ALL WORK NEAR AND AROUND WATERWAYS MUST CONFORM TO THE RULES OF THE STATE OF NORTH CAROLINA.
5. CONTRACTOR MUST PROVIDE EROSION CONTROL DEVICES TO CONTROL RUNOFF FROM THE CONSTRUCTION SITE. CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES THAT MAY BE LEVIED DUE TO POLLUTION CREATED DURING CONSTRUCTION.
6. CONTRACTOR SHALL FOLLOW ALL FEDERAL, STATE AND LOCAL HEALTH AND SAFETY REGULATIONS PERTAINING TO CONSTRUCTION OPERATIONS.
7. WATER LINES SHALL HAVE 3'-0" MINIMUM COVER UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
8. WATER AND SEWER LINES SHALL HAVE A MINIMUM 10' HORIZONTAL SEPARATION OR A MINIMUM 18" VERTICAL SEPARATION WITH THE WATER OVER SEWER, OR BOTH WATER AND SEWER LINES SHALL BE DUCTILE IRON PIPE 10' EITHER SIDE OF THE CROSSING.
9. WATER AND STORM SEWER LINES SHALL HAVE A MINIMUM 12" VERTICAL SEPARATION.
10. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
11. LEGAL DESCRIPTIONS FOR PROPOSED EASEMENTS BY OTHERS.
12. CONTRACTOR SHALL NOTIFY THE PROPER LOCAL AUTHORITIES 24 HOURS PRIOR TO ANY ROAD BEING CLOSED FOR CONSTRUCTION, INCLUDING BUT NOT LIMITED TO LOCAL NEWSPAPER, RADIO STATION, FIRE DEPARTMENT, COUNTY SHERIFF'S DEPARTMENT, AMBULANCE, AND COUNTY EMERGENCY AGENCY. ALL TRAFFIC CONTROL SHALL CONFORM TO THE REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
13. CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER EXISTING BURIED UTILITIES HAVE BEEN LOCATED AND 24 HOURS PRIOR TO CONSTRUCTION.
14. ALL FENCE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIALS IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH STANDARD FENCE CONSTRUCTION PRACTICES AT THE CONTRACTOR'S EXPENSE.
15. CONTRACTOR SHALL FIELD LOCATE ALL BURIED TELEPHONE LINE IN CONFLICT WITH THE PROPOSED WATER LINE. WHERE NECESSARY, EXISTING BURIED TELEPHONE LINE SHALL BE TEMPORARILY MOVED DURING CONSTRUCTION OF THE PROPOSED WATER LINE AND RE-LAID AT NO ADDITIONAL COST TO THE OWNER.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS DURING CONSTRUCTION AND SHALL REPAIR ROADS PER REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. NO OPEN CUTS OF EXISTING ROADS SHALL BE ALLOWED EXCEPT WHERE INDICATED ON THE DRAWINGS OR WHERE SPECIFIC PERMISSION IS GRANTED BY THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. SAND OR A SIMILAR MATERIAL APPROVED BY THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SHALL BE PLACED ON THE ROAD TO AID IN THE CLEAN UP AFTER CONSTRUCTION. A MINIMUM OF 2" OF SAND SHALL BE PLACED ON THE ROAD PRIOR TO STOCKPILING SPOIL MATERIAL ON THE ROAD SURFACE TO FACILITATE CLEANUP.



TYPICAL WATER LINE EASEMENT

NATIVE GRASS SEEDING AND MULCHING

(WEST)

NATIVE GRASS SEEDING AND MULCHING SHALL BE PERFORMED ON THE DISTURBED AREAS OF WETLANDS AND RIPARIAN AREAS, AND ADJACENT TO STREAM RELOCATION AND/OR TROUT STREAM CONSTRUCTION WITHIN A 50 FOOT ZONE ON BOTH SIDES OF THE STREAM OR DEPRESSION, MEASURED FROM TOP OF STREAM BANK OR CENTER OF DEPRESSION. THE STREAM BANK OF THE STREAM RELOCATION SHALL BE SEED BY A METHOD THAT DOES NOT ALTER THE TYPICAL CROSS SECTION OF THE STREAM BANK. NATIVE GRASS SEEDING AND MULCHING SHALL ALSO BE PERFORMED IN THE PERMANENT SOIL REINFORCEMENT MAT SECTION OF PERFORMED SCOUR HOLES, AND IN OTHER AREAS AS DIRECTED.

THE KINDS OF SEED AND FERTILIZER, AND THE RATES OF APPLICATION OF SEED, FERTILIZER, AND LIMESTONE, SHALL BE AS STATED BELOW. DURING PERIODS OF OVERLAPPING DATES, THE KIND OF SEED TO BE USED SHALL BE DETERMINED. ALL RATES ARE IN POUNDS PER ACRE.

AUGUST 1 - JUNE 1	MAY 1 - SEPTEMBER 1
18# CREEPING RED FESCUE	18# CREEPING RED FESCUE
8# BIG BLUESTEM	8# BIG BLUESTEM
6# INDIANGRASS	6# INDIANGRASS
4# SWITCHGRASS	4# SWITCHGRASS
35# RYE GRAIN	25# GERMAN OR BROWNTOP MILLET
500# FERTILIZER	500# FERTILIZER
4000# LIMESTONE	4000# LIMESTONE

APPROVED CREEPING RED FESCUE CULTIVARS:

Aberdeen	Boreal	Epic	Cindy Lou
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NPDES PERMITS - NOTE - FOR PROJECTS REQUIRING NPDES PERMITS, THE FOLLOWING STABILIZATION SCHEDULE SHALL APPLY:

SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME EXCEPTIONS
PERIMETER DICES, SWALES DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HOW ZONES)

1. MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
2. REMOVE SOIL EROSION CONTROL MEASURES AND STABILIZE THESE AREAS.
3. REQUEST FINAL APPROVAL BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF LAND RESOURCES, LAND QUALITY SECTION.

GENERAL SEWER NOTES

REVISION DATE - NOVEMBER 19, 2010

1. ALL CONSTRUCTION OUTSIDE RIGHTS-OF-WAY SHALL TAKE PLACE WITHIN THE PERMANENT AND TEMPORARY ACCESS EASEMENTS SHOWN.
2. CONTRACTOR SHALL REPAIR ALL DISTURBED AREAS TO EQUAL OR BETTER CONDITION THAN THE ORIGINAL SITE, OR AS NOTED.
3. LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE ONLY. EXACT LOCATIONS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. AT LEAST THREE DAYS PRIOR TO CONSTRUCTION, CONTRACTOR MUST NOTIFY EXISTING UTILITY OWNERS. CALL 811 BEFORE YOU DIG.
4. ALL WORK NEAR AND AROUND WATERWAYS MUST CONFORM TO THE RULES OF THE STATE OF NORTH CAROLINA.
5. CONTRACTOR MUST PROVIDE EROSION CONTROL DEVICES TO CONTROL RUNOFF FROM THE CONSTRUCTION SITE. CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES THAT MAY BE LEVIED DUE TO POLLUTION CREATED DURING CONSTRUCTION.
6. CONTRACTOR SHALL FOLLOW ALL FEDERAL, STATE AND LOCAL HEALTH AND SAFETY REGULATIONS PERTAINING TO CONSTRUCTION OPERATIONS.
7. SEWER FORCE MAINS AND WATER LINES SHALL HAVE 3'-0" MINIMUM COVER UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
8. WATER AND SEWER LINES SHALL HAVE A MINIMUM 10' HORIZONTAL SEPARATION OR A MINIMUM 18" VERTICAL SEPARATION WITH THE WATER OVER SEWER, OR BOTH WATER AND SEWER LINES SHALL BE DUCTILE IRON PIPE 10' EITHER SIDE OF THE CROSSING.
9. SEWER AND STORM SEWER LINES SHALL HAVE A MINIMUM 12" VERTICAL SEPARATION.
10. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
11. UNLESS OTHERWISE NOTED, ALL BURIED PIPE SHALL BE INSTALLED WITH PUSH-ON JOINTS AND EXPOSED PIPING SHALL BE FLANGED JOINT.
12. LEGAL DESCRIPTIONS FOR PROPOSED EASEMENTS BY OTHERS.
13. SITE TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED BY SURVEYOR NOTED ON PLANS.
14. CONTRACTOR SHALL NOTIFY THE PROPER LOCAL AUTHORITIES 24 HOURS PRIOR TO ANY ROAD BEING CLOSED FOR CONSTRUCTION, INCLUDING BUT NOT LIMITED TO LOCAL NEWSPAPER, RADIO STATION, FIRE DEPARTMENT, COUNTY SHERIFF'S DEPARTMENT, AMBULANCE, AND COUNTY EMERGENCY AGENCY. ALL TRAFFIC CONTROL SHALL CONFORM TO THE REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
15. CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER EXISTING BURIED UTILITIES HAVE BEEN LOCATED AND 24 HOURS PRIOR TO CONSTRUCTION.
16. LOCATIONS SHOWN FOR SANITARY SEWER SERVICES ARE ASSUMED. COORDINATE LOCATIONS OF ALL PROPOSED SEWER SERVICE CONNECTIONS WITH PROPERTY OWNER PRIOR TO CONSTRUCTION.
17. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED MANHOLE TOP ELEVATIONS AND EXISTING MANHOLE INVERTS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL ADJUST ALL PROPOSED SEWER STRUCTURES TO MATCH FINISHED PAVEMENT ELEVATIONS. COSTS OF RAISING STRUCTURES SHALL BE CONSIDERED INCIDENTAL TO OTHER WORK ON THE PROJECT.
18. MANHOLES AND CASTINGS SHALL MEET THE REQUIREMENTS OF OWNER AS WELL AS THE PROJECT SPECIFICATIONS.
19. 4" SANITARY SEWER SERVICE LINES SHALL BE INSTALLED AT 2.0% MINIMUM SLOPE AND SHALL BE DUCTILE IRON IN PAVED AREAS.
20. ALL FENCE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIALS IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH STANDARD FENCE CONSTRUCTION PRACTICES AT THE CONTRACTOR'S EXPENSE.
21. CONTRACTOR SHALL FIELD LOCATE ALL BURIED TELEPHONE LINE IN CONFLICT WITH THE PROPOSED UTILITY LINE. WHERE NECESSARY, EXISTING BURIED TELEPHONE LINE SHALL BE TEMPORARILY MOVED DURING CONSTRUCTION OF THE PROPOSED UTILITY LINE AND RE-LAID AT NO ADDITIONAL COST TO THE OWNER.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS DURING CONSTRUCTION AND SHALL REPAIR ROADS PER REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. NO OPEN CUTS OF EXISTING ROADS SHALL BE ALLOWED EXCEPT WHERE INDICATED ON THE DRAWINGS OR WHERE SPECIFIC PERMISSION IS GRANTED BY THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. SAND OR A SIMILAR MATERIAL APPROVED BY THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SHALL BE PLACED ON THE ROAD TO AID IN THE CLEAN UP AFTER CONSTRUCTION. A MINIMUM OF 2" OF SAND SHALL BE PLACED ON THE ROAD PRIOR TO STOCKPILING SPOIL MATERIAL ON THE ROAD SURFACE TO FACILITATE CLEANUP.

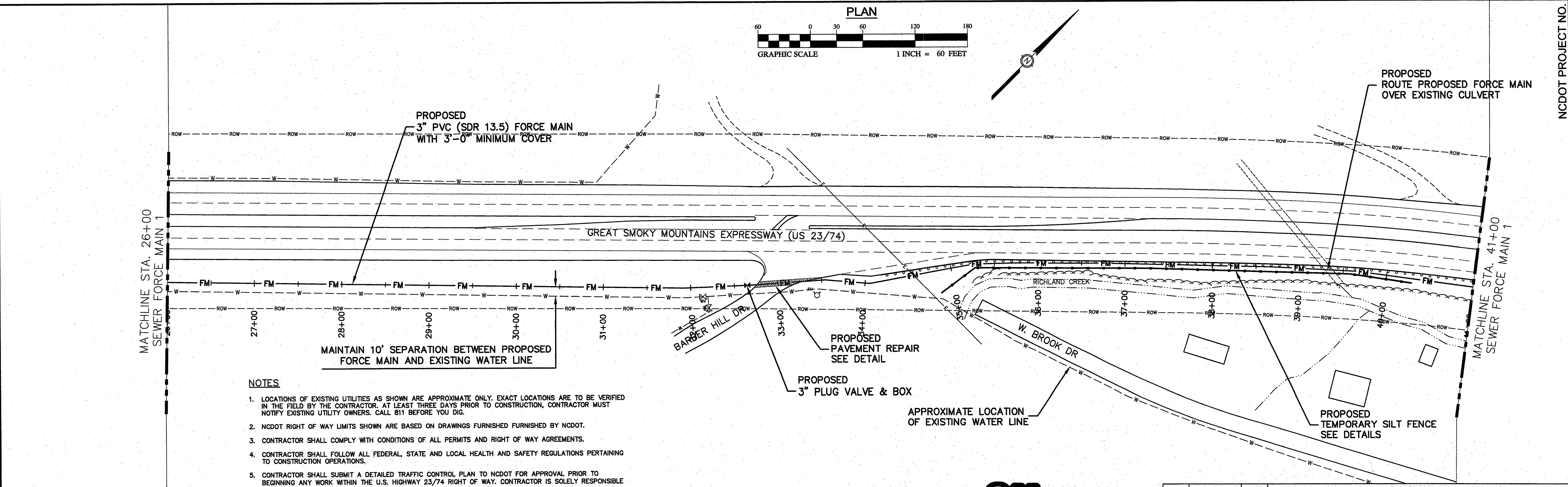
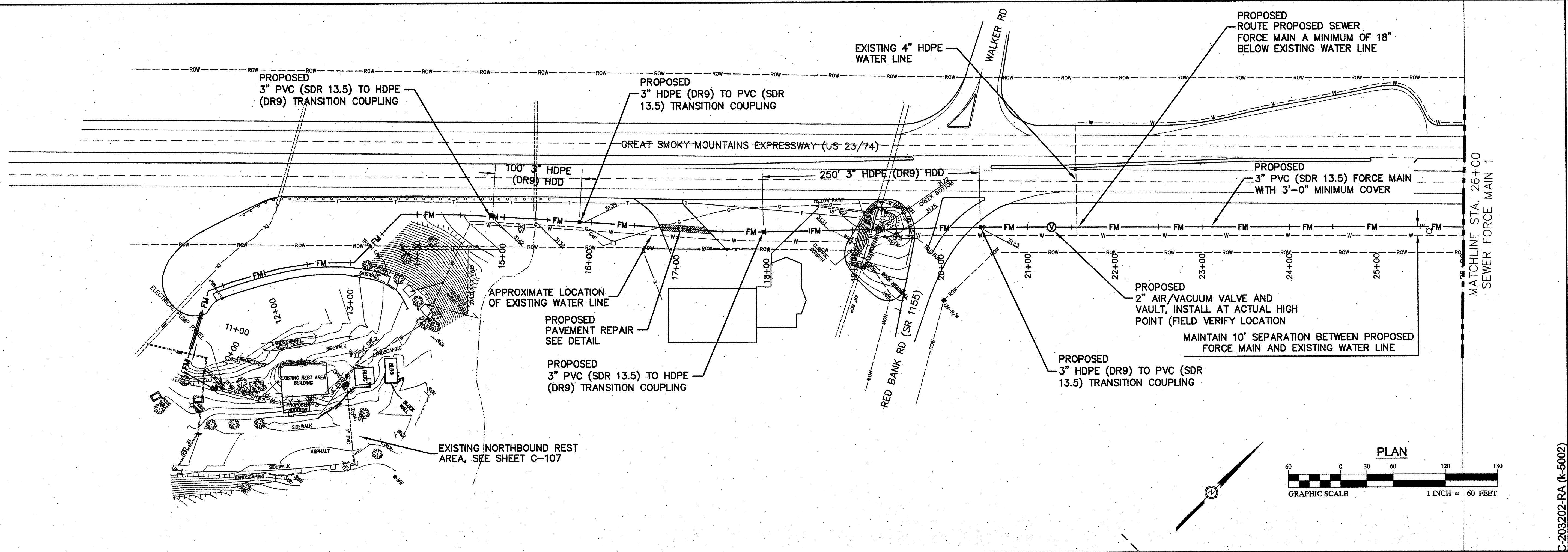
PROPOSED SEWER & WATER LEGEND

○	MANHOLE
○	CLEANOUT
○	AIR/VACUUM RELEASE VALVE
○	FIRE HYDRANT, VALVE AND TEE
○	AIR RELEASE VALVE
○	VALVE
○	BLOWOFF (DISCHARGE TO STREAM/DITCH)
○	BLOWOFF (TRAFFIC BEARING)
○	WATER METER
○	GRAVITY SEWER LINE
○	SEWER FORCE MAIN
○	WATER LINE

EXISTING CONDITIONS LEGEND

○	TELEPHONE PEDESTAL	△	CALCULATED POINT
○	ELECTRIC PEDESTAL	△	1/2" REBAR SET WITH CAP
○	CABLE TV PEDESTAL	△	CONCRETE MONUMENT
○	SIGN	△	RIGHT-OF-WAY MONUMENT
○	UNDERGROUND CABLE TV SIGN	△	D.O.T. CONTROL POINT
○	UNDERGROUND FIBER OPTIC CABLE SIGN	△	REBAR FOUND
○	UNDERGROUND TELEPHONE CABLE SIGN	△	PK NAIL FOUND / SET
○	UNDERGROUND GAS LINE SIGN	△	SPINDLE FOUND / SET
○	UNDERGROUND ELECTRIC LINE SIGN	△	HUB & TACK SET
○	LIGHT POLE	△	CONTROL POINT NAIL SET / FOUND
○	UTILITY POLE	△	CONTROL POINT/NAIL SET GPS
○	GUY WIRE ANCHOR	△	CONTROL POINT TEMPORARY MARK
○	MANHOLE	△	STONE FOUND
○	SANITARY SEWER MANHOLE	△	INTERSTATE HIGHWAY
○	STORM DRAIN MANHOLE	△	U.S. HIGHWAY
○	COMMUNICATION MANHOLE	△	FINISHED FLOOR ELEVATION
○	ELECTRICAL MANHOLE	△	MONITORING WELL
○	JUNCTION BOX	△	PIEZOMETER
○	SPIGOT/YARD HYDRANT	△	LANDFILL GAS MONITORING PROBE
○	SEWER CLEAN-OUT	△	SURFACE WATER SAMPLING LOCATION
○	ELECTRIC SERVICE STUB-OUT	△	LANDFILL GAS VENT
○	GAS SERVICE STUB-OUT	△	LANDFILL GAS COLLECTION WELLHEAD
○	CATCH BASIN	△	POTABLE WATER WELL
○	CURB INLET	△	MAILBOX OR PAPER BOX
○	WATER METER	△	POSTAL DROP BOX
○	FIRE HYDRANT	△	SATELLITE DISH
○	WATER VALVE	△	STATUE, BIRD BATHS, ETC.
○	BLOW OFF VALVE	△	TREES
○	GAS METER	△	SHRUBS / BUSHES
○	GAS VALVE	△	
○	IRRIGATION CONTROL VALVE	△	
○	POST INDICATOR VALVE	△	
○	ELECTRIC JUNCTION BOX OR OUTLET	△	
○	CULVERT	△	IRPS
○	FENCE	△	IRON PIN SET
○	SILT FENCE	△	REBAR FOUND
○	GUARD RAIL	△	OTIFF
○	APPROXIMATE LOCATION OF EXISTING SEWER LINES	△	OPEN TOP IRON PIN FOUND
○	APPROXIMATE LOCATION OF EXISTING WATER LINES	△	CRIMPED TOP IRON PIN FOUND
○	APPROXIMATE LOCATION OF EXISTING GAS LINES	△	CMU
○	TOP & TOE LINES	△	CONCRETE MASONRY UNIT
○	DITCH LINES	△	R/W
○	APPROXIMATE LOCATION OF UNDERGROUND CABLE TV LINE	△	RIGHT OF WAY
○	APPROXIMATE LOCATION OF UNDERGROUND FIBER OPTIC CABLE LINE	△	CENTERLINE
○	APPROXIMATE LOCATION OF UNDERGROUND ELECTRIC LINE	△	CURVE (SEE CURVE TABLE)
○	APPROXIMATE LOCATION OF OVERHEAD CABLE TV LINE	△	C
○	APPROXIMATE LOCATION OF OVERHEAD ELECTRIC LINE	△	POB
○	APPROXIMATE LOCATION OF UNDERGROUND TELEPHONE LINES	△	CP
○	APPROXIMATE LOCATION OF OVERHEAD TELEPHONE LINES	△	CALCULATED POINT
○	RIGHT-OF-WAY	△	PB
○	TREELINE	△	PLAT BOOK
○	SHRUBLINE	△	DB
○	PROPERTY LINE NOT SURVEYED	△	DEED BOOK
○	ROCKLINE	△	L
○	STREAM LINE	△	LINE (SEE LINE TABLE)
○	CENTERLINE ROADS	△	BLDG
○	CENTERLINE OTHER THAN ROADS	△	BUILDING
○	SWAMPLINE/WETLANDS	△	CIP
○		△	CAST IRON PIPE
○		△	CMP
○		△	CORRUGATED METAL PIPE
○		△	CONC
○		△	CONCRETE
○		△	CMU
○		△	CONCRETE MASONRY UNIT
○		△	CPP
○		△	CORRUGATED PLASTIC PIPE
○		△	DIP
○		△	DUCTILE IRON PIPE
○		△	E&T
○		△	ELECTRIC & TELEPHONE
○		△	FOC
○		△	FIBER OPTIC CABLE
○		△	GIP
○		△	GALVANIZED IRON PIPE
○		△	O/H
○		△	OVERHEAD
○		△	RCP
○		△	REINFOR

Y:\2013\13.00372\Design\Water-Sewer\Drawings\13.00372.dwg 12/10/2013 10:53 AM GORDON WILSON



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 7. SEE SHEET G-002 FOR ADDITIONAL NOTES

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NO.	DATE	BY	REVISION DESCRIPTION
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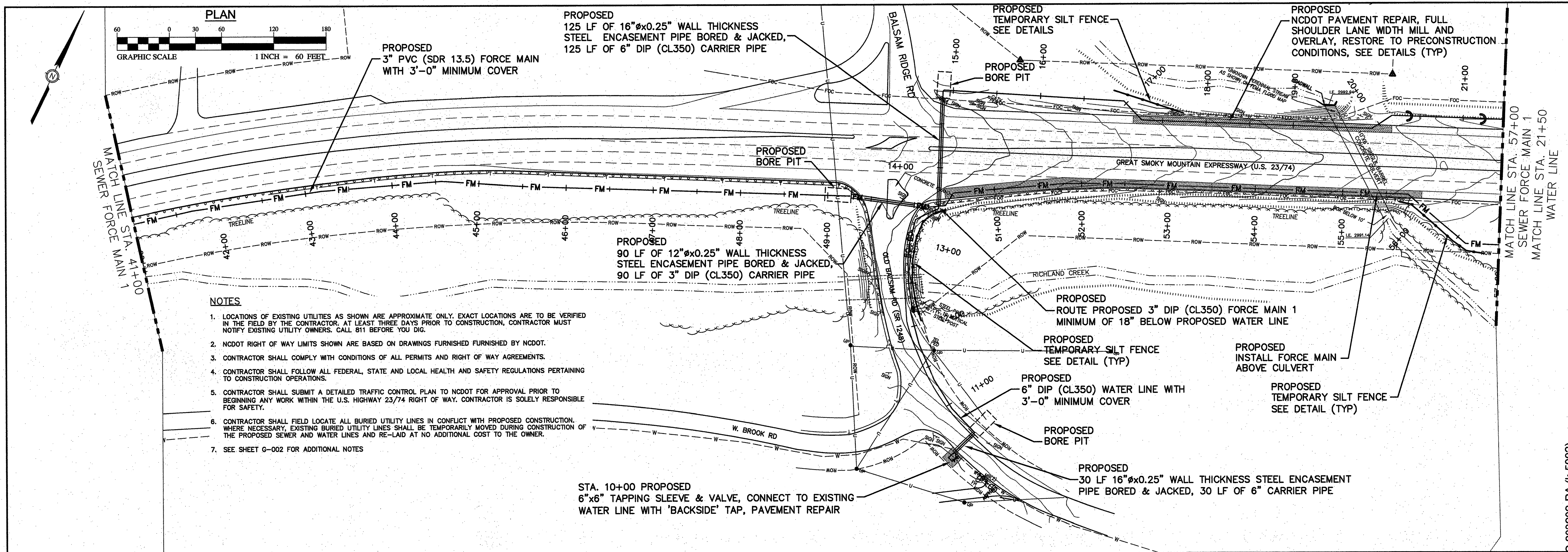
NCDOT PROJECT NO. C-203202-RA (K-5002)
 US23/75 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 HAYWOOD COUNTY, NORTH CAROLINA

McGill ASSOCIATES
 ENGINEERING · PLANNING · FINANCE
 55 BROAD STREET ASHEVILLE, NC 28801 PH. (828) 252-0575 FIRM LICENSE # C-0459

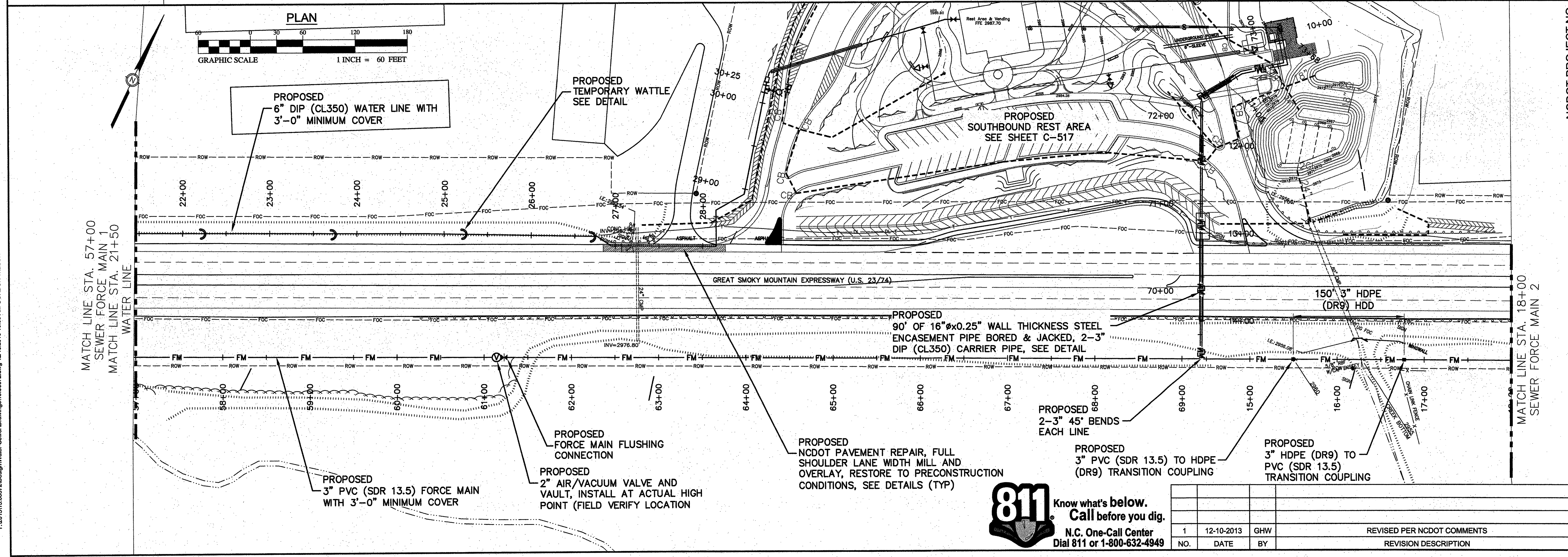
JOB NO.: 13.00372
 DATE: OCTOBER 2013
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 DESIGN REVIEW: GHW
 CONST. REVIEW: GHW
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SEWER FORCE MAIN 1 PLAN
 STA. 10+00 - STA. 41+00
SHEET C-101

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NCDOT PROJECT NO. C-203202-RA (K-5002)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

HAYWOOD COUNTY, NORTH CAROLINA

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DATE: OCTOBER 2013
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CONST. REVIEW: _____
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SEWER FORCE MAIN 1 PLAN
STA. 41+00 - STA. 73+68
SEWER FORCE MAIN 2 PLAN
STA. 10+00 - STA. 18+00
WATER LINE PLAN
STA. 20+00 - STA. 30+25

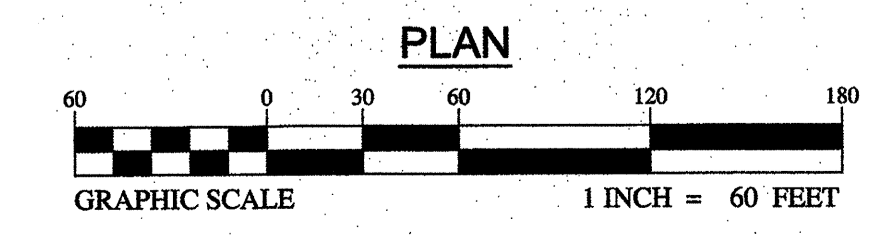
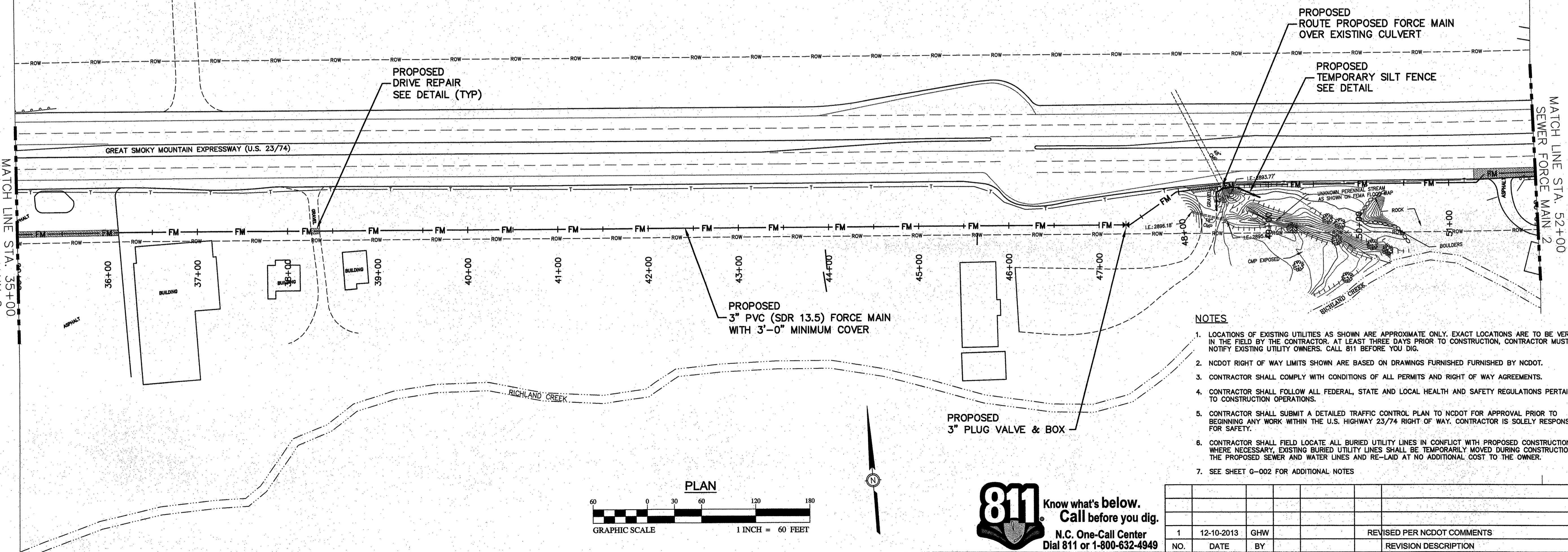
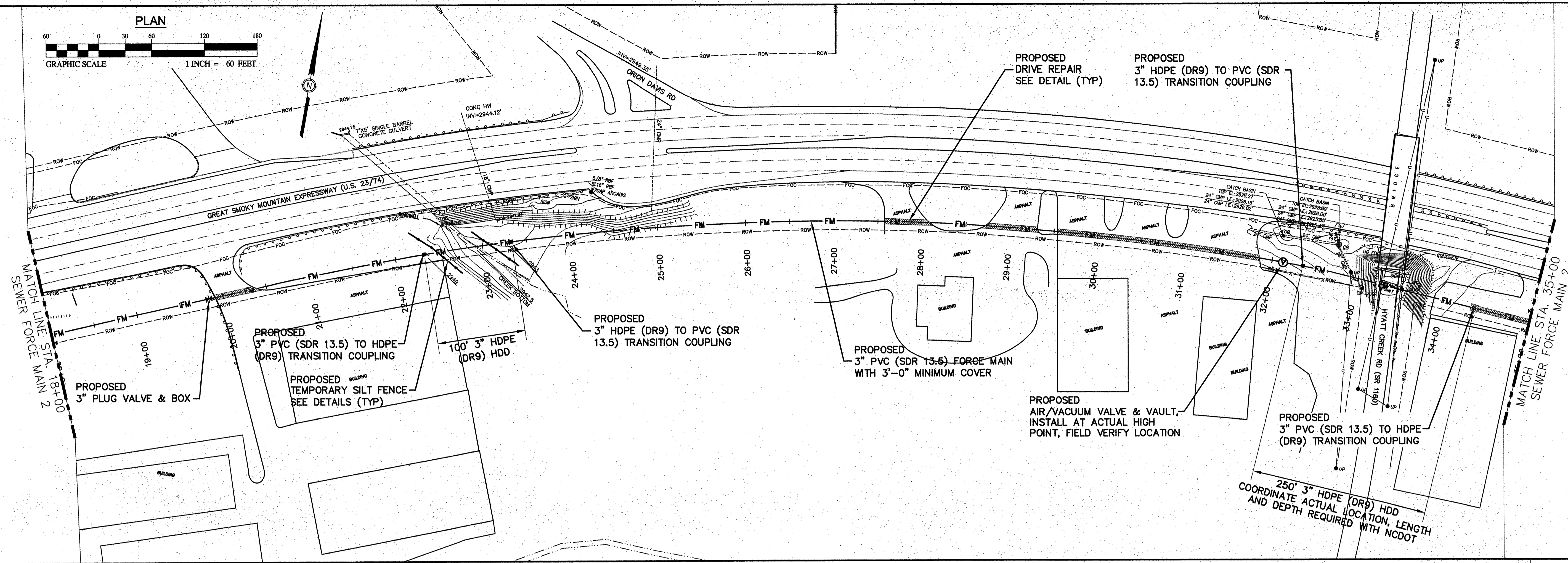
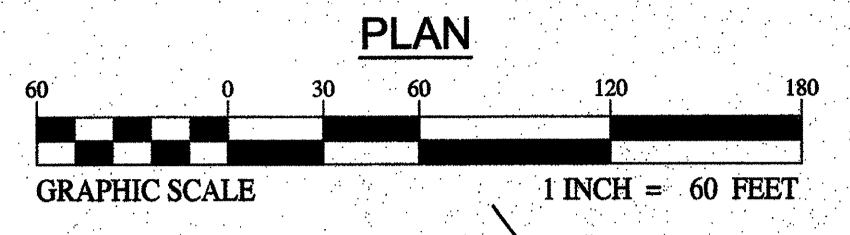
SHEET

C-102

811

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NCDOT PROJECT NO. C-203202-RA (K-5002)
 U.S. 23/75 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 HAYWOOD COUNTY, NORTH CAROLINA

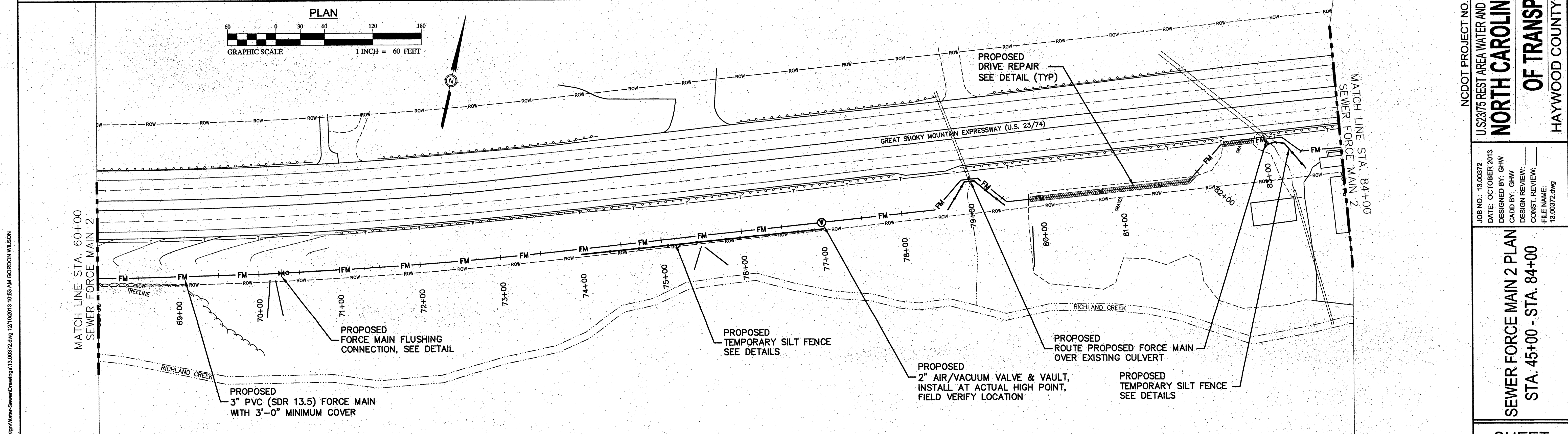
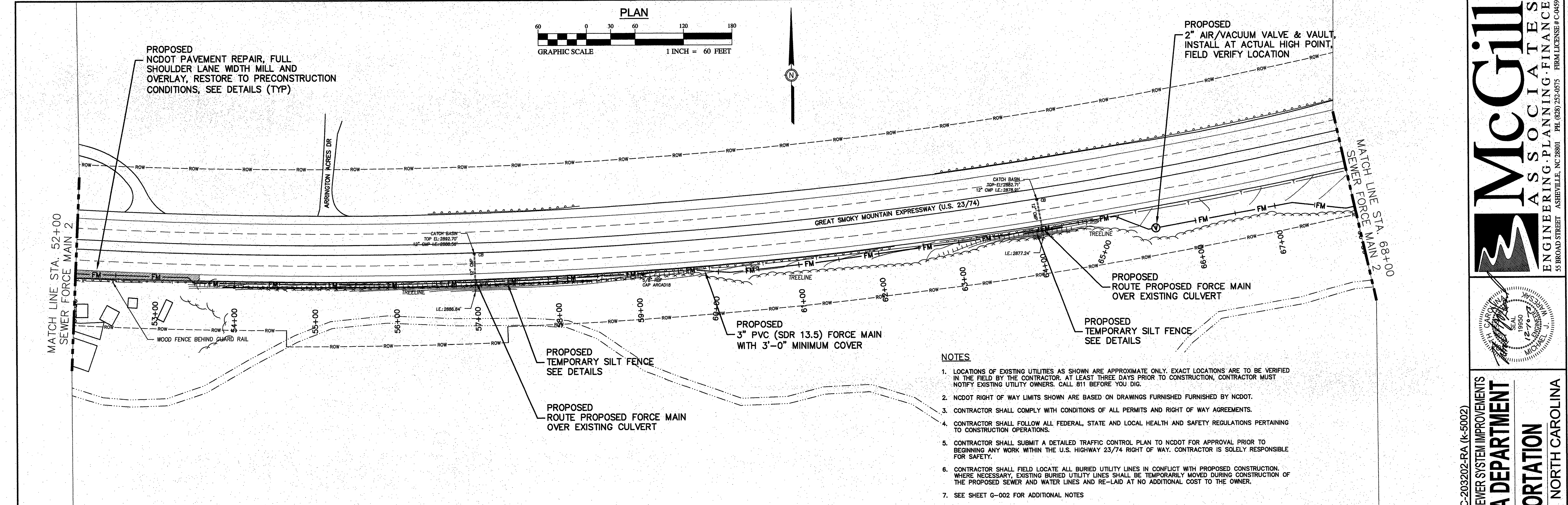
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 DESIGN REVIEW: _____
 CONST. REVIEW: _____
 FILE NAME: 13.00372.dwg

SEWER FORCE MAIN 2 PLAN
 STA. 18+00 - STA. 52+00

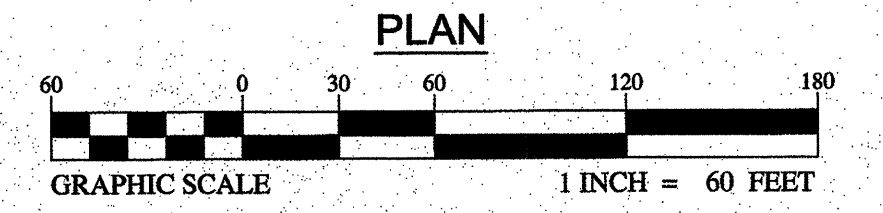
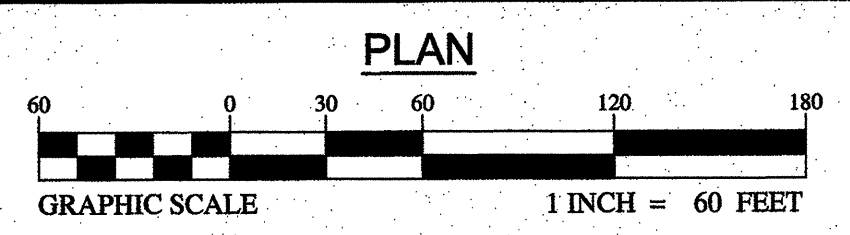
SHEET C-103

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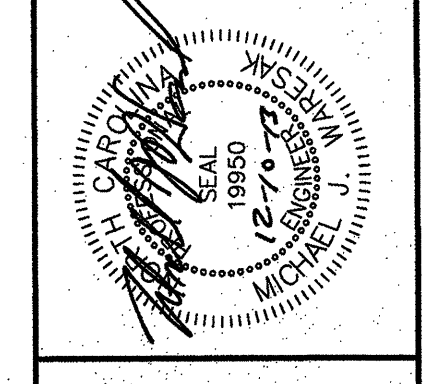
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NCDOT PROJECT NO. C-203202-RA (K-5002)
 U.S. 23/75 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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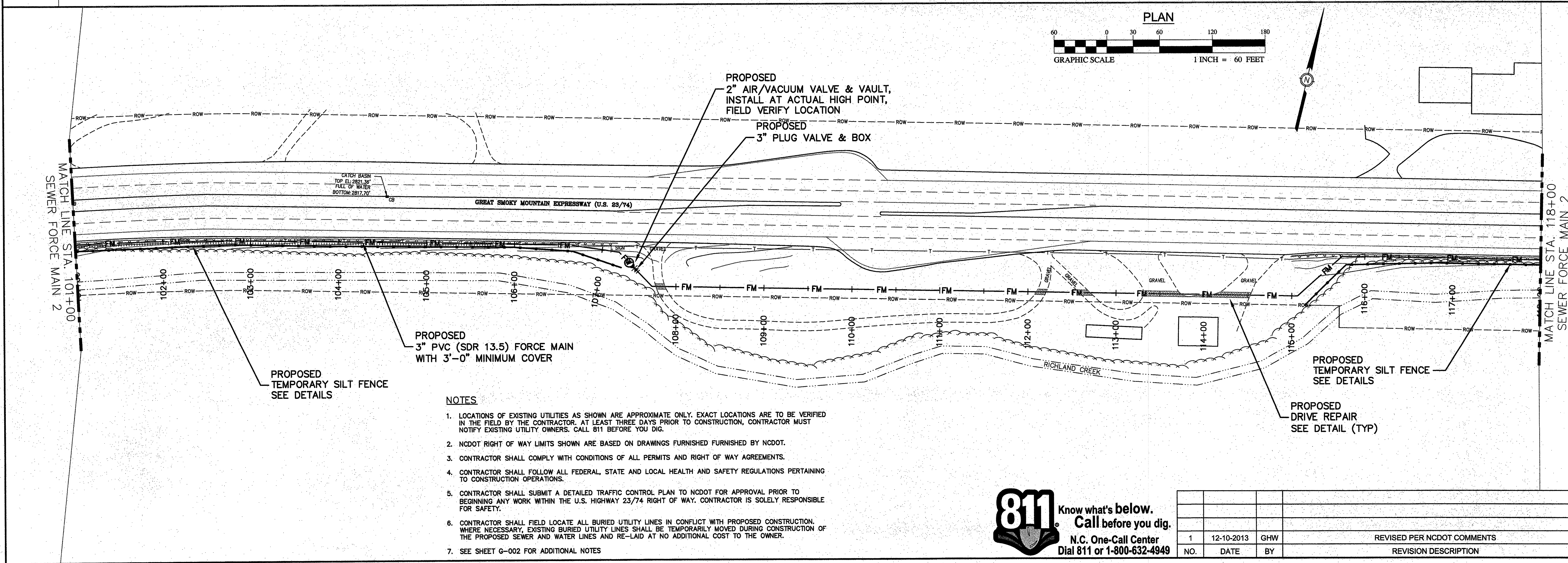
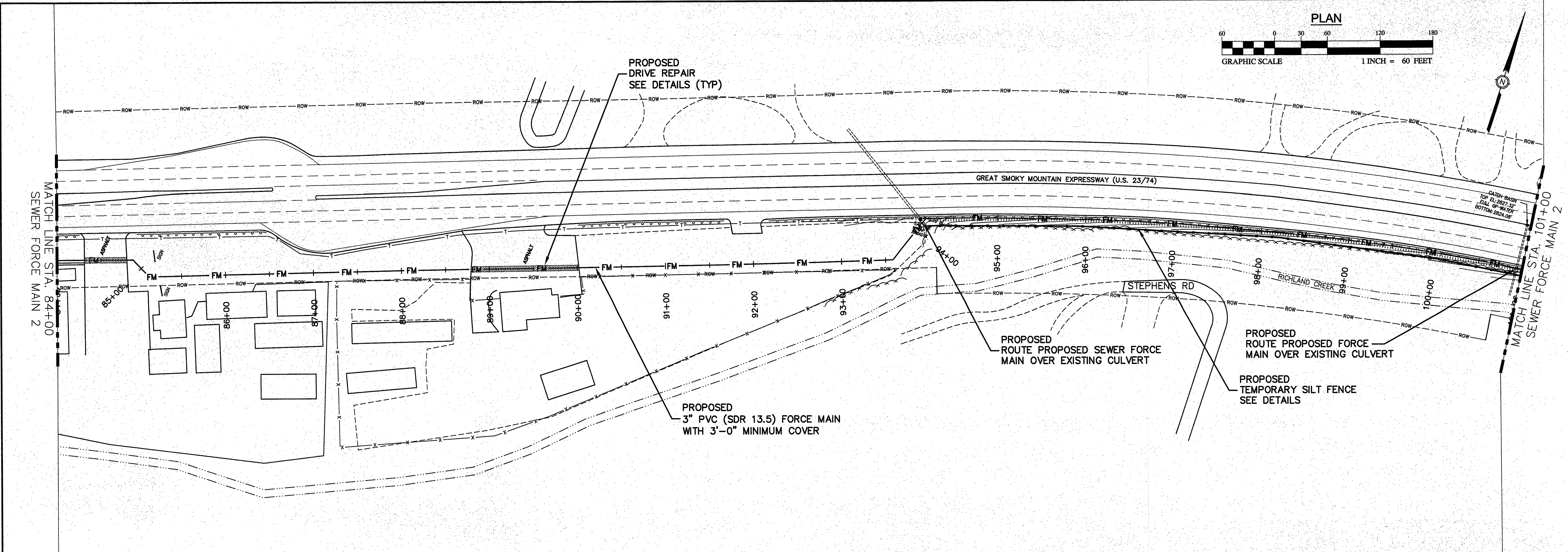
SEWER FORCE MAIN 2 PLAN
 STA. 45+00 - STA. 84+00

SHEET
C-104

811 Know what's below.
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PROPOSED
3" PVC (SDR 13.5) FORCE MAIN
WITH 3'-0" MINIMUM COVER

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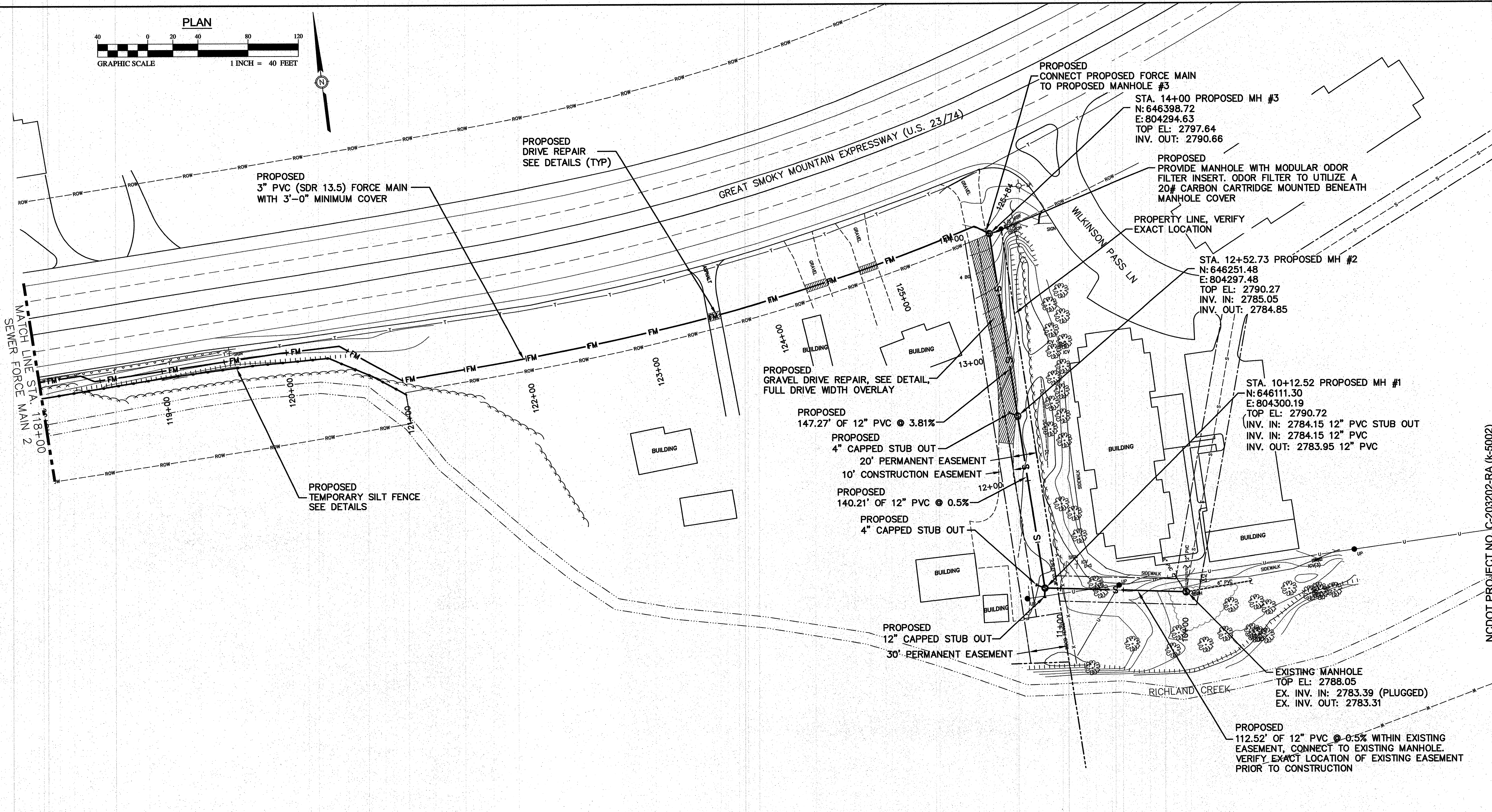
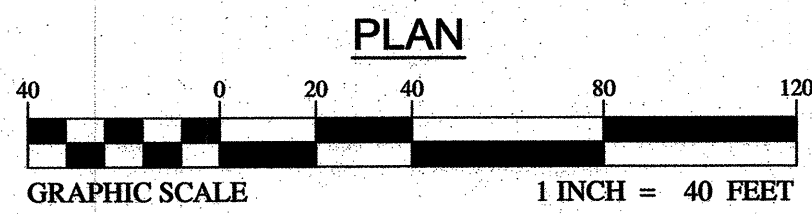
NCDOT PROJECT NO. C-203202-RA (K-5002)
 U.S. 23/75 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 HAYWOOD COUNTY, NORTH CAROLINA

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SEWER FORCE MAIN 2 PLAN
 STA. 84+00 - STA. 118+00

SHEET
C-105



PROPOSED CONNECT PROPOSED FORCE MAIN TO PROPOSED MANHOLE #3
 STA. 14+00 PROPOSED MH #3
 N: 646398.72
 E: 804294.63
 TOP EL: 2797.64
 INV. OUT: 2790.66

PROPOSED PROVIDE MANHOLE WITH MODULAR ODOR FILTER INSERT. ODOR FILTER TO UTILIZE A 20# CARBON CARTRIDGE MOUNTED BENEATH MANHOLE COVER
 PROPERTY LINE, VERIFY EXACT LOCATION

STA. 12+52.73 PROPOSED MH #2
 N: 646251.48
 E: 804297.48
 TOP EL: 2790.27
 INV. IN: 2785.05
 INV. OUT: 2784.85

STA. 10+12.52 PROPOSED MH #1
 N: 646111.30
 E: 804300.19
 TOP EL: 2790.72
 INV. IN: 2784.15 12" PVC STUB OUT
 INV. IN: 2784.15 12" PVC
 INV. OUT: 2783.95 12" PVC

PROPOSED 147.27' OF 12" PVC @ 3.81%
 PROPOSED 4" CAPPED STUB OUT
 20' PERMANENT EASEMENT
 10' CONSTRUCTION EASEMENT
 PROPOSED 140.21' OF 12" PVC @ 0.5%
 PROPOSED 4" CAPPED STUB OUT

PROPOSED 12" CAPPED STUB OUT
 30' PERMANENT EASEMENT

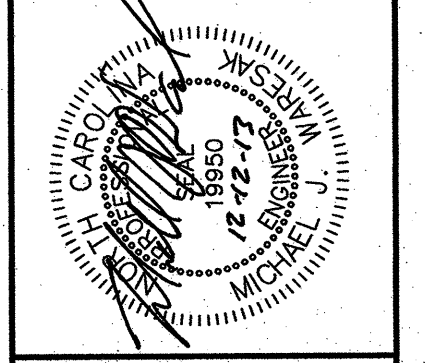
EXISTING MANHOLE
 TOP EL: 2788.05
 EX. INV. IN: 2783.39 (PLUGGED)
 EX. INV. OUT: 2783.31

PROPOSED 112.52' OF 12" PVC @ 0.5% WITHIN EXISTING EASEMENT, CONNECT TO EXISTING MANHOLE. VERIFY EXACT LOCATION OF EXISTING EASEMENT PRIOR TO CONSTRUCTION

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 HAYWOOD COUNTY, NORTH CAROLINA

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SEWER FORCE MAIN 2 PLAN
 STA. 118+00 - STA. 125+84
 GRAVITY SEWER LINE PLAN
 STA. 10+00 - STA. 14+00

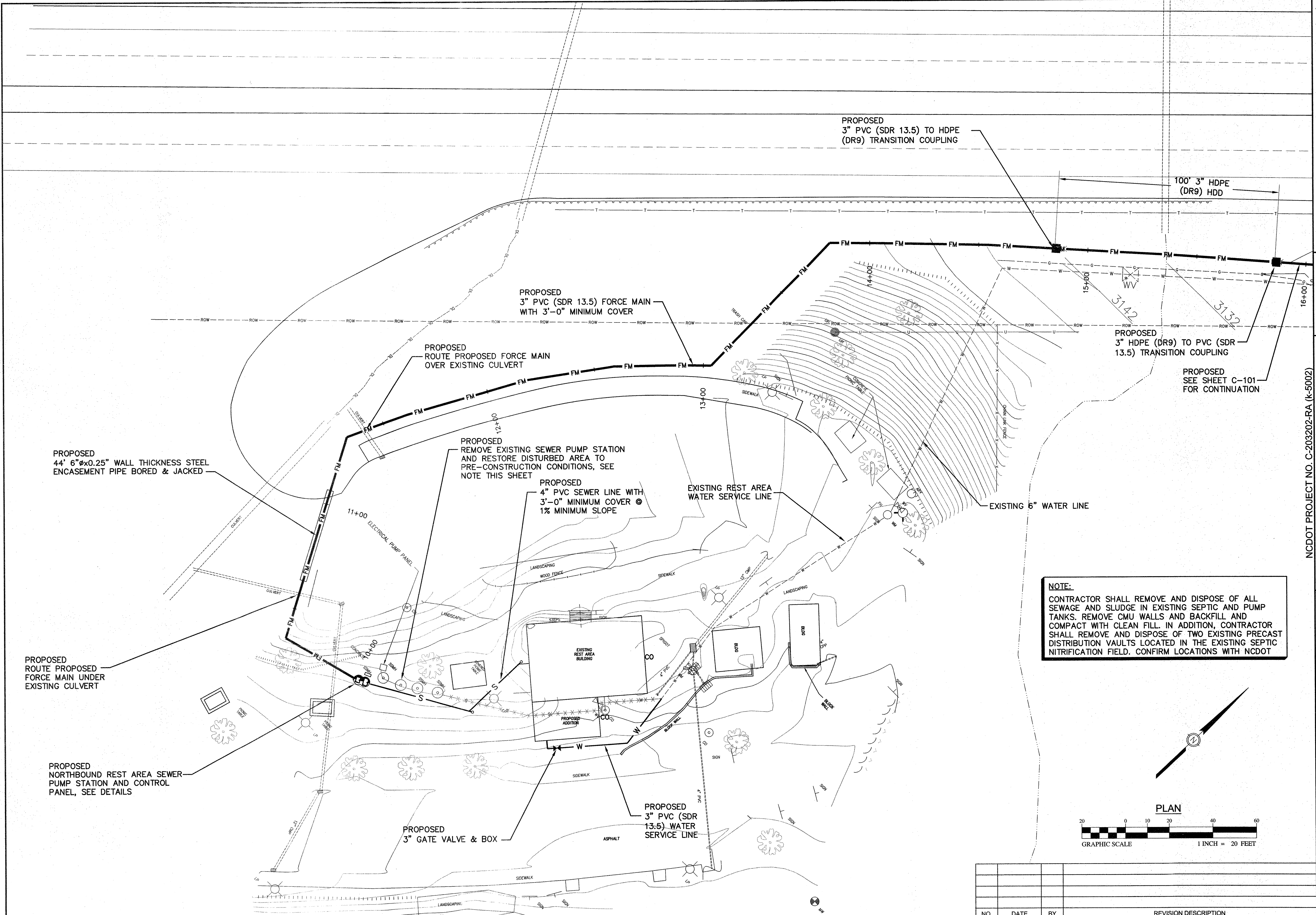
SHEET
C-106

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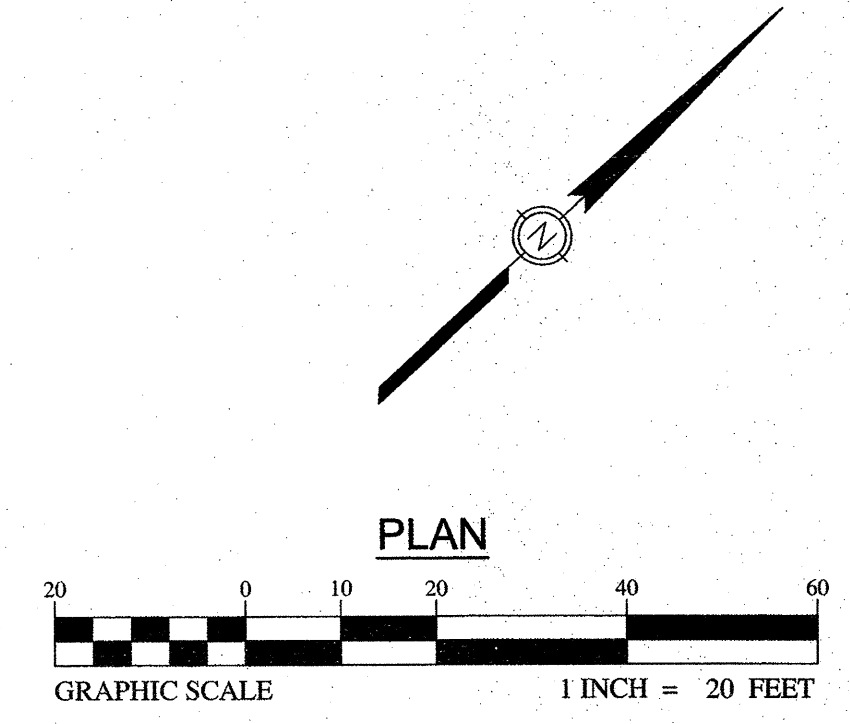
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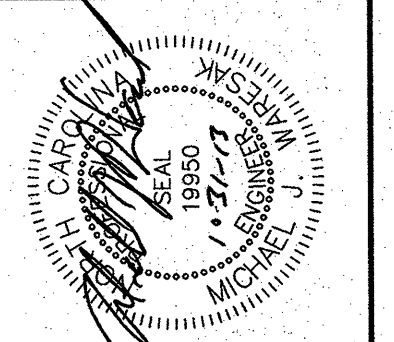
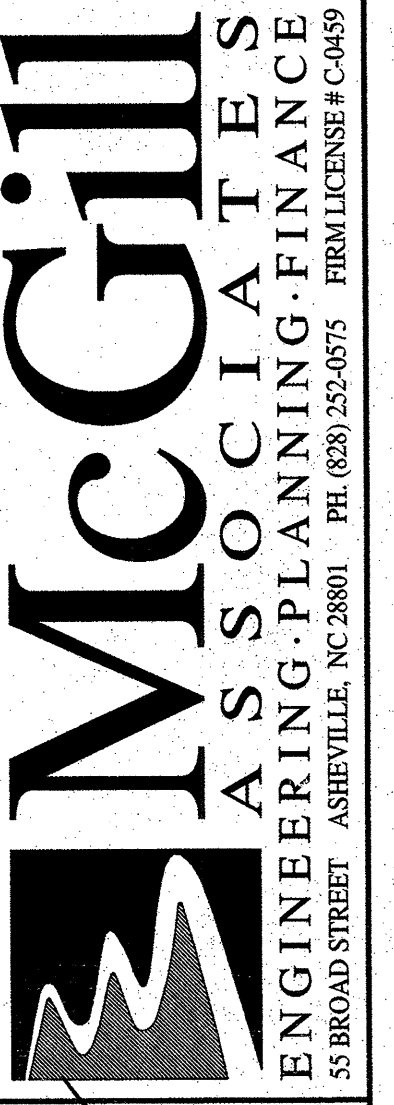
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NOTE:
 CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL SEWAGE AND SLUDGE IN EXISTING SEPTIC AND PUMP TANKS. REMOVE CMU WALLS AND BACKFILL AND COMPACT WITH CLEAN FILL. IN ADDITION, CONTRACTOR SHALL REMOVE AND DISPOSE OF TWO EXISTING PRECAST DISTRIBUTION VAULTS LOCATED IN THE EXISTING SEPTIC NITRIFICATION FIELD. CONFIRM LOCATIONS WITH NCDOT



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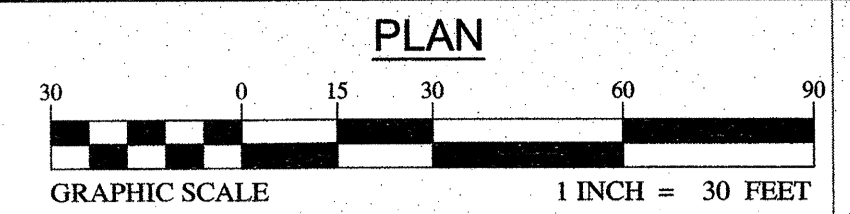
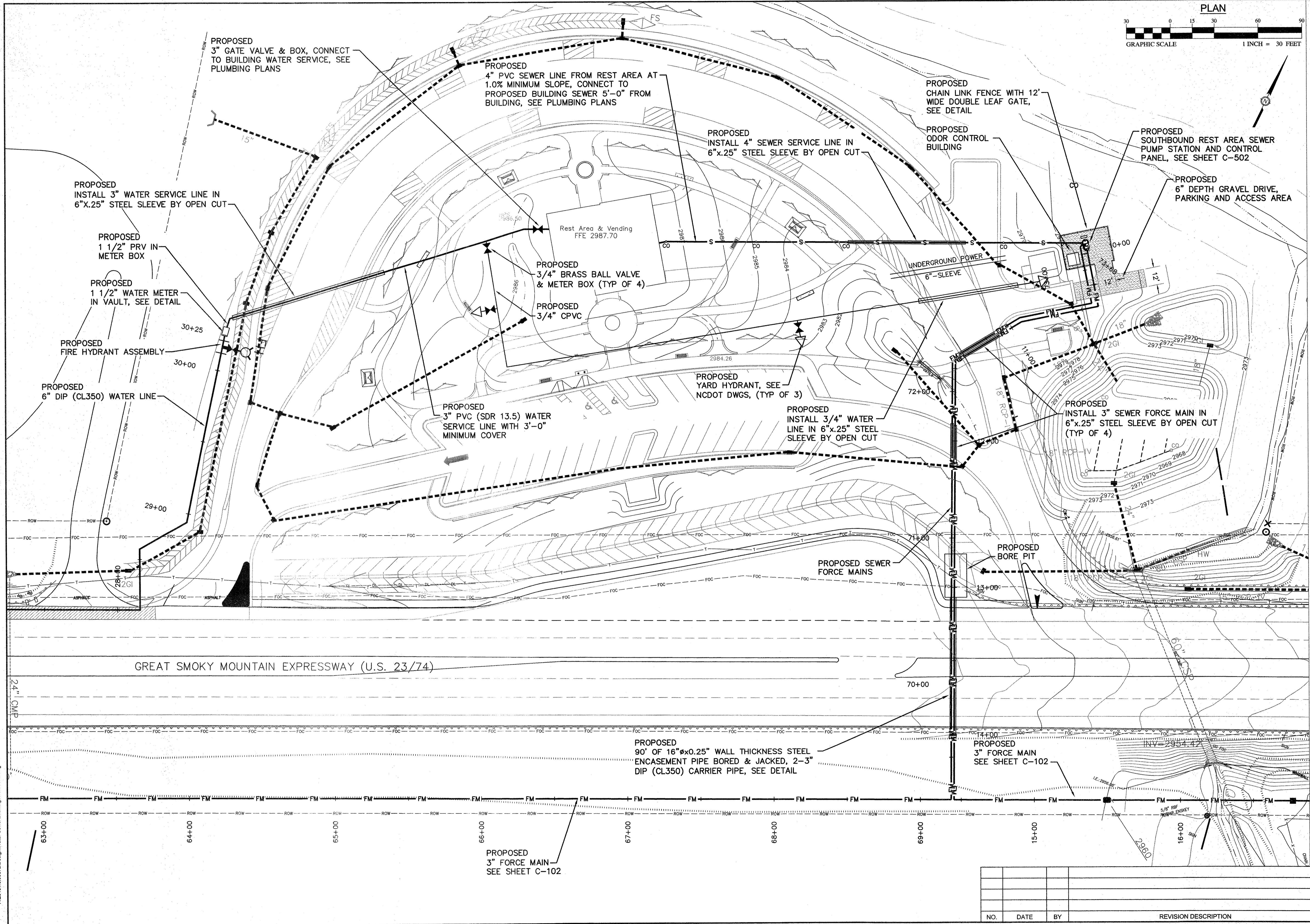


NCDOT PROJECT NO. C-203202-RA (K-5002)
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 HAYWOOD COUNTY, NORTH CAROLINA

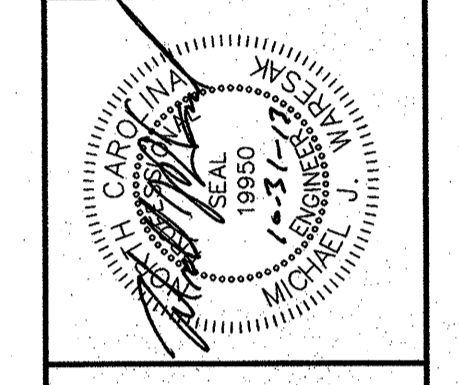
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NORTHBOUND REST AREA SITE PLAN

SHEET C-107



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NC DOT PROJECT NO. C-203202-RA (K-5002)
 US2375 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 HAYWOOD COUNTY, NORTH CAROLINA

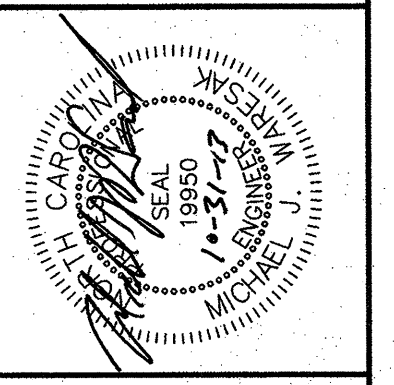
JOB NO.: 13.00372
 DATE: OCTOBER 2013
 DESIGNED BY: GHW
 CADD BY: GHW
 DESIGN REVIEW: _____
 CONST. REVIEW: _____
 FILE NAME: 13.00372.dwg

SOUTHBOUND REST AREA SITE PLAN

SHEET C-108

NO.	DATE	BY	REVISION DESCRIPTION

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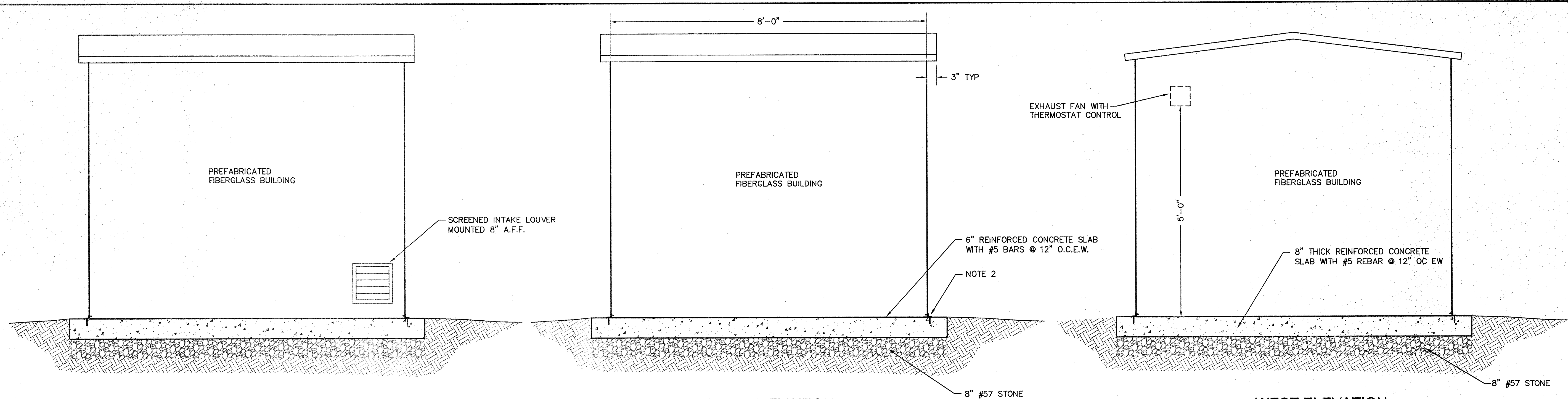


NCDOT PROJECT NO. C-203202-RA (K-5002)
 U.S.23/75 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 HAYWOOD COUNTY, NORTH CAROLINA

JOB NO.: 13-00372
 DATE: OCTOBER 2013
 DESIGNED BY: GHW
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 FILE NAME: 13-00372.dwg

ODOR CONTROL BUILDING PLAN AND ELEVATIONS

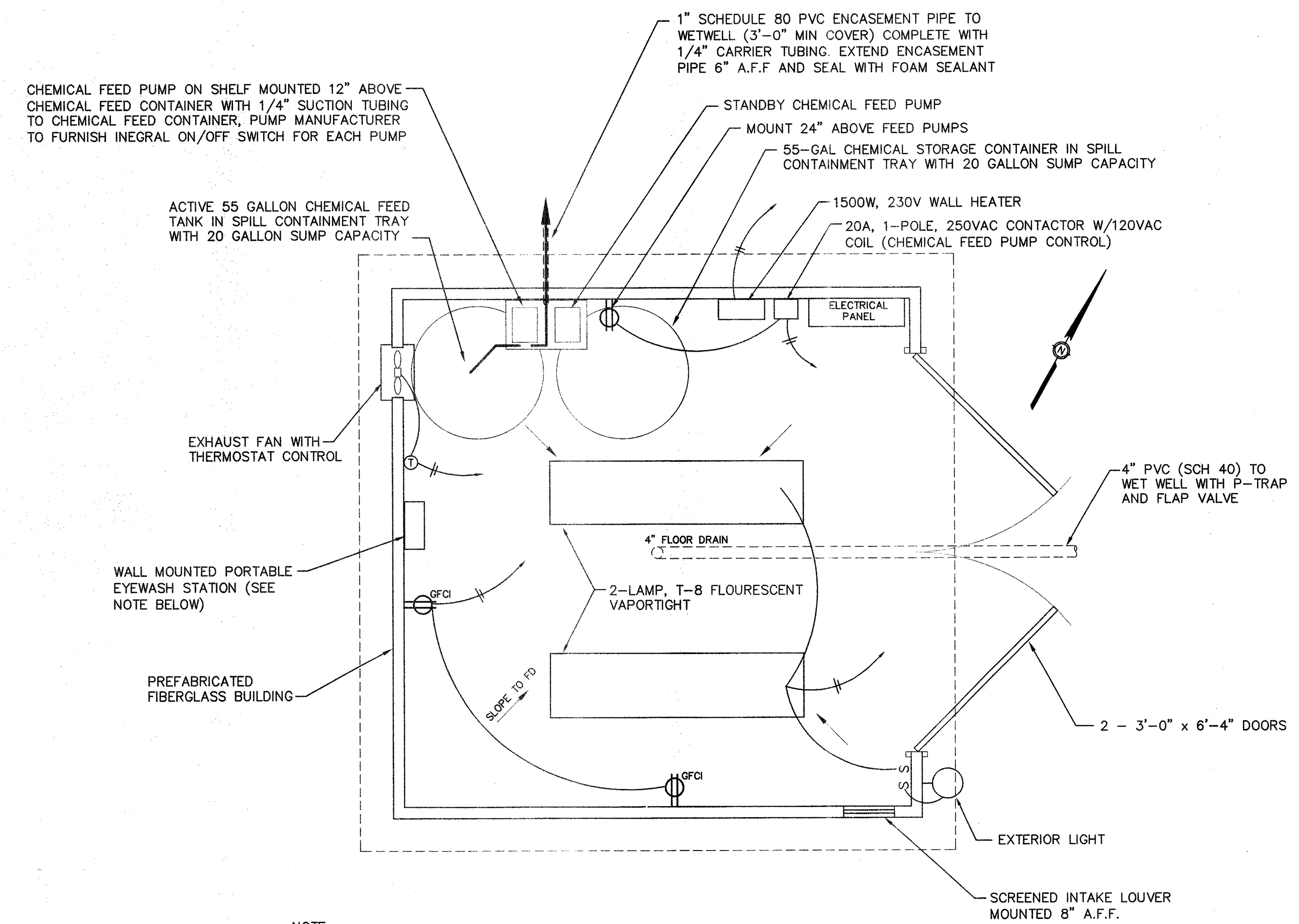
SHEET C-109



SOUTH ELEVATION

NORTH ELEVATION

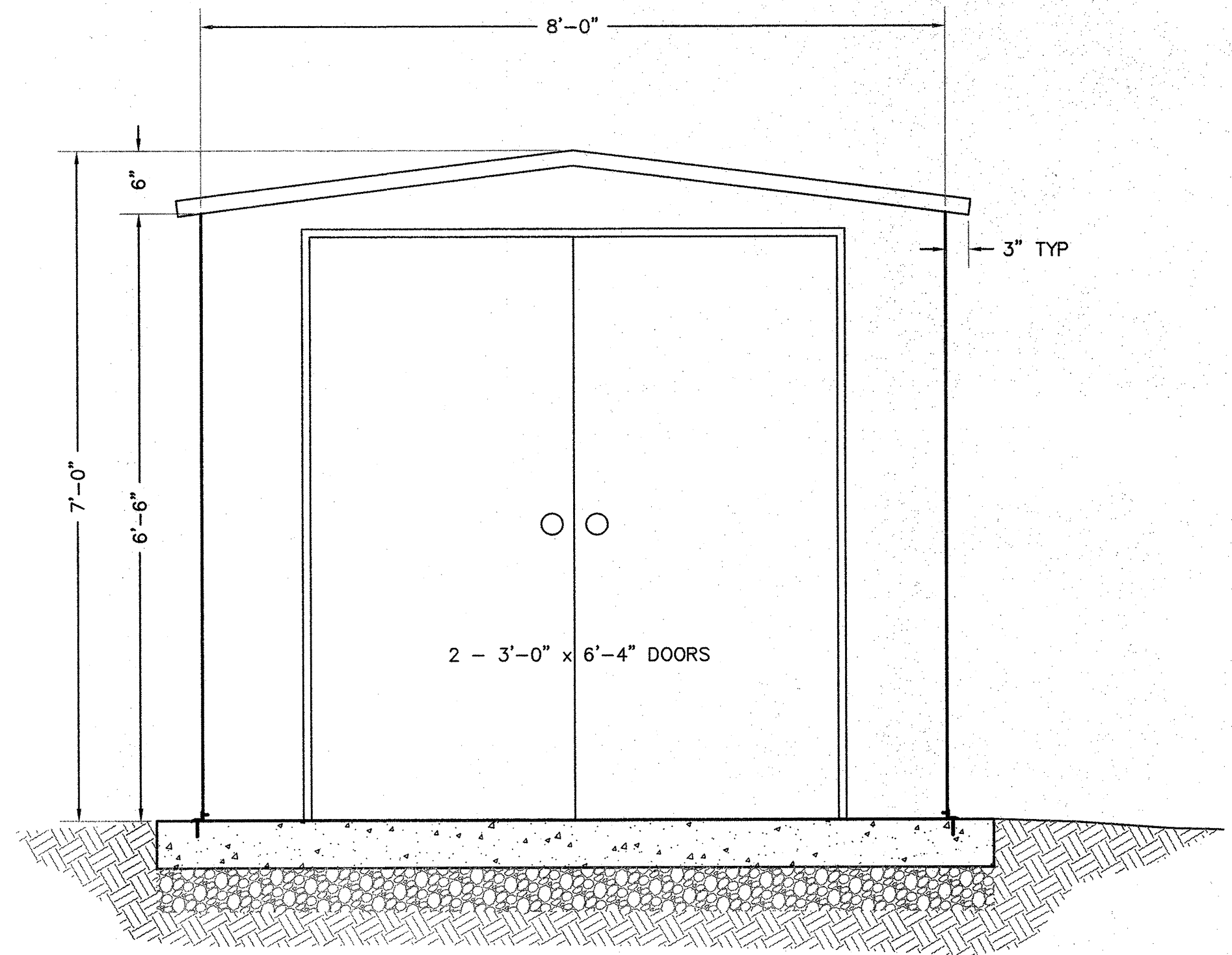
WEST ELEVATION



NOTE:
 1. EMERGENCY EYEWASH STATION TO BE MOUNTED TO WALL USING A METAL HANGING BRACKET AND SHALL HOLD A MINIMUM OF 15 MINUTES OF EYEWASH SOLUTION. THE SOLUTION SHALL FLOW BY GRAVITY AND THE NOZZLE STRAP SHALL BE EASILY REMOVED FOR QUICK ACCESS. AN EMERGENCY EYEWASH SIGN SHALL BE POSTED VISIBLY NEXT TO THE UNIT. CONTRACTOR SHALL ALSO PROVIDE CONCENTRATE TO MAKE 15 GALLONS OF EYEWASH SOLUTION AND AN INSTRUCTIONAL BOOKLET FOR THE UNIT.
 2. SECURE PREFABRICATED FIBERGLASS BUILDING TO CONCRETE PAD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

PREFABRICATED FIBERGLASS ODOR CONTROL BUILDING FLOOR PLAN

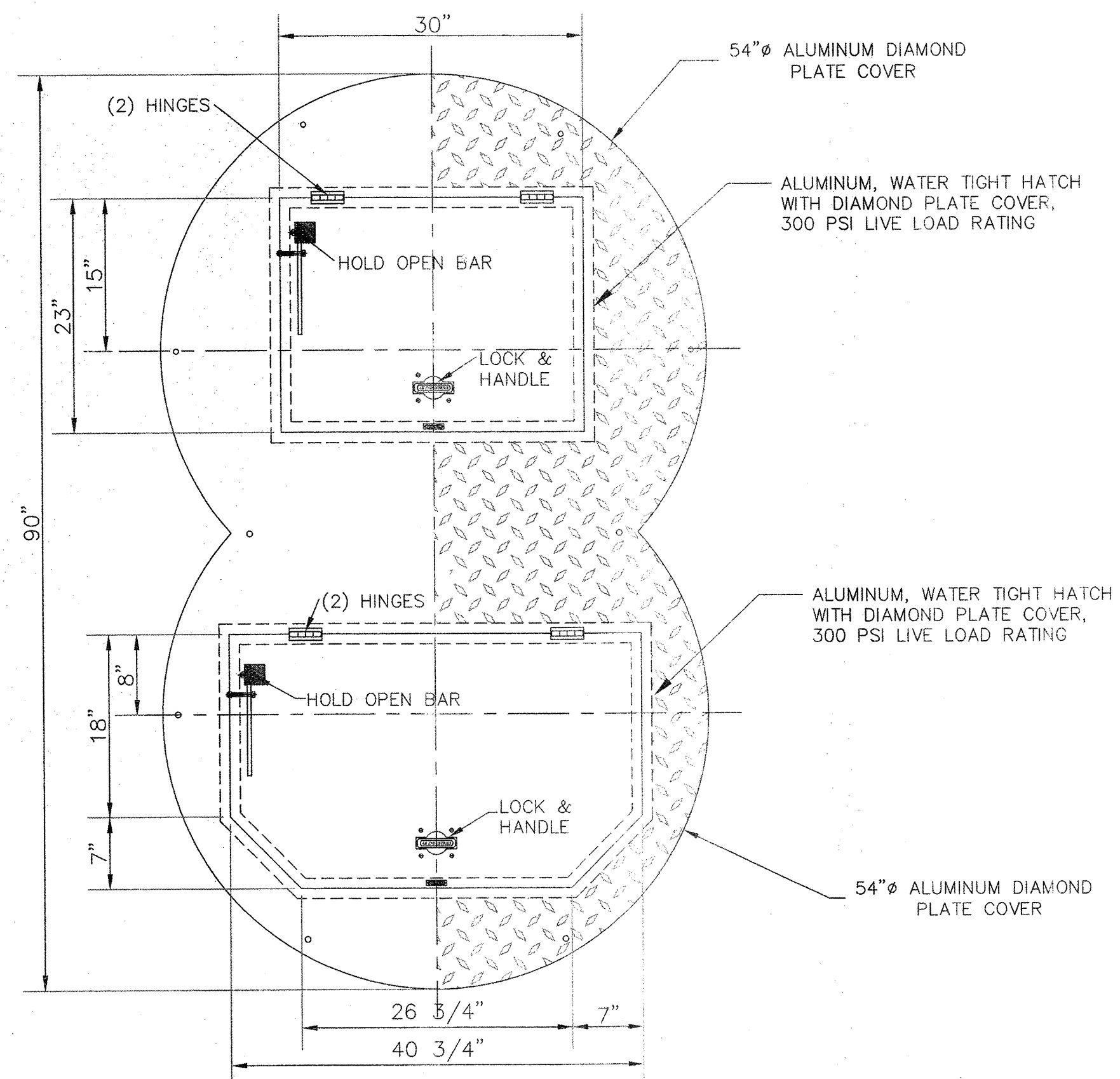
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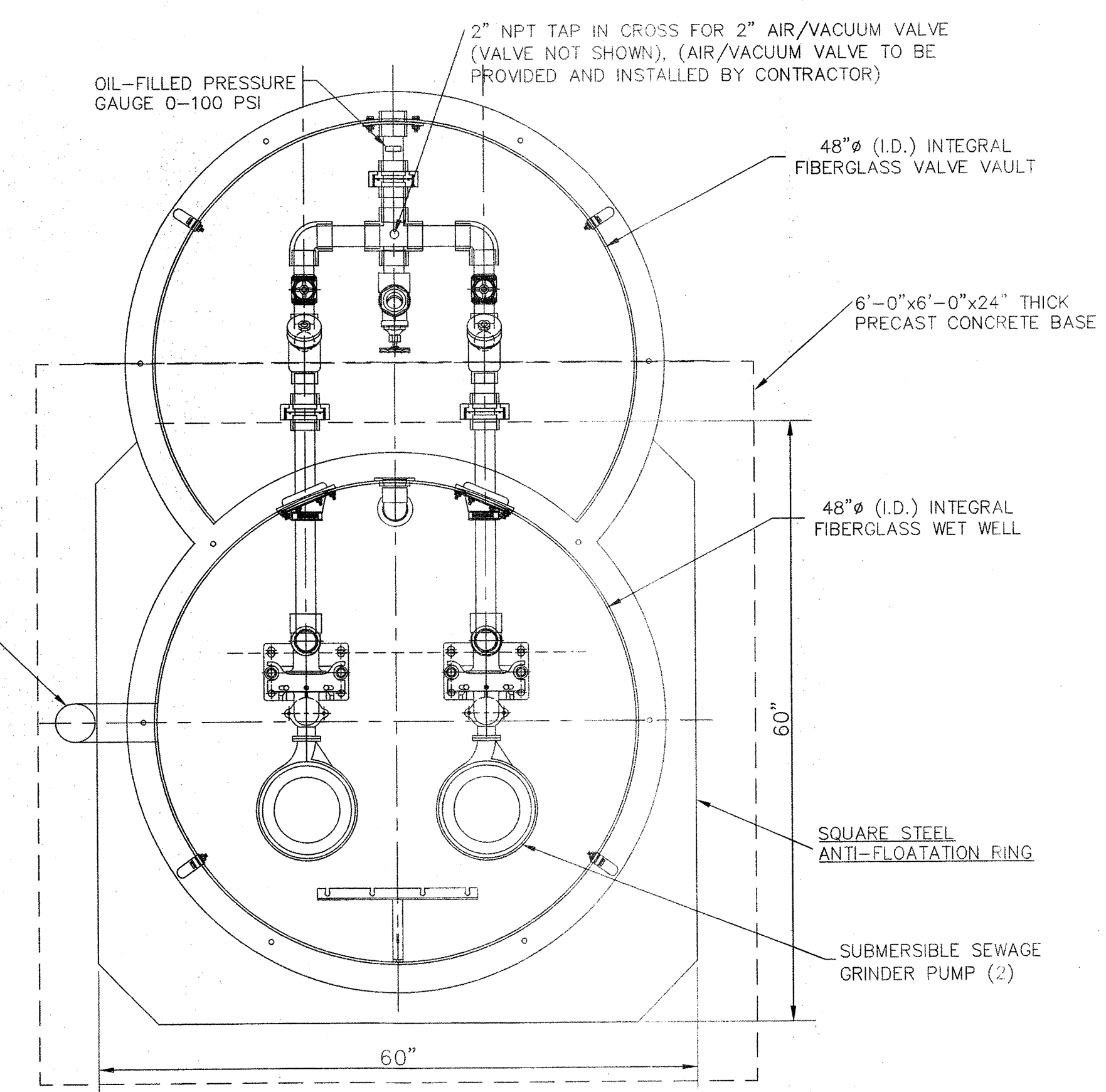
EAST ELEVATION

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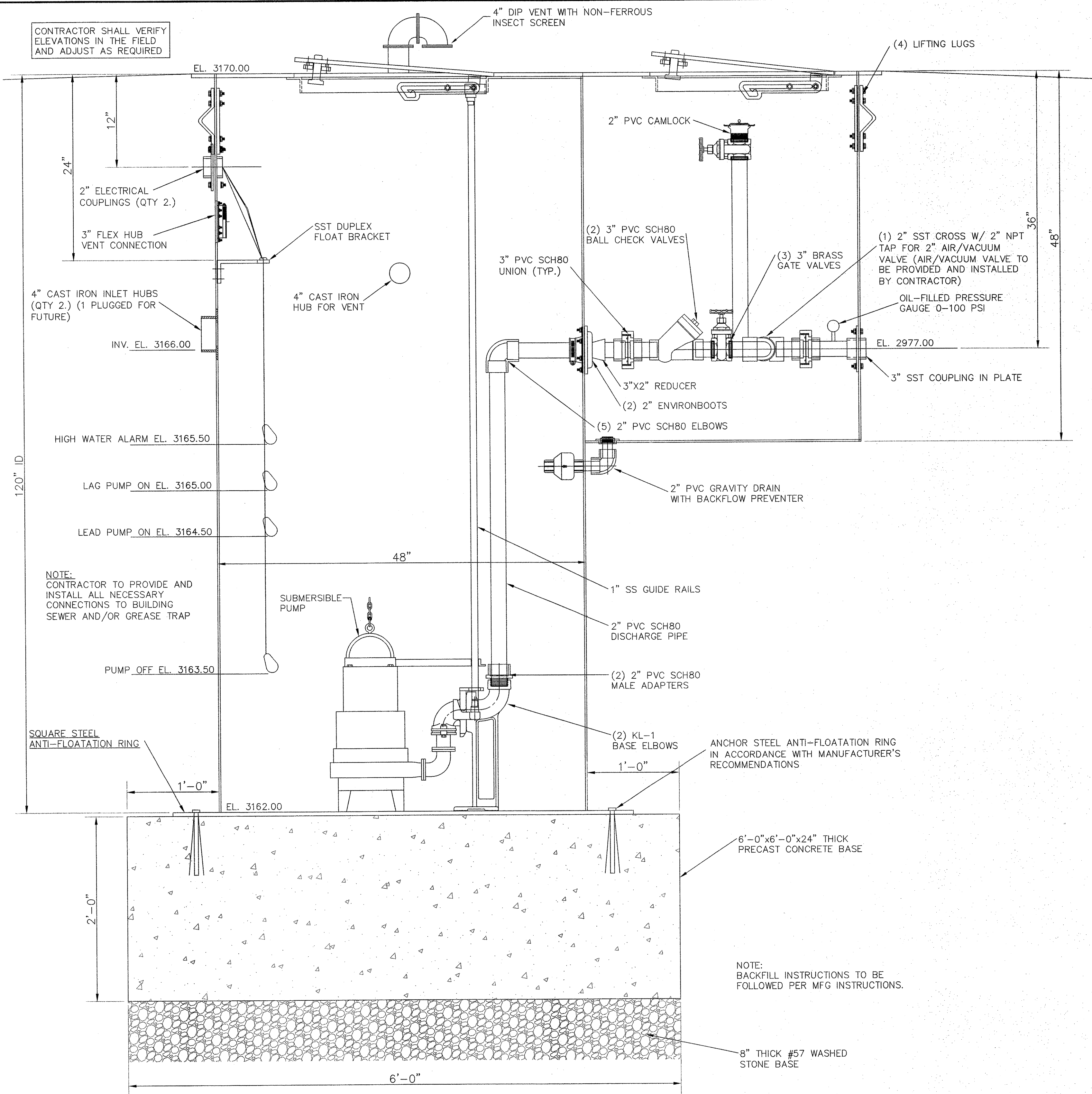
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TOP
SCALE: 1" = 1'-0"



PLAN
SCALE: 1" = 1'-0"



SECTION
SCALE: 1 1/2" = 1'-0"

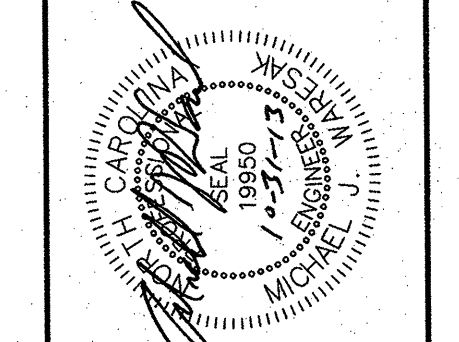
CONTRACTOR SHALL VERIFY ELEVATIONS IN THE FIELD AND ADJUST AS REQUIRED

NOTE: CONTRACTOR TO PROVIDE AND INSTALL ALL NECESSARY CONNECTIONS TO BUILDING SEWER AND/OR GREASE TRAP

NOTE: BACKFILL INSTRUCTIONS TO BE FOLLOWED PER MFG INSTRUCTIONS.

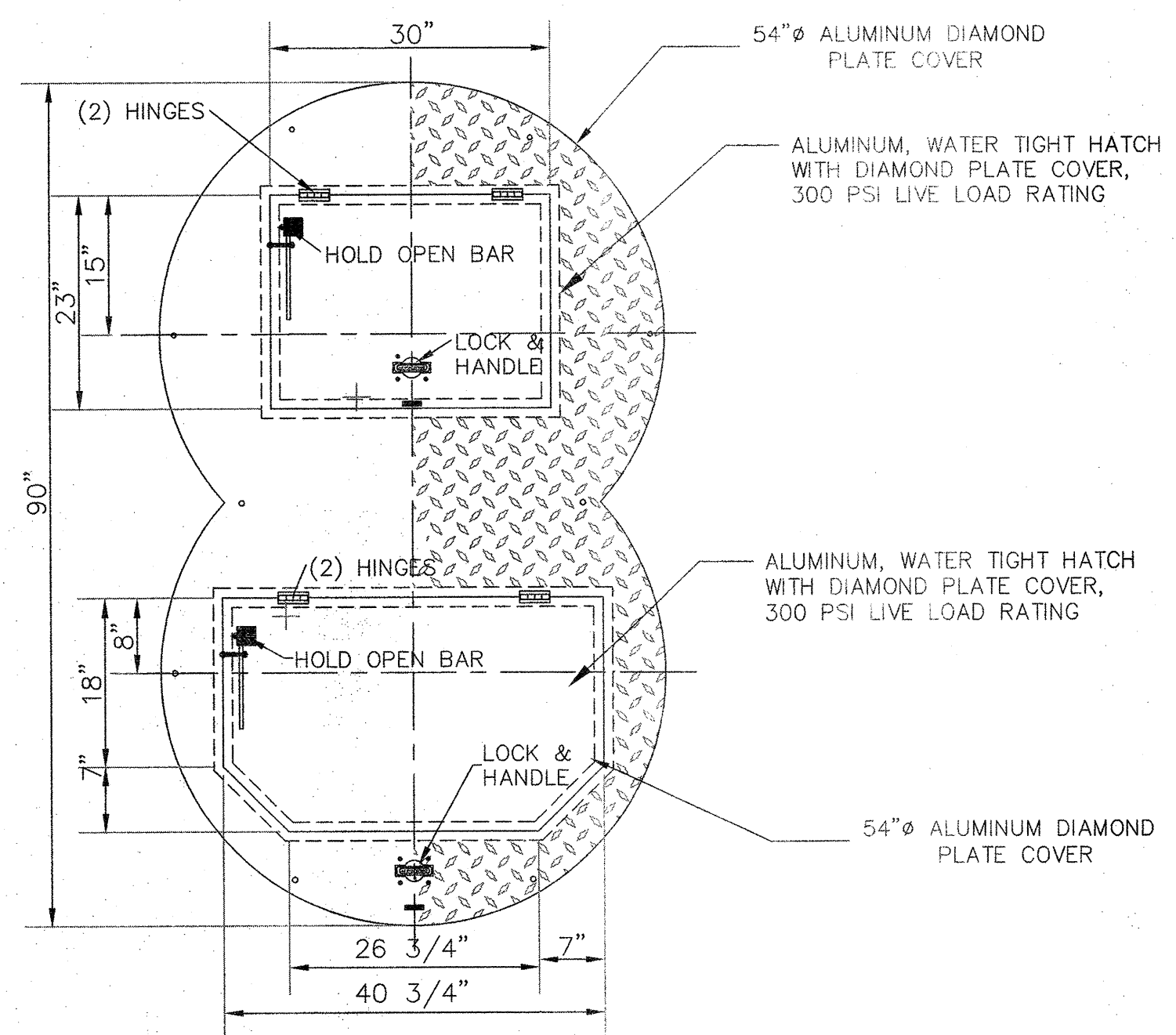
- NOTES:**
1. PREFABRICATED FIBERGLASS WET WELL AND INTEGRAL VALVE VAULT SHALL BE MANUFACTURED IN ACCORDANCE WITH THE CONTRACTOR SPECIFICATIONS AND AS SHOWN.
 2. CONTRACTOR SHALL INSTALL PRECAST CONCRETE BASE. WET WELL MANUFACTURER SHALL PROVIDE BOUANCY CALCULATIONS AND ANCHORING METHODS AND MATERIALS FOR ATTACHING THE STEEL ANTI-FLOATATION RING TO THE CONCRETE BASE.
 3. PUMP CONTROL PANEL TO BE PROVIDED BY PUMP MANUFACTURER IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.

NO.	DATE	BY	REVISION DESCRIPTION

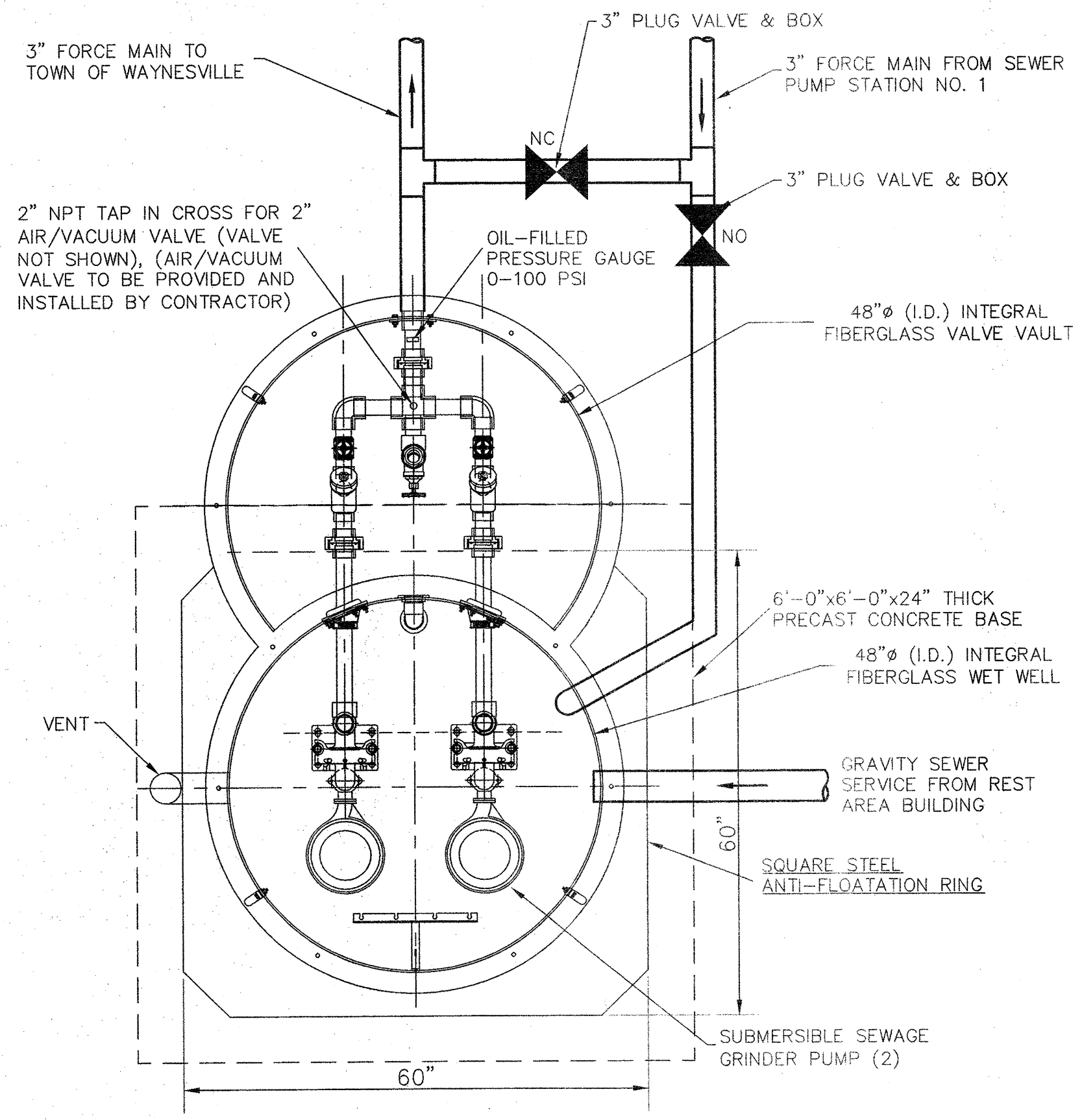


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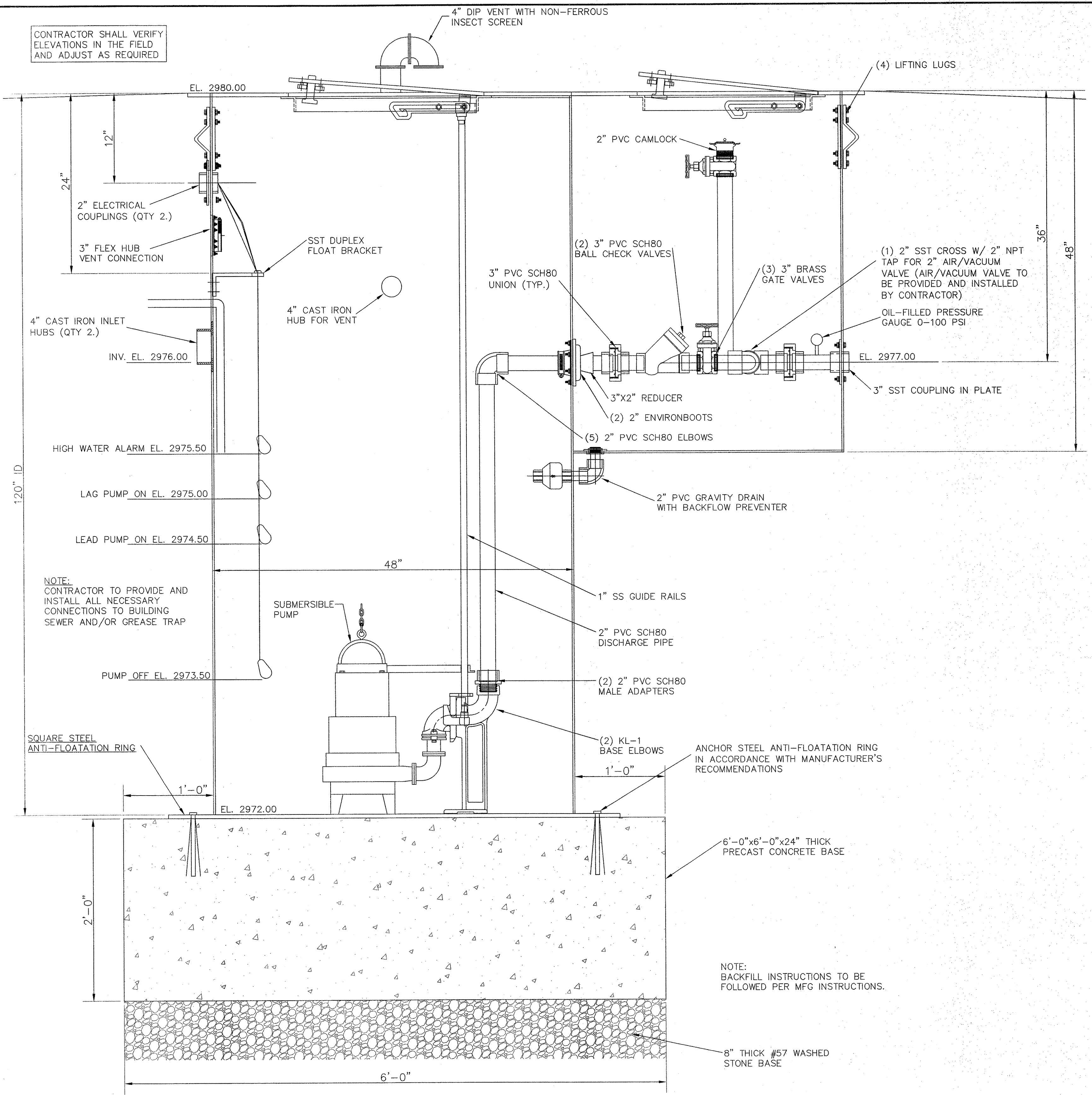
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TOP
SCALE: 1" = 1'-0"



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



SECTION
SCALE: 1 1/2" = 1'-0"

CONTRACTOR SHALL VERIFY ELEVATIONS IN THE FIELD AND ADJUST AS REQUIRED

NOTE: CONTRACTOR TO PROVIDE AND INSTALL ALL NECESSARY CONNECTIONS TO BUILDING SEWER AND/OR GREASE TRAP

NOTE: BACKFILL INSTRUCTIONS TO BE FOLLOWED PER MFG INSTRUCTIONS.

- NOTES:**
1. PREFABRICATED FIBERGLASS WET WELL AND INTEGRAL VALVE VAULT SHALL BE MANUFACTURED IN ACCORDANCE WITH THE CONTRACTOR SPECIFICATIONS AND AS SHOWN.
 2. CONTRACTOR SHALL INSTALL PRECAST CONCRETE BASE. WET WELL MANUFACTURER SHALL PROVIDE BOUANCY CALCULATIONS AND ANCHORING METHODS AND MATERIALS FOR ATTACHING THE STEEL ANTI-FLOATATION RING TO THE CONCRETE BASE.
 3. PUMP CONTROL PANEL TO BE PROVIDED BY PUMP MANUFACTURER IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.

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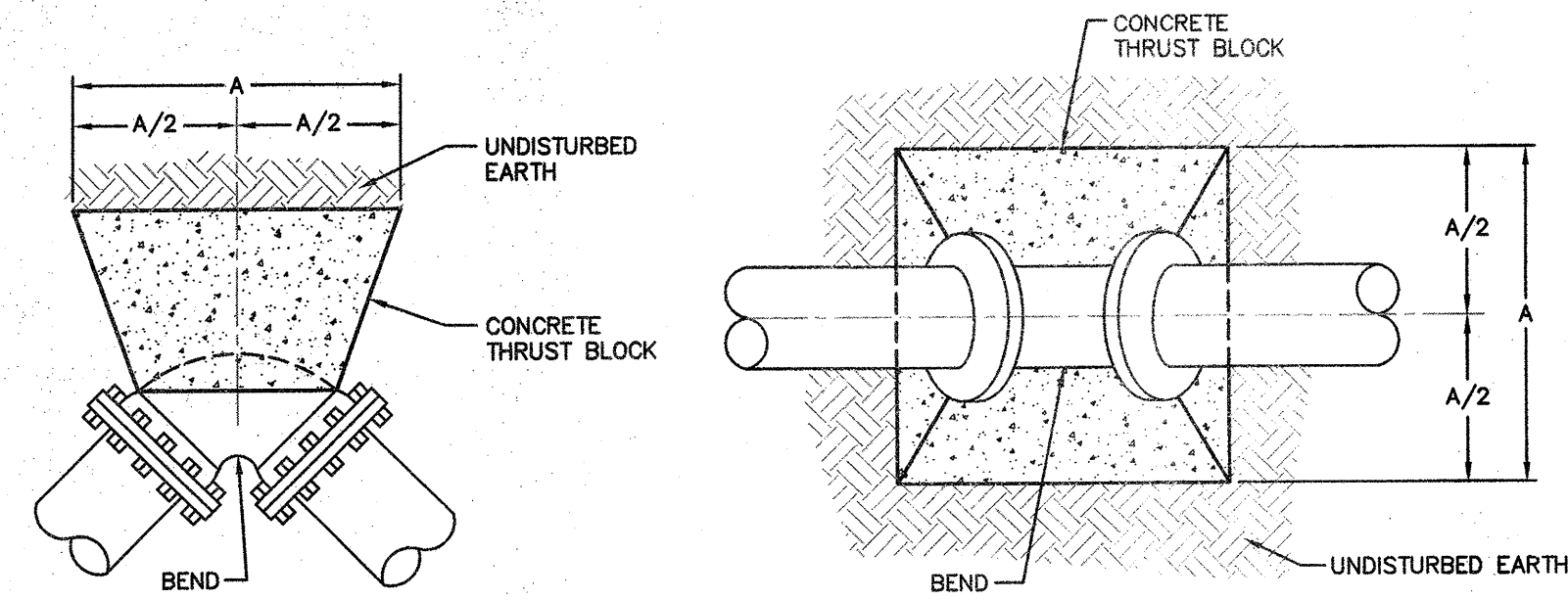
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 U.S.23/75 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 HAYWOOD COUNTY, NORTH CAROLINA

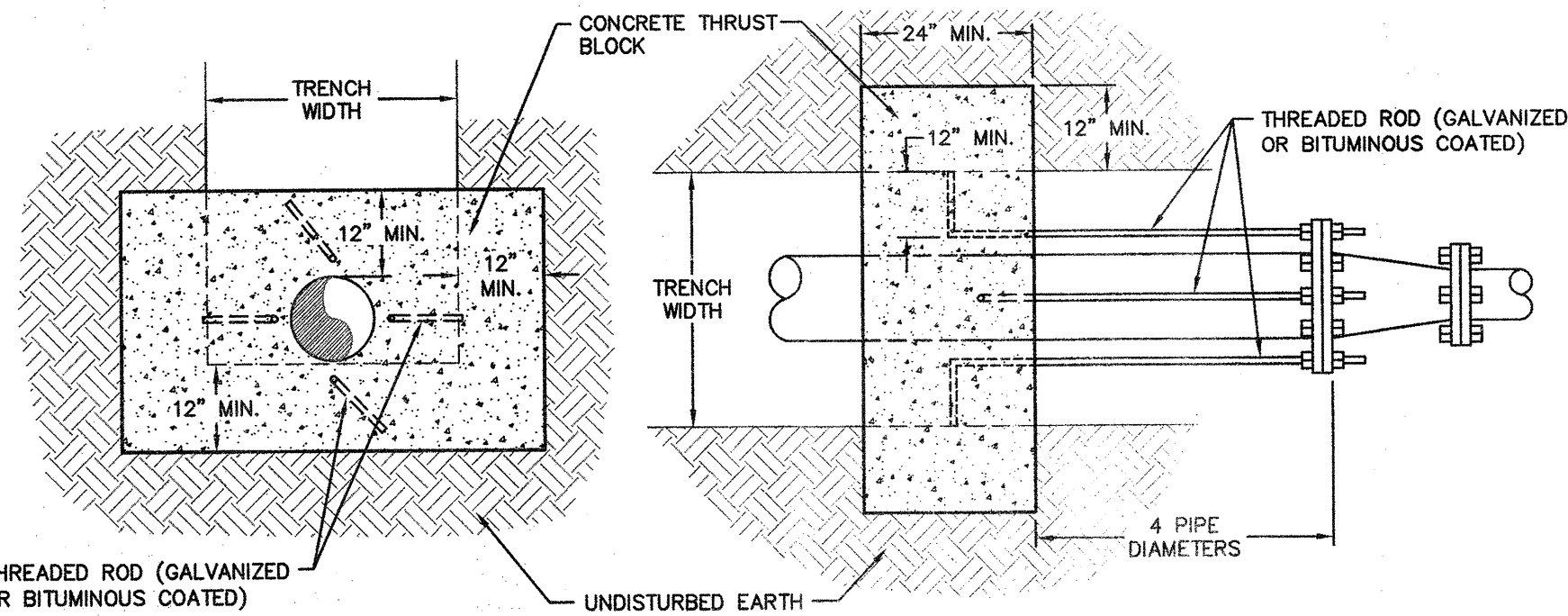
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SOUTHBOUND REST AREA SEWER PUMP STATION PLAN AND SECTION

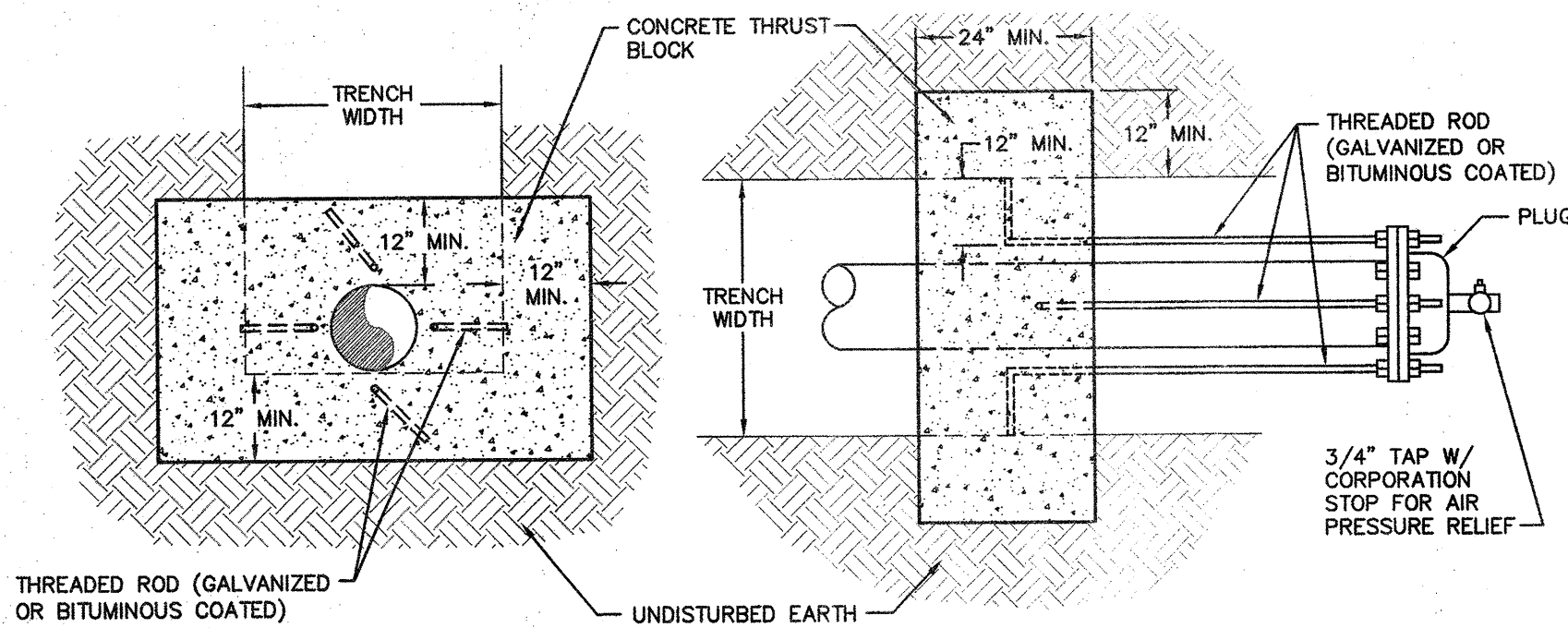
SHEET C-502



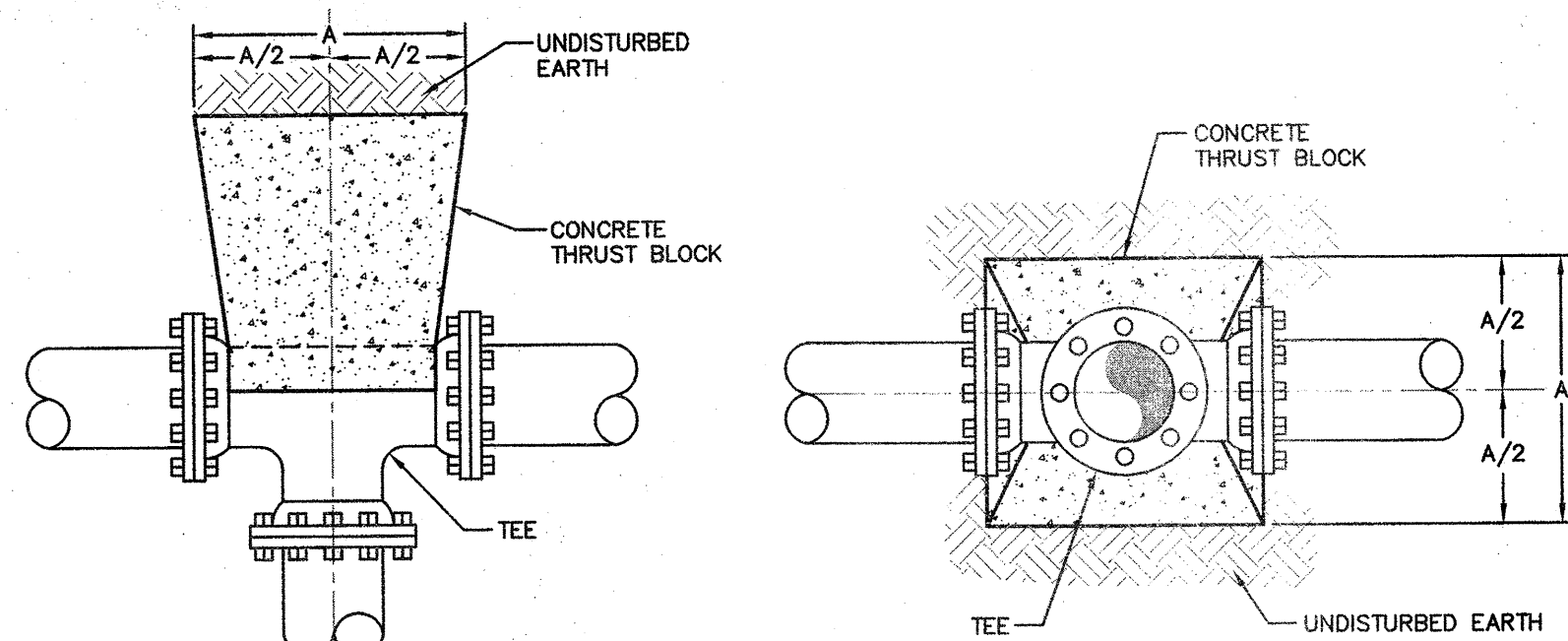
TYPICAL THRUST BLOCKS FOR BENDS



TYPICAL THRUST BLOCK FOR REDUCERS



TYPICAL THRUST BLOCK FOR PLUGS



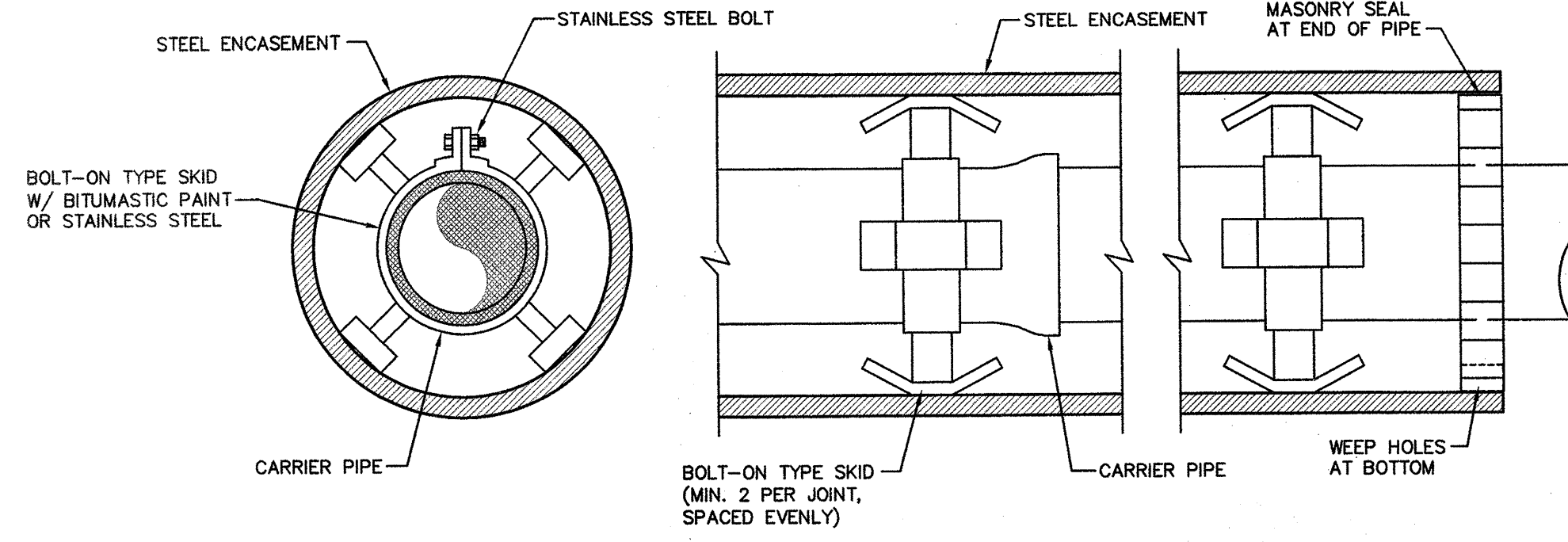
TYPICAL THRUST BLOCKS FOR TEES

NOTES:
 1. FITTING JOINTS SHALL NOT BE POURED IN CONCRETE OR HAVE CONCRETE SPILLED ON THE BOLTS OR NUTS. THE FITTING SHALL BE WRAPPED IN A LAYER OF POLYETHYLENE PLASTIC PRIOR TO POURING THE THRUST BLOCK.
 2. ROD AND EYE BOLT DIAMETER SHALL BE A MINIMUM OF 3/4" AND SHALL MATCH THE SIZE OF THE BOLT PROVIDED WITH THE FITTING.
 3. CONTRACTOR SHALL REPLACE FITTING BOLTS WITH THREADED ROD FOR 1/2 OF THE BOLTS SUPPLIED WITH EACH FITTING. RODS SHALL BE EQUALLY SPACED.

SIZE	11-1/4" BEND	22-1/2" BEND	45" BEND	90" BEND	TEE	PLUG
2-6	12	12	12	16	16	14
8	12	12	16	22	22	18
10	12	14	20	28	28	22
12	12	18	24	32	32	28
14	14	20	28	38	38	32
16	14	22	32	42	42	36
18	18	26	36	48	48	40
20	20	28	40	52	52	44
24	24	34	46	64	64	54
30	30	42	58	78	78	66
36	36	50	70	94	94	80
42	40	58	80	108	108	92
48	46	66	90	124	124	104

THRUST BLOCK DIMENSION "A"

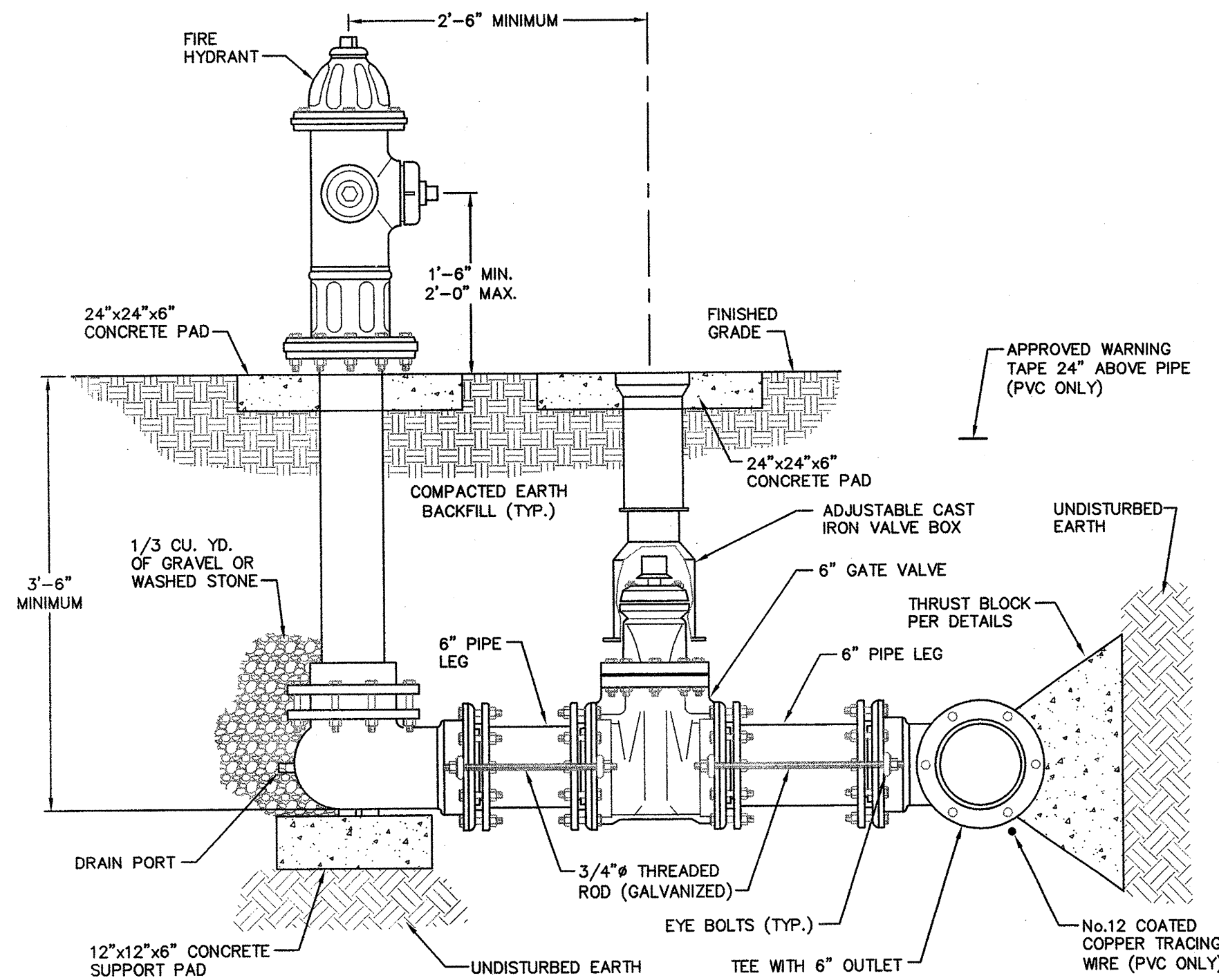
REVISION DATE - JANUARY 27, 2011



ENCASEMENT DETAIL

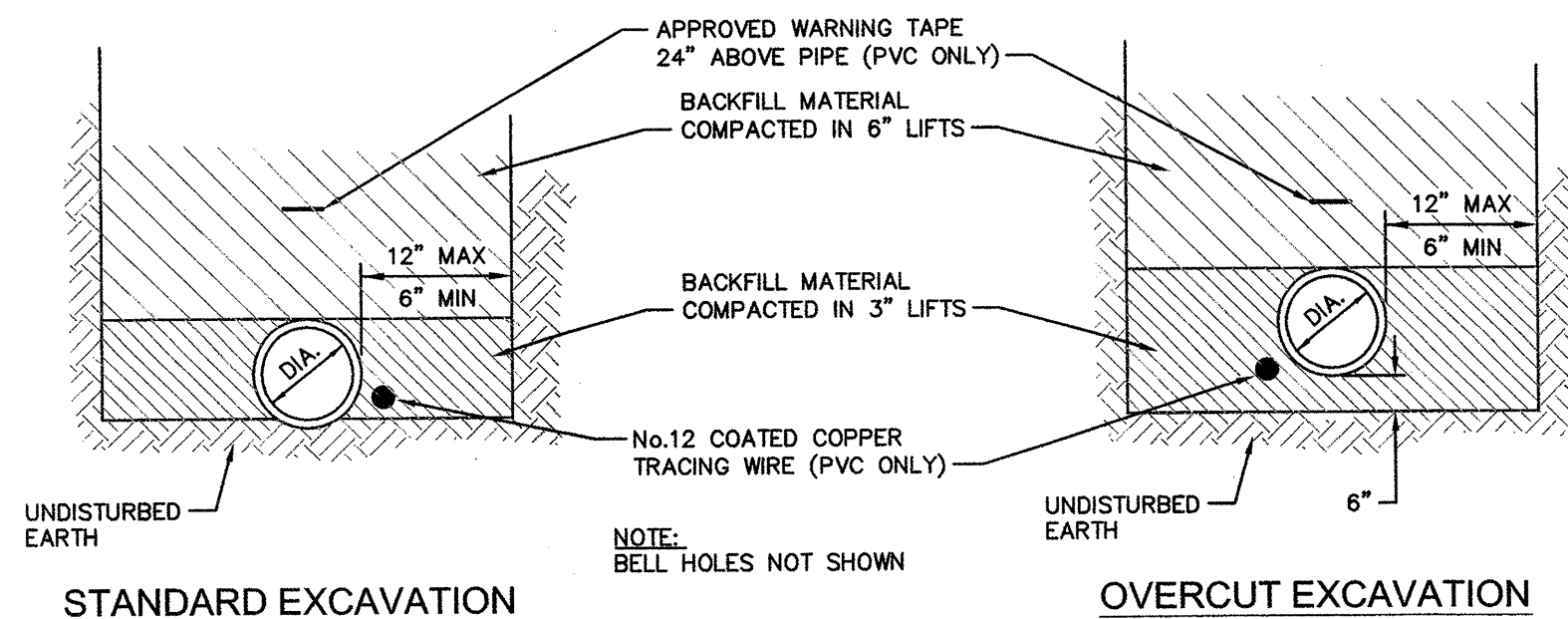
REVISION DATE - NOVEMBER 3, 2008

NOTE: FOR PRESSURE CARRIER PIPES, IF SUITABLE UNDISTURBED EARTH IS NOT AVAILABLE FOR THRUST BLOCKS DUE TO EXCAVATION, CONTRACTOR SHALL ATTACH THREADED RODS AS SPECIFIED IN THRUST BLOCK DETAILS TO THE ENCASEMENT AND ROD FITTINGS DIRECTLY TO THE ENCASEMENT PIPE. ATTACHMENT OF THE RODS SHALL BE BY WELDING DIRECTLY TO THE ENCASEMENT PIPE OR BY WELDING EYE BOLTS TO THE ENCASEMENT FOR ATTACHMENT OF THREADED RODS WITH NUTS. MINIMUM OF THREE RODS REQUIRED PER FITTING.



TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

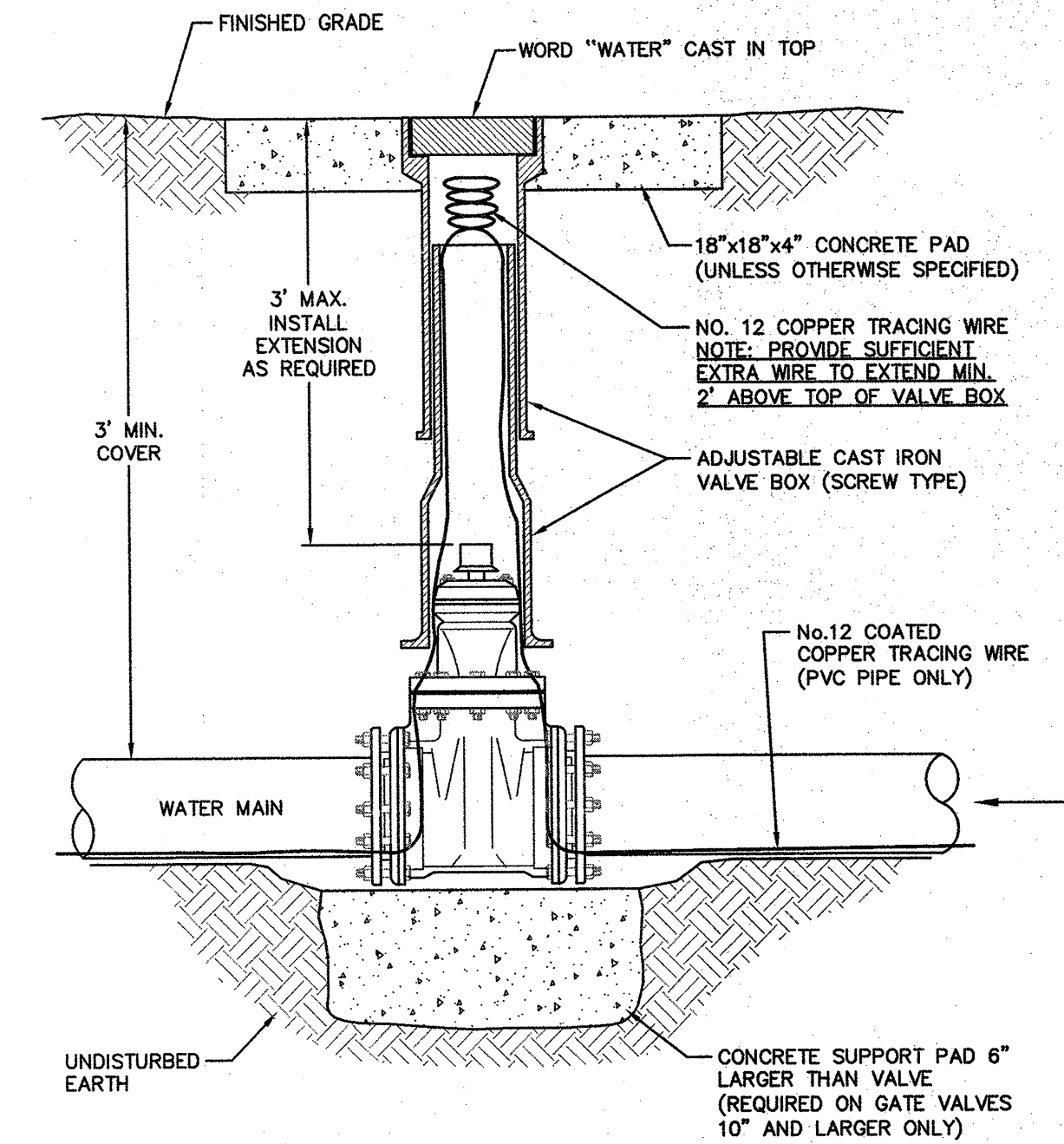
REVISION DATE - NOVEMBER 3, 2008



TYPICAL TRENCHING DETAILS WATER LINES

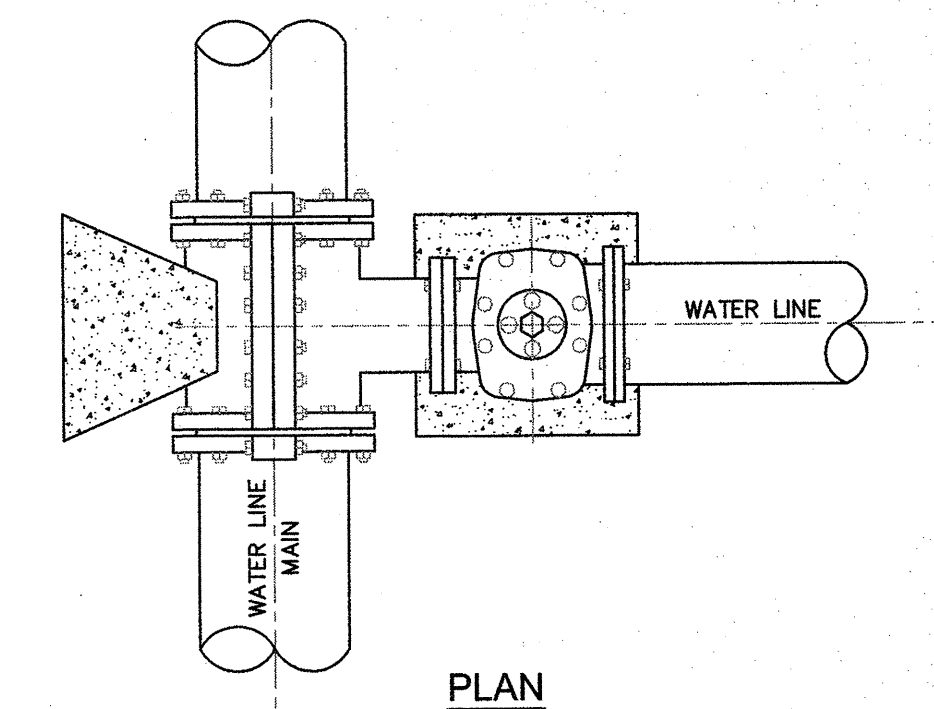
REVISION DATE - NOVEMBER 3, 2008

NOTE:
 1. CONSTRUCTION OF TRENCHES SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY AND HEALTH REGULATIONS WHICH HAVE JURISDICTION AT THE PROJECT SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE APPLICABLE REGULATIONS AND FOLLOW THEM ACCORDINGLY.
 2. PAYMENT FOR ROCK EXCAVATION AND SELECT BACKFILL IN TRENCH SHALL BE FOR ACTUAL QUANTITIES AND SHALL NOT EXCEED THE WIDTH OF TRENCH SHOWN ON THIS DETAIL.

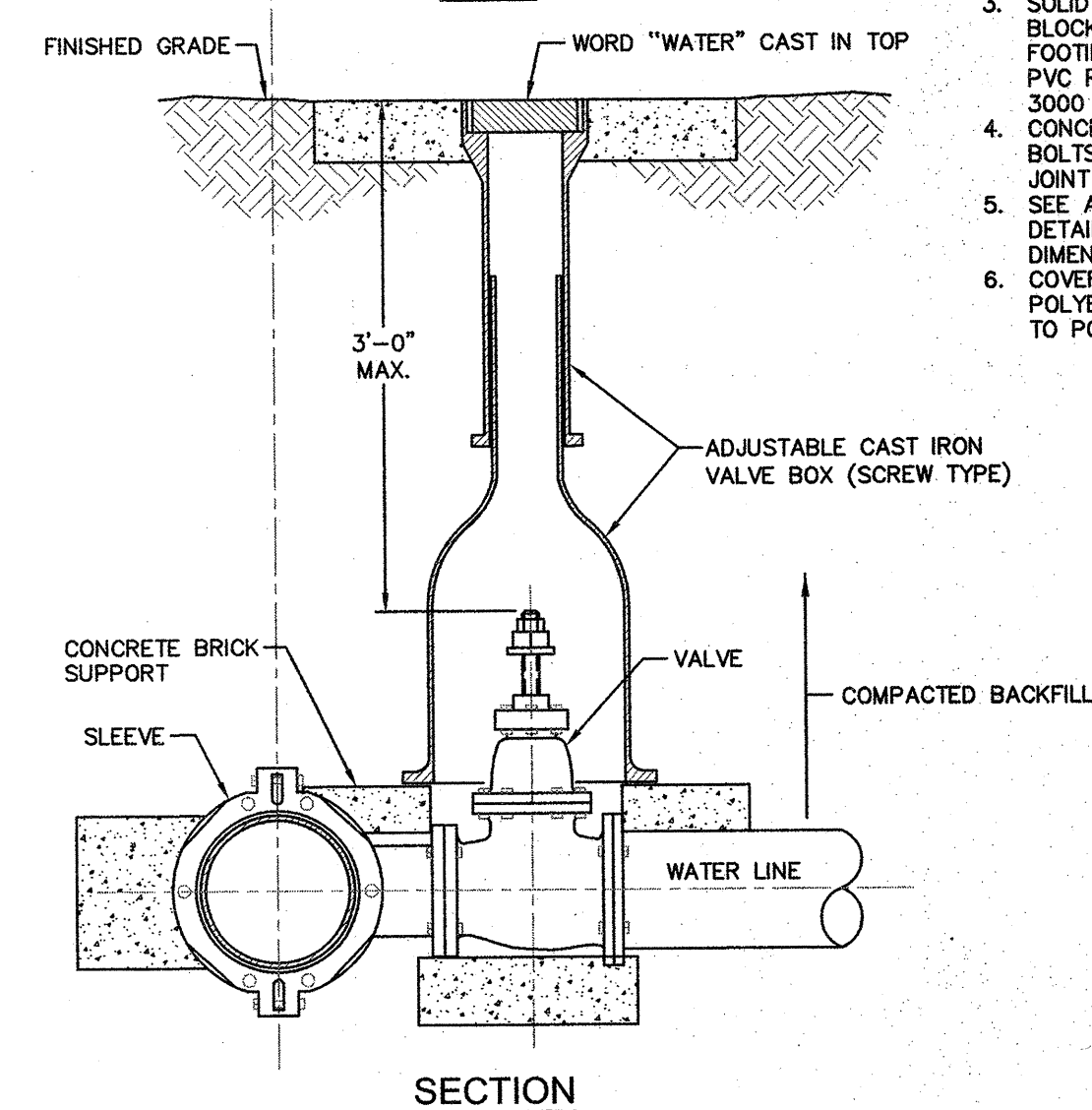


TYPICAL VERTICAL GATE VALVE INSTALLATION

REVISION DATE - NOVEMBER 3, 2008



PLAN



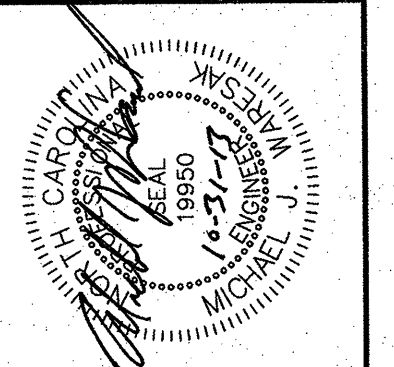
SECTION

TAPPING SLEEVE AND VALVE WITH BOX INSTALLATION

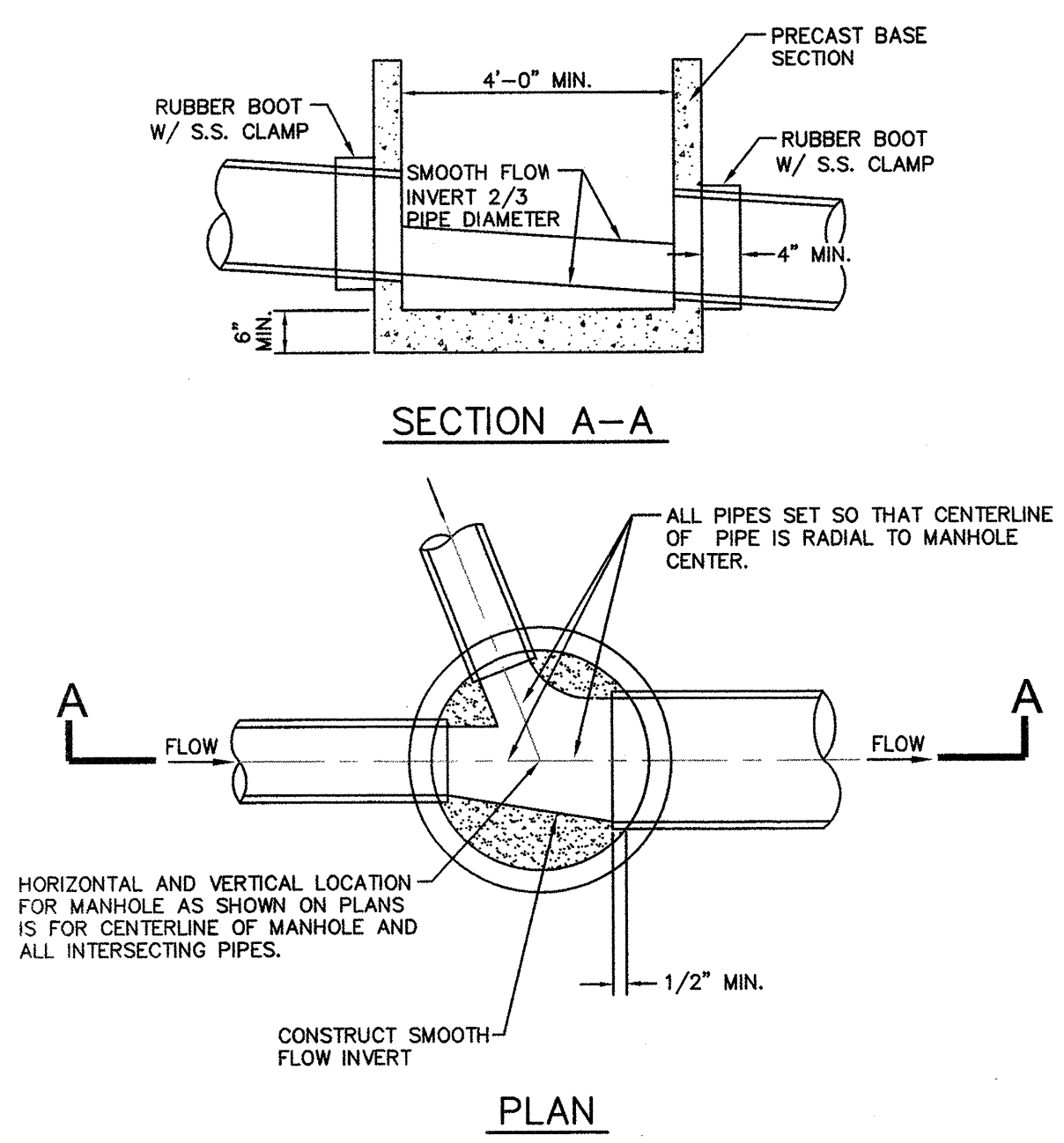
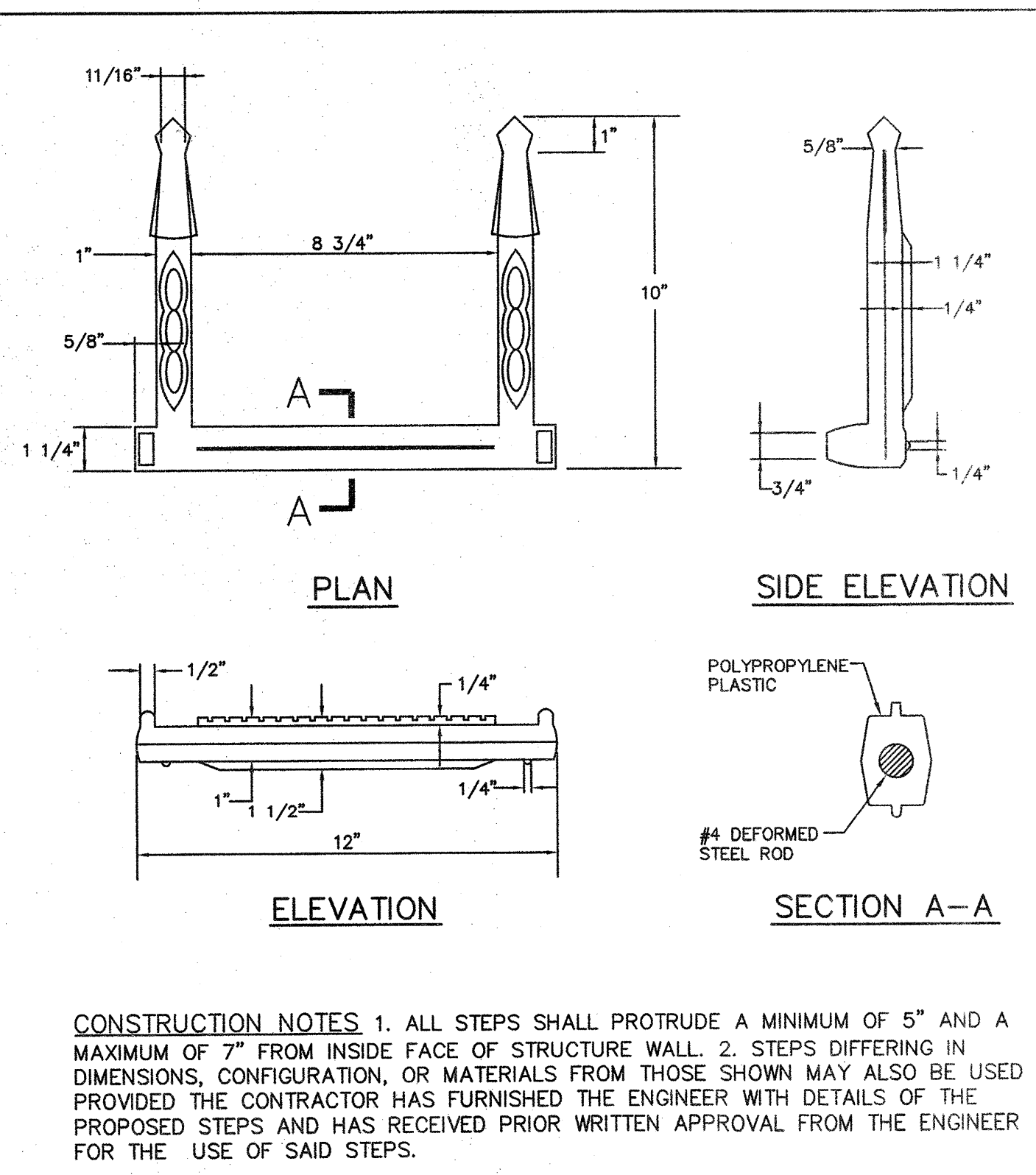
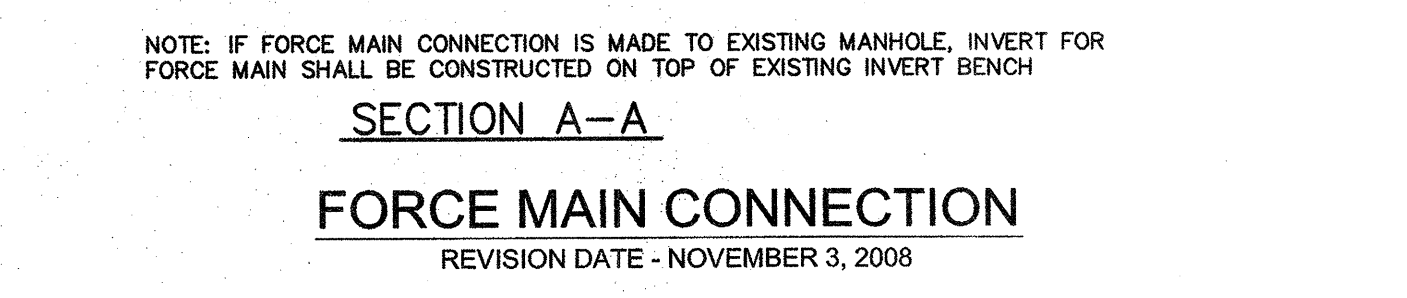
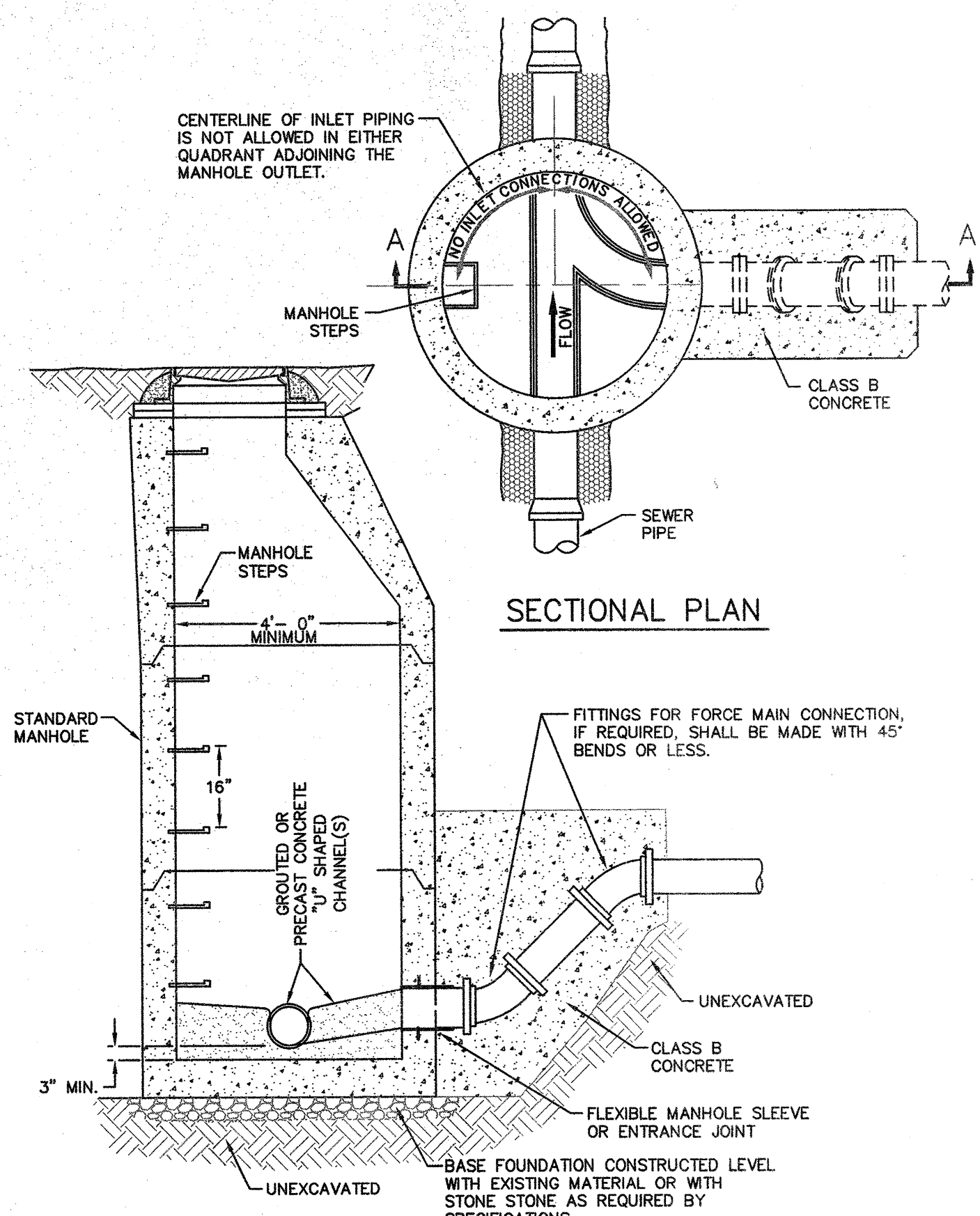
REVISION DATE - NOVEMBER 3, 2008

NOTES:
 1. TAPPING SLEEVE SHALL BE MUELLER, CLOW, AMERICAN OR APPROVED EQUAL.
 2. TAPPING VALVE SHALL BE MUELLER, CLOW, AMERICAN OR APPROVED EQUAL.
 3. SOLID CONCRETE OR BRICK BLOCKING SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE. PVC PIPE SHALL REQUIRE A 3000 PSI FOOTING.
 4. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
 5. SEE APPROPRIATE STANDARD DETAIL FOR THRUST BLOCK DIMENSIONS.
 6. COVER FITTINGS WITH POLYETHYLENE PLASTIC PRIOR TO POURING THRUST BLOCKS

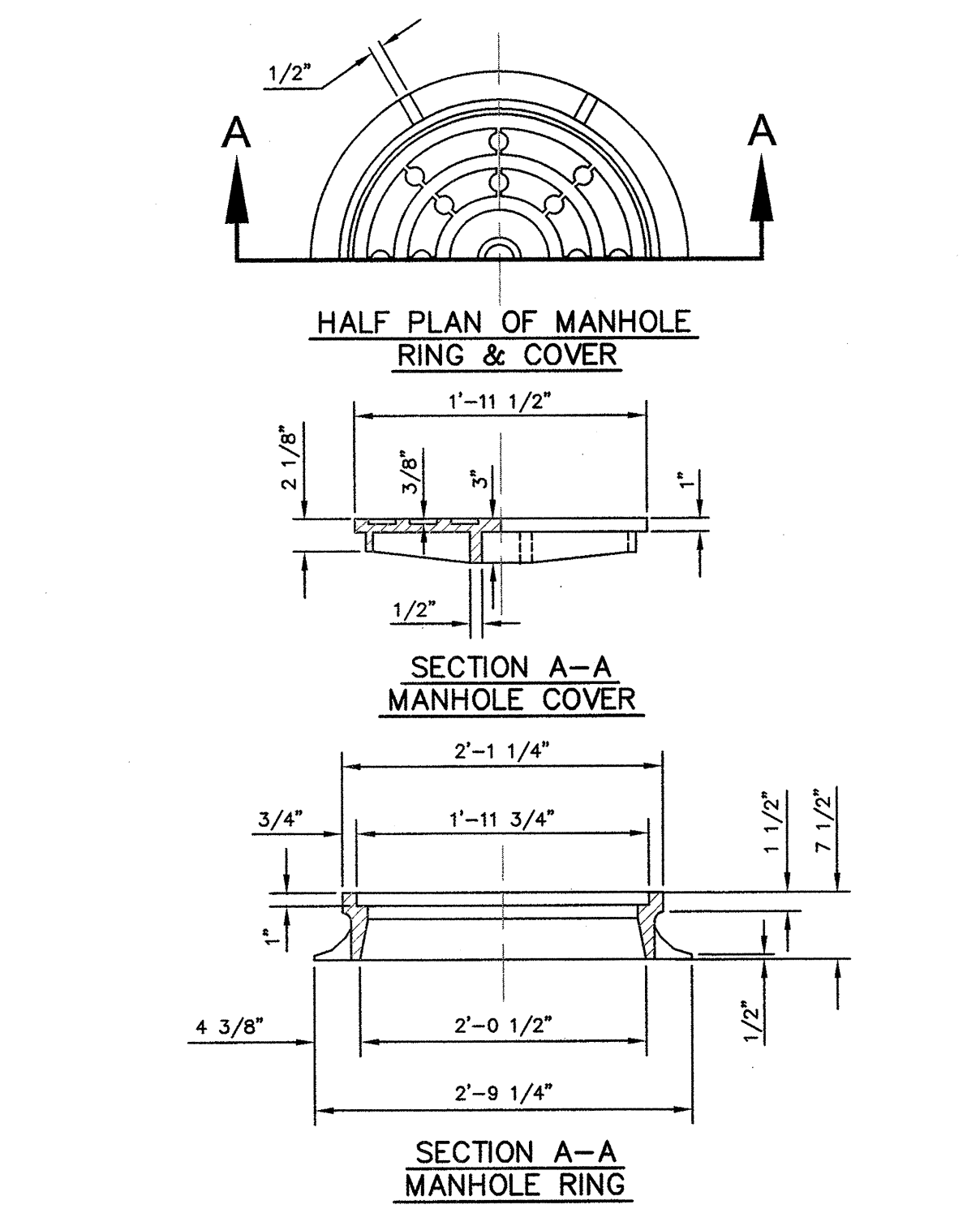
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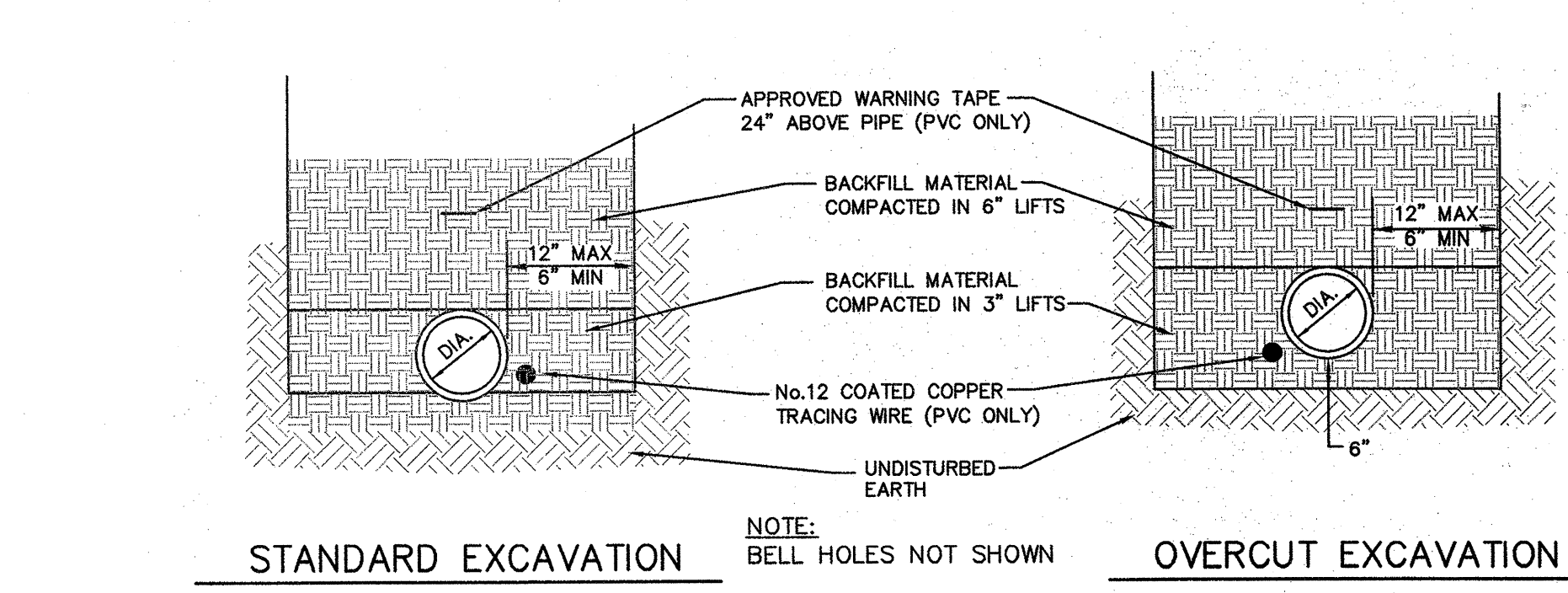
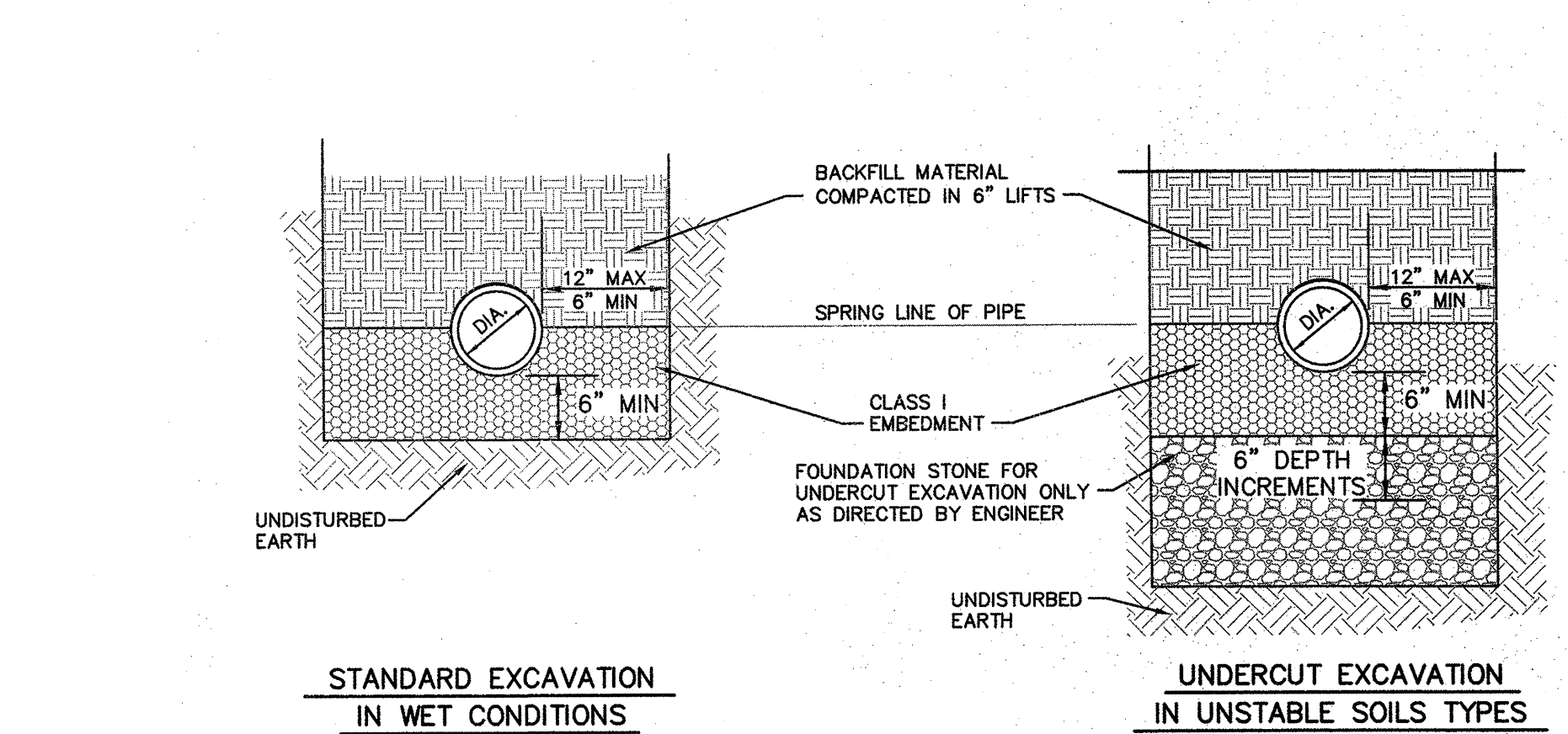
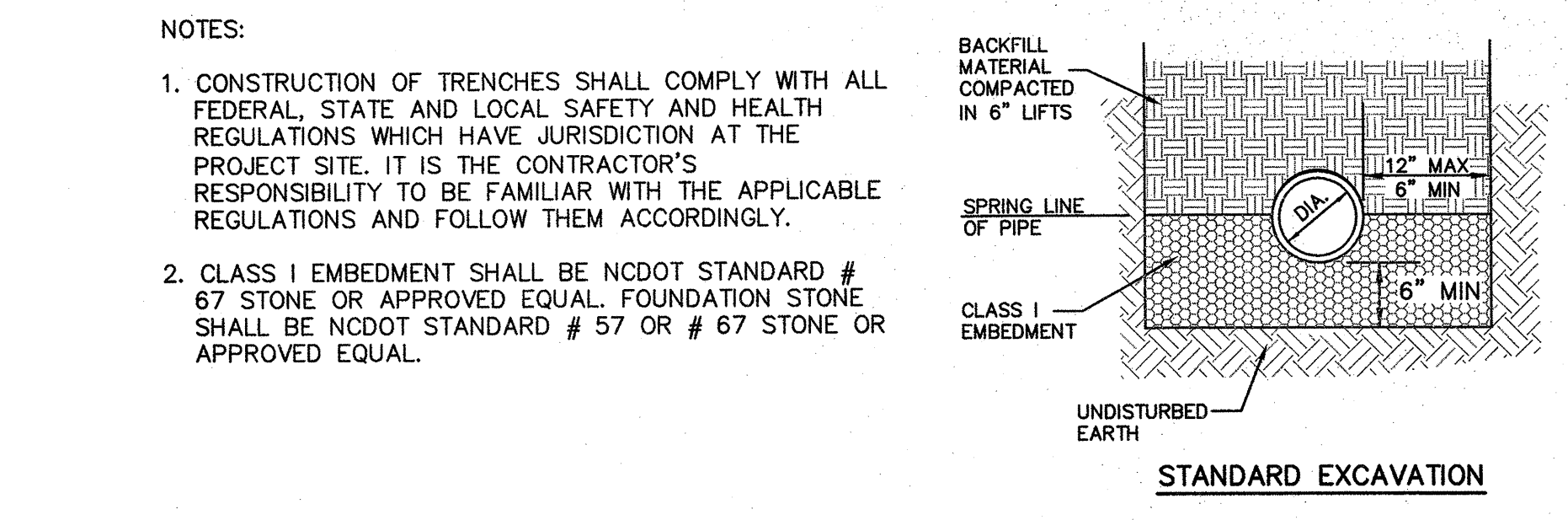
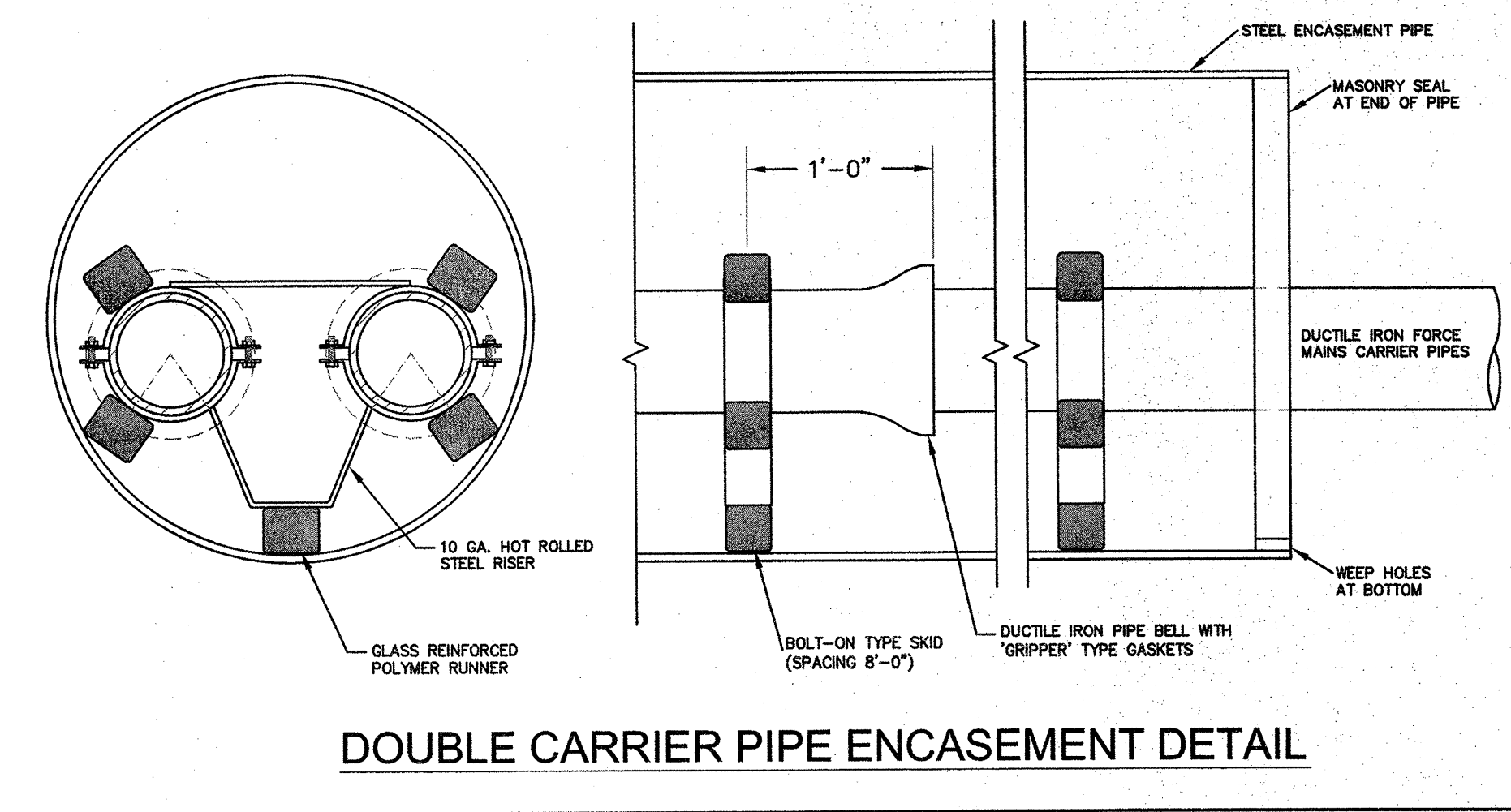
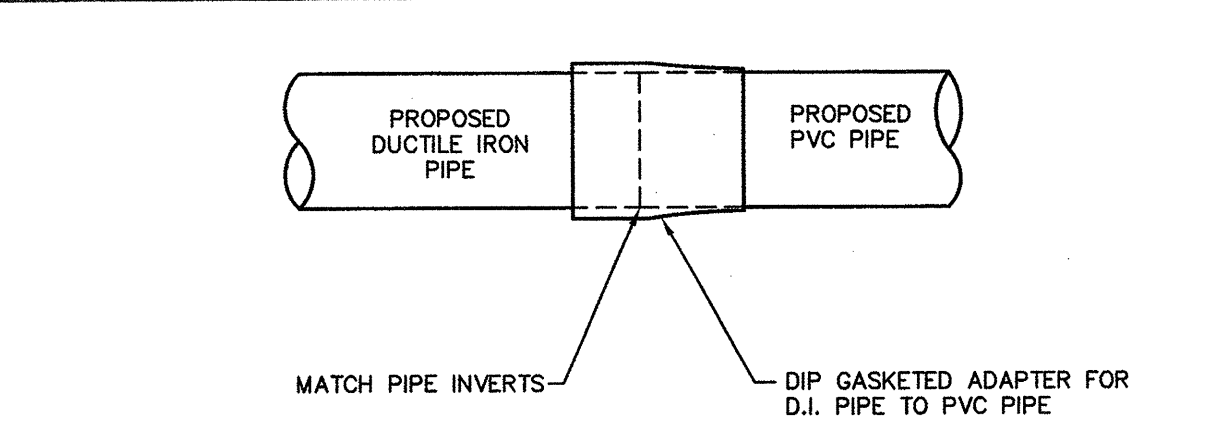
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MANHOLE INVERTS
 REVISION DATE - NOVEMBER 3, 2008



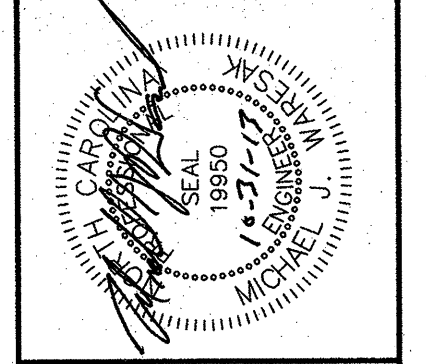
MANHOLE RING & COVER
 REVISION DATE - NOVEMBER 3, 2008



NOTES:
 1. CONSTRUCTION OF TRENCHES SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY AND HEALTH REGULATIONS WHICH HAVE JURISDICTION AT THE PROJECT SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE APPLICABLE REGULATIONS AND FOLLOW THEM ACCORDINGLY.

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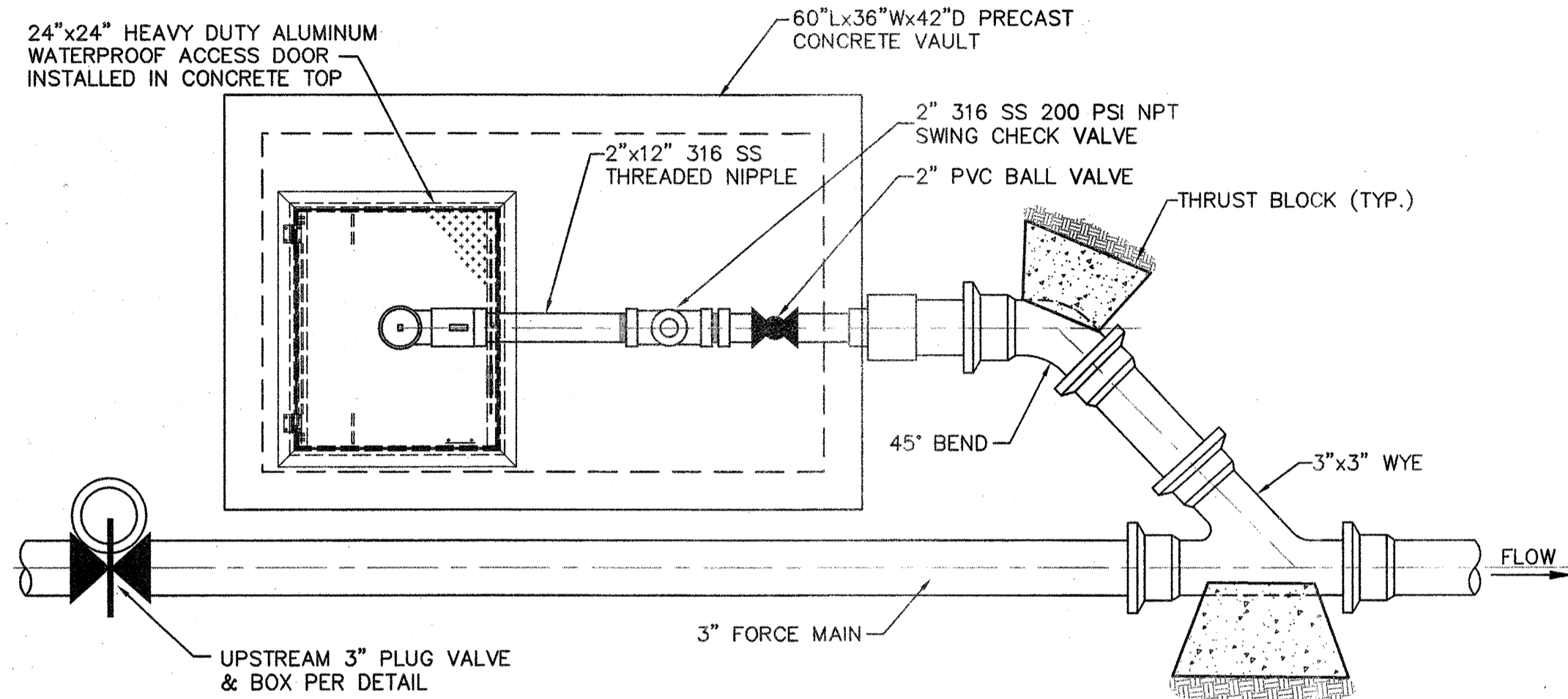
NC DOT PROJECT NO. C-203202-RA (K-5002)
 US 23/75 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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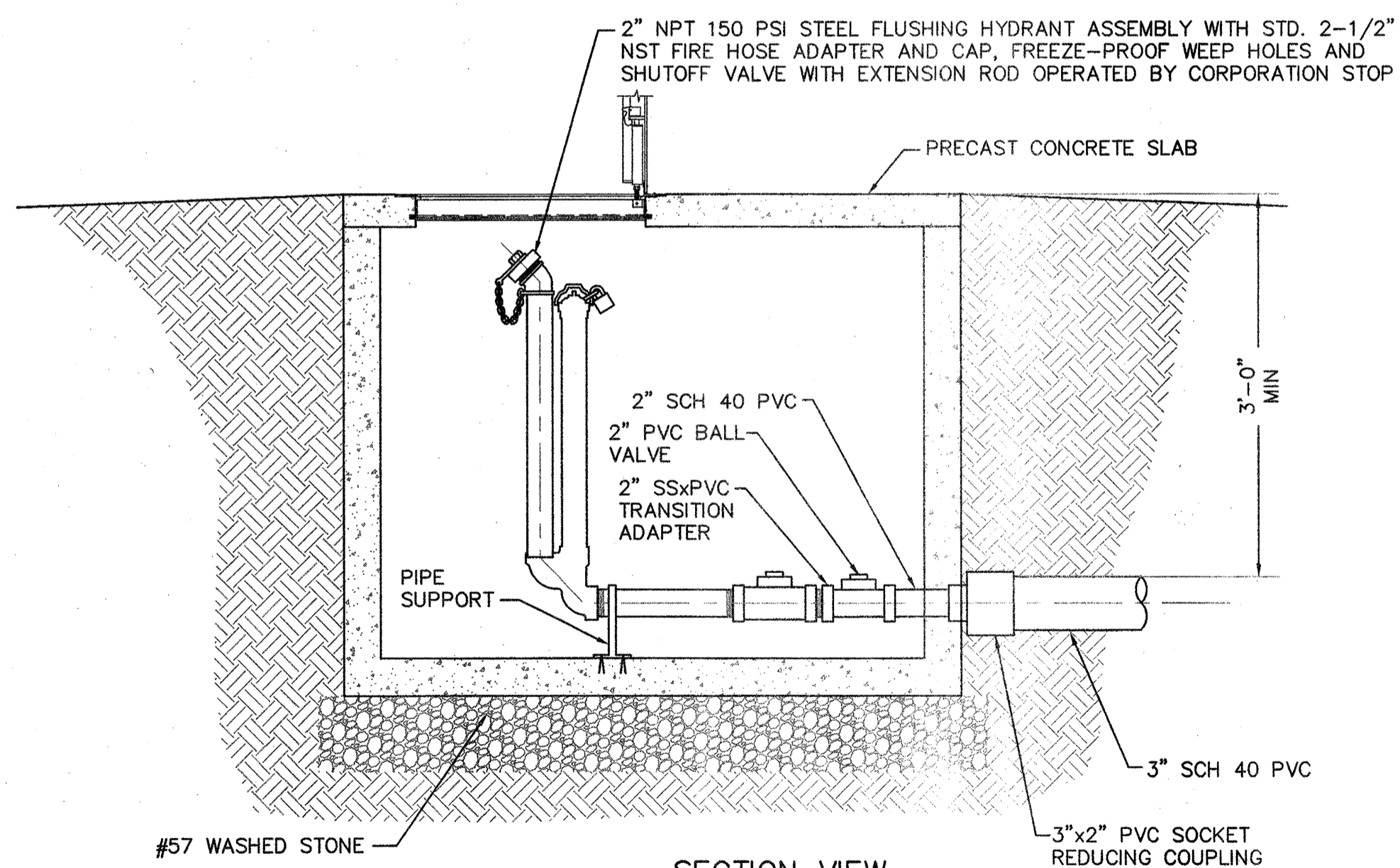
MISCELLANEOUS DETAILS

SHEET
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PLAN VIEW



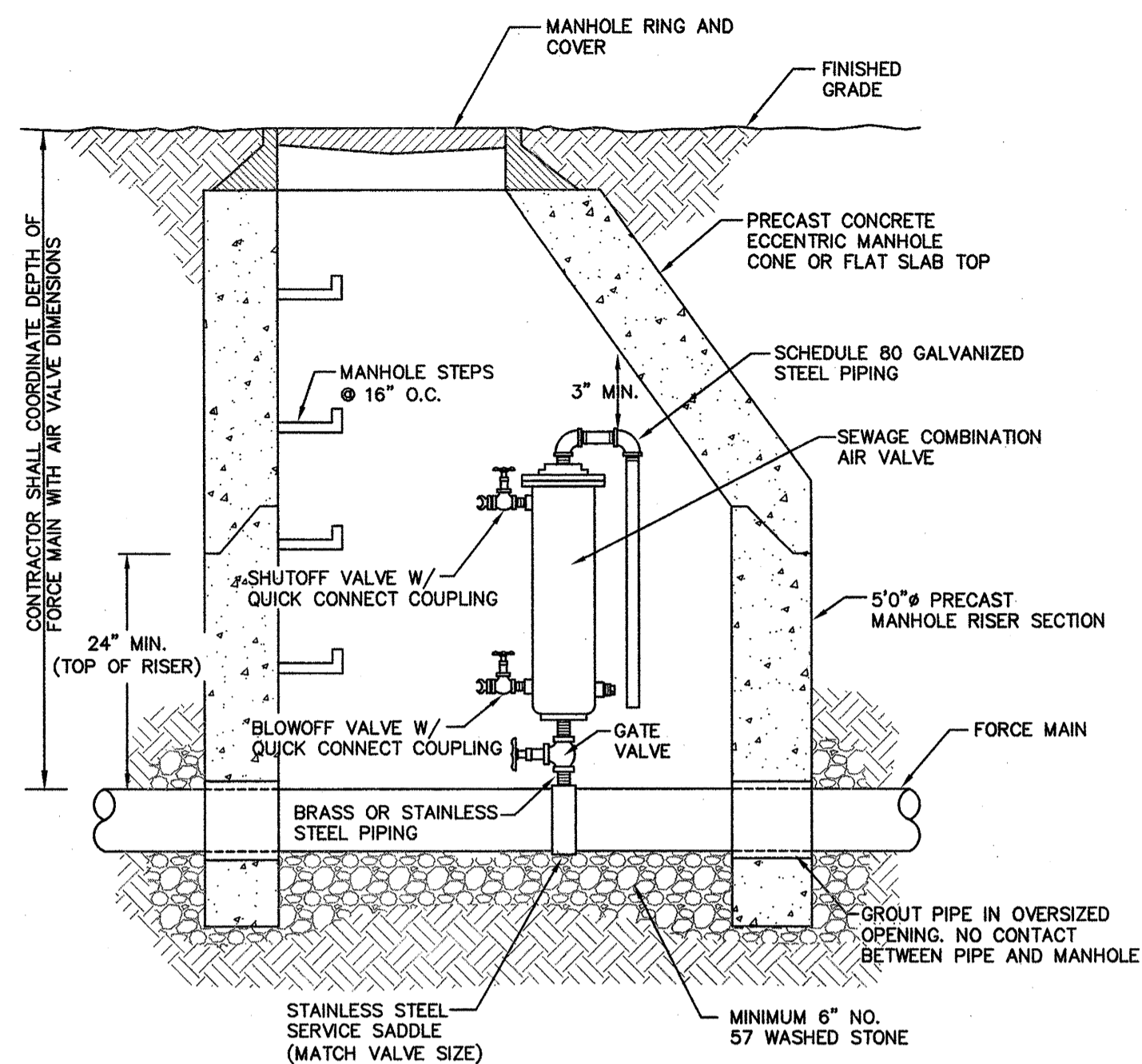
SECTION VIEW

NOTES:

1. INSTALL VAULT FLUSH WITH FINISHED GRADE.

FORCE MAIN FLUSHING CONNECTION

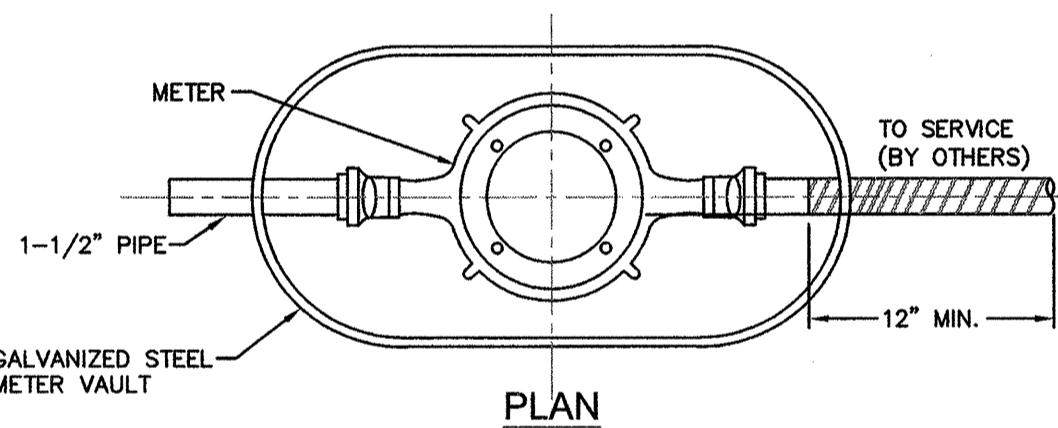
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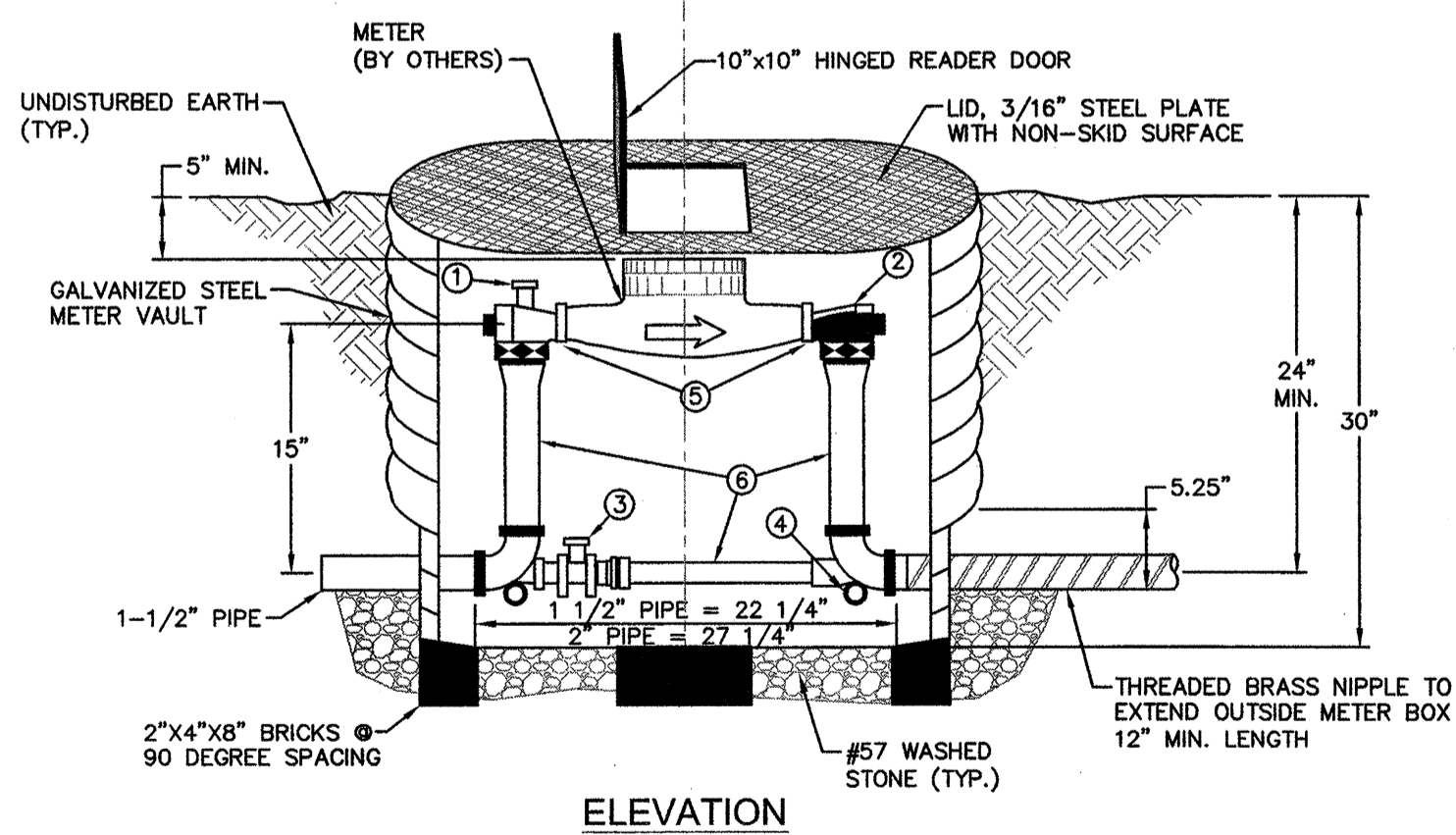
- NOTES:
1. COMBINATION AIR VALVE TO BE INSTALLED AT ACTUAL HIGH POINT OF LINE.
 2. COMBINATION AIR VALVE SHALL BE OFFSET IN MANHOLE TO PROVIDE ACCESS.
 3. VALVE SIZE AS SHOWN ON DRAWINGS OR DETAILED IN THE SPECIFICATIONS.
 4. ALL PIPING FOR COMBINATION AIR VALVE SHALL BE BRASS OR STAINLESS STEEL.
 5. CONTRACTOR SHALL ADJUST THE DEPTH OF THE FORCE MAIN AT ALL HIGH POINTS TO ACCOMMODATE THE INSTALLATION OF THE COMBINATION AIR VALVE.

SEWAGE FORCE MAIN COMBINATION AIR VALVE

REVISION DATE - AUGUST, 2012



PLAN



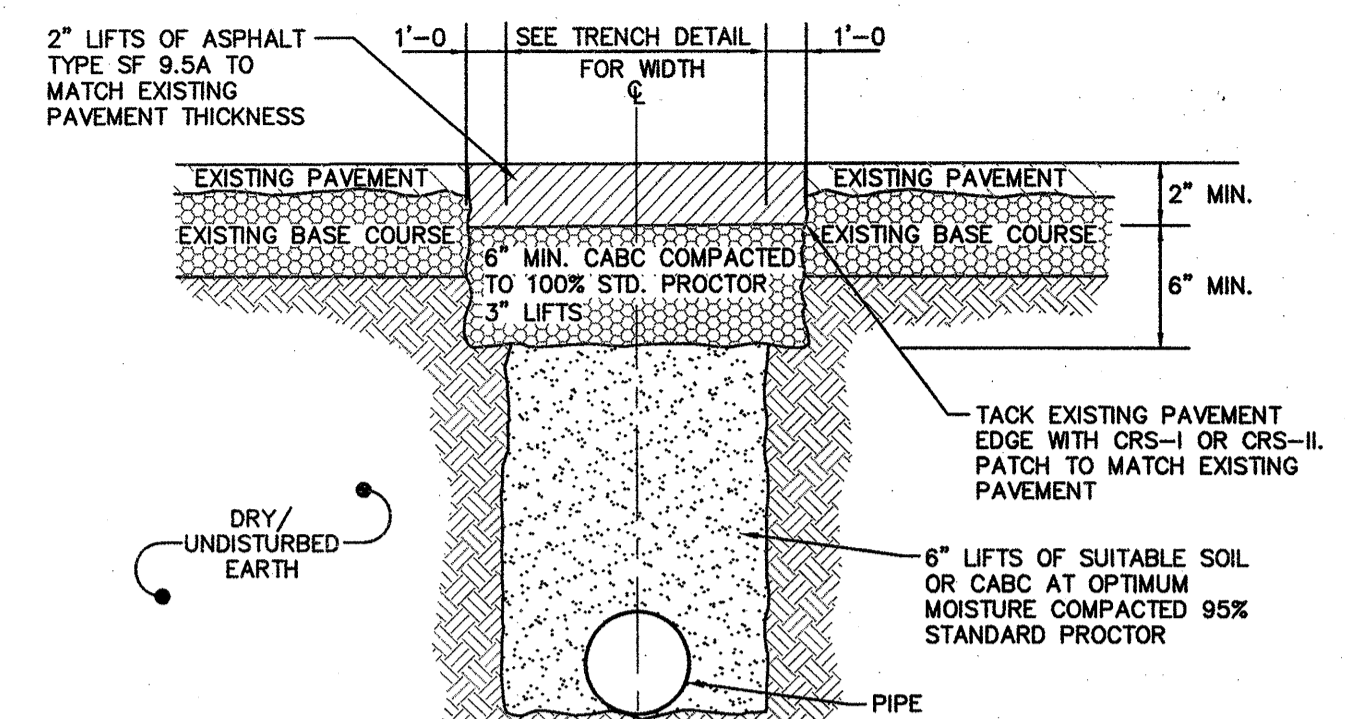
ELEVATION

- 1 BALL VALVE ON INLET
- 2 DUAL CHECK ON OUTLET
- 3 BY-PASS INCLUDES A FORD BALL VALVE WITH PADLOCK WINGS
- 4 BRACE PIPE EYELETS
- 5 DIFFERENT FLANGE SPACING MAY BE SPECIFIED
- 6 BE SURE THAT COPPER SETTER IS INSTALLED IN THE CORRECT POSITION IN RELATION TO WATER FLOW

- NOTES:
1. ANGLE BALL VALVES SHOULD NOT BE USED ON THE OUTLET SIDE AS A CUSTOMER SHUT OFF. FLANGED ANGLE INVERTED KEY VALVE SHOULD BE USED FOR THIS PURPOSE. METER MUST BE SET BEFORE CONNECTION TO BRASS NIPPLE.
 2. METER VAULT MATERIAL: COPPER-STEEL GALVANIZED .064 METHOD OF CONSTRUCTION: RIVETED TWO PIECE CONSTRUCTION LID: 3/16" FLOOR PLATE STEEL-REINFORCED WITH 10"x10" READER DOOR AND 1 1/2" X 1 1/2" ANGLE IRON FITTING BRACKETS @ 90° SPACING. WEIGHT: 100lbs SIZE: 38"L X 18"W X 28" D
 3. METER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. METER SHALL BE AUTOMATIC RADIO-READ AS MANUFACTURED BY NEPTUNE TO MATCH TOWN OF WAYNESVILLE STANDARD.

1 1/2" WATER METER VAULT DETAIL

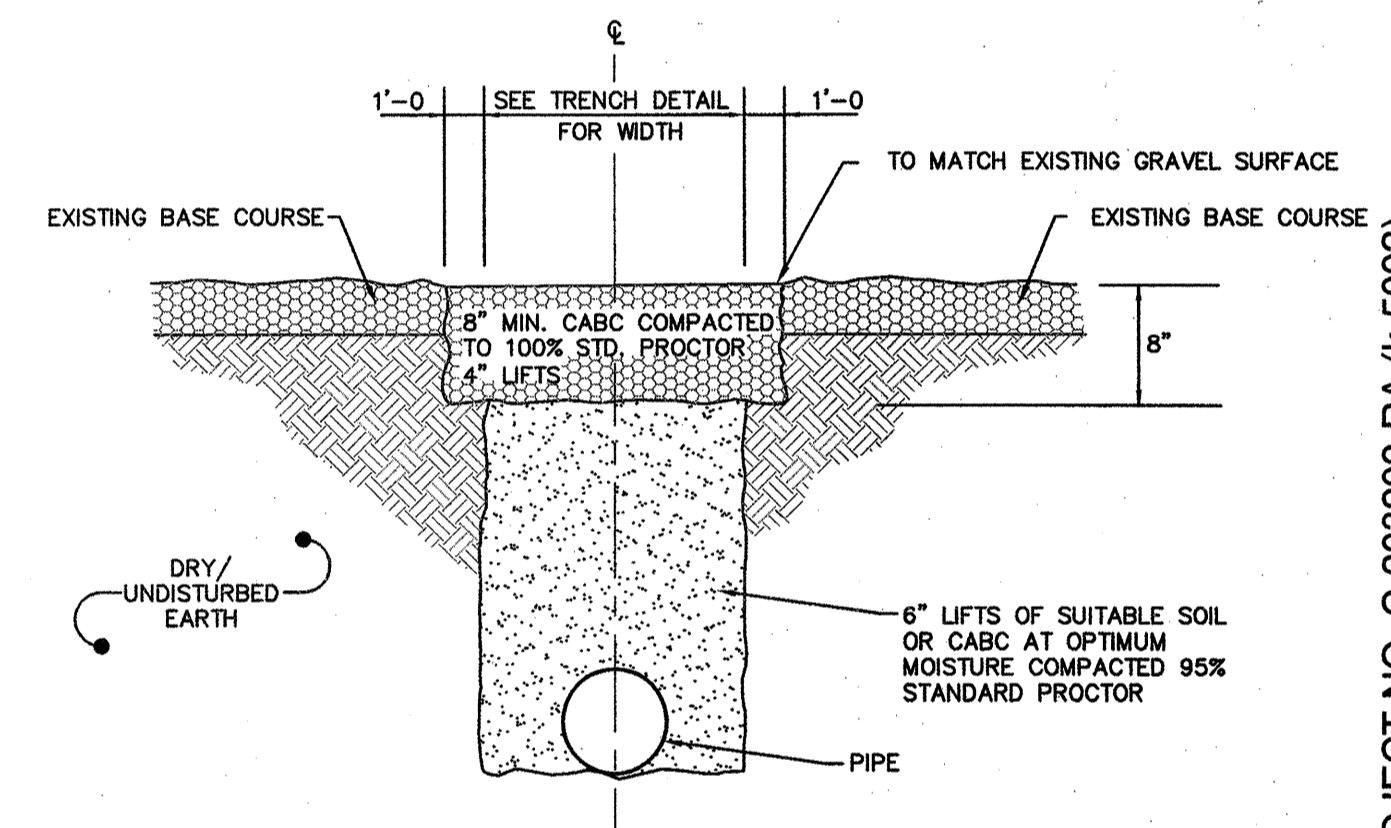
REVISION DATE - NOVEMBER 3, 2008



- NOTE:
1. EDGE TO BE SAWS WITH A CONCRETE SAW TO A NEAT SQUARED EDGE. BROOMED
 2. EDGES TO BE TACKED WITH EMULSIFIED ASPHALT TACK CRS-I OR CRS-II.

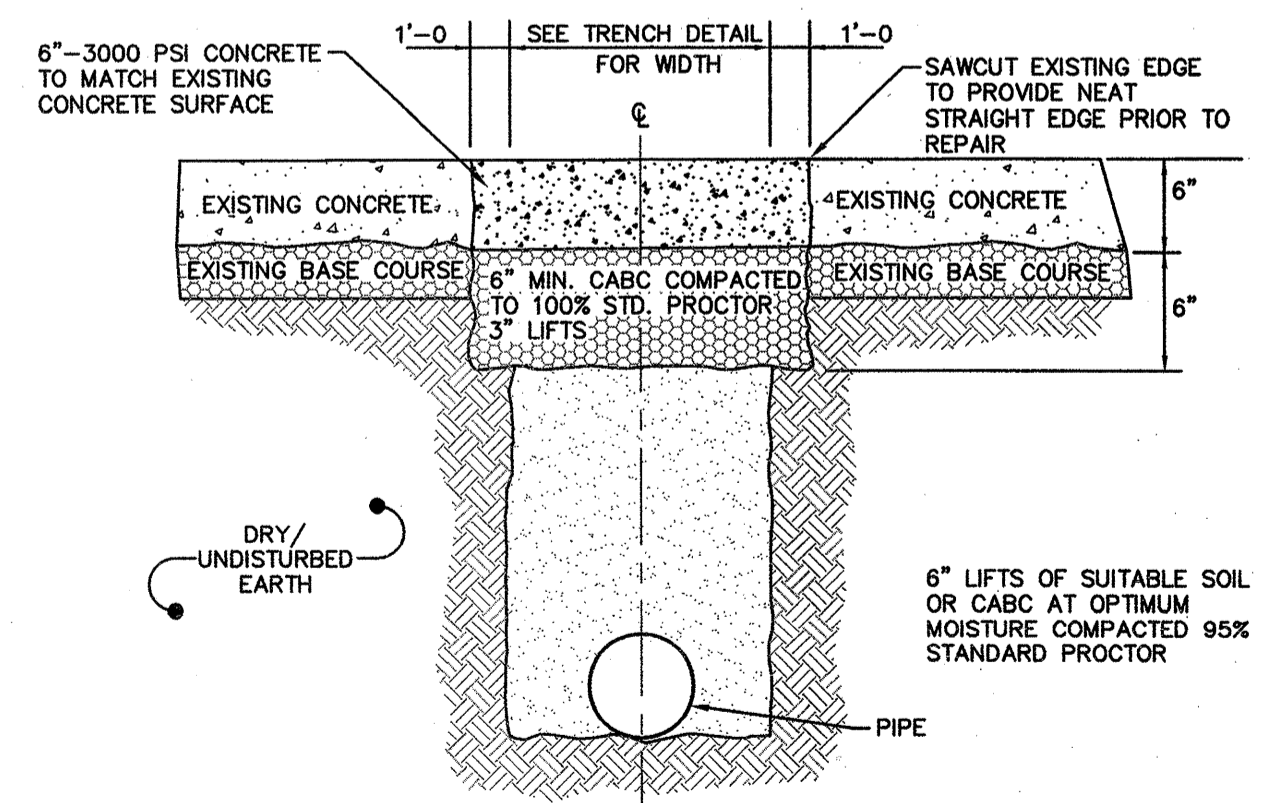
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NOT TO SCALE
REVISION DATE - NOVEMBER 3, 2008



GRAVEL DRIVE REPAIR

NOT TO SCALE
REVISION DATE - NOVEMBER 3, 2008

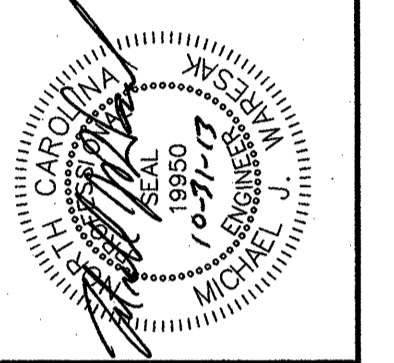


CONCRETE DRIVE REPAIR

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REVISION DATE - NOVEMBER 3, 2008

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NCDOT PROJECT NO. C-203202-RA (K-5002)
US2375 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
HAYWOOD COUNTY, NORTH CAROLINA

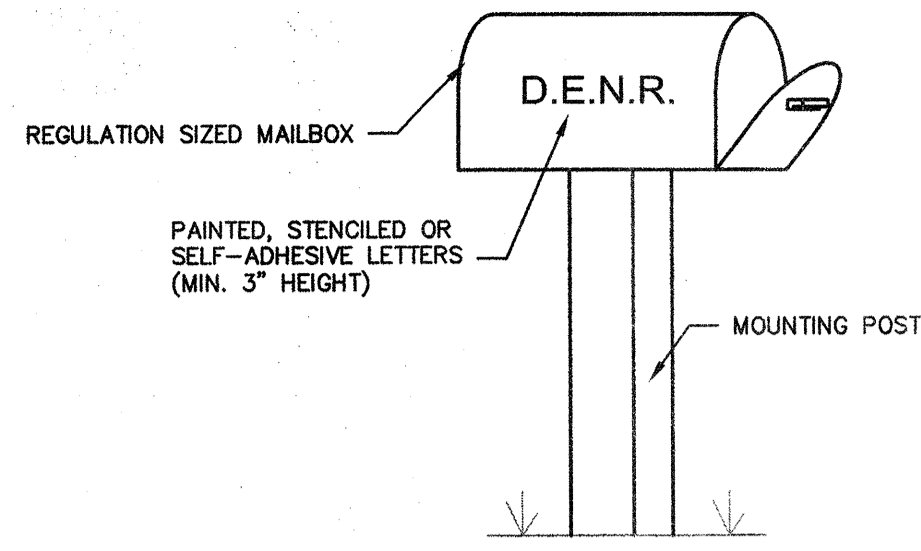
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MISCELLANEOUS
DETAILS

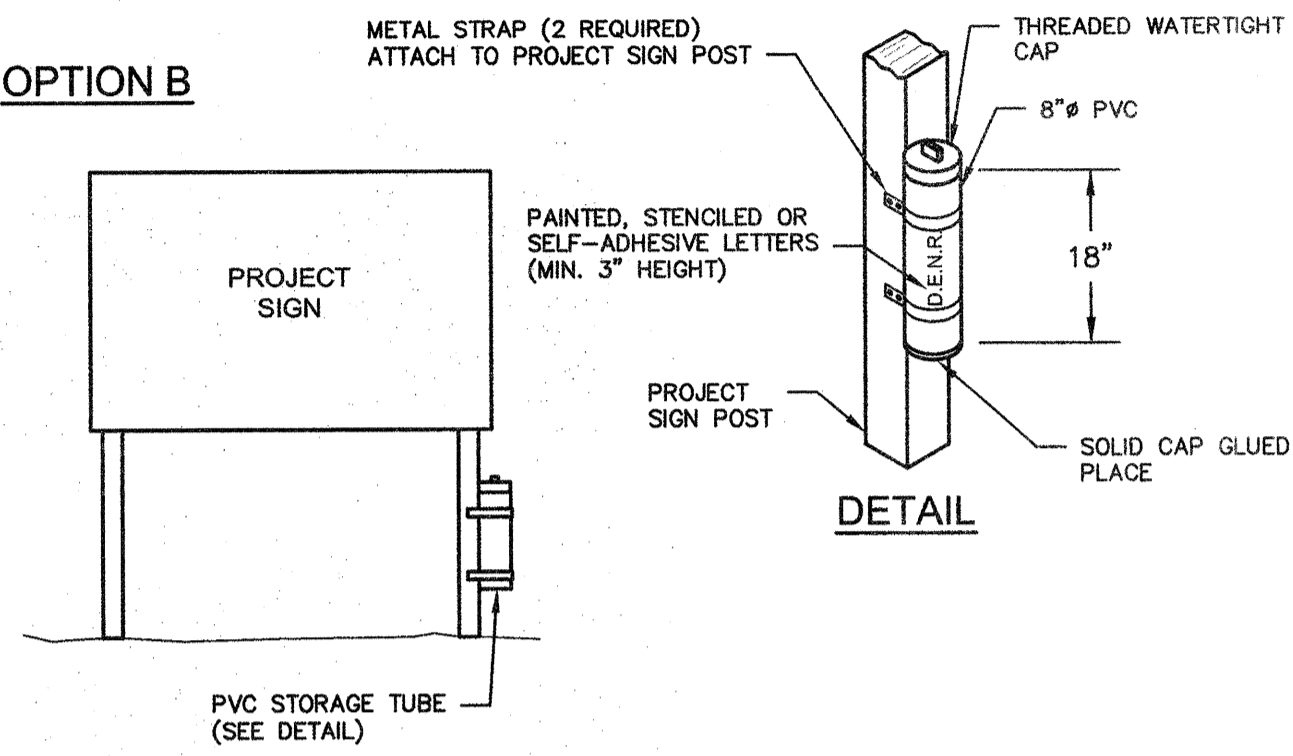
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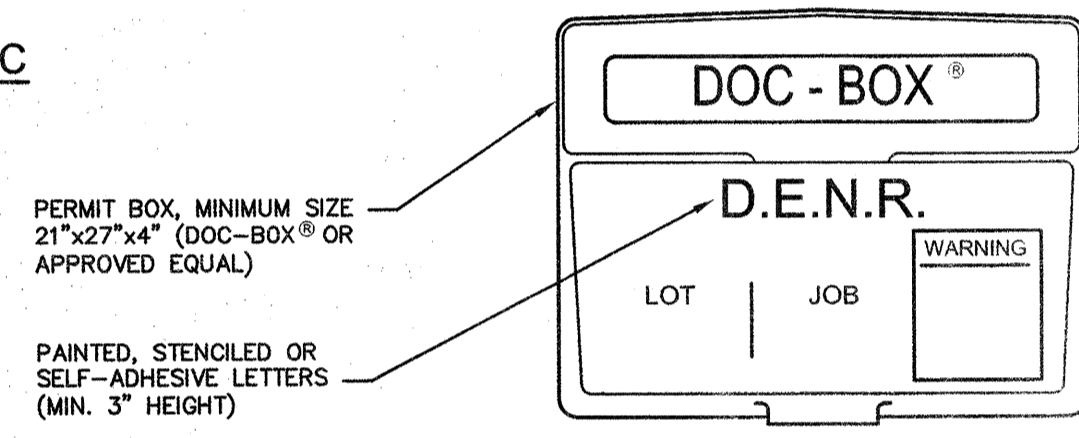
OPTION A



OPTION B

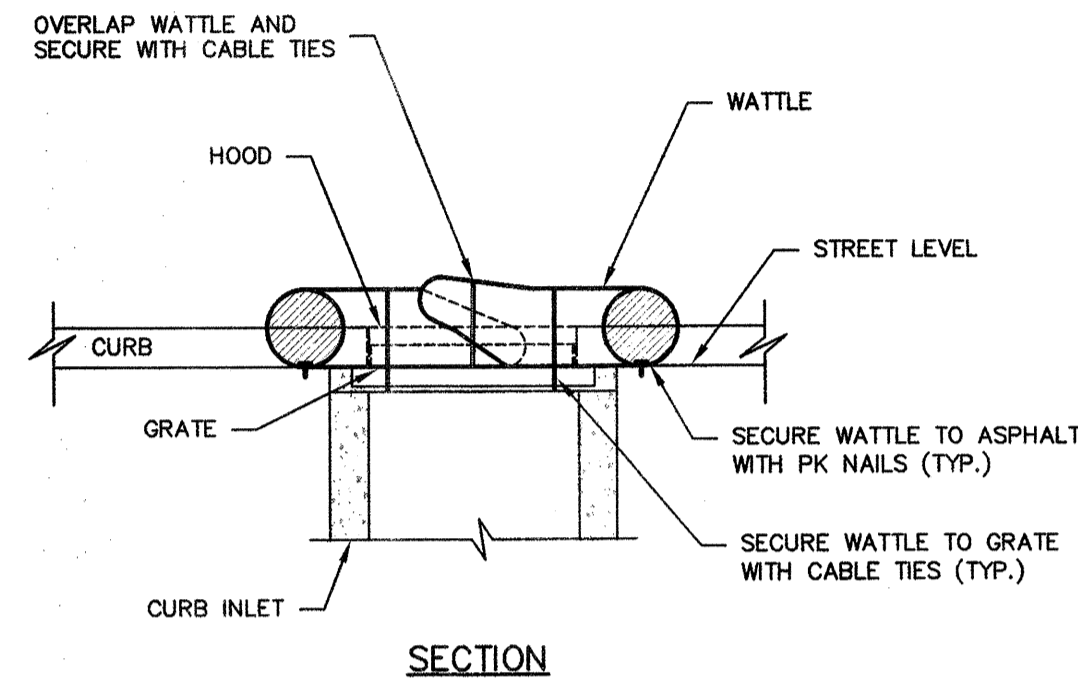
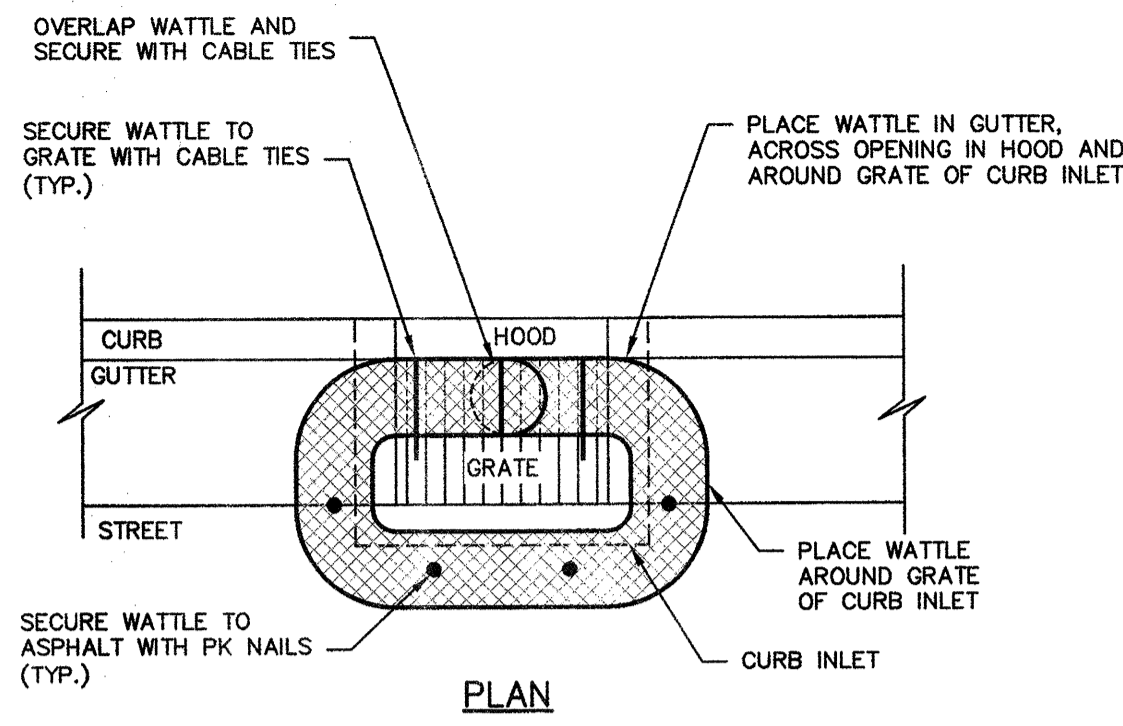


OPTION C



DENR SELF-INSPECTION REPORT BOX

REVISION DATE - FEBRUARY 1, 2010

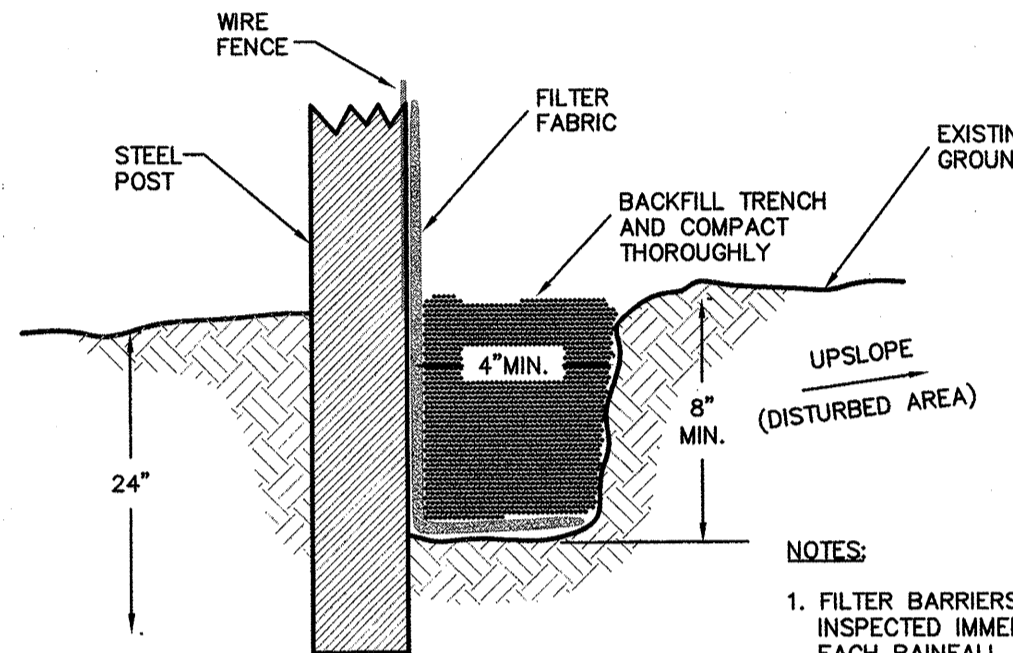
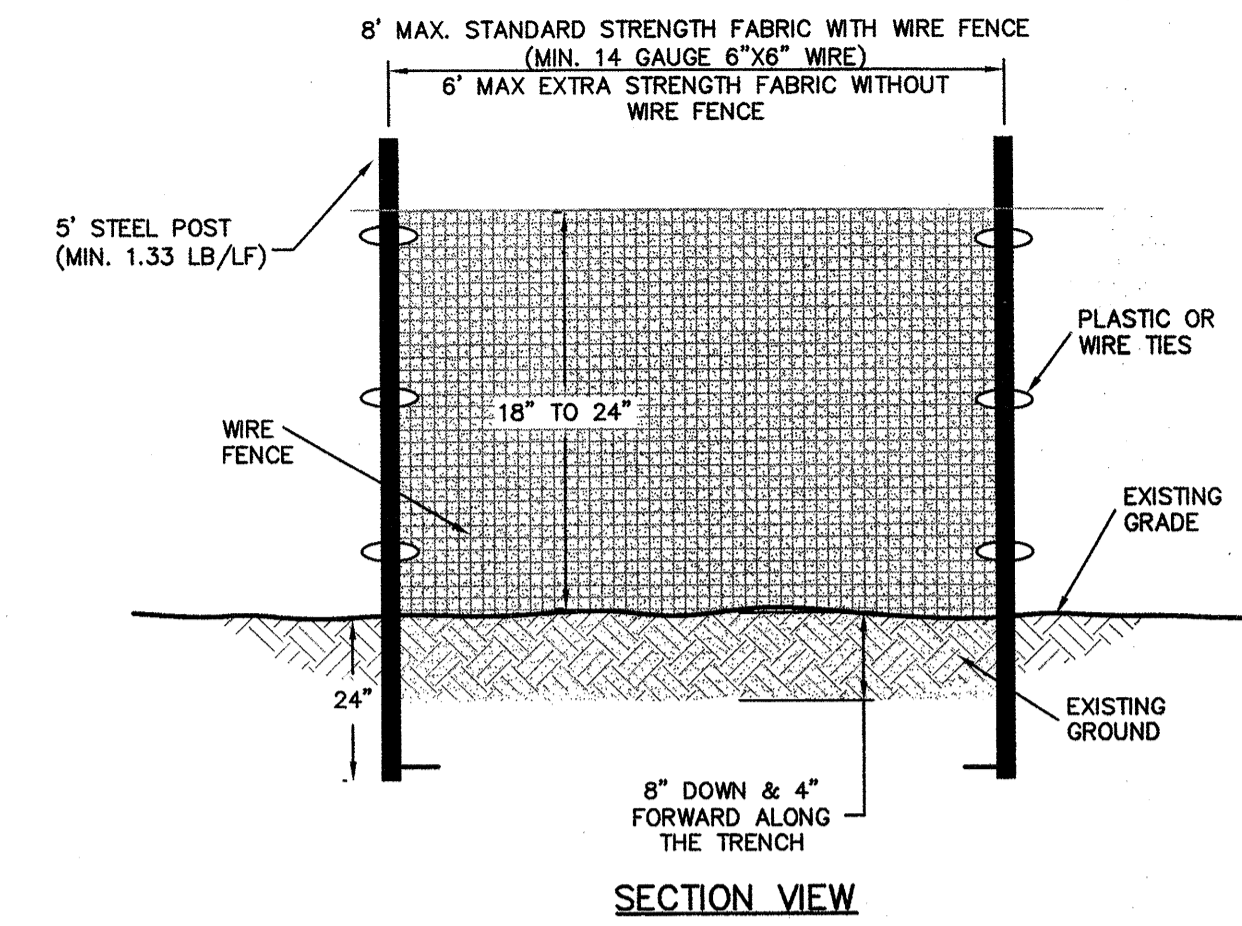


NOTES:

1. WATTLES MUST BE SECURED AS SHOWN, OR PER MANUFACTURER'S RECOMMENDATIONS.
2. ALL MATERIALS INSTALLED WITHIN NCDOT RIGHT-OF-WAY MUST MEET NCDOT STANDARDS.

INLET PROTECTION (WATTLE)

REVISION DATE - NOVEMBER 17, 2009



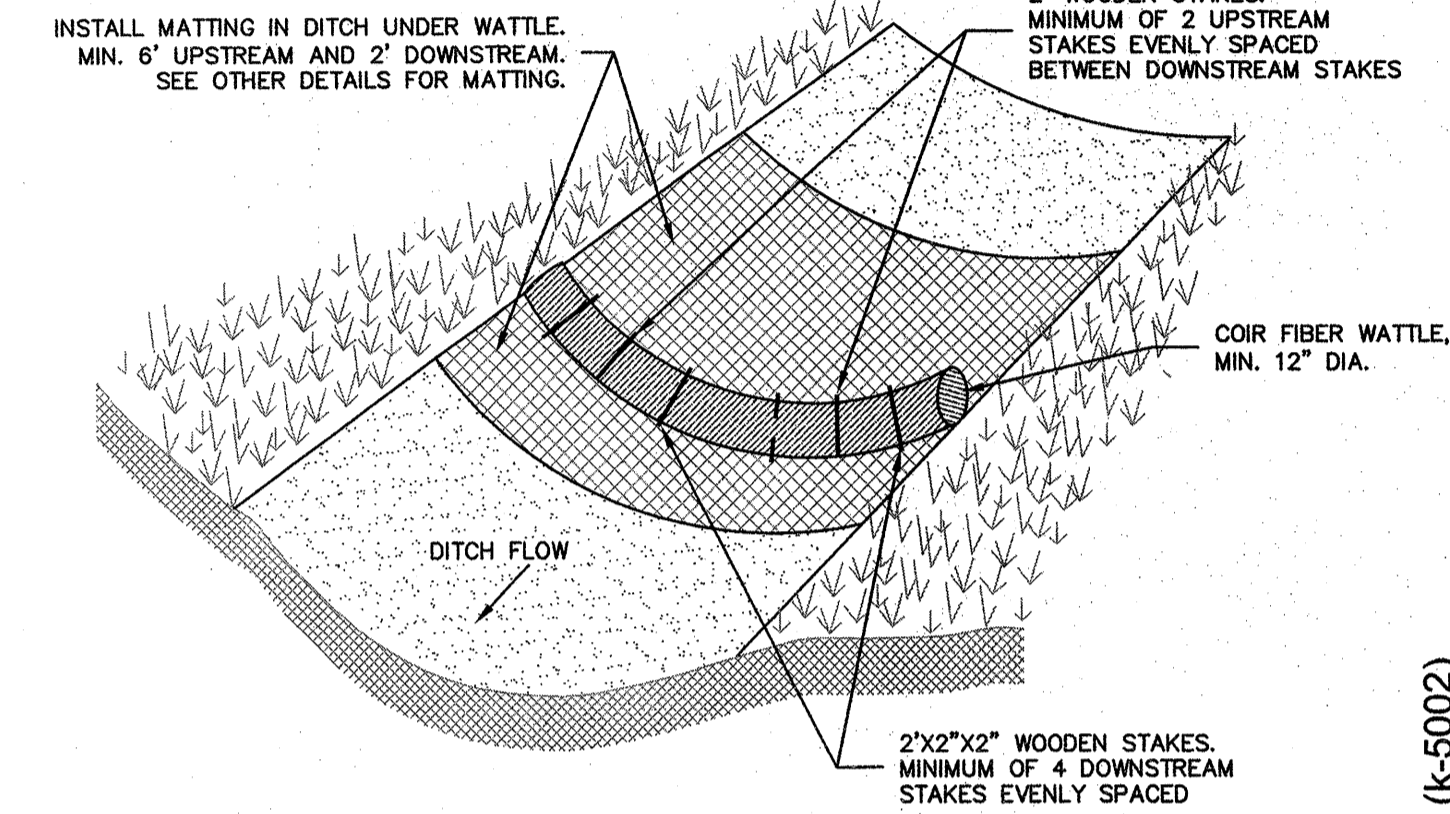
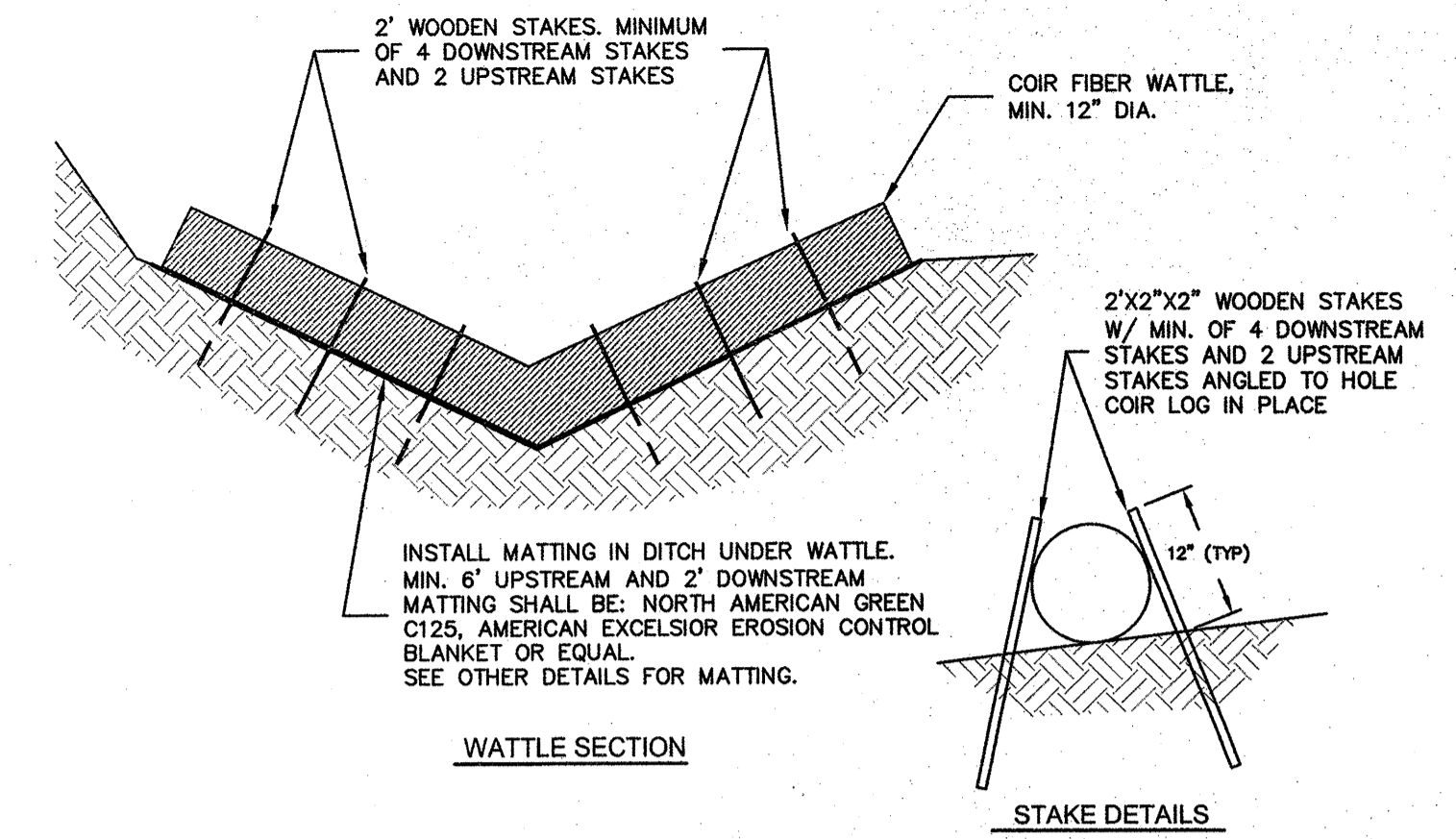
NOTES:

1. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. REPAIR SHALL BE MADE AS NECESSARY.
2. FABRIC SHALL BE REPLACED PROMPTLY IF FOUND TO BE IN DISREPAIR.
3. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT AND WHEN DEPOSITS REACH APPROXIMATELY 1/3 HEIGHT OF BARRIER.
4. REFERENCE NCDENR LAND QUALITY SECTION DESIGN MANUAL: 6.62.

SLOPE	SLOPE LENGTH(FT)	MAXIMUM AREA(SQFT)
<2%	100	10,000
2 TO 5%	75	7,500
5 TO 10%	50	5,000
10 TO 20%	25	2,500
>20%	15	1,500

SEDIMENTATION/SILT FENCE

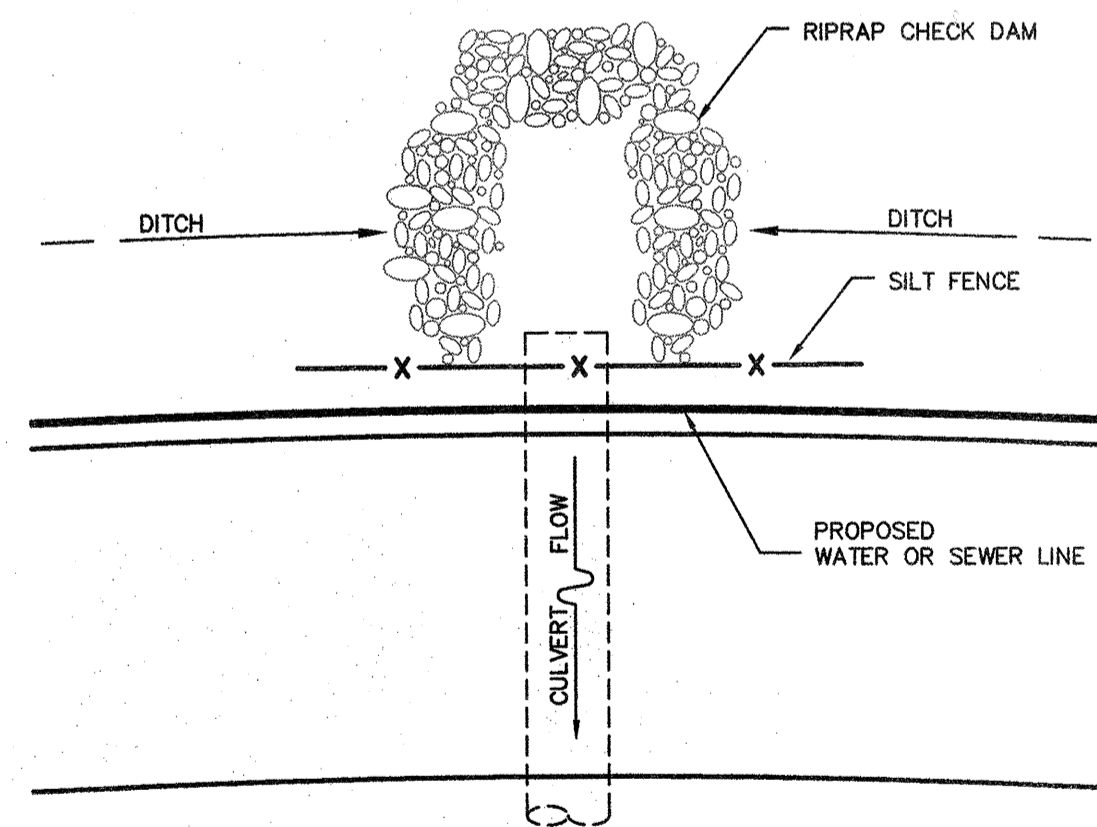
REVISION DATE - NOVEMBER 3, 2008



- NOTES:**
1. USE COIR FIBER (COCONUT) WATTLE WITH MIN. DIAMETER OF 12 INCHES
 2. INSTALL WATTLE IN DITCH ONLY TO A HEIGHT TO PREVENT WASHING OUT AROUND THE WATTLE AND SCOURING OF DITCH AND SLOPES

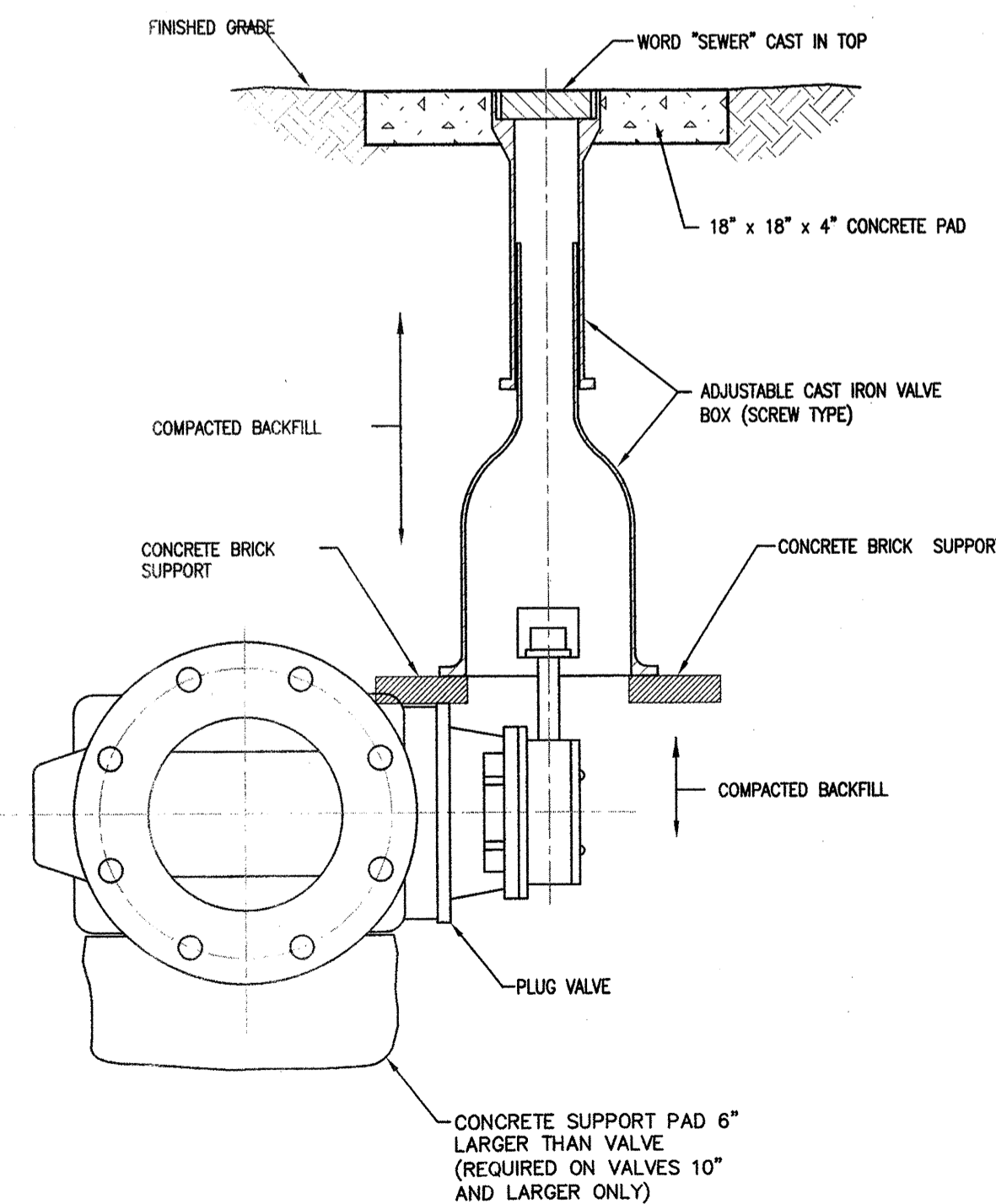
WATTLE DETAILS

REVISION DATE NOVEMBER 1, 2012



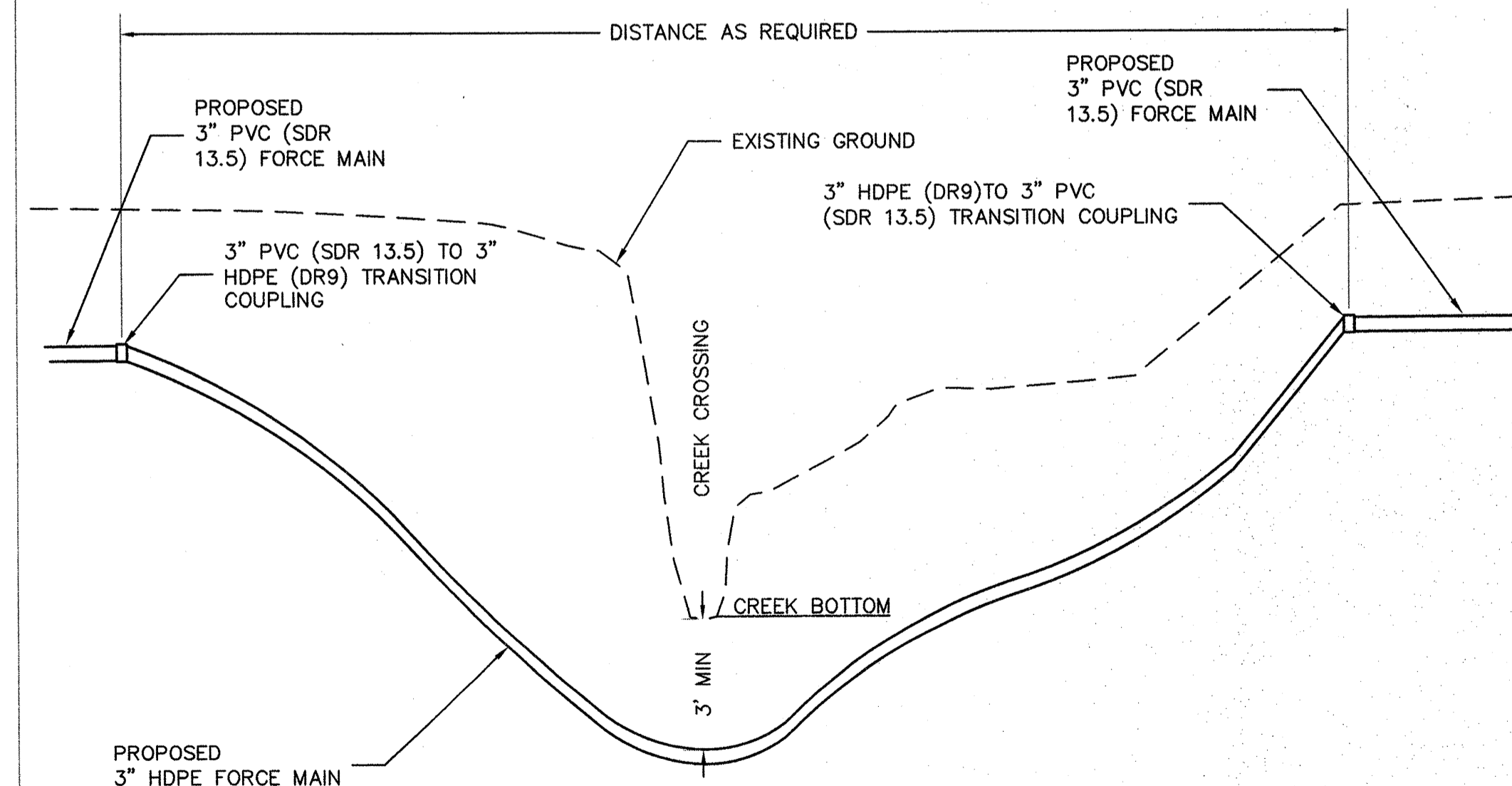
EXISTING CULVERT PROTECTION

REVISION DATE - NOVEMBER 3, 2008



PLUG VALVE DETAIL

REVISION DATE - NOVEMBER 3, 2008

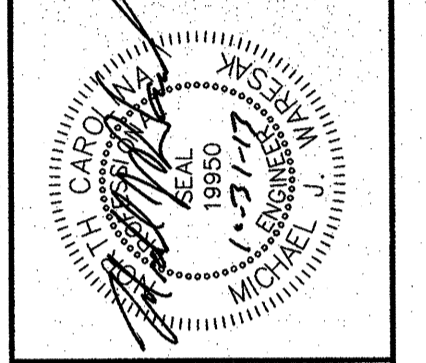


TYPICAL HDPE DIRECTIONAL DRILL DETAIL

NO SCALE

NO.	DATE	BY	REVISION DESCRIPTION

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35 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FRANKLIN LICENSE # C-0459



NCDOT PROJECT NO. C-203202-RA (K-5002)
U.S.23175 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
HAYWOOD COUNTY, NORTH CAROLINA

JOB NO.: 13.00372
DATE: OCTOBER 2013
DESIGNED BY: GHW
CADD BY: GHW
DESIGN REVIEW: _____
CONST. REVIEW: _____
FILE NAME: 13.00372.dwg

MISCELLANEOUS DETAILS

SHEET C-506

Y:\2013\13.00372\Design\Water-Sewer\Drawings\13.00372.dwg 11/4/2013 9:21 AM GORDON WILSON

LIGHTING MOUNTING AS NOTED

SYMBOL	DESCRIPTION
	CEILING MOUNTED FLUORESCENT FIXTURE; LETTER INSIDE OR BESIDE DENOTES FIXTURE TYPE
	WALL MOUNTED INCANDESCENT OR H.I.D. FIXTURE
	POLE STANDARD LIGHT FIXTURE UNIT - SINGLE ARM

SWITCHING

SYMBOL	MOUNTING	DESCRIPTION
S	48" AFF	SWITCH, SINGLE POLE
S _M	48" AFF	SWITCH, MANUAL MOTOR STARTER, RATING AND THERMAL OVERLOADS TO MATCH MOTOR NAME PLATE DATA
	48" AFF	LIGHTING CONTACTOR DESIGNATION
		LIGHTING CONTACTOR REMOTE PUSH-BUTTON "ON-OFF" CONTROL REPRESENTS LIGHTING CONTACTOR BEING CONTROLLED

POWER

SYMBOL	MOUNTING	DESCRIPTION
	36" AFF	DUPLEX RECEPTACLE, 20A RATED FOOTNOTE DELINEATES SPECIFIC DEVICE
		AS NOTED MOTOR (HORSEPOWER INDICATED ON PLANS)
		AS NOTED JUNCTION BOX
SPD		AS NOTED SURGE-PROTECTIVE DEVICE
	48" AFF	DISCONNECT SWITCH DESIGNATION
	480V 50KVA 120V	TRANSFORMER SIZE VOLTAGES

PANELBOARDS

SYMBOL	MOUNTING	DESCRIPTION
	6'-0" AFF	TOP BREAKER NEW PANELBOARD - SURFACE MOUNTED
	6'-0" AFF	TOP BREAKER NEW PANELBOARD - FLUSH MOUNTED
		EXISTING PANELBOARD - SURFACE MOUNTED
		EXISTING PANELBOARD - FLUSH MOUNTED

TYPICAL ANNOTATION

	DRAWING KEYNOTE
	DEMOLITION KEYNOTE
	REVISION TAG
	REVISION CLOUD
	INSTRUMENTATION TAG
	PROCESS EQUIPMENT TAG
	HVAC EQUIPMENT TAG
	AREA NEMA DESIGNATION TAG

CONDUIT FEEDERS AND BRANCH CIRCUITS

SYMBOL	DESCRIPTION
	OVERHEAD ELECTRIC SERVICE
	OVERHEAD PRIMARY ELECTRIC SERVICE
	OVERHEAD SECONDARY ELECTRIC SERVICE
	CONDUIT - EMBEDDED IN FLOOR OR EARTH
	UNDERGROUND ELECTRIC SERVICE
	UNDERGROUND PRIMARY ELECTRIC SERVICE
	UNDERGROUND SECONDARY ELECTRIC SERVICE
	CONDUIT - IN WALL, CEILING OR EXPOSED
	CONDUIT WITH IDENTIFIER
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
	CONDUIT CAPPED
	BRANCH CIRCUIT WIRING
	CIRCUIT HOME RUN
	IN-LINE HOME RUN
	CIRCUIT NUMBER
	DEVICES ON SAME CIRCUIT, SEPARATELY CONTROLLED

PROCESS EQUIPMENT TAGGING

EQUIPMENT:

AC	AIR COMPRESSOR	MX	MIXER
B	BLOWER	P	PUMP
C	COMMINUTOR	S	SAMPLER
CFD	CHEMICAL FEEDER	SC	SCREEN
CP	CONTROL PANEL	SV	SOLENOID VALVE
D	DECANTER	T	TANK
DPC	DEFINITE PURPOSE CONTACTOR	V	VALVE
G	GRINDER	ZS	POSITION SWITCH

Diagram: A rectangular tag labeled "B-100A" is shown with lines pointing to its components: "PROCESS SUB AREA" (B), "DEVICE NUMBER" (100), and "SUB-DEVICE NUMBER" (A). The tag is placed on a line representing "PROCESS MAIN AREA EQUIPMENT".

INSTRUMENT & FUNCTION TAGGING

Diagram: A circular tag labeled "LLL NNNg" is shown with lines pointing to its components: "LLL = FUNCTIONAL INSTRUMENT IDENTIFICATION LETTERS FROM INSTRUMENT IDENTIFICATION TABLE.", "NNN = LOOP NUMBER", and "g = LETTER SUFFIX TO DISTINGUISH BETWEEN INSTRUMENTS IN LOOP WITH SAME FUNCTIONAL IDENTIFICATION. (USED AS REQ'D.)".

PROCESS & INSTRUMENTATION LEGEND

CIRCUIT TAG DESCRIPTIONS:

Diagram: A circuit tag "SBRCP300-15" is shown with lines pointing to its components: "PANEL" (SBR), "CIRCUIT NUMBER IN PANEL" (300), "CONDUIT SIZE" (15), "# OF SPARE CONDUCTORS" (8), and "# OF ACTIVE CONDUCTORS" (4). A note says "ADD FOR TOTAL # OF CONDUCTORS (EX. 8 + 4 = 12 TOTAL CONDUCTORS)".

ABBREVIATIONS

A OR AMP	AMPERE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	NPT	NOMINAL PIPE THREADS
A.C.	ALTERNATING CURRENT	GND. or GRD.	GROUND	OE	OVERHEAD ELECTRIC
AF	FRAME AMPERE	H.I.D.	HIGH INTENSITY DISCHARGE	P	# OF POLES IN CIRCUIT BREAKER
A.F.F.	ABOVE FINISHED FLOOR	HP	HORSEPOWER	PH or Ø	PHASE
A.F.G.	ABOVE FINISHED GRADE	H.P.S.	HIGH PRESSURE SODIUM	PM	POWER MONITOR
A.I.C.	AMPERE INTERRUPTING CURRENT	HSPS	HIGH SERVICE PUMP STATION	PMT	PAD MOUNTED TRANSFORMER
AS	AMMETER SELECTOR SWITCH	HVAC	HEAT-VENT-AIR CONDITIONING	PNL	PANEL
AT	TRIP AMPERE	I.G.	ISOLATED GROUND	PSI	POUNDS PER SQUARE INCH
A.T.S.	AUTOMATIC TRANSFER SWITCH	I.D.	INNER DIAMETER	PT	POTENTIAL TRANSFORMER
AUTO	AUTOMATIC	IMC	INTERMEDIATE METAL CONDUIT	PVC	POLYVINYL CHLORIDE
AWG	AMERICAN WIRE GAUGE	IND.	INDUSTRIAL	QTY.	QUANTITY
B.F.G.	BELOW FINISHED GRADE	JB	JUNCTION BOX	RGS	RIGID GALVANIZED STEEL
BLDG.	BUILDING	J.I.C.	JOINT INDUSTRIAL COUNCIL	RVSS	REDUCED VOLTAGE SOLID STATE
C	COUNTERTOP RECEPTACLE	KA	KILOAMPERE	SC	SURGE CAPACITOR
C. or COND.	CONDUIT	KCMIL	1000 CIRCULAR MILS	SCC	SYSTEM CONTROL CENTER
CB	CIRCUIT BREAKER	KV	KILOVOLT	SER	SERVICE ENTRANCE RATED
CKT	CIRCUIT	KVA	KILOVOLT AMPERE	SM	SUB-METER
CP	CONTROL PANEL	KW	KILOWATT	SP	SPARE
CPT	CONTROL PANEL TRANSFORMER	LA	LIGHTNING ARRESTOR	SPD	SURGE-PROTECTIVE DEVICE
CR	CONTROL RELAY	LC	LIGHTING CONTACTOR	S.S.	STAINLESS STEEL
DESIG	DESIGNATION	LTG	LIGHTING	SWBD	SWITCHBOARD
DIA.	DIAMETER	MAX	MAXIMUM	TBA	TO BE ABANDONED
DIV.	DIVISION	MCB	MAIN CIRCUIT BREAKER	TBR	TO BE REMOVED
DPDT	DOUBLE POLE, DOUBLE THROW	mA	MILI-AMP	TCC	TELECOMMUNICATIONS CLOSET
DS	DISCONNECT SWITCH	MC	MANUFACTURER'S CABLE	TDC	TELECOMMUNICATIONS DISTRIBUTION CLOSET
E.C.	ELECTRICAL CONTRACTOR	MCC	MOTOR CONTROL CENTER	TYP.	TYPICAL
EHH	ELECTRIC HANDHOLE	MFR	MANUFACTURER	UE	UNDERGROUND ELECTRIC
EMH	ELECTRIC MANHOLE	MIN.	MINIMUM	UH	UNIT HEATER
EP	EXPLOSION PROOF	M.L.O.	MAIN LUG ONLY	UL	UNDERWRITERS LABORATORY
E.T.R.	EXISTING TO REMAIN	M.O.D.	MOTOR OPERATED DAMPER	U.O.N.	UNLESS OTHERWISE NOTED
EUH	ELECTRIC UNIT HEATER	MS	MOTOR STARTER	UE	UNDERGROUND ELECTRIC
E.W.	EACH WAY	MTD.	MOUNTED	UT	UNDERGROUND TELEPHONE
EX	EXAMPLE	N/A	NOT APPLICABLE	UV	ULTRAVIOLET
EXH	EXHAUST FAN	N.C.	NORMALLY CLOSED	V	VOLT
FU	FUSE	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION	VAC	VOLTS ALTERNATING CIRCUIT
FRE	FIBERGLASS REINFORCED EPOXY	NID	NETWORK INTERFACE DEVICE (4 POSITION)	VS	VOLTMETER SELECTOR SWITCH
G.C.	GENERAL CONTRACTOR	N.O.	NORMALLY OPEN	W	WIRE
GEN	GENERATOR	No.	NUMBER	WP	WEATHERPROOF
				XFMR	TRANSFORMER

GENERAL NOTES:

- DRAWINGS ARE DIAGRAMMATIC IN NATURE, CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO INSTALLATION CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER DIVISION TRADES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM. LOCATE FIXTURES, DEVICES, ETC. IN ORDER TO AVOID INTERFERENCES.
- ALL WORK SHALL BE PERFORMED AS REQUIRED BY APPLICABLE SECTION OF THE NATIONAL ELECTRICAL CODE, LATEST EDITION, AND ALL GOVERNING LOCAL CODES, LAWS, AND/OR REGULATIONS.

INSTRUMENT IDENTIFICATION TABLE

ISA-S5.1-1984

LETTER	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (2)		ALARM		
B	BURNER, COMBUSTION			CLOSE, STOP, DECREASE (1)	OFF (1)
C				CONTROL	
D		DIFFERENTIAL		OPEN, START, INCREASE (1)	
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		ENABLED (1)
F	FLOW RATE	RATIO (FRACTION)			FAIL (1)
G			GLASS, VIEWING DEVICE		
H	HAND				HIGH (OPENED)
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW (CLOSED)
M	MOTOR, MOTION (1)	MOMENTARY		MOTOR (1)	MIDDLE OR INTERMEDIATE ON OR OPERATE (1)
N					OVERLOAD (1)
O			ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION	PUMP (1)	
Q	QUANTITY (2)	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY OR SOLENOID		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (2)		MULTIFUNCTION (2)	MULTIFUNCTION (2)	MULTIFUNCTION (2)
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED, (2)		UNCLASSIFIED (2)		UNCLASSIFIED (2)
Y	EVENT, STATE, PRESENCE			RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION			DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

- USER'S CHOICE
- WHEN USED, SYMBOL OR SIGNAL LINE IS INDICATED.

NCDOT PROJECT NO. C-203202-RA (K-5002)
 U.S. 23/75 REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 HAYWOOD COUNTY, NORTH CAROLINA

JOB NO.: 13.00372
 DATE: OCTOBER 2013
 DESIGNED BY: DLG
 CADD BY: SAR
 DESIGN REVIEW: PAF
 CONST. REVIEW:
 FILE NAME: 1300372 E-001.dwg

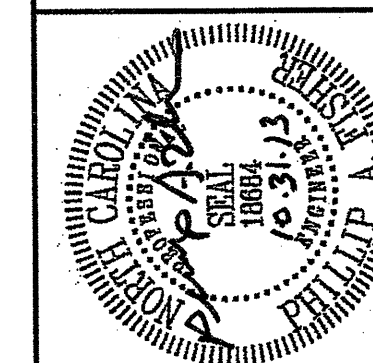
ELECTRICAL LEGEND, NOTES, SCHEDULES, AND ABBREVIATIONS

SHEET E-001

NO.	DATE	BY	REVISION DESCRIPTION

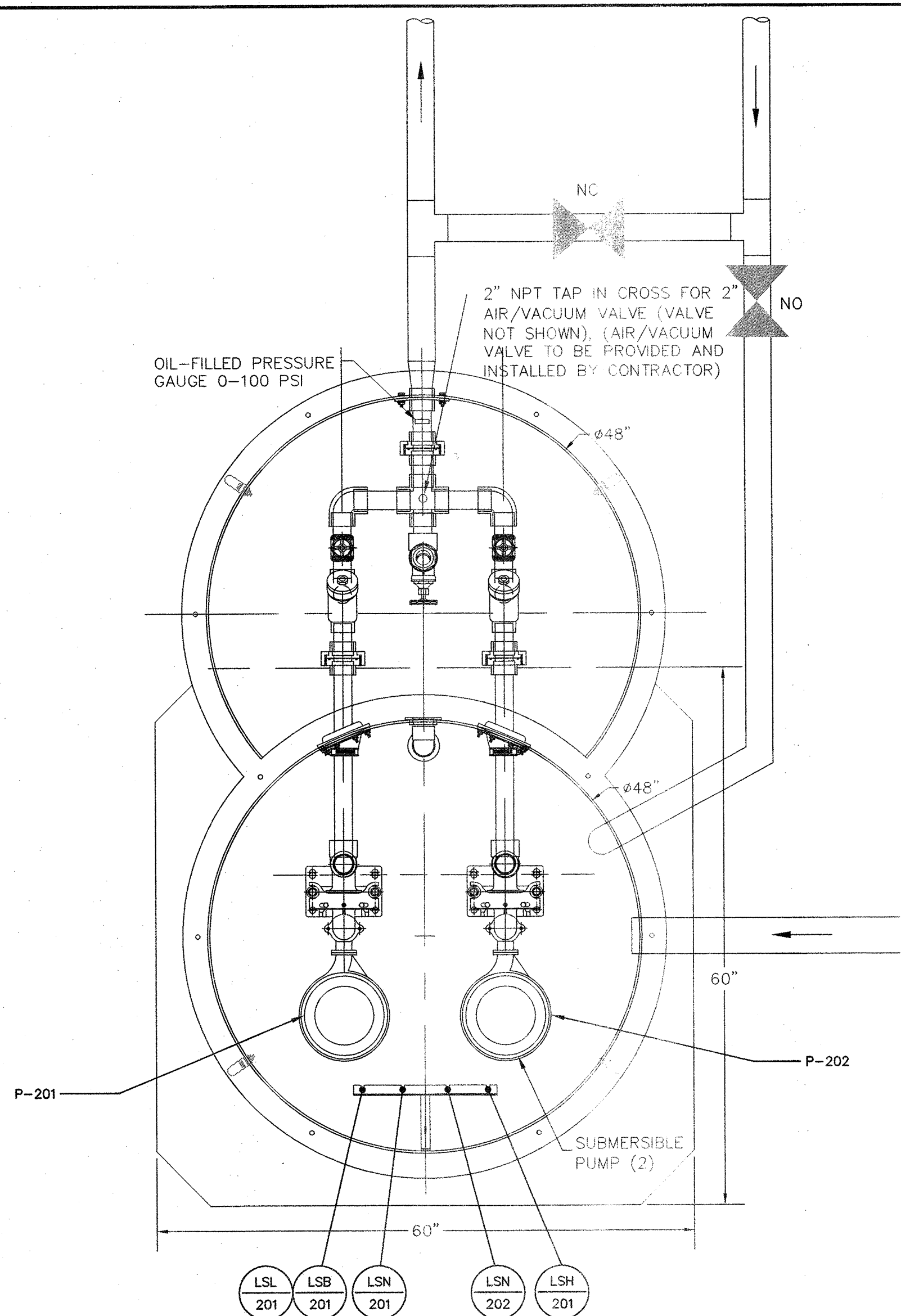
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McGill ASSOCIATES
 ENGINEERING · PLANNING · FINANCE
 55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-0459

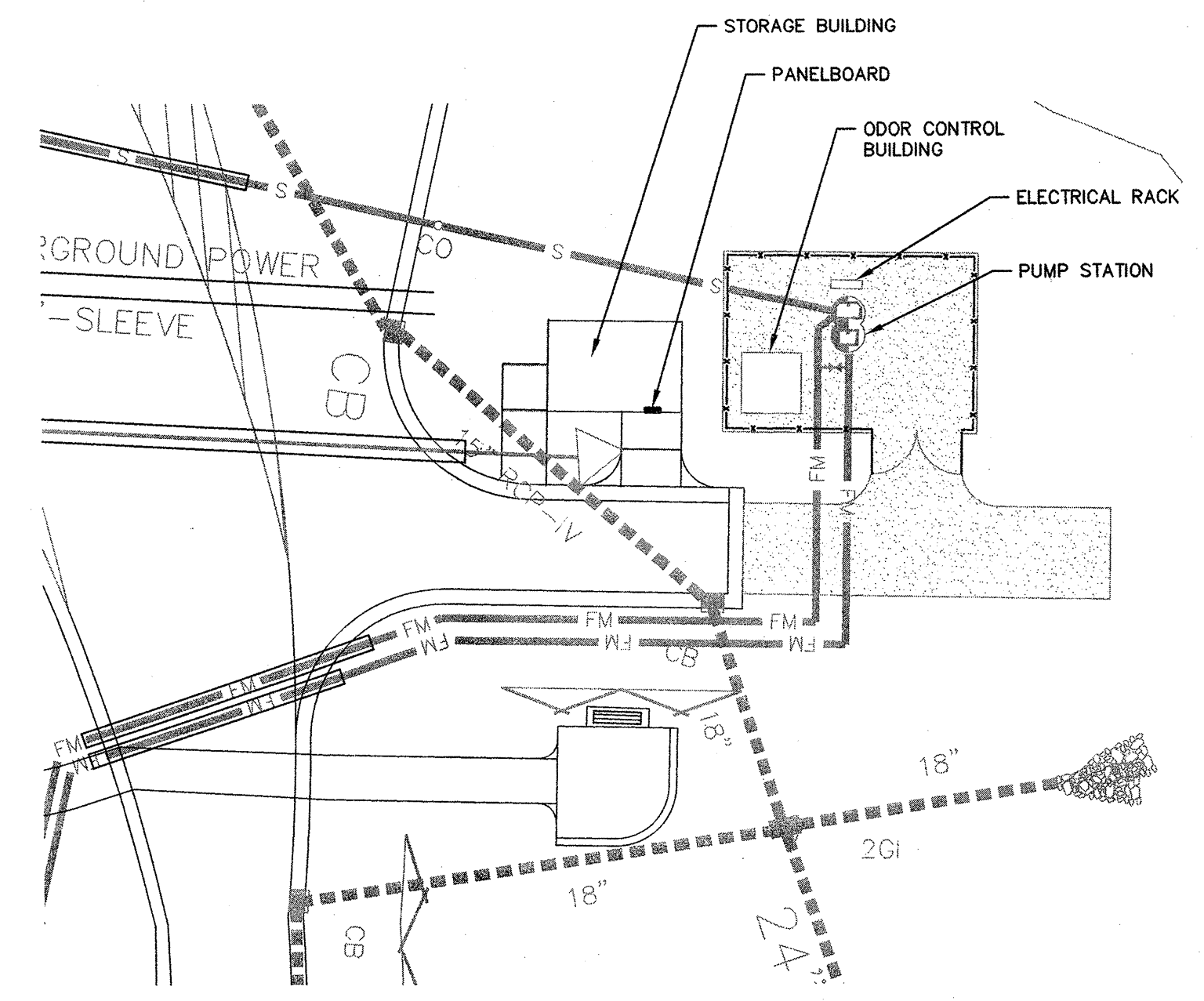


DRAWING NOTES

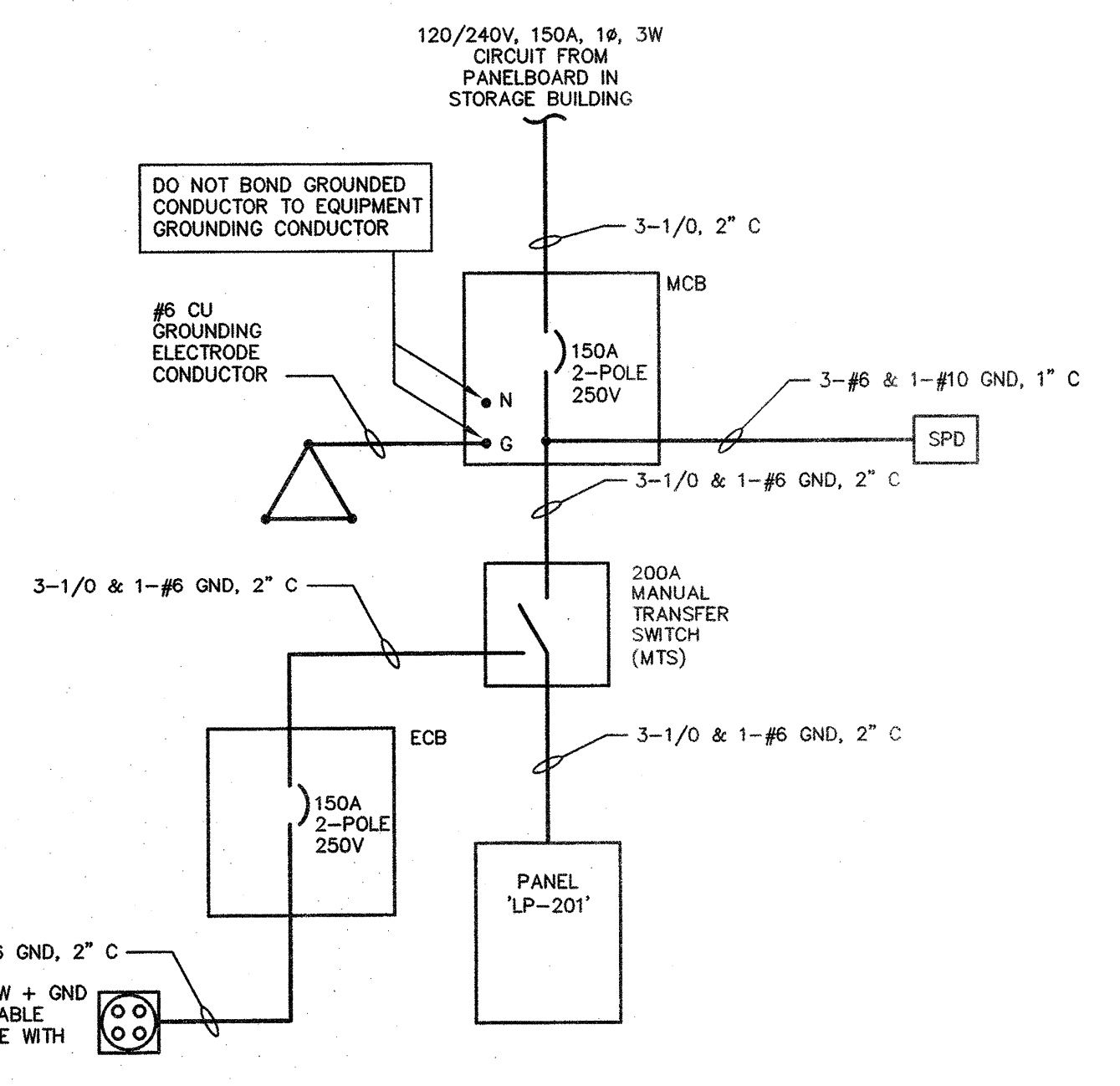
- CONTRACTOR TO COORDINATE ELECTRICAL AND TELEPHONE SERVICE WITH THE POWER AND TELEPHONE COMPANIES. SEE SERVICE POLE DETAIL ON SHEET E-501.
- MFR. CABLE, FOR PUMPS, TO INCLUDE POWER CABLES FOR PUMP, AS WELL AS, CONTROL CABLE FOR SEAL FAIL SWITCH AND HIGH TEMPERATURE SWITCH.
- SEE ELECTRICAL SWITCHRACK DETAIL AND CABLE MESH DETAIL ON SHEET E-501.
- PROVIDE WEATHERPROOF DUPLEX RECEPTACLE ON ELECTRICAL RACK.
- PUMP STATION WETWELL IS CLASSIFIED AS A CLASS I DIVISION I HAZARDOUS AREA PER NFPA 820. EQUIPMENT AND WIRING PRACTICES SHALL ABIDE BY ALL APPLICABLE CODES.



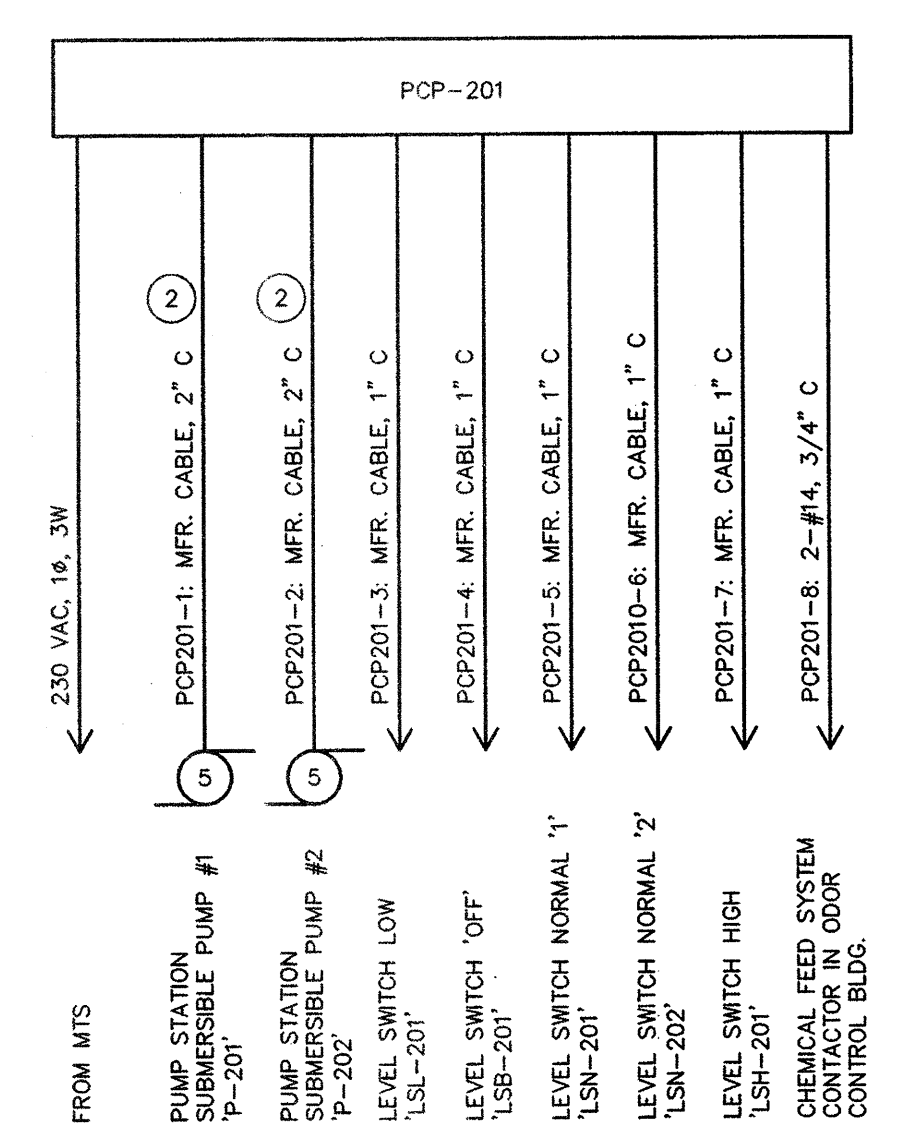
PUMP STATION ELECTRICAL PLAN VIEW
SCALE: 1"=1'-0"



PUMP STATION SITE ELECTRICAL PLAN
SCALE: 1"=20'

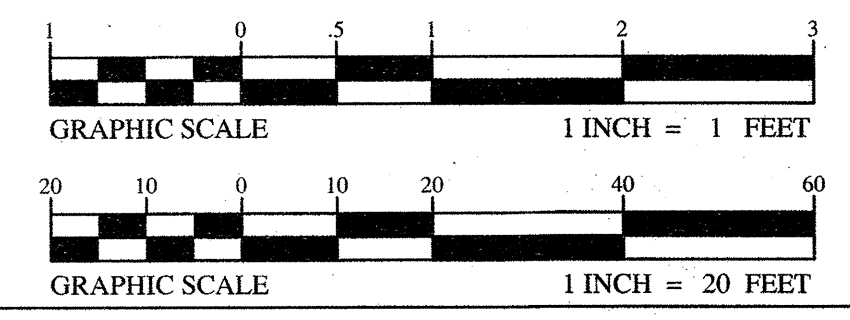


PUMP STATION POWER ONE-LINE
NOT TO SCALE



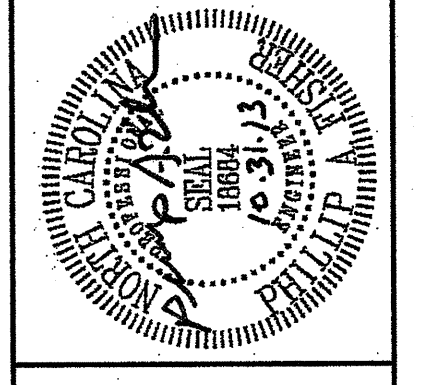
PUMP STATION PUMP CONTROL PANEL ONE-LINE (PCP-201)
NOT TO SCALE

PANEL LP-201		BUS AMP 200A		MIN. A.I.C. 10,000		MAIN BREAKER 150A											
MOUNTING SURFACE		PHASE 1		WIRE 3		VOLTAGE 120/240											
LOCATION ELECTRICAL RACK		NEMA TYPE 3R															
CKT	DESCRIPTION	BREAKER AMP	BREAKER POLES	LOAD (KW) A B	WIRE NO	WIRE SIZE	GND. SIZE	COND. SIZE	COND. GND. SIZE	WIRE NO	WIRE SIZE	LOAD (KW) A B	BREAKER AMP	POLES	DESCRIPTION	CKT	
1	RACK RECEPTACLES	20	1	0.18	2	12	12	3/4				-	1	20	SPARE	2	
3	SPARE	20	1	-								-	1	20	SPARE	4	
5	SPARE	20	1	-								-	1	20	SPARE	6	
7	SPARE	20	1	-								-	1	20	SPARE	8	
9	SPARE	20	1	-								-	1	20	SPARE	10	
11	SPARE	20	1	-								-	1	20	SPARE	12	
13	SPACE - PFFB														SPACE - PFFB	14	
15	SPACE - PFFB														SPACE - PFFB	16	
17	SPACE - PFFB														SPACE - PFFB	18	
19	SPACE - PFFB														SPACE - PFFB	20	
21	SPACE - PFFB														SPACE - PFFB	22	
23	SPACE - PFFB														SPACE - PFFB	24	
25	SPACE - PFFB														SPACE - PFFB	26	
27	PCP-201	100	2	7.2	3	2	8	1 1/2	1	10	6	3	2	2	50	ODOR CONTROL BUILDING	28
29				7.2													30
SUB-TOTAL LOAD KW				7.38	7.2							2	2				
TOTAL LOAD KW												9.38	9.2				



NO.	DATE	BY	REVISION DESCRIPTION

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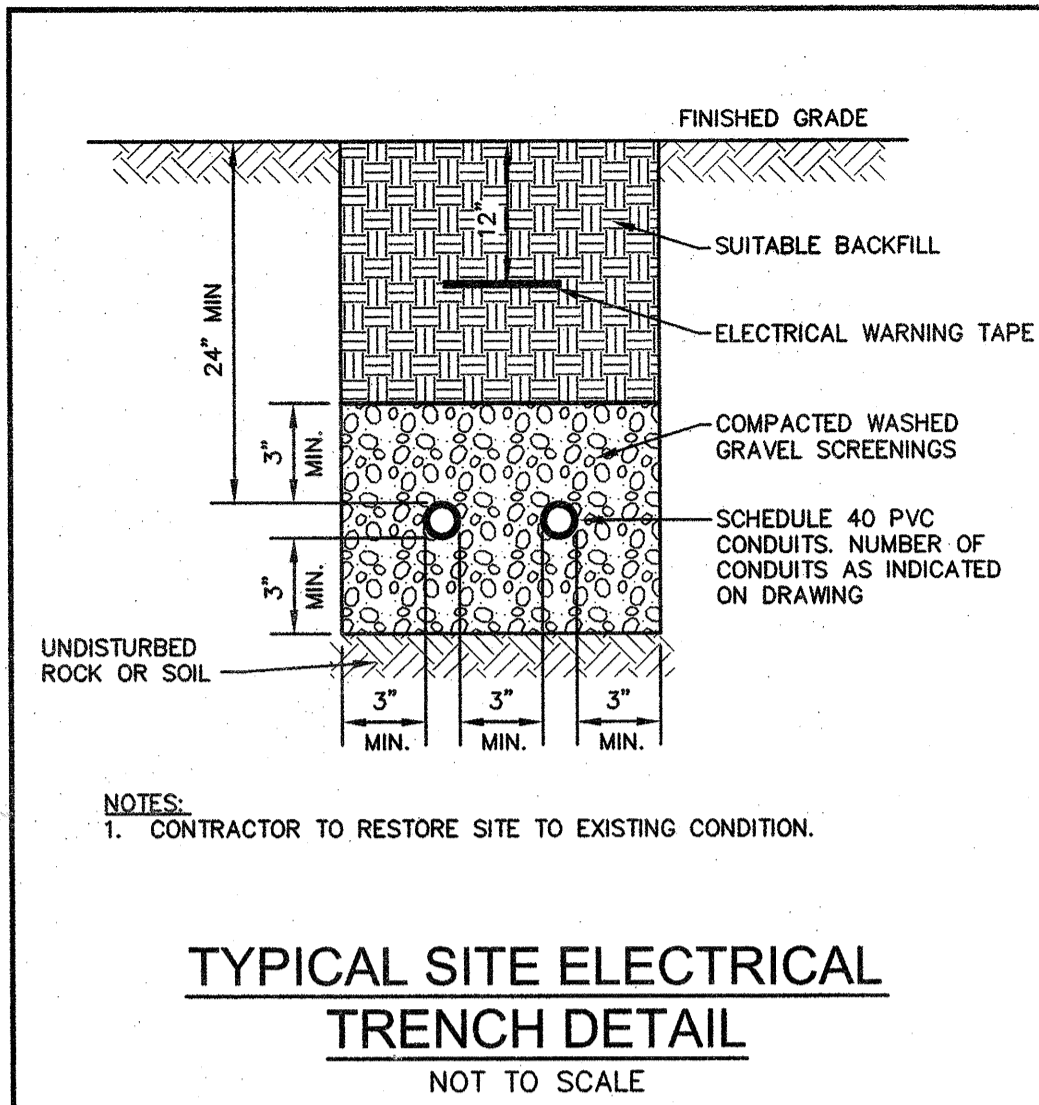
NCDOT PROJECT NO. C-203202-RA (K-5002)
REST AREA WATER AND SEWER SYSTEM IMPROVEMENTS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
HAYWOOD COUNTY, NORTH CAROLINA

JOB NO.: 1300372
DATE: OCTOBER 2013
DESIGNED BY: DLG
CADD BY: SAR
DESIGN REVIEW: PAE
CONST. REVIEW: PAE
FILE NAME: 1300372 E-100.dwg

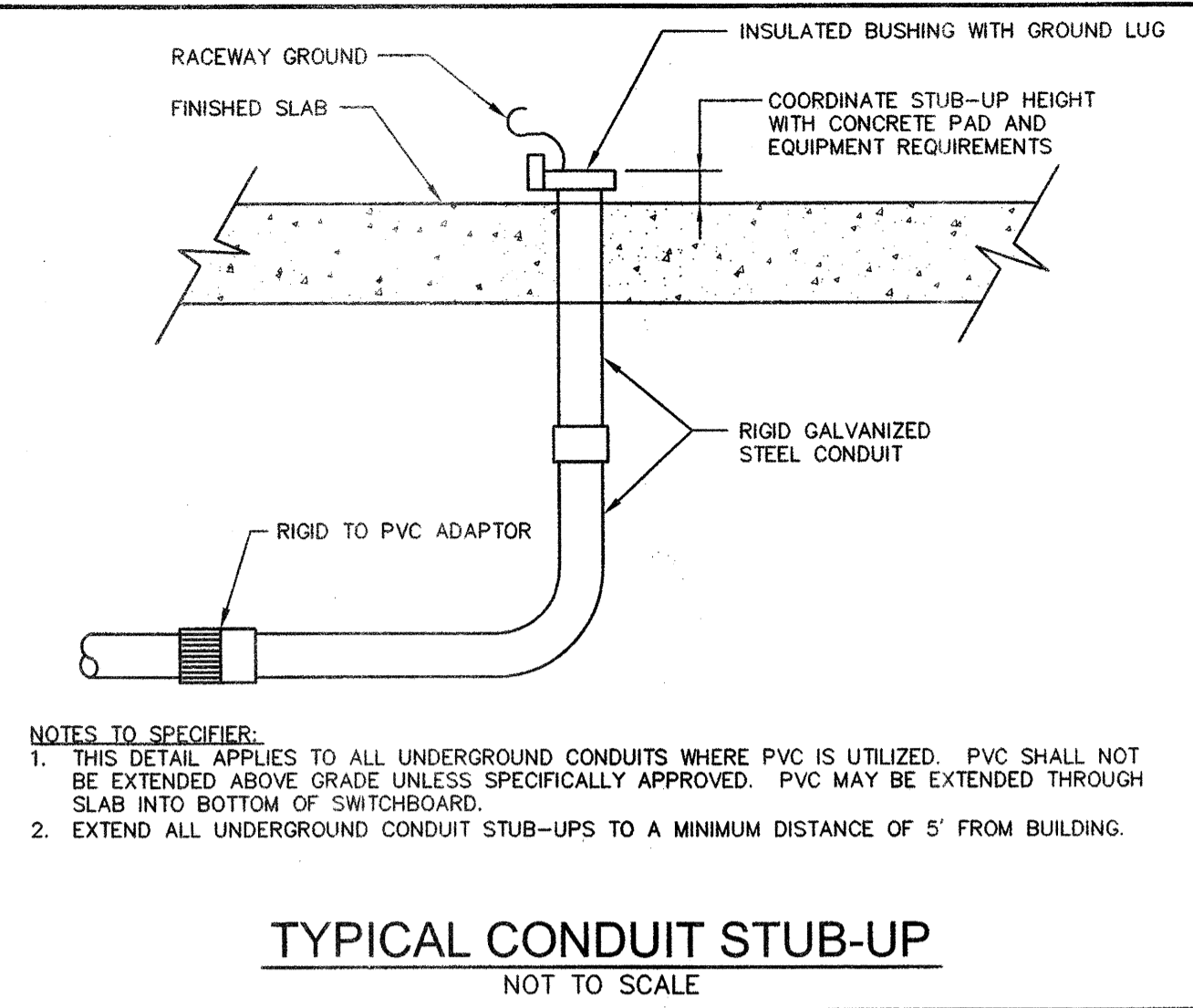
SOUTHBOUND REST AREA PUMP STATION ELECTRICAL

SHEET E-102

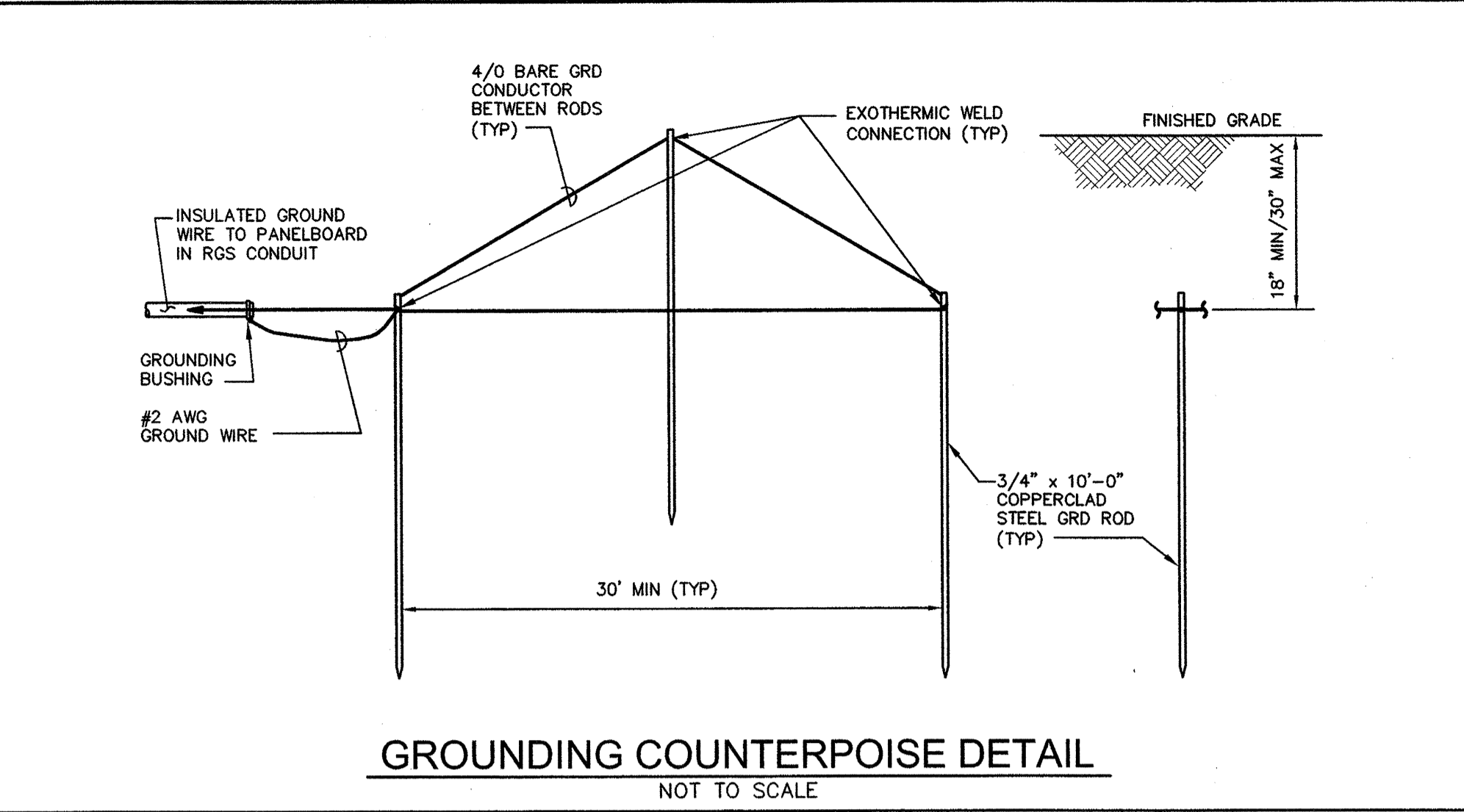
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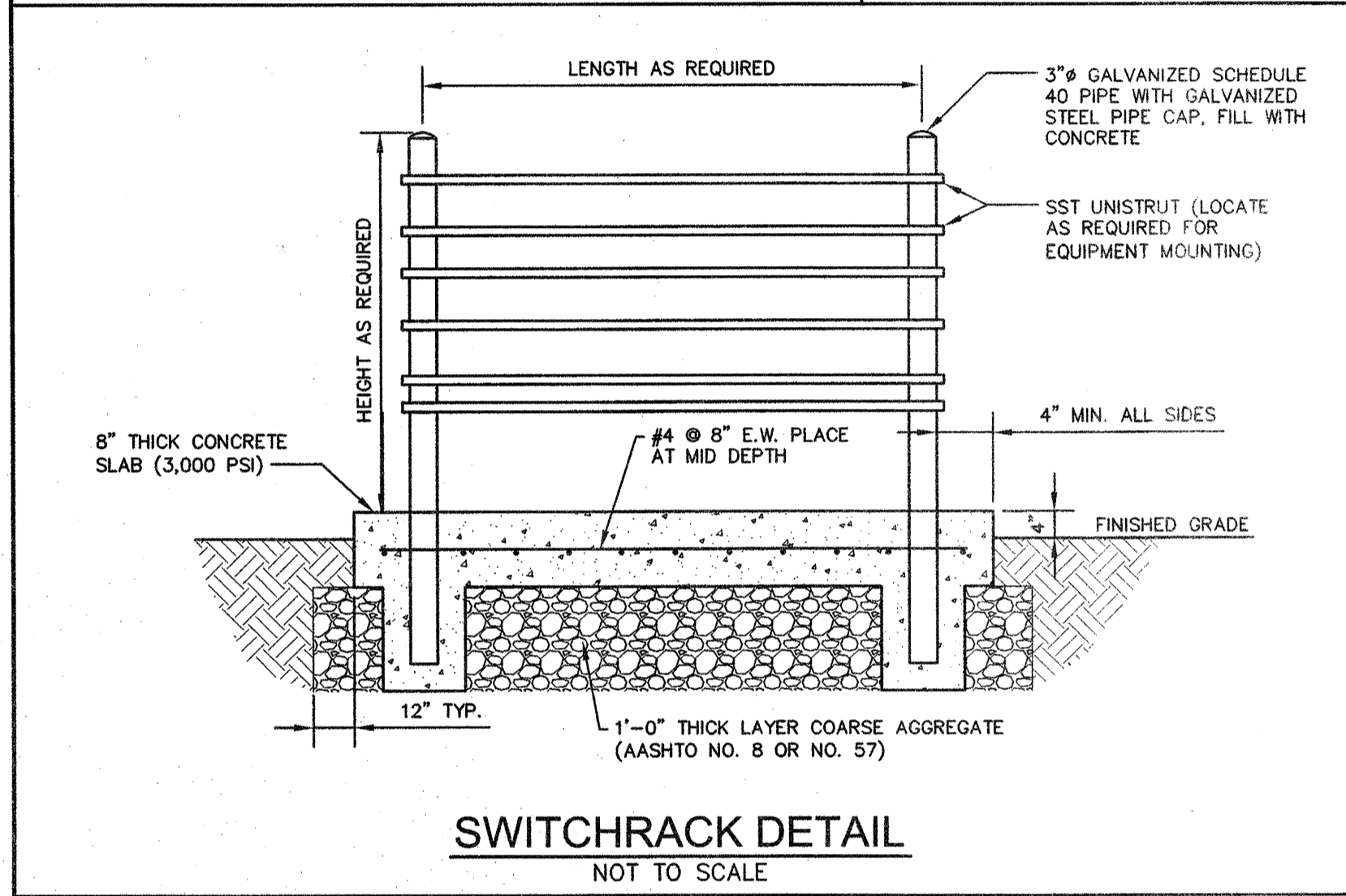
TYPICAL SITE ELECTRICAL TRENCH DETAIL
NOT TO SCALE



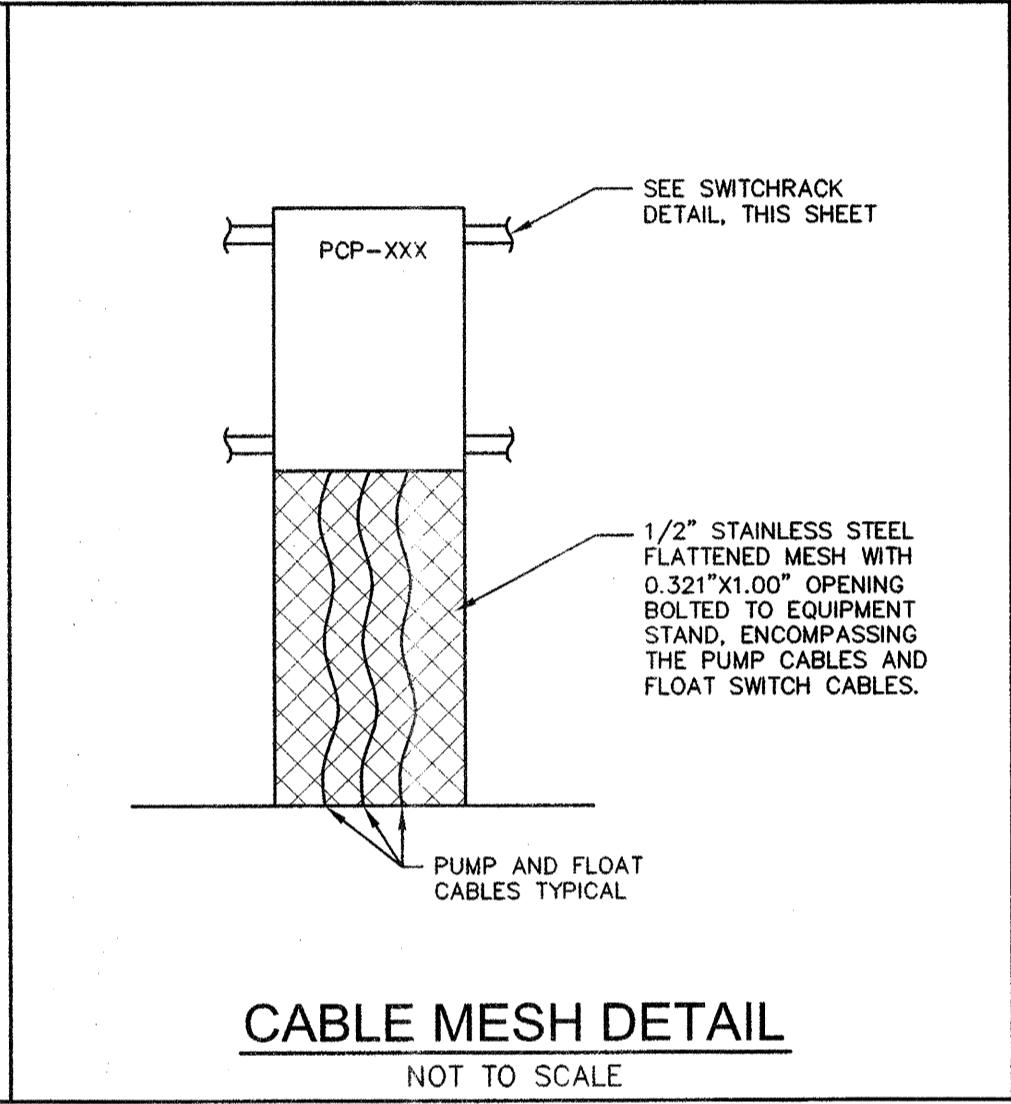
TYPICAL CONDUIT STUB-UP
NOT TO SCALE



GROUNDING COUNTERPOISE DETAIL
NOT TO SCALE

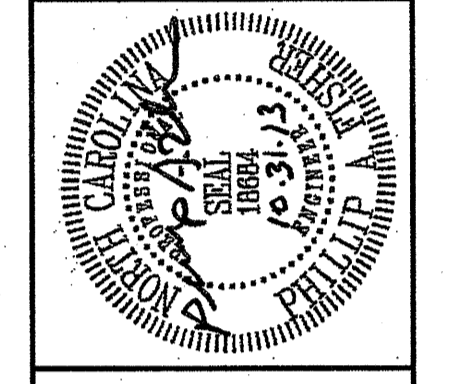


SWITCHRACK DETAIL
NOT TO SCALE



CABLE MESH DETAIL
NOT TO SCALE

McGill ASSOCIATES
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55 BROAD STREET, ASHEVILLE, NC 28801
PH: (828) 252-0575 FAX: (828) 252-0575
FIRM LICENSE # C-0459



NCDOT PROJECT NO. C-203202-PA (K-5002)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
HAYWOOD COUNTY, NORTH CAROLINA

JOB NO.: 13.00372
DATE: OCTOBER 2013
DESIGNED BY: DLG
CADD BY: SAR
DESIGN REVIEW: PAF
CONST. REVIEW: _____
FILE NAME: 1300372 E-501.dwg

ELECTRICAL DETAILS

SHEET E-501

NO.	DATE	BY	REVISION DESCRIPTION