STRUCTURAL TESTING AND INSPECTIONS

EARTHWORK TESTING

1. DURING EARTHWORK OPERATIONS KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT. SERVICES PROVIDED SHALL INCLUDE:
   - A) OBSERVE STRIPPING OPERATIONS AND EVALUATE THE REQUIRED STRIPPING DEPTH DURING THESE OPERATIONS.
   - B) OBSERVE PROOFROLLING OPERATIONS AFTER SITE STRIPPING. DETERMINE IF ANY SOFT SPOTS NEED TO BE UNDERCUT TO FIRM SOILS, REPLACED WITH SELECT FILL AND RECOMPACTED.
   - C) VERIFY THAT THE SUBGRADE SHALL THEN BE SCARIFIED AND MOISTURE CONDITIONED TO A SIX (6) INCH DEPTH AND THEN RECOMPACTED TO BETWEEN 95 AND 100 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST (ASTM D698). THE MOISTURE CONTENT SHALL BE BETWEEN OPTIMUM AND +3 PERCENT OF THE OPTIMUM MOISTURE CONTENT. PROVIDE A MINIMUM OF FOUR (4) FIELD DENSITY TESTS ON THE SUBGRADE OR ONE (1) FOR EVERY 2,500 SQUARE FEET WHICHEVER IS GREATER.
   - D) STRUCTURAL SELECT FILL PAD MATERIAL SHALL BE TESTED FOR ACCEPTABILITY AND A MOISTURE DENSITY CURVE SHALL BE ESTABLISHED. SELECT FILL MATERIAL SHALL BE AN INORGANIC SANDY CLAY WITH LIQUID LIMIT BETWEEN 26 AND 35 AND PLASTICITY INDEX BETWEEN 12 AND 20.
   - E) SELECT FILL SHALL BE PLACED IN EIGHT INCH LOOSE LIFTS AND COMPACTED TO BETWEEN 95 AND 100 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST (ASTM D698). THE MOISTURE CONTENT SHALL BE BETWEEN -1 AND +3 PERCENT OF THE OPTIMUM MOISTURE CONTENT FOR SELECT FILL.
   - F) SELECT FILL MATERIAL SHALL BE TESTED DURING PLACEMENT OF EACH LIFT FOR THE ATTERBERG LIMITS IN ACCORDANCE WITH ASTM D4318-98 METHOD B "STANDARD TEST METHOD FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS" TO VERIFY THAT THE SELECT FILL MATERIAL IS IN ACCORDANCE WITH THE ORIGINALLY APPROVED SELECT FILL MATERIAL. PROVIDE A MINIMUM OF ONE (1) TEST PER LIFT OR ONE (1) FOR EVERY 2,500 SQUARE FEET WHICHEVER IS GREATER WITH A MAXIMUM OF TEN (10) PER LIFT.
   - G) OBSERVE THE EXCAVATION DAILY AND ENSURE THAT THE CONTRACTOR MAINTAINS A CLEAN EXCAVATION THAT IS FREE OF WATER 100% OF THE TIME. CONTRACTOR SHALL PROVIDE PUMPS AS REQUIRED TO REMOVE ANY WATER AT ALL TIMES.
   - H) OBSERVE GRADING OPERATIONS TO ENSURE THAT PROPER DRAINAGE AWAY FROM THE BUILDING PAD IS PROVIDED.

SPREAD FOOTINGS TESTING

1. DURING SPREAD FOOTING OPERATIONS KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT. SERVICES PROVIDED SHALL INCLUDE:
   - A) OBSERVING THE BOTTOM OF FOOTING FOR CLEANLINESS.
   - B) CHECKING FOOTING BOTTOM FOR PROPER BEARING MATERIAL.
   - C) NOTING DEPTH AND SIZE OF ALL FOOTINGS.
   - D) VERIFY QUANTITY, SIZE AND LOCATION OF REINFORCEMENT AND CLEAR COVER REQUIREMENTS.
   - E) CHECK FOR CAVING OF FOOTING WALLS.
   - F) CHECKING THAT THE PILASTER IS CONCENTRIC WITH THE FOOTING.
   - G) CHECKING THAT COLUMN OR GRADE BEAM DOWELS ARE LOCATED PROPERLY.
2. ENSURE THAT THE SPOILS FROM THE FOOTING EXCAVATIONS ARE REMOVED FROM THE BUILDING PAD.

CONCRETE TESTING

1. CONCRETE MIX DESIGNS SHALL BE SUBMITTED FOR REVIEW INDICATING CONFORMANCE WITH ACI 301, LATEST EDITION, CHAPTER 4, SECTION 4.2.3.
2. SLUMP TESTS, CONFORMING TO ASTM C143, SHALL BE TAKEN AT THE POINT OF DISCHARGE AT THE SAME RATE AS NOTED BELOW IN NOTE NUMBER 5.
3. AIR CONTENT TESTS CONFORMING TO ASTM C173, VOLUMETRIC METHOD FOR LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE; ASTM C231 PRESSURE METHOD FOR NORMAL WEIGHT CONCRETE; SHALL BE TAKEN FOR EACH DAY'S POUR OF EACH TYPE OF AIR-ENTRAINED CONCRETE.
4. CONCRETE TEMPERATURE SHALL BE TESTED HOURLY WHEN AIR TEMPERATURE IS 40 DEG F (4 DEG C) AND BELOW, WHEN 80 DEG F (27 DEG C) AND ABOVE, AND EACH TIME A SET OF COMPRESSION TEST SPECIMENS IS MADE.
5. ONE SET OF FOUR COMPRESSION TEST SPECIMENS CONFORMING TO ASTM C31 SHALL BE MOLDED AND STORED FOR LABORATORY-CURED SPECIMENS. COMPRESSIVE STRENGTH TESTS SHALL CONFORM TO ASTM C39 AND SHALL CONSIST OF ONE SET FOR EACH DAY'S POUR EXCEEDING 5 CU. YDS. PLUS ADDITIONAL SETS FOR EACH 50 CU. YDS. MORE THAN THE FIRST 25 CU. YDS OF EACH CONCRETE CLASS PLACED IN ANY ONE DAY. ONE SPECIMEN SHALL BE TESTED AT 7 DAYS, TWO SPECIMENS SHALL BE TESTED AT 28 DAYS, AND ONE SPECIMEN SHALL BE RETAINED FOR LATER TESTING AS REQUIRED.
6. VERIFY CONCRETE IS BEING CONSOLIDATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF ACI 318 AND ACI 308R, LATEST EDITION.
7. VERIFY THAT POST INSTALLED ANCHORS ARE AS SPECIFIED AND THAT THE ANCHORS ARE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.

REINFORCING STEEL INSTALLATION

1. DURING CAST-IN-PLACE CONCRETE STRUCTURAL MEMBER REINFORCING PLACEMENT OPERATIONS KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT. INSPECT REINFORCING UTILIZING ACI 311.4R "GUIDE FOR CONCRETE INSPECTION" AS A GUIDE. SERVICES PROVIDED SHALL INCLUDE:
   - A) VERIFY TYPE AND GRADE OF ALL REINFORCING STEEL.
   - B) VERIFY REBAR IS FREE OF OIL, DIRT, EXCESSIVE RUST AND FROM DAMAGE IN SHIPMENT TO SITE.
   - C) VERIFY REINFORCING IS ADEQUATELY TIED, CHAIRED AND SUPPORTED TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT.
   - D) VERIFY MINIMUM AND MAXIMUM CLEAR DISTANCES BETWEEN BARS AND MINIMUM STRUCTURAL DISTANCE TO OUTSIDE OF CONCRETE.
   - E) VERIFY QUANTITY, SIZE AND LOCATION OF REINFORCEMENT.
   - F) VERIFY MINIMUM CONCRETE COVER IS MAINTAINED BETWEEN REBAR AND SURFACE OF CONCRETE.
   - G) VERIFY SIZE AND PLACEMENT OF REBAR. VERIFY LAP LENGTHS, LOCATIONS AND STAGGERS AND VERIFY BENDS FOR MINIMUM DIAMETER, SLOPE AND LENGTH. VERIFY HOOKED BAR LENGTHS AND LOCATIONS.

POST INSTALLED ANCHORS — FIELD QUALITY CONTROL

1. THE INTERNATIONAL BUILDING CODE (**IBC 2018**) REQUIRES SPECIAL INSPECTION OF ALL POST-INSTALLED ANCHORS. ACI 318-19 SECTIONS 26.13.1.5 AND 26.13.1.6 REQUIRE THAT ALL INSPECTIONS OF MECHANICAL AND ADHESIVE ANCHORS, RESPECTIVELY, ARE PERFORMED BY A CERTIFIED FIELD INSPECTOR SPECIFICALLY APPROVED FOR THAT PURPOSE BY THE SER AND THE BUILDING OFFICIAL. CERTIFICATION IS ESTABLISHED THROUGH AN INDEPENDENT ASSESSMENT SUCH AS THE ACI POST-INSTALLED CONCRETE ANCHOR INSTALLATION INSPECTOR PROGRAM OR SIMILAR PROGRAM WITH EQUIVALENT REQUIREMENTS. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY A CERTIFIED INSPECTOR.
2. POST-INSTALLED EXPANSION AND ADHESIVE ANCHORS SHALL BE PROOF LOADED AS REQUIRED IN THE CONTRACT DOCUMENTS. A PERCENTAGE OF EACH TYPE AND SIZE OF EACH TYPE OF SIZE OF ANCHOR ASSEMBLY SHALL BE PROOF LOADED IN TENSION BY AN INDEPENDENT TESTING LABORATORY UNLESS OTHERWISE SHOWN ON THE CONTRACT DOCUMENTS.
   - A) PROOF LOADING SHALL BE CONDUCTED AS CONFINED TENSION TESTING FOR ADHESIVE ANCHORS USING A CENTER-HOLE CYLINDER.
   - B) THE INDEPENDENT TESTING LABORATORY SHALL SUBMIT AN ANCHORAGE TESTING PLAN TO THE SER TO ENSURE THE TESTING REQUIREMENTS ARE FULFILLED.
   - C) PROOF LOAD RANDOM SAMPLE RATES AS FOLLOWS:

TYPE OF ANCHOR	SAMPLE RATE (PERCENT)
REINFORCING FOR SLAB ON GROUND	5
REINFORCING — GRADE BEAMS	30
REINFORCING — CONCRETE BEAMS	50
REINFORCING — CONCRETE COLUMNS	50
ANCHOR BOLTS NEW OR REPLACEMENT — SHEAR ONLY	25
ANCHOR BOLTS NEW OR REPLACEMENT — MOMENT FRAMES	50
ANCHORS FOR SHEAR TABS/PLATES OR ANGLES	30
ANCHORS IN TENSION — STRUCTURAL MEMBERS	50
ANCHORS IN TENSION — NON-STRUCTURAL MEMBERS	25
ANCHORS SUPPORTING LIFE SAFETY DEVICES	100

3. POST-INSTALLED EXPANSION AND ADHESIVE ANCHORS SHALL BE PROOF LOADED TO LOAD LEVELS AS SHOWN ON THE CONTRACT DOCUMENTS. OR AS INDICATED ON THE STRUCTURAL DRAWINGS FOR THE SPECIFIC ANCHOR TYPES ABOVE. PROOF LOADING OF ADHESIVE ANCHORS SHALL BE PERFORMED AFTER A MINIMUM CURING PERIOD SPECIFIED BY THE MANUFACTURER.
4. ANCHORS SHALL HAVE NO VISIBLE INDICATIONS OF DISPLACEMENT OR DAMAGE DURING OR AFTER PROOF LOAD APPLICATION. CONCRETE CRACKING IN THE VICINITY OF THE ANCHOR AFTER LOADING SHALL BE CONSIDERED A FAILURE.
5. IF AN ANCHOR FAILS, MODIFY ALL INSTALLATIONS OF THE SAME TYPE AND RETEST UNTIL SATISFACTORY RESULTS ARE ACHIEVED
6. IF MORE THAN 5 PERCENT OF THE TESTED ANCHORS FAIL TO ACHIEVE THE SPECIFIED PROOF LOAD WITHIN THE LIMITS DEFINED ON THESE DRAWINGS, THEN 100 PERCENT OF THE ANCHORS OF THE SAME DIAMETER AND TYPE AS THE FAILED ANCHOR SHALL BE PROOF TESTED, UNLESS OTHERWISE DIRECTED BY THE SER.
7. PROVIDE WRITTEN FASTENER LOAD TEST REPORTS AND INTERMITTENT SPECIAL INSPECTION REPORTS OF POST INSTALLED FASTENERS AS THE WORK PROGRESSES.

STRUCTURAL STEEL TESTING

1. CERTIFY WELDERS FOR THE WELD TYPES IN THE PROJECT AND CONDUCT INSPECTIONS AND TESTS AS REQUIRED, AS A MINIMUM, WELDERS SHALL BE AISC CERTIFIED. RECORD TYPES AND LOCATIONS OF DEFECTS FOUND IN WORK. RECORD WORK REQUIRED AND PERFORMED TO CORRECT DEFICIENCIES.
2. VISUALLY INSPECT 100% OF ALL FILLET WELDS.
3. VISUALLY INSPECT 100% OF ALL FULL PENETRATION WELDS. TEST 20% OF ALL FULL PENETRATION WELDS BY ONE OF THE FOLLOWING METHODS: LIQUID PENETRANT INSPECTION (ASTM E165), MAGNETIC PARTICLE INSPECTION (ASTM E709; PERFORMED ON THE ROOT PASS AND ON THE FINISHED WELD; CRACKS AND ZONES OF INCOMPLETE FUSION OR PENETRATION IS NOT ACCEPTABLE), RADIOGRAPHIC INSPECTION (ASTM E94 AND ASTM E142; MINIMUM QUALITY LEVEL OF "2-2T"), OR ULTRASONIC INSPECTION (ASTM E164). IF FAILURE RATE IS 20% OR GREATER, TEST 100% OF WELDS AT CONTRACTOR'S EXPENSE UNTIL FAILURE RATE FALLS BELOW 20%.
4. ALL WELDS THAT FAIL SHALL BE REWELDED AND RETESTED UNTIL THEY PASS THE TEST. TEST TWO ADDITIONAL WELDS AT THE CONTRACTOR'S EXPENSE FOR EVERY WELD FAILURE.
5. BOLTS SHALL BE VISUALLY INSPECTED WHEN TWIST-OFF SPLINES ARE USED, OTHERWISE BOLTS SHALL BE SNUG TIGHT.
6. ALL FULL PENETRATION WELDS AT MOMENT CONNECTIONS REQUIRING TESTING SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY USING NON-DESTRUCTIVE TESTING METHODS. FOR SHOP WELDS, CERTIFICATION SHALL BE SUBMITTED PRIOR TO SHIPPING TO THE JOB SITE. FOR FIELD WELDS, CERTIFICATION SHALL BE SUBMITTED PRIOR FLOOR DECK INSTALLATION AND CONCRETE PLACEMENT AND PRIOR TO COVERING CONNECTIONS WITH FIREPROOFING OR ARCHITECTURAL FINISHES.

MASONRY TESTING

1. MASONRY TESTING SHALL CONSIST OF A QUALIFIED TESTING LABORATORY PROVIDING THE FOLLOWING SERVICES:
   - A) VERIFY QUANTITY, SIZE AND SPACING OF REQUIRED REINFORCING SHOWN ON THE DRAWINGS.
   - B) OBSERVE THE INSTALLATION OF MASONRY UNITS.
   - C) INSPECTION OF GROUT SPACE, IMMEDIATELY PRIOR TO CLOSING OF CLEANOUTS AND PRIOR TO ALL GROUTING OPERATIONS. VERIFY THAT THE SPECIFIED CELLS HAVE BEEN FULLY GROUTED.
   - D) MONITOR THE PROPORTIONING, MIXING AND CONSISTENCY OF MORTAR AND GROUT. PROVIDE 28 DAY COMPRESSIVE STRENGTH TESTS ON EACH GROUT MIX IN ACCORDANCE WITH ASTM C1019. COMPRESSION TEST MASONRY PRISMS FOR EACH TYPE OF WALL CONSTRUCTION IN ACCORDANCE WITH ASTM C1314. CONTRACTOR SHALL PREPARE ONE SET OF PRISMS FOR TESTING AT 28 DAYS. TESTS ARE TO BE CONDUCTED FOR EACH 2000 SQUARE FEET OF WALL INSTALLED, BUT NOT LESS THAN TWO TESTS.

SPECIAL INSPECTIONS AND STRUCTURAL TESTING

SPECIAL INSPECTION WORK AND THE FINAL LETTER OF COMPLIANCE HAVE NOT BEEN INCLUDED IN THE STRUCTURAL ENGINEER OF RECORD'S SCOPE OF SERVICES. THE OWNER IS RESPONSIBLE FOR OBTAINING THE SERVICES OF THE SPECIAL INSPECTOR AND THE TESTING LABORATORY. SPECIAL INSPECTIONS CAN BE PROVIDED BY AN INDEPENDENT SPECIAL INSPECTOR APPROVED BY THE BUILDING AUTHORITY. THE SPECIAL INSPECTION WORK DOES NOT INCLUDE THE TESTING LABORATORY SERVICES AS CALLED FOR ON THE DRAWINGS. ARRANGEMENTS FOR SPECIAL INSPECTIONS SHOULD BE MADE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE TESTING LABORATORY AND SPECIAL INSPECTOR IN A TIMELY MANNER PRIOR TO PROCEEDING WITH CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK REQUIRING INSPECTIONS WITHOUT THE TESTING LABORATORY'S OR SPECIAL INSPECTOR'S PRESENCE.

STRUCTURAL STATEMENT OF SPECIAL INSPECTIONS

THE STRUCTURAL SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL STRUCTURAL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS TO THE OWNER AND THE STRUCTURAL REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (SRDP). DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND THE SRDP. THE SPECIAL INSPECTION PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES.

A FINAL REPORT OF SPECIAL INSPECTION DOCUMENTING COMPLETION OF ALL SPECIAL INSPECTIONS, TESTING AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE OWNER AND THE SRDP PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY AND USE.

STRUCTURAL SCHEDULE OF SPECIAL INSPECTIONS

QUALIFICATIONS OF INSPECTORS AND TESTING TECHNICIANS

THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION AND TESTING ACTIVITIES ARE SUBJECT TO THE APPROVAL OF THE OWNER. THE CREDENTIALS OF ALL INSPECTORS AND TESTING TECHNICIANS SHALL BE PROVIDED TO THE SPECIAL INSPECTOR FOR THEIR RECORDS.

KEY FOR MINIMUM QUALIFICATION OF INSPECTION AGENTS

WHEN THE REGISTERED DESIGN PROFESSION IN RESPONSIBLE CHARGE OR SPECIAL INSPECTOR OF RECORD DEEMS APPROPRIATE THAT THE INDIVIDUAL PERFORMING THE STIPULATED TEST OR INSPECTION HAVE A SPECIFIC CERTIFICATION, LICENSE OR EXPERIENCE AS INDICATED BELOW. SUCH REQUIREMENT SHALL BE LISTED BELOW AND SHALL BE CLEARLY IDENTIFIED WITHIN THE SCHEDULE UNDER THE AGENT QUALIFICATION DESIGNATION.

PE/SE STRUCTURAL ENGINEER
A LICENSED SE OR PE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURES

PE/GE GEOTECHNCIAL ENGINEER
A LICENSED PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS

EIT OR ENGINEER IN TRAINING
A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTALS OF ENGINEERING EXAM

EXPERIENCED TESTING TECHNICIAN

ETT OR EXPERIENCED TESTING TECHNICIAN
AN EXPERIENCED TESTING TECHNICIAN WITH A MINIMUM OF 5 YEARS EXPERIENCE WITH THE STIPULATED TEST OR INSPECTION

AMERICAN CONCRETE INSTITUTE (ACI) CERTIFICATION

ACI-CFTT	CONCRETE FIELD-TESTING TECHNICIAN - GRADE 1
ACI-CCI	CONCRETE CONSTRUCTION INSPECTOR
ACI-LTT	LABORATORY TESTING TECHNICIAN - GRADE 1&2
ACI-STT	STRENGTH TESTING TECHNICIAN

AMERICAN WELDING SOCIETY (AWS) CERTIFICATION

AWS-CWI	CERTIFIED WELDING INSPECTOR
AWS/AISC-SSI	CERTIFIED STRUCTURAL STEEL INSPECTOR

CHAPTER 17 OF THE 2018 INTERNATIONAL BUILDING CODE IS INTERPRETED TO REQUIRE SPECIAL INSPECTION FOR THE FOLLOWING ITEMS IN THE FOLLOWING TABLES:

SCHEDULE OF SPECIAL INSPECTIONS

VERIFICATION/INSPECTION	SOIL/FOUNDATION INSPECTION		
IBC SECTION 1705.6, TABLE 1705.6	EXTENT CONTINUOUS, PERIODIC	COMMENTS	AGENT PE/GE, EIT OR ETT
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	PERIODIC		ETT
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	PERIODIC		ETT
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	PERIODIC		ETT
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	CONTINUOUS		ETT
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	PERIODIC		ETT

SCHEDULE OF SPECIAL INSPECTIONS

VERIFICATION/INSPECTION	CONCRETE INSPECTION		
IBC SECTION 1705.3, TABLE 1705.3	EXTENT CONTINUOUS, PERIODIC	COMMENTS	AGENT PE/GE, EIT OR ETT
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	PERIODIC	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3 IBC 1908.4	ETT
2. REINFORCING BAR WELDING:			
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706	PERIODIC	AWS D1.4 ACI 318: 26.6.4	AWS-CWI
B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"	PERIODIC		
C. INSPECT ALL OTHER WELDS	CONTINUOUS		
3. INSPECT ANCHORS CAST IN CONCRETE	PERIODIC	ACI 318: 17.8.2	ETT
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:			
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	CONTINUOUS	ACI 318: 17.8.2.4	ETT
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A	PERIODIC	ACI 318: 17.8.2	
5. VERIFY USE OF REQUIRED MIX DESIGN	PERIODIC	ACI 318: Ch. 19, 26.4.3, 26.4.4 IBC 1904.1, 1904.2, 1908.2, 1908.3	ETT
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONRETE	CONTINUOUS	ASTM C 172 ASTM C 31 ACI 318: 26.4, 26.12 IBC 1908.8	ACI-CFTT OR ACI-STT
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	CONTINUOUS	ACI 318: 26.5 IBC 1908.6, 1908.7, 1908.8	ETT
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	PERIODIC	ACI 318: 26.5.3-26.5.5 IBC 1908.9	ETT
9. INSPECT PRESTRESSED CONCRETE FOR:			
A. APPLICATION OF PRESTRESSING FORCES	CONTINUOUS	ACI 318: 26.10	ETT
B. GROUTING OF BONDED PRESTRESSING TENDONS	CONTINUOUS		
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	PERIODIC	ACI 318: Ch. 26.8	ETT
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	PERIODIC	ACI 318: 26.11.2	ETT
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	PERIODIC	ACI 318: 26.11.1.2(b)	ETT

SCHEDULE OF SPECIAL INSPECTIONS

VERIFICATION/INSPECTION	STRUCTURAL STEEL INSPECTION		
IBC SECTION 1705.2, AISC 360-10	EXTENT CONTINUOUS, PERIODIC	COMMENTS	AGENT PE/GE, EIT OR ETT
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:			
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	PERIODIC	AISC 360 SECTION A3.3 AND ALL APPLICABLE ASTM MATERIAL STANDARDS	ETT
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	PERIODIC		ETT
2. INSPECTION OF HIGH-STRENGTH BOLTING:			
A. SNUG-TIGHT JOINTS	PERIODIC	AISC 360 SECTION M2.5 IBC 1704.3.3	AWS/AISC-SSI
B. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION	PERIODIC		
C. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	CONTINUOUS		
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD- FORMED STEEL DECK			
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360	PERIODIC	AISC 360 SECTION M5.5	ETT
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC	ALL APPLICABLE ASTM MATERIAL STANDARDS	ETT
C. MANUFACTURER'S CERTIFIED TEST REPORTS	PERIODIC		ETT
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS			
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC	AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS	ETT
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	PERIODIC		ETT
5. INSPECTION OF WELDING			
A. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK			
1) COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	CONTINUOUS	AWS D1.1 IBC 1704.3.1	AWS-CWI
2) MULTIPASS FILLET WELDS	CONTINUOUS		
3) SINGLE-PASS FILLED WELDS ≤ 5/16"	CONTINUOUS		
4) PLUG AND SLOT WELDS	CONTINUOUS		
5) SINGLE-PASS FILLET WELDS ≤ 5/16"	PERIODIC		
6) FLOOR AND ROOF DECK WELDS	PERIODIC	AWS D1.3	AWS-CWI
B. REINFORCING STEEL			
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706	PERIODIC	AWS D1.4 ACI 318: SECTION 3.5.2	AWS-CWI
2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	CONTINUOUS		
3) SHEAR REINFORCEMENT	CONTINUOUS		
4) OTHER REINFORCING STEEL	PERIODIC		
6. INSPECTION OF STEEL FRAMED JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS:			
A. DETAILS SUCH AS BRACING AND STIFFENING	PERIODIC	IBC 1704.3.2	ETT
B. MEMBER LOCATIONS	PERIODIC		
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION	PERIODIC		

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Project Number : 8989

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REVISIONS

MARK	DESCRIPTION	DATE

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STATE OF TEXAS
BRITT GARDNER
90958
LICENSED
PROFESSIONAL ENGINEER
2 November 2026

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TESTING AND INSPECTIONS

DRAWN BY	JM	SHEET NO.
CHECKED BY	BG	S003
APPROVED BY		

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