GENERAL NOTES

SYMBOLS & LEGENDS

SECTION NUMBER / SHEET NUMBER — SECTION CUT

F3 | 2'-0" / C2

F3 — INDICATES FOOTING MARK, SEE FOOTING SCHEDULE

2'-0" — INDICATES TOP OF FOOTING BELOW FINISH SLAB

C2 — INDICATES COLUMN MARK OR SIZE, SEE SCHEDULE

ELEVATION CHANGE

REVISION

OPENING OR DEPRESSION

W24x68	INDICATES STEEL BEAM SIZE
C=¾"	INDICATES UPWARD CAMBER
[33]	INDICATES NUMBER OF SHEAR CONNECTORS
(C)	INDICATES CURVED STEEL MEMBER
(E)	INDICATES EXISTING MEMBER
(N)	INDICATES NEW MEMBER
(G)	INDICATES GALVANIZED STEEL MEMBER
P(5)	INDICATES ASTM A53 STD WEIGHT CLASS PIPE (NPS)
PX(5)	INDICATES ASTM A53 XS WEIGHT CLASS PIPE (NPS)
PXX(5)	INDICATES ASTM A53 XXS WEIGHT CLASS PIPE (NPS)

ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE
AD	AUXILIARY DRAIN
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AFS	ABOVE FINISH SLAB
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
AISI	AMERICAN IRON & STEEL INSTITUTE
ALT	ALTERNATE
ANCH	ANCHOR, ANCHORAGE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION
APPROX	APPROXIMATE
ARCH	ARCHITECT
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
@	AT
AWS	AMERICAN WELDING SOCIETY
BFF	BELOW FINISH FLOOR
BFS	BELOW FINISH SLAB
BLDG	BUILDING
BLK	BLOCK
BLW	BELOW
BM	BEAM
BOF	BOTTOM OF FOOTING
BRG	BEARING
BS	BOTH SIDES
BTM	BOTTOM
BTWN	BETWEEN
c/c	CENTER TO CENTER
CDL	COLLATERAL DEAD LOAD
CG	CENTER OF GRAVITY
CIP	CAST IN PLACE
CLR	CLEAR (ANCE)
CMU	CONRETE MASONRY UNIT
COL	COLUMN
COMP	COMPRESSION
CONC	CONCRETE
CONN	CONNECT (ION)
CONT	CONTINUOUS
CJP	COMPLETE JOINT PENETRATION
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
D	DEPTH, DEEP
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DTL	DETAIL
DIAG	DIAGONAL
DIM	DIMENSION (ED)
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DWL	DOWEL (ED)
E	MODULUS OF ELASTICITY
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EOR	ENGINEER OF RECORD
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EOR	ENGINEER OF RECORD
EXP	EXPANSION
EXT	EXTERIOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISH FLOOR
FIN	FINISH (ED)
FLR	FLOOR
FO	FACE OF
FOC	FACE OF CONCRETE
FP	FIREPROOF (ED) (ING)
FRMG	FRAMING
FT	FOOT, FEET
FTG	FOOTING
FUT	FUTURE
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLB	GLULAM BEAM
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
H	HIGH
HORIZ	HORIZONTAL
HP	HIGH POINT
HSB	HIGH STRENGTH BOLT
HT	HEIGHT
ID	INSIDE DIAMETER
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIP (S)
KSI	KIPS PER SQUARE INCH
L	LONG, LENGTH
LB	POUND FORCE
Ld	DEVELOPMENT LENGTH
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL

LLV	LONG LEG VERTICAL
LP	LOW POINT
LVL	LEVEL (ING)
M	MOMENT
MAX	MAXIMUM
MB	MACHINE BOLT
MBMA	METAL BUILDING MANUFACTURER'S ASSOCIATION
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MEZZ	MEZZANINE
MNFR	MANUFACTURE (R) (ED)
MIA	MASONRY INSTITUTE OF AMERICA
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
NCMA	NATIONAL CONCRETE MASONRY ASSOCIATION
NIC	NOT IN CONTRACT
NPS	NOMINAL PIPE SIZE
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OPNG	OPENING
OPH	OPPOSITE HAND
OPP	OPPOSITE
OSL	OUTSTANDING LEG
P	AXIAL FORCE
PCA	PORTLAND CEMENT ASSOCIATION
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCI	PRESTRESSED CONCRETE INSTITUTE
PL	PROPERTY LINE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PTI	POST-TENSIONING INSTITUTE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWD	PLYWOOD
QTY	QUANTITY
RAS	REBAR ANCHOR STUD
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCE (D), REINFORCING
REQ	REQUIRED
RO	ROUGH OPENING
R	RADIUS, RADIAL (LY)
SCH	SCHEDULE (D)
SDI	STEEL DECK INSTITUTE
SDL	SUPERIMPOSED DEAD LOAD
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SL	SNOW LOAD
SOG	SLAB ON GRADE
SP	SPACE, SPACING
SPEC	SPECIFICATION
SPIB	SOUTHERN PINE INSPECTION BUREAU
SQ	SQUARE
SSMA	STEEL STUD MNFR ASSOCIATION
SSPC	STEEL STRUCTURES PAINTING COUNCIL
STAG	STAGGERED
STD	STANDARD
STRUCT	STRUCTURAL
SYM	SYMMETRY, SYMMETRICAL
T	TOP
T&B	TOP & BOTTOM
TEMP	TEMPORARY
TEN	TENSION, TENSILE
T&G	TONGUE & GROOVE
THD	THREAD (ED)
THK	THICKNESS
TL	TOTAL LOAD
TOC	TOP OF CONCRETE SLAB, BEAM, COLUMN, ETC.
TOF	TOP OF FOOTING
TOL	TOP OF LEDGE
TOP	TOP OF PIER
TOS	TOP OF STEEL
TOW	TOP OF WALL
TPI	TRUSS PLATE INSTITUTE
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UDL	UNIFORM DEAD LOAD
ULL	UNIFORM LIVE LOAD
USL	UNIFORM SNOW LOAD
UNO	UNLESS NOTED OTHERWISE
V	SHEAR FORCE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	WIDTH, WIDE
W/	WITH
WCLIB	WEST COAST LUMBER INSPECTION BUREAU
WD	WOOD
WHS	WELDED HEADED STUD
W/O	WITHOUT
WTS	WELDED THREADED STUD
WWF	WELDED WIRE FABRIC
WWPA	WESTERN WOOD PRODUCTS ASSOCIATION

GRAVITY DESIGN LOADS

1. LIVE LOADS
   - TYPICAL FLOOR = 65 PSF
   - CORRIDORS (ABOVE 1ST FLOOR) = 80 PSF
   - MECHANICAL/DATA = 100 PSF
   - ROOF = 20 PSF
2. PARTITIONS = 15 PSF
3. SNOW LOADS
   - GROUND SNOW LOAD, P_g = 0 PSF (WITH APPLICABLE FACTORS)
   - FLAT ROOF SNOW LOAD, P_f = 0 PSF
   - SNOW EXPOSURE FACTOR, C_e = 0.9
   - SNOW LOAD IMPORTANCE FACTOR, I_S = 1.0
   - THERMAL FACTOR, C_t = 1.0

LATERAL DESIGN LOADS

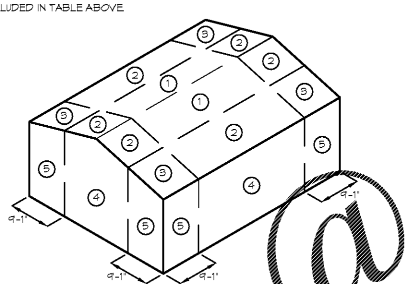
BUILDING RISK CATEGORY = II

1. WIND LOADS
   - BASIC WIND VELOCITY, V_{ULT} = 163 mph
   - BASIC WIND VELOCITY, V_{ASD} = 127 mph
   - EXPOSURE CATEGORY = B
   - INTERNAL PRESSURE COEFFICIENT = ± 0.18
   - COMPONENTS AND CLADDING PRESSURES = PER ASCE 7 WIND LOAD PROVISIONS
2. SEISMIC LOADS
   - IMPORTANCE FACTOR, I_E = 1.0
   - SPECTRAL RESPONSE ACCELERATION, S_S = 0.074
   - SPECTRAL RESPONSE ACCELERATION, S_1 = 0.036
   - SOIL SITE CLASSIFICATION (ASSUMED) = D
   - DESIGN SPECTRAL ACCELERATION, S_{DS} = 0.079
   - DESIGN SPECTRAL ACCELERATION, S_{D1} = 0.057
   - SEISMIC DESIGN CATEGORY = B
   - BASIC SEISMIC FORCE RESISTING SYSTEM = ORDINARY PRECAST SHEAR WALLS
   - DESIGN BASE SHEAR = 0.026 x BUILDING WEIGHT
   - RESPONSE MODIFICATION FACTOR, R = 3
   - ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE

COMPONENTS/CLADDING SERVICE LEVEL DESIGN WIND PRESSURES (PSF)

	ZONE	MINIMUM EFFECTIVE WIND AREA				
		10 SQ FT	50 SQ FT	100 SQ FT	200 SQ FT	500 SQ FT
FLAT ROOF	1	-47.9	-42.2	-39.8	-37.4	-33.5
	2	-75.2	-66.2	-62.4	-58.7	-52.7
	3	-102.5	-90.2	-85.1	-80.0	-71.8
WALL	4	32.8/-32.8	30.2/-30.2	29.2/-29.2	27.9/-27.9	26.2/-26.2
	5	32.8/-60.1	27.5/-50.5	25.2/-46.3	22.6/-41.5	19.7/-36.1

NOTES:
1. ALL EXTERIOR DOOR, WINDOW AND ROOF ASSEMBLIES SHALL SATISFY THE REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING CONNECTIONS TO THE MAIN BUILDING STRUCTURE THAT HAVE THE CAPACITY TO RESIST THE WIND PRESSURES INDICATED.
2. NEGATIVE WIND PRESSURE DESIGN VALUES INDICATED WIND SUCTION ACTING ON THE COMPONENT OR CLADDING AWAY FROM THE COMPONENT AND POSITIVE DESIGN VALUES INDICATE WIND PRESSURES ACTING ON THE COMPONENT OR CLADDING TOWARD THE COMPONENT.
3. VALUES INDICATED ARE SERVICE LEVEL DESIGN WIND PRESSURES BASED ON V_{ASD}.
4. SEE ZONE DIAGRAM FOR LOCATIONS WHERE PRESSURES ARE TO BE APPLIED.
5. SEE DETAILS FOR WIND PRESSURE AT ROOF OVERHANGS AND PARAPETS NOT INCLUDED IN TABLE ABOVE.



ZONE DIAGRAM

GENERAL

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY DISCREPANCY.
2. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE 2017 FLORIDA BUILDING CODE.
3. MEANS AND METHODS OF CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL COORDINATE THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL WORKS WITH THE STRUCTURAL DRAWINGS. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY DISCREPANCIES OR OMISSIONS.
6. THE CONTRACTOR SHALL VERIFY ALL FLOOR AND ROOF MOUNTED MECHANICAL EQUIPMENT WEIGHTS, FLOOR AND/OR ROOF OPENING SIZES AND LOCATIONS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
7. WEIGHTS OF ROOF SUPPORTED EQUIPMENT CONSIDERED IN THE DESIGN ARE INDICATED ON THE DRAWINGS. NOTIFY OWNER'S REPRESENTATIVE IF ACTUAL WEIGHT IS GREATER THAN THE LOAD INDICATED.
8. THICKENED SLABS, DEPRESSED SLABS, TRENCHES, AND UTILITY PENETRATIONS ARE SCHEMATICALLY INDICATED ON THE STRUCTURAL DRAWINGS. CONTRACTOR SHALL COORDINATE LOCATIONS AND ANY ADDITIONAL REQUIREMENTS WITH THE FINAL ARCHITECTURAL, MECHANICAL, AND PLUMBING DRAWINGS AND WITH THE SPECIFIC REQUIREMENTS OF VENDOR DRAWINGS FOR SPECIALTY EQUIPMENT. NOTIFY ARCHITECT AND STRUCTURAL ENGINEER WHERE DISCREPANCIES EXIST BETWEEN THIS INFORMATION AND THE STRUCTURAL DRAWINGS PRIOR TO STARTING WORK.
9. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE STRUCTURAL DRAWINGS.
10. THE STRUCTURE WILL BE UNSTABLE UNTIL ALL MEMBERS ARE ERECTED, CONNECTIONS ARE COMPLETELY BOLTED AND/OR WELDED AND INSPECTED, AND THE FLOOR AND ROOF DECK ATTACHED TO THE STEEL FRAMING AND THE CONCRETE PLACED AND CURED. UNTIL SUCH TIME, TEMPORARY BRACING IS REQUIRED AND MUST REMAIN IN PLACE.
11. SHOULD ANY OF THE INSTRUCTIONS SHOWN ON THE DRAWINGS CONFLICT WITH THE GENERAL STRUCTURAL NOTES, THE SPECIFICATIONS, OR WITH EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.
12. ARCHITECTURAL BACKGROUNDS ARE SHOWN FOR REFERENCE ONLY. FINAL STRUCTURAL DOCUMENTS SHOULD BE COORDINATED WITH ARCHITECTURAL CONSTRUCTION DOCUMENTS.

FOUNDATION

1. THE GEOTECHNICAL ENGINEERING REPORT PROVIDED BY FORGE ENGINEERING, INC DATED OCTOBER 17, 2019 WAS USED FOR THE DESIGN OF THE FOUNDATIONS. SITE PREPARATION, GRADING, AND SUBGRADE IMPROVEMENT SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS PRESENTED IN THIS DOCUMENT.
2. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR SUBSURFACE CONDITIONS THAT VARY FROM THOSE ASSUMED FOR DESIGN.
3. FOUNDATIONS SHALL CONSIST OF SPREAD FOOTINGS BEARING ON IMPROVED SUBGRADE CAPABLE OF SUPPORTING 6000 PSF.
4. SEE SPECIFICATION SECTION 31 2200 FOR PERFORMANCE CRITERIA FOR SUBGRAGE IMPROVEMENT WITH STONE COLUMNS.
5. SUBMIT THE FOLLOWING TO THE ARCHITECT FOR APPROVAL: ENGINEERING CALCULATIONS AND CONSTRUCTION DOCUMENTS BEARING THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED FOR STONE COLUMN SUBGRADE IMPROVEMENT.
6. FINAL NUMBER AND ARRANGEMENT OF STONE COLUMNS WITHIN THE FOOTING AREA ARE TO BE DETERMINED BY THE STONE COLUMN ENGINEER.
7. CONTRACTOR SHALL VERIFY BY TESTING THAT THE ASSUMED BEARING CAPACITY IS OBTAINED.

CONCRETE

1. CONCRETE WORK SHALL CONFORM TO THE ACI 318 AND CRSI STANDARDS.
2. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH UTILIZING TYPE 1 CEMENT UNLESS NOTED OTHERWISE:
   - 2.1. FOOTINGS, 3000 PSI NORMAL WEIGHT
   - 2.2. CAST IN PLACE WALLS 4000 PSI NORMAL WEIGHT
   - 2.2 SLAB ON GRADE 3000 PSI NORMAL WEIGHT w/ MVRA
   - 2.3 TILT WALL PANELS 5000 PSI NORMAL WEIGHT
   - 2.4 SLAB ON METAL DECK 3000 PSI NORMAL WEIGHT w/ MVRA
3. WATER/CEMENT RATIO, FLY ASH CONTENT AND MAXIMUM SLUMPS ARE SPECIFIED IN SECTION 03 31 00 OF THE PROJECT SPECIFICATIONS. SUBSTANTIATING DATA FOR CONCRETE MIX DESIGN ARE ALSO DESCRIBED IN THIS SECTION.
4. THE CONCRETE MIX DESIGN FOR ALL INTERIOR SLABS SHALL CONTAIN A CONCRETE MOISTURE VAPOR REDUCTION ADMIXTURE (MVRA) PER SECTION 03 31 00 OF THE PROJECT SPECIFICATIONS.
5. SUBMIT SHOP DRAWINGS INDICATING LOCATIONS OF PROPOSED SLAB CONTROL JOINTS AND CONSTRUCTION JOINTS TO THE ARCHITECT FOR REVIEW PRIOR TO SLAB CONSTRUCTION.
6. PIPES OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS SHALL NOT BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES, ACCESSORIES, ETC.
7. REFER TO ARCHITECTURAL DRAWINGS FOR ITEMS REQUIRED TO BE ENCASED IN CONCRETE AND LOCATION OF FLOOR FINISHES AND SLAB DEPRESSIONS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING DESIGNATIONS:
   - 1.1. ALL COLUMNS, BEAMS, AND GIRDERS UNLESS OTHERWISE NOTED — ASTM A992
   - 1.2. PLATES, RODS, ANGLES CHANNELS AND BARS UNLESS OTHERWISE NOTED — ASTM A36
   - 1.3. HSS SECTIONS — ASTM A500 (GRADE B)
   - 1.4. STRUCTURAL STEEL PIPES — ASTM A53 (GRADE B)
2. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED ACCORDING TO THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
3. CONNECTIONS MAY BE WELDED OR BOLTED. BOLTED CONNECTIONS SHALL BE BEARING TYPE WITH MINIMUM ¾" DIA. A-325 TENSION CONTROL BOLTS. FIELD WELDING SHALL BE BY CERTIFIED WELDERS IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY.
4. CONNECTIONS SHALL BE SELECTED BY THE FABRICATOR AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. CONNECTIONS SHALL BE PROVIDED TO CONFORM TO THE REQUIREMENTS OF TYPE 2 CONSTRUCTION UNLESS NOTED OTHERWISE.
5. SEE FRAMING PLANS FOR FACTORED BEAM OR GIRDER END REACTIONS FOR CONNECTION DESIGN. MINIMUM CONNECTION SHALL CONSIST OF TWO BOLTS. WHERE NO VALUE IS SHOWN, FACTORED REACTION IS LESS THAN OR EQUAL TO 20 KIPS.
6. CAMBER: PROVIDE UPWARD CAMBER AT MIDSPAN BETWEEN SUPPORTS WHERE INDICATED ON DRAWINGS (c=1"). THE AMOUNT OF CAMBER WILL VARY DUE TO MILL OR SHOP TOLERANCES, AND SOME MEMBERS (SUCH AS THOSE WITH A CALCULATED INITIAL DEFLECTION OF LESS THAN ¾") ARE NOT CAMBERED. THE AMOUNT OF ACTUAL DEFLECTION FOR EACH STRUCTURAL STEEL MEMBER MAY VARY DUE TO MILL OR SHOP TOLERANCES. THEREFORE, THE CONTRACTOR SHOULD INCLUDE AN ALLOWANCE FOR EXTRA CONCRETE.
7. ANCHOR RODS SHALL BE PROVIDED WITH HEADS OR A563 GRADE A HEAVY HEX NUTS LOCKED WITH JAMB NUTS AND SHALL HAVE THE MINIMUM PROPERTIES OF ASTM F1554 GR 36, UNLESS NOTED OTHERWISE. IF HIGHER GRADES OF ANCHOR RODS ARE SPECIFED PROVIDE THE MATCHING A563 NUT. A WELDABLE ASTM F1554 GR55 MAY BE PROVIDED AT THE MNFR'S OPTION. WELDING OF NUTS TO ANCHOR ROD IS NOT ACCEPTABLE.
8. WHERE STRUCTURAL STEEL IS EXPOSED TO EARTH OR WEATHER, PROVIDE A PROTECTIVE COVER CONSISTING OF 3" MINIMUM CONCRETE COVER, A COAT OF BITUMINOUS MASTIC OR SIMILAR.

BEAM SHEAR CONNECTORS (WELDED STUDS)

1. PROVIDE SHEAR CONNECTORS WITH A CURRENT CODE APPROVAL REPORT.
2. COMPOSITE BEAMS: CONNECT SLAB TO BEAM WITH ¾ INCH DIAMETER WELDED STUD SHEAR CONNECTORS. INSTALLED STUD LENGTH TO BE 1" LESS THAN THE OVERALL THICKNESS OF THE SLAB AND METAL DECK.
3. SEE PLAN FOR REQUIRED NUMBER OF SHEAR CONNECTORS SPACED EQUALLY ALONG BEAM INDICATED [XX]. WHEN THE NUMBER OF SHEAR CONNECTIONS IS NOT SHOWN, BEAM SHALL RECEIVE SHEAR CONNECTORS AT 12" o/c.
4. STUDS SHALL BE AUTOMATICALLY END WELDED IN ACCORDANCE WITH THE MNFR'S RECOMMENDATIONS IN SUCH A MANNER TO PROVIDE COMPLETE FUSION BETWEEN THE END OF THE STUD AND THE STEEL MEMBER IN ACCORDANCE WITH AWS D1.1.
5. SEE TILT UP CONCRETE NOTES FOR AUTOMATIC END WELDED ANCHORS INSTALLED INTO CONCRETE TILT UP PANEL WALLS.

METAL DECK:

1. STEEL DECK SHALL CONFORM TO THE SPECIFICATIONS OF THE STEEL DECK INSTITUTE (SDI).
2. METAL DECK SHALL BE FURNISHED IN SHEET LENGTHS SUFFICIENT TO EXTEND OVER FOUR SUPPORTS (3 SPANS) WHEREVER POSSIBLE. THE DECK SUPPLIER SHALL CLEARLY INDICATE ON THE DECK LAYOUT SHOP DRAWINGS ANY LOCATIONS WHERE THIS REQUIREMENT CAN NOT BE MET AND INDICATE IF THE DECK SPAN VIOLATES THE SDI MAXIMUM UNSHORED CONSTRUCTION SPANS FOR THE SPAN CONDITION PROVIDED. OTHERWISE THE DECK SUPPLIER SHALL ADJUST THE THICKNESS OR GAGE OF THE DECK AT LOCATIONS WHERE SINGLE OR DOUBLE SPANS ARE PROVIDED. DECK SHALL PROVIDE EQUIVALENT OR GREATER LOAD CAPACITY AS THE SPECIFIED DECK SUPPORTED OVER THREE CONTINUOUS SPANS.

REINFORCING STEEL

1. REINFORCING STEEL SHALL CONFORM TO ASTM A615 - GRADE 60.
2. PROVIDE REINFORCING STEEL THAT RECEIVES WELDING THAT CONFORMS TO ASTM A706 GRADE 60. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.4 USING 80 ksi ELECTRODES.
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064 AND HAVE A MINIMUM SIDE LAP OF 8".
4. REINFORCEMENT SHALL BE SPLICED ONLY AS SHOWN OR NOTED. SPLICES AT OTHER LOCATIONS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
5. PROVIDE THREADED HEADED REINFORCING BARS MANUFACTURED BY LENTON AND CONFORMING WITH CODE EVALUATION REPORT IAPMO UES ER-188. MINIMUM NET BEARING OF HEAD SHALL BE 4x REBAR AREA.
6. PROVIDE DOWELS IN FOOTINGS THE SAME SIZE AND NUMBER AS VERTICAL WALL OR COLUMN REINFORCING. DOWELS SHALL HAVE A MINIMUM STANDARD LAP SPLICE UNLESS OTHERWISE SHOWN.
7. PROVIDE THE FOLLOWING PROTECTIVE COVERING OF REINFORCING BARS FOR CAST IN PLACE CONCRETE:
   - 7.1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:
     - ALL REINFORCEMENT SIZES — 3" CLEAR
   - 7.2. CONCRETE EXPOSED TO EARTH OR WEATHER:
     - #6 THROUGH #18 BARS — 2" CLEAR
     - #5 BAR, W31 OR D31 WIRE, AND SMALLER — 1½" CLEAR
   - 7.3. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
     - SLABS, WALLS, JOISTS: #14 AND #18 BARS — 1½" CLEAR
     - #11 BAR AND SMALLER — ¾" CLEAR
   - 7.4. BEAMS, COLUMNS:
     - PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPIRAL — 1½" CLEAR
8. ALL REINFORCING BARS TO BE SPLICED WITH CLASS B LAP SPLICES UNLESS NOTED OTHERWISE. SEE 10/S2.01 FOR REMAINDER OF INFORMATION.
9. REINFORCING BARS MARKED CONTINUOUS TO BE SPLICED WITH THE STANDARD SPLICE LENGTH.
10. PROVIDE CORNER BARS TO MATCH ALL LONGITUDINAL REINFORCEMENT AT ALL CORNERS AND INTERSECTIONS OF ALL CONCRETE MEMBERS (FOOTINGS, GRADE BEAMS, WALLS, ETC.) UNLESS OTHERWISE DETAILED.

POST INSTALLED THREADED ROD CONCRETE ADHESIVE ANCHORS FOR STRUCTURAL COMPONENTS

1. PROVIDE HILTI HIT-RE 500 V3 ADHESIVE INSTALLED IN ACCORDANCE WITH ICC ESR-3814.
   - 1.1. HOLES IN HARDENED CONCRETE SHALL BE DRILLED USING CARBIDE-TIPPED DRILL BITS MANUFACTURED WITH THE RANGE OF MAXIMUM AND MINIMUM DRILL-TIP DIMENSIONS SPECIFIED IN ANSI B212.15-1994.
   - 1.2. DRILL HOLES AFTER A MINIMUM OF 21 DAYS OF CONCRETE BEING PLACED.
   - 1.3. INSTALLERS OF ADHESIVE ANCHORS MUST BE CERTIFIED BY AN APPLICABLE CERTIFICATION PROGRAM THAT INCLUDES WRITTEN AND PERFORMANCE TESTS AND IS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
   - 1.4. TEMPERATURE OF CONCRETE AT TIME OF INSTALLATION SHAL BE BETWEEN 23°F AND 104°F.
   - 1.5. INSTALL ADHESIVE ANCHORS IN DRY CONCRETE.
2. POST INSTALLED ADHESIVE ANCHORS SHALL ONLY BE USED WHERE SHOWN ON THE DRAWINGS.
3. ASSUME ALL ADHESIVE ANCHORS INSTALLED IN HORIZONTAL, UPWARDLY INCLINED OR OVERHEAD CONDITIONS SUPPORT SUSTAINED TENSION LOADS.
4. DO NOT CUT OR DAMAGE REINFORCING WHEN DRILLING OR INSTALLING ADHESIVE ANCHORS.
5. PROVIDE ALL THREADED ROD MATERIAL MEETING THE FOLLOWING MINIMUM GRADES.
   - 5.1. ASTM F1554 GR 36 WITH ASTM A563 GRADE A NUTS ELECTROPLATED TO ASTM B633 SC1.
   - 5.2. ASTM A193 B7 WITH ASTM A563 GRADE DH NUTS ELECTROPLATED TO ASTM B633 SC1.
   - 5.3. ASTM F593 WITH ASTM F594 NUTS.
6. PROVIDE STAINLESS STEEL THREADED ROD MATERIAL AND NUTS FOR ALL EXTERIOR CONDITIONS MEETING ASTM F593.
7. ADHESIVE ANCHORS ARE NOT TO BE USED WHERE FIRE RESISTIVE CONSTRUCTION IS REQUIRED AS INDICATED ON THE CONSTRUCTION DRAWINGS.

TILT-UP CONCRETE

1. SEE ARCHITECTURAL FLOOR PLANS AND TILT-UP WALL PANEL ELEVATIONS FOR DIMENSIONS, OPENINGS, REVEALS, FORM LINERS, FINISH CONDITIONS AND EMBEDDED ITEMS. VERIFY ALL DIMENSIONS PRIOR TO POURING CONCRETE TILT-UP PANELS.
2. THE PANEL THICKNESS IS THE TOTAL PANEL THICKNESS INCLUDING THE DEPTH OF ANY REVEALS, FORM LINERS AND RECESSES.
3. THE DESIGN OF THE LIFTING ANCHORS, BRACES, STRONGBACKS, ETC SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL FURNISH AND INSTALL ANY ADDITIONAL REINFORCING REQUIRED FOR ERECTING, LIFTING AND PLACING THE PANELS. THE DESIGN OF ALL PANEL LIFTING ELEMENTS SHALL BE THE RESPONSIBILITY OF THE TILT-UP CONCRETE WALL CONTRACTOR. DESIGN OF ALL TILT-UP WALL LIFTING ELEMENTS SHALL BE PERFORMED BY A ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.
4. TILT-UP WALL SHOP DRAWINGS DETAILING ALL WALL REVEALS, EMBEDDED ITEMS, OPENINGS, PENETRATIONS, ETC. SHALL BE SUBMITTED FOR REVIEW.
5. TILT-UP CONCRETE WALL CONTRACTOR IS SOLELY RESPONSIBLE FOR COORDINATION OF ALL EMBEDDED ITEMS AND THE TIMELY DELIVERY OF THESE ITEMS TO THE SITE PRIOR TO CASTING OF CONCRETE.
6. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PLACING ALL EMBEDDED BOLTS FOR CLIPS, LEDGERS, PLATES OR ANY OTHER BOLTED OR WELDED PIECE. EMBEDDED ITEMS MAY BE WET-SET. CONCRETE SHALL BE PROPERLY CONSOLIDATED AROUND THE EMBEDDED ITEM.
7. THE CONTRACTOR SHALL PROVIDE FORMED OPENINGS FOR ANY MECHANICAL, ELECTRICAL OR PLUMBING PENETRATION THROUGH THE TILT-UP PANEL.
8. ALL TILT-UP WALL PANELS SHALL BE TEMPORARILY SUPPORTED UNTIL THE ENTIRE STRUCTURE IS COMPLETE.
9. CONTRACTOR SHALL THICKEN THE CONCRETE SLAB-ON-GRADE AS NEEDED TO ACCOMMODATE THE ANCHORAGE FOR THE TEMPORARY BRACING OF THE PANELS.
10. DAMAGE TO THE SLAB-ON-GRADE AS A RESULT OF THE TEMPORARY ANCHORAGE OR DURING ERECTION OF THE PANELS WILL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
11. PROVIDE MINIMUM PROTECTIVE COVERING OF REINFORCING BARS IN CONFORMANCE WITH ACI 318 REQUIREMENTS FOR PRECAST CONCRETE.
12. GROUT SHALL BE PLACED WITH 48 HOURS OF ERECTING THE PANELS. PROVIDE NON-METALLIC NONSHRINK GROUT WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI.
13. A MINIMUM OF THREE SHIMS SHALL BE USED w/ ONE AT EACH END AND ONE AT THE MIDDLE OF PANEL.
14. ALL PANELS WITH A SINGLE-LAYER OF REINFORCING SHALL HAVE THE VERTICAL REINFORCING LOCATED AT THE CENTERLINE OF THE PANELS WITH ALL HORIZONTAL REINFORCING TIED TO THE INSIDE FACE OF THE VERTICAL REINFORCING.
15. SEE CONCRETE SECTION GENERAL NOTES FOR REMAINING INFORMATION.
16. PROVIDE REBAR ANCHOR STUDS (RAS) PRODUCED FROM DEFORMED LOW CARBON STEEL CONFORMING WITH ASTM A706 GRADE 60 AND THE REQUIREMENTS FOR STUD WELDING AS DEFINED IN AWS D1.1. INSTALL ANCHORS USING AN AUTOMATIC WELDING MACHINE AND IN ACCORDANCE WITH AWS D1.1. WHERE HEADED BARS ARE INDICATED PROVIDE STUDS WITH TAPERED THREADS ON REINFORCING STUDS. LENGTHS INDICATED ARE MINIMUM LENGTHS AFTER WELDING TO EITHER THE END OF THE STUD OR THE HEAD.

METAL STAIRS-DESIGN BUILD PERFORMANCE SPECIFICATION

1. SUBMIT THE FOLLOWING TO THE ARCHITECT (STRUCTURAL ENGINEER) FOR APPROVAL: ENGINEERING CALCULATIONS AND CONSTRUCTION DOCUMENTS BEARING THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED FOR ALL METAL STAIRS AND ACCESSORIES. METAL STAIR ACCESSORIES INCLUDE ALL STAIR FRAMING MEMBERS, TREADS, CONNECTIONS, RAILINGS AND RELATED MISCELLANEOUS METALS.
2. DESIGN METAL STAIRS FOR THE FOLLOWING MINIMUM LOADS:
   - 2.1. SELF WEIGHT DEAD LOADS
   - 2.2. LIVE LOAD OF 100 PSF
   - 2.3. CONCENTRATED LIVE LOAD ON STAIR TREADS OF 300 LB ON AN AREA OF 4 IN^2
3. DESIGN METAL STAIR HANDRAIL AND GUARDRAIL SYSTEMS FOR THE FOLLOWING MINIMUM LOADS:
   - 3.1. SINGLE CONCENTRATED LOAD OF 200 LB APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP OF THE RAIL AND TRANSFER THIS LOAD THROUGH THE SUPPORTS TO THE STRUCTURE
   - 3.2. DISTRIBUTED LOAD OF 50 LB/FT APPLIED IN ANY DIRECTION AT THE TOP OF THE RAIL AND TRANSFER THIS LOAD TO THE STRUCTURE (APPLIED NON-CONCURRENTLY WITH THE 200 LB CONCENTRATED LOAD)
   - 3.3. CONCENTRATED LOAD OF 50 LB ON AN AREA NOT TO EXCEED 1 FT^2 INCLUDING OPENINGS AND SPACE BETWEEN RAILS FOR INTERMEDIATE RAILS (EXCEPT HANDRAILS), BALUSTERS AND PANEL FILLERS (APPLIED NON-CONCURRENTLY WITH DISTRIBUTED LOAD OF 50 LB/FT)
4. SEE CONTRACT DRAWINGS FOR METAL STAIR DIMENSIONS AND FOR INTENT OF ATTACHMENT TO MAIN STRUCTURAL MEMBERS.

PROTECTION OF OPENINGS:

1. PROTECTION OF EXTERIOR OPENINGS FROM WINDBORNE DEBRIS SHALL BE REQUIRED.
2. GLAZED EXTERIOR OPENINGS SHALL BE IMPACT RESISTANT OR PROTECTED WITH AN IMPACT-RESISTANT COVERING. EXTERIOR OPENINGS SHALL INCLUDE EXTERIOR WINDOWS, EXTERIOR DOORS, ROLLUP DOORS, AND SKYLIGHTS.
3. EXTERIOR OPENING PROTECTION FOR WINDBORNE DEBRIS SHALL MEET THE REQUIREMENTS OF AN APPROVED IMPACT-RESISTING STANDARD OR ASTM E 1996 AND ASTM E 1886 AS FOLLOWS:
   - 3.1. EXTERIOR OPENINGS LOCATED WITHIN 30 FEET OF GRADE SHALL MEET THE REQUIREMENTS OF THE LARGE MISSILE TEST OF ASTM E 1996.
   - 3.2. EXTERIOR OPENINGS LOCATED MORE THAN 30 FEET ABOVE GRADE SHALL MEET THE PROVISIONS OF THE SMALL MISSILE TEST OF ASTM E 1996.
4. GLASS SLOPED 15 DEGREES (0.26 RAD) OR LESS FROM VERTICAL IN WINDOWS, CURTAIN AND WINDOW WALLS, DOORS AND OTHER EXTERIOR APPLICATIONS SHALL BE DESIGNED TO RESIST THE WIND LOADS DUE TO ULTIMATE DESIGN WIND SPEED, V_{ULT}, FOR COMPONENTS AND CLADDING. GLASS IN GLAZED CURTAIN WALLS, GLAZED STOREFRONTS AND GLAZED PARTITIONS SHALL MEET THE SEISMIC REQUIREMENTS OF ASCE 7, SECTION 13.5.9. THE LOAD RESISTANCE OF GLASS UNDER UNIFORM LOAD SHALL BE DETERMINED IN ACCORDANCE WITH ASTM E1300.

QUALITY ASSURANCE

1. A THRESHOLD INSPECTION PLAN BY LATTA STRUCTURAL ENGINEERS HAS BEEN PREPARED IN COMPLIANCE WITH THE FLORIDA BUILDING CODE FOR THE FOLLOWING ITEMS:
   - 1.1. SOILS
   - 1.2. FOUNDATION
   - 1.3. CONCRETE AND REINFORCING STEEL
   - 1.4. STEEL FRAMING
   - 1.5. OTHER STEEL (METAL DECK AND EXTERIOR LIGHT GAGE FRAMING)
   - 1.6. WINDOW/DOOR SYSTEMS
2. ANY DISCREPANCIES FROM THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR. WRITTEN NOTIFICATION WILL BE PROVIDED BY THE SPECIAL INSPECTOR OF ANY DISCREPANCIES FROM THE CONTRACT DOCUMENTS WHICH ARE NOT IMMEDIATELY CORRECTED.
3. ALL SPECIAL INSPECTORS SHALL BE QUALIFIED AS INDICATED IN THE THRESHOLD INSPECTION PLAN.

LIGHT GAGE METAL FRAMING (NON-LOAD-BEARING) - DESIGN BUILD PERFORMANCE SPECIFICATION

1. ALL COLD-FORMED METAL STUDS AND ACCESSORIES SHALL BE OF THE TYPE, SIZE, AND GAGE SHOWN ON PLANS. WHERE SIZES ARE NOT SHOWN, THE DESIGN SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER.
2. A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT STATE SHALL DESIGN THE NON-LOAD-BEARING EXTERIOR WALL FRAMING INCLUDING THE ANCHORAGE TO THE PRIMARY STRUCTURAL FRAME. THE PROFESSIONAL ENGINEER SHALL PROVIDE SEALED CALCULATIONS, REVIEW THE SHOP DRAWINGS AND PROVIDE A SEALED LETTER CERTIFYING THAT THE INFORMATION SHOWN ON THE SHOP DRAWINGS IS IN CONFORMANCE WITH THE DESIGN.
3. ALL MEMBERS SHALL BE DESIGNED IN ACCORDANCE TO AISI "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."
4. METAL STUDS SHALL BE FROM A SSMA APPROVED SUPPLIER.
5. ALL STRUCTURAL MEMBERS SHALL BE FORMED FROM CORROSION-RESISTANT STEEL, CORRESPONDING TO THE REQUIREMENTS OF ASTM A446, WITH A MINIMUM YIELD STRENGTH OF 33 KSI.
6. ALL STRUCTURAL MEMBERS SHALL BE ZINC COATED IN CONFORMANCE TO ASTM A525. EXTERIOR MEMBERS G90, ALL OTHER MEMBERS G60, MIN.
7. FASTENING OF COMPONENTS SHALL BE WITH SELF-DRILLING SCREWS OF SUFFICIENT SIZE TO ENSURE THE STRENGTH OF THE CONNECTION. WIRE TYING OF COMPONENTS IS NOT PERMITTED.
8. SPLICES IN FRAMING COMPONENTS OTHER THAN THE RUNNER TRACK IS NOT PERMITTED.
9. NON-LOAD-BEARING EXTERIOR WALL STUDS SHALL COMPLY WITH THE FOLLOWING:
   - 9.1. NON-LOAD-BEARING EXTERIOR WALL STUDS SHALL BE AS REQUIRED BY DESIGN BUT NOT LESS THAN 20 GAGE.
   - 9.2. STUDS SHALL BE SECURED TO CONTINUOUS RUNNER TRACKS UNLESS THE STUD TERMINATES AT A DEFLECTION TRACK.
   - 9.3. INSTALLATION OF EXTERIOR WALL FRAMING SHALL ACCOMMODATE DEFLECTION OF PRIMARY STRUCTURAL FRAMING USING VERTICAL SLIDE CLIPS AND/OR DEFLECTION SLIP TRACKS WHERE NECESSARY. DESIGN FRAMING SYSTEM TO ACCOMMODATE UPWARD AND DOWNWARD MOVEMENT OF PRIMARY BUILDING STRUCTURE OF ½".
   - 9.4. EXTERIOR WALL STUDS SHALL BE DESIGNED FOR A HORIZONTAL WIND PRESSURE RESULTING FROM THE LATERAL DESIGN LOAD CRITERIA INDICATED.
   - 9.5. DESIGN EXTERIOR WALL STUDS TO ACCOMMODATE HORIZONTAL DEFLECTION WITHOUT REGARD FOR CONTRIBUTION OF SHEATHING MATERIALS. LIMIT OUT-OF-PLANE DEFLECTION TO H/360 AT MAXIMUM DESIGN WIND LOAD SPECIFIED ABOVE.

MASONRY

1. MASONRY WORK SHALL CONFORM TO ACI-530.
2. PROVIDE NET COMPRESSIVE STRENGTH OF MASONRY ASSEMBLAGE, f'_m = 1500 PSI.
3. VERIFY COMPRESSIVE STRENGTH OF MASONRY ASSEMBLAGE BY EITHER THE UNIT STRENGTH METHOD OR THE PRISM TEST METHOD.
4. PROVIDE CONCRETE MASONRY UNITS OF LIGHTWEIGHT CLASSIFICATION COMPLYING WITH ASTM C90 WITH A MINIMUM COMPRESSIVE STRENGTH AS NEEDED TO MEET THE SPECIFIED COMPRESSIVE STRENGTH OF THE MASONRY ASSEMBLAGE, f'_m.
5. PROVIDE TYPE M OR TYPE S MORTAR COMPLYING WITH ASTM C270 FOR MASONRY WALLS.
6. PROVIDE REINFORCING COMPLYING WITH THE REINFORCING STEEL REQUIREMENTS FOUND IN THE GENERAL NOTES.
7. PROVIDE 48 BAR DIAMETERS FOR DEVELOPMENT LENGTHS AND SPLICE LENGTHS OF REINFORCING IN MASONRY.
8. CONCRETE MASONRY UNITS SHALL BE GROUTED WITH 3,000 PSI COARSE GROUT AS SHOWN ON PLANS. ALL MASONRY WITH REINFORCING BARS SHALL BE GROUTED SOLID.
9. PROVIDE MASONRY IN A RUNNING BOND PATTERN.
10. SUPPORT AND FASTEN REINFORCEMENT TOGETHER PRIOR TO GROUTING USING ASTM A82 TIE WIRE OR ASTM A951 STEEL WIRE TO PREVENT DISPLACEMENT BEYOND ALLOWABLE TOLERANCES.

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STATE OF FLORIDA
PROFESSIONAL ENGINEER
11/12/19

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