

THIS DRAWING SIZE IS 24" X 36" WHEN PLOTTED FULL SIZE. THIS LINE WILL PLOT AS 1/16" INCH.

U:\UTILITYENGINEERING\CLIENTS\ROCKY MOUNT, NC\GENERATION\FOUNDATION\DESIGNS (2022)\320R0 - FOUNDATION SPECIFICATIONS.DWG

FOUNDATION SPECIFICATIONS

SCOPE OF WORK

THIS SPECIFICATION AND ACCOMPANYING DRAWINGS REFERENCED HEREIN ARE TO COVER WORK RELATED TO THE COMPLETE CONSTRUCTION AND INSTALLATION OF THE REINFORCED CONCRETE FOUNDATIONS FOR THE SUBSTATION STRUCTURES ON THIS PROJECT.

ALL WORK SHALL BE PERFORMED IN A WORKMAN LIKE MANNER AND SHALL CONFORM TO THE DRAWINGS, DETAILS AND SPECIFICATIONS. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA BUILDING CODE, AMERICAN CONCRETE INSTITUTE (ACI), PORTLAND CEMENT ASSOCIATION (PCA), NATIONAL ELECTRICAL SAFETY CODE (NESC) AND NATIONAL ELECTRICAL CODE (NEC).

WHEREVER THE WORDS "THE ENGINEER" ARE USED HEREIN, THEY REFER TO THE UTILITY ENGINEERING, LLC PROJECT ENGINEER.

THE CITY WILL HAVE THE HUBS SET FOR TWO PERPENDICULAR BASE LINES, FENCE CORNER LOCATIONS AND WILL PROVIDE A BENCHMARK. THE CONTRACTOR SHALL PERFORM ALL LAYOUT WORK NECESSARY TO ENSURE THE FOUNDATIONS ARE CONSTRUCTED IN THE LOCATIONS AND TO THE DIMENSIONS AND ORIENTATIONS SPECIFIED.

SOIL CONDITIONS

SOIL BORING(S), IF PROVIDED, ARE AN INDICATION OF THE SOIL CONDITIONS BELOW THE SURFACE AT THE TIME THE BORING(S) WERE TAKEN. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SURFACE AND SUBSURFACE CONDITIONS AT THE SUBSTATION SITE. IF THE ACTUAL SOIL CONDITIONS ARE APPRECIABLY DIFFERENT FROM THOSE INDICATED, ALL WORK BY THE CONTRACTOR ON THE FOUNDATION INSTALLATION SHALL CEASE. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY BEFORE PROGRESSING.

EXCAVATION AND BACKFILL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE EXCAVATION FOR THE FOUNDATIONS TO THE DIMENSIONS SHOWN ON THE DRAWINGS AND OFF-SITE DISPOSAL OF THE MATERIALS ENCOUNTERED DURING THE EXCAVATION.

THE EXCAVATION SHALL BE CARRIED OUT IN SUCH A MANNER AS TO PROVIDE EXCAVATED SURFACES WHICH CONFORM AS CLOSELY AS SUBSURFACE CONDITIONS WILL ALLOW TO THE NEAT LINE CONCRETE QUANTITIES. THE SIDES OF THE EXCAVATION SHALL BE FREE FROM APPRECIABLE QUANTITIES OF LOOSE MATERIAL WHICH COULD PREVENT EFFECTIVE CONTACT OF CONCRETE WITH UNDISTURBED SOIL OR ROCK.

THE ENGINEER MAY DETERMINE IT IS DESIRABLE OR NECESSARY TO CONTINUE THE EXCAVATION TO A DEPTH GREATER THAN THAT SHOWN ON THE DRAWINGS DUE TO UNSUITABLE SOIL CONDITIONS. THE ADDITIONAL EXCAVATION SHALL BE AUTHORIZED AND DIRECTED BY THE ENGINEER AND SHALL BE FILLED WITH CONCRETE OR CRUSHER RUN STONE MECHANICALLY COMPACTED IN 6" LAYERS.

THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS TO PREVENT THE SOIL FROM CAVING DURING THE EXCAVATION PROCESS AND DURING THE PLACEMENT OF THE FORMWORK, REINFORCING STEEL AND CONCRETE. THE EXCAVATION OF THE FOUNDATIONS SHALL BE PERFORMED SO THAT THERE SHALL BE TIME FOR THE PLACEMENT OF THE REINFORCING STEEL AND CONCRETE IN ONE CONTINUOUS OPERATION.

THE EXCAVATIONS SHALL BE MAINTAINED IN A CLEAN AND SOUND CONDITION UP TO THE TIME OF PLACEMENT OF REINFORCING STEEL AND CONCRETE. ANY MUD, FALLEN DEBRIS OR LOOSE MATERIAL SHALL BE REMOVED FROM THE EXCAVATION PRIOR TO PLACEMENT OF THE CONCRETE.

WATER SHALL NOT BE ALLOWED TO STAND IN EXCAVATIONS. DEWATERING EQUIPMENT SHALL BE USED TO KEEP THE EXCAVATION DRY FROM THE TIME THE EXCAVATION IS COMPLETE UNTIL THE TIME CONCRETE IS PLACED.

A THIN SEAL SLAB OF CONCRETE MAY BE PLACED IN THE FOUNDATION BED ON UNDISTURBED SOIL IN ORDER TO FACILITATE DEWATERING. THIS SLAB SHALL BE BELOW THE DESIGNATED FOUNDATION DEPTH AND SHALL NOT BE CONSIDERED PART OF THE FOUNDATION.

REINFORCED CONCRETE

ALL WORK AND MATERIALS SHALL BE IN COMPLIANCE WITH THE LATEST EDITIONS OF THE FOLLOWING CODES AND STANDARDS, WHICH BY REFERENCE, ARE HEREBY INCORPORATED INTO THIS SPECIFICATION:

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 304, ACI 305R, ACI 306, ACI 308, ACI 309, ACI 318, ACI 347

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 615, ASTM C 31, ASTM C 33, ASTM C 39, ASTM C 42, ASTM C 94, ASTM C143, ASTM C 144, ASTM C 150, ASTM C 171, ASTM C 172, ASTM C 173, ASTM C 260, ASTM C 299, ASTM C 309, ASTM C 441, ASTM C 494, ASTM 803

PORTLAND CEMENT ASSOCIATION (PCA)

PCA (DESIGN AND CONTROL OF CONCRETE MIXTURES)

REINFORCING STEEL

REINFORCING BARS SHALL BE PLACED IN THE POSITIONS AS INDICATED ON THE DRAWINGS. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS SHALL BE SPACED EQUALLY AND IN ACCORDANCE WITH ACI 318, CHAPTER 7.

ALL REINFORCEMENT SHALL BE NEW DEFORMED BARS CONFORMING TO ASTM A615. UNLESS OTHERWISE SPECIFIED A MINIMUM OF GRADE 60 STEEL BARS SHALL BE USED.

ALL REINFORCEMENT SHALL BE FABRICATED IN ACCORDANCE WITH ACI 318 AND OTHER INDUSTRY STANDARDS, UNLESS MODIFIED HEREIN, AND SHALL BE TIED AT ALL INTERSECTIONS USING 16 GAUGE BLACK ANNEALED WIRE.

SPlicing OF REINFORCING BARS SHALL BE DONE ONLY AS SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER. WELDING OF REINFORCING BARS SHALL NOT BE PERMITTED UNLESS CALLED FOR ON THE DRAWINGS.

ALL REINFORCEMENT AND METAL SUPPORTS SHALL BE CLEANED AND MAINTAINED FREE FROM MUD, OIL, ICE, EXCESSIVE RUST, TAGS, OR OTHER SUBSTANCES THAT COULD ADVERSELY AFFECT THE BOND BETWEEN STEEL AND CONCRETE.

REINFORCEMENT SHALL BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED TO PREVENT DISPLACEMENT WHEN CONCRETE IS PLACED AND TO ENSURE THE SPECIFIED CLEARANCES ARE MAINTAINED.

RUST PROOF METAL CHAIRS, HANGERS, AND SPACERS, PRECAST CONCRETE BLOCKS, OR OTHER SUPPORTS APPROVED BY THE ENGINEER MAY BE USED FOR SUPPORTING REINFORCEMENT BARS. NO ALUMINUM MATERIAL SHALL BE PLACED IN THE CONCRETE.

ANCHOR BOLTS

PRIOR TO PLACING CONCRETE AND AFTER ANCHOR BOLTS HAVE BEEN SET IN THE TEMPLATE, THE THREADS ON THE EXPOSED END OF EACH ANCHOR BOLT SHALL BE TAPED TO PREVENT THE ADHERENCE OF CONCRETE. WHEN INSTALLED, THE BOLTS SHALL BE CLEAN AND THE PORTIONS TO BE EMBEDDED IN CONCRETE SHALL BE FREE OF OIL OR OTHER DELETERIOUS SUBSTANCES WHICH WOULD ADVERSELY AFFECT THE BOND BETWEEN THE BOLTS AND THE CONCRETE.

ALL ANCHOR BOLTS SHALL BE POSITIONED USING A TEMPLATE WHICH CORRESPONDS TO THE MATCHING STRUCTURE NUMBER BASE PLATE AND SHALL BE FIRMLY FIXED AND MAINTAINED AT THE GRADE AND ALIGNMENT AS SHOWN ON THE DRAWINGS AND WITHIN THE SPECIFIED TOLERANCES. THE ANCHOR BOLT CLUSTER SHALL BE SUPPORTED TO MAINTAIN PROPER ANCHOR BOLT ALIGNMENT. WELDING OF THE ANCHOR BOLTS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

THE MAXIMUM ALLOWABLE TOLERANCES FROM THE SPECIFIED POSITIONS OF ANCHOR BOLTS SHALL NOT EXCEED THE FOLLOWING:

- A. THE CENTER OF ANY COMPLETED BOLT CLUSTER FOR A SINGLE FOUNDATION SHALL BE WITHIN ONE INCH OF THE CENTER OF THE FOUNDATION.
- B. HORIZONTAL DEVIATION BETWEEN ANCHOR BOLT CLUSTERS OF A STRUCTURE SHALL BE +/- 1/8".
- C. HORIZONTAL DEVIATION BETWEEN BOLTS IN ANY INDIVIDUAL BOLT CLUSTER SHALL NOT EXCEED +/- 1/16".
- D. THE TOLERANCES FOR THE ELEVATIONS AND VERTICAL ALIGNMENT SHALL BE -0" +1/4" AND +/- 1/16" PER FOOT, RESPECTIVELY.

CONCRETE MIX DESIGN

A CERTIFIED CONCRETE DESIGN MIX SHALL BE SUBMITTED TO THE ENGINEER AT LEAST FOURTEEN (14) DAYS PRIOR TO CONCRETE INSTALLATION BY THE CONTRACTOR. THE MINIMUM CONCRETE COMPRESSIVE STRENGTH AT TWENTY EIGHT (28) DAYS SHALL BE 4000 PSI. ALL CONCRETE SHALL BE AIR-ENTRAINED WITH 4% - 6% CONTENT AT PLACEMENT. THE WATER-CEMENT RATIO SHALL BE 0.48 MAXIMUM. CONCRETE SLUMP AT PLACEMENT SHALL BE BETWEEN THREE INCHES (3") AND FIVE INCHES (5").

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL THE TYPE OF REPAIR MORTAR TO BE USED FOR PATCHING IMPERFECTIONS OF THE SURFACE FINISH OF THE FOUNDATION.

CONCRETE PLACEMENT

PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 304, CHAPTER 6 AND THE PORTLAND CEMENT ASSOCIATION "DESIGN AND CONTROL OF CONCRETE MIXTURES", EXCEPT AS AMENDED HEREIN.

CONCRETE PLACEMENT SHALL NOT BE PERMITTED WHEN, IN THE OPINION OF THE ENGINEER, WEATHER CONDITIONS OR OTHER PERTINENT FACTORS PREVENT PROPER PLACEMENT AND CONSOLIDATION.

CONCRETE SHALL NOT BE PLACED DURING RAIN, SLEET, OR SNOW, UNLESS ADEQUATE PROTECTION IS PROVIDED AND APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE OR ENGINEER IS OBTAINED. RAINWATER SHALL NOT BE ALLOWED TO INCREASE THE MIXING WATER CONTENT OF THE CONCRETE NOR DAMAGE THE SURFACE FINISH.

HOT WEATHER CONCRETING SHALL CONFORM TO ACI 305 EXCEPT AS AMENDED HEREIN. CONCRETE SHALL NOT BE PLACED WHEN THE TEMPERATURE OF CONCRETE EXCEEDS 95°F.

COLD WEATHER CONCRETING SHALL CONFORM TO ACI 306 EXCEPT AS AMENDED HEREIN. THE TEMPERATURE OF CONCRETE AS PLACED AND MAINTAINED SHALL NOT BE LESS THAN 50°F.

CONCRETE SHALL NOT BE PLACED IN RUNNING WATER AND SHALL NOT BE SUBJECTED TO THE ACTION OF RUNNING WATER UNTIL AFTER THE CONCRETE HAS HARDENED TO THE SATISFACTION OF THE ENGINEER.

SURFACES UPON OR AGAINST WHICH CONCRETE IS TO BE PLACED, INCLUDING REINFORCEMENT AND EMBEDDED ITEMS, SHALL BE FREE FROM STANDING WATER, MUD, SLUSH, DEBRIS, FROST, SNOW, ICE, GREASE, OIL, DRIED MORTAR OR GROUT, LOOSE PARTICLES OR OTHER DELETERIOUS MATTER. CONCRETE SHALL BE PLACED UPON A FIRM BASE.

WHERE CONCRETE IS TO BE PLACED AGAINST FORMED SURFACES OR EARTH, THE CONTACT SURFACES SHALL BE SLIGHTLY MOISTENED PRIOR TO THE PLACEMENT OF CONCRETE TO PREVENT EXTRACTION OF WATER FROM THE CONCRETE.

ROCK SURFACES UPON OR AGAINST WHICH CONCRETE IS TO BE PLACED SHALL BE FREE OF LOOSE OR UNSOUND FRAGMENTS AND SHALL BE SUFFICIENTLY ROUGH TO ASSURE A SATISFACTORY BOND WITH THE CONCRETE.

ONCE CONCRETE PLACEMENT HAS STARTED, IT SHALL BE CARRIED ON AS A CONTINUOUS OPERATION UNTIL THE FOUNDATION BEING CAST IS COMPLETE. CONCRETE SHALL BE PLACED AT SUCH A RATE THAT CONCRETE IS AT ALL TIMES PLASTIC AND FLOWS READILY BETWEEN REINFORCING BARS.

CONCRETE SHALL BE CONSOLIDATED IN LIFTS NO GREATER THAN TWO FEET (2') FOR SLABS AND FOUR FEET (4') FOR PIERS. CONCRETE SHALL BE PLACED AS NEARLY AS POSSIBLE TO ITS FINAL POSITION.

CONSOLIDATION OF CONCRETE

CONCRETE SHALL BE CONSOLIDATED IN ACCORDANCE WITH ACI 309 AND THE PORTLAND CEMENT ASSOCIATION "DESIGN AND CONTROL OF CONCRETE MIXTURES", UNLESS OTHERWISE APPROVED BY THE ENGINEER.

VIBRATION OF CONCRETE SHALL BE BY ELECTRIC OR PNEUMATIC, IMMERSION-TYPE VIBRATORS OPERATING AT A MINIMUM FREQUENCY OF 7,000 RPM WHEN IMMERSED IN CONCRETE.

CONCRETE SHALL BE CONSOLIDATED TO THE MAXIMUM PRACTICAL DENSITY WITHOUT SEGREGATION SUCH THAT THE CONCRETE IS THOROUGHLY WORKED AROUND THE REINFORCEMENT, AROUND EMBEDDED ITEMS, AND INTO CORNERS OF FORMS, ELIMINATING ALL AIR OR STONE POCKETS WHICH MAY CAUSE HONEYCOMBING, JETTING, OR PLANES OF WEAKNESS.

CONSTRUCTION JOINTS

CONSTRUCTION JOINTS ARE NOT INDICATED ON THIS PROJECT. USE OF CONSTRUCTION JOINTS MUST BE APPROVED BY THE ENGINEER.

THE EXPOSED SURFACES OF CONCRETE TO BE JOINTED SHALL BE ROUGHENED, KEVED AND PREPARED BY METHODS APPROVED BY THE ENGINEER.

THE ROUGH SURFACE OF CONCRETE TO BE JOINTED SHALL BE THOROUGHLY CLEANED OF ALL DUST, LOOSE PARTICLES, GREASE, LAITANCE, OR OTHER FOREIGN MATTER.

IMMEDIATELY PRIOR TO PLACING THE NEXT LIFT OF CONCRETE, THE SURFACE TO BE JOINTED SHALL BE COATED WITH A BONDING AGENT. THE BONDING AGENT SHALL BE SIKALATEX BY SIKA CORP. OR AN APPROVED EQUAL PRODUCT.

FINISHING

A WOOD FLOAT FINISH FOLLOWED BY A LIGHT BROOM FINISH SHALL BE USED ON HORIZONTAL SURFACES. ALL VERTICAL AND HORIZONTAL EXPOSED EDGES SHALL BE CHAMFERED 3/4" OR AS SHOWN ON THE DRAWINGS.

TOP OF FOUNDATIONS SHALL BE SLOPED TO DRAIN AWAY FROM THE ANCHOR BOLTS.

REPAIR OF SURFACE DEFECTS

REPAIR OF SURFACE IMPERFECTIONS SHALL BEGIN IMMEDIATELY FOLLOWING FORM REMOVAL. TYPES OF SURFACE IMPERFECTIONS ARE DEFINED AS THE FOLLOWING AND SHALL BE CORRECTED BY THE MEASURES DESCRIBED.

1. SURFACE BLEMISHES - AIR VOIDS, WATER BUBBLES OR BUGHOLES SMALLER THAN ONE INCH (1") IN DIAMETER, NEED NOT BE REPAIRED.
2. SURFACE IRREGULARITIES - QUALITY DEFORMITIES SUCH AS FINS AND FORM OFFSETS, SHALL BE REMOVED BY CHIPPING OR TOOLING.
3. SURFACE DEFECTS OR SMALL SHALLOW CAVITIES - HONEYCOMBS, ROCK POCKETS, UNSOUND CONCRETE RELATED TO POOR CONSOLIDATION, OR OTHER DEFECTS WHICH ARE ONE INCH (1") OR LARGER IN DIAMETER, OR BOLT HOLES AND TIE ROD HOLES. SURFACE DEFECTS SHALL BE REMOVED TO SOUND CONCRETE, BUT IN NO CASE TO A DEPTH OF LESS THAN ONE INCH (1"). THE AREA TO BE PATCHED AND AN AREA AT LEAST SIX INCHES (6") SURROUNDING IT SHALL BE DAMPENED. EXCESS WATER SHALL BE BLOWN OR SWPT AWAY AND REPAIR MORTAR SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

THE REPAIR MORTAR MIXTURE USED IN PATCHING THE SURFACE IMPERFECTIONS OF THE CONCRETE SHALL BE SIKASET MORTAR BY SIKA CORP. OR AN APPROVED EQUAL PRODUCT.

THE REPAIR MORTAR SHALL BE MIXED, APPLIED AND CURED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

ANY SURFACE IRREGULARITIES GREATER THAN ONE SQUARE FOOT (1 ft²) IN AREA AND DEEPER THAN TWO INCHES (2") OR EXPOSED REINFORCING STEEL SHALL BE REPORTED TO THE ENGINEER PRIOR TO REPAIR.

IF FORMED SURFACES CONSISTENTLY REQUIRE REPAIR, THE ENGINEER WILL REQUIRE THE CONTRACTOR TO ADJUST PLACEMENT PROCEDURES IN SUCH A MANNER AS TO ELIMINATE SURFACE DEFECTS.

PROTECTION AND CURING

THE CONCRETE SHALL BE PROTECTED FROM DAMAGING MECHANICAL DISTURBANCES SUCH AS LOAD STRESSES, HEAVY SHOCK, AND EXCESSIVE VIBRATION OR ABRASION.

CONCRETE SHALL BE PROTECTED FROM RAINWATER UNTIL THE SURFACE HAS ATTAINED SUFFICIENT SET TO WITHSTAND THE MECHANICAL FORCE OF THE RAINDROPS.

THE CURING OF CONCRETE SHALL CONFORM TO ACI 308, EXCEPT AS AMENDED HEREIN. CURING SHALL BE ACCOMPLISHED BY APPLYING A CLEAR OR WHITE PIGMENTED LIQUID MEMBRANE FORMING CURING COMPOUND IN ACCORDANCE WITH ASTM C309. CURING COMPOUND SHALL BE APPLIED AS SOON AS POSSIBLE AFTER FINISHING OF THE CONCRETE IS COMPLETE AND AFTER FORM REMOVAL AND REPAIR IS COMPLETE.

LIQUID MEMBRANE CURING COMPOUNDS SHALL BE APPLIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER AND SHALL NOT BE USED ON ANY SURFACES WHICH ADDITIONAL CONCRETE OR OTHER CEMENTITIOUS FINISHING MATERIALS ARE TO BE BONDED.

THE CONTRACTOR SHALL MAINTAIN THE TEMPERATURE OF THE CONCRETE AT 50°F OR ABOVE DURING THE CURING PROCESS.

CONCRETE SAMPLING AND TESTING

THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PERFORM, OR HAVE PERFORMED BY A PROFESSIONAL TESTING COMPANY, THE FOLLOWING CONCRETE SAMPLING AND TESTS TO THE SATISFACTION OF THE ENGINEER. ALL CONCRETE WORK SHALL BE SUBJECT TO INSPECTION, SAMPLING, AND TESTING THROUGHOUT ALL STAGES OF THE WORK AS DIRECTED BY THE ENGINEER. ALL FRESH CONCRETE SAMPLING SHALL BE DONE IN ACCORDANCE WITH ASTM C172.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, THE PROFESSIONAL CONCRETE TESTING LABORATORY TO BE UTILIZED DURING THE CONSTRUCTION OF THE PROJECT.

AIR CONTENT TEST

CONCRETE SHALL BE TESTED IN ACCORDANCE WITH ASTM C94 AND ASTM C173, TO VERIFY COMPLIANCE WITH THE MIX DESIGN IN THIS SPECIFICATION.

SLUMP TEST

THE SLUMP OF THE CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH ASTM C94 AND ASTM C143. ONE SLUMP TEST SHALL BE MADE AT A MINIMUM FOR EACH CONCRETE LOAD DELIVERED TO THE SITE WITHIN THE RANGE GIVEN IN THE MIX DESIGN IN THIS SPECIFICATION PRIOR TO PLACEMENT.

STRENGTH TEST

THE CONCRETE CYLINDER TEST SAMPLES SHALL BE CAST, CURED, AND TRANSPORTED IN ACCORDANCE WITH ASTM C31.

THE CONTRACTOR SHALL KEEP RECORDS OF ALL CONCRETE TEST CYLINDERS CAST SO EACH CYLINDER STRENGTH TEST CAN BE TRACED BACK TO THE STRUCTURE LOCATION THE CONCRETE WAS PLACED, DATE CONCRETE WAS PLACED, WEATHER CONDITIONS, AND ANY OTHER DATA PERTINENT TO THE ENGINEER.

THE CONCRETE TEST CYLINDERS SHALL BE TESTED IN ACCORDANCE WITH ASTM C39, EXCEPT AS MODIFIED HEREIN.

THE CONTRACTOR SHALL CAST A TOTAL OF FOUR (4) 6" X 12" TEST CYLINDERS FOR EACH TRUCKLOAD OF CONCRETE.

ONE (1) CYLINDER SHALL BE TESTED AT AN AGE OF SEVEN (7) DAYS AND TWO (2) CYLINDERS SHALL BE TESTED AT AN AGE OF TWENTY EIGHT (28) DAYS. ONE (1) CYLINDER SHALL BE RESERVED TO BE TESTED FOR A FIFTY SIX (56) DAY TEST, AT THE DISCRETION OF THE ENGINEER. IF HIGH-EARLY STRENGTH CONCRETE IS USED, TESTING SHALL BE PERFORMED AT THREE (3) AND SEVEN (7) DAYS.

DRILLED PIER FOUNDATIONS

DRILLED PIERS SHALL BE DRILLED TO THE DIAMETERS AND DEPTHS SHOWN ON THE CONSTRUCTION DRAWINGS.

HOLES SHALL BE DRILLED WITH SUCH TYPES OF DRILLING EQUIPMENT THAT PRODUCE THE EXCAVATION SPECIFIED.

FOUNDATION HOLES SHALL BE EXCAVATED AND BACKFILLED WITH CONCRETE IN ONE CONTINUOUS OPERATION. THE INTENT OF THIS SPECIFICATION IS TO COMPLETE THE CONCRETE PLACEMENT THE SAME DAY THE FOUNDATION IS EXCAVATED.

TEMPORARY CASINGS MAY BE REQUIRED FOR DRILLED PIER CONSTRUCTION WHEN SOILS DO NOT PERMIT A STABLE EXCAVATION. PERMANENT CASINGS WILL NOT BE PERMITTED.

THE MAXIMUM ALLOWABLE TOLERANCES OF THE DRILLED PIER FROM THE DIMENSIONS AND LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE AS FOLLOWS:

- A. DEVIATION IN DIAMETER OF PIER -0" +6"
- B. DEVIATION IN LENGTH OR DEPTH OF PIER -0" +6"
- C. DEVIATION IN AXIS OF PIER FROM VERTICAL SHALL BE LESS THAN 1.5" OR 1/2" PER 10 FEET IN LENGTH.
- D. HORIZONTAL DEVIATION OF THE CENTER OF THE PIER FROM THE SPECIFIED POSITION SHALL BE LESS THAN +/- 1".
- E. DEVIATION FROM THE SPECIFIED PIER ELEVATIONS SHALL BE LESS THAN +/- 1/4".

PAD AND SLABS ON GRADE FOUNDATIONS SHALL BE CONSTRUCTED TO THE SIZE AND SHAPE SHOWN ON THE CONSTRUCTION DRAWINGS.

THE SUB-GRADE ON WHICH THE PAD FOUNDATION IS TO BE PLACED SHALL BE WELL DRAINED, LEVEL, AND FREE OF SOD, ORGANIC MATTER AND FROST.

THE PAD FOUNDATION SHALL BE PLACED WITH CONCRETE IN ONE CONTINUOUS OPERATION.

THE MAXIMUM ALLOWABLE TOLERANCES OF THE PAD FOUNDATIONS FROM THE DIMENSIONS AND LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE AS FOLLOWS:

- A. DEVIATION IN LENGTH, WIDTH OR DEPTH OF PAD -0" +1/4".
- B. HORIZONTAL DEVIATION OF THE CENTER OF THE PAD FROM THE SPECIFIED POSITION SHALL BE LESS THAN +/- 1".
- C. DEVIATION FROM THE SPECIFIED PAD ELEVATIONS SHALL BE LESS THAN +/- 1/4".

UTILITYENGINEERING

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SEAL

CITY OF ROCKY MOUNT
NORTH CAROLINA
PLANNING DEPARTMENT
PLANNING COMMISSION
APPROVED FOR THE CITY OF ROCKY MOUNT
DATE: 5/10/22
BY: HMT

CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA
GENERATOR FUEL TANKS

FOUNDATION SPECIFICATIONS

DWG. NO.

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