S T R U C T U R A L   N O T E S

1. GENERAL:

A. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY ALL GRADES, DIMENSIONS AND CONDITIONS AT THE JOB SITE PRIOR TO COMMENCING WORK. IF DISCREPANCIES EXIST, CONTRACTOR SHALL NOTIFY IN WRITTING ANY ERRORS, INCONSISTENCIES, OR OMISSIONS ON THE DRAWINGS TO THE ENGINEER FOR CLARIFICATION, PRIOR TO FABRICATION & INSTALLATION OF ANY STRUCTURAL MEMBERS.

B. THE CONTRACTOR IS RESPONSIBLE AND SHALL COMPLY WITH THE REQUIREMENTS OF THE 2014 FLORIDA BUILDING CODE AND ALL LOCAL, STATE AND FEDERAL LAWS.

C. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT LIMITED TO: BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. INSPECTION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

D. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING HIS CONSTRUCTION DOCUMENTS WITH ANY REVISED DRAWINGS AND SPECIFICATIONS, OR CLARIFICATION SKETCHES ISSUED DURING THE COURSE OF CONSTRUCTION.

E. THE CONTRACTOR SHALL ADEQUATELY PROTECT HIS WORK, ADJACENT PROPERTY AND THE PUBLIC, AND BE RESPONSIBLE FOR DAMAGE OR INJURY DUE TO HIS ACT OR NEGLECT.

F. NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE REDUCED IN SIZE OR STRENGTH WITHOUT PRIOR APPROVAL IN WRITING FROM THE STRUCTURAL ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED.

G. CONTRACTOR SHALL COORDINATE STRUCTURAL AND OTHER DRAWINGS WHICH ARE PART OF THE CONTRACT DOCUMENTS FOR ANCHORED, EMBEDDED OR SUPPORTED ITEMS WHICH MAY AFFECT THE STRUCTURAL DRAWINGS.

H. THESE DRAWINGS ARE INTENDED TO SHOW THE GENERAL ARRANGEMENT, DESIGN AND EXTENT OF THE WORK AND ARE PARTLY DIAGRAMMATIC. THESE DRAWINGS ARE NOT INTENDED TO BE SCALED OR TO SERVE AS SHOP DRAWINGS OR PORTIONS THEREOF.

I. ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE ON THE PROJECT, EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.

J. DEFICIENT WORK SHALL BE REPLACED OR REPAIRED, AS DETERMINED BY THE ENGINEER, AT NO COST TO THE OWNER, INCLUDING ENGINEERING COSTS INCURRED.

K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE DURATION OF THE PROJECT WORK. THE STRUCTURAL ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS.

L. ALL STRUCTURAL ELEMENTS OF THE PROJECT HAVE BEEN DESIGNED BY THE STRUCTURAL ENGINEER TO RESIST THE CODE–REQUIRED VERTICAL AND LATERAL FORGES THAT COULD OCCUR IN THE FINAL COMPLETED STRUCTURE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL REQUIRED BRACING DURING CONSTRUCTION TO MAINTAIN THE STABILITY & SAFETY OF ALL STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PROCESS UNTIL THE LATERAL–LOAD RESISTING OR STABILITY–PROVIDING SYSTEM IS COMPLETELY INSTALLED AND THE STRUCTURE IS COMPLETELY TIED TOGETHER.

M. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT WHEN PLACED ON FLOOR OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ACHIEVED DESIGN STRENGTH.

N. THESE NOTES SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS ISSUED BY THE ARCHITECT. DISCREPANCIES SHALL BE BROUGHT TO ATTENTION TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.

O. ANY MATERIALS OF PRODUCTS SUBMITTED FOR APPROVAL THAT ARE DIFFERENT FROM THOSE SPECIFIED IN THE STRUCTURAL PLANS WILL BE REVIEWED AND APPROVED ONLY IF THE FOLLOWING CRITERIA ARE SATISFIED:

1. A COST SAVINGS TO THE OWNER IS DOCUMENTED & SUBMITTED WITH THE REQUEST.
2. THE MATERIAL OR PRODUCT HAS BEEN APPROVED BY THE FLORIDA BUILDING CODE AND THE PRODUCT APPROVAL REPORT IS SUBMITTED WITH THE REQUEST.

SUBMITTALS NOT SATISFYING THE ABOVE CRITERIA WILL NOT BE CONSIDERED.

P. WHEN PERFORMING WORK BELOW GRADE, CARE SHALL BE TAKEN TO AVOID DAMAGING ANY EXISTING UTILITIES. ALL UNKNOWN UTILITIES DISCOVERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPORTED TO ALL AFFECTED PARTIES, INCLUDING THE ARCHITECT/ENGINEER.

Q. THE CONTRACTOR SHALL USE EXTREME CAUTION IN THE DEMOLITION OF EXISTING STRUCTURES. SUCH DEMOLITION SHALL BE PERFORMED IN SUCH A MANNER AS TO MAINTAIN THE STRUCTURAL INTEGRITY OF ALL EXISTING STRUCTURES TO REMAIN. PROVIDE TEMPORARY SHORING WHERE REQUIRED.

R. THE CONTACTOR SHALL VISIT THE SITE AND BECOME FULLY AWARE OF THE EXISTING CONDITIONS & EXTENT OF WORK REQUIRED TO COMPLETE THE PROJECT PRIOR TO THE START OF WORK.

S. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY WORK PERMITS AND APPROVALS REQUIRED BY THE LOCAL AGENCY HAVING JURISDICTION TO PERFORM THE WORK INDICATED.

2. CONCRETE:

A. CONCRETE DESIGN AND REINFORCEMENT SHALL BE IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–14) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), PRODUCTION OF CONCRETE, DELIVERY, PLACING AND CURING TO BE IN ACCORDANCE WITH "HOT WEATHER CONCRETING" (ACI 305).

B. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (145 PCF) & ACHIEVE A 28–DAY COMPRESSIVE STRENGTH (F'c) OF 5000 PSI, THE DESIGN MIX SHALL HAVE A MAXIMUM WATER–CEMENT RATIO OF 0.50 BY WEIGHT, & A MAXIMUM OF 5 BAGS OF CEMENT IN EA. CUBIC YARD OF CONCRETE. SUBMIT PROPOSED MIX DESIGN FOR REVIEW PRIOR TO FIELD POURING. MIX SHALL BE IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION.

C. ALL CEMENT SHALL CONFORM TO ASTM C150, TYPE 1. MAXIMUM AGGREGATE SIZE SHALL BE 1½" FOR FOOTINGS & ¾" FOR WALLS, BEAM & SLABS CONFORMING TO ASTM C33.

D. FOR ALL CONCRETE TO BE PLACED IN SLABS (INCLUDING SLABS ON GRADE) AND WALL PANELS, THE SLUMP SHALL NOT EXCEED 4" (±1"). NO WAIVERS OF THIS REQUIREMENT SHALL BE CONSIDERED. SLUMP FOR PUMPED CONCRETE SHALL NOT EXCEED 7" (±1").

E. PLACING OF CONCRETE IN ALL REINFORCED COLUMNS AND WALLS SHALL BE IN EQUAL LIFTS NOT EXCEEDING 7'–6" IN HEIGHT. ALL DOWELS FOR COLUMNS AND WALLS SHALL BE SECURED IN POSITION PRIOR TO CONCRETING.

F. ALL CONCRETE STRUCTURAL COMPONENTS SHALL HAVE ITS STRENGTH TESTED IN ACCORDANCE WITH ASTM STANDARDS & ACI 318–14. MINIMUM FOUR TEST CYLINDERS MUST BE TAKEN EVERY 50 CUBIC YARDS OR LESS OF CONCRETE PRIOR TO POURING. TESTS SHALL BE MADE FOR 7 DAYS, TWO AT 28 DAYS & ONE HELD IN RESERVE. CONTRACTOR SHALL PROVIDE THE STRUCTURAL ENGINEER'S OFFICE COPIES OF THE CONCRETE TEST RESULTS FOR REVIEW, AS WELL AS COPIES OF THE CONCRETE MIX DESIGN TO BE APPROVED PRIOR TO USE.

G. MINIMUM CONCRETE COVER TO REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 318–14 AND SHALL BE AS FOLLOWS:

ELEMENT:	BOTTOM:	TOP:	SIDES:
FOUNDATION	3"	2"	2"
BEAMS	1½"	1½"	1½"
COLUMNS/WALLS	–	1½"	1½"
SLAB ON GRADE	2"	1"	1"
INTERIOR STRUCT. SLAB	¾"	¾"	1"
EXTERIOR STRUCT. SLAB	1½"	1½"	1"

H. SLAB OPENING SHALL BE MADE BY BLOCKING OUT PRIOR TO PLACING CONCRETE OR BY CORE DRILLING. NO CHIPPING OF ANY TYPE WILL BE PERMITTED. THE LOCATION OF ALL OPENINGS SHALL BE COORDINATED WITH THE PLUMBING, ELECTRICAL & MECHANICAL PLANS.

I. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS.

J. CONCRETE ON EXPOSED BALCONIES, SLABS, BEAMS AND STAIRS SHALL HAVE THE TOP SURFACE COATED WITH "ALKYL–ALKYOXY SILANE SEALER" OR ENGINEER–APPROVED EQUAL.

K. THE CONTRACTOR SHALL EVACUATE ALL WATER FROM WITHIN FORMWORK BEFORE PLACEMENT OF ANY CONCRETE. AFTER DEWATERING AND BEFORE PLACING CONCRETE, RINSE THE REINFORCING STEEL CLEAN AND FREE OF ALL DELETIRIOUS MATERIAL.

L. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED 1½ HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY, THE CONCRETE MUST BE DISCARDED.

3. MASONRY:

A. ALL MASONRY CONSTRUCTION TO BE IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES AND SPECIFICATIONS FOR MASONRY STRUCTURES AND COMMENTARIES" (ACI 530/530.1–13), AND THE 2017 EDITION OF THE FLORIDA BUILDING CODE. ALL MASONRY WALLS TO BE CONSTRUCTED OF UNITS CONFORMING TO ASTM C–90–13 AND REINFORCED WITH #9 GAGE HORIZONTAL REINFORCING LOCATED AT 16" O.C., LADDER TYPE. ALL MASONRY TO BE LAID IN TYPE "M" MORTAR (2500 PSI) WITH FULL HEAD AND BED JOINTS.

B. BLOCK CELLS AT WALL ENDS, CORNERS, INTERSECTIONS AND ADJACENT TO ALL OPENINGS SHALL BE FILLED WITH GROUT AND REINFORCED WITH MINIMUM ONE #5 VERTICAL REINFORCING BAR. DOWELS SHALL BE USED TO PROVIDE CONTINUITY INTO THE STRUCTURE.

C. MASONRY NET AREA COMPRESSIVE STRENGTH (F'm) SHALL BE 1500 PSI AND THE NET AREA COMPRESSIVE STRENGTH OF THE MASONRY UNITS SHALL BE 1950 PSI, PER ACI 530/530.1–13.

D. ALL REINFORCED MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF CONCRETE REINFORCEMENT, CAST–IN–PLACE CONCRETE AND CONCRETE MASONRY. VERTICAL REINFORCING SHALL ANCHOR INTO SUPPORTING CONCRETE MEMBERS A CLASS "C" LAP LENGTH PLUS 3" OR FULL DEPTH, PLUS A STANDARD HOOK. ALL VERTICAL CELLS WITH REINFORCING SHALL BE FILLED WITH COARSE GROUT CONSISTING OF 3000 PSI CONCRETE WITH #8 COARSE AGGREGATE. WHERE HEIGHT OF MASONRY WALL EXCEEDS 4'–0", USE HIGH–LIFT GROUTING TECHNIQUE WHICH REQUIRES A CLEAN–OUT OPENING AT THE BOTTOM OF ALL CELLS AND PLACING THE GROUT IN MAXIMUM 4'–0" LIFTS WITH A 30 TO 60 MINUTE DELAY BETWEEN LIFTS. GROUT SHALL CONFORM TO ASTM C476. SLUMP SHALL BE BETWEEN 8" AND 10".

E. MORTAR SHALL COMPLY WITH ASTM C–270–12, TYPE "M", WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 2500 PSI.

F. HORIZONTAL REINFORCEMENT SHALL BE DUR–O–WALL STANDARD (9 GA.), ASTM CLASS B–2, HOT DIPPED GALVANIZED OR APPROVED EQUAL.

G. VERTICAL REINFORCEMENT SHALL CONFORM TO ASTM A615/A615M–12, GRADE 60. FILL ALL REINFORCED CELLS WITH 3000 PSI CONCRETE OR GROUT. SEE PLAN FOR SIZE AND SPACING OF VERTICAL REINFORCING.

H. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF MASONRY WALLS DURING CONSTRUCTION. ALL NECESSARY PRECAUTIONS MUST BE TAKEN TO PREVENT INJURY TO PERSONS RESULTING FROM MASONRY WALL FAILURE.

4. STRUCTURAL STEEL:

A. ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOURTEENTH EDITION OF THE ALLOWABLE STRESS DESIGN (ASD) "MANUAL OF STEEL CONSTRUCTION" OF THE AISC, PUBLISHED IN 2011.

B. UNLESS OTHERWISE NOTED, ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING ASTM SPECIFICATIONS:

MEMBER	ASTM	MIN. STRENGTH
STRUCTURAL TUBING (HSS)	A500 (GRADE B)	46 KSI
STEEL PIPE	A53 (GRADE B)	35 KSI
W SHAPES	A992	50 KSI
OTHER ROLLED PLATES/SHAPES	A36	36 KSI
CONNECTION BOLTS	A325	92 KSI
ANCHOR BOLTS	F1554	58 KSI

C. HEADED STUDS SHALL BE NELSON GRANULAR FLUX–FILLED HEADED ANCHOR STUDS AND SHALL BE MADE FROM C–1015 COLD ROLLED STEEL AND SHALL CONFORM TO ASTM SPECIFICATION A–108, GRADES 1015–1020 WITH MINIMUM TENSILE STRENGTH OF 60 KSI.

D. UNLESS OTHERWISE NOTED, ALL CONNECTIONS SHALL BE SHEAR TYPE CONNECTIONS AND DESIGNED BY THE FABRICATOR FOR THE FACTORED SHEAR FORCES INDICATED ON PLAN IN ACCORDANCE WITH THE ASTM SPECIFICATIONS FOR ALLOWABLE DESIGN. ALL BOLTS SHALL BE SHEAR/BEARING TYPE BOLTS AND BE "SNUG–TIGHT".

E. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 USING E70–XX ELECTRODES. (SMAW) UNLESS OTHERWISE NOTED, PROVIDE CONTINUOUS MINIMUM SIZED FILLET WELDS AS PER AISC REQUIREMENTS. ALL FILLER MATERIAL SHALL HAVE A MINIMUM YIELD STRENGTH OF 58 KSI. ALL WELDING TO BE PERFORMED BY CERTIFIED WELDERS AS REQUIRED BY AWS & 2017 FLORIDA BUILDING CODE. SLAG SHALL BE REMOVED FROM ALL WELDS FOR INSPECTION.

F. HOLES IN STEEL SHALL BE DRILLED OR PUNCHED. ALL SLOTTED HOLES SHALL BE PROVIDED WITH SMOOTH EDGES. BURNING OF HOLES AND TORCH CUTTING AT THE SITE IS NOT PERMITTED.

G. ALL STRUCTURAL STEEL PERMANENTLY EXPOSED TO VIEW SHALL BE SHOP PAINTED WITH ONE COAT OF SSPC 15–68, RED OR GRAY OXIDE–TYPE PAINT.

H. COLUMNS, ANCHOR BOLTS, BASE PLATES, ETC. HAVE BEEN DESIGNED FOR THE FINAL COMPLETED CONDITION AND HAVE NOT BEEN INVESTIGATED FOR POTENTIAL LOADINGS ENCOUNTERED DURING STEEL ERECTION AND CONSTRUCTION. ANY INVESTIGATION OF THE COLUMNS, ANCHOR BOLTS, BASE PLATES, ETC. FOR ADEQUACY DURING THE STEEL ERECTION AND CONSTRUCTION PROCESS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

I. STEEL FABRICATORS SHALL BE AN AISC CERTIFIED SHOP FOR CATEGORY I STEEL STRUCTURES AND MAINTAIN DETAILED QUALITY CONTROL PROCEDURES AS REQUIRED TO SATISFY THE SPECIAL INSPECTION REQUIREMENTS OF THE 2017 FLORIDA BUILDING CODE.

J. ALL STRUCTURAL STEEL PERMANENTLY EXPOSED TO WEATHER, SHALL BE HOT–DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153–09 AND A123/A123M–09. PROVIDE GALVANIZED BOLTS FOR STEEL PERMANENTLY EXPOSED TO WEATHER. GALVANIZING SHALL BE DONE BY BOLT MANUFACTURER.

K. FIELD CUTTING OF STRUCTURAL STEEL IS NOT PERMITTED EXCEPT WHERE ACCEPTED BY THE ENGINEER OF RECORD IN WRITING. CUTTING OR ENLARGEMENT OF BOLT HOLES WITH TORCHES IS STRICTLY PROHIBITED.

L. CONTRACTOR TO OBTAIN ALL FIELD MEASUREMENTS REQUIRED FOR PROPER FABRICATION AND INSTALLATION OF WORK PRIOR TO DETAILING. PRECISE MEASUREMENTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

M. FOR FIREPROOFING REQUIREMENTS AND ASSEMBLIES REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

N. A REGISTERED PROFESSIONAL ENGINEER SHALL INSPECT THE WELDING AND BOLTING OF STRUCTURAL STEEL FRAMINGS AS PER SECTION 2214.3.4 OF THE 2017 FLORIDA BUILDING CODE.

O. GROUT FOR COLUMN BASE PLATES AND PRESET BEARING PLATES SHALL BE NON–SHRINK, NON–METALLIC GROUT WITH A COMPRESSIVE STRENGTH OF AT LEAST 5,000 PSI IN 28 DAYS.

5. WOOD/TIMBER:

A. ALL STRUCTURAL WOOD PRODUCTS USED SHALL CONFORM TO THE NDS, LATEST EDITION AND THE 2017 EDITION OF THE FLORIDA BUILDING CODE.

B. ALL WOOD FRAMING MEMBERS SHALL BE NO. 2 SOUTHERN PINE OR BETTER WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1,000 PSI, MODULUS OF ELASTICITY OF 1,600,000 PSI, MINIMUM ALLOWABLE SHEAR STRESS OF 175 PSI AND 19% MOISTURE CONTENT IN ACCORDANCE WITH NDS AND AITC STANDARDS.

C. ALL WOOD MEMBER SIZES SHOWN ON THESE PLANS REFER TO STANDARD NOMINAL.

D. ALL MECHANICAL METAL CONNECTORS USED IN THE CONNECTIONS OF WOOD MEMBERS SHALL HAVE A PRODUCT APPROVAL FROM MIAMI–DADE COUNTY OR THE 2017 FBC. ALL FASTENERS SHALL BE ADHERED TO AS STATED AND SHOWN ON THESE PLANS AND THE MIAMI–DADE NOTICE OF ACCEPTANCE (NOA) OR FBC APPROVAL FOR ALL CONNECTORS.

E. PRESSURE TREATMENT WHERE REQUIRED HEREIN SHALL CONFORM TO AWPI SPECIFICATIONS. A TREATMENT WITH A MINIMUM RETENTION IN POUNDS PER CUBIC FOOT OF 0.40 FOR TIMBER ABOVE GROUND AND WATER 0.60 FOR TIMBER IN DIRECT CONTACT WITH THE GROUND. ALL PRESSURE TREATED WOOD SHALL BE SOUTHERN PINE, MEETING NATIONAL FOREST PRODUCTS ASSOCIATION GROUP 3 BOLT DESIGN VALUES.

F. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PREASSURE TREATED (P.T.).

6. PRE–ENGINEERED ROOF STEEL TRUSSES:

1. STEEL TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER'S DELEGATED ENGINEER TO SUPPORT THE FOLLOWING LOADS:

   GRAVITY LOADING CASE:
   TOP CHORD LOADING:
   LIVE LOAD = 30 PSF
   DEAD LOAD = 15 PSF
   BOTTOM CHORD LOADING:
   DEAD LOAD =10 PSF UNIFORM + 200 LBS APPLIED @ ANY SINGLE PANEL POINT.

   WIND LOADING CASE:
   BOTT/TOP CHORD LOADING (SURFACE AREA):
   NET UPLIFT = GROSS UPLIFT –10 PSF

2. STEEL TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE 2010 SUPLEMENT TO THE AISI 2007 "NORTH AMERICAN SPECIFICATIONS FOR THE DESIGN OF COLD–FORMED STEEL STRUCTURAL MEMBERS" (S100–07/S2–10) & THE 2010 FLORIDA BUILDING CODE.
3. TRUSSES SHALL BE FABRICATED IN A PROPERLY EQUIPPED MANUFACTURING FACILITY OF A PERMANENT NATURE. TRUSSES SHALL BE MANUFACTURED BY EXPERIENCED WORKMEN, USING PRECISION EQUIPMENT UNDER THE REQUIREMENTS OF AISI.
4. CONTRACTOR SHALL PROVIDE ALL TEMPORARY AND PERMANENT BRACING AS REQUIRED FOR SAFE ERECTION AND PERFORMANCE OF THE TRUSSES.
5. TRUSS MEMBERS AND COMPONENTS SHALL NOT BE CUT, NOTCHED, DRILLED NOR OTHERWISE ALTERED IN ANY WAY WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD. ANY APARENT DAMAGE TO TRUSSES SHALL BE REPORTED TO MANUFACTURER PRIOR TO INSTALLATION.
6. SUBMIT COMPLETE SHOP DRAWINGS FOR STEEL TRUSSES SHOWING MEMBER SIZES, SLOPE DEPTH, SPAN & SPACING OF THE TRUSS, BEARING LOCATION & MINIMUM BEARING LENGTHS, DESIGN LOADINGS & REACTION FORCES, SHAPE & MATERIAL SPECIFICATIONS FOR EACH COMPONENT & LOCATIONS OF REQUIRED PERMANENT TRUSS MEMBER BRACING. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD AND ARCHITECT AND APPROVED BY THEM PRIOR TO FABRICATION. SHOP DRAWINGS SHALL BEAR THE SEAL OF A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
7. TRUSSES SHALL BE HANDLED DURING FABRICATION, DELIVERY & AT JOBSITE SO AS NOT TO BE SUBJECTED TO EXCESSIVE BENDING. TRUSSES SHALL BE UNLOADED ON SMOOTH GROUND TO AVOID LATERAL STRAIN & EXCESSIVE BENDING. TRUSSES SHALL BE PROTECTED FROM DAMAGE RESULTING FROM ON–SITE ACTIVITIES & ENVIRONMENTAL CONDITIONS.
8. ALL STEEL TRUSSES SHALL BE SPACED AT 24" O.C. MAXIMUM, UNLESS OTHERWISE NOTED.
9. THE NET WIND UPLIFT REACTIONS SHOWN ON THESE PLANS SHALL SUPERSEDE THOSE SHOWN IN THE TRUSS MANUFACTURER SHOP DRAWINGS AND CALCULATIONS. THE CAPACITY OF THE CONNECTORS NOTED ON THESE PLANS EXCEED THE NET WIND UPLIFT REACTIONS SHOWN ON PLAN.

7. REINFORCING STEEL:

A. TO BE NEW BILLET STEEL CONFORMING TO THE LATEST ASTM A615 GRADE 60 SPECIFICATIONS, FABRICATED IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE OF THE CRSI & PLACED IN ACCORDANCE WITH ACI 315 & ACI MANUAL OF STANDARD PRACTICE.

B. COLUMN REINFORCEMENT: DOWELS TO BE SAME SIZE AND NUMBER AS VERTICALS ABOVE. LAP 36 BAR DIAMETER OR MINIMUM OF 18" U.O.N. PROVIDE STANDARD HOOKS FOR ALL VERTICAL REINFORCEMENT AT NON–CONTINUOUS COLUMNS.

C. ALL REINFORCING STEEL SHALL BE TIED DOWN AND INDEPENDENTLY SUPPORTED ON CHAIRS AND SUPPORT BARS. REINFORCEMENT SHALL BE FREE OF MUD OIL OR OTHER NONMETALLIC COATINGS THAT ADVERSELY AFFECT BONDING CAPACITY.

D. ALL DOWELS FOR COLUMNS AND WALLS TO BE SECURED IN POSITION PRIOR TO CONCRETING. DRILLING OR PUSHING THE DOWELS INTO POSITION IN WET CONCRETE IS NOT PERMITTED.

E. WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A–185. MINIMUM LAP OF W.W.F. SHALL BE 6 IN. OR ONE FULL MESH, WHICHEVER IS GREATER.

F. ALL REINFORCING BARS MARKED "CONTINUOUS" SHALL BE LAPPED 36 BAR DIA. AT SPLICES AND CORNERS UNLESS OTHERWISE NOTED. LAP CONTINUOUS TOP BARS AT CENTER BETWEEN SUPPORTS AS REQUIRED. TERMINATE CONTINUOUS BARS AT NON–CONTINUOUS ENDS WITH STANDARD HOOKS. U.O.N.

G. ALL WALLS AND COLUMNS SHALL BE DOWELED INTO FOOTINGS, WALLS, BEAMS, OR SLABS WITH BARS OF THE SAME SIZE AND SPACING AS THE BARS ABOVE. USE A (30) BAR DIAMETER LAP EXCEPT WHERE SPECIFICALLY INDICATED.

H. FOR EXTERIOR SLABS, THAT ARE EXPOSED TO WEATHER, TOP REINFORCING SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR EPOXY COATED REINFORCING STEEL BARS, ASTM A775. MINIMUM COVER FOR THESE BARS SHALL BE 1½". (CONCRETE WATER CEMENT RATIO SHALL NOT EXCEED 0.40 BY WEIGHT AND ALSO A SURFACE PENETRANT OF THE ALKYL–ALKYOXY SILANE CLASSIFICATION OR APPROVED EQUAL SHALL BE APPLIED AFTER PROPER SURFACE PREPARATION AT THE ABOVE MENTIONED AREAS). AS AN ALTERNATE TO EPOXY–COATING THE GENERAL CONTRACTOR MAY SUBMIT FOR APPROVAL BY THE ARCHITECT/ENGINEER A CONCRETE MIX DESIGN CONTAINING AN APPROVED CORROSION INHIBITOR ADMIXTURE IN CONFORMANCE TO ASTM C494 TYPE C.

I. ALL REINFORCEMENT SHALL BE BENT COLD, UNLESS OTHERWISE PERMITTED BY THE PROFESSIONAL ENGINEER IN WRITING. ALL TIES SHALL HAVE A 135 DEGREE HOOKS.

J. ALL NEW REINFORCING STEEL THAT WILL BE WELDED SHALL MEET THE REQUIREMENTS OF ASTM A706 GRADE 60 DEFORMED BARS.

8. FOUNDATION:

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A. BASED ON THE SUBSOIL INVESTIGATION REPORT MADE BY: ARDAMAN & ASSOCIATES, INC. FILE NO. 18–2537 DATED APRIL 23, 2018

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B. THE STRUCTURE SHALL BE SUPPORTED 14" DIAMETER AUGER–CAST PILES WITH 32'–0 " MIN. PENETRATION BELOW EXISTING GRADE SURFACE & BE CAPABLE OF SUPPORTING A DESIGN LOAD OF:

COMPRESSION = 35 TONS (70 KIPS)
TENSION = 20 TONS (40 KIPS)
LATERAL = 2.5 TONS (5 KIPS)

C. CENTERLINE OF PILES SHALL HAVE A MAXIMUM TOLERANCE OF 2"± WITH RESPECT TO THE LOCATIONS SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL FURNISH AN AS–DRIVEN SURVEY OF THE PILES NOTING THEIR DEVIATION FROM THE SPECIFIED LOCATION PRIOR TO SUBMITTING FOUNDATION (GRADE BEAMS) REINFORCEMENT SHOP DRAWINGS. ANY PILE(S) THAT DO NOT MEET THE ABOVE CRITERIA MAY REQUIRE REDESIGN AND REVISIONS TO THESE PLANS.

D. EACH PILE HOLE SHALL BE DRILLED AND FILLED WITH GROUT IN AN UNINTERRUPTED OPERATION, EXCEPT WHERE THE AUGER WITHDRAWAL IS REQUIRED OR DIRECTED BY THE SPECIALTY ENGINEER.

E. THE MINIMUM INSIDE DIAMETER OF THE HOLLOW SHAFT OF THE AUGER FLIGHT SHALL BE 1¼" INCHES. GROUT INJECTION EQUIPMENT SHALL BE PROVIDED WITH A GROUT PRESSURE GAUGE IN CLEAR VIEW OF THE EQUIPMENT OPERATOR. RATE OF GROUT INJECTION AND RATE OF AUGER WITHDRAWAL FROM THE SOIL SHALL BE COORDINATED TO MAINTAIN, AT ALL TIMES, A POSITIVE PRESSURE ON THIS GAUGE WHICH WILL, IN TURN, INDICATE THE EXISTENCE OF A "REMOVING PRESSURE" ON THE BOTTOM OF THE AUGER FLIGHT. THE AUGER HOISTING EQUIPMENT SHALL BE CAPABLE OF WITHDRAWING THE AUGER SMOOTHLY AND AT A CONSTANT RATE.

F. GROUT SHALL CONSIST OF A MIXTURE OF PORTLAND CEMENT, A POZZOLANIC MATERIAL (WHEN APPROVED) FLUIDIFIER, SAND, AND WATER. THIS MIXTURE WILL BE PROPORTIONED AND MIXED TO PRODUCE A GROUT CAPABLE OF BEING PUMPED WITH AN ULTIMATE COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS. OTHER ADMIXTURES SHALL NOT BE USED. CEMENT PORTLAND CEMENT SHALL CONFORM TO ASTM C 150. POZZOLAN SHALL BE A FLY ASH OR OTHER APPROVED POZZOLANIC MATERIAL CONFORMING TO ASTM C 618.

G. GROUT TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM C 109/C 109M IN A LABORATORY, APPROVED BY THE FBC. TEST SPECIMENS SHALL BE PREPARED BY POURING GROUT INTO 2"x2"x2" CUBE MOLDS. NOT LESS THAN 6 CUBES SHALL BE CAST DURING EACH 8–HOUR SHIFT. THREE CUBES SHALL BE TESTED AT 7 DAYS AND 3 AT 28 DAYS.

H. THE MAXIMUM VARIATION OF THE CENTER OF ANY PILE FROM THE REQUIRED LOCATION SHALL BE 2 INCHES AT THE GROUND SURFACE, AND NO PILE SHALL BE OUT–OF–PLUMB BY MORE THAN 2 PERCENT. PILES DAMAGED, MISLOCATED, OR OUT OF ALIGNMENT BEYOND THE MAXIMUM TOLERANCE SHALL BE ABANDONED AND ADDITIONAL PILES SHALL BE PLACED AS DIRECTED AT NO ADDITIONAL COST TO THE OWNER.

I. THE SEQUENCE OF PILE INSTALLATION SHALL BE SUCH THAT ADJACENT PILES SHOW NO EVIDENCE OF DISTURBANCE. NO PILES SHALL BE PLACED WITHIN 5 FEET OF ADJACENT PILES UNTIL THE GROUT IN THE EXISTING PILES HAS SET FOR 3 DAYS, UNLESS OTHERWISE DIRECTED BY THIS ENGINEER.

J. SITE INSPECTION–CONTINUOUS INSPECTION OF THE GROUT PLACEMENT SHALL BE PROVIDED BY A FLORIDA REGISTERED SPECIAL INSPECTOR AT THE JOB SITE. THE SPECIAL INSPECTOR SHALL:

1. VERIFY THE CONSISTENCY OF GROUT IS IN ACCORDANCE WITH THE MIX DESIGN BY THE USE OF THE FLOW CONE AND BY VISUAL INSPECTION. WATER MAY BE ADDED TO INCREASE THE FLUIDITY OF THE GROUT ONCE WITHIN THE FIRST 15 MINUTES AFTER THE TRUCK ARRIVES AT THE JOB SITE, PROVIDED THAT THE CONSISTENCY OF THE GROUT DOES NOT EXCEED FLUIDITY OF MIX DESIGN.
2. KEEP WRITTEN RECORDS OF THE AMOUNT OF WATER ADDED AT THE JOBSITE TO EACH TRUCK LOAD OF GROUT.
3. CAST SAMPLES FOR COMPRESSION TESTS, AS REQUIRED.
4. INSPECT REINFORCING STEEL FOR CONFORMANCE WITH THE STRUCTURAL APPROVED PLANS AND CONFORMANCE WITH FLORIDA BUILDING CODE.

K. THE INSTALLATION OF PILING SHALL BE CONTINUOUSLY INSPECTED BY THE GEOTECHNICAL ENGINEER WHO PREPARED THE SOILS REPORT OR BY THEIR REPRESENTATIVE UNDER THE GEOTECHNICAL ENGINEER'S DIRECT SUPERVISION. THEY SHALL VERIFY THAT THE PILING HAS BEEN INSTALLED TO THE DEPTH AND SIZE SPECIFIED USING THE PRESCRIBED METHODS OF INSTALLATION.

L. SPECIAL INSPECTION–IN ADDITION TO GENERAL INFORMATION REQUIRED ON ALL QUALITY CONTROL REPORTS (I.E. JOB NAME AND ADDRESS, INSPECTORS NAME AND FIRM, LOCATION OF ITEMS INSPECTED, ETC.), THE REPORT SHALL INCLUDE:

1. NAME OF GROUT SUPPLIER
2. DESIGN WEIGHTS PER CUBIC YARD
3. TOTAL YARDS PLACED
4. LIST OF GROUT DELIVERY TRUCKS & AMOUNT OF WATER ADDED TO EACH AT THE JOB SITE
5. RESULTS OF ANY TESTS PERFORMED
6. STEEL REINFORCEMENT PLACEMENT

M. THE GEOTECHNICAL ENGINEER SHALL SUBMIT THE COMPLETE RECORD OF ALL AUGERCAST CONCRETE PILES TO THE ENGINEER OF RECORD & THE BUILDING DEPARTMENT. THIS RECORD SHALL INDICATE EACH OF THE FOLLOWING:

1. PILE CAPACITIES
2. PILE LOCATION
3. PILE DIAMETER
4. PILE LENGTH
5. ELEVATION OF TIP AND TOP OF PILE
6. DEPTH OF EMBEDMENT IN COMPETENT SOIL DEPOSITS
7. VOLUME OF GROUT USED IN EACH PILE
8. CALCULATED VOLUME OF DRILLED HOLE
9. RATIO OF VOLUME OF GROUT PUMPED TO THE CALCULATED HOLE VOLUME (AS CALCULATED IN #8 ABOVE)
10. RATE OF AUGER WITHDRAWAL VERSUS PUMP CAPACITY
11. ALL UNUSUAL CONDITIONS ENCOUNTERED DURING INSTALLATION OF PILES

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N. PILE REINFORCING SHALL CONSIST OF A CAGE OF 6#5 VERTICAL REBARS FOR THE FULL LENGTH WITH (10)–#3 TIES @ 6" O.C. AT TOP OF PILE, BALANCE @ 12" O.C. & (6)–#3 TIES @ 6" O.C. BOTTOM OF PILE.

O. CONTRACTOR AND PILE INSTALLER SHALL MAINTAIN FIELD QUALITY CONTROL MEASURES AT ALL TIMES DURING THE CONSTRUCTION PROCESS TO COMPLY WITH FBC REQUIREMENTS.

P. UPON EXCAVATION, THE SOIL AROUND THE PILE INSTALLATION AND GRADE BEAMS LOCATION SHALL BE TREATED FOR SUBTERRANEAN TERMITE PREVENTION AS REQUIRED BY THE FBC SECTION 1816.

9. STRUCTURAL DESIGN CRITERIA:

A. THIS STRUCTURE HAS BEEN DESIGNED TO COMPLY WITH THE LOAD REQUIREMENTS OF THE FLORIDA BUILDING CODE (2017 EDITION) AND OTHER REFERENCED CODES & SPECIFICATIONS.

B. THE STRUCTURE IS DESIGNED FOR THE FOLLOWING LOADING:

	SUPERIMPOSED DEAD LOADS	LIVE LOADS
ROOF	25 PSF	30 PSF
GROUND FLR.	35 PSF	40 PSF
TERRACE	15 PSF	60 PSF

C. WIND LOADS ARE BASED ON ASCE 7–10 & 2017 FBC REQUIREMENTS, 3 SECOND SUSTAINED WIND GUSTS OF 175 MPH AT HURRICANE OCEAN LINE, EXPOSURE "D" & IMPORTANCE FACTOR OF 1.0, INTERNAL PRESSURE COEFFICIENTS (GCPI)=±0.18, WIND DIRECTIONALITY FACTOR, Kd =0.85 & CATEGORY II BLDG. CLASSIFICATION.

THIS STRUCTURE HAS BEEN DESIGNED AS "ENCLOSED" & REQUIRES IMPACT RESISTANT GLASS OR SHUTTERS TO COMPLY WITH FBC SECTIONS 1609.1.2 & 1626.

2 BLDG. DEPT. COMMENTS 08–21–19
1 BLDG. DEPT. COMMENTS 02–06–19

TO THE BEST OF MY KNOWLEDGE THESE PLANS CONFORM TO THE STRUCTURAL REQUIREMENTS OF F.B.C. 2017, LATEST REVISIONS, INCLUDING SECTIONS PERTAINING TO H.V.H.Z.

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MEP: TLC ENGINEERING FOR ARCHITECTURE

CONSTRUCTION DOCUMENTS

Revisions		
N°	Date	Description

Design: REC
Drawn: TB
Checked: MP
Survey: –
Inspections: –
Project Manager: –

ARCHITECT SEAL
ROBERT E. CHISHOLM, FAIA.
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CITY OF MIAMI CAPITAL IMPROVEMENTS INCORPORATED 1896

Project Title:
CITY OF MIAMI
NEW FIELD RESTROOMS AT KENNEDY PARK
B-40581
2400 S. BAYSHORE DRIVE, MIAMI,FL,33133

Drawing Title:

Contract # 14–796
Date 04.21.2018
Scale AS SHOWN
Drawing # S-8
File
Drawer
Dwg.