

CONTRACTOR TO IDENTIFY & LOCATE ALL UNDERGROUND UTILITIES PRIOR TO STARTING CONSTRUCTION.

CONTRACTOR RESPONSIBLE FOR TRAFFIC CONTROL & SAFETY DURING CONSTRUCTION.

CONTRACTOR RESPONSIBLE FOR SECURING SITE DURING NON-WORKING HOURS TO ENSURE TRAFFIC & PEDESTRIAN SAFETY.

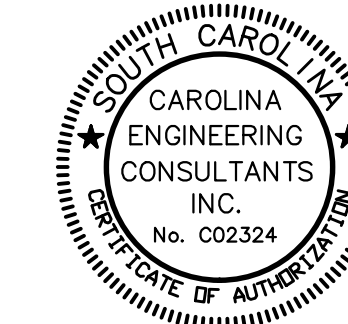
REFERENCE DATUM: NAVD 88

PREPARED BY:

CAROLINA ENGINEERING CONSULTANTS, INC.

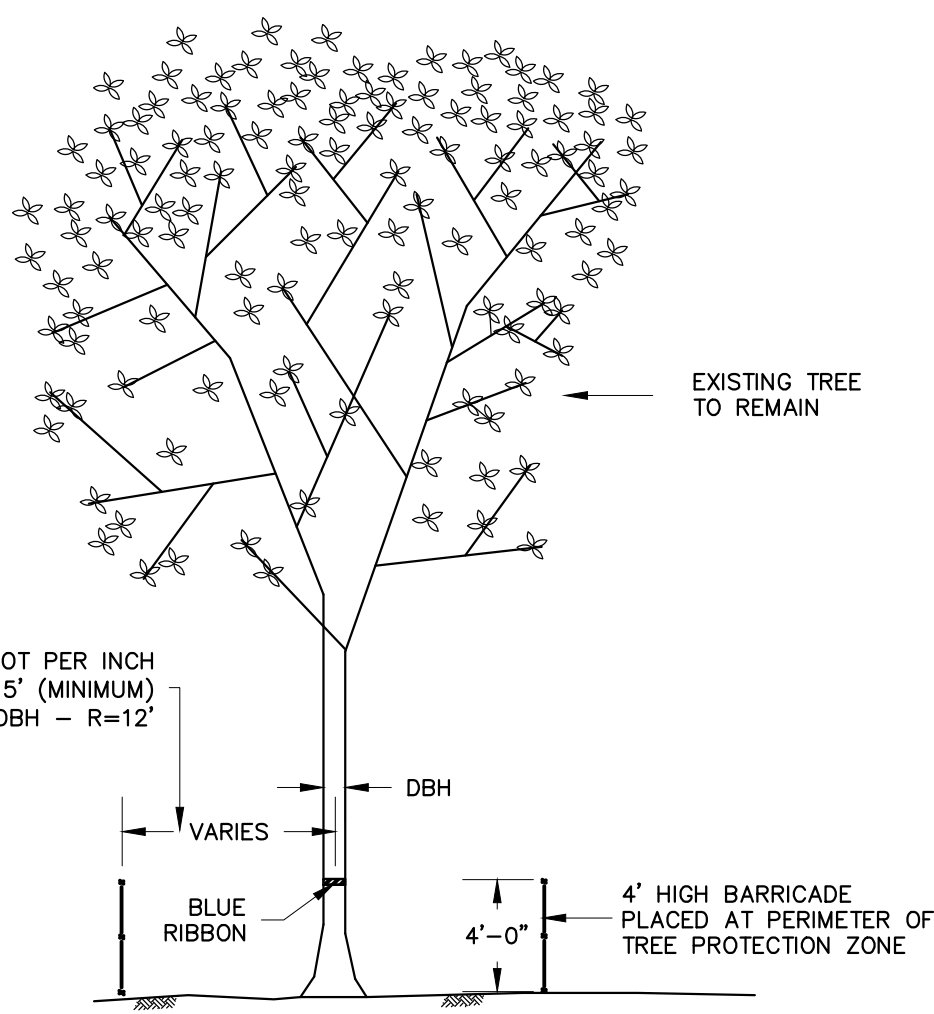
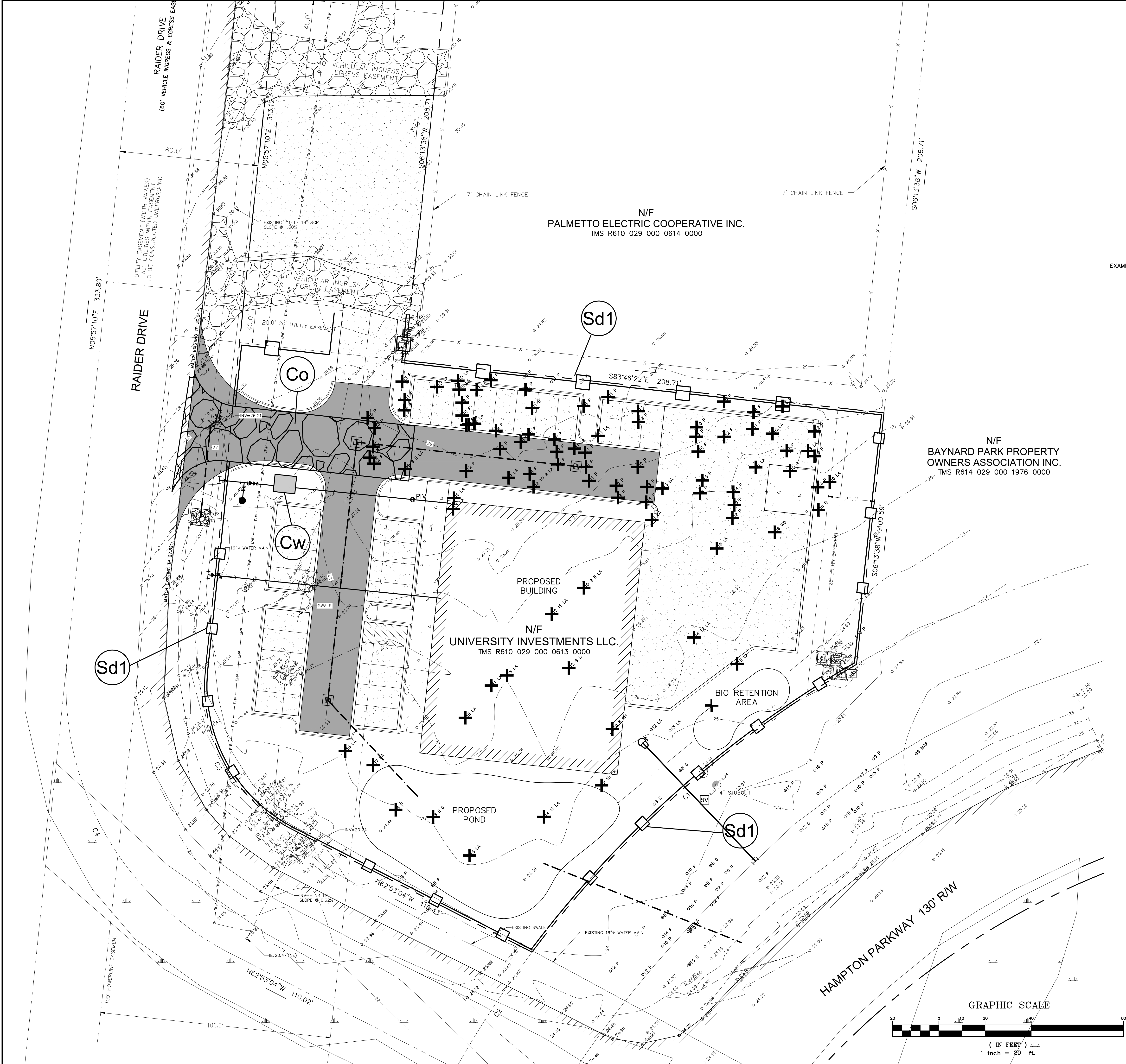
(843)322-0553
(843)322-0556 (FAX)

3 DAYS BEFORE DIGGING IN SOUTH CAROLINA
CALL 1-888-721-7877
PALMETTO UTILITY PROTECTION SERVICE



DATE: 10/11/22
REVISED: 12/14/22
PROJECT: 2478

PRELIMINARY



TREE LEGEND	
REMAIN	REMOVE

TREE IDENTIFICATION	
ABBREVIATION	DESCRIPTION
BIR	BIRCH
CYP	CYPRESS
MAG	MAGNOLIA
PA	PALM

TREE PROTECTION & REMOVAL NOTES:
INSTALL ALL TREE PROTECTION FENCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

SEDIMENT & EROSION CONTROL NOTES:

IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.

STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS NOTED BELOW.

- WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
- WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.

ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE A CALENDAR EVERY WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY, OR INCORRECTLY, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.

PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEARED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE SEDIMENT BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.

ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.

RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 ET SEQ. AND SCR100000.

TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.

ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE RAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. ADJOINER ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CANT BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.

LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.

A COPY OF THE SWPPP, INSPECTION RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.

INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3% OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.

MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.

MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.

MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPs (SEDIMENT BASIN, FILTER BAG, ETC.).

THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:

- WASTE WATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL.
- WASTE WATER FROM WASHOUT AND CLEANOUT OF STUCK, PAINT, FROM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS.
- FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE, AND
- SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.

AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.

IF EXISTING BMPs NEED TO BE MODIFIED OR IF ADDITIONAL BMPs ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SCS WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPs MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.

A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

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PLAN REVISIONS	
NO.	DESCRIPTION
1	
2	
3	
4	
5	
6	
7	
8	

**RAIDER DRIVE
BLUFFTON
BEAUFORT COUNTY, SC**

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PO BOX 294
BEAUFORT, SC 29901

PROJECT:	2478
DATE:	10/11/22
REVISED:	12/14/22
DRAWN BY:	RGG
ENGINEER:	JPA
SCALE:	1"=20'

TREE PROTECTION & REMOVAL AND SEDIMENT & EROSION CONTROL PLAN

2
OF 7

Carolina Engineering Consultants, Inc.

Professional Engineer

No. 19826

State of North Carolina

Carolina Engineering Consultants, Inc.

Professional Engineer

No. 003234

State of North Carolina

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PLAN REVISIONS		DATE	DESCRIPTION
NO.	1	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-
7	-	-	-
8	-	-	-

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SCALE:	NTS

SEDIMENT & EROSION CONTROL DETAILS

3 OF 7

VEGETATIVE MEASURES				
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			An undisturbed natural "green belt" separating the land-disturbed site from surrounding property and bordering streams. It serves to reduce water velocity and remove some sediment. It is also at times a noise or vision pollution barrier.
Cs	COASTAL DUNE STABILIZATION W/VEGETATION			Planting vegetation on dunes that are denuded, artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION W/MULCHING ONLY			Establishing temporary protection for disturbed areas where seeding may not have a suitable growing season to produce an erosion retarding cover. See Carolina Engineering Consultants, Inc. Written Technical Specifications Section 02485 for further details.
Ds2	DISTURBED AREA STABILIZATION W/TEMPORARY SEEDING			Establishing temporary vegetative cover with fast growing seedlings on disturbed areas. See Carolina Engineering Consultants, Inc. Written Technical Specifications Section 02485 for further details.
Ds3	DISTURBED AREA STABILIZATION W/PERMANENT VEGETATION			Establishing permanent vegetative cover such as trees, shrubs, vines, grasses, sod, or legumes on disturbed areas. See Carolina Engineering Consultants, Inc. Written Technical Specifications Section 02485 for further details.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface and air movement of dust on construction sites, roadways and similar sites.

Ds1

MULCHING NOTES

MULCHING:

USE MULCH ON ALL SLOPES STEEPER THAN 3% WHEN SEEDINGS ARE MADE SO LATE IN THE FALL AND WINTER THAT GERMINATION CANNOT BE EXPECTED UNTIL SPRING, IN THE BOTTOM OF SPILLWAYS, AND ON ROADBANKS. TEMPORARY VEGETATION SEEDING ALONE MAY BE ESTABLISHED ON GOOD SITES WITHOUT THE USE OF MULCH. MULCHING MATERIAL WILL CONSIST OF:

A. USE DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS. DRY STRAW WILL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY WILL BE USED AT A RATE OF 2.5 TONS PER ACRE; OR,

B. FOR HYDRAULIC SEEDING, USE WOOD CELLULOSE MULCH OR WOOD PULP FIBER AT THE RATE OF 500 POUNDS PER ACRE AND DRY STRAW OR DRY HAY AT THE RATE LISTED IN "A" ABOVE; OR,

C. FOR HYDRAULIC SEEDING ON SLOPES 3/4:1 OR STEEPER, 1,000 POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER WHICH INCLUDES A TACKIFIER MAY BE SUBSTITUTED FOR THE TREATMENT IN "B" ABOVE; OR,

D. USE THREE TONS PER ACRE OF SERICIA LESPEDEZA HAY CONTAINING MATURE SEED; OR,

E. APPLY FINE STRAW OR PINE BARK AT A THICKNESS OF 3 INCHES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED; OR,

F. SOIL RETENTION BLANKETS, EROSION CONTROL NETTING, OTHER MANUFACTURED MATERIALS, OR BLOCK SOD MAY BE REQUIRED IN ADDITION TO MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY WILL HAVE THE PROPERTY TO BE EVENLY DISPERSED WHEN AGITATED IN WATER. THE FIBERS SHALL HAVE A CONTRASTING COLOR TO THE SOIL TO ALLOW VISUAL METING AND AD IN UNIFORM APPLICATION DURING SEEDING.

APPLYING MULCH:

A. STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT, OR BY HAND. ABOUT 75% OF THE SOIL SURFACE WILL BE COVERED.

B. WOOD CELLULOSE OR WOOD FIBER MULCH WILL BE APPLIED WITH HYDRAULIC SEEDING EQUIPMENT.

ANCHORING MULCH:

A. ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS:

1. BY EMULSIFIED ASPHALT, (A) SPRAYED UNIFORMLY ONTO THE MULCH AS IT IS EJECTED FROM THE BLOWER MACHINE, OR (B) SPRAYED ON THE MULCH IMMEDIATELY FOLLOWING MULCH APPLICATION WHEN STRAW OR HAY IS SPREAD BY METHODS OTHER THAN SPECIAL BLOWER EQUIPMENT. THE COMBINATION OF ASPHALT EMULSION AND WATER SHALL CONSIST OF A HOMOGENEOUS MIXTURE SATISFACTORY FOR SPRAYING. THE MIXTURE SHALL CONSIST OF 100 GALLONS OF GRADE SS-1H OR CSS-1H EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH. CARE SHALL BE TAKEN AT ALL TIMES TO PROTECT THE PUBLIC, ADJACENT PROPERTY, PAVEDWAYS, CURBS, SIDEWALKS, AND ALL OTHER STRUCTURES FROM ASPHALT DISCOLORATION.

2. PRESS THE MULCH INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACER DISK" OR DISK HARROW WITH THE DISKS SET STRAIGHT MAY BE USED. THE DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN ERECT POSITION.

3. APPLY SYNTHETIC TACKIFIERS OR BINDERS APPLIED IMMEDIATELY AFTER THE MULCH IS SPREAD. SYNTHETIC TACKIFIERS WILL BE MIXED AND APPLIED TO MANUFACTURER'S SPECIFICATIONS.

4. FALL AND WINTER PLANTINGS MAY INCLUDE 1/2 BUSHEL OF RYE OR WHEAT TO STABILIZE THE MULCH.

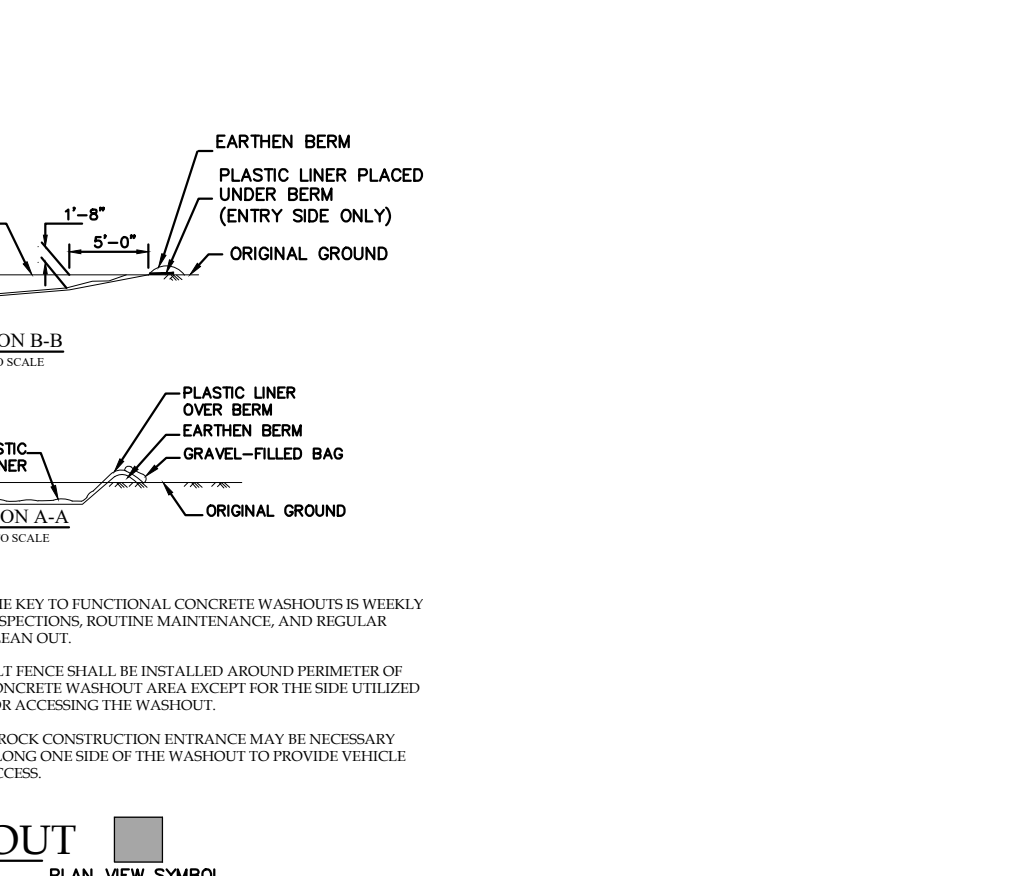
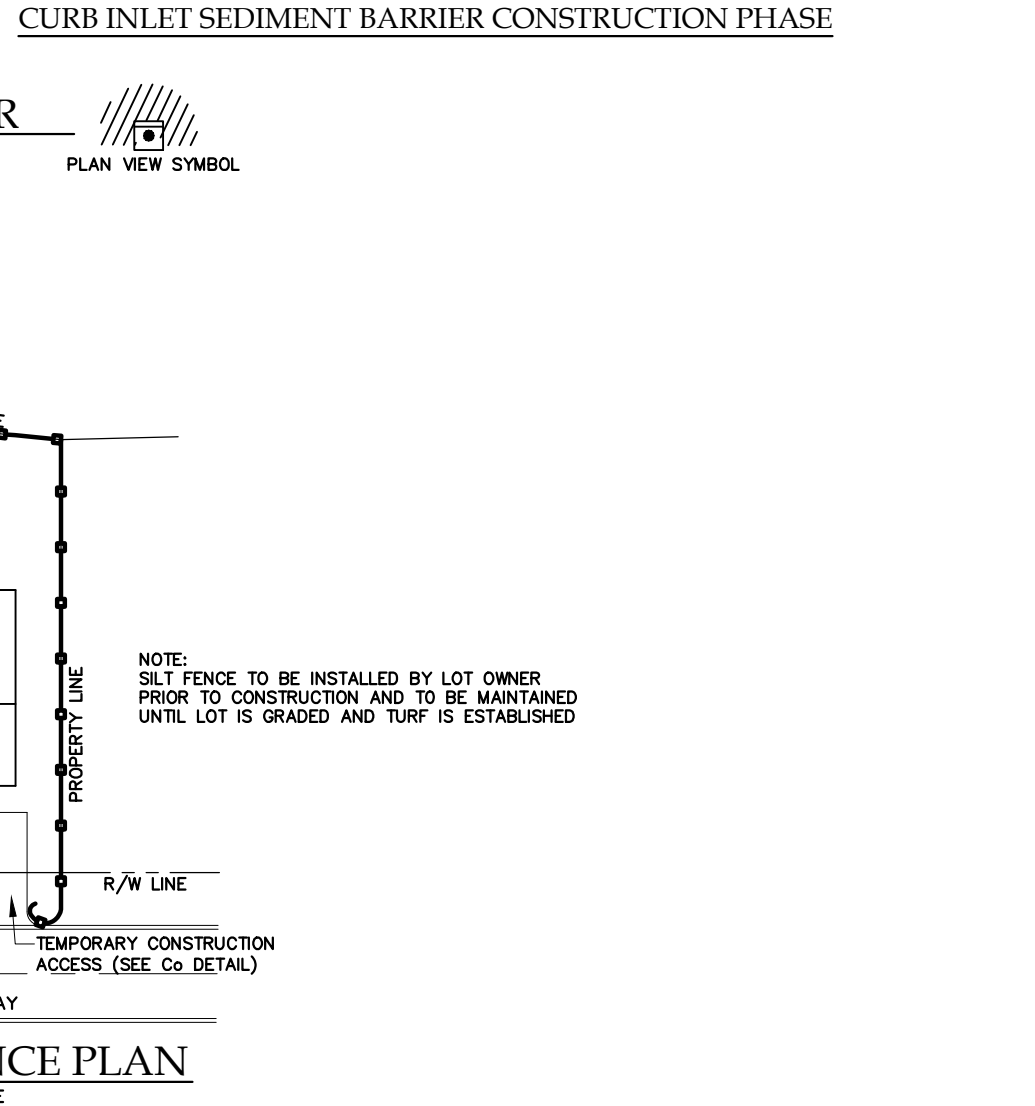
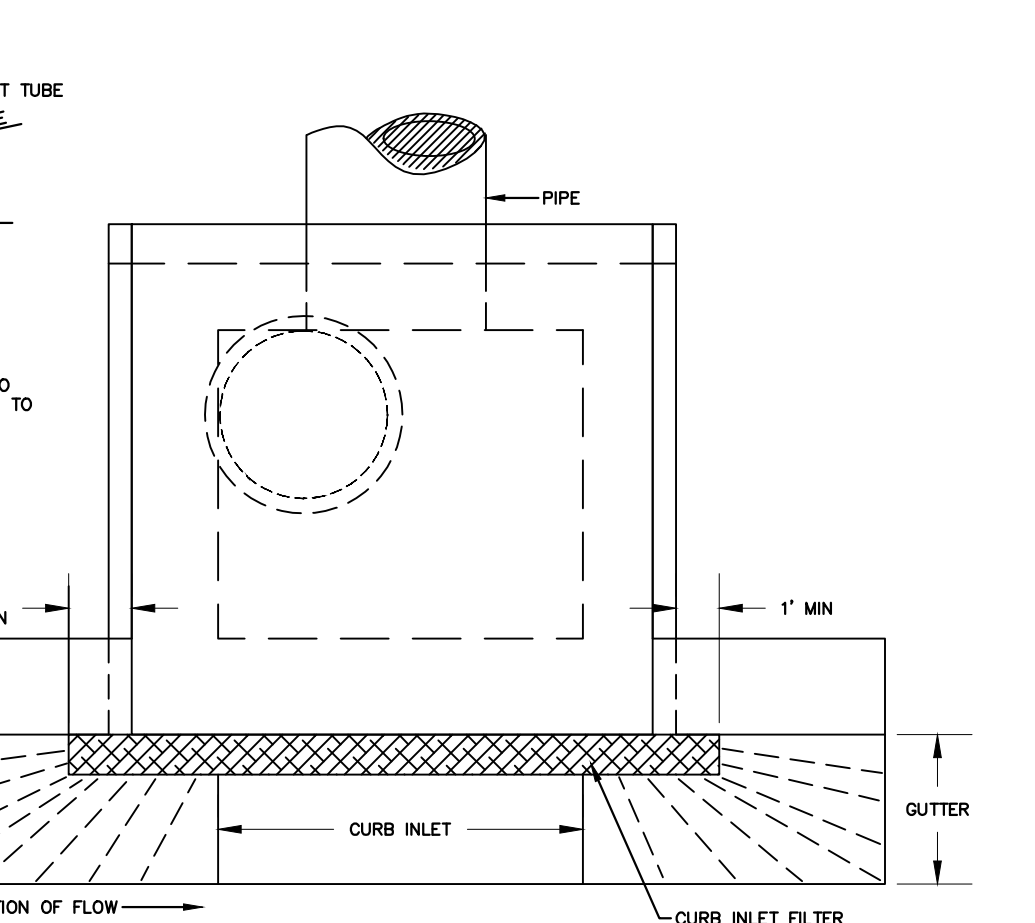
5. PLASTIC MESH OR NETTING WITH NO LARGER THAN ONE INCH BY ONE INCH MESH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS.

B. WHERE WOOD CELLULOSE OR WOOD PULP FIBER MULCH IS APPLIED ALONE, A TACKIFIER WILL BE USED.

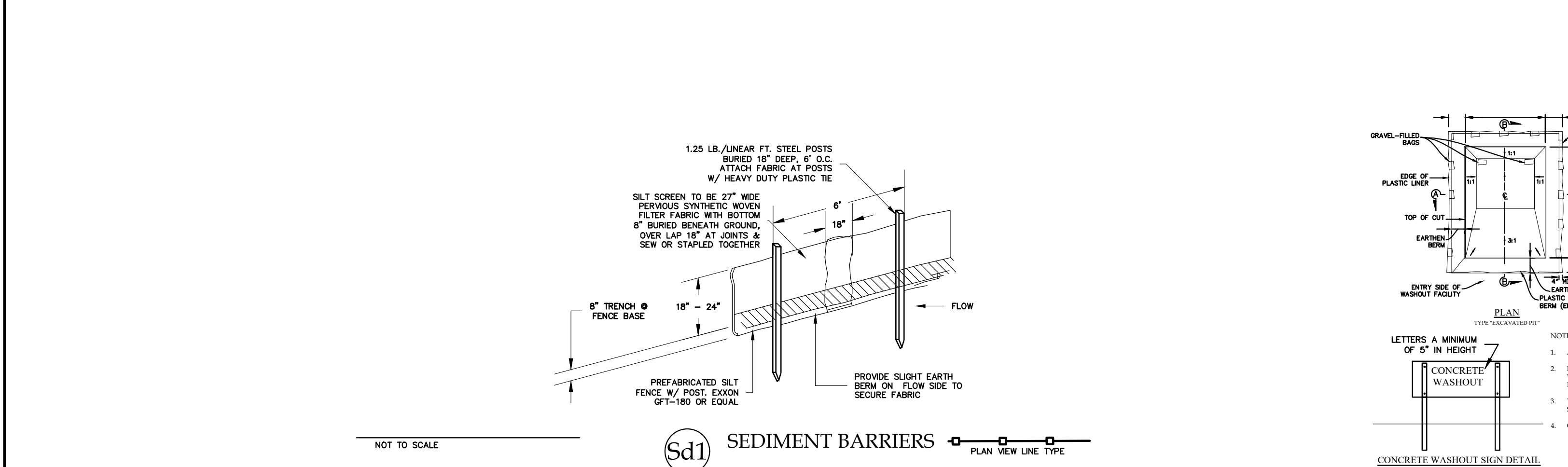
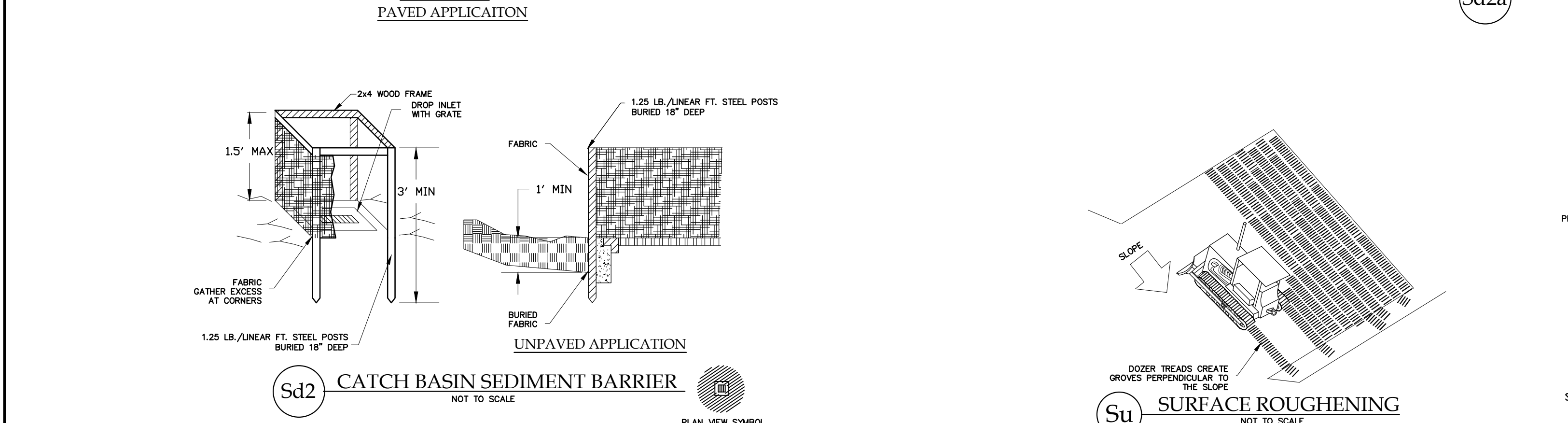
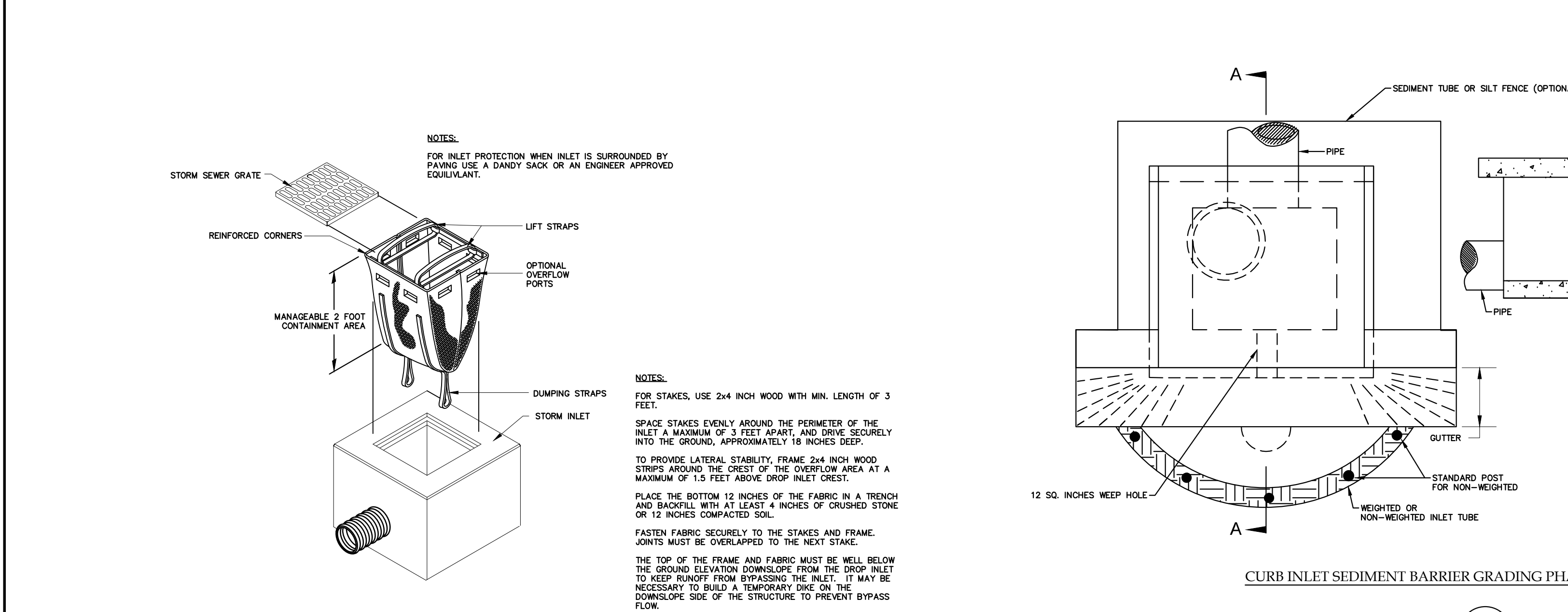
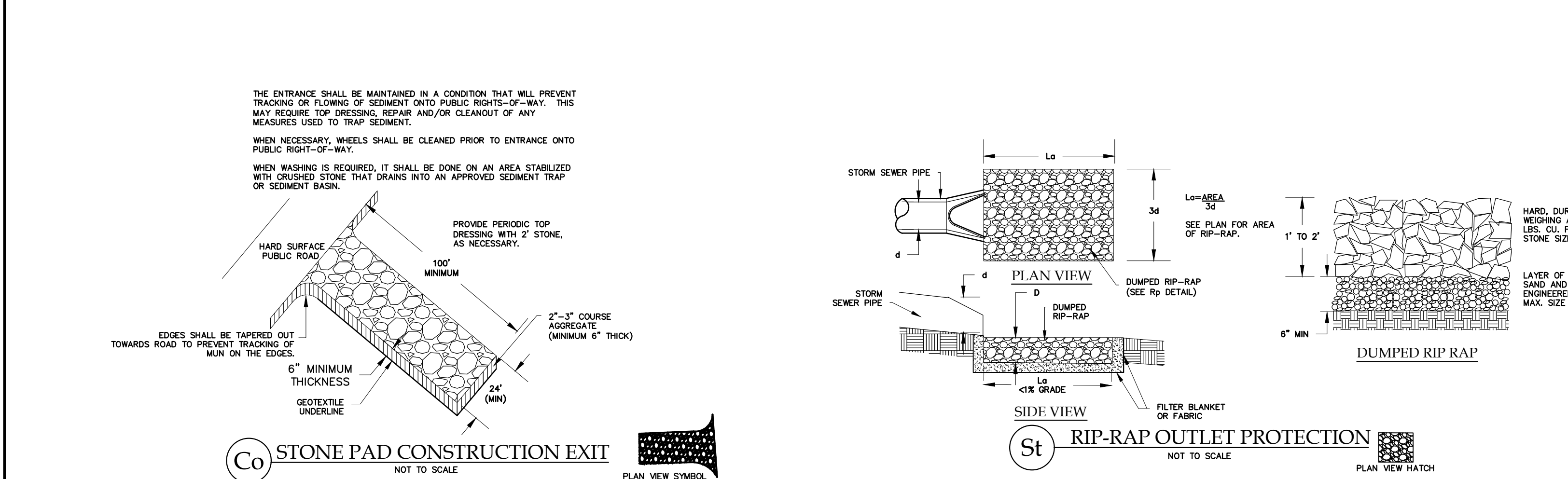
LIME AND MAINTENANCE APPLICATION:

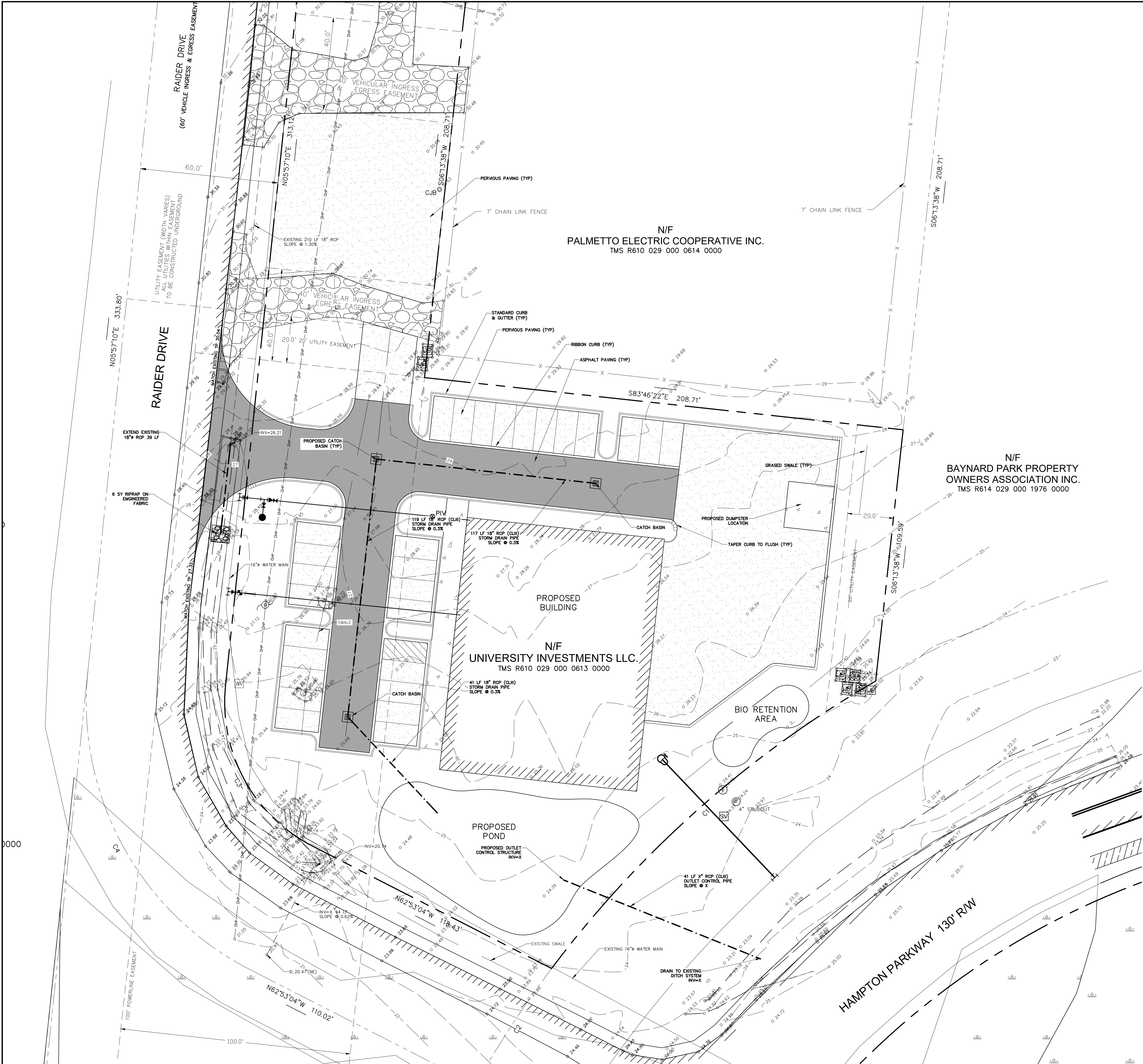
APPLY ONE TON OF AGRICULTURAL LIME EVERY 4 TO 6 YEARS.

SPECIES	LBS/AC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMPORARY SEEDING (COASTAL) WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET	40LBS/AC												
RYE, GRAM	56LBS/AC												
RYEGRASS	50LBS/AC												
TEMPORARY SEEDING (COASTAL) WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET OR JAPANESE MILLET	40LBS/AC												
RYE, GRAM OR OATS	56LBS/AC												
RYEGRASS	75LBS/AC												
PERMANENT SEEDING (COASTAL) SANDY, DOUGHTY SITES													
BROWNTOP MILLET	10LBS/AC												
BAHIA GRASS	40LBS/AC												
BROWNTOP MILLET	10LBS/AC												
BAHIA GRASS	30LBS/AC												
SERICIA LESPEDEZA	40LBS/AC												
BROWNTOP MILLET	10LBS/AC												
ATLANTIC COASTAL PANGRASS	10LBS/AC												
BROWNTOP MILLET	10LBS/AC												
SWITCHGRASS	8LBS/AC												
(ALAMO) LITTLE BLUESTEM	4LBS/AC												
SERICIA LESPEDEZA	20LBS/AC												
BROWNTOP MILLET	10LBS/AC												
WEEDING LOVEGRASS	8LBS/AC												
PERMANENT SEEDING (COASTAL) WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET	10LBS/AC												
BAHIA GRASS	40LBS/AC												
RYE, GRAM	10LBS/AC												
CLOVER, CRANSON (ANNUAL)	40LBS/AC												
BROWNTOP MILLET	10LBS/AC												
BAHIA GRASS	10LBS/AC												
SERICIA LESPEDEZA	40LBS/AC												
BROWNTOP MILLET	10LBS/AC												
BERMUDA, COMMON	12LBS/AC												
KOBE LESPEDEZA (ANNUAL)	10LBS/AC												
BROWNTOP MILLET	10LBS/AC												
BAHIA GRASS	20LBS/AC												
BERMUDA, COMMON	6LBS/AC												
SERICIA LESPEDEZA	40LBS/AC												
BROWNTOP MILLET	10LBS/AC												
SWITCHGRASS	8LBS/AC												
LITTLE BLUESTEM	3LBS/AC												
INDIAN GRASS	3LBS/AC												



ACTIVITY	SCHEDULE
EROSION CONTROL IMPLEMENTATION	EROSION CONTROL PHASE 1
MINIMAL CLEARING AND GRUBBING	EROSION CONTROL PHASE 1
CLEARING AND GRUBBING	EROSION CONTROL PHASE 1
POND INSTALLATION	CONSTRUCTION PHASE 2
CUT AND FILL	CONSTRUCTION PHASE 2
GRASSING (LIMIT EXPOSURE TO 7 DAYS)	CONSTRUCTION PHASE 2
UTILITY INSTALLATION	CONSTRUCTION PHASE 2
ROADWAY CONSTRUCTION	CONSTRUCTION PHASE 2
FINISH GRADING	CONSTRUCTION PHASE 2
REMOVE SEDIMENT FROM POND AND LINE	STABILIZATION PHASE 3
FINAL STABILIZATION	STABILIZATION PHASE 3
MAINT. EROSION CONTROL MEASURES	THROUGHOUT LIFE OF PROJECT
SUBMIT NOT AND AS BUILTS TO SCHED	UPON COMPLETION OF PROJECT
	COMPLETION





**GENERAL NOTES,
PAVING, GRADING & DRAINAGE NOTES:**

CAROLINA ENGINEERING CONSULTANTS, INC.'S WRITTEN CONSTRUCTION SPECIFICATIONS WILL BE FOLLOWED ON THIS JOB. IF CONTRACTOR NEEDS COPY OF THESE SPECIFICATIONS, PLEASE CONTACT CAROLINA ENGINEERING.

TOPOGRAPHY, BOUNDARY, WETLAND AND BASE INFORMATION PROVIDED BY ATLAS LAND SURVEYING.

BENCHMARKS ARE TO BE VERIFIED BY CONTRACTOR.

CONTRACTOR SHALL VERIFY ALL MANHOLE AND INVERT ELEVATIONS BEFORE STARTING WORK.

CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES.

SILT FENCE AND TREE FENCES TO BE IN PLACE PRIOR TO COMMENCING WORK.

MAINTAIN A 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER AND WATER MAINS. WHERE THIS SEPARATION CANNOT BE MAINTAINED OR THE LINES CROSS, THE BOTTOM OF THE WATER MAIN SHALL BE 18" ABOVE THE TOP OF THE SEWER MAIN LAID IN SEPARATE TRENCHES.

WHERE NEW CONSTRUCTION IS NEAR THE EDGE OF AN EXISTING PAVED ROADWAY, A TRAFFIC LANE WILL BE TEMPORARILY CLOSED TO PROVIDE SAFETY TO THE PUBLIC AND TO THE WORKMEN. NO LANE CLOSURES DURING 7:00 AM TO 9:00 AM OR FROM 3:30 PM TO 6:00 PM ARE ALLOWED.

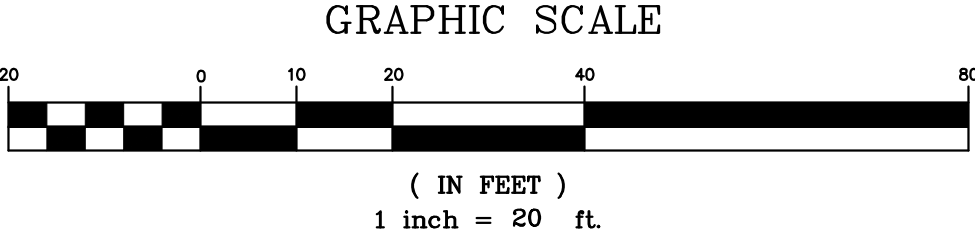
APPLICANT WILL REPAIR ALL DAMAGE DONE TO ROADSIDE AND RESEED WITH PERMANENT GRASS.

TRAFFIC CONTROLS FOR THIS INSTALLATION SHALL BE IN ACCORDANCE WITH S.C.M.U.T.C.D.

PAVEMENT MARKING LINES TO BE THERMOPLASTIC.

RAISED REFLECTIVE PAVEMENT MARKER RRPW'S TO BE INSTALLED IN ACCORDANCE WITH SCDOT'S STANDARD DRAWINGS NO. 603-1 THRU 603-8 JULY, 1997.

ALL PROPOSED SIGNAGE AND PAVEMENT MARKINGS SHOULD BE IN ACCORDANCE WITH THE 2003 EDITION OF THE MUTCD.



**RAIDER DRIVE
BLUFFTON
BEAUFORT COUNTY, SC**

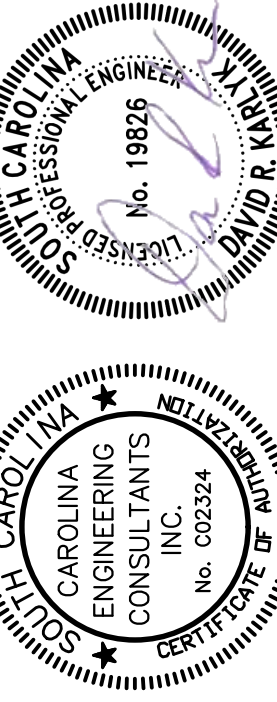
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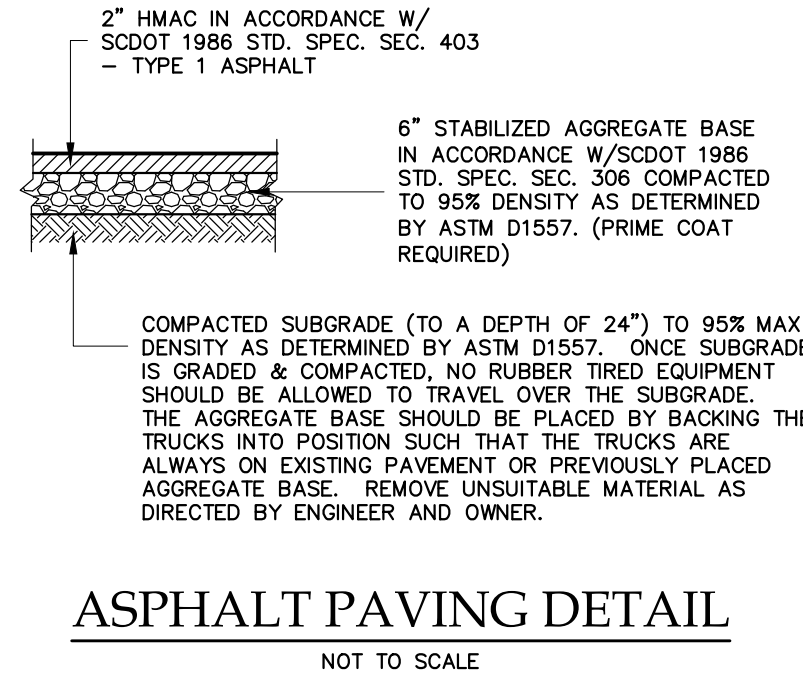
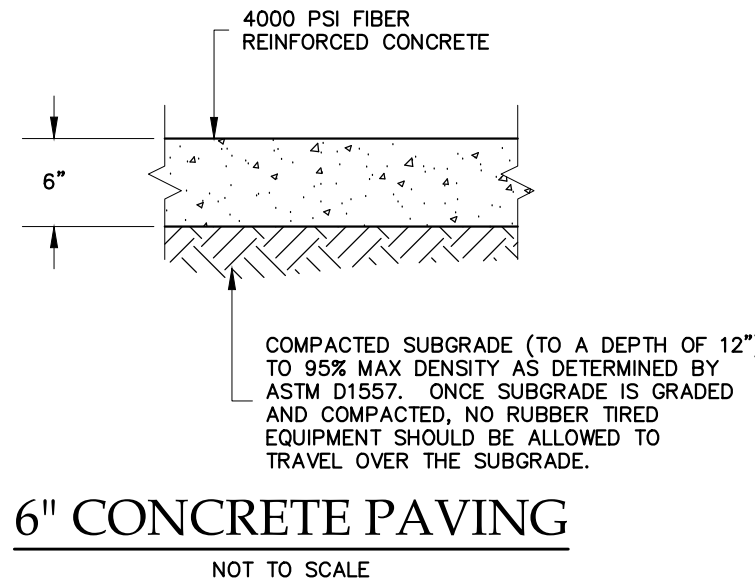
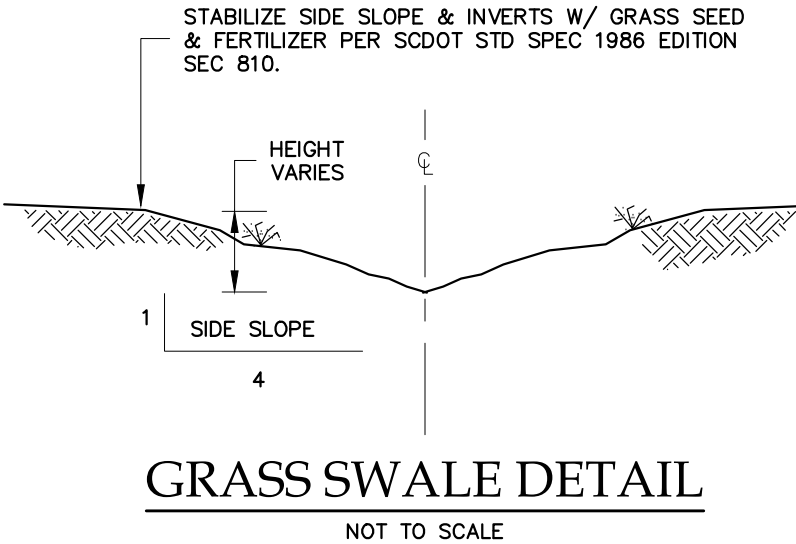
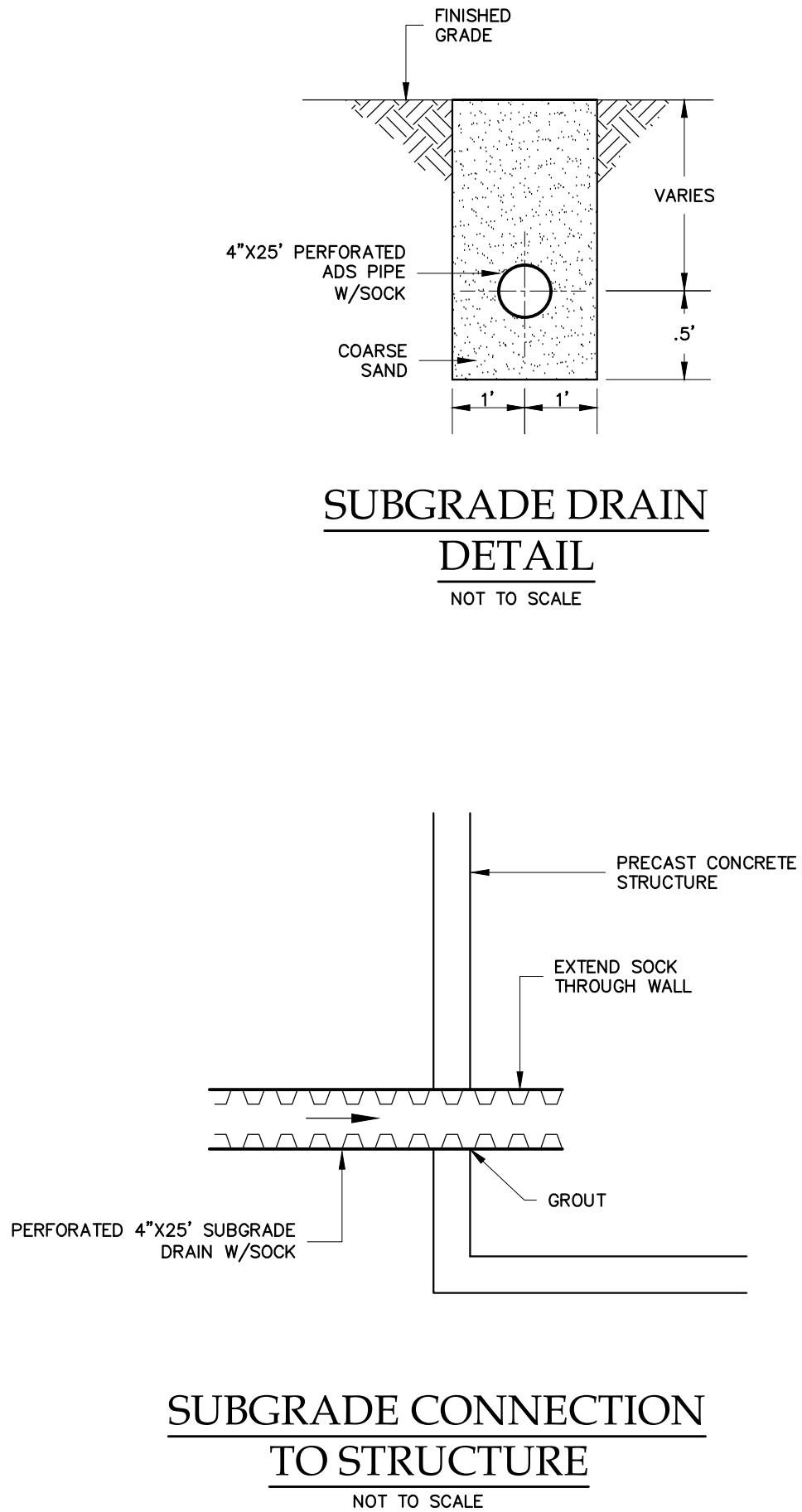
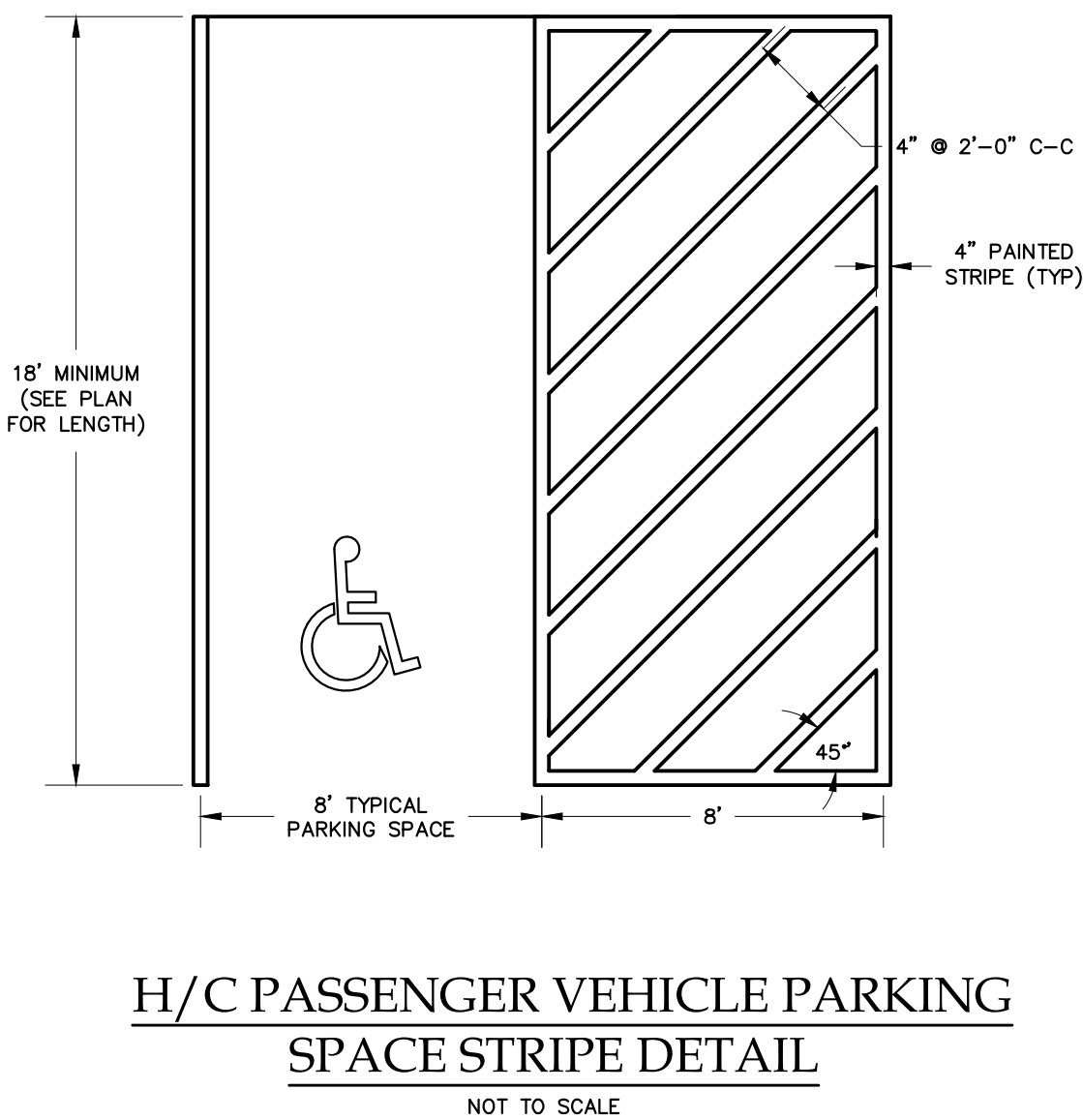
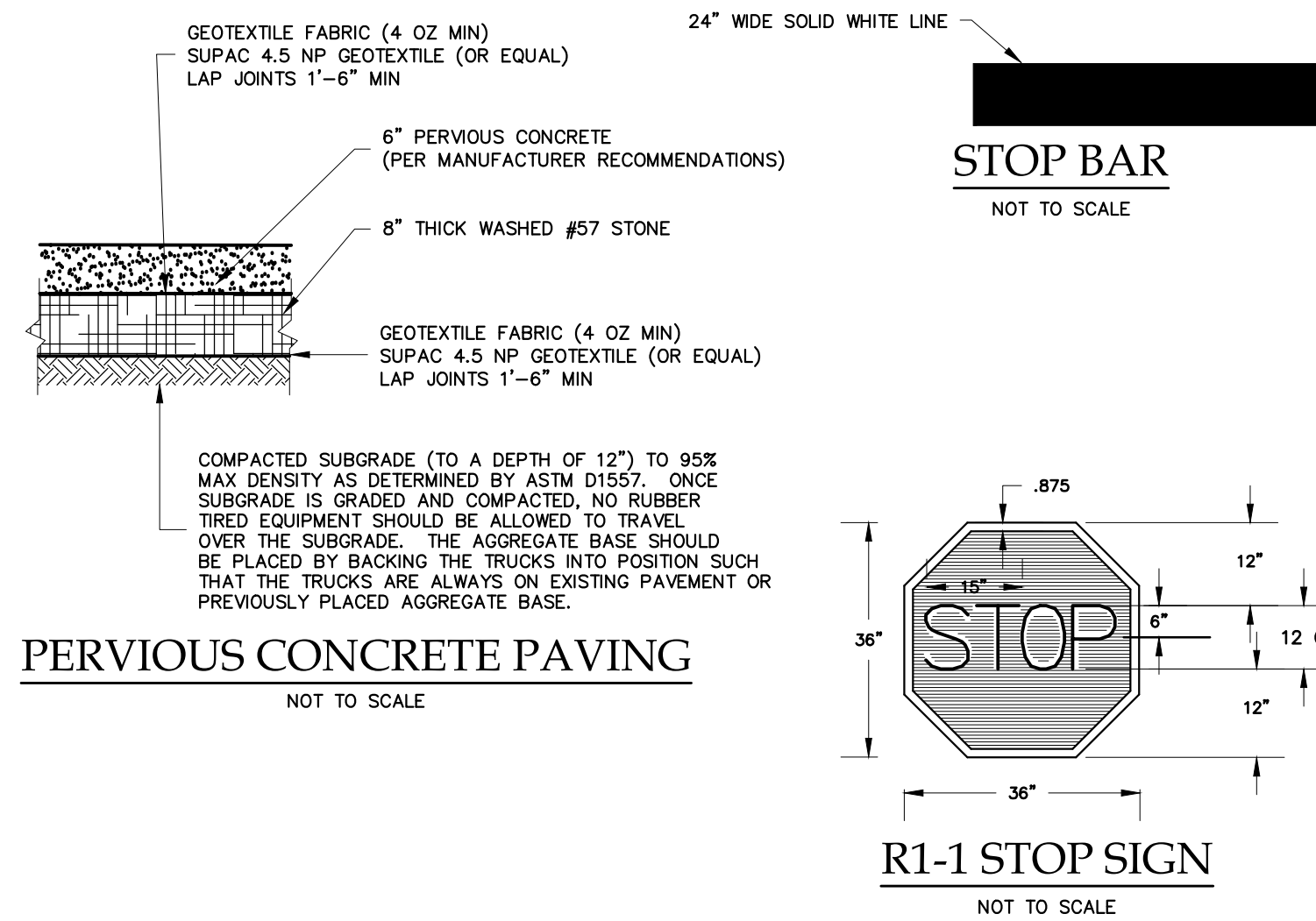
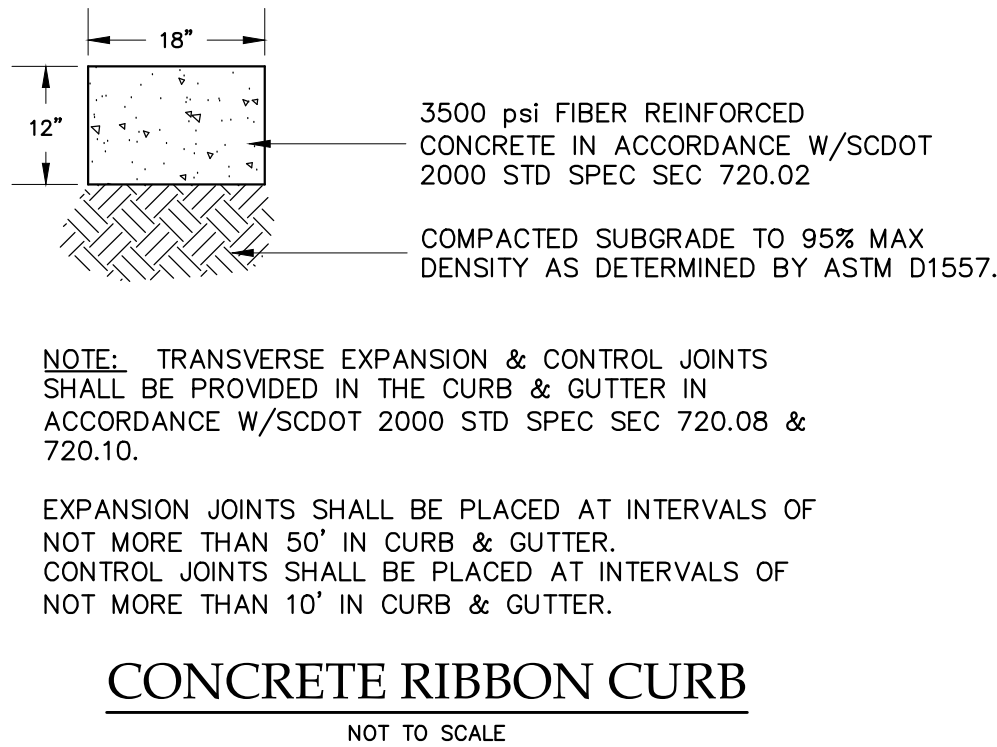
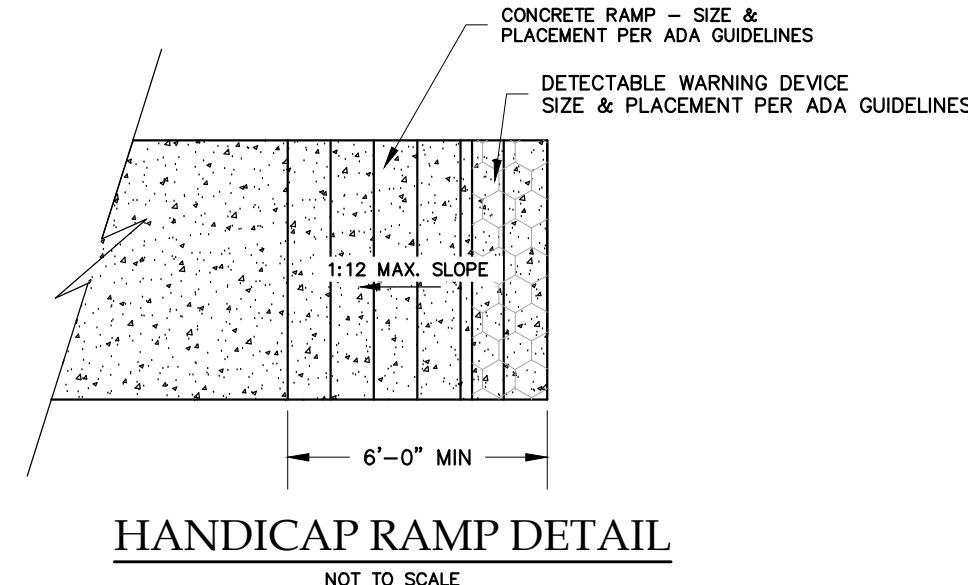
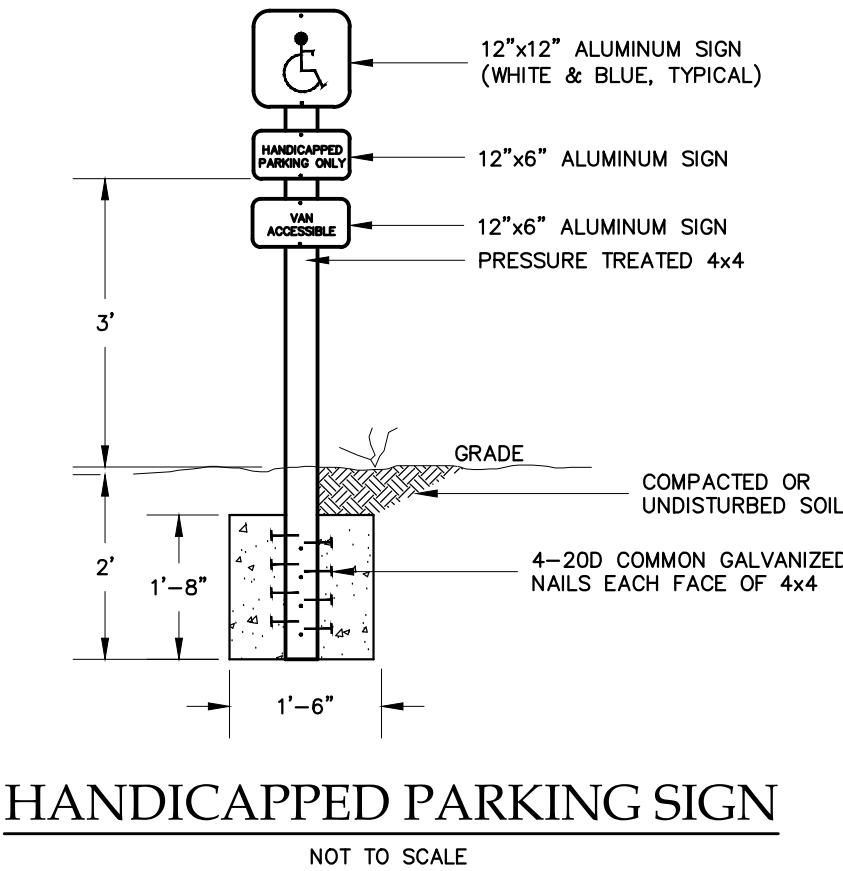
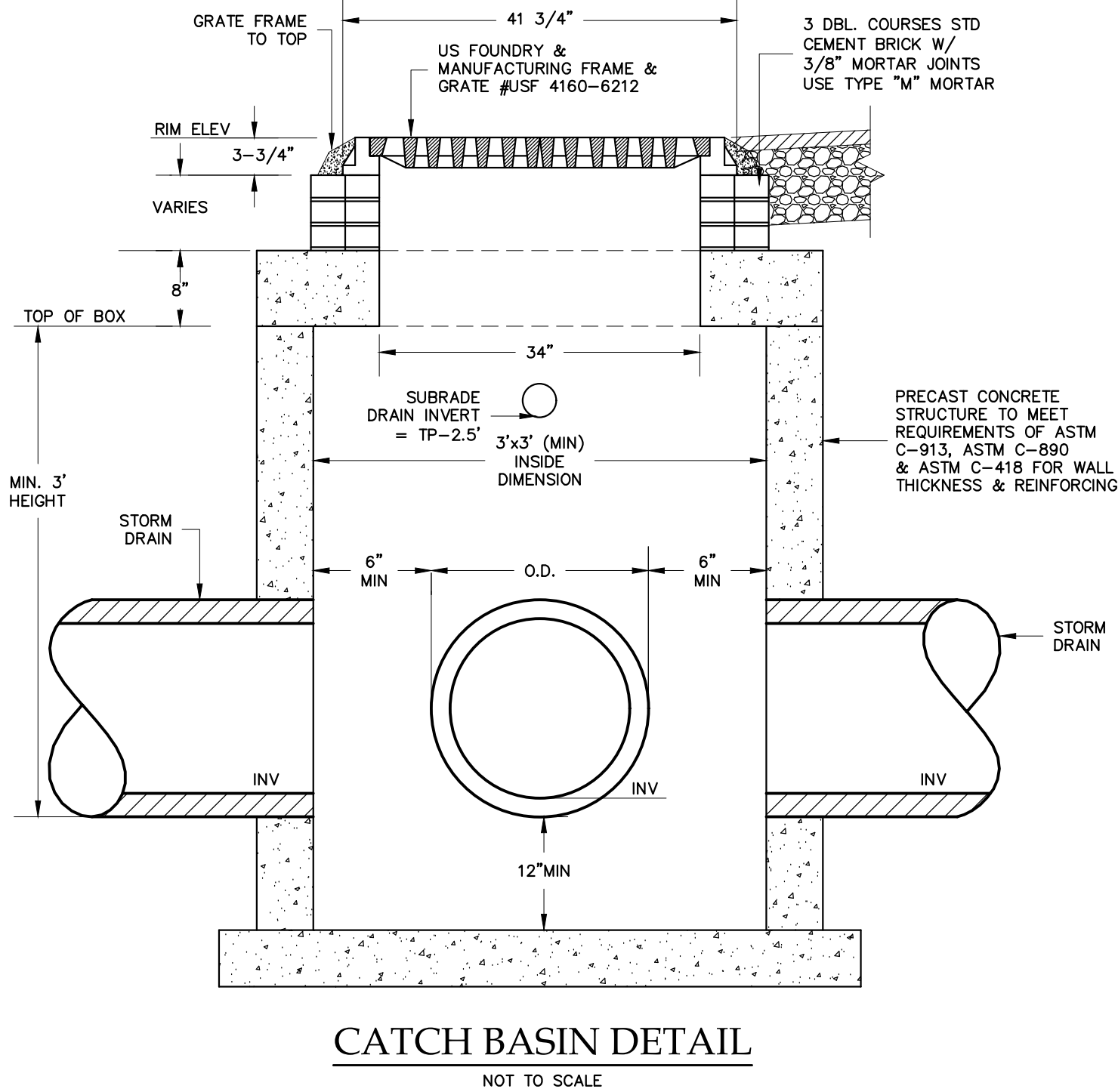
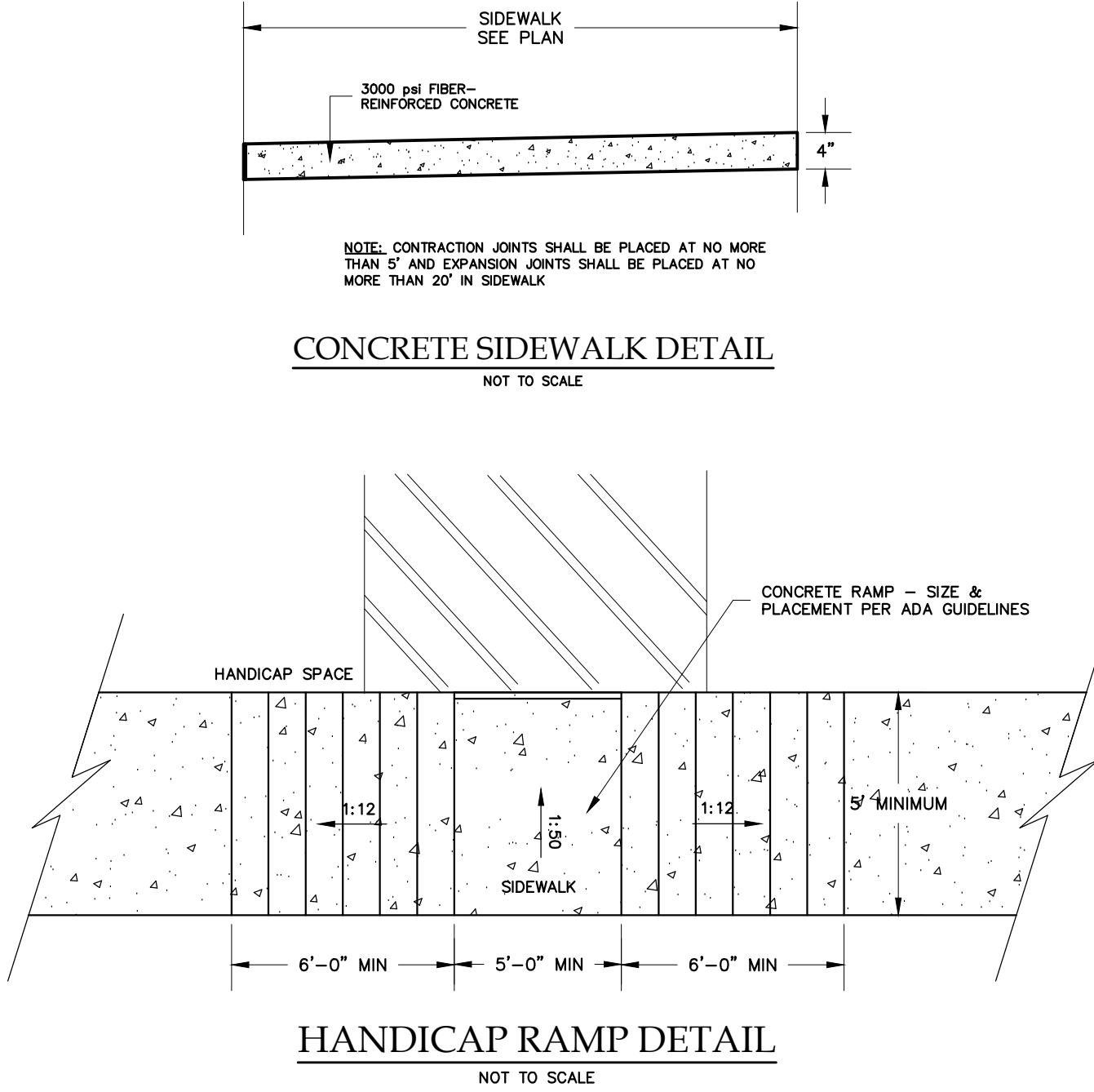
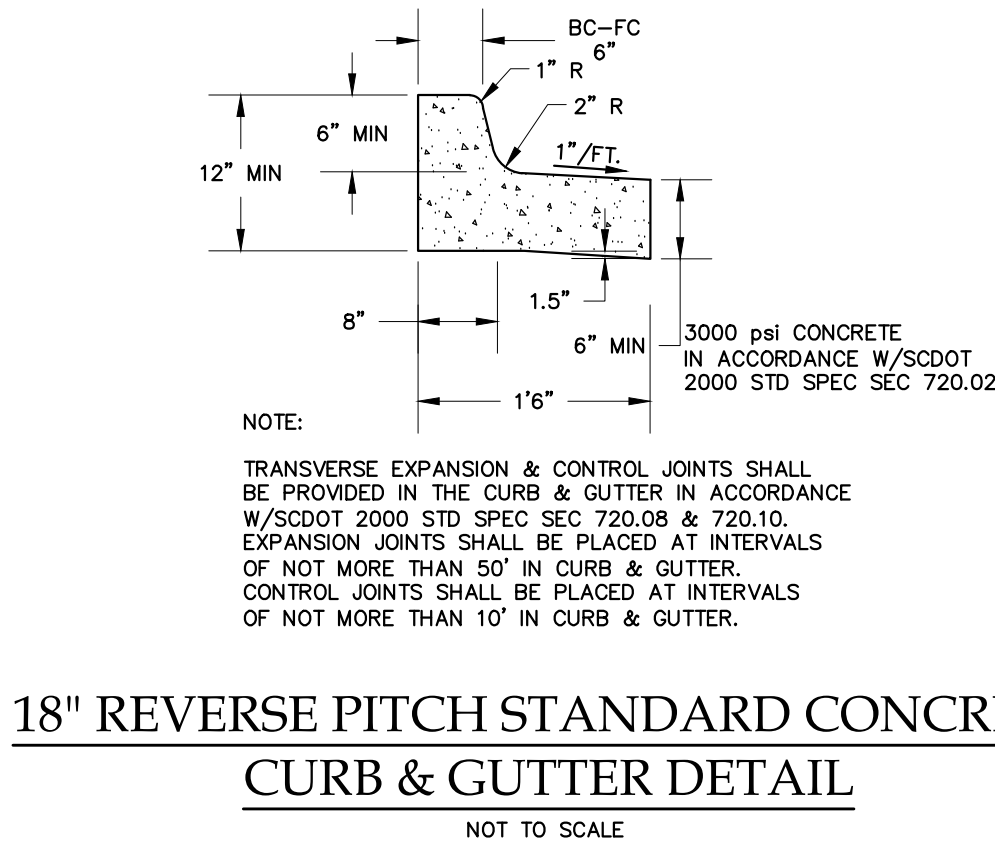
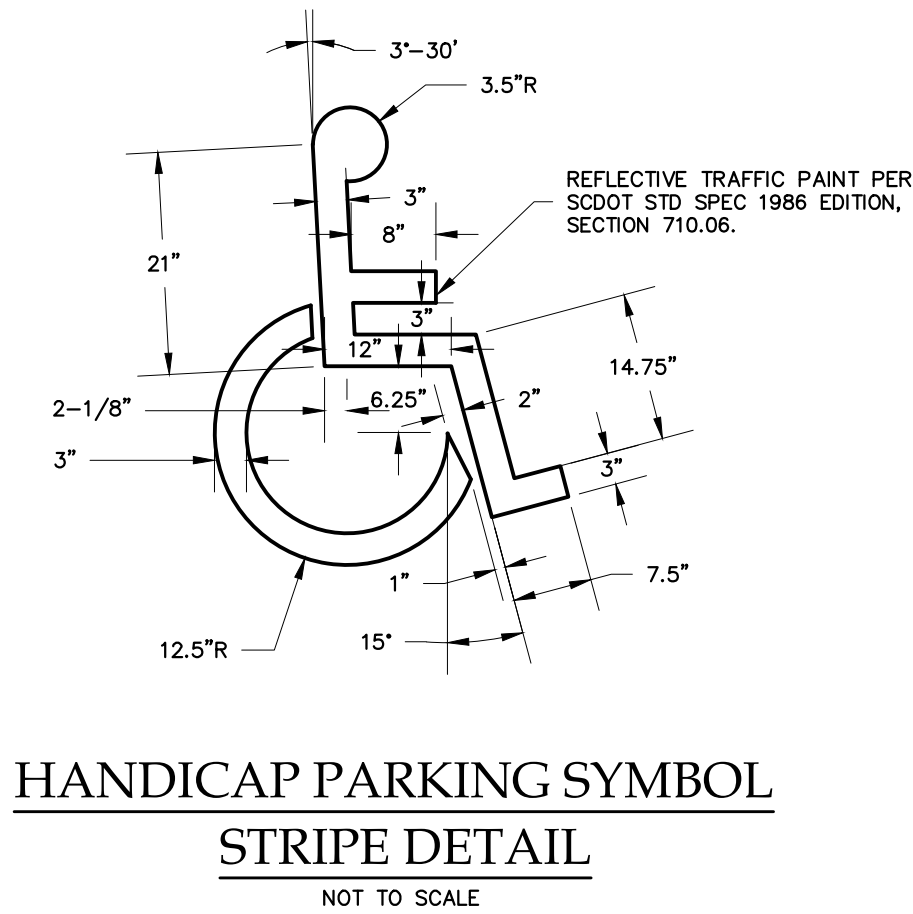
**PAVING, GRADING
& DRAINAGE PLAN**

PLAN REVISIONS

NO.	DESCRIPTION	DATE
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-



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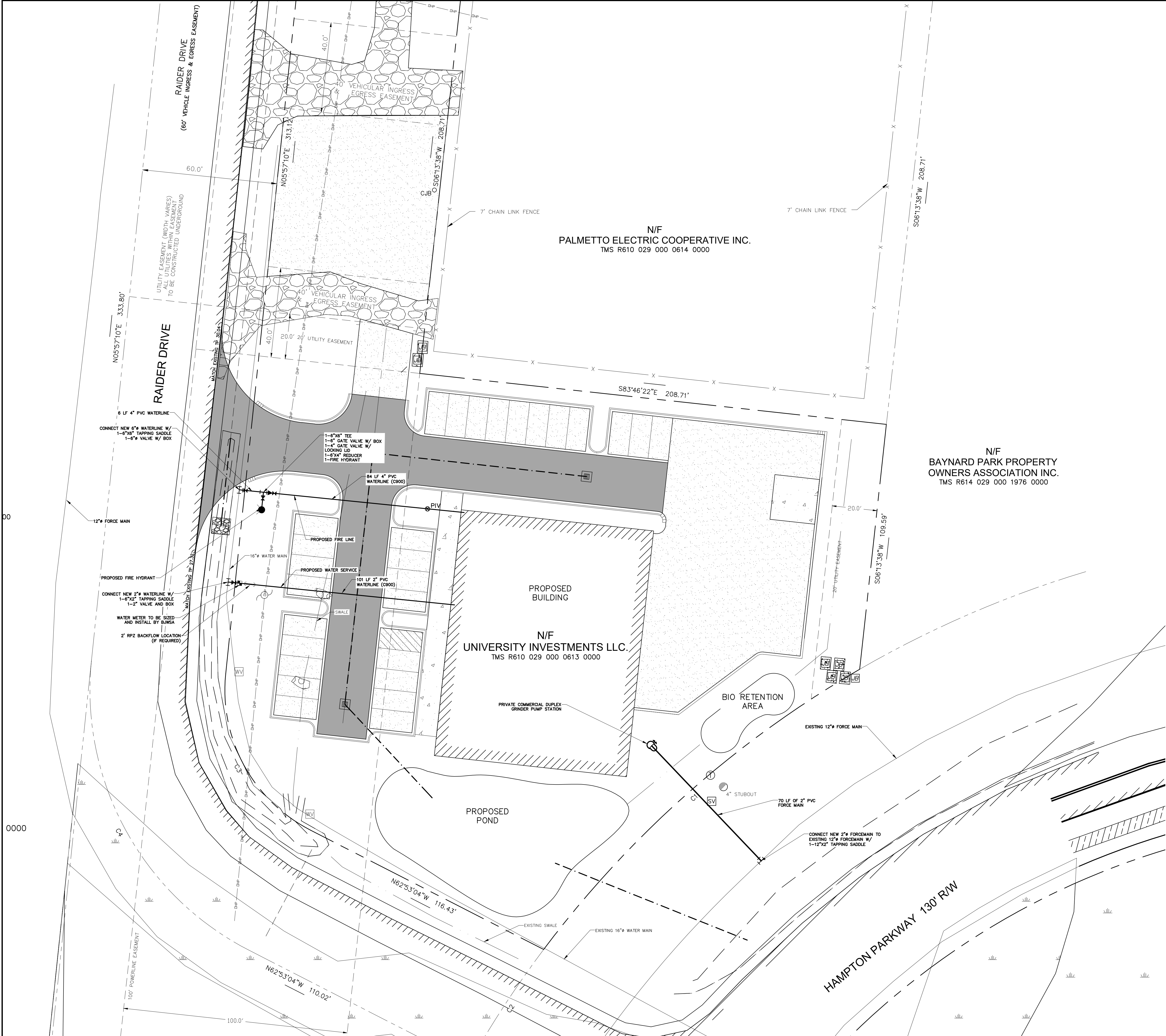


PLAN REVISIONS		DATE	DESCRIPTION
NO.	DESCRIPTION		
1			
2			
3			
4			
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6			
7			
8			

RAIDER DRIVE
BLUFFTON
BEAUFORT COUNTY, SC

CAROLINA ENGINEERING CONSULTANTS, INC.
843/322-0553
843/322-0556 (FAX)
WWW.CAROLINAENGINEERING.COM
PO BOX 294
BEAUFORT, SC 29901

PROJECT:	2478
DATE:	10/11/22
REVISED:	12/14/22
DRAWN BY:	RGG
ENGINEER:	JPA
SCALE:	NTS



**GENERAL NOTES,
WATER & SANITARY SEWER NOTES:**

BUWSA CONSTRUCTION SPECIFICATIONS WILL BE FOLLOWED ON THIS JOB. IF CONTRACTOR NEEDS COPY OF THESE SPECIFICATIONS, PLEASE CONTACT CAROLINA ENGINEERING.

BENCHMARKS ARE TO BE VERIFIED BY CONTRACTOR.

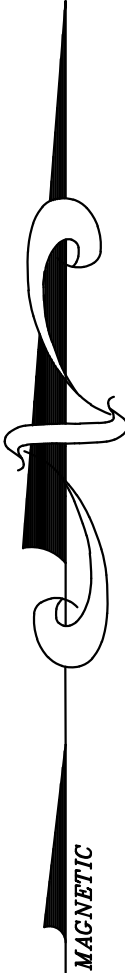
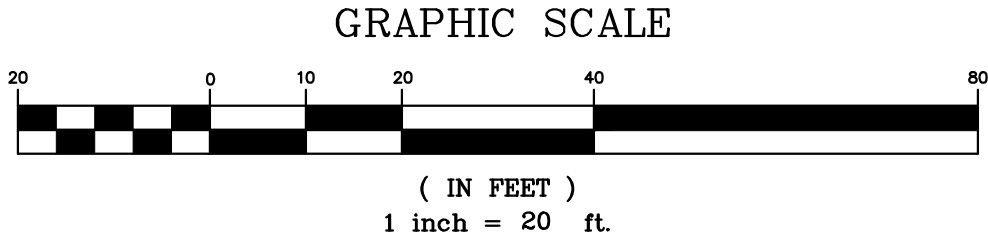
MAINTAIN A 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER AND WATER MAINS.

WHERE THIS SEPARATION CANNOT BE MAINTAINED OR THE LINES CROSS THE BOTTOM OF THE WATER MAIN, THERE SHALL BE 18" ABOVE THE TOP OF THE SEWER MAIN LAID IN SEPARATE TRENCHES.

SEWER LATERALS SHALL BE LAID WITH A MINIMUM SLOPE OF 1.0% AS SHOWN ON PLANS.

METERS TO BE PROVIDED AND SET BY BUWSA.

MAINTAIN A 5' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER LINES AND STORM DRAINAGE LINES.



**RAIDER DRIVE
BLUFFTON
BEAUFORT COUNTY, SC**

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BEAUFORT, SC 29901
843/322-0553
843/322-0556 (FAX)
WWW.CAROLINAENGINEERING.COM

PROJECT: 2478
DATE: 10/11/22
REVISED: 12/14/22
DRAWN BY: RGG
ENGINEER: JPA
SCALE: 1"=20'

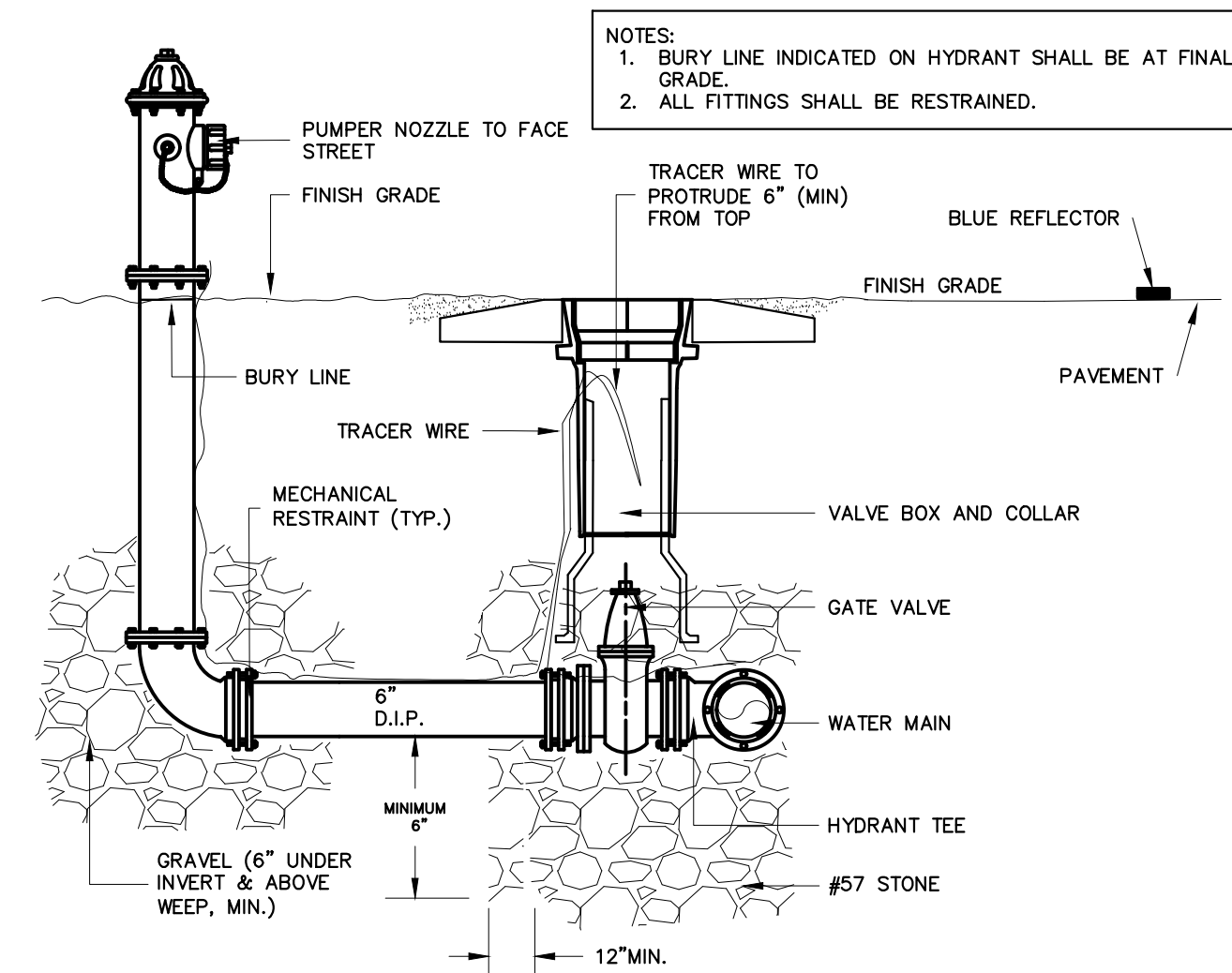
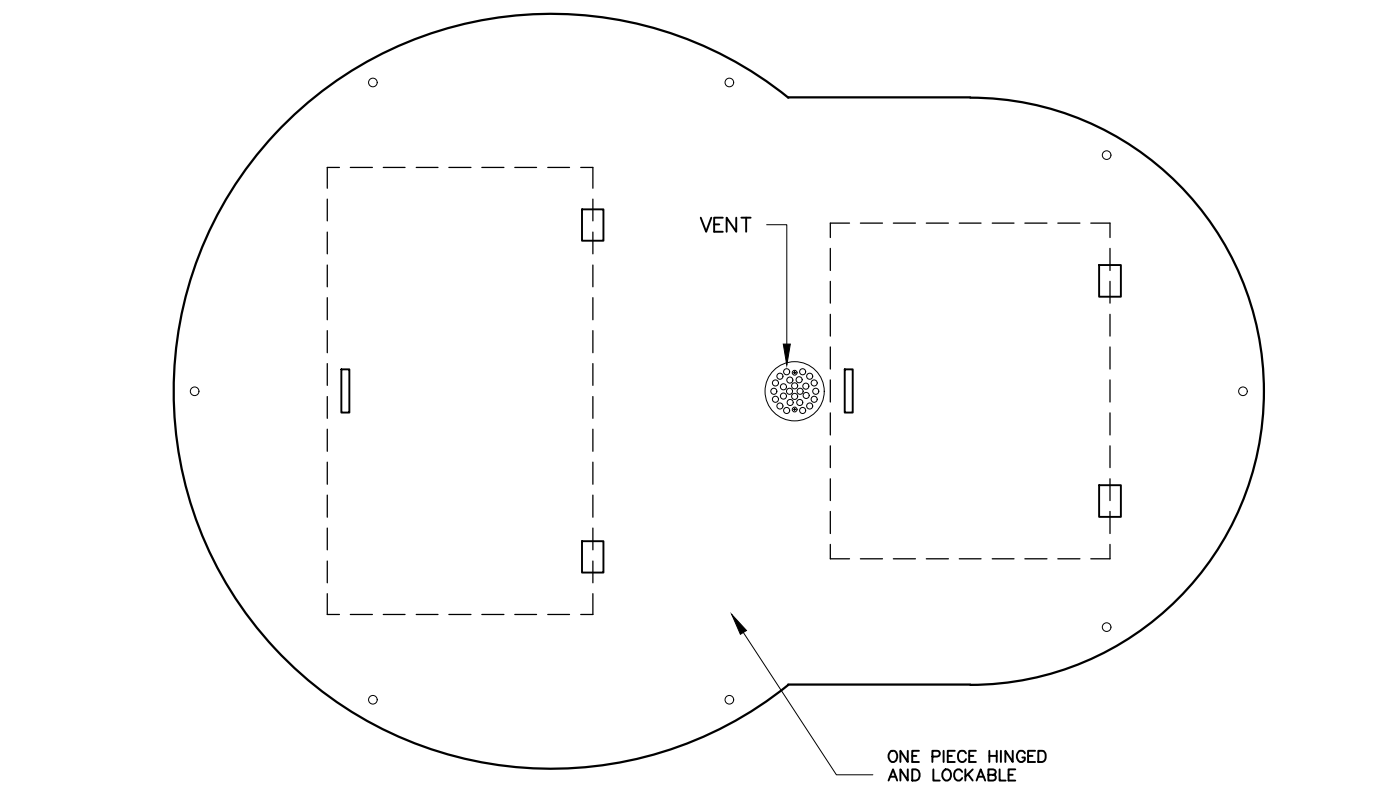
**WATERLINE &
SANITARY SEWER
PLAN**

**6
OF 7**

PLAN REVISIONS	
NO.	DESCRIPTION
1	-
2	-
3	-
4	-
5	-
6	-
7	-
8	-

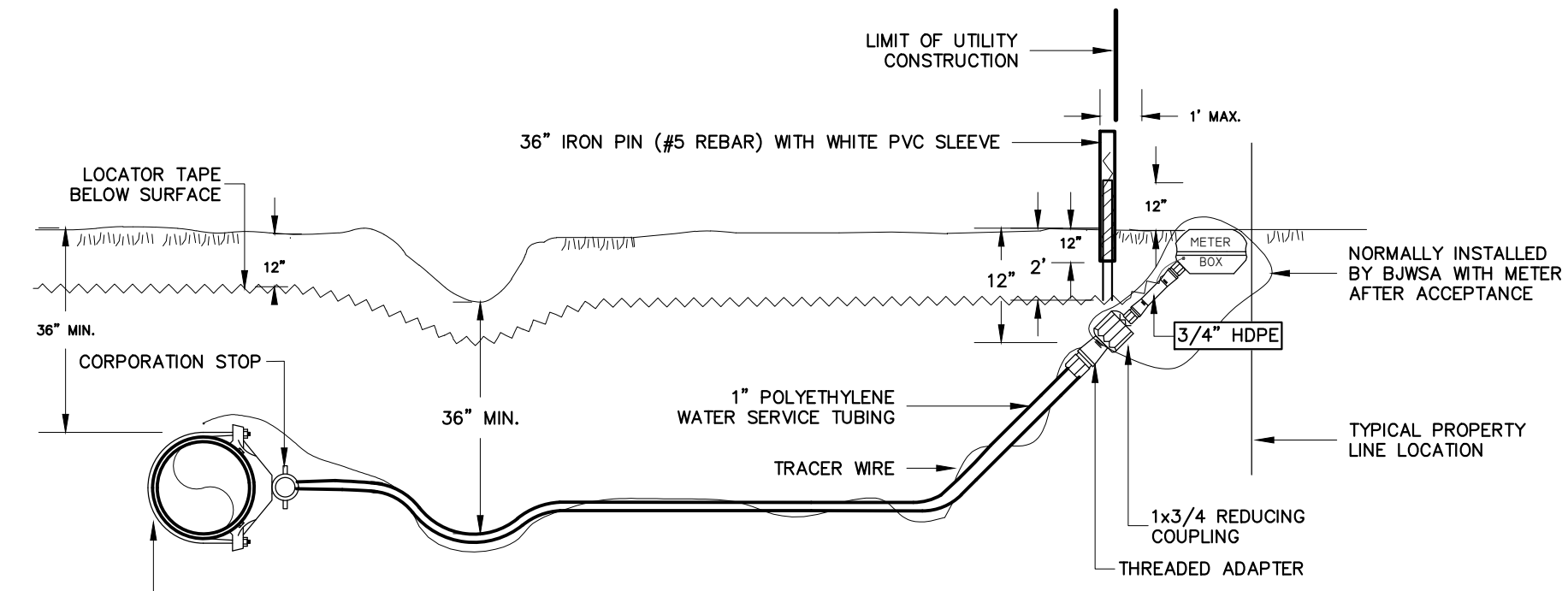
CAROLINA ENGINEERING CONSULTANTS, INC.
No. 002324
SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 19826

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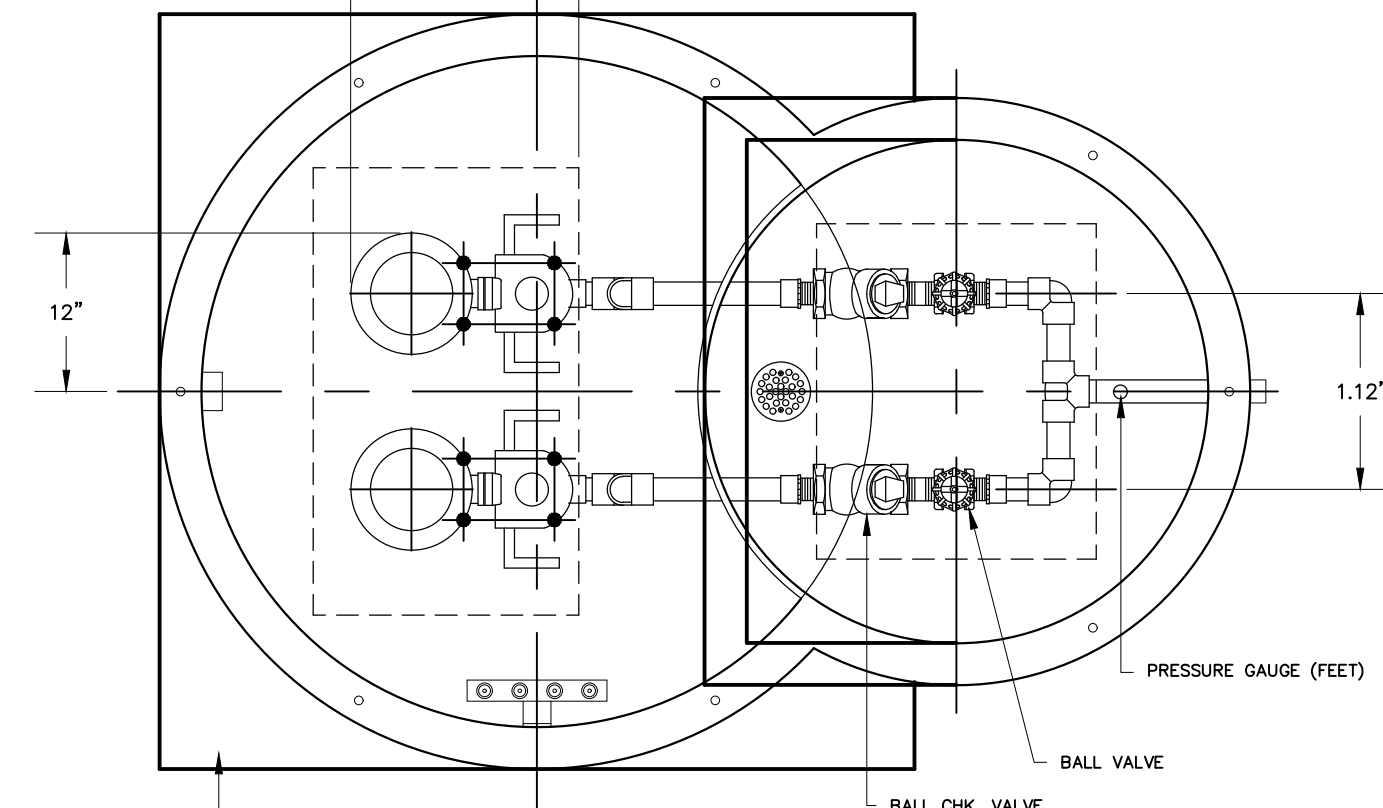
STANDARD FIRE HYDRANT DETAIL

NOT TO SCALE



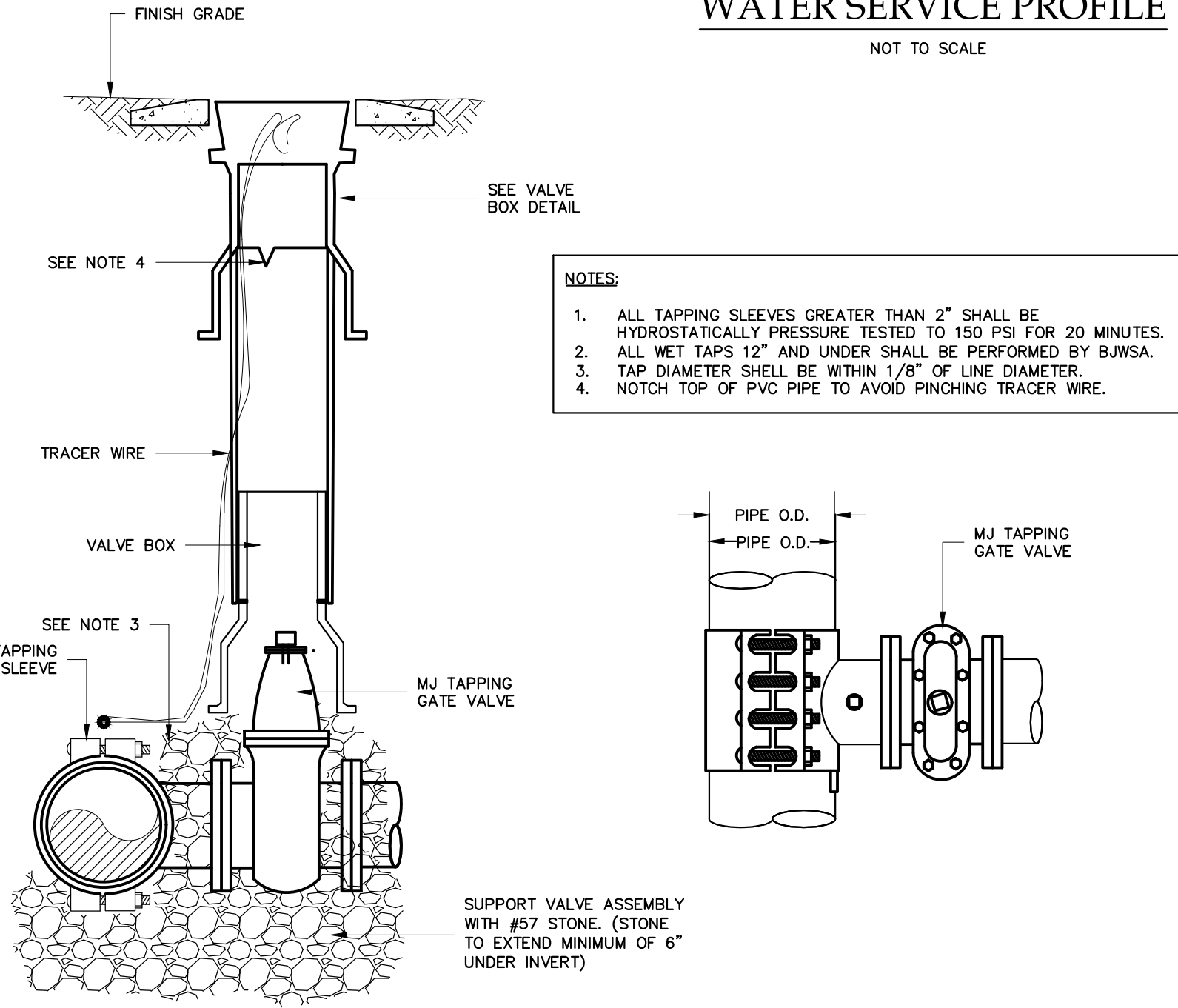
TYPICAL WATER SERVICE DETAIL
WATER SERVICE PROFILE

NOT TO SCALE



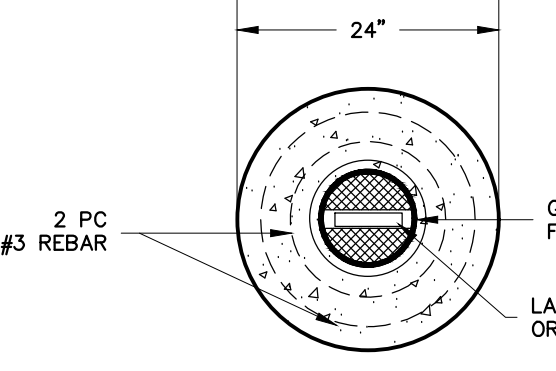
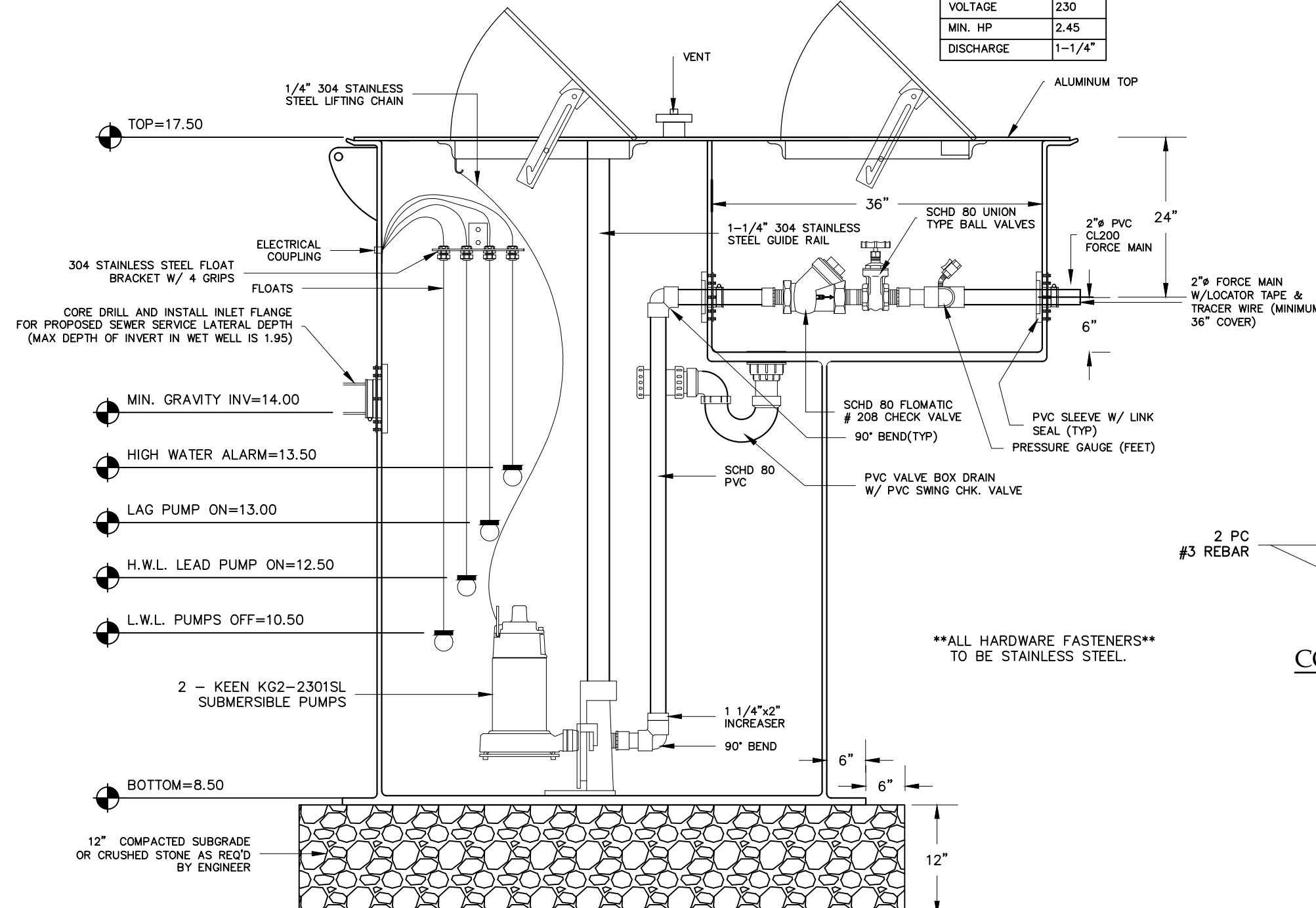
DUPLEX PUMP STATION DETAILS

NOT TO SCALE

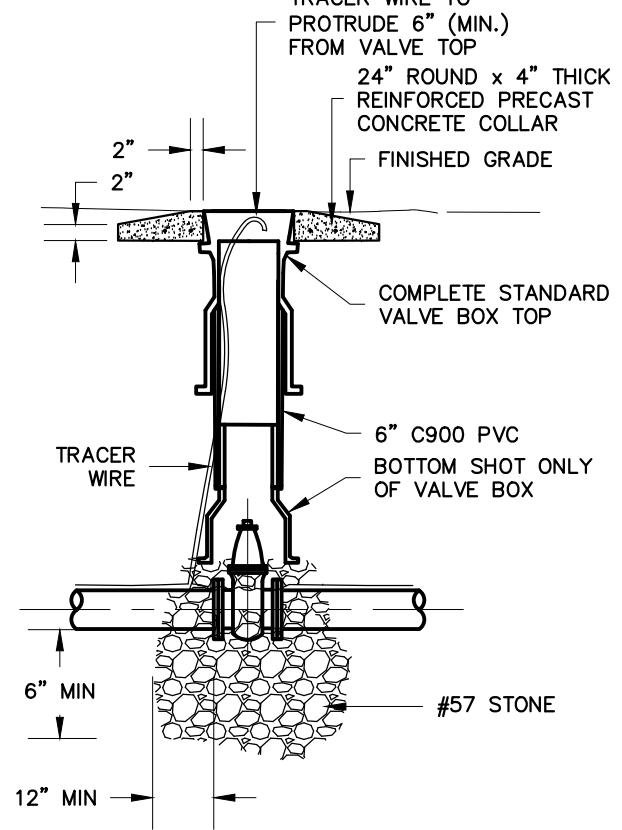


TAPPING SLEEVE & VALVE DETAIL

NOT TO SCALE

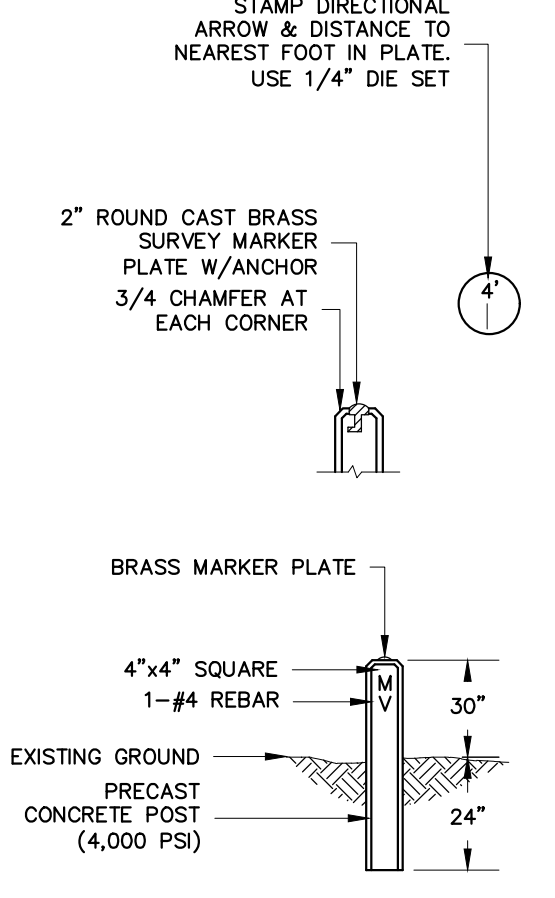


CONCRETE COLLAR

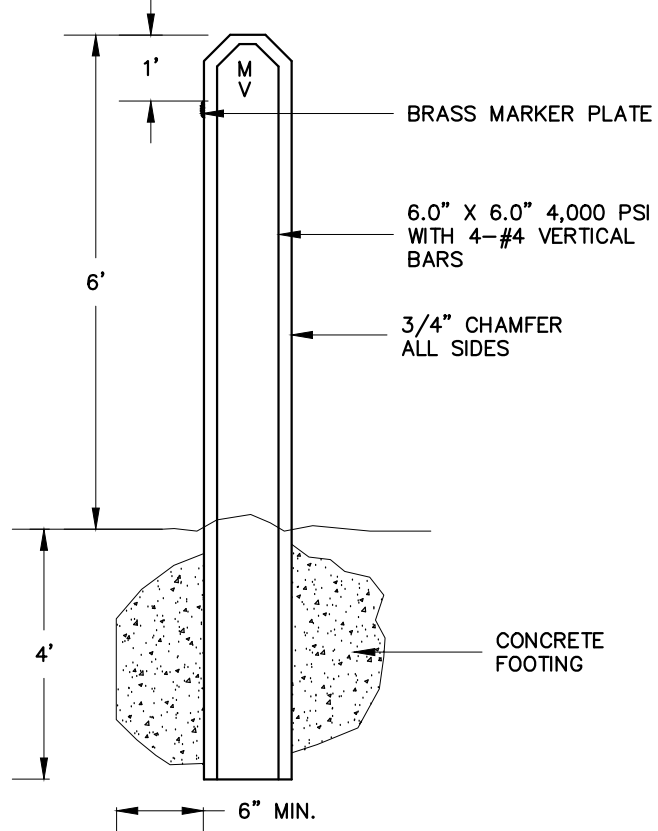


VALVE AND VALVE BOX

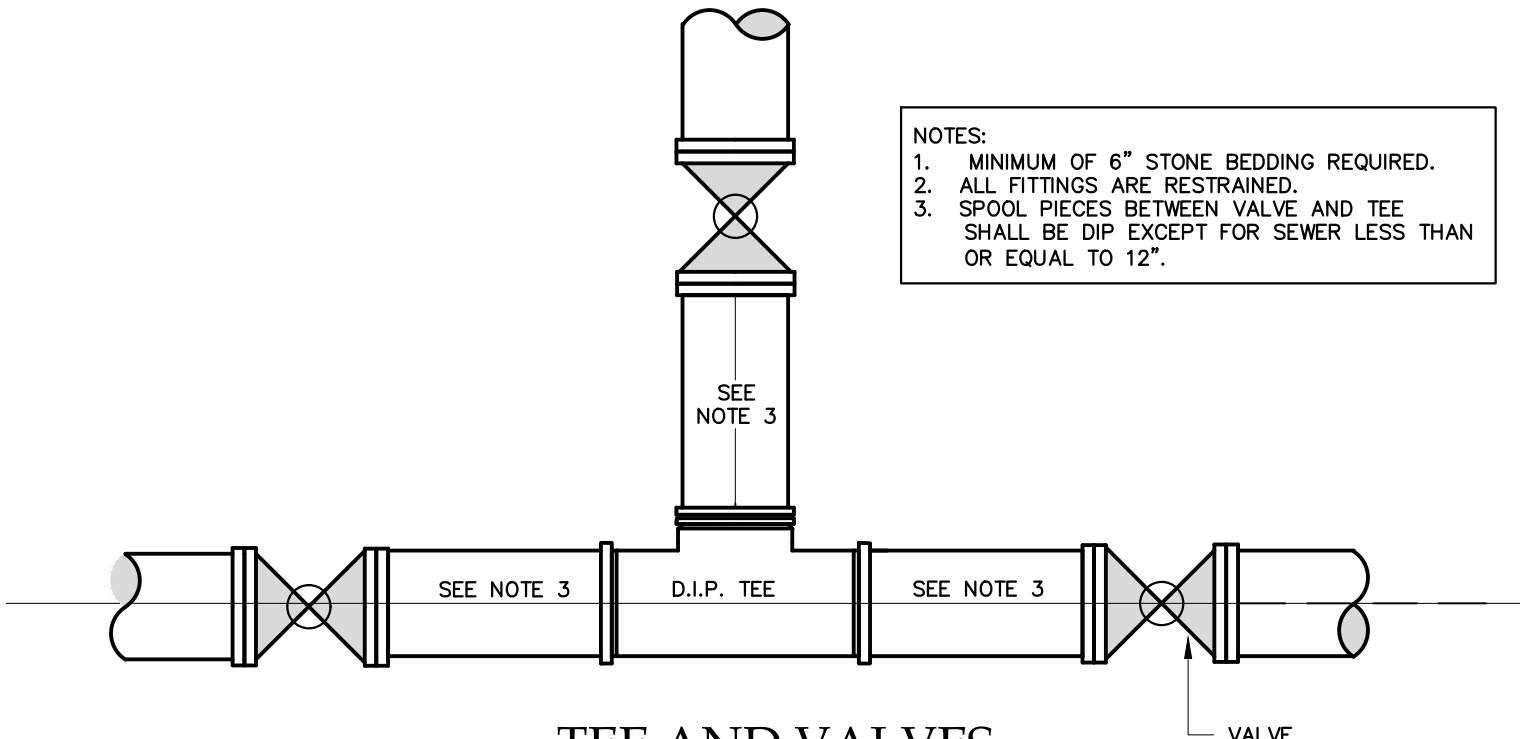
- NOTES:
- MARKERS:
 - VALVE MARKERS ARE REQUIRED FOR EACH VALVE (EXCEPT HYDRANT VALVES). PIPELINE MARKERS ARE REQUIRED AT FITTINGS AND EACH 700' WHERE LINES RUN THROUGH AN UNDEVELOPED AREA. AR MANHOLE REQUIRES A MARKER.
 - MARKER PAINTING:
 - WATER - PAINTING NOT REQUIRED
 - SEWER INFLUENT - TOP 4" GREEN
 - SEWER EFFLUENT - TOP 4" PURPLE
 - MARK MARKERS AS FOLLOWS:
 - MV - MAIN VALVE
 - AV - AIR RELEASE VALVE
 - PIPELINE - PIPELINE MARKER
 - VALVE AND PIPELINE MARKERS IN MOWED AREAS TO BE SET TO AN EXPOSURE OF NOT MORE THAN 18" OR LESS THAN 6" ABOVE FINAL GRADE.
 - IF SOILS ARE NOT STABLE ENOUGH TO MAINTAIN THE STANDARD MARKERS VERTICAL, CONCRETE FOOTING IS TO BE INSTALLED.
 - VALVE BOX LID SHALL BE WITHIN 1/2" OF COLLAR TOP. COLLAR TOP IS TO BE NO MORE THAN 1" ABOVE FINAL GRADE AND NO LOWER THAN 1" BELOW FINAL GRADE.
 - CONCRETE COLLAR NOT REQUIRED IN PAVEMENT. VALVE BOX TOP IS TO BE TRAFFIC RATED.



URBAN CONCRETE MARKER



RURAL MARKER



TEE AND VALVES

NOT TO SCALE

PLAN REVISIONS

NO.	DESCRIPTION	DATE
1		
2		
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4		
5		
6		
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8		

RAIDER DRIVE
TOWN OF BLUFFTON
BEAUFORT COUNTY, SC

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WATER & SANITARY
SEWER DETAILS