

061753 WOOD TRUSSES

- THE ENGINEERED, PREFABRICATED WOOD TRUSSES AND THEIR CONNECTIONS TO EACH OTHER SHALL BE DESIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
- NO NAILS, SCREWS, KNOTS OR OTHER DEFECTS SHALL OCCUR IN THE PLATE CONTACT AREA OR SCAFFED AREA OF WEB MEMBERS. PLATES SHALL BE CENTERED WITH EACH SIDE OF TRUSS.
- NUMBER OF PANELS AND DIRECTION OF WEB MEMBERS TO SUIT CONDITIONS OR SIMPLE SPAN TRUSS REQUIREMENTS. SEE STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR ANY SPECIAL CONDITIONS/LOCATIONS OF PANEL JOINTS.
 - DETAIL OR NOTE THAT ALL WOOD MEMBER SIZES SHOWN ARE NOMINAL, L X D.
 - DESIGN OF METAL PLATE CONNECTED ROOF TRUSSES TO COMPLY WITH NDS-10 NATIONAL DESIGN SPECIFICATION FOR THE DESIGN OF LUMBER AND ITS FASTENINGS:
 - ANSI/TPI 1-2014 - NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION
 - FLORIDA ADMINISTRATIVE CODE 61015.
 - ALTERNATE TRUSS LAYOUTS ARE ACCEPTABLE ONLY AS A CHANGE ORDER, WHICH WILL INCLUDE ENGINEERING CHANGES FOR REVISION BY THE ENGINEER OF RECORD.
- TRUSS DESIGN LOADS ARE AS FOLLOWS:
 - SLOPED ROOF TRUSSES: 4:12 OR GREATER SLOPE

TOP CHORD:	
LIVE LOAD	20 PSF
DEAD LOAD	10 PSF
BOTTOM CHORD:	
LIVE LOAD	10 PSF
DEAD LOAD	10 PSF
UPLIFT	PER PLAN

LOAD DURATION FACTOR:	
DEAD LOAD	1.00
DEAD LOAD + FLOOR LIVE LOAD	1.00
DEAD LOAD + ROOF LIVE LOAD	1.25
DEAD LOAD + WIND LOAD	1.33

 - MECHANICAL UNITS AND OTHER SUPERIMPOSED LOADS AS SHOWN ON THE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.
 - INDIVIDUAL TRUSSES ARE TO BE DESIGNED FOR SPECIFIC FRAMING CONDITIONS AND CONCENTRATED LOADS RESULTING FROM EQUIPMENT WEIGHTS AND OTHER LOADS AS INDICATED ON THE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.
 - SKETCH SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW AND SPECIFY CONNECTOR TYPES UTILIZED WITH TRUSSES, AS WELL AS CONNECTIONS UTILIZED IN OTHER CONNECTIONS AND ATTACHMENTS BETWEEN TRUSSES OR COMPONENTS SUPPLIED AS PART OF THE ENGINEERED TRUSS SYSTEM.
 - AN ERECTION DRAWING SHALL BE INCLUDED, IDENTIFYING TRUSS SYSTEM COMPONENTS, AS WELL AS PERMANENT BRACING REQUIRED FOR TRUSS DESIGN.
 - HANDING, ERECTION AND BRACING OF WOOD TRUSSES SHALL BE IN ACCORDANCE WITH DESIGN (3) BUILDING COMPONENT SAFETY SUMMARY SHEETS, TEMPORARY BRACING DESIGN SHALL BE PER DESIGN (3) BUILDING COMPONENT SAFETY SUMMARY SHEETS AND METAL PLATE CONNECTED WOOD TRUSSES AS REQUIRED. COMMENTARY AND RECOMMENDATIONS BY THE TRUSS PLATE INSTITUTE.
 - WHERE ROOF PLYWOOD IS NOT PERMANENTLY ATTACHED TO TOP CHORD OF TRUSS, PROVIDE CONTINUOUS 2x4 @ 2'-0" O.C. PERPENDICULAR TO TOP CHORD.
 - DETAILED DESIGN COMPONENTS, TRUSS SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.
 - PLYWOOD FLOOR, WALL AND ROOF SHEATHING ARE DESIGNED AS DIAPHRAGMS AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE 17TH EDITION (2020) FLORIDA BUILDING CODE.
 - TRUSS PROFILES SHOWN IN PLANS, ELEVATIONS, OR DETAILS ARE SHOWN SCHEMATICALLY UNLESS A SPECIFIC PROFILE IS WRITTEN IN THE TRUSS MANUFACTURER IS RESPONSIBLE FOR PROVIDING TRUSS PROFILES AND MEMBER SIZES REQUIRED TO SUPPORT THE LOADS. TRUSSES SHOWN IN DETAILS ARE SHOWN SCHEMATICALLY FOR GENERAL INFORMATION AND SHALL NOT BE INTERPRETED AS THE INTENDED PROFILE UNLESS SPECIFICALLY NOTED.
 - DEFLECTIONS OF WOOD TRUSSES SHALL BE LIMITED TO L/600 FOR LIVE LOADS, AND L/400 FOR COMBINED DEAD AND LIVE LOADS.
 - DESIGN DOCUMENTS INCLUDE A SYSTEM OF CUSTOM ENGINEERED TRUSS COMPONENTS AND CONNECTIONS IN ACCORDANCE WITH ANSI/TPI 1-2012 AND ALL APPLICABLE STANDARDS OF TRUSS PLATE INSTITUTE, INCLUDING BUT NOT LIMITED TO: ANSI/TPI 1-2014 - NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION, BOTH (3) BUILDING COMPONENT SAFETY SUMMARY SHEETS, AND DESIGN (3) TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES AND THE DEPARTMENT OF PROFESSIONAL REGULATION GUIDELINES (FLORIDA ADMINISTRATIVE CODE 61070).
 - THE ENTIRE SYSTEM, INCLUDING ALL TRUSSES, CONNECTORS BETWEEN TRUSSES, BRIDGES, TEMPORARY BRACING FOR ERECTION, ANCHORAGE, AND EMBEDMENTS SHALL BE DESIGNED BY A SPECIALTY ENGINEER/PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. THE REVIEW OF ALL STRUCTURAL SUBMITTALS BY THE STRUCTURAL ENGINEER OF RECORD SHALL BE TO ENSURE THAT HIS INTENT HAS BEEN UNDERSTOOD AND THAT THE SPECIFIED CRITERIA HAVE BEEN USED. A COPY OF ALL STRUCTURAL SUBMITTALS WILL BE RETURNED FOR RECORD KEEPING PURPOSES ONLY. TRUSS CALCULATIONS, COMPONENT DRAWINGS, CONNECTOR CALCULATIONS AND ERECTION PLANS SHALL BE SIGNED AND SEALED BY TRUSS SYSTEM DESIGNATED SPECIALTY ENGINEER AND SUBMITTED TO LOCAL BUILDING OFFICIAL FOR APPROVAL. DESIGN TRUSSES FOR LOADS SHOWN ON PLANS.
 - IN THE ABSENCE OF LOADS, USE APPLICABLE LOCAL CODE FOR LIVE LOAD AND ACTUAL WEIGHT OF BUILDING MATERIALS FOR DEAD LOAD. USE PATTERNED AND PARTIAL SPAN LIVE LOADS WHERE REQUIRED TO PROVIDE MAXIMUM FORCE IN ANY TRUSS MEMBER. APPLY NET WIND UPLIFT LOADS WHERE APPLICABLE. TRUSS TOP CHORDS SHALL BE GROUP 1 SPECIES LUMBER. EXPOSED TO VIEW TRUSSES SHALL BE OF SELECT STRUCTURAL GRADE. ALL OTHER GRADES AND SPECIES SELECTED AT THE DISCRETION OF THE SUPPLIER. COORDINATE ALL TRUSS DETAILS WITH ARCHITECTURAL DRAWINGS. FOR CONNECTIONS TO NEW TRUSSES, VIEW CONNECTIONS WHERE SHOWN ARE SUGGESTIONS AND MAY BE MODIFIED BY THE SUPPLIER FOR ECONOMY. PROVIDE SIMPSON "TSS" PLATE, 1/4" HANGROUNDED SELF TAPPING OR OTHER SUITABLE WOOD BARRIER BETWEEN TRUSSES AND CONCRETE OR MASONRY BEARING SURFACES. PROVIDE OR GALVANIZED HURRICANE ANCHORS DESIGNED FOR NET WIND UPLIFT AT ALL BEARINGS.
 - GENERAL CONTRACTOR TO COORDINATE HORIZONTAL AND VERTICAL CHASES, ATTIC AND ACCESS REQUIREMENTS INCLUDING SIZE AND LOCATION WITH MECHANICAL, ARCHITECTURAL AND ELECTRICAL DRAWINGS.

061754 WOOD FRAMING CONNECTORS

- CONNECTORS EXPOSED TO WET CONDITIONS SHALL BE GALVANIZED.
- CONNECTORS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE GALVANIZED.
- WHEN EXPOSED TO WET CONDITIONS OR IN CONTACT WITH PRESSURE TREATED LUMBER, NAILS AND SCREWS USED WITH FRAMING CONNECTORS SHALL BE GALVANIZED OR STAINLESS STEEL, TO MATCH FINISH OF CONNECTOR.
- CONNECTOR MODEL NUMBERS SHOWN ARE STRONG-TIE CONNECTORS AS MANUFACTURED BY SIMPSON STRONG-TIE CO. EQUIVALENT USE CONNECTORS ARE ACCEPTABLE SUBSTITUTIONS.
- OTHER SUBSTITUTIONS ARE ACCEPTABLE WITH THE APPROVAL OF THE STRUCTURAL ENGINEER.
- UNLESS SHOWN OTHERWISE, INSTALL SIZE AND NUMBER OF FASTENERS SHOWN IN LATEST SIMPSON CATALOGUE, WHERE THERE IS NATIONAL PATTERNS ARE SHOWN, INSTALL THE NUMBER OF FASTENERS FOR MAXIMUM CAPACITY.

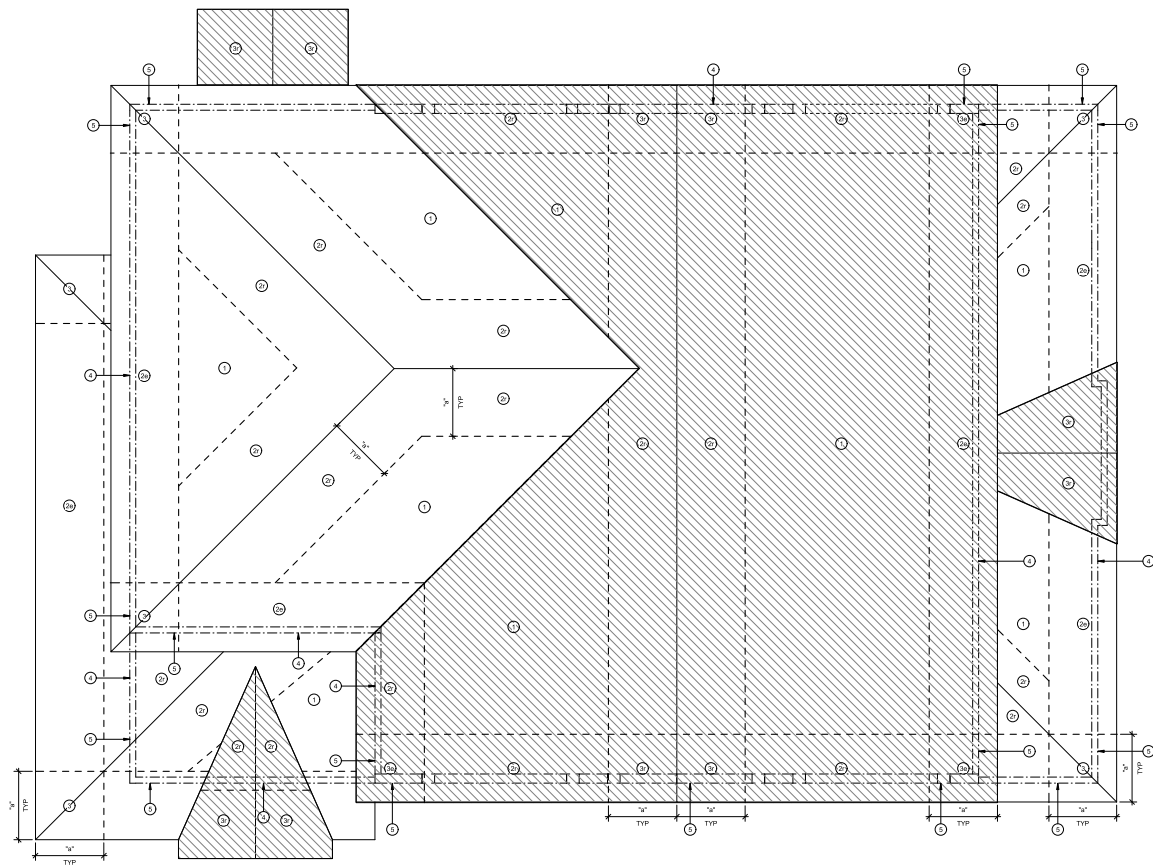
312002 FOUNDATIONS - W/ SOIL REPORTS

- SEE THE FOLLOWING GEOTECHNICAL REPORT FOR COMPLETE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES. SITE PREPARATION AND FOUNDATION INSTALLATION SHALL COMPLY WITH:

REPORT NO: 5511-21-032
 PREPARED BY: TERRA, INC
 TITLED: GEOTECHNICAL SERVICES REPORT LAKE COUNTY FIRE STATION NO.71
 DATED: JUNE 30, 2021
- FOLLOW THE RECOMMENDATIONS LISTED IN THE GEOTECHNICAL REPORT FOR SITE PREPARATION WORK. AT A MINIMUM, SITE PREPARATION WORK SHALL INCLUDE:
 - STRIPPING AND GRUBBING OF THE BUILDING FOOTPRINT PLUS A MARGIN OF 5 FEET AROUND THE BUILDING, REMOVING ALL ORGANIC MATERIALS.
 - PROOF ROLLING THE BUILDING SITE TO LOCATE ANY UNIMPRESSED SOFT AREAS. ANY SOFT AREAS SHALL BE EXCAVATED AND REPLACED WITH CLEAN FILL. A DENSITY OF AT LEAST 95% FOR A DEPTH OF 2 FEET IS REQUIRED UNDER THE BUILDING FOOTPRINT.
 - ALL FILL SHALL BE CLEAN SAND AND FREE OF ORGANIC MATERIALS. COMPACT FILL IN 12 INCH UNCOMPACTED THICKNESS LIFTS TO A MINIMUM OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY VALUE.
 - EXCAVATIONS FOR FOUNDATIONS SHALL BE COMPACTED TO 98% FOR A DEPTH OF AT LEAST 1 FOOT BELOW THE BOTTOM OF THE FOUNDATION.
 - DEWATERING MAY BE REQUIRED TO ACHIEVE THE REQUIRED COMPACTION VALUES, AND IF USED, SHOULD DRAW DOWN THE WATER LEVEL TO AT LEAST 2 FEET BELOW THE BOTTOM OF THE EXCAVATION.
- SLABS ON GRADE SHALL BE PLACED OVER A 15 MIL CLASS "A" VAPOR RETARDER. VAPOR RETARDER SHALL BE LAPPED A MINIMUM OF 6" OR AS RECOMMENDED BY THE MANUFACTURER (WHICHEVER IS GREATER) AND TAPED AT ALL JOINTS. ALL PUNCTURES IN THE VAPOR RETARDER SHALL BE REPAIRED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ALL PENETRATIONS THROUGH THE VAPOR RETARDER (COLLUMS, PLUMBING, CONDUITS, ETC) SHALL BE SEALED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. VAPOR RETARDER SHALL BE CONTINUED UNDER WALL FOUNDATIONS OR SEALED TO EXTERIOR WALLS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- FOUNDATION DESIGN IS BASED ON AN ALLOWABLE BEARING PRESSURE OF 3,000 PSF.

LATERAL BEARING PRESSURE	200 PSF/FT
COEFFICIENT OF FRICTION	0.25

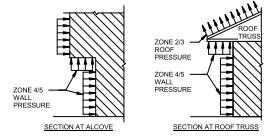
DATE	
DESCRIPTION	
NO.	
	
John P. Adams, AIA Jerome Bankowicz, AIA Ehan J. Hink, AIA Jennifer Zafuto, AIA, LEED, NCARB KTH ARCHITECTS 181 HANCOCK BLVD., SUITE 200, LAKE COUNTY, FL 32034 800 NORTH HIGHLAND AVE. • ORLANDO, FL • 407.302.8599 • #FL-0000000	
100% CD Submittal - Bid Set	
LAKE COUNTY FIRE STATION NO.71 STRUCTURAL NOTES 33601 CR. 473, LEEBURG, FL 34788	
NOVEMBER 10, 2021	
S0.3	



1 WIND LOAD DIAGRAM
3/16" = 1'-0"

ULTIMATE C&C WIND PRESSURES (ASCE 7-16)														
ROOF	A (FT)	Vel. (MPH)	Vasd (MPH)	Zone A (PSF)	Zone B (PSF)	Zone C (PSF)	Zone D (PSF)	Zone E (PSF)	Zone F (PSF)	Zone G (PSF)	Zone H (PSF)	Zone I (PSF)	Zone J (PSF)	
HP ROOF	7'-3"	147	114	<10	+20.0	+18.8	+18.8	+18.8	+18.8	+18.8	+18.8	+18.8	+18.8	
				20	+28.0	+25.0	+25.0	+25.0	+25.0	+25.0	+25.0	+25.0	+25.0	+25.0
				30	+38.0	+32.0	+32.0	+32.0	+32.0	+32.0	+32.0	+32.0	+32.0	+32.0
				100	+58.0	+45.0	+45.0	+45.0	+45.0	+45.0	+45.0	+45.0	+45.0	+45.0
GABLE ROOF	7'-3"	147	114	<10	+23.0	+23.6	+23.6	+23.6	+23.6	+23.6	+23.6	+23.6	+23.6	
				20	+31.2	+21.2	+21.2	+21.2	+21.2	+21.2	+21.2	+21.2	+21.2	
				30	+41.8	+18.2	+18.2	+18.2	+18.2	+18.2	+18.2	+18.2	+18.2	
				100	+61.8	+18.2	+18.2	+18.2	+18.2	+18.2	+18.2	+18.2	+18.2	

- ULTIMATE C&C WIND PRESSURE PLAN NOTES:**
- PRESSURES SHOWN ABOVE ARE ULTIMATE COMPONENTS AND CLADDING PRESSURES. GIVEN PRESSURES MAY BE CONVERTED TO NOMINAL USING A 0.8 MULTIPLIER FACTOR. NO FURTHER REDUCTION IS ALLOWED.
 - GROSS PRESSURES ARE FOR JOISTS, WINDOWS, DOORS, VENEER, LIGHT GAGE METAL FRAMING, METAL DECK ATTACHMENTS, ROOFING, ROOFING ACCESSORIES AND OTHER BUILDING COMPONENTS AND CLADDING.
 - GROSS PRESSURES SHALL BE LINEARLY INTERPOLATED FOR A/N NOT SHOWN IN TABLE.
 - POSITIVE PRESSURES INDICATE PRESSURES ACTING TOWARD A PROJECTED SURFACE. NEGATIVE PRESSURES INDICATE PRESSURES ACTING AWAY FROM A PROJECTED SURFACE.
 - ROOF AND ZONES 1 AND 2.
 - OVERHANG ZONES 3 AND 4 APPLY ONLY TO ROOF OVERHANGS WHERE THE COMPONENT OR CLADDING RECEIVES PRESSURE SIMULTANEOUSLY ON BOTH SIDES (UPWARD SUCTION ON TOP AND UPWARD PRESSURE ON BOTTOM, SUCH AS AT OPEN SOFFITS) AND IS CONTIGUOUS WITH FIELD OF ROOF.
 - NET DESIGN ROOF PRESSURES SHALL BE CALCULATED USING THE SELFWEIGHT (DEAD LOAD) OF THE MATERIALS; HOWEVER, THE MAXIMUM REDUCTION OF WIND UPLIFT PRESSURES SHALL BE LIMITED TO THE SELF WEIGHT OF THE ROOF SYSTEM PLUS 5 PSF FOR SUPERIMPOSED DEAD LOADS.
 - INTERNAL PRESSURE COEFFICIENT FOR ENCLOSED BUILDING EQUALS +0.18 AND -0.18.
 - AT ALCOVES AND CANOPIES, THE TOTAL UPLIFT PRESSURE ON THE ALCOVE SOFFIT OR CANOPY SHALL EQUAL THE WALL PRESSURE IN THAT AREA.



DATE: _____

DESCRIPTION: _____

NO. _____

GARY C. KRUEGER
FL LICENSE NO. 40788

STATE OF FLORIDA
REGISTERED PROFESSIONAL ARCHITECT

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LAKE COUNTY
FIRE STATION NO. 71
COMPONENTS AND CLADDING WIND LOAD DIAGRAM
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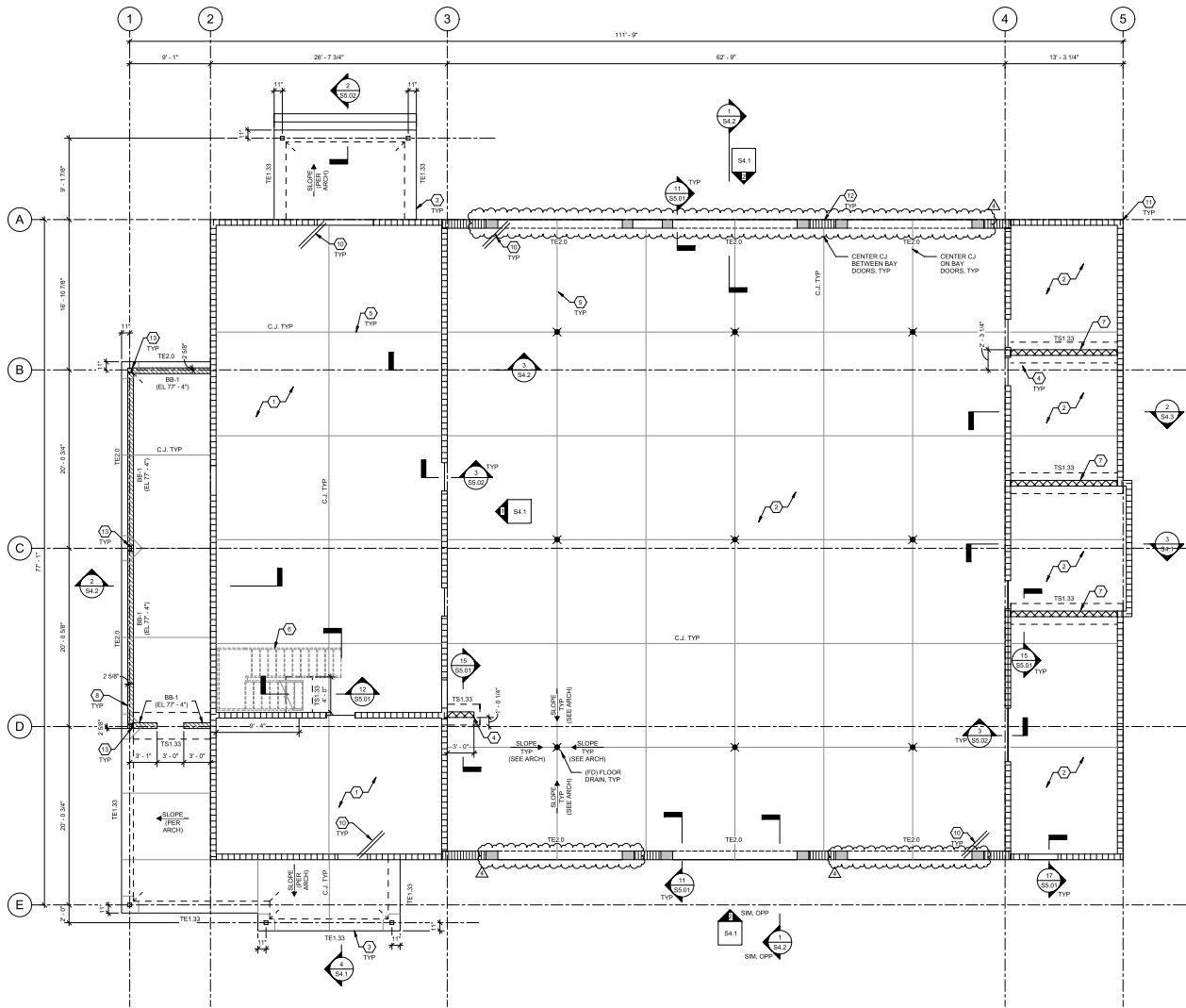
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NOVEMBER 10, 2021

S1.3

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06/09/2021
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TLC No: 521107
THINK. LISTEN. FORWARD.



- SLAB PLAN KEYNOTES**
- 1' CONC. SLAB-ON-GRADE ON COMPACTED TERRITE TREATED SUB-GRADE ON 15 MI. CLASS A VAPOR BARRIER. REINFORCE W/ #4 W/ 18" EDG. C/W/1' PLAT SHEETS) AT SLAB MID-DEPTH.
 - 2' CONC. SLAB-ON-GRADE ON COMPACTED TERRITE TREATED SUB-GRADE ON 15 MI. CLASS A VAPOR BARRIER. REINFORCE W/ #4 @ 12" O.C. EA WAY 2' BELOW TOP OF SLAB.
 - TS-#8 INDICATES THICKENED SLAB EDGE. REFER TO TYPICAL DETAIL 11 / SS.01
 - TS-#4 INDICATES THICKENED SLAB FOUNDATION. REFER TO TYPICAL DETAIL 11 / SS.01
 - C.J. INDICATES SAW-CUT CRACK CONTROL JOINT IN SLAB-ON-GRADE. REFER TO DETAIL 11 / SS.01
 - PRE-ENGINEERED METAL PAN STAR PER DELEGATED SPECIALTY ENGINEER. REFER TO ARCH DWGS FOR STAR INFORMATION.
 - TS-#8 INDICATES 8" NON-LOAD BEARING CMU WALL REINFORCED W/ #5 @ 48" O.C. AND AT CORNERS, INTERSECTIONS & TERMINATIONS IN GROUT FILLED CELLS.
 - TS-#8 INDICATES 8" CMU KNEE WALL REINFORCED W/ #5 @ 48" O.C. AND AT CORNERS, INTERSECTIONS, & TERMINATIONS IN GROUT FILLED CELLS.
 - TS-#8 INDICATES CMU BOND BEAM. REFER TO SCHEDULE FOR SIZE AND REINFORCING.
 - RE-ENTRANT CORNER REINFORCING SEE 10SS.01
 - TS-#8 INDICATES 8" LOAD-BEARING CMU WALL. SEE FOUNDATION PLAN FOR REINFORCEMENT.
 - TS-#8 INDICATES 12" LOAD-BEARING CMU WALL. SEE FOUNDATION PLAN FOR REINFORCEMENT.
 - 12" ISOLATION MATERIAL AT KNEE WALL-TO-HSS INTERFACE.

STRUCTURAL ELEVATION

- 1. SLAB, EL. 77.17' LAND
- 2. CMU KNEE WALL, EL. 77.4'

1 FIRST FLOOR - SLAB PLAN
3/16" = 1'-0"

DATE	11/20/22
DESCRIPTION	INCLUDE DESIGN AND CONSTRUCTION
NO.	1

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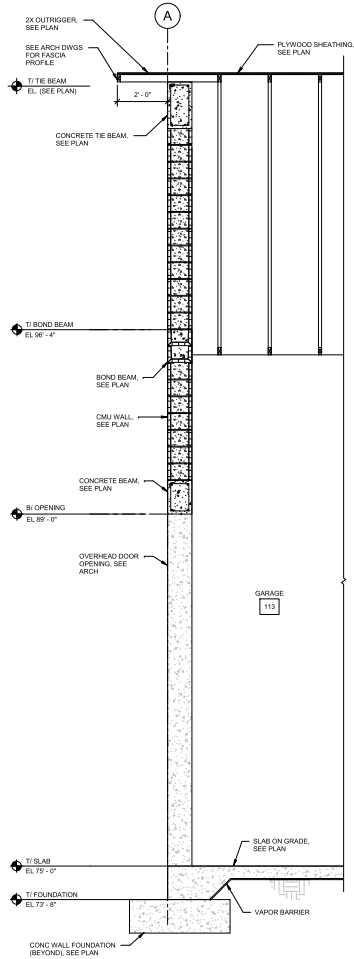
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LAKE COUNTY
 FIRE STATION NO. 71
 SLAB PLAN
 NOVEMBER 10, 2021

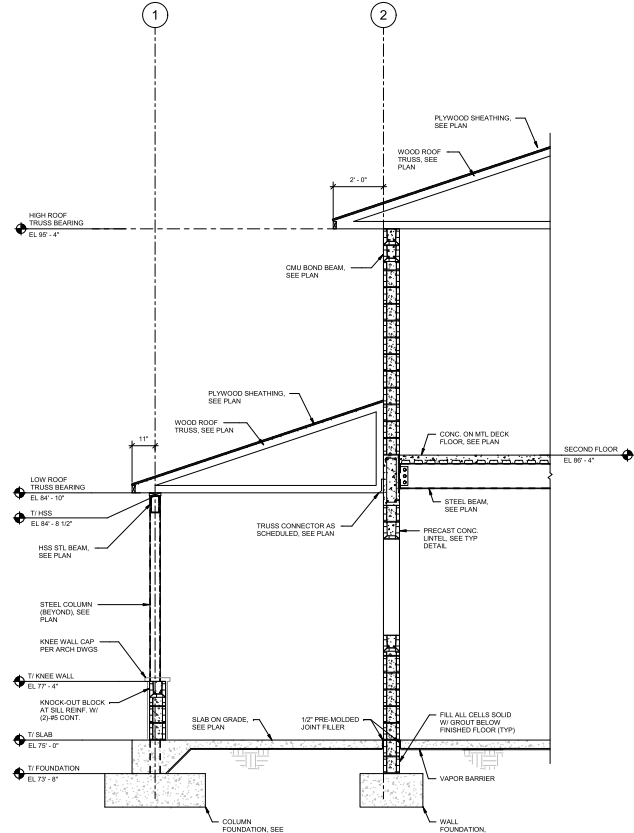
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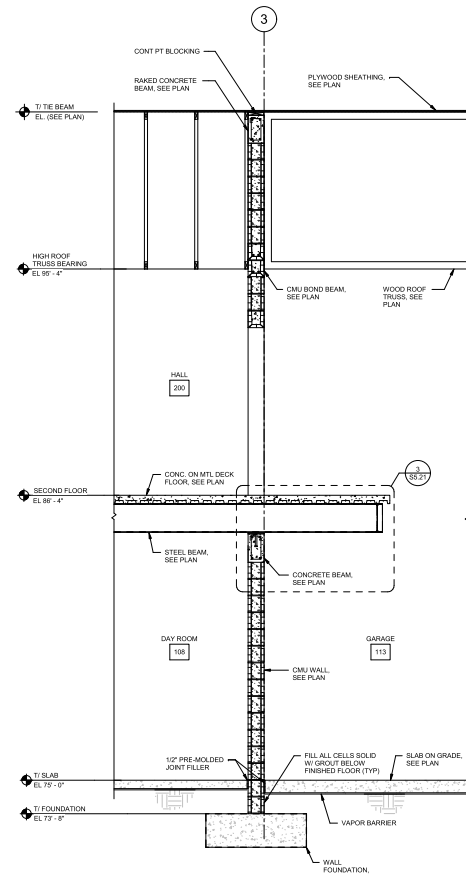
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1 WALL SECTION
1/2" = 1'-0"



2 WALL SECTION
1/2" = 1'-0"



3 WALL SECTION
1/2" = 1'-0"

NO.	DESCRIPTION	DATE

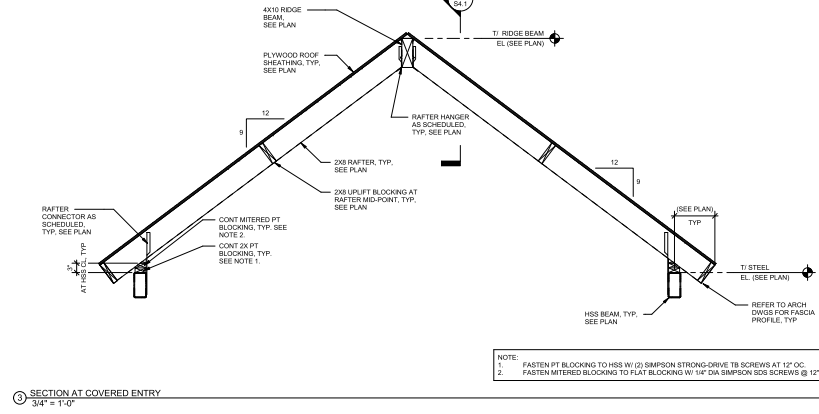
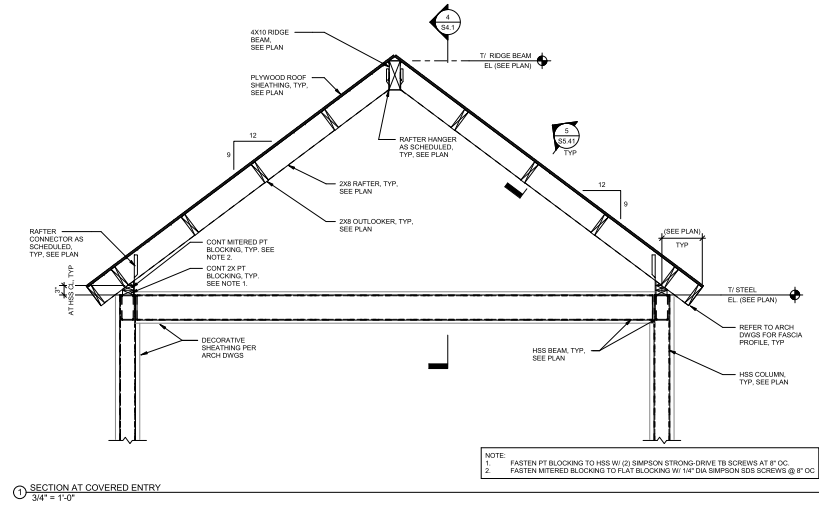
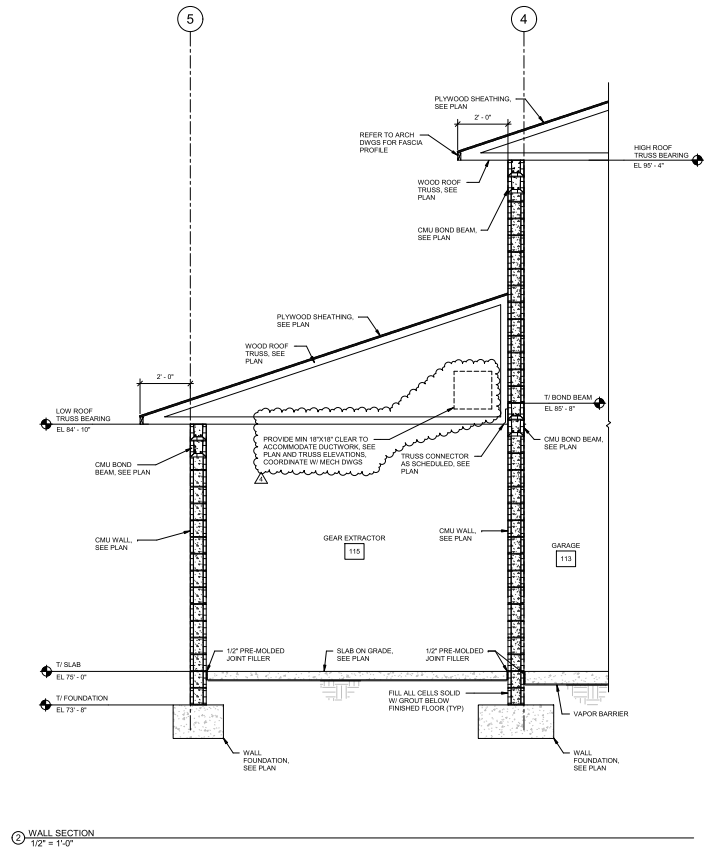
GARY C. KRUEGER
 FL LICENSE NO. 40788
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

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 LAKE COUNTY
 FIRE STATION NO. 71
 STRUCTURAL SECTIONS
 33601 CR. 473, LEEBURG, FL 34788
 NOVEMBER 10, 2021
 S4.2





DATE	DESCRIPTION
11/30/22	TRUSS DESIGN AND CH. DOOR SWIT

NO. 1

GARY C. KRUEGER
FL LICENSE NO. 40788

STATE OF FLORIDA
REGISTERED PROFESSIONAL ARCHITECT

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LAKE COUNTY
FIRE STATION NO. 71
STRUCTURAL SECTIONS
33601 CR. 473, LEEBURG, FL 34788

NOVEMBER 10, 2021

S4.3



NOTE:
SPlicing bars should be used for determination of splice length category. 1/4\"/>

MIN SPLICE LENGTH FOR DEFORMED BARS

BAR SIZE	CLASS B	CLASS C	CLASS D
#3	23"	25"	17"
#4	29"	32"	22"
#5	37"	39"	25"
#6	45"	48"	30"
#7	53"	55"	35"
#8	72"	67"	50"
#9	81"	77"	65"

NOTE:
1. WHERE DEPTH OF FRESH CONCRETE BELOW SPLICE REIN BAR IS GREATER THAN 12\"/>

TYPICAL LAP SPLICE SCHEDULE
3/4" = 1'-0"

RECOMMENDED END HOOKS, ALL GRADES

BARS SIZE	FINISHED BEND DIAMETER D (IN.)	180° HOOKS		90° HOOK		F _c = 4000 PSI
		A OR G, (IN.)	J, (IN.)	A OR G, (IN.)	LDH	
#3	2 1/4	5	4	6	7	
#4	3	6	4	8	9	
#5	4 1/2	7	5	10	11	
#6	2 1/2	8	6	12	14	
#7	5 1/4	10	7	14	16	
#8	6	11	8	16	18	
#9	9 1/2	15	11 3/4	19	21	
#10	10 3/4	17	13 1/4	22	23	
#11	12	19	14 3/4	24	26	
#14	18 1/4	27	21 3/4	31	29	
#18	24	36	28 1/2	41	38	

TYPICAL END HOOK SCHEDULE
3/4" = 1'-0"

TYPICAL STEEL COLUMN SPREAD FOUNDATION
3/4" = 1'-0"

BASE PLATE AND ANCHOR BOLT SCHEDULE

COLUMN SIZE	BASE PLATE SIZE	ANCHOR BOLTS	REMARKS
HSS54	3/4"x11" SQ.	(4) 3/4"x3"	

NOTE: ALL ANCHOR RODS, NUTS, WASHERS AND PLATES SHALL BE HOT DIP GALVANIZED AND SHIPPED AS COMPLETE ASSEMBLIES BY THE FABRICATOR.

TYPICAL STEPPED FOUNDATION
3/4" = 1'-0"

WALL FDN SCHEDULE

FDN DESIGNATION	DIMENSIONS	REBAR	REMARKS
WF2.5	2'-4"	1#4	#5 @ 12" O.C.
WF3.0	3'-0"	1#4	#5 @ 12" O.C.
WF4.0	4'-0"	1#4	#5 @ 10" O.C.

TYPICAL SECTION AT EXTERIOR CMU WALL FOUNDATION
3/4" = 1'-0"

TYPICAL HORIZ REINF. CONCRETE BEAMS AND FOUNDATIONS
3/4" = 1'-0"

TYPICAL FOUNDATION CONDUIT SLEEVE
3/4" = 1'-0"

TYPICAL STEP FOOTING FOR UTILITIES
3/4" = 1'-0"

TYPICAL STEPPED FOUNDATION
3/4" = 1'-0"

TYPICAL SLAB ON GRADE CONSTRUCTION JOINTS
3/4" = 1'-0"

RE-ENTRANT CORNER REINFORCING
3/4" = 1'-0"

THICKENED SLAB EDGE DETAIL
3/4" = 1'-0"

TYPICAL PRE-ENGINEERED STAIR BASE
3/4" = 1'-0"

TYPICAL EQUIPMENT PAD / HOUSE KEEPING PAD
3/4" = 1'-0"

TYPICAL SECTION AT GENERATOR PAD
3/4" = 1'-0"

TYPICAL NON-BEARING CMU WALL ON THICKENED SLAB
3/4" = 1'-0"

TYPICAL SECTION AT INTERIOR CMU WALL FOUNDATION
3/4" = 1'-0"

TYPICAL WALL FOUNDATION AT OPENINGS
3/4" = 1'-0"

CD Submittal - Bid Set

LAKE COUNTY
FIRE STATION NO. 71
STRUCTURAL DETAILS

NOVEMBER 10, 2021

S5.01

100% CD Submittal - Bid Set

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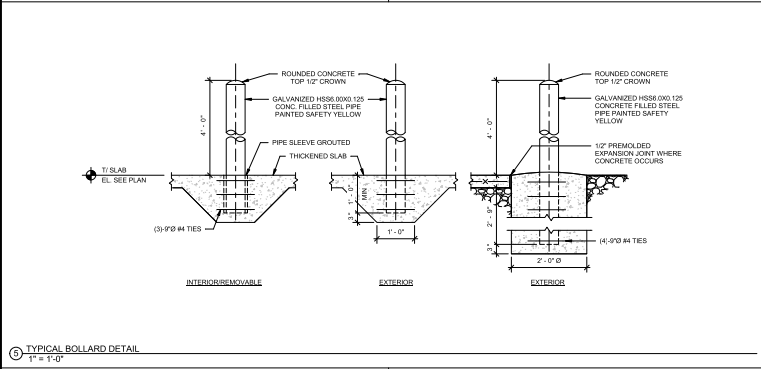
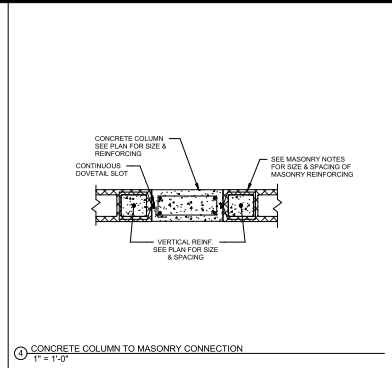
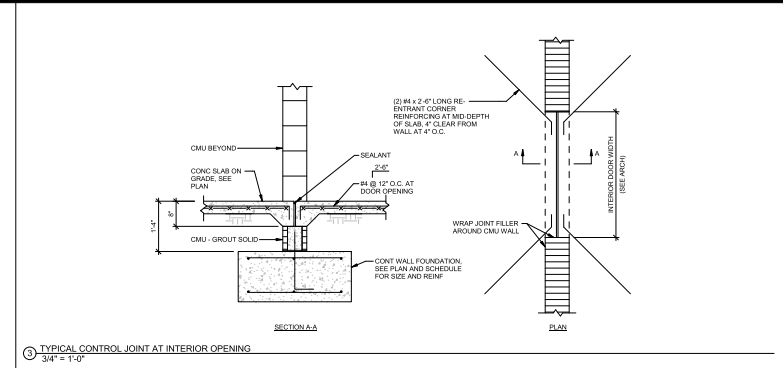
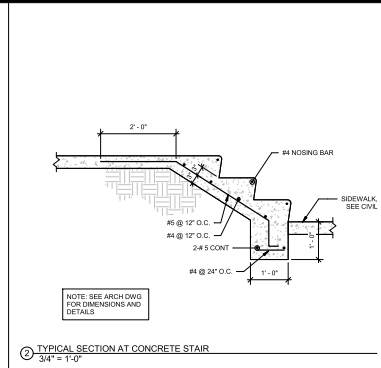
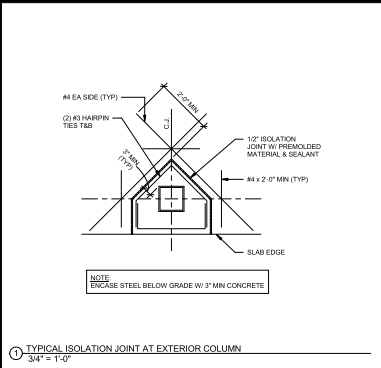
KTH ARCHITECTS
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STATE OF FLORIDA
PROFESSIONAL SEAL
FL LICENSE NO. 47878
FL LICENSE NO. 47878

DATE

DESCRIPTION

NO.



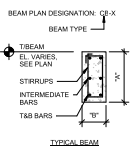
NO.	DESCRIPTION	DATE

JOHN P. ADAMS, AIA
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KTH ARCHITECTS
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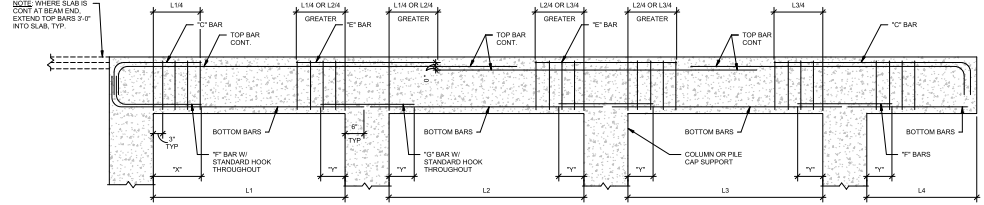
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LAKE COUNTY
 FIRE STATION NO. 71
 STRUCTURAL DETAILS
 NOVEMBER 10, 2021

S5.02

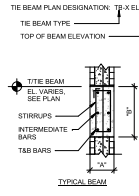


CAST IN PLACE CONCRETE BEAM SCHEDULE										
BEAM DESIGNATION	SIZE		REINFORCING				STIRRUPS		NOTES	
	"A"	"B"	TOP BARS	BOT BARS	"C" BARS	"E" BARS	SPACING EACH END/INCL. INTERMED.	SPACING	"D" BARS	"F" BARS
CB-12X12	12"	12"	(2) #5	(2) #5	-	-	#3 @ 12"	#3 @ 6"	-	-
CB-12X16	12"	16"	(2) #5	(2) #5	-	-	#3 @ 12"	#3 @ 6"	-	-

NOTES:
 "D" - REVERSAL BARS OVER COLUMN HEADS AT DISCONTINUOUS ENDS
 "E" - REVERSAL BARS OVER COLUMN HEADS AT INTERIOR SUPPORTS
 "C" - TOP BARS AT DISCONTINUOUS ENDS
 "F" - TOP BARS AT INTERIOR SUPPORTS
 "TOP BARS" - EXTEND TO 1/2 POINT OF ADJACENT SPAN U.O. AND LAP SPLICE PER SCHEDULE IN STRUCTURAL NOTES

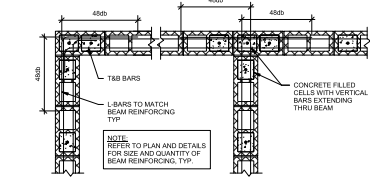


1 TYPICAL CAST IN PLACE CONCRETE BEAM DIAGRAM AND SCHEDULE
3/4" = 1'-0"

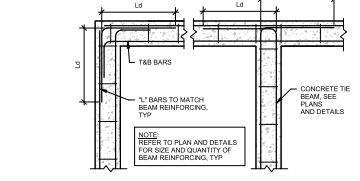


CONCRETE TIE BEAM SCHEDULE				
BEAM DESIGNATION	SIZE		REBAR (L & B)	STIRRUPS
	"A"	"B"		
TB-8X16	8"	14"	(2) #5	#3 @ 12"
TB-8X16	8"	16"	(2) #5	#3 @ 12"
TB-8X24	8"	24"	(2) #5	#3 @ 12"
TB-8X32	8"	32"	(2) #5	#3 @ 12"
RE-8	8"	8" (MIN)	(2) #5	#3 @ 12"
RE-12	12"	8" (MIN)	(2) #5	#3 @ 12"

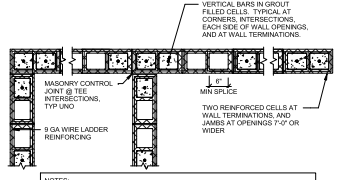
NOTES:
 1. TOP SPLICE TOP AND BOTTOM BARS PER SCHEDULE.
 2. SEE PLANS FOR TIE BEAM ELEVATIONS.
 3. ALL TIE BEAMS SHALL BE CONTINUOUS UNLESS OTHERWISE NOTED.
 4. FOR TYPICAL TIE BEAMS WITH ELEVATION THAT VARIES, STEP THE BEAM AS REQUIRED TO FOLLOW ROOF SLOPE. SEE REFERRED TIE BEAM DETAILS.
 5. TIE BEAMS AND CONCRETE BEAMS SHALL BEAR A MINIMUM OF #4 ON MASONRY WALLS, WITH THE CELLS UNDER THE POINT OF BEARING REINFORCED AND GROUTED SOLID.
 6. WHERE BEAMS INTERSECT A MASONRY WALL, WITHOUT FORMING A T OR L SHAPED BEAM CONFIGURATION, BEAM SHALL FULLY BEAR ON WALL FOR FULL DEPTH OF WALL AND FULL WIDTH OF BEAR. ALL CELLS UNDER BEAM BEARING SHALL BE GROUTED SOLID AND REINFORCED. TOP & BOTTOM BARS SHALL BE TERMINATED IN STANDING W/ HOOKS, WHERE A T OR L SHAPED BEAM INTERSECTION IS FORMED. TOP & BOTTOM BARS SHALL BE LAP SPliced WITH CORNER OR INTERSECTION BARS.



2 CONCRETE BEAM / TIE BEAM SCHEDULE
3/4" = 1'-0"



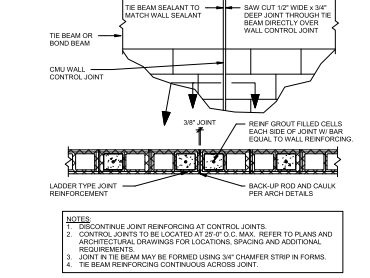
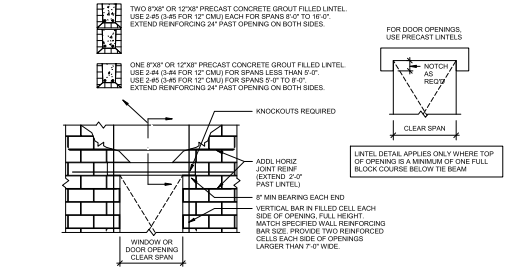
3 TYPICAL BOND BEAM AND CORNER REINFORCING
3/4" = 1'-0"



NOTES:
 1. TYPICAL WIRE LADDER REINFORCEMENT FOR ALL CMU WALLS SPACED @ 16" O.C. VERTICALLY PROVIDE ADDITIONAL LAYERS ABOVE AND BELOW WINDOW AND DOOR OPENINGS.
 2. SEE PLAN FOR SIZE AND SPACING OF VERTICAL REINFORCING BARS.
 3. USE PREFABRICATED L-SHAPED W/ BEAM ELEMENTS AT WALL INTERSECTIONS.
 4. TERMINATE HORIZONTAL WIRE REINFORCING AT CONTROL JOINTS.

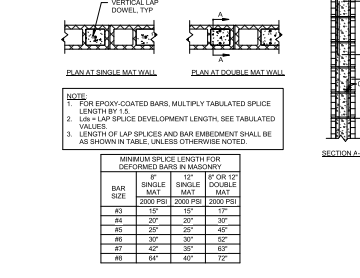
4 TYPICAL CONCRETE TIE BEAM CORNER REINFORCING
3/4" = 1'-0"

5 TYPICAL HORIZONTAL WALL REINFORCING / VERTICAL CORNER REINFORCING
3/4" = 1'-0"

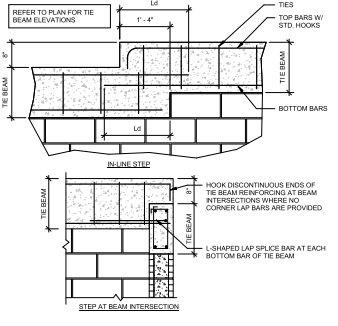


6 TYPICAL MASONRY WALL OPENING LINTEL DETAIL
3/4" = 1'-0"

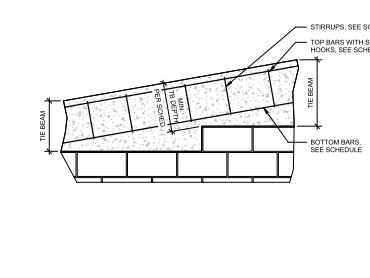
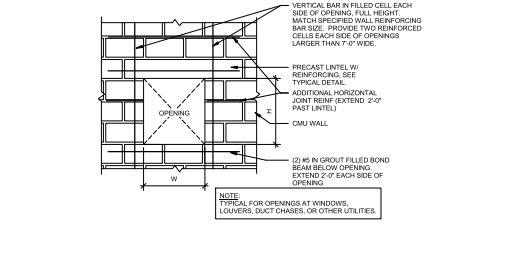
7 TYPICAL MASONRY CONTROL JOINT
3/4" = 1'-0"



8 TYPICAL MASONRY LAP SPLICE DETAIL
3/4" = 1'-0"

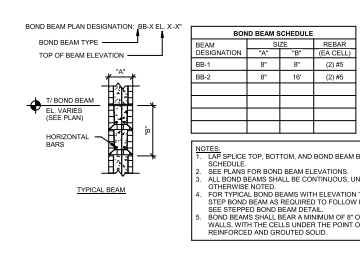


9 TYPICAL STEPPED TIE BEAM DETAIL
3/4" = 1'-0"



10 TYPICAL MASONRY WALL OPENING REINFORCING
3/4" = 1'-0"

11 TYPICAL RAKED TIE BEAM DETAIL
3/4" = 1'-0"



12 CMU BOND BEAM SCHEDULE
3/4" = 1'-0"

DATE: _____
 DESCRIPTION: _____
 NO.: _____
 GARY C. KRUEGER
 FL LICENSE NO. 40788
 JOHN P. ADAMS, AIA
 JEROME BANKOWSKI, AIA
 ELLIAN J. HIBBS, NCARB
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KTH ARCHITECTS
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LAKE COUNTY
 FIRE STATION NO. 71
 STRUCTURAL DETAILS
 33601 CR. 423, LEESBURG, FL 34788
 NOVEMBER 10, 2021
S5.11

TLC ENGINEERING
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 Melbourne, FL 32940
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 COA: 16
 10/09/2021
 T.L.C. No. 521107
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COMPOSITE BEAM CRITERIA

SHEAR STUDY ALIGNMENT NOTES:

1. ALL SHEAR STUDS: 3/4"Ø x 4 1/2". UNLESS OTHERWISE NOTED.
2. THE NUMBER OF STUDS IS INDICATED THUS (X) ON THE PLAN. WHEN MORE THAN ONE QUANTITY OF STUDS ARE INDICATED ON GRID/BEAM (EX. (X)X(X)), PLACE STUDS IN CORRESPONDING GROUPS BETWEEN INTERSECTING MEMBERS, SUPPORTING MEMBERS, OR LOADING POINTS.
3. MINIMUM CENTER TO CENTER SPACING OF STUDS ALONG THE LONGITUDINAL AXIS OF THE COMPOSITE DECK SHALL BE 12" WITH THE MAXIMUM CENTER TO CENTER SPACING OF STUDS ALONG THE TRANSVERSE AXIS, THE CENTER TO CENTER SPACING: 17".
4. WHERE BEAM FLANGE THICKNESS IS LESS THAN 5/16" ONLY A SINGLE ROW OF STUDS CENTERED OVER THE WEB IS TO BE USED.
5. FOR BEAMS SUPPORTING COMPOSITE DECK WITHOUT STUD NOTATION, PROVIDE STUDS AT MAXIMUM CENTER TO CENTER SPACING.
6. ADD ADDITIONAL STUD OR 3/4"Ø FIDDLE WELD SO THAT THE SPACE BETWEEN DECK ATTACHMENTS TO BEAM (WELDS OR STUDS) DOES NOT EXCEED 16".

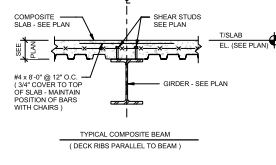
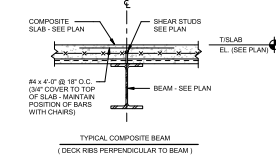
WHERE DECK IS PERPENDICULAR TO THE COMPOSITE BEAM, PLACE STUDS AS FOLLOWS:

CASE 1 (MORE DECK FLUTES THAN STUDS)
PLACE ONE STUD IN EVERY OTHER DECK FLUTE, THEN STARTING AT EACH END OF THE BEAM (OR BEAM SEGMENT) PLACE REMAINING STUDS IN UNIFORM ROWS PER FLUTE. THE NUMBER OF STUDS ON EACH HALF OF THE BEAM (OR BEAM SEGMENT) SHOULD BE EQUAL. SEE NOTE 3 FOR SPACING LIMITATIONS.

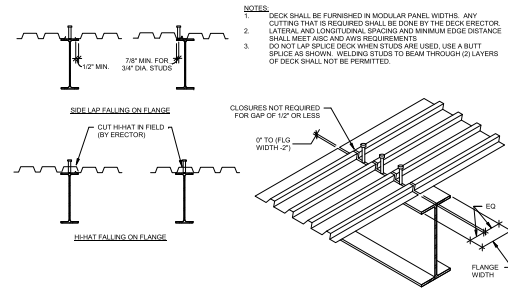
CASE 2 (MORE STUDS THAN DECK FLUTES)
PLACE ONE STUD IN EVERY DECK FLUTE, THEN STARTING AT EACH END OF THE BEAM (OR BEAM SEGMENT) DOUBLE STUDS EVERY DECK FLUTE UNTIL REMAINING STUDS ARE USED. THE NUMBER OF STUDS ON EACH HALF OF THE BEAM (OR BEAM SEGMENT) SHOULD BE EQUAL. SEE NOTE 3 FOR SPACING LIMITATIONS.

CASE 3 (DECK IN PARALLEL TO THE COMPOSITE GIRDER, SPACE THE STUDS UNIFORM IN A SINGLE ROW FOR THE ENTIRE LENGTH OF THE GIRDER (OR GIRDER SEGMENT). IF THE STUDS CANNOT BE SPACED AT 4 1/2" CENTER TO CENTER OR GREATER IN A SINGLE ROW, SPACE THE STUDS UNIFORM IN A DOUBLE ROW.

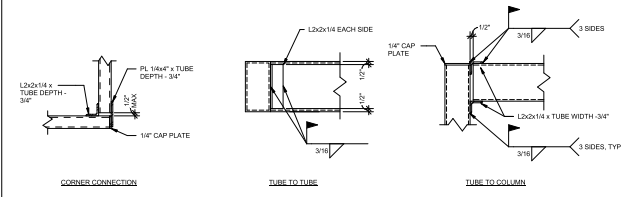
COMPOSITE BEAM NOTATION:



1 COMPOSITE BEAM CRITERIA
3/4" = 1'-0"

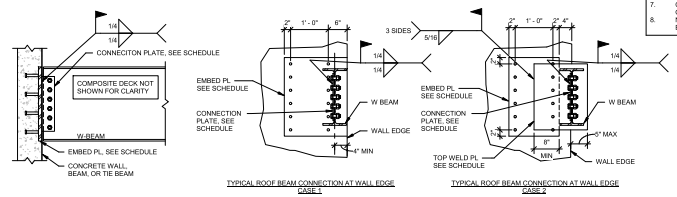


2 TYPICAL COMPOSITE DECK PLACEMENT DETAILS
3/4" = 1'-0"



3 TYPICAL TUBE TO TUBE CONNECTION
1 1/2" = 1'-0"

BEAM SIZE (SEE PLAN)	NO. OF 3/4"Ø ANCHOR BOLTS	PLATE SIZE	FLOOR BEAM CONNECTION TO CONCRETE WALL				
			AT TYPICAL CONDITION	NEAR WALL EDGE	TOP WELD PL. CASE 2	TOP WELD PL. CASE 3	
W10W10	2	PL 3/8"x4" x 0'-0"	1/2"x12"x1'-0"	(8) 3/4" DIA.	1/2"x12"x1'-0"	(8) 3/4" DIA.	1/2"x12"x1'-0"
W12W14	3	PL 3/8"x4" x 0'-0"	1/2"x12"x1'-0"	(8) 3/4" DIA.	1/2"x12"x1'-0"	(10) 3/4" DIA.	5/8"x12"x1'-0"
W16W18	4	PL 3/8"x4" x 1'-0"	1/2"x12"x1'-0"	(8) 3/4" DIA.	5/8"x12"x2'-0"	(10) 3/4" DIA.	3/4"x15"x1'-0"

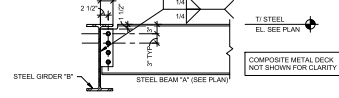


4 TYPICAL FLOOR BEAM TO CONCRETE WALL CONNECTION
3/4" = 1'-0"

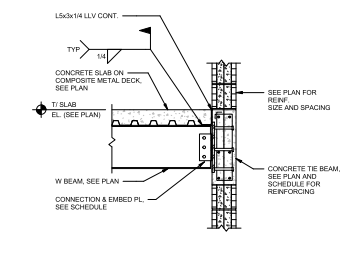
- NOTES:
1. SEE SCHEDULE FOR NUMBER OF BOLTS (Ø DIA.).
 2. CONNECTIONS ARE VALID FOR BEAMS WITH STANDARD OR SHORT-BOLTED HOLES, FULLY TIGHTENED OR BRAG TIGHT.
 3. LENGTH OF HEADED STUDS SHALL BE 4" FOR WALLS 2" TO 7/8" THICK, 6" FOR WALLS 7/8" TO 1 1/2" THICK, AND 8" FOR WALLS 1 1/2" OR THICKER.
 4. HEADED STUDS SHALL BE ARRANGED IN ROWS OF TWO, W/ 2" TYP. EDGE DISTANCE.
 5. THIS DETAIL APPLIES TO CONCRETE BEAMS, COLUMNS, AND THE BEAMS IN MASONRY WALLS.
 6. CASE 1 WALL EDGE CONDITION SHALL APPLY WHENEVER BEAM CENTERLINE IS LESS THAN 12" BUT MORE THAN 4" FROM WALL EDGE.
 7. CASE 2 WALL EDGE CONDITION SHALL APPLY WHENEVER BEAM CENTERLINE IS LESS THAN 4" FROM EDGE OF WALL.
 8. NOTIFY THE ENGINEER IF THE BEAM CENTERLINE LIES OUTSIDE WALL EDGE.

BEAM SIZE (SEE PLAN)	ANGLE SIZE	NO. OF 3/4"Ø A305-N1 BOLTS
W10W10	PL 3/8" x 4" x 0'-0"	2
W12W14	PL 3/8" x 4" x 0'-0"	3
W16W18	PL 3/8" x 4" x 1'-0"	4

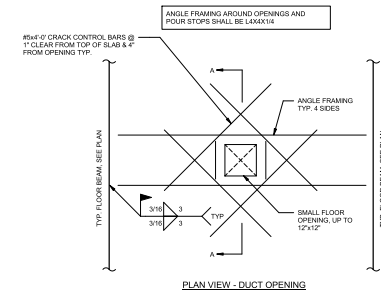
- NOTES:
1. SEE SCHEDULE ABOVE FOR NUMBER OF BOLTS (Ø DIA.).
 2. TABULATED VALUES ARE VALID FOR BEAMS WITH STANDARD OR SHORT-BOLTED HOLES, FULLY TIGHTENED OR BRAG TIGHT.
 3. COPED BEAM FLANGE AS REQUIRED, TOP & BOTTOM REINFORCE WHERE REQUIRED TO SUSTAIN ASSUMED CAPACITY.



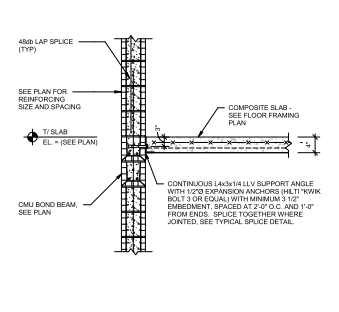
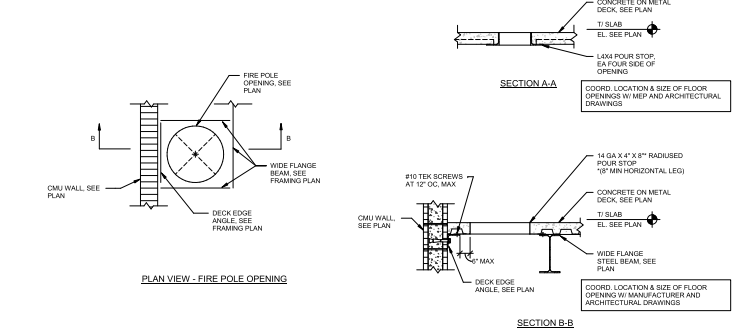
5 TYPICAL FLOOR BEAM TO GIRDER CONNECTION
3/4" = 1'-0"



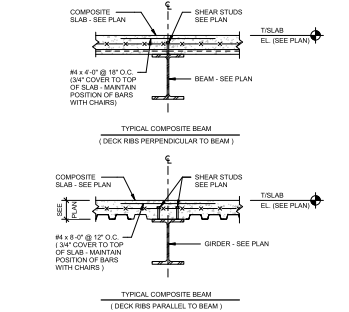
6 TYPICAL FLOOR BEAM DETAIL AT MASONRY WALL
3/4" = 1'-0"



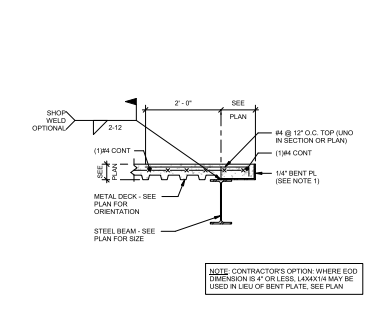
7 FLOOR SLAB OPENING DETAIL
3/4" = 1'-0"



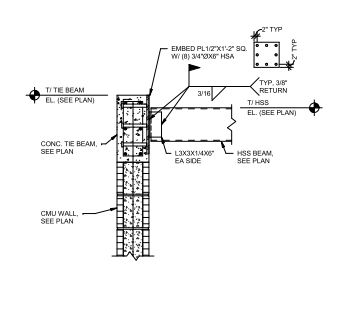
8 TYPICAL COMPOSITE SLAB SUPPORT ANGLE
3/4" = 1'-0"



9 TYPICAL CRACK BAR DETAIL
3/4" = 1'-0"



10 TYPICAL EDGE OF SLAB AT INTERIOR
3/4" = 1'-0"



11 TYPICAL HSS TO CONCRETE CONNECTION
1" = 1'-0"

DATE: _____
DESCRIPTION: _____
NO.: _____

John P. Adams, AIA
Jerome Bankowski, AIA
Ethan J. Hines, AIA
Jennifer Zaffuto, AIA, LEED, NCARB

STATE OF FLORIDA
REGISTERED PROFESSIONAL ARCHITECTS
NO. 40788

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KTH ARCHITECTS

20073A

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FIRE STATION NO. 71
STRUCTURAL DETAILS

NOVEMBER 10, 2021

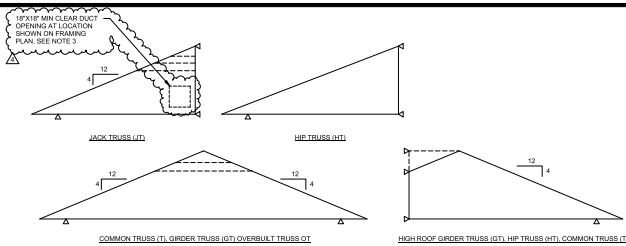
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TLC ENGINEERING
1225 Canal Court, Suite 103
Melbourne, FL 32940
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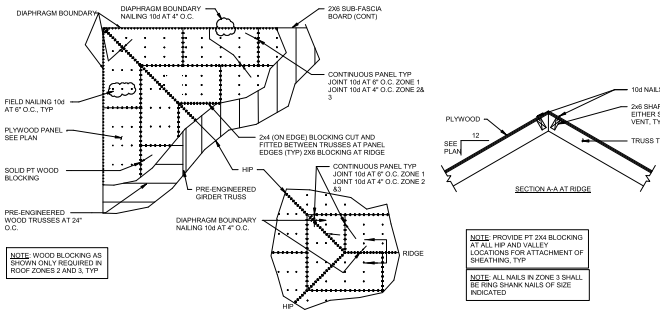
COA 16
P: 321.835.0074
TLC No: 1521107

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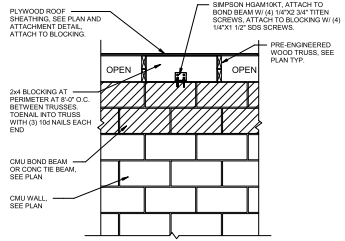
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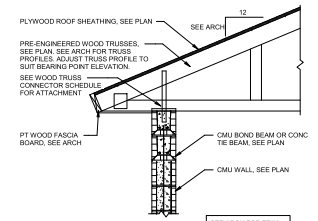
1 ROOF TRUSS PROFILES
1/4" = 1'-0"



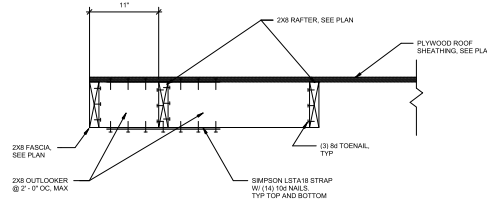
2 TYPICAL ROOF SHEATHING FASTENING ATTACHMENTS
3/4" = 1'-0"



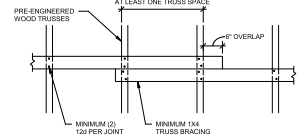
3 TYPICAL TRUSS BLOCKING AT PERIMETER WALLS
3/4" = 1'-0"



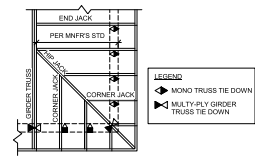
4 TYPICAL WOOD TRUSS TO CMU DETAIL
3/4" = 1'-0"



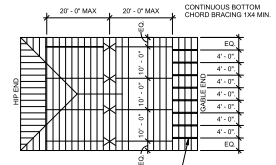
5 TYP OUTLOOKER AT VAULTED CEILING - COVERED ENTRY
1 1/2" = 1'-0"



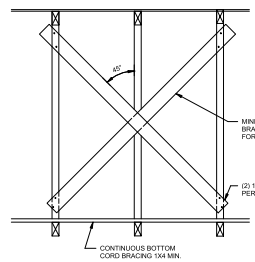
6 TRUSS BRACING OVERLAP DETAIL
1" = 1'-0"



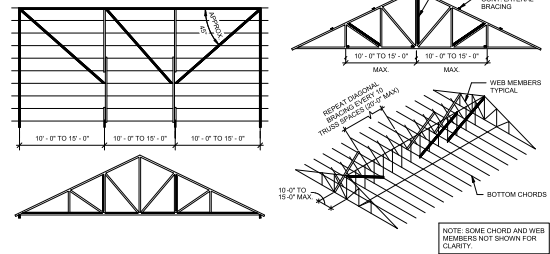
7 UPLIFT CONNECTIONS @ HIP ROOF FRAMING DETAIL
1" = 1'-0"



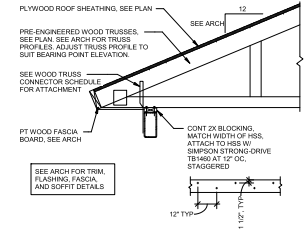
8 REQUIRED MINIMUM PERMANENT TRUSS BRACING PLAN
1" = 1'-0"



9 CROSS BRACE DETAIL
1 1/2" = 1'-0"



10 TRUSS BRACING DETAILS - GABLE ROOF
3/4" = 1'-0"



11 TYP ROOF TRUSS TO HSS BEAM CONNECTION
3/4" = 1'-0"

DATE: 1/13/22
DESCRIPTION: TRUSS DESIGN AND CH. LOC. SHEET
NO.:
GARY C. KRUEGER
FL LICENSE NO. 40788
STATE OF FLORIDA
PROFESSIONAL ENGINEER
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