GENERAL NOTES:

GENERAL

1. THESE GENERAL NOTES PRESENT AND/OR SUMMARIZE KEY PROJECT INFORMATION FOR THE PLAN READER'S CONVENIENCE. SEE PLANS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.

2. ALL REFERENCES TO STANDARDS HEREIN ARE TO MOST RECENT ISSUE IN EFFECT AS OF THE DATE OF THESE DOCUMENTS, UNLESS NOTED OTHERWISE IN PROJECT SPECIFICATIONS.

3. DESIGN BASIS: 2012 INTERNATIONAL BUILDING CODE (IBC)
   - A. GENERAL
     - a. RISK CATEGORY = IV
   - B. WIND:
     - ULTIMATE DESIGN WIND SPEED = 120 MPH
     - WIND EXPOSURE CATEGORY = B
     - INTERNAL PRESSURE COEFFICIENT = 0.18 ± (ENCLOSED BUILDING)
     - COMPONENT & CLADDING DESIGN PRESSURE - SEE DIAGRAMS ______
   - C. SEISMIC:
     - SEISMIC IMPORTANCE FACTOR Ie = 1.5
     - MAPPED SPECTRAL RESPONSE ACCEL. (SHORT PERIODS) Ss = 0.28
     - MAPPED SPECTRAL RESPONSE ACCEL. (1 SECOND PERIOD) S1 = 0.11
     - SITE CLASS = D
     - SPECTRAL RESPONSE COEFFICIENT (SHORT PERIODS) SDS = 0.29
     - SPECTRAL RESPONSE COEFFICIENT (1 SECOND PERIOD) SD1 = 0.17
     - SEISMIC DESIGN CATEGORY = D
     - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

     APPARATUS BAY
     - BASIC SEISMIC FORCE RESISTING SYSTEM - SPECIAL REINFORCED MASONRY SHEAR WALLS
     - RESPONSE MODIFICATION FACTOR R = 5.0
     - SEISMIC RESPONSE COEFFICIENT Cs = 0.10
     - DESIGN BASE SHEAR = 155K

     OFFICE / RESIDENCE BAY
     - BASIC SEISMIC FORCE RESISTING SYSTEM - LIGHT GAGE SHEAR WALLS WITH STRUCTURAL SHEATHING
     - RESPONSE MODIFICATION FACTOR R = 6.5
     - SEISMIC RESPONSE COEFFICIENT Cs = 0.07
     - DESIGN BASE SHEAR = 15K
   - D. LIVE LOADS:
     - ROOF: 20 psf
     - OFFICE / RESIDENCE FLOOR: 100 psf
     - APPARATUS BAY FLOOR: 100 psf
   - E. SNOW LOAD
     - GROUND: 5 psf

4. ABBREVIATIONS:

T	TOP (BAR)	FIN	FINISH	REINF	REINFORCING
B	BOTTOM (BAR)	FLR	FLOOR	TRS	TRUSS
INT	INTERIOR	CLR	CLEAR	STL	STEEL
EXT	EXTERIOR	T/*	TOP OF *	WD	WOOD
EL	ELEVATION	B/*	BOTTOM OF *	CONC	CONCRETE
O.C.	ON CENTER	W/*	WITH *	MSNRY	MASONRY
O.W.	EACH WAY	GA	GAGE/GAUGE	L.G.	LIGHT GAGE
O.F.	EACH FACE	EQ	EQUAL	APPROX	APPROXIMATE
N.S.	NEAR SIDE	FTG	FOOTING	SPC'S	SPACE/SPACES/SPECS
F.S.	FAR SIDE	TYP	TYPICAL	U.N.O.	UNLESS NOTED OTHERWISE

5. UNLESS OTHERWISE NOTED, REQUIREMENTS GIVEN FOR ONE LOCATION ALSO APPLY AT OTHER LOCATIONS AT WHICH CONDITIONS ARE SIMILAR. THE REQUIREMENTS GIVEN SHALL BE ADAPTED TO CONDITIONS AT SIMILAR LOCATIONS.

6. COORDINATE WORK OF OTHER TRADES SHOWN ON DRAWINGS OR INDICATED IN SPECIFICATIONS WITH STRUCTURAL WORK.

7. SHOP DRAWINGS FOR ANY PART OF THE STRUCTURAL WORK SHALL SHOW THE INTERFACE WITH OTHER RELATED TRADES. THE CONTRACTOR SHALL VERIFY DIMENSIONS, LOCATIONS, MATERIALS, ETC. OF RELATED TRADES BY CERTIFIED MANUFACTURER'S DRAWINGS AND SO INDICATE BEFORE SUBMITTING SHOP DRAWINGS FOR ARCHITECT/ENGINEER'S APPROVAL.

8. THE DESIGN OF THE STRUCTURE SHOWN IS BASED ON INTERACTION OF VARIOUS CONNECTED PARTS AND THE DESIGN LOADS NOTED ABOVE. THE STRENGTH AND STABILITY OF CONSTRUCTION UNDERWAY MAY REQUIRE SUPPLEMENTAL TEMPORARY SUPPORTS, BRACING OR OTHER MEASURES. THE CONTRACTOR SHALL DETERMINE THE NEED OF SUCH TEMPORARY SUPPORT DURING CONSTRUCTION AND PROVIDE ALL SUCH MEASURES.

EARTHWORK/FOUNDATION

1. FOUNDATION DESIGN BASIS: PENDING. PRELIMINARY ALLOWABLE BEARING CAPACITY IS 1,500 PSF, MAXIMUM.

2. NO BLASTING WILL BE ALLOWED.

3. CONTROL OF GROUND WATER, IF REQUIRED, SHALL BE ACCOMPLISHED IN A MANNER THAT WILL PRESERVE THE STRENGTH OF THE FOUNDATION SOILS, WILL NOT CAUSE INSTABILITY OF THE EXCAVATION SLOPES, AND WILL NOT RESULT IN DAMAGE TO EXISTING STRUCTURES.

4. COORDINATE FOUNDATION WORK WITH ALL OTHER TRADES.

5. PIPES AND OTHER WORK WHICH REQUIRE EXCAVATING OR TRENCHING ADJACENT TO COLUMN FOOTINGS OR PARALLEL TO WALL FOOTINGS, SHALL NOT BE LOCATED BELOW LINES EXTENDING DOWNWARD FROM THE BOTTOM EDGE OF THE FOOTING AT A 45 DEGREE ANGLE FROM HORIZONTAL.

6. EXCAVATIONS FOR FOOTINGS, GRADE BEAMS, MATS AND OTHER FOUNDATIONS BUILT NEXT TO OR AROUND EXISTING FOUNDATIONS, SHALL NOT EXTEND BELOW THE BOTTOM SURFACE OF THE EXISTING FOOTING UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DESIGN DRAWINGS. HOLES ADJACENT TO EXISTING FOOTINGS (CLOSER TO THE FOOTING EDGE THAN THE HOLE DEPTH) CAN NOT BE OVER-EXCAVATED AND FILLED TO ACCOUNT FOR BAD SOIL UNLESS SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD.

7. ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS INCLUDING ELEVATION, SIZE AND THICKNESS OF FOUNDATIONS SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE REINFORCING SHOP DRAWINGS. SUCH PROPOSED DEVIATIONS SHALL BE CIRCLED AND NOTED "ENGINEER VERIFY".

8. STRUCTURAL FILL SHALL BE PLACED IN LIFTS NO MORE THAN 8" THICK WITH A COMPACTION OF 95% STANDARD PROCTOR (PER ASTM D-698) MAXIMUM DRY DENSITY.

CONCRETE

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 318-11, DIVISION 3 OF THE SPECIFICATIONS, AND THE FOLLOWING:
   - A. CONCRETE STRENGTHS AND MIXES SHALL BE AS FOLLOWS:

STRENGTH(PSI)	AIR(%)	CEMENT(# MIN)	W/C RATIO	SLUMP	AGGREGATE(MAX.)	LOCATION
2,000	**	TYPE 1 (376)	-	-	-	CONDUIT ENCASEMENT AND BACKFILL BELOW FOOTINGS
3,000	**	TYPE 1 (517)	.52	4" +/- 1"	3/4"	EQUIP. PADS, SPREAD FOOTINGS, WALL FOOTINGS, SHEAR WALLS, AND STAIR PAN FILL
4,000	**	TYPE 1 (611)	.48	4" +/- 1"	3/4"	SLAB ON GRADE
4,000*	**	TYPE 1 (611)	.48	4" +/- 1"	3/4"	ELEVATED SLABS
2,500***	**	TYPE 1 (423)	-	8"	-	COARSE GROUT FOR MASONRY BLOCK FILL

   * CONCRETE IS A SEMI-LIGHTWEIGHT CONCRETE WITH A MAXIMUM WEIGHT OF 120 #/CU. FT. COARSE AGGREGATE PER ASTM C330.

   ** NATURALLY ENTRAPPED AIR ONLY UNLESS CONCRETE IS EXPOSED TO FREEZE/THAW. USE 4% TO 6% ENTRAINED AIR UNDER FREEZE/THAW CONDITION.

   *** MAXIMUM AGGREGATE SIZE TO BE 3/8".

   - B. FLY ASH PER ASTM C618, TYPE C OR F WILL BE PERMITTED PROVIDED THE FOLLOWING LIMITS ARE MET:
     1. THE QUANTITY OF CEMENT REPLACED SHALL BE NO MORE THAN 20%.
     2. CEMENT SHALL BE REPLACED BY FLY ASH AT THE RATE OF 1.25 LBS. OF FLY ASH TO 1.0 LBS OF CEMENT.
   - C. ALL CONCRETE DELIVERED TO THE SITE SHALL HAVE A COMPUTER BATCH WEIGHT TICKET. THE BATCH TICKET SHALL SHOW WEIGHTS OF ALL MATERIALS, VOLUME OF CONCRETE AND TIME BATCHED. THE BATCH WEIGHT TICKET SHALL BE GIVEN TO A DESIGNATED OWNER'S REPRESENTATIVE ON SITE AT THE TIME OF DELIVERY FOR VERIFICATION OF MIX PROPORTIONS.
   - D. CONSOLIDATE ALL CONCRETE IN FORMS AND TRENCHES WITH VIBRATORS. POORLY CONSOLIDATED CONCRETE WILL BE REJECTED AND REPLACED AT CONTRACTOR'S EXPENSE.

2. CONCRETE REINFORCING
   - A. ALL REINFORCING SHALL BE PER ASTM A-615, GRADE 60.
   - B. WELDING OF REINFORCING STEEL IS NOT PERMITTED.
   - C. REINFORCING SHALL NOT BE HEATED TO BEND.
   - D. WELDED WIRE FABRIC SHALL BE PER ASTM A-185.

3. SUBMITTALS
   - A. CONCRETE MIX DESIGNS; SHOP DRAWINGS FOR CONCRETE REINFORCING, EMBEDDED ITEMS; ACCESSORIES; AND PRODUCT DATA, ETC. AS OUTLINED IN THE SPECIFICATIONS SHALL BE PROVIDED TO THE OWNER'S REPRESENTATIVE AT LEAST 15 DAYS PRIOR TO THE START OF WORK FOR APPROVAL.
   - B. ALL DATA SHALL BE SUBMITTED "CONTRACTOR APPROVED".

4. NOTIFICATIONS: THE CONTRACTOR SHALL NOTIFY THE OWNER.
   - A. WHEN EXCAVATION TO REQUIRED SUBGRADE ELEVATIONS IS REACHED.
   - B. 24 HOURS PRIOR TO ANY SCHEDULED CONCRETE PLACEMENT FOR INSPECTION OF FORMWORK, REINFORCING AND EMBEDDED ITEMS.

LIGHT GAGE STEEL

1. FURNISH AND INSTALL ALL PRE-ENGINEERED LIGHT GAUGE METAL FRAMING AS SHOWN ON THE DRAWINGS AND SPECIFIED, INCLUDING HEADERS, OUTRIGGERS, JOISTS, RAFTERS AND PURLINS AND INCIDENTAL FRAMING FOR A COMPLETE ASSEMBLY.

2. FURNISH AND INSTALL ALL PRE-ENGINEERED LIGHT GAUGE METAL TRUSSES WHICH INCLUDES PLANAR STRUCTURAL UNITS CONSISTING OF WELDED OR BOLTED CONNECTED MEMBERS WHICH ARE FABRICATED, CUT AND ASSEMBLED PRIOR TO DELIVERY, OR AT THE JOB SITE.

3. LIGHT GAUGE METAL FRAMING AND TRUSSES SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE FOLLOWING:
   - A. AMERICAN IRON AND STEEL INDUSTRIES: SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.
   - B. AMERICAN SOCIETY OF TESTING MATERIALS: ASTM A446: "SPECIFICATION FOR STEEL SHEET, ZINC COATED (GALVANIZED) BY THE HOT-DIP PROCESS, PHYSICAL (STRUCTURAL) QUALITY.")
     - GRADE A, FY = 33 KSI: 18 GAUGE AND LIGHTER
     - GRADE D, FY = 50 KSI: 16 GAUGE AND HEAVIER
     - GALVANIZING: G60 COATING CLASS
   - C. AMERICAN WELDING SOCIETY: AWS D1.0 "CODE FOR WELDING IN BUILDING CONSTRUCTION" ANSI Z49.1 "SAFETY IN WELDING AND CUTTING"

4. TRUSSES SHALL BE FABRICATED AND ERECTED BY A FIRM WHICH HAS A RECORD INCLUDING A MINIMUM OF FIVE (5) YEARS OF SUCCESSFULLY FABRICATING TRUSSES ASSEMBLIES SIMILAR TO SCOPE REQUIRED AND WHICH PRACTICES A QUALITY CONTROL PROGRAM WHICH INCLUDES INSPECTION BY AN INDEPENDENT INSPECTION AND TESTING AGENCY ACCEPTABLE TO ARCHITECT AND AUTHORITIES HAVING JURISDICTION.

5. SUBMIT FABRICATOR'S TECHNICAL DATA COVERING MATERIALS, SHAPES, HARDWARE, FABRICATION PROCESS, HANDLING AND ERECTION.
   - A. SUBMIT CERTIFICATE SIGNED BY AN OFFICER OF SUBCONTRACTOR OR FABRICATING FIRM, INDICATING THAT TRUSSES TO BE SUPPLIED FOR PROJECT COMPLY WITH INDICATED REQUIREMENTS.

6. SUBMIT SHOP DRAWINGS SHOWING SHAPES AND DIMENSIONS OF MEMBERS TO BE USED INCLUDING PITCH, SPAN, CAMBER CONFIGURATION AND SPACING FOR EACH TYPE OF CONFIGURATION OF TRUSS REQUIRED. SHOW ALL BEARING AND ANCHORAGE DETAILS. SPECIFY AND DETAIL ALL SUPPLEMENTAL STRAPPING, BRACING CLIPS AND OTHER ACCESSORIES REQUIRED FOR PROPER INSTALLATION. SHOP DRAWINGS SHALL INCLUDE ALL PLACEMENT SEQUENCES AND INSTRUCTIONS.

7. HANDLE AND STORE LIGHT GAUGE MATERIALS AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS TO AVOID DAMAGE FROM BENDING, OVERTURNING OR OTHER CAUSE. STORAGE SHALL BE OFF-GROUND IN A DRY VENTILATED SPACE OR PROTECT WITH WATERPROOF COVERINGS.

8. FRAMING COMPONENTS SHALL BE FASTENED TO EACH OTHER BY WELDING, BOLTING, OR SCREWING. ALL SHARP EDGES SHALL BE GROUND SMOOTH.

9. PREFABRICATED TRUSSES SHALL BE BRACED AGAINST RACKING. LIFTING OF TRUSSES SHALL BE DONE SO AS TO NOT CAUSE LOCAL DISTORTION OF ANY MEMBER.

10. ALL LIGHT GAUGE STEEL FRAMING SHALL BE ERECTED BY APPROVED METHODS USING EQUIPMENT OF ADEQUATE CAPACITY TO SAFELY PERFORM THE WORK.

11. ALL WORK SHALL BE ERECTED PLUMB AND LEVEL AND TO DIMENSIONS, SPACINGS AND ELEVATIONS INDICATED ON DRAWINGS.

12. MEMBERS SHALL BE OF SIZE AND SPACING SHOWN ON THE DRAWINGS.

13. PROVIDE TEMPORARY BRACING AS REQUIRED TO MAINTAIN TRUSSES PLUMB, PARALLEL AND IN LOCATION INDICATED, UNTIL PERMANENT BRACING IS INSTALLED.

14. ANCHOR TRUSSES SECURELY AT ALL BEARING POINTS. COMPLY WITH METHODS AND DETAILS INDICATED.

MASONRY WALL REINFORCING/JOINTS

1. THE REINFORCING, JOINTS AND CRITERIA DESCRIBED IN THE FOLLOWING GENERAL NOTES ARE REQUIRED AS A MINIMUM FOR ALL RUNNING BOND MASONRY WALLS. SEE SPECIFIC CRITERIA ON DESIGN DRAWINGS FOR ANY ADDITIONAL REQUIREMENTS AND/OR STACK BOND CRITERIA:

2. VERTICAL REINFORCING (RUNNING BOND):
   - A. PROVIDE REINFORCING STEEL IN A CONCRETE FILLED CELL CONTINUOUS FROM FOOTING INTO BOND BEAM AT TOP OF WALL. LAP BARS WITH FOOTING DOWEL AND EXTEND 4" MINIMUM INTO BOND BEAM. BREAK-OUT BOTTOM OF BOND BEAM AT FILLED CELL LOCATIONS AND FILL TOP FOUR COURSES OF WALL WHEN BOND BEAM IS FILLED. PROVIDE AT THE FOLLOWING LOCATIONS:
     - AT ALL WALL CORNERS.
     - WITHIN 8" OF ENDS OF ALL WALLS AND AT EACH SIDE OF EXPANSION AND CONTROL JOINTS.
     - AT ALL DOOR AND WINDOW JAMBS AND AT ALL OPENINGS GREATER THAN 16" IN WIDTH.
     - ALONG ENTIRE LENGTH OF ALL WALLS AS NOTED IN THE TABLE BELOW:

VERTICAL FOR SEISMIC DESIGN CATEGORY D		
WALL WIDTH	NON-LOAD BEARING WALLS	LOAD BEARING WALLS
8"	1-#4 @ 4'-0" O.C. MAX.	1-#5 @ 32" O.C. MAX.
12"	1-#4 @ 4'-0" O.C. MAX.	1-#6 @ 24" O.C. MAX.

   - B. VERTICAL BAR SPLICES SHALL HAVE A MINIMUM LAP AS NOTED IN THE TABLE BELOW

MASONRY REINFORCING LAP LENGTHS								
BAR	#3	#4	#5	#6	#7	#8	#9	
LENGTH	18"	24"	30"	36"	42"	48"	54"	

   - C. VERTICAL FILLED CELLS SHALL BE FILLED WITH CONCRETE IN 4'-0" MAX. LIFTS.

3. HORIZONTAL REINFORCEMENT (RUNNING BOND):
   - A. PROVIDE HORIZONTAL JOINT REINFORCING AS NOTED IN THE TABLE BELOW:
     Fy=60,000psi, F'm=1,500psi, BARS TO BE CENTERED IN THE WALL

HORIZONTAL FOR SEISMIC DESIGN CATEGORY D		
WALL WIDTH	NON-LOAD BEARING WALLS	LOAD BEARING WALLS
8"	2-LONGITUDINAL W1.7 (9 GAGE)	2-LONGITUDINAL W1.7 (9 GAGE) WIRES @ 16" O.C. MAX. PLUS 1-#5 @ 32" O.C. MAX. IN CONC FILLED KNOCKOUT WEB BLOCK
12"	2-LONGITUDINAL W1.7 (9 GAGE) WIRES @ 16" O.C. MAX.	2-LONGITUDINAL W1.7 (9 GAGE) WIRES @ 16" O.C. MAX. PLUS 1-#5 @ 4'-0" O.C. MAX. IN CONC FILLED KNOCKOUT WEB BLOCK

   - B. PROVIDE CONCRETE FILLED BOND BEAM WITH 2 - #5 REBARS CONTINUOUS WHERE WALLS ARE STRUCTURALLY CONNECTED TO ROOF AND FLOOR LEVELS AND AT THE TOPS OF ALL WALLS.
   - C. PROVIDE CONCRETE FILLED COURSE WITH 1 - #4 REBAR AT DOOR AND WINDOW HEADS, AND AT ALL WINDOW SILLS. EXTEND THE GREATER OF 2'-0" OR 40 BAR DIAMETERS BEYOND OPENING.

4. CONTROL JOINTS:
   - A. CONTROL JOINTS SHALL BE LOCATED IN ALL WALLS AT THE FOLLOWING LOCATIONS:
     - AT A MAXIMUM SPACING OF 3 TIMES THE WALL HEIGHT, BUT NOT GREATER THAN 40'-0" ON CENTER.
     - AT A DISTANCE OF NOT OVER ONE TIME THE WALL HEIGHT FROM BUILDING CORNERS.
     - AT ALL CHANGES IN WALL HEIGHT.
     - AT ALL CHANGES IN WALL THICKNESS, SUCH AS AT PIPE OR DUCT CHASES, AND ADJACENT TO STEEL COLUMNS EMBEDDED IN WALLS AND PILASTERS.
     - ABOVE JOINTS IN FOUNDATIONS AND IN FLOORS.
     - BELOW JOINTS IN FLOORS OR ROOFS THAT BEAR ON THE WALL.
   - B. MASONRY WALL CONTROL JOINTS: ALL HORIZONTAL JOINT REINFORCING SHALL TERMINATE AT THE CONTROL JOINT (UNLESS NOTED OTHERWISE ON DRAWINGS). INTERRUPT HORIZONTAL REINFORCING IN INTERMEDIATE BOND BEAMS. ALL BOND BEAM REINFORCING IN BOND BEAMS LOCATED AT OR NEAR THE TOP OF THE WALL SHALL BE CONTINUOUS THROUGH CONTROL JOINTS.
   - C. IF CONTROL JOINTS ARE NOT SHOWN ON THE DRAWINGS, COORDINATE WITH THE ARCHITECT AND STRUCTURAL ENGINEER, BEFORE CONSTRUCTION BEGINS, TO DETERMINE JOINT LOCATIONS REQUIRED.

5. ISOLATION JOINTS SHALL BE LOCATED WHERE NON-LOAD BEARING WALLS ABUT LOAD BEARING WALLS OR SHEAR WALLS.

6. WALL BRACING:
   - A. ALL NON-LOAD BEARING MASONRY WALLS, (FULL HEIGHT AND PARTIAL HEIGHT) SHALL BE BRACED ALONG ENTIRE LENGTH. BRACE POINTS SHALL OCCUR AT CONCRETE FILLED VERTICAL CELLS AS DEFINED IN NOTE 2.A ABOVE.

ELEVATED METAL DECK

1. UNLESS NOTED OTHERWISE, THESE METAL DECK NOTES APPLY TO NON-COMPOSITE AND COMPOSITE METAL FLOOR DECKING TOPPED WITH CONCRETE, AND UN-TOPPED METAL ROOF DECKING.

2. INSTALLATION OF ELEVATED METAL DECK SHALL BE IN ACCORDANCE WITH **DIVISION 5 OF THE SPECIFICATIONS AND** THE FOLLOWING:

3. STEEL DECK SHALL BE MANUFACTURED AND ERECTED IN ACCORDANCE WITH THE STEEL DECK INSTITUTE. ALL DECKING SHALL BE GALVANIZED, UNLESS NOTED OTHERWISE ON THE PLANS.

4. CONTRACTOR SHALL PROVIDE ACCESSORIES REQUIRED TO COMPLETE THE METAL DECK INSTALLATION AND THE CONCRETE PLACEMENT INCLUDING (BUT NOT LIMITED TO) CELL AND COLUMN CLOSURES, POUR STOPS AND BEAM FILLERS.

5. UNLESS NOTED OTHERWISE ON THE DESIGN DRAWINGS, THE CONTRACTOR SHALL INSTALL AN EDGE ANGLE OR BENT PLATE AROUND THE DECKING PERIMETER AND AT INTERIOR OPENINGS. THE ANGLE OR BENT PLATE SHALL BE A MINIMUM 1/4 INCH THICK WITH A HEIGHT THAT MATCHES THE SLAB THICKNESS FOR FLOOR DECKING OR 4 INCHES FOR ROOF DECKING.

6. METAL DECK <u>ENDS</u> WHICH ABUT A CONCRETE OR CMU WALL (AND ARE NOT SUPPORTED BY STEEL FRAMING WITHIN 6" OF THE DECK EDGE) SHALL BE SUPPORTED BY AN L4X3X1/4 LLV CONTINUOUS ANGLE ATTACHED TO THE WALL. METAL DECK <u>SIDES</u> ABUTTING A WALL DO NOT NEED ADDITIONAL SUPPORT UNLESS NOTED OTHERWISE ON THE DESIGN DRAWINGS.

7. UNLESS NOTED OTHERWISE ON THE DESIGN DRAWINGS, METAL <u>ROOF</u> DECKING SHALL BE ATTACHED TO THE SUPPORTING STRUCTURE WITH A 36/7 PATTERN WITHIN 12 FEET OF ANY BUILDING EDGE. <u>FLOOR</u> DECKING AND <u>REMAINING ROOF</u> DECKING SHALL BE ATTACHED WITH A 36/4 PATTERN. ATTACHMENT SHALL BE WITH #12 SELF-DRILLING SCREWS OR POWDER ACTUATED OR PNEUMATIC PINS.

8. METAL DECKING SHALL BE CONNECTED AT ITS SIDE LAPS WITH 2-#10 SCREWS MINIMUM. MAXIMUM SPACING OF SIDE LAP SCREWS SHALL BE 3'-0" UNLESS NOTED OTHERWISE IN THE DESIGN DRAWINGS.

9. EXACT LOCATION AND SIZES OF PENETRATIONS THROUGH FLOORS AND ROOFS SHALL BE COORDINATED WITH MECHANICAL AND ELECTRICAL DRAWINGS. FRAMING FOR MECHANICAL EQUIPMENT SHALL BE AS DETAILED ON THE DRAWINGS AND SHALL BE SUBMITTED FOR REVIEW. ALL OPENINGS GREATER THAN 12" IN DIAMETER OR 12" SQUARE SHALL BE REINFORCED BY ANGLE FRAMING.

10. ALL HVAC EQUIPMENT (FANS, ETC.) SHALL BE SUPPORTED BY STRUCTURAL STEEL FRAMING AND/OR ANGLE FRAMING. NO EQUIPMENT SHALL BE SUPPORTED DIRECTLY BY THE METAL DECK.

11. SUBMITTALS
    - A. SHOP DRAWINGS AND MATERIAL SUBMITTALS SHALL BE REQUIRED FOR ELEVATED STEEL DECK; ACCESSORIES; AND PRODUCT DATA, ETC., **AS OUTLINED IN THE SPECIFICATIONS**.
    - B. ALL DATA SHALL BE SUBMITTED "CONTRACTOR APPROVED".

STRUCTURAL STEEL

1. INSTALLATION OF STRUCTURAL STEEL, SHALL BE IN ACCORDANCE WITH **DIVISION 5 OF THE SPECIFICATIONS AND** THE FOLLOWING:

2. STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS", 14TH EDITION, 2011.

3. **STEEL FABRICATOR SHALL PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM AND BE DESIGNATED AS AISC-CERTIFIED PLANT, CATEGORY STD.**

4. UNLESS NOTED OTHERWISE STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING:
   - A. STRUCTURAL (W, S, T, I OR H) BEAMS AND COLUMNS - ASTM A-572 GRADE 50 OR ASTM A992.
   - B. STRUCTURAL (C OR MC) CHANNELS AND ANGLES - ASTM A-36
   - C. MISCELLANEOUS PLATES, BARS AND ANGLES - ASTM A-36.
   - D. ANCHOR BOLTS AND RODS - ASTM A-36 OR ASTM F1554, GRADE 36.
   - E. COLD-FORMED HOLLOW STRUCTURAL SECTIONS (HSS) - ASTM A500, GRADE B STRUCTURAL TUBING
   - F. STRUCTURAL PIPE - ASTM A53, TYPE E OR S, GRADE B. STANDARD (STD) WEIGHT, UNLESS NOTED OTHERWISE ON DRAWINGS.

5. UNLESS NOTED OTHERWISE BOLTED CONNECTIONS SHALL CONFORM TO THE FOLLOWING:
   - A. HIGH STRENGTH BOLTS - 3/4" DIAMETER ASTM A-325-N TYPE 1, HEAVY HEX.
   - B. NUTS - HEAVY-HEX ASTM A563, GRADE C.
   - C. WASHERS - ASTM F436 TYPE 1, HARDENED (RCSC SPEC TABLE 6.1 AND PART 14 FOR ANCHOR RODS).
   - D. BOLT, NUT AND WASHER FINISH SHALL MATCH THE FINISH OF THE STEEL IT CONNECTS.

6. UNLESS NOTED OTHERWISE ON THE DESIGN DRAWINGS ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE **(SHOP PRIMED.) (HOT DIPPED GALVANIZED.) (A307 A316 STAINLESS STEEL.)**

7. MINIMUM SIZE WELD SHALL BE 1/4" FILLET WITH E70XX ELECTRODES. ALL WELDS SHALL **BE PERFORMED BY CERTIFIED WELDERS AND** CONFORM TO REQUIREMENTS OF AWS D1.1.

8. MINIMUM MATERIAL THICKNESS SHALL NOT BE LESS THAN 3/8" FOR MISCELLANEOUS PLATES.

9. INSTALL COLUMNS PLUMB BY USING STEEL WEDGES AT EDGES OF BASE PLATE TO PROVIDE FIRM BEARING. GROUT FOR SETTING PLATES SHALL BE NON-SHRINK, NON-METALLIC. WHEN GROUT HAS GAINED SUFFICIENT STRENGTH TO SUPPORT LOAD, ALL WEDGES AND SHIMS SHALL BE REMOVED AND RESULTING VOIDS FILLED WITH GROUT.

10. ALIGN AND ADJUST VARIOUS MEMBERS THAT FORM PART OF A STEEL STRUCTURE BEFORE PERMANENTLY FASTENING. MAINTAIN ERECTION TOLERANCES OF STRUCTURAL STEEL WITHIN AISC "AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES."

11. DO NOT USE THERMAL CUTTING DURING ERECTION OR ENLARGE HOLES BY BURNING.

12. CLEAN AND REPAIR FINISHES DAMAGED DURING ERECTION.

13. SUBMITTALS
    - A. SHOP DRAWINGS AND MATERIAL SUBMITTALS SHALL BE REQUIRED FOR STRUCTURAL AND MISCELLANEOUS STEEL, ACCESSORIES; AND PRODUCT DATA, ETC., **AS OUTLINED IN THE SPECIFICATIONS.**
    - B. ALL DATA SHALL BE SUBMITTED "CONTRACTOR APPROVED".

STEEL JOISTS

1. INSTALLATION OF OPEN WEB STEEL JOISTS SHALL BE IN ACCORDANCE WITH **DIVISION 5 OF THE SPECIFICATIONS AND** THE FOLLOWING:

2. OPEN WEB STEEL JOISTS SHALL CONFORM TO THE STEEL JOIST INSTITUTE "STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS, K AND LH-SERIES", 2010. JOISTS ARE DESIGNED FOR A MAXIMUM ALLOWABLE TENSILE STRESS OF 30,000 PSI. BRIDGING SHALL BE ATTACHED TO STEEL BEAMS OR MASONRY AT THE END OF ALL BRIDGING LINES UNLESS OTHERWISE NOTED ON PLANS.

3. SIZE OF JOISTS INDICATED ON FRAMING PLANS ARE DETERMINED FROM "STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS".

4. JOIST MANUFACTURER SHALL DESIGN AND FABRICATE JOISTS FOR POINT LOADS WHERE INDICATED. JOIST DEPTH SHALL BE AS INDICATED ON THE FRAMING PLAN. JOISTS ARE TO BE DESIGNED FOR A DEAD LOAD OF 25 PSF AND A LIVE LOAD OF 20 PSF, IN ADDITION TO THE POINT LOADS INDICATED, UNLESS OTHERWISE NOTED ON THE PLANS.

5. ROOF JOISTS SHALL BE DESIGNED FOR A NET UPLIFT PRESSURE OF 15 PSF, UNLESS OTHERWISE NOTED ON THE PLANS.

6. PROVIDE SPECIAL SLOPED BEARING SEATS FOR ALL JOISTS AND STEEL BEAMS ON GREATER THAN 1/4" PER FOOT SLOPE.

7. JOISTS SHALL BE REINFORCED w/ 2 - ∠1 1/2 x 1 1/2 x 3/16 AT ALL LOCATIONS WHERE A POINT LOAD IS APPLIED TO THE TOP AND BOTTOM CHORD OF A JOIST, MORE THAN 1'-0" FROM A PANEL POINT. ANGLES SHALL BE WELDED TO THE CHORD MEMBER AT THE POINT OF LOAD AND WELDED TO THE NEAREST PANEL POINT ON THE OPPOSITE CHORD. SEE DETAILS ON DRAWINGS.

8. SUBMITTALS
   - A. SHOP DRAWINGS AND MATERIAL SUBMITTALS SHALL BE REQUIRED FOR OPEN WEB JOISTS; ACCESSORIES; AND PRODUCT DATA, ETC., **AS OUTLINED IN THE SPECIFICATIONS**.
   - B. ALL DATA SHALL BE SUBMITTED "CONTRACTOR APPROVED".

LOAD-BEARING METAL STUD NOTES:

1. UNLESS NOTED OTHERWISE, ALL STUDS SHALL BE EQUAL TO A MINIMUM OF 18 GA. SPACED AT 16" CENTERS WITH 18 GA. TRACK, TOP AND BOTTOM.

2. MINIMUM YIELD STRENGTH (Fy) FOR STUDS IS 33,000 p.s.i. FOR 18 GA. AND 20 GA. MATERIALS, AND 50,000 p.s.i. FOR 16 GA., 14 GA., AND 12 GA. MATERIALS.

3. ALL STUDS, TRACK, BRIDGING AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A G-60 GALVANIZED COATING MEETING THE REQUIREMENTS OF A.S.T.M. A653.

4. STUDS SHALL HAVE FULL BEARING AGAINST THE INSIDE TRACK WEB TOP AND BOTTOM. STUDS MUST BE CUT SQUARE.

5. BRIDGING IS TO BE SPACED AT NO MORE THAN 4'-0" O.C. VERTICALLY.

6. MINIMUM TRACK FASTENING SHALL BE 0.177" DIAMETER POWDER ACTUATED FASTENERS SPACED ON 12" CENTERS FOR BEARING WALLS, AND AT 16" O.C. FOR NON-LOAD BEARING WALLS (U.N.O.), WITH 1 1/2" MINIMUM PENETRATION INTO CONCRETE.

7. VOIDS BENEATH TRACK SHALL NOT BE PERMITTED. CONTRACTOR SHALL PROVIDE A REASONABLY LEVEL SLAB WITH A TOLERANCE OF 1/8" IN 10 FEET. WHERE UNEVENESS OF SUPPORTING FLOOR PREVENTS CONTINUOUS SOLID BEARING. PANEL OR TRACK SHALL BE LEVELED BY PLACING MORTAR OR GROUT BENEATH TRACK.

8. CONTINUOUS STUDS EACH SIDE OF HEADERS SHALL BE EQUAL TO 1/2 OF THE INTERRUPTED STUDS PLUS ONE STUD AT EACH SIDE. USE MINIMUM OF TWO (2) STUDS EACH SIDE. HEADERS SHALL BE DESIGNED TO TRANSFER ALL UNIFORM AND/OR CONCENTRATED LOADS. SHEAR SHALL BE TRANSFERRED BY FULL BEARING ON JACK STUDS OR BY SHEAR PLATES. SHEAR PLATES SHALL BE 16 GA. MINIMUM.

9. CUTTING OF LOAD-BEARING METAL STUDS IS NOT PERMITTED WITHOUT SPECIFIC APPROVAL FROM THE ENGINEER OF RECORD.

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PROJECT NAME: **FIRESTATION #3**

PROJECT LOCATION: 2649 GORDON HWY., AUGUSTA, GA 30909

REV	DATE	BY	DESCRIPTION
0	12/21/18	MWL	ISSUED FOR BID

PROJECT NO.	3042.1604
DRAWN BY:	CB
CHECKED BY:	MWL
DATE:	10/08/18

SHEET TITLE: **GENERAL NOTES**

SCALE: AS NOTED

DRAWING NO. **S-001** REV. **0**