STRUCTURAL NOTES

A. GENERAL

1. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE, AND TO ENSURE THE STABILITY OF THE BUILDING AND ITS COMPONENT PARTS, AND THE ADEQUACY OF TEMPORARY OR INCOMPLETE CONNECTIONS, DURING ERECTION. THIS INCLUDES THE ADDITION OF ANY SHORING, SHEETING, TEMPORARY GUYS, BRACING OR TIEDOWNS THAT MIGHT BE NECESSARY. SUCH MATERIAL IS NOT SHOWN ON THE DRAWINGS. IF APPLIED, THEY SHALL BE REMOVED AS CONDITIONS PERMIT, AND SHALL REMAIN THE CONTRACTOR'S PROPERTY. THE ENGINEER HAS NO EXPERTISE IN, AND TAKES NO RESPONSIBILITY FOR, CONSTRUCTION MEANS AND METHODS OR JOB SITE SAFETY DURING CONSTRUCTION. PROCESSING AND/OR APPROVING SUBMITTALS MADE BY THE CONTRACTOR WHICH MAY CONTAIN INFORMATION RELATED TO CONSTRUCTION METHODS OR SAFETY ISSUES, OR PARTICIPATION IN MEETINGS WHERE SUCH ISSUES MIGHT BE DISCUSSED, SHALL NOT BE CONSTRUED AS VOLUNTARY ASSUMPTION BY THE ENGINEER OF ANY RESPONSIBILITY FOR SAFETY PROCEDURES.

2. IT IS SOLELY THE RESPONSIBILITY OF EACH CONTRACTOR TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE ENGINEER IS NOT ENGAGED IN, AND DOES NOT SUPERVISE, CONSTRUCTION.

3. EQUIPMENT FRAMING LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO HVAC, PLUMBING, OR ELECTRICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL COORDINATE THIS INFORMATION WITH THE INVOLVED TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN THESE REQUIREMENTS TO BE BORNE BY THE APPROPRIATE CONTRACTOR.

4. SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THESE STRUCTURAL NOTES, THE SPECIFICATIONS, OR WITH EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.

5. GOVERNING CODE: 2006 INTERNATIONAL BUILDING CODE.

6. EXISTING BUILDINGS: PROVIDE TEMPORARY SUPPORTS AND OTHER MEASURES AS REQUIRED TO PREVENT DAMAGE TO THE EXISTING BUILDINGS DURING CONSTRUCTION. FIELD VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS WHICH AFFECT THE NEW CONSTRUCTION.

7. DESIGN ROOF LIVE LOAD: 20 POUNDS PER SQUARE FOOT (MINIMUM)

8. DESIGN FLOOR LIVE LOADS:

TYPICAL ELEVATED FLOORS, UNLESS OTHERWISE NOTED	100 PSF
GROUND FLOOR SLABS	150 PSF
INTERSTITIAL FLOORS	25 PSF (15 PSF FOR DESIGN OF FUNCTIONAL FLOOR ABOVE)
MECHANICAL ROOMS	150 PSF
FILE AND COMPUTER ROOMS	125 PSF
REFRIGERATION AND FROZEN STORAGE AREAS	200 PSF
MAINTENANCE AND REPAIR SHOPS	150 PSF
MORGUE	150 PSF
LAUNDRY	200 PSF
GAS CYLINDER STORAGE	250 PSF
X-RAY FILM STORAGE AND STATIONARY FILES	250 PSF
MOBILE FILES (FILM)	400 PSF
LIGHT STORAGE	150 PSF
HEAVY STORAGE	250 PSF
LOADING DOCK	250 PSF
MOBILE FILES (PAPER)	300 PSF
CATWALKS/SERVICE PLATFORMS	40 PSF
MACHINE ROOM	150 PSF
MINIMUM CONCENTRATED LOAD	2000 LB

LIVE LOADS ARE REDUCIBLE PER IBC 2006 (EXCEPT WHERE LIVE LOAD IS GREATER THAN 100 PSF).

9. SUPERIMPOSED DEAD LOAD: 15 PSF TYPICAL 50 PSF AT LEVEL 4 FOR MASONRY PARTITIONS

10. WIND DESIGN PARAMETERS
    a. BASIC WIND SPEED = 130 MPH
    b. WIND LOAD IMPORTANCE FACTOR = 1.15
    c. WIND EXPOSURE = EXPOSURE B
    d. INTERNAL PRESSURE COEFFICIENTS = +/-0.18

11. SEISMIC DESIGN PARAMETERS
    a. SPECTRAL RESPONSE ACCELERATION (SHORT PERIODS) (S_s) = 0.110
    b. SPECTRAL RESPONSE ACCELERATION (1 SECOND) (S_1) = 0.048
    c. OCCUPANCY CATEGORY = IV
    d. SEISMIC DESIGN CATEGORY = CATEGORY A
    e. IMPORTANCE FACTOR = 1.5
    f. SITE CLASS = D
    g. ANALYSIS PROCEDURE -- EQUIVALENT LATERAL FORCE PROCEDURE
    h. SEISMIC RESPONSE MODIFICATION FACTOR
       STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE R = 3
       SHEAR WALL-FRAME INTERACTIVE SYSTEM WITH ORDINARY REINF.
       CONCRETE MOMENT FRAMES AND ORDINARY REINF. CONCRETE SHEAR WALLS R = 4 1/2

B. REINFORCED CONCRETE

1. MATERIALS:
    a. SPECIFICATIONS: IN GENERAL, COMPLY WITH ACI 301-05 "SPECIFICATIONS FOR STRUCTURAL CONCRETE."
    b. STRUCTURAL CONCRETE

CLASS	LOCATION	F'C
I	FILL ON COMPOSITE FLOOR DECK (LIGHT WEIGHT CONCRETE, 120 PCF)	3500
IIA	GRADE BEAMS, PIERS, INTERIOR SLABS ON GRADE, WALLS, FRAMED FLOORS, BUILDING 8 MATS BELOW ELEVATOR AND STAIR WALLS, AND ALL CONCRETE NOT OTHERWISE IDENTIFIED.	5000
III	CONCRETE TOPPING SLABS AND FILL IN STAIR PANS AND TREADS.	3500 (#8 aggregate) 1 1/2 POUND / C.Y. OF SYNTHETIC FIBER REINFORCEMENT
IV	COLUMNS AND ELEVATOR CORE WALLS	6000
IVA	COLUMNS WHERE INDICATED	7000
V	PILE CAPS , NOT INCLUDED IN CLASS II	4000

    c. ALL DEFORMED REINFORCING BARS: FY = 60,000

2. FIELD MANUAL: PROVIDE AT LEAST ONE COPY OF THE ACI FIELD REFERENCE MANUAL, SP-15, IN THE FIELD OFFICE AT ALL TIMES.

3. PILE CAPS, GRADE BEAMS, COLUMNS, WALLS:
    a. DOWELS IN PILE CAPS AND GRADE BEAMS TO MATCH VERTICAL COLUMN OR WALL REINFORCING.
    b. UNLESS SHOWN OTHERWISE, PROVIDE THE FOLLOWING WALL REINFORCING:

WALL THICKNESS	HORIZONTAL STEEL	VERTICAL STEEL
6 AND 8 INCHES	#4 @ 12 INCHES	#4 @ 18 INCHES
10 AND 12 INCHES	#4 @ 16 INCHES EF	#4 @ 18 INCHES EF

    c. PROVIDE CORNER BARS AT WALL CORNERS TO MATCH HORIZONTAL REINFORCING. MINIMUM LAP LENGTH WITH HORIZONTAL REINFORCEMENT - 45 BAR DIAMETERS (SEE DETAIL 6/0SB502.
    d. DO NOT BACKFILL AGAINST TANK WALLS UNTIL BOTH THE SLAB-ON-GRADE AND THE SUPPORTED SLAB ABOVE ARE IN PLACE AND CURED.
    f. PROVIDE MIN. 2'-0" THICK LAYER OF GRANULAR BACKFILL FULL HEIGHT OF ALL TANK WALLS.
    g. CAST IN CONTINUOUS DOVETAIL ANCHOR SLOTS ON VERTICAL SURFACES WHERE MASONRY ABUTS, 16 INCHES O.C. FOR PARALLEL SURFACES, AT CENTERLINE OF MASONRY FOR PERPENDICULAR SURFACES.

4. SPLICES: UNLESS NOTED OTHERWISE, MINIMUM LAP SPLICE LENGTHS TO BE AS FOLLOWS: (MULTIPLY LAP LENGTHS BY 1.33 FOR REINFORCEMENT IN LIGHTWEIGHT CONCRETE)

SPLICE LENGTH REQUIREMENTS (4500 PSI MIN.)

	BEAMS, COLUMNS, & WALLS (1 7/8" MIN. COVER TO BAR)		SLABS (1" MIN. COVER TO BAR)	
BAR SIZE	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	14"	12"	14"	12"
#4	19"	14"	19"	14"
#5	23"	18"	27"	21"
#6	28"	21"	38"	29"
#7	40"	31"	61"	47"
#8	48"	37"	76"	59"
#9	60"	46"	93"	71"
#10	73"	56"	112"	86"
#11	88"	68"	133"	102"

5. CONSTRUCTION JOINTS:
    a. CONSTRUCTION JOINTS PERMITTED ONLY WHERE SHOWN OR AS APPROVED BY THE STRUCTURAL ENGINEER. ALL CONSTRUCTION JOINTS ARE TO BE KEYED. KEYWAYS SHALL BE 1-1/2 INCHES DEEP X 1/3 MEMBER THICKNESS.

6. CONCRETE COVER: UNLESS NOTED OTHERWISE, DETAIL REINFORCING TO PROVIDE CONCRETE COVER AS FOLLOWS:

a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3 INCHES
b. CONCRETE EXPOSED TO EARTH OR WEATHER:	
#5 BARS AND SMALLER	1-1/2 INCHES
OTHERS	2 INCHES
c. CONCRETE NOT EXPOSED TO EARTH OR WEATHER:	
BEAM AND COLUMN BARS INCLUDING TIES, STIRRUPS AND SPIRALS	1-1/2 INCHES
SLABS AND WALLS	1-1/2 INCHES

7. MISCELLANEOUS:
    a. GROUT UNDER BEARING PLATES, SETTING PLATES, AND COLUMN BASE PLATES SHALL BE NON-SHRINKING TYPE. THE USE OF LEVELING PLATES AT COLUMN BASES IS PROHIBITED. GROUT BELOW BEARING PLATES, SETTING PLATES, AND COLUMN BASE PLATES IS TO BE INSTALLED ONLY AFTER THE STEEL IS PLUMBED.

8. CONTINGENCIES:
    a. INCLUDE AN ALLOWANCE IN THE BID TO PROVIDE AND INSTALL 5 ADDITIONAL TONS OF REINFORCING BARS. MATERIAL TO BE USED AND ITS APP.LICATION SHALL BE DETERMINED BY THE ARCHITECT. BENT BARS, IF REQUIRED, SHALL BE BENT IN THE SHOP, UNLESS OTHERWISE APPROVED.
    b. PROVIDE SUPPORTS AS REQUIRED TO MAINTAIN ALIGNMENT OF SCHEDULED REINFORCING. SUCH SUPPORTS ARE TO BE REFLECTED IN THE BID, AND ARE NOT PART OF THE CONTINGENCY QUANTITY LISTED ABOVE.

9. OPENINGS:
    a. OPENINGS SHOWN ARE FOR BIDDING PURPOSES ONLY. COORDINATE THEIR EXACT SIZES AND LOCATIONS WITH HVAC, PLUMBING, AND OTHER REQUIREMENTS BEFORE PROCEEDING WITH WORK.
    b. IF ANY OPENING NOT SHOWN ON THE PLANS IS REQUIRED, SECURE APPROVAL OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING.
    c. PROVIDE TWO #5 BARS AROUND ALL SLAB AND WALL OPENINGS, EXTENDING 2 FEET BEYOND OPENING IN EVERY DIRECTION, U.N.O.; OPENINGS NOT EXCEEDING 16 INCHES X 16 INCHES MAY BE SLEEVED AS REQUIRED BY WORKING THE REINFORCING STEEL AROUND THEM.

C. MASONRY

1. SPECIFICATIONS: MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1-08," PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE, DETROIT, MICHIGAN, EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.

2. MATERIALS:
    a. CONCRETE BLOCK: ASTM C90. MINIMUM NET AREA COMPRESSIVE STRENGTH OF C.M.U. = 1900 PSI.
    b. MORTAR: ASTM C270 (USING THE PROPERTY SPECIFICATION METHOD, PARAGRAPH 3.2), TYPE S, MINIMUM COMPRESSIVE STRENGTH = 1800 PSI.
    c. BOND BEAM AND CORE FILL: ASTM C476, COARSE OR FINE TYPE, PLACED PER ACI 530.1, TABLE 7.
    d. JOINT REINFORCING: HOT-DIPPED GALVANIZED FINISH, 9 GAGE MINIMUM SIDE WIRES AND CROSS WIRES, EXCEPT USE 3/16 INCH DIAMETER SIDE WIRES WHERE "HEAVY-WEIGHT" IS REQUIRED.
    e. BAR REINFORCING: ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
    f. WIRE TIES AND ANCHORS: RECTANGULAR TYPE, 3/16" DIAMETER WIRE TIES (HOT DIPPED GALVANIZED).

IT IS ACCEPTABLE TO DRILL AND EPOXY REBAR INTO CONCRETE (RFI 5356)

3. REINFORCED MASONRY: WHERE VERTICAL BARS ARE TO BE GROUTED INTO CORES, THE FOLLOWING REQUIREMENTS APPLY:
    a. PROVIDE DOWELS FROM FOUNDATION OR CONCRETE WALLS, SAME SIZE AND SPACING AS MASONRY WALL BARS. LAP 12 INCHES MINIMUM WITH WALL BAR. EMBED INTO FOOTING 9 INCHES.
    b. PROVIDE A CONTINUOUS VERTICAL CAVITY, AT LEAST 3" X 4" IN SIZE, FREE OF MORTAR DROPPING.
    c. PROVIDE REBAR ALIGNMENT DEVICES AT A MAXIMUM SPACING OF 96 BAR DIAMETERS (MINIMUM OF 2 PER BAR).
    d. AT SPLICES IN VERTICAL BARS, PROVIDE 48 DIAMETER LAP.
    e. ALL REINFORCEMENT MUST BE INSTALLED AND SECURELY ANCHORED IN PLACE PRIOR TO PLACEMENT OF GROUT.
    f. MAXIMUM HEIGHT OF GROUT LIFT = 5'-0".
    g. ALL C.M.U.'S USED IN REINFORCED MASONRY SHALL BE TWO CELL UNITS.

4. MISCELLANEOUS:
    a. EXCEPT FOR INSULATED CAVITY WALLS, VERTICAL COLLAR JOINTS SHALL BE FILLED SOLID WITH MORTAR OR GROUT.
    b. PROVIDE 100% SOLID BEARING, MINIMUM THREE COURSES UNDER BEAMS, TWO COURSES UNDER LINTELS, UNLESS DETAILED OTHERWISE.
    c. FILL CORE SOLID AROUND ANCHOR BOLTS.
    d. PROVIDE 100% SOLID BLOCKS OR SOLIDLY-FILLED HOLLOW BLOCKS FOR AT LEAST 4" ALL AROUND ALL EXPANSION BOLTS.
    e. SET WELD PLATES IN BOND BEAMS AFTER THE GROUT IS PLACED, BUT WHILE IT IS STILL PLASTIC.
    f. HOLLOW MASONRY UNITS TO BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS. WEBS SHALL ALSO BE BEDDED IN ALL COURSES OF PIERS, COLUMNS, AND PILASTERS, AND IN THE STARTING COURSE ON FOOTINGS, AND WHEN ADJACENT TO CELLS OR CAVITIES TO BE REINFORCED OR FILLED WITH CONCRETE OR GROUT. SOLID UNITS TO BE LAID WITH FULL HEAD AND BED JOINTS.
    g. PROVIDE JOINT REINFORCING AT 16 INCHES, EXCEPT AS NOTED.
    h. LAP JOINT REINFORCING 6 INCHES FOR STANDARD, 15 INCHES FOR HEAVY WEIGHT.
    i. WHERE MASONRY UNITS ARE USED ABOVE HOLLOW UNITS OF A DIFFERENT THICKNESS, PROVIDE A CONTINUOUS COURSE OF 100% SOLID MASONRY AT LEAST 8 INCHES HIGH BELOW TRANSITION.
    j. IN ALL MULTIPLE WYTHE WALLS AND CAVITY WALLS PROVIDE RECTANGULAR 3/16" DIA. WIRE WALL TIES (FIXED OR ADJUSTABLE) AT 16" O.C. HORIZONTALLY AND VERTICALLY.
    k. CORBELLED MASONRY SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 530.1, PARAGRAPH 5.9.4. ONLY SOLID MASONRY UNITS SHALL BE USED FOR CORBELLING.

D. LINTEL NOTES

More than 12" per RFI 4892.

1. PROVIDE LINTELS OVER ALL OPENINGS IN MASONRY WALLS. REFER TO ARCHITECTURAL AND HVAC DRAWINGS FOR LOCATION, NUMBER AND SIZES OF OPENINGS. FOR LINTELS NOT LABELED OR SHOWN ON STRUCTURAL DRAWINGS, APPLY NOTES 2 THROUGH 6.

2. FOR LINTELS OVER OPENINGS 6'-0" WIDE OR LESS, PROVIDE THE FOLLOWING FOR EACH 4 INCHES OF WALL THICKNESS (USE 6 INCHES MINIMUM BEARING EACH END); IN CAVITY WALLS, ADD L5 X 5 X 5/16 FOR BRICK SUPPORT WITH 6" BEARING EACH END AND CONTINUOUS BOTTOM PLATE 5/16 X (WALL "T"-1/2") AND STOP PLATE 1/8" SHORT OF JAMBS:

MASONRY OPENINGS	SECTION
TO 4'-0"	L 3-1/2 X 3-1/2 X 5/16
4'-1" TO 5'-6"	L 4 X 3-1/2 X 5/16 LLV
5'-7" TO 6'-0"	L 5 X 3-1/2 X 5/16 LLV

    A. FOR LINTELS IN 6" THICK WALLS, PROVIDE 2-L 3-1/2 X 2-1/2 X 5/16 LLV, FOR OPENING UP TO 3'-4" & W8X18 FOR OPENING BETWEEN 3'-5" AND 12'-0"
    B. FOR LINTELS IN 10" THICK WALLS, PROVIDE 2-L4 X 4 X 5/16.

3. FOR LINTELS OVER OPENINGS GREATER THAN 6'-0" WIDE, PROVIDE THE FOLLOWING BEAM SECTIONS WITH 7-1/2 INCH MINIMUM BEARING EACH END; ADD CONTINUOUS BOTTOM PLATE 5/16 X (WALL "T"-1/2") AND STOP PLATE 1/8" SHORT OF JAMBS; IN CAVITY WALLS ADD CONT. L5 X 5 X 5/16 WITH 7-1/2 INCH MINIMUM BEARING EACH END:

MASONRY OPENING	SECTION
6'-1" TO 6'-6"	W 8 X 13
6'-7" TO 7'-11"	W 8 X 18
8'-0" TO 14'-0"	W 8 X 21

4. CENTER WIDE FLANGE BEAM LINTELS ON FULL WIDTH OF BONDED MULTI-WYTHE WALLS. CENTER WIDE FLANGE BEAM LINTELS ON BLOCK BACK-UP WYTHE IN CAVITY WALLS, EXCEPT WHERE OTHERWISE SHOWN ON DRAWINGS.

E. STRUCTURAL STEEL

1. THE STEEL FRAME AS DESIGNED IS A NON-SELF-SUPPORTING STEEL FRAME. COORDINATE THE ERECTION WITH THE INSTALLATION OF OTHER BUILDING ELEMENTS REQUIRED FOR THE STRUCTURE'S STABILITY. THESE ELEMENTS INCLUDE SLABS, METAL DECK, AND CONCRETE FRAMING & WALLS.

2. MATERIALS:
    a. STRUCTURAL STEEL CHANNEL, ANGLES, PLATES, ETC.: ASTM A36, FY = 36 KSI U.N.O.; STRUCTURAL STEEL WIDE FLANGES: ASTM A572 OR ASTM A992, FY = 50 KSI; HIGH STRENGTH BOLTS: ASTM A325 OR A490; ANCHOR BOLTS: ASTM A572, GRADE 50 OR ASTM F1554, GRADE 55 THREADED RODS; ELECTRODES: SERIES E70; STRUCTURAL PIPES OR ROUND TUBING: ASTM A53 OR A501; FY = 35 KSI MIN; SQUARE AND RECTANGULAR TUBING: ASTM A500, FY = 46 KSI; EXPANSION BOLTS: HILTI "KWIK-BOLT TZ," SIMPSON STRONG-TIE "STRONG-BOLT" OR APPROVED EQUAL. ADHESIVE ANCHORS: HILTI "HIT-ICE/HIT HY 150," SIMPSON STRONG-TIE "ACRYLIC-TIE," ITW RED-HEAD "A7 ACRYLIC."
    D.B.A. NELSON STUD "D2L".

3. SPECIFICATION: WELDING PERSONNEL AND PROCEDURES ARE TO BE QUALIFIED PER AWS D1.1, UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION TO BE GOVERNED BY:
    a. AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (MARCH 9, 2005).
    b. AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES (MARCH 18, 2005).
    c. STRUCTURAL WELDING CODE, AWS D1.1/D1.1 M: 2008 OF THE AMERICAN WELDING SOCIETY.
    d. SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS (JUNE 30, 2004).

4. CONNECTIONS:
    a. ALL FORCES AND REACTIONS INDICATED ON THE PLANS ARE BASED UPON LRFD LOAD COMBINATIONS.
    b. FIELD CONNECTIONS TO BE BOLTED, UNLESS INDICATED OTHERWISE. SHOP CONNECTIONS TO BE WELDED OR BOLTED. CONNECTIONS TO BE SELECTED BY THE FABRICATOR TO DEVELOP THE FULL UNIFORM LOAD CAPACITY OF THE MEMBER OR FORCES SHOWN ON PLANS, WHICHEVER IS GREATER. FOR COMPOSITE BEAMS, SELECT CONNECTIONS FOR 1.5 X THE FULL UNIFORM LOAD CAPACITY OF THE STEEL MEMBER UNLESS SHOWN OTHERWISE. CONNECTIONS OF BEAMS FRAMING INTO A GIRDER FROM ONE SIDE ONLY, SUCH AS AT SPANDREL GIRDERS, SHALL BE MADE WITH DOUBLE ANGLE CONNECTIONS. UNLESS INDICATED OTHERWISE, ALL OTHER CONNECTIONS MAY BE DOUBLE ANGLE CONNECTIONS OR SINGLE PLATE SHEAR CONNECTIONS. FOLLOW INSTRUCTIONS ON DRAWINGS FOR GENERAL ARRANGEMENT OR PARTICULAR DETAILS.
    c. FULL PENETRATION AND PARTIAL PENETRATION FIELD WELDS IN MATERIAL OVER 5/16 INCH THICK AND WELDED FIELD SPLICE OF MAIN MEMBERS SHALL BE SUBJECTED TO NON-DESTRUCTIVE TESTING (OTHER THAN VISUAL INSPECTION) BY AN INDEPENDENT LABORATORY.
    d. ALL BOLTS IN BRACED FRAMES AND BOLTS IN SHEAR CONNECTIONS USED IN CONJUNCTION WITH FULL OR PARTIAL PENETRATION FLANGE WELDS SHALL BE SLIP CRITICAL TYPE OR DESIGNED AS BEARING TYPE BOLTS IN STANDARD HOLES AND PRETENSIONED TO SLIP-CRITICAL CONDITION. USE STANDARD HOLES OR SHORT-SLOTTED HOLES TRANSVERSE TO THE DIRECTION OF THE LOAD AND SELECT THE NUMBER OF BOLTS FOR A SERVICEABILITY LIMIT STATE.

5. GALVANIZING: ALL SHELF ANGLES, LINTELS IN EXTERIOR WALLS, ALL EXTERIOR STEEL EXPOSED TO THE ELEMENTS, INCLUDING ALL STEEL COMPONENTS OF THE MP3A WALL SYSTEM AND STEEL BEHIND LOUVERS, AND ALL ITEMS INDICATED ON THE DRAWING AS GALVANIZED.

6. PAINT:
    a. DO NOT PAINT STEEL OR ANCHOR BOLTS WHICH WILL BE GALVANIZED, ENCASED IN CONCRETE, STEEL THAT WILL RECEIVE SPRAYED-ON FIREPROOFING OR ANY STEEL NOT EXPOSED TO VIEW IN THE FINISHED STRUCTURE, EXCEPT COLUMNS AND PORTIONS OF BEAMS EMBEDDED IN OR BUILT WITHIN EXTERIOR WALLS, WHICH SHALL BE PAINTED WITH TWO COATS OF PRIMER. STEEL WITHIN INTERSTITIAL SPACES WHICH DOES NOT RECEIVE SPRAYED-ON-FIREPROOFING SHALL BE PAINTED.

7. MISCELLANEOUS:
    a. THE COLUMNS, ANCHOR BOLTS, BASE PLATES AND FOUNDATIONS ARE DESIGNED TO RESIST A GRAVITY LOAD MOMENT OF 675 FOOT-POUNDS DURING ERECTION, IF SHIM PACKS ARE PROVIDED AT THE EXTREME EDGES ALONG ALL FOUR SIDES OF THE BASE PLATE. FOR SAFETY CONSIDERATIONS DURING ERECTION, SEE STRUCTURAL NOTE A1.
    b. PROVIDE HOLES FOR OTHERS AS SHOWN ON THE STRUCTURAL DRAWINGS OR IN NOTE 8b BELOW.
    c. STEEL SUPPORTING OR CONNECTING TO HVAC AND OTHER EQUIPMENT AND ROOF OPENINGS AS SHOWN ON DRAWINGS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL COORDINATE EXACT SIZE AND LOCATION BEFORE PROCEEDING WITH HIS WORK.
    d. THE USE OF LEVELING PLATES AT COLUMN BASES IS PROHIBITED. SEE THE REINFORCED CONCRETE NOTES ABOVE FOR GROUT AND GROUTING REQUIREMENTS.
    e. STEEL BELOW GRADE IS TO BE PROTECTED BY A MINIMUM OF 3 INCHES OF CONCRETE.
    f. PROVIDE 1/4 INCH THICK SETTING PLATES FOR ALL BEAMS BEARING ON MASONRY OR CONCRETE WHICH DO NOT REQUIRE A BEARING PLATE.
    g. PROVIDE SHOP WELDED ANCHORS FOR ATTACHMENTS OF MASONRY. SPACING TO BE 16 INCHES ON COLUMNS AND BEAMS.
    h. PROVIDE WASHER AND HEAVY NUT AT ALL ANCHOR BOLTS (BOTH ENDS).
    i. FINISH ENDS OF ALL COLUMNS, STIFFENERS AND ALL OTHER MEMBERS IN DIRECT BEARING.
    j. MINIMUM BEAM BEARING ON MASONRY = 7-1/2 INCHES UNLESS NOTED OTHERWISE.
    k. EMBEDMENT LENGTH OF EXPANSION BOLTS INTO SOLID MASONRY OR CONCRETE SHALL BE AS FOLLOWS:
       1/2 INCH DIAMETER BOLTS --- 3-1/2 INCHES EMBEDMENT
       3/4 INCH DIAMETER BOLTS --- 5 INCHES EMBEDMENT

8. CONTINGENCY:
    a. INCLUDE AN ALLOWANCE IN THE BID TO PROVIDE AND ERECT 5 ADDITIONAL TONS OF STRUCTURAL AND/OR MISCELLANEOUS STEEL (SHAPES, ANGLES, PLATES, ETC.). MATERIAL TO BE USED AND ITS APPLICATION SHALL BE DETERMINED BY THE ARCHITECT. CONNECTIONS, IF REQUIRED, SHALL BE FIELD-WELDED.

9. ELEVATOR RAIL SUPPORTS:
   PROVIDE ELEVATOR RAIL SUPPORTS AS SHOWN IN DETAIL 8/8SF503. COORDINATE WITH ELEVATOR DWGs IN EWP#2 FOR QUANTITY.

F. METAL DECKING:

    a. COMPOSITE FLOOR DECK: 2" DEEP, 20 GA. MIN.

G. PROGRESSIVE COLLAPSE RESISTANCE:

1. DESIGN OF THE BUILDING IS IN ACCORDANCE WITH UFC 4-023-03, 14 JULY 2009. FUTURE ADDITIONS OR ALTERATIONS TO THIS STRUCTURE SHALL NOT JEOPARDIZE THE REQUIREMENTS FOR PROGRESSIVE COLLAPSE RESISTANCE.

2. BUILDING NUMBER 8
    a. OCCUPANCY CATEGORY IV
    b. METHOD OF PROGRESSIVE COLLAPSE RESISTANCE - TIE FORCES, ALTERNATE PATH, & ENHANCED LOCAL RESISTANCE.

3. SEE SPECIFICATION SECTION 01 45 29 FOR TESTING AND INSPECTION REQUIREMENTS.

H. ABBREVIATIONS: B. = BOTTOM; C.I.P. = CAST IN PLACE; C.M.U. = CONCRETE MASONRY UNIT; (E) = EXISTING; E.E. = EACH END; E.F. = EACH FACE; E.W. = EACH WAY; GALV. = GALVANIZED; LLH = LONG LEG HORIZONTAL; LLV = LONG LEG VERTICAL; N.T.S. = NOT TO SCALE; O.C. = ON CENTER; P.C. = PRECAST; S.O.G. = SLAB ON GRADE; T. = TOP; T.O.F. = TOP OF FOOTING ELEVATION; T.O.P. = TOP OF PIER ELEVATION; T.O.S. = TOP OF SLAB ELEVATION; T.O.STL. = TOP OF STEEL ELEVATION; T.O.W. = TOP OF WALL ELEVATION; T.O.L. = TOP OF LEDGE ELEVATION; TYP. = TYPICAL; U.N.O. = UNLESS NOTED OTHERWISE; W.W.F. = WELDED WIRE FABRIC.

J. LEGEND:

- CAST-IN-PLACE CONCRETE
- HOLLOW C.M.U.
- 100% SOLID OR GROUT FILLED C.M.U.
- 12S532 - REINFORCED C.M.U.
- STEP IN BOTTOM OF GRADE BEAM TO BEAR ON PILE CAP

J. EXIST. STEEL:
1. EXISTING STEEL BEAMS ARE ASSUMED TO BE ASTM A7 Fy=30 KSI. EXISTING STEEL TO BE TESTED FOR WELDABILITY.
2. EXISTING CAST IRON COLUMNS HAVE TENSILE STRENGTH RANGING FROM 15 TO 20 KSI.

ONE INCH = FORTY FEET (1" = 40')
80' 40' 0'

THREE INCHES = ONE FOOT
15' 30' 0

ONE AND ONE HALF INCHES = ONE FOOT
6' 0' 1

THREE QUARTERS INCH = ONE FOOT
6' 0' 2

ONE HALF INCH = ONE FOOT
4' 0' 4

ONE QUARTER INCH = ONE FOOT
8' 4' 0' 8

ONE EIGHT INCH = ONE FOOT
16' 8' 4' 0' 16

ONE SIXTEENTH INCH = ONE FOOT
32' 16' 8' 4' 0' 32

CONSTRUCTION DOCUMENTS 1
FULLY SPRINKLERED

REVISIONS: | DATE

CONSULTANTS:
DESMAN ASSOCIATES / PARKING
CODE CONSULTANTS, INC. / CODE CONSULTANT
THE SEXTANT GROUP / AV & ACOUSTICAL
HAMMER DESIGN ASSOCIATES / FOOD SERVICE
PYBURN & ODOM / ABATEMENT
TATA & HOWARD / TANK CONSULTANT
I.S.C. GROUP, INC. / IRRIGATION
DAN EUSER WATER ARCHITECTURE, INC. / WATER FEATURE

STATE OF LOUISIANA — THOMAS M. DOYLE — LICENSE # 33501 — PROFESSIONAL ENGINEER IN — STRUCTURAL ENGINEERING

ARCHITECT/ENGINEERS:
studioNOVA
SCHRENK & PETERSON CONSULTING ENGINEERS / CIVIL
KORDA/NEMETH ENGINEERING / STRUCTURAL
BR+A CONSULTING ENGINEERS / MECH, ELECT, PLUMBING, LOW VOLTAGE
ARCHITECTURAL ENGINEERING / PLUMBING
SCALES ASSOCIATES / FIRE PROTECTION
COMMUNICATIONS DESIGN GROUP / LOW VOLTAGE

DRAWING TITLE: GENERAL STRUCTURAL NOTES
APPROVED: PROJECT DIRECTOR: Todd Tanders
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LOCATION: NEW ORLEANS, LOUISIANA
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