

GENERAL NOTES:

DESIGN:

BUILDING CODE - 2018 INTERNATIONAL BUILDING CODE

1.

EXISTING ROOF DEAD LOAD
MINIMUM ROOF LIVE LOAD
TRIBUTARY AREA 0 TO 200 SQ. FT.
TRIBUTARY AREA 201 TO 600 SQ. FT.
TRIBUTARY AREA OVER 600 SQ. FT.

= 20 PSF
= 20 PSF
= 20(1.2-0.001A) PSF
= 12 PSF
2.

SNOW LOADS:
- GROUND SNOW LOAD, Pg
- MINIMUM ROOF SNOW LOAD
- SNOW EXPOSURE FACTOR, Ce
- SNOW LOAD IMPORTANCE FACTOR, I
- THERMAL FACTOR, Ct

= 20 PSF
= 20 PSF
= 1.0
= 1.0
= 1.0
3.

WIND LOADS:
- ULTIMATE DESIGN WIND SPEED (3 SECOND GUST)
- RISK CATEGORY
- BUILDING CATEGORY

- OVERALL EXPOSURE CATEGORY
- HEIGHT AND EXPOSURE ADJUSTMENT COEFFICIENT

= 109 MPH
= II
= ENCLOSED, SIMPLE DIAPHRAGM
= C
= 1.28
4.

SEISMIC:
- RISK CATEGORY
- SEISMIC IMPORTANCE FACTOR, Ie
- MAPPED SPECTRAL RESPONSE COEFFICIENTS
Ss
S1
- SITE CLASS
- SPECTRAL RESPONSE COEFFICIENTS
SDS
SD1
- SEISMIC DESIGN CATEGORY

= II
= 1.00

= 0.100
= 0.068
= D (ASSUMED)

= 0.107
= 0.011
= B

CONCRETE:

1.

ALL CONCRETE SHALL BE NORMAL-WEIGHT (DENSITY=145 PCF) AND SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH IN ACCORDANCE WITH THE FOLLOWING:
ALL FOUNDATIONS, INTERIOR SLAB
EXTERIOR SLABS, CURBS, SIDEWALKS
ALL OTHER CONCRETE (U.N.O.)

3000psi
4000psi
3000psi
2.

THE SLUMP OF ALL CONCRETE SHALL NOT EXCEED 4" UNLESS A HIGH RANGE WATER-REDUCING ADMIXTURE IS USED. THE SLUMP OF CONCRETE PRIOR TO ADDITION OF A HIGH-RANGE WATER-REDUCING ADMIXTURE SHALL NOT EXCEED 4". THE SLUMP OF CONCRETE CONTAINING A HIGH RANGE WATER-REDUCING ADMIXTURE SHALL NOT EXCEED 10".
3.

ALL EXTERIOR CONCRETE SHALL BE AIR-ENTRAINED WITH BETWEEN 4% AND 8%, AIR CONTENT.
4.

THE COARSE AGGREGATE SIZE SHALL BE #57 OR LARGER.
5.

THE MINIMUM PORTLAND CEMENT CONTENT (ASTM C150 TYPE I OR II) OF ALL CONCRETE SHALL CONFORM TO THE FOLLOWING TABLE (FLY ASH NOT PERMITTED):

SPECIFIED COMPRESSIVE SRENGTH (psi)	NON AIR-ENTRAINED CONCRETE (lbs.)	AIR-ENTRAINED CONCRETE (lbs.)
3000	470	517
4000	564	611

6.

THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS FOR REVIEW A MINIMUM OF ONE WEEK PRIOR TO THE PLACEMENT OF ANY CONCRETE. THE CONCRETE MIX DESIGNS SHALL INCLUDE ALL STRENGTH DATA NECESSARY TO SHOW COMPLIANCE WITH THE PROJECT SPECIFICATIONS FOR EITHER THE TRIAL BATCH OR FIELD EXPERIENCE METHOD.
7.

CONCRETE REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
8.

CONCRETE REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706.
9.

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
10.

ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE DETAILING MANUAL.
11.

ALL REINFORCING SHALL BE SUPPORTED IN FORMS, SPACED WITH NECESSARY ACCESSORIES AND SHALL BE SECURELY WIRED TOGETHER, IN ACCORDANCE WITH THE LATEST EDITION OF THE CRSI "MANUAL OF STANDARD PRACTICE".
12.

THE MINIMUM CONCRETE CLEAR COVER OVER REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL BE:
UNFORMED SURFACE IN CONTACT WITH THE GROUND
FORMED SURFACES EXPOSED TO EARTH OR WEATHER:
#5 BARS AND SMALLER
SLABS, WALLS, AND JOISTS:
#11 BARS AND SMALLER

3 IN.
1 1/2 IN.
3/4 IN.
13.

ALL BASE PLATES, ANCHOR BOLTS, SUPPORT ANGLES, ETC., WHICH ARE BELOW GRADE SHALL BE COVERED WITH A MINIMUM OF 3" OF CONCRETE.
14.

ALL LAP SPLICES SHALL BE IN ACCORDANCE WITH THAT SHOWN ON THE DRAWINGS.

SUBGRADE PREPARATION NOTE

1.

ALL EXPOSED AND/OR DISTURBED GRANULAR BASE AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF OPTIMUM DENSITY IN ACCORDANCE W/ASTM D 1557 AT OPTIMUM MOISTURE CONTENT AND TO A MINIMUM DEPTH OF 8" - ALL SUBGRADE SOIL AREAS EXPOSED BY EXCAVATIONS AND GRADING SHALL BE COMPACTED TO A MINIMUM OF 95% OF OPTIMUM DENSITY IN ACCORDANCE W/ASTM D 1557 AT OPTIMUM MOISTURE CONTENT AND TO A MINIMUM DEPTH OF 12" - FILL WHERE REQUIRED SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" LOOSE MEASURE AND SHALL BE COMPACTED AS OUTLINED ABOVE - THE ON SITE TESTING COMPANY SHALL PROVIDE TESTING AND INSPECTION OF THE SOIL WORK PRIOR TO PLACING CONCRETE

STRUCTURAL STEEL:

1.

STEEL SHALL CONFORM TO THE FOLLOWING GRADES:
WIDE FLANGE SHAPES
CHANNELS, ANGLES, PLATES, ETC. (UNO)
STRUCTURAL TUBE
STEEL PIPE
THREADED RODS
BOLTS
WELDING ELECTRODES

A992 OR A572 GR. 50 (Fy = 50)
A36 (Fy = 36)
A500 (Fy=46)
A53 (Fy=35)
F1554, A36 OR A307
A325
E70XX
2.

ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE (360-05), EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.
3.

ALL STRUCTURAL STEEL TO HAVE A SHOP GRADE PRIMER UNLESS NOTED OTHERWISE.

MISCELLANEOUS:

1.

NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL OF RECORD.
2.

STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
3.

NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL OF RECORD.
4.

DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
5.

THE CONTRACTOR SHALL INFORM THE PROFESSIONAL OF RECORD IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY OF SUCH DEVIATION BY THE PROFESSIONAL OF RECORD REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE PROFESSIONAL OF RECORD OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE PROFESSIONAL OF RECORD HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
6.

ANY DETAIL TITLED AS A TYPICAL DETAIL IS APPLICABLE THROUGHOUT THE DESIGN DRAWINGS. THESE DETAILS ARE DEFINED AS GENERAL STANDARDS THAT ARE USUALLY NOT IDENTIFIED BY SPECIFIC REFERENCE WITHIN THE DRAWINGS. THESE DETAILS MAY BE MODIFIED OR SUPERSEDED BY SPECIFIC DETAILS THAT ARE REFERENCED WITHIN THE DRAWINGS.
7.

THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.

EXISTING CONSTRUCTION:

1.

WORK SHOWN IS NEW UNLESS INDICATED AS EXISTING.
2.

EXISTING CONSTRUCTION SHOWN IS BASED UPON ASSUMED EXISTING CONDITIONS AND CAN BE USED FOR BIDDING PURPOSES. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING JOB CONDITIONS, REVIEW ALL DRAWINGS AND VERIFY DIMENSIONS, ELEVATIONS, AND MEMBER SIZES PRIOR TO CONSTRUCTION OR MATERIAL PURCHASE. THE CONTRACTOR SHALL NOTIFY THE PROFESSIONAL OF RECORD IN WRITING OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH THE WORK.
3.

THE REMOVAL, CUTTING, DRILLING, ETC. OF EXISTING CONSTRUCTION SHALL BE PERFORMED WITH GREAT CARE IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL FEATURES NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE PROFESSIONAL OF RECORD SHALL BE IMMEDIATELY NOTIFIED AND PRIOR WRITTEN APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OR MODIFICATION OF MEMBERS.
4.

THE CONTRACTOR SHALL RESTORE ALL EXISTING INCIDENTAL CONSTRUCTION REQUIRED TO BE REMOVED TO ACCOMMODATE THE ERECTION OF THE NEW JOIST CONSTRUCTION TO ITS ORIGINAL WORKING CONDITION.
5.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS & METHOD OF ALL DEMOLITION WORK & FOR PROVIDING ALL NECESSARY TEMPORARY SHORING, BRACING & PROTECTION AS NECESSARY FOR SAFETY, STABILITY & PROTECTION OF ALL BUILDING ELEMENTS & STRUCTURE DURING CONSTRUCTION & DEMOLITION.

COLD FORMED STEEL:

1.

ALL SIZING BASED ON STEEL STUD MANUFACTURERS ASSOCIATION (ICBO ER-4943P) PRODUCT TECHNICAL INFORMATION.
2.

ALL GALVANIZED STUDS AND JOISTS 12, 14 AND 16 GAUGE SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE MINIMUM REQUIREMENTS OF ASTM A653 SS, GRADE 50, CLASS 1 OR 3 WITH A MINIMUM YIELD OF 50,000 PSI.
3.

ALL GALVANIZED STUDS, JOISTS, TRACK, BRIDGING AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A GALVANIZED COATING MEETING THE REQUIREMENTS OF ASTM A525.
4.

THE PHYSICAL AND STRUCTURAL PROPERTIES LISTED BY THE STEEL STUD MANUFACTURER ASSOCIATION AND AISI DESIGN MANUAL SHALL BE CONSIDERED THE MINIMUM PERMITTED FOR ALL FRAMING MEMBERS. SPECIFICALLY, THE FOLLOWING MINIMUM PROPERTIES, CALCULATED IN ACCORDANCE WITH THE LATEST AISI SPECIFICATION SHALL BE PROVIDED: IX (IN 4), SX (IN 3), AREA (IN 2), RX (IN.), FY (KSI), RESISTING MOMENT (IN.-LB.).
5.

ANY SUBSTITUTIONS MUST BE APPROVED IN WRITING PRIOR TO DELIVERY, BY THE ARCHITECT AND/OR ENGINEER OF RECORD.
6.

INSTALLATION OF STUDS SHALL BE AS PER ASTM C1007-00 "INSTALLATION OF LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS AND ACCESSORIES"; ASTM C955-00a "SPECIFICATION FOR LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS, RUNNERS (TRACK), AND BRACING OR BRIDGING FOR SCREW APPLICATION OF GYPSUM BOARD AND METAL PLASTER BASES", AND ASTM C754-00 "SPECIFICATION FOR INSTALLATION OF STEEL FRAMING MEMBERS TO RECEIVE SCREW ATTACHED GYPSUM BOARD".
7.

ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS, OR AS REQUIRED FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.
8.

TEMPORARY BRACING SHALL BE PROVIDED UNTIL ERECTION IS COMPLETED.
9.

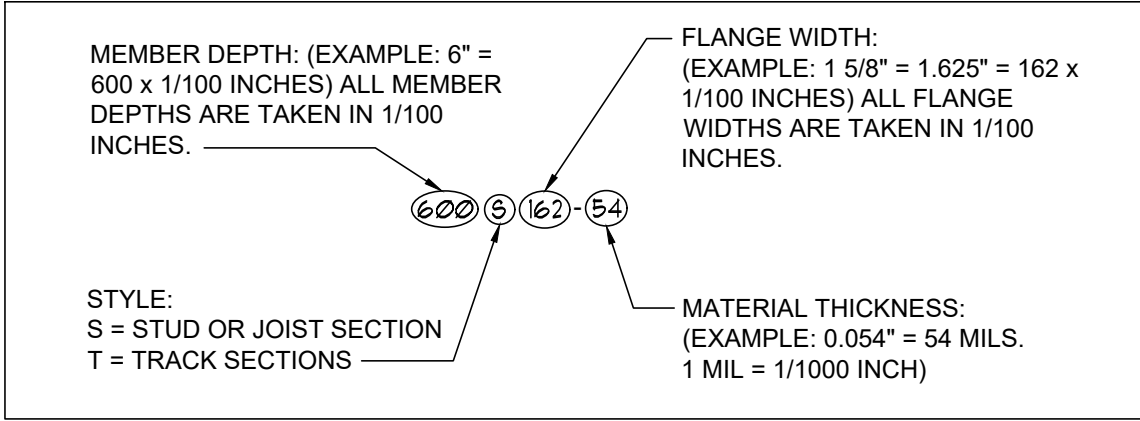
PROVIDE WEB STIFFENERS AT REACTION POINT WHERE INDICATED BY PLANS.
10.

JOIST SHALL BE BRIDGED AT MAXIMUM 4'-0" SPACINGS.
11.

END BLOCKING SHALL BE PROVIDED WHERE JOIST ENDS ARE NOT OTHERWISE RESTRAINED FROM ROTATION.
12.

JOISTS MUST HAVE A MINIMUM OF 10" UNPUNCHED STEEL AT BEARING POINTS. STUDS MUST HAVE A MINIMUM OF 10" OF UNPUNCHED STEEL AT EACH END.
13.

COLD-FORMED STEEL IDENTIFICATION LEGEND:



SPECIAL INSPECTIONS:

1.

THE OWNER WILL EMPLOY THE SERVICES OF ONE OR MORE SPECIAL INSPECTORS TO PROVIDE SPECIAL INSPECTIONS DURING CONSTRUCTION FOR THE REQUIRED SPECIAL INSPECTION ITEMS.
2.

THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN OF THE STRUCTURE, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
3.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR MAY NOT ALTER, MODIFY, ENLARGE OR WAVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.
B. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE PROFESSIONAL-OF-RECORD, AND THE CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. THEN, IF UNCORRECTED, SUBMIT A COMPLETE LIST OF ALL OUTSTANDING DISCREPANCIES ON A WEEKLY BASIS TO THE OWNER, THE BUILDING OFFICIAL, AND THE PROFESSIONAL-OF-RECORD, UNTIL ALL CORRECTIONS HAVE BEEN COMPLETED.
C. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE BUILDING CODE.
4.

WHERE SPECIAL INSPECTION REQUIREMENTS DUPLICATE THE REQUIREMENTS OF OTHER SPECIFIED TESTING, DUPLICATE INSPECTIONS SHALL NOT BE REQUIRED.
5.

STRUCTURAL OBSERVATION (AS DEFINED IN CHAPTER 17 OF THE BUILDING CODE) IS NOT REQUIRED, UNLESS SPECIFICALLY REQUIRED BY THE BUILDING OFFICIAL.
6.

SPECIAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING TABLE:

SPECIAL INSPECTIONS SCHEDULE			
SPECIAL INSPECTION		FREQ.	REFERENCED STANDARD(S)
STEEL CONSTRUCTION:			
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS, HIGH-STRENGTH BOLTING:			
A.	IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	PERIODIC	APPLICABLE ASTM MATERIAL SPECIFICATIONS;AISC ASD Sec. A3.4;AISC LRFD Sec. A3.3
B.	MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	PERIODIC	
2. INSPECTION OF BEARING-TYPE CONNECTIONS		PERIODIC	AISC LRFD Sec. M2.5
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL:			AISC LRFD Sec. M2.5
A.	IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	---	ASTM A-6 OR ASTM A-568
B.	MANUFACTURER'S CERTIFIED MILL TEST REPORTS REQUIRED	---	
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:			
A.	IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS	---	AISC ASD Sec. A3.6; AISC LRFD Sec. A3.5
B.	MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	---	
5. INSPECTION OF WELDING:			
SINGLE-PASS FILLET WELDS ≤ 5/16"		PERIODIC	AWS D1.1
4. INSPECTION OF STEEL FRAME TO VERIFY COMPLIANCE WITH THE DETAILS ON THE APPROVED CONSTRUCTION DOCUMENTS:			
A.	DETAILS SUCH AS BRACING AND STIFFENING	PERIODIC	IBC 1704.3.2
B.	MEMBER LOCATIONS		
C.	APPLICATION OF JOINT DETAILS AT EACH CONNECTION		
ADHESIVE ANCHORS/REINFORCEMENT:			
1. INSTALLATION PROCEDURE OF ADHESIVE ANCHORS OR REINFORCEMENT EMBEDDED WITH ADHESIVE (AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS) IN MASONRY AND CONCRETE:			
A.	SIZE AND EMBEDMENT OF ANCHORS/REINF.	CONTINUOUS	MANUFACTURERS INSTALLATION INSTRUCTIONS
B.	ANCHORS/REINFORCEMENT INSTALLED PER MANUFACTURERS RECOMMENDATIONS.	CONTINUOUS	
CONCRETE CONSTRUCTION:			
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT		PERIODIC	IBC1913.4; ACI 318: 3.5, 7.1-7.7
2. INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE.		CONTINUOUS	IBC1911.5, 1912.1; ACI 318: 8.1.3, 21.2.8
3. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.		PERIODIC	IBC1912.1; ACI 318: 3.8.6, 8.1.3, 21.2.8
4. VERIFYING USE OF REQUIRED DESIGN MIX		PERIODIC	IBC:1904.2.2, 1913.2, 1913.3; ACI 318:Ch. 4, 5.2-5.4
5. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.		CONTINUOUS	IBC1913.10; ASTM C172; ASTM C31; ACI 318: 5.6, 5.8
6. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES		CONTINUOUS	IBC:1913.6, 1913.7, 1913.8; ACI 318:5.9, 5.10
7. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		PERIODIC	IBC1913.9; ACI 318: 5.11-5.13
8. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		PERIODIC	ACI 318: 6.1.1