

DESIGN CRITERIA:

APPLICABLE CODES, REGULATIONS & STANDARDS:

- 1. THE 2023 FLORIDA BUILDING CODE 8TH EDITION, SPECIFICALLY CHAPTER 16 STRUCTURAL DESIGN, CH. 20 ALUM. & CH. 23 WOOD.
- 2. AA ASM 35 & SPECIFICATIONS FOR ALUMINUM STRUCTURES, PART 1-A OF THE ALUMINUM DESIGN MANUAL PREPARED BY THE ALUMINUM ASSOCIATION, INC. WASHINGTON D.C. 2005 ED.
- 3. ASCE 7-22 & SE17
- 4. NDS NATIONAL DESIGN SPECIFICATION FOR WOOD.
- 5. ACI318 CONCRETE REFERENCE MANUAL.

WIND LOADS:

- 1. BUILDING OCCUPANCY CATEGORY, PARAGRAPH 1604.5 & TABLE 1604.5: RISK CATEGORY: I
- 2. BASIC WIND SPEED, TABLE 1609C, STATE OF FLORIDA DEBRIS REGION & BASIC WIND SPEED, PARAGRAPH 1609.3.1 & TABLE 1609.3.1 EQUIVALENT BASIC WIND SPEED: 110 MPH EXPOSURE CATEGORY, PARAGRAPH 1609.4.3: C
- 3. WIND LOADS PER FBC TABLE 2002.4 (MWFRS) VULT = 110 MPH & EXPOSURE = C

FOR 20 X 20 X 0.013" MESH SCREEN
HORIZONTAL PRESSURES ON WINDWARD SURFACES = 21 PSF
HORIZONTAL PRESSURES ON LEEWARD SURFACES = 16 PSF
VERTICAL PRESSURES ON SCREEN SURFACES = 7 PSF
VERTICAL PRESSURES ON SOLID SURFACES = 21 PSF

FOR 18 X 14 X 0.013" MESH SCREEN, APPLIED FACTOR = .88
FOR ALLOWABLE STRESS DESIGN, APPLIED FACTOR = .6

FOUNDATION DESIGN:

NO ADDITIONAL FOOTING OR FOUNDATION SYSTEM IS REQUIRED BY THE PROPOSED CONSTRUCTION IF A MINIMUM 4" CONCRETE SLAB IS PROVIDED IN SOUND CONDITION, FREE FROM STRUCTURAL CRACKING, SPALLING & OTHER DETERIORATION. EXISTING FOUNDATION/FOOTING UNDER CONCRETE SLAB MINIMUM 8"x8" w/ (1) #5 BAR TO BE VERIFIED BY CONTRACTOR. SEE TYPICAL FOOTING DETAILS FOR NEW FOOTING DESIGN MINIMUM REQUIREMENTS.

MISCELLANEOUS:

- 1. SCREENED ENCLOSURES CONTAINING SWIMMING POOLS SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF FBC R4501.17 RESIDENTIAL SWIMMING BARRIER REQUIREMENTS.
- 2. ALUMINUM ADDITIONS ARE NOT TO BE INSTALLED ON A MANUFACTURED HOME, TRAILER HOME, OR PRE-FAB HOME. IF THE EXISTING STRUCTURE IS ONE OF THESE, A SEPARATE 4TH WALL SUPPORT SYSTEM IS SO TO BE ENGINEERED SO THAT NO ADDITIONAL LOADING IS PLACED ON THE MANUFACTURED HOME.
- 3. THE ENGINEERING ON THESE PLANS IS SITE SPECIFIC FOR (1) STRUCTURE ONLY AT THE PROVIDED ADDRESS(ES).

FASTENER SPECIFICATIONS:

- 1. FASTENERS ARE REQUIRED TO BE SAE GRADE 2 OR BETTER ZINC PLATED. (CONCRETE ANCHORS ARE TO BE 410 S.S. TAPCONS OR BETTER, INSTALLED TO MFG. SPECIFICATIONS)
- 2. WHERE WOOD DECK IS PRESENT USE 1/4" X 3-1/2" GALV. LAG SCREWS IN LIEU OF MASONRY ANCHORS. UNLESS OTHERWISE SPECIFIED.
- 3. FOR 1"x2" NON-STRUCTURAL MEMBERS ATTACHED TO HOST
 - a. FOR MASONRY/CONCRETE APPLICATION USE GALVANIZED 1/4" X 2-3/4" TAPCONS 6" FROM ENDS & 24" CENTER TO CENETER.
 - b. FOR WOOD APPLICATION USE # 14 X 2-3/4" WOOD SCREW AT 6" FROM ENDS & 24" CENTER TO CENETER.
 - c. FOR ALUMINUM APPLICATION USE #10 X 1-1/2" SMS OR TEK 6" FROM ENDS & 24" CENTER TO CENETER..
 - d. WHERE 1"x2" INSTALLED THROUGHOUT AN "OPEN VIEW" SPACING SHALL BE REDUCED TO 6" FROM ENDS & 18" C.C.

RESPONSIBILITIES:

- 1. ALL SITE WORK SHALL BE PERFORMED BY A LICENSED CONTRACTOR IN ACCORDANCE WITH APPLICABLE BUILDING CODES, LOCAL ORDANANCES, AND THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
- 2. FOR FASTENERS WHICH ARE NOT VISIBLE AFTER INSTALLATION, THE CONTRACTOR SHALL VERIFY AND ENSURE INSTALLATION HAS BEEN ACCOMPLISHED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND IN ACCORDANCE WITH THE ATTACHED DETAILS.
- 3. CONTRACTOR TO PROVIDE NOA'S & INSTALL ALL MATERIALS AS PER MANUFACTURER'S SPECIFICATIONS.
- 4. INTEGRITY OF EXISTING/ HOST STRUCTURE SHALL NOT BE COMPROMISED WITH THE ATTACHMENT OF THE PROPOSED STRUCTURE.
- 5. IT IS THE OWNERS RESPONSIBILITY TO MAINTAIN THE SCREENS & FASTENERS TO MANUFACTURING SPECIFICATIONS.
- 6. METAL WITHIN 5FT OF THE WATERS EDGE REQUIRE A CONTINUOUS BOND PER NEC NFPA 70: NATIONAL ELECTRIC CODE 680.43(D)(4): ALL METAL SURFACES THAT ARE WITHIN 1.5M (5FT) OF THE INSIDE WALLS OF THE SPA OR HOT TUB AND THAT ARE NOT SEPERATED FROM THE SPA OR HOT TUB AREA BY A PERMANENT BARRIER SHALL BE BONDED TOGETHER.

ALUMINUM SPECIFICATIONS:

- 1. ALUMINUM EXTRUSIONS SHALL BE 6005 T5 ALLOY UNLESS OTHERWISE NOTED.
- 2. ALL SELF MATING BEAM SECTIONS ARE TO BE STITCHED WITH
 - a.#14 SCREWS 6" FROM ENDS & 24" CENTER TO CENTER.
 - b. #12 SCREWS 6" FROM ENDS & 18" CENTER TO CENTER.
 - c. #10 SCREW 6" FROM ENDS & 12" CENTER TO CENETER.
- 3. ROOF BRACING SHALL BE A MINIMUM 2"x3"x.050".
- 4. THE MINIMUM NORMAL THICKNESS OF PROTECTOR PANELS (KICKPLATES) SHALL BE AN INDUSTRY STANDARD OF 0.024 INCHES.
- 5. SCREEN MATERIAL SHALL BE 18/14 SCREEN UNLESS APPROVED BY FLORIDA ENGINEERING LLC.
- 6. 1"x2" & 1"x3" NON-STRUCTURAL MEMBERS MAY BE USED INTERCHANGEABLY.
- 7. DOOR LOCATION MAY BE DETERMINED/ RELOCATED BY CONTRACTOR IN THE FIELD. NOT TO AFFECT DESIGN SPANS AND STRUCTURAL MEMEBRS SHOWN

CONCRETE SPECIFICATIONS:

- THE FOLLOWING SPECIFICATIONS ARE APPLICABLE TO THIS PROJECT:
- 1. WHERE CONCRETE SPECIFICATIONS ARE REQUIRED, WHETHER IN THE SCREEN ENCLOSURE SCOPE OR NOT, BY ONE OR MORE REGULATORY AGENCIES, THE FOLLOWING SPECIFICATIONS ARE APPLICABLE:
 - a. CONCRETE SHALL CONFORM TO ASTM C94 FOR THE FOLLOWING COMPONENTS:
 - i. PORTLAND CEMENT TYPE 1 - ASTM C 150
 - ii AGGREGATES - LARGE AGGREGATE 3/4 MAX. - ASTM C 33
 - iii. AIR ENTRAINING +/- 1 % - ASTM C 260
 - iv. WATER REDUCING AGENT - ASTM C 494
 - v. CLEAN POTABLE WATER
 - vi. OTHER ADMIXTURES NOT PERMITTED
 - b. METAL ACCESSORIES SHALL CONFORM TO:
 - i. REINFORCING BARS - ASTM A615, GRADE 60
 - ii. WELDED WIRE FABRIC - ASTM A185
 - c. CONCRETE SLUMP AT DISCHARGE CHUTE NOT LESS THAN 3" OR MORE THAN 5". WATER ADDED AFTER BATCHING IS NOT PERMITTED.
 - d. PREPARE & PLACE CONCRETE PER AMERICAN CONCRETE INSTITUTE MANUAL OF STANDARD PRACTICE, PART 1, 2, & 3 INCLUDING HOT WEATHER RECOMMENDATIONS.
 - e. MOIST CURE OR POLYETHYLENE CURING PERMITTED.
 - f. PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN COMPLIANCE WITH THE FBC. FOR RISK CATEGORY II, III, & IV STRUCTURES ONLY.
 - g. CONCRETE SLAB SHALL BE PLACED OVER A POLYETHYLENE VAPOR BARRIER. (SLAB ONLY)
 - 2. WHEN PAVERS ARE UNDER ALUMINUM MEMBERS, CONTRACTOR SHALL EPOXY TO DECK OR GROUT TO DECK w/ 2000 PSI GROUT WITH BONDING AGENT
 - 3. WHEN APPLICABLE FOR NEW SLAB ADDITION TO ADJACENT DRILL & EPOXY #4 X 8" REBAR INTO EX. FOUNDATION EMBED 4" MIN W/ NON-SHRINKING SIMPSON EPOXY-TIE (OR EQUAL) 48" O.C. TYP. ALL LOCATIONS
 - 4. WHEN APPLICABLE FOR NEW FOOTER TO EXISTING, DRILL & EPOXY NEW STEEL INTO EX. FOUNDATION WITH EMBED 6" MIN W/ NON-SHRINKING SIMPSON EPOXY-TIE (OR EQUAL) TYP. ALL LOCATIONS
 - 5. WHERE PAVERS ARE UNDER ALUMINUM MEMBERS, CONTRACTOR SHALL EPOXY TO DECK OR GROUT TO DECK w/3000 PSI GROUT WITH BONDING AGENT.
 - 6. MINIMUM CONCRETE STRENGTH 3000 PSI UNLESS OTHERWISE NOTED.

MASONRY SPECIFICATIONS:

- 1. CONCRETE MASONRY UNITS (CMU) SHALL BE STANDARD HOLLOW UNITS AND SHALL BE 1900 PSI MINIMUM BASED ON TYPE M OR S MORTAR.
- 2. ALL MORTAR SHALL BE TYPE M OR S.
- 3. ALL GROUT SHALL BE 1800 PSI MINIMUM AND HAVE MAXIMUM COARSE AGGREGATE SIZE OF 3/8".
- 4. PROVIDE CLEAN-OUTS FOR REINFORCED CELLS CONTAINING REINFORCEMENT WHEN GROUT POUR EXCEEDS 5'-0" IN HEIGHT.

FOOTER SPECIFICATIONS:

- 1. PROVIDE 1-1/2" COVERAGE TOP, SIDES, BOTTOM AND 1" BETWEEN ADJACENT REBAR LAPS.
- 2. PROVIDE MIN. 3" COVERAGE OF REBAR FOR ALL CONCRETE IN CONTACT WITH THE EARTH.
- 3. FOOTING CONCRETE SHALL BE MIN. 3000 PSI AT 28 DAYS
- 4. FOOTING REINFORCEMENT SHALL BE MIN. GRADE 60
- 5. MINIMUM REBAR LAP SPLICE (40d) d= DIAMETER OF REBAR
- 6. PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURE TO CITY / CO. REQUIREMENTS
- 7. PROVIDE 2500 PSF BEARING (TYPICAL) UNDER FOUNDATION
- 8. SEE GENERAL NOTES SHEET/01 FOR TYING INTO EXISTING FOUNDATIONS
- 9. SEE GENERAL NOTES SHEET/01 FOR ADDITIONAL CONCRETE INFORMATION & SPECS.

ALUMINUM MEMBERS DIMENSIONS:

HOLLOW SECTIONS
2 x 2: 2" x 2" x 0.050"
2 x 3: 2" x 3" x 0.050"
2 x 4: 2" x 4" x 0.050"
2 x 5: 2" x 5" x 0.050"

OPEN BACK SECTIONS
1 x 2: 1" x 2" x 0.044"
1 x 3: 1" x 3" x 0.045"

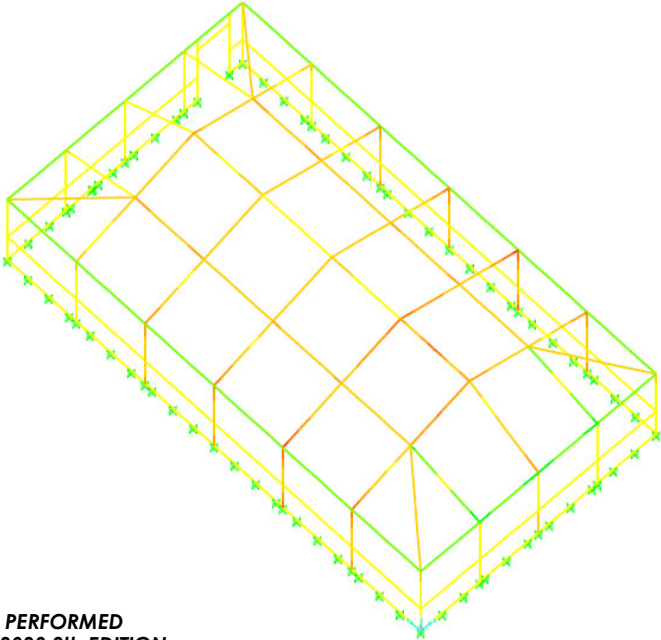
SNAP SECTIONS
2 x 2 SNAP: 2" x 2" x 0.045"
2 x 3 SNAP: 2" x 3" x 0.050"
2 x 4 SNAP: 2" x 4" x 0.045"

SELF MATING (SMB)
2 x 4 SMB: 2" x 4" x 0.046" x 0.100"
2 x 5 SMB: 2" x 5" x 0.050" x 0.116"
2 x 6 SMB: 2" x 6" x 0.050" x 0.120"
2 x 7 SMB: 2" x 7" x 0.055" x 0.120"
2 x 8 SMB: 2" x 8" x 0.072" x 0.224"
2 x 9 SMB: 2" x 9" x 0.072" x 0.224"
2 x 9(H) SMB: 2" x 9" x 0.082" x 0.306"
2 x 10 SMB: 2" x 10" x 0.092" x 0.374"

ALL MAY NOT APPLY
DETAIL "A" MEMEBR DIMENSIONS

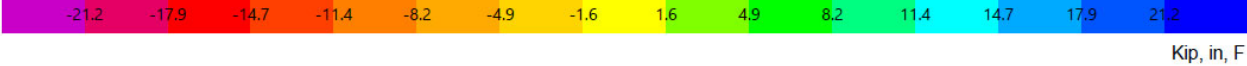
DESIGN LOADS:

- 1. DEAD LOADS = MEMBER SELF-WEIGHT
- 2. LIVE LOADS
 - a. PRIMARY MEMBERS = 300 LB. VERT. LOAD
 - b. SECONDARY MEMBERS = 200 LB. VERT. LOAD
 - c. SCREEN ROOF = 5 PSF
 - d. SOLID ROOF = 20 PSF

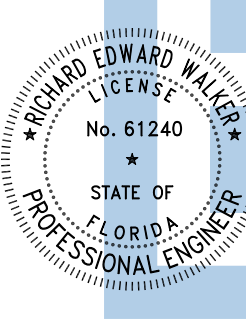


ALLOWABLE STRESS IS 21.2 KSI

3-D FINITE ELEMENT ANALYSIS PERFORMED
STRUCTURE COMPLIES w/ FBC 2023 8th EDITION



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PORT CHARLOTTE, FLORIDA 33952
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FLEng.com



Orders@FLEng.com

CA CERT. #30782

PROJECT NO. 2505295

CONTRACTOR:

SCREENWORKS
1027 BLANDING BLVD.
STE 602 ORANGE PARK FL 32065

PROJECT ADDRESS:

GONZALEZ
299 NW CYPRESS COVE DR
LAKE CITY, FL 32055

DESIGN DATE: 03/10/2025

REVISION 1: DATE

REVISION 2: DATE

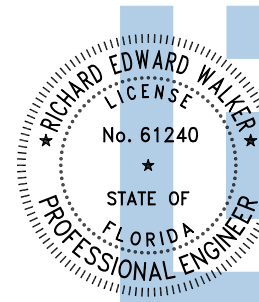
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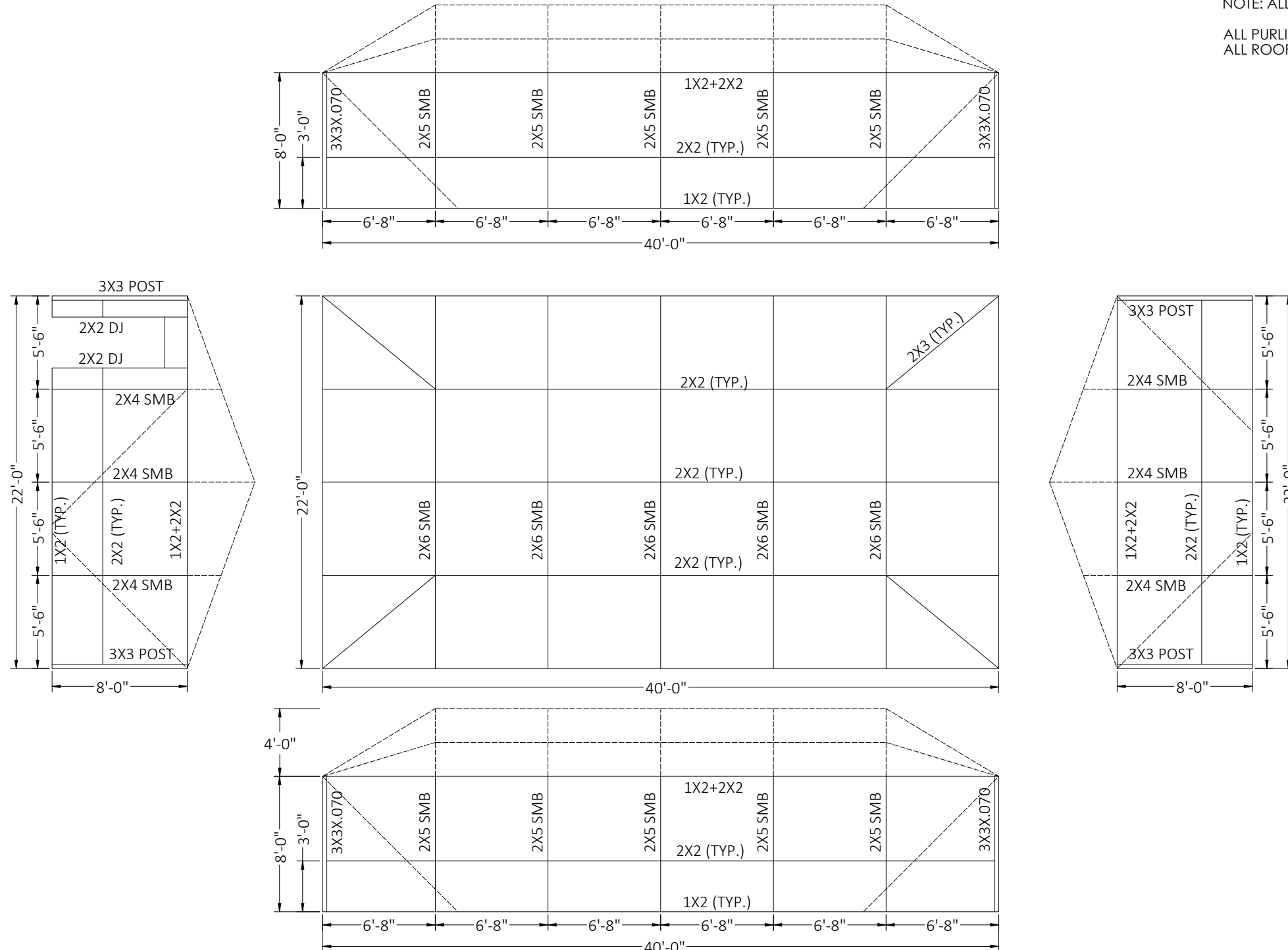
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HATCH	INDICATES
	EXIST. STRUCTURE

ALL PURLINS TO BE 2x2x.046 (TYP.)
ALL ROOF BRACING TO BE 2x3x.050 (TYP.)



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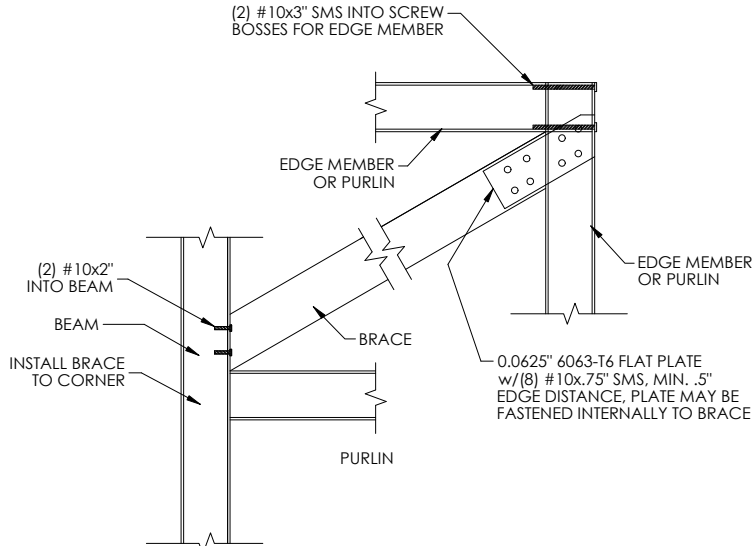
02

NOTES:
1. FOR MOMENT CONNECTION SEE DETAIL "K"
TABLE "B-1"

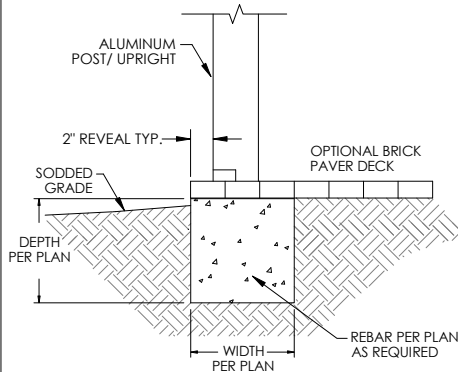
BEAM	QTY/ SIZE EACH SIDE
2 x 3	(6)/ #10
2 x 4	(8)/ #10
2 x 5	(8)/ #10
2 x 6	(9)/ #10
2 x 7	(11)/ #10
2 x 8	(12)/ #12
2 x 9	(14)/ #12
2 x 10	(14)/ #12

MAINTAIN MIN. OF 5/8" SEPERATION
FROM EDGE OF BEAM SMS O.C.

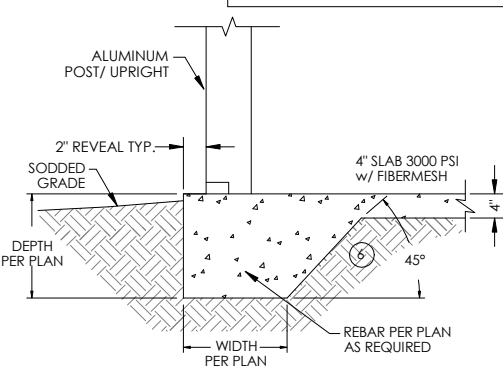
DETAIL "E" - UPRIGHT TO BEAM
CONNECTION SCALE: NTS



DETAIL "D" - ROOF BRACING CONNECTION
SCALE: NTS



RIBBON FOOTING PER PLAN

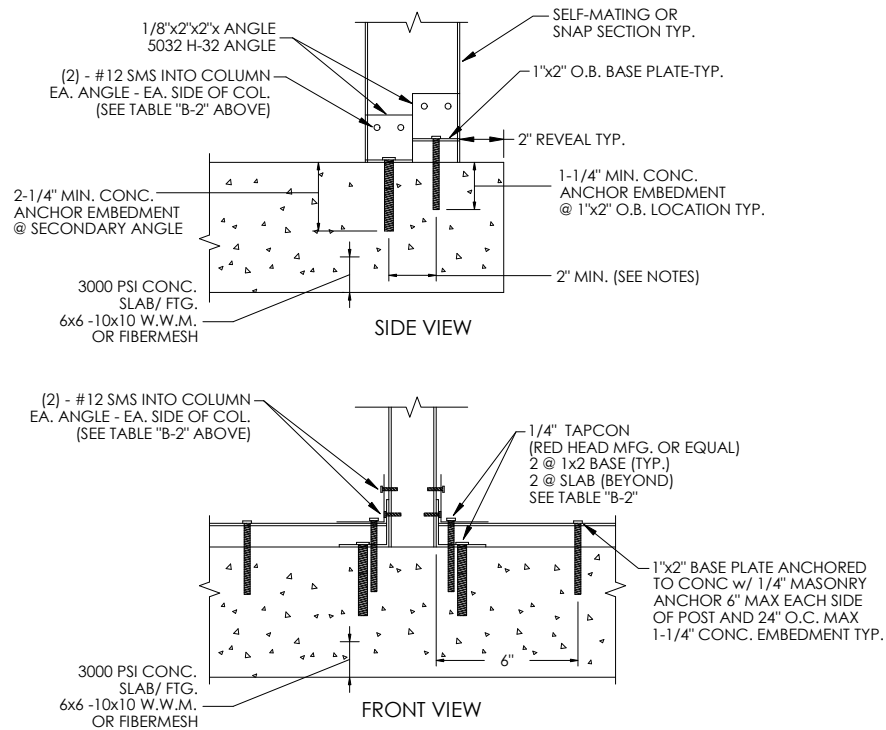


MONOLITHIC FOOTING PER PLAN

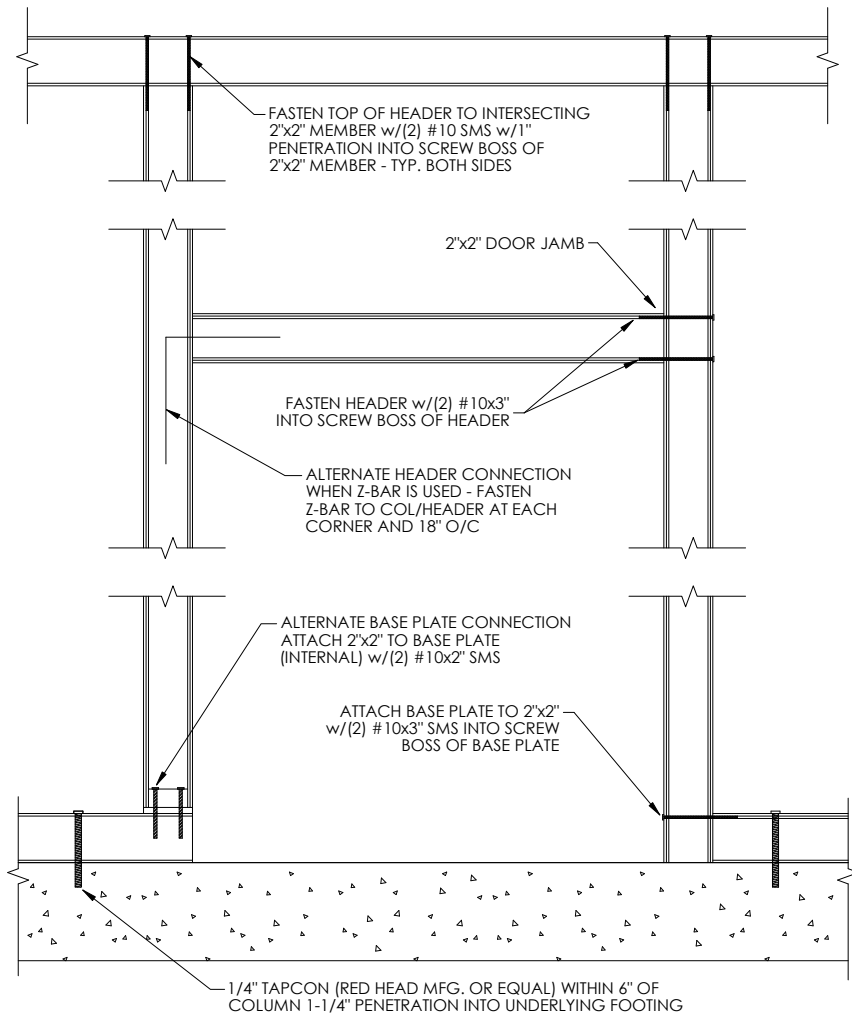
DETAIL "J" REVEAL
SCALE: NTS

TABLE "B-2" 2"x4" OR LARGER SELF MATING UPRIGHT TO DECK DETAIL SPECIFICATIONS		
UPRIGHT SIZE	MIN. NUMBER OF TAPCONS INTO CONCRETE EA. SIDE TYP.	# 12 X 3/4" S.M.S. INTO UPRIGHT EA. SIDE TYP.
2 x 4	(2) 1/4" TAPCON	(2) #12 S.M.S
2 x 5	(2) 1/4" TAPCON	(4) #12 S.M.S
2 x 6	(3) 1/4" TAPCON	(5) #12 S.M.S
2 x 7	(3) 1/4" TAPCON	(5) #12 S.M.S
2 x 8	(4) 1/4" TAPCON	(7) #12 S.M.S
2 x 9	(4) 1/4" TAPCON	(8) #12 S.M.S
2 x 10	(5) 1/4" TAPCON	(9) #12 S.M.S

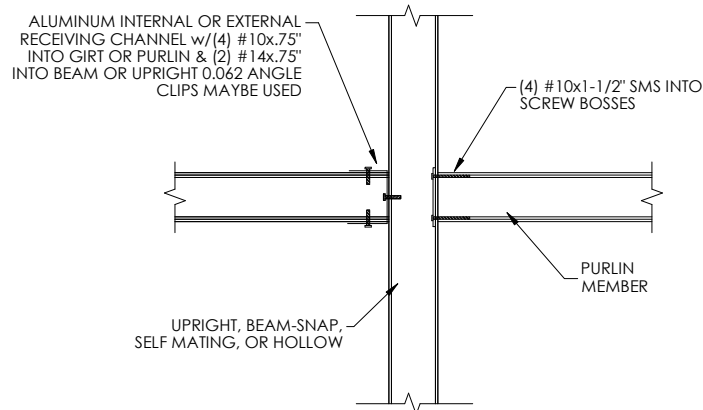
TABLE "B-2" NOTES
NOTES: 1. WHERE PAVERS ARE PRESENT USE 3/8" DIA. x 5'-7" LDT TO PENETRATE UNDERLYING CONCRETE FOOTING 2-1/4" (MIN.) 2. CONTRACTOR MAY UTILIZE EQUIVALENT ANCHORS IN LIEU OF TAPCONS 3. SPACING OF TAPCONS/ MASONRY ANCHORS PER MFG. 1/4" DIA. TAPCON MIN. 2" SPACING 3/8" DIA. LDT'S MIN. 3" SPACING



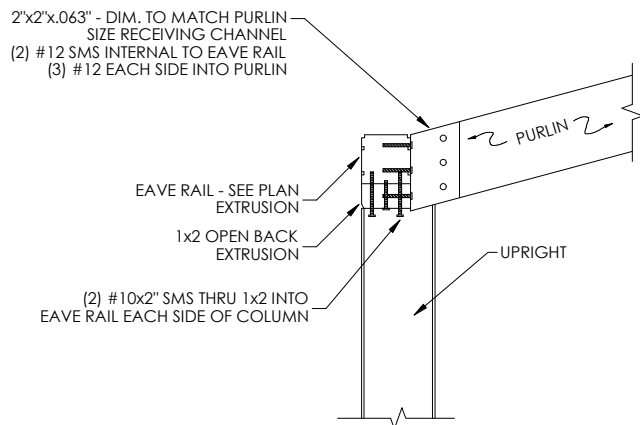
DETAIL "B" - 2"x4" OR LARGER SELF MATING
UPRIGHT TO DECK DETAILS SCALE: NTS



DETAIL "F" - DOOR JAMB & HEADER
CONNECTION SCALE: NTS

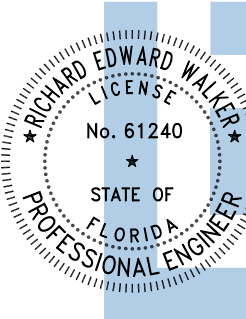


DETAIL "C" - GIRT OR PURLIN TO BEAM
OR POST DETAIL SCALE: NTS



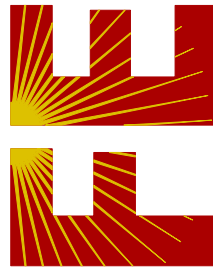
DETAIL "G" - SLOPED PURLIN
CONNECTION SCALE: NTS

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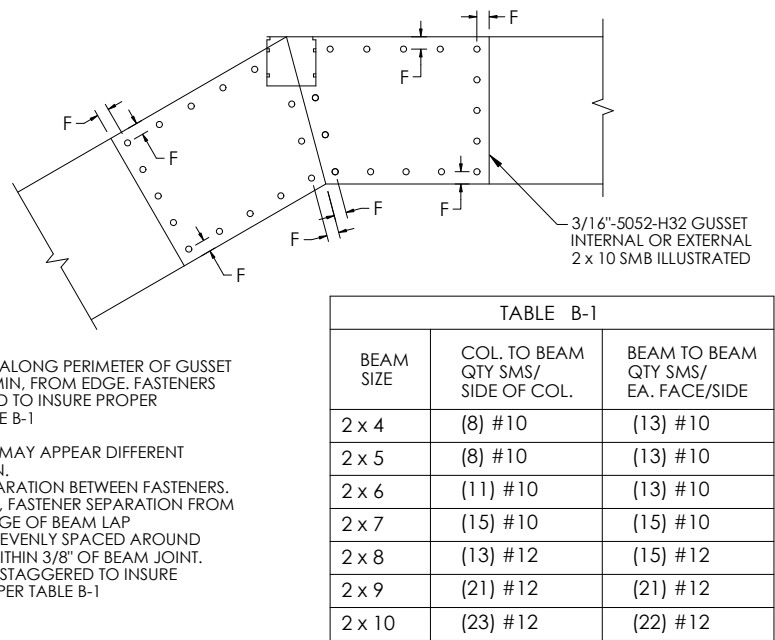
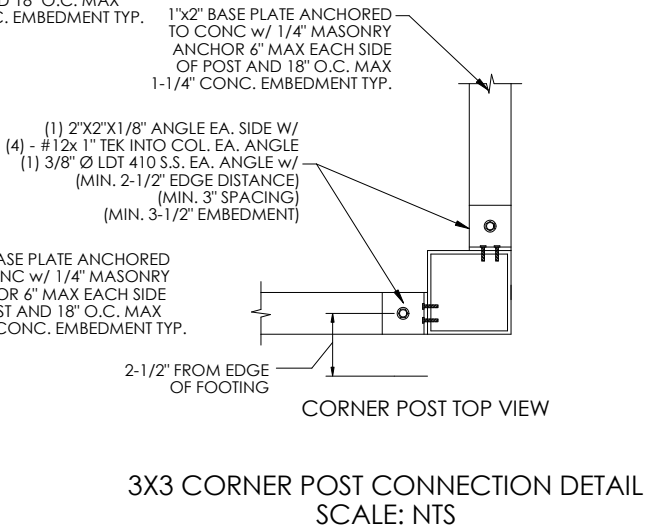
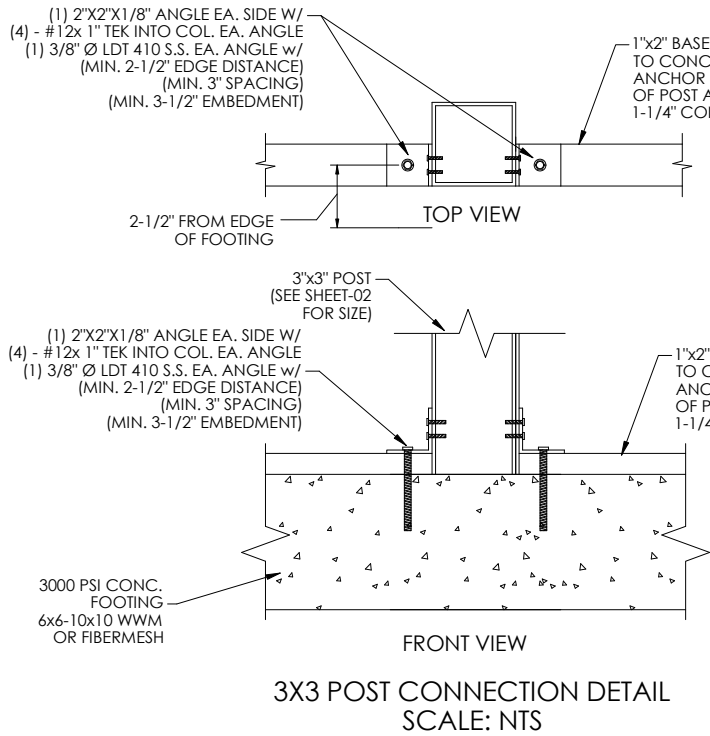
PROJECT NO. 2505295

TRACTOR: SCREENWORKS
1027 BLANDING BLVD.
STE 602 ORANGE PARK FL 32065

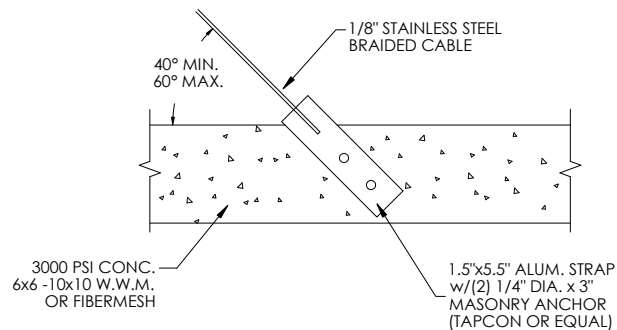
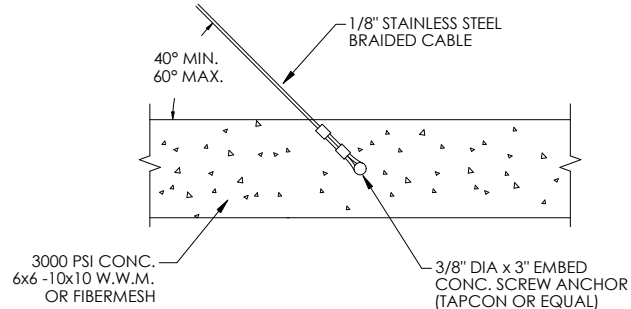
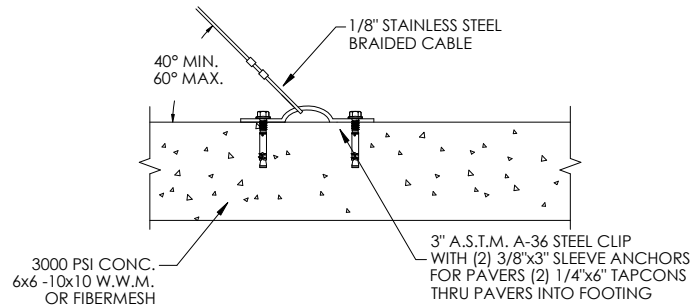
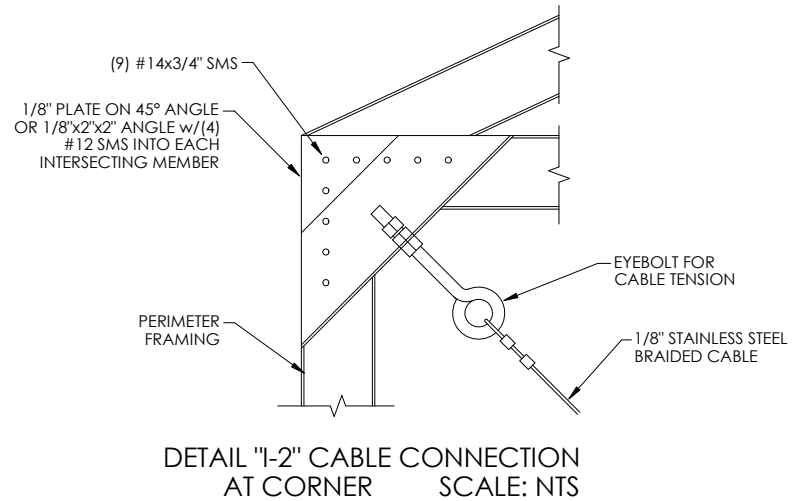
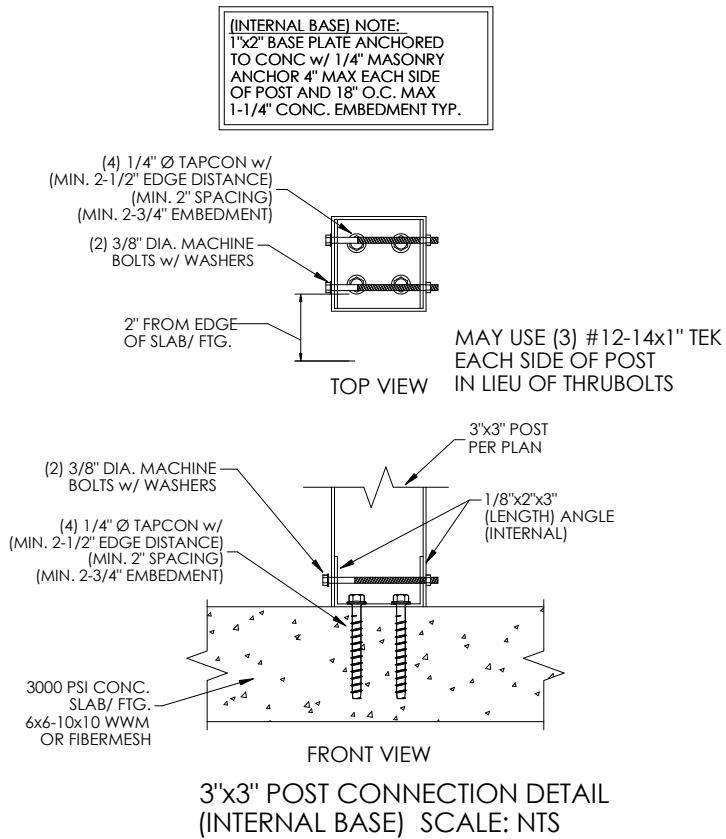
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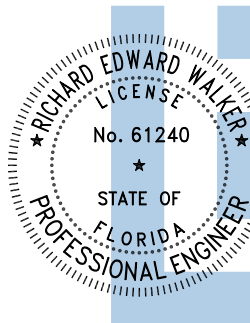


DETAIL "K" GUSSET CONNECTION
SCALE: NTS



DETAIL "I-1" CABLE CONNECTION
AT FOUNDATION SCALE: NTS

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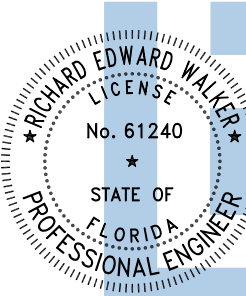
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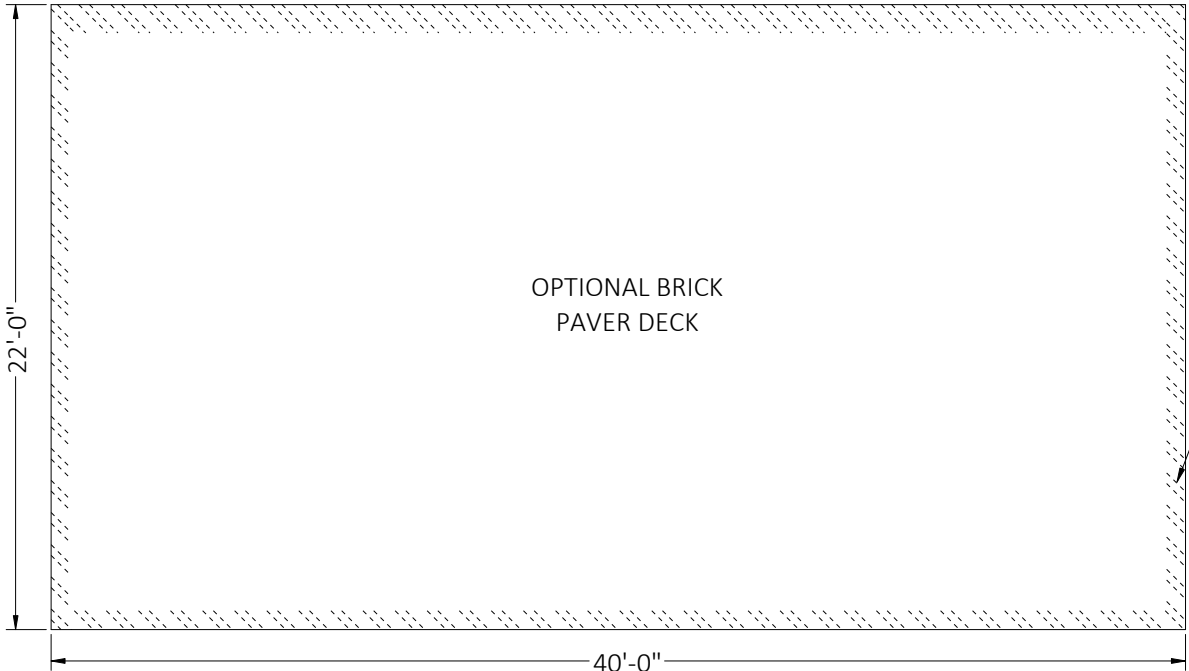
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FOUNDATION PLAN
SCALE : NTS

CONCRETE LEGEND

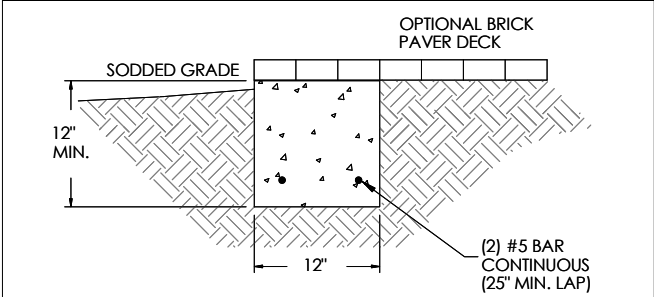
HATCH	INDICATES
	HOST/ EXIST.
	NEW FOOTING
	NEW SLAB AREA

NOTE: ALL MAY NOT APPLY



PROPOSED:
124' - 0" LN. FT. OF CONTINUOUS
12"x12" PERIMETER FOOTER
(3000 PSI, MIN.) w/
(2)-#5 REBAR, CONTINUOUS
3" MIN. CONC. COVER,
25" MIN. LAP SPLICE

PROPOSED:
124' - 0" LN. FT. OF CONTINUOUS
12"x12" PERIMETER FOOTER
(3000 PSI, MIN.) w/
(2)-#5 REBAR, CONTINUOUS
3" MIN. CONC. COVER,
25" MIN. LAP SPLICE



12"x12" RIBBON FOOTING
SCALE: NTS

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PROJECT NO. 2505295

CA CERT. #30782

CONTRACTOR:

SCREENWORKS
1027 BLANDING BLVD.
STE 602 ORANGE PARK FL 32065

PROJECT ADDRESS:

GONZALEZ
299 NW CYPRESS COVE DR
LAKE CITY, FL 32055

DESIGN DATE: 03/10/2025

REVISION 1: DATE

REVISION 2: DATE

DRAWN BY: MBG

SCALE: NTS

SHEET:

05