GENERAL NOTES

- 1.1 THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS AND MATERIALS INDICATED ON THE DRAWINGS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN DATA.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR EXISTING CONDITIONS. EXERCISE EXTREME CARE AND PROTECT EXISTING UTILITIES FROM DAMAGE. SEE NCDOT FOR A COPY OF THE EXISTING BUILDING DRAWINGS.
- 1.3 THE GENERAL CONTRACTOR SHALL PROTECT EXISTING BUILDING, TREES, SIDEWALKS, FENCES, ETC. FROM DAMAGE DURING CONSTRUCTION.
- 1.4 IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE CONSTRUCTION WITH NCDOT TO MITIGATE DISTURBANCES WITH SCHEDULES AND ACTIVITIES.
- 1.5 IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THE SUB-CONTRACTOR TO KEEP THE AREAS OF WORK AND ACCESS CLEAN AND RETURN THE EXISTING SLAB, WALLS, AND FINISHES, AS MINIMUM, TO ORIGINAL CONDITION. IT IS RECOMMENDED THAT THE GENERAL CONTRACTOR PHOTOGRAPH ALL AREAS AFFECTED BY CONSTRUCTION PRIOR TO BEGINNING WORK TO FORM A RECORD OF CONDITION. COPY THE OWNER WITH THE DATED PHOTOS.
- 2.0 <u>FOUNDATION NOTES</u>
- 2.1 GEOTECHNICAL INFORMATION FOR THIS PROJECT WAS TAKEN FROM THE GEOTECHNICAL ENGINEERING REPORT, DATED 04/29/11, PERFORMED BY SCHNABEL ENGINEERING PROJECT No. 11619012.00
- 2.2 FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO BOTH THE STRUCTURAL ENGINEER OF RECORD AND THE GENERAL CONTRACTOR BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.
- 2.3 SEE EXISTING PLUMBING, ELECTRICAL & CIVIL DRAWINGS FOR UNDERSLAB AND SUB-GRADE UTILITIES.
- 3.0 <u>HELICAL ANCHOR UNDERPINNING FOUNDATION SYSTEM</u>
- 3.1 THE EXISTING WALL FOOTINGS, SHALL BE SUPPORTED BY STEEL HELICAL FOUNDATIONS. A SPECIALTY SUBCONTRACTOR SHALL BE EMPLOYED BY THE GENERAL CONTRACTOR TO PROVIDE DESIGN ENGINEERING, SUBMITTALS, INSTALLATION DRAWINGS, AND INSTALLATION SCHEDULE OF THE SYSTEM FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD. THE SUBCONTRACTOR'S PLANS AND ENGINEERING CALCULATIONS SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA AND SHALL BE SUBMITTED AT LEAST TWO WEEKS PRIOR TO THE SCHEDULED INSTALLATION. CONSTRUCTION SHALL NOT BEGIN PRIOR TO APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.
- 3.2 THE NUMBER OF ANCHORS SHOWN ON THE DRAWINGS INDICATE ONLY THE GENERAL LOCATION OF THE HELICAL FOUNDATIONS AND ARE NOT TO BE USED FOR LOCATION OR NUMBER OF SUPPORT POINTS. ACTUAL LOCATIONS SHALL BE DETERMINED BY THE HELICAL PIER SUB-CONTRACTORS ENGINEER.
- 3.3 A COPY OF THE GEOTECHNICAL REPORT IS AVAILABLE FROM NCDOT.
- 3.4 SEE THE STRUCTURAL DESIGN CRITERIA FOR ANTICIPATED LOADS FROM THE BUILDING COMPONENTS. LOADS SHOWN ARE UNFACTORED LOADS AS REPRESENTED IN SECTION 2.4 FOR ALLOWABLE STRESS DESIGN IN ASCE 7-05, PROPOSED LAYOUT SHOWN ON THE PLANS IS BASED ON A 10,000 LBS HELICAL PIER CAPACITY FROM THE PROJECT GEOTECNICAL REPORT.

STRUCTURAL DESIGN CRITERIA

1.0 GRAVITY DESIGN ROOF LOADS (FROM EXISTING DRAWINGS)

BALLASTED SINGLE PLY ROOFING 13 PSF INSULATION 3 PSF 2 PSF METAL DECK MISCELLANEOUS 5 PSF ____4 PSF STEEL JOISTS 27 PSF DEAD LOAD 20 PSF LIVE LOAD TOTAL LOAD 47 PSF

2.0 UNFACTORED LOADS TO FOUNDATIONS

EAST OR WEST WALL DEAD LOAD 3.03 KLF LIVE LOAD 0.58 KLF

SOUTH WALL DEAD LOAD 2.31 KLF LIVE LOAD 0.05 KLF

SPECIFICATIONS - STEEL HELICAL PIERS

1.1 DESCRIPTION:

A. THE WORK OF THIS SECTION CONSISTS OF DESIGNING, FURNISHING, INSTALLING, LOADING AND TESTING STEEL HELICAL PIERS USED TO SUPPORT COMPRESSIVE LOADS.

1.2 QUALITY ASSURANCE

- A. INSTALLER QUALIFICATIONS: INSTALLATION SHALL BE DONE BY A CONTRACTOR WITH A MINIMUM OF 10 YEARS EXPERIENCE INSTALLING HELICAL PIERS AND DEEP FOUNDATION SYSTEMS. A LIST OF AT LEAST THREE (3) RECENT PROJECTS SHALL BE SUBMITTED PRIOR TO STARTING INSTALLATION.
- B. A QUALIFIED INSPECTOR (WHEN REQUIRED) SHALL BE PRESENT DURING PIER INSTALLATION IN ACCORDANCE WITH THE LOCAL BUILDING CODE AND SPECIAL INSPECTIONS DIVISION OF THESE SPECIFICATIONS.
- C. WELDING: MEET REQUIREMENTS OF AWS "STRUCTURAL WELDING CODE" D1.1. LATEST EDITION, ALL WELDERS SHALL BE AWS CERTIFIED.

- A. TESTING SHALL BE ACCOMPLISHED ON TWO PIERS THAT ARE INSTALLED.
- B. THE LOAD TESTS SHALL BE OBSERVED BY THE INDEPENDENT TESTING AGENCY.
- C. COMPRESSIVE LOAD TESTS SHALL IMPART A LOAD THAT IS TWICE THE DESIGN LOAD AS CALCULATED BY THE INSTALLER'S ENGINEER. THE TOTAL SETTLEMENT WILL BE RECORDED AND REPORTED TO THE OWNER, ARCHITECT, AND ENGINEER WITHIN 24 HOURS OF THE TEST.
- D. THE SUBCONTRACTOR'S INSTALLATION SCHEDULE, WHICH SHALL INCLUDE THE EXPECTED TIME OF THE TEST, SHALL BE SUBMITTED TO THE OWNER, ARCHITECT, AND ENGINEER 14 DAYS PRIOR TO
- E. NECESSARY ADJUSTMENTS TO THE INSTALLATION PROCEDURE SHALL BE MADE IF THE TEST PIERS EXPERIENCE SETTLEMENT IN EXCESS OF 1 INCH (25 MM).

1.4 DESIGN AND PERFORMANCE REQUIREMENTS

- A. HELICAL PIERS SHALL BE DESIGNED TO SUPPORT THE NOMINAL COMPRESSIVE LOAD(S) AS SHOWN ON THE PROJECT PLANS. THE OVERALL LENGTH, HELIX CONFIGURATION AND MINIMUM TORSIONAL RESISTANCE OF A HELICAL PIER SHALL BE SUCH THAT THE REQUIRED GEOTECHNICAL CAPACITY IS DEVELOPED BY THE HELIX PLATE(S) IN AN APPROPRIATE BEARING STRATUM(S).
- B. ALL STEEL STRUCTURE PIER COMPONENTS SHALL BE DESIGNED WITHIN THE LIMIT STATES AS PROVIDED THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). EITHER ALLOWABLE STRESS DESIGN (ASD) OR LOAD & RESISTANCE FACTOR DESIGN (LRFD) ARE ACCEPTABLE METHODS OF
- C. EXCEPT WHERE NOTED OTHERWISE ON THE PROJECT PLANS, ALL HELICAL PIERS SHALL BE INSTALLED TO PROVIDE A MINIMUM FACTOR OF SAFETY AGAINST ULTIMATE BEARING RESISTANCE OF
- D. PIERS SHALL BE DESIGNED TO MEET A CORROSION SERVICE LIFE OF 50 YEARS.
- E. THE PIER DESIGN SHALL TAKE INTO ACCOUNT SUCH PIER SPACING, SOIL STRATIFICATION, CORROSION AND STRAIN COMPATIBILITY ISSUES AS ARE PRESENT FOR THE PROJECT.

1.5 PLACEMENT REQUIREMENTS

A. PRODUCTION PIERS SHALL BE PLACED SUCH THAT THE PIER HEAD IS WITHIN THREE (3) INCHES, AND THE PIER SHAFT ALIGNMENT IS WITHIN THREE (3) DEGREES OF INCLINATION ANGLE SHOWN ON THE PROJECT PLANS.

1.6 PRECONSTRUCTION SUBMITTALS

- A. THE INSTALLING CONTRACTOR AND/OR PIER DESIGNER SHALL SUBMIT TO THE OWNER OR OWNER'S REPRESENTATIVE A PROPOSAL INCLUDING THE FOLLOWING DOCUMENTATION. WORK SHALL NOT BEING UNTIL ALL OF THE SUBMITTALS HAVE BEEN RECEIVED AND APPROVED BY THE OWNER. ALL COSTS ASSOCIATED WITH INCOMPLETE OR UNACCEPTABLE SUBMITTALS SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. THE FOLLOWING ARE DOCUMENTS TO BE
- 1. EVIDENCE OF INSTALLING CONTRACTOR'S COMPETENCE AND SAFETY RECORD. EVIDENCE OF INSTALLING CONTRACTOR'S COMPETENCE IN THE INSTALLATION OF PIERS SHALL BE PROVIDED TO THE OWNER'S SATISFACTION AND MAY INCLUDE ANY OR ALL OF THE FOLLOWING:
- PIER MANUFACTURER'S CERTIFICATE OF COMPETENCY IN INSTALLATION OF PIERS.
- b. A LIST OF AT LEAST THREE (3) PROJECTS COMPLETED WITHIN THE PREVIOUS THREE (3) YEARS WHEREIN THE INSTALLING CONTRACTOR INSTALLED PIERS SIMILAR TO THOSE SHOWN IN THE PROJECT PLANS, SUCH LIST TO INCLUDE NAMES AND PHONE NUMBERS OF THOSE PROJECT OWNER'S REPRESENTATIVES WHO CAN VERIFY THE INSTALLING CONTRACTOR'S PARTICIPATION IN THOSE PROJECTS.
- c. A LETTER FROM THE PIER MANUFACTURER, PIER DISTRIBUTOR OR MANUFACTURER'S REPRESENTATIVE EXPRESSING ABILITY AND INTENT TO PROVIDE ON-SITE SUPERVISION OF THE HELICAL PIER INSTALLATION.
- 2. A LISTING OF ALL SAFETY VIOLATIONS LODGED AGAINST THE INSTALLING CONTRACTOR WITHIN THE PREVIOUS THREE (3) YEARS AND THE STATUS OR FINAL RESOLUTION THEREOF. DESCRIPTIONS OF SAFETY IMPROVEMENTS INSTITUTED WITHIN THE PREVIOUS THREE (3) YEARS MAY ALSO BE SUBMITTED, AT THE INSTALLING CONTRACTOR'S DISCRETION.
- EVIDENCE OF PIER DESIGNER'S COMPETENCE.
 - EVIDENCE OF COMPETENCE IN THE DESIGN OF PIERS SHALL BE PROVIDED TO THE OWNER'S SATISFACTION AND MAY INCLUDE ANY OR ALL OF THE FOLLOWING:
 - I. RECOMMENDATION FROM THE PIER MANUFACTURER, PIER DISTRIBUTOR OR MANUFACTURER'S
 - II. REGISTRATION AS A PROFESSIONAL ENGINEER OR RECOGNITION BY THE LOCAL JURISDICTIONAL AUTHORITY
 - III. A LIST OF AT LEAST THREE (3) PROJECTS COMPLETED WITHIN THE PREVIOUS THREE (3) YEARS WHEREIN THE HELICAL PIER DESIGNER DESIGNED HELICAL PIERS SIMILAR TO THOSE SHOWN IN THE PROJECT PLANS, SUCH LIST TO INCLUDE NAMES AND PHONE NUMBERS OF THOSE PROJECT OWNER'S REPRESENTATIVES WHO CAN VERIFY THE ENGINEER'S PARTICIPATION IN THOSE PROJECTS.
- 4. EVIDENCE OF PIER MANUFACTURER'S COMPETENCE AND CAPABILITY.
- a. EVIDENCE OF COMPETENCE IN THE MANUFACTURE OF PIERS SHALL BE PROVIDED TO THE OWNER'S SATISFACTION AND MAY INCLUDE ANY OR ALL OF THE FOLLOWING:
- I. AT LEAST THREE (3) YEARS OF PRODUCTION EXPERIENCE MAKING PIERS.
- II. THE MANUFACTURER'S PIERS HAVE BEEN USED SUCCESSFULLY IN AT LEAST THREE (3) ENGINEERED CONSTRUCTION PROJECTS WITHIN THE LAST THREE (3) YEARS.
- III. PRODUCT LISTING BY APPLICABLE BUILDING CODE AUTHORITY (ICC, BOCA, ICBO, SBCCI, NES, IBC, ETC.)
- IV. PRODUCT ACCEPTANCE BY THE LOCAL BUILDING CODE OFFICIAL(S) HAVING JURISDICTION OVER THE PROJECT

1.7 DESIGN AND CONSTRUCTION DOCUMENTATION SUBMITTALS

- A. THE INSTALLING CONTRACTOR AND/OR PIER DESIGNER SHALL PREPARE AND SUBMIT TO THE OWNER AND THE OWNER'S REPRESENTATIVE, FOR REVIEW AND APPROVAL, SHOP DRAWINGS WITH PLANS, SECTIONS. AND DETAILS INDICATING SHAFT AND HELIX SIZES. AND INCLUDE MANUFACTURER'S CATALOG CUT AND DATA SHEETS ALONG WITH DESIGN CALCULATIONS FOR THE PIERS INTENDED FOR USE AT LEAST 14 CALENDAR DAYS PRIOR TO PLANNED START OF CONSTRUCTION. ALL SUBMITTALS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER CURRENTLY LICENSED IN THE STATE OF NORTH CAROLINA. WORK SHALL NOT BEGIN UNTIL ALL THE SUBMITTALS HAVE BEEN RECEIVED AND APPROVED BY THE OWNER AND/OR OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL ALLOW THE OWNER AND OWNER'S REPRESENTATIVE A REASONABLE TIME TO REVIEW, COMMENT, AND RETURN THE SUBMITTAL PACKAGE AFTER A COMPLETE SET HAS BEEN RECEIVED. ALL COSTS ASSOCIATED WITH INCOMPLETE OR UNACCEPTABLE SUBMITTALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- B. WITHIN TWO (2) WEEKS OF RECEIVING THE CONTRACT AWARD, THE INSTALLING CONTRACTOR AND/OR PIER DESIGNER SHALL SUBMIT THE FOLLOWING PIER DESIGN DOCUMENTATION.
- 1. A PIER HARDWARE SCHEDULE SHOWING FOR EACH CATAGORY OF PIER:
 - a. PRODUCT DESIGNATIONS FOR SHAFT AND EXTENSION SECTIONS AND ALL ANCILLARY PRODUCTS TO BE SUPPLIED AT EACH PIER LOCATION.
 - b. INDIVIDUAL PIER NOMINAL LOADS.
 - c. MANUFACTURER'S PUBLISHED MECHANICAL STRENGTHS FOR THE PIER ASSEMBLIES, INCLUDING LOAD TRANSFER DEVICES (BRACKETS).
 - d. CALCULATED THEORETICAL GEOTECHNICAL CAPACITY OF PIERS.
 - e. MINIMUM EFFECTIVE TORSIONAL RESISTANCE CRITERIA.
 - f. MAXIMUM ALLOWABLE INSTALLATION TORQUE OF PIER.
 - g. MINIMUM EMBEDMENT LENGTHS AND SUCH OTHER SITE-SPECIFIC EMBEDMENT DEPTH REQUIREMENTS AS MAY BE APPROPRIATE FOR THE SITE SOIL PROFILES.
 - h. INCLINATION ANGLE AND LOCATION TOLERANCE REQUIREMENTS.
 - i. PROPOSED PRODUCTION QUALITY CONTROL PLAN, INCLUDING METHOD AND EQUIPMENT TO BE USED TO MEASURE TORSIONAL RESISTANCE OR COMPRESSION RESISTANCE DURING INSTALLATION.
 - PROCEDURES AND ACCEPTANCE CRITERIA FOR ANY PROPOSED PERFORMANCE AND/OR PROOF TESTING.
 - k. CERTIFICATION BY THE PIER DESIGNER THAT THE SELECTED PIERS CAN BE INSTALLED WITH ORDINARY SKILL TO ACHIEVE THE REQUIREMENTS OF THE PROJECT PLANS AND THIS SPECIFICATION.
 - I. DOCUMENTATION OF CERTIFICATION BY A REGISTERED PROFESSIONAL ENGINEER THAT THE PROPOSED LOADING AND TEST EQUIPMENT (IF ANY) CAN BE SAFELY USED TO APPLY AND HOLD THE PROPOSED
 - m. TORQUES FOR HELICAL PIERS SHALL BE MEASURED WITH A CALIBRATED IN-LINE INDICATOR OR A CALIBRATED HYDRAULIC TORQUE MOTOR VIA DIFFERENTIAL PRESSURE. TORQUE CORRELATION TABLES PREPARED BY THE MANUFACTURER OF THE TORQUE MOTOR SHOULD BE AVAILABLE TO THE OWNER'S REPRESENTATIVE DURING INSTALLATION. COPIES OF CERTIFIED CALIBRATION REPORTS FOR TORQUE MEASURING EQUIPMENT AND LOAD MEASURING EQUIPMENT TO BE USED ON THE PROJECT SHALL BE FURNISHED, IF REQUIRED. THE CALIBRATIONS SHALL HAVE BEEN PERFORMED WITHIN ONE (1) YEAR OF THE PROPOSED STARTING DATE FOR THE HELICAL PIER INSTALLATION BASED ON THE PROPOSED STARTING DATE, OR AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 EQUIPMENT

- A. INSTALLATION EQUIPMENT:
- 1. INSTALLATION EQUIPMENT FOR THE HELICAL PIERS SHALL BE A ROTARY TYPE MOTOR WITH EQUAL FORWARD AND REVERSE TORQUE CAPABILITIES. THIS EQUIPMENT SHALL BE CAPABLE OF CONTINUAL ADJUSTMENT OF THE TORQUE DRIVE UNIT'S REVOLUTIONS PER MINUTE (RPM'S) DURING INSTALLATION. PERCUSSION DRILLING EQUIPMENT WILL NOT BE ALLOWED.
- 2. SHALL BE CAPABLE OF APPLYING INSTALLATION TORQUE EQUAL TO THE TORQUE REQUIRED TO MEET THE PIER LOADS.
- 3. EQUIPMENT SHALL BE CAPABLE OF APPLYING AXIAL COMPRESSION PRESSURE AND TORQUE SIMULTANEOUSLY.

B. TORQUE MONITORING DEVICES:

THE TORQUE BEING APPLIED BY THE INSTALLING UNITS SHALL BE MONITORED THROUGHOUT THE INSTALLATION BY THE INSTALLER. THE TORQUE MONITORING DEVICE SHALL EITHER BE A PART OF THE INSTALLING UNIT OR AN INDEPENDENT DEVICE IN-LINE WITH THE INSTALLING UNIT. CALIBRATION FOR EITHER UNIT SHALL BE AVAILABLE FOR REVIEW BY THE OWNER.

PART 3 EXECUTION (CONTINUED)

3.2 INSTALLATION PROCEDURES:

A. ADVANCING SECTIONS:

- ENGAGE AND ADVANCE THE PIER SECTIONS IN A SMOOTH, CONTINUOUS MANNER.
- 2. APPLY SUFFICIENT AXIAL COMPRESSION PRESSURE TO UNIFORMLY ADVANCE THE HELICAL SECTIONS TO APPROXIMATELY 3-INCHES (76.2 MM) PER REVOLUTION. THE RATE OF ROTATION AND MAGNITUDE OF CROWD PRESSURE MUST BE ADJUSTED FOR DIFFERENT SOIL CONDITIONS AND DEPTHS IN ORDER TO MAINTAIN THE PENETRATION RATE.
- 3. IF THE HELICAL SECTION CEASES TO ADVANCE, REFUSAL WILL HAVE BEEN REACHED AND THE INSTALLATION SHALL BE TERMINATED.

B. TERMINATION CRITERIA:

- 1. THE TORQUE AS MEASURED DURING THE INSTALLATION SHALL NOT EXCEED THE TORSIONAL STRENGTH RATING OF THE STEEL HELICAL LEAD AND EXTENSION SECTIONS.
- 2. THE MINIMUM DEPTH CRITERIA INDICATED ON THE DRAWINGS MUST BE SATISFIED PRIOR TO TERMINATING THE STEEL HELICAL PIER.
- 3. THE TOP HELIX IS TO BE LOCATED NOT LESS THAN FIVE (5) FEET BELOW THE GRADE ELEVATION UNLESS OTHERWISE APPROVED BY THE OWNER AND/OR OWNER'S REPRESENTATIVE.
- 4. IF THE TORSIONAL STRENGTH RATING OF THE PIER AND/OR INSTALLING UNIT HAS BEEN REACHED PRIOR TO SATISFYING THE MINIMUM DEPTH REQUIRED, THE INSTALLING CONTRACTOR SHALL HAVE THE
- a. TERMINATE THE INSTALLATION AT THE DEPTH OBTAINED WITH THE APPROVAL OF THE OWNER, OR,
- b. REMOVE THE EXISTING PIER AND INSTALL A PIER WITH SMALLER AND/OR FEWER HELICES. THIS REVISED PIER SHALL BE TERMINATED DEEPER THAN THE TERMINATING DEPTH OF THE ORIGINAL PIER AS DIRECTED
- 5. IN THE EVENT THE MINIMUM INSTALLATION TORQUE IS NOT ACHIEVED AT MINIMUM DEPTH, THE CONTRACTOR SHALL INSTALL THE FOUNDATION DEEPER USING ADDITIONAL PLAIN EXTENSION SECTIONS.
- 6. THE MINIMUM SPECIFIED INSTALLATION TORQUE SHALL HAVE BEEN MET WHEN THE MEASURED INSTALLATION TORQUE MEETS OR EXCEEDS THE MINIMUM SPECIFIED INSTALLATION TORQUE IN TWO SUCCESSIVE READINGS OF THE MEASURING DEVICE, UNLESS OTHERWISE SPECIFIED BY THE OWNER.

FOLLOWING OPTIONS:

- a. THE OWNER (NCDOT) SHALL ENGAGE AN APPROVED AGENCY TO PROVIDE SPECIAL INSPECTION OF ALL HELICAL ANCHOR INSTALLATIONS. THIS INSPECTOR SHALL BE PRESENT FOR CONTINUOUS OBSERVATION AND REPORTING. THE INSTALLING CONTRACTOR SHALL SUBMIT THE CONSTRUCTION SCHEDULE TO NCDOT, THE SPECIAL INSPECTOR, AND TO THE STRUCTURAL ENGINEER-OF-RECORD 2 WEEKS PRIOR TO BEGINNING THE INSTALLATION.
- b. THE INSTALLING CONTRACTOR SHALL PROVIDE THE OWNER, OR HIS AUTHORIZED REPRESENTATIVE, COPIES OF INDIVIDUAL HELICAL PIER INSTALLATION RECORDS (INSTALLATION LOGS) INCLUDING TEST PIERS WITHIN TWENTY-FOUR (24) HOURS AFTER EACH INSTALLATION IS COMPLETED. FORMAL COPIES SHALL BE SUBMITTED WITHIN TWO (2) WEEKS OF COMPLETION OF THE PROJECT. THIS RECORD SHALL INCLUDE THE FOLLOWING INFORMATION AS A MINIMUM:
- a. PROJECT NAME AND LOCATION.
- b. NAME OF AUTHORIZED DEALER/INSTALLER.
- c. NAME OF INSTALLERS FOREMAN OR REPRESENTATIVE WITNESSING THE INSTALLATION.
- d. DATE OF INSTALLATION.
- e. LOCATION OF PIER(S).
- f. DESCRIPTION OF LEAD SECTION INCLUDING NUMBER AND DIAMETER OF HELICES AND EXTENSIONS USED.
- g. OVERALL DEPTH OF INSTALLATION FROM A KNOWN REFERENCE POINT.
- h. INSTALLATION TORQUE AT TERMINATION OF PIER.
- i. LOAD TRANSFER DEVICE
- i. NOTED DISCREPANCIES BROUGHT TO THE ATTENTION OF THE INSTALLATION CONTRACTOR AND HOW THE DISCREPANCY WAS REMEDIATED.
- c. A FINAL REPORT WHICH INCLUDES ALL OF THE DATA LISTED IN SECTION 7b (ABOVE) SHALL BE SUBMITTED TO THE NCDOT REPRESENTATIVE AND THE ENGINEER-OF-RECORD (MICHAEL M. SIMPSON, P.E.) WITHIN 2 WEEKS OF THE LAST INSTALLED ANCHOR.

ISSUED FOR CONSTRUCTION 02-04-13 MMS FOR REVIEW ONLY 12-14-12 MMS NO DATE DESCRIPTION BY **REVISIONS**

ENGINEER Michael M. Simpson & Associates, Inc

Consulting Structural Engineers

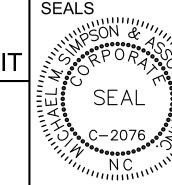
213 East Broad Street

Greenville, S.C. 29601

(864) 331-1201

NC DOT - GENERAL SERVICES DIVISION FACILTIES DESIGN. CONSTRUCTION. & MAINTENANCE UNIT

PROJECT: PAW CREEK NC DOT MAINTENANCE FACILITY CHARLOTTE, NC EXISTING BUILDING FOUNDATION STABILIZATION





2-4-2013

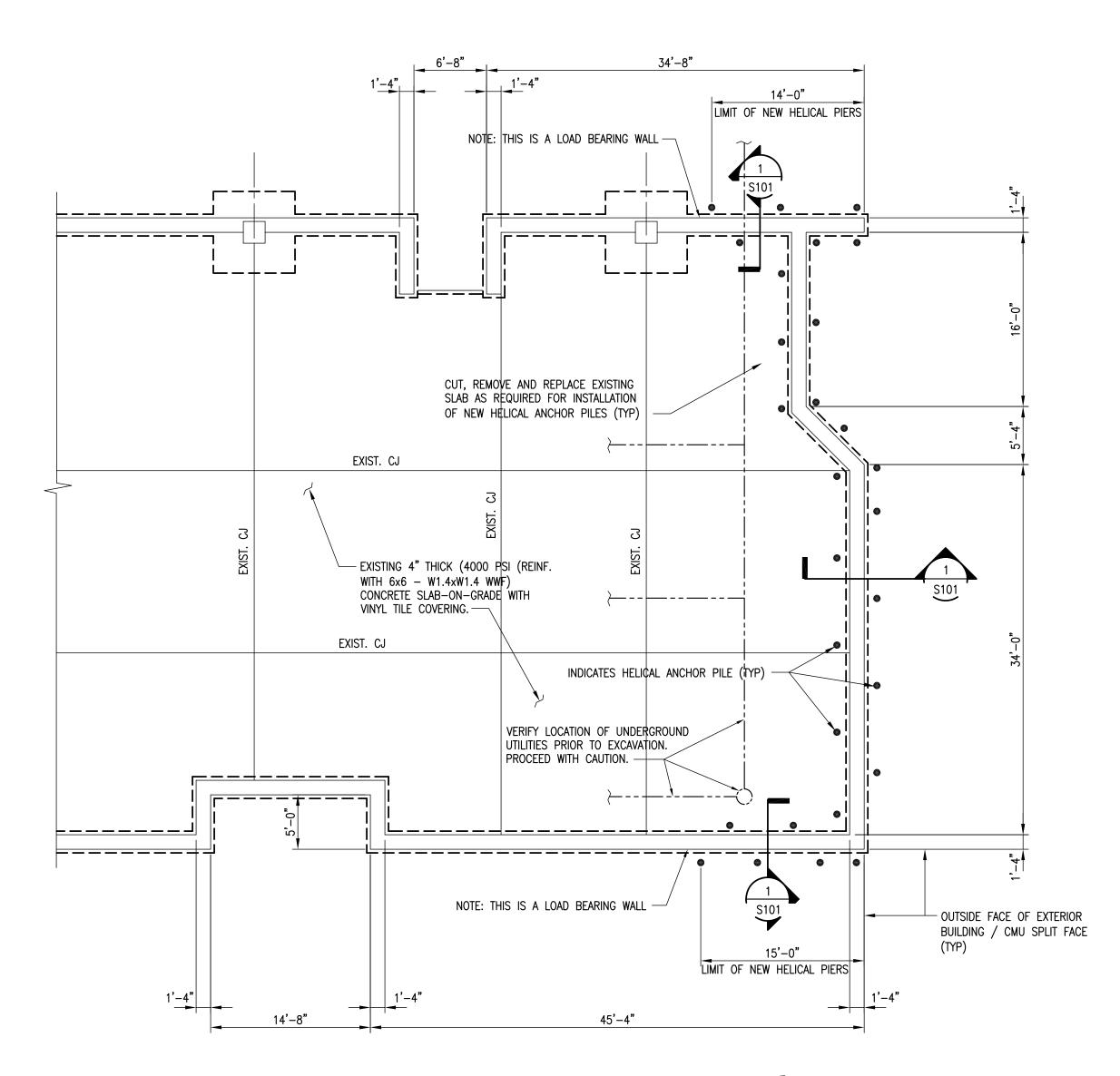
RAWN BY: TML ESIGNED BY: JKJ CHECKED BY: MMS SCALE: AS NOTED ATE: 02/04/2013

FOR CONSTRUCTION

SHEET TITLE: GENERAL NOTES, BASIS OF DESIGN AND **SPECIFICATION NOTES** SHEET NO.

S001

DATE: 02/04/2013



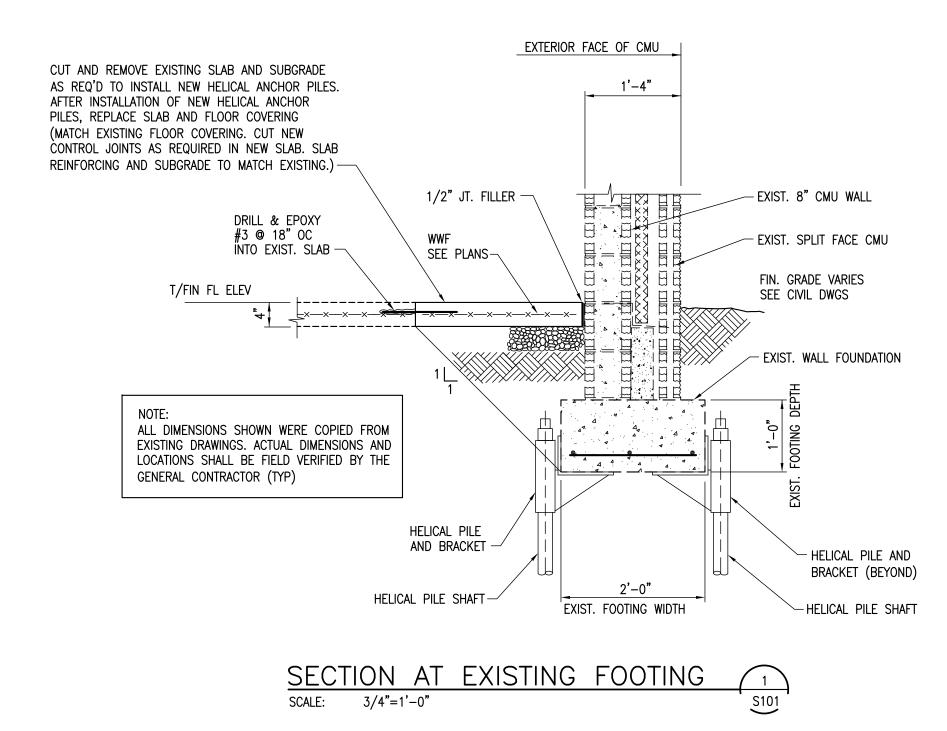
EXISTING PARTIAL FOUNDATION / SLAB PLAN

SCALE: 1/8" = 1'-0"

PROJECT NORTH

1. ANCHOR LAYOUT SHOWN SHALL BE CONSIDERED FOR BIDS ONLY. ACTUAL LAYOUT SHALL BE DETERMINED BY THE ANCHOR SUPPLIER ENGINEER. PROPOSED LAYOUT BASED ON 10,000 LB HELICAL PIER CAPACITY FROM PROJECT GEOTECHNICAL REPORT. SEE DRAWING S001 FOR ADDITIONAL INFORMATION.

2. DIMENSIONS AND DETAILS OF EXISTING CONSTRUCTION SHOWN ARE FROM ORIGINAL DRAWINGS PROVIDED BY NCDOT. GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND LOCATIONS PRIOR TO FABRICATION AND CONSTRUCTION.



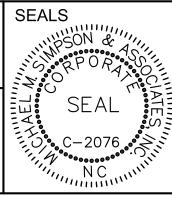
0	ISSUED FOR CONSTRUCTION	02-04-13	MMS
Α	FOR REVIEW ONLY	12-14-12	MMS
NO	DESCRIPTION	DATE	BY
	REVISIONS		•

MMSA, Inc.

Michael M. Simpson & Associates, Inc. Consulting Structural Engineers 213 East Broad Street Greenville, S.C. 29601 (864) 331-1201

NC DOT - GENERAL SERVICES DIVISION FACILTIES DESIGN, CONSTRUCTION, & MAINTENANCE UNIT

PAW CREEK NC DOT MAINTENANCE FACILITY CHARLOTTE, NC EXISTING BUILDING FOUNDATION STABILIZATION





STH CAROLINIAN STORESSION			
RTH CAROLINI	DRAWN BY:	TML	
800M & 1	DESIGNED BY:	JKJ	
Chaseal Course	CHECKED BY:	MMS	
2-4-2013	SCALE: AS NOTED		
ENGINEER	DATE: 02/04/2013		
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FOR CONSTRUCTION

SHEET TITLE: PARTIAL FOUNDATION / SLAB PLAN AND SECTIONS

SHEET NO.

S101

DATE: 02/04/2013