

DESIGN CRITERIA NOTES

1. THE FOLLOWING CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITHIN, SHALL APPLY TO THE DESIGN, CONSTRUCTION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT. USE THE LATEST EDITIONS UNLESS NOTED OTHERWISE.
- INTERNATIONAL BUILDING CODE 2018 EDITION
ASCE 7-16 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
ASCE 301-16 - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
ASCE 301-16 - CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES
ACI 318-14 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND MASONRY
ACI 530-16 - SPECIFICATION FOR MASONRY STRUCTURES
2. DESIGN LOADS ARE AS LISTED BELOW. NO PROVISIONS HAVE BEEN MADE FOR FUTURE EXPANSION.
- LIVE LOADS:
UNIFORMLY DISTRIBUTED LIVE LOADS IN PSF
SCHOOLS
CLASSROOMS = 40 PSF
OFFICES = 50 PSF
STAIRS, PUBLIC AREAS=100 PSF
MECHANICAL ROOMS=150 PSF
PARTITIONS IN NON-PUBLIC AREAS=20 PSF
ROOF = 20 PSF
- SUPERIMPOSED DEAD LOADS:
MECHANICAL, ELECTRICAL AND CEILING FINISHES WHERE SHOWN ON ARCHITECTURAL DRAWINGS = 10 PSF AS REQUIRED
- WIND LOADS:
BASIC WIND SPEED, V (ULT) = 120 MPH
RISK CATEGORY = III
WIND EXPOSURE = B
APPLICABLE INTERNAL PRESSURE COEFFICIENT +/- 0.18
- SEISMIC LOADS:
RISK CATEGORY = III
IMPORTANCE FACTOR = 1.25
MAPPED SPECTRAL RESPONSE ACCELERATIONS:
S_a=16.4mg
S₁=4.8mg
SPECTRAL RESPONSE COEFFICIENTS:
SDS=19.0mg
SD1=7.8mg
SITE CLASS = D
SEISMIC DESIGN CATEGORY = B
- SNOW LOADS:
GROUND SNOW LOAD P_g=30 PSF
FLAT ROOF SNOW LOAD = 24 PSF + DRIFT
EXPOSURE FACTOR E=1.0
IMPORTANCE FACTOR = 1.1
THERMAL FACTOR C=1.0

3. LOADINGS FOR MECHANICAL EQUIP. ARE BASED ON WEIGHTS OF ASSUMED EQUIPMENT AS INDICATED BY THE MECHANICAL DOCUMENTS INCLUDING THE WEIGHT OF CONCRETE PADS, WHERE INDICATED. ANY CHANGES IN TYPE, SIZE, OR NUMBER OF PIECES OF EQUIPMENT SHALL BE REPORTED TO THE ARCHITECT FOR VERIFICATION OF THE ADEQUACY OF SUPPORTING MEMBERS PRIOR TO THE PLACEMENT OF SUCH EQUIPMENT.

FOUNDATION NOTES

1. FOUNDATION DESIGN AND SUBSURFACE INFORMATION IS BASED ON THE GEOTECHNICAL RECOMMENDATIONS PREPARED BY EARTH ENGINEERING INCORPORATED DATED SEPTEMBER 8, 2021. THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND BE THOROUGHLY FAMILIAR WITH THE SITE AND SUBGRADE INFORMATION GIVEN THEREIN. ALL SITE PREPARATION AND EXCAVATION WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
2. SPREAD FOOTINGS ARE DESIGNED FOR THE ALLOWABLE NET SOIL BEARING PRESSURE OF 2000 PSF. SOIL BEARING CAPACITY SHALL BE VERIFIED BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO FOUNDATION PLACEMENT.
3. PROVIDE CRACK CONTROL JOINTS IN SLABS ON-GRADE AS INDICATED BY THE SPECIFICATIONS AND TYPICAL DETAILS. WHERE SOIL SUPPORTED SLAB CONSTRUCTION OR CONTROL JOINTS ARE NOT SHOWN ON PLAN, JOINTS SHALL OCCUR IN EACH DIRECTION AT EACH COLUMN LINE AND AT MIDSPAN FOR ROOF BARS. ADDITIONAL JOINTS SHALL OCCUR IN EACH DIRECTION AT A SPACING NOT TO EXCEED 16 TIMES THE SLAB THICKNESS. AVOID EXCEEDING AN ASPECT RATIO OF 1.5 TO 1 FOR AREAS BOUNDED BY JOINTS. CUT JOINTS 25% OF THE DEPTH OF THE SLAB.
4. A VAPOR BARRIER PER THE ARCHITECTURAL SPECIFICATIONS SHALL BE INSTALLED DIRECTLY BENEATH THE SOIL SUPPORTED SLAB. TAPE AND LAP ALL JOINTS PER MANUFACTURER RECOMMENDATIONS.
5. FOUNDATIONS SHALL BEAR ON UNDISTURBED VIRGIN SOIL AND/OR SUPERVISED COMPACTED FILL, FREE OF FROST AND ANY ORGANIC MATERIALS. STRUCTURAL FILL MATERIAL SHOULD BE PLACED AT ITS OPTIMUM MOISTURE CONTENT (+/- 2%) AND COMPACTED TO 98 PERCENT OF MAXIMUM DRY DENSITY AS PER ASTM STANDARD D698.
6. ALL FOUNDATIONS AND EXCAVATIONS SHALL BE PROTECTED FROM FROST EXPOSURE DURING AND AFTER CONSTRUCTION. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 3'-0" BELOW EXTERIOR FINISHED GRADE, U.N.O. FOR PROTECTION FROM FROST HEAVE.
7. THE ELEVATION OF THE BASE OF THE NEW FOUNDATION SHOULD MATCH THE BASE ELEVATION OF THE ADJACENT EXISTING FOUNDATIONS. ALTERNATIVELY, FOUNDATION BEARING AT DIFFERENT ELEVATIONS SHOULD BE POSITIONED SO THAT THE BASE OF THE CLOSEST POINTS OF THE ADJACENT FOUNDATION IS LOCATED A MINIMUM OF ONE HORIZONTAL TO ONE VERTICAL (1:1) FROM EACH OTHER. CARE SHOULD BE TAKEN NOT TO UNDERMINE EXISTING FOUNDATIONS.
8. DO NOT ALLOW SURFACE WATER TO ACCUMULATE AND/OR POND IN EXCAVATIONS. TEMPORARY DRAINAGING SYSTEM IS TO BE USED DURING CONSTRUCTION WILL BE DESIGNED AND INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT AND THE REQUIREMENTS OF THE GOVERNING BUILDING CODE.
9. DO NOT BACKFILL AGAINST WALLS UNTIL SUPPORTING SLABS ARE IN PLACE AND HAVE ATTAINED REQUIRED STRENGTH.
10. WHERE PIPES OR UTILITIES PASS THROUGH FOOTING, DROP FOOTING SO UTILITIES PASS OVER THE TOP OF THE FOOTING OR DROP UTILITIES TO PASS BELOW FOUNDATION (0' MIN). PROVIDE SLEEVES AS NECESSARY.
11. REFER TO THE ABOVE MENTIONED GEOTECHNICAL REPORT FOR ADDITIONAL SUBGRADE PREPARATION AND OTHER REQUIREMENTS.

SUBMITTAL AND SHOP DRAWING REQUIREMENT NOTES

1. THE CONTRACTOR SHALL SUBMIT FOR REVIEW BY THE ARCHITECT AND THE ENGINEER ALL INFORMATION REQUIRED BY THE CONTRACT DOCUMENTS INCLUDING THE SPECIFICATIONS.
2. SHOP DRAWINGS SHALL BE PREPARED, SUBMITTED AND REVIEWED PRIOR TO PROCEEDING WITH FABRICATION AND/OR INSTALLATION OF THE ASSOCIATED WORK. REVIEW PERIOD SHALL BE A MINIMUM OF TWO (2) WEEKS.
3. THE CONTRACTOR SHALL SUBMIT FOR REVIEW, DRAWINGS AND CALCULATIONS FOR ALL FABRICATION ASSEMBLIES IDENTIFIED IN THE GENERAL NOTES AND LISTED BELOW. THE DESIGN OF THESE ASSEMBLIES IS THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION. ALL SUBMITTALS SHALL BEAR CONTRACTORS ENGINEERS SEAL AND SIGNATURE. REVIEW SHALL BE FOR GENERAL CONFORMANCE WITH THE PROJECT REQUIREMENTS AS INDICATED ON THE DRAWINGS AND IN GENERAL NOTES.
- A. NON-LOAD BEARING STUD WALL AND CURTAIN WALL SYSTEMS AND RELATED CONNECTIONS:
a. DESIGN SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL LOADS REQUIRED BY APPLICABLE BUILDING CODES. BACK UP SYSTEM AND STUD WALLS SHALL BE DESIGNED FOR A MAXIMUM DEFLECTION OF 1/600 OF THE SPAN, OR 3/8", WHICHEVER IS LESS, AT THE APPLICABLE DESIGN WIND LOAD. CURTAIN WALLS SHALL BE DESIGNED FOR A MAXIMUM DEFLECTION AS INDICATED BY AAMA REQUIREMENTS UNLESS OTHERWISE NOTED IN SPECIFICATIONS.
- B. METAL STAIRS AND METAL RAILINGS:
a. DESIGNS SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL LOADS REQUIRED BY APPLICABLE BUILDING CODES. WHEREAS HEADERS OR OTHER TYPES OF STRUCTURAL MEMBERS HAVE BEEN DESIGNATED BY THE ENGINEER OF RECORD TO SUPPORT THE STAIRS, THE CONNECTIONS FROM THE STAIRS SHALL BE DESIGNED FROM SO THAT NO ECCENTRIC OR TORSIONAL FORCES ARE INDUCED IN THESE STRUCTURAL MEMBERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING HARDWARE AS REQUIRED BY THE STAIR DESIGN.
4. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTROL DRAWINGS FOR RE-SUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
5. SHOP DRAWINGS SHALL BE SUBMITTED ELECTRONICALLY.
6. SHOP DRAWINGS SUBMITTED FOR REVIEW SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT THE CONTRACTOR HAS VERIFIED ALL CONSTRUCTION CRITICAL DIMENSIONS, MATERIALS, AND SIMILAR DATA HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR'S REVIEW INCLUDES BUT IS NOT LIMITED TO VERIFICATION AND COORDINATION OF ACTUAL FIELD CONDITIONS INCLUDING DIMENSIONS AND ELEVATIONS, AS WELL AS ACTUAL DIMENSIONS FOR SUPPORTS, ANCHORAGES, AND OPENINGS FOR THE ACTUAL EQUIPMENT PURCHASED.
7. THE SHOP DRAWINGS SHALL INCLUDE DIMENSIONED FLOOR AND FLOOR EDGES, OPENINGS AND SLEEVES AT ALL FLOORS REQUIRED FOR ALL TRADES.

CAST-IN-PLACE CONCRETE NOTES

1. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITIONS OF THE ACI BUILDING CODE (ACI 318), ACI DETAILING MANUAL (ACI 315), AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301).
2. CONCRETE, UNLESS OTHERWISE NOTED ON THE PLANS, SHALL BE NORMAL WEIGHT CONCRETE WITH THE FOLLOWING 28 DAY COMPRESSIVE STRENGTH (PSI):
FOOTINGS = 3,000 N.W.C.
SLAB-ON-GRADE = 3,000 N.W.C.
EXTERIOR SLAB-ON-GRADE = 4,500 N.W.C.
PLASTER, WALLS = 4,000 N.W.C.
SLABS ON METAL DECK = 3,500 L.W.C.
* N.W.C.-DENOTES NORMAL WEIGHT CONC. WITH A MAX. DRY DENSITY = 150 PCF
* L.W.C.-DENOTES LIGHTWEIGHT CONC. WITH A MAX. DRY DENSITY = 117 PCF
3. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE AS NOTED BELOW. SEE ACI 318 FOR CONDITIONS NOT NOTED.
REIN. STEEL IN CONCRETE CAST AGAINST SOIL = 3"
#6 BARS AND SMALLER = 1 1/2"
#6 BARS AND LARGER = 2"
- CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
SLAB AND WELDED REIN. = 1/2"
BEAMS AND COLUMNS = 1/2"
4. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED PER THE SPECIFICATIONS.
5. WORKABILITY SHALL NOT BE ACHIEVED THROUGH ADDITION OF WATER. WATER REDUCING ADMIXTURES (PLASTICIZERS) SHALL BE USED TO INCREASE WORKABILITY. SEE SPECIFICATIONS FOR CONCRETE SLUMP REQUIREMENTS. ALL CONCRETE SHALL HAVE A 4" SLUMP PRIOR TO ADDITION OF ADMIXTURES AND SHALL HAVE A MAXIMUM SLUMP OF 8" AFTER THE ADDITION OF ADMIXTURES.
6. HORIZONTAL CONSTRUCTION JOINTS SHALL BE PERMITTED ONLY WHERE SHOWN ON THE STRUCTURAL DRAWINGS.
7. CONTROL JOINTS FOR SLABS ON GRADE SHALL BE SAW CUT PER THE TYPICAL DETAILS ON THE STRUCTURAL DRAWINGS. DIAMOND LEAVE OUTS SHALL BE PROVIDED AT ALL COLUMNS.
8. CONTRACTOR SHALL SUBMIT PLAN SHOWING POUR SEQUENCE, INCLUDING TYPE AND LOCATION OF PROPOSED JOINTS IN SLABS AND WALLS FOR APPROVAL.
9. ALL CONCRETE PLACED IN COLD WEATHER SHALL CONFORM TO ACI 305-COLD WEATHER CONCRETING. ALL CONCRETE PLACED IN HOT WEATHER SHALL CONFORM TO ACI 305-HOT WEATHER CONCRETING.
10. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL SLEEVES, INSERTS, ANCHOR BOLTS AND OTHER EMBEDDED ITEMS AS REQUIRED BY OTHER TRADES.
11. ALL CONCRETE POURS SHALL BE TERMINATED BY FORMS. FOOTINGS MAY BE UNFORMED PROVIDED THE TRENCH IS EXCAVATED AN ADDITIONAL 3" ON ALL SIDES, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
12. ALL COLUMN FOOTINGS SHALL BE CENTERED UNDER COLUMN CENTERLINES, U.N.O.
13. GROUT ALL LEVELING AND BEARING PLATES WITH AN APPROVED NON-SHRINK GROUT.
14. CHAMFER CORNERS OF ALL EXPOSED CONCRETE AS DETAILED BY THE ARCHITECTURAL DRAWINGS.
15. A THIRD PARTY TESTING LABORATORY SHALL BE EMPLOYED BY THE OWNER FOR EVALUATION AND QUALITY CONTROL OF CONCRETE PLACED. FREQUENCY OF CONCRETE TESTING SHALL MEET THE REQUIREMENTS OF ACI 318 AT A MINIMUM UNLESS OTHERWISE REQUIRED BY THE LOCAL BUILDING CODE.

CONCRETE REINFORCEMENT NOTES

1. CONCRETE REINFORCING BARS SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A615 GRADE 60, EXCEPT AS NOTED. REINFORCEMENT REQUIRED TO BE WELDED SHALL CONFORM TO ASTM A706, U.N.O.
2. WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A185. THE FOLLOWING WELDED WIRE REINFORCING SHALL BE USED FOR AREAS SPECIFIED BELOW, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
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| 4 INCH SLAB-ON-GRADE | 6 X 6 - W14 X W14 |
| 5 INCH SLAB-ON-GRADE | 6 X 6 - W23 X W23 |
| 6 INCH SLAB-ON-GRADE | 6 X 6 - W23 X W23 |
| NON-STRUCTURAL TOP 3" OF SLABS | 6 X 6 - W14 X W14 |
| 4.5" COMPOSITE SLAB | 6 X 6 - W14 X W14 |
- FOR ADDITIONAL W.W.F. IF ANY, SEE FLOOR FRAMING PLANS.
3. HEADED STUDS AND DEFORMED BAR ANCHORS USED IN FABRICATION OF EMBEDDED ASSEMBLIES SHALL BE WELDED TO THOSE ASSEMBLIES USING A FULL FUSION PROCESS.
4. REINFORCING BARS MAY BE SPICED ONLY AS SHOWN ON THE DRAWINGS EXCEPT THAT REINFORCING DESIGNATED AS "CONTINUOUS" SHALL HAVE A CLASS 1" LAP SPICE (ACI 318). LAP SPICES OF CONTINUOUS REINFORCING SHALL BE MADE OVER SUPPORTS FOR BOTTOM BARS AND FOR INTERMEDIATE BARS AND AT MIDSPAN FOR TOP BARS. AT EXTERIOR SUPPORTS, TOP AND BOTTOM BARS SHALL BE HOOKED AND INTERMEDIATE BARS SHALL EXTEND TO WITHIN 2' OF EXTERIOR FACE.
5. HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AND SHALL HAVE 90 DEGREE BENDS AND EXTENSIONS AT CORNERS AND INTERSECTIONS AS SHOWN ON TYPICAL WALL CORNER BAR PLACING DETAILS.
6. LAPS IN WELDED WIRE FABRIC SHALL BE TWO MESH AT SPLICES.
7. PROVIDE STANDARD BAR CHAIRS WITH PROTECTIVE TIPS AND SPACERS SPACED AS REQUIRED TO PROVIDE SPECIFIED CONCRETE PROTECTION FOR REINFORCEMENT BUT NOT TO EXCEED 3"-0" ON CENTER FOR SLABS, BEAMS, AND GRADE BEAMS. PLACE BAR CHAIRS LONGITUINALLY IN BEAMS DIRECTLY BELOW THE STRUTS.
8. PLACE BARS NOTED AS "SECOND LAYER" BELOW THE PRIMARY TOP BARS (OR ABOVE THE PRIMARY BOTTOM BARS) AND PROVIDE A 2" SPACE BETWEEN THE TWO LAYERS.
9. ALL REINFORCING SHALL BE SECURELY WIRED TOGETHER IN THE FORMS PRIOR TO PLACING CONCRETE.
10. THE CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL OF REINFORCING STEEL SHOP DRAWINGS PRIOR TO FABRICATION OR SHIPMENT OF MATERIAL. SHOP DRAWINGS SHALL CONTAIN INFORMATION FOR DETAILING, SPLICING, LAPPING, BENDING, SHAPES, QUANTITIES AND DIMENSIONS OF ALL BAR REINFORCEMENT INCLUDING SUPPORTING AND SPACING DEVICES.

DEMOLITION NOTES

1. REMOVAL, AS DESCRIBED HEREIN SHALL BE ACCOMPLISHED WITHOUT STORING ON THE FLOOR EXCESSIVE QUANTITIES OF ANY MATERIALS, RUBBISH, DIRT, DEBRIS, OR WASTE OF ANY SORT RESULTING FROM THE REMOVAL OPERATIONS ON THE FLOOR.
2. ALL DEBRIS SHALL BE REMOVED FROM THE CONSTRUCTION SITE DAILY.
3. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO MAINTAIN FREE PROTECTED ACCESS OF ALL TENANTS, SERVICE PERSONNEL AND THE PUBLIC THROUGH THE AREAS INVOLVED.
4. THE CONTRACTOR SHALL REMOVE ALL PIPE SLEEVES PROJECTING THROUGH SLAB; PATCH ALL PENETRATIONS, HOLES, ETC.
5. ALL PIPES AND CONDUITS IN WALLS THAT ARE TO BE DEMOLISHED ARE TO BE REMOVED AND/OR RELOCATED AS REQUIRED.
6. CONTRACTOR SHALL REVIEW WITH ARCHITECT'S ENGINEER ANY AND ALL ITEMS OF DEMOLITION NOT IMPLIED OR SPECIFIED ON DRAWINGS OR SPECIFICATIONS AND TO INCLUDE SUCH COSTS IN BID UNLESS OTHERWISE ADVISED.
7. PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND SERVICES AND PERFORM ALL OPERATIONS REQUIRED FOR COMPLETE INTERIOR DEMOLITION AND RELATED WORKS AS DESCRIBED AND SPECIFIED HEREIN, AND AS MAY BE REASONABLY IMPLIED AS NECESSARY TO COMPLETE WORK IN ALL RESPECTS.
8. JOBSITE INSPECTION MUST BE CONDUCTED TO EXAMINE EXISTING CONDITIONS, TO DETERMINE NATURE AND SCOPE OF WORK OR ANY DIFFICULTIES THAT MIGHT ARISE AT TIME OF WORK. IN ADDITION, EXAMINE ALL WORK THAT IS INTENDED TO REMAIN AS PART OF THE COMPLETED PROJECT AND REPORT ALL UNSATISFACTORY CONDITIONS TO ARCHITECT/ENGINEER PRIOR TO COMMENCEMENT OF WORK. EXERCISE EXTREME CARE DURING DEMOLITION SO AS NOT TO DAMAGE CONSTRUCTION AND OTHER STRUCTURES THAT ARE INTENDED TO REMAIN. ANYTHING DAMAGED AT WORK IS TO BE REPAIRED AND/OR REPLACED TO MATCH EXISTING CONSTRUCTION AT CONTRACTORS EXPENSE.
9. REFER TO DRAWINGS FOR EXISTING ITEMS/ SYSTEMS TO REMAIN.
10. CONTRACTOR TO PROVIDE DUST BARRIER FOR PROTECTION OF EXISTING AREAS TO REMAIN AS REQUIRED.
11. WHEN DEMOLITION TAKES PLACE, SHOULD ANY WORK AFFECT THE INTEGRITY OF THE STRUCTURE, WORK MUST STOP IMMEDIATELY AND ARCHITECT/ENGINEER NOTIFIED. UNDER NO CIRCUMSTANCES SHALL REINFORCING OR ANY BEING BE DAMAGED, CUT OR BROKEN.
12. THE GENERAL CONTRACTOR SHALL PROVIDE SUFFICIENT FRAMING FOR ALL WALL OPENINGS FOR DUCTWORK, RETURN AIR OPENINGS, ACCESS PANELS AND GRILLE OPENINGS ABOVE AND BELOW HUNG CEILING. THESE ARE TO BE COORDINATED WITH H.V.A.C. ENGINEERING DRAWINGS AND THE GENERAL CONTRACTOR'S SHOP DRAWINGS AND THE GENERAL CONTRACTOR'S MECHANICAL CONTRACTOR'S SHOP DRAWINGS. ALL SPACES SHALL BE PROPERLY SEALED FOR SOUNDPROOFING AND VIBRATION.
13. PRIOR TO DEMOLITION OF LOAD BEARING MEMBERS, SUPPORTED MEMBERS SHALL BE SHORED.

STEEL NOTES

A. STRUCTURAL STEEL

1. STRUCTURAL STEEL CONSTRUCTION HAS BEEN DESIGNED IN ACCORDANCE WITH A.I.S.C. 360-05, "STEEL CONSTRUCTION MANUAL."
2. STRUCTURAL STEEL SHAPES, PLATES, ETC., SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS, U.N.O.
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| FLOOR/ROOF BEAMS AND GIRDERS EXCLUDING W8X10 AND SMALLER | ASTM A992-50 |
| COLUMNS, WEB DOUBLER PLATES | ASTM A992-50 |
| CHANNELS, TEES, ANGLES, BARS, PLATES, W8X10 AND SMALLER BEAMS | ASTM A36 |
| STEEL TUBING (HSS SECTIONS) (Fy = 46 KSI) | ASTM A500-GR. B |
| STEEL PIPE TYPE "E" OR "S" | ASTM A501 OR A53 |
| ANCHOR BOLTS | ASTM F1554 GR. 36
ASTM F1554 GR. 55 |
3. CONNECTION BOLTS SHALL CONFORM TO ASTM A325. USE BEARING TYPE BOLTS WITH THREAD ALLOWED ACROSS THE SHEAR PLANE (TYPE N) AT TYPICAL BEAM SHEAR CONNECTIONS, U.N.O. USE TYPE "SC" BOLTS WITH EITHER DIRECT TENSION INDICATOR OR LOAD INDICATOR WASHERS AT ALL BOLTED SLIP CRITICAL CONNECTIONS.
4. A LISTING OF CONNECTIONS CONSIDERED "SLIP CRITICAL" IS AS FOLLOWS:
A. BOLTED CONNECTIONS OF TENSION MEMBERS.
B. BOLTS USED IN MOMENT CONNECTIONS.
C. BOLTED SPLICES OF TRUSS TOP AND BOTTOM CHORDS.
5. STEEL BEAM CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE DESIGNED BY THE STRUCTURAL STEEL FABRICATOR. BEAM CONNECTIONS SHALL DEVELOP THE END REACTIONS GIVEN ON THE DRAWINGS. WHERE END REACTIONS ARE NOT SPECIFIED, THE BEAM CONNECTION SHALL DEVELOP 50% OF THE BEAMS WEB ALLOWABLE SHEAR CAPACITY. A MINIMUM CONNECTION CAPACITY OF 12 KIPS SHALL BE PROVIDED FOR ALL BEAMS, UNLESS NOTED OTHERWISE BY SPECIFIED REACTION. THE STRUCTURAL STEEL FABRICATOR SHALL PROVIDE CERTIFICATION BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF THE PROJECT, THAT THE CONNECTION DESIGN IS IN ACCORDANCE WITH ALL APPLICABLE CODES AND SPECIFICATIONS.
6. FOR ALL HIGH STRENGTH BOLTS, HARDENED WASHERS SHALL BE PROVIDED.
7. GALVANIZING OF STEEL MEMBERS SHALL CONFORM TO ASTM A123. GALVANIZE ALL STEEL PERMANENTLY EXPOSED TO WEATHER.
8. ALL STRUCTURAL STEEL SHALL BE SHOP PAINTED WITH A RUST INHIBITIVE PRIMER. DO NOT PRIME STEEL WHICH SHALL HAVE SPRAY-ON FIREPROOFING APPLIED. STEEL WHICH IS TO BE FIREPROTECTED IS INDICATED ON THE ARCHITECTURAL DRAWINGS. ALL EXPOSED STEEL AND LINTELS IN EXTERIOR WALLS SHALL BE HOT-DIP GALVANIZED.
9. HEADED STUDS AND DEFORMED BAR ANCHORS USED IN FABRICATION OF EMBEDDED ASSEMBLIES SHALL BE WELDED TO THOSE ASSEMBLIES USING A FULL FUSION PROCESS.
10. STEEL BEAMS SHALL BE ERRECTED WITH NATURAL CAMBER UP.
11. ANCHOR BOLTS HAVE NOT BEEN DESIGNED FOR ANY SPECIFIC ERECTION FORCES. THE ERECTOR IS RESPONSIBLE FOR ANY AND ALL GUYING AND BRACING REQUIRED TO ERECT THE BUILDING.
12. COMPOSITE BEAMS USING CONCRETE SLAB AS COMPRESSION PLATE ARE DESIGNED FOR UNSHORED CONSTRUCTION. THE CONTRACTOR SHOULD ANTICIPATE UP TO 5/8" DEFLECTION UNDER WET WEIGHT OF CONCRETE FOR BEAMS WHICH HAVE NO CAMBER SHOWN ON THE STRUCTURAL DRAWINGS.
13. OPEN WEB STEEL JOISTS AND BRIDGINS SHALL CONFORM TO THE STANDARDS OF THE STEEL JOIST INSTITUTE. BRIDGING SHALL BE WELDED TO STEEL BEAMS AND ANCHORED TO CONCRETE WALLS AT THE ENDS, U.N.O. JOISTS SHALL BE WELDED TO STEEL SUPPORTS PER SJI SPECIFICATIONS. JOISTS SUPPORTED BY A COLUMN SHALL BE WELDED TO THE COLUMN WITH 18"x2" LONG FILLET WELDS EACH SIDE UNLESS NOTED OTHERWISE. JOISTS SUPPORTED ON STEEL BEAMS, GIRDERS, OR BEARING PLATES SHALL HAVE THE JOIST SEAT DESIGNED TO TRANSFER THE LOAD TO THE SUPPORT CENTRILINE UNLESS NOTED OTHERWISE ON PLAN.
14. THE RESPONSIBILITY FOR ANY TEMPORARY SHORING OR BRACING DURING THE CONSTRUCTION PHASE BEFORE COMPLETION OF CONNECTION AND POURING OF FLOOR SLAB IS ADDRESSED IN THE SPECIFICATIONS AND IS THE RESPONSIBILITY OF THE CONTRACTOR.
15. IF NOT SHOWN ON DRAWINGS, SUPPORT OF METAL DECK AROUND COLUMN CLOSURE, SCREED PLATES AROUND THE OPENINGS AND EDGE SLAB SHALL BE PROVIDED BY THE CONTRACTOR.
16. DURING CONSTRUCTION, THE ERECTED STRUCTURAL STEEL SHALL NOT PROCEED HIGHER THAN THE CONCRETE CORE CONSTRUCTION. THE CONTRACTOR SHALL MAKE SAFE PROVISIONS FOR STABILIZING THE STEEL STRUCTURE BOTH HORIZONTALLY AND VERTICALLY. THE STABILITY OF THE FRAME DURING ERECTION IS THE CONTRACTOR'S RESPONSIBILITY.
17. STRUCTURAL STEEL MEMBERS SHALL NOT BE SPICED OR HAVE PENETRATIONS UNLESS INDICATED ON THE STRUCTURAL CONTRACT DOCUMENTS OR AS REVIEWED BY THE STRUCTURAL ENGINEER.

B. WELDING

1. WELDED CONSTRUCTION SHALL CONFORM TO THE AMERICAN WELDING SOCIETY "STRUCTURAL WELDING CODE" D1:1; AWS D1.3-SHEET STEEL, AND AWS D14 "REINFORCING STEEL WELDING CODE".
2. ELECTRODES FOR FIELD AND SHOP WELDS OF STRUCTURAL STEEL SHALL BE E70XX, U.N.O.
3. ELECTRODES FOR WELDING OF REINFORCING STEEL SHALL BE E80XX.
4. ELECTRODES FOR WELDING OF SHEET STEEL SHALL CONFORM TO AWS D1.3.
5. WHEN WELDS ARE NOT CALLED-OUT ON DRAWINGS, THEY ARE MINIMUM SIZE CONTINUOUS FILLET WELDS IN ACCORDANCE WITH AWS D1.1. FILLET WELDS NOT SPECIFIED AS TO LENGTH SHALL BE CONTINUOUS.
6. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL GROOVE WELDS SHALL BE FULL PENETRATION.
7. ONLY LOW HYDROGEN ELECTRODES SHALL BE USED ON REINFORCING STEEL AND ASTM A992 STEEL.
8. PROVIDE FILLET WELDS AT ALL CONTACT JOINTS BETWEEN STEEL MEMBERS SUFFICIENT TO DEVELOP THE ALLOWABLE TENSILE STRENGTH OF THE SMALLER MEMBER AT THE JOINT UNLESS DETAILED OTHERWISE ON THE DRAWINGS.
- C. HEADED STUD/SHEAR CONNECTORS
1. SHEAR CONNECTORS USED IN COMPOSITE CONSTRUCTION (WITH NORMAL WEIGHT CONCRETE SLAB) SHALL BE 3/4" DIAMETER (NOMINAL) HEADED STUDS AUTOMATICALLY END WELDED IN THE FIELD THRU THE METAL DECK TO STEEL BEAMS ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. SHEAR CONNECTORS SHALL HAVE A CAPACITY OF 11.5 KIPS PER CONNECTOR WITH A MINIMUM FACTOR OF SAFETY OF TWO. SHEAR CONNECTORS SHALL HAVE A MINIMUM LENGTH OF 3.5" AFTER WELDING. SUBSTITUTION OF SHEAR CONNECTORS WITH A DESIGN SHEAR CAPACITY OTHER THAN ABOVE GIVEN WILL BE ACCEPTABLE PROVIDED REQUIRED HORIZONTAL SHEAR CAPACITY IN A BEAM OR GIRDER IS UNALTERED. THE ARRANGEMENT AND SPACING OF SHEAR CONNECTORS SHALL BE SUBJECT TO THE STRUCTURAL ENGINEER'S APPROVAL. CONTRACTOR SHALL SUBMIT NECESSARY CALCULATIONS AND DIAGRAMS OF STUD LAYOUT FOR APPROVAL.
2. REMOVE CERAMIC FERRULES FROM STUD AND DECK BEFORE PLACING CONCRETE.
3. REFER TO TYPICAL DETAILS FOR STUD LAYOUT INFORMATION.

METAL DECK NOTES

1. COMPOSITE METAL DECK SHALL BE GALVANIZED AND SHALL BE PLACED WITH CONTINUOUS SPANS OF THREE OR MORE WHERE POSSIBLE. IN NO CASE SHALL UNSHORED METAL DECK SPANS EXCEED THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS OR DEFLECTION CRITERIA OF SPAN DIVIDED BY 240. METAL DECK SHALL PROVIDE THE FOLLOWING MINIMUM PROPERTIES:
- TYPICAL FLOOR AND ROOF COMPOSITE METAL DECK
2'-10 GA (50 KSI)
P = 0.559 IN/FT.
SP = 0.495 IN/FT.
N = 0.559 IN/FT.
SN = .504 IN/FT.
2. FLOOR DECK MUST COMPLY WITH STEEL DECK INSTITUTE STANDARDS. ALL FLOOR DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS. DECK UNITS SHALL BE LAPPED ONLY OVER SUPPORTS.
3. SHORING SHALL REMAIN UNDER THOSE FREE JOINTS REQUIRING SHORING UNTIL CONCRETE CYLINDER COMPRESSIVE STRENGTH IS A MINIMUM OF 2500 PSI.
4. COMPOSITE SHEAR STUDS TO BE WELDED THROUGH STEEL DECK. STUD WORK TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NELSON STUD WELDING. SHEAR STUDS MUST COMPLY WITH AISC 1.108 (F145-KSI).
5. ROOF DECK OVER STEEL BEAMS SHALL BE WIDE RIBBED AND GALVANIZED METAL ROOF DECK WITH THE FOLLOWING MINIMUM PROPERTIES:
10W-20 GA (50 KSI)
P = 0.846 IN/FT.
SP = 0.501 IN/FT.
N = 0.793 IN/FT.
SN = 0.552 IN/FT.
6. MANUFACTURER SHALL BE A MEMBER OF THE STEEL DECK INSTITUTE. ROOF DECK MUST COMPLY WITH STEEL DECK INSTITUTE STANDARDS. ALL ROOF DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS. ROOF DECK WITH LIGHTWEIGHT INSULATING CONCRETE SHALL BE VENTED. WELD DECK TO SUPPORTING MEMBERS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. ALL ROOF DECK TO BE DESIGNED, MANUFACTURED, AND INSTALLED IN ACCORDANCE WITH LATEST FACTORY MUTUAL STANDARDS.
8. WELDING WASHERS ARE TO BE USED ON ALL CONNECTIONS OF STEEL DECK WITH METAL THICKNESS LESS THAN 22 GA TO STRUCTURAL STEEL SUPPORTS.
9. IN AREAS OF WARPED ROOF DECK, SELF DRILLING SCREWS ARE TO BE USED ON CONNECTIONS OF STEEL ROOF DECK TO STRUCTURAL STEEL SUPPORTS. SCREW SIZES TO COMPLY WITH MANUFACTURER'S AND FACTORY MUTUAL REQUIREMENTS. ATTACH DECK TO ALL SUPPORTING ROOF JOISTS.
10. 1-1/2" METAL ROOF DECK IS TO BE ATTACHED TO STRUCTURAL STEEL SUPPORTS WITH 5/8" DIAMETER RIVULET WELDS (MINIMUM OF 5 WELDS PER SHEET PER JOIST). SIDE JOINTS SHALL BE FASTENED TOGETHER WITH #10 SELF DRILLING SCREWS AT MID SPAN BETWEEN SUPPORTS (MINIMUM OF 6 PER SPAN), UNLESS INDICATED OTHERWISE ON THE DRAWINGS. ROOF DECK WITH LIGHTWEIGHT INSULATING CONCRETE SHALL BE VENTED.
11. LOADS EXCEEDING 50 LBS SHALL NOT BE PERMITTED TO BE HUNG FROM ANY METAL DECKING, ALL HANGERS FOR PIPING, DUCTWORK, CABLE TRAYS, ETC. SHALL BE HUNG DIRECTLY FROM STRUCTURAL STEEL MEMBERS AND/OR ANCHORS EMBEDDED DIRECTLY INTO THE CONCRETE.

CONCRETE MASONRY UNITS NOTES

1. ALL CONCRETE MASONRY WALLS AND COLUMNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENT FOR MASONRY STRUCTURES" (ACI 530/ASCE 5/TMS 402) AND "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI 530.1/ASCE 6/TMS 602) LATEST EDITIONS.
2. ALL MASONRY UNITS SHALL BE ASTM C90, TYPE 1 LIGHT WEIGHT WITH MINIMUM COMPRESSIVE STRENGTH OF 1,800 PSI AT 28 DAYS ON THE NET AREA OF INDIVIDUAL UNITS. ALL CMU SHALL BE ERRECTED IN RUNNING BOND, ON FULL MORTAR BEDS, UNLESS OTHERWISE NOTED.
3. CMU MORTAR SHALL BE PORTLAND CEMENT-LIME CONFORMING TO ASTM C270, USE TYPE "M" FOR MASONRY BELOW GROUND AND USE TYPE "S" FOR ALL INTERIOR AND EXTERIOR WALLS ABOVE GRADE.
4. CMU GROUT, POURED OR PUMPED, SHALL MEET ASTM C476, AND HAVE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
5. PROVIDE HOT DIPPED GALVANIZED LADDER TYPE HORIZONTAL JOINT REINFORCEMENT (9 GA) AT 16" ON CENTER VERTICAL IN ALL MASONRY WALLS WITH PRE-FABRICATED "T" AND CORNER PIECES. LAP SPICED 6" MIN. PROVIDE AN ADDITIONAL ROW ABOVE AND BELOW OPENINGS AND EXTEND 2'-0" BEYOND JAMBS. STOP HORIZONTAL REINFORCING EACH SIDE OF CONTROL AND EXPANSION JOINTS. HORIZONTAL JOINT REINFORCING SHALL MEET ASTM A62.
6. SEE STRUCTURAL DRAWINGS FOR REINFORCING OF LOADBEARING CMU WALLS. SEE TYPICAL DETAILS FOR MINIMUM WALL RENE.
7. IN ADDITION TO REINFORCING STEEL NOTED ON PLANS, SCHEDULES, AND SECTIONS, PROVIDE VERTICAL BARS (#4 MIN, U.N.O.) WITHIN 8" OF EACH SIDE OF WALL CONTROL JOINTS WITHIN 8" OF THE ENDS OF WALLS, WITHIN 16" OF EACH SIDE OF OPENINGS, AND AT ALL CORNERS. DOWELS TO MATCH VERTICAL REINF. WHERE NEW CMU WALL IS ON EXISTING SLAB, PROVIDE DOWEL WITH ADHESIVE ANCHOR SYSTEM (3" MIN. EMBEDMENT) TO EXISTING SLAB.
8. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF NON-LOAD BEARING CMU WALLS. BRACING SHALL BE PROVIDED AT THE TOP OF CMU WALLS TO RESIST 5 PSF OF LATERAL PRESSURE AND TO ALLOW VERTICAL DEFLECTION OF THE STRUCTURE ABOVE.
9. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF MASONRY CONTROL JOINTS. IF NOT INDICATED ON THE DRAWINGS, CONCRETE MASONRY SHALL HAVE VERTICAL CONTROL JOINTS WITH A MAXIMUM SPACING OF 24'-0" O.C. AT EXTERIOR WALLS BUT NOT LESS THAN 8' FROM BEARING PLATES.
10. CONTROL JOINTS SHALL ALSO BE LOCATED AT ABRUPT CHANGES IN WALL HEIGHT, CHANGES IN WALL THICKNESS, WALL CORNERS, INTERSECTIONS OF WALLS WITH COLUMNS, PIERS AND PLASTER, AND NO CLOSER THAN 2'-0" TO EDGE OF ANY WALL OPENING. REINFORCING BARS IN BOTTOM BEAMS AT ROOF AND FLOOR ELEVATIONS SHALL BE CONTINUOUS ACROSS CONTROL JOINTS. WHERE DISCREPANCIES EXIST BETWEEN THE ARCHL DRAWINGS AND CONTROL JOINT SPACING REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER TO RESOLVE THE DISCREPANCY. CONTROL JOINT PLAN SHALL BE SUBMITTED FOR REVIEW.
11. SPECIAL INSPECTION IS REQUIRED FOR CMU LOADBEARING WALLS.
12. ALL CORES THAT CONTAIN VERTICAL REINFORCING SHALL BE FILLED SOLID WITH GROUT. ALL CMU PIERS SHALL NOT BE COMPLETELY FILLED WITH GROUT. FILLING CORES WITH MORTAR AS WORK PROGRESSES IS NOT ACCEPTABLE.
13. ALL CMU THAT HAS ONE OR MORE FACES BELOW GRADE SHALL BE GROUTED SOLID.
14. THE MINIMUM SPLICE LENGTH FOR ALL VERTICAL BARS IS 48 BAR DIAMETERS UNLESS OTHERWISE NOTED. LAP SPLICES SHALL OCCUR DIRECTLY ABOVE FOOTINGS AND SLABS. NO SPLICES ARE ALLOWED AT MID-HEIGHT OF WALL.
15. REINFORCING BAR POSITIONERS SHALL BE USED TO HOLD BARS IN THE PROPER LOCATION. POSITIONERS SHALL BE PLACED AT A MAXIMUM VERTICAL SPACING OF 48" O.C.
16. ALL UNITS SHALL BE CONTINUOUSLY PROTECTED FROM EXPOSURE TO RAIN OR OTHER SOURCES OF WATER FROM TIME OF CASTING TO FINAL PLACEMENT OF THE WALL. ALL CONCRETE MASONRY UNITS SHALL BE DRY, FEEL FROM SOL, ICE, AND FROST WHEN LAD IN THE WALL.
17. LAY NO MASONRY WHEN THE TEMPERATURE OF OUTSIDE AIR IS BELOW 40 DEGREES FAHRENHEIT. UNLESS SUITABLE MEANS ARE PROVIDED TO HEAT MATERIALS, PROTECT WORK FROM FROST AND FROST, AND ENSURE THAT THE MORTAR WILL HARDEN WITHOUT FREEZING. COMPLY WITH THE COLD WEATHER REQUIREMENTS CONTAINED IN ACI 530.1.
18. ALL BEAMS SUPPORTING MASONRY, INCLUDING STEEL, PRECAST, AND MASONRY LINTELS ARE TO BEAR ON 4" MIN. AND ON 3 COURSES GROUTED SOLID, MINIMUM.
19. UNLESS NOTED OTHERWISE, PROVIDE ANCHORAGE OF MASONRY WALLS TO THE STRUCTURE IN THE FOLLOWING MANNER:
a. AT STEEL BEAMS - ADJUSTABLE MASONRY ANCHORS AT 16"
b. AT STEEL COLUMNS - ADJUSTABLE MASONRY ANCHORS AT 16"
c. AT CONCRETE ELEMENTS - DOWEL ANCHORS AT 16"
20. MASONRY VENEER ANCHORS AT A MAXIMUM OF 24" HORIZONTAL AND 16" VERTICALLY. PROVIDE ADDITIONAL ANCHORS AROUND OPENINGS LARGER THAN 16" IN EITHER DIMENSION. SPACE ANCHORS AROUND PERIMETER OF OPENING AT A MAXIMUM OF 24" O.C. PLACE ANCHORS WITHIN 16" OF OPENINGS.
21. ALL LOOSE ANGLE LINTELS SHALL HAVE A MINIMUM BEARING OF 6" ON MASONRY. WHERE LOOSE ANCHORS ARE EXPOSED TO WEATHER, ANGLES SHALL BE GALVANIZED. SEE ALL DESIGN TEAM PLANS AND USE SCHEDULE OR S-4 FOR ALL OPENINGS AS REQUIRED.
22. INSTALL FLASHING AS REQUIRED BY THE ARCHL DRAWINGS.

MISCELLANEOUS NOTES

1. THE DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS, UNLESS NOTED OTHERWISE.
2. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS, AND DETAILS. DO NOT SCALE THE DRAWINGS.
3. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, SPECIFICATIONS, AND DETAILS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
4. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
5. JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
6. THE STRUCTURAL DRAWINGS ARE PART OF THE CONTRACT DOCUMENTS AND DO NOT BY THEMSELVES PROVIDE ALL THE INFORMATION REQUIRED TO PROPERLY COMPLETE THE PROJECT STRUCTURE. THE GENERAL CONTRACTOR SHALL CONSULT THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND COORDINATE THE INFORMATION CONTAINED IN THE DRAWINGS WITH THE STRUCTURAL DRAWINGS TO PROPERLY CONSTRUCT THE PROJECT. PRINCIPAL OPENINGS, CURBS, AND SLAB DEPRESSIONS ARE SHOWN ON THE DRAWINGS. SEE ARCHITECTURAL, MECH, ELEC'L, AND PLUMBING DRAWINGS FOR SLEEVES, CURBS, INSERTS, OTHER OPENINGS, AND SLAB DEPRESSIONS NOT SHOWN. THE CONTRACTOR SHALL PROVIDE FOR ALL OPENINGS, CURBS, AND SLAB DEPRESSIONS WHETHER SHOWN ON STRUCTURAL DRAWINGS OR NOT. SIZE AND LOCATION OF OPENINGS SHALL BE VERIFIED WITH THE MECHANICAL CONTRACTOR. ANY DEVIATION FROM OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR APPROVAL PRIOR TO PROCEEDING WITH ANY WORK.
7. THE CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS WITH THE ARCHL, MECH'L, ELEC'L, PLUMBING AND CIVIL DRAWINGS TO CONFIRM ALL REQUIREMENTS OF THE WORK. REPORT ANY CONFLICT/DISCREPANCY BETWEEN THE DISCIPLINES TO THE ARCHITECT PRIOR TO FABRICATING OR INSTALLING STRUCTURAL ELEMENTS. BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK, THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS TO PROPER 1" SIZE OR FIT THE WORK. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED BY THE OWNER RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THIS REQUIREMENT.
8. THE HORIZONTAL AND VERTICAL DIMENSIONS OF EXISTING STRUCTURES SHALL BE VERIFIED BEFORE WORK IS BEGUN. ANY VARIATION BETWEEN DIMENSIONS SHOWN AND EXISTING DIMENSIONS SHALL BE REPORTED TO THE ARCHITECT.
9. THE CONTRACTOR SHALL INSURE THAT CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS AND THAT THESE LOADS ARE NOT PUT ON THE STRUCTURAL MEMBERS PRIOR TO THE TIME THAT THE CONCRETE REACHES THE FULL DESIGN STRENGTH AND ALL FRAMING MEMBERS AND THEIR CONNECTIONS ARE IN PLACE.
10. ALL STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LOADS LISTED ONLY AS COMPLETED STRUCTURES. THE GENERAL CONTRACTOR SHALL FULLY BRACE AND OTHERWISE PROTECT WORK IN PROGRESS UNTIL THE STRUCTURES ARE COMPLETED. THE GENERAL CONTRACTOR SHALL ALSO INSURE THAT ITS OPERATIONS AND PROCEDURES PROVIDE NO LOADING GREATER THAN THE DESIGN LOADS LISTED ON ANY MEMBER.
11. PROVIDE CHAMFERS AS SPECIFIED AND/OR DETAILED ON THE ARCHITECTURAL DRAWINGS. CHAMFERS HAVE NOT BEEN SHOWN ON THE STRUCTURAL DRAWINGS.
12. ALL DETAILS, SECTIONS AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE SHOWN.

SPECIALTY ENGINEERED PRODUCTS

1. THE GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE THE PROPER SUBMISSION OF SPECIALTY ENGINEERED SHOP DRAWINGS WHICH SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF THE PROJECT. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT THE SPECIALTY ENGINEERED SHOP DRAWINGS ARE SUBMITTED IN A TIMELY MANNER SO AS TO ALLOW REVIEWS AND RESUBMISSIONS AS REQUIRED. ALL SPECIALTY ENGINEERED PRODUCTS SHALL BE DESIGNED FOR THE APPROPRIATE GRAVITY LOADS AND WIND LOADS INCLUDING UP/LIFT AND LATERAL LOADS. INTERIOR SPECIALTY PRODUCTS SHALL BE DESIGNED FOR LATERAL LOADS TO ASSURE STABILITY. SPECIALTY ENGINEERED PRODUCTS SHALL BE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
- a. LIGHT GAUGE METAL, INCLUDING BUT NOT LIMITED TO, SOFFITS, CLADDING, CEILINGS, STRUT, ETC.
- b. MISCELLANEOUS METALS INCLUDING STEEL STAIRS, HAND RAILS & SAFETY RAILS, MECHANICAL EQUIPMENT SUPPORTS, FRAMES THAT SUPPORT MACHINES, PPES OR OTHER STRUCTURAL METAL USED FOR SUPPORT OF MECHANICAL SYSTEMS.
- c. MISCELLANEOUS HANGERS, CHANDELIERS, CABINETS, METAL FRAMES, LADDERS, RIGGING, HANGING WALLS, RAILINGS, GLAZING FRAMES, CLADDING SUCH AS STONE, PRECAST, ALUMINUM, METAL PANELS, CABLE BARRIER SYSTEMS, ETC. OR ANY OTHER MISCELLANEOUS PRODUCT REQUIRED BY ANY OF THE CONSTRUCTION DOCUMENTS.
- d. IN ADDITION TO THE LOADS SHOWN IN THE DESIGN LOAD SCHEDULE, THE SPECIALTY ENGINEER SHALL DESIGN FOR THE WEIGHT OF ALL MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT AND FIXTURES, AS WELL AS CHANDELIER FIXTURES, BAR CABINETS, AND ANY WORK/ MOBILES. GENERAL CONTRACTOR TO INCLUDE IN THEIR BID THE COST OF THE ABOVE NOTED SPECIALTY ENGINEERING.
- e. SHORING DESIGN FOR STRUCTURE DEMOLITION. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR THE DESIGN, METHODS OF INSTALLATION, AND ADEQUACY OF SHORING, SHEETING AND BRACING.

SPECIAL INSPECTION

1. SPECIAL INSPECTION BY A QUALIFIED INSPECTOR APPROVED BY THE BUILDING OFFICIAL IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE SHALL BE REQUIRED FOR THE FOLLOWING TYPES OF WORK:

ALL CONCRETE WORK
REINFORCING STEEL
FABRICATED STRUCTURAL STEEL
WELDING
STRUCTURAL STEEL
MOMENT CONNECTIONS
METAL DECKING
SHEAR CONNECTORS
ANCHOR BOLTS
HIGH STRENGTH BOLTING
STRUCTURAL MASONRY
EXPANSION TYPE ANCHOR BOLTS
ADHESIVE TYPE ANCHOR BOLTS
COMPACTED FILL

GC NOTE

PROVIDE ADDITIONAL STRUCTURAL STEEL AS NOTED BELOW IN THE BASE BID. INCLUDE COST OF STEEL, DETAILING, FABRICATION, ERECTION, AND ALL OTHER COSTS NECESSARY TO PROVIDE STRUCTURAL STEEL SHOP DRAWING REVIEW. UNUSED STEEL SHALL BE CREDITED TO THE OWNER.

1. FOR SUPPORT OF MECHANICAL UNITS: