SITE DEVELOPMENT PLANS
FOR

2101 MIDDLE STREET
PARKING

2101 MIDDLE STREET
SULLIVAN'S ISLAND, SOUTH CAROLINA

SITE CONTACTS

CLIENT	CIVIL ENGINEER MATTHEW CLINE, P.E. CLINE ENGINEERING P.O. BOX 21204 CHARLESTON, SC 29413 PHONE (843) 991-7239	PROJECT SURVEYOR DEAN L. BRITT, PLS BRITT LAND SURVEYING, INC. P.O. BOX 80333 CHARLESTON, SC 29416 PHONE (843) 810-6771
SOUTH CAROLINA EROSION CONTROL S.C.D.H.E.C. O.C.R.M. RICHARD GEER STORMWATER DIVISION 1362 MCMILLAN AVE. SUITE 400 CHARLESTON, SC 29405 PHONE (843) 953-0200	SULLIVAN'S ISLAND PLANNING AND ZONING JOE HENDERSON, AICP DIRECTOR OF PLANNING AND ZONING 2056 MIDDLE STREET SULLIVAN'S ISLAND, SC 29482 PHONE (843) 883-5731	

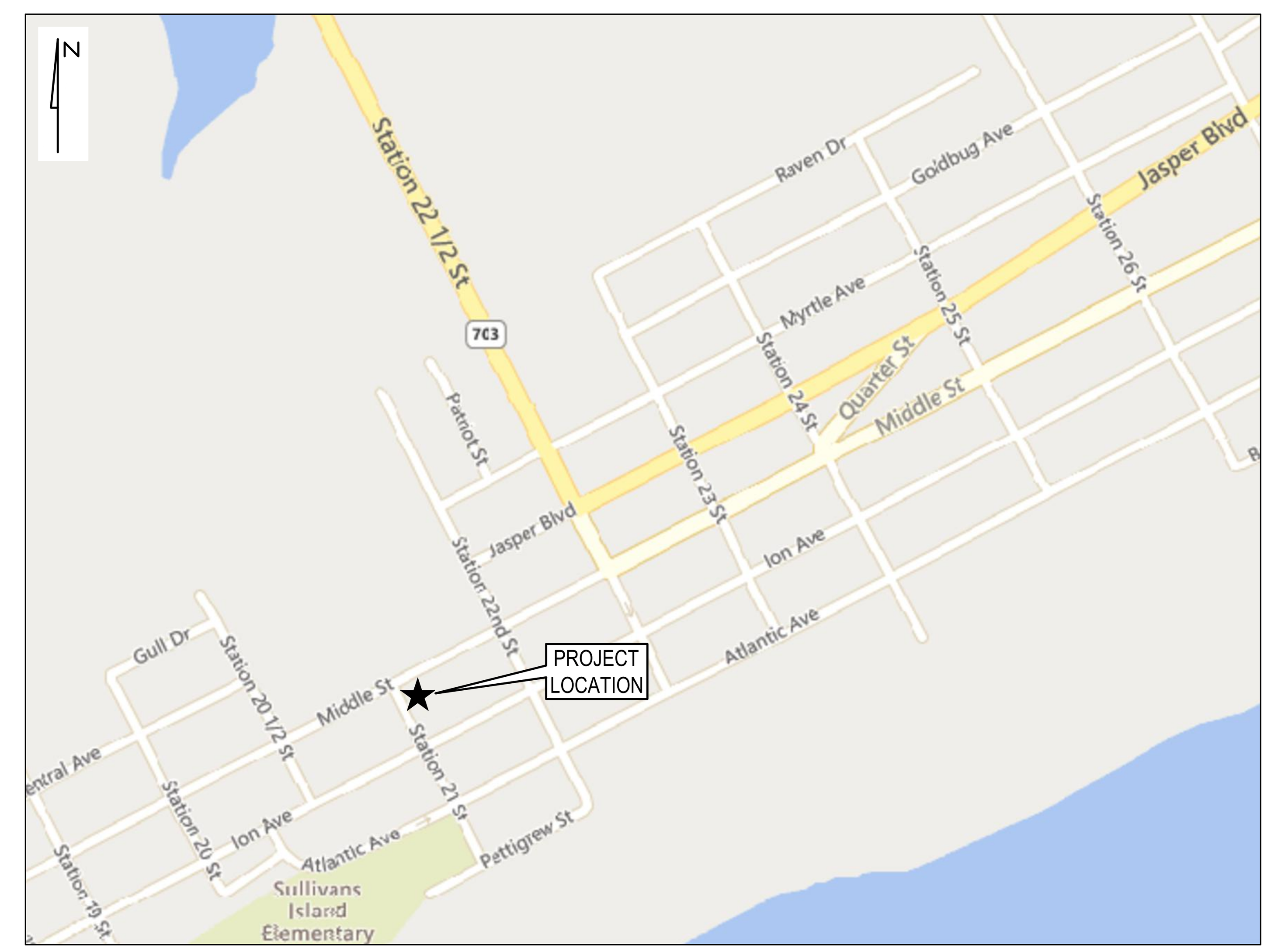
ADA COMPLIANCE

THE PUBLIC RIGHT-OF-WAY MUST REMAIN ADA COMPLIANT DURING CONSTRUCTION OR AN ALTERNATIVE ROUTE MUST BE PROVIDED. IT IS THE OWNERS RESPONSIBILITY TO REPAIR ALL DAMAGED SIDEWALKS TO REINSTATE AN ADA ACCESSIBLE ROUTE.

PROJECT DESCRIPTION

SITE IMPROVEMENTS WILL CONSIST OF THE INSTALLATION OF GRAVEL PARKING AND LANDSCAPING.

SHEET LIST TABLE



VICINITY MAP
SCALE 1" = 500'

REV.	DATE	DESCRIPTION	DRAWN	APPV.
A	12/13/2024	ISSUED FOR REVIEW AND APPROVAL	AJ	MDC

CLINE
ENGINEERING
PROFESSIONAL DESIGN CONSULTING

2101 MIDDLE STREET PARKING

COVER

SULLIVAN'S ISLAND
SOUTH CAROLINA

PROJECT MANAGER	MDC
DRAWN BY	CD | AJ | JR
PROJECT DATE	DECEMBER 2024
JOB NUMBER	24058

SHEET NUMBER

G-1

SITEWORK

1. TOPOGRAPHIC AND BOUNDARY SURVEY BY OTHERS AND PROVIDED TO CLINE ENGINEERING BY CLIENT.
2. THE CONTRACTOR SHALL VERIFY THE LOCATION AND INVERT ELEVATION OF ALL UNDERGROUND UTILITIES, AND VERIFY PROPERTY CORNERS AND TOPOGRAPHY BEFORE ANY CONSTRUCTION IS BEGUN. CALL UTILITY COMPANIES BEFORE EXCAVATION TO LOCATE ALL BURIED CABLES AND UNDERGROUND UTILITIES. PRIOR TO INSTALLATION OF STORM OR SANITARY SEWER, THE CONTRACTOR SHALL VERIFY THE INVERTS OF EXISTING STRUCTURES AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHOULD NOTIFY THE ENGINEERS FOR A REVIEW SHOULD DISCREPANCIES BE DISCOVERED AT THE SITE OR ON THE DRAWINGS BEFORE AND DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE BETWEEN ALL CIVIL DRAWINGS WITH GRADING AND UTILITY CONTRACTORS IN ORDER TO AVOID PROBLEMS DURING CONSTRUCTION.
4. CONTRACTOR TO SCHEDULE A PRECONSTRUCTION MEETING WITH ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER AND UTILITY COMPANIES DURING CONSTRUCTION OF WATER AND SEWER SO PERIODIC OBSERVATIONS CAN BE MADE. CONTRACTOR WILL CERTIFY TO THE ENGINEER IN WRITING THAT WATER AND SEWER LINES HAVE BEEN TESTED AND CONSTRUCTED ACCORDING TO THE ENGINEER'S AND UTILITY COMPANY'S DRAWINGS AND SPECIFICATIONS.
5. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
6. ALL REFERENCE TO SPECIFICATIONS FOR HIGHWAY CONSTRUCTION OR MATERIALS ARE MADE FROM SOUTH CAROLINA STATE HIGHWAY DEPARTMENT'S STANDARD SPECIFICATION, LATEST EDITION.
7. ALL DIMENSIONS SHOWN ARE MEASURED FROM OUTSIDE FACE OF BUILDING WALL AND TO FACE OF CURB LINE. MIDDLE LINE IS THE FACE OF CURB.
8. EARTHWORK SHALL BE TO THE LINES AND GRADES SHOWN. PROOF ROLLING AND COMPACTION TEST SHALL BE ACCOMPLISHED IN THE FIELD TO TEST ALL AREAS. THE OWNER SHALL RETAIN THE SERVICES OF A TESTING COMPANY TO TEST ALL AREAS. MASS AREAS OF FILL SHALL BE PLACED IN LOOSELY MEASURED LIFTS NOT EXCEEDING 8" THICKNESS. ISOLATED AREAS OF FILL (SUCH AS TRENCH BACKFILL) SHALL BE PLACED IN LIFTS NOT EXCEEDING 6" THICKNESS.
9. CONTRACTOR SHALL PROTECT ALL TREES THAT ARE TO REMAIN AS MARKED IN THE FIELD BY OWNER'S REPRESENTATIVE.
10. THE GRADING CONTRACTOR SHALL PROOF-ROLL THE CONSTRUCTION AREA WITH A FULLY-LOADED TANDEM-AXLE DUMP TRUCK, OR APPROVED EQUAL, BY MAKING 2 COMPLETE PASSES IN EACH OF 2 PERPENDICULAR DIRECTIONS. ALL SOFT SPOTS SHALL BE UNDERCUT AND RE-COMPACTED WITH SUITABLE STRUCTURAL FILL MATERIAL. MINIMUM AXLE WEIGHT = 10 TONS.
11. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON, OR NEAR THE CONSTRUCTION SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL BARRICADES, WARNING SIGNS, FLASHING LIGHTS, AND TRAFFIC CONTROL DEVICES DURING CONSTRUCTION. THE CONTRACTOR IS TO COMPLY WITH ALL OSHA REGULATIONS, REQUIREMENTS, AND SAFETY MEETING REQUIREMENTS.
12. ALL NEW ELEVATIONS SHOWN ARE FINISH GRADE ELEVATION. THE GRADING CONTRACTOR SHALL DEDUCT THE FOLLOWING FOR SUBGRADE ELEVATION:

- BUILDING FLOOR - SEE ARCHITECTURAL PLANS
- HEAVY DUTY PAVEMENT - 11"
- LIGHT DUTY PAVEMENT - 8"
- PCC PAVEMENT - 12"
- SIDEWALKS - 4"
- TURF AREAS - 4"

13. THE CONTRACTOR SHALL REMOVE ALL TREES AND VEGETATION THAT ARE WITHIN 5 FEET OF NEW CONSTRUCTION. REMOVE DEBRIS FROM SITE OR BURN IN ACCORDANCE WITH LOCAL LAWS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY BURNING PERMITS. PROTECT ALL TREES THAT ARE TO REMAIN.
14. TOPSOIL SHALL BE STRIPPED TO A DEPTH AS REQUIRED BY OWNER OR GEOTECH AND STOCKPILED AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
15. THE TOP 18" OF FILL SHALL BE COMPACTED TO 98% OF MAXIMUM DRY DENSITY BY THE STANDARD PROCTOR METHOD ASTM D-698. ALL OTHER FILL SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY. MOISTURE SHALL BE CONTROLLED TO WITHIN ±2% OF OPTIMUM.
16. ALL EXCAVATION SHALL BE "CLASSIFIED EXCAVATION". EXCAVATION SHALL BE "CLASSIFIED" AS "COMMON EXCAVATION" OR "ROCK EXCAVATION". ROCK EXCAVATION SHALL BE CLASSIFIED AS FOLLOWS:

- MASSIVE ROCK EXCAVATION - ANY MATERIAL WHICH CANNOT BE EXCAVATED WITH A SINGLE TOOTH RIPPER DRAWN BY A CRAWLER TRACTOR HAVING A MINIMUM DRAW BAR RATED AT NOT LESS THAN 53,000 POUNDS (CATERPILLAR D-8 OR EQUIVALENT) AND OCCUPYING AN ORIGINAL VOLUME OF AT LEAST ONE CUBIC YARD OR MORE.
- TRENCH EXCAVATION - ANY MATERIAL WHICH CANNOT BE EXCAVATED WITH A POWER SHOVEL HAVING THE CAPACITY OF AT LEAST THAT OF A CATERPILLAR 225 AND OCCUPYING AN ORIGINAL VOLUME OF AT LEAST 1/2 CUBIC YARD OR MORE.

COMMON EXCAVATION SHALL INCLUDE ALL MATERIALS THAT CAN BE RIPPED, BOULDERS, AND ALL OTHER MATERIALS THAT DO NOT FALL IN THE CATEGORY OF ROCK EXCAVATION AS DEFINED ABOVE.

17. THE CLASSIFICATION OF SOILS INCLUDE: TOPSOIL, FILL MATERIAL, UNSUITABLE MATERIAL, AND ROCK EXCAVATION. THE CLASSIFICATION OF SOILS IS THE RESPONSIBILITY OF THE OWNER'S SOIL TESTING FIRM.
18. ALL FILL MATERIAL SHALL CONSIST OF AN APPROVED MATERIAL AND BE FREE OF ORGANIC MATTER AND DEBRIS. IMPORTED FILL SHALL HAVE A MINIMUM STANDARD PROCTOR MAXIMUM DRY DENSITY OF 95 PCF, CLAY/SILT FINES CONTENT NOT GREATER THAN 25%, AND A PLASTICITY INDEX LESS THAN 15%.
19. ALL EXISTING SLOPES STEEPER THAN 4:1 THAT WILL RECEIVE FILL SHALL BE PLOWED AND SCARIFIED SO NEW FILL WILL BOND WITH EXISTING SURFACE.
20. CONTRACTOR SHALL SCARIFY ALL EXISTING ASPHALT PAVEMENT BEFORE PLACING FILL, UNLESS OVERLAYING ASPHALT ONTO EXISTING ASPHALT.
21. THE GRADING CONTRACTOR SHALL CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF PLUS OR MINUS 0.05 FEET. (FINAL GRADED SURFACE UNDER BUILDING SLABS SHALL BE WITHIN A TOLERANCE OF 3/8" WHEN MEASURED WITH A 10' STRAIGHT EDGE). (FINAL PAVEMENT WEARING COURSE SURFACE SHALL BE WITHIN A TOLERANCE OF 3/16" WHEN MEASURED WITH A 10' STRAIGHT EDGE.) (PAVEMENT VARIATION FROM TRUE DESIGN ELEVATION SHALL BE 1/4" OR LESS.)
22. SPOT ELEVATIONS SHALL TAKE PRECEDENCE OVER CONTOURS AND SLOPES SHOWN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF SPOT ELEVATIONS WHICH DO NOT APPEAR TO BE CONSISTENT WITH THE CONTOURS AND SLOPES. SPOT ELEVATIONS SHALL BE USED FOR SETTING ELEVATIONS OF CURB AND GUTTER AND UTILITIES.
23. IF GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE THE ENGINEER TO INVESTIGATE SUCH ADJUSTMENTS.
24. GRADES SHOWN AT ALL ENTRANCES ARE DESIGN GRADES. CONTRACTOR SHALL COORDINATE GRADING IN THESE AREAS WITH THE EXISTING FEATURES IN THE FIELD AND/OR CURRENT DESIGN DRAWINGS.
25. SITE CONTRACTOR SHALL EXTEND UNDERGROUND ROOF DRAINAGE PIPING TO WITHIN 5 FT OF BUILDING FOR CONNECTION TO ROOF DOWNSPOUTS. CONNECTIONS SHALL BE COORDINATED WITH BUILDING CONTRACTOR.
26. ALL ROADS AND PARKING LOTS SHALL HAVE A MINIMUM 3'-0" WIDE GRASSED SHOULDER. A 5'-0" WIDE SHOULDER IS PREFERRED AND SHALL BE PROVIDED WHERE POSSIBLE.
27. ALL REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III, UNLESS NOTED ON DRAWINGS WITH BELL & SPIGOT ENDS AND SHALL CONFORM TO ALL REQUIREMENTS OF ASTM C 76, LATEST EDITION, INSTALLED WITH FLEXIBLE PLASTIC (BITUMEN) GASKETS AT ALL JOINTS. GASKETS SHALL COMPLY WITH AASHTO M-198 751, TYPE B, AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATIONS.
28. ALL CORRUGATED PLASTIC PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M-294, TYPE S, SHALL BE SMOOTH INTERIOR WITH ANNULAR CORRUGATED EXTERIOR. HI-Q SURE-LOCK 10.8 PIPE, ADS, N-12, OR APPROVED EQUAL. ALL JOINTS SHALL BE BELL AND SPIGOT AND SHALL MEET THE REQUIREMENTS OF AASHTO M-294, SHALL BE WATERTIGHT, MEETING THE REQUIREMENTS OF ASTM D 3212. THE GASKETS SHALL BE MADE OF POLYISOPRENE MEETING THE REQUIREMENTS OF ASTM F 477. INSTALLATION SHALL CONFORM TO AASHTO M-294, ASTM D-2321, AND MANUFACTURERS INSTALLATION PROCEDURES.
29. ANY REINFORCED CONCRETE PIPE WITH MORE THAN 15 FOOT OF COVER SHALL BE CLASS IV WITH O-RING JOINTS.
30. ALL STORM PIPE LENGTH AND ELEVATIONS (TOPS AND INVERTS) OF STORM DRAINAGE STRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE. CONTRACTOR MAY HAVE TO FIELD ADJUST AS NECESSARY DURING CONSTRUCTION. THE CONTRACTOR MAY USE PRE-CAST DRAINAGE STRUCTURES AS AN ALTERNATE FOR STRUCTURES SPECIFIED ON THIS PLAN. HOWEVER, THE OWNER AND CLINE ENGINEERING, INC. ASSUME NO RESPONSIBILITY FOR THESE STRUCTURES, AS FIELD CONDITIONS DURING CONSTRUCTION OFTEN DICTATE ADJUSTMENTS STORM DRAINAGE STRUCTURES. THE CONTRACTOR RETAINS ALL RESPONSIBILITY AND EXPENSE FOR MODIFYING THESE PRE-CAST STRUCTURES TO ACCOMMODATE THESE ADJUSTMENTS.
31. ANY REINFORCED CONCRETE PIPE STEEPER THAN 10 PERCENT MUST HAVE CONCRETE COLLARS. CORRUGATED METAL PIPE WITH HUGGER BANDS MAY BE SUBSTITUTED. THE NUMBER OF CONCRETE COLLARS AND TYPE OF STORM PIPE WILL BE DETERMINED TOGETHER BY THE CONTRACTOR AND THE ENGINEER.
32. ALL SANITARY SEWER WORK SHALL BE CONSTRUCTED TO LINES AND GRADES SHOWN AND AS DETAILED ON THE DRAWINGS. ALL MANHOLE/CLEANOUT TOP ELEVATIONS ON CIVIL DRAWINGS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MANHOLE/CLEANOUT TOPS ARE FLUSH WITH PAVEMENT FINISHED GRADE THROUGHOUT THE PROJECT.
33. THE CONTRACTOR SHALL PROVIDE STANDARD CLEAN-OUTS OR MANHOLES AT ALL BENDS AND CHANGES IN GRADE IN SEWER LINES AND CONNECTIONS TO EXISTING SEWER LINES. PIPE BEDDING AND BACKFILL SHALL BE CAREFULLY CONTROLLED. ALL SANITARY SEWER WORK SHALL COMPLY WITH LOCAL CODES AND ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING WITH THE LOCAL AND STATE SEWER APPROVAL AUTHORITIES TO INSURE THAT ALL MATERIALS, INSTALLATION, TESTING, AND AS-BUILT DRAWING REQUIREMENTS WILL BE TO THE SATISFACTION OF THE LOCAL AND STATE AUTHORITIES.
34. ALL WATER LINES SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS. ALL PIPES, VALVES, AND FITTINGS SHALL COMPLY WITH AWWA STANDARDS, ALL LOCAL AND STATE CODES AND ORDINANCES. PIPE BEDDING AND BACKFILL SHALL BE CAREFULLY CONTROLLED. WATER LINES SHALL BE PRESSURE TESTED, AND DISINFECTED AS REQUIRED. ALL NECESSARY AS-BUILTS SHALL BE ACCOMPLISHED TO THE SATISFACTION OF THE LOCAL AUTHORITY.
35. ALL UTILITY TRENCHES SHALL BE THOROUGHLY COMPACTED AND TESTED TO PREVENT SETTLEMENT AND DAMAGE TO FUTURE PAVEMENT AND STRUCTURES.
36. ASPHALT PAVING FOR LIGHT DUTY AREAS SHALL BE CONSTRUCTED ON A PREPARED AND WELL-DRAINED SUBGRADE COMPACTED AS SPECIFIED. THE BASE COURSE SHALL BE CONSTRUCTED WITH 6" COMPACTED THICKNESS STONE BASE. THE SURFACE COURSE SHALL BE CONSTRUCTED WITH 2" COMPACTED THICKNESS ALL PAVING WORK (MATERIALS AND CONSTRUCTION) SHALL COMPLY WITH STATE SPECIFICATIONS.
37. ASPHALT PAVING FOR HEAVY DUTY AREAS SHALL BE CONSTRUCTED ON A PREPARED AND WELL-DRAINED SUBGRADE COMPACTED AS SPECIFIED. THE BASE COURSE SHALL BE CONSTRUCTED WITH 8" COMPACTED THICKNESS STONE BASE. THE BINDER COURSE SHALL BE CONSTRUCTED WITH 1.5" COMPACTED THICKNESS ASPHALT CONCRETE. THE SURFACE COURSE SHALL BE CONSTRUCTED WITH 1.5" COMPACTED THICKNESS ASPHALT CONCRETE. ALL PAVING WORK (MATERIALS AND CONSTRUCTION) SHALL COMPLY WITH STATE SPECIFICATIONS.
38. CONCRETE TRUCK PAVEMENT SHALL BE CONSTRUCTED WITH 4,000 PSI CONCRETE, 6" THICK REINFORCED WITH 6" X 6" - W2.9 X W2.9 W.W.M. JOINTS SHALL BE CONSTRUCTED AS SHOWN ON DETAILS.
39. CONCRETE SIDEWALKS SHALL BE CONSTRUCTED WITH 3,000 PSI CONCRETE, 4" THICK NON-REINFORCED WITH JOINTS AS SHOWN ON DETAILS.
40. ALL AREAS NOT COVERED BY BUILDINGS AND PAVEMENT SHALL RECEIVE TOPSOIL AND BE GRASSED IN ACCORDANCE WITH SPECIFICATIONS.
41. CONCRETE CURB AND GUTTER SHALL BE 18" WIDE WITH 6" CURB CONSTRUCTED WITH 3,000 PSI CONCRETE WITH EXPANSION JOINTS AND CONTRACTION JOINTS INSTALLED TO COMPLY WITH S.C.D.O.T. STANDARD SPECIFICATION FOR MATERIALS AND CONSTRUCTION OF CURB AND GUTTER.
42. THE GRADING CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDING AT ALL TIMES. CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ENGINEER ANY AREAS THAT MAY NOT DRAIN PROPERLY DURING CONSTRUCTION.
43. GRADING CONTRACTOR SHALL INCLUDE IN COST ALL CUT/FILL AND IMPORT/EXPORT NECESSARY FOR EARTHWORK BALANCE. CONTRACTOR SHALL INCLUDE IN COST ALL WETTING/DRYING OF SOILS NECESSARY TO ACHIEVE COMPACTION PER SPECIFICATIONS.
44. THE CONTRACTOR SHALL CONFORM TO THE CONSTRUCTION SEQUENCE.
45. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SEDIMENT TRAPS BEFORE OTHER SITE GRADING AND SITEWORK IS BEGUN. THE SEDIMENT TRAPS AND SEDIMENT CONTROL DURING CONSTRUCTION SHALL COMPLY WITH ALL LOCAL CODES AND REGULATIONS. AFTER ALL SITEWORK IS COMPLETED AND GRASSING ESTABLISHED, THE GRADING CONTRACTOR SHALL REMOVE ALL SILT FROM THE SITE AND LEGALLY DISPOSE OF ALL SILT OFF-SITE AT NO ADDITIONAL COST TO THE OWNER.
46. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE WHEN INSTRUCTIONS FROM REGULATORY AGENCIES ARE RECEIVED AND COMPLY WITH INSTRUCTIONS AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
47. THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE CONSTRUCTION DOCUMENTS AND SHALL AT ONCE REPORT TO THE ENGINEER ANY INCONSISTENCIES OR OMISSIONS DISCOVERED. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS TO VERIFY THAT ALL LOCATIONS ARE CORRECT PRIOR TO COMMENCING CONSTRUCTION.
48. THE CONTRACTOR SHALL NOT PERFORM ANY WORK ON ANY UTILITIES OR IN ANY PUBLIC RIGHT-OF-WAYS UNTIL HE HAS OBTAINED COPIES OF ALL NECESSARY ENCROACHMENT AND CONSTRUCTION PERMITS. ANY FIELD CHANGES WITHIN SCDOT R/W OR CHANGES THAT WOULD IMPACT SCDOT R/W WILL REQUIRE WRITTEN SCDOT APPROVAL PRIOR TO CHANGES BEING IMPLEMENTED IN THE FIELD. (E.G. DRAINAGE, GRADING, ACCESS DESIGN ETC..).
49. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN FOR ALL LANE AND SHOULDER CLOSURES WILL NEED TO BE SUBMITTED FOR ALL WORK WITHIN THE R/W PRIOR TO CONSTRUCTION. NIGHT WORK COULD BE REQUIRED FOR ANY AND ALL LANE CLOSURES.
50. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF DRIVEWAYS AND OTHER ACCESS POINTS, INCLUDING ANY NEW DRAINAGE STRUCTURES, FOR AREAS WITHIN THE RIGHTS-OF-WAYS OF STATE MAINTAINED FACILITIES IN PERPETUITY.
51. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING ANY EXISTING UTILITIES NECESSARY FOR SITE CONSTRUCTION INCLUDING ALL PERMITS AND FEES.
52. THE CONTRACTOR SHALL VERIFY BENCH MARK LOCATION AND ELEVATION WITH SURVEYOR BEFORE BEGINNING CONSTRUCTION.
53. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EASEMENTS ON THE SITE BEFORE PROCEEDING WITH CONSTRUCTION.
54. ALL PARKING LOT STRIPING IS TO BE PER SOUTH CAROLINA D.O.T. SPECIFICATIONS AND HAVE TWO (2) COATS OF PAINT. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING FIRE LANE STRIPING AND SIGNAGE TO MEET LOCAL REQUIREMENTS. THE BASES OF ALL LIGHT POLES, ALL SPEED BUMPS, ALL BOLLARDS, AND ALL FACES OF SIDEWALK THAT ARE NOT FLUSH WITH ASPHALT ARE TO BE PAINTED TRAFFIC YELLOW.
55. IN THE CASE OF A CONFLICT IN SPECIFICATIONS, NOTES, OR DETAILS, THE STRICTER SHALL GOVERN.

DEMOLITION NOTES

1. DEMOLITION INCLUDES THE REMOVAL AND DISPOSAL OF DEMOLISHED MATERIALS, AS SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED.
2. CONDITIONS EXISTING AT THE TIME OF INSPECTION FOR BIDDING PURPOSES WILL BE MAINTAINED BY THE OWNER IN SO FAR AS PRACTICABLE, HOWEVER, VARIATIONS MAY OCCUR.
3. STORAGE OR SALE OF DEMOLISHED MATERIAL ON THE SITE WILL NOT BE PERMITTED.
4. THE USE OF EXPLOSIVES WILL BE PERMITTED ONLY WHEN AUTHORIZED BY THE CONSTRUCTION PROJECT MANAGER.
5. CONDUCT DEMOLITION OPERATIONS AND THE REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES OR ADJACENT CONSTRUCTION PROCESSES.
6. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM THE CONSTRUCTION PROJECT MANAGER AND THE AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS IF REQUIRED BY GOVERNING REGULATIONS.
7. ENSURE THE SAFE PASSAGE OF PERSONS AROUND THE AREA OF DEMOLITION. CONDUCT OPERATIONS TO PREVENT INJURY TO ADJACENT BUILDINGS, STRUCTURES, OTHER FACILITIES, AND PERSONS.
8. PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION OPERATIONS AT NO COST TO THE OWNER.
9. MAINTAIN EXISTING UTILITIES, INDICATED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. CONTRACTOR SHALL FIELD LOCATE AND VERIFY ALL UTILITIES ON SITE.
10. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING FROM THE CONSTRUCTION PROJECT MANAGER AND THE AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES, AS ACCEPTABLE TO THE GOVERNING AUTHORITIES. NOTIFY ALL BUSINESSES IMPACTED IN ADVANCE OF ALL SCHEDULED UTILITY INTERRUPTIONS.
11. COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
12. DEMOLISH CONCRETE AND MASONRY IN SMALL SECTIONS.
13. COMPLETELY FILL BELOW-GRADE AREAS AND VOIDS RESULTING FROM THE DEMOLITION OF STRUCTURES BELOW GRADE.
14. PLACE FILL MATERIALS IN HORIZONTAL LAYERS NOT EXCEEDING 6" IN LOOSE DEPTH. COMPACT EACH LAYER AT OPTIMUM MOISTURE CONTENT OF THE FILL MATERIAL TO A DENSITY EQUAL TO THE ORIGINAL ADJACENT GROUND, UNLESS SUBSEQUENT EXCAVATION FOR NEW WORK IS REQUIRED. AFTER FILL PLACEMENT AND COMPACTION, GRADE THE SURFACE TO MEET ADJACENT CONTOURS AND TO PROVIDE FLOW TO SURFACE DRAINAGE STRUCTURES.
15. REMOVE FROM THE SITE DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS, OR AS DIRECTED BY THE CONSTRUCTION PROJECT MANAGER AND LEGALLY DISPOSE OF DEBRIS "OFF-SITE".
16. ALL PIPING, FENCING AND OTHER MATERIALS THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED OR ABANDONED AS DIRECTED BY THE CONSTRUCTION PROJECT MANAGER.
17. ALL SALVAGEABLE MATERIALS WILL REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL REMOVE AND STORE THIS MATERIAL AS DIRECTED BY THE CONSTRUCTION PROJECT MANAGER.
18. TRANSPORT MATERIALS REMOVED FROM DEMOLISHED STRUCTURES AND DISPOSE OF "OFF" SITE AS REQUIRED. DEBRIS SHALL NOT BE "BURIED" OR LEFT ON SITE EXCEPT AS ALLOWED BY ALL APPLICABLE LAWS AND BY THE GEOTECHNICAL ENGINEER.
19. THE CONTRACTOR IS TO MAINTAIN MINIMUM COVER OVER ALL UTILITY LINES THROUGHOUT CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO UTILITY LINES AT NO ADDITIONAL COST TO THE OWNER.
20. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE SITE OR TO THE BUILDING AND IMPROVEMENTS ON THE SITE THAT OCCUR DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
21. THE CONTRACTOR MUST VISIT SITE PRIOR TO SUBMITTING BID AND INCLUDE IN HIS PRICE ALL DEMOLITION AND DISPOSAL COSTS TO REMOVE/RELOCATE ANY AND ALL ITEMS THAT MAY INTERFERE WITH NEW CONSTRUCTION.
22. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND COORDINATE THE DEMOLITION, REMOVAL, RELOCATION, ABANDONMENT, ETC. OF ALL UTILITIES THAT INTERFERE WITH NEW CONSTRUCTION. ANY DEMOLITION AND RELOCATION SHOWN IS SCHEMATIC ONLY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE DESIGN, CONSTRUCTION, AND EASEMENTS OF ALL UTILITY WORK WITH THE APPROPRIATE UTILITIES.
23. DEMOLISH ALL EXISTING UTILITIES THAT LIE UNDER AND 10' OUTSIDE OF NEW BUILDING. THE EXISTING UTILITIES 10' OR MORE OUTSIDE NEW BUILDINGS MAY BE DRAINED AND FILLED WITH FLOWABLE FILL IF TESTING COMPANY APPROVES EXISTING BACKFILL.

TEMPORARY SEEDING

DESCRIPTION

THE PURPOSE OF TEMPORARY SEEDING IS TO REDUCE EROSION AND SEDIMENTATION BY STABILIZING DISTURBED AREAS THAT WOULD OTHERWISE LAY BARE FOR LONG PERIODS OF TIME BEFORE THEY ARE WORKED OR STABILIZED. TEMPORARY SEEDING IS ALSO USED WHERE PERMANENT VEGETATION GROWTH IS NOT NECESSARY OR APPROPRIATE.

WHEN AND WHERE TO USE IT

TEMPORARY SEEDING IS USED ON EXPOSED SOIL SURFACES SUCH AS DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, BANKS OF SEDIMENT BASINS, BANKS OF SEDIMENT TRAPS, AND TEMPORARY ROAD BANKS. TEMPORARY SEEDING PREVENTS AND LIMITS COSTLY MAINTENANCE OPERATIONS ON OTHER SEDIMENT CONTROL STRUCTURES. SEDIMENT CLEANOUT REQUIREMENTS FOR SEDIMENT BASINS, SEDIMENT, TRAPS, AND SILT FENCE IS REDUCED IF THE DRAINAGE AREA IS SEEDED WHEN GRADING AND CONSTRUCTION OPERATION ARE NOT TAKING PLACE.

TEMPORARY STABILIZATION IS REQUIRED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY IS COMPLETE UNLESS CONSTRUCTION ACTIVITY IS GOING TO RESUME WITHIN 21 DAYS. COVER SEEDED AREAS WITH AN APPROPRIATE MULCH TO PROVIDE PROTECTION FROM THE WEATHER. WHEN THE TEMPORARY VEGETATION DOES NOT GROW QUICKLY OR THICK ENOUGH TO PREVENT EROSION, RE-SEED AS SOON AS POSSIBLE. KEEP SEEDED AREAS ADEQUATELY MOIST. IRRIGATE THE SEEDED AREA IF NORMAL RAINFALL IS NOT ADEQUATE FOR THE GERMINATION AND GROWTH OF SEEDLINGS. WATER SEEDED AREAS AT CONTROLLED RATES THAT ARE LESS THAN THE RATE AT WHICH THE SOIL CAN ABSORB WATER TO PREVENT RUNOFF. RUNOFF OF IRRIGATION WATER WASTES WATER AND CAN CAUSE EROSION.

SEED SELECTION

SEED SELECTION IS BASED ON GEOGRAPHICAL LOCATION, SOIL TYPE AND THE SEASON OF THE YEAR IN WHICH THE PLANTING IS TO BE DONE. USE THE TABLES IN APPENDIX C AS A GUIDE FOR CONVENTIONAL TILLAGE METHODS (PLOWING, SEEDBED PREPARATION, HYDROSEEDING, ETC). IF A FAST GROWING CROP TO NURSE THE PERMANENT SPECIE OR SPECIES IS REQUIRED, THEN USE THE MIX RATE. FAILURE TO CAREFULLY FOLLOW AGRONOMIC RECOMMENDATIONS RESULTS IN AN INADEQUATE STAND OF TEMPORARY VEGETATION THAT PROVIDES LITTLE OR NO EROSION CONTROL.

INSTALLATION

- TILLAGE: IF THE AREA HAS BEEN RECENTLY PLOWED, NO TILLAGE IS REQUIRED OTHER THAN RAKING OR SURFACE ROUGHENING TO BREAK ANY CRUST THAT HAS FORMED LEAVING A TEXTURED SURFACE. DISK THE SOIL FOR OPTIMAL GERMINATION WHEN THE SOIL IS COMPACTED LESS THAN 6-INCHES.
- SOIL TESTING: SOIL TESTING IS AVAILABLE THROUGH CLEMSON UNIVERSITY COOPERATIVE EXTENSION SERVICE.
- LIME: LIME IS NOT REQUIRED FOR TEMPORARY SEEDING UNLESS A SOIL TEST SHOWS THAT THE SOIL PH IS BELOW 5.0. IT MAY BE DESIRABLE TO APPLY LIME DURING THE TEMPORARY SEEDING OPERATION TO BENEFIT THE LONG-TERM PERMANENT SEEDING.
- FERTILIZER: APPLY A MINIMUM OF 1.5 TONS OF LIME/ACRE (70 POUNDS PER 1000 SQUARE FEET) IF IT IS TO BE USED.APPLY A MINIMUM OF 500 POUNDS PER ACRE OF 10-10-10 FERTILIZER (11.5 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING TEMPORARY SEEDING UNLESS A SOIL TEST INDICATES A DIFFERENT REQUIREMENT. INCORPORATE FERTILIZER AND LIME (IF USED) INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW.
- SEEDING: LOOSEN THE SOIL SURFACE BEFORE BROADCASTING THE SEED. APPLY SEED EVENLY BY THE MOST CONVENIENT METHOD AVAILABLE FOR THE TYPE OF SEED USED AND THE LOCATION OF THE TEMPORARY SEEDING. TYPICAL APPLICATION METHODS INCLUDE BUT ARE NOT LIMITED TO CYCLONE SEEDERS, ROTARY SPREADERS, DROP SPREADERS, BROADCAST SPREADERS, HAND SPREADERS, CULTIPACKER SEEDER, AND HYDRO-SEEDERS. COVER APPLIED SEED BY RAKING OR DRAGGING A CHAIN, AND THEN LIGHTLY FIRM THE AREA WITH A ROLLER OR CULTIPACKER.
- MULCHING: USE MULCH WITH TEMPORARY SEED APPLICATIONS TO RETAIN SOIL MOISTURE AND REDUCE EROSION DURING THE ESTABLISHMENT OF VEGETATION. TYPICAL MULCH APPLICATIONS INCLUDE STRAW, WOOD FIBER, HYDROMULCHES, BFM AND FGM. USE HYDROMULCHES WITH A MINIMUM BLEND OF 70% WOOD FIBERS. THE MOST COMMONLY ACCEPTED MULCH USED IN CONJUNCTION WITH TEMPORARY SEEDING IS SMALL GRAIN STRAW. THIS STRAW SHOULD BE DRY AND FREE FROM MOLD DAMAGE AND NOXIOUS WEEDS. THE STRAW MAY NEED TO BE ANCHORED WITH NETTING OR EMULSIONS TO PREVENT IT FROM BEING BLOWN OR WASHED AWAY. APPLY THE STRAW MULCH BY HAND OR MACHINE AT THE RATE 1.5-2 TONS PER ACRE (90 POUNDS PER 1000 SQUARE FEET). FREQUENT INSPECTIONS ARE NECESSARY TO CHECK THAT CONDITIONS FOR GROWTH ARE GOOD.
- IRRIGATION: SEEDED AREAS SHOULD BE KEPT ADEQUATELY MOIST. IRRIGATE THE SEEDED AREA IF NORMAL RAINFALL IS NOT ADEQUATE FOR THE GERMINATION AND GROWTH OF SEEDLINGS. WATER SEEDED AREAS AT CONTROLLED RATES THAT ARE LESS THAN THE RATE AT WHICH THE SOIL CAN ABSORB WATER TO PREVENT RUNOFF. RUNOFF OF IRRIGATION WATER WASTES WATER AND CAN CAUSE EROSION.
- RE-SEEDING: RE-SEED AREAS WHERE SEEDING DOES NOT GROW QUICKLY, THICK ENOUGH, OR ADEQUATELY TO PREVENT EROSION. BASE SEED SELECTION SHOULD ON THE REQUIREMENTS OF LOCAL SPECIFICATIONS.

INSPECTION AND MAINTENANCE

- INSPECT EVERY 7 CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES ½-INCHES OR MORE OF PRECIPITATION.
- COVER SEEDED WITH MULCH TO PROVIDE PROTECTION. FREQUENT INSPECTIONS ARE NECESSARY TO CHECK THAT CONDITIONS FOR GROWTH ARE GOOD.
- SUPPLY TEMPORARY SEEDING WITH ADEQUATE MOISTURE. SUPPLY WATER AS NEEDED, ESPECIALLY IN ABNORMALLY HOT OR DRY WEATHER OR ON ADVERSE SITES. CONTROL WATER APPLICATION RATES TO PREVENT RUNOFF.
- BASE SEED SELECTION ON LOCAL SPECIFICATIONS.
- RE-SEED AREAS WHERE THE PLANTS DO NOT GROW QUICK ENOUGH, THICK ENOUGH, OR ADEQUATELY ENOUGH TO PREVENT EROSION SHOULD BE RE-SEEDED.

TEMPORARY SEEDING - COASTAL

SPECIES	RATES PER ACRE	PLANTING DATES
SANDY, DROUGHTY SITES		
BROWNTOP MILLET	40 LBS.	MAR. 10 - SEPT. 1
RYE, GRAIN	56 LBS.	SEPT. 1 - MAR. 15
RYEGRASS	50 LBS.	SEPT. 1 - APR. 15
WELL DRAINED, CLAYEY/LOAMEY SITES		
BROWNTOP MILLET OR JAPANESE MILLET	40 LBS.	MAR. 15 - SEPT. 1
RYE, GRAIN OR OATS	56 LBS. 75 LBS.	SEPT. 1 - MAR. 15
RYEGRASS	50 LBS.	SEPT. 1 - APR. 15

PERMANENT SEEDING

DESCRIPTION

CONTROLLING RUNOFF AND PREVENTING EROSION BY ESTABLISHING A PERENNIAL VEGETATIVE COVER WITH SEED.

WHEN AND WHERE TO USE IT

A MAJOR CONSIDERATION IN THE SELECTION OF THE TYPE OF PERMANENT GRASS TO ESTABLISH IS THE INTENDED USE OF THE LAND. LAND USE IS SEPARATED IN TO TWO CATEGORIES, HIGH-MAINTENANCE AND LOW-MAINTENANCE.

- HIGH-MAINTENANCE: HIGH MAINTENANCE AREAS ARE MOWED FREQUENTLY, LIME OR FERTILIZED ON A REGULAR BASIS, AND REQUIRE MAINTENANCE TO AN AESTHETIC STANDARD. LAND USES WITH HIGH MAINTENANCE GRASSES INCLUDE HOMES, INDUSTRIAL PARKS, SCHOOLS, CHURCHES, AND RECREATIONAL AREAS SUCH AS PARKS, ATHLETIC FIELDS, AND GOLF COURSES.
- LOW-MAINTENANCE: LOW MAINTENANCE AREAS ARE MOWED INFREQUENTLY, IF AT ALL, AND LIME AND FERTILIZER MAY NOT BE APPLIED ON A REGULAR SCHEDULE. THESE AREAS ARE NOT SUBJECT TO INTENSE USE AND DO NOT REQUIRE A UNIFORM APPEARANCE. THE VEGETATION MUST BE ABLE TO SURVIVE WITH LITTLE MAINTENANCE OVER LONG PERIODS OF TIME. GRASS AND LEGUME MIXTURES ARE FAVORED IN THESE AREAS BECAUSE LEGUMES ARE CAPABLE OF FIXING NITROGEN IN THE SOIL FOR THEIR OWN USE AND THE USE OF THE GRASSES AROUND THEM. LAND USES REQUIRING LOW-MAINTENANCE GRASSES INCLUDE STEEP SLOPES, STREAM AND CHANNEL BANKS, ROAD BANKS, AND COMMERCIAL AND INDUSTRIAL AREAS WITH LIMITED ACCESS.

SEED SELECTION

THE USE OF NATIVE SPECIES IS PREFERRED WHEN SELECTING VEGETATION. BASE PLANT SEED SELECTION ON GEOGRAPHICAL LOCATION, THE TYPE OF SOIL, THE SEASON OF THE YEAR IN WHICH THE PLANTING IS TO BE DONE, AND THE NEEDS AND DESIRES OF THE PERMANENT LAND USER. FAILURE TO CAREFULLY FOLLOW AGRONOMIC RECOMMENDATIONS RESULTS IN AN INADEQUATE STAND OF PERMANENT VEGETATION THAT PROVIDES LITTLE OR NO EROSION CONTROL.

INSTALLATION

- TOPSOIL: APPLY TOPSOIL IF THE SURFACE SOIL OF THE SEEDBED IS NOT ADEQUATE FOR PLANT GROWTH.
- TILLAGE: IF THE AREA HAS BEEN RECENTLY PLOWED, NO TILLAGE IS REQUIRED OTHER THAN RAKING OR SURFACE ROUGHENING TO BREAK ANY CRUST THAT HAS FORMED LEAVING A TEXTURED SURFACE. DISK THE SOIL FOR OPTIMAL GERMINATION WHEN THE SOIL IS COMPACTED LESS THAN 6-INCHES. IF THE SOIL IS COMPACTED MORE THAN 6-INCHES, SUB-SOILED AND DISK THE AREA.
- SOIL TESTING: SOIL TESTING IS AVAILABLE THROUGH CLEMSON UNIVERSITY COOPERATIVE EXTENSION SERVICE.
- LIME: UNLESS A SPECIFIC SOIL TEST INDICATES OTHERWISE, APPLY 1½ TONS OF GROUND COURSE TEXTURED AGRICULTURAL LIMESTONE PER ACRE (70 POUNDS PER 1000 SQUARE FEET).
- FERTILIZER: APPLY A MINIMUM OF 1000 POUNDS PER ACRE OF A COMPLETE 10-10-10 FERTILIZER (23 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING PERMANENT SEEDING OF GRASSES UNLESS A SOIL TEST INDICATES A DIFFERENT REQUIREMENT. INCORPORATE FERTILIZER AND LIME (IF USED) INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW. DO NOT MIX THE LIME AND THE FERTILIZER PRIOR TO THE FIELD APPLICATION.
- SEEDING: LOOSEN THE SURFACE OF THE SOIL JUST BEFORE BROADCASTING THE SEED. EVENLY APPLY SEED BY THE MOST CONVENIENT METHOD AVAILABLE FOR THE TYPE OF SEED APPLIED AND THE LOCATION OF THE SEEDING. TYPICAL APPLICATION METHODS INCLUDE BUT ARE NOT LIMITED TO CYCLONE SEEDERS, ROTARY SPREADERS, DROP SPREADERS, BROADCAST SPREADERS, HAND SPREADERS, CULTIPACKER SEEDER, AND HYDRO-SEEDERS. COVER APPLIED SEED BY RAKING OR DRAGGING A CHAIN OR BRUSH MAT, AND THEN LIGHTLY FIRM THE AREA WITH A ROLLER OR CULTIPACKER. DO NOT ROLL SEED THAT IS APPLIED WITH A HYDRO-SEEDER AND HYDRO-MULCH.
- MULCHING: COVER ALL PERMANENT SEEDED AREAS WITH MULCH IMMEDIATELY UPON COMPLETION OF THE SEEDING APPLICATION TO RETAIN SOIL MOISTURE AND REDUCE EROSION DURING ESTABLISHMENT OF VEGETATION. APPLY THE MULCH EVENLY IN SUCH A MANNER THAT IT PROVIDES A MINIMUM OF 75% COVERAGE. TYPICAL MULCH APPLICATIONS INCLUDE STRAW, WOOD FIBER, HYDROMULCHES, BFM AND FGM. USE HYDROMULCHES WITH A MINIMUM BLEND OF 70% WOOD FIBERS. THE MOST COMMONLY ACCEPTED MULCH USED IN CONJUNCTION WITH PERMANENT SEEDING IS SMALL GRAIN STRAW. SELECT STRAW THAT IS DRY AND FREE FROM MOLD DAMAGE AND NOXIOUS WEEDS. THE STRAW MAY NEED TO BE ANCHORED WITH NETTING OR ASPHALT EMULSIONS TO PREVENT IT FROM BEING BLOWN OR WASHED AWAY. APPLY STRAW MULCH BY HAND OR MACHINE AT THE RATE 2 TONS PER ACRE (90 POUNDS PER 1000 SQUARE FEET). FREQUENT INSPECTIONS ARE NECESSARY TO CHECK THAT CONDITIONS FOR GROWTH ARE GOOD.
- IRRIGATION: KEEP PERMANENT SEEDED AREAS ADEQUATELY MOIST, ESPECIALLY LATE IN THE SPECIFIC GROWING SEASON. IRRIGATE THE SEEDED AREA IF NORMAL RAINFALL IS NOT ADEQUATE FOR THE GERMINATION AND GROWTH OF SEEDLINGS. WATER SEEDED AREAS AT CONTROLLED RATES THAT ARE LESS THAN THE RATE AT WHICH THE SOIL CAN ABSORB WATER TO PREVENT RUNOFF. RUNOFF OF IRRIGATION WATER WASTES WATER AND CAN CAUSE EROSION.
- RE-SEEDING: INSPECT PERMANENTLY SEEDED AREAS FOR FAILURE, MAKE NECESSARY REPAIRS AND RE-SEED OR OVERSEED WITHIN THE SAME GROWING SEASON IF POSSIBLE. IF THE GRASS COVER IS SPARSE OR PATCHY, RE-EVALUATE THE CHOICE OF GRASS AND QUANTITIES OF LIME AND FERTILIZER APPLIED. FINAL STABILIZATION BY PERMANENT SEEDING OF THE SITE REQUIRES THAT IT BE COVERED BY A 70% COVERAGE RATE.

INSPECTION AND MAINTENANCE FOR PERMANENT SEEDING

- INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RE-SEED IMMEDIATELY. CONDUCT A FOLLOW-UP SURVEY AFTER ONE YEAR AND REPLACE FAILED PLANTS WHERE NECESSARY.
- IF VEGETATIVE COVER IS INADEQUATE TO PREVENT RILL EROSION, OVERSEED AND FERTILIZE IN ACCORDANCE WITH SOIL TEST RESULTS.
- IF A STAND OF PERMANENT VEGETATION HAS LESS THAN 40 PERCENT COVER, RE-EVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER.
- RE-ESTABLISH THE STAND FOLLOWING SEED BED PREPARATION AND SEEDING RECOMMENDATIONS, OMITTING LIME AND FERTILIZER IN THE ABSENCE OF SOIL TEST RESULTS.
- IF THE SEASON PREVENTS RE-SOWING, MULCH IS AN EFFECTIVE TEMPORARY COVER.
- FINAL STABILIZATION OF THE SITE REQUIRES A 70 PERCENT OVERALL COVERAGE RATE. THIS DOES NOT MEAN THAT 30 PERCENT OF THE SITE CAN REMAIN BARE. THE COVERAGE IS DEFINED AS LOOKING AT A SQUARE YARD OF COVERAGE, IN WHICH 70 PERCENT OF THAT SQUARE YARD IS COVERED WITH VEGETATION.

PERMANENT SEEDING - COASTAL

SPECIES	RATES PER ACRE	PLANTING DATES
SANDY, DROUGHTY SITES		
BROWNTOP MILLET BAHIAGRASS	10 LBS. 40 LBS.	MAR. 10 - SEPT. 1
BROWNTOP MILLET BAHIAGRASS SERICEA LESPEDEZA	10 LBS. 30 LBS. 40 LBS.	MAR. 10 - SEPT. 1
BROWNTOP MILLET ATLANTIC COASTAL PANICGRASS	10 LBS. 15 LBS. PLS	MAR. 10 - JUN. 25
BROWNTOP MILLET SWITCHGRASS (ALAMO) LITTLE BLUESTEM SERICEA LESPEDEZA	10 LBS. 8 LBS. PLS 4 LBS. 20 LBS.	MAR. 10 - JUN. 25
BROWNTOP MILLET WEEPING LOVEGRASS	10 LBS. 8 LBS.	MAR. 10 - JUN. 25
WELL DRAINED, CLAYEY/LOAMEY SITES		
BROWNTOP MILLET BAHIAGRASS	10 LBS. 40 LBS.	MAR. 15 - SEPT. 1
RYE, GRAIN BAHIAGRASS CLOVER, CRIMSON (ANNUAL)	10 LBS. 40 LBS. 5 LBS.	SEPT. 1 - NOV. 10
BROWNTOP MILLET BAHIAGRASS SERICEA LESPEDEZA	10 LBS. 30 LBS. 40 LBS.	MAR. 15 - SEPT. 1
BROWNTOP MILLET BERMUDA, COMMON SERICEA LESPEDEZA	10 LBS. 10 LBS. 40 LBS.	MAR. 15 - SEPT. 1
BROWNTOP MILLET BERMUDA, COMMON KOBE LESPEDEZA (ANNUAL)	10 LBS. 12 LBS. 10 LBS.	MAR. 15 - SEPT. 1
BROWNTOP MILLET BAHIAGRASS BERMUDA, COMMON SERICEA LESPEDEZA	10 LBS. 20 LBS. 6 LBS. 40 LBS.	MAR. 15 - SEPT. 1
BROWNTOP MILLET SWITCHGRASS LITTLE BLUESTEM INDIANGRASS	10 LBS. 8 LBS. PLS 3 LBS. PLS 3 LBS. PLS	MAR. 15 - SEPT. 1

REV.	DATE	DESCRIPTION	DRAWN	APPV.
A	12/13/2024	ISSUED FOR REVIEW AND APPROVAL	AJ	MDC

CLINE ENGINEERING
PROFESSIONAL DESIGN CONSULTING

2101 MIDDLE STREET PARKING

GENERAL NOTES

SULLIVAN'S ISLAND
SOUTH CAROLINA

PROJECT MANAGER	MDC
DRAWN BY	CD | AJ | JR
PROJECT DATE	DECEMBER 2024
JOB NUMBER	24058

SHEET NUMBER

G-2

PLOT DATE: 12/13/2024 8:38:55 AM FILE LOCATION: X:\2024\24058.ACAD\001\X\PRODUCTION DRAWINGS\PD.0006

WATER LINES

1. ALL WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS AND DETAILS. ALL MATERIALS AND PRODUCTS THAT CONTACT POTABLE WATER MUST BE THIRD PARTY CERTIFIED AS MEETING THE SPECIFICATIONS OF ANSI/NSF STANDARD 61. ALL PIPING MATERIALS AND INSTALLATION SHALL MEET THE APPROVAL OF THE LOCAL AUTHORITY AND THE STATE HEALTH AUTHORITY.
2. ALL DUCTILE IRON PIPE (DIP) SHALL BE PRESSURE CLASS "350" CONFORMING TO AWWA C151. ALL FITTINGS SHALL BE EITHER MECHANICAL OR PUSH-ON JOINT AND SHALL COMPLY WITH AWWA C110. ALL POLY-VINYL CHLORIDE WATER LINES 4" AND SMALLER SHALL BE CLASS 200 -SDR21 CONFORMING TO ASTM D-2241 AND ASTM D-1784. WATER LINES 6" AND LARGER SHALL BE 235, DR18, JM EAGLE OR APPROVED EQUAL CONFORMING TO AWWA C-900 AND N.S.F. APPROVED. A DETECTABLE TAPE WITH THE WORDS "CAUTION: WATERLINE BURIED BELOW" SHALL BE INSTALLED 6" TO 12" ABOVE THE PIPE.
3. SEAMLESS COPPER TUBING, 3" AND SMALLER SHALL BE TYPE "K" ROLL FORM TO COMPLY WITH ASTM B-88, LATEST REVISION AND SHALL BE INSTALLED WITH WROUGHT COPPER (95-5 TIN ANTIMONY SOLDER JOINT) FITTINGS IN ACCORDANCE WITH ASTM B16.22.
4. ALL WATER LINES SHALL BE PRESSURE TESTED TO 1.5 TIMES THE MAXIMUM WORKING PRESSURE, 150 PSIG (MINIMUM), CLEANED, STERILIZED, AND FLUSHED UNTIL TWO SUCCESSIVE SATISFACTORY WATER BACTERIOLOGICAL SAMPLES TAKEN AT LEAST 24 HOURS APART ARE OBTAINED. THE SAMPLES SHALL BE ANALYZED BY A STATE APPROVED LABORATORY. THE RESULTS SHALL INCLUDE BOTH COLIFORM AND NON-COLIFORM GROWTH. ALL BACKFLOW PREVENTION DEVICES SHALL BE INSPECTED AND CERTIFIED BY A LICENSED INSPECTOR.
5. ALL FIRE HYDRANTS SHALL COMPLY WITH AWWA C502 AND MEET THE APPROVAL OF THE LOCAL WATER AUTHORITY.
6. ALL GATE VALVES SHALL COMPLY WITH AWWA C500, 175 PSI WORKING PRESSURE AND MEET THE APPROVAL OF THE LOCAL WATER AUTHORITY.
7. A MINIMUM OF A DOUBLE CHECK VALVE (BACKFLOW PREVENTOR) ASSEMBLY SHALL BE INSTALLED ON ALL LINES DEDICATED FOR FIRE LINE SPRINKLER SYSTEMS IN A MANNER ACCEPTABLE TO THE LOCAL AUTHORITY. A BACKFLOW PREVENTION DEVICE MEETING STATE AND LOCAL REQUIREMENTS SHALL BE INSTALLED ON ALL DOMESTIC WATER LINES.
8. ALL PIPE MATERIAL, SOLDER AND FLUX SHALL BE LEAD FREE (LESS THAN 0.2% LEAD IN SOLDER AND FLUX AND LESS THAN 8.0% LEAD IN PIPES AND FITTINGS). LUBRICANTS WHICH WILL SUPPORT MICROBIOLOGICAL GROWTH SHALL NOT BE USED FOR SLIP ON JOINTS. VEGETABLE SHORTENING SHALL NOT BE USED TO LUBRICATE JOINTS. NATURAL RUBBER OR OTHER MATERIAL WHICH WILL SUPPORT MICROBIOLOGICAL GROWTH MAY NOT BE USED FOR ANY GASKETS, O-RINGS, AND OTHER PRODUCTS USED FOR JOINTING PIPES, SETTING METERS OR VALVES, OR OTHER APPURTENANCES WHICH WILL EXPOSE THE MATERIAL TO THE WATER.
9. ALL WATER LINES SHALL BE INSPECTED BY THE UTILITY COMPANY AND THE ENGINEER AND CERTIFIED TO THE STATE HEALTH AUTHORITY BEFORE ACCEPTANCE AND A PERMIT TO OPERATE WILL BE ISSUED AS REQUIRED.
10. ALL WATER LINE SHALL HAVE A MINIMUM 3'-0" COVER.
11. WATER LINE SHALL BE INSTALLED AFTER SANITARY SEWER LINES ARE COMPLETE WHERE THEY CROSS. CONTRACTOR SHALL MAINTAIN A 10' HORIZONTAL AND 2' VERTICAL CLEARANCE OF WATER AND SEWER LINES. ALL WATER LINES SHALL CROSS ABOVE SEWER LINES.
12. CONTRACTOR SHALL INCLUDE COST OF METER AND TAP FEES IN PROPOSAL. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL EXCAVATION, COORDINATION AND SCHEDULING OF TAPS. THE CONTRACTOR WILL INSTALL WATER METER AND BOX AS FURNISHED BY THE LOCAL AUTHORITY AND INSTALL SERVICES LINES TO WITHIN 5' OF BUILDING AS INDICATED ON THE DRAWINGS.
13. THE CONTRACTOR WILL FOLLOW PROCEDURES AS DIRECTED TO FLUSH, STERILIZE AND FURNISH WATER SAMPLES FOR TESTING AS PER AWWA 651 UNTIL APPROVAL IS GRANTED BY THE STATE HEALTH AUTHORITY AND THE LOCAL WATER SYSTEM. A PERMIT TO OPERATE WILL NOT BE ISSUED UNTIL THE COMPLETED WATER SYSTEM MEETS ALL REQUIRED STATE AND LOCAL APPROVALS. THE CONTRACTOR IS RESPONSIBLE TO FURNISH THE OWNER WITH A COMPLETED AND APPROVED WATER SYSTEM ALONG WITH A SET OF APPROVED AS-BUILT DRAWINGS IN A FORMAT ACCEPTABLE TO THE LOCAL UTILITY AUTHORITY.
14. THE CONTRACTOR SHALL NOT PERFORM ANY WORK UNTIL HE HAS OBTAINED COPIES OF ALL NECESSARY ENCROACHMENT AND CONSTRUCTION PERMITS.
15. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL WATER AUTHORITY AND DETERMINING THE REQUIREMENTS AND PROCEDURES FOR OBTAINING THE AUTHORITY'S APPROVAL OF THE WATER SYSTEM PRIOR TO SUBMITTING A PRICE TO THE OWNER. THE DETAILS AND SPECIFICATIONS OF THE LOCAL WATER AUTHORITY SHALL GOVERN.

SANITARY SEWER LINES

1. ALL CONSTRUCTION SHALL BE PER THE LOCAL SEWER UTILITY'S REQUIREMENTS AND SPECIFICATIONS.
2. THE PLUMBER IS RESPONSIBLE FOR SETTING INVERT ELEVATIONS, PIPE SLOPES, ETC MEETING ALL LOCAL AND STATE CODES.
3. EACH JOINT SHALL BE CLEARLY AND LEGIBLY MARKED WITH THE MANUFACTURER'S NAME OR IDENTIFYING SYMBOL WITH THE LETTERS E.S. APPEARING ON THE EXTERIOR OF THE PIPE NEAR THE SOCKET.
4. A MINIMUM OF 3 FEET OF COVER SHALL BE MAINTAINED OVER ALL PVC PIPE LINES.
5. WATER LINES SHALL BE INSTALLED AFTER ALL GRAVITY SEWER LINES ARE INSTALLED.
6. THIS CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES BEFORE COMMENCING WORK. CONTACT WATER, TELEPHONE, POWER AND GAS COMPANY BEFORE EXCAVATION IS BEGUN.
7. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SURVEY WORK NECESSARY TO STAKE SEWER LINES. THE CENTERLINE AND ALL CLEANOUT LOCATIONS SHALL BE STAKED IN THE FIELD. THE OWNER'S SURVEYOR WILL SET ALL LOT CORNERS. THE CONTRACTOR SHALL PROTECT ALL PROPERTY MARKERS.
8. ALL UTILITY TRENCHES SHALL BE THOROUGHLY COMPACTED TO PREVENT SETTLEMENT AND DAMAGE TO FUTURE PAVEMENT AND STRUCTURES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO EXISTING ROADS USED BY HIS OPERATION. THE CONTRACTOR SHALL REMOVE MUD AND DEBRIS FROM HIGHWAY AND NOT ALLOW DUST TO BECOME A NUISANCE OR SAFETY HAZARD.
10. ALL SANITARY SEWER WORK SHALL BE CONSTRUCTED TO LINES AND GRADES SHOWN AS DETAILED ON THE DRAWING. THE CONTRACTOR SHALL PROVIDE STANDARD MANHOLES OR CLEAN-OUTS AT ALL BENDS AND CHANGES IN GRADE IN SEWER LINES AND CONNECTIONS TO EXISTING SEWER LINES. PIPE BEDDING AND BACKFILL SHALL BE CAREFULLY CONTROLLED. ALL SANITARY SEWER WORK SHALL COMPLY WITH LOCAL CODES AN ORDINANCES. THE ENGINEER, THE LOCAL AUTHORITY AND THE STATE HEALTH AUTHORITY MUST INSPECT ALL SEWER WORK AS REQUIRED BEFORE BEING PUT IN SERVICE.
11. ALL WORK SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND INSTRUCTIONS GIVEN BY THE OWNER'S REPRESENTATIVE, THE STATE HEALTH AUTHORITY AND THE LOCAL GOVERNING AUTHORITY.
12. ALL SEWER LINES IN RELATION TO WATER LINES MUST CONFORM TO "TEN STATES STANDARDS", SECTION 38.3, 1990 EDITION, AT A MINIMUM. MAINTAIN A MINIMUM OF 10' HORIZONTAL AND 2' VERTICAL SEPARATION BETWEEN THE WATER AND SANITARY SEWER LINES. WATER LINES SHALL CROSS OVER SANITARY SEWER LINES.
13. CONTRACTOR TO ASSUME CLASS "B" BEDDING FOR SDR-26 PVC IN HIS BID PROPOSAL. CLASS "A" BEDDING WILL BE PAID FOR AS AN "EXTRA" SHOULD FIELD CONDITIONS REQUIRE THIS BEDDING.
14. COUPLINGS SHALL BE EASTERN STANDARD SEWER REPAIR COUPLINGS AS MANUFACTURED BY MISSION RUBBER COMPANY, INC. CATALOG NO. 0408-807 (8640) 0410-704 (0636), OR 0412-6250 (2636), OR AS MANUFACTURED BY FERNCO JOINT SEALER CO., FERNDALE, MICHIGAN, OR APPROVED EQUAL.
15. SANITARY SEWER SERVICES SHALL BE INSTALLED PER DETAILS. LOCATION OF SERVICE LINES SHALL BE MEASURED FROM MANHOLES AND FURNISHED WITH "AS-BUILT" DRAWINGS TO THE ENGINEER. EACH BUILDING SHALL HAVE (1) 6" OR 4" SERVICE LINE, AS SPECIFIED FOR ON THE DRAWINGS, BROUGHT TO WITHIN 5' OF THE BUILDING. SERVICE LINES SHALL BE INSTALLED AS REQUIRED ON PLANS. MINIMUM SLOPE AND CLEANOUT SPACING SHALL 1.04% FOR 6" AND 2.08% FOR 4" SERIES.
16. ALL WATER AND SEWER LINE BACKFILL SHALL BE COMPACTED TO 95% STD. PROCTOR BY CONTRACTOR. THE OWNER SHALL TEST COMPACTION.
17. THE OWNER SHALL PAY ALL SEWER TAP FEES TO THE LOCAL GOVERNING AUTHORITY. THE CONTRACTOR SHALL COORDINATE WITH LOCAL AUTHORITY ON SEWER TAPS.
18. THIS CONTRACTOR SHALL SHORE TRENCH EXCAVATION AND USE PIPE BOX TO COMPLY WITH ALL OSHA SAFETY REGULATIONS. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO PROVIDE JOB SITE SAFETY AND COMPLY WITH ALL SAFETY REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR HIS MEANS AND METHODS OF CONSTRUCTION.
19. POLYVINYL CHLORIDE (PVC) 8" AND LARGER SHALL CONFORM TO ASTM D-3034, SDR-26, INSTALLED IN ACCORDANCE WITH ASTM D-2321. ELASTOMERIC JOINTS SHALL COMPLY WITH ASTM D-3212. SDR-26 SHALL BE INSTALLED IN CLASS "B" BEDDING AS DETAILED ON THE DRAWINGS. PVC SEWER 6" AND SMALLER SHALL CONFORM TO SCHEDULE 40.
20. DUCTILE IRON SHALL BE PRESSURE CLASS "350", CONFORMING TO AWWA C151, FURNISHED AND INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS. JOINTS IN DIP AT THE CREEK CROSSING SHALL BE RESTRAINED FROM MOVEMENT (LOK-TIGHT OR APPROVED EQUAL).
21. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL SEWER AUTHORITY AND DETERMINING THE REQUIREMENTS AND PROCEDURES FOR OBTAINING THE AUTHORITY'S APPROVAL OF THE SEWER SYSTEM PRIOR TO SUBMITTING A PRICE TO THE OWNER. THE DETAILS AND SPECIFICATIONS OF THE LOCAL SEWER AUTHORITY SHALL GOVERN.
22. MANHOLE FRAME AND COVER SHALL BE MF-11 AND MC-18 RESPECTIVELY AS MANUFACTURED BY SUMTER MACHINERY COMPANY OR SEWER AUTHORITY APPROVED EQUAL. FRAME SHALL WEIGH 208 POUNDS AND COVER SHALL WEIGH 120 POUNDS. ALL SURFACES OF FRAME AND COVER SHALL BE BITUMINOUS COATED.
23. STEPS SHALL BE COPOLYMER POLYPROPYLENE PLASTIC, REINFORCED WITH 1/2" GRADE 60 REINFORCEMENT OR SEWER DISTRICT APPROVED (IF ALLOWED BY LOCAL AUTHORITY).
24. ALL SANITARY SEWER LINES SHALL BE AIR TESTED AND MUST CONFORM TO ASTM C828, LATEST REVISION.
25. ALL FLEXIBLE AND SEMI-RIGID PIPE SHALL BE TESTED BY PULLING A MANDREL, GO/NO GO, DEVICE BY HAND NO EARLIER THAN 30 DAYS AFTER THE TRENCHING HAS BEEN COMPLETELY BACKFILLED. THE MAXIMUM ALLOWABLE DEFLECTION SHALL NOT EXCEED 5 PERCENT OF NOMINAL INSIDE DIAMETER.
26. CONTRACTOR SHALL NOT TIE NEW SEWER LINE TO EXISTING MANHOLE UNTIL ALL CONSTRUCTION IS APPROVED, TESTED AND ACCEPTED BY THE LOCAL GOVERNING AUTHORITY.
27. A PRE-CONSTRUCTION CONFERENCE WITH THE CONTRACTOR, SEWER AUTHORITY, STATE HEALTH AUTHORITY, AND THE ENGINEER WILL BE HELD PRIOR TO SEWER LINE CONSTRUCTION. CONTRACTOR SHALL SET UP PRE-CONSTRUCTION CONFERENCE WITH CITY.
28. THE CONTRACTOR SHALL GRASS ALL RIGHT-OF-WAY IN ACCORDANCE WITH SPECIFICATIONS FOR GRASSING.
29. ALL SEWER LINE WORK SHALL BE "APPROVED" BY THE STATE HEALTH AND LOCAL AUTHORITY, AND "APPROVED" AS-BUILT DRAWINGS SHALL BE FURNISH TO THE OWNER BEFORE CONTRACTOR RECEIVES FINAL PAYMENT.
30. THE CONTRACTOR SHALL NOT PERFORM ANY WORK UNTIL HE HAS OBTAINED COPIES OF ALL NECESSARY ENCROACHMENT AND CONSTRUCTION PERMITS.

SCDHEC

1. 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.
2. 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 STATED 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.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T 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.
10. 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.
11. A COPY OF THE SWPPP, INSPECTIONS 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.
12. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
13. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
14. 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;
15. 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.).
16. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED
   - WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
   - WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM 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.
17. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK, WITH NO TIME PERIOD BETWEEN INSPECTIONS EXCEEDING 9 DAYS, AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
18. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S 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.
19. 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.

MISCELLANEOUS

1. ALL RIP RAP FOR CHECK DAMS, EMERGENCY SPILLWAYS, AND OUTLET STABILIZATION PROTECTION TO BE UNDERLAIN WITH FILTER FABRIC. ALL RIP-RAP SHALL BE DUMPED RIP-RAP IN ACCORDANCE WITH THE SOUTH CAROLINA STATE HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION. PIECES SHALL BE NO LARGER THAN 24 INCHES.
2. ASPHALT DESIGN SHALL BE DONE BY GEOTECHICAL ENGINEER. CONTRACTOR TO COORDINATE WITH OWNER FOR ASPHALT SPECIFICATION.
3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS HIS REQUIRED FOR BORROW AREA (IF NEEDED).
4. ALL EROSION CONTROL FOR STOCKPILING OF DIRT SHALL COMPLY WITH SCDHEC STANDARDS.
5. SEDIMENT MUST BE REMOVED FROM SEDIMENT CONTROL DIKE WHEN SEDIMENT REACHES 50% OF THE SEDIMENT STORAGE VOLUME OR THE TOP OF THE CLEAN-OUT STAKE, WHICHEVER IS LESS.
6. ALL SLOPES DRAINING OFF-SITE, (NOT THROUGH POND) TO BE GRASSED AND STABILIZED WITH EROSION CONTROL BLANKETS.

ABBREVIATIONS

±	MORE OR LESS
Ø	DIAMETER
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS
Ac.	ACRE
ADA	AMERICANS WITH DISABILITY ACT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BM	BENCHMARK
BMP	EROSION CONTROL BEST MANAGEMENT PRACTICES
BOW	BOTTOM OF WALL
C&G	CURB AND GUTTER
CB	CATCH BASIN
CIP	CAST IN PLACE
CL	CENTERLINE
CY	CUBIC YARD
DBH	DIAMETER BREAST HEIGHT
DHEC	DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
DIP	DUCTILE IRON PIPE
E	EAST
E.G.	EXAMPLE GIVEN
EL	ELEVATION
ETC	ETCETERA
FDC	FIRE DEPARTMENT CONNECTION
FFE	FINISHED FLOOR ELEVATION
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FIRM	FLOOD INSURANCE RATE MAP
FPE	FINISHED PAD ELEVATION
FT	FEET (LENGTH)
H	HORIZONTAL
HDPE	HIGH-DENSITY POLYETHYLENE
HP	HIGH POINT
IBC	INTERNATIONAL BUILDING CODE
IE	INVERT ELEVATION
INV	INVERT
LBS	POUNDS
LF	LINEAR FEET (LENGTH)
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
MPCE	MATCH PRE-CONSTRUCTION ELEVATION
MS4s	STORMWATER DISCHARGE FROM MUNICIPAL SEPARATE STORM SEWER SYSTEMS
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTH
NE	NORTHEAST
NO.	NUMBER
NSF	NATIONAL SANITATION FOUNDATION
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	PRECAST
PVC	POLYVINYLCHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
PSF	POUNDS PER SQUARE FOOT (PRESSURE)
PSI	POUNDS PER SQUARE INCH (PRESSURE)
PSIG	POUNDS PER SQUARE INCH GUAGE
S	SOUTH
SCDHEC	SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
SCDOT	SOUTH CAROLINA DEPARTMENT OF TRANSPORATION
SE	SOUTHEAST
SF	SQUARE FEET
STA	STATION
STD.	STANDARD
SW	SOUTHWEST
TC	TOP OF CURB
TP	TOP OF PAVEMENT
TOW	TOP OF WALL
TYP	TYPICAL
V	VERTICAL
VCP	VITRIFIED CLAY PIPE
W	WEST
WWF	WELDED WIRE FABRIC

THERE MAY BE ADDITIONAL ABBREVIATIONS USED IN THESE PLANS. PLEASE CONTACT ENGINEER IF ANY ABBREVIATION IS UNDEFINED OR UNCLEAR.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		BENCHMARK
		INLET PROTECTION TYPE A
		INLET PROTECTION TYPE F
		INLET PROTECTION TYPE E
		SILTSACK INLET PROTECTION
		GUTTER EEL INLET PROTECTION
		ROCK CHECK DAM
		ROCK SEDIMENT DIKE
		ROCK OUTLET STABILIZATION
		CONCRETE WASHOUT
or		STORM DRAINAGE - MISCELLANEOUS
		STORM DRAINAGE - CATCH BASIN TYPE 16
		STORM DRAINAGE - CATCH BASIN TYPE 9
		STORM DRAINAGE - CURB INLET TYPE 1
		STORM DRAINAGE - DROP INLET
		STORM DRAINAGE - JUNCTION BOX
or		SANITARY SEWER MANHOLE
or		SEWER CLEANOUT
		FIRE HYDRANT
or		WATER METER
		WATER VALVE
		REDUCER
or		LIGHT POLE
		IRON PIN
		SIGN
		UTILITY POLE
		ELECTRICAL BOX
		ELECTRICAL MANHOLE
		CABLE BOX
		TELEPHONE BOX
		TELEPHONE MANHOLE
		PARKING COUNT
		PARKING ISLAND
		FIRE DEPARTMENT CONNECTION
		POST INDICATOR VALVE
		TREE
		TREE - TO BE RELOCATED
		TREE - TO BE REMOVED
		LIMITS OF DISTURBANCE
		PROPERTY BOUNDARY
		ADJACENT/INTERNAL PROPERTY LINES
		BUFFER
		EASEMENT
		SETBACK
		WETLANDS
		CENTERLINE
	DB	DIVERSION BERM
	DD	DIVERSION DITCH
XG	G	GAS
	HP	HOSE PULL
XOC	OC	OVERHEAD CABLE
XOE	OE	OVERHEAD ELECTRIC
XOT	OT	OVERHEAD TELEPHONE
	PD	PERMANENT DIVERSION DITCH
	RD	ROOF DRAIN
	RSF	REINFORCED SILT FENCE
XD	SD	STORM DRAINAGE
XS	SS	SANITARY SEWER
	SF	SILT FENCE
	SSD	SUBSURFACE DRAIN
	TB	TREE PROTECTION BARRICADE
	TD	TEMPORARY DIVERSION DITCH
	TP	TREE PROTECTION
XC	C	UNDERGROUND CABLE
XE	E	UNDERGROUND ELECTRIC
XT	T	UNDERGROUND TELEPHONE
XW	W	WATER
	FW	FIRE SERVICE
XX	X	FENCE
		WETLANDS
		UTILITY LINE, PIPE, OR CURB TO BE DEMOLISHED
		ENTITY TO BE DEMOLISHED
		ASPHALT PAVEMENT (LIGHT DUTY)
		ASPHALT PAVEMENT (HEAVY DUTY)
		CONCRETE PAVEMENT
		BRICK PAVEMENT OR HARDSCAPE
		GRAVEL PAVEMENT

THERE MAY BE ADDITIONAL SYMBOLS USED IN THESE PLANS. PLEASE CONTACT ENGINEER IF ANY SYMBOL IS UNDEFINED OR UNCLEAR.

REV.	DATE	DESCRIPTION	DRAWN	APPV.
A	12/13/2024	ISSUED FOR REVIEW AND APPROVAL	AJ	MDC

CLINE ENGINEERING
PROFESSIONAL DESIGN CONSULTING

2101 MIDDLE STREET PARKING

GENERAL NOTES

SULLIVAN'S ISLAND
SOUTH CAROLINA

PROJECT MANAGER	MDC
DRAWN BY	CD | AJ | JR
PROJECT DATE	DECEMBER 2024
JOB NUMBER	24058

SHEET NUMBER

G-3

PLOT DATE: 12/13/2024 8:38:56 AM FILE LOCATION: X:\2024\24058.ACAD\001\X\PRODUCTION DRAWINGS\PD.0006

DATUM:

THE BEARINGS SHOWN HEREON ARE SOUTH CAROLINA GRID NAD 1983 (2011) MODEL. VERTICAL DATUM IS BASED ON NAVD 1988. 1' CONTOUR INTERVAL.

FLOOD NOTE:

THIS PROPERTY IS SITUATED IN A FLOOD ZONE AE 10 AS PER SCALING FROM FEMA F.I.R.M. MAP NUMBER 45019C 0539K DATED REVISED JANUARY 29, 2021.

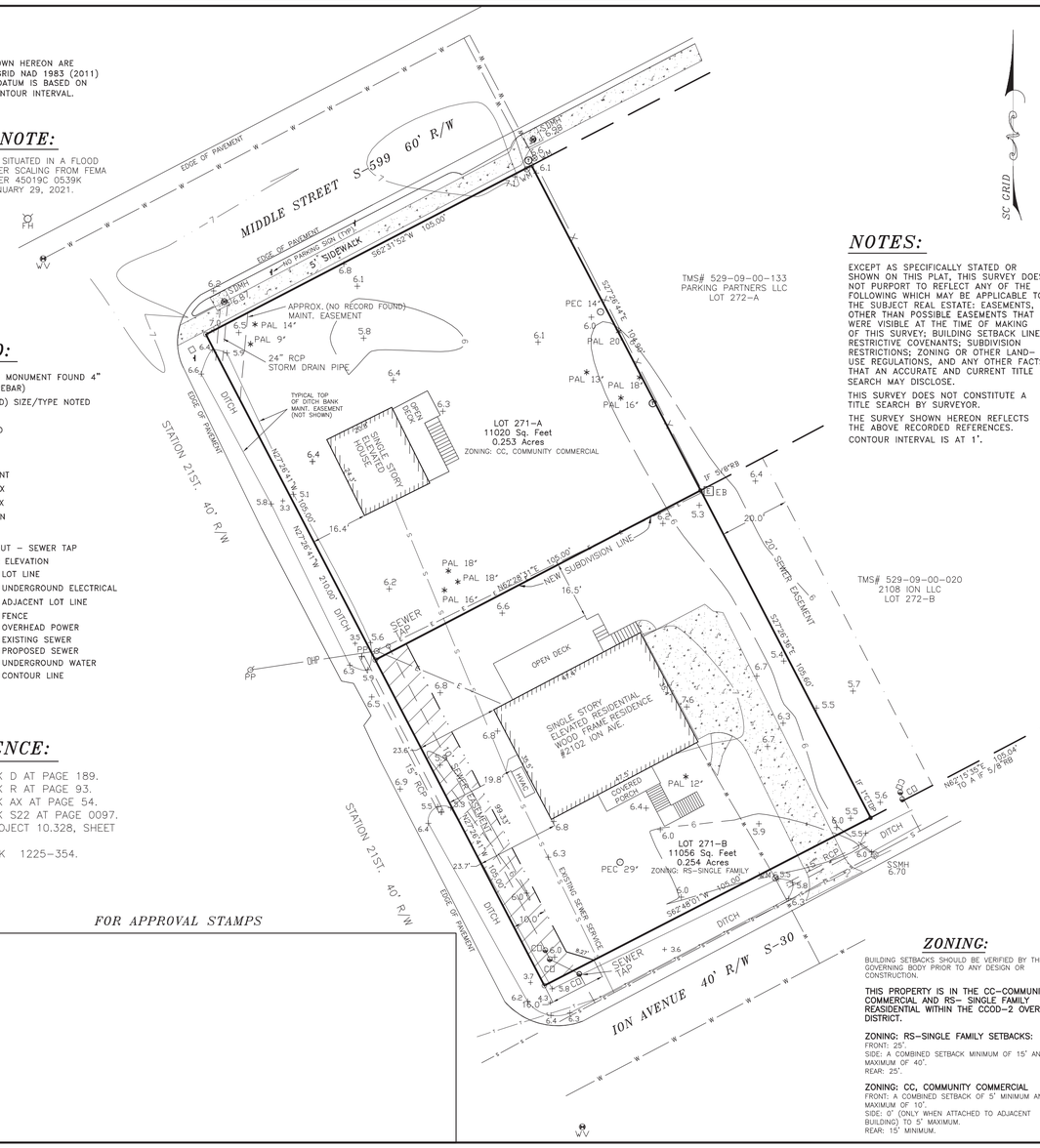
LEGEND:

- ■ CMF CONCRETE MONUMENT FOUND 4"
- ○ IS 5/8" RB (REBAR)
- ● IF (IRON FOUND) SIZE/TYPE NOTED
- △ PK NAIL SET
- ▲ PK NAIL FOUND
- WATER VALVE
- WATER METER
- FH FIRE HYDRANT
- ELECTRICAL BOX
- TELEPHONE BOX
- \+ SPOT ELEVATION
- POWER POLE
- SEWER CLEANOUT – SEWER TAP
- FFE FINISH FLOOR ELEVATION
- LOT LINE
- E UNDERGROUND ELECTRICAL
- ADJACENT LOT LINE
- X FENCE
- OHP OVERHEAD POWER
- S EXISTING SEWER
- S PROPOSED SEWER
- W UNDERGROUND WATER
- 6 CONTOUR LINE

REFERENCE:

1) PLAT BOOK D AT PAGE 189.
2) PLAT BOOK R AT PAGE 93.
3) PLAT BOOK AX AT PAGE 54.
4) PLAT BOOK S22 AT PAGE 0097.
5) SCDOT PROJECT 10.328, SHEET #4.
6) DEED BOOK 1225–354.

FOR APPROVAL STAMPS



SC GRID

NOTES:

EXCEPT AS SPECIFICALLY STATED OR SHOWN ON THIS PLAT, THIS SURVEY DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT REAL ESTATE: EASEMENTS, OTHER THAN POSSIBLE EASEMENTS THAT WERE VISIBLE AT THE TIME OF MAKING OF THIS SURVEY; BUILDING SETBACK LINES; RESTRICTIVE COVENANTS; SUBDIVISION RESTRICTIONS; ZONING OR OTHER LAND-USE REGULATIONS, AND ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.

THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.

THE SURVEY SHOWN HEREON REFLECTS THE ABOVE RECORDED REFERENCES.

CONTOUR INTERVAL IS AT 1'.

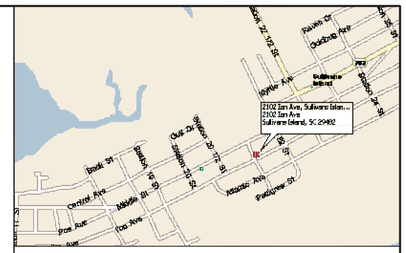
ZONING:

BUILDING SETBACKS SHOULD BE VERIFIED BY THE GOVERNING BODY PRIOR TO ANY DESIGN OR CONSTRUCTION.

THIS PROPERTY IS IN THE CC–COMMUNITY COMMERCIAL AND RS– SINGLE FAMILY REASIDENTIAL WITHIN THE CCOD–2 OVERLAY DISTRICT.

ZONING: RS–SINGLE FAMILY SETBACKS:
FRONT: 25'.
SIDE: A COMBINED SETBACK MINIMUM OF 15' AND A MAXIMUM OF 40'.
REAR: 25'.

ZONING: CC, COMMUNITY COMMERCIAL
FRONT: A COMBINED SETBACK OF 5' MINIMUM AND A MAXIMUM OF 10'.
SIDE: 0' (ONLY WHEN ATTACHED TO ADJACENT BUILDING) TO 5' MAXIMUM.
REAR: 15' MINIMUM.



LOCATION MAP N.T.S.

BRITT LAND SURVEYING, INC.
P.O. BOX 80333
CHARLESTON, SC 29416
843–810–6771
WWW.BRITTSURVEYINGINC.COM

REGISTERED SOUTH CAROLINA LAND SURVEYOR REG. NO. 15792 PROFESSIONAL DEAN L. BRITT

BRITT LAND SURVEYING SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION NO. C 01925

I Dean L. Britt A Registered Professional Land Surveyor in the State of South Carolina certify to owner(s) shown hereon that this survey shown hereon was made in accordance with the requirements of the Minimum Standards Manual for the Practice of Land Surveying in South Carolina, and meets or exceed the requirements for a class A survey as specified therein.

Date: 09–12–2024

DEAN L. BRITT PLS S.C. REG. NO. 15792

SURVEY IS VALID ONLY IF PRINT HAS ORIGINAL SEAL AND SIGNATURE OF SURVEYOR.

SCALE: 1" = 20'

–20' –10' 0 20' 40' 60'

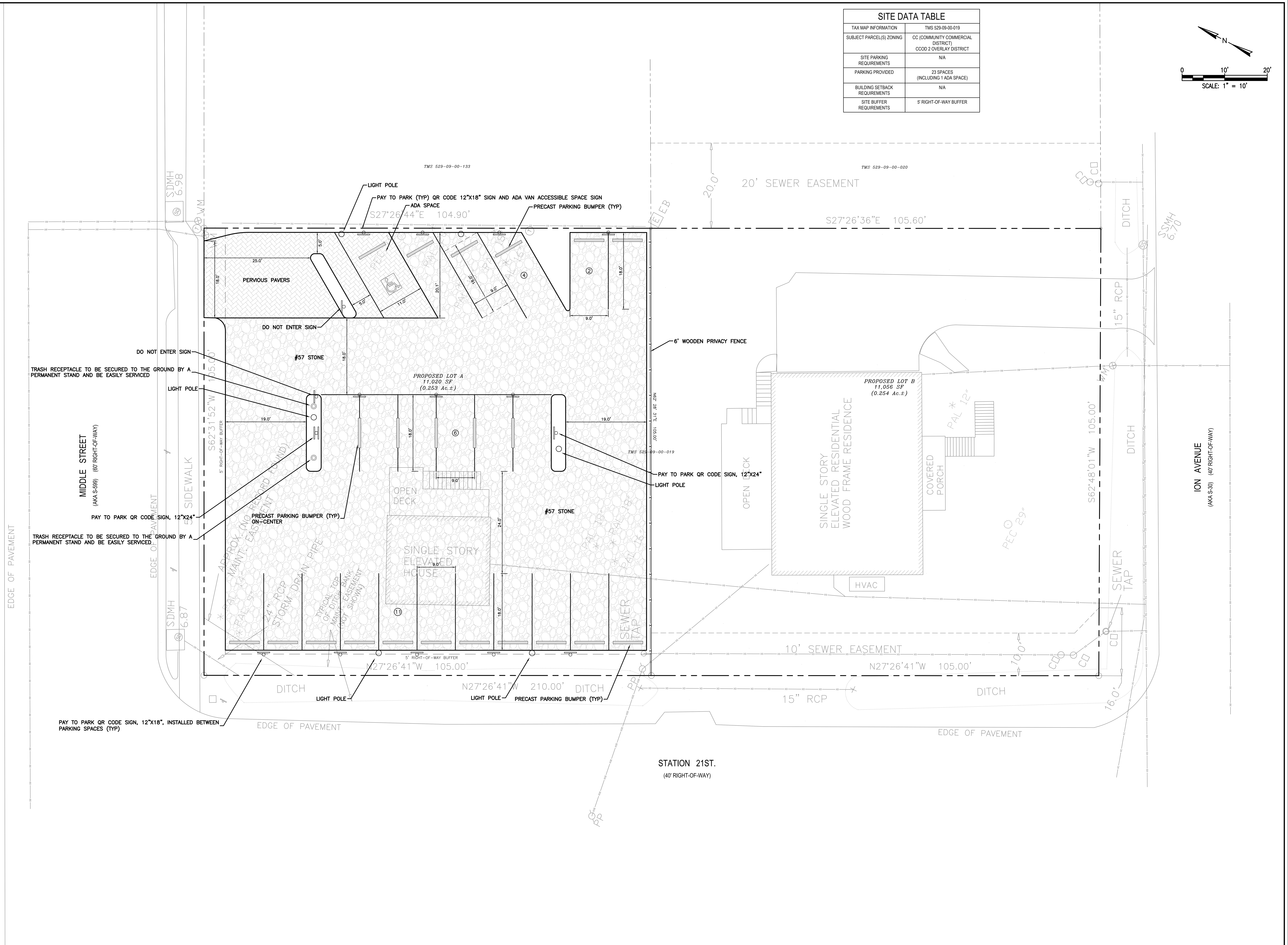
PLAT OF:
TOPOGRAPHIC SURVEY OF LOT 271
TMS# 529–09–00–019
CONTAINING A TOTAL OF
22,076 SQ–FT. / 0.507 ACRES
INTO LOT 271–A 11,020 SQ–FT. / 0.253 ACRES
2101 MIDDLE STREET
AND LOT 271–B 11,056 SQ–FT. / 0.254 ACRES
2102 ION AVENUE
OWNED BY:
RICHARD A. GRAHAM TRUST
LOCATED IN THE
TOWN OF SULLIVANS ISLAND
CHARLESTON COUNTY – SOUTH CAROLINA

LOCATION:	2102 ION AVENUE – 29482
TAX MAP #	529–09–00–019
DATE:	AUGUST 26, 2024
FIELD DATE:	AUGUST 23, 2024
JOB NO.	244012
COUNTY/STATE	CHARLESTON, S.C.

SITE CONDITION DATA PROVIDED TO CLINE ENGINEERING BY OTHERS. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.

SITE CONDITIONS

SHEET NUMBER V-1


0 10' 20'
SCALE: 1" = 10'
N
TMS 529-09-00-133
TMS 529-09-00-020
TMS 529-09-00-019
20' SEWER EASEMENT
20.0'
S27°26'44"E 104.90'
S27°26'36"E 105.60'
LIGHT POLE
PAY TO PARK (TYP) QR CODE 12"X18" SIGN AND ADA VAN ACCESSIBLE SPACE SIGN
ADA SPACE
PRECAST PARKING BUMPER (TYP)
PERVIOUS PAVERS
DO NOT ENTER SIGN
#57 STONE
6' WOODEN PRIVACY FENCE
TRASH RECEPTACLE TO BE SECURED TO THE GROUND BY A PERMANENT STAND AND BE EASILY SERVICED
PROPOSED LOT A
11,020 SF
(0.253 Ac.±)
PROPOSED LOT B
11,056 SF
(0.254 Ac.±)
S62°31'52"W 105.00'
N62° 28' 31"E 105.00'
S62°48'01"W 105.00'
5' RIGHT-OF-WAY BUFFER
PAY TO PARK QR CODE SIGN, 12"X24"
PRECAST PARKING BUMPER (TYP) ON-CENTER
OPEN DECK
SINGLE STORY ELEVATED HOUSE
SINGLE STORY ELEVATED RESIDENTIAL WOOD FRAME RESIDENCE
COVERED PORCH
HVAC
APPROX. 14' MAINT. EASEMENT (NO RECORD FOUND)
24" RCP STORM DRAIN PIPE
TYPICAL TOP OF DITCH BANK MAINT. EASEMENT (NOT SHOWN)
SEWER TAP
10' SEWER EASEMENT
N27°26'41"W 105.00'
N27°26'41"W 210.00'
DITCH
15" RCP
EDGE OF PAVEMENT
PAY TO PARK QR CODE SIGN, 12"X18", INSTALLED BETWEEN PARKING SPACES (TYP)
MIDDLE STREET
(AKA S-599) (60' RIGHT-OF-WAY)
ION AVENUE
(AKA S-30) (40' RIGHT-OF-WAY)
STATION 21ST.
(40' RIGHT-OF-WAY)
SIDEWALK
SDMH 6.98
SDMH 6.87
SSMH 6.70

SITE DATA TABLE

TAX MAP INFORMATION	TMS 529-09-00-019
SUBJECT PARCEL(S) ZONING	CC (COMMUNITY COMMERCIAL DISTRICT) CCOD 2 OVERLAY DISTRICT
SITE PARKING REQUIREMENTS	N/A
PARKING PROVIDED	23 SPACES (INCLUDING 1 ADA SPACE)
BUILDING SETBACK REQUIREMENTS	N/A
SITE BUFFER REQUIREMENTS	5' RIGHT-OF-WAY BUFFER

REV.	DATE	DESCRIPTION	DRAWN	APPV.
A	12/13/2024	ISSUED FOR REVIEW AND APPROVAL	AJ	MDC

CLINE ENGINEERING
PROFESSIONAL DESIGN CONSULTING

2101 MIDDLE STREET PARKING

SITE PLAN

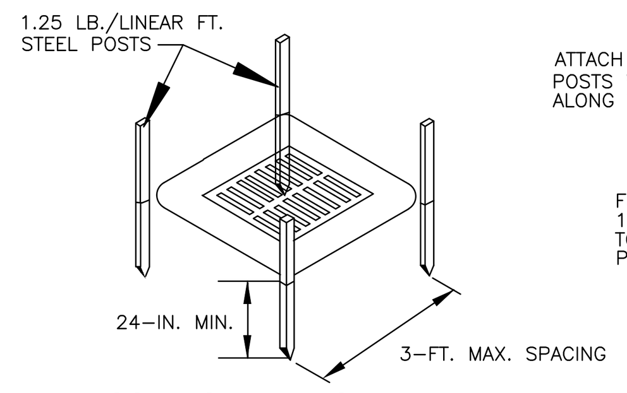
SULLIVAN'S ISLAND
SOUTH CAROLINA

PROJECT MANAGER	MDC
DRAWN BY	CD | AJ | JR
PROJECT DATE	DECEMBER 2024
JOB NUMBER	24058

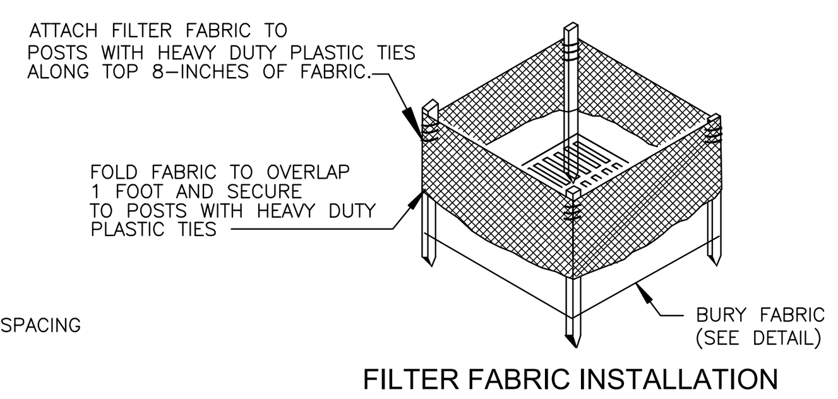
SHEET NUMBER

C-1

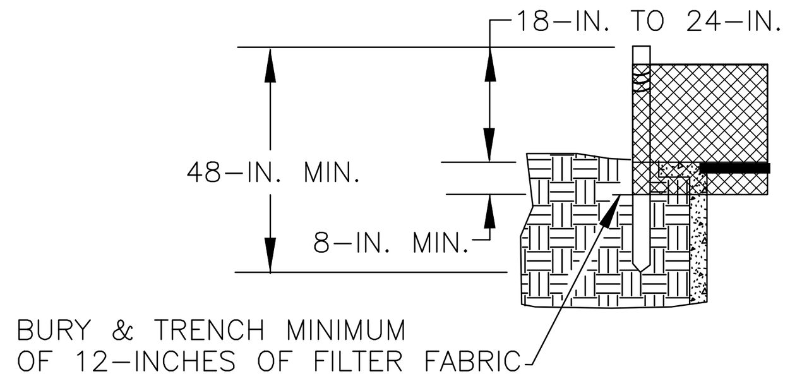
PLOT DATE: 12/13/2024 8:39:06 AM FILE LOCATION: X:\2024\24058.ACAD\001\X\PRODUCTION DRAWINGS\PD.0001



POST INSTALLATION DETAIL

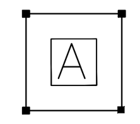


FILTER FABRIC INSTALLATION DETAIL

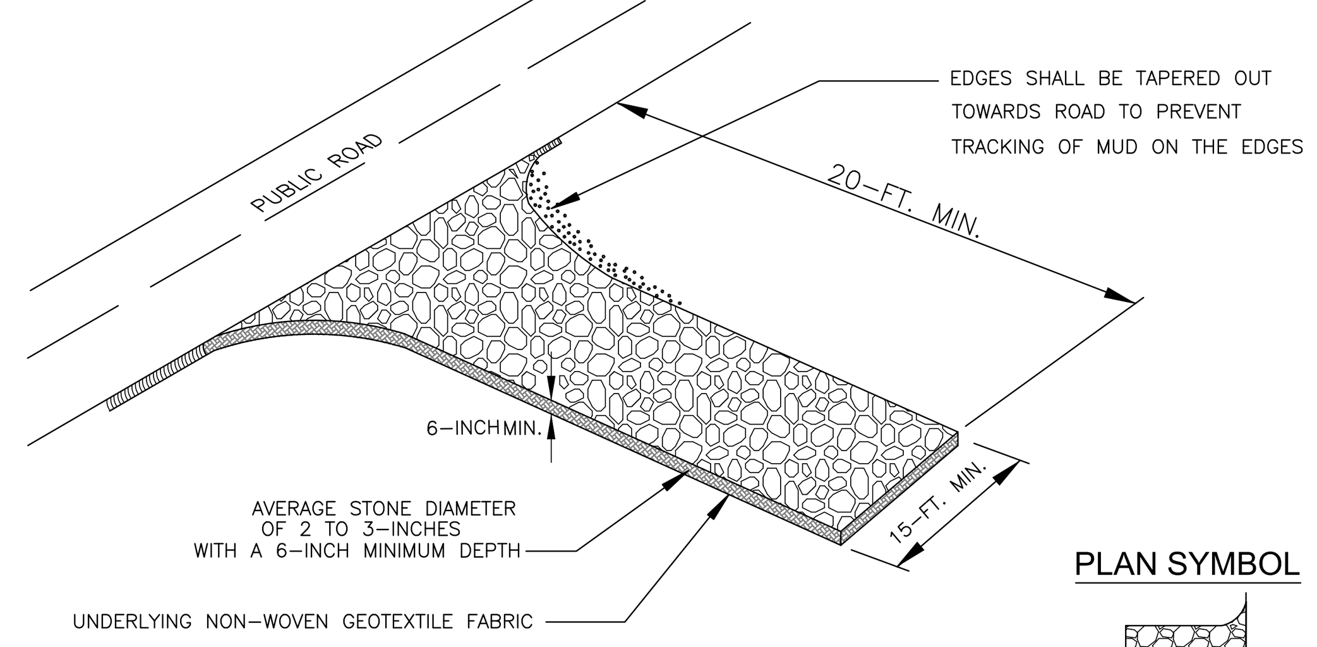


FILTER FABRIC BURIAL DETAIL

PLAN SYMBOL

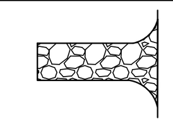


South Carolina Department of Health and Environmental Control
Type A
FILTER FABIC INLET PROTECTION
STANDARD DRAWING NO. SC–07 PAGE 1 of 2
NOT TO SCALE FEBRUARY 2014 DATE



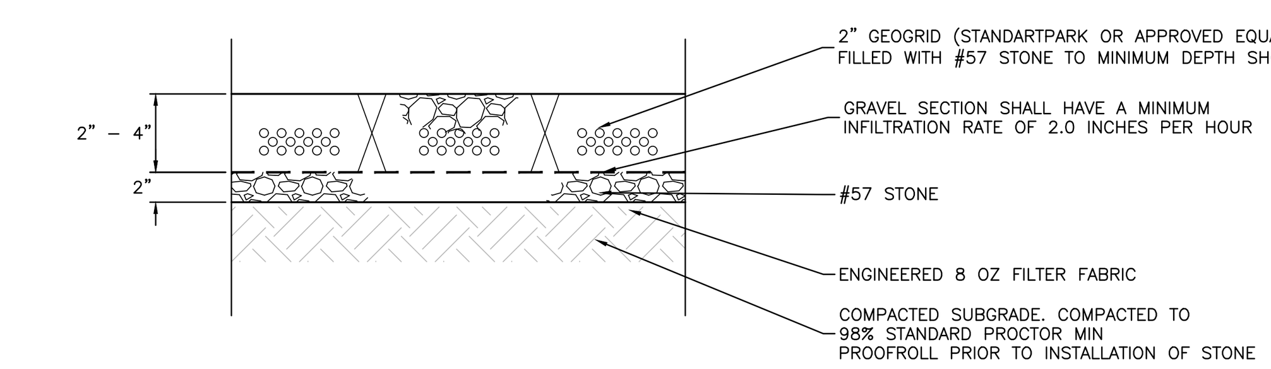
SPECIFICATION	SIZE
ROCK PAD THICKNESS	6 INCHES
ROCK PAD WIDTH	15 FEET
ROCK PAD LENGTH	20 FEET
ROCK PAD STONE SIZE	D50 = 2–3 INCHES

PLAN SYMBOL



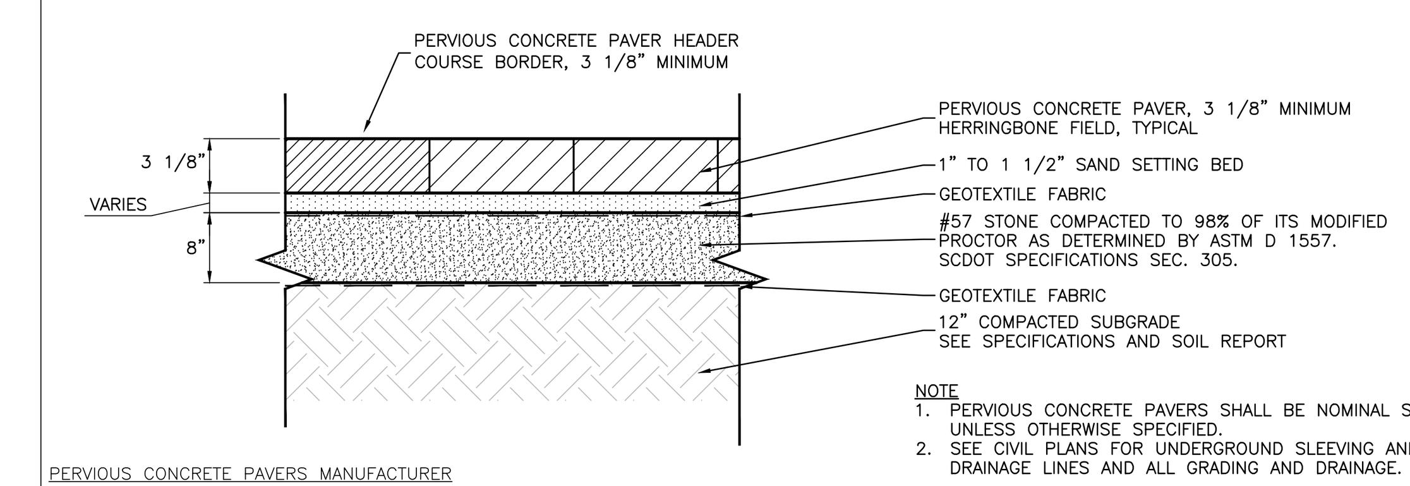
South Carolina Department of Health and Environmental Control
RESIDENTIAL LOT CONSTRUCTION ENTRANCE
STANDARD DRAWING NO. SC–06A PAGE 1 of 2
NOT TO SCALE FEBRUARY 2014 DATE

PAVEMENT SECTION SHOWN BELOW IS FOR BID ONLY. FINAL DESIGN SHALL BE PROVIDED BY A GEOTECHNICAL ENGINEER AND APPROVED BY THE OWNER



#57 STONE PAVING DETAIL
NOT TO SCALE

PERVIOUS PAVEMENT SECTION SHOWN BELOW IS FOR BID ONLY. FINAL DESIGN SHALL BE PROVIDED BY A GEOTECHNICAL ENGINEER AND APPROVED BY THE OWNER



NOTE
1. PERVIOUS CONCRETE PAVERS SHALL BE NOMINAL SIZED UNLESS OTHERWISE SPECIFIED.
2. SEE CIVIL PLANS FOR UNDERGROUND SLEEVING AND DRAINAGE LINES AND ALL GRADING AND DRAINAGE.

PERVIOUS CONCRETE PAVERS MANUFACTURER
COBBLESYSTEMS PAVER (cobblesystems.com)

PERVIOUS PAVER STYLE
PERVIOUS STANDARD PAVER (80MM THICK)

PERVIOUS PAVER COLOR
OWNER SPECIFIED

PERVIOUS PAVERS DETAIL
NOT TO SCALE

TYPE A – FILTER FABRIC REQUIREMENTS
1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
– Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
– Free of any treatment or coating which might adversely alter its physical properties after installation;
– Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
– Have a minimum width of 36–inches.

2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.

3. 12–inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.

4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.

5. Filter Fabric shall be installed at a minimum of 24–inches above the ground.

TYPE A – POST REQUIREMENTS
1. Silt Fence posts must be 48–inch long steel posts that meet, at a minimum, the following physical characteristics.
– Composed of a high strength steel with a minimum yield strength of 50,000 psi.
– Include a standard "T" section with a nominal face width of 1.38–inches and a nominal "T" length of 1.48–inches.
– Weigh 1.25 pounds per foot (± 8%)

2. Posts shall be equipped with projections to aid in fastening of filter fabric.

3. Install posts to a minimum of 24–inches. A minimum height of 1– to 2– inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.

4. Post spacing shall be at a maximum of 3–feet on center.

TYPE A – INSPECTION & MAINTENANCE
1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.

2. Regular inspections of inlet protection shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.

3. Attention to sediment accumulations along the filter fabric is extremely important. Accumulated sediment should be continually monitored and removed when necessary.

4. Remove accumulated sediment when it reaches 1/3 the height of the filter fabric. When a sump is installed in front of the fabric, sediment should be removed when it fills approximately 1/3 the depth of the sump.

5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.

6. Check for areas where stormwater runoff has eroded a channel beneath the filter fabric, or where the fabric has sagged or collapsed due to runoff overtopping the inlet protection.

7. Check for tears within the filter fabric, areas where fabric has begun to decompose, and for any other circumstance that may render the inlet protection ineffective. Removed damaged fabric and reinstall new filter fabric immediately.

8. Inlet protection structures should be removed after all the disturbed areas are permanently stabilized. Remove all construction material and sediment, and dispose of them properly. Grade the disturbed area to the elevation of the drop inlet structure crest. Stabilize all bare areas immediately.

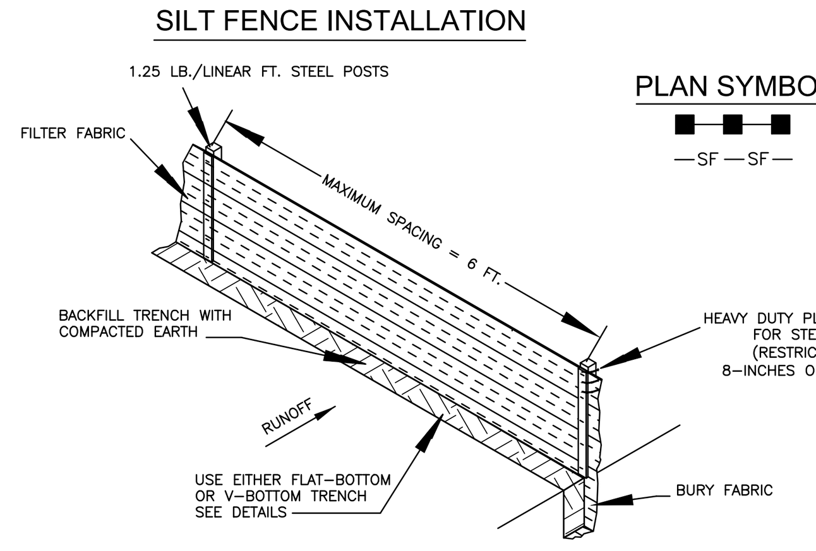
South Carolina Department of Health and Environmental Control
Type A
FILTER FABIC INLET PROTECTION
STANDARD DRAWING NO. SC–07 PAGE 2 of 2
GENERAL NOTES FEBRUARY 2014 DATE

CONSTRUCTION ENTRANCE – GENERAL NOTES
1. Stabilized construction entrances should be used at all points where traffic will egress/ingress a construction site onto a public road or any impervious surfaces, such as parking lots.
2. Install a non–woven geotextile fabric prior to placing any stone.
3. Install a culvert pipe across the entrance when needed to provide positive drainage.
4. The entrance shall consist of 2–inch to 3–inch D50 stone placed at a minimum depth of 6–inches.
5. Minimum dimensions of the entrance shall be 15–feet wide by 20–feet long, and may be modified as necessary to accommodate site constraints.
6. The edges of the entrance shall be tapered out towards the road to prevent tracking at the edge of the entrance.
7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin or other sediment trapping structure.
8. Limestone may not be used for the stone pad.

CONSTR. ENTRANCE – INSPECTION & MAINTENANCE
1. The key to functional construction entrances is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of construction entrances shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. During regular inspections, check for mud and sediment buildup and pad integrity. Inspection frequencies may need to be more frequent during long periods of wet weather.
4. Reshape the stone pad as necessary for drainage and runoff control.
5. Wash or replace stones as needed and as directed by site inspector. The stone in the entrance should be washed or replaced whenever the entrance fails to reduce the amount of mud being carried off–site by vehicles. Frequent washing will extend the useful life of stone pad.
6. Immediately remove mud and sediment tracked or washed onto adjacent impervious surfaces by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.
7. During maintenance activities, any broken pavement should be repaired immediately.
8. Construction entrances should be removed after the site has reached final stabilization. Permanent vegetation should replace areas from which construction entrances have been removed, unless area will be converted to an impervious surface to serve post–construction.

South Carolina Department of Health and Environmental Control
RESIDENTIAL LOT CONSTRUCTION ENTRANCE
STANDARD DRAWING NO. SC–06A PAGE 2 of 2
GENERAL NOTES FEBRUARY 2014 DATE

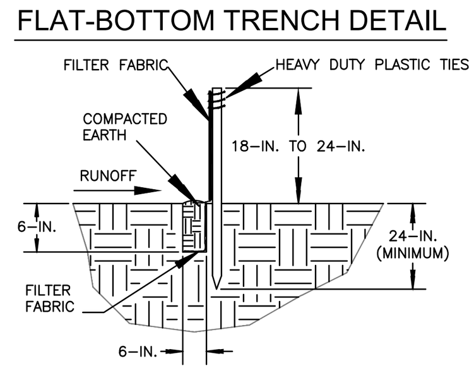
SILT FENCE INSTALLATION



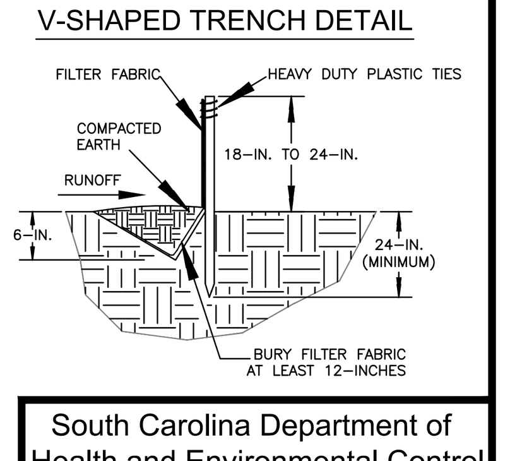
PLAN SYMBOL

—SF—SF—

FLAT-BOTTOM TRENCH DETAIL



V-SHAPED TRENCH DETAIL



SILT FENCE – GENERAL NOTES
1. Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.
2. Maximum sheet or overland flow path length to the silt fence shall be 100–feet.
3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.
4. Silt fence joints, when necessary, shall be completed by one of the following options:
– Wrap each fabric together at a support post with both ends fastened to the post, with a 1–foot minimum overlap;
– Overlap silt fence by installing 3–feet passed the support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy–duty plastic ties; or,
– Overlap entire width of each silt fence roll from one support post to the next support post.
5. Attach filter fabric to the steel posts using heavy–duty plastic ties that are evenly spaced within the top 8–inches of the fabric.
6. Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.
7. Install Silt Fence Checks (Tie–Backs) every 50–100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

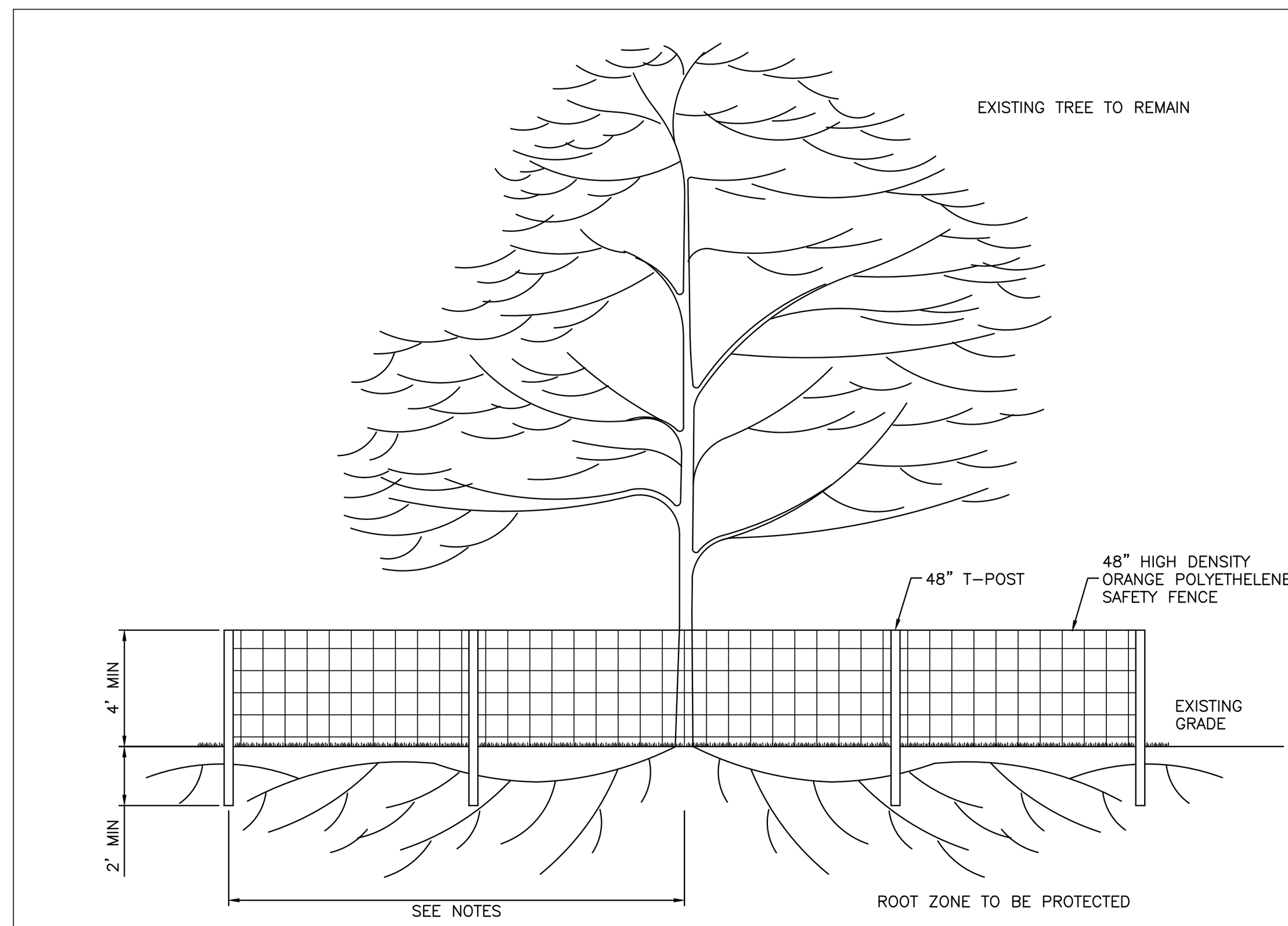
South Carolina Department of Health and Environmental Control
SILT FENCE
STANDARD DRAWING NO. SC–03 Page 1 of 2
NOT TO SCALE FEBRUARY 2014 DATE

SILT FENCE – POST REQUIREMENTS
1. Silt Fence posts must be 48–inch long steel posts that meet, at a minimum, the following physical characteristics.
– Composed of a high strength steel with a minimum yield strength of 50,000 psi.
– Include a standard "T" section with a nominal face width of 1.38–inches and a nominal "T" length of 1.48–inches.
– Weigh 1.25 pounds per foot (± 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17–square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.
4. Install posts to a minimum of 24–inches. A minimum height of 1– to 2– inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
5. Post spacing shall be at a maximum of 6–feet on center.

SILT FENCE – FABRIC REQUIREMENTS
1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
– Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
– Free of any treatment or coating which might adversely alter its physical properties after installation;
– Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
– Have a minimum width of 36–inches.
2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
3. 12–inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
5. Filter Fabric shall be installed at a minimum of 24–inches above the ground.

SILT FENCE – INSPECTION & MAINTENANCE
1. The key to functional silt fence is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the silt fence.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie–backs and/or reinstall silt fence, as necessary.
7. Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
8. Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

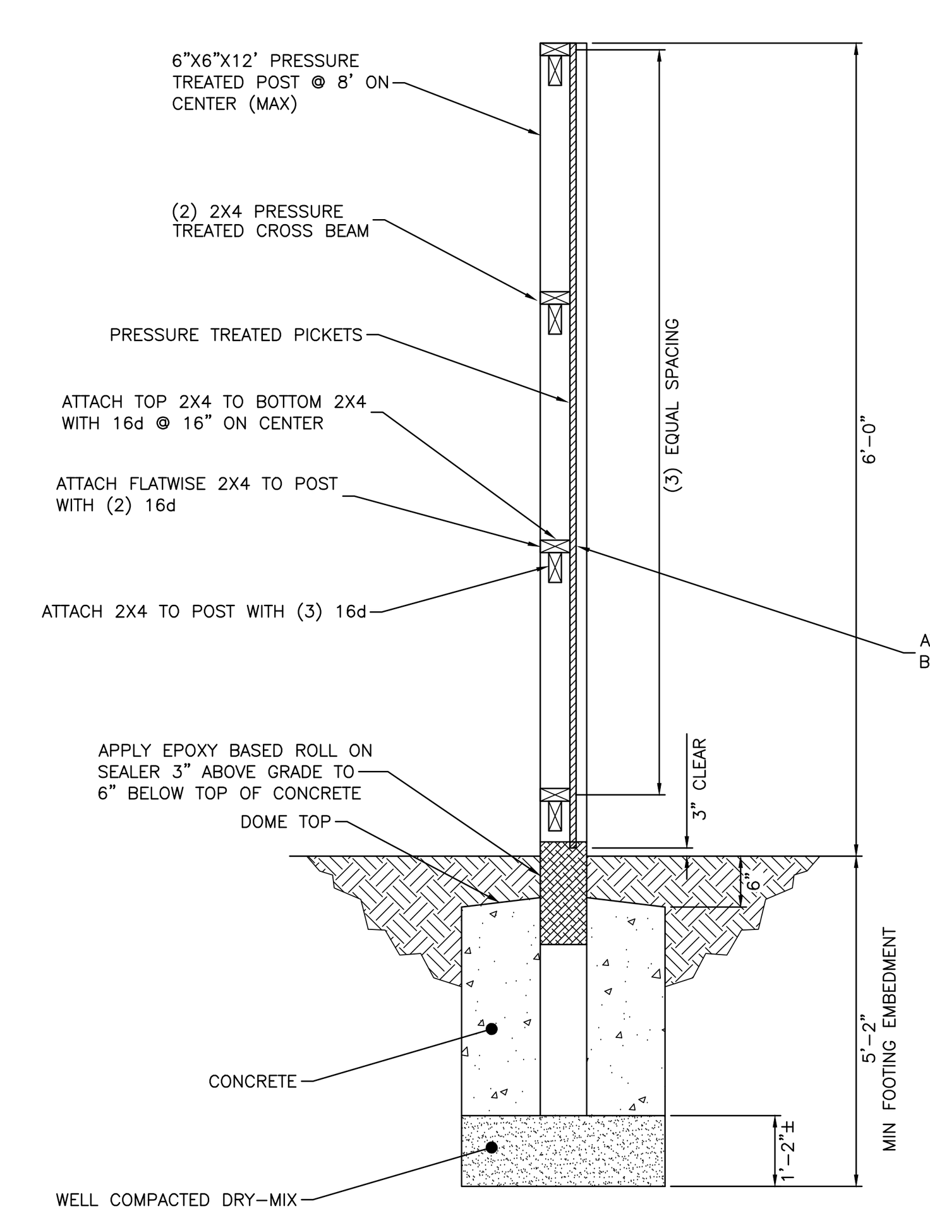
South Carolina Department of Health and Environmental Control
SILT FENCE
STANDARD DRAWING NO. SC–03 PAGE 2 of 2
GENERAL NOTES FEBRUARY 2014 DATE

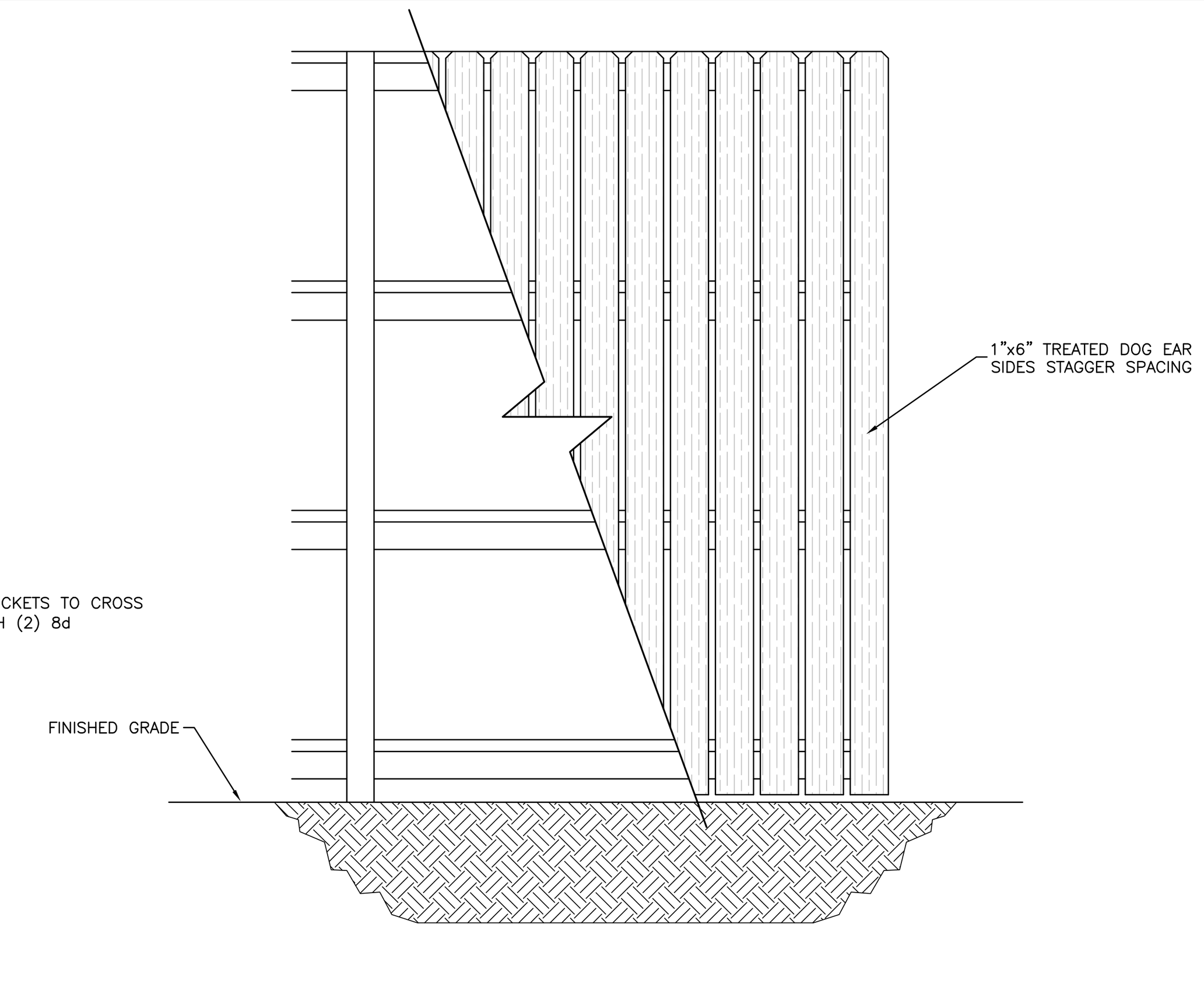


NOTE
1. TREE BARRICADES SHALL BE ERECTED AT MINIMUM DISTANCE FROM THE BASE OF THE PROTECTED TREES AND/OR GRAND TREES ACCORDING TO THE FOLLOWING STANDARDS
A. FOR PROTECTED TREES (23") D.B.H. OR LESS, PROTECTIVE BARRICADES SHALL PLACED A MINIMUM DISTANCE OF TEN FEET FROM THE BASE OF EACH PROTECTED TREE.
B. FOR PROTECTED TREES GREATER THAN (23") D.B.H. AND GRAND TREES, PROTECTIVE BARRICADES SHALL PROVIDE A DIAMETER OF PROTECTION AROUND THE TREE EQUAL IN FEET TO THE DIAMETER BREAST HEIGHT OF THE TREE (EX. A 24" TREE WOULD REQUIRE A 24 FOOT DIA. PROTECTIVE BARRICADE).

PROTECTED AND GRAND TREE PROTECTION DETAIL
NOT TO SCALE

NOTES
1. WOODEN MATERIALS SHALL BE #2 SOUTHERN YELLOW PINE (OR BETTER) PRESSURE TREATED TO UC–3 OR BETTER.
2. CONCRETE SHALL BE 2500 PSI POST MIX
3. FASTENERS SHALL BE HOT–DIPPED GALVANIZED, EXTERIOR COATED GRADE, OR STAINLESS STEEL. NAILS MY BE SUBSTITUTED FOR 3/16" SCREWS SELF–DRILLING SCREWS OF EQUAL LENGTH.
4. SATURATE COMPACTED DRY–MIX PRIOR SETTING POST.





DETAIL SHOWN FOR PRICING ONLY. STRUCTURAL DESIGN DRAWING BY OTHERS FOR FINAL FENCE INSTALLATION DETAIL. CONTRACTOR TO OBTAIN BUILDING PERMIT FOR 6' FENCE INSTALLATION PRIOR TO CONSTRUCTION.

TYPICAL WOOD FENCE WITH WOOD POST DETAIL
NOT TO SCALE

REV.	DATE	DESCRIPTION	DRAWN	APPV.
A	12/13/2024	ISSUED FOR REVIEW AND APPROVAL	AJ	MDC

CLINE ENGINEERING
PROFESSIONAL DESIGN CONSULTING

2101 MIDDLE STREET PARKING

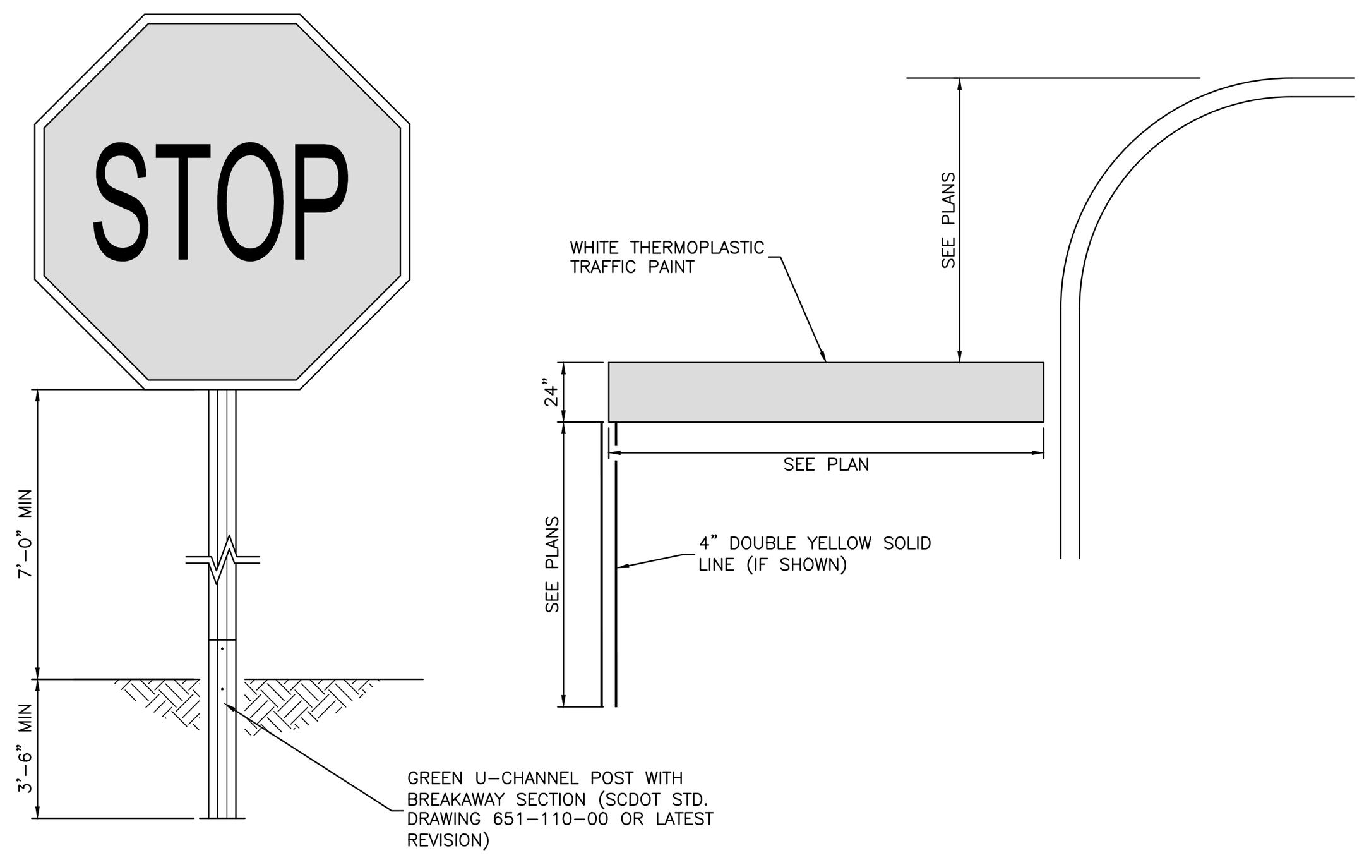
CONSTRUCTION DETAILS

SULLIVAN'S ISLAND SOUTH CAROLINA

PROJECT MANAGER	MDC
DRAWN BY	CD | AJ | JR
PROJECT DATE	DECEMBER 2024
JOB NUMBER	24058

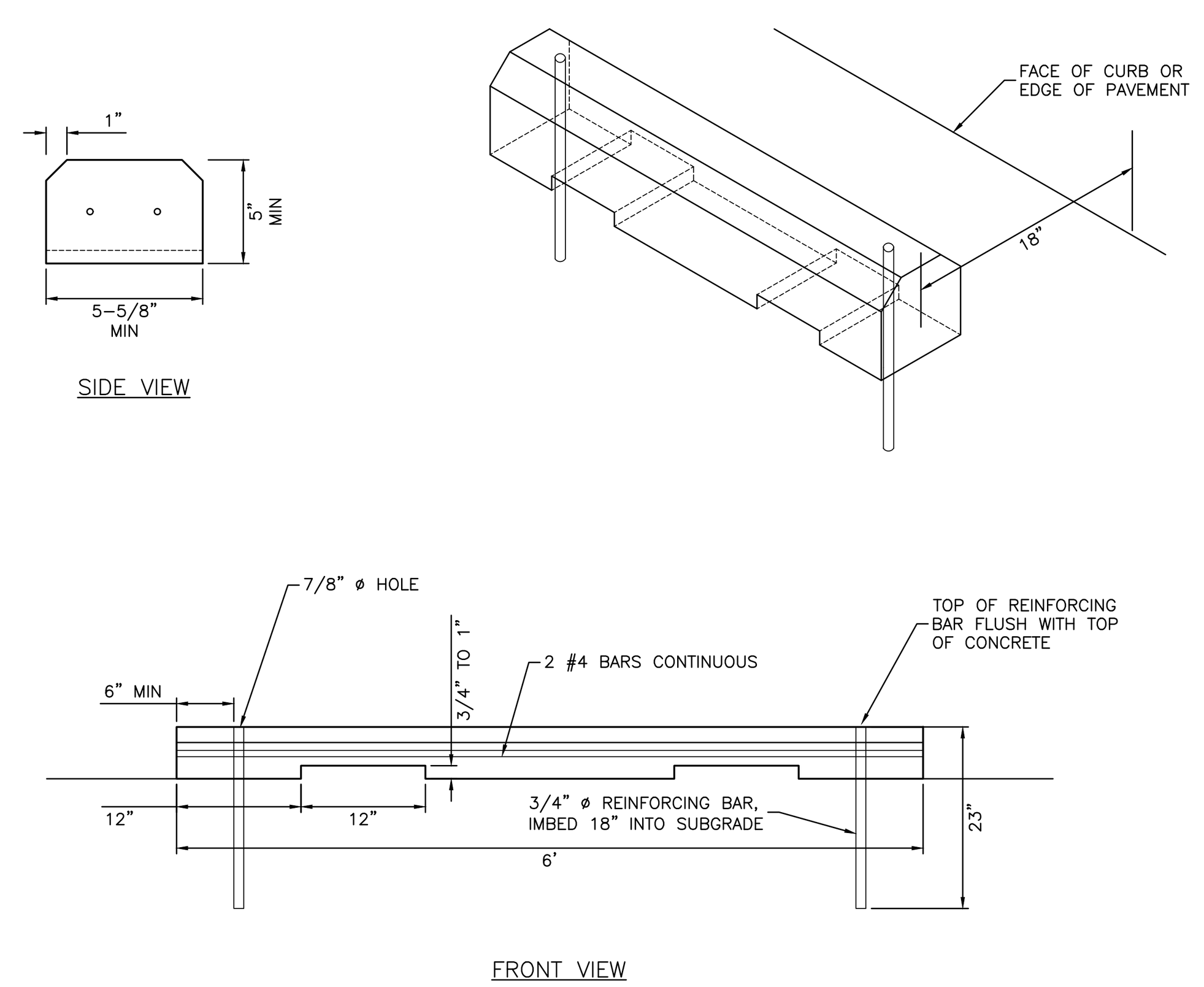
SHEET NUMBER
C-2

PLOT DATE: 12/13/2024 8:39:12 AM FILE LOCATION: X:\2024\24058.ACAD\001\X\PRODUCTION DRAWINGS\PD.0007

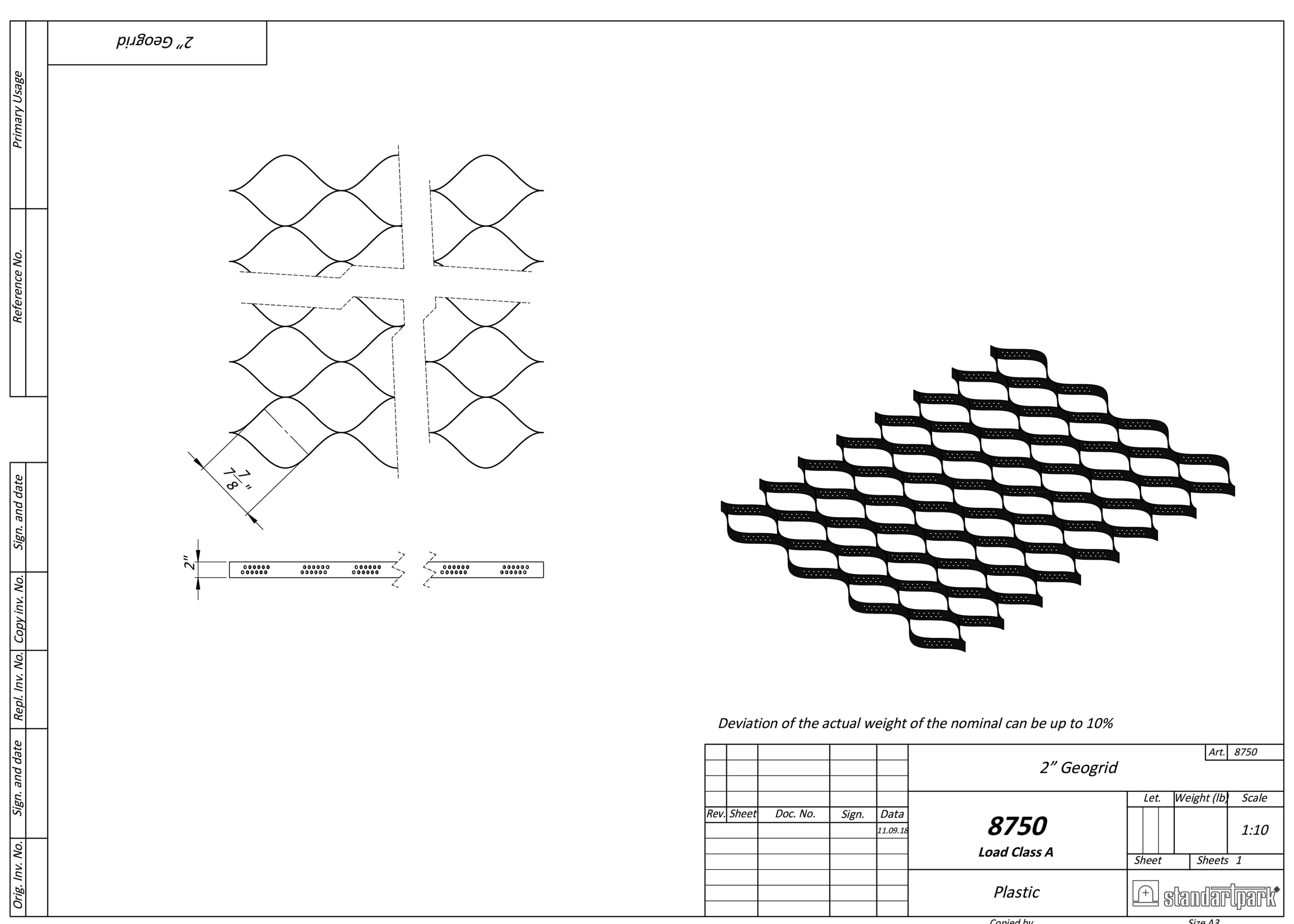


NOTES
1. ALL STOPLINES ARE TO BE MARKED WITH 24" SOLID WHITE LINES.
2. WHERE PEDESTRIAN CROSSINGS EXIST (MARKED OR UNMARKED), STOPLINES SHOULD BE PLACED IN ADVANCE OF, AND PARALLEL TO, THE NEAREST CROSSWALK LINE OR ASSUMED LINE. 4' MINIMUM SHOULD EXIST BETWEEN THE CROSSWALK AND STOPBAR.
3. IN THE ABSENCE OF A MARKED CROSSWALK, THE STOPLINE SHOULD BE PLACED AT A DISTANCE OF NO LESS THAN 10 FEET AND NO MORE THAN 30 FEET FROM THE PAVEMENT EDGE OF THE INTERSECTING ROUTE.
4. SEE SCDOT STANDARD DRAWINGS 625-305-00 (MAY 2009) AND 651-115-01 (MAY 2008) FOR ADDITIONAL DETAILS.
5. MUTCD REFERENCE NUMBER R1-1 (R1-1-30 30"x30")
6. INSTALLED ON MINIMUM 3LB/FT. GREEN U-CHANNEL POST.
7. TO MEET MINIMUM REFLECTIVITY STANDARDS SET BY SCDOT QUALIFIED PRODUCTS LIST.
8. TO MEET MINIMUM REFLECTIVITY STANDARDS SET BY MUTCD.
9. THERMOPLASTIC PAINT REQUIRED WITHIN ALL PUBLIC RIGHTS-OF-WAY.

STOP BAR AND SIGN DETAIL
NOT TO SCALE



PRECAST PARKING BUMPER DETAIL
NOT TO SCALE



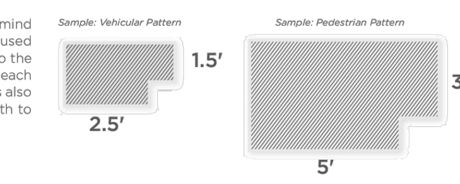
CREATING YOUR OWN PATTERNS

Step 1

Typically there is a look or feel that you want to express in an area. And there is nothing better to help with that than the laying pattern of the pavement surface. Stack or running bond patterns create a structural elegance; enlarged herringbone patterns can utilize a lot of different shapes; and block patterns mask the repeat layout creating a random appearance and provide increased interlock (necessary for VEHICULAR applications). Start off by selecting the general shape that best fits your intent, or create your own unique repeatable pattern, such as the one shown adjacent. Make sure the general shape is repeatable before proceeding.

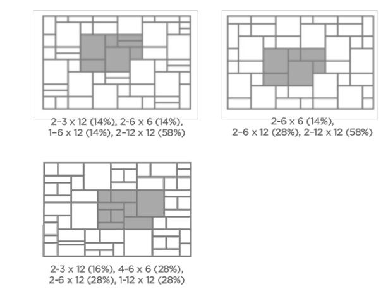
Step 2

Now select the scale of the pattern, keeping in mind (A) the size of the area (larger patterns can be used in larger areas), and (B) the application (refer to the inside pages to verify what sizes are suitable for each application type). For vehicular applications, it is also important to keep lines less than 4 feet in length to provide proper interlock.



Step 3

Once you have decided on the scale of the laying pattern, it is time to fill the shape. The following are examples of the previous pattern with different sized pieces. Please note that even slight changes in the pieces used can alter the appearance dramatically.



Step 4

Adding colors, textures, and borders is where the true versatility of the Aqualine Series is realized. The available options are only limited by your own imagination. Contact your local Belgard Representative for more options, and ask about the ability to add our Texturegard Process.

Belgard Commercial: Aqualine Series

BELGARD COMMERCIAL
Proven Hardscape Solutions
Permeable. Modular. Segmental.

Northfield, an Oldcastle Company
One Hunt Court
Mundelein, IL 60060
847-949-3600

For more info visit: www.belgardcommercial.com

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BELGARD COMMERCIAL
Proven Hardscape Solutions
Permeable. Modular. Segmental.

Aqualine Series™
Commercial Collection

Designed to provide an aesthetically pleasing large format permeable surface that is pedestrian friendly and functional for vehicular traffic, the Aqualine Series by Belgard® combines structural joints and infiltrating voids to optimize system performance. All units are part of either an imperial 4.5-inch or 6-inch dimensional increment series and have a raster / footprint that is exactly as specified, allowing all pieces in each series to fit together as intended.

BelgardCommercial.com

Product Details

COMMERCIAL PLAZA · FACILITY & BUSINESS PARKING · COMMERCIAL & RESIDENTIAL ROAD · MINOR COLLECTOR & BUS PARKING · ADA COMPLIANT[1] · PERMEABLE COLLECTION · COLORGARD[2] · TEXTURGARD[3]

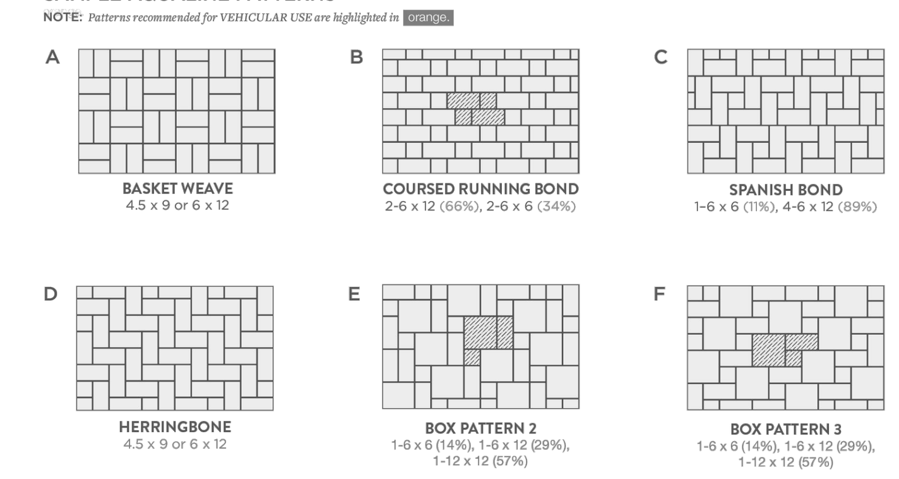
AQUALINE SERIES™ PERMEABLE PAVERS

PAVERS	Paver Thickness	APPLICATIONS						COLORGARD PROCESS	TEXTURGARD PROCESS	MECHANICAL INSTALL	FINISHES			
						1		2	3		Shot Blast	Ground Face	Smooth	Tumbled/ Antiqued**
4 1/2" x 9"	80 mm 101.6 mm*	80 mm	80 mm	80 mm	101.6 mm*	✓	✓	✓	IN SELECT REGIONS ONLY. CHECK WITH YOUR LOCAL BELGARD SALES REP.	✓	✓	✓	✓	IN SELECT REGIONS ONLY. CHECK WITH YOUR LOCAL BELGARD SALES REP.
9" x 9" L-Stone	80 mm 101.6 mm*	80 mm	80 mm	80 mm	101.6 mm*	✓	✓	✓		✓	✓	✓	✓	
3" x 12"	80 mm 101.6 mm*	80 mm	80 mm	101.6 mm*	101.6 mm*	✓	✓	✓	IN SELECT REGIONS ONLY. CHECK WITH YOUR LOCAL BELGARD SALES REP.		✓	✓	✓	IN SELECT REGIONS ONLY. CHECK WITH YOUR LOCAL BELGARD SALES REP.
6" x 6"	80 mm 101.6 mm*	80 mm	80 mm	80 mm	101.6 mm*	✓	✓	✓			✓	✓	✓	
6" x 12"	80 mm 101.6 mm*	80 mm	80 mm	101.6 mm*	101.6 mm*	✓	✓	✓			✓	✓	✓	
12" x 12"	80 mm 101.6 mm*	80 mm	80 mm	101.6 mm*	101.6 mm*	✓	✓	✓			✓	✓	✓	
12" x 12" L-Stone	80 mm 101.6 mm*	80 mm	80 mm	101.6 mm*	101.6 mm*	✓	✓	✓		✓	✓	✓	✓	

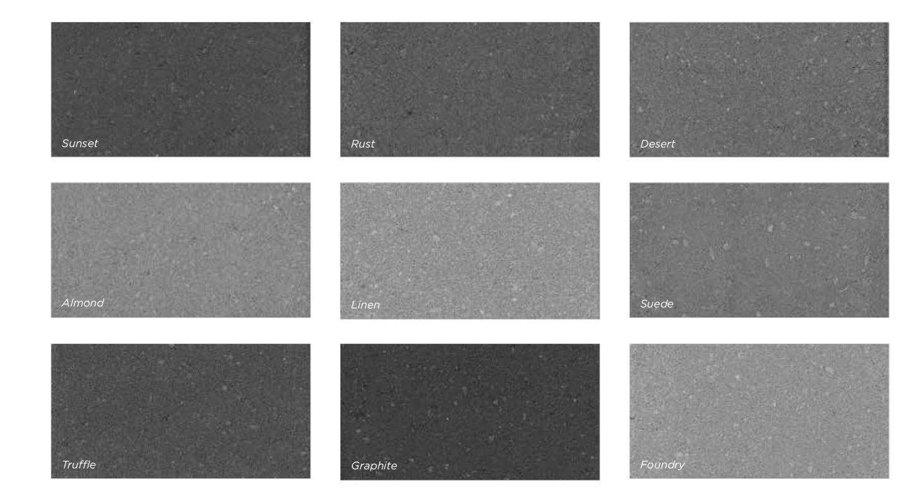
[1] To be ADA Compliant, joints are less than 1/2" wide.
[2] Colorgard is an integral process that uses oxide pigmentation to disperse key colors homogeneously throughout each paver.
[3] Texturgard is a face mix process that allows for exotic aggregate materials on the top face.
* Special order only.
** When the product is TUMBLED/ANTIQUED, there is a chance that pieces may be broken off of an individual unit that take it out of compliance. It is the responsibility of the contractor to remove pieces with corner chips greater than 1/2" as to maintain ADA compliance.

SAMPLE AQUALINE PATTERNS

NOTE: *Patterns recommended for VEHICULAR USE are highlighted in* orange.



NATIONAL COLOR OFFERING



Regional Colors
These products may also come in a number of local colors. Check with your local Belgard Sales Representative for details.

REV.	DATE	DESCRIPTION	DRAWN	APPV.
A	12/13/2024	ISSUED FOR REVIEW AND APPROVAL	AJ	MDC

CLINE ENGINEERING
PROFESSIONAL DESIGN CONSULTING

2101 MIDDLE STREET PARKING

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SULLIVAN'S ISLAND
SOUTH CAROLINA

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PROJECT DATE	DECEMBER 2024
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SHEET NUMBER
C-3

PLOT DATE: 12/13/2024 8:39:17 AM FILE LOCATION: X:\2024\24058.ACAD\001\X\PRODUCTION DRAWINGS\PD.0007