

**GENERAL**

- THE STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE. ALL APPLICABLE SAFETY REGULATIONS TO BE FOLLOWED STRICTLY.
- THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATIONS OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. DURING ERECTION AND UNTIL ALL PERMANENT CONNECTIONS ARE MADE, THE CONTRACTOR MUST PROVIDE TEMPORARY BRACING FOR THE STRUCTURE IN ALL DIRECTIONS.
- THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND GRADE CONDITIONS (BOTH NEW AND EXISTING), REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH ANY PHASE OF THE WORK.
- THE CONTRACTOR SHALL COMPARE STRUCTURAL SECTIONS WITH ARCHITECTURAL SECTIONS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
- DO NOT SCALE DIMENSIONS FROM DRAWINGS. THE CONTRACTOR SHALL REQUEST, FROM THE ARCHITECT, NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS.
- IF ANY DUBIOUS IS IN DOUBT AS TO THE INTENT OF THE PLANS OR GENERAL NOTES, THEY SHALL REQUEST AN INTERPRETATION FROM THE ARCHITECT IN WRITING AT LEAST TEN (10) DAYS PRIOR TO THE SCHEDULED BID DATE.
- PRINCIPAL OPENINGS IN THE STRUCTURE ARE SHOWN ON THESE DRAWINGS. THE GENERAL CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR REQUIRED OPENINGS AS THEY SHALL BE PROVIDED FOR WHETHER SHOWN ON THESE DRAWINGS OR NOT. GENERAL CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ALL SUB-CONTRACTORS PRIOR TO CONSTRUCTION.
- VERIFY AND COORDINATE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS FOR FLOOR ELEVATIONS, FLOOR SLOPES, AND THE LOCATION OF DEPRESSED FLOOR AREAS.
- WHERE A CONFLICT BETWEEN DRAWINGS AND GENERAL NOTES OCCUR THE MORE STRINGENT REQUIREMENT SHALL APPLY.
- WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.
- THIS PROJECT REQUIRES SPECIAL INSPECTIONS AS DESCRIBED IN SECTION 1704 OF THE NORTH CAROLINA STATE BUILDING CODE. SEE STATEMENT OF SPECIAL INSPECTIONS FOR REQUIRED INSPECTIONS. CONTRACTOR SHALL COORDINATE WITH SPECIAL INSPECTOR ALL WORK REQUIRING SPECIAL INSPECTIONS AND TESTING.

**DESIGN CRITERIA**

- APPLICABLE CODES:
  - 2012 NORTH CAROLINA STATE BUILDING CODE (2009 INTERNATIONAL BUILDING CODE WITH REVISIONS)
  - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-05)
  - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-08)
  - BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-08)
  - STEEL CONSTRUCTION MANUAL, 13TH EDITION (AISC 325-05)
  - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360-05)
  - AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (D1.1-04)
  - DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AISI S100-07)
- LIVE LOAD:
 

	UNIFORM (PSF)	CONCENTRATED (LB)
CORRIDORS (2ND AND ABOVE)	80	2,000
CORRIDORS (GROUND)	100	2,000
MECHANICAL	150	N/A
OFFICE	50 + 15 = 65*	2,000
PARKING	40	3,000
PUBLIC AREAS, LOBBIES	100	2,000
ROOF	20	300
STORES, RETAIL	100	1,000
STAIRS	100	300

\* ADDITIONAL 15 PSF PARTITION LOAD INCLUDED
- OCCUPANCY CATEGORY: II
- SNOW LOAD:
 

GROUND SNOW LOAD	Pg = 15 PSF
IMPORTANCE FACTOR	Is = 1
SNOW EXPOSURE FACTOR	Ce = 0.9
THERMAL FACTOR	Ct = 1
FLAT SNOW ROOF LOAD (RAIN ON SNOW)	Pf = 20 PSF
- WIND LOAD:
 

BASIC DESIGN WIND VELOCITY	V = 90 MPH
IMPORTANCE FACTOR	Iw = 1
EXPOSURE CATEGORY	C
INTERNAL PRESSURE COEFFICIENTS	±0.18
BASE SHEAR	Vx = 247k Vy = 346k

COMPONENTS AND CLADDING - ALL BUILDING COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE NORTH CAROLINA STATE BUILDING CODE FOR THE BASIC DESIGN WIND VELOCITY, IMPORTANCE FACTOR, AND EXPOSURE LISTED ABOVE.
- SEISMIC LOAD (2008 USGS SEISMIC DESIGN MAPS):
 

DESIGN METHOD - EQUIVALENT LATERAL FORCE PROCEDURE	
Ss	15.7 %g
S1	7.8 %g
Sds	12.5 %g
Sd1	8.8 %g
IMPORTANCE FACTOR	Ie = 1
SITE CLASS	C
SEISMIC RESPONSE COEFFICIENT	Csx = 0.042 Cay = 0.042
SEISMIC DESIGN CATEGORY	B

SEISMIC FORCE-RESISTING SYSTEM - STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS AND INTERMEDIATE REINFORCED SHEAR WALLS.

RESPONSE MODIFICATION COEFFICIENT	Rx = 3 Ry = 3
DEFLECTION AMPLIFICATION FACTOR	Cdx = 3 Cdy = 3
BASE SHEAR	Vx = 212k Vy = 212k

NONSTRUCTURAL COMPONENT ANCHORAGE - ALL ARCHITECTURAL, ELECTRICAL, MECHANICAL AND PLUMBING COMPONENTS ARE TO BE ATTACHED AS REQUIRED BY ASCE 7 CHAPTER 13, "SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS". EACH INDIVIDUAL CONTRACTOR RESPONSIBLE FOR THE COMPONENT MUST PROVIDE PROJECT SPECIFIC DESIGN AND DOCUMENTATION PREPARED BY AN ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA. CHAPTER 13 DEFINES THE FORCE REQUIRED TO SUPPORT THE COMPONENT FOR THE ANCHORAGE AND BRACING. THE COST OF PREPARING THIS INFORMATION AND DESIGN SHALL BE INCLUDED IN THE CONTRACTOR BID THAT IS PROVIDING THE COMPONENT.
- FUTURE LOADS:
 

UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS MADE FOR FUTURE FLOORS, ROOFS, OR OTHER LOADS.

**FOUNDATIONS**

- FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT BY STEWART DATED 8/8/2016. STEWART PROJECT NO.: F16027.00. THE DESIGN ALLOWABLE SOIL BEARING PRESSURE IS 5,000 PSF, BASED ON THIS REPORT.
- FOOTINGS SHALL BE CARRIED TO LOWER ELEVATIONS THAN THOSE SHOWN ON THE DRAWINGS IF REQUIRED BY THE GEOTECHNICAL ENGINEER OR TESTING LAB TO REACH SOIL CAPABLE OF PROVIDING THE DESIGN ALLOWABLE SOIL BEARING PRESSURE.
- THE SUBGRADE AND UNDERFLOOR FILL SHALL BE PREPARED TO A POINT THAT EXTENDS 3'-0" MINIMUM BEYOND THE LIMITS OF THE FOUNDATION.
- MINIMUM SUBGRADE PREPARATION REQUIREMENTS ARE AS FOLLOWS: COMPACT ALL FILL UNDER BUILDING TO 98% MAXIMUM DENSITY AS DETERMINED BY ASTM D698. PLACE IN LAYERS OF 8" MAXIMUM LOOSE THICKNESS. VERIFY FIELD DENSITY, ASTM D1559, WITH AT LEAST ONE TEST PER 2,000 SQUARE FEET PER LAYER. SEE SPECIFICATIONS FOR SITE PAVING SUBGRADE PREPARATION.
- WALLS RETAINING SOIL SHALL BE TEMPORARILY BRACED DURING BACKFILLING AND UNTIL ALL SUPPORTING SOIL AND SLABS ARE IN PLACE AND ARE AT DESIGN STRENGTH UNLESS NOTED OTHERWISE ON PLANS AND DETAILS.
- UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS OF ALL SUCH CONDITIONS PRIOR TO CONSTRUCTION.

**CONCRETE/REINFORCING STEEL**

- CONCRETE COMPRESSIVE STRENGTH IN 28 DAYS:
 

ELEVATED SLABS ON METAL DECK - FIRST FLOOR	4,000 PSI, NORMAL WEIGHT-AIR ENTRAINED
ELEVATED SLABS ON METAL DECK - SECOND - FOURTH FLOORS	4,000 PSI, LIGHT WEIGHT-AIR ENTRAINED TO MEET FIRE RATING
PEDESTALS, BASEMENT WALLS, SITE WALLS, GRADE BEAMS	4,500 PSI, NORMAL WEIGHT-AIR ENTRAINED
SLAB ON GRADE, FOOTINGS	3,000 PSI, NORMAL WEIGHT
- REINFORCING:
 

TYPICAL - ASTM A615, GRADE 60	
REINFORCING TO BE WELDED - ASTM A705	
DEFORMED BAR ANCHORS - ASTM A 496	
WELDED WIRE FABRIC - ASTM A185 (FLAT SHEETS ONLY)	
- GROUT UNDER BASE PLATES TO BE HIGH STRENGTH (5,000 PSI), NON-SHRINK.
- REFER TO THE DRAWINGS FOR REINFORCING LAP REQUIREMENTS. WHERE LAP SPLICES ARE NOT SHOWN, LAP PER ACI 318 OR CRSI STANDARDS.
- LAP WELDED WIRE FABRIC SHEETS 8" MINIMUM.
- CLEAR COVER FROM FACE OF CONCRETE:
 

CAST IN PLACE CONCRETE (MEASURE TO OUTERMOST REINFORCING) - CONCRETE CAST AGAINST AND EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH/WEATHER	2" FOR #6 BARS AND LARGER 1 1/2" ELSE
CONCRETE NOT EXPOSED TO EARTH/WEATHER	3/4" FOR SLABS AND WALLS 1 1/2" FOR BEAMS AND COLUMNS (TO TIES)
- PROVIDE REINFORCING IN SLABS ON GRADE, 1-1/2" FROM TOP OF SLAB:
 

4" SLABS	6x6-W2.1xW2.1
----------	---------------
- WHERE SCHEDULED BARS ARE NOT PRESENT, PROVIDE CONTINUOUS #5 TOP AND BOTTOM BARS TO SUPPORT STIRRUPS AS REQUIRED FOR THE LENGTH OF THE STIRRUP SPACING IN ALL BEAMS.
- WALL FOOTING REINFORCING SHALL BE CONTINUOUS THROUGH ADJACENT COLUMN FOOTINGS.
- PROVIDE VERTICAL DOVETAIL SLOTS AT 24"OC WITH TIES AT 16"OC VERTICALLY IN ALL CONCRETE WALLS BACKING-UP MASONRY VENEER.
- BAR SUPPORTS FOR CONCRETE EXPOSED TO VIEW SHALL HAVE PLASTIC COATED LEGS OR BE HOT DIP GALVANIZED AFTER FABRICATION.
- MECHANICAL AND ELECTRICAL CONDUIT IN ELEVATED SLABS IS NOT ALLOWED UNLESS SPECIFICALLY REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
- HEADED CONCRETE ANCHORS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A108, GRADES 1010, 1040, 1017 AND 1020. STUDS SHALL BE AUTOMATICALLY END WELDED IN THE SHOP OR FIELD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- EMBED PLATES MUST BE SET IN THE FORM BEFORE POURING CONCRETE, NOT PLACED INTO TOP OF WET CONCRETE. THE CONTRACTOR SHALL CONTACT THE ARCHITECT FOR CORRECTIVE DETAILS FOR ANY EMBED PLATES LEFT OUT OF CONCRETE PLACES.
- FOR SLABS ON GRADE, SLAB AND FOOTING REINFORCING SHALL BE HELD IN PLACE BY BAR SUPPORTS WITH SAND PLATES, OR PROTECTIVE CONCRETE BAR SUPPORTS AS DESCRIBED IN CHAPTER 3 OF THE CRSI MANUAL OF STANDARD PRACTICES. BAR SUPPORT SHALL BE SPACED AT A MAXIMUM OF 4'-0" BOTH WAYS. ROCKS, CMU, OR CLAY BRICK WILL NOT BE USED AS SUPPORTS.
- THE CONTRACTOR SHALL ASSUME CONCRETE OVERAGES IN ELEVATED DECK FLOORS DUE TO MEMBER AND DECK DEFLECTIONS. UNLESS SHOWN ON PLANS, BEAMS ARE NOT CAMBERED. CONCRETE OVERAGES MAY BE CALCULATED USING THE CONTRACTOR'S OWN DEFLECTIONS EQUALING 1/300 INCLUDING ADDITIONAL DEFLECTIONS DUE TO PONDING AND DECK DEFLECTIONS PER THE CONTRACTOR'S OWN DEFLECTIONS EQUALING 1/300.
- REBAR SHALL NOT BE HEATED WITH A TORCH IN THE FIELD.
- THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING FAR ENOUGH IN ADVANCE (48 HOURS) OF EACH CONCRETE POUR TO ALLOW AMPLE TIME TO CHECK THE LAYOUT OF THE STEEL BEFORE THE BEGINNING OF THE ACTUAL POUR, BUT NOT PRIOR TO 90% OF THE STEEL HAVING BEEN PLACED.

**CONCRETE CONSTRUCTION JOINTS**

- CONTRACTOR SHALL PROVIDE NECESSARY CONSTRUCTION JOINTS IN MONOLITHIC CONCRETE POURS SO THAT THE QUALITY OF PLACEMENT AND FINISH MEETS THE REQUIREMENTS OF PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT A PLAN SHOWING THE LOCATION OF ALL CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER FOR APPROVAL.
- THERE SHALL BE NO HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS. ALL VERTICAL CONSTRUCTION JOINTS IN SLABS AND BEAMS SHALL BE MADE WITH BOLT HEADS. ADDITIONAL REINFORCING AT CONSTRUCTION JOINTS SHALL BE AS SPECIFIED BY THE STRUCTURAL ENGINEER. SEE TYPICAL CONSTRUCTION JOINT DETAILS.

**STRUCTURAL MASONRY**

- LOAD-BEARING MASONRY WALLS, PILASTERS, PIERS, SHEAR WALLS, AND ANY OTHER MASONRY SO DESIGNATED ON DRAWINGS IS CONSIDERED HEREIN TO BE STRUCTURAL MASONRY.
- REQUIRED COMPRESSIVE STRENGTH OF MASONRY UNITS:
 

CONCRETE UNITS - 1,500 PSI NET AREA
-------------------------------------
- CONCRETE MASONRY UNITS (CMU) SHALL BE LIGHT WEIGHT (105 PCF) GRADE N, CONFORMING TO ASTM C90. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR UNIT SIZE, FACE, COLOR, JOINTING, ETC.
- MORTAR SHALL BE TYPE S, ASTM C270.
- GROUT FOR REINFORCED MASONRY SHALL BE FINE GROUT, ASTM C476. MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE 2000 PSI.
- MINIMUM 28-DAY COMPRESSIVE STRENGTH (fm) OF THE MASONRY WALLS SHALL BE 1500 PSI. MASONRY STRENGTH SHALL BE DETERMINED BY THE UNIT STRENGTH METHOD OR THE PRISM TEST METHOD AS DESCRIBED BY ACI 530.
- REINFORCING:
 

TYPICAL - ASTM A615, GRADE 60.
ALL REINFORCING TO BE WELDABLE - ASTM A706.
- REFER TO THE DRAWINGS FOR REINFORCING LAP TYPICAL DETAIL AND SCHEDULE REQUIREMENTS. WHERE LAP SPLICES ARE NOT SHOWN, LAP 72 BAR DIAMETERS PER ACI 530 AS MODIFIED BY THE STATE BUILDING CODE, UNLESS NOTED ON DRAWINGS.
- MAXIMUM HEIGHT TO WHICH MASONRY SHALL BE LAID BEFORE GROUTING IS 5 FEET ABOVE CONSTRUCTION SURFACE OR PREVIOUSLY GROUTED MASONRY. IF GROUT POUR HEIGHT EXCEEDS 5 FEET, THEN "HIGH LIFT" GROUTING PROCEDURE MUST BE FOLLOWED. PROVIDE CLEANOUT OPENINGS AT THE BOTTOM OF EACH GROUT LIFT. CLEANOUT OPENINGS SHALL BE PROVIDED AT EACH CELL TO BE FILLED WITH GROUT.
- ALL GROUT PLACED OVER 12" IN HEIGHT SHALL BE MECHANICALLY CONSOLIDATED DURING GROUTING. GROUT SHALL BE RECONSOLIDATED BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED.
- MAXIMUM GROUT LIFT (GROUT POURED IN ONE CONTINUOUS OPERATION) IS 5 FEET. THIS LIMIT ALSO APPLIES TO "HIGH LIFT" GROUTING.
- REINFORCE MASONRY WHERE SHOWN ON STRUCTURAL DRAWINGS. TIE REINFORCING IN POSITION AND PLACE GROUT AROUND REINFORCING. DO NOT PUSH REINFORCING DOWN INTO PREVIOUSLY PLACED GROUT FILL. SET BOLTS SIMILARLY.
- TIE MASONRY WYTHES WITH HORIZONTAL REINFORCING AS SPECIFIED.
- PROVIDE VERTICAL BARS, SIZE MATCHING WALL REINFORCING, AT ALL CORNERS, ENDS OF WALLS, EACH SIDE OF CONTROL JOINTS AND EACH SIDE OF WALL OPENINGS. TIE EACH BAR TO THE FOUNDATION WITH A MATCHING DOWEL. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF CONTROL JOINTS.
- ALL CORNERS AND INTERSECTIONS OF STRUCTURAL MASONRY WALLS SHALL BE CONSTRUCTED BY INTERLOCKING COURSES.
- ALL LINTELS TO BEAR 8" MINIMUM EACH SIDE OF OPENING, UNLESS NOTED OTHERWISE.
- GROUT ALL MASONRY WALLS AND CAVITY BELOW GRADE SOLID. GROUT ALL WALLS ABOVE GRADE AT THE REINFORCED CELLS (MIN) OR AS INDICATED IN SPECIFIC SECTIONS.
- ONE 3/4"Ø (MAXIMUM) VERTICAL CONDUIT ALLOWED IN ANY REINFORCED CELL PROVIDED 1" CLEAR IS MAINTAINED BETWEEN REINFORCING AND CONDUIT. NO OTHER VERTICAL OR HORIZONTAL CONDUITS, PIPES, OR SLEEVES SHALL BE LOCATED IN REINFORCED CELLS UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER. CONTRACTOR SHALL COORDINATE LAYOUT TO AVOID REINFORCED CELLS.

**STRUCTURAL STEEL**

- STRUCTURAL STEEL:
 

WIDE FLANGE SHAPES (W SECTIONS) - ASTM A992, GRADE 50 (Fy=50 KSI)
CHANNELS, ANGLES, RODS, AND BARS - A36 (Fy=36 KSI)
PLATES - ASTM A572, GRADE 50 (Fy=50 KSI) OR ASTM A36 (Fy=36 KSI)
SQUARE AND RECTANGULAR TUBES - ASTM A500, GRADE B (Fy=46 KSI)
PIPES - ASTM A53, GRADE B (Fy=35 KSI)
- ANCHOR BOLTS AND THREADED RODS SHALL CONFORM TO ASTM F1554, GRADE 36.
- DESIGN, FABRICATION AND ERECTION SHALL BE AS PER SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360-05).
- BEAM SIMPLE SHEAR AND BRACED FRAME CONNECTIONS NOT DETAILED ON STRUCTURAL DRAWINGS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER RETAINED BY THE STEEL SUPPLIER AND REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE CONNECTIONS FOR NON-COMPOSITE BEAMS SHALL BE DESIGNED FOR REACTIONS SHOWN ON DRAWINGS OR FOR REACTIONS DETERMINED BY USING THE ALLOWED UNIFORM LOAD AS TABULATED IN PART 3 OF THE AISC STEEL CONSTRUCTION MANUAL FOR THE SECTION, SPAN AND STRENGTH OF STEEL SPECIFIED. CONNECTIONS SHALL BE MADE WITH ASTM A325 3/4"Ø BOLTS (MINIMUM), TIGHTENED TO A SNUG-TIGHT CONDITION PER AISC REQUIREMENTS.
- THE CONNECTIONS FOR COMPOSITE BEAMS SHALL BE DESIGNED FOR REACTIONS SHOWN ON THE DRAWINGS. FOR COMPOSITE BEAM REACTIONS NOT SHOWN ON THE DRAWINGS, REACTIONS SHALL BE PROVIDED TO THE SELECTED FABRICATOR. A MINIMUM OF 65% WELD SHALL BE USED FOR UNSPECIFIED CONNECTIONS.
- REACTIONS MAY BE OMITTED ON PLANS FOR CLARITY. REACTIONS CAN BE PROVIDED ONCE A CONTRACT IS AWARDED. NOTIFY ENGINEER OF REQUEST.
- THE CONNECTION ENGINEER SHALL SUBMIT A SIGNED AND SEALED LETTER STATING THEY HAVE REVIEWED THE STEEL SHOP DRAWINGS AND THE CONNECTIONS ARE CONSISTENT WITH THEIR CALCULATIONS AND INTENT.
- WHERE STEEL MEMBERS ARE WELDED AND NO SIZE IS SPECIFIED, PROVIDE FULL LENGTH FULL PEN WELDS FROM SIDES OF MEMBER. WELD SIZES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
 

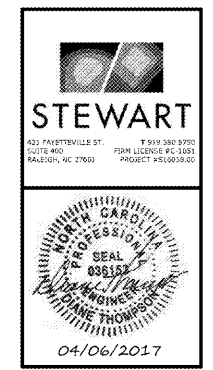
MEMBER THICKNESS	WELD SIZE
3/16"	3/16"
1/4"	3/16"
5/16"	3/16"
3/8"	1/4"
7/16"	1/4"
1/2"	5/16"
9/16"	3/8"
5/8"	7/16"
- SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MADE. ANY MEMBER HAVING A SPLICE SHALL BE DETAILED ON SHOP DRAWINGS WILL BE REJECTED.
- ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE. USE E70 SERIES ELECTRODES FOR ALL STRUCTURAL STEEL WELDS.
- SEE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL ITEMS REQUIRED TO BE HOT-DIP GALVANIZED AFTER FABRICATION.
- STRUCTURAL STEEL SHALL BE PUNCHED FOR WOOD BLOCKING, NAILERS, CLIPS AND TIES IN ACCORDANCE WITH ARCHITECTURAL/STRUCTURAL DETAILS.
- ULTRASONIC INSPECTION OF THE TESTING LABORATORY SHALL BE PROVIDED FOR ALL WELDS CALLED FOR ON THE STRUCTURAL DRAWINGS OR SHOP DRAWINGS AS FULL PENetration WELDS.
- ALL STEEL EXPOSED TO VIEW SHALL BE CLASSIFIED AS ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) AS DEFINED BY THE AISC CODE OF STANDARD PRACTICE AND SHALL BE TREATED AS SUCH.

**STEEL JOISTS**

- ALL STEEL JOISTS SHALL BE OPEN-WEB TYPE CONFORMING TO THE LATEST "STANDARD LOAD TABLE DESIGN, FABRICATION AND ERECTION REQUIREMENTS" PUBLISHED BY THE STEEL JOIST INSTITUTE.
- PROVIDE BRIDGING PER STEEL JOIST INSTITUTE STANDARD SPECIFICATION. ALL BRIDGING SHALL BE BOLTED OR WELDED AT ALL JOISTS AND AT ALL CROSSINGS AND ANCHORED TO SPANDREL MEMBERS. ALL BRIDGING FOR JOISTS USED AS SPANDREL MEMBERS (AT EDGE OF DECK) SHALL BE "X" BRIDGING. SIZE OF BRIDGING SHALL BE DETERMINED BY THE JOIST SUPPLIER. JOIST SUPPLIER TO PROVIDE ADDITIONAL BRIDGING AS REQUIRED FOR UPLIFT LOADS.
- ALL JOISTS SHALL HAVE ANGLE BOTTOM CHORD MEMBERS UNLESS OTHERWISE APPROVED.
- ALL K-SERIES JOISTS SHALL BE WELDED TO SUPPORT STEEL WITH A MINIMUM OF 2" OF 1/8" FILLET WELD AT BOTH SIDES OF JOIST SEAT.
- WHERE JOISTS FRAME TO COLUMNS, JOISTS SHALL BE FIELD BOLTED TO COLUMNS WITH TWO 1/2"-DIAMETER A307 BOLTS AT EACH END OF THE JOIST TO PROVIDE LATERAL STABILITY DURING CONSTRUCTION.
- PROVIDE BOLTED DIAGONAL BRIDGING WHERE REQUIRED PER STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS. JOIST SHOP DRAWINGS SHALL INDICATE ALL JOISTS WHICH SHALL HAVE A ROW OF BOLTED BRIDGING IN PLACE BEFORE SLACKENING OF HOISTING LINES.
- JOIST MANUFACTURER SHALL BE PREPARED TO SUBMIT CALCULATIONS FOR ALL JOISTS AT ARCHITECT'S OR ENGINEER'S REQUEST. CALCULATIONS SHALL HAVE LOAD DIAGRAMS FOR EACH MEMBER CLEARLY INDICATING SPAN, UNIFORM AND CONCENTRATED LOADS. ALL CALCULATIONS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.
- JOISTS SHALL BE DESIGNED FOR A NET WIND UPLIFT LOAD OF 15 PSF UNLESS NOTED OTHERWISE.



Finley Design PA  
7806 nc hwy 751  
Suite 110  
Durham, NC 27713  
919-493-8200  
FINLEYDESIGNARCH.COM



Westpoint 2 Durham, NC

**REVISIONS**

PROJECT:	S16028.00
DATE:	04/06/2017
DRAWN BY:	DJT
CHECKED BY:	JCP

**GENERAL NOTES**

S.O.

Order Plans