1. GENERAL:

A. THE FOLLOWING NOTES ARE APPLICABLE TO ALL DRAWINGS.
B. APPLICABLE STRUCTURAL CODE – IBC 2003 EDITION.
C. THE CONTRACTOR SHALL USE MATERIALS AND EMPLOY CONSTRUCTION METHODS IN ORDER TO COMPLY WITH THE DRAWINGS AND SPECIFICATIONS. WHERE A CONFLICT OCCURS, THE STRICTEST DESIGN SHALL GOVERN. ENGINEER'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC. DOES NOT RELIEVE THE CONTRACTOR FROM MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY SPECIFIC DEVIATIONS AND OBTAIN ENGINEER'S WRITTEN APPROVAL FOR THE SPECIFIC DEVIATION.
D. THE CONTRACTOR SHALL PROVIDE HIS/HER SCHEDULE FOR SUBMITTAL OF SHOP AND ERECTION DRAWINGS UPON COMMENCEMENT OF THE PROJECT SO AS TO FACILITATE THE TIMELY FLOW OF INFORMATION BETWEEN ALL PARTIES.
E. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, FIRE SPRINKLER, AND ELECTRICAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL REQUIREMENTS INTO THE SHOP DRAWINGS AND CONSTRUCTION.
F. THE STRUCTURE SHOWN ON THESE DRAWINGS IS STRUCTURALLY SOUND ONLY IN ITS COMPLETED FORM. THE CONTRACTOR IS RESPONSIBLE TO FURNISH AND INSTALL ALL TEMPORARY SUPPORTS, SUCH AS TEMPORARY GUYS, BEAMS, FALSEWORK, CRIBBING OR OTHER ELEMENTS REQUIRED FOR THE ERECTION OPERATIONS. THE TEMPORARY SUPPORTS SHALL BE SUFFICIENT TO SECURE THE BARE FRAMING OR ANY PORTION THEREOF AGAINST LOADS THAT ARE LIKELY TO BE ENCOUNTERED DURING ERECTION, INCLUDING THOSE DUE TO WIND AND THOSE THAT RESULT FROM ERECTION OPERATIONS. ALL TEMPORARY BRACING AND/OR SUPPORT REQUIRED SHALL BE BASED ON THE CONTRACTOR'S CONSTRUCTION METHODS AND SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL TEMPORARILY SHORE AND BRACE ALL EARTH, FORMS, CONCRETE, STEEL, WOOD, MASONRY, TO RESIST GRAVITY, EARTH, WIND, SEISMIC, THERMAL, CONSTRUCTION AND MISCELLANEOUS LOADS DURING CONSTRUCTION. THE CONTRACTOR SHALL HIRE AND PAY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED TO DESIGN AND INSPECT ALL TEMPORARY SHORING AND BRACING.
G. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
H. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
I. CONNECTIONS OF ALL ITEMS SUPPORTED BY THE STRUCTURE ARE THE RESPONSIBILITY OF THE DISCIPLINES THAT ARE MAKING THESE ATTACHMENTS. THESE ATTACHMENTS SHALL BE DESIGNED TO RESIST ALL GRAVITY, WIND, WIND UPLIFT, SEISMIC, THERMAL LOADS, ETC.
J. WHERE A DETAIL, TYPICAL DETAIL, SECTION, TYPICAL SECTION OR A NOTE IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
K. CONDITIONS SHOWN OR NOTED AS EXISTING ARE BASED ON INFORMATION VISUALLY OBSERVED OR FROM INFORMATION PROVIDED BY OTHERS OR EXISTING DRAWINGS AVAILABLE AT THE TIME WHEN DRAWINGS WERE PREPARED. NO WARRANTY IS IMPLIED AS TO THE ACCURACY OF THESE EXISTING CONDITIONS. CONTRACTOR SHALL VERIFY ALL EXISTING STRUCTURAL MEMBER SIZES AND/OR REINFORCING SHOWN HEREIN COMPLIES WITH ACTUAL SIZES AND/OR CONDITION IN THE FIELD. ANY DISCREPANCY SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW PRIOR TO COMMENCING ANY WORK.
L. ANY DETERIORATION OF EXISTING STRUCTURAL MEMBERS SHALL BE REPORTED TO THE STRUCTURAL ENGINEER OF RECORD IMMEDIATELY UPON NOTICE OF THE DETERIORATION PRIOR TO COMMENCING ANY WORK.
M. CONTRACTOR SHALL VERIFY WELDABILITY OF EXISTING STEEL WHEN WELDED CONNECTIONS ARE UTILIZED. REPORTS OF THE WELDABILITY OF THE MATERIALS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD PRIOR TO COMMENCING ANY WELDING.
N. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS OF EXISTING CONSTRUCTION PRIOR TO COMMENCING FABRICATION AND ERECTION.
O. THE CONTRACTOR SHALL CONDUCT A VISUAL SITE SURVEY BEFORE COMMENCING ANY CONSTRUCTION. THE SURVEY SHALL THOROUGHLY DOCUMENT EXISTING CONDITIONS OF CONSTRUCTION THAT MAY BE IMPACTED BY THE NEW CONSTRUCTION. DOCUMENTATION SHALL INCLUDE, BUT NOT BE LIMITED TO, ANY NOTICEABLE DISTRESS AND/OR CONSTRUCTION DEFICIENCIES. THE CONTRACTOR SHALL MONITOR THE CONDITIONS OF THE EXISTING CONSTRUCTION (STRUCTURES, UTILITIES, ETC.) DURING THE COURSE OF CONSTRUCTION. ANY DAMAGE TO EXISTING CONSTRUCTION AND REPAIR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
P. UNLESS NOTED, ELEVATIONS SHOWN ARE TO TOP OF OPEN WEB STEEL JOISTS OR BEAMS AND FOUNDATIONS.
Q. UNLESS NOTED, SUBMIT SHOP DRAWINGS OF ALL FABRICATED MATERIALS FOR REVIEW. DESIGN DRAWINGS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS. SHOP DRAWINGS WILL NOT BE REVIEWED UNLESS THEY WERE CHECKED, BEAR THE INITIAL OF THE CHECKER AND ARE STAMPED "APPROVED" BY THE GENERAL CONTRACTOR.
R. ALL REQUIRED TESTING REPORTS SHALL BE AVAILABLE AT THE JOB SITE.
S. NO SUPPORT PROVISIONS HAVE BEEN MADE FOR EQUIPMENT OVER 200 POUNDS OR PIPES OVER 4" DIAMETER UNLESS SHOWN. UNLESS NOTED, EQUIPMENT SHALL BE SUPPORTED BY TWO (2) JOISTS WHERE EACH JOIST SUPPORTS HALF OF THE EQUIPMENT WEIGHT. ANY ADDITIONAL REQUIREMENTS SHOULD BE APPROVED BY THE ENGINEER.
T. EQUIPMENT WEIGHTS SHOWN ON THE STRUCTURAL DRAWINGS ARE MAXIMUM OPERATING WEIGHT INCLUDING CURBS AND APPURTENANCES. THE CONTRACTOR SHALL VERIFY AND BRING TO THE ATTENTION OF THE ENGINEER ANY DEVIATIONS.
U. WHERE ROOF DRAINS ARE USED FOR ROOF DRAINAGE, SCUPPERS SHALL BE PROVIDED RIGHT ABOVE THE ROOF LINE TO MINIMIZE WATER ACCUMULATION (SEE ARCHITECTURAL DRAWINGS) OR EMERGENCY DRAINAGE SYSTEM SHALL BE PROVIDED.

2. DESIGN LOADS:

A. DEAD LOADS (MAIN BUILDING ROOF)

MEMBRANE (UNBALLASTED)	=	1.0 PSF
INSULATION	=	2.0 PSF
STEEL DECK	=	2.0 PSF
OPEN WEB JOISTS	=	2.0 PSF
JOIST GIRDERS / BEAMS	=	1.0 PSF
MECHANICAL & ELECTRICAL	=	3.0 PSF
FIRE PROTECTION	=	2.0 PSF
MISCELLANEOUS	=	4.0 PSF
TOTAL DEAD LOAD	=	19.0 PSF

DEAD LOADS (CANOPY)

ROOFING, SHEATHING, PLANKS	=	5.0 PSF
TIMBER BEAMS	=	3.0 PSF
MISCELLANEOUS	=	5.0 PSF
TOTAL DEAD LOAD	=	13.0 PSF

B. SNOW LOADS
2. GROUND SNOW LOAD, PG = 60 PSF.
3. FLAT–ROOF SNOW LOAD, PF = 42 PSF.
4. RAIN ON SNOW SURCHARGE = 0 PSF.
5. SNOW EXPOSURE FACTOR, CE = 1.0
6. THERMAL FACTOR, CT = 1.0 (MAIN BUILDING AND VESTIBULES): 1.2 (UNHEATED CANOPIES)
7. SNOW LOAD IMPORTANCE FACTOR, I = 1.0
8. ALL APPLICABLE EFFECTS DUE TO SNOW DRIFTING

C. WIND LOADS
1. BASIC WIND SPEED (3–SECOND GUST) = 100 MPH
2. WIND LOAD IMPORTANCE FACTOR = 1.0
3. OCCUPANCY CATEGORY = II (TABLE 1604.5)
4. WIND EXPOSURE CATEGORY C FOR MAIN WIND FORCE–RESISTING SYSTEM
5. WIND EXPOSURE CATEGORY C FOR COMPONENTS AND CLADDING
6. INTERNAL PRESSURE COEFFICIENT = 0.55 (CANOPY)

D. EARTHQUAKE DESIGN DATA
1. SEISMIC IMPORTANCE FACTOR, I = 1.0
2. OCCUPANCY CATEGORY = II (TABLE 1604.5)
3. MAPPED SPECTRAL RESPONSE ACCELERATIONS
   I. SS = 30%G
   II. S1 = 7.5%G
4. SITE CLASS = D
5. DESIGN SPECTRAL RESPONSE PARAMETERS
   I. SDS = 0.31
   II. SD1 = 0.12
6. SEISMIC DESIGN CATEGORY = B

E. DESIGN LOAD COMBINATIONS
1. D
2. D + (LR, OR S OR R)
3. D + 0.75L + 0.75(LR OR S OR R)
4. D + (W OR 0.7E)
5. D + 0.75(W OR 0.7E) + 0.75L + 0.75(LR OR S OR R)
6. 0.6D + W
7. 0.6D + 0.7E

STRESS INCREASES. INCREASES IN ALLOWABLE STRESSES SPECIFIED IN THE APPROPRIATE MATERIAL CHAPTER OR THE REFERENCED STANDARDS SHALL NOT BE USED WITH THE LOAD COMBINATIONS, EXCEPT THAT A DURATION OF LOAD INCREASE SHALL BE PERMITTED IN ACCORDANCE WITH CHAPTER 23.

3. CONVENTIONAL (SHALLOW) FOUNDATIONS AND BUILDING PAD:

A. DESIGN PARAMETER: DESIGN "NET" SOIL BEARING PRESSURE 3000 PSF HAS BEEN ASSUMED FOR REVIEW OF CAPACITY OF EXISTING FOUNDATIONS. ALL DESIGN PARAMETERS SHALL BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT ADVERSE CONDITIONS.
B. WHERE FILL IS REQUIRED IT SHALL BE PLACED IN ACCORDANCE WITH RECOMMENDATIONS AND UNDER THE OBSERVATION OF A QUALIFIED GEOTECHNICAL ENGINEER.
C. ALL EXCAVATIONS AND CONSTRUCTION OF BUILDING PADS SHALL BE OBSERVED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THE DESIGN CRITERIA AND REPORT ADVERSE CONDITIONS. (GEOTECHNICAL ENGINEER TO BE HIRED AND PAID BY THE OWNER.)
D. BACKFILL AGAINST WALLS SHALL BE DEPOSITED EVENLY AGAINST BOTH SIDES OF THE WALLS UNTIL THE LOWER GRADE IS REACHED.
E. THE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ARCHITECT THE LOCATION OF EXISTING UTILITIES AND PROCEED WITH THE WORK ONLY AFTER WRITTEN APPROVAL FROM THE ARCHITECT.
F. THE CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS AND SUBMIT FIELD SKETCHES AS MAY BE REQUIRED FOR ENGINEER'S APPROVAL BEFORE STARTING ANY FIELD WORK.

4. CONCRETE:

A. CONCRETE CONSTRUCTION SHALL CONFORM TO ACI BUILDING CODE (318–05) AND SHALL CONFORM TO ALL REQUIREMENT OF ACI 301–05 "SPECIFICATION FOR STRUCTURAL CONCRETE" PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE, EXCEPT AS MODIFIED BY THE CONTRACT DOCUMENTS.
B. CONCRETE SHALL BE PROPORTIONED TO MEET THE MINIMUM CRITERIA ESTABLISHED IN THE FOLLOWING TABLE ON THE SULFATE EXPOSURE FROM ANY ADJACENT SOILS OR FILL MATERIALS.

					MINIMUM 28–DAY COMPRESSIVE STRENGTH (PSI)	
SULFATE EXPOSURE	WATER SOLUBLE SULFATE (SO_4) IN SOIL BY WEIGHT %	SULFATE (SO_4) IN WATER PPM	PORTLAND CEMENT TYPE	MAXIMUM W/C RATIO	SLABS. WALL PANELS, RETAINING WALLS, STEM WALLS, PIERS OR COLUMNS	FOUNDATIONS, CURBS, AND ALL CONCRETE U.N.O.
NEGLIGIBLE	$0.00 \leq SO_4 < 0.10$	$0 \leq SO_4 < 150$	I	0.55	4000	3000
MODERATE	$0.10 \leq SO_4 < 0.20$	$150 \leq SO_4 < 1500$	I I	0.50	4000	4000
SEVERE	$0.20 \leq SO_4 \leq 2.00$	$1500 \leq SO_4 \leq 10{,}000$	V	0.45	4500	4500
VERY SEVERE	$SO_4 > 2.0$	$SO_4 > 10{,}000$	V PLUS POZZOLAN	0.45	4500	4500

3ØØØ PSI CONCRETE SHALL HAVE A MAXIMUM W/C RATIO OF Ø.58

C. THE MINIMUM CEMENT CONTENT OF ALL CONCRETE SHALL CONFORM TO THE FOLLOWING:
1. MINIMUM CEMENT CONTENT (POUNDS PER CUBIC YARD) SHALL BE PROVIDED AS NEEDED TO MEET MINIMUM STRENGTH REQUIREMENTS FOR ALL SLABS.
2. FOR FOUNDATIONS AND CONCRETE NOT SPECIFIED OTHERWISE:
SPECIFIED MINIMUM CEMENT CONTENT (POUNDS PER CUBIC YARD).

COMPRESSIVE STRENGTH (psi)	NON–AIR ENTRAINED CONCRETE (LB/CY)*	AIR–ENTRAINED CONCRETE (LB/CY)*
3000	470	517
4000	564	611

*ADJUST CEMENT CONTENT AS APPROPRIATE FOR SEVERE EXPOSURES.

D. THE FOLLOWING ENVIRONMENTAL CONCERNS SHALL BE ADDRESSED ACCORDINGLY:
1. CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED IN ACCORDANCE WITH TABLE 4.2.1 OF ACI 318.
2. REFERENCE TABLE 4.2.2 OF ACI 318 FOR CONCRETE EXPOSED TO FREEZING AND THAWING, DE–ICING CHEMICALS, SALT WATER, BRACKISH WATER OR SEAWATER OR SPRAYS OF THESE SOURCES.

E. UNLESS NOTED, CEMENT SHALL CONFORM TO ASTM C150, TYPE I OR II. (FLYASH IS NOT PERMITTED UNLESS SPECIFICALLY NOTED.) AGGREGATES SHALL BE NORMAL WEIGHT CONFORMING TO ASTM C33. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED.
F. SLUMP OF CONCRETE SHALL NOT EXCEED 4" UNLESS A WATER–REDUCING ADMIXTURE IS USED. THE SLUMP OF CONCRETE PRIOR TO ADDITION OF A WATER–REDUCING ADMIXTURE SHALL NOT EXCEED 4". THE SLUMP OF CONCRETE CONTAINING A WATER–REDUCING ADMIXTURE SHALL NOT EXCEED 8".
G. CONCRETE CURING SHALL COMPLY WITH ACI 308R. CURING PROCESS SHALL START IMMEDIATELY FOLLOWING FINISHING. REFERENCE SPECIFICATION FOR ADDITIONAL INFORMATION.
H. HOT WEATHER CONCRETING: SPECIAL PRECAUTIONS RECOMMENDED BY ACI 305 SHALL BE TAKEN WHEN THE AMBIENT TEMPERATURE IS ABOVE 90 DEGREES FAHRENHEIT OR WHEN MAXIMUM RATE OF EVAPORATION IN THE CONCRETE EXCEED 0.2 LB/SF/HR. THIS RATE IS AFFECTED BY AIR TEMPERATURE, RELATIVE HUMIDITY, CONCRETE TEMPERATURE AND WIND VELOCITY (SEE ACI 305, FIGURE 2.1.5). AFTER FINISHING CONCRETE, USE LIGHT FOG SPRAY UNTIL CURING METHOD IS IMPLEMENTED.
I. COLD WEATHER CONCRETING: WHEN, FOR MORE THAN THREE (3) CONSECUTIVE DAYS, THE MEAN DAILY TEMPERATURE DROPS BELOW 40 DEGREES FAHRENHEIT, SPECIAL MATERIALS AND PROCEDURES SHALL BE PROVIDED DURING PLACING AND CURING OF CONCRETE PER ACI 306.
J. CURING AND HOT AND COLD WEATHER CONCRETING PROCEDURES ARE GIVEN AS A GUIDE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PREVENT CONCRETE DAMAGE AND CRACKS. DAMAGED OR CRACKED CONCRETE SHALL NOT BE ACCEPTED.
K. REINFORCEMENT SUPPORTS SHALL BE IN ACCORDANCE WITH ACI 301. MASONRY SHALL NOT BE USED TO SUPPORT REINFORCING.
L. ALL FIELD TESTING SHALL BE PERFORMED BY A CERTIFIED ACI FIELD TECHNICIAN.
M. CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM–CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

5. REINFORCING STEEL:

A. REINFORCING STEEL SHALL CONFORM TO ASTM A_615, GRADE 60 (U.N.) AND GRADE 40 FOR #3 AND SMALLER BARS. GRADE 60 REINFORCING MAY NOT BE RE–BENT OR FIELD BENT WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER
B. WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A_185, MINIMUM LAP SHALL BE 8" U.N.
C. REINFORCING THAT IS WELDED SHALL BE WELDABLE TYPE, ASTM A_706.
D. NO TACK WELDING OF REINFORCING IN THE FIELD WILL BE PERMITTED.
E. ALL DETAILING, FABRICATION AND PLACING OR REINFORCING BARS, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI 318–05, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND THE LATEST ACI "MANUAL OF STANDARD PRACTICE FOR DETAIL REINFORCED CONCRETE STRUCTURES".
F. MINIMUM LAP SPLICE AND ANCHORAGE DIMENSION TABLE

3000 PSI NORMAL WEIGHT CONCRETE, FY = GRADE 60, NON–COATED BARS

TOP BARS			OTHER BARS		
BAR SIZE	LAP	ANCHORAGE	BAR SIZE	LAP	ANCHORAGE
#3	28"	22"	#3	22"	17"
#4	37"	29"	#4	29"	22"
#5	47"	36"	#5	36"	28"
#6	56"	43"	#6	43"	33"
#7	81"	63"	#7	63"	48"
#8	93"	72"	#8	72"	55"
#9	105"	81"	#9	81"	62"
#10	116"	89"	#10	89"	68"

4000 PSI NORMAL WEIGHT CONCRETE, FY = GRADE 60, NON–COATED BARS

TOP BARS			OTHER BARS		
BAR SIZE	LAP	ANCHORAGE	BAR SIZE	LAP	ANCHORAGE
#3	24"	19"	#3	19"	15"
#4	33"	25"	#4	25"	19"
#5	41"	31"	#5	31"	24"
#6	49"	37"	#6	37"	29"
#7	71"	54"	#7	54"	42"
#8	81"	62"	#8	62"	48"
#9	91"	70"	#9	70"	54"
#10	101"	78"	#10	78"	60"

5000 PSI NORMAL WEIGHT CONCRETE, FY = GRADE 60, NON–COATED BARS

TOP BARS			OTHER BARS		
BAR SIZE	LAP	ANCHORAGE	BAR SIZE	LAP	ANCHORAGE
#3	22"	17"	#3	17"	13"
#4	29"	23"	#4	23"	17"
#5	36"	28"	#5	28"	22"
#6	43"	34"	#6	34"	26"
#7	63"	49"	#7	49"	38"
#8	72"	56"	#8	56"	43"
#9	81"	62"	#9	62"	48"
#10	90"	69"	#10	69"	55"

WHEN LAPPING TWO DIFFERENT SIZE BARS, USE THE LAP DIMENSION OF THE SMALLER BAR OR THE ANCHORAGE DIMENSION OF THE LARGER BAR. USE WHICHEVER DIMENSION IS LARGER.

EPOXY COATED REINFORCING – MULTIPLY LAP LENGTHS BY 1.2

MINIMUM CONCRETE COVER FOR REINFORCING

CONCRETE REINFORCING SHALL BE PLACED PER THE TOLERANCES OF ACI 117 AND ACI 318

LOCATION		MINIMUM COVER
FOOTINGS, GRADE BEAMS AND SLABS		
CAST AGAINST & PERMANENTLY EXPOSED TO EARTH		3"
SLABS ON GRADE (W.W.R.)		1/3 SLAB THICKNESS FROM TOP OF SLAB
PILE CAPS – BOTTOM REINFORCING ABOVE TOP OF PILE		3"
INTERIOR SLABS AND STAIRS		1"
EXTERIOR SLABS AND STAIRS	#5 AND SMALLER	1–1/2"*
	#6 AND LARGER	2"
WALLS INTERIOR FACE:		1"
WALLS EXTERIOR FACE:	#5 AND SMALLER	1–1/2"*
	#6 AND LARGER	2"
PIERS (VERTICALLY REINFORCED)		2"
PIERS TIES		1½"
BEAM LONGITUDINAL REINF.		2"
BEAM STIRRUPS		1–1/2"

*VERIFY W/ ENVIRONMENTAL CONDITIONS PER ACI 318, CHAPTER 4.

6. STRUCTURAL STEEL:

A. CONFORM TO AISC MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION.
B. MATERIALS:
   ASTM A36, FY = 36 KSI
   ASTM A992, FOR WIDE FLANGE MEMBER
   ASTM A500, GRADE B, FY = 46 KSI FOR SQUARE AND RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS).
   ASTM A53, TYPE S, GRADE B, FY = 35 KSI FOR PIPES.
   ASTM A325 HIGH STRENGTH BOLTS.
   ASTM A307, GRADE A, FOR HOOKED ANCHOR BOLTS.
   ASTM F1554 GRADE 36 FOR THREADED ROD ANCHORS.
   ASTM TYPE B, A108 & AWS D1.1 FOR SHEAR STUD CONNECTORS.
C. THE CONNECTIONS FOR ANY PORTION OF THE STRUCTURE NOT INDICATED ON THE DRAWINGS SHALL BE DESIGNED BY THE FABRICATOR. STANDARD CONNECTIONS SHALL BE USED WHENEVER POSSIBLE. ALL SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED. FIELD CONNECTIONS SHALL BE HIGH STRENGTH BOLTED WHENEVER POSSIBLE. UNLESS NOTED, USE 3/4" DIAMETER ASTM A–325N BOLTS INSTALLED IN ACCORDANCE WITH AISC.
ALL SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY THE FABRICATOR'S ENGINEER WITH THE ENGINEER'S SEAL FOR THE STATE WHERE THE STRUCTURE IS LOCATED. ENGINEER'S SEAL MAY BE QUALIFIED "FOR DESIGN OF CONNECTIONS ONLY."
D. STRUCTURAL STEEL SHALL RECEIVE ONE (1) SHOP COAT OF RUST INHIBITIVE PRIMER. STEEL EXPOSED TO WEATHER AFTER CONSTRUCTION IS COMPLETED SHALL BE GALVANIZED. MEMBERS TO BE GALVANIZED SHALL BE DETAILED AND FABRICATED TO PROVIDE FOR FLOW AND DRAINAGE OF PICKLING FLUIDS AND ZINC AND TO PREVENT PRESSURE BUILD–UP IN ENCLOSED PARTS.
E. GROUT UNDER BASE PLATES SHALL BE SIKAGROUT 212 AS MANUFACTURED BY SIKA CORPORATION OR SET GROUT BY MASTER BUILDERS.
F. STEEL COLUMNS AND BASE PLATES SHALL HAVE MINIMUM 3" CONCRETE COVER PROTECTION.
G. FOR ALL EXPOSED STRUCTURAL HSS CONNECTIONS, THERE SHALL BE NO MORE THAN A 1/8" GAP BETWEEN THE MEMBERS. ALL EXPOSED ENDS OF HSS MEMBERS SHALL BE CAPPED WITH A 1/4" STEEL PLATE WITH GROUND SMOOTH WELDS. WHEN WATER CAN COLLECT INSIDE OF HSS OR BOX MEMBERS, WHETHER DURING CONSTRUCTION OR DURING SERVICE, THE MEMBER SHALL BE SEALED, PROVIDED WITH A DRAIN HOLE AT THE BASE, OR PROTECTED BY OTHER SUITABLE MEANS.

7. WELDING:

A. ALL STRUCTURAL STEEL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STANDARD D1.1, LATEST EDITION.
B. ALL STRUCTURAL STEEL WELDING ELECTRODES SHALL CONFORM TO AWS A5.1 OR A5.5 E_70XX.
C. FIELD WELDING SHALL BE SHOWN ON ERECTION DRAWINGS.
D. ALL FIELD FULL PENETRATION WELDS SHALL BE INSPECTED AND TESTED BY A TESTING AGENCY TO BE PAID BY THE CONTRACTOR.
E. ALL EXPOSED WELDED CONNECTIONS SHALL BE GROUND SMOOTH AND SUBJECT TO ARCHITECT APPROVAL. THE CONTRACTOR SHALL SUBMIT WRITTEN PROCEDURE AND DETAILS TO THE ARCHITECT FOR REVIEW PRIOR TO COMMENCING THE WORK.
F. PAINT ALL WELDS WITH RUST INHIBITIVE PAINT.

8. STEEL ROOF DECK:

A. STEEL ROOF DECK SHALL CONFORM TO STEEL DECK INSTITUTE DESIGN MANUAL, LATEST EDITION, AND BE APPROVED BY FACTORY MUTUAL, LATEST EDITION.
B. UNLESS NOTED, BUILDING ROOF DECK SHALL BE 36" WIDE, 1–1/2" DEEP, 20 GAUGE WIDE RIB WITH GREY PRIMER. MINIMUM YIELD STRENGTH 33000 PSI.
C. STEEL ROOF DECK AND CONNECTORS SHALL CONFORM TO FACTORY MUTUAL PUBLICATION I–28, CLASS I_60 WINDSTORM RESISTANCE. INSTALLATION SHALL BE BY AN OSHA CERTIFIED OPERATOR IN ACCORDANCE WITH THE FASTENER MANUFACTURER'S INSTRUCTIONS AND INITIAL FASTENING UNDER THE SUPERVISION OF THE MANUFACTURER'S REPRESENTATIVE. STEEL ROOF DECK SHALL BE ATTACHED AS FOLLOWS:
6. AT SUPPORTS: 5/8" DIAMETER WELDS. AT THE CONTRACTOR'S OPTION, THE FOLLOWING MAY BE USED:
   a. POWDER ACTUATED FASTENERS BY HILTI:
      STRUCTURAL STEEL (TF GREATER THAN 1/4"):ENP2–21–L15
      STEEL JOISTS (TF IS GREATER THAN OR EQUAL TO 1/8", BUT IS LESS THAN OR EQUAL TO 3/8"):ENP2K–21–L15
   b. PNEUMATIC FASTENERS BY HILTI:
      STEEL JOISTS AND STRUCTURAL STEEL (TF IS GREATER THAN OR EQUAL TO 1/4" BUT LESS THAN OR EQUAL TO 3/8"): X–EDN19–HQ12HSN.
      STEEL JOIST (TF IS GREATER THAN OR EQUAL TO 1/8", BUT IS LESS THAN AND/OR EQUAL TO 1/4"): X–EDNK22–THQ12HSN
   c. WHERE POWDER ACTUATED FASTENER OR PNEUMATIC FASTENERS ARE USED, A SPECIAL INSPECTION SHALL BE PERFORMED WITH A MANUFACTURER'S SUPPLIED GAUGE. UNACCEPTABLE FASTENERS SHALL BE RE–DRIVEN.
2. AT SIDE LAPS: BUILDEX TRAXX #10–16 STANDARD HEX WASHER HEAD SCREWS.
D. SPACING OF CONNECTIONS SHALL BE AS FOLLOWS UNLESS NOTED:
1. INTERIOR STEEL SUPPORTS: 6" O.C. MAXIMUM (SIDE LAPS MUST BE CONNECTED AT EACH SUPPORT).
2. SIDE LAPS: 12" O.C. MAXIMUM.
3. SPACING OF CONNECTORS TO FRAMED OPENINGS SHALL BE SAME AS FOR INTERIOR STEEL SUPPORT.
E. MINIMUM END DISTANCE OF STEEL DECK TO CONNECTOR SHALL BE 1". MINIMUM END LAP SHALL BE 2".
F. DECK SHALL BE PLACED AT THE PERIMETER WITH A COMPLETE RIB BEARING ON THE STEEL SUPPORT.
G. MINIMUM FINAL ROOF SLOPE SHALL BE ¼ INCH PER 1 FOOT. WHERE SLOPE IS NOT ACHIEVED BY STEEL STRUCTURE, CREATE IT WITH INSULATION ABOVE THE DECK. (REFERENCE ARCHITECTURAL DRAWINGS).
H. WHERE ROOF SURFACE WARPS DUE TO ROOF SLOPE, JOIST CAMBER, OR ANGLE FRAMING AT OPENING, ADD ADDITIONAL SPLICES IN THE STEEL DECK AS REQUIRED TO ACHIEVE PROPER BEARING OF THE STEEL DECK ON THE SUPPORT WITHOUT FORCING THE DECK TO BEAR ON THE SUPPORT.
I. NO SUPPORT OF CONCENTRATED LOADS ON THE STEEL DECK IS PERMITTED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

9. COLD FORMED STEEL FRAMING (LIGHT GAUGE STEEL STUDS AND JOISTS):

A. METAL STUDS AND JOISTS SHOWN ON THE DRAWINGS SHALL HAVE EQUIVALENT AREA, SECTION MODULUS AND MOMENT OF INERTIA EQUAL TO OR LARGER THAN CLARK WESTERN FRAMING SYSTEMS STUDS AND JOISTS.
B. DESIGN, FABRICATIONS AND ERECTION SHALL CONFORM TO AISI "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", AND ASTM STANDARD C 955, 'STANDARD SPECIFICATION FOR LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS, RUNNERS (TRACKS), AND BRACING OR BRIDGING FOR SCREW APPLICATION OF GYPSUM BOARD AND METAL PLASTER BASES" AND ASTM STANDARD C1007, 'STANDARD SPECIFICATION FOR INSTALLATION OF LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUD AND RELATED ACCESSORIES'; LATEST EDITIONS.
   i. THE CONTRACTOR SHALL SUBMIT FABRICATION AND ERECTION DRAWINGS FOR REVIEW FOR ALL COLD FORMED METAL FRAMING COMPONENTS AND CONNECTIONS. FOR ALL FRAMING COMPONENTS AND CONNECTIONS NOT SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS INCLUDING TRUSSES, HEADERS, JAMBS, ETC., SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.
C. GALVANIZED MATERIAL:
1. ALL GALVANIZED STUDS, JOISTS AND ACCESSORIES 12, 14 AND 16 GAUGE, SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE MINIMUM REQUIREMENTS OF ASTM A1003, GRADE D WITH A MINIMUM YIELD OF 50,000 PSI.
2. ALL GALVANIZED 18 AND 20 GAUGE STUDS AND JOISTS, TRACK, BRIDGING, END CLOSURES AND ACCESSORIES SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE REQUIREMENTS OF ASTM A1003, GRADE A WITH A MINIMUM YIELD OF 33,000 PSI.
3. ALL GALVANIZED STUDS, JOISTS, TRACK, BRIDGING AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A G–60 GALVANIZED COATING MEETING THE REQUIREMENTS OF ASTM A525.
4. ALL WELDS SHALL BE TOUCHED UP WITH A ZINC–RICH PAINT.
D. UNLESS NOTED, ALL SCREWS OR PINS SHALL BE NON–CORROSIVE NO. 8–18 D=.125") OR LARGER. (DO NOT USE STAINLESS STEEL OR COPPER COATED FASTENERS).
E. UNLESS NOTED, TRACKS SHALL BE SAME DEPTH AS STUDS OR JOISTS AND EQUAL OR THICKER GAUGE THAN STUDS OR JOISTS. TRACKS SHALL BE CONNECTED TO SUPPORTS AT 16" O.C. MAXIMUM. STUDS OR JOISTS SHALL BE CONNECTED TO TRACKS AT EACH SIDE.
F. THE QUANTITY OF STUDS AND JOISTS DISPLACED OR CUT FOR OPENING SHALL BE PLACED HALF ON EACH SIDE OF OPENING.
G. BRIDGING FOR NON LOAD BEARING WALL STUDS SHALL BE AS FOLLOWS:
1. USE SOLID BRIDGING AT TWO END STUD SPACES AND ONE SPACE AT 10'–0" O.C. MAXIMUM.
2. USE 1–1/2" X 18 GAUGE HORIZONTAL STRAP AT REMAINING SPACES AT EACH FACE OF STUD.
3. WALLS UP TO 8'–0" HEIGHT: ONE ROW OF BRIDGING AT MID HEIGHT.
4. WALLS OVER 8'–0" HEIGHT: 4'–0" O.C. MAXIMUM SPACING.

10. WOOD FRAMING:

A. CONFORM TO NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, PUBLISHED BY THE AMERICAN FOREST AND PAPER ASSOCIATION (AF & PA).
B. UNLESS NOTED, USE DOUGLAS FIR _ LARCH, 19% MAXIMUM M.C. AS FOLLOWS:
   SUBPURLINS, PLATES AND BLOCKING: NO.2
   STUDS: STUD GRADE
   JOISTS, PURLINS, BEAMS AND HEADERS: NO. 1
C. WOOD IN CONTACT WITH CONCRETE, MASONRY, OR SOIL OR EXPOSED TO THE WEATHER OR NOT FULLY PROTECTED FROM MOISTURE SHALL BE NATURALLY DURABLE OR PRESERVATIVE–TREATED WOOD UNLESS IT IS 4'–0" ABOVE GRADE.
D. WOOD USED ABOVE GROUND AND NEAR THE GROUND SURFACE SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF IBC, SECTION 2304.11.2.
E. END OF WOOD GIRDERS ENTERING EXTERIOR MASONRY OR CONCRETE WALLS SHALL BE PROVIDED WITH A MINIMUM ½" AIR SPACE ON TOP, SIDES AND END, UNLESS NATURALLY DURABLE OR PRESERVATIVE–TREATED WOOD IS USED.
F. METAL CONNECTORS SHALL BE FASTENED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO DEVELOP THE MAXIMUM PUBLISHED CAPACITY.
G. UNLESS NOTED, ALL NAILS SHALL BE COMMON NAILS IN ACCORDANCE WITH FEDERAL SPECIFICATIONS FF–N–105B. WHERE CONNECTIONS ARE NOT SHOWN ON THE DRAWINGS, COMPLY WITH NAILING SCHEDULE IN THE BUILDING CODE. ALL NAILS AT NON AIR_CONDITIONED/HEATED AREAS SHALL BE GALVANIZED.
H. FOR WOOD TO WOOD CONNECTIONS, SPACING OF THE NAILS SHALL NOT BE LESS THAN THE PENETRATION OR THE LEAST WOOD MEMBER THICKNESS. EDGE OR END DISTANCE SHALL BE MINIMUM 1/2 THE NAIL SPACING.
I. TOE NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES TO THE VERTICAL FACE OF PIECE AND BE STARTED AT 1/3 THE NAIL LENGTH FROM THE END OF THE PIECE.
J. ALL BOLTS SHALL BE ASTM A307, FURNISHED WITH STANDARD NUT AND WASHER.
K. LAG SCREWS AND WOOD SCREWS SHALL COMPLY WITH A.N.S.I. B18.

11. PLYWOOD ROOF SHEATHING:

A. 5/8" APA PLYWOOD RATED SHEATHING, EXTERIOR.
B. LONG SIDE OF PLYWOOD PANEL SHALL BE PERPENDICULAR TO THE SUPPORT.
C. MINIMUM SIZE OF CONNECTION SHALL BE 4D NAILS TO WOOD AND 0.106" DIAMETER SCREWS TO STEEL. UNLESS NOTED, MAXIMUM SPACING OF CONNECTION IS 12".

12. 2X TIMBER ROOF DECK:

A. WOOD DECKING SHALL COMPLY WITH AITC 112_81.
B. WOOD DECK SHALL HAVE THE PROPERTIES AS NOTED ON THE DESIGN DRAWINGS (15% MAXIMUM MOISTURE CONTENT) WITH A JOINT PATTERN TO MATCH EXISTING CONSTRUCTION.
C. EACH PIECE SHALL BE TOE NAILED THRU THE TONGUE AND FACE NAILED WITH ONE NAIL PER PIECE PER SUPPORT USING 16D NAILS.

13. PLYWOOD WALL SHEATHING:

A. 1/2" APA PLYWOOD RATED SHEATHING, EXTERIOR.
B. MINIMUM SIZE OF CONNECTION SHALL BE 10D NAILS TO WOOD AND 0.106" DIAMETER SCREWS TO STEEL AND 0.1" DIAMETER STEEL PINS BY ERICO TOOL & FASTENERS, INC. UNLESS NOTED, MAXIMUM SPACING OF CONNECTION SHALL BE 4" AT ENDS OF PANEL AND 12" AT INTERMEDIATE SUPPORT.

14. ANCHORING SYSTEM:

UNLESS NOTED, ALL ANCHORS IN CONCRETE SHALL BE AS NOTED ON THE DESIGN DRAWINGS.
A. EPOXY ANCHORING SHALL BE USED WHERE SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS, OR WHEN APPROVED IN ADVANCE BY THE STRUCTURAL ENGINEER.
B. WHERE REQUIRED, EPOXY ANCHORING SHALL BE INSTALLED USING ONE OF THE FOLLOWING PRODUCTS:
1. HIT HY–150 WITH HAS–E STANDARD ROD ANCHOR SYSTEM BY HILTI, INC. (ER–5193 ICBO REP. #5193) TYPICAL U.N.
2. RAMSET/RED HEAD EPCON CERAMIC 6 (ICBO 4285)
3. ANCHORS RODS USED FOR EPOXY ANCHORING WALL BE THE TYPE SPECIFIED IN THE REFERENCED ICBO REPORT. THE ANCHOR SIZE SHALL BE AS INDICATED ON THE PLANS AND/OR DETAILS. THE ANCHOR ROD EMBEDMENT SHALL BE AS PER THE PLANS AND/OR DETAILS.
4. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE CURRENT REPORT.
5. SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH BUILDING CODE AND IN ACCORDANCE WITH THE SPECIFIC SPECIAL INSPECTION REQUIREMENTS.
C. ALL ANCHORS SHALL BE INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS AND UNDER MANUFACTURER'S SUPERVISION IN ORDER TO DEVELOP THE PUBLISHED WORKING LOADS. NO REINFORCING SHALL BE CUT OR DAMAGED UPON INSTALLATION OF ANY ANCHORS. SPECIAL INSPECTION IS REQUIRED.
D. MINIMUM CONCRETE COMPRESSIVE STRENGTH REQUIRED AT TIME OF INSTALLATION OF ANY ANCHOR SHALL BE 3000 PSI.

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PROJECT	TRADER JOE'S 87 MARGINAL WAY PORTLAND, ME. Ø41Ø1
SHEET NAME	GENERAL NOTES
SALES :	17,224 sq. ft.
STOCK:	5,424 sq. ft.
MISC. :	1,464 sq.ft.
TOTAL :	23,93Ø sq. ft.
DATE :	Ø4/28/1Ø
JOB No.	FT-7972
DRAWN BY:	FTA
TENANT STORE No.	XXX
SPACE No.	XXXX

REVISIONS NO.	DATE	COMMENTS

SEAL

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