CLEMSON PARK

CLEMSON, SOUTH CAROLINA

100% CONSTRUCTION DRAWING SET 11.1.24 DRAWING LIST

SITE SURVEY **SKATE PARK DRAWINGS** EXISTING CONDITIONS SITE SURVEY PLAN SK-6.0 ROUGH GRADING + DRAINAGE PLAN **CIVIL DRAWINGS** EROSION CONTROL PLAN SITE DEMOLITION & PREPARATION PLAN DRAINAGE PLAN SITE LAYOUT & MATERIALS PLAN UTILITY PLAN SITE LAYOUT ENLARGEMENT PLAN SITE DETAILS SITE LAYOUT ENLARGEMENT PLAN SITE DETAILS SITE LAYOUT ENLARGEMENT PLAN SITE DETAILS LAWN STEP LAYOUT PLAN SITE GRADING PLAN SITE GRADING PLAN ENLARGEMENT PROJECT DATA AND DRAWING INDEX SITE GRADING PLAN ENLARGEMENT GENERAL NOTES & ABBREVIATIONS TREE PLANTING PLAN LIFE SAFETY LEGEND & PLANS SHRUB & PERENNIAL PLANTING PLAN SITE IRRIGATION DIAGRAM **DEMOLITION** SITE SECTIONS SITE SECTIONS **DEMOLITION PLANS AND NOTES EXISTING PHOTOS** CONCRETE DETAILS SITE ELEVATIONS **BRIDGE DETAILS ARCHITECTURE** SPLASH PAD LAYOUT SITE PLAN FLOOR PLAN / RCP SPLASH PAD SPECIFICATIONS **ROOF PLAN** SPLASH PAD SPECIFICATIONS **EXTERIOR ELEVATIONS** _------BUILDING SECTIONS SKATE PARK DRAWINGS 08/16/24 [For Reference Only] **BUILDING SECTIONS** SEPARATE CONTRACT WALL SECTIONS SK-1.0 TITLE SHEET WALL SECTIONS SK-2.0 SPECFICATIONS WALL SECTIONS SK-2.1 SPECIFICATIONS INTERIOR ELEVATIONS SK-3.0 3D PERSPECTIVE **ENLARGED PLANS** SK-3.1 3D PERSPECTIVE SHADE STRUCTURE SK-4.0 INFORMATION PLAN **DETAILS** SCHEDULES, WALL, DOOR & WINDOW TYPES SK-5.0 LAYOUT PLAN 3D REPRESENTATIONS SK-6.0 GRADING + DRAINAGE PLAN SK-7.0 STEEL PLAN STRUCTURAL DRAWINGS SK-8.0 SECTIONS **GENERAL NOTES** SK-8.1 SECTIONS FOUNDATION PLAN SK-8.2 SECTIONS ROOF FRAMING PLAN SK-8.3 SECTIONS TYPICAL MASONRY DETAILS SK-9.0 CONSTRUCTION DETAILS FOUNDATION SECTIONS **ROOF SECTIONS** SK-9.1 CONSTRUCTION DETAILS







4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED. AND SCR100000. TRAPS OR STABLE OUTLETS. MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS. DISCHARGES.

CLEMSON STANDARD NOTES FOR SITE PLANS

- 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 INDICATED 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.
- 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 PROPERTY 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
- 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 SC REG. 72-300 ET SEQ.
- 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
- 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
- 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
- 11. 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.
- 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 WAS WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT
- PROVIDED 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 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
- THEREQUIREMENTS 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 REASONABLE 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
- 20. NO HAY BALES SHOULD BE USED TO SLOW OR STOP WATER AS THEY CAN BREAK-UP EASILTY AND CLOG THE STORM DRAINS DOWN STREAM

UTILITY NOTES

<u>GENERAL:</u>

- 1. ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
- EXISTING LINE. 3. TOPS OF EXISTING MANHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT
- ELEVATIONS, AND TO BE 6" ABOVE FINISHED GROUND ELEVATIONS. 4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRE BY CODES AND/OR UTILITY SERVICE COMPANIES.

2. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITY'S INSPECTOR 72 HOURS BEFORE CONNECTING TO ANY

- 1. PVC DENOTES POLYVINYL CHLORIDE PIPE. PVC SHALL COMPLY WITH ASTM D 2241, RATED SDR 21 (CLASS 150). PIPE JOINTS SHALL BE INTEGRALLY MOLDED BELL ASTM D 3139, WITH FACTORY SUPPLIED ELASTOMERIC GASKETS AND
- 2. CP DENOTES COPPER PIPE. CP SHALL BE TYPE "K" SOFT COPPER TO COMPLY WITH ASTM B 88 LATEST EDITION AND INSTALLED WITH WROUGHT COPPER (95-5 TIN ANTIMONY SOLDER JOINT) FITTINGS IN
- ACCORDANCE WITH ASME B16.22.

5. WHERE POTABLE WATER LINES AND SANITARY SEWER LINES CROSS WITH LESS THAN 18" OF VERTICAL CLEARANCE

- 3. PEX DENOTES CROSS-LINKED POLYETHYLENE PIPE. PEX TO COMPLY WITH AWWA C904 SPECIFICATIONS. 4. ALL WATER LINES SHALL HAVE A MINIMUM COVER OF THREE (3) FEET, UNLESS NOTED OTHERWISE.
- OR WHERE THE SEWER LINE IS ABOVE THE WATER LINE, THE SEWER LINE SHALL BE PRESSURE RATED PVC PIPE, MEETING THE AWWA C900-DR18 OR C905-DR18 WITH A MINIMUM VERTICAL CLEARANCE OF 12" SPECIFICATION FOR A MINIMUM LENGTH OF 20 FEET, CENTERED ON THE POINT OF CROSSING. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET (EDGE TO EDGE) BETWEEN POTABLE WATER LINES AND SEWER LINES SHALL BE MAINTAINED WHEN AT ALL POSSIBLE. WHEN THE 10 FOOT HORIZONTAL SEPARATION CANNOT BE MAINTAINED THE WATER LINE SHALL BE INSTALLED IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF AT LEAST 12" ABOVE THE SEWER LINE. ALTERNATIVELY, THE SEWER LINE SHALL BE ENCLOSED IN A WATER TIGHT CARRIER PIPE, OR PRESSURE RATED
- 6. CONNECT TO EXISTING MUNICIPAL WATER SYSTEM IN COMPLIANCE WITH THE UTILITY REQUIREMENTS FOR NEW SERVICE CONNECTIONS.
- 7. MECHANICAL JOINT RESTRAINTS (1100 MEGALUG OR APPROVED ALTERNATE) SHALL BE USED AT ALL BENDS AND
- 8. ALL DOMESTIC WATER LINES SHALL BE DISINFECTED PER AWWA REQUIREMENTS OR STATE REQUIREMENTS, WHICHEVER IS MORE STRINGENT.
- REFER TO LANDSCAPE IRRIGATION PLAN FOR IRRIGATION REQUIREMENTS.
- 10. WATER INSTALLATION SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.

PBC PIPE (MEETING AWWA C-900 OR C905 SPECIFICATION) AND PRESSURE TESTED.

- 1. GRAVITY PVC PIPES SHALL BE SCHEDULE 40 AND COMPLY WITH ASTM D3034 SPECIFICATIONS. FORCE PIPES SHALL BE PVC AND SHALL COMPLY WITH ASTM D 2241, RATED SDR 21 (CLASS 150). PIPE JOINTS SHALL BE INTEGRALLY MOLDED BELL ASTM D 3139, WITH FACTORY SUPPLIED ELASTOMERIC GASKETS AND LUBRICANT. PVC DENOTES
- POLYVINYL CHLORIDE PIPE. 2. ALL PIPES, FITTINGS AND ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C 12, ASTM C 14, MANUFACTURER'S PUBLISHED INSTRUCTIONS AND STATE OR LOCAL REQUIREMENTS. JOINTS SHALL BE WATER
- 3. ALL PIPE SHALL HAVE A MINIMUM COVER OF THREE (3) FEET. WHERE THREE FEET OF COVER CANNOT BE ACHIEVED, USE DUCTILE IRON PIPE (CLASS 50 PR PRESSURE CLASS 350 INSTALLED IN ACCORDANCE WITH ANSI/AWWA C600
- STANDARDS WITH TNEMEC 431 INTERIOR COATING). 4. CONNECT TO EXISTING SANITARY SEWER LATERAL IN COMPLIANCE WITH CITY AND/OR SEWER DISTRICT REGULATIONS.
- 5. SANITARY SEWER CLEAN OUTS SHALL BE SPACED A MAXIMUM OF 50' ON CENTER AND AT ALL BENDS GREATER THAN 45 DEGREES. REFER TO DETAIL SHEETS.
- 6. ALL 90 DEGREE TURNS SHALL BE ACCOMPLISHED BY 45 DEGREE ELBOWS.
- 7. SEWER INSTALLATION AND TESTING SHALL CONFORM TO MUNICIPALITY/GOVERNING AGENCY STANDARDS.
- 8. CORE AND BOOT (KOR N SEAL SERIES 106 OR APPROVED ALTERNATE) EXISTING MANHOLES 1.5 FEET OR LESS FROM BOTTOM.

- 1. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATER
- 2. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING AND COVERS. JUNCTION BOXES, IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER" AND/OR "NO DUMPING, DRAINS TO THE RIVER" OR ENVIRONMENTAL MESSAGE AS
- REQUIRED BY LOCAL JURISDICTION. 3. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE EPA OR APPLICABLE STATE GENERAL NPDES PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES. 4. REINFORCED CONCRETE PIPE (RCP) SHALL CONFORM TO ASTM C76, LATEST EDITION. RCP WITH COVER LESS THAN 15' AND GREATER THAN 2' SHALL BE CLASS III BELL AND SPIGOT TYPE AND INSTALLED WITH FLEXIBLE PLASTIC (BITUMEN) GASKETS AT ALL JOINTS, UNLESS OTHERWISE NOTED. ALL OTHER DEPTHS OF COVER SHALL BE CLASS IV
- OR V AS NOTED. GASKETS SHALL COMPLY WITH AASHTO M-198 751, TYPE B, AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATIONS. 5. ALL CORRUGATED PLASTIC PIPE (HDPE) 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,
- 6. ROOF DRAINS SHALL BE 8"Ø SCHEDULE 80 PVC. 7. STRUCTURES SHALL BE PRECAST OR CONCRETE BRICKS WITH CLASS M MORTAR. THE MAXIMUM HEIGHT OF UNREINFORCED MASONRY ALLOWED IS 8' WITHOUT A PROFESSIONAL ENGINEER'S DESIGN. STEPS ARE TO BE PROVIDED IN ALL STRUCTURES GREATER THAN 42" IN DEPTH.

AND MANUFACTURER'S INSTALLATION PROCEDURES. THE MAXIMUM COVER ALLOWED OVER THE TOP OF CPP IS 15'.

- 8. STRUCTURE DIMENSION SHALL BE AT A MINIMUM: 15" PIPE: 2'X3' 18" PIPE: 2'X3'
- 9. FRAME AND GRATE SPECIFICATIONS ARE AS FOLLOWS: CURB INLET (CI): TINDALL CAST IRON HOODED FRAME AND GRATE I23-CG0 OR APPROVED ALTERNATE. JUNCTION BOX (JB): TINDALL CAST IRON RING & COVER I24-SW OR APPROVED ALTERNATE.
- GRATE INLET (GI): TINDALL CAST IRON GRATE 123-F OR APPROVED ALTERNATE. AREA DRAIN (AD): NYLOPLAST DRAIN BASIN & PEDESTRIAN GRATE OR APPROVED ALTERNATE.

LANDSCAPE NOTES

GRASSING SPECIFICATION

TEMPORARY VEGETATION

SEED: 50 LBS/ACRE BROWNTOP MILLET APRIL 1 TO AUGUST 31

AUGUST 1 - APRIL 30 SEED: 110 LBS/ACRE RYE GRAIN SEPTEMBER 1 - APRIL 30 SEED: 15 LBS/ACRE RYE GRAIN - GC

FERTILIZATION: 700 LBS/ACRE 10-10-10 EQUIVALENT (POOR SOILS ONLY)

- LIME: NOT REQUIRED MULCH: HYDRO-MULCH OR STRAW (OPTIONAL)
- 1. HYDROSEED ALL SLOPES AND SEED REMAINING AREAS BY CONVENTIONAL METHODS FOR COST
- 2. SEED BED PREPARATION: STANDARD (RIPPING, DISCING, DRAGGING, ETC.)

PERMANENT VEGETATION

REFER TO LANDSCAPE ARCHITECTURAL PLANS FOR PERMANENT STABILIZATION.

SITE DATA

- 1. TMS # 4054-19-71-0690
- 2. PROPERTY SIZE: 4.5 ACRES
- 3. TOTAL DISTURBED AREA: 2.3 ACRES
- 4. THE SITE IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE PER F.I.R.M. COMMUNITY PANEL NUMBER 45077C0391E WITH AN EFFECTIVE DATE <u>12/21/2017</u>.
- 5. EXISTING INFORMATION WAS OBTAINED FROM A TOPOGRAPHIC SURVEY DATED 02/22/2024 AND PREPARED BY:
 - RIDGEWATER ENGINEERING AND SURVEYING, LLC
 - P.O. BOX 806 ANDERSON, SC 29622 864-226-0980
- 6. THE BUILDING FOOTPRINT WAS OBTAINED FROM AN ARCHITECTURAL FLOOR PLAN DATED 09/26/2024.

CONSTRUCTION SEQUENCE:

- RECEIVE NPDES PERMIT FROM SCDES.
- 2. NOTIFY THE CITY OF CLEMSON AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBING ACTIVITY.
- 3. SCHEDULE AND ATTEND A PRE-CONSTRUCTION MEETING.
- 4. DETERMINE AND MARK LIMITS OF DISTURBANCE.
- 5. CLEAR AREA AS REQUIRED TO INSTALL INITIAL EROSION CONTROL MEASURES (SHOWN ON C2.0).
- 6. INSTALL INITIAL EROSION CONTROL MEASURES (SHOWN ON C2.0).
- 7. CLEAR LIMITS OF DISTURBANCE.
- 8. BEGIN MASS GRADING

ACROSS SITE.

- 9. INSTALL INLET PROTECTION AS INLETS ARE CONSTRUCTED.
- 10. CONSTRUCT BUILDINGS AND PAVEMENT. 11. PERMANENT GRASS SHALL BE INSTALLED FOR ALL AREAS AT THE FINAL GRADE AND IN SEASON. FERTILIZE,
- WATER, AND RESEED AS REQUIRED TO ESTABLISH AND MAINTAIN A VIGOROUS STAND OF GRASS
- 12. AFTER COMPLETION OF CONSTRUCTION AND THE SITE IS STABILIZED: 12.1. REMOVE ALL ACCUMULATED SEDIMENT FROM SEDIMENT TRAPPING MEASURES AND SPREAD EVENLY
- 12.2. REMOVE TEMPORARY EROSION CONTROL MEASURES (SKIMMER, POROUS, BAFFLES AND SILT FENCE), SMOOTH AREA AND APPLY APPROPRIATE GRASS AND LANDSCAPE BUFFERS.

1. EXISTING SITE CONDITIONS SHALL BE VERIFIED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPORT

2. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL REVIEW ALL PLANS AND SPECIFICATIONS AND

3. ALL WORK IN THE RIGHT OF WAY SHALL BE VERIFIED WITH THE APPROVED ENCROACHMENT PERMIT PRIOR TO

4. ALL PERMITS RELATIVE TO THE PROJECT MUST BE OBTAINED PRIOR TO CONSTRUCTION. ALL CONSTRUCTION

5. ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE MEASURED FROM OUTSIDE FACE OF BUILDING WALL, FACE

6. R DENOTES FACE OF CURB OR EDGE OF PAVEMENT RADIUS. ALL RADII ARE 5 FEET UNLESS NOTED

8. ALL REFERENCE TO STATE STANDARDS AND SPECIFICATIONS ARE MADE FROM THE SOUTH CAROLINA

9. IF ANY CONFLICTS BETWEEN THE NOTES, DETAILS, SPECIFICATIONS, AND DRAWINGS OCCUR THEN BY RULE

10. THE CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE OWNER UPON COMPLETION OF THE

11. "STOP" SIGNS, AND OTHER TRAFFIC REGULATION SIGNAGE, SHALL MEET THE CRITERIA OF THE MUTCD AND

12. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND OSHA

13. THE CONTRACTOR IS EXCLUSIVELY RESPONSIBLE FOR THE CONDITION OF THE SITE, INCLUDING SAFETY OF

14. THE ENGINEER'S REVIEW OF THE CONTRACTOR'S WORK PRODUCT AND PERFORMANCE WILL NOT INCLUDE REVIEW OF THE CONTRACTOR'S SAFETY PROGRAMS. SUCH REVIEWS ARE TO BE BY OSHA INSPECTORS AND

15. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL NECESSARY TRAFFIC CONTROL

DEVICES DURING CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE LOADED OR OFF-LOADED ON AN OPEN ROADWAY. IF SUCH ACTIVITY IS REQUIRED THE CONTRACTOR SHALL COORDINATE

SHUTTING DOWN THE ROAD WITH THE APPROPRIATE DOT AND UTILIZE APPROPRIATE TRAFFIC CONTROL

PUBLIC OR PRIVATE, PRIOR TO WORKING IN THESE AREAS. ACCESS SHALL BE LIMITED UNTIL PERMISSION IS

16. THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHT-OF-WAYS,

17. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT

ALL PERSONS AND PROPERTY THROUGHOUT THE TERM OF THE PROJECT CONSTRUCTION.

OF CURB LINE, OR PROPERTY LINE UNLESS OTHERWISE NOTED. CURB AND GUTTER IS SHOWN AS THREE (3)

TO BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY AND LOCAL CODES.

7. AN ELECTRONIC FILE OF THE SITE PLAN SHALL BE MADE AVAILABLE FOR STAKING PURPOSES.

LINES (OUTSIDE EDGE OF GUTTER, FACE OF CURB, AND BACK OF CURB).

HIGHWAY DEPARTMENT'S STANDARD SPECIFICATION, LATEST EDITION.

STATE DEPARTMENT OF TRANSPORTATION STANDARDS.

ALL TIMES AND REMOVE ALL TRASH AND DEBRIS FROM THE SITE.

ANY DIFFERENCES FROM THE PLAN THAT WILL AFFECT CONSTRUCTION IN WRITING TO THE ENGINEER AND

THE JOB SITE. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER WHO PREPARED THE PLANS

OF ANY DISCREPANCIES THAT MAY REQUIRE MODIFICATIONS TO THESE PLANS OR OF ANY FIELD CONFLICTS.

NOTES:

SITE NOTES

AWAIT FURTHER INSTRUCTIONS.

THE STRICTER SHALL GOVERN.

THE OWNER'S REPRESENTATIVE.

COMMENCING WORK.

OTHERWISE.

STANDARDS.

- 1. DISTURBED AREAS AND EROSION CONTROL MEASURES WILL BE MAINTAINED
- THROUGHOUT THE LIFE OF THE PROJECT.
- 2. INSPECTIONS TO BE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2" OR MORE PRECIPITATION.

CLEMSON

____ A N D ____

ASSOCIATES

_____ I N C. ____

consulting engineers

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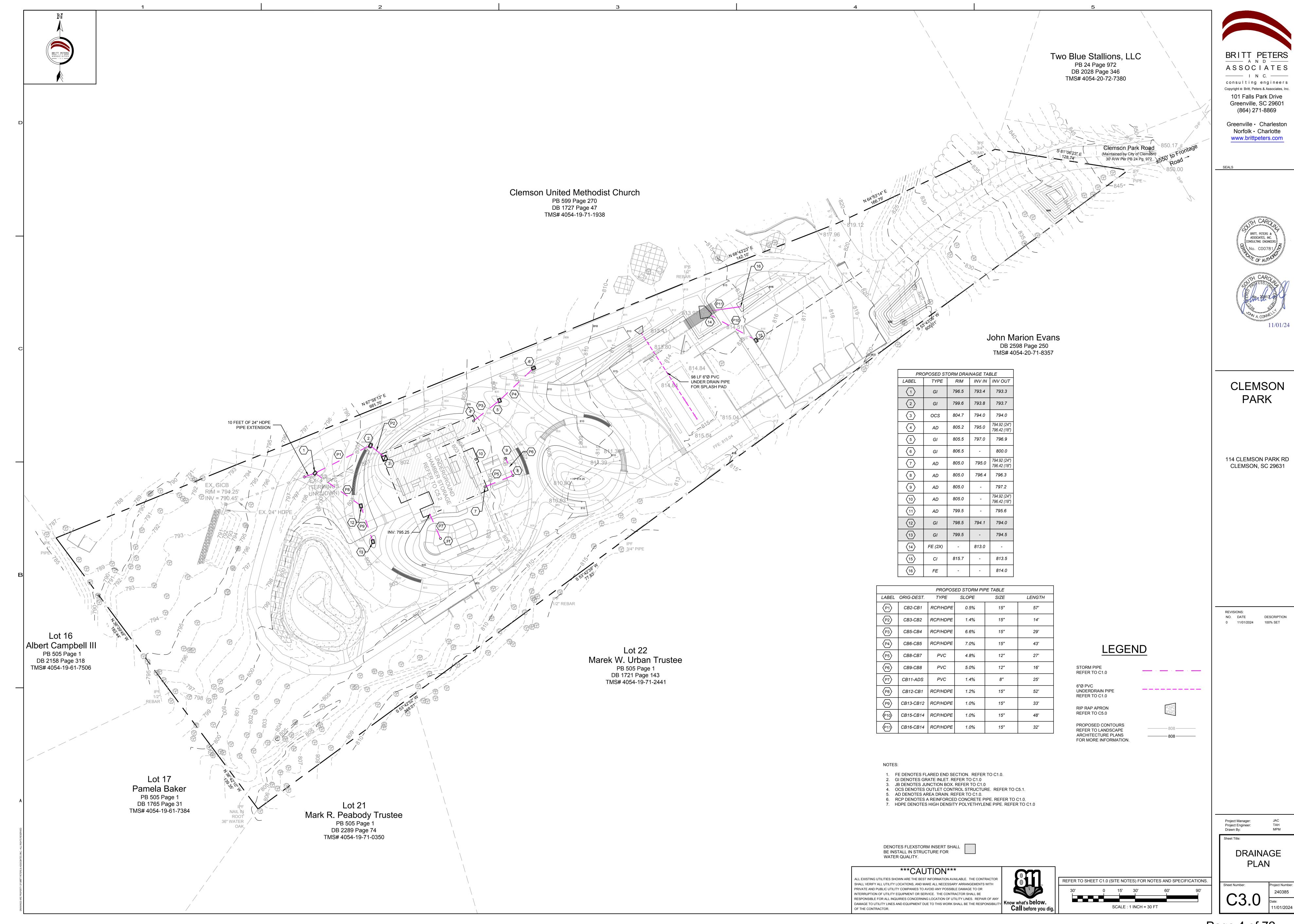
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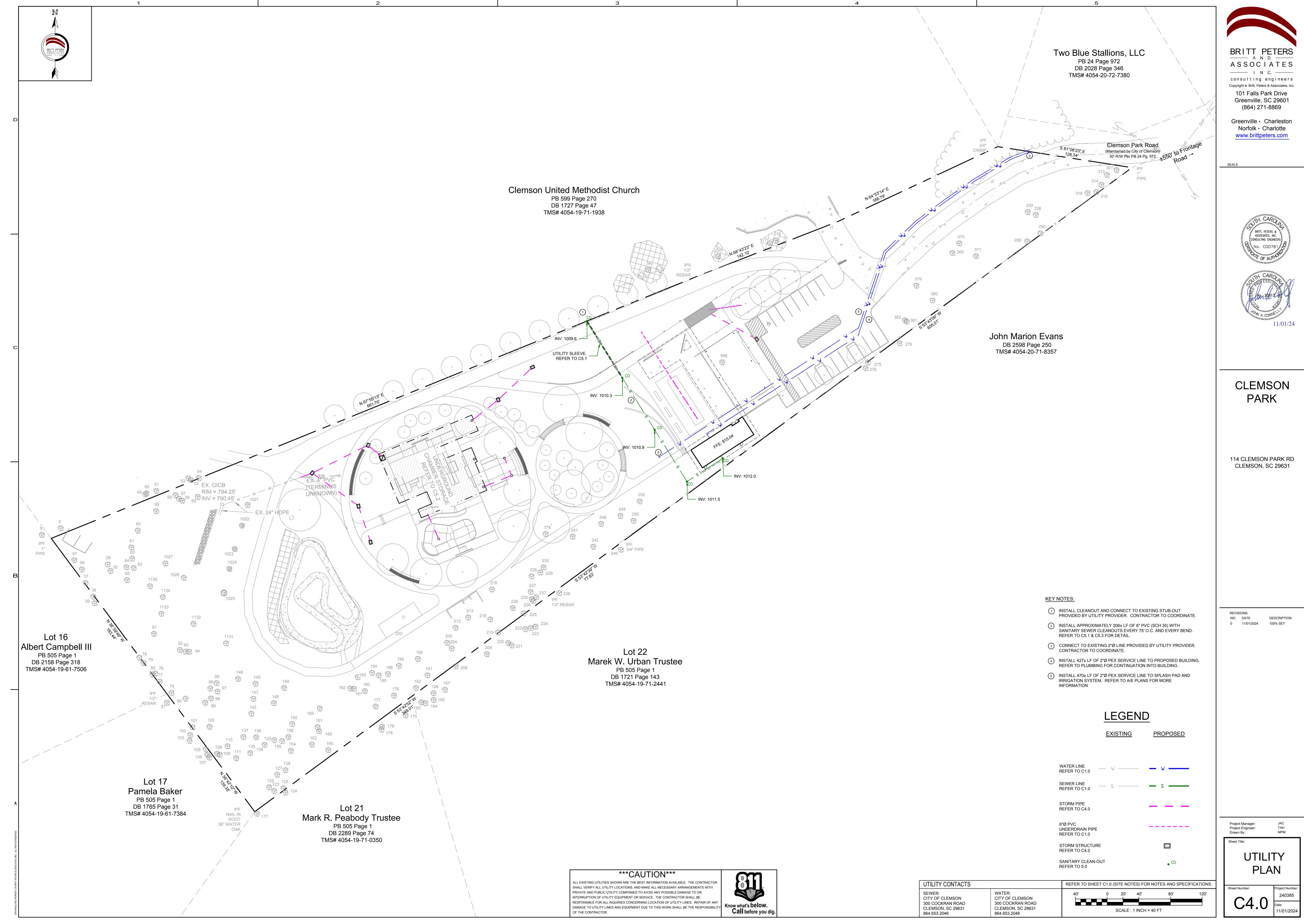
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DESCRIPTION

SITE **NOTES**

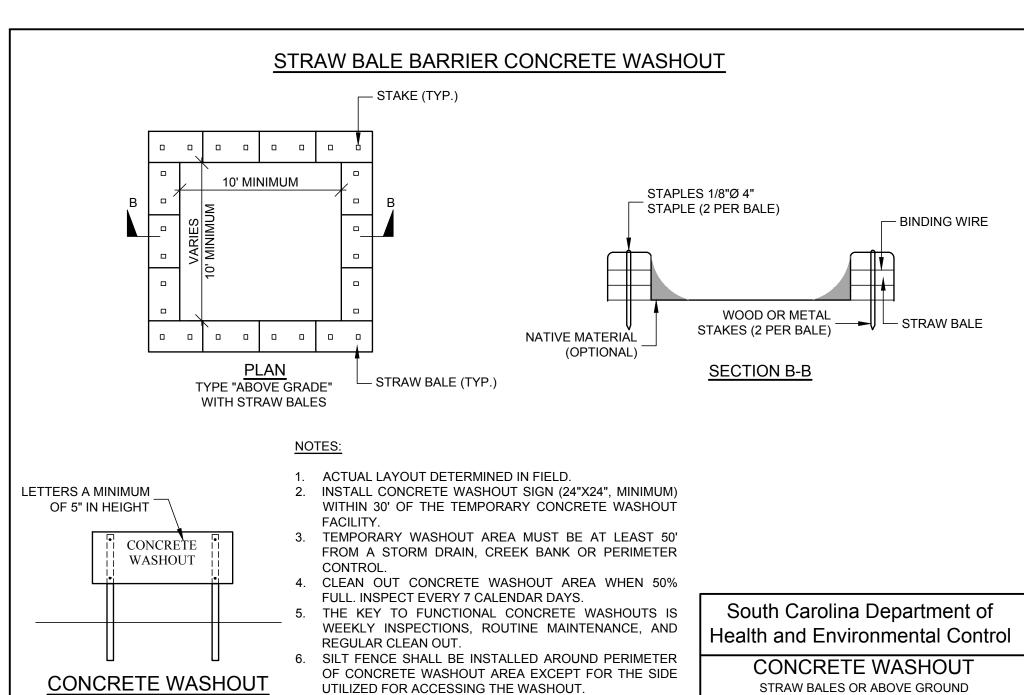












A ROCK CONSTRUCTION ENTRANCE MAY BE

PROVIDE VEHICLE ACCESS.

NECESSARY ALONG ONE SIDE OF THE WASHOUT TO

ATTACH FILTER FABRIC TO POSTS

FOLD FABRIC TO OVERLAP 1

AND SECURE TO POSTS WITH -

HEAVY DUTY PLASTIC TIES

WITH HEAVY DUTY PLASTIC TIES —

ALONG TOP 8" OF FABRIC

SILT FENCE - POST REQUIREMENTS

AND A NOMINAL "T" LENGTH OF 1.48-INCHES.

- SILT FENCE POSTS MUST BE 48-INCH LONG STEEL POSTS THAT MEET, AT A MINIMUM, 1 THE FOLLOWING PHYSICAL CHARACTERISTICS. COMPOSED OF A HIGH STRENGTH STEEL WITH A MINIMUM YIELD STRENGTH OF INCLUDE A STANDARD "T" SECTION WITH A NOMINAL FACE WIDTH OF 1.38-INCHES
- WEIGH 1.25 POUNDS PER FOOT (± 8%) POSTS SHALL BE EQUIPPED WITH PROJECTIONS TO AID IN FASTENING OF FILTER 3 STEEL POSTS MAY NEED TO HAVE A METAL SOIL STABILIZATION PLATE WELDED NEAR THE BOTTOM WHEN INSTALLED ALONG STEEP SLOPES OR INSTALLED IN
- INCHES AND BE COMPOSED OF 15 GAUGE STEEL, AT A MINIMUM. THE METAL SOIL STABILIZATION PLATE SHOULD BE COMPLETELY BURIED. 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.

POST SPACING SHALL BE AT A MAXIMUM OF 6-FEET ON CENTER.

SILT FENCE - FABRIC REQUIREMENTS

UNDERLYING NON-WOVEN

GEOTEXTILE FABRIC

ROCK PAD STONE SIZE

AVERAGE STONE DIAMETER

D = 2-3 INCHES

GROUND.

- 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 AT8. SILT FENCE SHOULD BE REMOVED WITHIN 30 DAYS AFTER LEAST 85% BY WEIGHT OF POLYOLEFINS, POLYESTERS, OR POLYAMIDES THAT ARE FINAL STABILIZATION IS ACHIEVED AND ONCE IT IS REMOVED, FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN THE RESULTING DISTURBED AREA SHALL BE PERMANENTLY
- 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
- 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. TOED IN WHEN THE TRENCH IS BACKFILLED.
- 12-INCHES OF THE FABRIC SHOULD BE PLACED WITHIN EXCAVATED TRENCH AND FILTER FABRIC SHALL BE PURCHASED IN CONTINUOUS ROLLS AND CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. FILTER FABRIC SHALL BE INSTALLED AT A MINIMUM OF 24-INCHES ABOVE THE

SILT FENCE - INSPECTION & MAINTENANCE

THE KEY TO FUNCTIONAL SILT FENCE IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL. 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. ATTENTION TO SEDIMENT ACCUMULATIONS ALONG THE SILT FENCE IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN

LOOSE SOILS. THE PLATE SHOULD HAVE A MINIMUM CROSS SECTION OF 17-SQUARE 4. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE SILT FENCE. 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.

South Carolina Department of Health and Environmental Control

STABILIZED.

EDGES SHALL BE TAPERED

OUT TOWARDS ROAD TO

PREVENT TRACKING OF

MUD ON THE EDGES

SILT FENCE tandard drawing no. SC-03 Page 2 of 2

GENERAL NOTES FEBRUARY 201-

1.33 LB./LF. STEEL POSTS FILTER FABRIC ── WIRE TIE 1.33 LB./LF. WIRE MESH -STEEL POST - ATTACHMENT FABRIC COMPACTED FILL -SEE DETAIL 14 GA. WIRE FILTER ` HEAVY DUTY WIRE FENCE WITH **FABRIC** TIE SPACED 6" MAX 6-IN. x 6-IN. **BACKFILL** 14 GA. WIRE TRENCH WITH FENCE WITH COMPACTED 6-IN. x 6-IN. MESH 12" OF FILTER EARTH BURY FABRIC **USE EITHER** AND MESH FLAT-BOTTOM OR

ATTACHMENT

SILT FENCE INSTALLATION

SILT FENCE - GENERAL NOTES

V-BOTTOM TRENCH

SHOWN BELOW

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.

MAXIMUM SHEET OR OVERLAND FLOW PATH LENGTH TO THE SILT FENCE SHALL BE 100-FEET. MAXIMUM SLOPE STEEPNESS (NORMAL [PERPENDICULAR] TO THE FENCE LINE) SHALL BE 2:1. SILT FENCE JOINTS, WHEN NECESSARY, SHALL BE COMPLETED BY ONE OF THE FOLLOWING

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

SPACED WITHIN THE TOP 8-INCHES OF THE FABRIC. 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.

ATTACH FILTER FABRIC TO THE STEEL POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY 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

BRITT, PETERS & CONSULTING ENGINEERS FLAT-BOTTOM TRENCH DETAIL



CLEMSON

PARK

V-SHAPED TRENCH DETAIL

WIRE MESH -

COMPACTED FILL

12" OF FILTER

South Carolina Department of Health and Environmental Control SILT FENCE

standard drawing no. SC-03 Page 1 of 2 NOT TO SCALE

114 CLEMSON PARK RD

NO. DATE

DESCRIPTION

CLEMSON, SC 29631

CONSTRUCTION ENTRANCE - GENERAL NOTES CONSTR. ENTRANCE - INSPECTION & MAINTENANCE

- 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 INSTALL A NON-WOVEN GEOTEXTILE FABRIC PRIOR TO PLACING ANY
- INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.
- THE ENTRANCE SHALL CONSIST OF 2-INCH TO 3-INCH D50 STONE PLACED AT A MINIMUM DEPTH OF 6-INCHES. MINIMUM DIMENSIONS OF THE ENTRANCE SHALL BE 24-FEET WIDE BY
- 100-FEET LONG, AND MAY BE MODIFIED AS NECESSARY TO ACCOMMODATE SITE CONSTRAINTS. THE EDGES OF THE ENTRANCE SHALL BE TAPERED OUT TOWARDS THE ROAD TO PREVENT TRACKING AT THE EDGE OF THE ENTRANCE.
- DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN OR OTHER SEDIMENT TRAPPING LIMESTONE MAY NOT BE USED FOR THE STONE PAD.

1. THE KEY TO FUNCTIONAL CONSTRUCTION ENTRANCES IS WEEKLY

- INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT 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. RESHAPE THE STONE PAD AS NECESSARY FOR DRAINAGE AND RUNOFF
- 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.
- . 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

CONSTRUCTION ENTRANCE STANDARD DRAWING NO. SC-06 Page 2 of 2

GENERAL NOTES FEBRUARY 2014
DATE

OF 2-3 INCHES WITH A 6 — INCH MINIMUM DEPTH SIZE SPECIFICATION 6 INCHES ROCK PAD THICKNESS South Carolina Department of ROCK PAD WIDTH 24 FEET Health and Environmental Control ROCK PAD LENGTH 100 FEET CONSTRUCTION ENTRANCE

Page 1 of 2

TYPE A - FILTER FABRIC REQUIREMENTS

FILTER FABRIC BURIAL DETAIL

BURY & TRENCH MINIMUM

OF 12" OF FILTER FABRIC

POST INSTALLATION DETAIL

SIGN DETAIL

1.25 LB./LF

STEEL POSTS

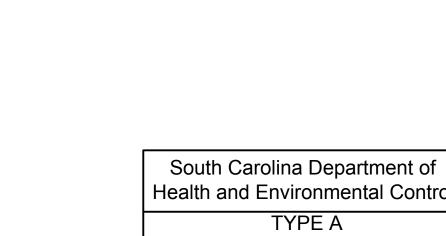
- SILT FENCE MUST BE COMPOSED OF WOVEN GEOTEXTILE FILTER FABRIC THAT CONSISTS OF THE FOLLOWING REQUIREMENTS: COMPOSED OF FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS OF AT LEAST 85% BY WEIGHT OF POLYOLEFINS POLYESTERS, OR POLYAMIDES THAT ARE FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS 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. 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. 12-INCHES OF THE FABRIC SHOULD BE PLACED WITHIN
- BACKFILLED. FILTER FABRIC SHALL BE PURCHASED IN CONTINUOUS ROLLS AND CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. FILTER FABRIC SHALL BE INSTALLED AT A MINIMUM OF 24-INCHES

EXCAVATED TRENCH AND TOED IN WHEN THE TRENCH IS

TYPE A - POST REQUIREMENTS

ABOVE THE GROUND.

- 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%)
- POSTS SHALL BE EQUIPPED WITH PROJECTIONS TO AID IN FASTENING OF FILTER FABRIC 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. POST SPACING SHALL BE AT A MAXIMUM OF 3-FEET ON CENTER.



FILTER FABRIC INSTALLATION DETAIL

Health and Environmental Control FILTER FABRIC INLET PROTECTION ANDARD DRAWING NO. SC-07 Page 1 of 2 NOT TO SCALE

STANDARD DRAWING NO. RC-07 Page 1 of 1

BURY FABRIC

(SEE DETAIL)

NOT TO SCALE

TYPE A - INSPECTION & MAINTENANCE

- 1. THE KEY TO FUNCTIONAL INLET PROTECTION IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT 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
- 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

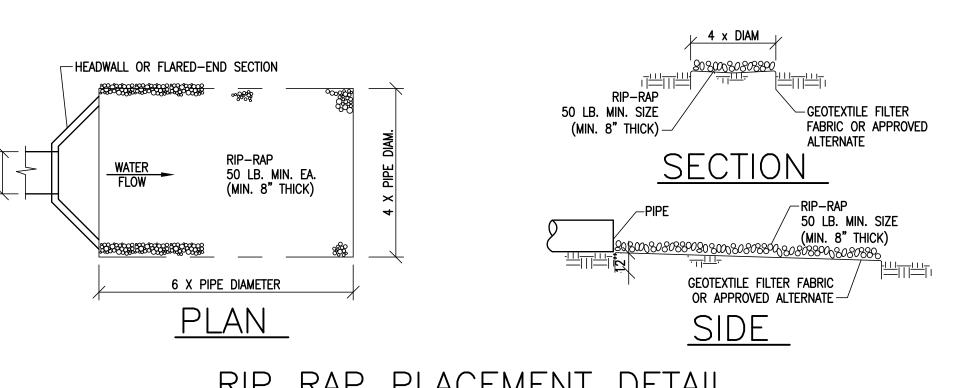
THE REMOVED SEDIMENT AFTER IT IS RELOCATED.

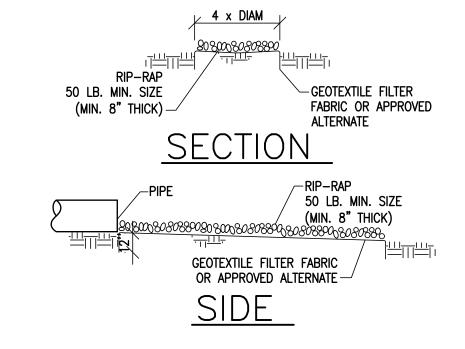
INEFFECTIVE. REMOVED DAMAGED FABRIC AND REINSTALL NEW FILTER FABRIC IMMEDIATELY. 8. INLET PROTECTION STRUCTURES SHOULD BE REMOVED AFTER ALL THE DISTURBED AREAS ARE PERMANENTLY STABILIZED. REMOVE ALL CONSTRUCTION MATERIAL AND SEDIMENT. AND DISPOSE OF THEM PROPERLY. GRADE THE DISTURBED AREA TO THE ELEVATION OF THE DROP INLET STRUCTURE CREST. STABILIZE ALL BARE AREAS IMMEDIATELY.

CIRCUMSTANCE THAT MAY RENDER THE INLET PROTECTION

South Carolina Department of Health and Environmental Control

TYPE A FILTER FABRIC INLET PROTECTION ANDARD DRAWING NO. SC-07 Page 2 of 2 GENERAL NOTES FEBRUARY 2014
DATE

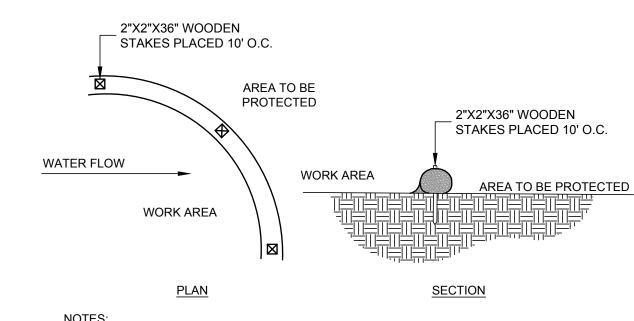




TANDARD DRAWING NO. SC-06

NOT TO SCALE

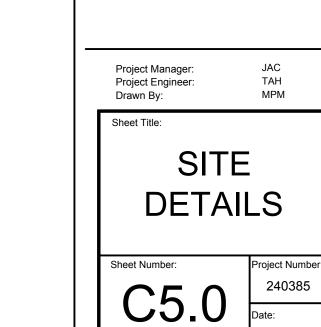
RIP RAP PLACEMENT DETAIL

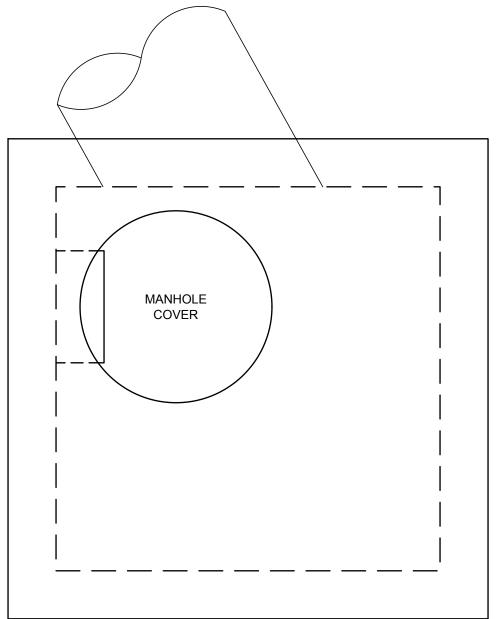


NOTES:

- INSTALL PER THE MANUFACTURER'S RECOMMENDATIONS PRIOR TO EXPOSING SUBGRADE 2. ROUTINE INSPECTIONS SHALL BE MADE WITHIN 24 HRS OF A RUNOFF EVENT. 3. THE CONTRACTOR SHALL REMOVE SEDIMENT ONCE IT HAS REACHED 1/2 THE EFFECTIVE HEIGHT.
- 4. THE SEDIMENT TUBE SHALL BE REPAIRED OR REPLACED IF IT IS DAMAGED. 5. SEDIMENT TUBES SHALL BE 12" FILTREXX FILTER SOXX OR AN APPROVED ALTERNATE

SEDIMENT TUBE





MANHOLE

REINFORCED CONCRETE

STRENGTH

PLAN

APPROVED ALTERNATE.

MANHOLE STEPS

MANHOLE FRAME & SOLID LID

- NEENAH FOUNDRY R-1670-A OR

4,000 PSI COMPRESSIVE

 4-6% AIR ENTRAINMENT • #4 @ 12" O.C.E.W. (ASTM A615 GRADE 60)

EL: 804.7'

EL: 797.0'

EL: 795.8'

2 - 4" Ø OPENINGS

EL: 794.0'

BRENT HUTCHINSON ENGINEERED PRODUCT 8643990545 RYAN HORNISH ADS SALES REP RYAN.HORNISH@ADSPIPE.COM PROJECT NO.



CLEMSON PARK

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

CHAMBERS SHALL BE STORMTECH MC-3500.

PROJECT INFORMATION

- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION: TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
- TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS. TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED
- FROM REFLECTIVE GOLD OR YELLOW COLORS. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN
- ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS: THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
- THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
- THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY. 10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE
- PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD. 11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL

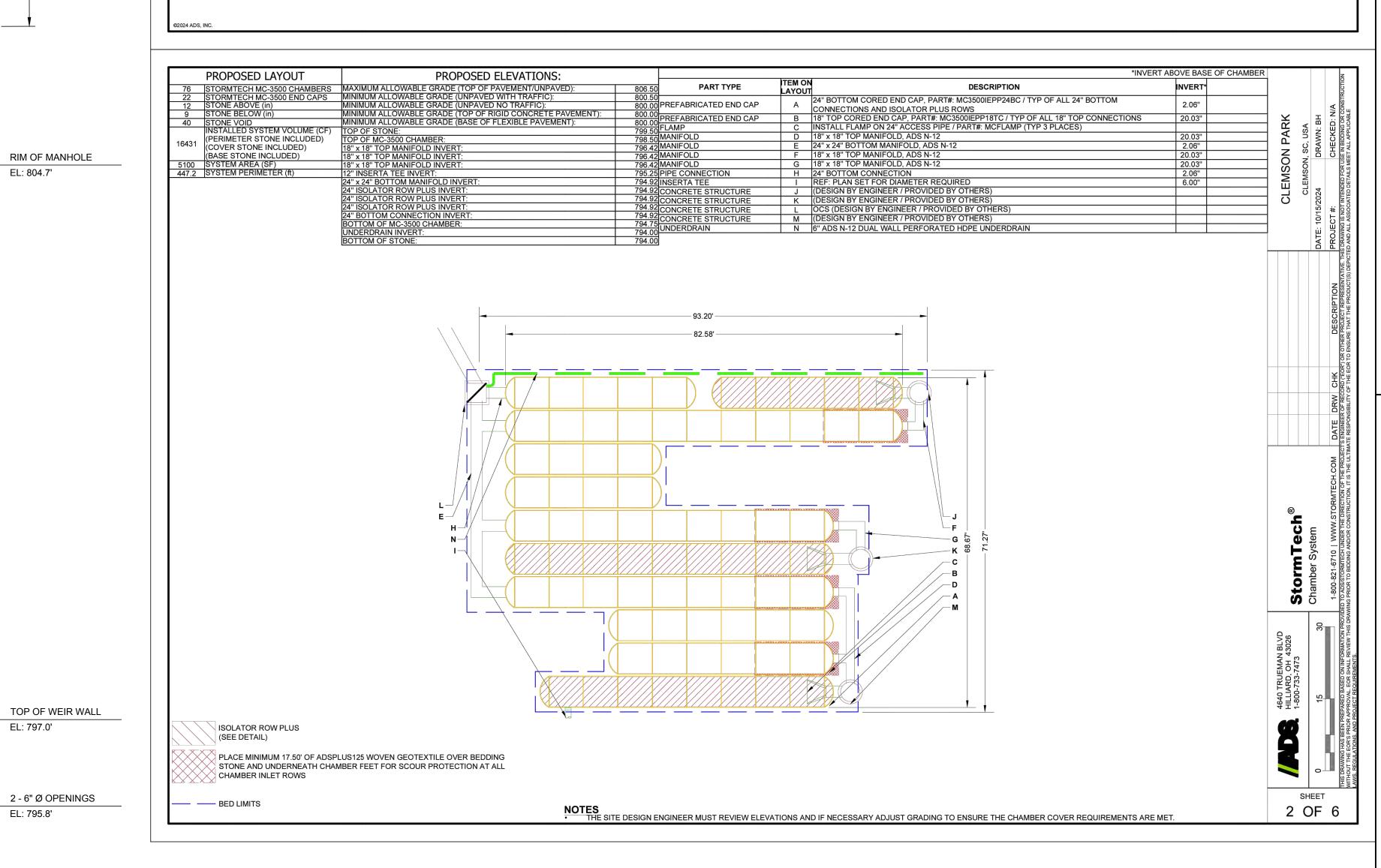
CLEMSON, SC, USA

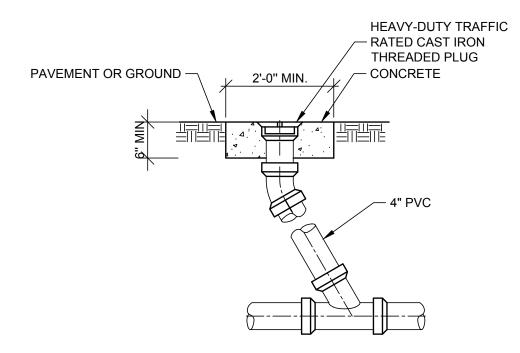
- IMPORTANT NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM 1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A
- 2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS: STONESHOOTER LOCATED OFF THE CHAMBER BED.
- BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE. BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- 5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE. 6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.

PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.

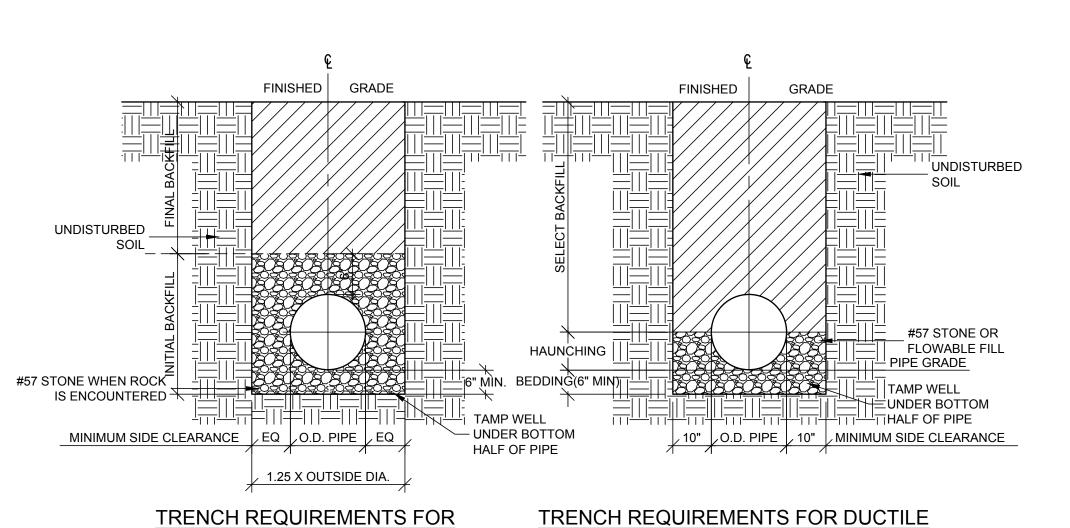
- 7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
- 9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- 10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN
- 11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE
- STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.
- NOTES FOR CONSTRUCTION EQUIPMENT 1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- 2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED: NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
- NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE"
- WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE". 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.





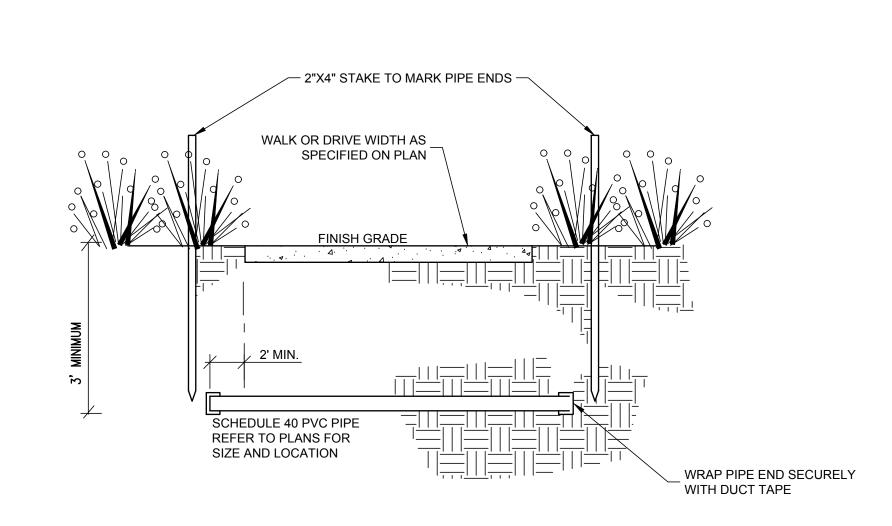
CLEAN-OUT DETAIL



HDPE PIPES IRON AND REINFORCED CONCRETE PIPES

. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE FACE OF THE SHORING AND BRACING. . THE TRENCH FOUNDATION SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO INSTALLING PIPE. SELECT BACKFILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION. 4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 8" IN NON-TRAFFIC AREAS. 5. FLOWABLE FILL SHALL MEET SCDOT SPECIFICATIONS FOR EXCAVATABLE FLOWABLE FILL.

TRENCH DETAILS



INSERT # 4 REBAR SECTION OR OTHER METAL OBJECT INSIDE PIPE END PRIOR TO TAPING TO FACILITATE FUTURE FINDINGS OF SLEEVE WITH METAL DETECTOR. REMOVE REBAR PRIOR TO USING SLEEVE

UTILITY SLEEVE DETAIL



www.brittpeters.com



CLEMSON PARK

114 CLEMSON PARK RD CLEMSON, SC 29631

NO. DATE DESCRIPTION 0 11/01/2024

DETAILS C5.1

OUTLET CONTROL STRUCTURE / WEIR WALL

100 - YR WSE = 798.33

10 - YR WSE = 796.81

2 - YR WSE = 795.75



www.brittpeters.com

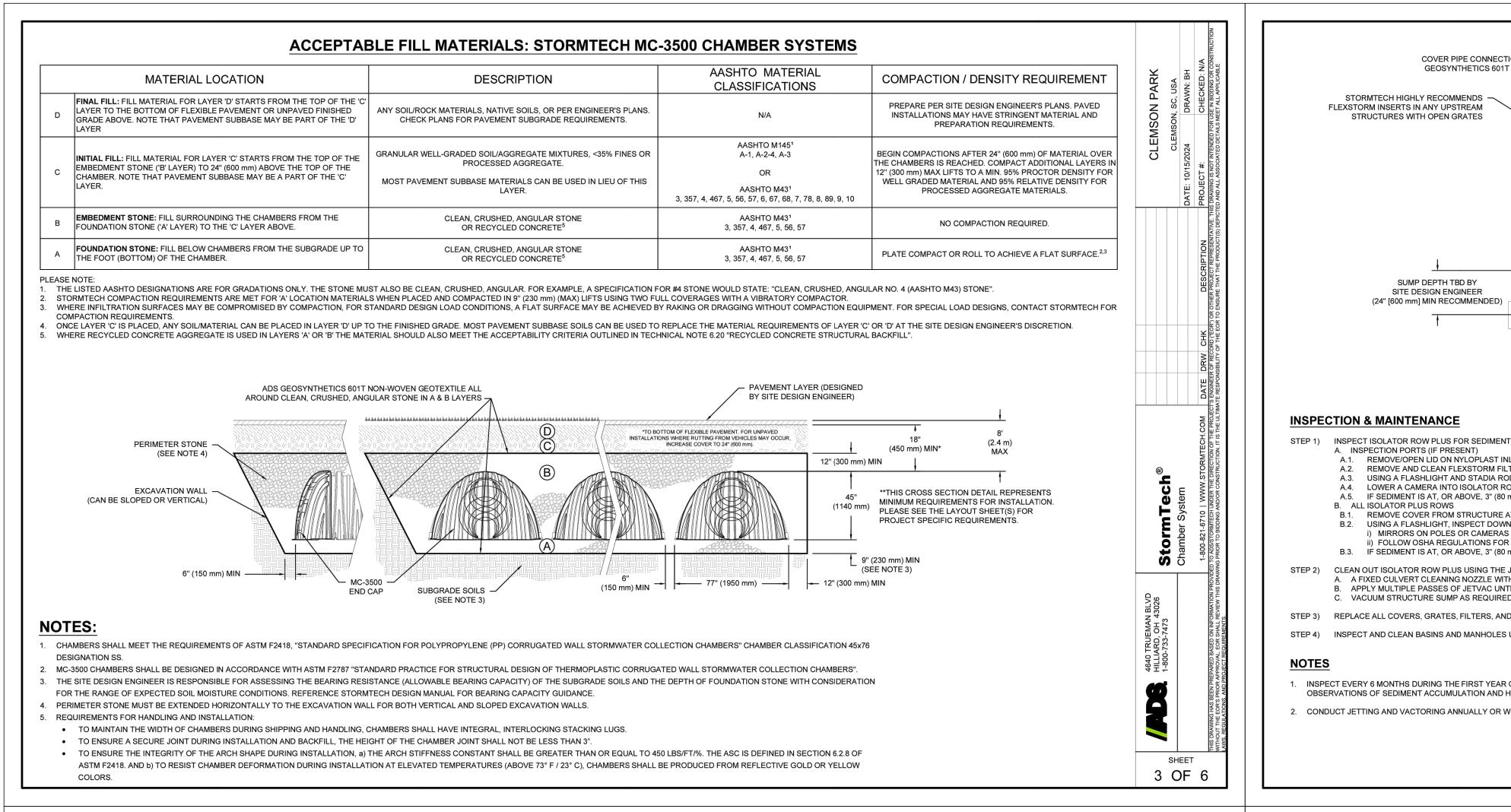
Greenville - Charleston Norfolk - Charlotte

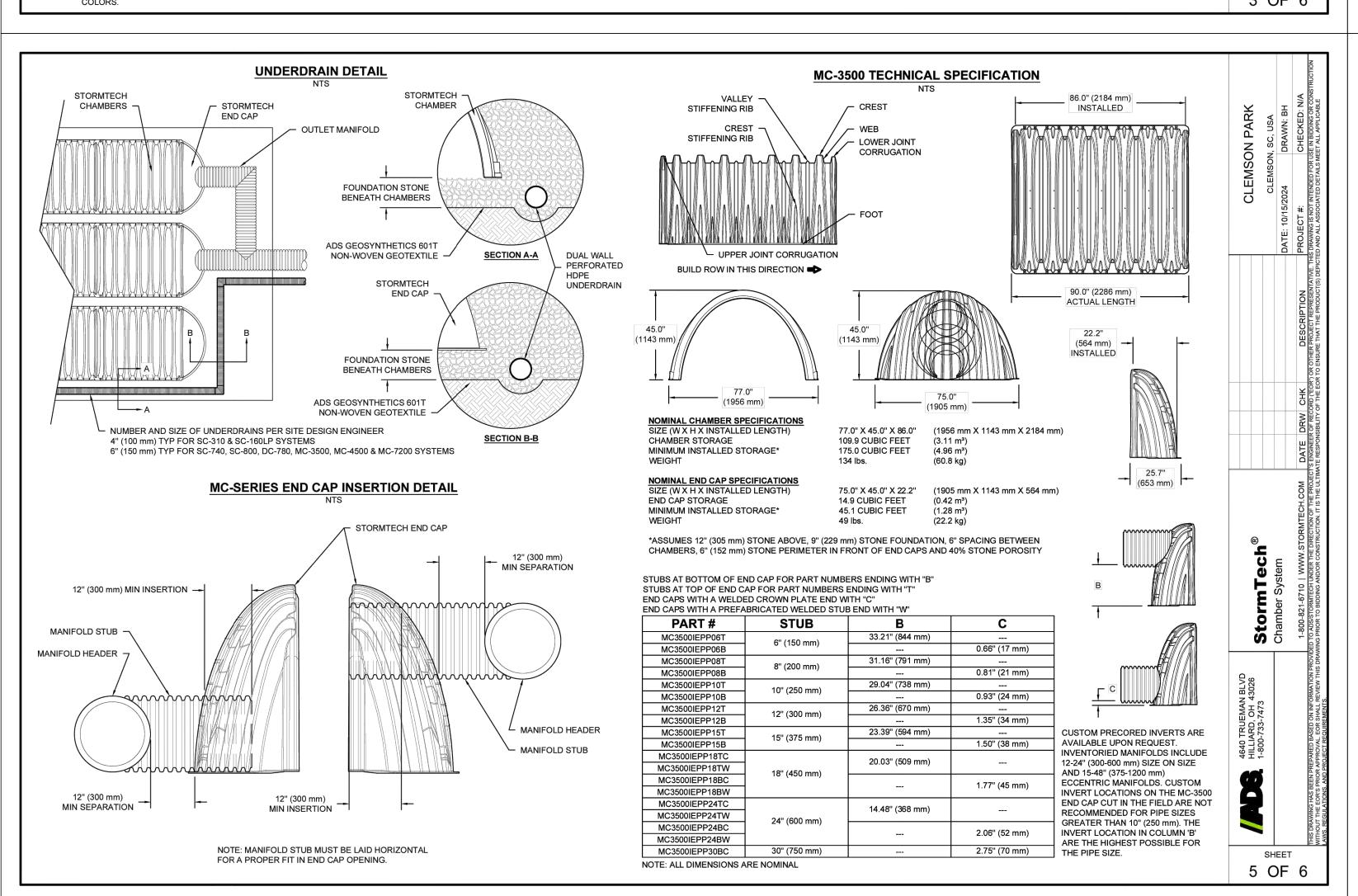


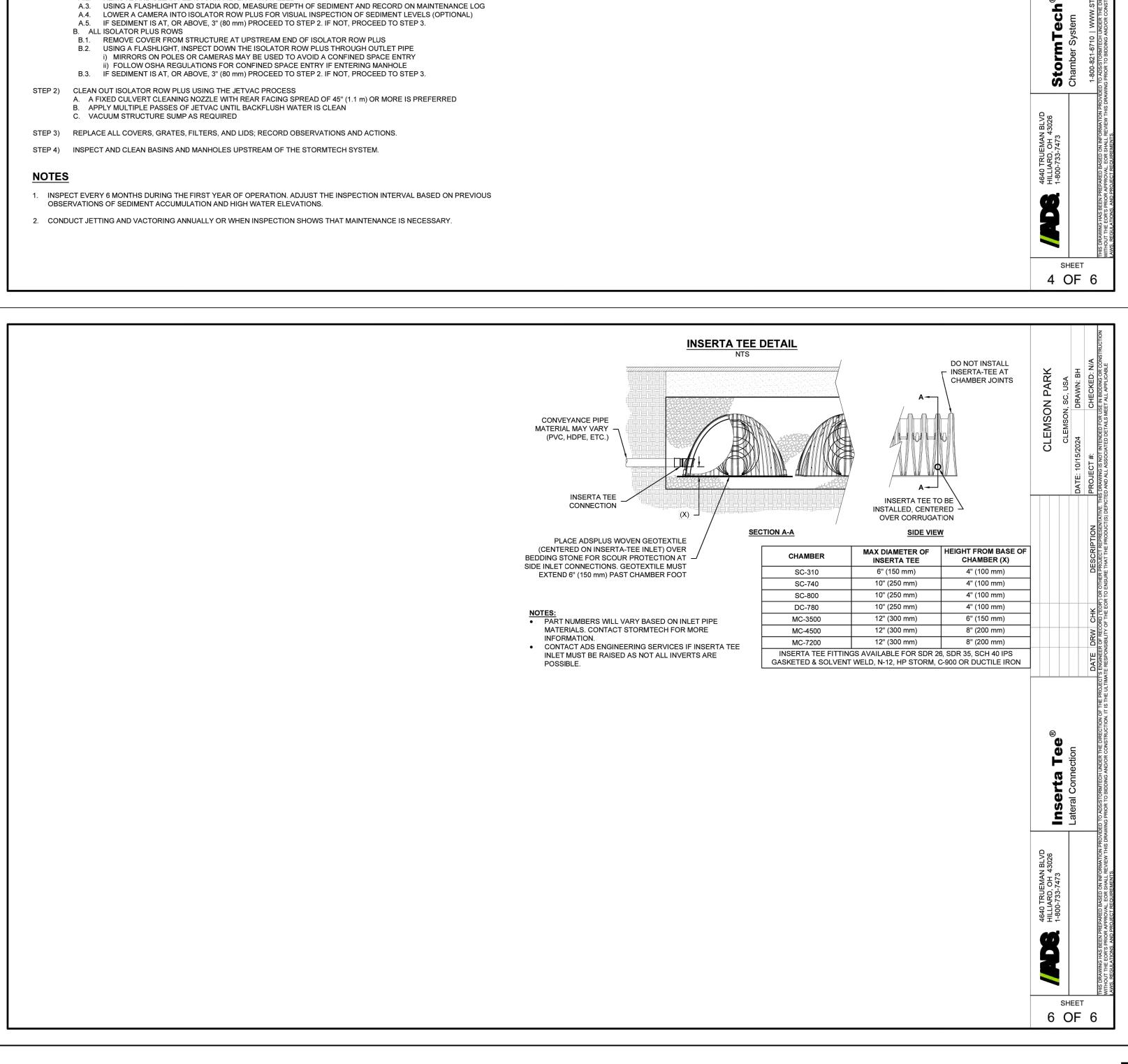
CLEMSON

114 CLEMSON PARK RD CLEMSON, SC 29631

NO. DATE DESCRIPTION 0 11/01/2024







- INSTALL FLAMP ON 24" (600 mm) ACCESS PIPE

OPTIONAL INSPECTION PORT

✓ MC-3500 END CAP

- ONE LAYER OF ADSPLUS125 WOVEN GEOTEXTILE BETWEEN

8.25' (2.51 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

FOUNDATION STONE AND CHAMBERS

PART #: MCFLAMP

- MC-3500 CHAMBER

- 24" (600 mm) HDPE ACCESS PIPE REQUIRED USE

PART #: MC3500IEPP24BC OR MC3500IEPP24BW

FACTORY PRE-CORED END CAP

COVER PIPE CONNECTION TO END CAP WITH ADS -

GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE

STORMTECH HIGHLY RECOMMENDS -

STRUCTURES WITH OPEN GRATES

SUMP DEPTH TBD BY

(24" [600 mm] MIN RECOMMENDED)

A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN

A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED

SITE DESIGN ENGINEER

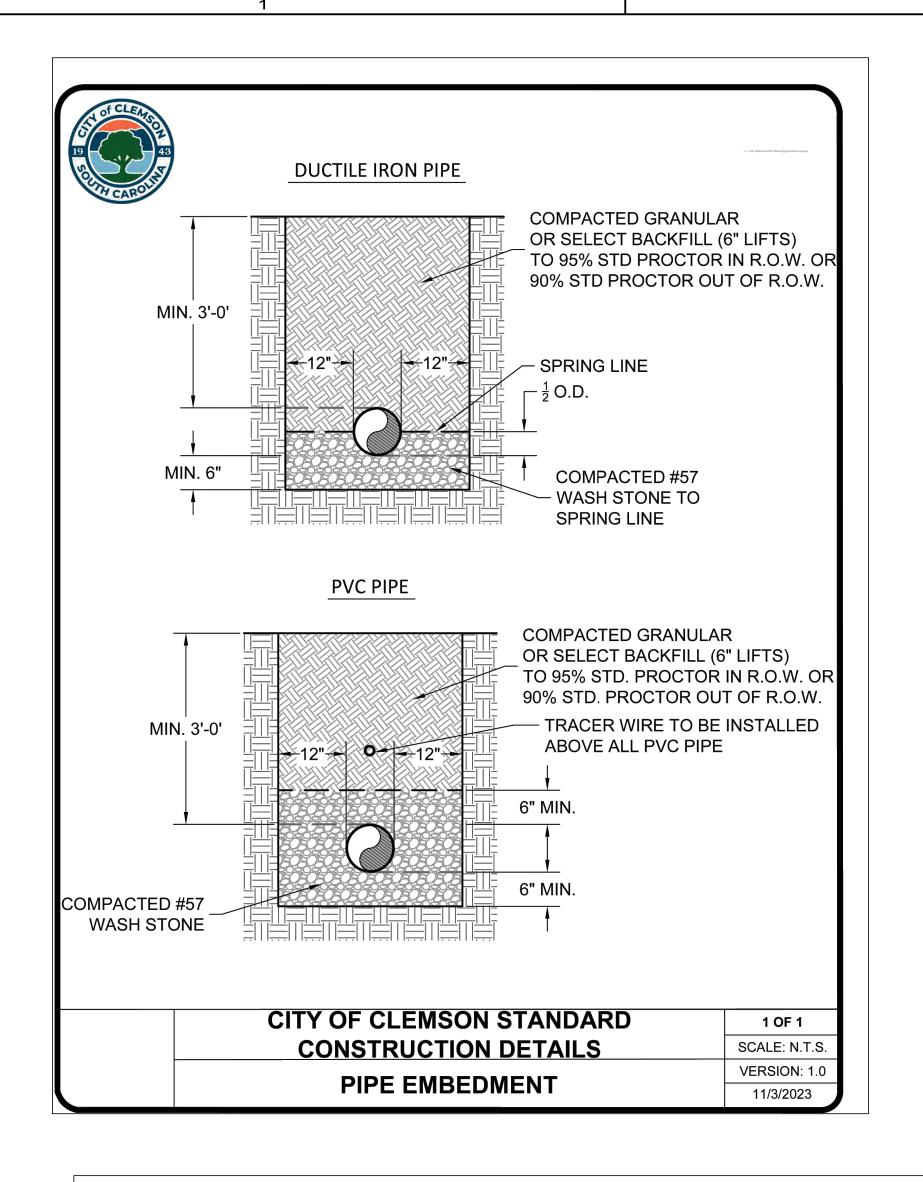
A. INSPECTION PORTS (IF PRESENT)

FLEXSTORM INSERTS IN ANY UPSTREAM

DETAILS

Project Engineer:

Drawn By:



NON-RESIDENTIAL SERVICE

6" SDR 40 OR

SDR 35 SANITARY

SEWER MAIN

45d BEND

(AS NEEDED)

ROMAC "CB" STYLE

TAPPING SADDLE

3034 PVC

PRECAST CONCRETE DONU

OR 107 BOX (TRAFFIC DUTY)

45d BEND

MIMIMUM 1% SLOPE ---

(AS NEEDED)

4" THREADED CLEA

RECESSED BELOW

OUT CAP & HUB

TOP OF COLLAR

PLACE CLEAN OUT

T PROPERTY LINE

4" SDR 40 OR

3034 PVC RISER

6" SDR 40 OR

3034 PVC TO -

CUSTOMER

MIN 6" COMPACTED

#57 WASH STONE



RESIDENTIAL SERVICE

6" SDR 40 OR

SDR 35 SANITARY

SEWER MAIN

3034 PVC

45d BEND

(AS NEEDED)

TAPPING SADDLE

PRECAST CONCRETE DONUT

OR 107 BOX (TRAFFIC DUTY)

45d BEND

MIMIMUM 1% SLOPE —

(AS NEEDED)

4" THREADED CLEAN

OUT CAP & HUB

TOP OF COLLAR

RECESSED BELOW

- 4"x6" REDUCER

PLACE CLEAN OUT

AT PROPERTY LINE

4" SDR 40 OR

3034 PVC RISER

MIN 6" COMPACTED

#57 WASH STONE

4" SDR 40 OR

3034 PVC TO -

1) CLEANOUTS ARE REQUIRED EVERY 75 LF OF SERVICE LINE OR ANY INSTANCE WHERE THE SUM OF

2) A SC DHEC APPROVED BACKFLOW PREVENTION

NOT GREATER THAN 18" ABOVE THE CLOSEST

DEVICE SHALL BE REQUIRED IF THE LOWEST F.F.E. IS

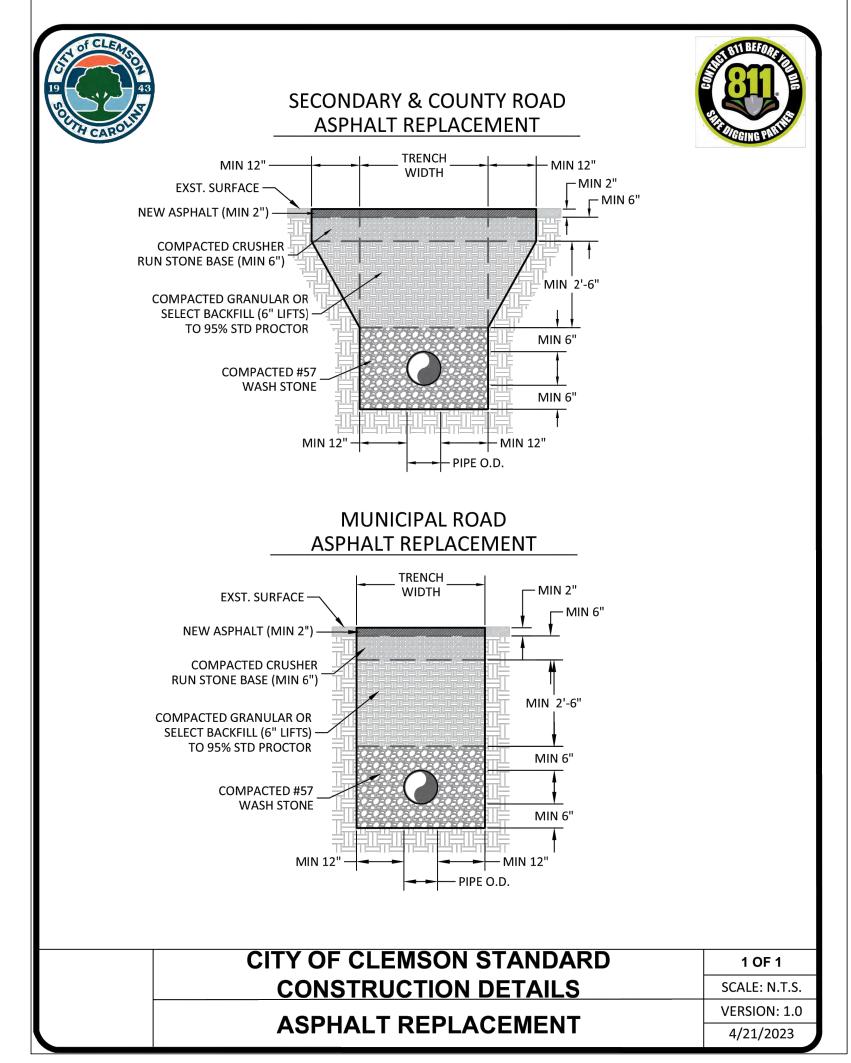
3) AN SERVICE CROSSING A ROADWAY OR DRIVEWAY

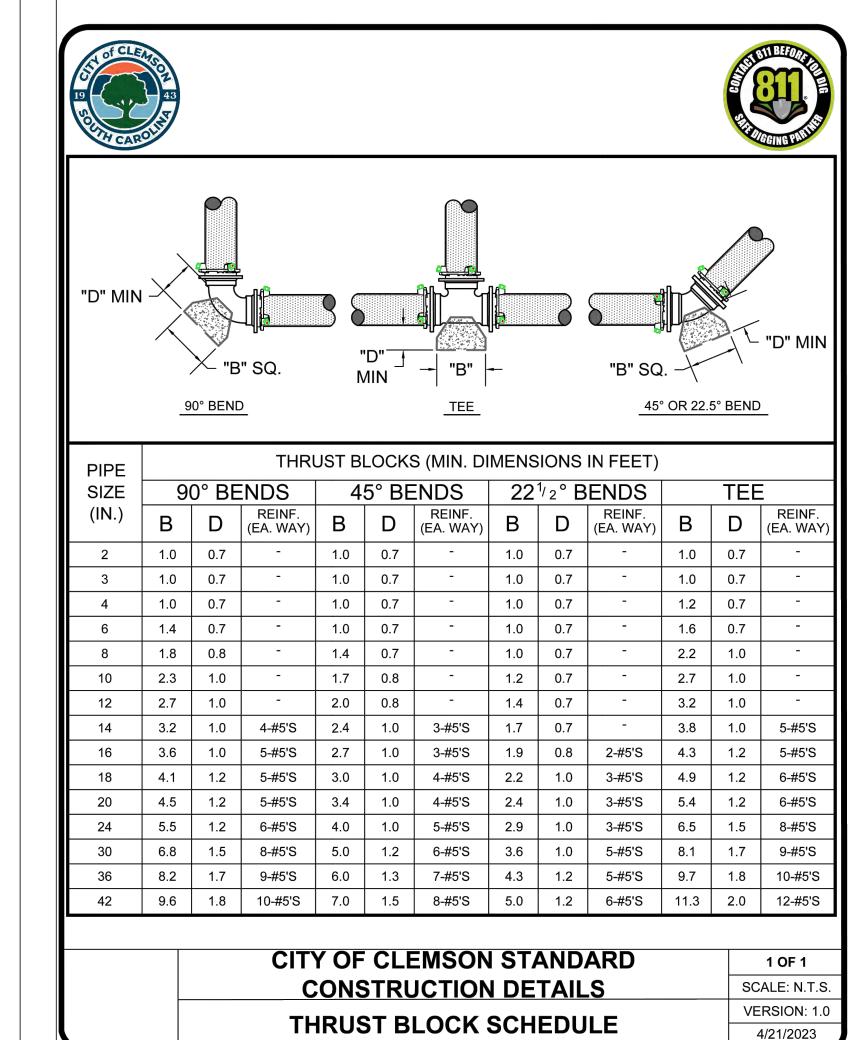
WILL BE DEEMED "TRAFFIC DUTY" AND WILL REQUIRE

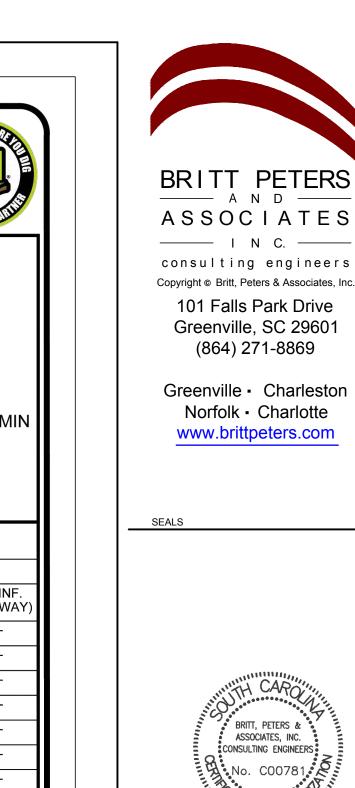
BENDS EXCEEDS 45 DEGREES.

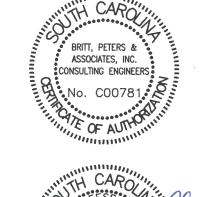
UPSTREAM MANHOLE

MIN SDR 40 CARRIER PIPE









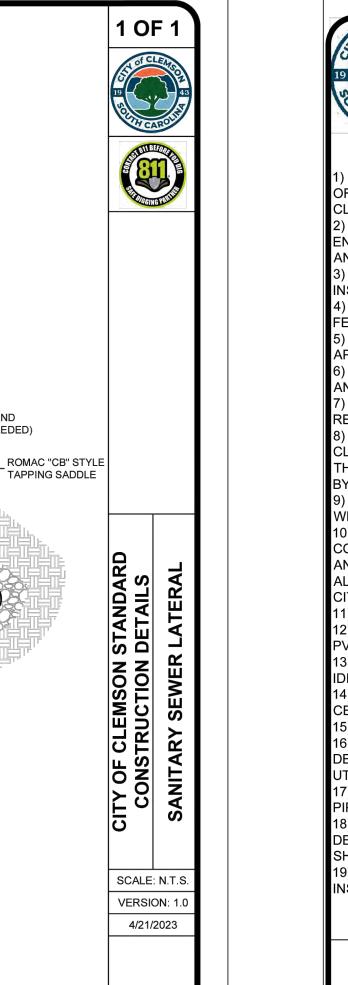


CLEMSON

114 CLEMSON PARK RD

CLEMSON, SC 29631

NO. DATE DESCRIPTION 0 11/01/2024

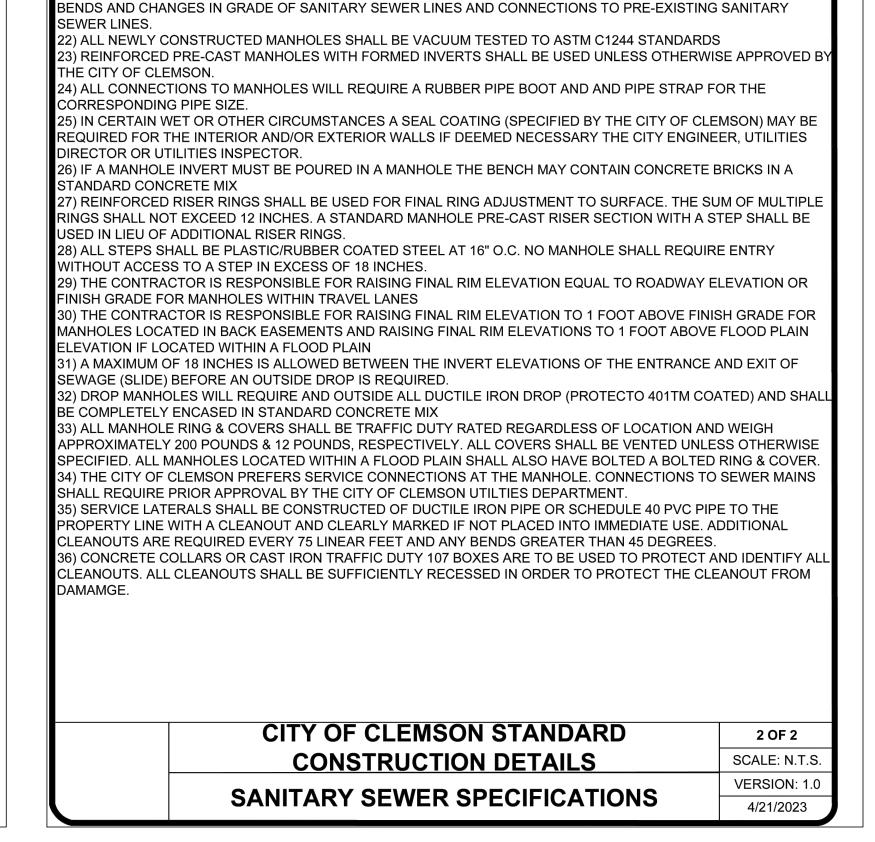


4/21/2023



SANITARY SEWER SPECIFICATIONS

2/21/2024



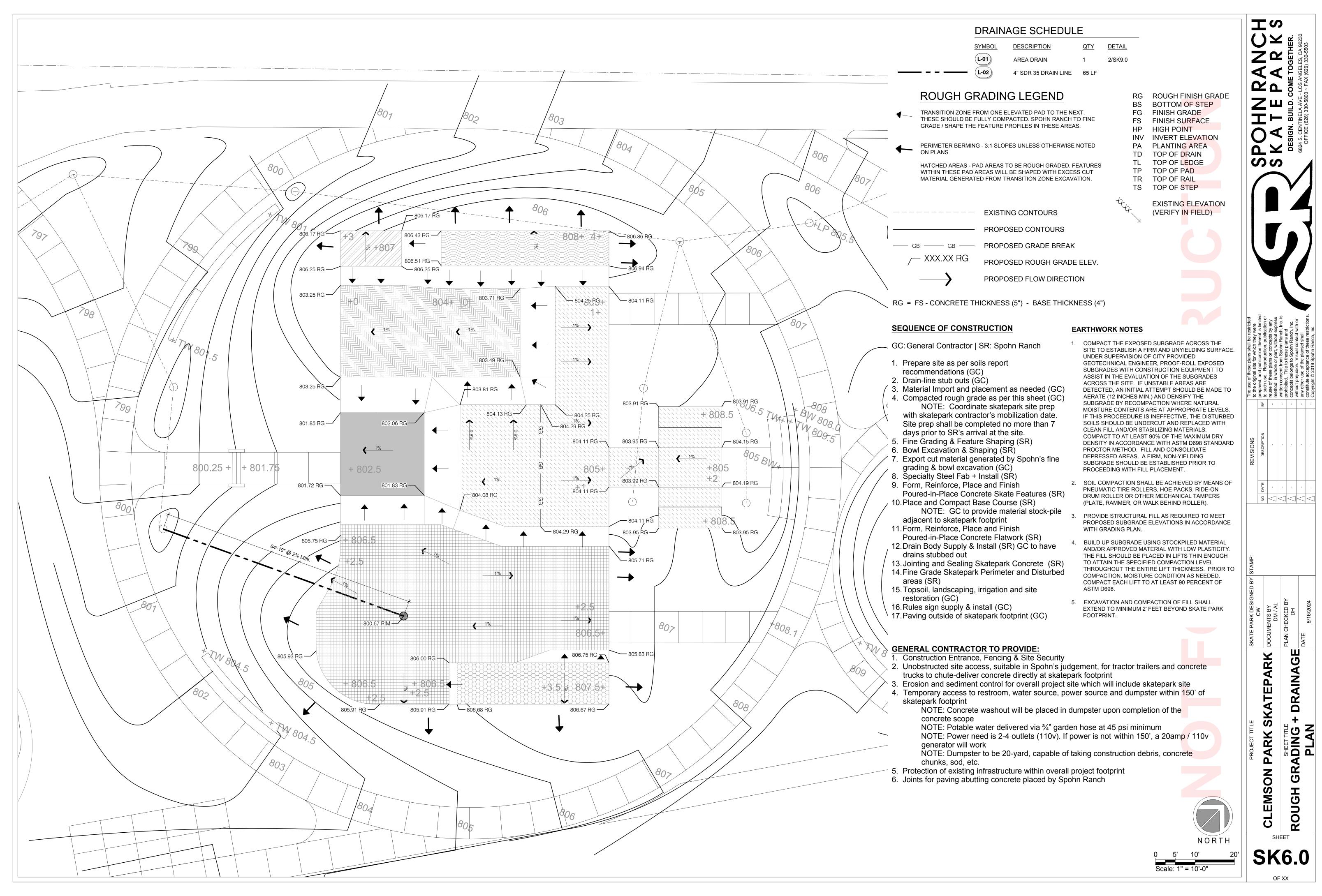
CITY OF CLEMSON - SANITARY SEWER SPECIFICATIONS (CONDENSE

20) ALL NEWLY CONSTRUCTED SANITARY SEWER LINES WILL BE LOW PRESSURE AIR TESTED TO ASTM F1417 AND

21) THE CONSTRACTOR SHALL PROVIDE CITY OF CLEMSON APPROVED, STANDARD PRE-CAST MANHOLES AT ALL

UNI B-6-90 STANDARDS AND MANDREL TESTED.





A. USE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, AND SHOP DRAWINGS.

B. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL CONTRACT DOCUMENTS AND LATEST ADDENDA, AS WELL AS SUBMITTING TO ALL SUBCONTRACTORS AND SUPPLIERS PRIOR TO SUBMITTING SHOP DRAWINGS. C. DO NOT SCALE DRAWINGS OR AUTO-DIMENSION ELECTRONIC FILES. NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES IN WRITING PRIOR TO FABRICATION OR CONSTRUCTION. D. COMPARE ALL CONTRACT DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN DISCIPLINES, AND WITHIN A GIVEN

DISCIPLINE, TO THE ARCHITECT AND ENGINEER PRIOR TO FABRICATION AND ERECTION. E. IF A CONFLICT EXISTS AMONG THE STRUCTURAL DRAWINGS OR GENERAL NOTES, THE STRICTEST REQUIREMENTS, AS INDICATED BY THE ENGINEER, GOVERNS.

F. COORDINATE ALL ELEVATIONS AND DIMENSIONS, INCLUDING BUT NOT LIMITED TO, OPENINGS IN WALLS AND IN ROOF AND FLOOR SYSTEMS, WITH THE ARCHITECTURAL, PLUMBING, ELECTRICAL, AND MECHANICAL PLANS. G. VERIFY ALL DIMENSIONS, ELEVATIONS, AND ANY OTHER EXISTING CONDITIONS. NOTIFY THE ARCHITECT AND ENGINEER OF

DISCREPANCIES BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. DURING THE CONSTRUCTION PROCESS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF THE EXISTING STRUCTURE AND TO PROTECT FROM DAMAGE ANY PORTIONS THAT REMAIN. THE SHORING AND BRACING SHOWN (IF ANY) IS A PARTIAL AND SCHEMATIC REPRESENTATION. SUBMIT DRAWINGS AND CALCULATIONS SEALED BY A REGISTERED ENGINEER FOR THE SHORING/BRACING PRIOR TO CONSTRUCTION. DETERMINE THE ERECTION PROCEDURE TO ENSURE THE STABILITY AND SAFETY OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION.

H. THE COMPLETED LATERAL-FORCE RESISTING SYSTEMS (LFRS), INCLUDING THE DIAPHRAGMS, ARE REQUIRED TO RESIST LATERAL LOADS AND PROVIDE STABILITY UNDER GRAVITY LOADS. DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR ALL BRACING DURING CONSTRUCTION TO MAINTAIN THE STABILITY AND SAFETY OF ALL STRUCTURAL ELEMENTS UNTIL THE LATERAL-LOAD RESISTING OR STABILITY-PROVIDING SYSTEM IS COMPLETELY INSTALLED AND THE STRUCTURE IS COMPLETELY

UNLESS NOTED OTHERWISE, DETAILS SHOWN ARE TYPICAL FOR ALL SIMILAR CONDITIONS J. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS, AS WELL AS SAFETY PRECAUTIONS

K. BRITT, PETERS & ASSOCIATES, INC. IS NOT RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, NOR FAILURE TO

PERIODIC SITE OBSERVATION BY BRITT, PETERS & ASSOCIATES, INC. IS FOR DETERMINING IF THE WORK IS PROCEEDING IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. STRUCTURAL OBSERVATIONS ARE NOT INTENDED AS QUALITY CONTROL (CONTRACTOR'S RESPONSIBILITY), QUALITY ASSURANCE (SPECIAL INSPECTOR'S RESPONSIBILITY), NOR TO CONFIRM THE QUALITY OR QUANTITY OF THE WORK.

M. THE BUILDING OWNER IS RESPONSIBLE FOR PERIODIC MAINTENANCE TO ENSURE STRUCTURAL INTEGRITY. MAINTENANCE INCLUDES, BUT IS NOT LIMITED TO, STEEL/CONCRETE COATINGS, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS, AND CRACKS IN CONCRETE, AND CLEANING OF EXPOSED STRUCTURAL ELEMENTS.

DESIGN CRITERIA

A. STRUCTURAL DRAWINGS ARE BASED ON THE REQUIREMENTS OF THE 2021 INTERNATIONAL BUILDING CODE, 2021 SOUTH CAROLINA BUILDING CODE AND THE REFERENCED SECTIONS WITHIN.

1. STRUCTURE 20 PSF 4 PSF

1. LIVE LOADS ARE BASED ON THE MORE RESTRICTIVE OF THE UNIFORM LOAD OR THE CONCENTRATED LOAD LISTED ACTING OVER A 6.25 SQUARE FOOT AREA. LIVE LOADS HAVE BEEN REDUCED AS PRESCRIBED IN THE AFOREMENTIONED BUILDING

| | | LIVE LO | DADS | | |
|----|---|--|---|-----------------------|----------------------------|
| | | CATEGORY | | UNIFORM LOAD (PSF) | CONCENTRATED LOAD (LBS) |
| | ROOFS: ORDINARY ROOF | | | 20 | |
|)_ | DESIGN SNOW LOADS: 1. GROUND SNOW LOAD: 2. FLAT ROOF SNOW LOAD: 3. SNOW EXPOSURE FACTOR: 4. SNOW THERMAL FACTOR: 5. SLOPE FACTOR: | P _G P _F C _E C _T C _S | 10 PSF 12.6 PSF 0.9 1.2 1.0 | | |
| | 6. SNOW IMPORTANCE FACTOR: 7. RAIN-ON-SNOW SURCHARGE: DESIGN WIND LOADS: 1. BASIC WIND SPEED: 2. RISK CATEGORY: | ls | 1.0 5 PSF | H (3-SEC GUST) | |

GC_{PI} ±0.18

| | | U | Itimate Desi | ign Wind P | ressure (p | sf): | | |
|----------|----------------|---|-----------------------------|------------|------------|-------|-------|------|
| | | | Effective Wind Area (sq ft) | | | | | |
| | Walls: | | 10 | 20 | 50 | 100 | 200 | 500 |
| Intorior | nterior Zone 4 | + | 17.2 | 16.4 | 16.0 | 16.0 | 16.0 | 16.0 |
| Interior | Zone 4 | - | -18.7 | -17.9 | -16.9 | -16.1 | -16.0 | -16. |
| Edge | Zono E | + | 17.2 | 16.4 | 16.0 | 16.0 | 16.0 | 16.0 |
| Edge | Zone 5 | - | -23.0 | -21.5 | -19.4 | -17.9 | -16.3 | -16. |
| | Roof: | | 10 | 20 | 50 | 100 | 200 | 500 |
| Intonion | Zone 1 | + | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| Interior | | - | -21.6 | -20.7 | -19.5 | -18.7 | -18.7 | -18. |
| Edgo | Zone 2 | + | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| Edge | | - | -26.0 | -24.2 | -21.9 | -20.1 | -20.1 | -20. |
| Corner | Zone 3 | + | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| Comer | Zone 3 | - | -44.9 | -41.0 | -35.8 | -31.8 | -31.8 | -31. |
| | Overhang: | | 10 | 20 | 50 | 100 | 200 | 500 |
| Edao | Zone 2 | + | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| Edge | Zone 2 | - | -36.7 | -36.7 | -36.7 | -36.7 | -36.7 | -36. |
| Corner | Zono 2 | + | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| Corner | Zone 3 | - | -73.1 | -73.1 | -73.1 | -73.1 | -73.1 | -73. |

WIDTH OF ZONE, a = 3.0 FT F. SEISMIC LOADS:

> RISK CATEGORY: SEISMIC IMPORTANCE FACTOR: SHORT PERIOD SPECTRAL RESPONSE ACCELERATION: 0.377 g 1-SEC PERIOD SPECTRAL RESPONSE ACCELERATION: 0.102 g SITE CLASS:

SHORT PERIOD DESIGN SPECTRAL RESPONSE ACCELERATION: 1-SEC PERIOD DESIGN SPECTRAL RESPONSE ACCELERATION: 0.163 g 8. SEISMIC DESIGN CATEGORY: 9. BASIC SEISMIC-FORCE RESISTING SYSTEM:

ORDINARY REINFORCED MASONRY WALL 10. DESIGN BASE SHEAR: 40 K 11. SEISMIC RESPONSE COEFFICIENT 0.19 12. RESPONSE MODIFICATION FACTOR:

13. ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE G. SUBMIT FINAL ELEVATOR SHOP DRAWINGS SHOWING ALL LOADS PRIOR TO THE FABRICATION OF THE SUPPORTING STRUCTURE. H. VERIFY ALL MECHANICAL EQUIPMENT WEIGHTS, LOCATIONS, AND ASSOCIATED OPENINGS WITH THE MECHANICAL CONTRACTOR, AND SUBMIT INFORMATION PRIOR TO FABRICATION OF THE SUPPORTING STRUCTURE. NOTIFY THE ENGINEER IF THE ACTUAL WEIGHT EXCEEDS THE WEIGHT INDICATED ON THE STRUCTURAL DRAWINGS.

I. DESIGN, DETAIL, AND CONSTRUCT WALLS, PARTITIONS, ROOFING, CLADDING, AND OTHER COMPONENTS TO ACCOMMODATE

VERTICAL DEFLECTIONS AND LATERAL DRIFTS. 1. ALLOWABLE INTERSTORY DRIFT = 0.0025*H (10 YEAR SERVICE LEVEL WIND) 2. ALLOWABLE INTERSTORY DRIFT = 0.025 *H (SEISMIC)

A. FOUNDATIONS HAVE BEEN DESIGNED USING A NET GROSS SOIL BEARING PRESSURE OF 1,500 PSF.

AN ALLOWABLE BEARING CAPACITY OF 1,500 PSF HAS BEEN ASSUMED AND MUST BE CONFIRMED BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE. . ALL SOILS WORK, INCLUDING BACKFILL OF UTILITY TRENCHES AND THE VERIFICATION OF BEARING CAPACITY MUST BE UNDER

THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER. PROXIMITY OF UTILITY TRENCHES TO BUILDING FOUNDATION SYSTEM MUST BE AS APPROVED BY THE GEOTECHNICAL ENGINEER TO ENSURE INTEGRITY OF THE BEARING SOILS. C. ALL FOUNDATIONS BEAR ON UNDISTURBED EARTH OR ENGINEERED FILL AT ELEVATIONS SHOWN ON PLANS AND DETAILS COORDINATE FINAL TOP OF FOOTING ELEVATIONS WITH THE ARCHITECTURAL ELEVATIONS, MEP DRAWINGS, AND CIVIL GRADING PLANS PRIOR TO PLACEMENT. FOUNDATION STEPS INDICATED ARE APPROXIMATE, UNLESS NOTED OTHERWISE, AND MUST BE FIELD COORDINATED. THE BOTTOM OF EXTERIOR FOUNDATION ELEVATIONS MUST BE BELOW THE FROST DEPTH ELEVATION 14"

MEASURED FROM EXTERIOR FINISHED GRADE. D. BEAR FLOOR SLABS ON 4 INCH MINIMUM DRAINAGE COURSE (COMPACTED STONE) UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT OR DRAWINGS. PLACE THE VAPOR RETARDER BETWEEN THE DRAINAGE COURSE AND THE SLAB.

VAPOR RETARDER IS ASTM E1745, CLASS B, 10 MIL UNLESS NOTED OTHERWISE. PLACE, PROTECT, AND REPAIR PER ASTM E1643 AND MANUFACTURER'S INSTRUCTIONS.

FOUNDATIONS, SLABS, OR OTHER CONCRETE ON FROZEN SUBGRADE OR IN STANDING WATER.

E. DO NOT INSTALL FOUNDATION CONCRETE UNTIL ALL FOUNDATION WORK HAS BEEN COORDINATED WITH UNDERGROUND UTILITIES. NOTIFY THE ENGINEER OF ALL CONFLICTS BETWEEN FOUNDATIONS AND UTILITIES. F. ALL FOUNDATIONS, OR PORTIONS THEREOF BELOW GRADE, MAY BE EARTH FORMED BY NEAT EXCAVATIONS. DO NOT PLACE

G. CENTER ALL FOUNDATIONS ON WALLS AND/OR COLUMNS, UNLESS NOTED OTHERWISE. H. RETAINING WALL (LATERAL EARTH PRESSURE) DESIGN VALUES: SOIL UNIT WEIGHT:

ACTIVE LATERAL EARTH PRESSURE: (EFPa) B. AT-REST LATERAL EARTH PRESSURE: (EFPo) 100 PCF

DETERMINE THE EXTENT OF CONSTRUCTION DEWATERING REQUIRED FOR THE EXCAVATIONS. SUBMIT THE PROPOSED CONSTRUCTION DEWATERING PLAN TO THE GEOTECHNICAL ENGINEER FOR REVIEW PRIOR TO EXCAVATION. DO NOT PLACE UNBALANCED BACKFILL UNLESS OTHERWISE BRACED OR SUPPORTED AGAINST OVERTURNING

K. BACKFILL BEHIND RETAINING WALLS WITH AN ENGINEERED FILL CONSISTING OF CLEAN COARSE SAND. DO NOT ALLOW HEAVY EQUIPMENT WITHIN A DISTANCE TO EARTH RETAINING WALLS EQUAL TO THE HEIGHT OF RETAINED EARTH PLUS TWO FEET. USE ONLY HAND-OPERATED VIBRATORY COMPACTORS FOR COMPACTING BEHIND RETAINING WALLS.

FOUNDATIONS

A. CONCRETE MUST CONFORM TO THE CONCRETE PROPERTIES SPECIFIED IN THE CONCRETE PROPERTIES TABLE. B. CONCRETE MUST HAVE ALLOWABLE UNIT SHRINKAGE OF 0.045% AT 28 DAYS (SEE ASTM C157). C. SLABS TO RECEIVE MOISTURE SENSITIVE FLOOR COVERINGS MUST HAVE MAXIMUM WATER/CEMENTITIOUS MATERIAL RATIO OF

D. CONCRETE CONSTRUCTION MUST CONFORM TO THE CURRENT "ACI MANUAL OF CONCRETE PRACTICE". E. ALL CONCRETE PLACEMENT SHALL ADHERE TO APPLICABLE SECTIONS OF ACI 305 AND ACI 306 FOR HOT WEATHER/COLD

WEATHER CONCRETE PLACEMENT. F. MASS CONCRETE: 1. MASS CONCRETE IS DEFINED AS ANY ELEMENT WITH A LEAST HORIZONTAL DIMENSION OF 5'-0" OR GREATER. MASS CONCRETE MUST BE CONSTRUCTED BY THE PRINCIPLES AND PRACTICES OF ACI 207.1R AND CONFORM TO THE

REQUIREMENTS OF ACI 301, SECTION 8 FOR MASS CONCRETE. 2. MAXIMUM CONCRETE TEMPERATURE DURING CURING MUST NOT EXCEED 160 DEGREES FAHRENHEIT. 3. MAXIMUM DIFFERENTIAL TEMPERATURE BETWEEN CONCRETE CORE AND CONCRETE SURFACE DURING CURING MUST NOT

4. CONCRETE SUPPLIER MUST SUBMIT THERMAL MODELING OF MIX DESIGNS USED IN MASS CONCRETE APPLICATIONS SHOWING SPECIFIED TEMPERATURE LIMITS WILL NOT BE EXCEEDED AND PROVIDE A TEMPERATURE CONTROL PLAN FOR CONSTRUCTION.

5. USE TYPE II CEMENT AND/OR FLY ASH UP TO 50% OF THE CEMENTITIOUS MATERIAL CONTENT TO MINIMIZE THE HEAT OF HYDRATION.

6. PLACE CONCRETE IN LAYERS NOT MORE THAN 24" THICK. G. CONCRETE MATERIALS MUST CONFORM TO THE FOLLOWING SPECIFICATIONS: PORTLAND CEMENT: ASTM C150, TYPE I OR II AGGREGATE (NORMAL WEIGHT): ASTM C33 H. ALL REINFORCEMENT MUST CONFORM TO THE FOLLOWING SPECIFICATIONS:

1. ALL REINFORCING, UNO: ASTM A615 GRADE 60 DEFORMED BAR ANCHORS (DBA): ASTM A496 (75 KSI) EPOXY-COATED REINFORCING: ASTM A775 4. GALVANIZED REINFORCING: ASTM A767 CLASS II (2.0 OZ. PER SF ZINC)

b. COMPRESSION SPLICE: 30X BAR DIAMETER (44 BAR DIAMETERS, GRADE 75)].

5. WELDABLE REINFORCING: ASTM A706 GRADE 60 WELDED WIRE REINFORCEMENT (WWR) a. SMOOTH WIRE ASTM A1064 (65 KSI)

b. DEFORMED WIRE ASTM A1064 (70 KSI) c. POLYPROPYLENE FIBRILLATED FIBER MAY BE USED TO SUBSTITUTE WWR IN SLABS ON GRADE WHEN ADDED TO CONCRETE MIX ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND RECOMMENDED DOSAGES. d. STEEL AND POLYPROPYLENE FIBER BLEND MAY BE USED TO SUBSTITUTE WWR IN SLABS ON COMPOSITE DECK WHEN ADDED TO CONCRETE MIX IN ACCORDANCE WITH THE LATEST VERSION OF THE SPECIFICATION FOR COMPOSITE STEEL

FLOOR DECK (ANSI/SDLC) BY THE STEEL DECK INSTITUTE (STEEL FIBERS HAVE 80 PSI RESIDUAL STRENGTH WHEN

TESTED IN ACCORDANCE WITH ASTM C 1399). SPECIAL MOMENT FRAMES: ASTM A706 GRADE 60 8. SPECIAL STRUCTURAL WALLS: ASTM A706 GRADE 60 9. COLUMNS AND BEAMS (IN SDC D, E, & F): ASTM A706 GRADE 60

DETAIL AND PLACE REINFORCEMENT IN ACCORDANCE WITH ACI 315. 2. DEVELOPMENT AND SPLICE LENGTHS ARE IN TENSION UNLESS NOTED OTHERWISE. REFER TO THE REINFORCING BAR LAP LENGTH SCHEDULE ON THE TYPICAL DETAIL SHEETS. 3. [PIER AND COLUMN VERTICAL BARS ARE IN COMPRESSION UNLESS NOTED OTHERWISE AS TENSION-CONTROLLED. a. COMPRESSION EMBEDMENT: 22X BAR DIAMETER (28 BAR DIAMETERS, GRADE 75):

4. PLACE WWR 2" CLEAR FROM TOP OF SLAB UNESS NOTED OTHERWISE. LAP WWR ONE CROSSWIRE SPACING PLUS 2". 5. INSTALL CORNER BARS AT ALL FOOTINGS AND WALL INTERSECTIONS TO MATCH HORIZONTAL REINFORCING SIZE AND

SPACING. AT INTERSECTIONS OF CONTINUOUS SPREAD FOOTINGS, EXTEND ALL BARS TO FAR SIDE OF INTERSECTING

6. INSTALL AND SECURE REINFORCEMENT TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT. PROVIDE THE FOLLOWING CONCRETE COVER FOR REINFORCING ACI 318 SECTION 7.7 AND IBC TABLE 720.1, UNLESS SPECIFICALLY NOTED OTHERWISE a. CAST AGAINST EARTH: b. EXPOSED TO EARTH/WEATHER: #6 THRU #18 c. EXPOSED TO EARTH/WEATHER: #5 & SMALLER d. SLABS, WALLS, JOISTS: #14 & #18

#11 & SMALLER

F. BEAMS, COLUMNS: SHELLS FOLDED PLATE MEMBERS: #6 & LARGER #5 & SMALLER SHELLS FOLDED PLATE MEMBERS: INSTALL DOWELS TO MATCH REINFORCEMENT SIZE AND SPACING INDICATED, UNLESS NOTED OTHERWISE CAST FOUNDATION WALLS, GRADE BEAMS, AND FOOTINGS IN ALTERNATE PANELS NOT TO EXCEED 60'-0" IN LENGTH. INSTALL

SHEAR KEYS AT EACH CONSTRUCTION JOINT AND LOCATED AT 1/3 POINTS OF SPANS. K. TEMPORARILY BRACE CONCRETE WALLS AGAINST EARTH PRESSURE AND OTHER FORCES UNTIL FLOOR SLABS AND PERMANENT SUPPORTS ARE IN PLACE AND HAVE ATTAINED REQUIRED STRENGTHS. DO NOT USE HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS UNLESS SHOWN ON THE DRAWINGS. THE ENGINEER

MUST APPROVE ALL DEVIATIONS OR ADDITIONAL JOINTS IN WRITING. M. CAST SLABS AND BEAMS/JOISTS MONOLITHICALLY UNLESS NOTED OTHERWISE

N. CHAMFER ALL PERMANENTLY EXPOSED CONCRETE EDGES 3/4 INCH, UNLESS NOTED OTHERWISE. O. REFERENCE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS OF OPENINGS AND SLEEVES IN CONCRETE WALLS AND SUPPORTED FLOORS. SPREAD REINFORCEMENT AT OPENINGS AND SLEEVES UNLESS OTHERWISE INDICATED. DO NOT CUT

P. SLOPE CONCRETE SLABS TO FLOOR DRAINS SHOWN ON MECHANICAL, PLUMBING, CIVIL, AND ARCHITECTURAL DRAWINGS. Q. BOND NEW CONCRETE TO HARDENED CONCRETE WITH A STRUCTURAL ADHESIVE BONDING AGENT PER THE SPECIFICATIONS. INSTALL PER THE MANUFACTURER'S INSTRUCTIONS. R. $\,$ NO HOLES OR OPENINGS THROUGH FOUNDATION WALLS AND/OR FOOTINGS WITHOUT ENGINEER'S APPROVAL.

S. DO NOT EMBED ALUMINUM IN CONCRETE.

REINFORCEMENT DETAILING:

e. SLABS, WALLS, JOISTS:

| CON | CRETE PROPER | TIES | | |
|------------------------|----------------|-------|----------|----------------|
| | | | | DURABILITY |
| USAGE | STRENGTH (PSI) | TYPE | COMMENTS | CLASSIFICATION |
| FOOTINGS | 4000 | NWT | | F0, S0, W0, C1 |
| FOUNDATION WALLS | 4000 | NWT | | F1, S0, W0, C1 |
| SLAB-ON-GRADE EXTERIOR | 4500 | NWT | | F2, S0, W0, C1 |
| SLAB-ON-GRADE INTERIOR | 3500 | NIW/T | | EO SO WO CO |

CONCRETE PROPERTIES TABLE NOTES:

MINIMUM STRENGTH AND MAXIMUM DENSITY MEASURED AT 28 DAYS. NWT = NORMAL WEIGHT CONCRETE

3. LWT = SAND-LIGHTWEIGHT CONCRETE 120 PCF MAX a. 4% TO 7% AIR ENTRAINMENT FOR LIGHTWEIGHT CONCRETE ON COMPOSITE METAL DECKS 4. DURABILITY CLASSIFICATION INDICATES CONCRETE REQUIREMENTS BY EXPOSURE CLASS, REFER TO TABLE 19.3,2,1 OF ACI

A. MASONRY CONSTRUCTION MUST CONFORM WITH ACI 530.1. B. CONCRETE MASONRY UNITS (CMU) ARE LIGHTWEIGHT COMPLYING WITH ASTM C90. UNITS HAVE A MINIMUM AVERAGE NET-AREA

COMPRESSIVE STRENGTH OF 2,000 PSI. MINIMUM NET AREA COMPRESSIVE STRENGTH OF MASONRY (F'M) IS 2,000 PSI. C. MORTAR MUST CONFORM TO ASTM C270, TYPE M OR S. D. GROUT MUST CONFORM TO ASTM C476, WITH A 28 DAY COMPRESSIVE STRENGTH EQUAL TO OR GREATER THAN THE SPECIFIED NET AREA COMPRESSIVE STRENGTH OF MASONRY (F'M).

. REINFORCING BARS ARE ASTM A615, GRADE 60. VERTICAL AND HORIZONTAL REINFORCING ARE CONTINUOUS AND LAPPED A MINIMUM OF 72 BAR DIAMETERS

G. POSITION AND HOLD REINFORCING STRAIGHT AS INDICATED. INSTALL REBAR POSITIONERS AT SPACING NOT TO EXCEED 200 BAR DIAMETERS, AT GROUT LIFT HEIGHTS, OR BAR SPLICE LOCATIONS, WHICHEVER IS LESS, TO HOLD REBAR IN PROPER LOCATION

H. INSTALL 9 GAGE LADDER TYPE HORIZONTAL JOINT REINFORCING AT 16" OC MAXIMUM SPACING UNLESS NOTED OTHERWISE. JOINT REINFORCING COMPLIES WITH ASTM A951 AND GALVANIZED PER ASTM A153, CLASS B. LAP JOINT REINFORCEMENT AT LEAST 6 INCHES (MUST CONTAIN AT LEAST ONE CROSS WIRE OF EACH PIECE OF REINFORCEMENT WITHIN THE LAP). LAP WITH STANDARD T- AND L-SHAPED PIECES AT INTERSECTIONS AND CORNERS.

INSTALL DOWELS FROM FOUNDATIONS OR SUPPORTING CONCRETE MEMBER BELOW, SAME SIZE AND SPACING AS VERTICAL REINFORCING, UNLESS NOTED OTHERWISE. DOWELS HAVE STANDARD ACI HOOKS. FULLY GROUT ALL CELLS AND WALLS BELOW GRADE. SLUSH JOINT BETWEEN WYTHES. K. LOW-LIFT GROUTING PROCEDURES IN ACCORDANCE WITH ACI 530.1.

L. IF HIGH-LIFT GROUTING, COMPLY WITH ACI 530.1, INCLUDING CLEANOUTS AT EACH GROUTED CELL 1. DO NOT EXCEED 5 FEET GROUT POUR LIFT, UNLESS CLEANOUTS ARE PROVIDED IN THE BOTTOM COURSE OF EACH 5 FOOT

MECHANICALLY VIBRATE ALL LIFTS IN EXCESS OF 1 FOOT. DO NOT STOP GROUT POUR WITHIN 1-1/2 INCHES OF BED JOINT. $oldsymbol{\mathsf{H}}$. TOTAL GROUT POUR MUST NOT EXCEED 24 FEET WHEN GROUTING THE CELLS OF HOLLOW MASONRY.

M. INSTALL MASONRY IN A RUNNING BOND PATTERN. N. SHORE ALL MASONRY LINTELS UNTIL MASONRY AND GROUT HAVE SET FOR A MINIMUM OF 7 DAYS. O. MASONRY WALLS HAVE BEEN DESIGNED IN THE FINAL CONSTRUCTED CONFIGURATION ASSUMING FULL BRACING TOP, BOTTOM, AND/OR SIDE OF WALL. DURING CONSTRUCTION, BRACE ALL CMU TO RESIST ERECTION AND LATERAL LOADS THAT MAY BE

MASS TIMBER:

1. MASS TIMBER FRAMING ELEMENTS FOR THIS STRUCTURE HAVE BEEN DESIGNED IN ACCORDANCE WITH APPLICABLE BUILDING CODES, AND MATERIAL STANDARDS BELOW.

a. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS). c. ANSI-A190.1.

CONCRETE UNIT MASONRY

d. ANSI PRG-320 2. APPLY BASE TREATMENT COATING TO ALL MASS TIMBER ELEMENTS FOR PROTECTION DURING SHIPMENT AND ERECTION. APPLY TREATMENT COATING TO ALL MASS TIMBER ELEMENTS EXPOSED TO VIEW OR WEATHER FOR ADDITIONAL PROTECTION AGAINST WOOD ROT, WATER INFILTRATION, AND LONG-TERM UV DAMAGE. COORDINATE TREATMENT

COMPATIBILITY WITH TIMBER MATERIALS. 3. REFERENCE DESIGN CRITERIA FOR ANTICIPATED SHRINKAGE SCHEDULE.

B. CONNECTORS: 1. EXPOSED CONNECTORS/FASTENERS AND CONNECTORS/FASTENERS USED IN PROXIMITY TO SALTWATER SPRAY ARE MANUFACTURED FROM TYPE 316 STAINLESS STEEL OR HOT DIP GALVANIZED. REPAIR DAMAGED GALVANIZED COATINGS

PRIOR TO CONCEALING. ASTM A307, GRADE A WITH ASTM A563, GRADE A NUTS. BOLTS: SCREWS: SCREW LENGTHS AND PENETRATIONS INDICATED ARE MINIMUM DIMENSIONS. INSTALL SCREWS PER MANUFACTURER'S

RECOMMENDATIONS. ACCEPTABLE PRODUCTS ARE LISTED BELOW. SUBMIT ALTERNATE FASTENERS TO THE ENGINEER FOR REVIEW.

a. WOOD TO WOOD CONNECTIONS (PARTIALLY THREADED SCREWS): MY-TI-CON ASSY ECOFAST MY-TI-CON ASSY SK

 MY-TI-CON ASSY FWH ROTHOBLAAS HBS ROTHOBLAAS TBS

APPLIED PRIOR TO COMPLETION OF CONSTRUCTION.

 SIMPSON STRONG-TIE SDCP SIMPSON STRONG-TIE SDWH

b. STEEL PLATE TO WOOD CONNECTIONS (PARTIALLY THREADED SCREWS): MY-TI-CON ASSY KOMBI ROTHOBLAAS SBS

 SIMPSON STRONG-TIE SDHR c. WOOD REINFORCING SCREWS (FULLY THREADED SCREWS):

MY-TI-CON ASSY VG

 SIMPSON STRONG-TIE SDCF SIMPSON STRONG-TIE SDWC

ROTHOBLAAS VGZ

C. CROSS-LAMINATED TIMBER (CLT): ALTERNATE CLT VARYING FROM CONSTRUCTION DOCUMENTS MAY BE SUBTITUTED BY THE CONTRACTOR. DESIGN AND

FABRICATE IN COMPLIANCE WITH RELEVANT STANDARDS LISTED. SUBMIT DOCUMENTATION INDICATING EQUAL OR BETTER STRUCTURAL CAPACITIES AND COMPLIANCE WITH MINIMUM SECTION PROPERTIES. 2. CLT PANEL DIMENSIONAL TOLERANCES IN ACCORDANCE WITH ANSI A190.1.

3 PANELLAYOUT

a. TERMINATE ALL INTERNAL CLT PANEL JOINTS LONGITUDINALLY ON A SUPPORT. b. DO NOT CANTILEVER CLT PANELS LONGITUDINALLY MORE THAN A SINGLE LENGTH BACKSPAN.

c. DO NOT CANTILEVER CLT PANELS TRANSVERSELY MORE THAN 18 INCHES. d. OPENINGS MUST NOT CROSS PANEL JOINTS WITHOUT A STRUCTURAL SUPPORT. CLT PANELS MUST HAVE 12 INCHES MINIMUM BETWEEN PANEL EDGE AND OPENING.

CONTRACTOR IS RESPONSIBLE FOR LIFTING AND ERECTION LOCATIONS AND CONNECTIONS.

5. REFER TO CLT PROPERTIES TABLE FOR MINIMUM SECTION PROPERTIES. a. CLT THICKNESS MAY VARY ±1/2" FROM THICKNESS SPECIFIED IN CONSTRUCTION DOCUMENTS.

b. CLT IS SOUTHERN PINE SPECIES WITH STRESS CLASS IV31. D. MINIMUM SPECIFIC GRAVITY IS 0.42.

| CROSS LAMINATED TIMBER PROPERTIES | | | | | | | | | |
|-----------------------------------|----------------|-----------------------|----------------------------|-----------------------|---------------|-----------------------|----------------------------|-----------------------|---------------|
| | | MAJOR DIRECTION | | | | MINOR DIRECTION | | | |
| | THICKNESS (IN) | Fb Seff (LB*FT/FT) | Eleff (10^6 LB*IN^2/FT) | GAeff (10^6 LB/FT) | Vs (LB/FT) | Fb Seff (LB*FT/FT) | Eleff (10^6 LB*IN^2/FT) | GAeff (10^6 LB/FT) | Vs (LB/FT) |
| | 6.875 | 4,000 | 363 | 0.98 | 3,025 | 1,230 | 88 | 1.00 | 1,820 |

E. GLUE-LAMINATED TIMBER (GLULAM):

NO GLULAM MEMBERS SHALL BE TREATED UNLESS NOTED OTHERWISE IN THE CONSTRUCTION DOCUMENTS. GLULAM AXIAL MEMBERS SHALL BE SOUTHERN YELLOW PINE SPECIES, GRADE 50-N1D14.

GLULAM FLEXURAL MEMBERS SHALL BE SOUTHERN YELLOW PINE SPECIES WITH STRESS CLASS 24F-V3. GLULAM MEMBERS SHALL BE PREMIUM | ARCHITECTURAL APPEARANCE GRADE COMPLYING WITH ANSI-190.1. 5. ROOF FELT SHALL BE INSTALLED AT INTERFACE WHERE GLULAM BEAMS ARE ATTACHED TO FACE OF MASONRY OR

CONCRETE. WHERE BEAMS BEAR ON MASONRY OR CONCRETE, A DOUBLE 2x TOP PLATE SHALL BE ANCHORED TO THE WALL

ON WHICH THE BEAM WILL BEAR. 6. UNLESS NOTED OTHERWISE, BEAMS SHALL NOT BE PENETRATED WITHOUT APPROVAL OF EOR. HANBURY

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PARK CLEMSON, SOUTH CAROLINA

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S001

HANBURY EVANS WRIGHT VLATTAS + COMPANY Page 11 of 72

PERFORM WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

B. DEAD LOADS: ROOF SYSTEMS:

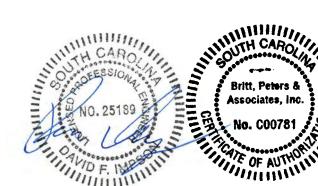
6 PSF FINISHES

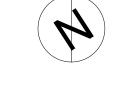
2. RISK CATEGORY WIND EXPOSURE 4. INTERNAL PRESSURE COEFF: 5. COMPONENTS & CLADDING WIND PRESSURES (ULTIMATE):

+1 864 392 5475

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CLEMSON CITY

Sheet Title: A GENERAL NOTES

Sheet Number:

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THE CONTRACTOR SHALL VERIFY THAT ALL STRUCTURAL COMPONENTS SHOWN ON THESE DRAWINGS ARE ACCURATE IN REPRESENTING WHAT IS CURRENTLY BUILT. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF RECORD IF ANY AS-BUILT CONDITION DIFFERS FROM WHAT IS DEPICTED ON THESE DOCUMENTS.

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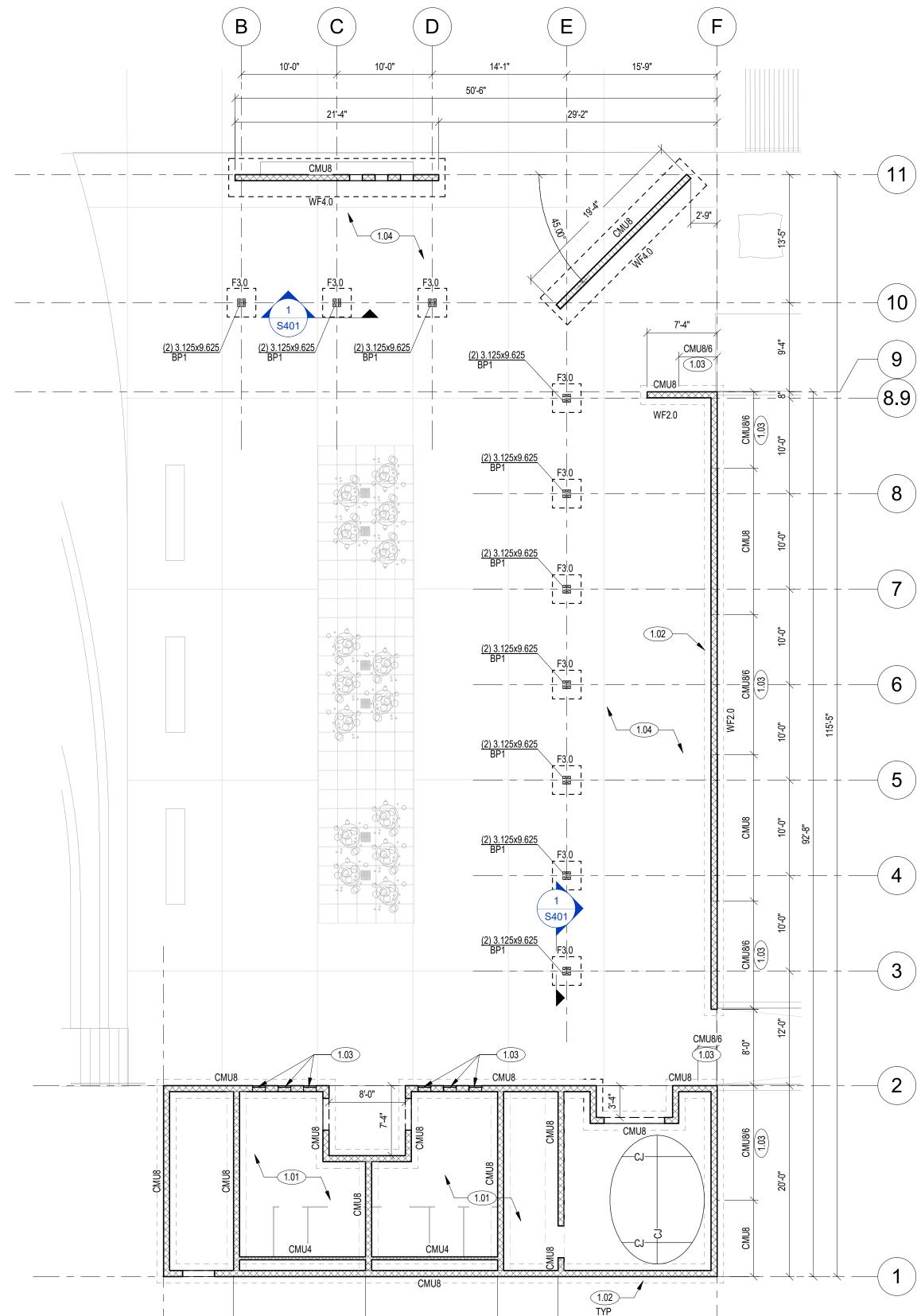
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Sheet Title:

A FOUNDATION PLAN

Sheet Number:

S101



13'-10" 6'-4" 13'-10" 16'-8"

MAIN BUILDING - FOUNDATION PLAN

1/8" = 1'-0"

(S2) S1 CMU12 WF5.0 2 SHADE - FOUNDATION PLAN

1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. ELEVATIONS BASED ON TOP OF SLAB (T/SLAB) = 0'-0", COORDINATE WITH CIVIL AND ARCH. 2. TOP OF FOOTING (T/FTG) = -2'-0" UNO

ALL STEEL THAT IS PERMANENTLY EXPOSED TO THE EXTERIOR SHALL BE HOT-DIPPED GALVANIZED UNO.
 CONTRACTOR TO VERIFY ALL SLAB EDGE, STAIR, AND ELEVATOR OPENING DIMENSIONS WITH ARCH

DRAWINGS PRIOR TO CONSTRUCTION. 5. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SLAB PENETRATIONS AND UNDERGROUND UTILITIES.

6. CONTRACTOR TO COORDINATE REQUIRED FOOTING STEPS WITH FINAL CIVIL GRADING PLAN AND ROOF

7. CONTRACTOR TO VERIFY ROUGH OPENING DIMENSIONS FOR ELEVATOR OPENINGS WITH SUPPLIER PRIOR TO SHAFT CONSTRUCTION.

8. COORDINATE ALL SLOPED SLAB AND RECESSED AREAS WITH ARCHITECTURAL DRAWINGS. 9. CONTRACTOR TO COORDINATE FOOTING STEPS WITH FINAL CIVIL GRADING PLAN, ROOF DRAIN PIPE LOCATIONS, AND ANY STEPS REQUIRED FOR UTILITIES INTERFERING WITH FOOTINGS.

FOUNDATION PLAN LEGEND

DENOTES SHEET NOTE, REF SCHEDULE THIS SHEET DENOTES FOOTING (F), REF SCHEDULE ON SHEET S102

DENOTES WALL FOOTING (WF) OR THICKENED SLAB (TS), REF SCHEDULE THIS SHEET

DENOTES CMU WALL, FOR RECESSED 6" CMU LOCATIONS REF ARCH

DENOTES EXISTING BUILDING ELEMENT, FIELD VERIFY

DENOTES COLUMN BASE PLATE, REF SCHEDULE ON SHEET S301

MAX. SLAB UNITS CREATED BY JOINT LAYOUTS SHALL BE AS SQUARE AS POSSIBLE AND WITH A MAXIMUM ASPECT RATIO OF 1.25 TO 1. IN ADDITION, CONTROL JOINTS SHALL BE LOCATED AT THE CORNERS OF ALL ISOLATION POCKETS. REF TYPICAL DETAILS.

DENOTES SLAB CONTROL JOINT OR CONSTRUCTION JOINT. JOINT SHALL BE PLACED AT 12 FEET OC

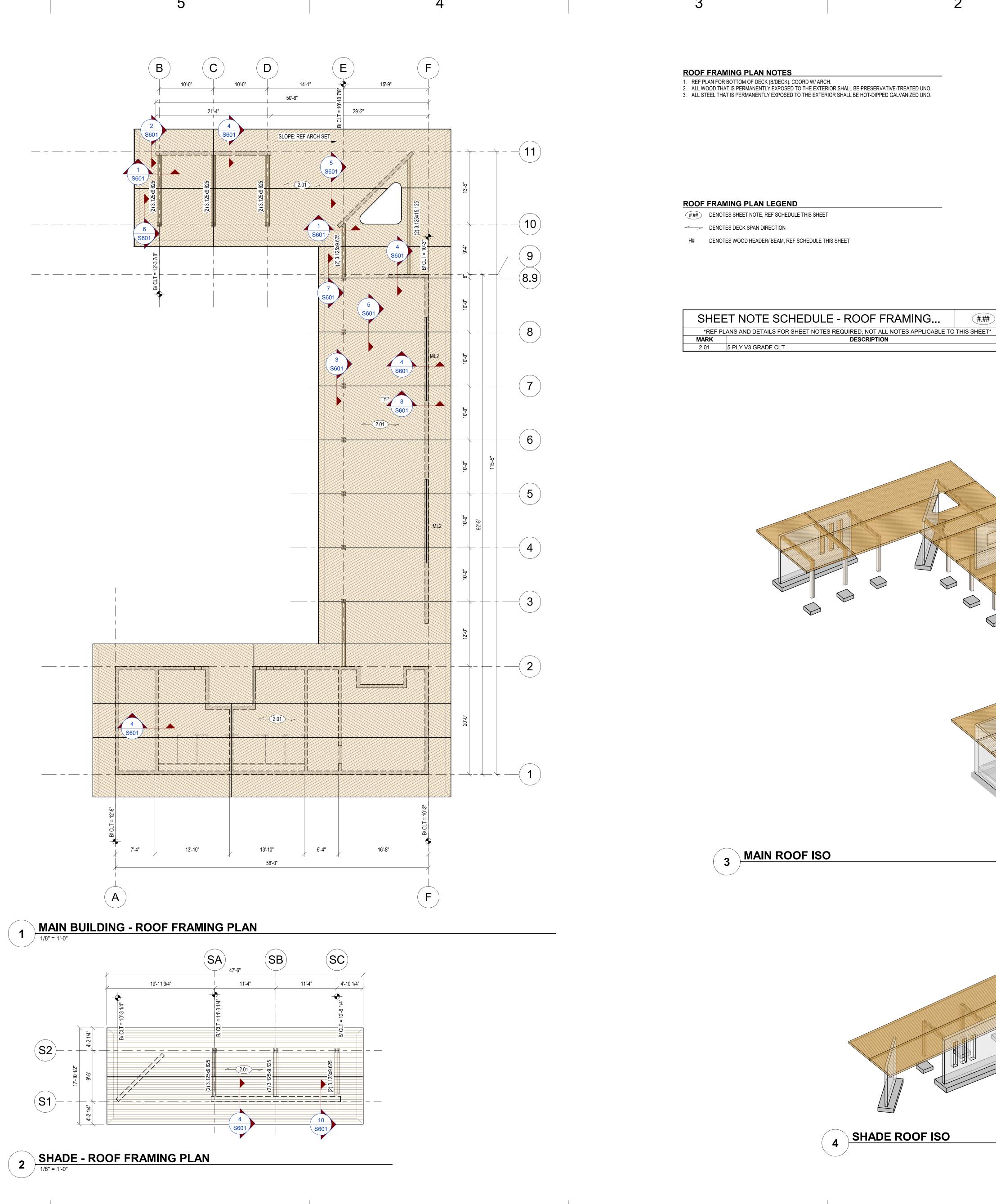
| SHEE | SHEET NOTE SCHEDULE - FOUNDATION PLAN ### | | | | | | | |
|------------------|--|--|--|--|--|--|--|--|
| *REF I | *REF PLANS AND DETAILS FOR SHEET NOTES REQUIRED, NOT ALL NOTES APPLICABLE TO THIS SHEET* | | | | | | | |
| MARK DESCRIPTION | | | | | | | | |
| 1.01 | 1.01 4" CONCRETE SLAB REINF W/ 6x6-W1.4xW1.4 WWR ON 10 MIL VAPOR RETARDER ON 4" GRANULAR BASE ON PREPARED SUBGRADE | | | | | | | |
| 1.02 | FIELD VERIFY EXISTING FOOTING SIZE AND REPORT TO EOR BEFORE CONSTRUCTING WALLS | | | | | | | |
| 1.03 | FOR RECESSED 6" CMU LOCATION AND ELEVATION, REF ARCH | | | | | | | |
| 1.04 | CONCRETE SLAB REFER TO CIVIL AND LANDSCAPE | | | | | | | |

| FOUNDATION SCHEDULE - FOOTINGS (F) | | | | | | | | |
|------------------------------------|------------------------|-------|----------------------------------|--------|--------|--------|--------|---------|
| | WIDTH LENGTH THICKNESS | | REINFORCING BOTTOM BARS TOP BARS | | BARS | | | |
| MARK | "W" | "L" | "T" | LONG | SHORT | LONG | SHORT | REMARKS |
| F3.0 | 3'-0" | 3'-0" | 1'-0" | (4) #4 | (4) #4 | (4) #4 | (4) #4 | |

| FOUNDATION SCHEDULE - WALL FOOTIN | | | | | | | |
|-----------------------------------|---------------------------------------|--|---|---|---|---|--|
| DIMENSIONS | | | REINFORCING | | | | |
| WIDTH | THICKNESS | BOTTO | M BARS | TOP | BARS | | |
| "W" | "T" | LONG | SHORT | LONG | SHORT | REMARKS | |
| 2'-0" | 1'-4" | (3) #5 | #5 @ 12" OC | (3) #5 | #5 @ 12" OC | | |
| 4'-0" | 1'-2" | #5 @ 8" OC | #5 @ 8" OC | #5 @ 12" OC | #5 @ 12" OC | | |
| 5'-0" | 1'-4" | #6 @ 16" OC | #6 @ 16" OC | #5 @ 12" OC | #5 @ 12" OC | | |
| | DIM WIDTH "W" 2'-0" 4'-0" | DIMENSIONS WIDTH "W" THICKNESS "T" 2'-0" 1'-4" 4'-0" 1'-2" | DIMENSIONS WIDTH "W" THICKNESS THE LONG 2'-0" 1'-4" (3) #5 4'-0" 1'-2" #5 @ 8" OC | DIMENSIONS REINFO WIDTH THICKNESS BOTTOM BARS "W" "T" LONG SHORT 2'-0" 1'-4" (3) #5 #5 @ 12" OC 4'-0" 1'-2" #5 @ 8" OC #5 @ 8" OC | DIMENSIONS REINFORCING WIDTH "W" THICKNESS "TOP LONG SHORT LONG 2'-0" 1'-4" (3) #5 #5 @ 12" OC (3) #5 4'-0" 1'-2" #5 @ 8" OC #5 @ 8" OC #5 @ 12" OC | DIMENSIONS REINFORCING WIDTH "THICKNESS" "T" BOTTOM BARS TOP BARS "W" "T" LONG SHORT LONG SHORT 2'-0" 1'-4" (3) #5 #5 @ 12" OC (3) #5 #5 @ 12" OC 4'-0" 1'-2" #5 @ 8" OC #5 @ 8" OC #5 @ 12" OC #5 @ 12" OC | |

| | CMU WALL SCHEDULE | | | | | | | |
|--------|---------------------|---|--|--|--|--|--|--|
| | WALL REINFORCING | | | | | | | |
| MARK | VERTICAL | REMARKS | | | | | | |
| CMU4 | #4 @ 24" OC | | | | | | | |
| CMU8 | #5 @ 24" OC | 8" CMU WALL RECESSED TO 6" CMU USES THE SAME REINFORCEMENT | | | | | | |
| CMU8/6 | #4 @ 24" OC | CENTER REINF IN 6" SECTION; NOTE REINF WILL BE OFFSET IN 8" CMU | | | | | | |
| CMU12 | #5 @ 8" OC | | | | | | | |

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ROOF FRAMING PLAN NOTES

1. REF PLAN FOR BOTTOM OF DECK (B/DECK). COORD W/ ARCH. 2. ALL WOOD THAT IS PERMANENTLY EXPOSED TO THE EXTERIOR SHALL BE PRESERVATIVE-TREATED UNO. 3. ALL STEEL THAT IS PERMANENTLY EXPOSED TO THE EXTERIOR SHALL BE HOT-DIPPED GALVANIZED UNO.

DESCRIPTION

NOTE REGARDING EXISTING CONSTRUCTION

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Keyplan

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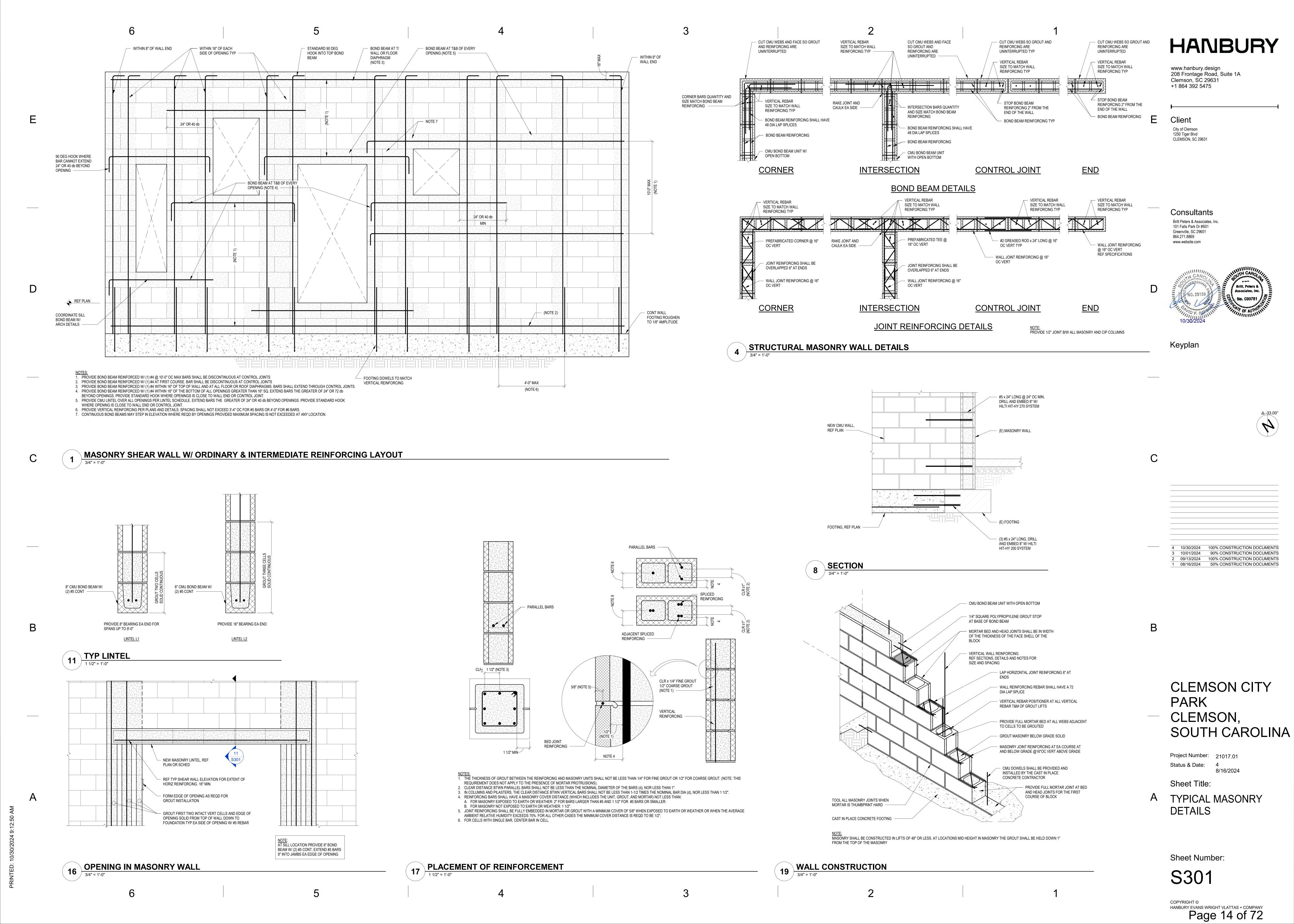
A ROOF FRAMING PLAN

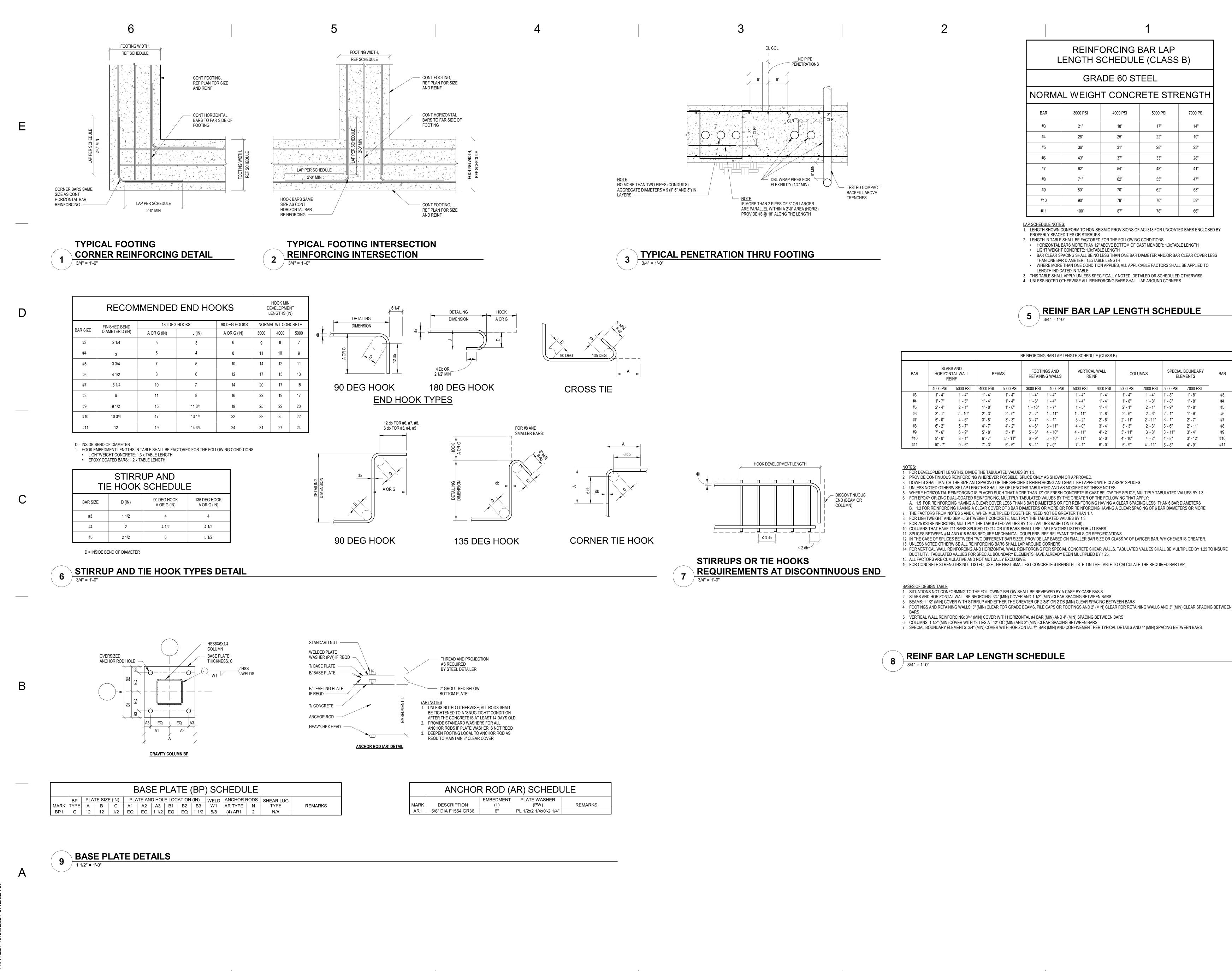
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S102

4 SHADE ROOF ISO

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7000 PSI

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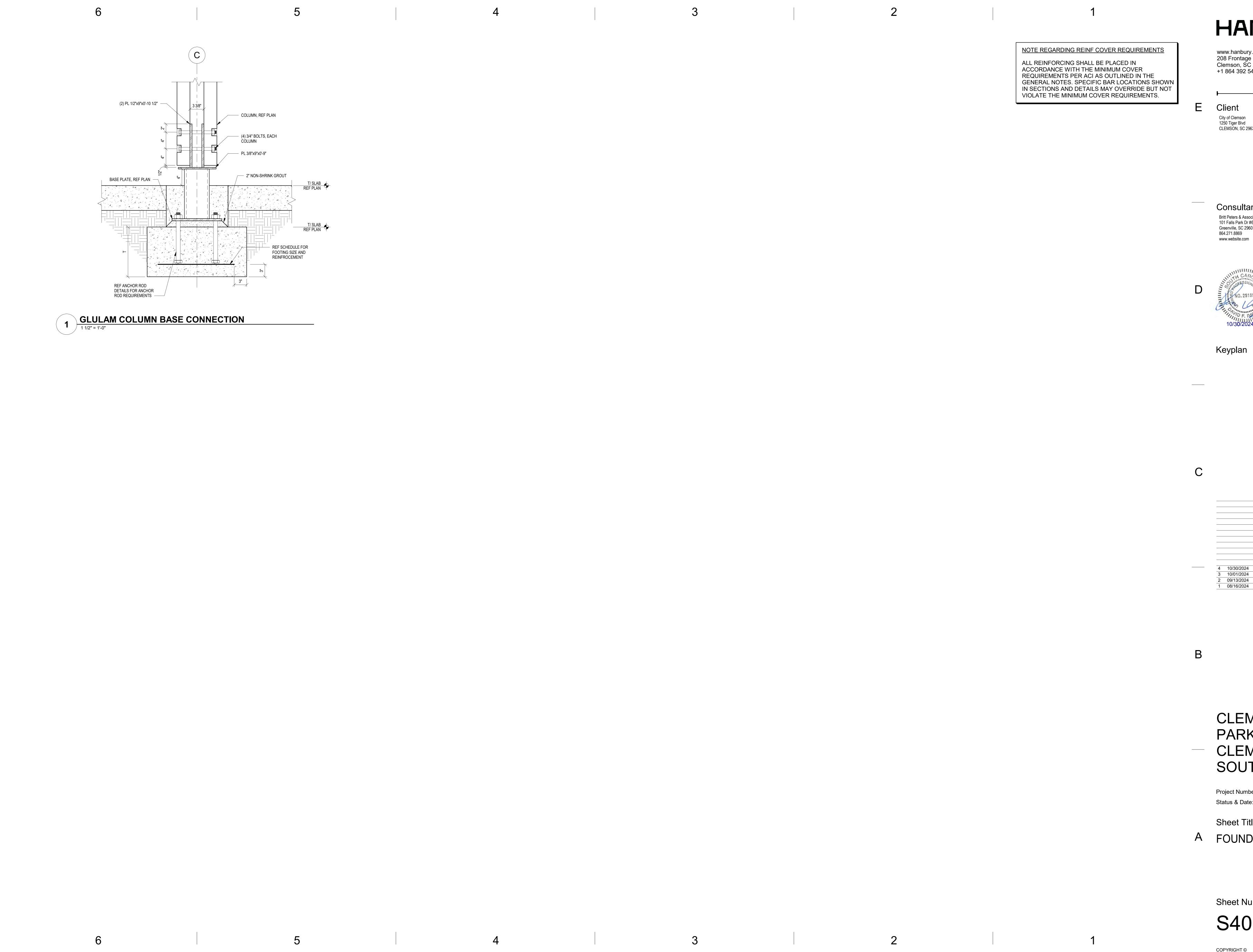
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A TYPICAL CONCRETE DETAILS

Sheet Number:

S311

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Page 15 of 72



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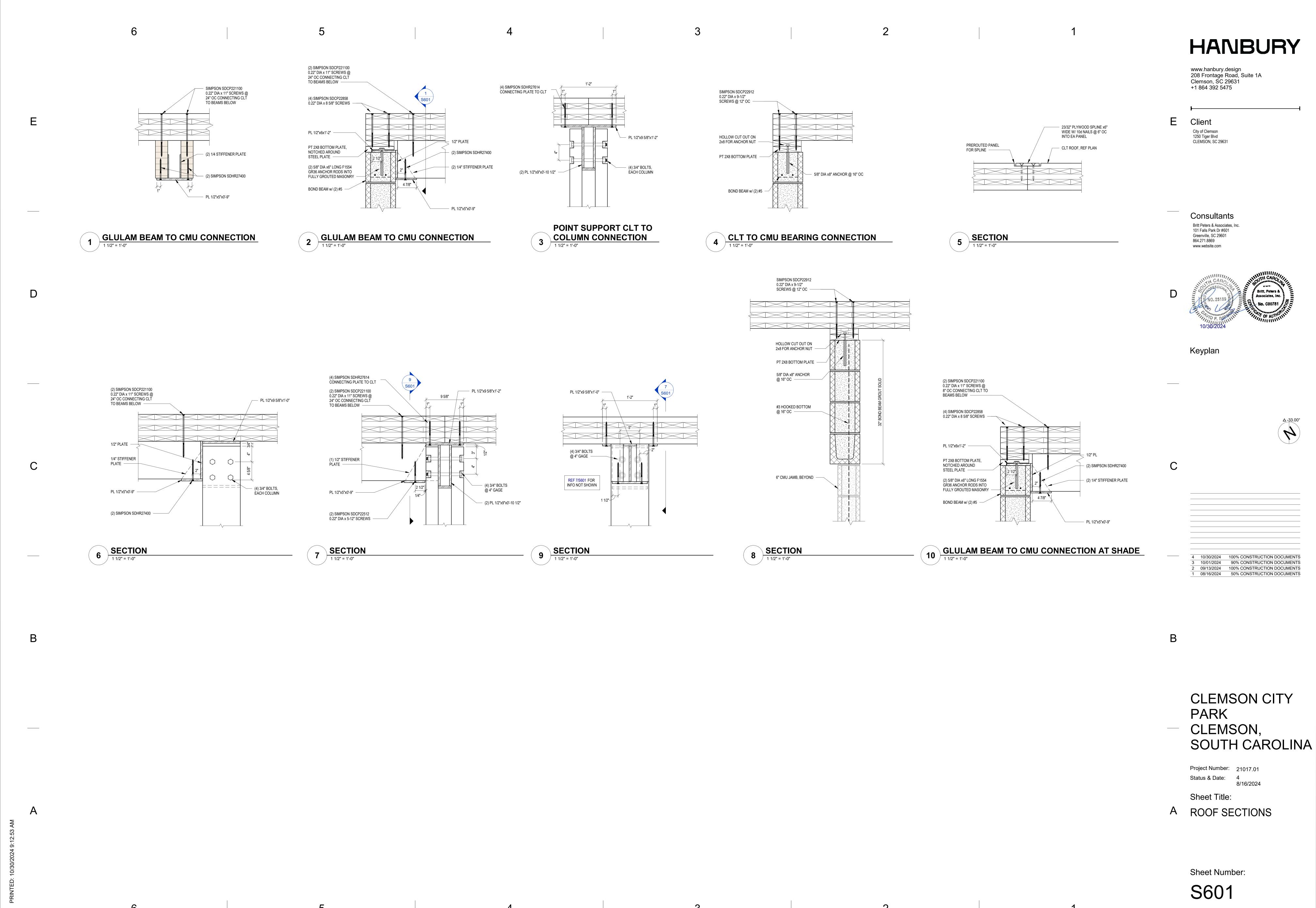
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A FOUNDATION SECTIONS

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S401

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THE DEMOLITION, IN ITS ENTIRETY, OF THE EXISTING PARK STRUCTURE AND THE

STRUCTURE. MECHANICAL, ELECTRICAL, AND PLUMBING ARE NOT PART OF THE

CODES RELATED TO MECHANICAL, ELECTRICAL, AND PLUMBING WORK ARE MET.

TABLE 5-8 FIRE RESISTANCE RATING OF BUILDING ELEMENTS

Required

(in hours)

WILDING ELEMENT

Structural Fran (per IBC Table 60

Bearing Walls Exterior

Interior (per IBC Table 601)

> Exterior Interior

(per IBC Table 601)

(per IBC Table 706)

(per IBC Table 707)

tective Listing by shutters, doors, etc.

TABLE 5-9 STRUCTURAL DESIGN INFORMATION

uired by Designer)

RISK CATEGORY: II

Shaft Enclosures (per IBC Table 713)

Fire Partitions (per IBC Table 7

Fire Walls

Fire Barriers

Nonbearing Walls & Partitions

Note footnote "d" from Table 601

(per IBC Table 601 & 602)

Floor Construction including supporting beams & joists

Roof Construction including

supporting beams & joists (per IBC Table 601)

Rating As

Designed

(in hours)

NOT APPLICABLE

TO MECHANICAL, ELECTRICAL OR PLUMBING ITEMS IN DOCUMENTS ARE FOR

ARCHITECTURAL & STRUCTURAL DESIGN FOR NEW PARK STRUCTURE AND SHADE

REFERENCE ONLY. GC TO COORDINATE WITH CITY THAT ALL REQUIRED MECHANICAL

AND ELECTRICAL ITEMS ITEMS ARE DELIVERED IN CONSTRUCTION AND APPLICAPLE

ARCHITECTURAL OR STRUCTURAL SCOPE OF THE PROJECT. ALL INFORMATION RELATED

Index Sort Order NUMBER SHEET NAME

___A001

A102

A301

A901

S101

S401

Testing Agency &

Design No. (UL, FM, etc)

S102

General Sheets

D002 EXISTING PHOTOS

SITE PLAN

FLOOR PLAN / RCP

WALL SECTIONS WALL SECTIONS WALL SECTIONS ENLARGED PLANS SHADE STRUCTURE

DETAILS

S601 ROOF SECTIONS

ROOF PLAN & DETAILS EXTERIOR ELEVATIONS **BUILDING SECTIONS**

3D REPRESENTATIONS

GENERAL NOTES

FOUNDATION PLAN

ROOF FRAMING PLAN

FOUNDATION SECTIONS

TYPICAL MASONRY DETAILS TYPICAL CONCRETE DETAILS

SCHEDULES, ASSEMBLY TYPES, DOOR & WINDOW TYPES

G002 PROJECT DATA AND DRAWING INDEX

GENERAL NOTES & ABBREVIATIONS

G110 LIFE SAFETY & GENERAL MOUNTING LOCATIONS

DEMOLITION PLANS & NOTES

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A PROJECT DATA AND DRAWING INDEX

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Sheet Number:

G002

Page 18 of 72

| FLOOD HAZARD AREA | | | |
|-------------------------------|---------------------------------------|------------------|---------------------------------------|
| lood Map Information: F | lood Zone:X | | Community Number: N/A |
| s this Project Site in a 100- | | | Panel Number: 45077C0691E |
| Base Flood Elevation | | | |
| Design Flood Elevation | | MSL | IBC 1612.3 and ASCE 24 |
| ION HIGH-VELOCITY WA | VE ACTION | | |
| Elevation of Lowest Propos | ed Floor | MSL | Meet ASCE 24 Section 2.6.2.1/ 2.6.2.2 |
| Ory floodproofing | □ no □ yes | | per ASCE 24 |
| IIGH-VELOCITY WAVE AG | <u>CTION</u> | | |
| Elevation of bottom of Lowe | st Horizontal Structura | I Member of lowe | rst floor: MSL |
| Flotation resistant | □ no □ yes | | per ASCE 24 |
| | , , , , , , , , , , , , , , , , , , , | | per ASCE 24 |

| SOILS INVESTIGATION (If required) | x no □ yes per IBC 1803.2 | | | |
|--|---|--|--|--|
| SOILS CLASSIFICATION | | | | |
| Site Class | NA per IBC 1613.3.2 | | | |
| Classes Soil of Materials (UCS System) | NA per IBC 1803.5. | | | |
| Allowable Footing Bearing Pressure | NA_psf | | | |
| MINIMUM DESIGN SOIL BEARING LOAD | psf per IBC table 1806.2 | | | |
| SOILS CLASSIFICATION | | | | |
| Subgrade: Percent | □ ASTM D698 □ ASTM D1557 □ AASHTO (only for paving & roads) | | | |
| Base: Percent | □ ASTM D698 □ ASTM D1557 □ AASHTO (only for paving & roads) | | | |
| Other: Percent | □ ASTM D698 □ ASTM D1557 □ AASHTO (only for paving & roads) | | | |
| MINIMUM DESIGN SOIL LATERAL LOAD | psf per IBC table 1610.1 | | | |
| <u>FOOTINGS</u> | | | | |
| Undisturbed footings | □ no □ yes | | | |
| Compacted Fill Material | □ no □ yes per IBC 1804.6 | | | |
| <u>ELEVATIONS</u> | | | | |
| Elevation of Water Table: | NGVD 29 | | | |
| Elevation of lowest footing: | 2'_ NGVD 29 | | | |
| Elevation of lowest floor or basement | <u>0'</u> NGVD 29 | | | |

| TABLE 5-3 BASIC BUILDING CODE INFORMATION | | | |
|---|------------------------|---|----------------|
| CONSTRUCTION CLASSIFICATION | Type:V | (IBC 6 | 602) |
| OCCUPANCY GROUP (indicate all) (Note IBC 506.5) | U | (IBC 3 | 302) |
| OCCUPANCY GROUP (indicate most restrictive) | U | (IBC Tables 504.3, | 504.4, & 506.2 |
| Does building require Incidental Use Area Separation? | x no □ yes | (IBC 509.1) | |
| Does building have Accessory Occupancy (ies)? If so, what percent of story is Accessory Occupancy? | x no □yes | (IBC 508.2) | SF % |
| Mixed Occupancy | x no □yes | (IBC 508) | |
| Non separated | x no □ yes | (IBC 508.3) | |
| Separated | x no □yes | (IBC 506.2.2) (IBC 506.2.4) (IBC 508.4) | |
| Fire Apparatus Access and Water Line | □ no □ yes | (IFC 503 & 507) | |
| OTHER FIRE PROTECTION SYSTEMS, DEVICES or FEAT If the building has any special or notable fire protection or sa describe the performance characteristics and refer to location evacuation/control/compartments. Note IBC 414.1.3) | fety feature or hazard | | |

| AREA LIMIT BY TABLE 506.2 OF IBC | SF |
|--|--------------------------------|
| | (area limitation per story) |
| AREA INCREASES BY SECTION 506.2 AND 506.3 OF IBC | |
| EXPLANATION OF INCREASES: NOT APPLICABL | (maximum modified area per sto |
| | |
| AREA AS ALLOWED IN IBC PER STORY | |
| Story/ Level: | SF (area per s |
| Story/ Level: | SF (area per s |
| TOTAL ALLOWED AREA OF BUILDING | |
| (summary of all stories) | SF |
| AREA AS DESIGNED PER STORY | |
| Story/ Level: | SF (area per s |
| Story/ Level: | SF (area per s |
| | |
| TOTAL DESIGNED AREA OF BUILDING | SF |

| | AS DESIGNED | | AS ALLOWED BY IBC | |
|--|-------------|------------|-------------------|------------|
| | In Feet | In Stories | In Feet | In Stories |
| PER TABLE 504.3 | 14' | 1 | 40' | 1 |
| PER TABLE 504.4 | 14' | 1 | 40' | 1 |
| Total Height, including any Allowable Increase | 14' | 1 | 40' | 1 |

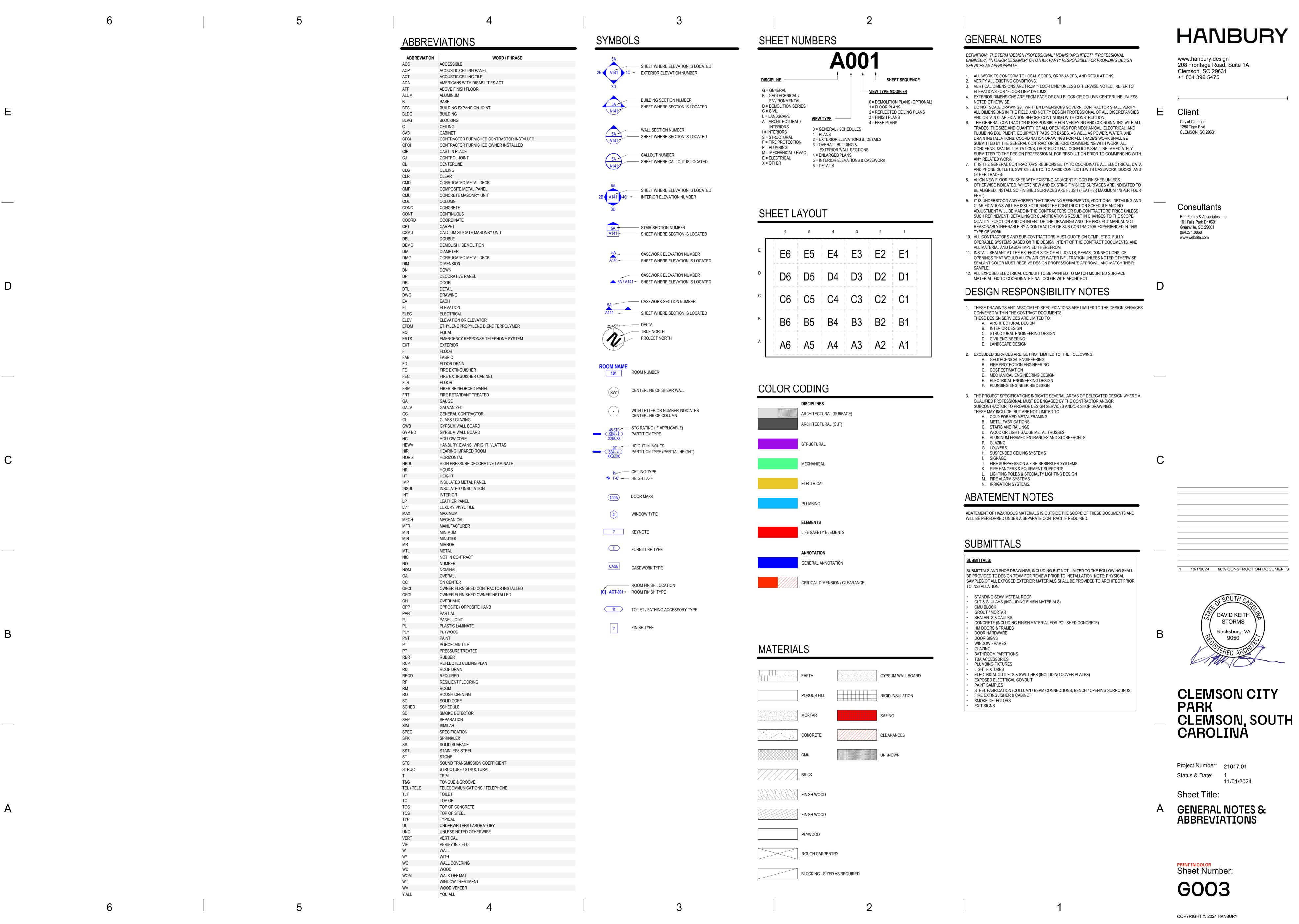
| • | | Α | В | С | D |
|------------------------|-------------------------------|---|---|--|-------------------------------|
| Stories & Levels | Function of Space (1) | Floor Area (2) (specify NSF or GSF) | Max Area allowed /Occupant (3) (specify NSF or GSF) | Occupants on floor for this Function (4) | Design Occupan Load (5) |
| | | | | or a second | - |
| | Subtotal Design Occupant Load | d for this Story | 3 mare a | | |
| | ACCESSORY STORSE | E LIFE SAF | ETY PLANS | | |
| | Subtotal Design Occupant Load | d for this Story | - O B B B B B B B B B B B B B B B B B B | | |
| Total Buildin | g Design Occupant Load (6) | • | *** | | |
| | goror o | | | | |
| FOOTNOTE | | | g the left column of Table | 400440 | |
| | I . (I | | a the latt collimn of Lahle | 1004 1 2 of the IBO | G. |

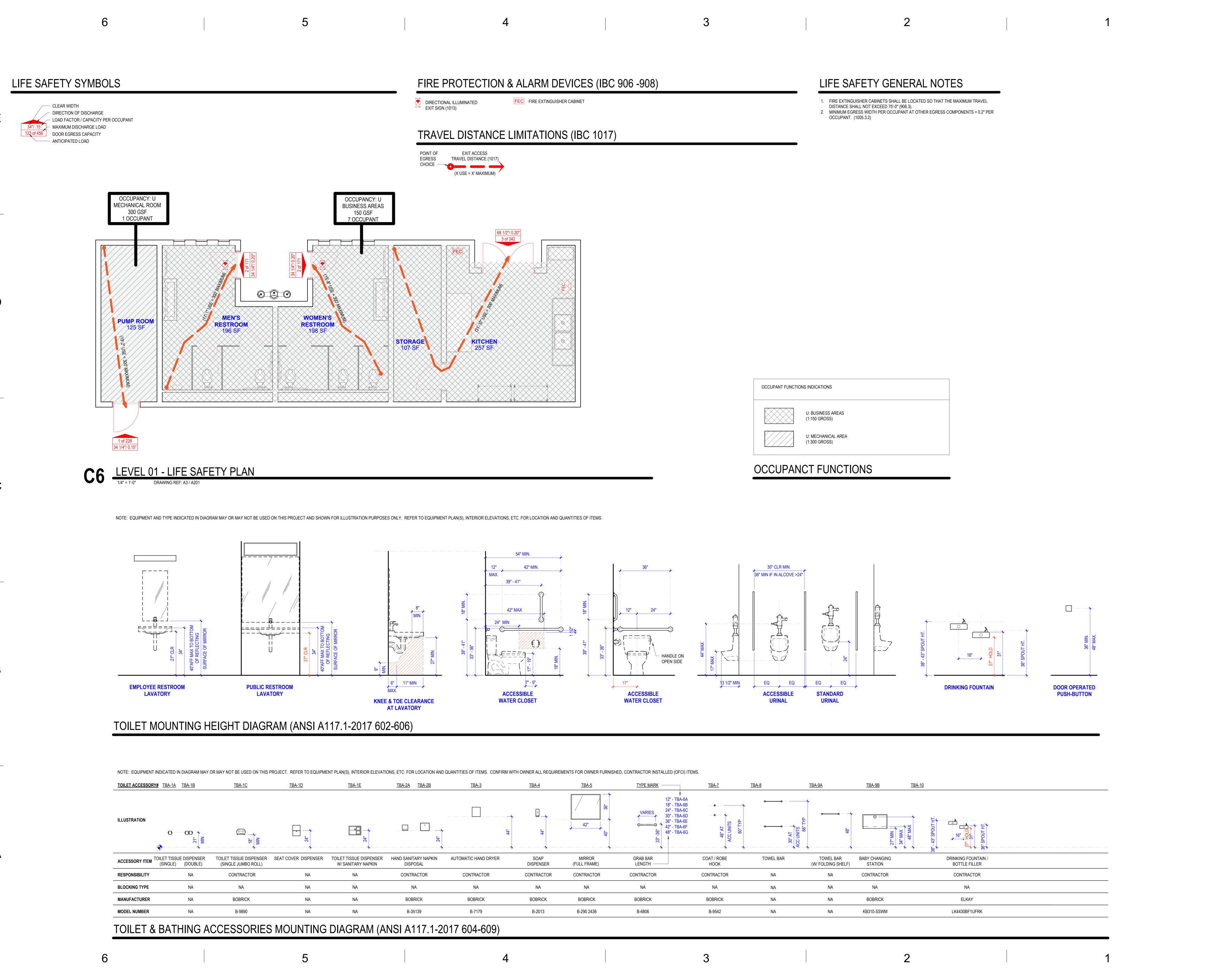
| ireblocking Required | x no x yes | per IBC Section 718 |
|--|--------------|--|
| raftstonning Required | | |
| Taitstopping required | ⊠no ⊠yes | per IBC Section 718 |
| moke Control System Required | ⊠no ⊠yes | per IBC Section 909 |
| moke Barriers Required | ⊠no ⊠yes | per IBC Sections 407 and 408 |
| moke Partitions Required | ⊠no ⊠yes | per IBC Sections 407 and 408 |
| ire Partition Required | ⊠no ⊠yes | per IBC Section 708 |
| ire Barrier Required | ▼ mo myes | per IBC Section 707 |
| LARM & DETECTION | | Appara . |
| ire Alarm System Required | □ no 🕱 yes | per IFC Section 907 |
| mergency Alarm System Required | II NO M VAS | per IFC Section 908 |
| SUPPRESSION | NOT APPLICAE | 3LE The state of t |
| tandpipes Required | ⊠no wyes | per IFC Section 905 |
| prinklers Required | wolo wyes | per IFC Section 903 |
| Sprinklers Provided | ■ no ■ yes | |
| ortable Extinguishers Required | ⊠no ⋈yes | per IFC Section 906 |
| Other Suppression Systems Required | ■ no ■ yes | per INC Section 904 |
| moke & Heat Vents Required | x no x yes | per IFC Section 910 |
| OTHER: (Indicate other provided fire and | | |

| | OT APPLICABLE PSF | | |
|---|---|--|--|
| Occupancy/ Use: Occupancy/ Use: | F" = PSF F = PSF | | |
| Roof Live Load $R_{\parallel} = \frac{20}{10}$ Ground Snow Load $p_g = \frac{10}{10}$ | PSF PSF | IBC Figure 1608.2 (or ASCE 7 | |
| If 'yes', check one: Impact Resistant Glazing | | ASCE 7 or IBC 1609 IBC Fig's. 1609.3(1)-(3) IBC 1609.4.3 ASCE 7 ASCE 7 IBC 1609.1.2 | |
| Impact Resistant Covering SEISMIC LOADS | is. | | |
| Seismic Importance Factor Site Class Mapped Spectral Response Acceleration Design Spectral Response Acceleration Parame Seismic Design Category Basic Seismic Force Resisting System | $I_{e} = \underbrace{\frac{1.0}{D}}_{D}$ eters $\underbrace{C}_{ORDINARY REINFORCED MASONRY WALL}$ | ASCE 7 Table 1.5-2 IBC 1613.3.2 $S_s = $ $S_l = $ $S_{DI} = $ IBC Table 1613.3.5(1) & 1613. | |
| Design Base Shear Seismic Response Coefficient(s) Response Modification Factors(s) | $ \frac{40}{C_s = 0.2} $ R = 2 | KIPS ASCE 7 ASCE 7 | |

per IBC Table 1604.5

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E Client

City of Clemson 1250 Tiger Blvd CLEMSON, SC 29631

Consultants

Britt Peters & Associates, Inc.
101 Falls Park Dr #601
Greenville, SC 29601
864.271.8869

www.website.com

D

Keyplan

C

1 10/1/2024 90% CONSTRUCTION DOCUMENTS



CLEMSON CITY PARK CLEMSON, SOUTH CAROLINA

Project Number: 21017.01

Status & Date: 1

Sheet Title:

A LIFE SAFETY & GENERAL MOUNTING LOCATIONS

Sheet Number:

G110

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Page 20 of 72

HANBURY GENERAL DEMOLITION NOTES www.hanbury.design 208 Frontage Road, Suite 1A Clemson, SC 29631 1. PRIOR TO PROCEEDING WITH ANY WORK UNDER THIS CONTRACT, IT SHALL BE THE +1 864 392 5475 RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY SAFEGUARDS TO MAINTAIN ALL PARTS OF THE EXISTING SITE AND BUILDINGS IN A SAFE CONDITION THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL PROTECT THE EXISTING BUILDING, ITS CONTENTS AND ALL BUILDING MECHANICAL, ELECTRICAL, FIRE PROTECTION, TELECOMMUNICATIONS AND ALL OTHER MISCELLANEOUS SYSTEMS FROM DAMAGE AT ALL TIMES. ALL DAMAGES RESULTING DIRECTLY OR INDIRECTLY FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED TO A "LIKE NEW" CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ANY ADDITIONAL COST TO THE OWNER. City of Clemson 2. IF ASBESTOS CONTAINING MATERIAL IS DISCOVERED DURING THE CONSTRUCTION PROJECT, 1250 Tiger Blvd THE CONTRACTOR SHALL IMMEDIATELY SUSPEND OPERATIONS IN THE AFFECTED AREA AND CLEMSON, SC 29631 NOTIFY THE OWNER'S PROJECT REPRESENTATIVE. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT HIS PERSONAL, SUBCONTRACTORS AND ALL SITE VISITORS FROM EXPOSURE TO THE ASBESTOS CONTAINING MATERIAL. 3. CONFIRM EXISTING PAINT HAS BEEN TESTED AND DETERMINED TO CONTAIN LEAD ABOVE THE MINIMUM DETECTION LIMIT. ALL EXISTING MATERIALS SHALL BE ASSUMED TO BE PAINTED UNLESS INDICATED OTHERWISE. PERFORM ALL WORK ON EXISTING PAINTEDMATERIALS IN ACCORDANCE WITH CONTRACTORS LEAD PAINT COMPLIANCE PLAN. 4. UNLESS LIGHT BALLASTS ARE CLEARLY LABELED "PCB FREE" AND LIGHT FIXTURE BULBS ARE IDENTIFIED AS "LOW MERCURY" AND HAVE DOCUMENTATION INDICATING THAT THE LAMPS PASS "TOXIC CHARACTERISTIC LEACHING PROCEDURE"(TCLP) TESTING, REMOVE ALL EXISTING LIGHT BALLASTS AND LAMPS AS PCB AND MERCURY CONTAMINATED MATERIALS AND DISPOSE OF ACCORDANCE WITH EPA, FEDERAL AND STATE REGULATIONS REGARDING DISPOSAL OF HAZARDOUS MATERIALS. 5. DEMOLITION NOTES IN THIS SECTION DO NOT INDICATE LOCATIONS OFHAZARDOUS Consultants MATERIALS OR REQUIREMENTS FOR HAZARDOUS MATERIAL REMOVAL. SEE OWNERS INDEPENDENT HAZARDOUS MATERIAL SURVEY FOR TYPES AND LOCATIONS OFSUSPECTED Britt Peters & Associates, Inc. HAZARDOUS MATERIALS. 101 Falls Park Dr #601 6. DEMOLTION DRAWINGS AND PHOTOS ARE FOR REFERENCE ONLY. THE SCOPE OF THIS Greenville, SC 29601 PROJECT INCLUDES THE DEMOLITION OF THE EXISTING PARK STRUCTURE AND ASSOCIATED 864.271.8869 CONCRETE SLAB IN ITS ENTIRETY. GC TO VERIFY IN FIELD WHAT THE FULL DEMOLITION www.website.com SCOPE SHALL BE. SEE STRUCTURAL DRAWINGS FOR INFORMATION REGARDING EXISTING FOOTINGS. SEE CIVIL & LANDSCAPE FOR DEMOLITION OF EXISTING PLAY AREA AND STRUCTURE AND OTHER SITE RELATED DEMOLITION. 7. THE CONTRACTOR SHALL PROTECT THE EXISTING FACILITIES AT ALL TIMES DURING THE COURSE OF CONSTRUCTION. ALL DAMAGES CAUSED AS A RESULT OF HIS ACTIVITIES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER. IN GENERAL, PATCH, REPAIR, REMODELING AND RENOVATION WORK IS INTENDED TO MATCH, COMPLIMENT AND ALIGN WITH EXISTING CONDITIONS. 8. CAP AND SEAL EXISTING MEP CONNECTIONS AS REQUIRED, SEE MEP SHEETS FOR ADDITIONAL INFORMATION 9. PROVIDE DUST AND VIBRATION PROTECTION THROUGHOUT THE CONSTRUCTION PROCESS AS REQUIRED TO MEET THE OWNERS REQUIREMENTS AND FOR THE PROTECTION OF OCCUPANTS AND EXISTING EQUIPMENT. 10. PROTECT EXISTING TREES & ROOT SYSTEMS IN PLACE FOR DURATION OF PROJECT UNLESS OTHERWISE NOTED TO BE REMOVED. Keyplan CLEMSON CITY PARK CLEMSON, SOUTH CAROLINA _____ Sheet Title: A DEMOLITION PLANS & NOTES **A6** ROOF DEMO

1/8" = 1'-0" DRAWING REF: A3 / A201 **LEVEL 01 DEMO**1/8" = 1'-0" DRAWING REF: A3 / A201 PRINT IN COLOR
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Page 21 of 72

E







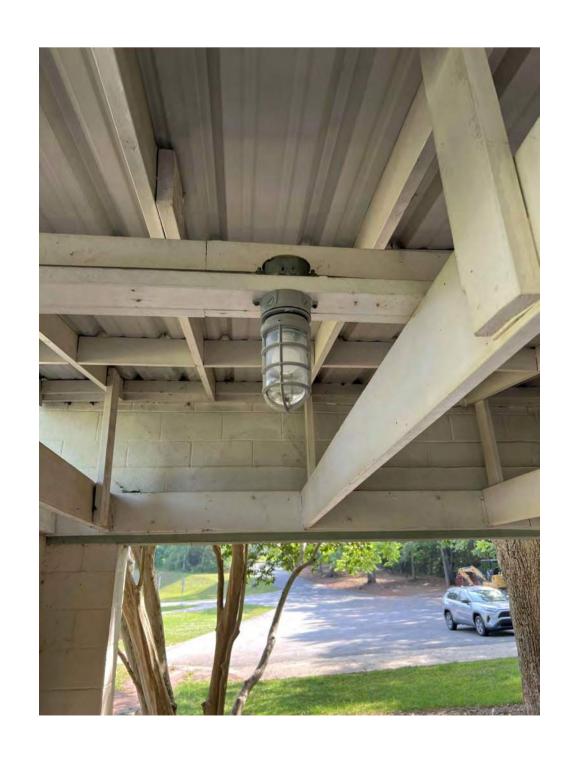






В







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Consultants

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101 Falls Park Dr #601
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864.271.8869
www.website.com

D

Keyplan

C

2 11/1/2024 100% CONSTRUCTION DOCUMEN 1 10/1/2024 90% CONSTRUCTION DOCUMEN



CLEMSON CITY PARK CLEMSON, SOUTH CAROLINA

Project Number: 21017.0
Status & Date: 2

Sheet Title:

A EXISTING PHOTOS

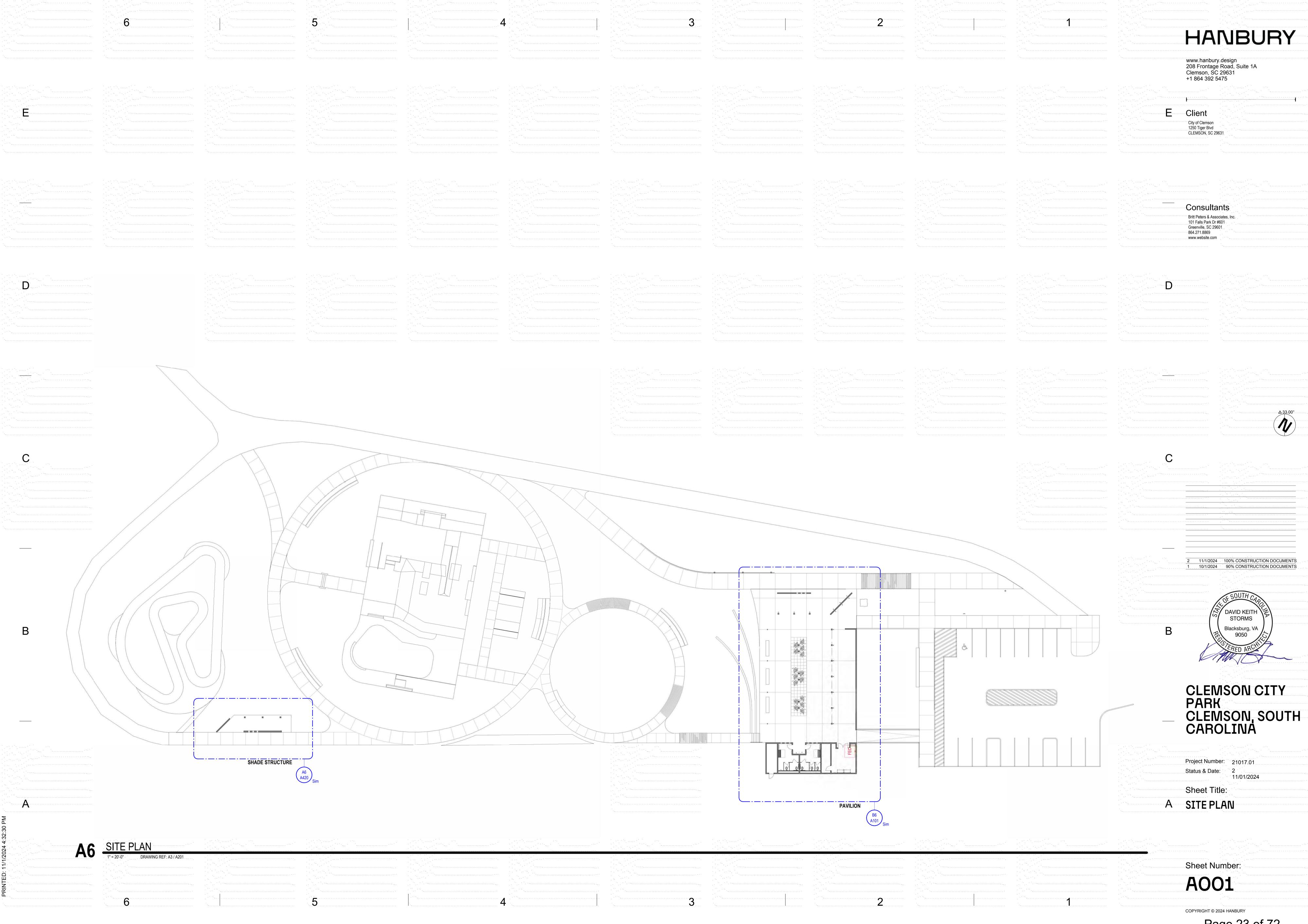
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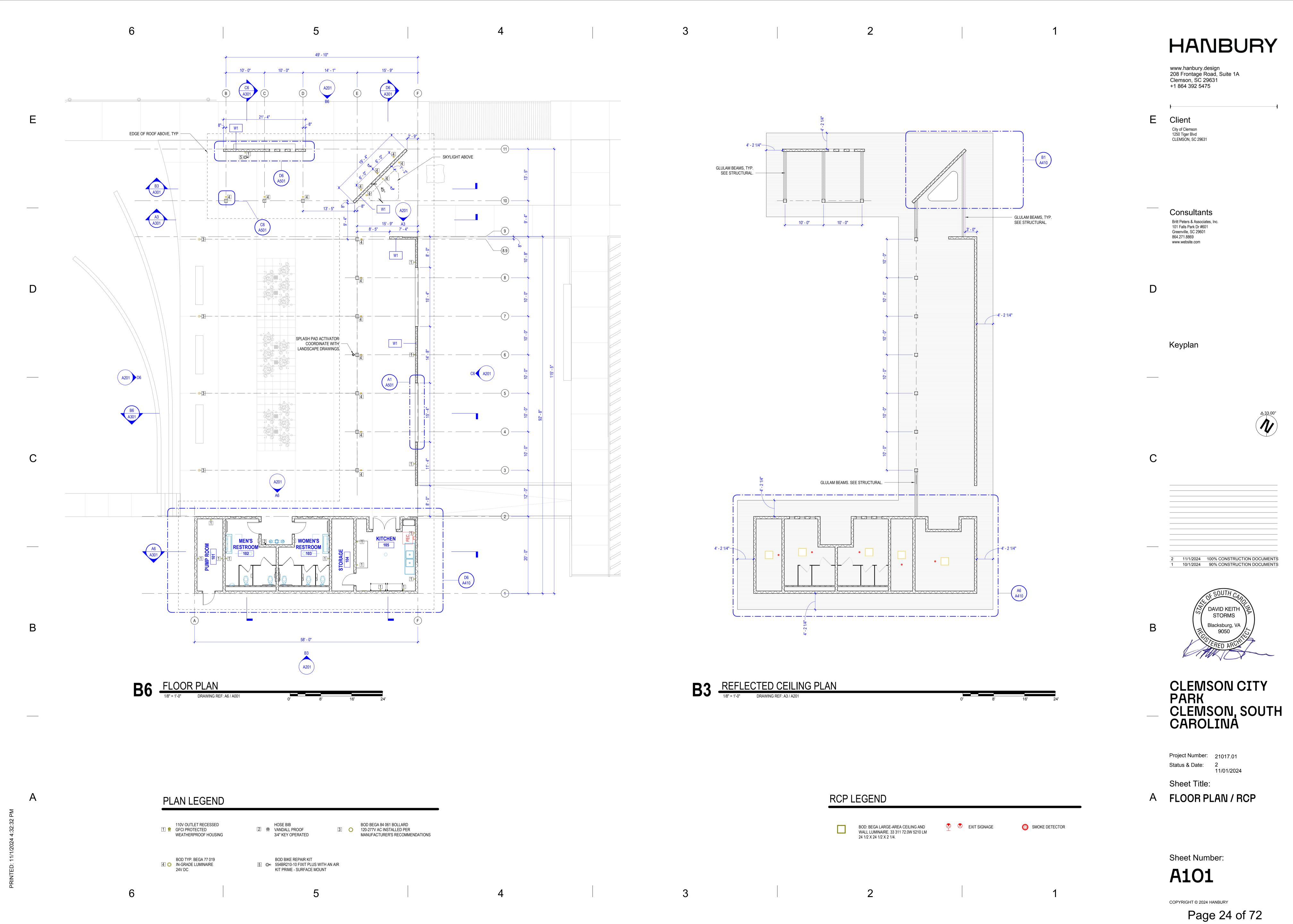
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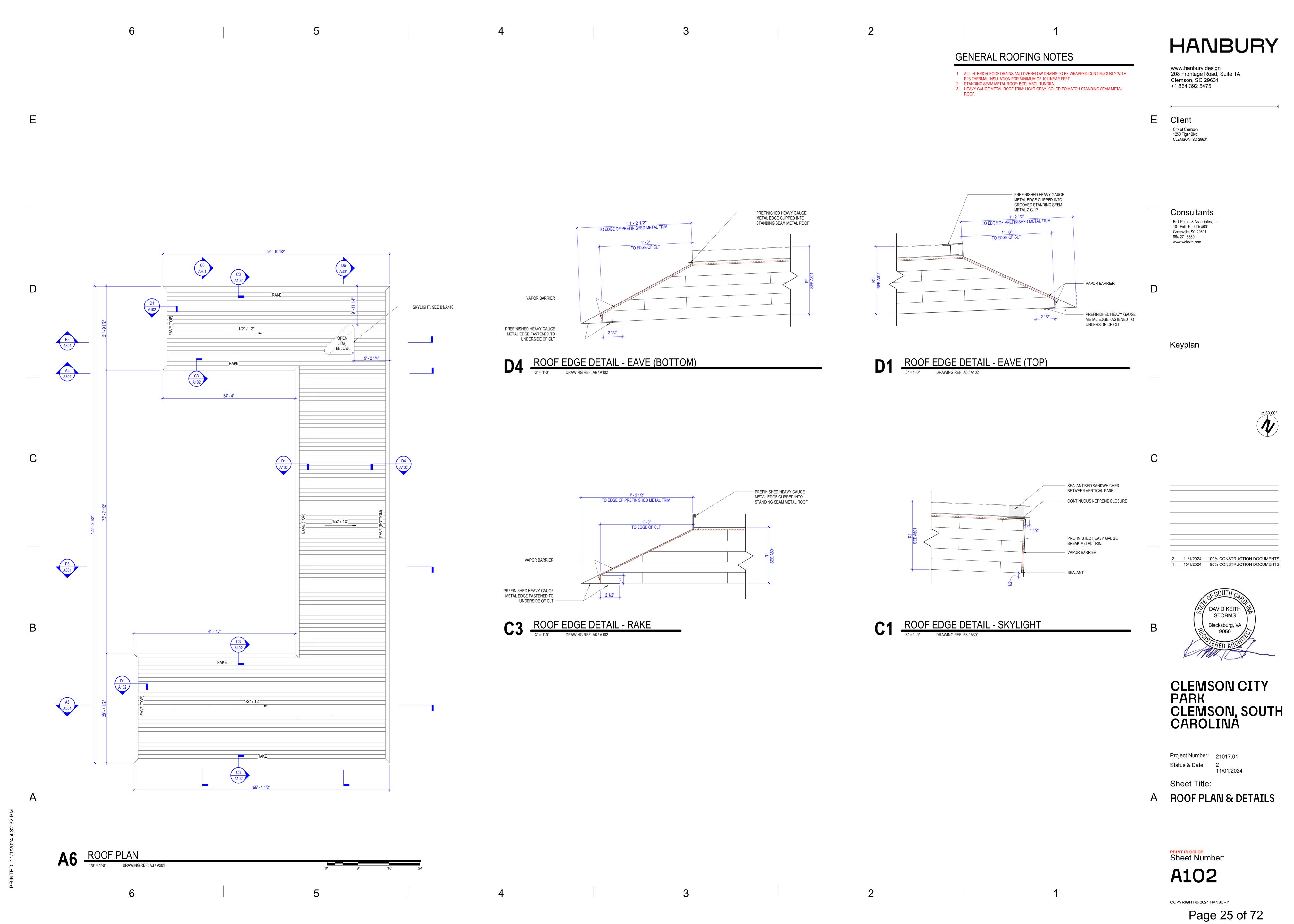
Page 22 of 72

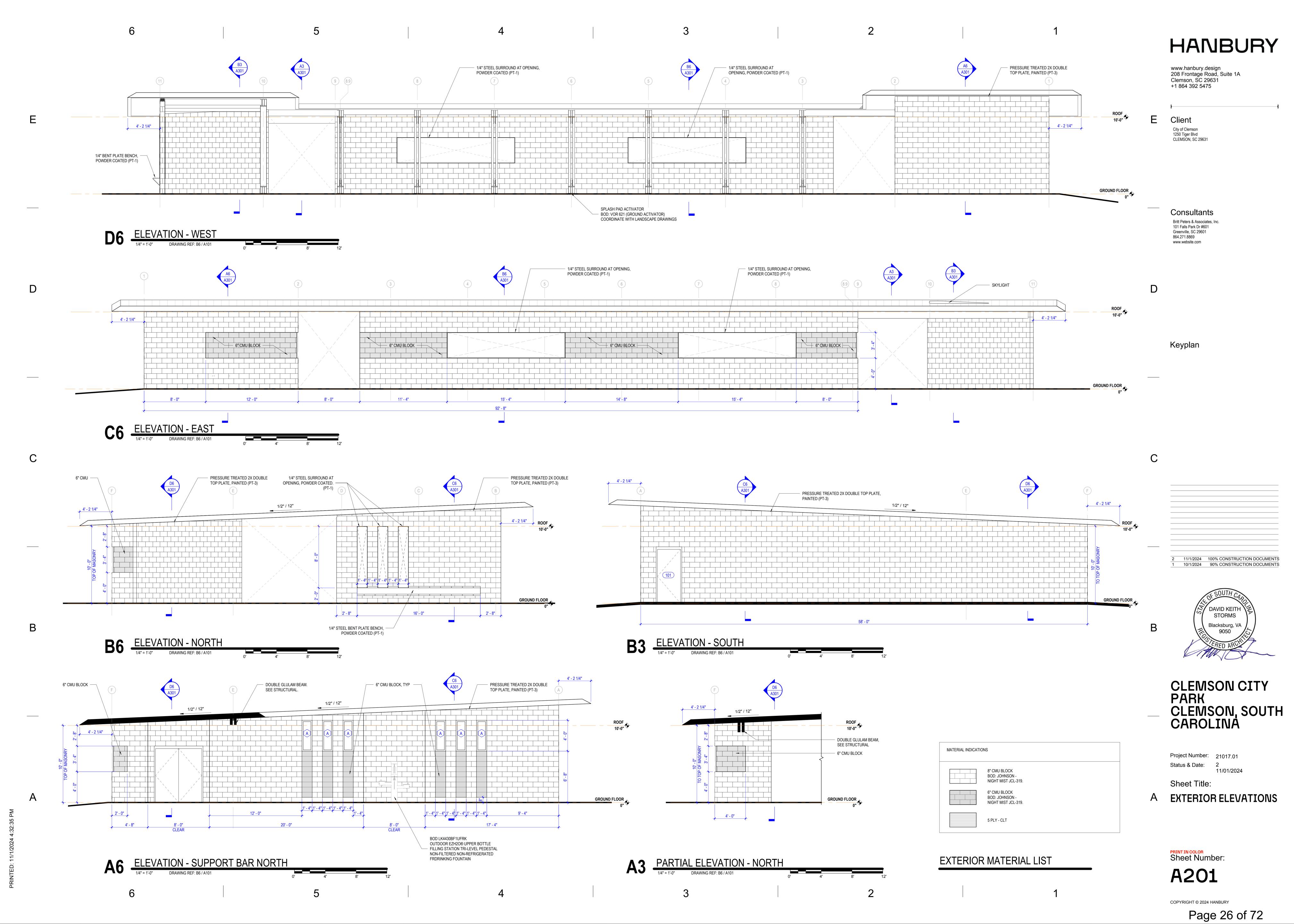
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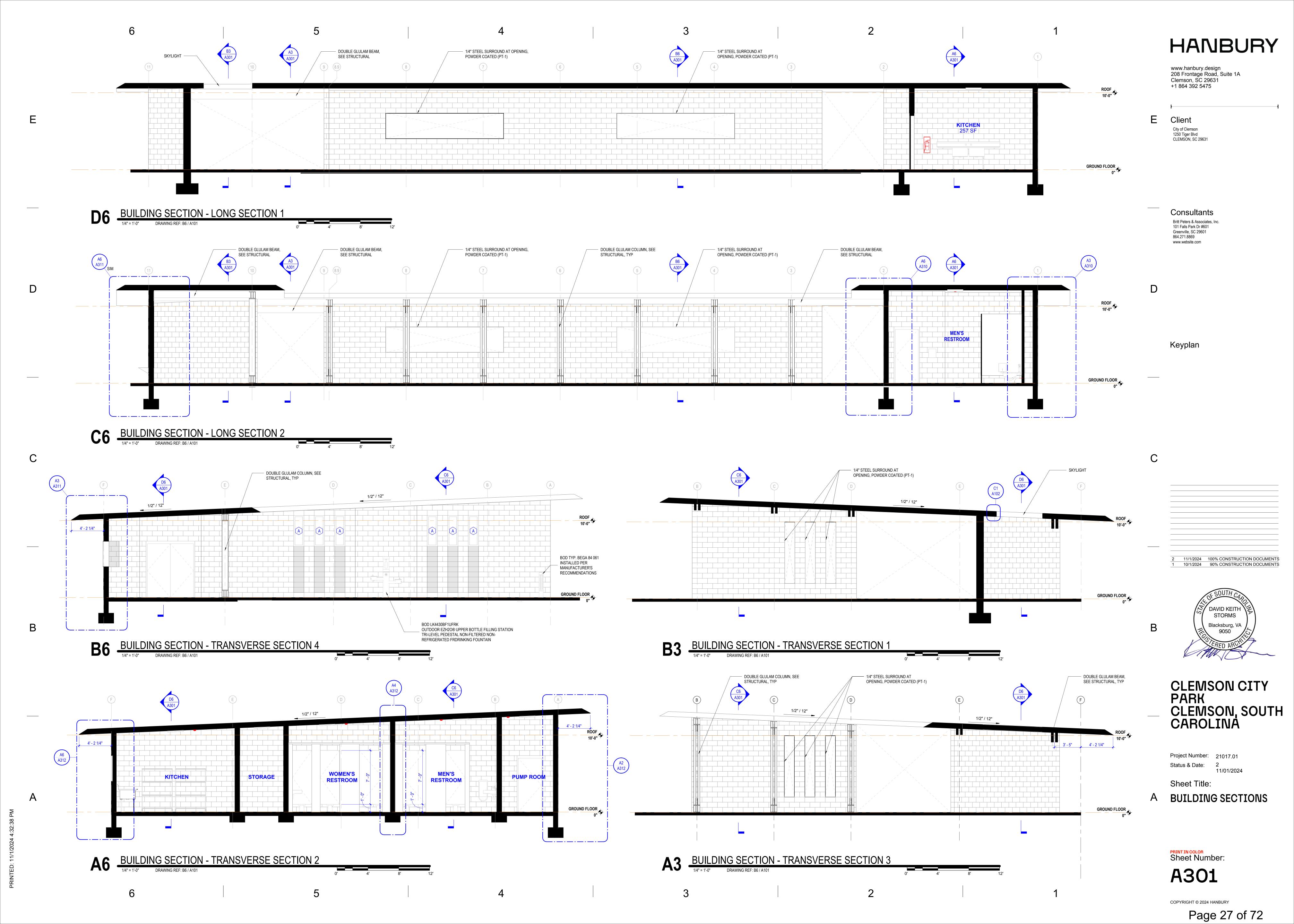


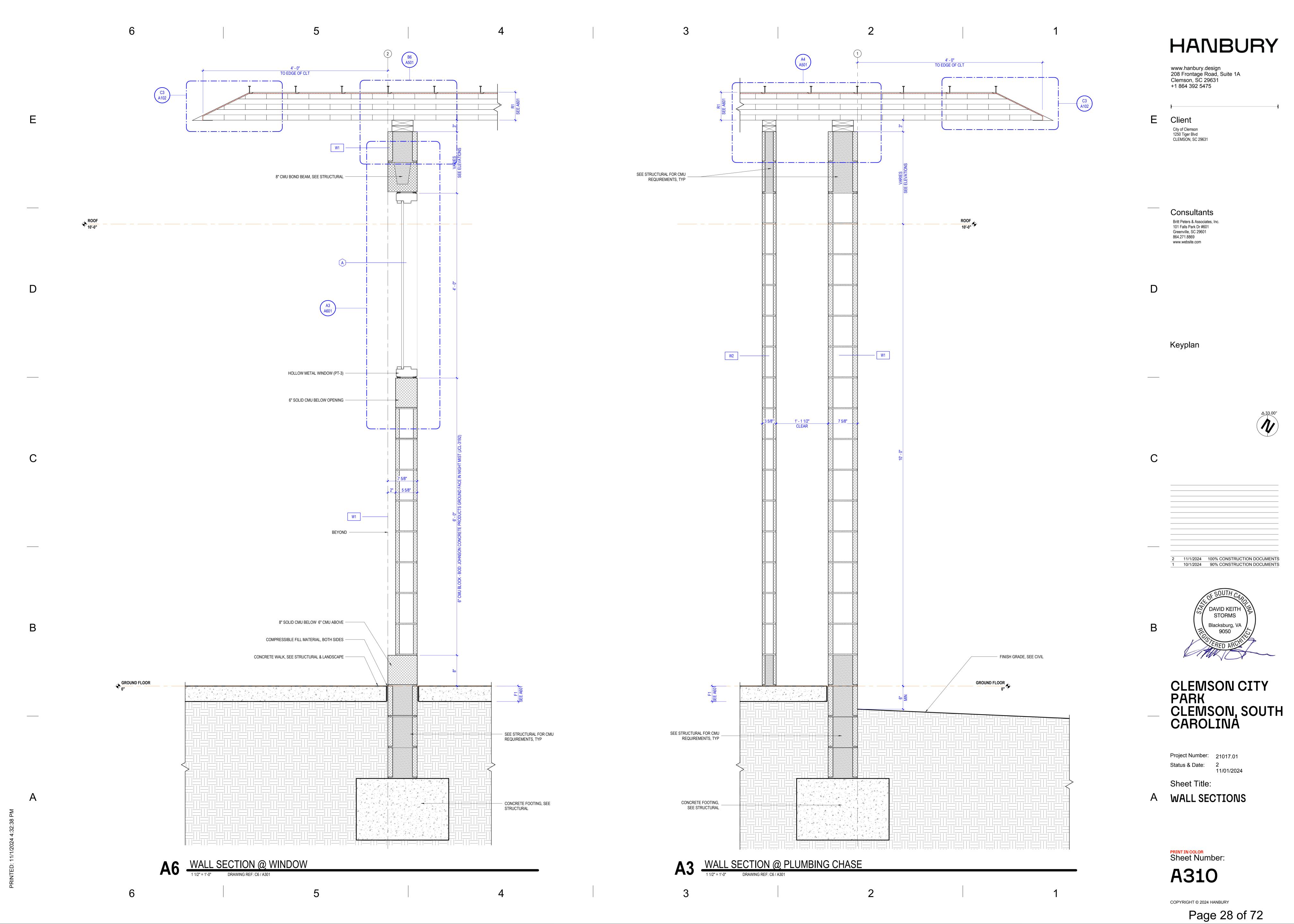
Page 23 of 72

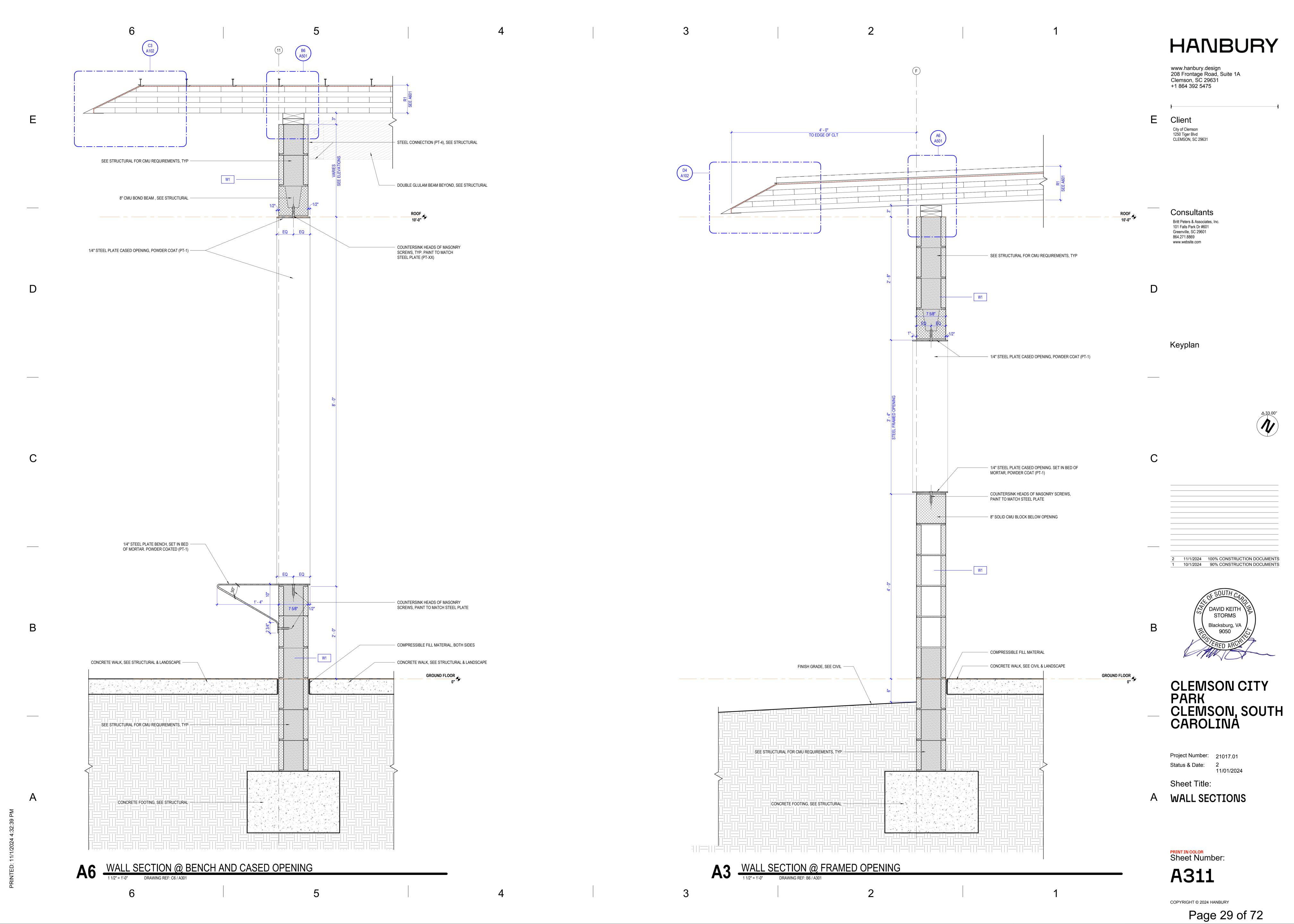


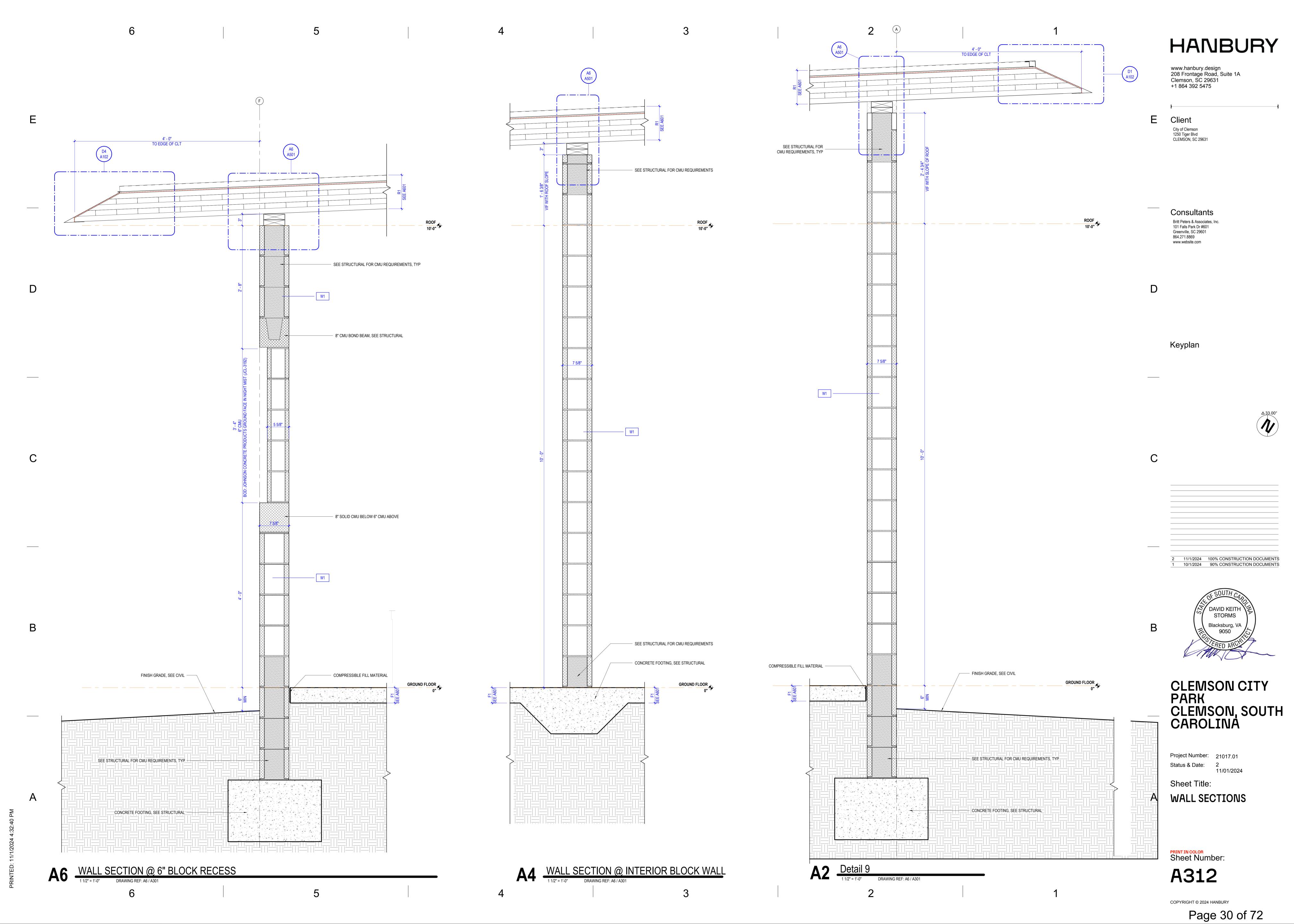


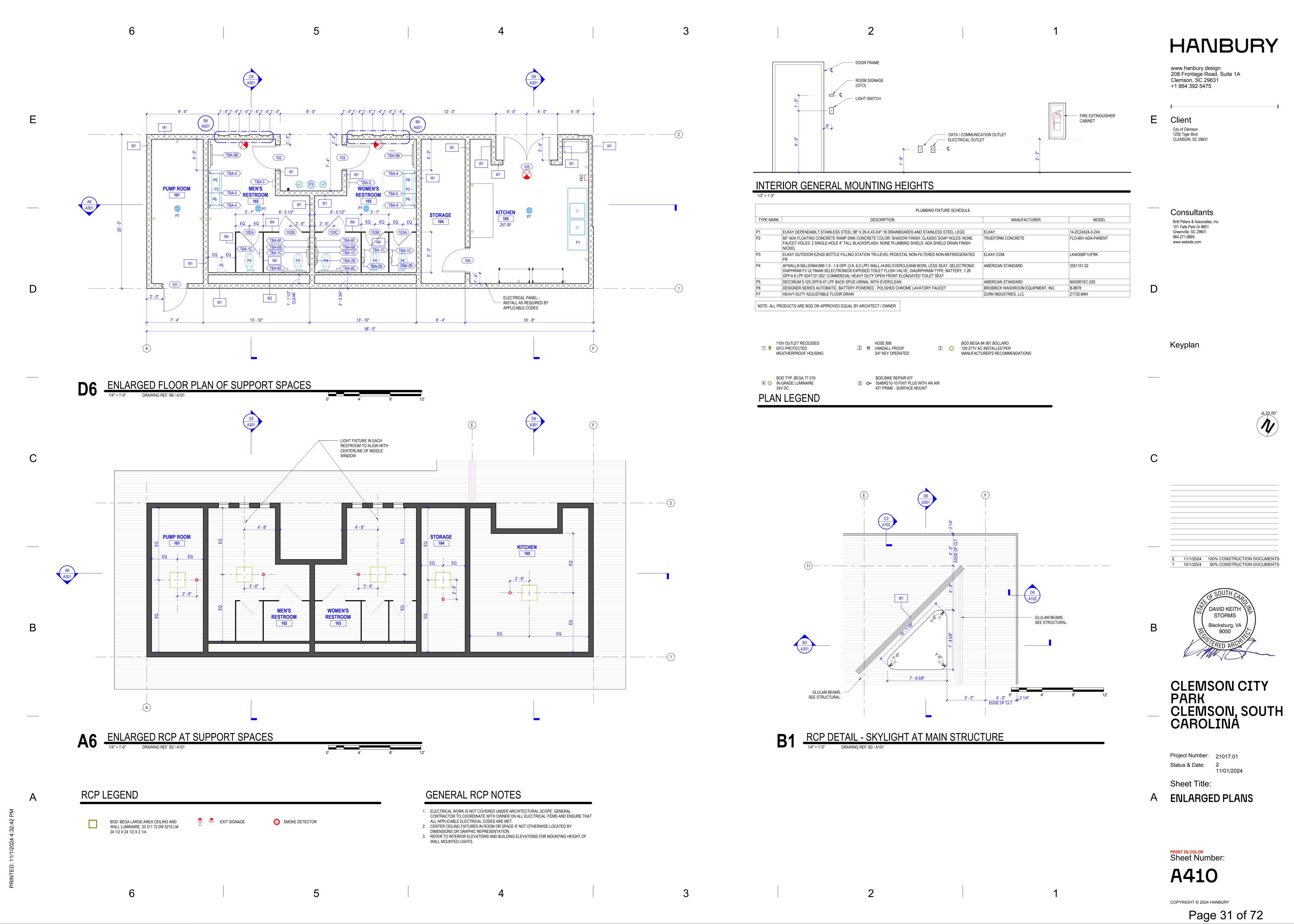


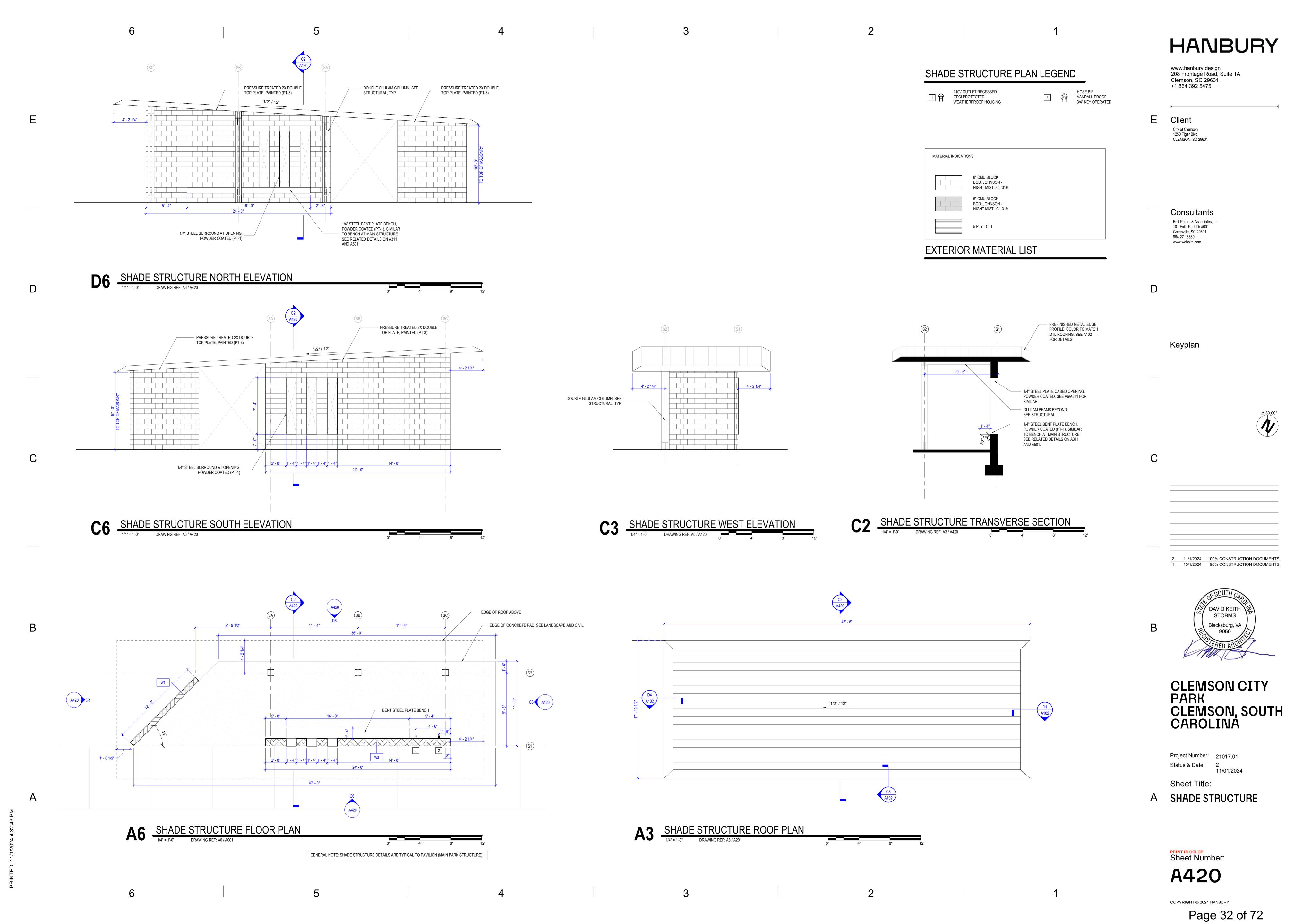


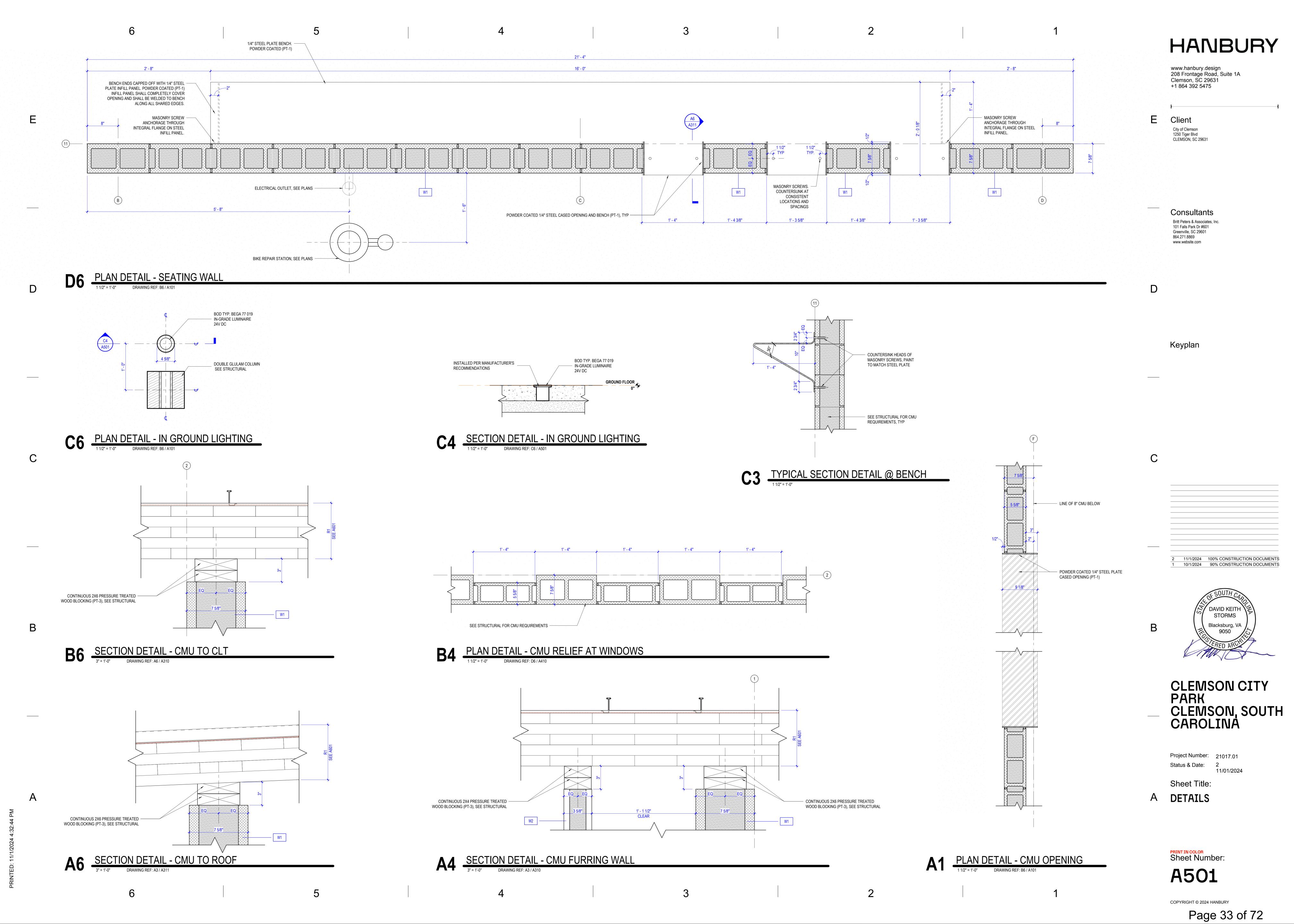


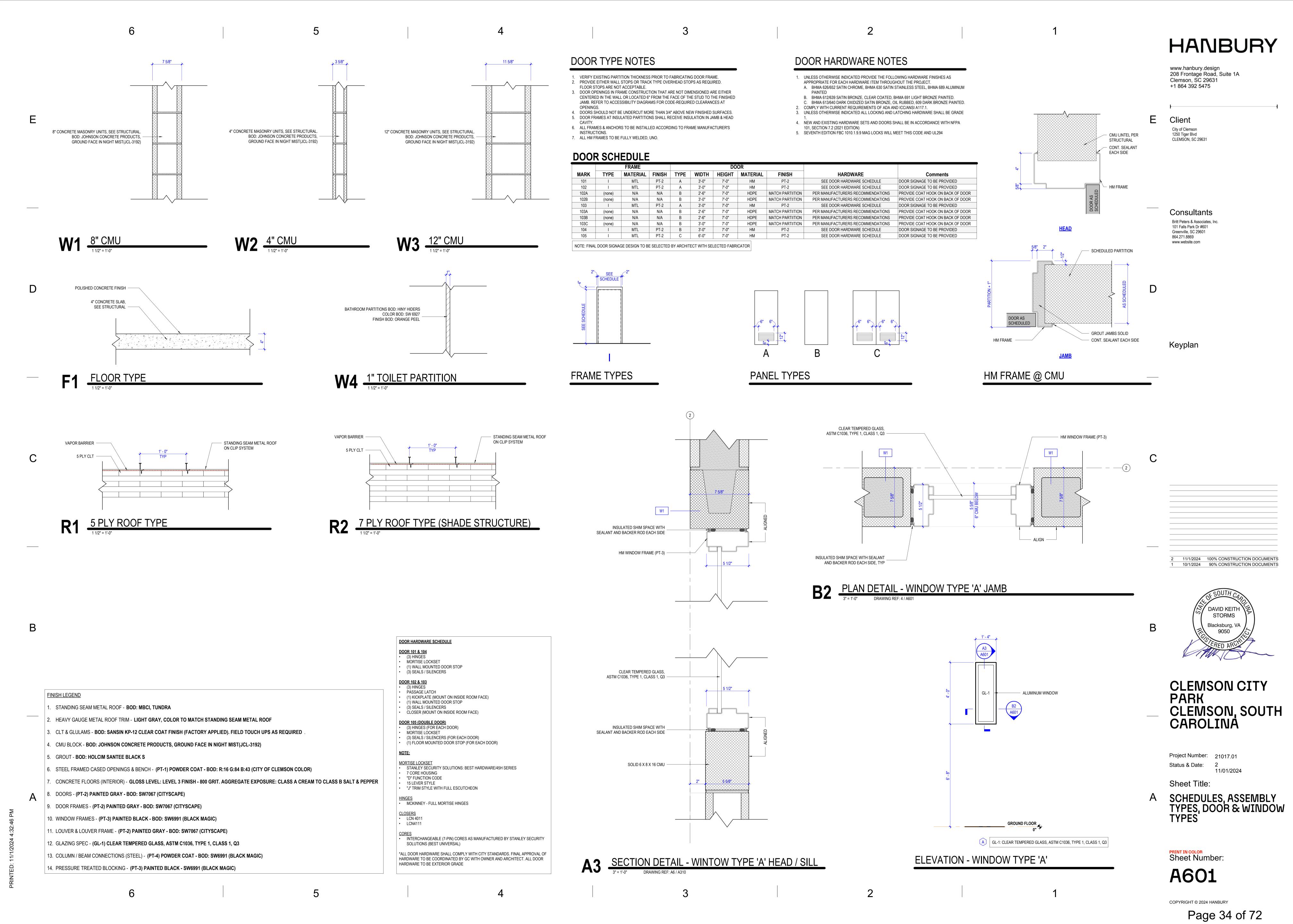






















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Keyplan

CLEMSON CITY PARK CLEMSON, SOUTH CAROLINA

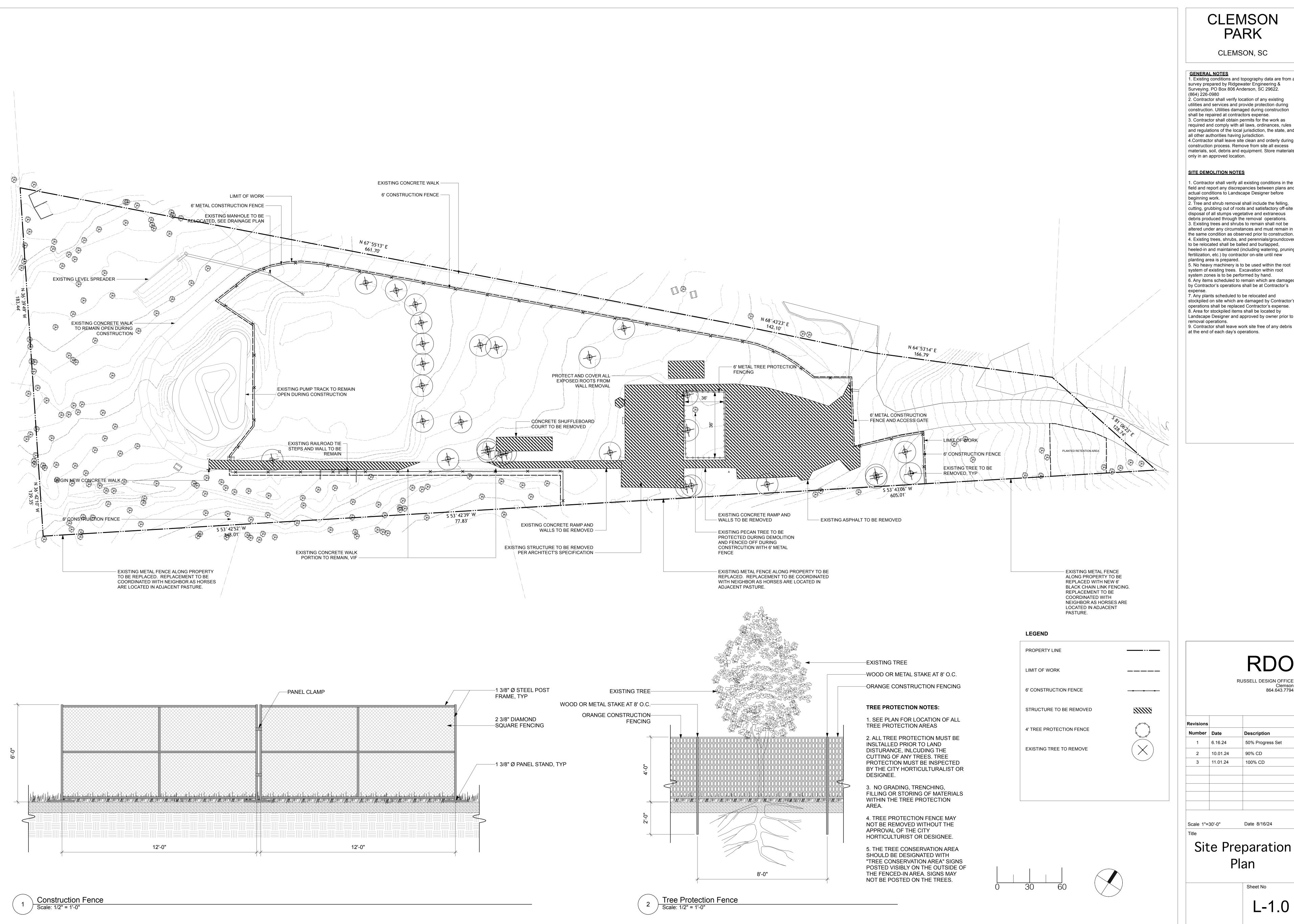
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A 3D REPRESENTATIONS

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Page 35 of 72



CLEMSON

CLEMSON, SC

GENERAL NOTES 1. Existing conditions and topography data are from a survey prepared by Ridgewater Engineering & Surveying. PO Box 806 Anderson, SC 29622. (864) 226-0980 2. Contractor shall verify location of any existing utilities and services and provide protection during

construction. Utilities damaged during construction shall be repaired at contractors expense. 3. Contractor shall obtain permits for the work as required and comply with all laws, ordinances, rules and regulations of the local jurisdiction, the state, and all other authorities having jurisdiction. 4.Contractor shall leave site clean and orderly during construction process. Remove from site all excess materials, soil, debris and equipment. Store materials only in an approved location.

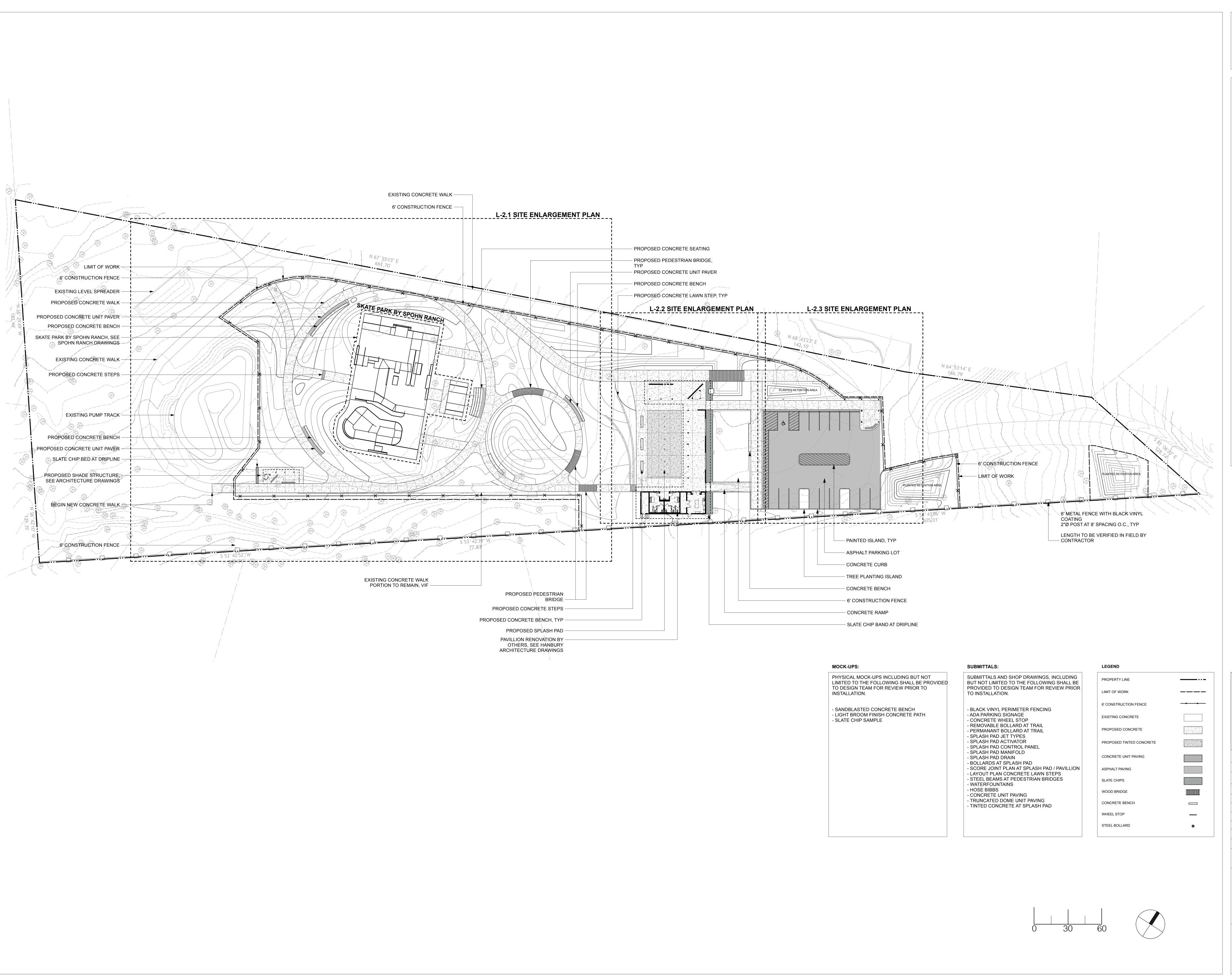
SITE DEMOLITION NOTES

1. Contractor shall verify all existing conditions in the field and report any discrepancies between plans and actual conditions to Landscape Designer before beginning work.

cutting, grubbing out of roots and satisfactory off-site disposal of all stumps vegetative and extraneous debris produced through the removal operations. 3. Existing trees and shrubs to remain shall not be altered under any circumstances and must remain in the same condition as observed prior to construction. 4. Existing trees, shrubs, and perennials/groundcover to be relocated shall be balled and burlapped, heeled-in and maintained (including watering, pruning, fertilization, etc.) by contractor on-site until new planting area is prepared.

system zones is to be performed by hand. 6. Any items scheduled to remain which are damaged by Contractor's operations shall be at Contractor's

7. Any plants scheduled to be relocated and stockpiled on site which are damaged by Contractor's operations shall be replaced Contractor's expense. 8. Area for stockpiled items shall be located by Landscape Designer and approved by owner prior to removal operations. 9. Contractor shall leave work site free of any debris at the end of each day's operations.



CLEMSON, SC

GENERAL NOTES

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LAYOUT NOTES

Do not scale drawings.
 Contractor shall verify all existing conditions and layout dimensions in the field. Report any discrepancies to the Landscape Designer for design prior to commencing construction.
 Stake or otherwise flag all design elements and features in the field. Obtain Landscape Designer's approval prior to commencing construction.
 All dimensions from structure are from face of finish of exterior wall unless otherwise stated.
 All angles are assumed to be 90 degrees unless otherwise stated.
 See planting plans for location of trees and shrubs, planting beds and extent of sodding and seeding.

7. See architectural drawings for all building dimensions.
8. Dimensions at edges of pavement are given from inside face of edge to inside face of edging unless otherwise stated.
9. Any changes proposed to dimensions shown on this drawing shall be approved by the Landscape Designer prior to construction.

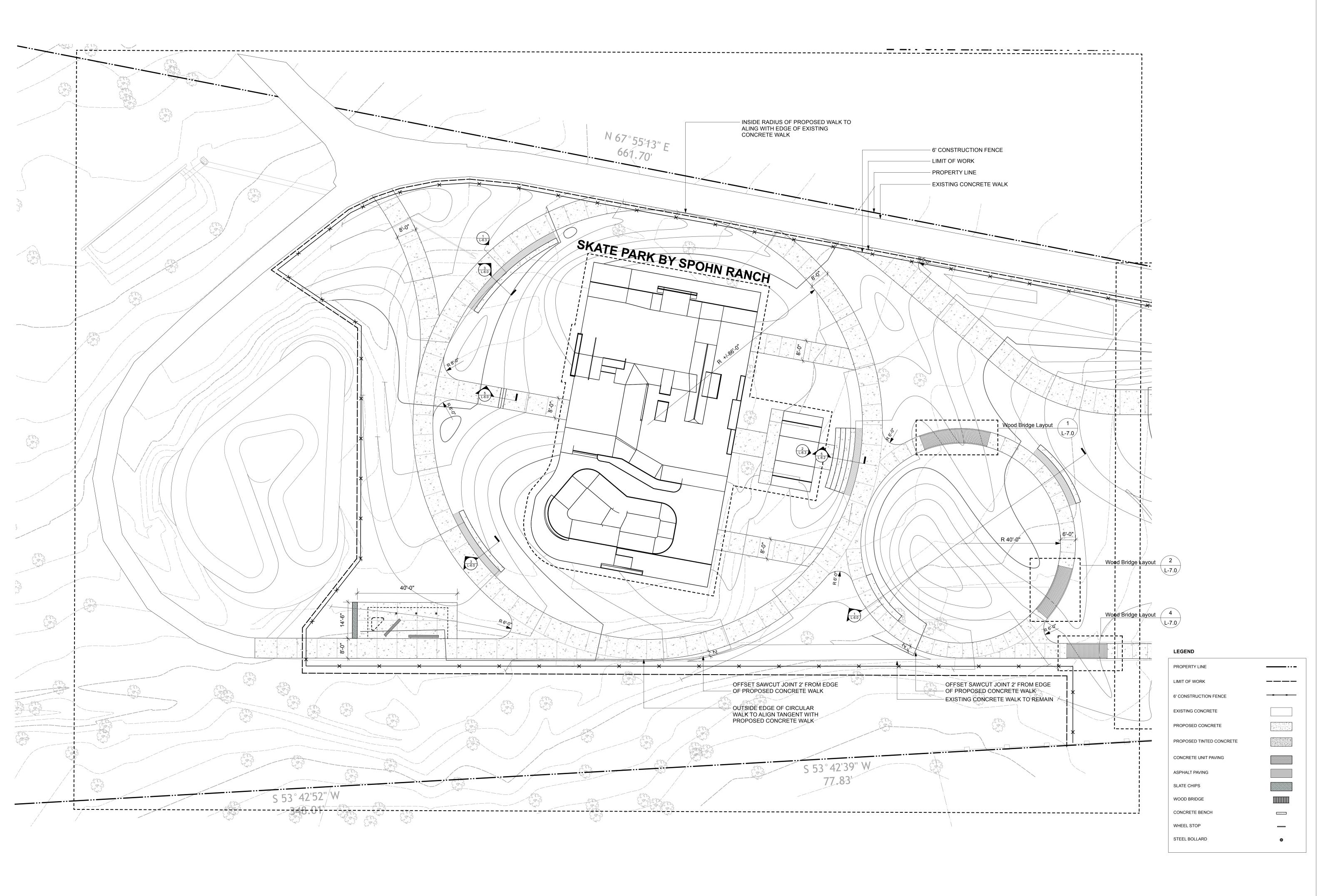


| Revisions Number | Date | |
|---------------------|----------|------------------|
| | | Description |
| 1 | 6.16.24 | 50% Progress Set |
| 2 | 10.01.24 | 90% CD |
| 3 | 11.01.24 | 100% CD |
| | | |
| | | |
| | | |
| | | |
| | | |

Scale 1"=30'-0" Date 8/16/24

Site Materials & Layout Plan

L-2.0



CLEMSON, SC

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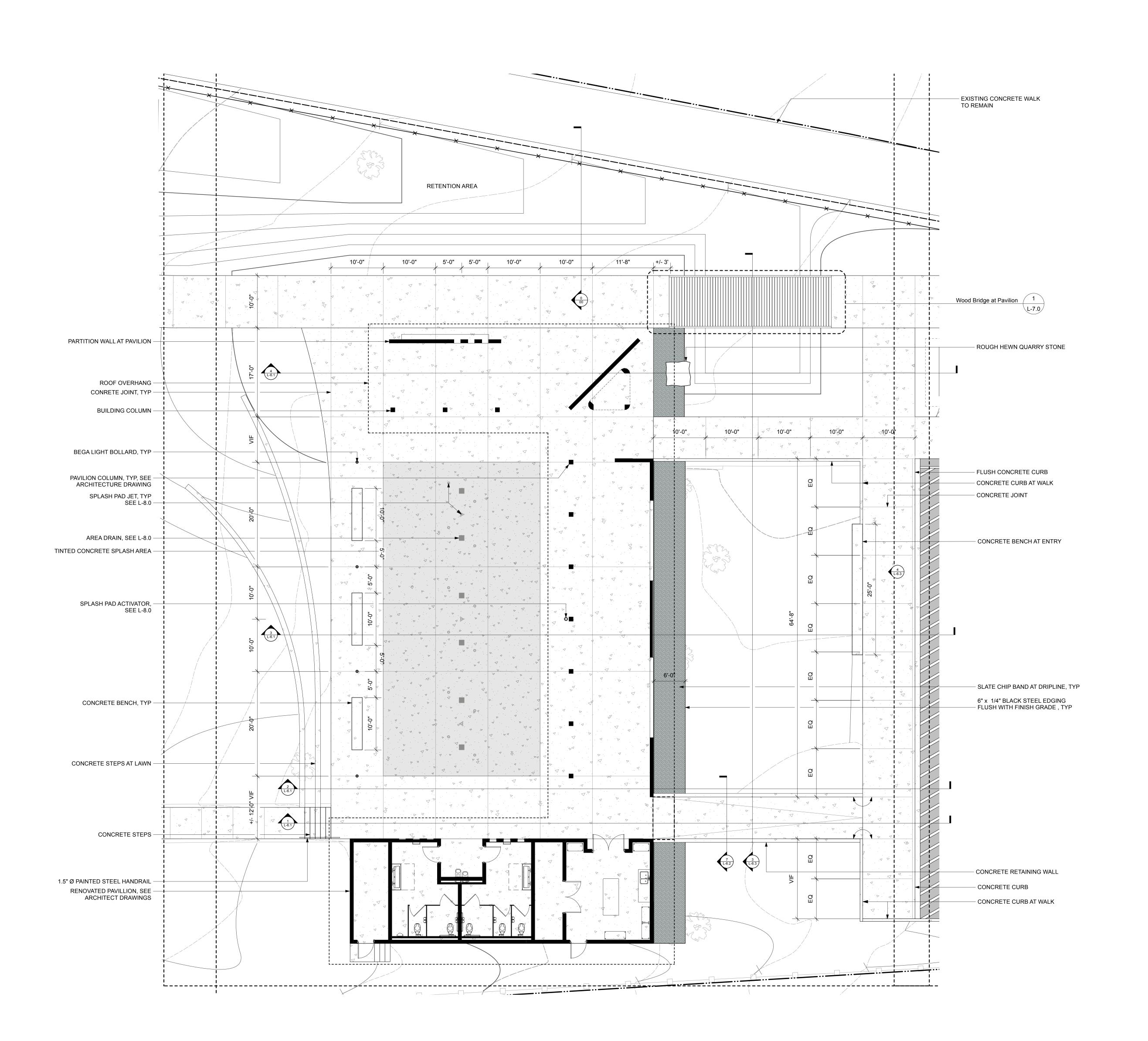
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| Revisions | | |
|-----------|----------|------------------|
| Number | Date | Description |
| 1 | 6.16.24 | 50% Progress Set |
| 2 | 10.01.24 | 90% CD |
| 3 | 11.01.24 | 100% CD |
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Scale 1/16"=1'-0"
Title

Site Enlargement Plan

Sheet No



CLEMSON, SC

GENERAL NOTES

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4. Contractor shall leave site clean and orderly during construction process. Remove from site all excess

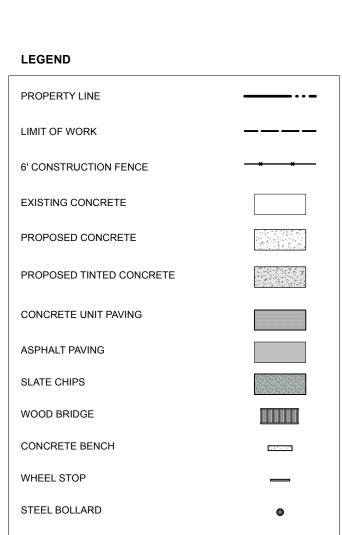
materials, soil, debris and equipment. Store materials

LAYOUT NOTES

only in an approved location.

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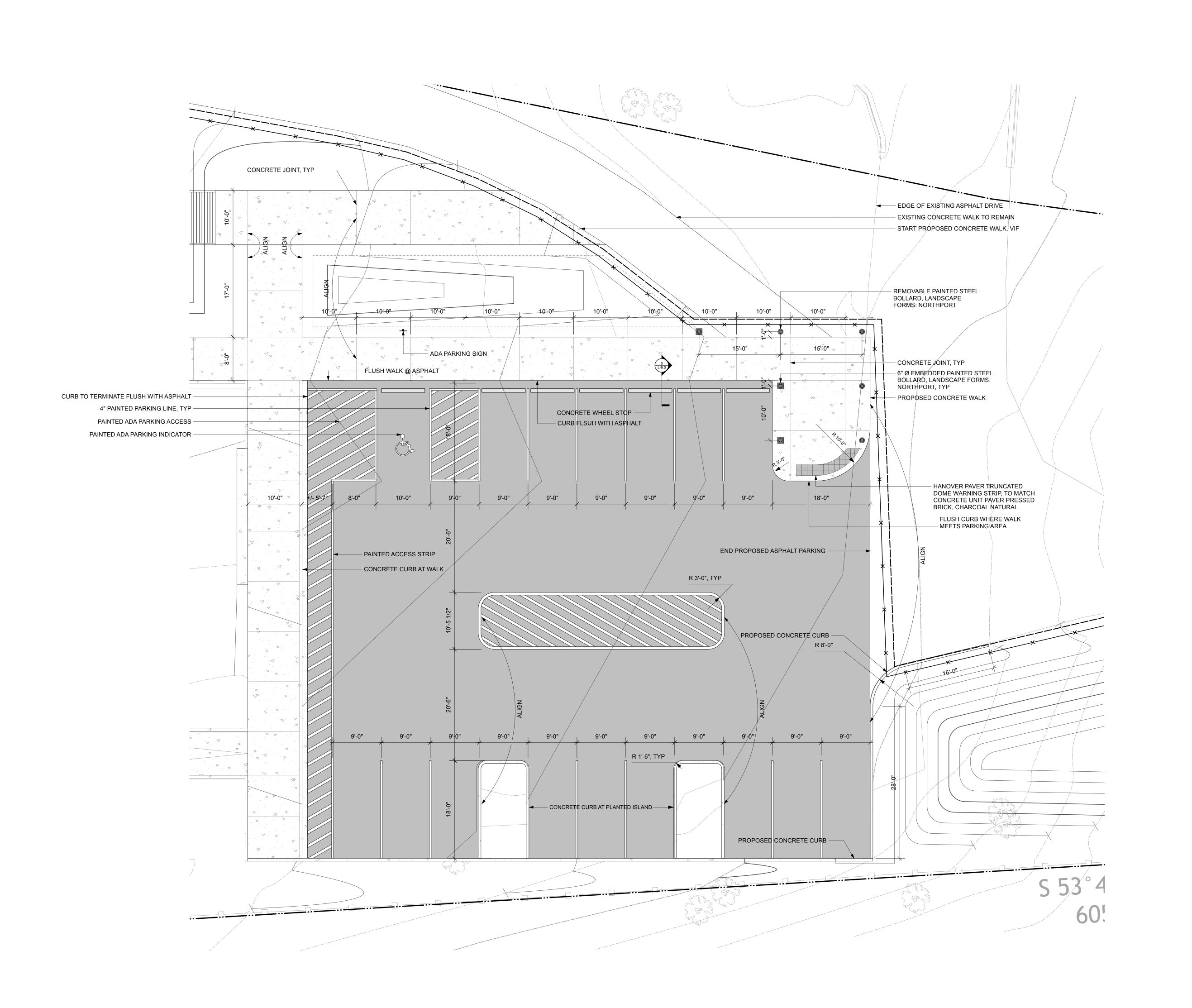




| Revisions | | |
|-----------|----------|------------------|
| Number | Date | Description |
| 1 | 6.16.24 | 50% Progress Set |
| 2 | 10.01.24 | 90% CD |
| 3 | 11.01.24 | 100% CD |
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Site Enlargement

Sheet No



CLEMSON, SC

GENERAL NOTES

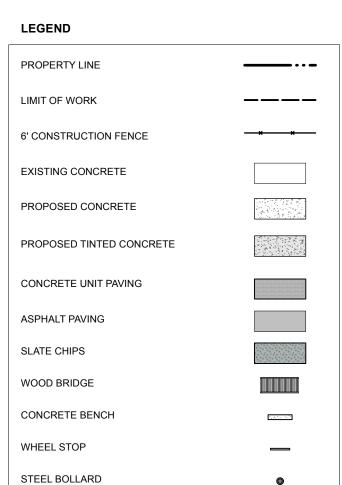
1. Existing conditions and topography data are from a survey prepared by Ridgewater Engineering & Surveying. PO Box 806 Anderson, SC 29622. (864) 226-0980 2. Contractor shall verify location of any existing utilities and services and provide protection during construction. Utilities damaged during construction shall be repaired at contractors expense. 3. Contractor shall obtain permits for the work as required and comply with all laws, ordinances, rules and regulations of the local jurisdiction, the state, and all other authorities having jurisdiction. 4. Contractor shall leave site clean and orderly during construction process. Remove from site all excess materials, soil, debris and equipment. Store materials only in an approved location.

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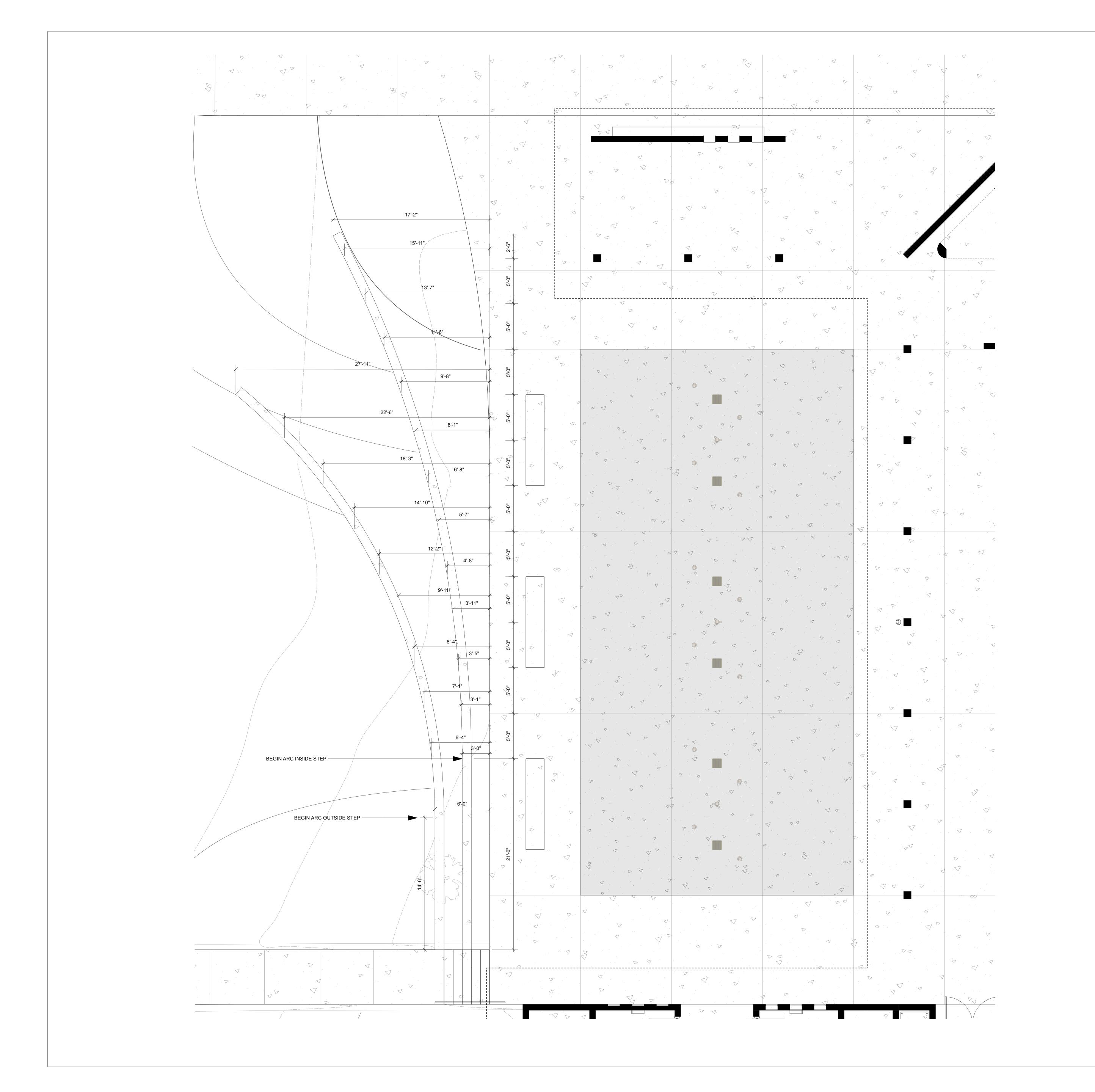


50% Progress Set 3 11.01.24 100% CD

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Site Enlargement Plan

L-2.3



CLEMSON, SC

GENERAL NOTES

1. Existing conditions and topography data are from a survey prepared by Ridgewater Engineering & Surveying. PO Box 806 Anderson, SC 29622. (864) 226-0980 2. Contractor shall verify location of any existing utilities and services and provide protection during construction. Utilities damaged during construction shall be repaired at contractors expense. 3. Contractor shall obtain permits for the work as required and comply with all laws, ordinances, rules and regulations of the local jurisdiction, the state, and all other authorities having jurisdiction.
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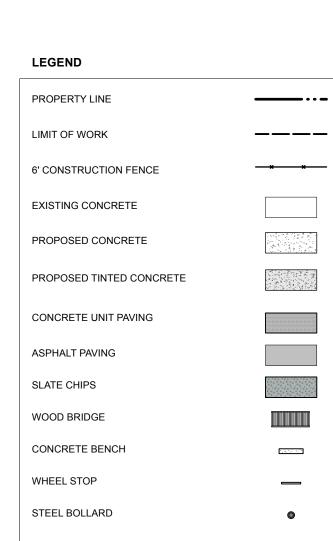
LAYOUT NOTES

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 Contractor shall verify all existing conditions and layout dimensions in the field. Report any discrepancies to the Landscape Designer for design prior to commencing construction.

3. Stake or otherwise flag all design elements and features in the field. Obtain Landscape Designer's approval prior to commencing construction.
4. All dimensions from structure are from face of finish of exterior wall unless otherwise stated. 5. All angles are assumed to be 90 degrees unless otherwise stated.
6. See planting plans for location of trees and shrubs, planting beds and extent of sodding and seeding.
7. See architectural drawings for all building

dimensions.

8. Dimensions at edges of pavement are given from inside face of edge to inside face of edging unless otherwise stated. 9. Any changes proposed to dimensions shown on this drawing shall be approved by the Landscape Designer prior to construction.

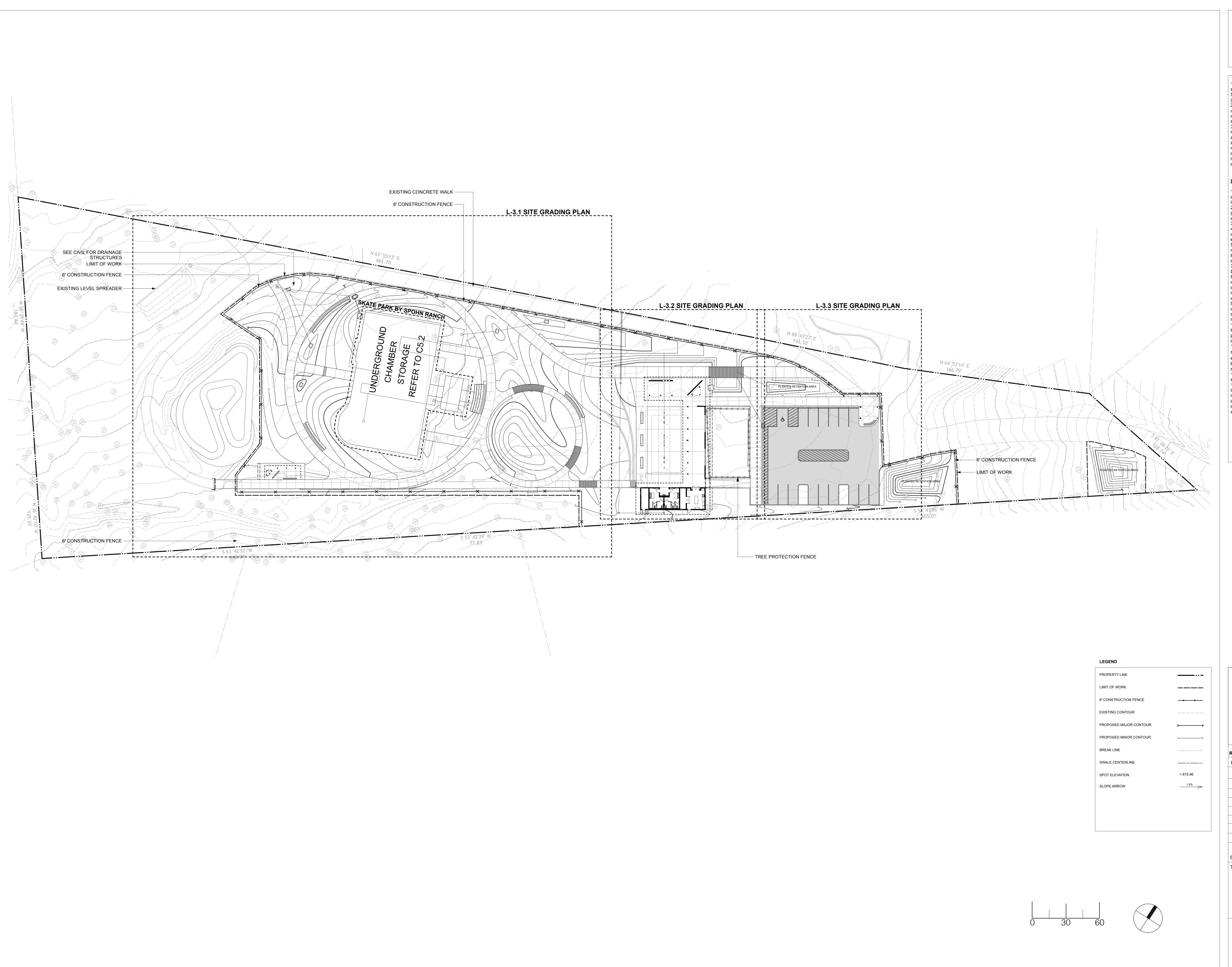




| Revisions | | Description |
|-----------|----------|------------------|
| Number | | |
| 1 | 6.16.24 | 50% Progress Set |
| 2 | 10.01.24 | 90% CD |
| 3 | 11.01.24 | 100% CD |
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| | | |

Lawn Step Layout Plan

L-2.4



CLEMSON, SC

GENERAL NOTES

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GRADING NOTES

Contractor shall verify all existing grades in the field and report any discrepancies immediately to the landscape architect.
 Stake proposed finish grade and cut/fills of existing grade in the field. Obtain Landscape Designer's approval prior to commencing construction.
 Slope away from all buildings.

Slope away from all buildings.
 Provide vertical curves or roundings at abrupt changes in grade unless otherwise noted. Blend new earthwork smoothly into existing grades.
 Maintain existing grades at existing plant material to remain
 Grade surfaces to assure positive drainage from all

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7. All fill material is subject to approval by Landscape Designer.
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9. Once grading operations are completed, all disturbed areas within or outside of the limits of work shall be stabilized by fine grading and seeding or mulching as directed by the Landscape Designer.

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12. See Civil Engineer drawings for all drainage structure locations and elevations.
13. Contractor to perform soil tests at the designated locations. Soil to be amended on as per laboratory recommendations. Soils to be retested after amendment and results to be submitted to landscape design team and city horticulturalist for review and approval prior to tree, shrub and perennial planting.

L-3.0

— 6' CONSTRUCTION FENCE LIMIT OF WORK - PROPERTY LINE LIMIT OF WORK 6' CONSTRUCTION FENCE EXISTING CONTOUR PROPOSED MAJOR CONTOUR PROPOSED MINOR CONTOUR BREAK LINE SWALE CENTERLINE SPOT ELEVATION SLOPE ARROW

CLEMSON PARK

CLEMSON, SC

FRAL NOTES

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RDO

RUSSELL DESIGN OFFICE
Clemson
864 643 7794

| Revisions | | |
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| Number | Date | Description |
| 1 | 6.16.24 | 50% Progress Set |
| 2 | 10.01.24 | 90% CD |
| 3 | 11.01.24 | 100% CD |
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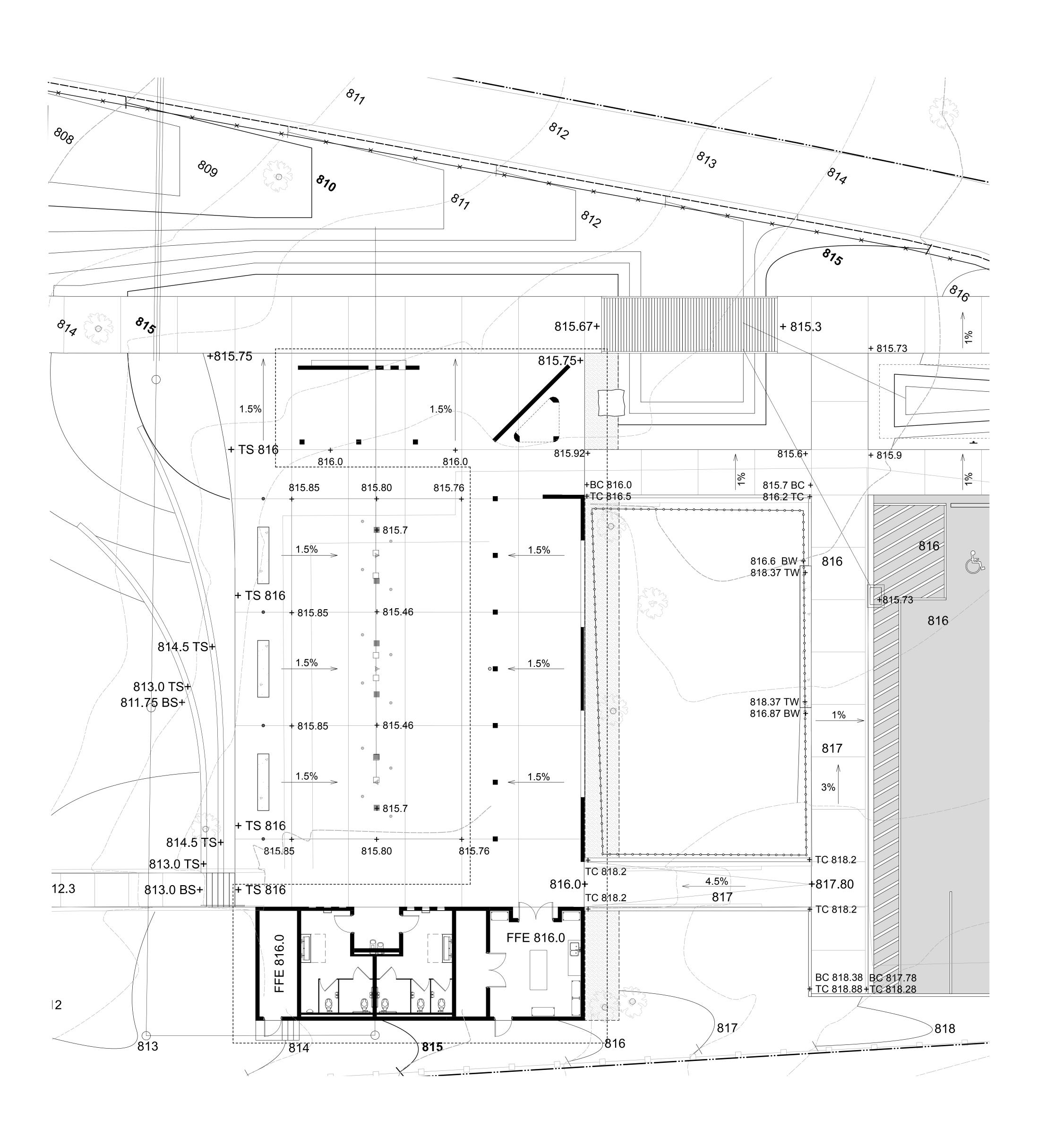
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+ 815.46

Site Grading Plan

Sheet No

L-3.1



CLEMSON, SC

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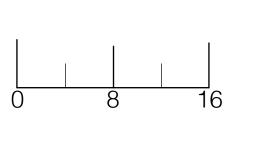
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| POT ELEVATION | + 815.46 |
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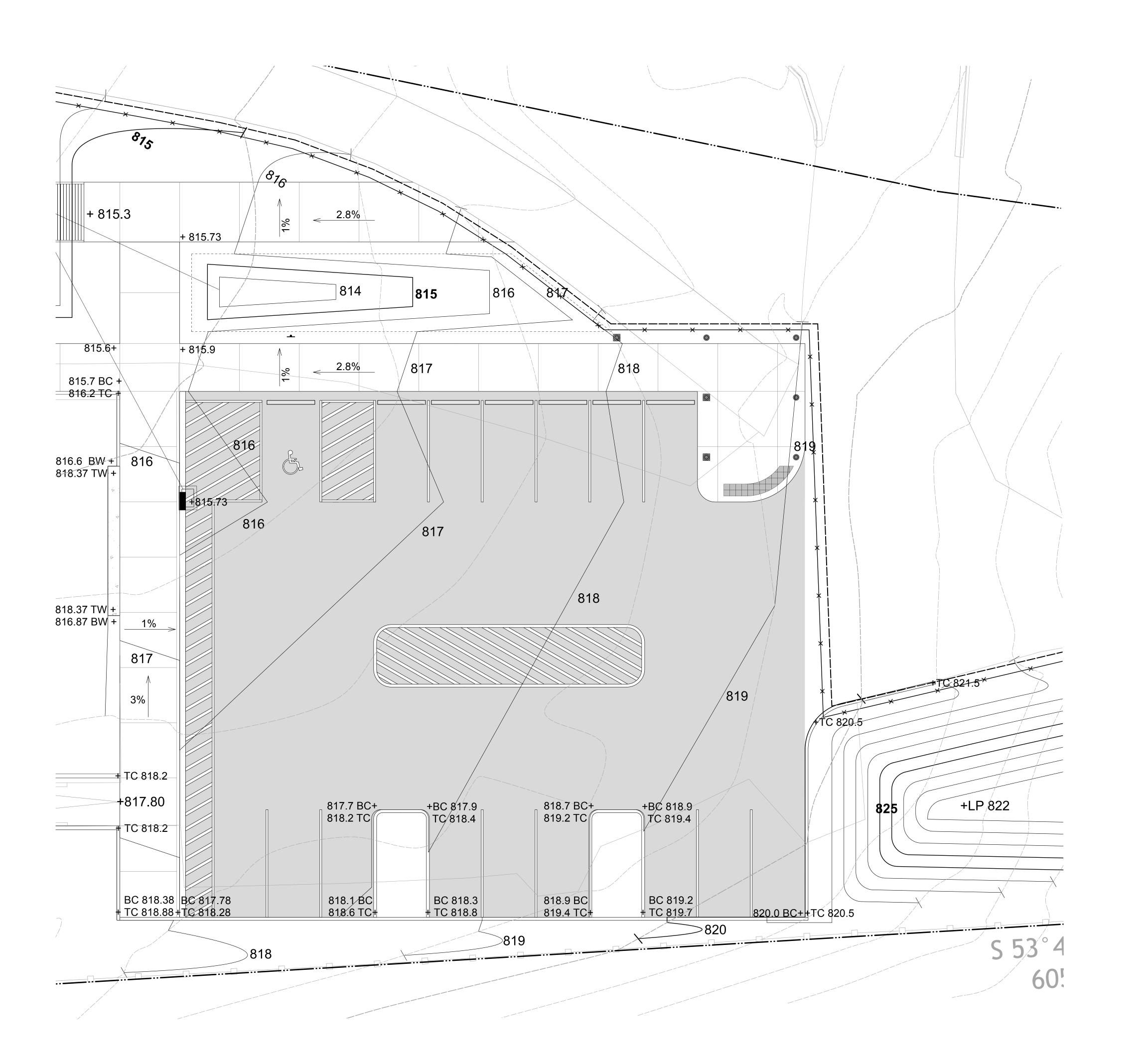


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| Revisions | | |
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| 1 | 6.16.24 | 50% Progress Set |
| 2 | 10.01.24 | 90% CD |
| 3 | 11.01.24 | 100% CD |
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Site Grading Plan

L-3.2



CLEMSON, SC

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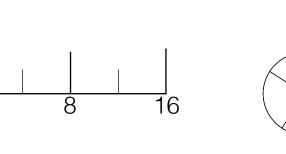
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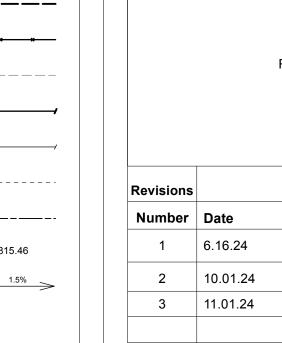
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| LEGEND | |
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| PROPERTY LINE | |
| LIMIT OF WORK | |
| 6' CONSTRUCTION FENCE | |
| EXISTING CONTOUR | |
| PROPOSED MAJOR CONTOUR | |
| PROPOSED MINOR CONTOUR | / |
| BREAK LINE | |
| SWALE CENTERLINE | |
| SPOT ELEVATION | + 815.46 |
| SLOPE ARROW | 1.5% |
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Site Grading

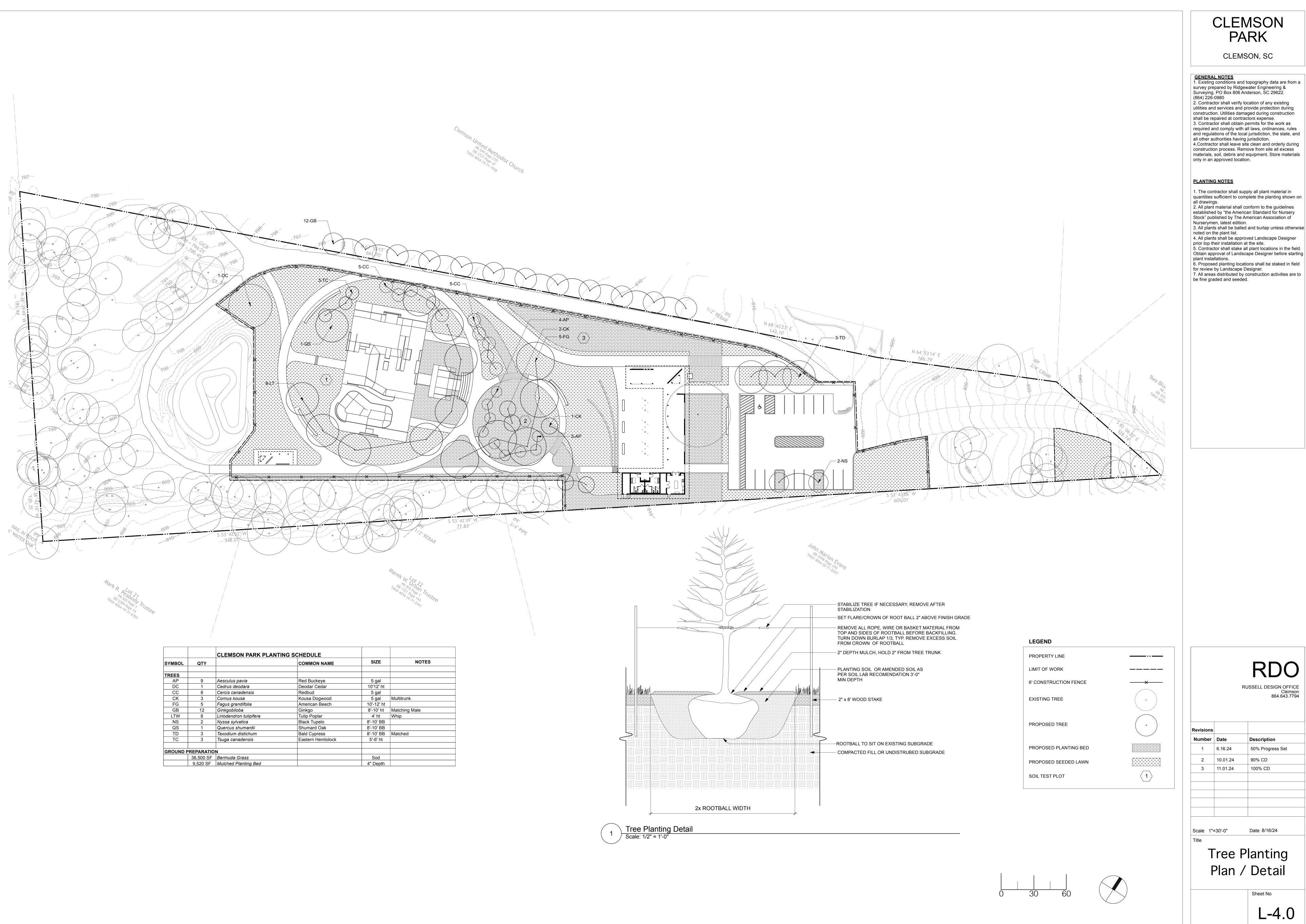
Plan

L-3.3

RDO

50% Progress Set

100% CD



CLEMSON, SC

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PLANTING NOTES

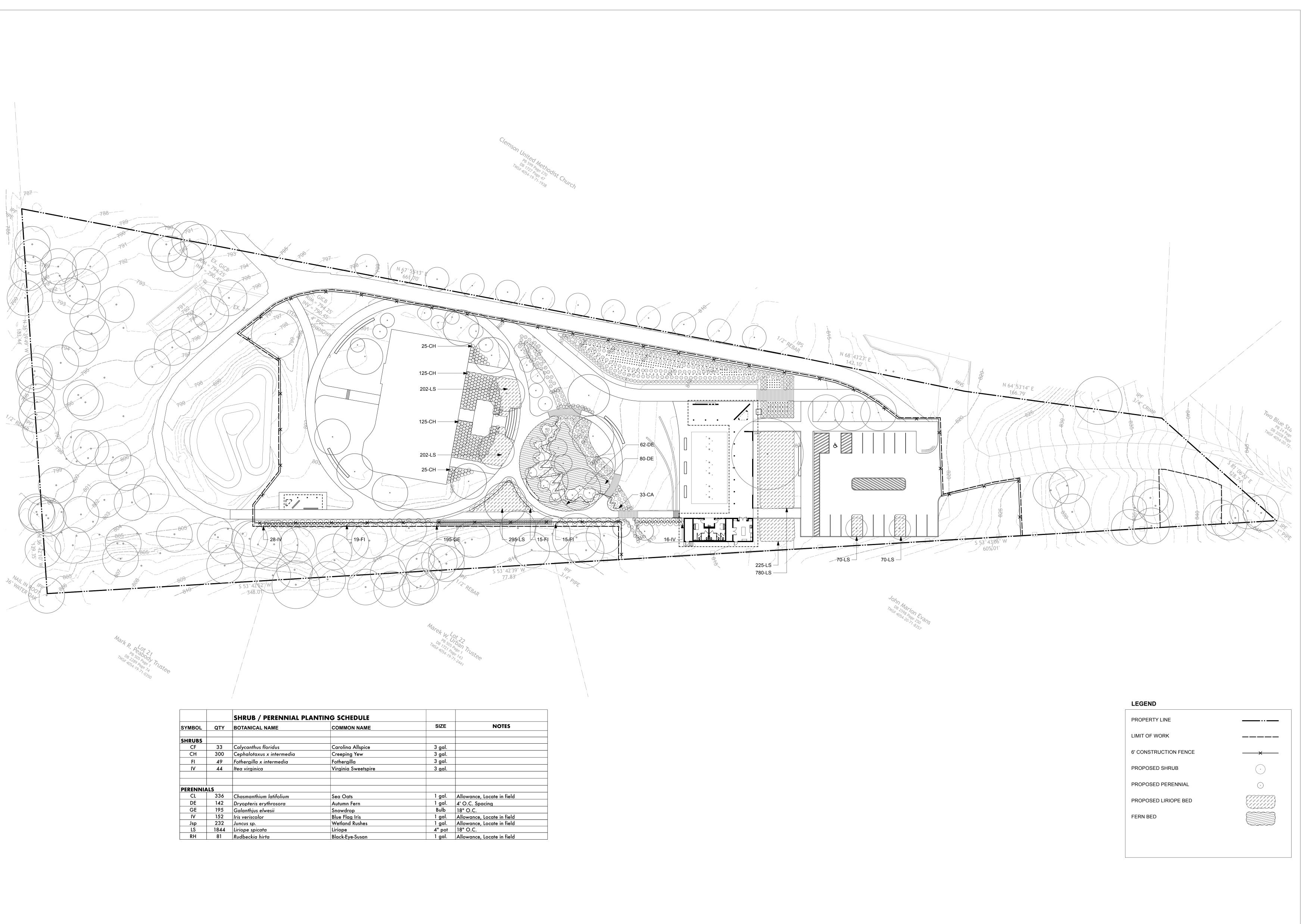
 The contractor shall supply all plant material in quantities sufficient to complete the planting shown on all drawings. 2. All plant material shall conform to the guidelines established by "the American Standard for Nursery Stock" published by The American Association of Nurserymen, latest edition. 3. All plants shall be balled and burlap unless otherwise noted on the plant list. 4. All plants shall be approved Landscape Designer prior top their installation at the site. 5. Contractor shall stake all plant locations in the field. Obtain approval of Landscape Designer before starting

RUSSELL DESIGN OFFICE Clemson 864.643.7794

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| 1 | 6.16.24 | 50% Progress Set |
| 2 | 10.01.24 | 90% CD |
| 3 | 11.01.24 | 100% CD |
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Tree Planting Plan / Detail

L-4.0



CLEMSON, SC

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Obtain approval of Landscape Designer before starting plant installations. 6. Proposed planting locations shall be staked in field for review by Landscape Designer. 7. All areas distributed by construction activities are to be fine graded and seeded.

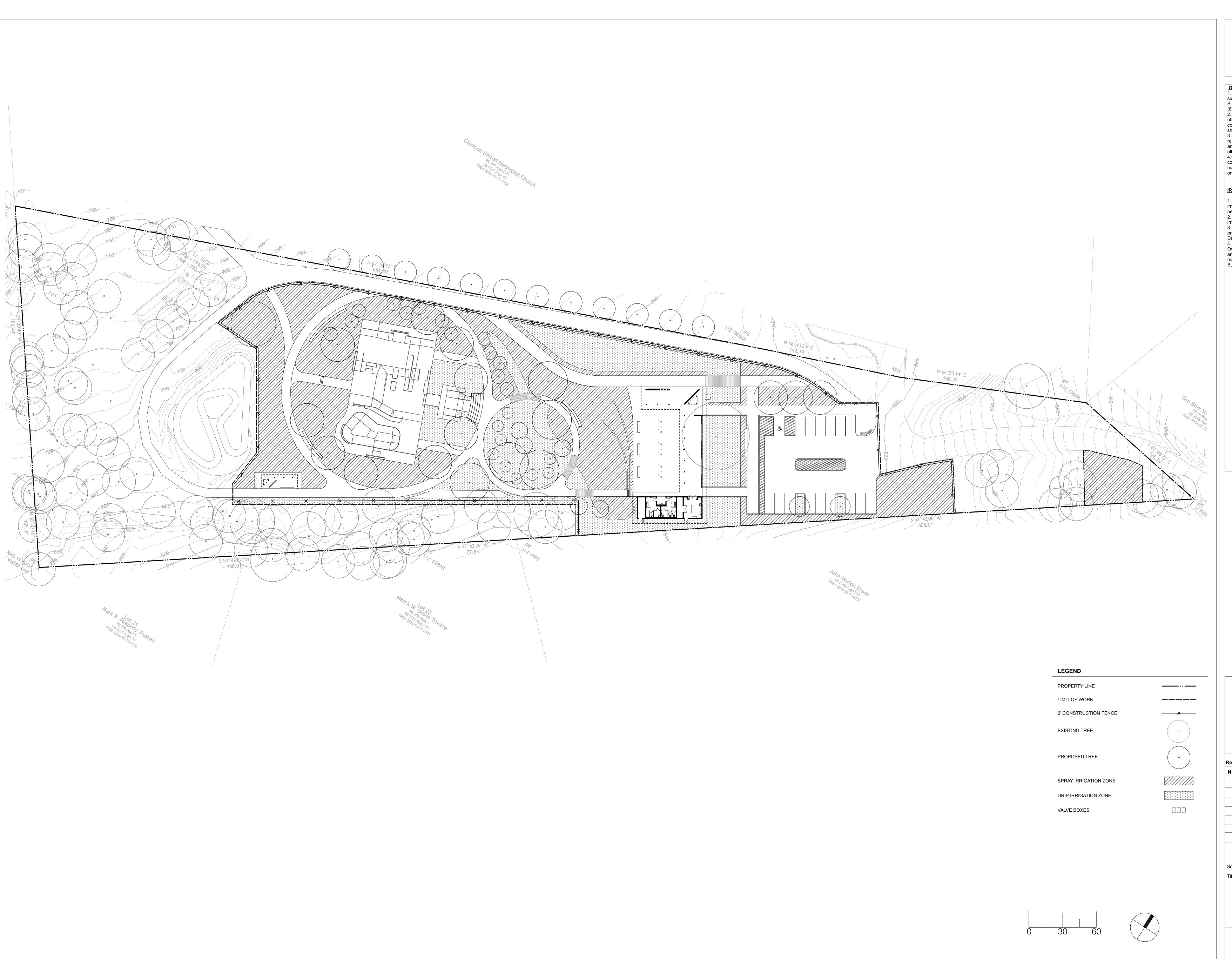
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| 3 | 11.01.24 | 100% CD |
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Shrub & Perennial Planting Plan

L-4.1



CLEMSON, SC

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Surveying. PO Box 806 Anderson, SC 29622. (864) 226-0980

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IRRIGATION NOTES

Contractor shall become familiar with existing irrigation system, well capacity and project irrigation needs for this contract.
 Contractor shall design and provide a complete irrigation system.
 Contractor shall submit irrigation shop drawings with product data for review and approval by Landscape Designer prior to installation.
 Contractor shall conduct meeting with Owner and Owner's Representative to review system operations and settings. Contractor shall also provide maintenance manual with all product data and an "As Built" drawing.

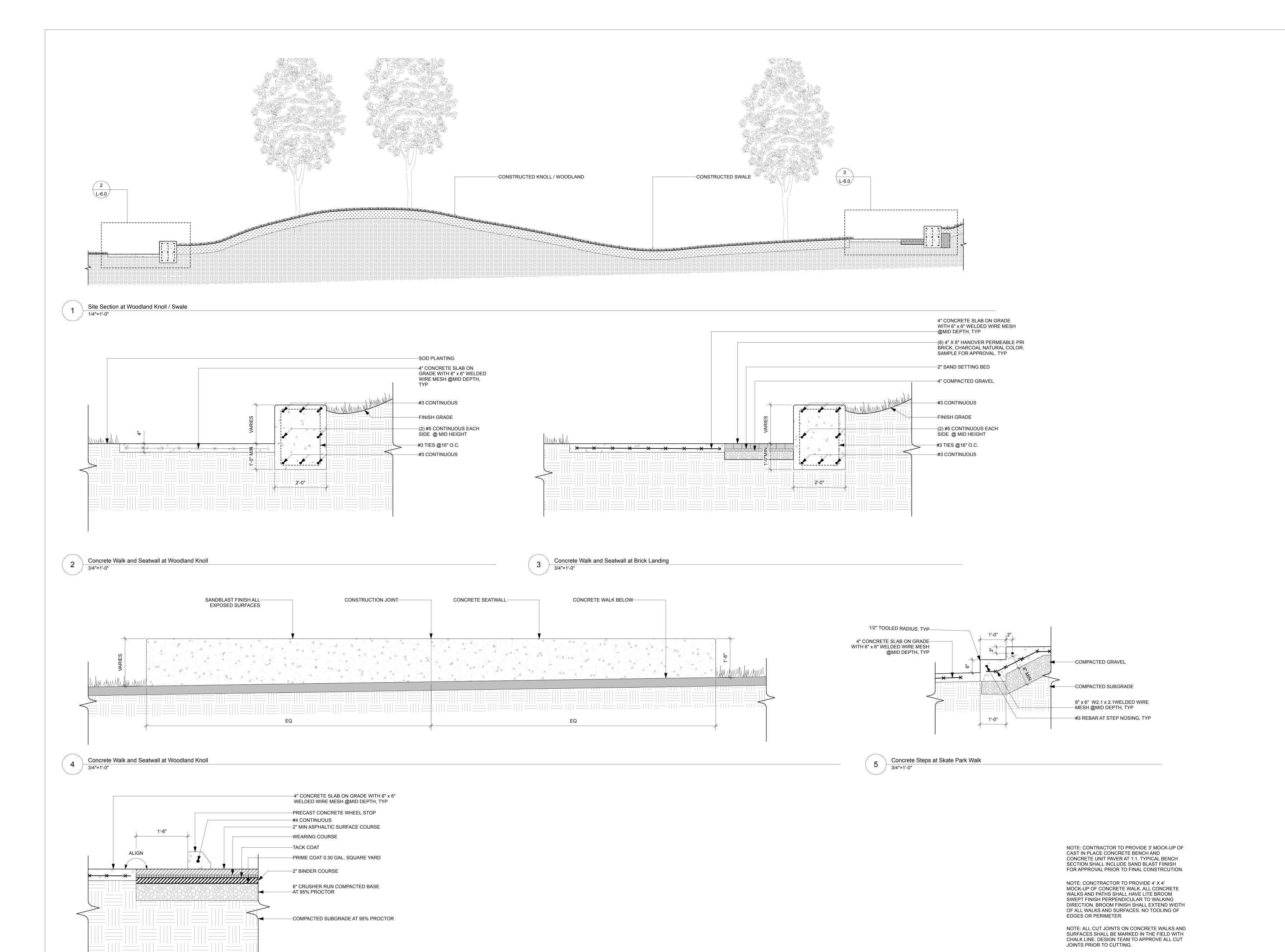
RUSSELL DESIGN OFFICE Clemson 864.643.7794

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Scale 1"=30'-0"

Site Irrigation Plan

Sheet No



Concrete Walk at Asphalt / Wheel Stop

CLEMSON PARK

CLEMSON, SC

RAL NOTES

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LAYOUT NOTES

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 All dimensions from structure are from face of finish of exterior wall unless otherwise stated.
 All angles are assumed to be 90 degrees unless otherwise stated.
 See planting plans for location of trees and shrubs, planting beds and extent of sodding and seeding.
 See architectural drawings for all building

8. Dimensions at edges of pavement are given from inside face of edge to inside face of edging unless otherwise stated.9. Any changes proposed to dimensions shown on this drawing shall be approved by the Landscape Designer prior to construction.

RUSSELL DESIGN OFFICE Clemson 864.643.7794

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 Description

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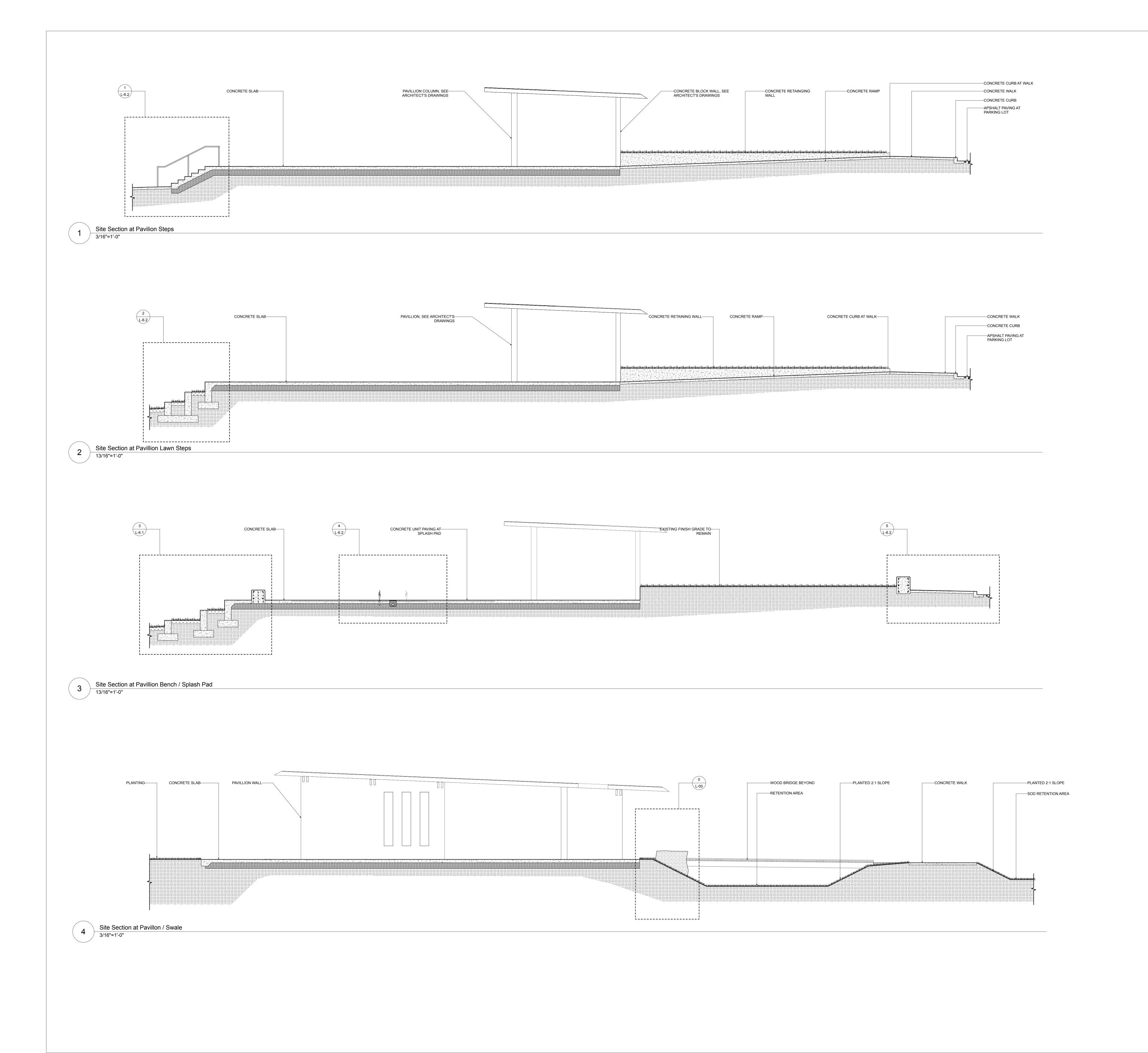
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 100% CD

Scale As Noted Date 8/16/24

Site Sections

L-6.0



CLEMSON, SC

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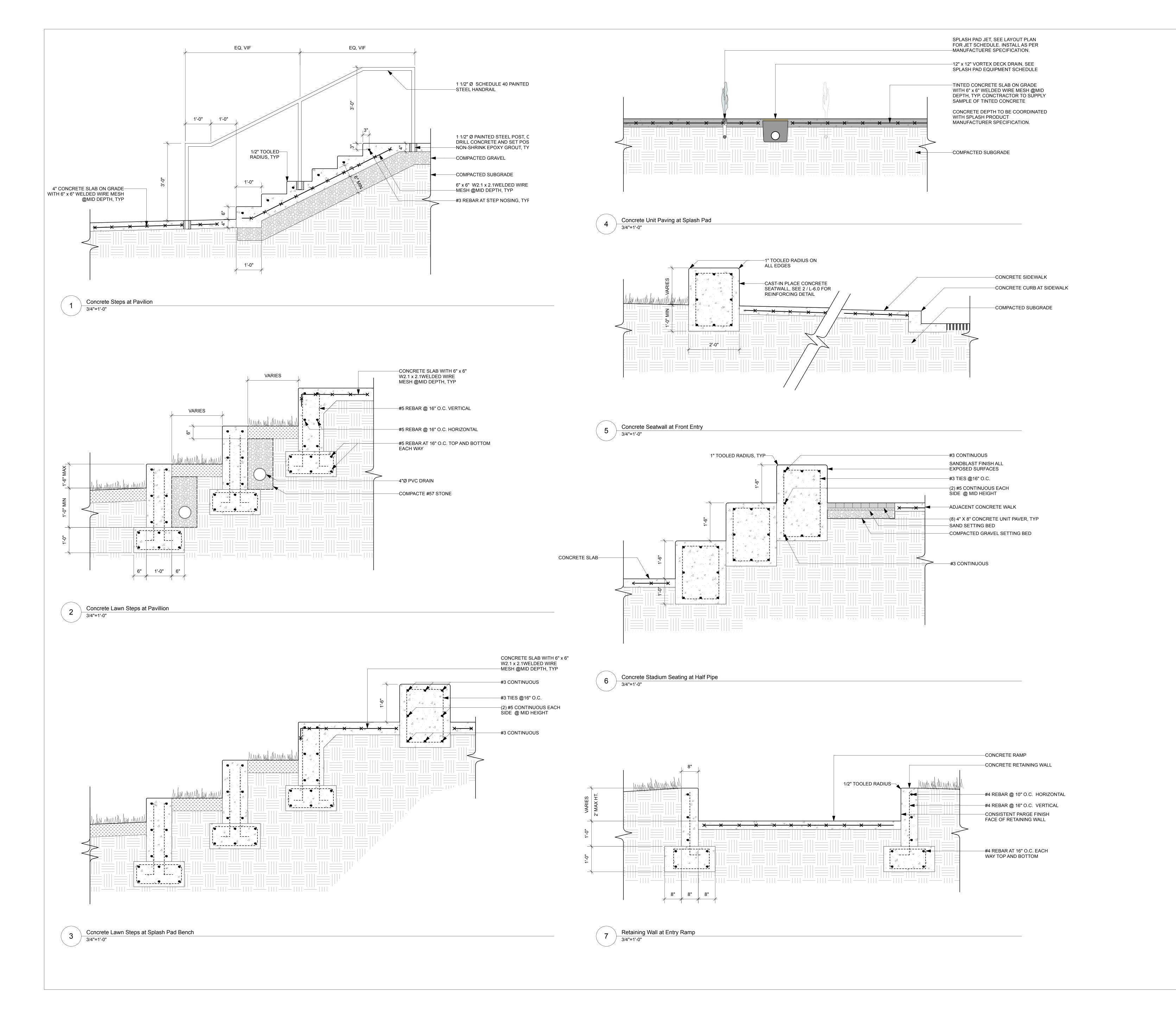
RUSSELL DESIGN OFFICE Clemson 864.643.7794

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Site Sections

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CLEMSON, SC

FRAI NOTES

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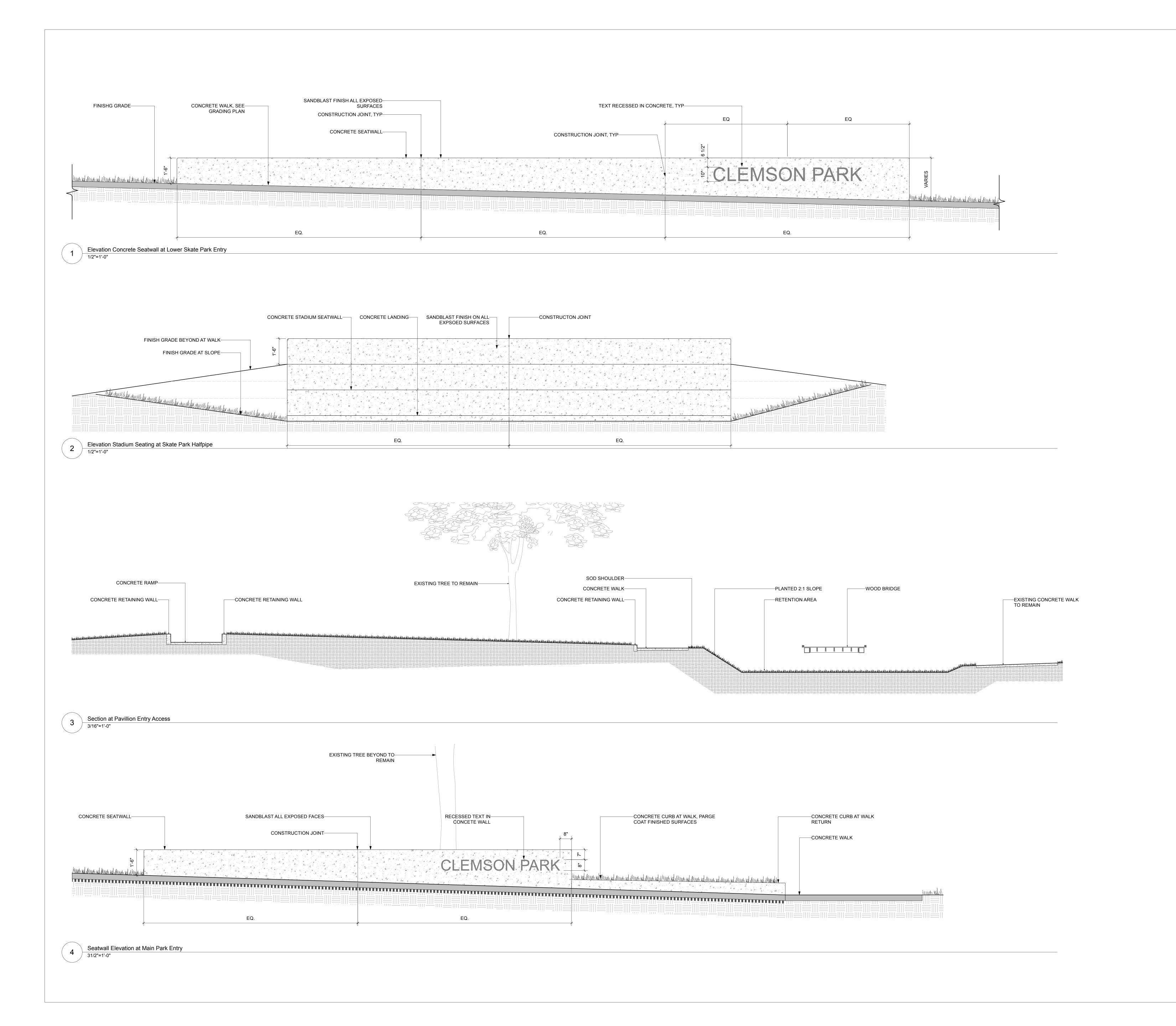
RUSSELL DESIGN OFFICE Clemson 864.643.7794

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Coporata Data

Concrete Detail Sections

L-6.2



CLEMSON, SC

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RUSSELL DESIGN OFFICE Clemson 864.643.7794

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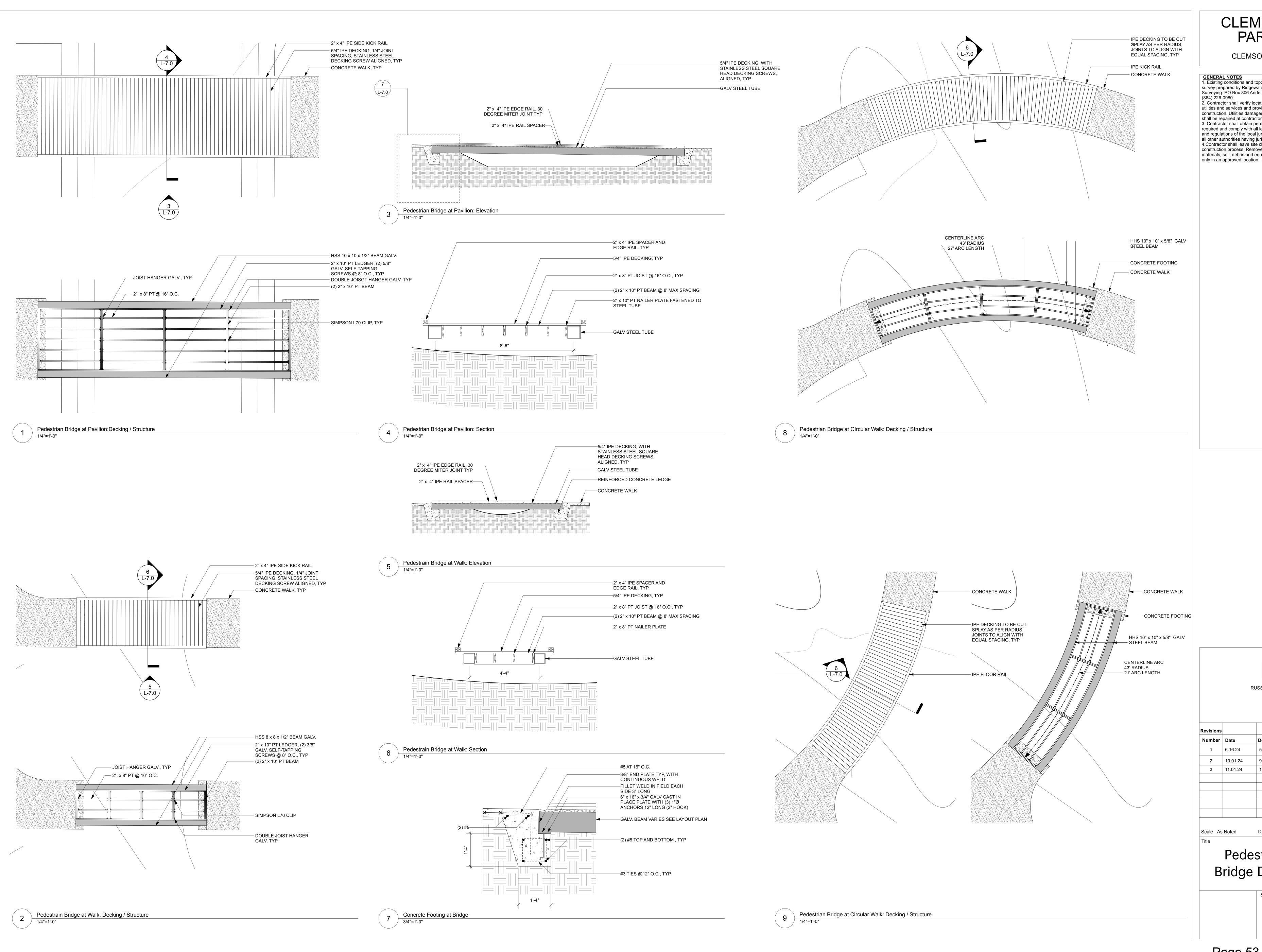
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Site Elevations

Sheet No

L-6.3

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CLEMSON, SC

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> Pedestrian **Bridge Details**

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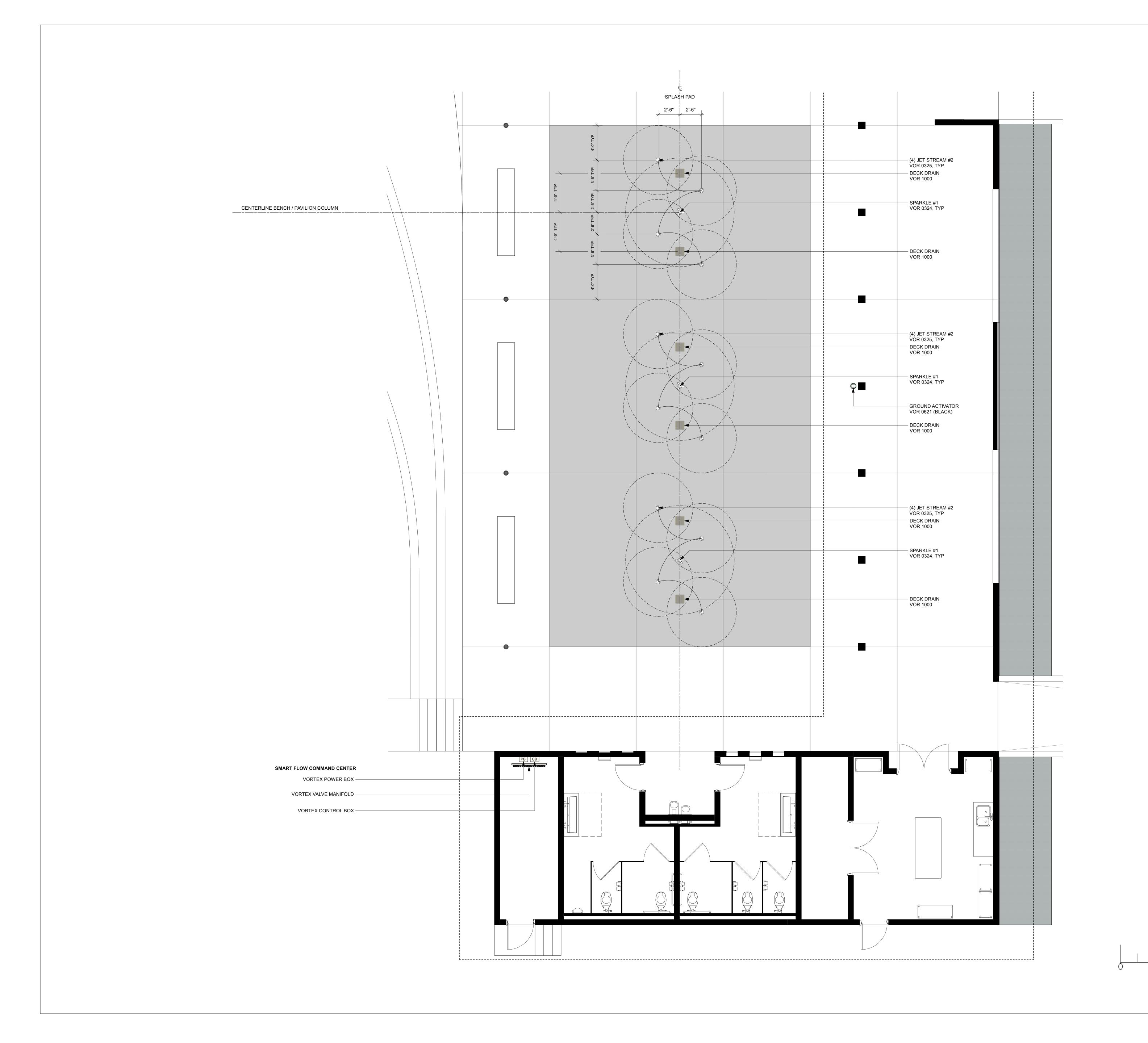
RUSSELL DESIGN OFFICE Clemson 864.643.7794

Description

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CLEMSON

CLEMSON, SC

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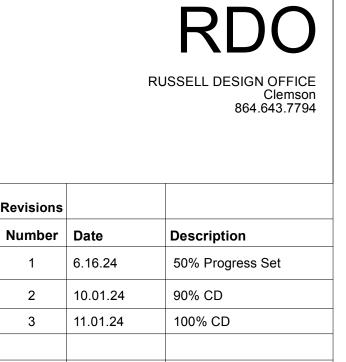
drawing shall be approved by the Landscape Designer prior to construction. SPLASH PAD NOTES

1. Submit all eqipment Specifications and Cut-Sheets for all splash pad equipment and plumbing to design team for approval. 2. Provide plumbing and piping shop drawing diagram to design team prior to installation.

3. Coordinate with Vortex on electrical loads and requirements. 4. Verify adequate GPM at meter for proposed splashpad system.

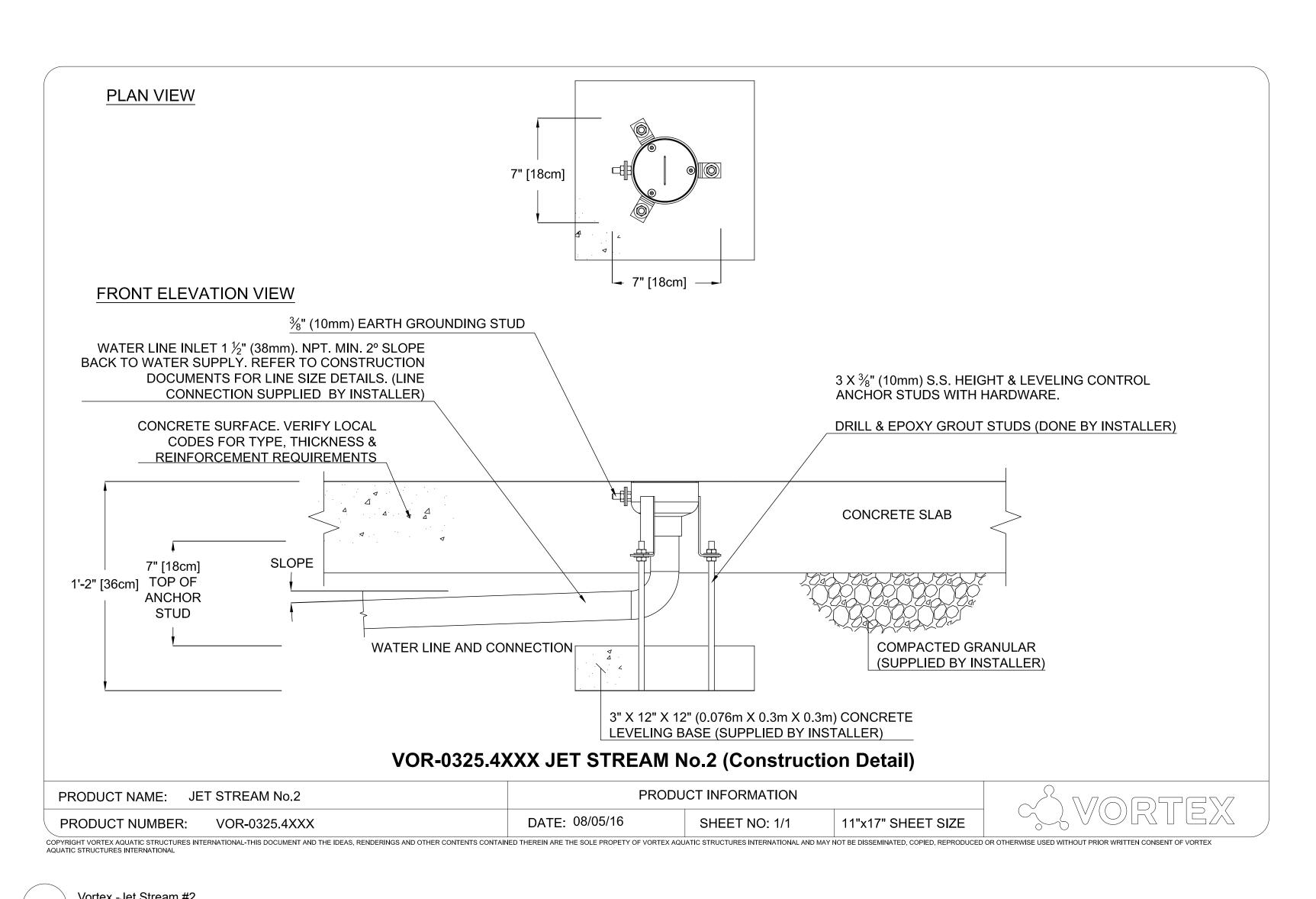
5. Provide all equipment and operation manuals to the owner prior to project completion. 6. Provide operational and maintenence instrcution to owner prior to project completion.

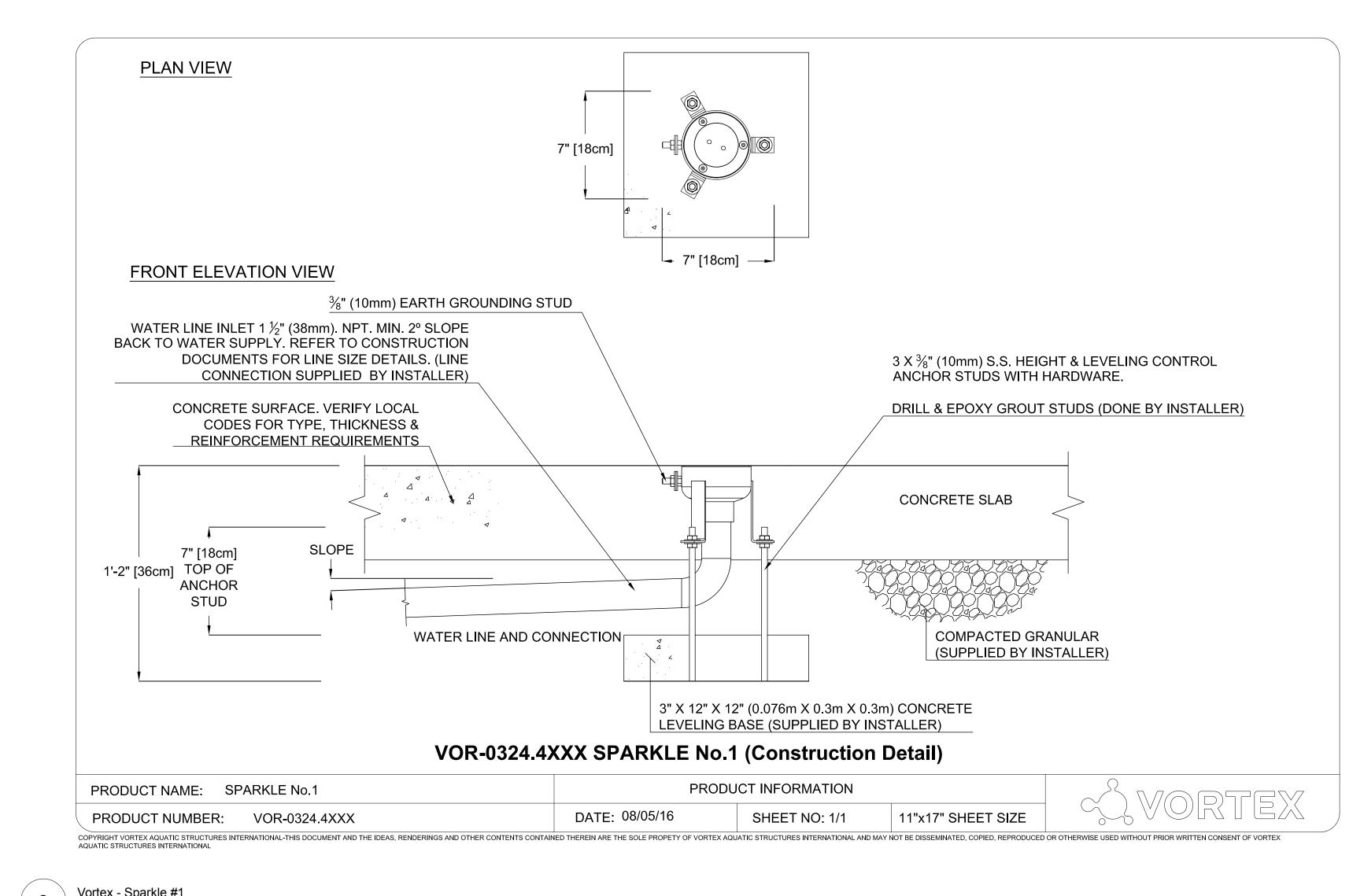
| LEGEND | | | | | |
|--|----------|-------------|-----|--|--|
| VORTEX SPLASH PAD EQUIPMENT SCHEDULE | | | | | |
| ITEM | ITEM# | | QTY | | |
| JET STREAM #2 | VOR 0325 | 101125-304L | 12 | | |
| SPARKLE #1 | VOR 0324 | 102620-304L | 3 | | |
| DECK DRAIN 12" x 12" | VOR 1000 | 105871-304L | 6 | | |
| GROUND ACTIVATOR | VOR 0621 | 129877-304L | 1 | | |
| VORTEX SMARTFLOW COMMAND CENTER-WALL MOUNTED | - | - | 1 | | |
| INSTALLATION KIT FOR GROUND EQUIPMENT | - | 103534-304 | 93 | | |
| TOOL KIT #0 | - | 102313 | 1 | | |
| TOOL KIT #1: SECURITY BITS (ALL) | - | 102314 | 1 | | |
| TOOL KIT #3: 2 PIN KEY_WELDING | - | 102301-304L | 1 | | |



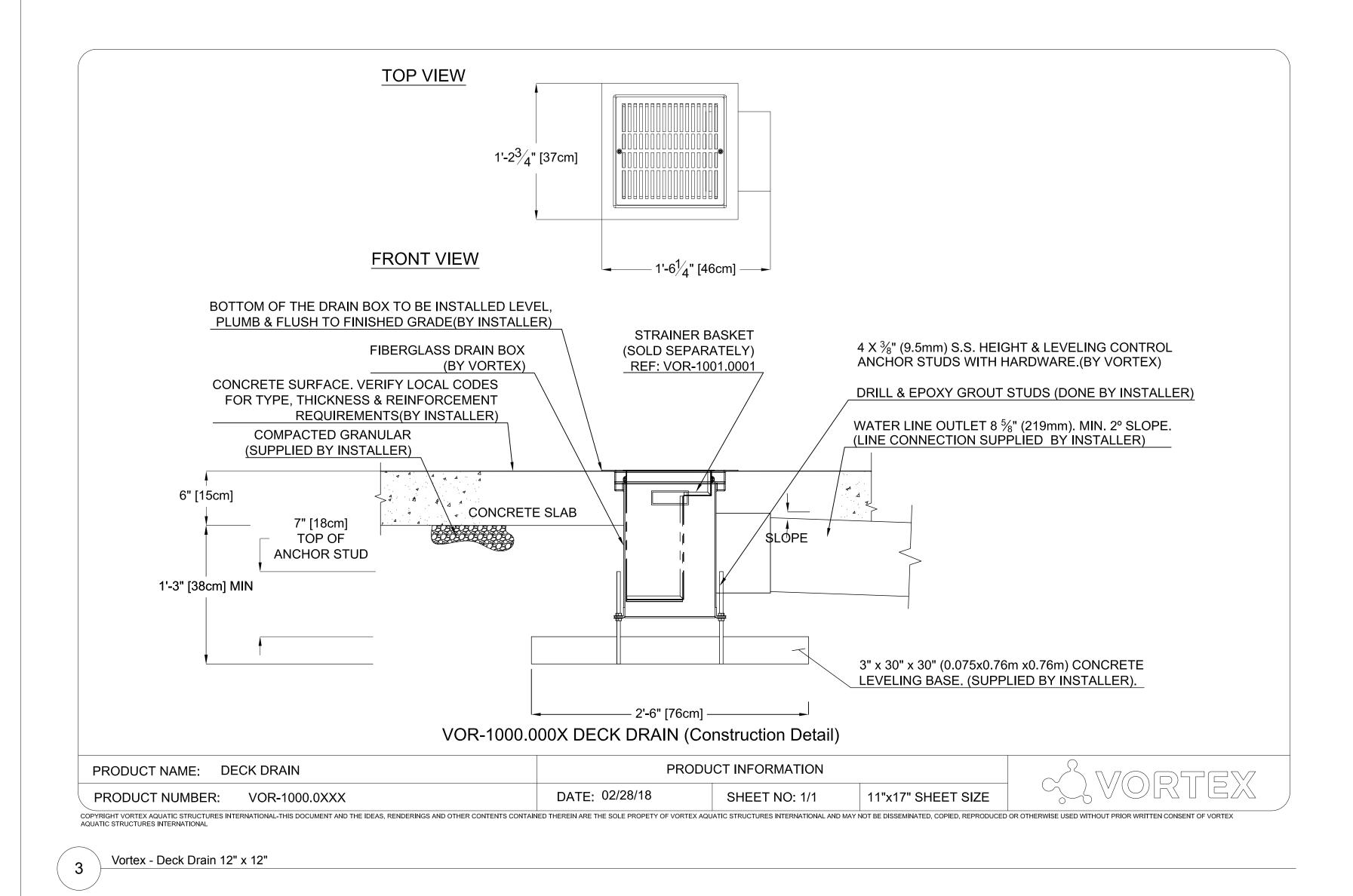
Splash Pad Layout Plan

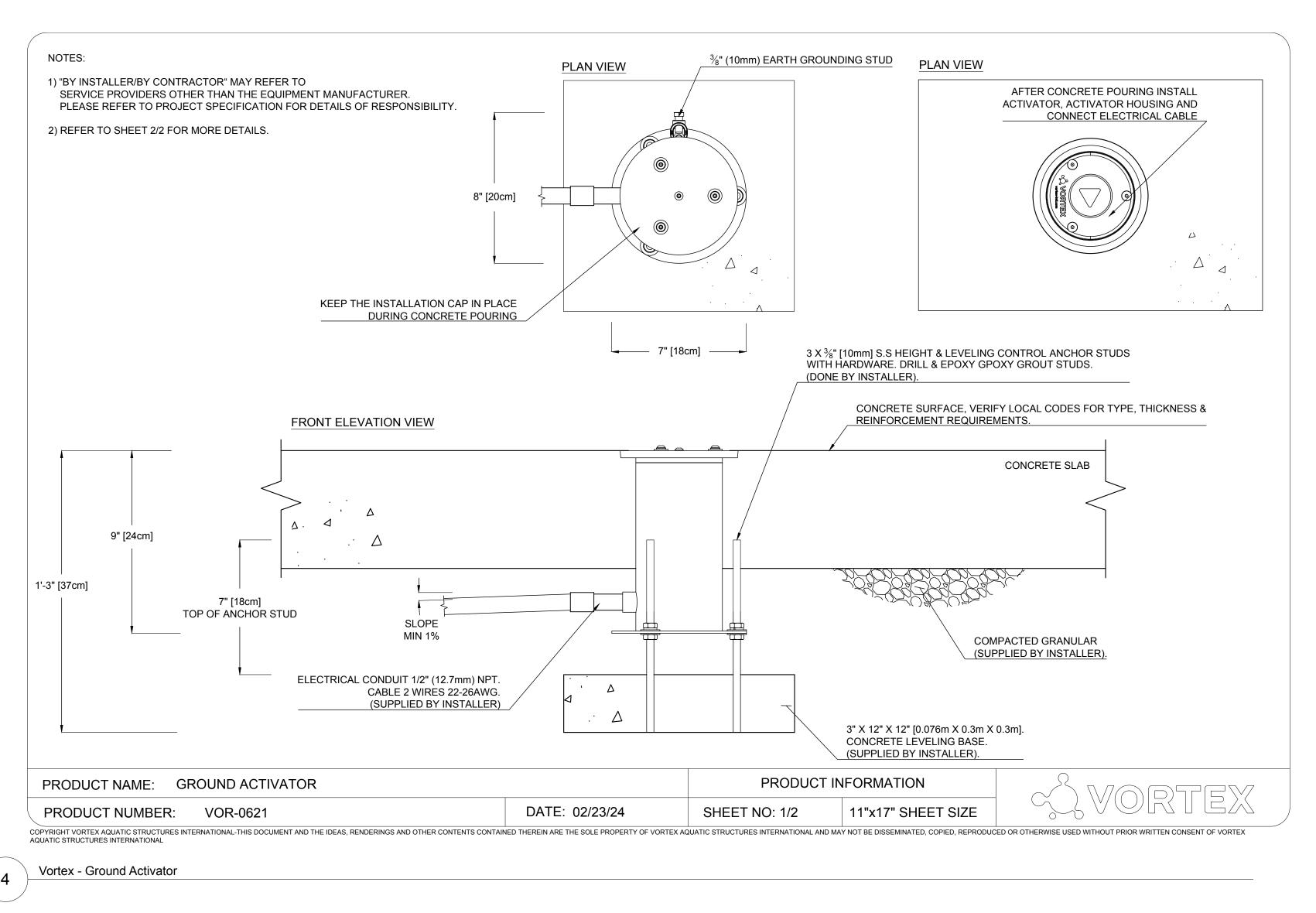
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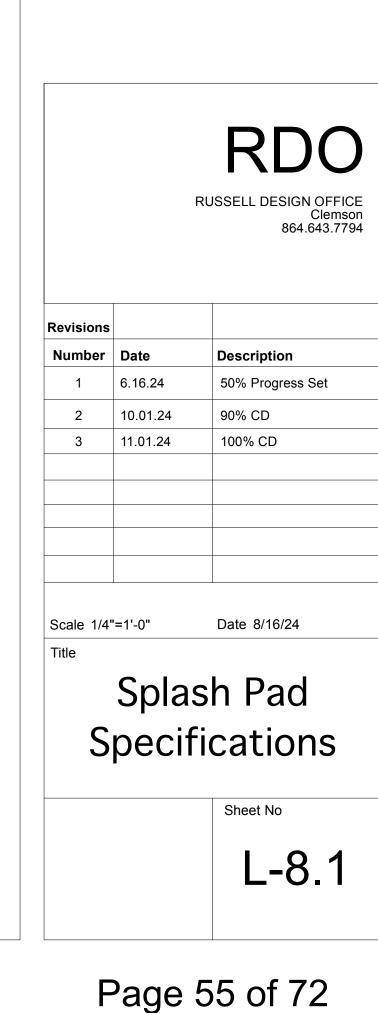




2







CLEMSON

PARK

CLEMSON, SC

Existing conditions and topography data are from a survey prepared by Ridgewater Engineering & Surveying. PO Box 806 Anderson, SC 29622.

2. Contractor shall verify location of any existing utilities and services and provide protection during construction. Utilities damaged during construction

3. Contractor shall obtain permits for the work as required and comply with all laws, ordinances, rules and regulations of the local jurisdiction, the state, and

4. Contractor shall leave site clean and orderly during

materials, soil, debris and equipment. Store materials

construction process. Remove from site all excess

2. Contractor shall verify all existing conditions and

discrepancies to the Landscape Designer for design

3. Stake or otherwise flag all design elements and

features in the field. Obtain Landscape Designer's

5. All angles are assumed to be 90 degrees unless

planting beds and extent of sodding and seeding.
7. See architectural drawings for all building

4. All dimensions from structure are from face of finish

6. See planting plans for location of trees and shrubs,

8. Dimensions at edges of pavement are given from

9. Any changes proposed to dimensions shown on this

drawing shall be approved by the Landscape Designer

1. Submit all eqipment Specifications and Cut-Sheets for all splash pad equipment and plumbing to design

2. Provide plumbing and piping shop drawing diagram to design team prior to installation.

5. Provide all equipment and operation manuals to the

6. Provide operational and maintenence instrcution to

3. Coordinate with Vortex on electrical loads and

4. Verify adequate GPM at meter for proposed

owner prior to project completion.

owner prior to project completion.

inside face of edge to inside face of edging unless

layout dimensions in the field. Report any

approval prior to commencing construction.

of exterior wall unless otherwise stated.

prior to commencing construction.

shall be repaired at contractors expense.

all other authorities having jurisdiction.

only in an approved location.

1. Do not scale drawings.

LAYOUT NOTES

otherwise stated.

otherwise stated.

prior to construction.

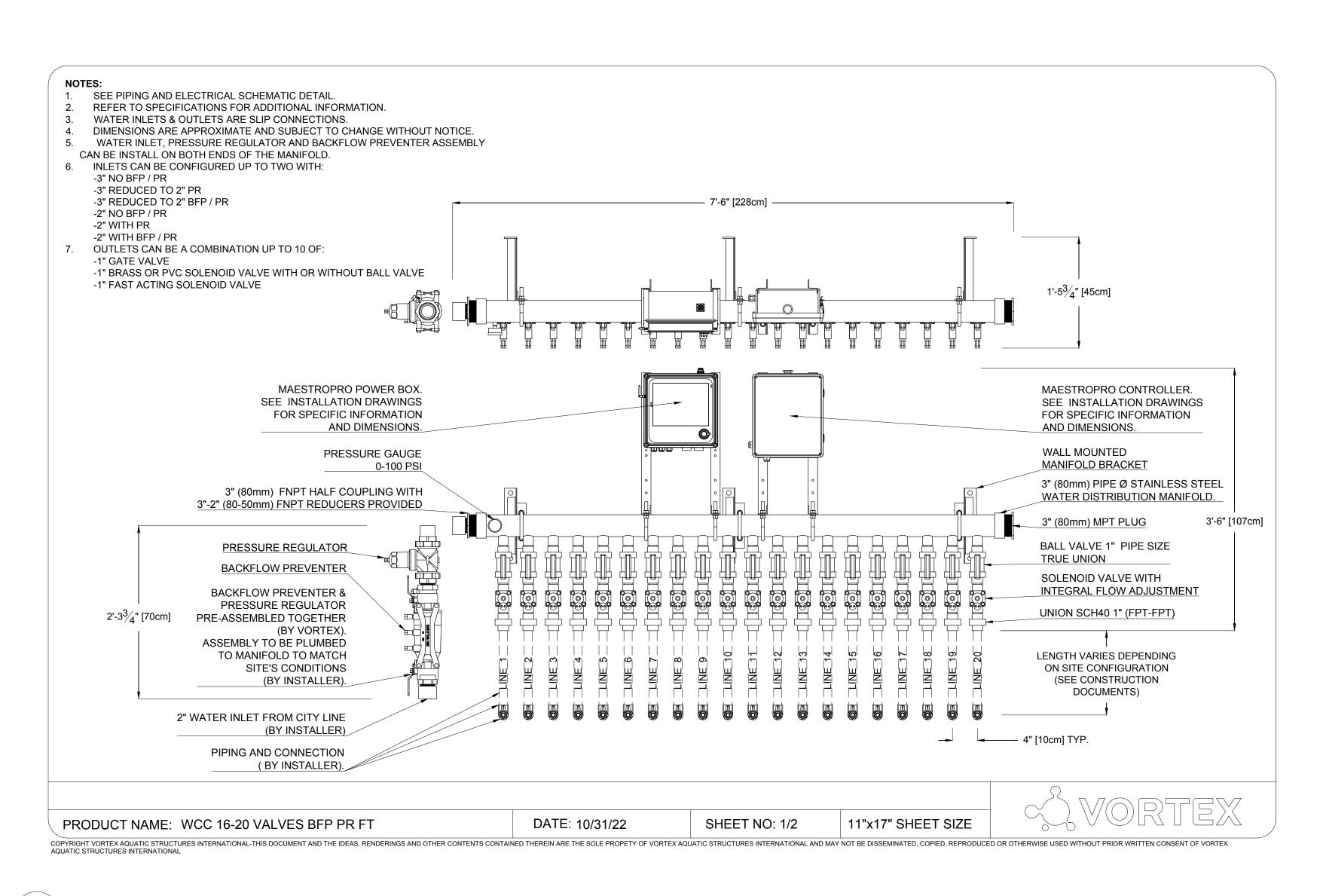
team for approval.

requirements.

splashpad system.

SPLASH PAD NOTES

GENERAL NOTES



1 Vortex - Smart Flow Command Center

CLEMSON

CLEMSON, SC

GENERAL NOTES 1. Existing conditions and topography data are from a survey prepared by Ridgewater Engineering & Surveying. PO Box 806 Anderson, SC 29622. (864) 226-0980

2. Contractor shall verify location of any existing utilities and services and provide protection during construction. Utilities damaged during construction shall be repaired at contractors expense. 3. Contractor shall obtain permits for the work as required and comply with all laws, ordinances, rules and regulations of the local jurisdiction, the state, and all other authorities having jurisdiction. 4.Contractor shall leave site clean and orderly during construction process. Remove from site all excess materials, soil, debris and equipment. Store materials only in an approved location.

LAYOUT NOTES

1. Do not scale drawings. 2. Contractor shall verify all existing conditions and layout dimensions in the field. Report any discrepancies to the Landscape Designer for design prior to commencing construction. 3. Stake or otherwise flag all design elements and features in the field. Obtain Landscape Designer's approval prior to commencing construction.
4. All dimensions from structure are from face of finish of exterior wall unless otherwise stated. 5. All angles are assumed to be 90 degrees unless otherwise stated. 6. See planting plans for location of trees and shrubs, planting beds and extent of sodding and seeding.
7. See architectural drawings for all building

dimensions. 8. Dimensions at edges of pavement are given from inside face of edge to inside face of edging unless otherwise stated. 9. Any changes proposed to dimensions shown on this

drawing shall be approved by the Landscape Designer prior to construction.

1. Submit all eqipment Specifications and Cut-Sheets

SPLASH PAD NOTES

for all splash pad equipment and plumbing to design team for approval. 2. Provide plumbing and piping shop drawing diagram to design team prior to installation. 3. Coordinate with Vortex on electrical loads and requirements. 4. Verify adequate GPM at meter for proposed splashpad system.

5. Provide all equipment and operation manuals to the owner prior to project completion. 6. Provide operational and maintenence instrcution to owner prior to project completion.

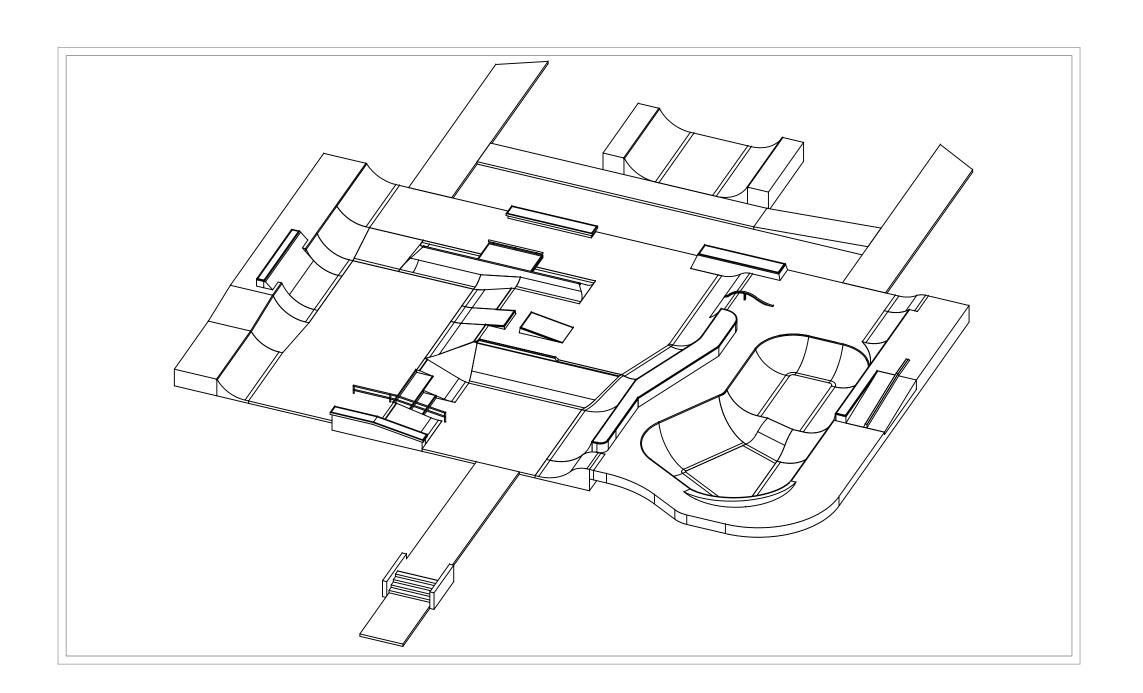
RUSSELL DESIGN OFFICE Clemson 864.643.7794

50% Progress Set 2 10.01.24 3 11.01.24

Splash Pad Specifications

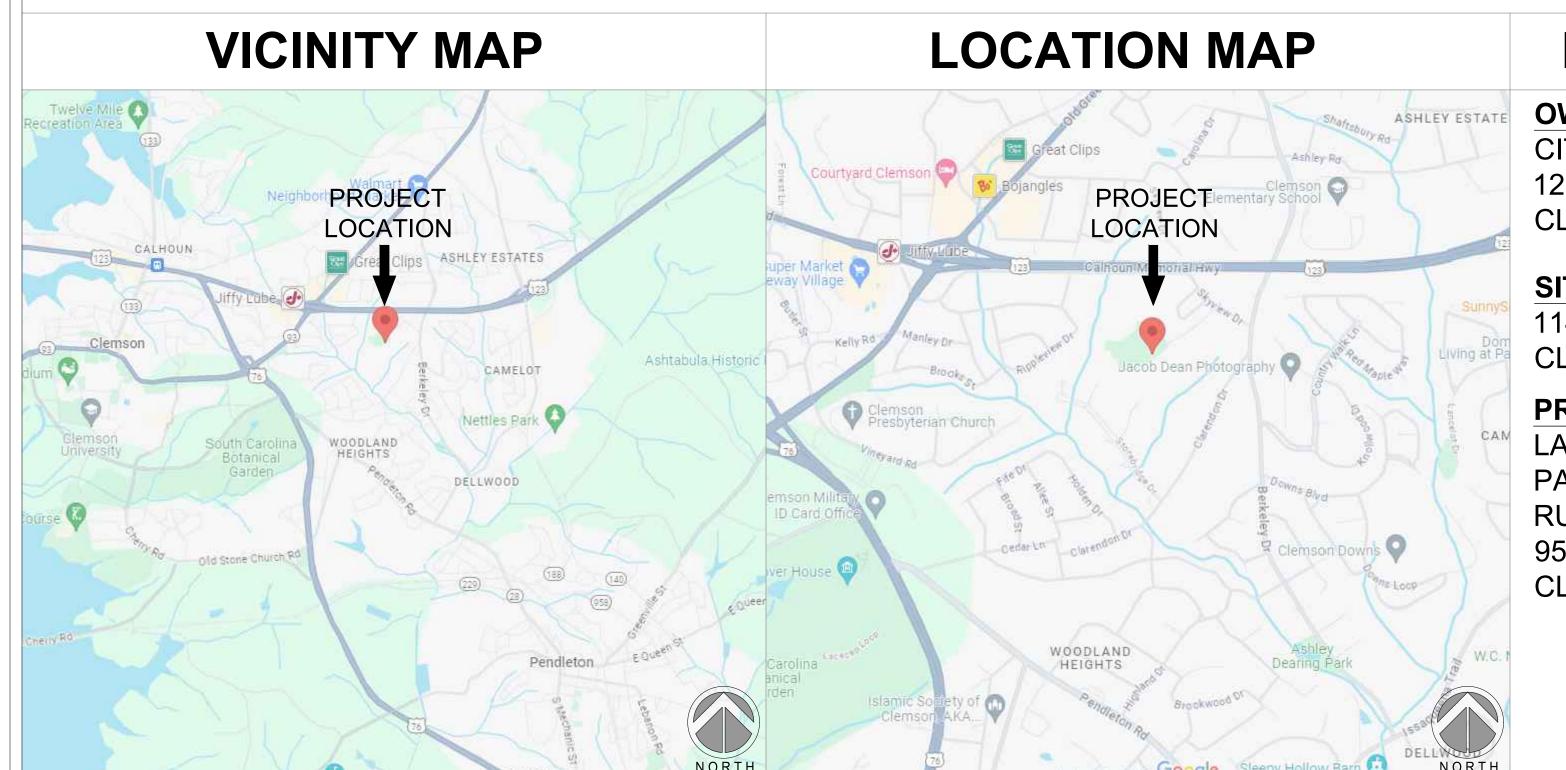
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CONSTRUCTION PLAN SET PREPARED FOR CLEMSON PARK SKATEPARK



CITY OF CLEMSON, SC





PROJECT INFORMATION

OWNER/ DEVELOPER CITY OF CLEMSON, SC 1250 TIGER BLVD. CLEMSON, SC 29631

SITE ADDRESS 114 CLEMSON PARK RD. CLEMSON, SC 29631

| PROJECT TEAM |
|-----------------------|
| LANDSCAPE ARCHITECT |
| PAUL RUSSELL |
| RUSSELL DESIGN OFFICE |
| 95 E LEWIS RD. |
| CLEMSON, SC 29631 |

SHEET INDEX

| SHEET | DESCRIPTION |
|-------|-------------------------|
| SK1.0 | TITLE SHEET |
| SK2.0 | SPECIFICATIONS |
| SK2.1 | SPECIFICATIONS |
| SK3.0 | 3D PERSPECTIVE |
| SK3.1 | 3D PERSPECTIVE |
| SK4.0 | INFORMATION PLAN |
| SK5.0 | LAYOUT PLAN |
| SK6.0 | GRADING + DRAINAGE PLAN |
| SK7.0 | STEEL PLAN |
| SK8.0 | SECTIONS |
| SK8.1 | SECTIONS |
| SK8.2 | SECTIONS |
| SK8.3 | SECTIONS |
| SK9.0 | CONSTRUCTION DETAILS |
| SK9.1 | CONSTRUCITON DETAILS |
| | |

CLEMSON PARK SKATEPARK DESIGNED BY STAMP: SHEET TITLE SKATE PARK DESIGNED BY SHEET TITLE SKATE PARK DESIGNED BY SHEET TITLE SHEET

SK1.0

GENERAL NOTES

DESIGN CRITERIA

- 1. THESE GENERAL NOTES APPLY UNLESS NOTED OTHERWISE ON CONSTRUCTION DRAWINGS.
- 2. COMPLY WITH CURRENT LOCAL BUILDING CODE EXCEPT AS NOTED HEREIN.
- 3. TESTING SERVICES: OWNER TO BEAR ALL ASSOCIATED COSTS FOR TESTING SERVICES. COORDINATE THE FOLLOWING TESTING WITH THE OWNER SELECTED TESTING AGENCY (IF REQUIRED BY THE PROJECT SPECIFICATIONS):
- A. MATERIAL EVALUATIONS TESTS FOR CONCRETE MIX, AGGREGATE BASE, SUBGRADE, AND STRUCTURAL FILL.
- B. INSPECTION OF STRUCTURAL FILL PLACEMENT AND COMPACTION.
- C. INSPECTION OF FINAL SUBGRADE.
- D. BASE MATERIAL COMPACTION TEST FOR EVERY 2500 S.F. OF CONCRETE FLATWORK IN SKATEPARK AREA TO ENSURE 95% COMPACTION IN ACCORDANCE WITH CIVIL ENGINEERING SPECIFICATIONS AND TESTING AGENCY RECOMMENDATIONS.

SHOP DRAWINGS

- 1. THE SHOP DRAWING REVIEW IS INTENDED TO HELP THE SKATEPARK DESIGNER VERIFY THEIR DESIGN CONCEPT. THIS REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DESIGN DRAWINGS & SPECIFICATIONS, WHICH HAVE A PRIORITY OVER SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMED & CORRELATED DIMENSIONS, FABRICATION PROCESSES, MEANS, METHODS, TECHNIQUES, SAFETY, AND COORDINATION OF THE WORK WITH OTHER TRADES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK THE ACCURACY OF HIS OWN SHOP DRAWINGS AND THOSE OF HIS SUBCONTRACTORS, PRIOR TO SUBMITTAL.
- 2. THE SHOP DRAWINGS WILL BE RETURNED FOR RESUBMITTAL IF A CURSORY REVIEW SHOWS MAJOR ERRORS WHICH SHOULD HAVE BEEN FOUND BY THE CONTRACTOR'S CHECKING. ALL SHOP DRAWINGS SHALL INCLUDE PLAN LAYOUTS SHOWING LOCATIONS OF ITEMS DETAILED ON THE SHOP DRAWINGS. ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM THE CONTRACT DOCUMENTS SHALL BE CLOUDED ON SHOP DRAWINGS. ANY OF THE CHANGES WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES, SHALL NOT BE CONSIDERED REVIEWED AFTER SKATEPARK DESIGNER'S REVIEW UNLESS NOTED ACCORDINGLY.
- 3. ANY RESUBMITTAL OF A DETAIL SHEET WITH CHANGED INFORMATION SHALL BE ACCOMPANIED BY LOCATION PLAN IDENTIFYING THE MEMBERS INVOLVED, AND CLOUDING AROUND CHANGED INFORMATION.
- 4. ANY ENGINEERING SUBMITTED FOR REVIEW SHALL BE APPROPRIATELY SEALED. FULL RESPONSIBILITY OF SUCH ENGINEERING RESTS WITH THE PERSON SEALING THE

EARTHWORK

- 1. ESTABLISH AND MAINTAIN REQUIRED LINES AND GRADE ELEVATIONS.
- 2. REMOVE UPPER FOUR TO SIX INCHES OR MORE OF TOPSOILS CONTAINING SURFICIAL VEGETATION, GRASS, ROOTS, AND ORGANIC MATERIAL FROM WITHIN AND TO A POINT AT LEAST FIVE FEET BEYOND THE BUILDING LINES/SKATEPARK LIMITS. THESE SOILS ARE GENERALLY NOT CONSIDERED SUITABLE FOR RE-USE AS STRUCTURAL FILL AND SHOULD BE STOCKPILED IN DESIGNATED AREAS BEYOND THE CONSTRUCTION LIMITS, OR REMOVED FROM THE SITE. COORDINATE STOCKPILE LOCATION WITH OWNER. IF REMOVED FROM SITE, DISPOSE OF IN A LEGAL MANNER.
- 3. COMPACT THE EXPOSED SUBGRADE ACROSS THE SITE TO ESTABLISH A FIRM AND UNYIELDING SURFACE. UNDER SUPERVISION OF CITY PROVIDED GEOTECHNICAL ENGINEER, PROOF-ROLL EXPOSED SUBGRADES WITH CONSTRUCTION EQUIPMENT TO ASSIST IN THE EVALUATION OF THE SUBGRADES ACROSS THE SITE. IF UNSTABLE AREAS ARE DETECTED, AN INITIAL ATTEMPT SHOULD BE MADE TO AERATE (12 INCHES MIN.) AND DENSIFY THE SUBGRADE BY RECOMPACTION WHERE NATURAL MOISTURE CONTENTS ARE AT APPROPRIATE LEVELS. IF THIS PROCEEDURE IS INEFFECTIVE, THE DISTURBED SOILS SHOULD BE UNDERCUT AND REPLACED WITH CLEAN FILL AND/OR STABILIZING MATERIALS. COMPACT TO AT LEAST 90% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698 STANDARD PROCTOR METHOD. FILL AND CONSOLIDATE DEPRESSED AREAS. A FIRM, NON-YIELDING SUBGRADE SHOULD BE ESTABLISHED PRIOR TO PROCEEDING WITH FILL PLACEMENT.
- 4. SOIL COMPACTION SHALL BE ACHIEVED BY MEANS OF PNEUMATIC TIRE ROLLERS, HOE PACKS, RIDE-ON DRUM ROLLER OR OTHER MECHANICAL TAMPERS (PLATE, RAMMER, OR WALK BEHIND ROLLER).
- 5. PROVIDE STRUCTURAL FILL AS REQUIRED TO MEET PROPOSED SUBGRADE ELEVATIONS IN ACCORDANCE WITH GRADING PLAN.
- 6. BUILD UP SUBGRADE USING STOCKPILED MATERIAL AND/OR APPROVED MATERIAL WITH LOW PLASTICITY. THE FILL SHOULD BE PLACED IN LIFTS THIN ENOUGH TO ATTAIN THE SPECIFIED COMPACTION LEVEL THROUGHOUT THE ENTIRE LIFT THICKNESS. PRIOR TO COMPACTION, MOISTURE CONDITION AS NEEDED. COMPACT EACH LIFT TO AT LEAST 90 PERCENT OF ASTM D698.
- THE EARTHWORK SHALL BE DONE UNDER SUPERVISION OF A SOILS ENGINEER RETAINED BY THE OWNER (IF REQUIRED BY THE PROJECT), WHO SHALL VERIFY ABOVE

- SPECIFICATIONS FOR THE SUPPORT OF SLAB ON GRADE AND FOR THE CONTROL OF SOIL SWELLING. FIELD DENSITY TESTS TO DETERMINE THE LEVEL OF COMPACTION BEING ACHIEVED IN THE FILL SHALL BE PERFORMED ON EACH LIFT AT THE BEGINNING OF FILL PLACEMENT AND AT A FREQUENCY MUTUALLY AGREED UPON BY THE PROJECT TEAM FOR THE REMAINDER OF THE PROJECT.
- 8. EXCAVATION AND COMPACTION OF FILL SHALL EXTEND TO MINIMUM 2' FEET BEYOND SKATE PARK FOOTPRINT.
- 10. PROCEED WITH SUB-BASE AS REQUIRED ONLY AFTER NONCONFORMING CONDITIONS HAVE BEEN CORRECTED AND SUBGRADE HAS BEEN INSPECTED. A FIRM, NON-YIELDING SUBGRADE SHOULD BE ESTABLISHED PRIOR TO BASE COURSE PLACEMENT.
- 11. PROVIDE THE SPECIFIED DEPTH OF COMPACTED AGGREGATE BASE MATERIAL IF REQUIRED. COMPACT AGGREGATE BASE TO 90% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698 STANDARD PROCTOR METHOD IF REQUIRED.
- 12. PROCEED WITH CONCRETE ONLY AFTER NONCONFORMING CONDITIONS HAVE BEEN CORRECTED, SUBGRADE HAS BEEN INSPECTED, AND FORMWORK AND FIELD MOCK-UPS HAVE BEEN REVIEWED.
- 13. A SOILS REPORT DOES EXIST FOR THIS PROJECT. OWNER SHALL RETAIN A SOILS ENGINEER IF SO REQUIRED BY THE PROJECT, TO VERIFY EXCAVATIONS FOR ASSUMED ALLOWABLE SOIL BEARING, LOW SETTLEMENT AND SWELL POTENTIAL, AND TO MAKE ANY ADDITIONAL RECOMMENDATIONS.

FORMS

- 1. FORM MATERIALS: PLYWOOD, METAL, METAL-FRAMED PLYWOOD, OR OTHER APPROVED PANEL-TYPE MATERIALS FREE FROM DEFECTS AND DISTORTION, AND TO PROVIDE FULL-DEPTH, CONTINUOUS, STRAIGHT, SMOOTH EXPOSED SURFACES.
- USE FLEXIBLE OR CURVED FORMS AS REQUIRED TO PROVIDE VERTICAL AND HORIZONTAL RADII AS INDICATED IN THE DRAWINGS.
- 3. PROVIDE 2" NOMINAL THICKNESS, SURFACED PLANK WOOD FORMS FOR STRAIGHT SECTIONS. USE FLEXIBLE METAL, 1" LUMBER, OR PLYWOOD FORMS FOR RADIUS BENDS. DO NOT OVERLAP FORMS, CREATING AN OFFSET FINISHED EDGE.
- 4. FORM-RELEASE AGENT: COMMERCIALLY FORMULATED FORM-RELEASE AGENT THAT WILL NOT BOND WITH, STAIN, OR ADVERSELY AFFECT CONCRETE SURFACES AND WILL NOT IMPAIR SUBSEQUENT TREATMENTS OF CONCRETE SURFACES.
- 5. EDGE FORMS AND SCREED CONSTRUCTION
- A. SET, BRACE, AND SECURE EDGE FORMS, BULKHEADS, AND INTERMEDIATE SCREED GUIDES FOR PAVEMENT TO REQUIRED LINES, GRADES, AND ELEVATIONS. INSTALL FORMS TO ALLOW CONTINUOUS PROGRESS OF WORK.
- B. CLEAN FORMS AFTER EACH USE AND COAT WITH FORM RELEASE AGENT TO ENSURE SEPARATION FROM CONCRETE WITHOUT DAMAGE.

REINFORCING

- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60. FOR REINFORCING THAT IS TO BE WELDED, CONFORM TO ASTM A706 GRADE 60. USE ASTM A-108 GRADE 60 FOR ALL WELDED ANCHORS.
- 2. JOINT DOWEL BARS: PLAIN STEEL DOWELS, ASTM A 615/A 615M, GRADE 60. CUT BARS TRUE TO LENGTH WITH ENDS SQUARE AND FREE OF BURRS.
- 3. SLIP DOWEL SLEEVES ARE ACCEPTABLE, SUCH AS SPEED DOWELS BY GREENSTREAK, INC., OR APPROVED EQUAL.
- 4. BAR SUPPORTS: BOLSTERS, CHAIRS, SPACERS AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCEMENTS BARS, AND DOWELS IN PLACE. MANUFACTURE BAR SUPPORTS ACCORDING TO CRSI'S "MANUAL OF STANDARD PRACTICE" FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE OR FIBER-REINFORCED CONCRETE OF GREATER COMPRESSIVE STRENGTH THAN CONCRETE.
- 5. ALL REINFORCING BARS TO BE DEFORMED. CLEAR CONCRETE COVERAGES TO ANY REINFORCING INCLUDING TIES ARE AS FOLLOWS:
- A. 2" FORMED CONCRETE EXPOSED TO EARTH OR WEATHER.
- B. 1" SLABS AND JOISTS NOT EXPOSED TO WEATHER.
- C. 1-1/2" ALL OTHER.
- SMALLER CLEARANCES PERMISSIBLE FOR PRECAST OR PRESTRESSED.
- 7. TENSION LAP SPLICES IN CONCRETE: UNLESS NOTED OTHERWISE, PROVIDE THE FOLLOWING:
- A. #3, 9"; #4, 12". 30X DIAMETER FOR TOP BARS
- 8. MINIMUM CLEAR COVER FOR SPLICED REINFORCING IS GREATER THAN ONE BAR DIAMETER, AND MINIMUM CLEAR SPACING IS GREATER THAN TWO BAR DIAMETERS. SPLICE BOTTOM BAR OVER SUPPORTS AND TOP BAR AT MIDSPAN ONLY. WHERE BARS ARE SHOWN SPLICED, THEY MAY RUN CONTINUOUS AT CONTRACTOR'S OPTION.

CONCRETE

- 1. PROVIDE MIX DESIGNS THAT WILL MEET THE MINIMUM REQUIREMENTS LISTED HEREIN:
- A. MINIMUM 28-DAY STRENGTH: 4000 PSI
- B. TYPE I/II/IL CEMENT
- C. SMALL TO MEDIUM AGGREGATE (1" MAX.)
- D. WATER/CEMENT RATIO OF .45 OR LESS
- E. MIX DESIGNS CONTAINING FLY ASH: THE AMOUNT OF FLY ASH USED SHALL NOT EXCEED 20% BY WEIGHT OF THE COMBINED WEIGHT OF FLY ASH PLUS CEMENT.
- F. AIR ENTRAINMENT NOT TO EXCEED 3%.
- 2. DO NOT INSTALL CONCRETE WORK OVER SATURATED, MUDDY, OR FROZEN SUBGRADE.
- 3. PROTECT ADJACENT WORK AND PROVIDE TEMPORARY BARRICADES AS REQUIRED FOR PROTECTION OF PROJECT WORK AND PUBLIC SAFETY.
- 4. MECHANICALLY VIBRATE ALL CONCRETE FLATWORK WHEN PLACED, EXCEPT THAT SLABS ON GRADE AND SLABS ON DECK NEED TO BE VIBRATED ONLY AROUND EMBEDDED ITEMS.
- 5. CONCRETE CYLINDERS SHALL BE TAKEN AND TESTED PER THE ACI CODE, WHEN REQUIRED BY THE PROJECT. FREQUENCY= 1 SET OF CYLINDERS PER 50 CY'S PLACED. OWNER TO BEAR ALL COSTS.
- 6. ALL REINFORCING, INCLUDING DOWELS AND ANCHOR BOLTS, SHALL BE SECURELY TIED IN LOCATION BEFORE PLACING CONCRETE OR GROUT. DOWELS WILL NOT BE ALLOWED TO BE "STABBED" IN.
- 7. IN AN EFFORT TO CONTROL SHRINKAGE AND QUALITY, FLATWORK/FLOORS SHOULD BE PLACED IN SECTIONS OF 25 CY'S OR LESS.
- 8. CONDUITS, PIPES, AND SLEEVES EMBEDDED IN CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI 6.3.

CONCRETE PLACEMENT

- 1. CONSOLIDATE CONCRETE BY MECHANICAL VIBRATING EQUIPMENT SUPPLEMENTED BY HAND-SPADING, RODDING OR TAMPING. USE EQUIPMENT AND PROCEDURES TO CONSOLIDATE CONCRETE ACCORDING TO RECOMMENDATIONS IN ACI 309R.
- A. CONSOLIDATE CONCRETE ALONG FACE OF FORMS AND ADJACENT TO TRANSVERSE JOINTS WITH AN INTERNAL VIBRATOR. KEEP VIBRATOR AWAY FROM JOINT ASSEMBLIES, REINFORCEMENT, OR SIDE FORMS. USE ONLY SQUARE-FACED SHOVELS FOR HAND-SPREADING AND CONSOLIDATION. CONSOLIDATE WITH CARE TO PREVENT DISLOCATING REINFORCEMENT, DOWELS, AND JOINT DEVICES.
- 2. COLD WEATHER PLACEMENT: COMPLY WITH ACI 306.1 AND AS FOLLOWS. PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH THAT COULD BE CAUSED BY FROST, FREEZING ACTIONS, OR LOW TEMPERATURES.
- A. WHEN AIR TEMPERATURE HAS FALLEN TO OR IS EXPECTED TO FALL BELOW 40 DEG F, UNIFORMLY HEAT WATER AND AGGREGATES BEFORE MIXING TO OBTAIN A CONCRETE MIXTURE TEMPERATURE OF NOT LESS THAN 50 DEG F AT POINT OF PLACEMENT.
- B. DO NOT USE FROZEN MATERIALS OR MATERIALS CONTAINING ICE OR SNOW.
- C. DO NOT USE CALCIUM CHLORIDE, SALT, OR OTHER MATERIALS CONTAINING ANTIFREEZE AGENTS OR CHEMICAL ACCELERATORS, UNLESS OTHERWISE SPECIFIED AND APPROVED IN MIX DESIGNS.
- 3. HOT-WEATHER PLACEMENT: PLACE CONCRETE ACCORDING TO RECOMMENDATION IN ACI 305R AND AS FOLLOWS WHEN HOT-WEATHER CONDITIONS EXIST:
 - A. COOL INGREDIENTS BEFORE MIXING TO MAINTAIN CONCRETE TEMPERATURE AT TIME OF PLACEMENT BELOW 100 DEG FAHRENHEIT. CHILLED MIXING WATER OR CHOPPED ICE MAY BE USED TO CONTROL TEMPERATURE, PROVIDED WATER EQUIVALENT OF ICE IS CALCULATED TO TOTAL AMOUNT OF MIXING WATER. USING LIQUID NITROGEN TO COOL CONCRETE IS CONTRACTORS OPTION.
- B. FOG-SPRAY FORMS, REINFORCEMENT STEEL, AND SUBGRADE JUST BEFORE PLACING CONCRETE. KEEP SUBGRADE MOISTURE UNIFORM WITHOUT STANDING WATER, SOFT SPOTS, OR DRY AREAS.
- 4. FINISH: ALL EXPOSED CONCRETE SURFACES ARE TO BE HARD STEEL TROWEL FINISH UNLESS OTHERWISE NOTED. TROWEL UNTIL ALL VISIBLE PORES ARE CLOSED. CEASE TROWELING BEFORE SURFACE BECOMES GLOSSY. DO NOT BROOM FINISH AND DO NOT TROWEL BURN SURFACE.

 a. ALL EDGE TOOLING SHOULD BE 1/8 INCH RADIUS UNLESS

OTHERWISE SPECIFIED.

5. COLOR: ALL CONCRETE SURFACES ARE TO BE NATURAL GRAY COLOR UNLESS OTHERWISE NOTED. MINOR VARIATIONS IN APPEARANCE OF COLORED CONCRETE, WHICH ARE SIMILAR TO NATURAL VARIATIONS IN COLOR AND APPEARANCE OF UNCOLORED CONCRETE, ARE ACCEPTABLE. DO NOT BROOM FINISH AND DO NOT TROWEL BURN SURFACE.

CONCRETE PROTECTION AND CURING

- GENERAL: PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. COMPLY WITH ACI 306.1 FOR COLD-WEATHER PROTECTION AND FOLLOW RECOMMENDATIONS IN ACI 305R FOR HOT-WEATHER PROTECTION DURING CURING. KEEP MOIST FOR NECESSARY AMOUNT OF TIME TO REACH CONCRETE STRENGTH AND INHIBIT MOISTURE LOSS AFTER PLACING.
- 2. EVAPORATION RETARDANT: WATERBORNE,
 MONOMOLECULAR FILM FORMING, MANUFACTURED FOR
 APPLICATION TO FRESH CONCRETE, SUCH AS EUCOBAR
 EVAPORATION RETARDANT BY THE EUCLID CHEMICAL
 COMPANY. APPLY EVAPORATION RETARDANT TO CONCRETE
 SURFACES IF HOT, DRY, OR WINDY CONDITIONS CAUSE
 MOISTURE LOSS BEFORE AND DURING FINISHING
 OPERATIONS. APPLY TO EXPOSED SURFACE OF CONCRETE
 ACCORDING TO MANUFACTURERS WRITTEN INSTRUCTIONS
 AS NECESSARY.
- 3. BEGIN CURING AFTER FINISHING CONCRETE, BUT NOT BEFORE FREE WATER HAS DISAPPEARED FROM CONCRETE SURFACE
- CURING METHODS: CURE CONCRETE BY CURING COMPOUND, MOISTURE CURING, MOISTURE-RETAINING-COVER CURING, OR A COMBINATION OF THESE AS FOLLOWS:
- A. CURING COMPOUND: MEET REQUIREMENTS OF MANUFACTURER'S CURRENT PRINTED APPLICATION INSTRUCTIONS AND COVERAGE RATE CHART. FOR HORIZONTAL APPLICATIONS, IMMEDIATELY APPLY AFTER ALL SURFACE WATER HAS DISAPPEARED AND THE CONCRETE SURFACE IS HARD ENOUGH TO WALK ON. FOR VERTICAL APPLICATIONS, APPLY IMMEDIATELY AFTER REMOVING THE CONCRETE FORMS. APPLY IN A UNIFORM AND CONTINUOUS MANNER. AVOID OVER-APPLICATION OR PUDDLING OF CURING COMPOUND. PROTECT SURFACE FROM WATER, ADJACENT SHOTCRETE WORK, AND DEBRIS.
- B. MOISTURE CURING: KEEP SURFACES CONTINUOUSLY MOIST FOR NOT LESS THAN SEVEN DAYS WITH THE FOLLOWING MATERIALS:
 - WATER.
 - CONTINUOUS WATER-FOG SPRAY.
 ABSORPTIVE COVER, WATER SATURATED, AND KEPT CONTINUOUSLY WET. COVER CONCRETE SURFACES AND EDGES, OVERLAP SEAMS MIN. 6"

BETWEEN ADJACENT ABSORPTIVE COVERS.

C. MOISTURE-RETAINING-COVER CURING:
COVER CONCRETE SURFACES WITH
MOISTURE-RETAINING COVER FOR CURING CONCRETE,
PLACED IN WIDEST PRACTICABLE WIDTH, WITH SIDES
AND ENDS LAPPED AT LEAST 6 INCHES.

CURING MATERIALS

- 1. ABSORPTIVE COVER:

 AASHTO M 182, CLASS 2, BURLAP CLOTH MADE FROM JUTE
 OR KENAF, WEIGHING APPROXIMATELY 90Z./SQ. YD. DRY.
- 2. MOISTURE-RETAINING COVER:

 ASTM C 171, POLYETHYLENE FILM OR WHITE
 BURLAP-POLYETHYLENE SHEET (BUR LENE).
- 3. WATER: POTABLE.
- 4. CURING COMPOUND: ASTM C-309, CLEAR, WATER-BASED, NO VOLATILE, NON-STAINING, MEMBRANE-FORMING, COMPATIBLE WITH SUBSEQUENT CONCRETE TREATMENTS. ACCEPTABLE PRODUCT: W.R. MEADOWS 1100-CLEAR, OR APPROVED EQUAL.

JOINT MATERIALS

- 1 EXPANSION AND ISOLATION JOINT FILLER STRIPS:
 EXPANSION JOINT MATERIALS SHALL BE FLEXIBLE
 POLYETHYLENE CLOSED CELL FOAM OR SIMILAR AND
 SUPPLIED BY CONCRETE CONTRACTOR. DECK-O-FOAM OR
 EQUIVALENT.
- 2 EXPANSION JOINT SEALANT: SIKAFLEX 1A NS TG POLYURETHANE ELASTOMERIC SEALANT, OR APPROVED EQUAL. COLOR OF CAULK SHOULD RESEMBLE NATURAL COLOR OF CONCRETE (ALUMINUM GRAY OR LIMESTONE).
- 3 SAW CUT JOINT SEALANT: SIKAFLEX-1C SL HIGH PERFORMANCE, SELF-LEVELING, 1-PART POLYURETHANE SEALANT, OR APPROVED EQUAL. COLOR OF CAULK SHOULD RESEMBLE NATURAL COLOR OF CONCRETE (ALUMINUM GRAY OR LIMESTONE)

JOINTS

- 1. GENERAL: CONSTRUCT CONSTRUCTION, ISOLATION, AND CONTRACTION JOINTS AND TOOL EDGINGS TRUE TO LINE WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO CENTERLINE, UNLESS OTHERWISE INDICATED.
- 2. EXPANSION JOINTS: FORM EXPANSION JOINTS OF SPECIFIED JOINT-FILLER STRIPS WHERE INDICATED
- A. LOCATE EXPANSION JOINTS AS INDICATED ON DRAWINGS.
- B. EXTEND JOINT FILLERS FULL WIDTH AND DEPTH OF JOINT.

- 3. INSTALL DOWEL BARS AND SUPPORT ASSEMBLIES AT JOINTS WHERE INDICATED. LUBRICATE OR ASPHALT-COAT ONE-HALF DOWEL LENGTH TO PREVENT CONCRETE BONDING TO ONE SIDE OF JOINT.
- 4. CONTROL JOINTS: FORM WEAKENED-PLANE JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTROL JOINTS FOR A DEPTH AS INDICATED IN THE DRAWINGS (GENERALLY 1/3 OF THE PAVEMENT THICKNESS), AS FOLLOWS:
- A. SAWED JOINTS: FORM CONTROL JOINTS WITH POWER SAWS EQUIPPED WITH SHATTERPROOF ABRASIVE OR DIAMOND-RIMMED BLADES. CUT 1/8 INCH WIDE JOINTS INTO CONCRETE WHEN CUTTING ACTION WILL NOT TEAR, ABRADE, OR OTHERWISE DAMAGE SURFACE AN BEFORE DEVELOPING RANDOM CONTRACTION CRACKS. EARLY SAW CUTS ARE APPROXIMATELY 1 INCH DEEP, REGARDLESS OF PAVEMENT THICKNESS. REFER TO CONTROL JOINT GUIDE DRAWING OF PLAN SET IF APPLICABLE.
- B. IF SKATEPARK PROJECT DESIGN UTILIZES POURED STEPS, CONTROL JOINTS MUST BE CUT 3 4 FEET FROM THE EDGE OF THE TOP STEP.
- 5. POST CURE DETAIL WORK (AS NEEDED): GRIND SMOOTH ANY INCONSISTENCIES IN THE FINISH OR HIGH SPOTS BETWEEN POURS.

IFTALS

- FURNISH MATERIALS AND PERFORM LABOR REQUIRED TO EXECUTE THIS WORK AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS NECESSARY TO COMPLETE THE CONTRACT, INCLUDING, BUT NOT LIMITED TO BOWL STEEL COPING, LEDGE STEEL EDGING, HANDRAILS, AND GRIND RAILS
- 2. USING SKILLED WORKERS, FORM AND FABRICATE ITEMS OF WORK AS INDICATED AND AS REQUIRED TO MEET INSTALLATION CONDITIONS. MAKE PROVISIONS TO CONNECT WITH OR RECEIVE THE WORK OF OTHER TRADES.
- 3. USE MATERIALS OF SIZE AND THICKNESS SHOWN OR, IF NOT SHOWN, OF REQUIRED SIZE AND THICKNESS TO PRODUCE STRENGTH AND DURABILITY IN THE FINISHED PRODUCT.
- 4. UNLESS OTHERWISE INDICATED, WELD OR BOLT CONNECTIONS BETWEEN MEMBERS. WHERE POSSIBLE, CONCEAL CONNECTIONS ON THE FINISHED WORK. FIT OR MITER EXPOSED JOINTS TO HAIRLINE TOLERANCE OR USE WELDED JOINTS. ON FINISHED SURFACES, GRIND ALL WELDS SMOOTH AND FLUSH WITH BASE METAL.
- 5. WELD CONNECTIONS WHICH ARE NOT TO BE LEFT AS EXPOSED JOINTS, BUT CANNOT BE SHOP WELDED BECAUSE OF SHIPPING SIZE LIMITATIONS.
- 6. CAP ALL EXPOSED TUBE OR PIPE ENDS. USE SIZE AND THICKNESS OF MATERIAL SHOWN. PROPERLY FIT AND WELD CAP AT JOINT, GRIND WELD SMOOTH AND FLUSH WITH BASE METAL.
- 7. BEND PIPE OR TUBING WITHOUT COLLAPSING OR DEFORMING THE WALLS, SO AS TO PRODUCE A SMOOTH UNIFORM CURVED SECTION AND MAINTAIN UNIFORM SECTIONAL SHAPE.
- B. WHERE ITEMS ARE TO BE IMBEDDED IN CONCRETE OR MASONRY, PROVIDE WELDED-ON ANCHORS OR LUGS AS INDICATED OR REQUIRED.
- 9. PROVIDE TEMPORARY BRACING OR ANCHORS IN FORMWORK FOR ITEMS WHICH ARE TO BE BUILT INTO CONCRETE OR SIMILAR CONSTRUCTION.
- 10. FASTENING TO IN-PLACE CONSTRUCTION: PROVIDE ANCHORING DEVICES AND FASTENERS WHERE NECESSARY FOR SECURING MISCELLANEOUS METAL FABRICATIONS TO IN-PLACE CONSTRUCTION INCLUDING THREADED FASTENERS FOR CONCRETE INSERTS, OR OTHER CONNECTORS AS REQUIRED.
- 11. GALVANIZING REPAIR--USE A HIGH ZINC DUST CONTENT PAINT FOR RE-GALVANIZING WELDS IN GALVANIZED STEEL HOT GALVANIZED SOLDER IS ALSO ACCEPTABLE. USE RUST-OLEUM COLD GALVANIZING COMPOUND SPRAY, OR SIMILAR.
- 12. ALL WELDING SHALL CONFORM TO REQUIREMENTS OF AWS STANDARDS. ALL WELDING SHALL BE SHIELDED METAL ARC WELDING. WELDS IN FINISH WORK SHALL BE FILLED OUT FLUSH, GROUND AND DISTRESSED.
- 13. ASTM A-36 FOR C, MC, ANGLES, AND PLATES.
- 14. ASTM A-53 GRADE B OR A-500 GRADE B OR A-501 GRADE B FOR STEEL PIPES.
- 15. ASTM A-123 STANDARD SPECIFICATION FOR ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS
- 16. ASTM A-780 STANDARD PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT-DIP GALVANIZED COATINGS.

SUPPLEMENTARY NOTES

1. THESE CONTRACT DOCUMENTS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE IMPROVEMENTS, WORKERS, AND OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, MEANS AND METHODS, BRACING, SHORING, FORMS, SCAFFOLDING, GUYING OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD ELEMENTS IN PLACE DURING CONSTRUCTION.

- OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- 2. OPTIONS AND SUBSTITUTIONS (APPROVED BY OWNER/SKATEPARK DESIGNER/ARCHITECT) ARE FOR CONTRACTOR'S CONVENIENCE. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING ALL CHANGES AND ADDITIONAL COSTS NECESSARY AND SHALL COORDINATE ALL DETAILS WITH SKATEPARK DESIGNER THROUGH PRIME CONTRACTOR.
- 3. ANY ENGINEERING DESIGN PROVIDED BY CONTRACTOR OR OTHERS AND SUBMITTED FOR REVIEW SHALL BE WET SIGNED AND STAMPED BY AN INSURED REGISTERED STRUCTURAL OR CIVIL ENGINEER LICENSED IN THE STATE OF WHICH THE PROJECT IS LOCATED, IF REQUIRED BY CITY OR COUNTY.
- 4. UNLESS NOTED OTHERWISE, DETAILS ON CONSTRUCTION DRAWINGS ARE TYPICAL AS INDICATED BY CUTS, REFERENCES, OR TITLES. ALL DETAILS SHOWN SHALL BE IMPORTED INTO THE PROJECT AT ALL APPROPRIATE LOCATIONS, WHETHER SPECIFICALLY INDICATED OR NOT. TYPICAL DETAILS MAY OR MAY NOT BE REFERENCED ON THE DOCUMENTS, BUT SHALL APPLY AT ALL LOCATIONS, UNLESS NOTED OTHERWISE. WHERE NO DETAIL CUTS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK SHOWN ELSEWHERE ON THE PROJECT. FOR BIDDING PURPOSES, WHERE ANY SHOWN MEMBER OR STRUCTURAL ELEMENT IS NOT SIZED ON THE DOCUMENTS, THE LARGEST SIMILAR MEMBER USED IN THE PROJECT SHALL BE UTILIZED.
- 5. ALL DIMENSIONS AND ELEVATIONS SHOWN ON CONSTRUCTION DRAWINGS SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS (IF REQUIRED BY THE PROJECT). RESOLVE ALL DISCREPANCIES WITH SKATEPARK DESIGNER AND PRIME CONTRACTOR PRIOR TO START OF CONSTRUCTION. DO NOT SCALE DRAWINGS.
- 6. CONTRACTOR SHALL ESTABLISH AND VERIFY IN FIELD ALL EXISTING CONDITIONS AFFECTING NEW CONSTRUCTION. CONTACT SKATEPARK DESIGNER AND PRIME CONTRACTOR IMMEDIATELY IF EXISTING CONDITIONS ARE NOT AS DEPICTED IN DRAWINGS.
- 7. *SKATE FEATURE DESIGN AND LAYOUT ARE THE RESPONSIBILITY OF THE SKATEPARK DESIGNER.

PAVEMENT TOLERANCES

4. CONTRACTOR MUST ACHIEVE POSITIVE DRAINAGE FOR ALL SURFACES WITHIN THE SKATEPARK AREA WHENEVER POSSIBLE.

REPAIRS AND PROTECTION

- 1. REMOVE AND REPLACE CONCRETE PAVEMENT THAT IS BROKEN, DAMAGED, OR DEFECTIVE, OR DOES NOT MEET REQUIREMENTS IN THIS SECTION. THE CONTRACTOR SHALL FIX ALL CRACKS AND DISPLACEMENTS LARGER THAN 1/8" UP TO THE PROJECT COMPLETION.
- 2. PROTECT CONCRETE FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVEMENT FOR AT LEAST 14 DAYS AFTER PLACEMENT. WHEN CONSTRUCTION TRAFFIC IS PERMITTED, MAINTAIN PAVEMENT AS CLEAN AS POSSIBLE BY REMOVING SURFACE STAINS AND SPILLAGE OF MATERIALS AS THEY
- 3. MAINTAIN CONCRETE PAVEMENT OF FREE STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL.

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Page 58 of 72

SHOTCRETE SPECIFICATIONS

PART 1- GENERAL

1.1 SUMMARY

- A. SPECIALTY CONSTRUCTION:
- A.A. DESCRIPTION: SHOTCRETE APPLICATION, CUTTING, SCULPTING AND FINISH WORK HAS BEEN DEEMED AS SPECIALTY CONSTRUCTION WORK WITHIN THE CONSTRUCTION DOCUMENTS. ALL WORK RELATED TO THE SPECIALTY CONSTRUCTION SHALL BE COORDINATED BY THE PROJECT ENGINEER, AND THE PRE-QUALIFIED SPECIALTY CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION.

1.2 QUALITY ASSURANCE

- A. STANDARDS: COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE FOLLOWING CODES AND STANDARDS, EXCEPT AS HEREIN MODIFIED:
- A.A. AMERICAN CONCRETE INSTITUTE (ACI): 506, CHAPTER
- 13, WET METHOD. CHAPTER 5, SHOTCRETE CREW A.B. ASTM: "AMERICAN SOCIETY FOR TESTING MATERIALS"

1.3 REFERENCE STANDARDS

- A. ACI 305- RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING.
- B. ACI 306- RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING.
- C. ASTM C33- CONCRETE AGGREGATES
- D. ASTM C94- READY-MIXED CONCRETE
- E. ASTM C143- TEST FOR SLUMP OF PORTLAND CEMENT CONCRETE
- F. ASTM C150- PORTLAND CEMENT
- G. ASTM C260- AIR-ENTRAINING ADMIXTURES FOR CONCRETE
- H. ASTM C494- CHEMICAL ADMIXTURES FOR CONCRETE
- I. ASTM C618- FLY ASH AND RAW OR CALCINED NATURAL POZZOLANS FOR USE IN PORTLAND CEMENT CONCRETE.

- 1.4 JOB CONDITIONS A. COORDINATION:
 - A.A. COORDINATE SCHEDULES OF CONCRETE WORK TO ALLOW ADEQUATE TIME FOR INSTALLATION OF OTHER RELATED WORK.
 - A.B. VERIFY THAT ANCHOR BOLTS AND OTHER EMBEDDED STEEL ITEMS TO BE CAST INTO CONCRETE ARE PROPERLY PLACED.
 - A.C. COORDINATE EARTHWORK AND SOILS REPORT RECOMMENDATIONS WITH PLACEMENT REQUIREMENTS.
 - A.D. COORDINATE WITH FORM-WORK AND FINISHES SECTIONS TO PROVIDE FINISH FLOORLEVELNESS AND FLATNESS AS SPECIFIED HEREIN. SLOPE TO DRAINS AT GRADES AND PERCENT SLOPE SHOWN IN THE CONSTRUCTION DRAWINGS.

PART 2- SHOTCRETE WORK

2.1 SHOTCRETE MIX DESIGN

- A. PROVIDE MIX DESIGNS THAT WILL MEET THE MINIMUM REQUIREMENTS LISTED HEREIN:
- A.A. MINIMUM 28-DAY STRENGTH: 4000 PSI
- A.B. TYPE I/II/IL CEMENT
- A.C. SMALL AGGREGATE (1/2" MAX.)
- A.D. WATER/CEMENT RATIO OF .45 OR LESS A.E. AIR ENTRAINMENT NOT TO EXCEED 3%
- B. MIX DESIGNS FOR SHOTCRETE CONTAINING FLY ASH: THE AMOUNT OF FLY ASH USED SHALL NOT EXCEED 20% BY WEIGHT OF THE COMBINED WEIGHT OF FLY ASH PLUS

2.2 CONCRETE APPLICATION EQUIPMENT

- A. FOR WET MIX SHOTCRETE:
- A.A. MIXING EQUIPMENT: CAPABLE OF THOROUGHLY MIXING AGGREGATE, CEMENT AND WATER IN SUFFICIENT QUANTITY TO MAINTAIN CONTINUOUS PLACEMENT.
- A.B. AIR SUPPLY: CLEAN AIR ADEQUATE FOR MAINTAINING SUFFICIENT NOZZLE VELOCITY FOR PARTS OF WORK, AND FOR SIMULTANEOUS OPERATION OF BLOW PIPE FOR CLEANING AWAY REBOUND.
- A.C. DELIVERY EQUIPMENT: CAPABLE OF DISCHARGING AGGREGATE-CEMENT-WATER MIXTURE ACCURATELY, UNIFORMLY, AND CONTINUOUSLY THROUGH DELIVERY

PART 3- EXECUTION

3.1 INSPECTION

- A. EXAMINATION: EXAMINE CONCRETE FORMWORK AND VERIFY THAT IT IS TRUE TO LINE AND DIMENSION, ADEQUATELY BRACED AGAINST VIBRATION, AND CONSTRUCTED TO PERMIT ESCAPE OF AIR AND REBOUND BUT TO PREVENT LEAKAGE DURING SHOTCRETING. CORRECT DEFICIENCIES.
- B. NOTIFICATION: NOTIFY OTHER TRADES INVOLVED IN AMPLE TIME TO PERMIT THE PROPER INSTALLATION OF THEIR WORK. COOPERATE IN SETTING SUCH WORK.
- C. EXISTING SURFACES: EXAMINE EXISTING CONCRETE SURFACES FOR UNSOUND MATERIAL. CORRECT DEFICIENCIES.

3.2 PREPARATION FOR INSTALLATION OF CONCRETE

A. FORMS: USE A FORM-COATING MATERIAL ON REMOVABLE FORMS TO PREVENT ABSORPTION OF MOISTURE AND TO PREVENT BOND WITH SHOTCRETE.

3.3 CONCRETE BATCHING AND MIXING

A. PROPORTIONS: MIX PROPORTIONS SHALL BE CONTROLLED BY WEIGHT BATCHING.

B. SCHEDULING: CONCRETE SHALL NOT EXCEED A TEMPERATURE OF 100 DEGREES FAHRENHEIT AT TIME OF PLACEMENT UNLESS PRE-APPROVED BY THE PROJECT ENGINEER.

3.4 CONCRETE PLACEMENT

- A. PLACEMENT: USE SUITABLE DELIVERY EQUIPMENT AND PROCEDURES THAT WILL RESULT IN SHOTCRETE IN PLACE MEETING THE REQUIREMENTS OF THIS SPECIFICATION. DETERMINE OPERATING PROCEDURES FOR PLACEMENT IN, EXTENDED DISTANCES, AND AROUND ANY OBSTRUCTIONS WHERE PLACEMENT VELOCITIES AND MIX CONSISTENCY MUST BE ADJUSTED.
- B. PLACEMENT TECHNIQUES:
- B.A. CONTROL THICKNESS, METHOD OF SUPPORT, AIR PRESSURE, AND/OR WATER CONTENT OF SHOTCRETE TO PRECLUDE SAGGING OR SLOUGHING OFF. DISCONTINUE SHOTCRETING OR PROVIDE SUITABLE MEANS TO SCREEN THE NOZZLE STREAM IF WIND OR AIR CURRENTS CAUSE SEPARATION OF THE NOZZLE STREAM DURING PLACEMENT.
- B.B. HOLD NOZZLE AS PERPENDICULAR TO SURFACE AS WORK WILL PERMIT, TO SECURE MAXIMUM COMPACTION WITH MINIMUM REBOUND.
- B.C. IN SHOTCRETING WALLS, BEGIN APPLICATION AT BOTTOM. ENSURE WORK DOES NOT SAG.
- B.D.A. BUILD UP LAYERS BY MAKING SEVERAL PASSES OF NOZZLE OVER WORK AREA.
- B.D.B. MAKE SURE SURFACE IS ADEQUATELY ROUGH TO WHICH, AFTER HARDENING, ADDITIONAL LAYERS 3.17 CURING MATERIALS OF SHOTCRETE ARE TO BE BONDED.
- B.D.C. DAMPEN SURFACE (ACHIEVE SATURATED SURFACE DRY (SSD) CONDITION) JUST PRIOR TO APPLICATION OF SUCCEEDING LAYERS.
- B.D.D. ALLOW EACH LAYER OF SHOTCRETE TO TAKE INITIAL SET BEFORE APPLYING SUCCEEDING LAYERS.
- B.D.E. USE RADIAL TEMPLATES TO INSURE EXACT RADII FROM FLAT BOTTOM OF BOWL/PIPE TO FACE OF COPING. TEMPLATE SHALL BE FABRICATED FROM STEEL OR 3/4" MINIMUM PLYWOOD. CHECK **EVERY HORIZONTAL FOOT WHEN APPLYING** SHOTCRETE FOR CONFORMANCE OF INTENDED WALL RADII. BRACE TEMPLATE AND PLACE LEVELS AT ARC TO TANGENT CONNECTIONS TO INSURE NO KINKS WILL BE FORMED. KINKS AT THE BOTTOM OF BOWLS WILL NOT BE ACCEPTABLE. SLUMPING OF THE SHOTCRETE CAUSING COPING SETBACK WILL NOT BE ACCEPTABLE.
- B.D.F. REMOVE ANY REBOUND OR ACCUMULATED LOOSE AGGREGATE FROM SURFACES TO BE COVERED PRIOR TO PLACING THE INITIAL OR ANY 3.19 CRACKING SUCCEEDING LAYERS OF SHOTCRETE. REBOUND SHALL NOT BE USED AS AGGREGATE.
- B.E. PLACEMENT AROUND REINFORCEMENT: B.E.A. HOLD THE NOZZLE AT SUCH DISTANCE AND
- ANGLE TO PLACE MATERIALS BEHIND REINFORCEMENT BEFORE ANY MATERIAL IS ALLOWED TO ACCUMULATE ON ITS FACE.
- B.F. ACCESS: ALLOW EASY ACCESS TO SHOTCRETE SURFACES FOR SCREEDING AND FINISHING, PERMITTING UNINTERRUPTED APPLICATION.

3.14 REMOVAL OF SURFACE DEFECTS IN CONCRETE

A. GENERAL: REMOVE AND REPLACE SHOTCRETE WHICH LACKS UNIFORMITY, EXHIBITS SEGREGATION, HONEYCOMBING, OR LAMINATION, OR WHICH CONTAINS ANY DRY PATCHES, SLUGS, VOIDS OR POCKETS. REMOVE DEFECTIVE AREAS.

3.15 SHOTCRETE FINISH

- A. FINISH: ALL EXPOSED SHOTCRETE SURFACES ARE TO BE HARD STEEL TROWEL FINISH UNLESS OTHERWISE NOTED. TROWEL UNTIL ALL VISIBLE POURS ARE CLOSED. CEASE TROWEL BEFORE GLASS FORMS ON SURFACE. DO NOT BROOM FINISH AND DO NOT BURN SURFACE.
- B. GRINDING THE SURFACES WILL NOT BE AN ACCEPTABLE MEANS OF ACHIEVING THE INTENDED RADII/ANGLE.
- C. COLOR: ALL SHOTCRETE SURFACES ARE TO BE NATURAL GRAY COLOR UNLESS OTHERWISE NOTED. MINOR VARIATIONS IN APPEARANCE OF COLORED CONCRETE, WHICH ARE SIMILAR TO NATURAL VARIATIONS IN COLOR AND APPEARANCE OF UNCOLORED CONCRETE, ARE ACCEPTABLE. DO NOT BROOM FINISH AND DO NOT TROWEL BURN SURFACE.
- D. DURING THE CURING PERIOD, CONCRETE SHALL BE MAINTAINED AT A TEMPERATURE ABOVE 40 DEGREES FAHRENHEIT AND IN MOIST CONDITION. FOR INITIAL CURING, CONCRETE SHALL BE KEPT CONTINUOUSLY MOIST FOR 24 HOURS AFTER PLACEMENT IS COMPLETE. FINAL CURING SHALL CONTINUE FOR SEVEN DAYS AFTER PLACEMENT. COVER CONCRETE WITH POLYETHYLENE PLASTIC TO MAINTAIN TEMPERATURE IF NECESSARY. LAP SEAMS IN THE PLASTIC 6" AND WEIGH DOWN.
- E. THE CONTRACTOR SHALL FIX ALL CRACKS AND DISPLACEMENTS LARGER THAN 1/8" UP TO THE PROJECT COMPLETION.

3.16 CONCRETE PROTECTION AND CURING

- 1. NERAL: PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. COMPLY WITH ACI 306.1 FOR COLD-WEATHER PROTECTION AND FOLLOW RECOMMENDATIONS IN ACI 305R FORHOT-WEATHER PROTECTION DURING CURING. KEEP MOIST FOR NECESSARY AMOUNT OF TIME TO REACH CONCRETE STRENGTH AND INHIBIT MOISTURE LOSS AFTER PLACING.
- 2. EVAPORATION RETARDANT: WATERBORNE, MONOMOLECULAR FILM FORMING, MANUFACTURED FOR APPLICATION TO FRESH CONCRETE, SUCH AS EUCOBAR EVAPORATION RETARDANT BY THE EUCLID CHEMICAL COMPANY. APPLY EVAPORATION RETARDANT TO CONCRETE SURFACES IF HOT, DRY, OR WINDY CONDITIONS CAUSE MOISTURE LOSS BEFORE AND DURINGFINISHING OPERATIONS. APPLY TO EXPOSED SURFACE OF CONCRETE ACCORDING TO MANUFACTURERS WRITTEN INSTRUCTIONS AS NECESSARY.
- 3. BEGIN CURING AFTER FINISHING CONCRETE, BUT NOT BEFORE

FREE WATER HAS DISAPPEARED FROM CONCRETE SURFACE.

- 4. CURING METHODS: CURE CONCRETE BY CURING COMPOUND, MOISTURE CURING, MOISTURE-RETAINING-COVER CURING, OR A COMBINATION OF THESE AS FOLLOWS:
- A. CURING COMPOUND: MEET REQUIREMENTS OF MANUFACTURER'S CURRENT PRINTED APPLICATION INSTRUCTIONS AND COVERAGE RATE CHART. FOR HORIZONTAL APPLICATIONS, IMMEDIATELY APPLY AFTER ALL SURFACE WATER HAS DISAPPEARED AND THE CONCRETE SURFACE IS HARD ENOUGH TO WALK ON. FOR VERTICAL APPLICATIONS, APPLY IMMEDIATELY AFTER REMOVING THE CONCRETE FORMS. APPLY IN A UNIFORM AND CONTINUOUS MANNER. AVOID OVER-APPLICATION OR PUDDLING OF CURING COMPOUND. PROTECT SURFACE FROM WATER, ADJACENT SHOTCRETE WORK, AND DEBRIS.
- B. MOISTURE CURING: KEEP SURFACES CONTINUOUSLY MOIST FOR NOT LESS THAN SEVEN DAYS WITH THE FOLLOWING MATERIALS:
- B.A. WATER.
- B.B. CONTINUOUS WATER-FOG SPRAY.
- B.C. ABSORPTIVE COVER, WATER SATURATED, AND KEPT CONTINUOUSLY WET. COVER CONCRETE SURFACES AND EDGES, OVERLAP SEAMS MIN. 6" BETWEEN ADJACENT ABSORPTIVE COVERS.
- C. MOISTURE-RETAINING-COVER CURING:
- C.A. COVER CONCRETE SURFACES WITH MOISTURE-RETAINING COVER FOR CURING CONCRETE, PLACED IN WIDEST PRACTICABLE WIDTH, WITH SIDES AND ENDS LAPPED AT LEAST 6 INCHES.

ABSORPTIVE COVER:

- AASHTO M 182, CLASS 2, BURLAP CLOTH MADE FROM JUTE OR KENAF, WEIGHING APPROXIMATELY 90Z./SQ. YD. DRY.
- 2. MOISTURE-RETAINING COVER: ASTM C 171, POLYETHYLENE FILM OR WHITE
- BURLAP-POLYETHYLENE SHEET (BUR LENE).
- 3. WATER: POTABLE.
- 4. CURING COMPOUND: ASTM C-309, CLEAR, WATER-BASED, NO VOLATILE, NON-STAINING, MEMBRANE-FORMING, COMPATIBLE WITH SUBSEQUENT CONCRETE TREATMENTS. ACCEPTABLE PRODUCT: W.R. MEADOWS 1100-CLEAR, OR APPROVED EQUAL

3.18 CONCRETE JOINTS

- A. CLEANING: THE ENTIRE JOINT SHALL BE THOROUGHLY CLEANED AND WETTED PRIOR TO THE APPLICATION OF ADDITIONAL SHOTCRETE.
- B. REINFORCEMENT: MAKE JOINTS PERPENDICULAR TO THE MAIN REINFORCEMENT. CONTINUE REINFORCEMENT ACROSS JOINTS.

- A. SAW CUT CONTROL JOINTS AND CONSTRUCTION JOINTS MAY BE SHOWN IN THE CONSTRUCTION DRAWINGS FOR DIAGRAMMATIC PURPOSES ONLY. THE CONTRACTOR MAY, WITH APPROVAL OF THE SKATEPARK DESIGNER, RECOMMEND AND DETAIL ADDITIONAL JOINTS TO HELP PREVENT CRACKING.
- B. THE CONTRACTOR SHALL FIX ALL CRACKS AND DISPLACEMENTS LARGER THAN 1/8" UP TO PROJECT COMPLETION.



Page 59 of 72

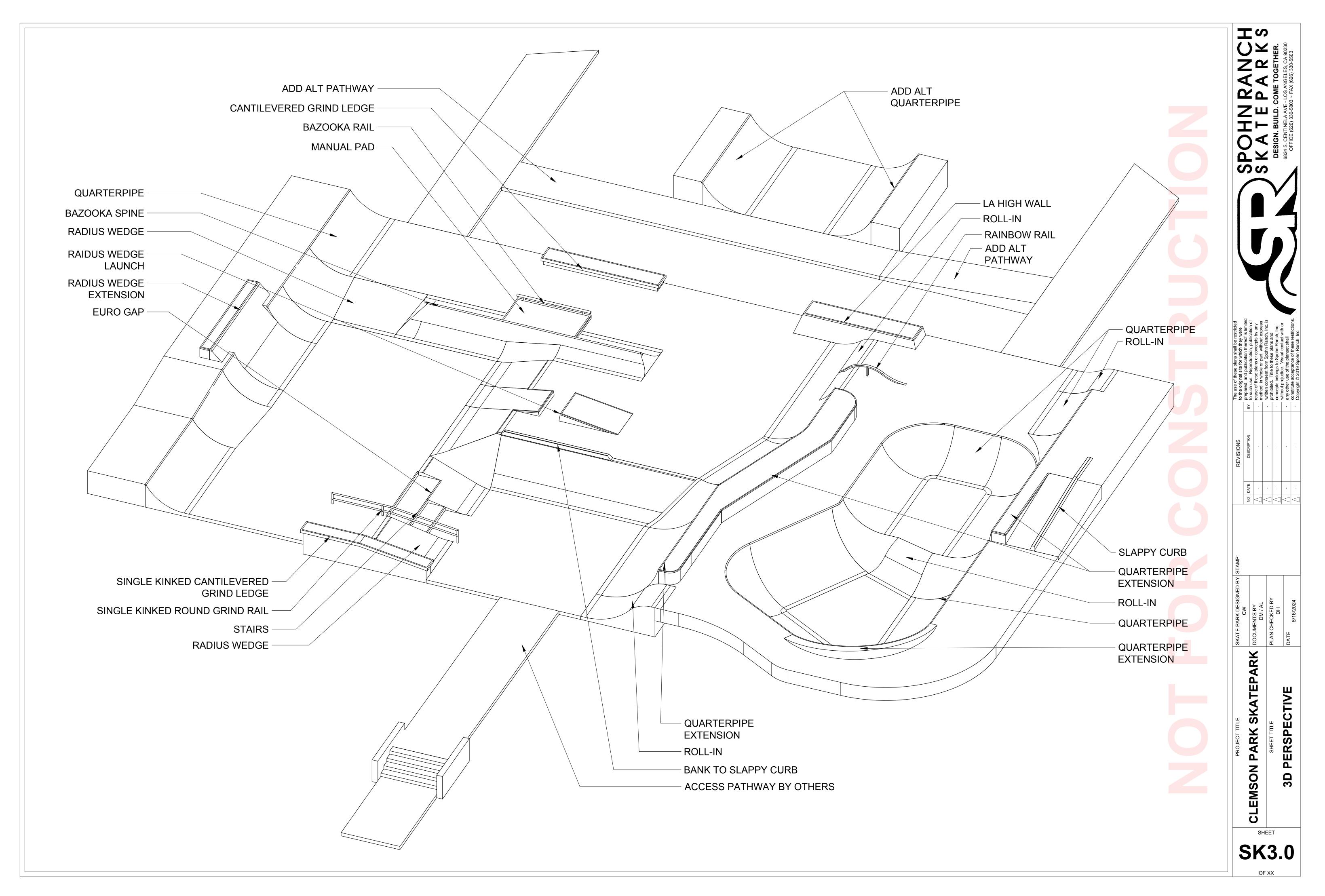
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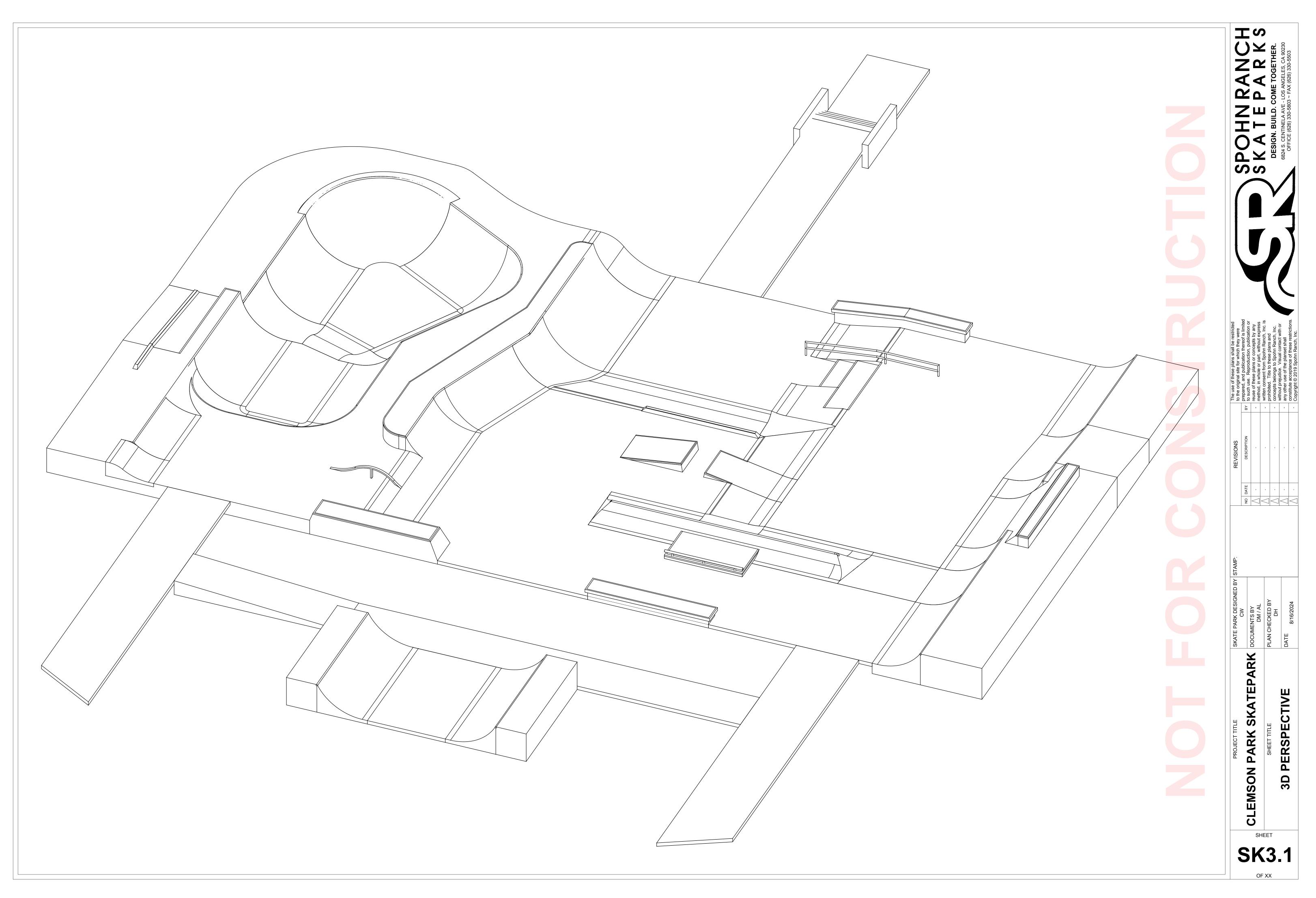
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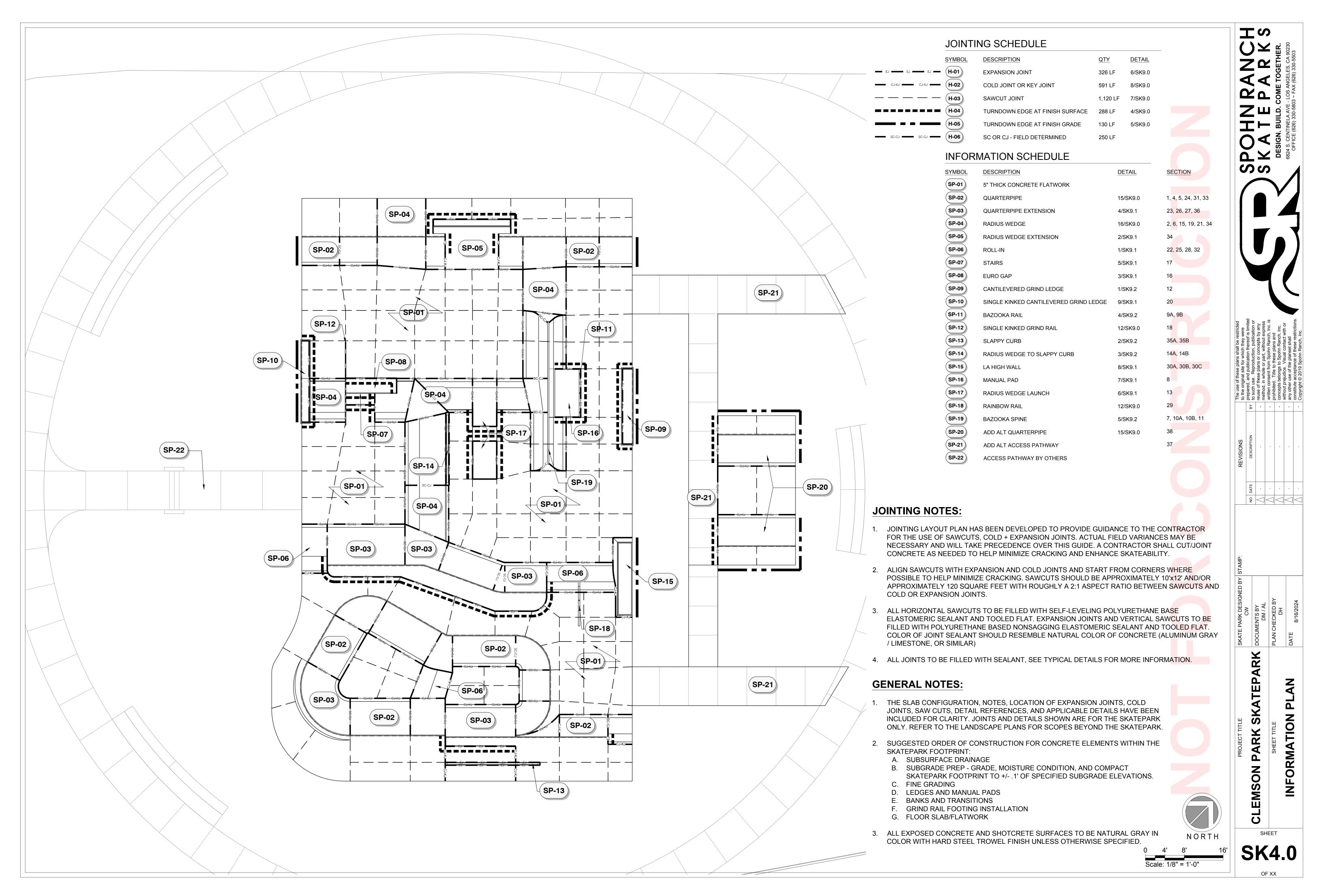
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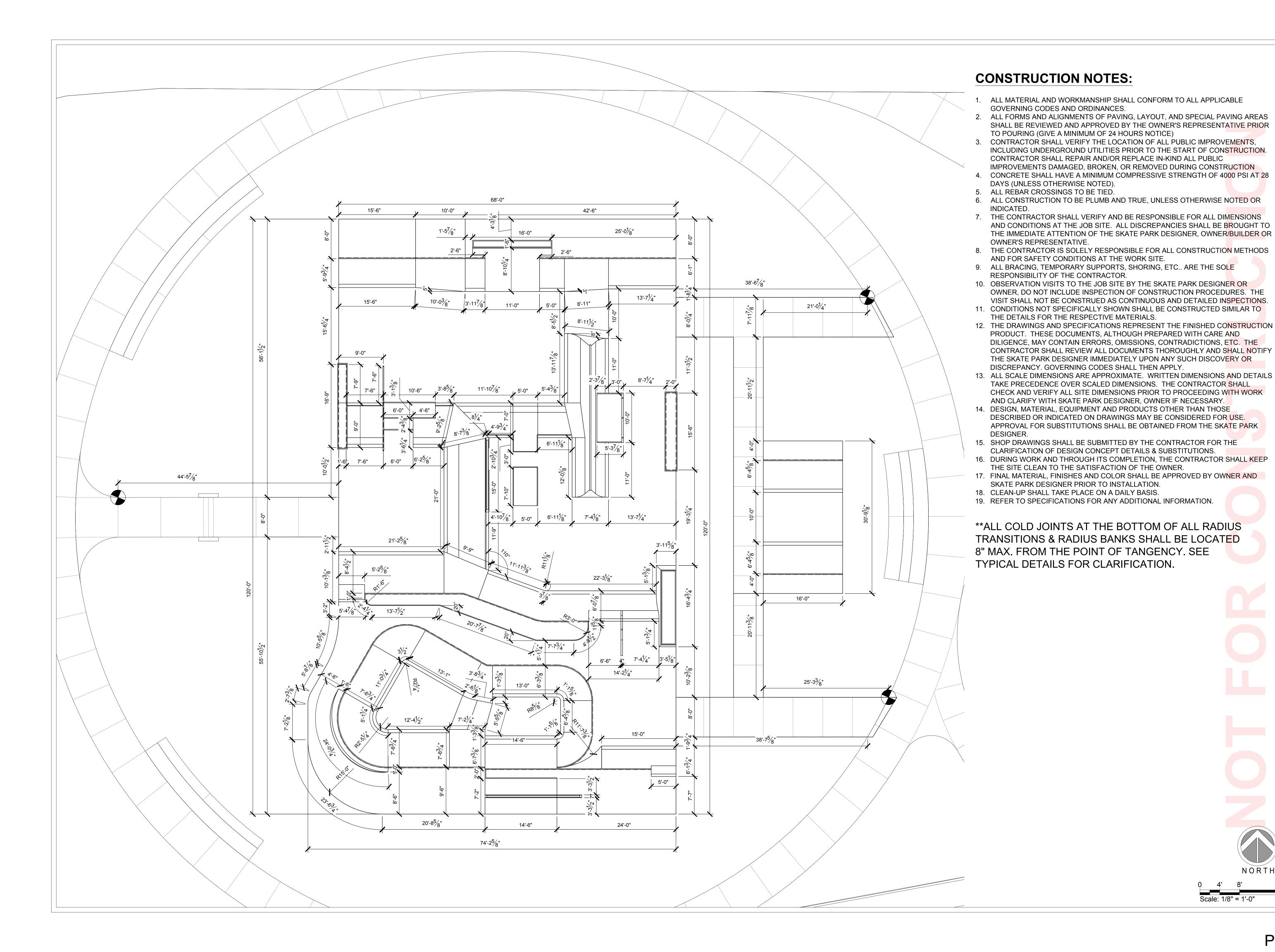
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