STRUCTURAL SPECIFICATIONS

MISCELLANEOUS

1. THESE ABBREVIATED DRAWING SPECIFICATIONS ARE WRITTEN TO MATCH THE BOOK SPECIFICATIONS. IF THERE ARE ANY ITEMS THAT DO NOT CORRESPOND EXACTLY AS WRITTEN, THE MORE STRINGENT WILL TAKE PRECEDENCE.

2. THE STRUCTURAL SYSTEM IS UNSTABLE UNTIL ALL CONNECTIONS HAVE BEEN MADE AND ALL CONCRETE HAS REACHED ITS MINIMUM DESIGN STRENGTH, AS SHOWN IN THE STRUCTURAL DOCUMENTS.

3. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION TO ENSURE THE SAFETY OF THE BUILDING UNTIL STRUCTURAL SYSTEM IS COMPLETED. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, SHORING, GUYS OR TIE_DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.

4. CONTRACTOR TO SUPPORT, BRACE AND SECURE EXISTING STRUCTURE AS REQUIRED. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFETY OF THE BUILDING DURING CONSTRUCTION.

5. APPLICABLE BUILDING CODE: 7TH EDITION (2020) FLORIDA BUILDING CODE.

6. GRAVITY DESIGN LOADS:

AREA	SUPERIMPOSED LIVE LOAD	TOTAL DEAD LOAD
ROOF	20 PSF	35 PSF
STAIRS + RAMPS	100 PSF	25 PSF

7. WIND DESIGN CRITERIA:
   ULTIMATE WIND SPEED: V_{ULT} = 182 MPH (3 SECOND GUST)
   EQUIVALENT NOMINAL BASIC WIND SPEED V_{ASD} = 141 MPH (3 SECOND GUST)
   RISK CATEGORY = II
   EXPOSURE CATEGORY = D
   ENCLOSED BUILDING INTERNAL PRESSURE COEFFICIENT, GC_{PI}= +/-0.18
   WIND BORNE DEBRIS REGION

8. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REFERENCED BUILDING CODE.

9. COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. DO NOT SCALE DRAWINGS.

10. CONTACT ENGINEER WITH ANY QUESTIONS OR DISCREPANCIES FOUND ON DRAWINGS.

11. BUILDING EXPANSION JOINTS (EJ), WHERE SHOWN, WILL EXPAND AND CONTRACT OVER THE LIFE OF THE BUILDING. JOINT SEALANTS AND COVERS MUST ACCOMMODATE THIS MOVEMENT.

12. SECTIONS AND DETAILS ARE REFERENCED IN TYPICAL LOCATIONS BUT ALSO APPLY TO ALL OTHER SIMILAR CONDITIONS.

13. CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS, ELEVATIONS, AND CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.

14. SUBMIT SHOP DRAWINGS AS REQUIRED HEREIN. ALLOW FOR TWO WEEKS REVIEW TIME AFTER RECEIPT OF SUBMITTALS BY THIS FIRM. ALL SUBMITTALS SHALL BE CHECKED AND SIGNED BY THE GENERAL CONTRACTOR AND SIGNED/SEALED BY THE DELEGATED ENGINEER, WHERE SPECIFIED HEREIN.

15. CONTRACTOR SHALL NOT BE RELIEVED FROM RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS OR MIX DESIGNS BY THE ENGINEER'S REVIEW THEREOF.

16. ANY CHANGES TO THE STRUCTURE SHALL HAVE BEEN REVIEWED AND APPROVED IN WRITING BY THE ENGINEER PRIOR TO COMMENCING WORK ON ITEMS AFFECTED.

17. CONTRACTOR SHALL NOTIFY THIS OFFICE WHEN THE STRUCTURAL SYSTEM IS SUBSTANTIALLY COMPLETED, AND BEFORE SHEATHING, CEILINGS, OR ROOFING IS INSTALLED.

HAND RAILS

1. AN ENGINEER REGISTERED IN THE STATE OF FLORIDA SHALL DESIGN RAILING SYSTEM AND CONNECTION OF IT TO THIS STRUCTURE.

2. SUBMIT SHOP DRAWINGS BEARING THE EMBOSSED SEAL AND THE SIGNATURE OF THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.

3. THE CONFIGURATION OF THE RAILING SYSTEM SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS.

4. RAILING SYSTEM AND CONNECTIONS SHALL BE DESIGNED FOR APPLICABLE LOADS AS INDICATED ON THE PLANS AND IN THE BUILDING CODE. THE LOADS SHALL BE CLEARLY INDICATED ON SHOP DRAWINGS.

5. SHOP DRAWINGS SHALL SHOW AND SPECIFY CONNECTIONS UTILIZED WITHIN THE RAILING SYSTEM AS WELL AS CONNECTIONS TO AND LOADS IMPOSED UPON THE STRUCTURAL SYSTEM SHOWN ON THESE PLANS.

EXISTING BUILDINGS

INFORMATION ON THE EXISTING BUILDING, SHOWN ON THESE PLANS, IS OBTAINED FROM PLANS BY WILLIAM P. HORN ARCHITECT, DATED NOVEMBER 11, 2021. EXISTING INFORMATION DOES NOT NECESSARILY REFLECT AS-BUILT CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION SHOWN ON THESE PLANS AND NOTIFY THE ENGINEER OF ANY VARIATION.

GEOTECHNICAL INVESTIGATION

1. A SUBSURFACE INVESTIGATION SHALL BE COMPLETED AT THE SITE BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO BEGINNING EARTHWORK OPERATIONS.

2. THE GEOTECHNICAL ENGINEER SHALL DETERMINE THE METHOD OF TESTING. (BORINGS, PROBES, HAND AUGERS, ETC.)

3. A SIGNED/SEALED SOILS REPORT SHALL BE SUBMITTED TO THE A/E, WHICH SHALL INCLUDE SITE PREPARATION PROCEDURE, FOUNDATION DESIGN RECOMMENDATIONS, AND CONSTRUCTION TESTING REQUIREMENTS.

4. SINCE FOUNDATION DESIGN INFORMATION WAS NOT AVAILABLE AT THE TIME THESE DRAWINGS WERE PREPARED, THE FOLLOWING ASSUMPTIONS WERE MADE:
   A) MAXIMUM BEARING PRESSURE = 2,000 PSF
   B) MAXIMUM SETTLEMENT = 3/4"
   C) MAXIMUM DIFFERENTIAL SETTLEMENT = 1/2"

5. THE FOUNDATION DESIGN IS SUBJECT TO CHANGE PENDING THE RESULTS OF THE GEOTECHNICAL INVESTIGATION AND PENNONI'S REVIEW OF THE SOILS REPORT.

AUGERCAST PILING

1. DIAMETER = 14 INCHES
   SERVICE LOAD CAPACITIES:
   DOWNWARD = 35 TONS
   UPLIFT = 9 TONS
   LATERAL = 1.5 TONS

2. AUGERCAST PILES SHALL BE FABRICATED BY ROTATING A CONTINUOUS FLIGHT HOLLOW_SHAFT AUGER INTO THE GROUND TO AN ESTIMATED DEPTH OF 8-11 FEET BELOW EXISTING GRADE.

3. HIGH_STRENGTH GROUT SHALL BE PUMPED AS THE AUGER IS WITHDRAWN TO FILL THE HOLE, PREVENTING HOLE COLLAPSE AND TO CAUSE THE LATERAL PENETRATION OF THE GROUT INTO SOFT OR POROUS ZONES OF THE SURROUNDING SOIL.

4. WHILE WITHDRAWING THE AUGER, A POSITIVE HEAD OF AT LEAST SEVEN FEET OF GROUT SHALL BE MAINTAINED ABOVE THE TIP OF THE AUGER TO ASSURE THAT THE PILE IS PROPERLY AND CONTINUOUSLY FORMED. IN ALL CASES, PILES SHALL BE FORMED WHILE THE AUGER IS INITIALLY BEING WITHDRAWN.

5. IF REINFORCEMENT IS REQUIRED, IT SHALL BE PLACED WHILE THE GROUT IS STILL FLUID. SEE DRAWINGS FOR PILE REINFORCEMENT.

6. THE GROUT USED TO FILL THE HOLES SHALL CONSIST OF A MIXTURE OF PORTLAND CEMENT, MINERAL FILLER, FLUIDIFIER, SAND AND WATER SO PROPORTIONED AND MIXED AS TO PROVIDE A GROUT CAPABLE OF MAINTAINING THE SOLIDS IN SUSPENSION WITHOUT APPRECIABLE WATER GAIN, YET WHICH MAY BE PUMPED WITHOUT DIFFICULTY AND WHICH WILL LATERALLY PENETRATE AND FILL ANY VOIDS IN THE FOUNDATION MATERIAL.

7. THE MATERIALS SHALL BE SO PROPORTIONED AS TO PROVIDE A HARDENED GROUT HAVING AN ULTIMATE COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.

8. THE GROUT MIX SHALL BE TESTED BY MAKING ONE SET OF CYLINDERS FOR EACH DAY DURING WHICH AUGERCAST PILES ARE PLACED. A SET OF CYLINDERS SHALL CONSIST OF TWO CYLINDERS TO BE TESTED AT 7 DAYS AND TWO CYLINDERS TO BE TESTED AT 28 DAYS. TEST CYLINDERS SHALL BE MADE AND TESTED IN ACCORDANCE WITH ASTM D_109.

9. ONLY APPROVED PUMPING AND CONTINUOUS MIXING EQUIPMENT SHALL BE USED IN THE PREPARATION AND HANDLING OF THE GROUT. ALL OIL OR OTHER RUST INHIBITORS SHALL BE REMOVED FROM MIXING DRUMS AND PRESSURE GROUT PUMPS.

10. THE GROUT PUMP SHALL BE A POSITIVE DISPLACEMENT PISTON TYPE PUMP CAPABLE OF DEVELOPING PRESSURES AT THE PUMP UP TO 350 PSI. THE PUMP SHALL BE EQUIPPED WITH A SUITABLE GAGE TO PERMIT VERIFICATION OF PUMPING PRESSURES.

11. THE MINIMUM VOLUME OF GROUT PLACED IN THE HOLE SHALL EQUAL THE VOLUME OF THE AUGERED HOLE. ALL MATERIALS SHALL BE SUCH AS TO PRODUCE A HOMOGENEOUS GROUT OF THE DESIRED CONSISTENCY. IF THERE IS A LAPSE IN THE OPERATION, THE GROUT SHALL BE RE-CIRCULATED THROUGH THE PUMP.

12. PILE CENTERS SHALL BE LOCATED TO AN ACCURACY OF PLUS OR MINUS THREE INCHES. PILES SHALL BE INSTALLED PLUMB WITHIN A TOLERANCE OF ONE INCH IN TEN FEET.

13. ADJACENT PILES SHALL NOT BE PLACED CLOSER THAN 3.5 FEET CENTER TO CENTER UNTIL THE GROUT IN THE PILES HAS SET FOR 24 HOURS.

14. ONE QUICK LOAD PILE LOAD TEST WILL BE PERFORMED IN ACCORDANCE WITH ASTM D_1143. THE CONTRACTOR WILL FURNISH REACTION BEAM, REACTION PILES, AND OTHER PERSONNEL AND RIGGING NECESSARY TO PERFORM THE TESTS. THE TESTS SHALL BE MONITORED BY A TESTING LABORATORY. PRODUCTION PILES SHALL NOT BE TESTED.

15. WHERE THE PILE CUTOFF IS NEAR THE SURFACE OR ABOVE THE BOTTOM OF THE EXCAVATION, METAL SLEEVES OF THE PROPER DIAMETER SHALL BE PLACED AROUND THE PILE TOPS.

16. INSTALLATION OF THE AUGERCAST PILES SHALL BE CONTINUOUSLY INSPECTED BY A QUALIFIED TESTING LABORATORY.

17. BID SHALL BE FOR A LUMP SUM AMOUNT BASED ON THE NUMBER OF PILES, ESTIMATED LENGTH AND THE TOTAL ESTIMATED FOOTAGE AS SHOWN IN THE PLANS AND/OR SPECIFICATIONS.

18. SEPARATE UNIT PRICES SHALL BE QUOTED TO COVER EACH OF THE FOLLOWING:
   A) A UNIT PRICE PER FOOT OF PILE FOR ADDITIONAL FOOTAGE IN EXCESS OF THE TOTAL PILE LENGTH BID.
   B) A UNIT PRICE PER FOOT OF PILE CREDIT FOR FOOTAGE LESS THAN THE TOTAL PILE LENGTH BID.

19. LOAD TESTS SHALL BE BID AT A UNIT PRICE FOR EACH TEST.

20. NO PAYMENT SHALL BE MADE FOR MISPLACED, FAULTY OR OTHERWISE NON-ACCEPTABLE PILES AS DEFINED BY THE ENGINEER.

DRILL-IN BOLTS, SCREWS AND DOWELS

1. ADHESIVE DOWELING RODS/BOLTS SHALL BE CARBON STEEL THREADED ROD CONFORMING TO ISO 898 5.8 WITH A MINIMUM TENSILE STRENGTH OF 72.5 KSI (500MPA) AND A MINIMUM YIELD OF 58 KSI (400MPA). THREADED RODS WITH NUTS AND WASHERS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

2. ANCHORING ADHESIVE SHALL BE A TWO-COMPONENT SYSTEM SUPPLIED IN MANUFACTURER'S STANDARD SIDE-BY-SIDE FOIL PACKAGE AND DISPENSED THROUGH A STATIC-MIXING NOZZLE SUPPLIED BY THE MANUFACTURER. ADHESIVE SHALL BE TESTED AND APPROVED TO MEET THE MINIMUM REQUIREMENTS OF ACI 355.4 FOR CRACKED AND UNCRACKED CONCRETE RECOGNITION. PROVIDE HILTI HY 200 SAFE SET (ESR 3187) OR RE 500 V3 (ESR 3814) ANCHORS BY HILTI OR EQUAL (E.G. SIMPSON SET-XP, ATC ULTRABOND 365CC)UNLESS SPECIFIED OTHERWISE IN THE STRUCTURAL DOCUMENT.

3. DRILL-IN REBAR DOWELS SHALL BE SET USING A TWO-PART ADHESIVE AS DESCRIBED ABOVE.

4. EXPANSION BOLTS SHALL HAVE CARBON STEEL ANCHOR BODY AND NUT AND WASHER SHALL BE ELECTROPLATED ZINC COATING CONFORMING TO ASTM B633 TO A MINIMUM OF 5MM. THE STAINLESS STEEL ANCHOR BODY, NUT AND WASHER, AND EXPANSION SLEEVE SHALL CONFORM TO TYPE 316 STAINLESS STEEL. EXPANSION ANCHORS SHALL MEET THE MINIMUM REQUIREMENTS OF ACI 355.2 FOR CRACKED AND UNCRACKED CONCRETE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

5. SCREWS SHALL HAVE A BODY MADE OF CARBON STEEL AND SHALL BE HEAT TREATED AND SHALL HAVE 8MM ZINC COATING IN ACORDANCE WITH EN ISO 4042. PROVIDE HUS EZ (ESR 3027) SCREWS BY HILTI OR EQUAL.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC "SPECIFICATION FOR BUILDINGS", LATEST EDITION.

2. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY, AWS D1.1. ALL WELDING SHALL BE PERFORMED USING E70XX, LOW HYDROGEN ELECTRODES. ELECTRODES ARE TO BE PROTECTED FROM MOISTURE.

3. CONNECTIONS TO BE DOUBLE ANGLE FRAMED BEAM CONNECTION PER AISC UNLESS NOTED OTHERWISE. ALL BOLTS TO BE 3/4" DIAMETER UNLESS NOTED OTHERWISE. SHOP CONNECTIONS MAY BE WELDED OR BOLTED. WELDS ARE TO BE EQUAL IN STRENGTH TO BOLTS. ALL FIELD CONNECTIONS ARE TO BE BOLTED WITH ASTM A325N OR A490 BOLTS (BEARING TYPE BOLTS WITH THREADS IN THE SHEAR PLANE) INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS. ALL BOLTS SHALL BE TIGHTENED SNUG TIGHT UNLESS OTHERWISE NOTED. DESIGN CONNECTIONS FOR THE LARGER OF EITHER THE SHEAR SHOWN ON THE DRAWINGS, (INDICATED AS "V =K" AT ENDS OF MEMBER) OR 55% OF THE MAXIMUM LOAD(IN KIPS) LISTED IN THE TABLES FOR "MINIMUM TOTAL FACTORED UNIFORM LOADS IN KIPS FOR BRACED, SIMPLE SPAN BEAMS BENT ABOUT THE STRONG AXIS" OF THE LATEST EDITION OF THE AISC "MANUAL OF STEEL CONSTRUCTION".

4. SIZE AND USE OF HOLES: SEE AISC TABLE J3.3.
   A) LARGER HOLES ARE PERMITTED IN STANDARD COLUMN BASE PLATES. MAXIMUM HOLE DIAMETER = BOLT DIAMETER + 3/8". HARDENED WASHERS, TO COVER THE LARGER HOLE, SHALL BE PROVIDED.
   B) LARGER HOLES ARE NOT PERMITTED IN WIND FRAME COLUMN BASE PLATES. MAXIMUM HOLE DIAMETER = BOLT DIAMETER + 1/16".
   C) SLOTTED HOLES: A PLATE WASHERS OR A CONTINUOUS BAR WITHSTANDARD HOLES, HAVING A SIZE SUFFICIENT TO COMPLETELY COVER THE SLOT AFTER INSTALLATION, AND A MIN. OF 5/16" THICK SHALL BE PROVIDED. TACK WELD NUT TO BOLT AFTER ERECTION.

5. STEEL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER (WITHIN THE MILL TOLERANCE) LOCATED ABOVE THE HORIZONTAL CENTERLINE BETWEEN THE END CONNECTIONS.

6. SHOP PRIME STEEL SURFACES EXCEPT THE FOLLOWING:
   A) SURFACES EMBEDDED IN CONCRETE OR MORTAR. EXTEND PRIMING OF PARTIALLY EMBEDDED MEMBERS TO A DEPTH OF 2 INCHES.
   B) SURFACES TO BE FIELD WELDED.
   C) SURFACES TO BE HIGH-STRENGTH BOLTED WITH SLIP-CRITICAL CONNECTIONS.
   D) SURFACES TO RECEIVE SPRAYED FIRE-RESISTIVE MATERIALS.
   E) GALVANIZED SURFACES.
   F) FINISH BY ARCHITECT.

7. SURFACE PREPARATION: CLEAN SURFACES TO BE PAINTED. REMOVE LOOSE RUST AND MILL SCALE AND SPATTER, SLAG, OR FLUX DEPOSITS. PREPARE SURFACES ACCORDING TO THE FOLLOWING SPECIFICATIONS AND STANDARDS.

8. PRIMING: IMMEDIATELY AFTER SURFACE PREPARATION, APPLY PRIMER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND AT RATE RECOMMENDED BY SSPC TO PROVIDE A DRY FILM THICKNESS OF NOT LESS THAN 1.5 MILS. USE PRIMING METHODS THAT RESULT IN FULL COVERAGE OF JOINTS, CORNERS, EDGES, AND EXPOSED SURFACES.
   A) STRIPE PAINT CORNERS, CREVICES, BOLTS, WELDS, AND SHARP EDGES.
   B) APPLY TWO COATS OF SHOP PAINT TO INACCESSIBLE SURFACES AFTER ASSEMBLY OR ERECTION. CHANGE COLOR OF SECOND COAT TO DISTINGUISH IT FROM FIRST.

9. PRIME AND PAINT ALL FIELD WELDS AFTER INSPECTION.

10. A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO PERFORM THE FOLLOWING TESTS.
   A) VISUALLY INSPECT ALL STEEL MEMBERS AND CONNECTIONS.
   B) TEST 50 PERCENT OF FULL PENETRATION WELDS.

11. ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND GENERAL CONTRACTOR.

12. STEEL SHALL CONFORM TO:
   WIDE FLANGE (WF)(WT)------ASTM A992 (50 KSI)
   SHAPES (S, L, C, MC)---------ASTM A36
   HOLLOW STRUCTURAL SECTIONS (HSS)---ASTM A500 GRADE C (RECTANGULAR 50 KSI; ROUND 46 KSI)
   ANCHOR BOLTS----------ASTM A307
   FRAMING BOLTS----------ASTM A325N OR A490N
   WELDING ELECTRODES--------E70XX

13. FASTENERS AND MATERIALS USED FOR WELDING OR OTHERWISE SECURING COMPONENTS ONE TO ANOTHER SHALL BE OF DOMESTIC (USA MADE) MANUFACTURE. SIMILARLY, ALL MATERIALS USED IN THE MANUFACTURING PROCESS SHALL BE FROM A DOMESTIC SOURCE.

14. SHOP AND FIELD WELDS SHALL BE DONE BY A.W.S. CERTIFIED WELDERS. PROVIDE CURRENT CERTIFICATES UPON REQUEST.

15. NO SPLICES SHALL BE PERMITTED IN ANY STRUCTURAL STEEL MEMBER UNLESS SHOWN ON APPROVED SHOP DRAWINGS.

16. STEEL STAIRS AND/OR LADDERS SHALL BE DESIGNED FOR 100 PSF LIVE LOAD BY A LICENSED DELEGATED ENGINEER, WHO SHALL SUBMIT SIGNED AND SEALED SHOP DRAWINGS. SHOP DRAWINGS SHALL SPECIFY ALL DESIGN LOADS.

17. SUBMITTALS: CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS SHOWING ALL STRUCTURAL STEEL LAYOUTS AND DETAILS, SIZES OF MEMBERS, TYPE OF STEEL, CONNECTION DETAILS, WELDS, BOLTS, ETC., AS REQUIRED TO FABRICATE AND ERECT ALL STRUCTURAL STEEL FRAMING. ALL CONNECTIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED BY THE DETAILER AND SUBMITTED ON SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED FLORIDA DELEGATED ENGINEER.

18. NON-SHRINK GROUT SHALL BE: NONMETALLIC SHRINKAGE-RESISTANT GROUT, PREMIXED, NON-CORROSIVE, NON-STAINING PRODUCT CONTAINING SELECTED SILICA SANDS, PORTLAND CEMENT, SHRINKAGE COMPENSATING AGENTS, PLASTICIZING AND WATER-REDUCING AGENTS, COMPLYING WITH CRD-C621, CORPS OF ENGINEERS.

19. IF NOT SPECIFIED ON THE DRAWINGS, THE THROAT SIZE OF ANY FILLET WELD SHALL BE EQUAL TO 1/16" LESS THAN THE THINNEST CONNECTION COMPONENT.

20. NO FIELD WELDING OF GALVANIZED MEMBERS IS PERMITTED.

21. MINIMUM EMBEDMENT DEPTH OF ANCHOR BOLTS:
   A) FOOTINGS = 3" FROM BOTTOM.

22. ERECTION
   A) BEFORE ERECTION, THE CONTRACTOR IS TO REMOVE ALL MUD, DIRT OR OTHER FOREIGN MATTER, WHICH ACCUMULATES DURING HANDLING AND STORAGE.
   B) DRIFTING TO ENLARGE UNFAIR HOLES WILL NOT BE PERMITTED. DRILL SUCH HOLES TO ACCOMMODATE THE NEXT LARGER SIZE FASTENER, WHERE POSSIBLE.
   C) AFTER ERECTION, CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS WHERE SHOP COAT HAS BEEN DAMAGED. SPOT AND PRIME AREAS USING SAME MATERIAL AS SHOP COAT.
   D) SET ALL MEMBERS SO THAT, IN THEIR FINAL LOCATION, LEVEL, PLUMBNESS AND ALIGNMENT ARE WITHIN THE TOLERANCES PRESCRIBED BY AISC CODE.
   E) DOUBLE CONNECTIONS THROUGH COLUMN WEBS OR AT BEAMS THAT FRAME OVER THE TOPS OF COLUMNS MUST BE DESIGNED TO HAVE AT LEAST ONE INSTALLED BOLT REMAIN IN PLACE TO SUPPORT THE FIRST BEAM WHILE THE SECOND BEAM IS BEING ERECTED. ALTERNATIVELY, THE FABRICATOR MUST SUPPLY A SEAT OR EQUIVALENT DEVICE WITH A MEANS OF POSITIVE ATTACHMENT TO SUPPORT THE FIRST BEAM WHILE THE SECOND BEAM IS BEING ERECTED.

CARPENTRY

1. DIMENSIONED LUMBER SHALL BE DRESSED S4S, AND SHALL BEAR THE GRADE STAMP OF THE MANUFACTURER'S ASSOCIATION.

2. LUMBER SHALL BE SOUND, SEASONED, AND FREE FROM WARP.

3. LUMBER SHALL BE SOUTHERN PINE NO. 2 GRADE OR BETTER; WITH 19% MAXIMUM MOISTURE CONTENT, UNLESS NOTED OTHERWISE ON THE PLANS.

4. LUMBER IN CONTACT WITH MASONRY OR CONCRETE, OR EXPOSED TO WEATHER, SHALL BE PRESSURE TREATED.

5. MINIMUM COATING REQUIREMENTS FOR METAL CONNECTORS AND FASTENERS:
   A) EXTERIOR COASTAL AREAS - STAINLESS STEEL (TYPE 316L)

6. WHEN USING STAINLESS STEEL CONNECTORS, USE STAINLESS STEEL FASTENERS. WHEN USING G185 OR HDG CONNECTORS, USE FASTENERS GALVANIZED PER ASTM A153.

7. PLYWOOD SHEATHING SHALL BE DFPA CD WITH EXTERIOR GLUE. ALL ROOF SHEATHING TO BE INSTALLED WITH PLYCLIPS.

8. INSTALL BRIDGING IN ALL FLOOR OR ROOF JOISTS AT 10'_0" O.C. MAXIMUM.

9. NAILING AND BOLTING SHALL COMPLY WITH AMERICAN INSTITUTE OF TIMBER CONSTRUCTION REQUIREMENTS.

10. CONNECTION HARDWARE SHALL BE SUPPLIED BY SIMPSON STRONG-TIE CO., INC, OR EQUIVALENT. SUBMIT CUT SHEETS OF ALTERNATIVE CONNECTION HARDWARE TO ENGINEER FOR APPROVAL.

11. ROOF SHEATHING SHALL BE 5/8" EXTERIOR GRADE PLYWOOD OR OSB NAILED WITH 10D NAILS AT 4" O.C. AT SUPPORTED EDGES, AND 10D NAILS AT 6" O.C. AT INTERMEDIATE SUPPORTS. PROVIDE ONE PLYWOOD CLIP PER SPAN BETWEEN SHEET EDGES. PROVIDE SOLID 2X BLOCKING BETWEEN SUPPORTS AT ALL HIPS, RIDGES, VALLEYS, AND CHANGES IN ROOF SLOPE. USE RING SHANK NAILS WHERE MEAN ROOF HEIGHT EXCEEDS 25'-0".

12. FASTENER SUBSTITUTIONS

   ALL NAILS ARE COMMON NAILS, UNLESS NOTED OTHERWISE. THE FOLLOWING FASTENERS ARE ACCEPTABLE SUBSTITUTIONS. ALL ALTERNATE FASTENERS SHALL BE SPACED AT THE SAME SPACING AS THE SCHEDULED FASTENERS.

SCHEDULED FASTENER	ALTERNATE FASTENER
8D COMMON NAIL	8D RING SHANK NAIL 8D SCREW SHANK NAIL 0.131 P-NAIL
10D COMMON NAIL	10D RING SHANK NAIL 10D SCREW SHANK NAIL 0.148 P-NAIL
6D COOLER NAIL	#6 X 1-1/4" TYPE S OR W DRYWALL SCREW

13. GUN DRIVEN NAILS MUST BE SUBMITTED FOR REVIEW WITH APPROPRIATE BACK-UP DATA.

14. OSB SHALL NOT HAVE A MOISTURE CONTENT GREATER THAN 15%. PROLONGED EXPOSURE TO WETTING & MOISTURE WILL DAMAGE AND REDUCE THE STRUCTURAL CAPACITY OF THE SHEATHING. SPECIAL CARE SHALL BE TAKEN DURING CONSTRUCTION TO KEEP THE OSB DRY AT ALL TIMES (INCLUDING DURING TRANSPORTATION, STORAGE, INSTALLATION, ETC.)

15. PRESSURE TREATED WOOD TABLE: AWPA STANDARD U1-11

APPLICATION	EXPOSURE	USE CATEGORY	COMMODITY SPECIFICATION SECTION	AND PRESERVATIVE RETENTION
DECKING, JOISTS AND BEAMS	ABOVE GROUND, EXTERIOR	3B	A	NOTE 1

NOTES: 1. REFER TO AWPA U1-11 FOR ALLOWABLE PRESERVATIVES AND RETENTIONS.

REX® WOOD POLYMER COMPOSITE LUMBER DECKING OR EQUAL

1. MANUFACTURER = TREX COMPANY, INC., WWW.TREX.COM, PHONE NUMBER 540-542-6300.

2. TREX® IS A MANUFACTURED COMPOSITE MATERIAL THAT CONSISTS OF APPROXIMATELY 50 PERCENT WOOD FIBERS OR OTHER CELLULOSIC FIBERS BY WEIGHT WITH

THE REMAINDER OF THE MATERIAL BEING THERMOPLASTIC POLYMER PLASTIC MATERIAL.

3. TREX® SHALL BE IDENTIFIED BY A STAMP OR NON-REMOVABLE LABEL, SPACED AT REGULAR

INTERVALS ALONG EACH PIECE NOTING THE FOLLOWING INFORMATION:
   A) ICC-ES LEGACY REPORT NUMBER ICC-ES NER-508.
   B) MANUFACTURER'S NAME OR TRADEMARK, AND PRODUCT DESCRIPTION.
   C) NAME OF THE QUALITY CONTROL AGENCY, PFS CORPORATION (NER-QA251), OR THEIR TRADEMARK.
   D) DATE OF MANUFACTURE.

4. TREX® SHALL NOT BE USED AS A COMPONENT OF TRUSSES OR STRUCTURAL DIAPHRAGMS AND SHALL NOT BE USED IN INTERIOR FRAMING APPLICATIONS.

5. THE DESIGN AND INSTALLATION OF TREX® SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.

6. TREX® USED AS DECKING SHALL BE DESIGNED AND INSTALLED TO LIMIT BENDING DEFLECTION UNDER TOTAL DESIGN LOAD TO LESS THAN OR EQUAL TO L/360.

7. TREX® DECKING SHALL BE GAPPED TO PERMIT ADEQUATE DRAINAGE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

8. THE MAXIMUM HEIGHT OF THE GUARDRAIL ASSEMBLY SHALL BE 42 INCHES FROM THE DECK BOARDS. THE MAXIMUM OPENING UNDER THE BOTTOM RAIL SHALL BE THREE (3) INCHES.

9. IN LIEU OF TREX DECKING, APPROVED EQUAL MUST HAVE FOLLOWING DESIGN PROPERTIES:
   a) FC= 540 PSI
   b) FC1=540 PSI
   c) FB= 500 PSI
   d) FV=360 PSI
E=200,000 PSI

STRUCTURAL DRAWING INDEX

WILLIAM P. HORN
ARCHITECT , P.A.

915 EATON ST.
KEY WEST,
FLORIDA
33040

TEL. (305) 296-8302
FAX (305) 296-1033

LICENSE NO.
AA 0003040

BIG PINE ACADEMY
ADA ACCESS
COMPLIANCE
RENOVATION
30220 OVERSEAS HWY.
BIG PINE KEY, FLORIDA

Pennoni
5755 Rio Vista Drive
Clearwater, FL. 33760-3137
(727) 325-1251
Florida Coa 7819
James Vincent Barnes III, P.E.
Florida P.E. 77754
Pennoni Project No. WPHRN20001

James V Barnes — Digitally signed by James V Barnes; DN: cn=James V Barnes, o=PENNONI ASSOCIATES INC, ou=ENGINEERING ASSOCIATES INC, c=US; Date: 2022.01.28 14:24:00 -05'00'

SEAL

This item has been electronically signed and sealed by James V Barnes PE using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

JAMES VINCENT BARNES III — LICENSE NUMBER — No. 77754 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

DATE
01-28-2022 - BID SET

REVISIONS

DRAWN BY
SV

PROJECT NUMBER
2105

S0.1

STRUCTURAL SPECIFICATIONS CONT.

CAST IN PLACE CONCRETE

1. ALL CAST–IN–PLACE CONCRETE WORK INCLUDES REINFORCING STEEL AND RELATED WORK SHOWN INCLUDING FORMWORK, SETTING ANCHOR BOLTS, PLATES, FRAMES, DOWELS FOR MASONRY OR OTHER ITEMS EMBEDDED IN CONCRETE.

2. APPLICABLE STANDARDS

ACI NUMBER	TITLE
117	STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION
226	GROUND GRANULATED BLAST–FURNACE SLAG
301	STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
302	GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION
304	GUIDE FOR MEASURING MIXING, TRANSPORTING AND PLACING CONCRETE
304.2R	PLACING CONCRETE BY PUMPING METHODS.
305R	HOT WEATHER CONCRETING
306R	COLD WEATHER CONCRETING
308	STANDARD PRACTICE FOR CURING CONCRETE
309R	GUIDE FOR CONSOLIDATION OF CONCRETE
315	MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES
318	BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
347	RECOMMENDED PRACTICE FOR CONCRETE FORMWORK

CRSI NUMBER	TITLE
63	RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS

3. CONCRETE MATERIALS
A) PORTLAND CEMENT – ASTM C 150, TYPE I
B) AGGREGATES – NORMAL WEIGHT CONCRETE, COARSE AND FINE, ASTM C33. STRUCTURAL LIGHT WEIGHT ASTM C330.
C) AIR–ENTRAINING – ASTM C260
D) WATER REDUCING – ASTM C494, TYPE A
E) WATER – FRESH, CLEAN AND POTABLE
F) NO ACCELERATORS, RETARDERS OR ADMIXTURES CONTAINING CHLORIDES WILL BE PERMITTED
G) FLY–ASH – ASTM C618, CLASS F, 20% MAXIMUM OF CEMENTITIOUS MATERIAL BY WEIGHT. DO NOT USE FOR EXPOSED SLABS OR ARCHITECTURAL CONCRETE.
H) SUPER PLASTICIZER – ASTM C494, TYPE F OR G, WHERE AUTHORIZED BY THE ENGINEER.
I) GROUND GRANULATED BLAST–FURNACE SLAG CEMENT – ASTM C989, 50% MAXIMUM BY WEIGHT.
J) MAXIMUM AGGREGATE SIZE – FOOTINGS = #57, OTHERS #67

4. REINFORCING MATERIALS
A) DEFORMED BARS – ASTM A615, GRADE 60
B) WELDED WIRE FABRIC – ASTM A1064, PLAIN WIRE FABRIC IN FLAT SHEETS ONLY.
C) ACCESSORIES TO CONFORM TO ACI 315.
D) WHERE CONCRETE SURFACES ARE EXPOSED, MAKE THOSE PORTIONS OF ALL ACCESSORIES IN CONTACT WITH THE CONCRETE SURFACE OR WITHIN 1/2 INCH THEREOF, OF PLASTIC OR STAINLESS STEEL.

5. PROVIDE THE FOLLOWING MINIMUM CONCRETE STRENGTHS AT 28 DAYS:
A) FOOTINGS, SLAB–ON–GRADE, GRADE BEAM, PIER EXTENSION –––––3000 PSI

6. CONCRETE MUST BE BATCHED, MIXED AND TRANSPORTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR READY–MIXED CONCRETE ASTM C94.

7. REQUIRED SLUMP = 4 PLUS OR MINUS ONE INCH.

8. CONCRETE MUST BE PLACED WITHIN 90 MINUTES OF BATCH TIME. WHEN AIR TEMPERATURE IS BETWEEN 85 AND 90 DEGREES F, REDUCE MIXING AND DELIVERY TIME TO 75 MINUTES. WHEN AIR TEMPERATURE IS HIGHER THAN 90 DEGREES F, REDUCE MIXING AND DELIVERY TIME TO 60 MINUTES.

9. DO NOT ADD WATER AT THE JOB SITE WITHOUT APPROVAL OF THE PROJECT SUPERINTENDENT. DO NOT EXCEED THE SLUMP LIMITATION. USE ONLY COLD WATER FROM THE TRUCK TANK. ANY ADDED WATER MUST BE INDICATED ON THE DELIVERY TICKET PLUS THE NAME OF THE PERSON AUTHORIZING. TEST CYLINDERS SHALL BE TAKEN AFTER THE ADDITION OF WATER.

10. LAP SPLICE REINFORCING PER CONCRETE LAP SCHEDULE MINIMUM UNLESS OTHERWISE SHOWN OR NOTED.

11. PROVIDE FOUNDATION DOWELS TO MATCH SIZE AND NUMBER OF VERTICAL BARS. EMBED DOWELS TO:
A) 3" ABOVE BOTTOM OF FOOTINGS, GRADE BEAMS, PIER EXTENSIONS.

13. REINFORCEMENT SHALL BE FASTENED AND SECURED TOGETHER TO PREVENT DISPLACEMENT BY CONSTRUCTION LOADS OR THE PLACING OF CONCRETE.

14. REINFORCING BAR COVER
A) FOOTINGS, GRADE BEAM, PIER EXTENSIONS 2" (TOP), 3" (SIDES AND BOTTOM)
B) SLABS 1–1/2" (EXTERIOR)

15. WHERE BAR LENGTHS ARE GIVEN ON THE DRAWINGS, LENGTH OF HOOK, IF REQUIRED, IS NOT INCLUDED.

16. SELECT PROPORTIONS IN ACCORDANCE WITH ACI 301 TO PROVIDE CONCRETE CAPABLE OF BEING PLACED WITHOUT EXCESSIVE SEGREGATION AND WITH ACCEPTABLE FINISHING PROPERTIES, DURABILITY, SURFACE HARDENERS, APPEARANCE, AND STRENGTH REQUIREMENTS REQUIRED BY THESE SPECIFICATIONS.

17. CHAIR WELDED WIRE FABRIC REINFORCING AT 3'–0" ON CENTER MAXIMUM IN EACH DIRECTION.

18. MAXIMUM WATER TO CEMENT RATIO WHEN NO BACK–UP DATA IS AVAILABLE:
A) 3000 PSI, 28–DAY COMPRESSIVE STRENGTH; W/C RATIO, 0.58 MAXIMUM (NON–AIR–ENTRAINED), 0.47 MAXIMUM (AIR–ENTRAINED).

19. DATA TO BE SUBMITTED:
A) INTENDED USAGE AND LOCATION FOR EACH TYPE
B) MIX DESIGN FOR EACH TYPE
C) CEMENT CONTENT IN POUNDS–PER–CUBIC YARD
D) COARSE AND FINE AGGREGATE IN POUNDS/CUBIC YARD
E) WATER CEMENT RATIO BY WEIGHT
F) CEMENT TYPE AND MANUFACTURER
G) SLUMP RANGE
H) AIR CONTENT
I) ADMIXTURE TYPE AND MANUFACTURER
J) PERCENT ADMIXTURE BY WEIGHT
K) STRENGTH TEST DATA REQUIRED TO ESTABLISH MIX DESIGN.
L) COMPLETE DETAIL AND PLACING SHOP DRAWINGS FOR ALL REINFORCING STEEL INCLUDING ACCESSORIES THAT HAVE BEEN REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR. INCLUDE ALL REQUIRED DIMENSIONS AND ELEVATIONS (IE. TOP OF CONCRETE)

20. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CONSTRUCTION OF FORMWORK, SHORING AND RE–SHORING IN ACCORDANCE WITH ACI 347.
A) FORM AND SHORING DESIGN BY A P.E. REGISTERED IN THE STATE OF FLORIDA.

21. SUBMIT FORM WORK AND SHORING DRAWINGS TO LOCAL BUILDING DEPARTMENT WHEN REQUIRED BY FLORIDA THRESHOLD LAW.

22. CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS MUST BE MADE AND LOCATED TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE.
A) NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN BEAMS, GIRDERS AND SLABS.
B) LOCATION OF ANY CONSTRUCTION JOINT NOT SHOWN IS SUBJECT TO REVIEW AND ACCEPTANCE BY ENGINEER.

23. INTERNAL VIBRATION, PROPERLY APPLIED IS THE REQUIRED METHOD OF CONSOLIDATING PLASTIC CONCRETE.

24. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL OPENINGS, SLEEVES, AND SLAB RECESSES AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED. NO SLEEVE, OPENINGS, OR INSERT MAY BE PLACED IN BEAMS, JOISTS, OR COLUMN UNLESS APPROVED BY THE ENGINEER.

25. CONTRACTOR SHALL VERIFY EMBEDDED ITEMS INCLUDING, BUT NOT LIMITED TO, ANCHOR BOLTS, BOLT CLUSTERS, WELD PLATES, ETC., BEFORE PLACING CONCRETE. NOTIFY ENGINEER OF ANY CONFLICTS WITH REBAR.

26. ALL EXPOSED CONCRETE SURFACES TO BE IN ACCORDANCE WITH ACI 301 SECTION 5.3.3.(C), INCLUDING SURFACE TOLERANCE CLASS A AS SPECIFIED IN ACI 117.U.N.O.

27. SEE ARCHITECTURAL DRAWINGS FOR REQUIRED CONCRETE FINISHES.

28. SLOPE WALKWAYS TO DRAIN AWAY FROM THE BUILDING.

31. TESTING
A) A QUALIFIED TESTING LAB SHALL BE RETAINED TO PERFORM QUALITY CONTROL WORK AND ON–SITE TESTING.
B) SLUMP TEST – ASTM 143
C) MOLD AND CURE TEST CYLINDERS (ASTM C–31) AND TEST CYLINDERS FOR STRENGTH (ASTM C39). TAKE ONE TEST – THREE CYLINDERS FOR EACH DAYS POUR OF 100 CUBIC YARDS, OR FRACTION THEREOF. TEST ONE CYLINDER AT 7 DAYS, TWO AT 28 DAYS. TEST CYLINDER SAMPLES SHALL BE TAKEN AT THE POINT OF DISCHARGE WHEN USING A PUMP.
D) ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO THE OWNER, ENGINEER, ARCHITECT AND GENERAL CONTRACTOR.

32. CONTRACTOR SHALL PROVIDE FLATNESS AND LEVELNESS IN CONCRETE SLABS PER ACI 302.1R, FIG. 10.7 MINIMUM REQUIRED "F" NUMBERS FOR TYPE OF SLAB USE. REFER TO ACI 117 FOR FLOOR TOLERANCES.

33. REPAIR ANY CRACKS OR DEFECTIVE AREAS THAT WILL RESTORE THE AFFECTED SURFACE OR AREAS TO THEIR FULL DESIGN STRENGTH AND APPEARANCE. CONTACT THE STRUCTURAL ENGINEER FOR ADVICE AND EVALUATION.

34. ACCEPTANCE OF THE STRUCTURE WILL BE MADE IN CONFORMANCE WITH ACI 301.

35. ALL CAST–IN–PLACE CONCRETE MUST BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT A RELATIVELY CONSTANT TEMPERATURE FOR A MINIMUM OF 7 DAYS FOLLOWING THE PLACING OF THE CONCRETE BY THE USE OF A WATER SPRAY, WATER SATURATED FABRIC, MOISTURE RETAINING MEMBRANE OR LIQUID CURING COMPOUND.

36. CURE SLABS–ON–GRADE FOR THE FIRST 72 HOURS BY THE USE OF:
A) FOG SPRAYING
B) PONDING
C) SPRINKLING
D) CONTINUOUSLY WET ABSORPTIVE MATS OR FABRIC
E) CONTINUE CURING BY USE OF MOISTURE RETAINING COVER UNTIL CONCRETE HAS OBTAINED ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH.
F) OR LIQUID CURING COMPOUND AFTER FINISHING PROCESS IS COMPLETED.
G) CONCRETE WET CURE TIME TO BE 7 DAYS MINIMUM AT 50 DEGREES MINIMUM TEMPERATURE.

37. SUBMIT MATERIALS AND METHOD OF CURING FOR REVIEW.

38. DO NOT USE MOISTURE RETAINING CURING COMPOUNDS FOR CURING SURFACES TO RECEIVE CARPET, FLEXIBLE FLOORING, CERAMIC TILED FLOORS OR OTHER SPECIFIED FLOOR SYSTEMS, UNLESS IT HAS BEEN DEMONSTRATED THAT SUCH COMPOUNDS WILL NOT PREVENT BOND.

39. DO NOT PERMIT CONCRETE NOT FULLY CURED TO BE EXPOSED TO EXCESSIVE TEMPERATURE CHANGES OR HIGH WINDS.

40. POUR ALL GROUND SLABS ON 10 MIL MINIMUM VAPOR RETARDER IN COMPLIANCE WITH ASTM E1745, LAPPED 6" MINIMUM AND FULLY TAPED.

41. EQUIPMENT MADE OF ALUMINUM OR ALUMINUM ALLOYS, SHALL NOT BE USED FOR PUMP LINES, TREMIES, OR CHUTES OTHER THAN SHORT CHUTES SUCH AS THOSE USED TO CONVEY CONCRETE FROM A TRUCK MIXER.

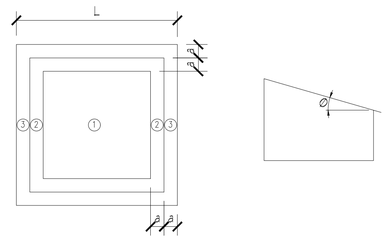
42. THE CODE PROHIBITS THE USE OF ALUMINUM (CONDUIT, PIPES, ETC.) IN STRUCTURAL CONCRETE UNLESS IT IS EFFECTIVELY COATED OR COVERED.

GROSS ULTIMATE WIND LOADS MAIN ROOF ROOFING MATERIALS

COMPONENTS AND CLADDING	ROOF ZONE		
	1	2	3
PRESSURE (psf)	80.9	121.0	162.0
SUCTION (psf)	-80.9	-121.0	-197.0

NET ULTIMATE WIND LOADS MAIN ROOF TRUSSES

COMPONENTS AND CLADDING	ROOF ZONE		
	1	2	3
PRESSURE (psf)	80.9	121.0	121.0
SUCTION (psf)	-80.9	-121.0	-121.0



MONOSLOPE FREE ROOF (PRE-ENGINEERED CANOPY) (Ø° < Ø ≤ 45°)

COMPONENT AND CLADDING LOADING DIAGRAMS

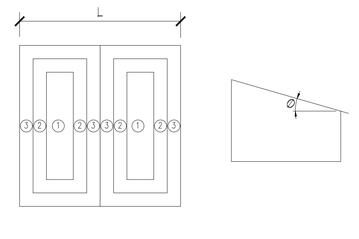
1. a = 3'-0"
2. THIS BUILDING IS DESIGNED AS AN ENCLOSED STRUCTURE. ALL EXTERIOR COMPONENTS (DOORS, WINDOWS, ETC.) MUST BE DESIGNED TO WITHSTAND THE WIND LOADINGS SPECIFIED FOR THE DESIGN OF COMPONENTS AND CLADDING IN THE TABLES. IN ADDITION, ALL AREAS OF EXTERIOR GLAZING MUST BE CERTIFIED FOR MISSILE IMPACT OR PROTECTED BY WIND-BORNE DEBRIS BY A SCREEN BARRIER.
3. TO CONVERT THE (ASCE 7-16) ULTIMATE WIND PRESSURES IN THE TABLES ABOVE TO (ASD) WIND PRESSURES, MULTIPLY EACH VALUE BY 0.6.

GROSS ULTIMATE WIND LOADS MAIN ROOF ROOFING MATERIALS

COMPONENTS AND CLADDING	ROOF ZONE		
	1	2	3
PRESSURE (psf)	79.3	122.0	159.0
SUCTION (psf)	-104.0	-162.0	-209.0

NET ULTIMATE WIND LOADS MAIN ROOF JOISTS OR TRUSSES

COMPONENTS AND CLADDING	ROOF ZONE		
	1	2	3
PRESSURE (psf)	79.3	79.3	79.3
SUCTION (psf)	-104.0	-104.0	-104.0



PITCHED FREE ROOF (ROOF ADDITION) (10° < Ø < 45°)

COMPONENT AND CLADDING LOADING DIAGRAMS

1. a = 3'-0"
2. THIS BUILDING IS DESIGNED AS AN ENCLOSED STRUCTURE. ALL EXTERIOR COMPONENTS (DOORS, WINDOWS, ETC.) MUST BE DESIGNED TO WITHSTAND THE WIND LOADINGS SPECIFIED FOR THE DESIGN OF COMPONENTS AND CLADDING IN THE TABLES. IN ADDITION, ALL AREAS OF EXTERIOR GLAZING MUST BE CERTIFIED FOR MISSILE IMPACT OR PROTECTED BY WIND-BORNE DEBRIS BY A SCREEN BARRIER.
3. TO CONVERT THE (ASCE 7-16) ULTIMATE WIND PRESSURES IN THE TABLES ABOVE TO (ASD) WIND PRESSURES, MULTIPLY EACH VALUE BY 0.6.

WILLIAM P. HORN
ARCHITECT , P.A.

915 EATON ST.
KEY WEST,
FLORIDA
33040

TEL. (305) 296-8302
FAX (305) 296-1033

LICENSE NO.
AA 0003040

BIG PINE ACADEMY
ADA ACCESS
COMPLIANCE
RENOVATION
30220 OVERSEAS HWY.
BIG PINE KEY, FLORIDA

Pennoni
5755 Rio Vista Drive
Clearwater, FL. 33760-3137
(727) 325-1251
Florida Coa 7819
James Vincent Barnes III, P.E.
Florida P.E. 77754
Pennoni Project No. WPHRN20001

SEAL

This item has been electronically signed and sealed by James Vincent Barnes III, PE using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

JAMES VINCENT BARNES III * LICENSED * No. 77754 * STATE OF FLORIDA * PROFESSIONAL ENGINEER

DATE
01-28-2022 - BID SET

REVISIONS

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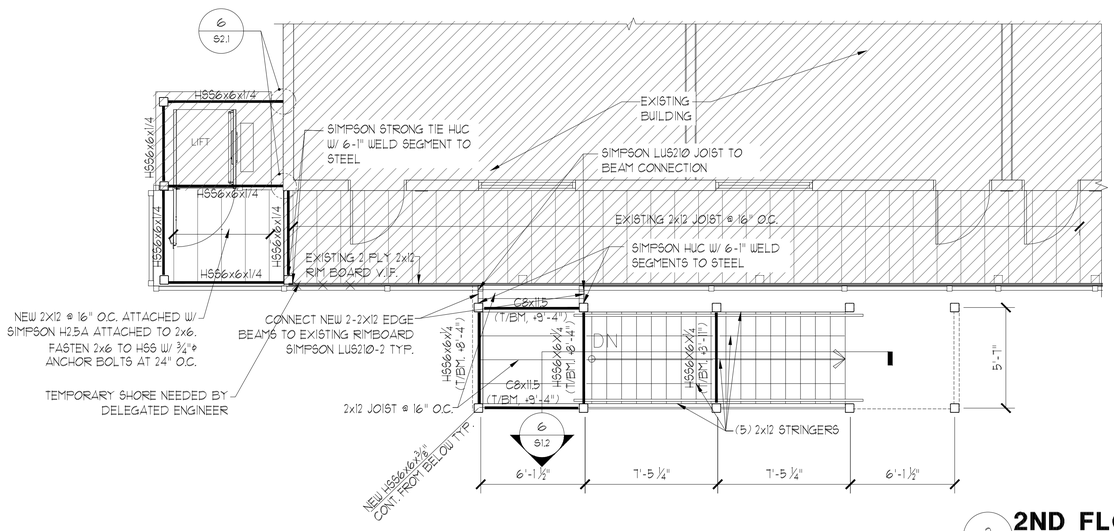
SV

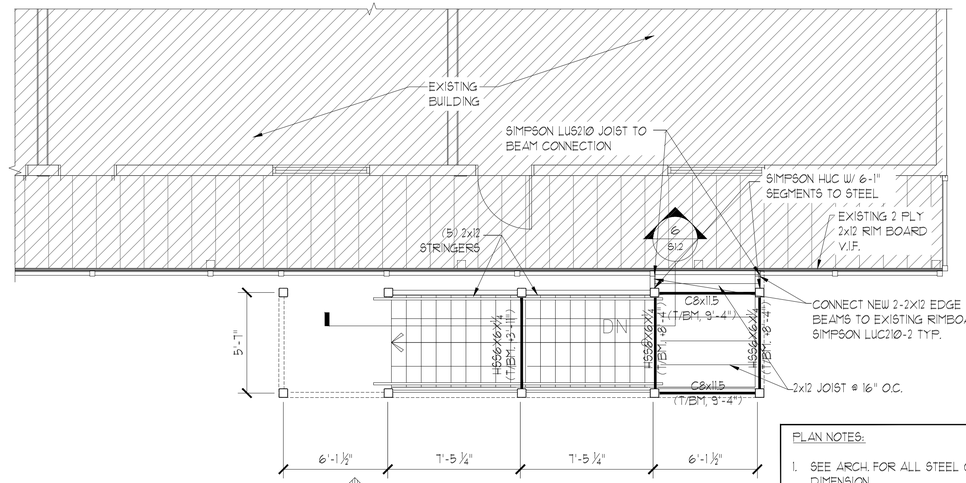
PROJECT NUMBER
2105

S0.2



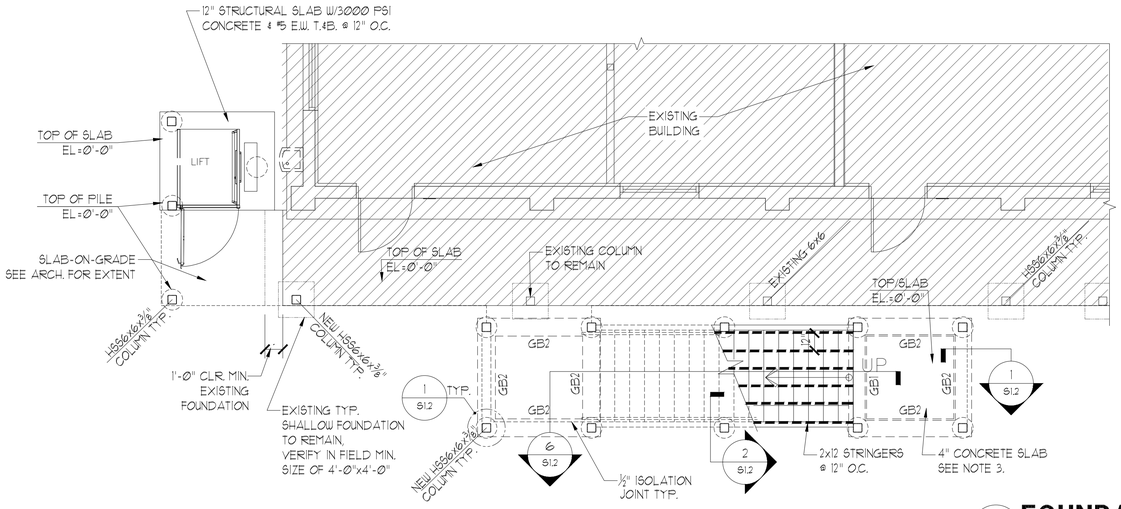
2 2ND FLOOR STAIR FRAMING PLAN

SCALE : 1/4" = 1'-Ø"



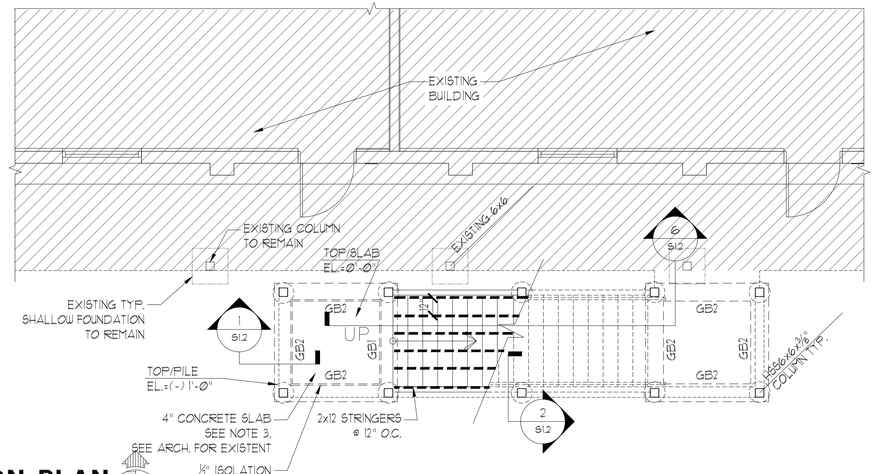
PLAN NOTES:

1. SEE ARCH. FOR ALL STEEL COATING & FINISHES AND DIMENSION.
2. SEE ARCH FOR ALL SPECIALTY AND LANDING SLABS ALONG W/ CONTROL JOINT LOCATIONS.
3. THE G.C. SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS & EXISTING CONDITIONS.
4. THE G.C. SHALL PROVIDE TEMPORARY SHORING AS REQUIRED TO SUPPORT EXISTING STRUCTURE TO REMAIN UNTIL ALL NEW SUPPORTS ARE IN PLACE.
5. RAILING TO BE PRE-ENGINEERED ALUMINUM BY DELEGATED ENGINEER.
6. ALL SIMPSON CLIPS & CONNECTIONS TO BE STAINLESS U.N.O.
7. ALL JOISTS TO BE 2x12 #2 SYP. PT.
8. DECKING TO BE 2X6 P.T. U.N.O. SEE SPEC. FOR ADDITIONAL INFO.



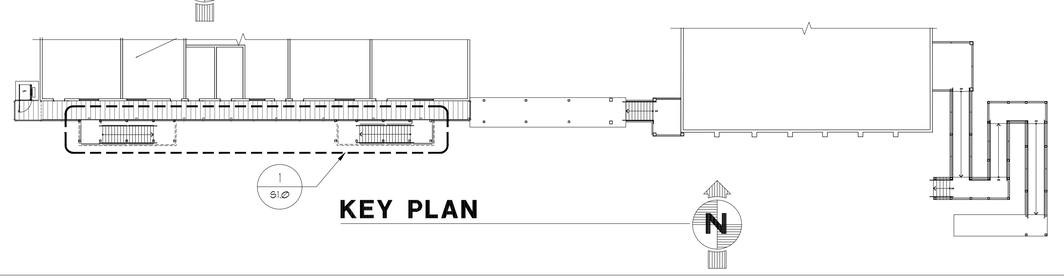
1 FOUNDATION PLAN

SCALE : 1/4" = 1'-Ø"



FOUNDATION PLAN NOTES:

1. ◯ 14"ø AUGER PILE TO DEPTH OF 35'-5' AS APPROVED BY GEOTECH.
2. GC TO LOCATE AND AVOID CONFLICTS W/ ALL EXISTING FOUNDATIONS. NOTIFY PENNONI OF DISCREPANCIES PRIOR TO INSTALLATION OF AUGAR CAST FOUNDATIONS.
3. SLAB-ON-GRADE TO BE 4" THICK f'c=3000 PSI CONC. REINFORCED W/ 6x6-W2.9xW2.9 WWF, ON 15 MIL. VAPOR RETARDER OVER COMPACTED TREATED SOIL SEE ARCH. FOR EXTENT OF SLAB STEPS, OFFSETS AND SLOPES.
4. SEE ARCH FOR ALL SLAB CONTROL JOINTS.
5. SEE SHEET S2.Ø FOR GRADE BEAM INFO.
6. SEE DETAIL 2/2.Ø FOR LAP SCHEDULE.
7. ALL STILL TO BE HOG U.N.O.
8. TOP OF PILE & GRADE BEAM TO BE (-) 1'-Ø".



KEY PLAN

WILLIAM P. HORN
ARCHITECT , P.A.

915 EATON ST.
KEY WEST,
FLORIDA
33040

TEL. (305) 296-8302
FAX (305) 296-1033

LICENSE NO.
AA 0003040

BIG PINE ACADEMY
ADA ACCESS
COMPLIANCE
RENOVATION
30220 OVERSEAS HWY.
BIG PINE KEY, FLORIDA

Pennoni
5755 Rio Vista Drive
Clearwater, FL. 33760-3137
(727) 325-1251
Florida Coa 7819
James Vincent Barnes III, P.E.
Florida P.E. 77754
Pennoni Project No. WPHRN20001

SEAL

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JAMES VINCENT BARNES III LICENSE No. 77754 STATE OF FLORIDA PROFESSIONAL ENGINEER

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REVISIONS

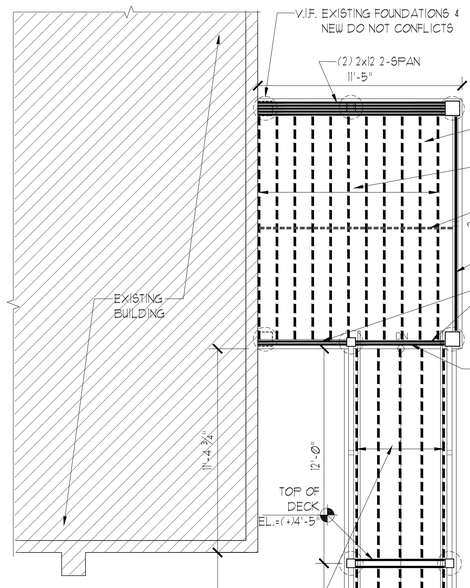
DRAWN BY
SV

PROJECT NUMBER
2105

S1.0

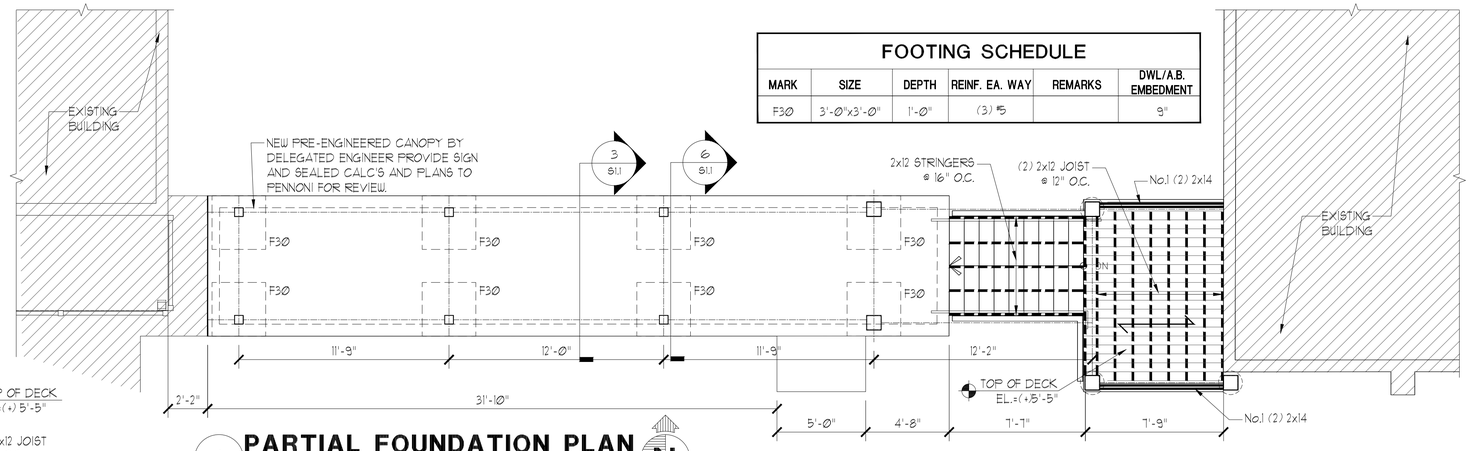
BIG PINE ACADEMY ADA ACCESS COMPLIANCE RENOVATION
30220 OVERSEAS HIGHWAY
BIG PINE KEY, FLORIDA 33043

FOOTING SCHEDULE					
MARK	SIZE	DEPTH	REINF. EA. WAY	REMARKS	DWL/A.B. EMBEDMENT
F30	3'-0"x3'-0"	1'-0"	(3) #5		9"



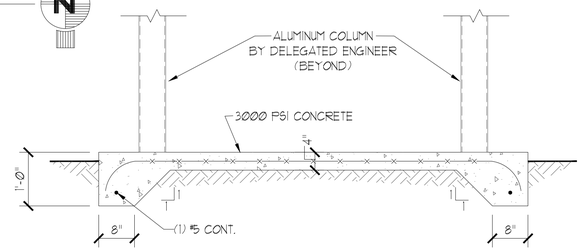
2 RAMP FOUNDATION PLAN

SCALE : 1/4" = 1'-0"

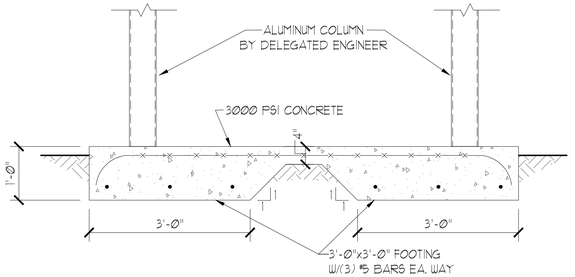


1 PARTIAL FOUNDATION PLAN

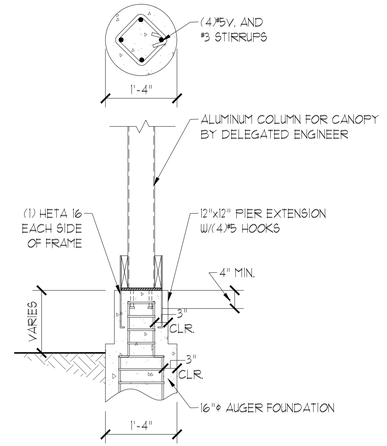
SCALE : 1/4" = 1'-0"



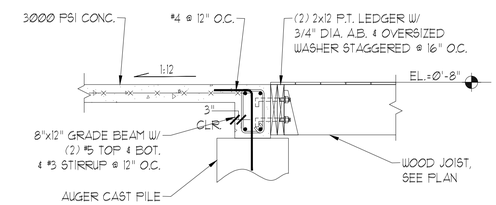
FOUNDATION AT PRE-ENGINEERED CANOPY COLUMNS 3



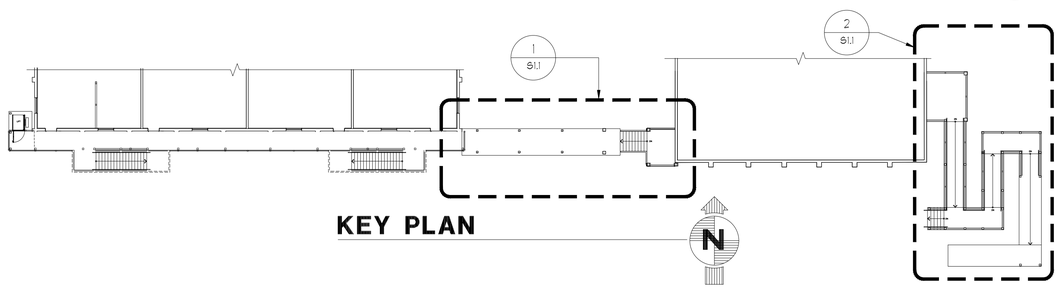
FOUNDATION AT PRE-ENGINEERED CANOPY COLUMNS 6



SECTION AT BASE OF COLUMN 4



RAMP CONNECTION DETAIL 5



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WILLIAM P. HORN
ARCHITECT , P.A.

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KEY WEST,
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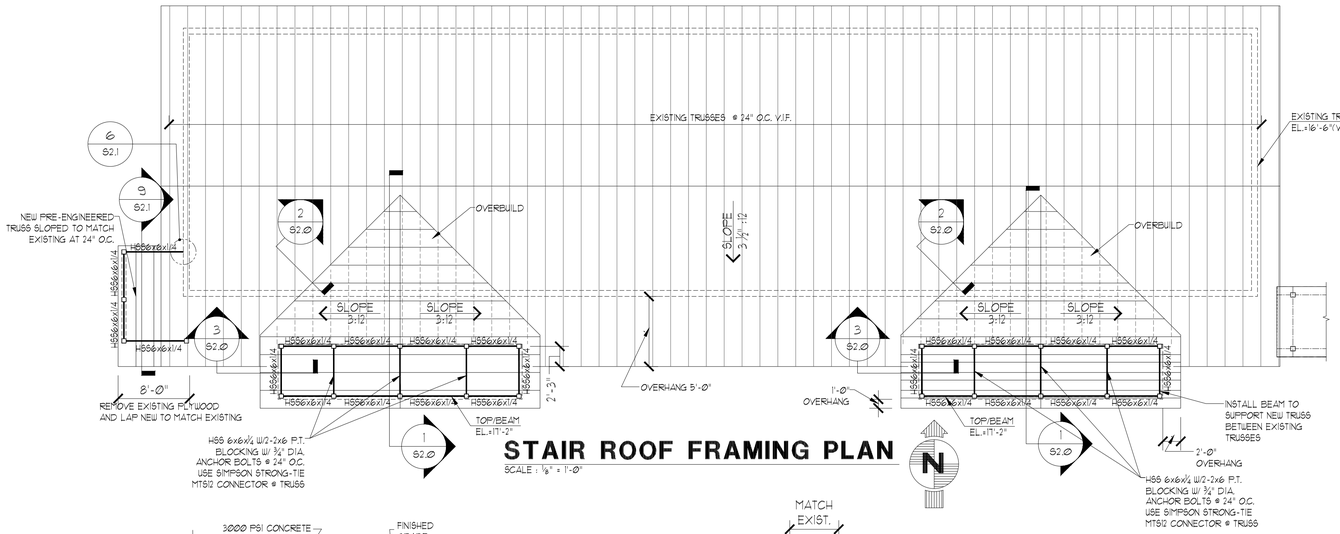
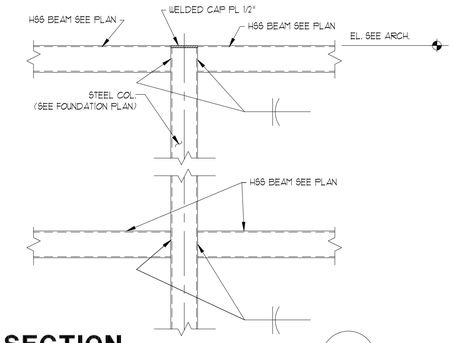


STAIR ROOF FRAMING PLAN

SCALE : ⅛" = 1'-0"

ROOF PLAN NOTES:

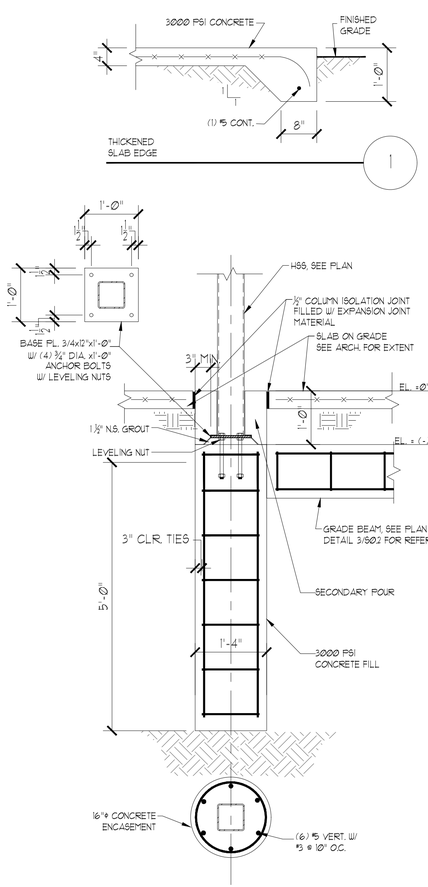
1. ROOF FRAMING TO BE PRE-ENGINEERED WOOD TRUSSES@ 24" O.C. MAX. SEE ARCH. DRAWINGS FOR EXTENT. PROVIDE SIGNED ADD SEALED SHOP DRAWINGS AND CALCULATIONS FOR REVISION PRIOR TO FABRICATION AND CONSTRUCTION.
2. ROOF DECK SHEATHING TO BE ¾" THICK PLYWOOD W/16d NAILS @ 4" O.C. AT PANELS EDGES AND 6" O.C. AT INTERMEDIATE SUPPORTS. PROVIDE BLOCKING AT ALL PANEL JOINTS. SEE DETAILS X & X FOR ADDITIONAL INFORMATION.
3. ——> INDICATES ROOF SLOPE.
4. ROOF TRUSS ELEVATION= SEE PLAN.
5. REFER TO SHEETS S0|1 FOR SPECIFICATIONS.
6. ALL TRUSS TO TRUSS CONNECTIONS BY DELEGATED ENGINEER.
7. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BRACING AND SHORING.
8. VERIFY ALL DIMENSIONS AND ELEVATIONS W/ ARCH. DRAWINGS.
9. ALL SIMPSON CONTRACTORS ARE TO BE FULLY NAILED U.N.O.
10. ALL EXISTING ROOFING TO BE REMOVED FROM TRUSS OVERBUILD PRIOR TO INSTALLATION.



SECTION

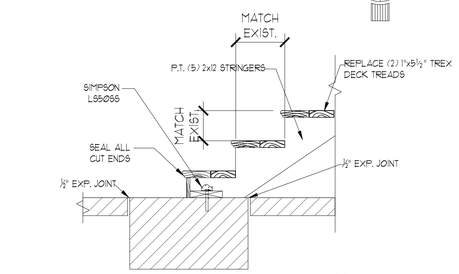
(*) - FILLET WELD = 1/16" LESS THAN COL. WALL THICKNESS

7



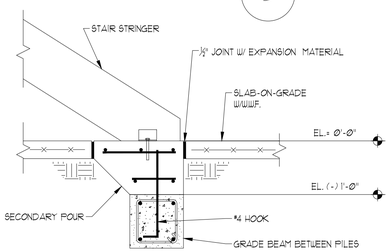
AUGER CAST PILE DETAIL

2



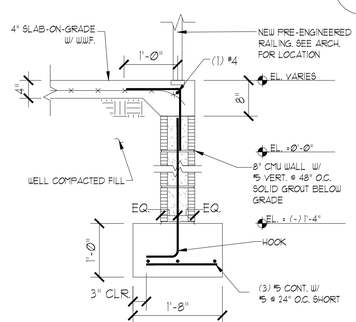
STAIR AT SLAB

3



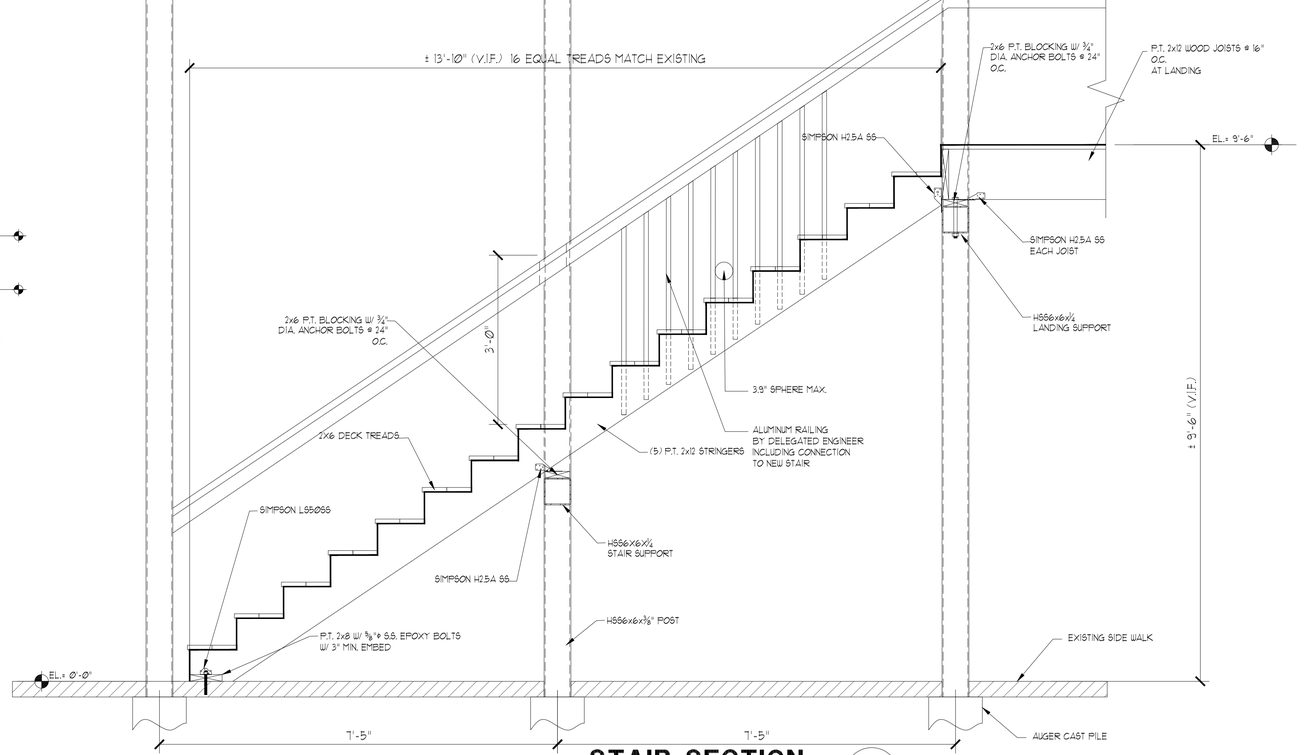
STAIR BASE DETAIL

4



RAMP DETAIL

5



STAIR SECTION

6

WILLIAM P. HORN
ARCHITECT , P.A.

915 EATON ST.
KEY WEST,
FLORIDA
33040

TEL. (305) 296-8302
FAX (305) 296-1033

LICENSE NO.
AA 0003040

BIG PINE ACADEMY
ADA ACCESS
COMPLIANCE
RENOVATION
30220 OVERSEAS HWY.
BIG PINE KEY, FLORIDA

Pennoni
5755 Rio Vista Drive
Clearwater, FL. 33760-3137
(727) 325-1251
Florida Coa 7819
James Vincent Barnes III, P.E.
Florida P.E. 77754
Pennoni Project No. WPHRN20001

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SV

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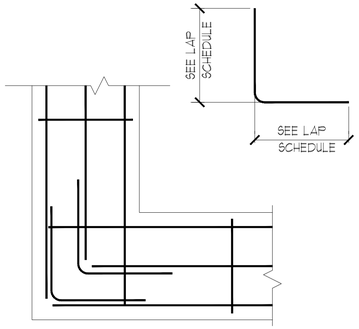
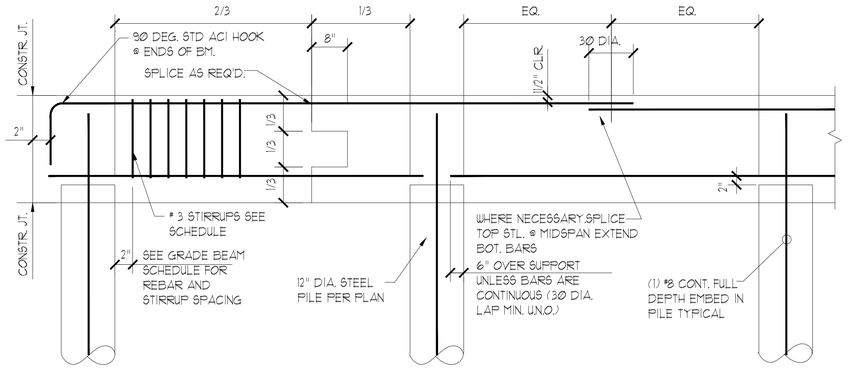
S1.2



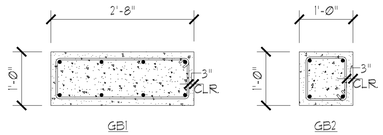
CORNER BAR DETAIL AT FOUNDATION — 1

CONCRETE COLUMN LAP SCHEDULE 4000 PSI NORMAL WGT. CONC.		
BAR SIZE	COMPRESION LAP	TENSION LAP CLASS "B"
#5 BAR	25"	32"
#6 BAR	30"	38"
#7 BAR	35"	54"
#8 BAR	40"	62"
#9 BAR	45"	70"
#10 BAR	50"	80"
#11 BAR	55"	88"

CONCRETE COLUMN LAP SCHEDULE — 2

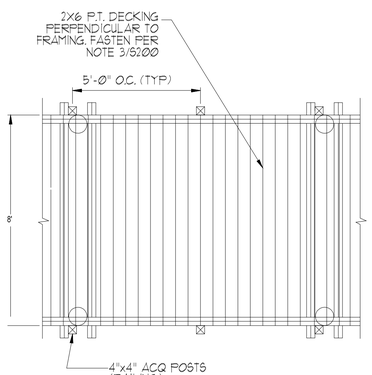


GRADE BEAM REINFORCING — 3

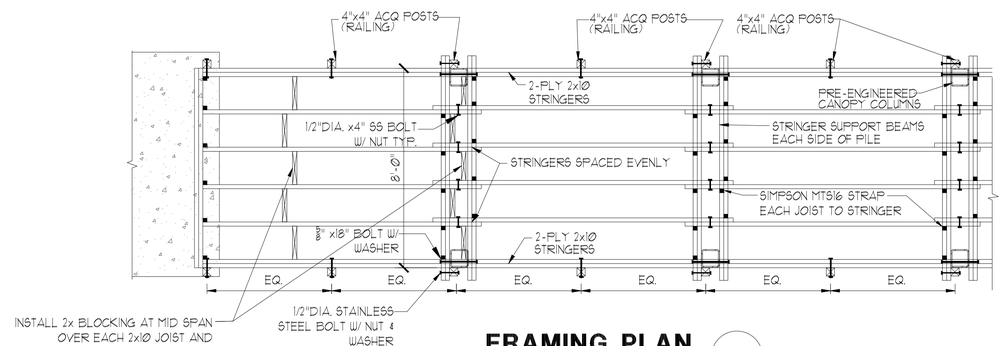


GRADE BEAM LEGEND		
MARK	DIMENSION	REINFORCING
GB1	12"D. x 32"W.	(4) #5 T.&B. & #3 STIRRUPS @ 12" O.C.
GB2	12"D. x 12"W.	(2) #5 T.&B. & #3 STIRRUPS @ 12" O.C.

GRADE BEAM — 4



PARTIAL PLAN — 5
NTS



FRAMING PLAN — 6
NTS

WILLIAM P. HORN
ARCHITECT , P.A.

915 EATON ST.
KEY WEST,
FLORIDA
33040

TEL. (305) 296-8302
FAX (305) 296-1033

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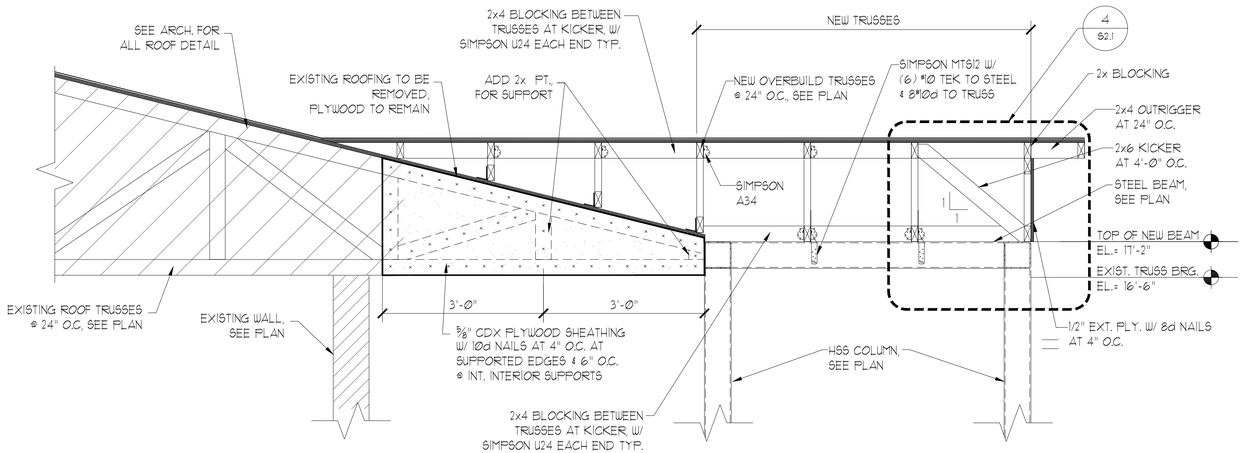
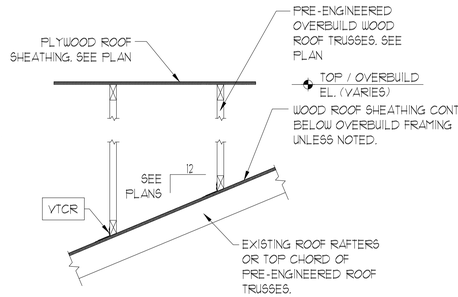
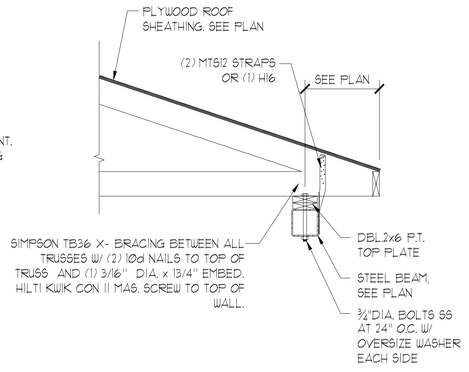


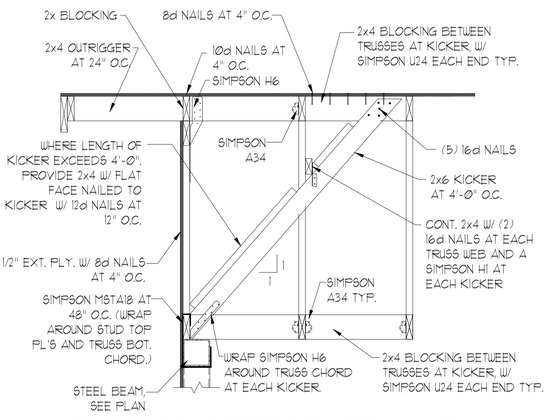
MODIFIED TRUSS SECTION 1



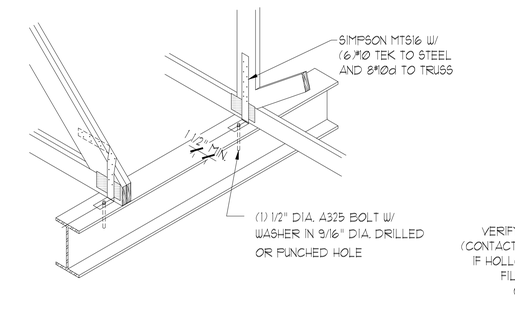
OVER BUILT TRUSS CONNECTION 2



TRUSS BEARING 3

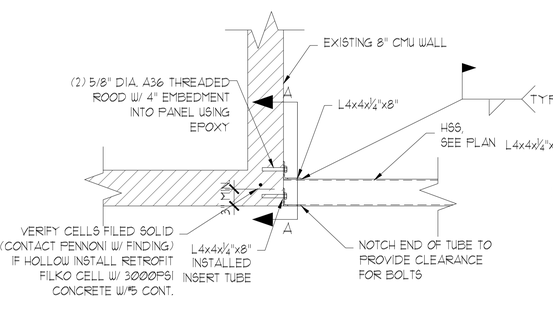


TYPICAL SECTION AT GABLE END TRUSSES 4

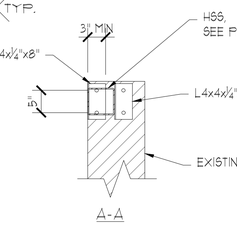


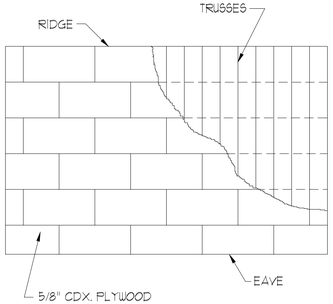
TYPICAL TRUSS-TO-STEEL CONNECTION (ALTERNATE) 5

SCALE: 1/2" = 1'-0"

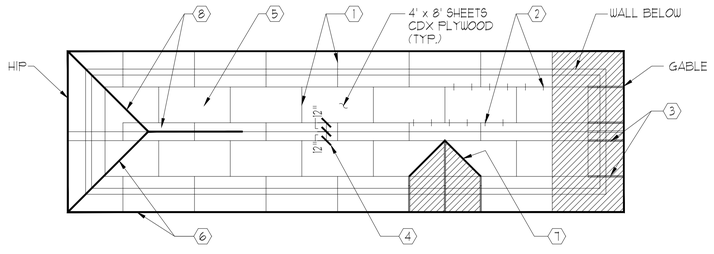


CONNECTION DETAIL AT SOUTH ELEVATION ENTRANCE STOREFRONT 6





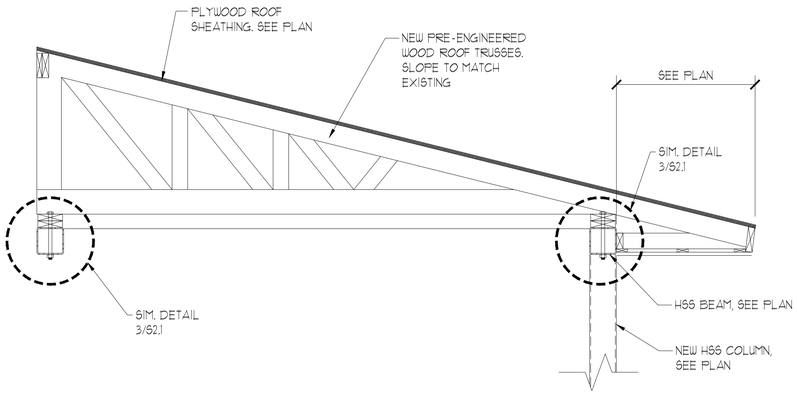
PLYWOOD ROOF DIAPHRAGM 7



1. STAGGER END JOINTS AT FRAMING MEMBER
2. PROVIDE A HURRICANE CLIP AT EACH JOINT, BETWEEN EACH FRAMING MEMBER
3. 2x4 BLOCKING AT EACH JOINT, IN END ZONE MINIMUM PLYWOOD WIDTH 12"- SEE ARCHITECT FOR RIDGE VENTS
4. 1/2" OR LESS PLYWOOD- 8d COMMONS AT 4" O.C. EDGES 6" O.C. INTERMEDIATE
5. 5/8" OR GREATER PLYWOOD- 10d COMMONS AT 4" O.C. EDGES 6" O.C. INTERMEDIATE
6. NAILING 6" O.C. AT HIPS AND SUBFASCIA W/ 8d COMMON.
7. NAILING 3" O.C. AT VALLEYS W/ 8d COMMON.
8. PROVIDE BEVELED WOOD SHIMS FOR PLYWOOD BEARING.
9. WHERE MEAN ROOF HEIGHT EXCEEDS 25'-0", USE RING SHANK NAILS.

ROOF DIAGRAM NAILING SCHEDULE 8

SCALE: 1/8" = 1'-0"



TRUSS SECTION 9

WILLIAM P. HORN
ARCHITECT , P.A.

915 EATON ST.
KEY WEST,
FLORIDA
33040

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JAMES VINCENT BARNES III ★ REGISTERED ★ PROFESSIONAL ★ ENGINEER ★ STATE OF FLORIDA No. 77754

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