GENERAL:

Α.	THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS AT THE SITE AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF DISCREPANCIES BETWEEN THE ACTUAL CONDITIONS AND INFORMATION SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH WORK.
В.	THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE COMPLETE DESIGN OF THE STRUCTURE. THEY DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED.
C.	OBSERVATION VISITS TO THE SITE BY EOR OR REPRESENTATIVES OF THE EOR MAY BE MADE DURING CONSTRUCTION. ANY SUPPORT SERVICES PERFORMED HEREIN SHALL BE DISTINGUISHED FROM INSPECTION AND/OR TESTING SERVICES PERFORMED BY OTHERS, AND ARE NOT TO BE CONSTRUED AS SUPERVISION AND/OR MANAGEMENT OF CONSTRUCTION.

- THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACING AND SHORING OF ALL STRUCTURAL MEMBERS AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY CONDITION WHICH, IN HIS OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS WITHIN THE STRUCTURE.
- CONSTRUCTION MATERIALS SHALL NOT BE STACKED ON FLOORS OR ROOFS IN EXCESS OF THE DESIGN LIVE LOADS. IMPACT SHALL BE AVOIDED WHEN PLACING MATERIALS ON FLOORS OR ROOFS.
- G. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO THE DETAILS PRESENTED, SIMILAR DETAILS SHALL BE USED SUBJECT TO THE REVIEW OF ENGINEER OF RECORD.
- SUBMIT WRITTEN REQUEST TO THE ARCHITECT FOR APPROVAL OF ANY PROPOSED CHANGE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. SPLICING, CUTTING, NOTCHING OR OTHER ALTERATIONS TO STRUCTURAL MEMBERS ARE NOT PERMITTED WITHOUT WRITTEN AUTHORIZATION OF THE ENGINEER. ANY UNAUTHORIZED DEVIATION FROM THE CONTRACT DOCUMENTS, AND CORRECTION THEREOF, IS THE RESPONSIBILITY OF THE CONTRACTOR. SUBSEQUENT DOCUMENTATION/REQUESTS TO BUILDING ENGINEERING OF RECORD FROM GC SHALL INCLUDE EVALUATION OF DEVIATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.
- J. DESIGN DATA: REFER TO SPECIFICATION FOR FURTHER INFORMATION.
- K. THE MOST STRINGENT REQUIREMENTS APPLY IN CASE OF CONFLICT BETWEEN SPECIFICATIONS, STANDARDS, CODES AND DRAWINGS.

DESIGN LOADING:

F. DRAWINGS ARE NOT TO BE SCALED.

SLAB LIVE LOADS	125 PSF
ROOF DEAD LOADS	20 PSF
ROOF LIVE LOADS	20 PSF
SNOW DESIGN:	
GROUND SNOW LOAD	Pg 0 PSF
FLAT SNOW LOAD	Pf 0 PSF
SNOW EXPOSURE FACTOR	Ce 1.0
SNOW IMPORTANCE FACTOR	ls 1.0
SNOW THERMAL FACTOR	Ct 1.0

WIND DESIGN, REFERENCE GENERAL NOTES TABLES

SEISM	IC DESIGN:	
	RISK CATEG	

MIC DESIGN:	
RISK CATEGORY:	N/A
DESIGN CATEGORY:	N/A
SITE CLASS:	N/A
BASIC S-R SYSTEM:	N/A
R (RESPONSE MOD.):	N/A
Cs (RESPONSE COEF.):	N/A
Ss:	N/A
S1:	N/A
Sds:	N/A
Sd1:	N/A
ANALYSIS PROCEDURE:	N/A
DESIGN BASE SHEAR:	N/A

NOTE: ALL DESIGN LOADS PRESENTED ARE UNFACTORED UNLESS SPECIFIED OTHERWISE.

DESIGN LOADING:

2020 FLORIDA BUILDING CODE, SEVENTH EDITION

ASCE 7-16, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

ACI 318-11, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

AISC MANUAL OF STEEL CONSTRUCTION, 13TH EDITION

SEE SPECIFICATIONS FOR FURTHER INFORMATION

FOUNDATIONS/SITE WORK:

- A. FOUNDATION DESIGN IS BASED UPON THE FOLLOWING SOILS REPORT: COMPANY NAME: UNIVERSAL ENGINEERING SCIENCES
- DATE: MARCH 29, 2022 PROJECT NUMBER: 0530.2100397.0000
- B. ALLOWABLE SOIL PRESSURE IS TO BE 3,000 PSF.
- C. ANY FILL REQUIRED TO BACKFILL EXCAVATED AREA OR ACHIEVE FINISHED GRADE IN STRUCTURAL AREAS SHALL BE AS INDICATED BY GEOTECHNICAL ENGINEER. THE FILL SHALL BE PLACED IN LEVEL LIFTS NOT EXCEED 12 INCHES LOOSE THICKNESS AND COMPACTED TO A MINIMUM OF 95% OF THE SOIL'S MODIFIED PROCTOR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM SPECIFICATION D-1557.
- D. IN-PLACE DENSITY TESTS SHALL BE PERFORMED BY AN EXPERIENCED ENGINEERING TECHNICIAN. TESTS SHALL BE PERFORMED FOR EACH 2,000 SQUARE FEET, IN EVERY COLUMN FOOTING LOCATION AND EACH 50 FEET ALONG WALL FOOTINGS. COPIES OF THE TEST REPORTS SHALL BE FURNISHED TO THE STRUCTURAL ENGINEER.
- E. REMOVE FREE WATER FROM EXCAVATIONS BEFORE PLACING CONCRETE.

CAUTION SHOULD BE USED WHEN OPERATING VIBRATORY COMPACTING EQUIPMENT NEAR

- THE EXISTING STRUCTURE TO AVOID THE RISK OF DAMAGE TO THE STRUCTURE.
- G. REFER TO ARCHITECTURE DRAWINGS FOR ANY NECESSARY WATERPROOFING REOUIREMENTS.

SUBMITTALS:

RESPONSIBILITY FOR ERRORS AND OMISSIONS, AND FROM COMPLIANCE WITH THE PLANS AND SPECIFICATIONS. CORRECTIONS OR COMMENTS DO NOT AUTHORIZE AN INCREASE IN THE CONSTRUCTION BUDGET. B. APPROVAL OF SHOP DRAWINGS DOES NOT INDICATE ACCEPTANCE OF DEVIATIONS FROM

CORRECTIONS OR COMMENTS MADE ON THIS REVIEW DO NOT RELIEVE THE CONTRACTOR OF

A. SHOP DRAWING REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT.

- CONTRACT DOCUMENTS OR PREVIOUS SHOP DRAWING REVIEW, UNLESS SPECIFICALLY NOTED THEREIN BY ENGINEER OF RECORD.
- C. ANY CHANGES TO THE DESIGN CONCEPT SHOWN IN CONTRACT DOCUMENTS SHALL BE SUBMITTED IN WRITING AND APPROVED BY THE ARCHITECT AND ENGINEER PRIOR TO SUBMITTING SHOP DRAWINGS. ALL SUCH CHANGES SHALL BE "BUBBLED" ON THE SHOP DRAWINGS AND REFERENCED TO THE PROPER R.F.I.
- D. SUBMITTALS SHALL CONFORM TO THE REQUIREMENTS OF THE CONTRACT DRAWINGS (REFERENCE ITEM C ABOVE FOR EXCEPTION). NON-CONFORMING OR NON-REVIEWED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
- 1. SHOP DRAWINGS SHALL BE "APPROVED", SIGNED AND DATED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO ENGINEER AND ARCHITECT OF RECORD. 2. SHOP DRAWINGS SHALL NOT CONTAIN REPRODUCTIONS OF THE CONTRACT DRAWINGS. 3. SUBMITTAL REOUIREMENTS: INFORMATION SUBMITTALS
- -SEE SPECIFICATIONS
- ACTION SUBMITTALS -SEE SPECIFICATIONS DELEGATED ENGINEERING SUBMITTALS -JOISTS & JOIST GIRDERS -COLD-FORMED METAL FRAMING
 - -TRUSSES & TRUSS SYSTEMS -ALUMINUM STOREFRONT SYSTEMS -PRE-ENGINEERED CANOPIES, AWNINGS AND MARQUEES
- DELEGATED ENGINEERING SUBMITTALS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT.

REINFORCED CONCRETE:

- A. CAST-IN-PLACE CONCRETE, UNLESS OTHERWISE NOTED (U.O.N.): 2500 PSI 28-DAY COMPRESSIVE STRENGTH, NORMAL WEIGHT, 0.57 MAX. W/C FOOTINGS / PIERS / FORMED WALLS 2500 PSI 28-DAY COMPRESSIVE STRENGTH, NORMAL WEIGHT, 0.57 MAX. W/C
- COLUMNS/BEAMS 4000 PSI 28-DAY COMPRESSIVE STRENGTH, NORMAL WEIGHT, 0.45 MAX. W/C CONCRETE EXPOSED TO FREEZE/THAW CONDITIONS SHALL BE AIR ENTRAINED

CONCRETE COVER OVER REINFORCEMENT:

- ANY CONCRETE CAST AGAINST EARTH " (BOTTOM & SIDES), 2" (TOP) RMED PIERS & WALLS " (#6 AND LARGER), 1 1/2" (#3 TO #5) ABS, COLUMNS AND BEAMS EXPOSED TO EARTH OR WEATHER " (#6 AND LARGER), 1 1/2" (#3 TO #5) LABS NOT EXPOSED TO EARTH OR WEATHER /4" (#3 TO #11) EAMS AND COLUMNS NOT EXPOSED TO EARTH OR WEATHER
- <u>1 1/2" (#3 TO #11)</u> REINFORCING, UNLESS OTHERWISE NOTED (U.O.N.): 1. WELDED WIRE FABRIC SHALL BE CONTINUOUS, LAPPED ONE CROSS WIRE SPACING PLUS 2" MINIMUM.
- 2. WHERE CONTINUOUS REINFORCING IS SPECIFIED, SUCH REINFORCING MAY BE SPLICED WHERE APPROVED IN WRITING BY THE ENGINEER OF RECORD.
- 3. AT CHANGES IN DIRECTION OF CONCRETE WALLS, BEAMS, AND FOOTINGS, PROVIDE CORNER BARS OF SAME SIZE, QUANTITY AND SPACING AS HORIZONTAL STEEL.
- 4. LAP SPLICES SHALL BE PER LAP SPLICE TABLE BELOW, WIRED TOGETHER.
- D. THERE SHALL BE NO HORIZONTAL JOINTS IN ANY CONCRETE POURS UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.

E. POWDER ACTUATED FASTENERS (PAFS) NOT PERMITTED AT CONCRETE.

REINF.	f'c p	si
SIZE	3000	4000
#3	18"	18"
#4	24"	24"
#5	30"	30"
#6	36"	36"
#7	63"	54"
#8	72"	62"
#9	81"	70"
#10	89"	78"
#11	98"	85"

*MINIMUM CLEAR COVER OF (1)-Db *MINIMUM CLEAR SPACING OF (2)-Db

F. UNLESS OTHERWISE NOTED, INTERIOR SLAB ON GRADE TO BE 4" SLAB w/ 3000 PSI CONCRETE w/ 6x6xW2.1xW2.1 W.W.F. OVER 10 MIL MIN. VAPOR RETARDER ON TERMITE TREATED COMPACTED SOIL

STRUCTURAL STEEL: A. WELDING, UNLESS (1. ALL WELDING IN CERTIFIED WELDER 2. WELDING ELECTR B. CONNECTIONS, UNL 1. TIGHTEN BOLTS B 2. FIELD CONNECTI BEARING TYPE BO SHEAR PLANES. 3. SIMPLE SHEAR CO SINGLE ROW AS AF ALL AROUND, SIMP (EXTENDED PLATES BE SINGLE-PLATE 0 GROUT UNDER BEA WHEN BEARING ON D. UNLESS OTHERWIS OR OTHERWISE PR E. UNLESS OTHERWIS COATED WITH AN ASPHALTIC BASED CORROSION RESISTANCE COATING UPON INSTALLATION OR OTHERWISE PROTECTED. STEEL JOISTS AND STEEL GIRDERS: A. ALL JOISTS AND GIRDERS SHOWN IN THE PLANS ARE MINIMUM SIZES. DEPTH CANNOT BE DECREASED OR INCREASED WITHOUT WRITTEN APPROVAL BY ARCHITECT/ENGINEER. B. STEEL JOIST AND GIRDER SEAT DEPTHS TO BE: 1. ALL K-SERIES JOISTS TO HAVE 2 1/2" SEATS 2. ALL KCS-SERIES JOISTS TO HAVE 2 1/2" SEATS 3. ALL L-H SERIES JOISTS TO HAVE 5" SEATS 4. ALL JOIST GIRDERS TO HAVE 7 1/2" SEATS PROVIDE BRIDGING AND X-BRACING AS PER THE REOUIREMENTS OF SJI AND AS FOLLOWS. SHOULD PLANS OR NOTES INDICATE BRIDGING AND X-BRACING IN EXCESS OF THAT REQUIRED BY SJI, PLANS & NOTES WILL GOVERN. 1. PROVDE X-BRACING AT ALL HORIZONTAL BRIDGING INCLUDING UPLIFT BRIDGING AT INTERVALS NOT TO EXCEED 100 FEET IN LENGTH. 2. PROVIDE X-BRACING ON BOTH SIDES OF W BEAMS (EITHER DIRECTLY ADJACENT TO W BEAMS OR NEXT BAY FROM W BEAMS), TYP. ALL HORIZONTAL BRIDGING LINES EXCEPT UPLIFT. 3. PROVIDE X-BRACING AT ALL HORIZONTAL BRIDGING INCLUDING UPLIFT BRIDGING AT OUTSIDE (END) BEAMS WHERE OCCURS. 4. PROVIDE X-BRACING AT ALL HORIZONTAL BRIDGING INCLUDING UPLIFT BRIDGING AT END BAYS WHERE BRIDGING TERMINATED AT EXPANSION JOINT LOCATIONS. 5. PROVIDE X-BRACING AT ALL HORIZONTAL BRIDGING INCLUDING UPLIFT BRIDGING AT END BAYS WHERE BRIDGING TERMINATED. 6. PROVIDE X-BRACING EACH SIDE AT ALL HORIZONTAL BRIDGING INCLUDING UPLIFT BRIDGING WHERE CONCENTRATED POINT LOAD GREATER THAN 500 POUNDS OCCURS. 7. PROVIDE X-BRACING EACH SIDE AT ALL HORIZONTAL BRIDGING INCLUDING UPLIFT BRIDGING WHERE DISCONTINUOUS. D. MINIMUM WELDS, U.O.N.: 1. BAR JOIST ENDS 3/16" FILLET, 2" LONG, EACH SIDE OR 1/8" FILLET, 3" LONG, EACH SIDE 2. JOIST GIRDER ENDS 1/4" FILLET, 4" LONG, EACH SIDE STEEL DECK NOTES:

- DECK TO SUPPORTS SAME AS EDGE CONDITION.

OTHERWISE NOTED (U.O.N.):
THE SHOP AND IN THE FIELD SHALL BE PERFORMED BY RS ONLY.
RODES SHALL BE E70XX LOW HYDROGEN.
LESS OTHERWISE NOTED (U.O.N.):
BYTHE "SNUG-TIGHT" METHOD.
IONS SHALL BE MADE WITH 3/4" DIA. MIN. HIGH-STRENGTH Olts (A325N) with threads assumed to be included in
CONNECTIONS SHALL EMPLOY THE MAXIMUM NUMBER OF BOLTS IN A FOREDED BY CONNECTION GEOMETRY w/ 1 1/2" MIN. EDGE SPACING PLE SHEAR CONNECTIONS AT HSS COLUMNS SHALL BE SINGLE-PLATE IS NOT PERMITTED). SIMPLE SHEAR CONNECTIONS AT BEAMS SHALL DR DOUBLE-ANGLE.
RING PLATES SHALL HAVE COMPRESSIVE STRENGTH OF AT LEAST 5000 PS N 2500 PSI CONCRETE AND 8000 PSI WHEN BEARING ON 4000 PSI CONCR
E NOTED, ALL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZE OTECTED.
E NOTED, ALL STEEL EXPOSED TO SOIL SHALL BE ENCASED IN CONCRETE,

A. REFER TO PLAN FOR THICKNESS AND ATTACHMENT REQUIREMENTS.

B. PROVIDE SUPPORTS FOR METAL DECK AS REQUIRED WHERE METAL DECK IS CUT OUT. WELD

C. PROVIDE STL. SHIMS AND EMBEDS AS REQUIRED TO SUPPORT DECK ON "TYPICAL" BAY SPACING.

COLD-FORMED STEEL FRAMING, TRUSSES AND TRUSS SYSTEM:

Ν	IATERIALS, U.O.N.:
	54 MIL (16 GA) AND HEAVIER STUDS 50 KSI MIN.
	33 (20 GA), AND 43 MIL (18 GA) STUDS 33 KSI MIN.

- RUNNERS AND ACCESSORIES 33 KSI MIN. PROVIDE MANUFACTURERS STANDARD STEEL RUNNERS, BRIDGING, BLOCKS, BRACING, CLIPS, B.
- REINFORCEMENTS, ETC.-TEMPORARY AND PERMANENT AS REQUIRED TO PROVIDE A COMPLETE FRAMING SYSTEM, CAPABLE OF ACCOMMODATING THE LOADS PRESENTED IN THE
- CONSTRUCTION DOCUMENTS. C. FIELD SPLICES IN MATERIALS SHALL NOT BE PERMITTED EXCEPT WHERE INDICATED IN SHOP
- AND/OR INSTALLATION DRAWINGS AND APPROVED BY STRUCTURAL ENGINEER. DEFLECTION LIMITS, U.O.N. IN SPECIFICATIONS OR PLANS:

L/360, U.O.N. L/600, BRICK AND MASONRY VENEER

STRUCTURAL INSPECTION:

- A. THE CONTRACTOR OR OWNER SHALL EMPLOY A QUALIFIED INDEPENDENT INSPECTION AGENCY. THIS AGENCY (REFERRED TO AS INSPECTOR HEREIN) SHALL BE RESPONSIBLE FOR VERIFYING THAT PROJECT STRUCTURAL WORK IS ACCOMPLISHED IN CONFORMANCE WITH THE CONTACT DOCUMENTS.
- DURATION AND FREQUENCY OF JOB VISITS SHALL BE SUFFICIENT FOR THE INSPECTOR TO STATE AT THE Β. COMPLETION OF THE PROJECT THAT THE STRUCTURAL WORK IS ACCOMPLISHED, AND ITS RELATED ELEMENTS HAVE BEEN ERECTED IN ACCORDANCE WITH THE CONTACT DOCUMENTS. SPECIFIC SYSTEMS TO BE INSPECTED
 - INCLUDE: CONCRETE (FOUNDATION, PIERS, FORMED WALLS, COLUMNS/BEAMS) CONCRETE (SLAB ON GRADE)
 - STRUCTURAL STEEL (INCLUDING JOISTS) METAL DECK (ROOF) LIGHT GAUGE FRAMING (INCLUDING TRUSSES AND TRUSS SYSTEMS)
- C. THE FOREGOING LIST IS NOT INTENDED TO BE ALL INCLUSIVE. THE INSPECTOR SHALL USE HIS PROFESSIONAL JUDGEMENT AND HIS KNOWLEDGE OF THE JOB SITE CONDITIONS AND THE OFFICIAL CONTRACT DOCUMENTS. THE
- INSPECTOR WILL NOT REPLACE THE QUALITY CONTROL PERSONNEL OF THE CONTRACTOR. D. THE INSPECTOR DOES NOT RELIEVE THE CONTRACTOR'S CONTRACTUAL OR STATUTORY OBLIGATIONS. THE
- CONTRACTOR HAS THE SOLE RESPONSIBILITY FOR ANY DEVIATIONS FROM THE OFFICIAL CONTRACT DOCUMENTS. THE INSPECTOR WILL NOT REPLACE THE QUALITY CONTROL PERSONNEL OF THE CONTRACTOR.
- E. ALL INSPECTION REPORTS SHALL BE FORWARDED BY THE INSPECTOR TO THE ENGINEER AND ARCHITECT OF RECORD

ROOF TOP EQUIPMENT

BRACING.

- A. THE CONTRACTOR OR OWNER SHALL EMPLOY A QUALIFIED INDEPENDENT INSPECTION AGENCY. THIS AGENCY UNLESS SPECIFICALLY INDICATED IN PLANS, THE LOCATIONS AND DIMENSIONS OF ROOF TOP EQUIPMENT SUPPORTS ARE APPROXIMATE. THE EXACT LOCATIONS AND DIMENSIONS MUST BE COORDINATED WITH FINAL EQUIPMENT AND POSITIONED TO AVOID CONFLICT WITH STRUCTURAL MEMBERS INCLUDING BRIDGING AND
- ALL PRE-ENGINEERED ROOF TOP EQUIPMENT CURBS, BENCHES AND ASSOCIATED CONNECTIONS MUST SAFELY SUPPORT THE WEIGHT OF THE EQUIPMENT AND MEET THE APPLICABLE BUILDING CODE REQUIREMENTS FOR WIND AND SEISMIC.
- ANCH ANCHOR APPROX APPROXIMATE ARCH ARCHITECT/ARCHITECTURAL ALLOWABLE STRESS DESIGN (NOMINAL) ASD BOND BEAM BB BLDG BUILDING BFAM BM BOTTOM OF BOT/BTM BOTTOM BASE PLATE/BEARING PLATE BEARING BRG BETWEEN BTW CANTIL FVFR CANT CONCRETE BEAM **CONCRETE COLUMN** CAST IN PLACE **CONSTRUCTION JOINT** CENTERLINE CLEAR/CLEARANCE CLR COEF COEFFICIENT COL COLUMN CONC CONCRETE CONNX CONNECTION CONSTR CONSTRUCTION CONT CONTINUOUS CORR CORRUGATED CMU CONCRETE MASONRY UNIT DBA DEFORMED BAR ANCHORS DETAIL DIA/DIAM DIAMETER DIM DIMENSION DISTANCE DIST DOWN DRAIN DRAWING DWG DOWEL DWL EACH EACH END EACH FACE **EXPANSION JOIN** EL/ELEV ELEVATION ELECT ELECTRICAL EMB EMBEDMENT ENGR ENGINEER ENGINEER OF RECORD EOR EOUAL EQUIP EQUIPMENT EQUIV EQUIVALENT EACH SIDE EXISTING EXIST EXPANSION FXTERIOR EACH WAY FABRICATE FLOOR DRAIN FOUNDATION FINISHED FLOOR FINISH(ED) FL/FLR FLOOR FTG FOOTING GAGE/GAUGE GALV/GV GALVANIZED GENERAL CONTRACTOR HEADED ANCHOR STUD HAS HIGH BEAM (MASONRY) HORIZ HORIZONTAL HIGH STRENGTH BOLTS HSB HOLLOW STEEL SECTION HSS HEIGHT INTERNATIONAL BUILDING CODE INTERIOR JOIST JOINT KIPS KNOCK OUT KIPS PER SOUARE FOOT **KIPS PER SQUARE INCH** ANGLE LOW BEAM (MASONRY) POUNDS DEVELOPMENT LENGTH LONG DIMENSION HORIZONTAL LONG DIMENSION VERTICAL LGTH LENGTH LONG LEG BACK TO BACK LLBB LONG LEG HORIZONTAL

LLV LONG LEG VERTICAL

LOAD RESISTANCE FACTOR DESIGN (ULTIMATE)

MATERIAL

MAXIMUM MASONRY BEAM

LIST OF STRUCTURAL ABBREVIATIONS

ANCHOR BOLTS

ADDITIONAL

ALTERNATE

AB

ADDL

ALT

R0

DN

FO

EXP

FXT

FDN

FIN

HB

MOMENT CONNECTION

MASONRY COLUMN MASONRY CONTROL JOINT

MECHANICAL

MEZZANINE MANUFACTURE/MANUFACTURERS

MINIMUM MISCELLANEOUS

METAL NOT IN CONTRACT

NOMINAL

NOT TO SCALE ON CENTER

OPENING

OPPOSITE POWDER ACTUATED FASTENER

PARAPET BEAM (MASONRY) PRECAST CONCRETE

PI ATF PONDS PER LINEAR FOOT

PLYWOOD

PRE-ENGINEERED PRE-ENGINEERED METAL BUILDING

PRE-FABRICATED

PRELIMINARY PROJECTION

POUNDS PER SQUARE FOOT

POUNDS PER SQUARE INCH PRESSURE TREATED

POST TENSION(ING) (ED) PANEL WIDTH

RADIUS

ROOF BEAM (MASONRY) REINFORCED CONCRETE PIPE

ROOF DRAIN REFERENCE

REINFORCING

REQUIRED REVISION

REQUEST FOR INFORMATIO

ROOF TOP UNIT RETAINING WALL

SECTION SCH/SCHED SCHEDULE

SQUARE

SIMII AR

STEEL JOIST INSTITUT SPACE(S)

SPECIFICATIONS

STAINLESS STEEL

STANDARD STEEL

STRUCTURAL

SYMMETRICAL TOP AND BOTTOM

TONGUE AND GROOVE

THICKENED EDGE

THICK THREAD(ED)

TIE BEAM TOP OF CONCRETE

TOP OF MASONRY

TOP OF STEEL TYPICAL

TUBE STEEL

UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED

VERTICAL VERIFY IN FIELD

WIDE FLANGED

WITH WATER CONTENT

WITHOUT

WALL BEAM (TILT) WALL COLUMN (TILT)

WOOD

WEIGHT WEEPHOLE

WORKING POINT

STEEL TEE SECTION WELDED WIRE FABRIC

AND

PHILADELPHIA, PA 19103

2023.08.23

STRUCTURAL DRAWINGS FOR ST. KATHERINE'S CHURCH

7100 AIRPORT-PULLING ROAD, NAPLES, FL 34109 DATE: 08/23/2023 PROJECT NO .: REVISION

PROJECT:

23-0044 DATE

NOTES:



PROFESSIONAL ENGINEER SEAL STATE OF FLORIDA

GENERAL NOTES

AS NOTED SCALE: **S-100** DRAWN BY:

PJ

CHECKED BY:

ASCE 7 -16 **Risk Category** Exposure Category Wind Speed (mph)

Directionality (Kd) Mean Roof Ht (h) Parapet ht above grd Enclosure Classif. Internal pressure a =

Minimum parapet height at building perimeter = **Roof Angle**

Type of roof

MONOSLOPE

111

С 160 mph

0.85 16.5 24

0.18 4.6 ft

3.50 ft

1.2 deg

Enclosed Building

COMPONENTS & CLADDING

ULTIMATE LOADS:

160.0 mph (LRFD) 36.4 psf (LRFD) Basic Wind speed Base pressure (qh) = Roof Area <u>+ssure (psf) - L</u> 50 sf -40.4 psf -54.3 psf -54.3 psf 40.4 400 -6 <u>10 st</u> -43.0 psf <u>100 st</u> -39.3 psf -39.3 psf Negative Zone 1 Negative Zone 2 -41.9 psf -72.1 psf -72.1 psf -46.6 psf -46.6 psf -64.4 psf -46.6 psf Negative Zone 3 -64.4 psf -46.6 psf 16.0 psf -59.4 psf -59.4 psf 16.0 psf -58.3 psf -58.3 psf 17.5 psf -61.9 psf 16.0 psf -50.4 psf 16.4 psf **Positive All Zones** Overhang Zone 2 Overhang Zone 3 -60.8 psf -50.4 psf -61.9 psf -60.8 psf <u>Walls</u> Area Negative Zone 4 Negative Zone 5 Source (psr) -LRFD Values 50 sf 100 sf 500 sf -38.6 psf -36.8 psf -32.8 psf 10 sf 20 sf -42.6 psf -40.9 psf -52.4 psf -48.9 psf -44.3 psf -39.3 psf 37.6 psf 35.3 psf 3 NOTE: GCp REDUCED BY 10% DUE TO ROOF ANGLE <= 10 DEG.</td> 2</td -40.9 psf 33.5 psf -32.8 psf 29.5 psf Positive Zone 4 & 5 Parapets Area Positive Interior (Zone 4) Positive Corner (Zone 5) 10 of E0 of 100 of <u>10 sf</u> 106.4 psf 100 sf 72.5 psf 68.2 psf 82.7 psf 82.7 psf -65.7 psf -72.0 psf 68.2 psf -53.2 psf -53.2 psf 106.4 psf -74.5 psf -85.1 psf 72.5 psf -61.9 psf -66.3 psf Negative Interior (Zone 4) Negative Corner (Zone 5)

SERVICE LOADS:

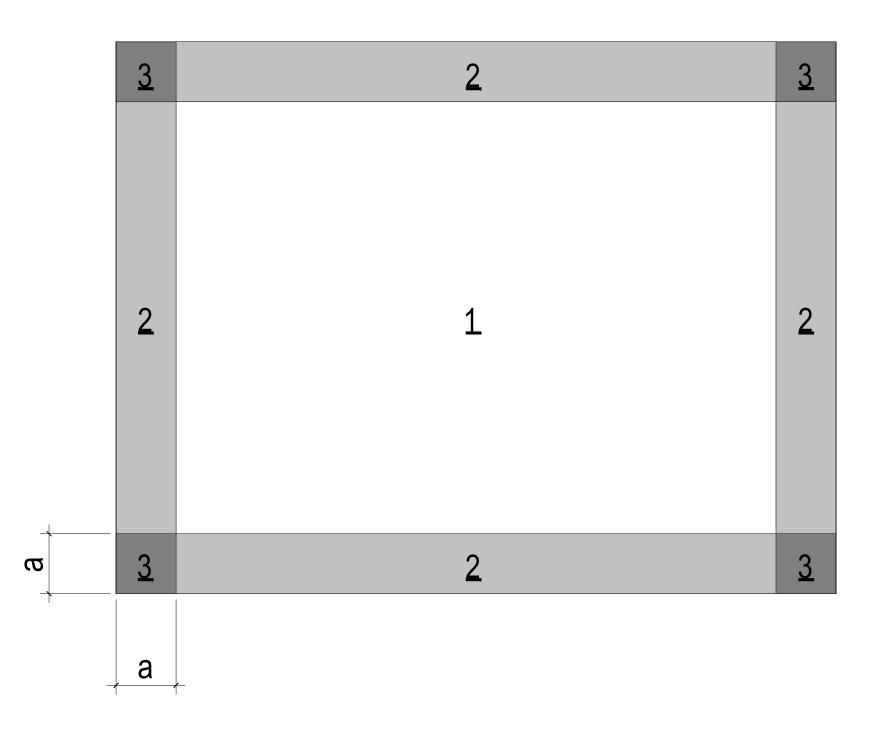
	Basic Wind speed		107.7 mph (A	SD)	
	Base pressure (qh) =		21.8 psf (A	SD)	
Roof		(ASD)Su	face Pressure (psf) -	-ASD Values	
Area	10 sf	20 sf	50 sf	100 sf	200 sf
Negative Zone 1	-25.8 psf	-25.1 psf	-24.3 psf	-23.6 psf	-23.6 psf
Negative Zone 2	-43.3 psf	-38.7 psf	-32.6 psf	-28.0 psf	-28.0 psf
Negative Zone 3	-43.3 psf	-38.7 psf	-32.6 psf	-28.0 psf	-28.0 psf
Positive All Zones	10.5 psf	9.8 psf	9.6 psf	9.6 psf	9.6 psf
Overhang Zone 2	-37.1 psf	-36.5 psf	-35.6 psf	-35.0 psf	-30.3 psf
Overhang Zone 3	-37.1 psf	-36.5psf	-35.6 psf	-35.0 psf	-30.3 psf
	NOTE: GCp RED	UCED BY 10% DUE T	0 ROOF ANGLE <=1	0 DEG.	
Walls			face Pressure (psf) -		
Area	10 sf	20 sf	50 sf	100 sf	500 sf
Negative Zone 4	-25.6 psf	-24.5 psf	-23.1 psf	-22.1 psf	-19.7 psf
Negative Zone 5	-31.5 psf	-29.4 psf	-26.6 psf	-24.5 psf	-19.7 psf
Positive Zone 4 & 5	23.6 psf	22.6 psf	21.2 psf	20.1 psf	17.7 psf
Parapets	Γ		(ASD)Surface Pres	sure (psf) -ASD Values	
Area	Γ	10 sf	50 sf	100 sf	500 sf
Positive Interior (Zone 4)		63.8 psf	49.6 psf	43.5 psf	40.9 psf
Positive Corner (Zone 5)		63.8 psf	49.6 psf	43.5 psf	40.9 psf
Negative Interior (Zone 4)		-44.7 psf	-39.4 psf	-37.2 psf	-31.9 psf
Negative Corner (Zone 5)		-51.1 psf	-43.2 psf	-39.8 psf	-31.9 psf
	L			-	

Note: Pressures listed above are in both values, Ultimate (LRFD) & Service or Nominal (ASD) which have been obtained by multiplying Ultimate values by 0.6. Use service values (ASD) for Wind Resistance Testing Compliance per FBC 1609.1.5

NET UPLIFT PRESSURES

	JOIST NET UPLIFT SURFACE PRESSURE (psf) - LRFD VALUES				
Area	10 sf	20 sf	50 sf	100 sf	200 sf
Negative Zone 1	-40.0 psf	-38.9 psf	-37.4 psf	-36.3 psf	-36.3 psf
Negative Zone 2	-69.1 psf	-61.4 psf	-51.3 psf	-43.6 psf	-43.6 psf
Negative Zone 3	-39.1 psf	-61.4 psf	-51.3 psf	-43.6 psf	-43.6 psf
		GIRDER NET U	PLIFT PRESSURE (psf) - LRFD VALUES	
Area	10 sf	20 sf	50 sf	100 sf	500 sf
Negative Zone 1	-38.0 psf	-36.9 psf	-35.4 psf	-34.3 psf	-34.3 psf
Negative Zone 2	-67.1 psf	-59.4 psf	-49.3 psf	-41.6 psf	-41.6 psf
Negative Zone 3	-67.1 psf	-59.4 psf	-49.3 psf	-41.6 psf	-41.6 psf
		JOIST NET UPLIFT	SURFACE PRESSURE	(psf) - ASD VALUES	
Area	10 sf	20 sf	50 sf	100 sf	500 sf
Negative Zone 1	-23.8 psf	-23.1 psf	-22.3 psf	-21.6 psf	-21.6 psf
Negative Zone 2	-41.3 psf	-36.7 psf	-30.6 psf	-26.0 psf	-26.0 psf
Negative Zone 3	-41.3 psf	-36.7 psf	-30.6 psf	26.0 psf	-26.0 psf
		GIRDER NET UPLIF	SURFACE PRESSUR	E (psf) - ASD VALUES	
Area	10 sf	20 sf	50 sf	100 sf	500 sf
Negative Zone 1	-22.8 psf	-22.1 psf	-21.3 psf	-20.6 psf	-20.6 psf
Negative Zone 2	-40.3 psf	-35.7 psf	-29.6 psf	-25.0 psf	-25.0 psf
Negative Zone 3	-40.3 psf	-35.7 psf	-29.6 psf	-25.0 psf	-25.0 psf

COMPONENTS & CLADDING PRESSURES - MAIN BLDG.



PLAN



COMPONENTS & CLADDING ZONES - PLAN VIEW & WALL ELEVATION



1900 MARKET STREET ©2023 Philadelphia, pa 19103

2023.08.23

STRUCTURAL **DRAWINGS FOR ST. KATHERINE'S CHURCH**

7100 AIRPORT-PULLING ROAD, NAPLES, FL 34109 DATE: PROJECT NO .: REVISION

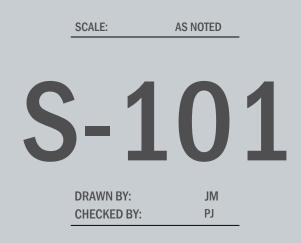
08/23/2023 23-0044 DATE

NOTES:

PROJECT:



WIND DESIGN CRITERIA



SPECIFICATIONS

SECTION 013300 - SUBMITTAL PROCEDURES

1.1 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's and Construction Manager's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- Informational Submittals: Written and graphic information and physical samples that do not require Engineer's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.2 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

activity.

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
- 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential
- 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
- 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
- a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
- 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
- 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
- 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
- Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities.
- D. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer's and Construction Manager's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
- Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- H. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- K. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
- 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Engineer.
- Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and permit required paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

SECTION 014000 - QUALITY REQUIREMENTS

- PART 1 GENERAL
- A. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements. 1.1 DEFINITIONS
- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements Services do not include contract enforcement activities performed by Engineer or Construction Manager.
- Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of theWork and for completed Work.
- Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency. 1.2 CONFLICTING REQUIREMENTS
- Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Engineer
- Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.
- 1.3 REPORTS AND DOCUMENTS: Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections.

for a decision before proceeding.

1.4 OUALITY ASSURANCE

- General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- Manufacturer Qualifications: A firm experienced in manufacturing products or Β. systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required
- Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- Testing Agency Qualifications: An independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
- 1. Contractor responsibilities include the following:
- a. Provide test specimens representative of proposed products and construction.
- b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
- c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
- d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
- e. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Engineer, through Construction Manager, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.5 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
- Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
- 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform qualitycontrol services required of Contractor by authorities having jurisdiction, whether specified or not.
- 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
- 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
- 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
- 5. Submit additional copies of each written report directly to authorities

having jurisdiction, when they so direct.

comply with the Contract Documents.

C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL **1.1 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture.
- C. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending,
- and placement. 1.2 INFORMATIONAL SUBMITTALS: Material certificates and test reports.

1.3 QUALITY ASSURANCE: Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1.4 PRECONSTRUCTION TESTING: Engage a qualified testing agency (according to ASTM C 1077 and ASTM E 329) to perform preconstruction testing on concrete mixtures.

1.5 FIELD CONDITIONS: Cold-Weather Placement: Comply with ACI 306.1. Hot-Weather placement: Comply with ACI 301 (ACI 301M).

PART 2 - PRODUCTS 2.1 CONCRETE, GENERAL: Comply with the following unless modified by requirements in the Contract Documents: ACI 301 (ACI 301M) and ACI 117 (ACI 117M).

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
- B. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain,
- fabricated from as-drawn steel wire into flat sheets. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete
- according to CRSI's "Manual of Standard Practice." 2.3 CONCRETE MATERIALS

A. Cementitious Materials:

- 1. Portland Cement: ASTM C 150/C 150M, Type I/II. 2. Fly Ash: ASTM C 618, Class F or C. 3. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120. 4. Blended Hydraulic Cement: ASTM C 595/C 595M.
- B. Normal-Weight Aggregates: ASTM C 33/C 33M, graded.
- C. Air-Entraining Admixture: ASTM C 260/C 260M.
- D. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

E. Water: ASTM C 94/C 94M.

2.4 FIBER REINFORCEMENT: Synthetic Micro-Fiber: Micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116/C 1116M, Type III.

2.5 VAPOR RETARDERS: Sheet Vapor Retarder: Polyethylene sheet, ASTM D 4397, not less than 10 mils (0.25 mm) thick.

2.6 Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.

2.7 CONCRETE MIXTURES, GENERAL

- Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301 (ACI 301M).
- B. Admixtures: Use admixtures according to manufacturer's written instructions. 2.8 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Design, erect, shore, brace, and maintain formwork, according to

B. Construct formwork so concrete members and structures are of

3.2 EMBEDDED ITEM INSTALLATION: Place and secure anchorage devices

and other embedded items required for adjoining work that is attached to

or supported by cast-in-place concrete. Use setting drawings, templates,

3.3 VAPOR-RETARDER INSTALLATION: Place, protect, and repair sheet

3.4 STEEL REINFORCEMENT INSTALLATION: Comply with CRSI's "Manual

of Standard Practice" for fabricating, placing, and supporting

locations indicated or as approved by Architect.

one-fourth of concrete thickness.

and other locations, as indicated.

perform field tests and inspections and prepare test reports.

3.9 FIELD QUALITY CONTROL: Owner will engage a qualified testing and inspecting agency to

diagrams, instructions, and directions furnished with items to be

tolerance limits of ACI 117 (ACI 117M).

ACI 301 (ACI 301M), to support vertical, lateral, static, and dynamic

loads, and construction loads that might be applied, until structure

size, shape, alignment, elevation, and position indicated, within

A. Normal-Weight Concrete:

1. Minimum Compressive Strength, (f'c): See General Notes.

2.9 FABRICATING REINFORCEMENT

PART 1 - EXECUTION

embedded.

reinforcement.

3.5 JOINTS

completed.

protection during curing.

instructions.

3.1 FORMWORK INSTALLATION

can support such loads.

SECTION 051200 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.2 ACTION SUBMITTALS

data.

1.3 QUALITY ASSURANCE

PART 2 - PRODUCTS

D1.1/D1.1M/D1.8

	1.1 COORDINATION	
	A.	Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
ıg,	В.	Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

A. Product Data: For each type of product.

2. Include embedment Drawings.

responsible for their preparation.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, splices, camber, holes, and other pertinent

3. Indicate welds by standard AWS symbols, distinguishing between shop and field

welds, and show size, length, and type of each weld. Show backing bars that are to

4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts.

loads, include analysis data signed and sealed by the qualified professional engineer

Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality

Certification Program and is designated an AISC-Certified Plant, Category STD, or is

accredited by the IAS Fabricator Inspection Program for Structural Steel (AC 172).

B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification

Welding Qualifications: Qualify procedures and personnel according to AWS

D. Comply with applicable provisions of the following specifications and documents:

2. AISC 360-05, "Specification for Structural Steel Buildings".

3. AISC 341-05, "Seismic Provisions for Structural Steel Buildings".

1. AISC 303-05, "Code of Standard Practice for Steel Buildings & Bridges".

4. RCSC's "Specification for Structural Joints Using High-Strength Bolts".

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavyhex

4. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.

2.4 PRIMER: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting

2.6 FABRICATION: Fabricate and assemble in shop to greatest extent possible. Fabricate

2.8 SOURCE QUALITY CONTROL: Engage a qualified testing agency to perform shop tests

RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts." Welded

Connections: Visually inspect shop-welded connections according to AWS D1.1/D1.1M.

3.1 EXAMINATION: Verify, with certified steel erector present, elevations of concrete- and

masonry-bearing surfaces and locations of anchor rods, bearing plates, and other

embedments for compliance with requirements. Proceed with installation only after

3.2 PREPARATION: Provide temporary shores, guys, braces, and other supports during

construction loads and loads equal in intensity to design loads. Remove temporary supports

when permanent structural steel, connections, and bracing are in place unless otherwise

erection to keep structural steel secure, plumb, and in alignment against temporary

and inspections. Bolted Connections: Inspect shop-bolted connections according to

2.7 GALVANIZING: A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip

according to AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," and

5. Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.

steel structural bolts; ASTM A 563, Grade C, (ASTM A 563M, Class 8S) heavy-hex

carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel

Delegated-Design Submittal: For structural-steel connections indicated to comply with design

be removed and supplemental fillet welds where backing bars are to remain.

Identify pretensioned and slip-critical, high-strength bolted connections.

2.1 PERFORMANCE REQUIREMENTS

A. Connections: Provide details of connections required by the Contract Documents to be selected or completed by structural-steel fabricator.

Program and is designated an AISC-Certified Erector.

(Seismic) "Structural Welding Code - Steel."

- B. Moment Connections: Type FR, fully restrained.
- 2.2 STRUCTURAL-STEEL MATERIALS
 - A. WT-Shapes, Channels, Angles, Plate, and Bar: ASTM A 36/A W Sections: ASTM A992 (50Ksi) Pipe Sections: ASTM A53 Grade B (35 Ksi) Tube Sections: ASTM A500 Grade B (46 Ksi)

HSS Sections: ASTM A1085

2.3 BOLTS, CONNECTORS, AND ANCHORS

washers; all with plain finish.

1. Configuration: Straight.

B. Welding Electrodes: Comply with AWS requirements.

B. Anchor Rods: ASTM F 1554, Grade 55, weldable.

2. Nuts: ASTM A 563 (ASTM A 563M) hex carbon steel.

3. Plate Washers: ASTM A 36/A 36M carbon steel.

primer complying with MPI#79 and compatible with topcoat.

process to structural steel according to ASTM A 123/A 123M.

unsatisfactory conditions have been corrected.

2.5 GROUT: Shrinkage-Resistant Grout: ASTM C 1107/C 1107M

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.10 CONCRETE MIXING: Comply with the following unless modified by requirements in the

vapor retarder according to ASTM E 1643 and manufacturer's written

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete. B. Construction Joints: Install so strength and appearance of concrete are not impaired, at

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning

- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams,
- 3.6 CONCRETE PLACEMENT: Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are

3.7 FINISHING FLOORS AND SLABS: Comply with ACI 302.1R recommendations for screeding,

- restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. 3.8 CONCRETE PROTECTING AND CURING: Cure concrete according to ACI 308. Protect
- freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 (ACI 301M) for hot-weather

3.3 ERECTION Set structural steel accurately in locations and to elevations indicated and according to concrete into areas as indicated. Construct contraction joints for a depth equal to at least AISC 303 and AISC 360.

indicated.

to AISC 360.

PART 3 - EXECUTION

- Baseplates, Bearing Plates, and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
- C. Maintain erection tolerances of structural steel within AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- 3.4 REPAIRS AND PROTECTION
- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780/A 780M.
- B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

SECTION 052100 - STEEL JOIST FRAMING

PART 1 - GENERAL

1.1 DEFINITIONS

- A. SJI's "Specifications": Steel Joist Institute's "Standard Specifications, Load Tables and Weight Tables for Steel Joists and Joist Girders.
- B. Special Joists: Steel joists or joist girders requiring modification by manufacturer to support nonuniform, unequal, or special loading conditions that invalidate load tables in SJI's "Specifications."

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of joist, accessory, and product.
- B. Shop Drawings 1. Include layout, designation, number, type, location, and spacing of joists. 2. Include joining and anchorage details, bracing, bridging, and joist accessories; splice and connection locations and details; and attachments to other construction.
- 3. Indicate locations and details of bearing plates to be embedded in other construction
- 1.3 INFORMATIONAL SUBMITTALS: A. Comprehensive engineering analysis of special joists signed and sealed by the qualified professional engineer responsible for its preparation.

1.4 OUALITY ASSURANCE

- Manufacturer Qualifications: A manufacturer certified by SJI to manufacture joists complying with applicable standard specifications and load tables in SJI's "Specifications". 1. Manufacturer's responsibilities include providing professional engineering
- services for designing special joists to comply with performance requirements.
- B. Welding Qualifications: Qualify field-welding procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel." 1.5 DELIVERY, STORAGE, AND HANDLING: A.Deliver, store, and handle joists as recommended in
- SJI's "Specification

PART 2 - PRODUCTS 2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide special joists and connections capable of withstanding design loads indicated. 1. Use LRFD.
- 2. Design special joists to withstand design loads with live-load deflections no greater than span/360.
- 2.2 K-SERIES STEEL JOISTS
- Manufacture steel joists of type indicated according to "Standard Specifications for Open Web Steel Joists, K-Series" in SJI's "Specifications," with steel-angle top- and bottomchord members, underslung ends, and parallel top chord.
- B. Steel Joist Substitutes: Manufacture according to "Standard Specifications for Open Web Steel Joists, K-Series" in SJI's "Specifications," with steel-angle or -channel members.
- Top-Chord Extensions: Extend top chords of joists with SJI's Type S top-chord extensions where indicated, complying with SJI's "Specifications."
- Extended Ends: Extend bearing ends of joists with SJI's Type R extended ends where indicated, complying with SJI's "Specifications."
- E. Equip bearing ends of joists with manufacturer's standard beveled ends or sloped shoes if joist slope exceeds 1/4 inch per 12 inches.

2.3 LONG-SPAN STEEL JOISTS

- Manufacture steel joists according to "Standard Specifications for Longspan Steel Joists, LH-Series and Deep Longspan Steel Joists, DLH-Series" in SJI's "Specifications." LH- and DLH-series joists are available parallel, pitched one way or pitched two ways. SJI's load tables are based on a standard pitch of 1/8 inch per 12 inches (1:96). Coordinate with roof-slope requirements.
- B. Camber long-span steel joists according to SJI's "Specifications" or as indicated on the framing plans.
- C. Equip bearing ends of joists with manufacturer's standard beveled ends or sloped shoes if joist slope exceeds 1/4 inch per 12 inches.
- 2.4 JOIST GIRDERS A. Manufacture joist girders according to "Standard Specifications for Joist Girders" in SJI's "Specifications".
- Camber joist girde rs according to SJI's "Specifications" or as indicated or plans.
- C. Equip bearing ends of joists with manufacturer's standard beveled ends or sloped shoes if joist slope exceeds 1/4 inch per 12 inches.

2.5 PRIMERS: Primer: SSPC-Paint 15, or manufacturer's standard shop primer complying with performance requirements in SSPC-Paint 15.

2.6 JOIST ACCESSORIES

- Bridging: Schematically indicated. Detail and fabricate according to SJI's "Specifications". Furnish additional erection bridging if required for stability.
- Fabricate steel bearing plates from ASTM A 36/A 36M steel with integral anchorages of sizes and thicknesses indicated. Shop prime paint.
- C. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy hex steel structural bolts; ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers.
- D. Welding Electrodes: Comply with AWS standards.
- E. Furnish miscellaneous accessories including splice plates and bolts required by joist manufacturer to complete joist assembly.

PART 3 - EXECUTION

A. EXAMINATION: Examine supporting substrates, embedded bearing plates, and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Do not install joists until supporting construction is in place and secured.
- B. Install joists and accessories plumb, square, and true to line; securely fasten to supporting construction according to SJI's "Specifications".
- Bolt joists to supporting steel framework using high-strength structural bolts. Comply with Research Council on Structural Connection's "Specification for Structural Joints Using ASTM A 325 or ASTM A 490 Bolts" for high-strength structural bolt installation and tightening requirements.
- D. Install and connect bridging concurrently with joist erection, before construction loads are applied. Anchor ends of bridging lines at top and bottom chords if terminating at walls or beams.

3.3 FIELD QUALITY CONTROL: Visually inspect field welds according to AWS D1.1/D1.1M, and visually inspect bolted connections.

- 3.4 PROTECTION A. Touchup Painting: After installation, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted joists, bearing plates, and accessories.
- Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that joists and accessories are without damage or deterioration at time of Substantial Completion.



PHILADELPHIA, PA 19103

2023.08.23

STRUCTURAL DRAWINGS FOR ST **KATHERINE'S CHURCH** 7100 AIRPORT-PULLING ROAD.

NAPLES, FL 34109 DATE PROJECT NO .: REVISION

PROJECT:

08/23/2023 23-0044 DATE

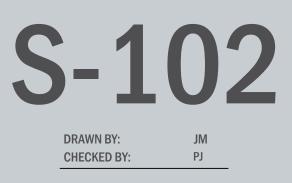
NOTES:



SPECIFICATIONS

STATE OF FLORIDA

SCALE: AS NOTED



SPECIFICATIONS [continued]

SECTION 053100 - STEEL DECKING

PART 1 - GENERAL

1.1 ACTION SUBMITTALS

- A. Product Data: For each type of deck, accessory, and product indicated.
- B. Shop Drawings: Include layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.
- 1.2 INFORMATIONAL SUBMITTALS
- A. Product Certificates: For each type of steel deck.
- B. Product Test Reports: power-actuated mechanical fasteners.
- 1.3 QUALITY ASSURANCE: A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code - Sheet Steel".

1.4 DELIVERY, STORAGE, AND HANDLING: A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS: Comply with calculated structural characteristics of steel deck according to AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members."

2.2 ROOF DECK

- Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:
- 1. Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 33 2. Deck Profile: Type WR, wide rib.
- 3. Profile Depth: 1-1/2 inches.
- 4. Span Condition: Triple span or more. 5. Side Laps: Overlapped.

PART 3 - EXECUTION

3.1 EXAMINATION: Examine supporting frame and field conditions for compliance with rements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL: Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 31, manufacturer's written instructions.

- 3.3 ROOF-DECK INSTALLATION
- A. Fasten roof-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated or arc seam welds with an equal perimeter that is not less than 1-1/2 inches (38 mm) long, and as follows:
- 1. Weld Diameter: 5/8 inch, nominal.
- 2. Weld Spacing: as indicated on framing plans.
- 3. Weld Washers: Install weld washers at each weld location.
- B. Side-Lap and Perimeter Edge Fastening: as indicated on framing plans.
- End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches.

SECTION 054000 - COLD-FORMED METAL FRAMING

1.1 ACTION SUBMITTALS

PART 1 - GENERAL

- A. Product Data: For each type of cold-formed steel framing product and accessory.
- 1.2 INFORMATIONAL SUBMITTALS
- A. Product Test Reports: For each listed product, for tests performed by a qualified testing agency.
 - 1. Steel sheet. 2. Expansion anchors.
 - 3. Powder-actuated anchors. 4. Mechanical fasteners. 5. Vertical deflection clips.
- 6. Horizontal drift deflection clips 7. Miscellaneous structural clips and accessories.

B. Research Reports: For non-standard cold-formed steel framing, from ICC-ES.

1.3 DELIVERY, STORAGE, AND HANDLING: A Protect cold-formed steel framing from corrosion, moisture staining, deformation, and other damage during delivery, storage, and handling.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. AISI Specifications and Standards: Unless more stringent requirements are indicated, comply with AISI S100 and AISI S200.
- 2.2 COLD-FORMED STEEL FRAMING, GENERAL: ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of grade and coating weight G60.
- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows: 1. Minimum Base-Metal Thickness: 18 GA. minimum or as indicated
- by Specialty Engineer.
- 2. Minimum Flange Width: 1-5/8 inches. B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with straight flanges, and as follows:

1. Minimum Base-Metal Thickness: Matching steel studs.

2. Minimum Flange Width: 1-1/4 inches.

2.3 NON-LOAD-BEARING WALL FRAMING

- Vertical Deflection Clips: Manufacturer's standard clips, capable of accommodating upward and downward vertical displacement of primary structure through positive mechanical attachment to stud web.
- B. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal loads and transfer them to the primary
- C. Double Deflection Tracks: Manufacturer's double, deep-leg, U-shaped steel tracks, consisting of nested inner and outer tracks; unpunched, with unstiffened flanges.
- Drift Clips: Manufacturer's standard bypass or head clips, capable of isolating wall stud from upward and downward vertical displacement and lateral drift of primary structure through positive mechanical attachment to stud web and structure.

2.4 FRAMING ACCESSORIES

- Fabricate steel-framing accessories from steel sheet, ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of same grade and coating weight used for framing members.
- B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated.
- 2.5 ANCHORS, CLIPS, AND FASTENERS
- A. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.
- B. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel hex-headed bolts and carbon- steel nuts; and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.
- Expansion Anchors: Fabricated from corrosion-resistant materials, with allowable load or strength design capacities calculated according to ICC-ES AC193 and ACI 318 greater than or equal to the design load, as determined by testing per ASTM E 488 conducted by esung agency
- Powder-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with allowable load capacities calculated according to ICC-ES AC70, greater than or equal to the design load, as determined by testing per ASTM E 1190 conducted by a qualified testing agency.
- E. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.
- F. Welding Electrodes: Comply with AWS standards.
- 2.6 MISCELLANEOUS MATERIALS
- A. Galvanizing Repair Paint: SSPC-Paint 2, ASTM A 780.
- B. Shims: Load bearing, high-density multimonomer plastic, and nonleaching; or of coldformed steel of same grade and coating as framing members supported by shims.
- C. Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to match width of bottom track or rim track members.
- 2.7 FABRICATION
- A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, and manufacturer's written instructions.
- B. Fabrication Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:
- 1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
- 2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8 inch.

PART 3 - EXECUTION

3.1 EXAMINATION: Examine supporting substrates and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance of the Work. Proceed with installation only after unsatisfactory conditions have been corrected

- 3.2 PREPARATION
- A. Install load bearing shims or grout between the underside of load-bearing wall bottom track and the top of foundation wall or slab at locations with a gap larger than 1/4 inch to ensure a uniform bearing surface on supporting concrete or masonry construction.
- 3.3 INSTALLATION. GENERAL
- A. Cold-formed steel framing may be shop or field fabricated for installation, or it may be field assembled.
- B. Install cold-formed steel framing according to AISI S200 and to manufacturer's written instructions unless more stringent requirements are indicated.
- C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.
- D. Install cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened.
- E. Install framing members in one-piece lengths unless splice connections are indicated for track or tension members.
- F. Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
- G. Do not bridge building expansion joints with cold-formed steel framing. Independently frame both sides of joints.
- H. Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.

PART 3 - EXECUTION - CONTINUED **3.4 WALL INSTALLATION - NON-LOAD BEARING**

- supporting structure as indicated. as follows: C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements. loads while providing lateral support. but not more than 48 inches apart. Fasten at each stud intersection.. solid blocking of width and thickness matching studs, secured to stud webs or flanges. indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges. written instructions.
- complete and stable wall-framing system. 3.5 REPAIRS AND PROTECTION
- manufacturer's written instructions.
- of Substantial Completion.

A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to

B. Fasten both flanges of studs to top and bottom track unless otherwise indicated. Space studs

1. Stud Spacing: 16 inches or as indicated by Specialty Engineer.

D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical

E. Install horizontal bridging in wall studs, spaced vertically in rows indicated on Drawings

1. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 12 inches of single deflection track. Install a combination of bridging and stud or studtrack

2. Bridging: Combination of flat, taut, steel sheet straps of width and thickness

3. Optional Bridging: Proprietary bridging bars installed according to manufacturer's

F. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel framing with galvanized repair paint according to ASTM A 780 and

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel framing is without damage or deterioration at time

SECTION 054400 - COLD-FORMED METAL TRUSSES

PART 1 - GENERAL **1.1 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Shop Drawings:

mechanical fasteners.

- 1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel trusses; fabrication; and fastening and anchorage details, including
- 2. Indicate reinforcing channels, opening framing, supplemental framing,
- strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.
- C. Delegated-Design Submittal: For cold-formed steel trusses.
- 1.2 DELIVERY, STORAGE, AND HANDLING
- A. Protect cold-formed steel trusses from corrosion, deformation, and other damage during
- delivery, storage, and handling. PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer licensed in the project location to design cold-formed steel framing.
- B. Structural Performance: Provide cold-formed steel trusses capable of withstanding design loads within limits and under conditions indicated.
- 1. Design Loads: As indicated.
- 2. Deflection Limits: Design trusses to withstand design loads without deflections greater than the following:

a. Roof Trusses: Vertical deflection of 1/360 of the span.

b. Scissor Roof Trusses: Horizontal deflection of 1-1/4 inches at reactions.

3. Design framing systems to provide for movement of framing members located outside the insulated building envelope without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental

effects when subject to a maximum ambient temperature change of 120 deg F (67 deg C).

- C. Cold-Formed Steel Framing Design Standards:
- 1. Floor and Roof Systems: Design according to AISI S210.
- 2. Lateral Design: Design according to AISI S213. 3. Roof Trusses: Design according to AISI S214.

2.2 ACCESSORIES

- A. Fabricate steel-framing accessories from steel sheet, ASTM A 1003/A 1003M, structural grade, Type H, metallic coated, of same grade and coating weight used for truss members.
- B. Provide accessories of manufacturer's standard thickness and configuration unless otherwise indicated.
- 2.3 ANCHORS, CLIPS, AND FASTENERS
- A. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process
- B. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, selftapping
- steel drill screws.

C. Welding Electrodes: Comply with AWS standards. 2.4 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: SSPC-Paint 20, ASTM A 780.

according to ASTM A 123/A 123M.

- B. Shims: Load bearing, of high-density multimonomer plastic, nonleaching; or of coldformed
- steel of same grade and coating as framing members supported by shims.

PART 3 - EXECUTION 3.1 EXAMINATION

- A. Examine supporting substrates and abutting cold-formed steel trusses for compliance with requirements for installation tolerances and other conditions affecting performance of the Work
- B. Proceed with installation only after unsatisfactory conditions have been corrected. 3.2 INSTALLATION
- A. Install, bridge, and brace cold-formed steel trusses according to AISI S200, AISI S214, AISI's "Code of Standard Practice for Cold-Formed Steel Structural Framing, " and manufacturer's written instructions unless more stringent requirements are indicated.
- B. Install cold-formed steel trusses and accessories plumb, square, and true to line, and with connections securely fastened.
 - 1. Fasten cold-formed steel trusses by welding or mechanical fasteners. a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
 - b. Locate mechanical fasteners and install according to Shop Drawings; comply with requirements for spacing, edge
- C. Install temporary bracing and supports. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
- D. Do not alter, cut, or remove framing members or connections of trusses.
- E. Erect trusses with plane of truss webs plumb and parallel to each other, align,
- and accurately position at spacings indicated. F. Erect trusses without damaging framing members or connections.

distances, and screw penetration.

- G. Coordinate with wall framing to align webs of bottom chords and load-bearing studs or continuously reinforce track to transfer loads to structure. Anchor trusses securely at all bearing points.
- H. Install continuous bridging and permanently brace trusses as indicated on Shop Drawings and designed according to CFSEI's TechNote 551e, "Design Guide: Permanent Bracing of Cold-Formed Steel Trusses".
- I. Erection Tolerances: Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:
- 1. Space individual trusses no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.3 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed metal trusses are without damage or deterioration at time of Substantial Completion.



PHILADELPHIA, PA 19103

2023.08.23

STRUCTURAL DRAWINGS FOR ST **KATHERINE'S CHURCH** 7100 AIRPORT-PULLING ROAD,

NAPLES, FL 34109 DATE: 08/23/2023 PROJECT NO .: REVISION

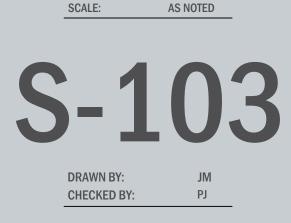
PROJECT:

23-0044 DATE

NOTES:



SPECIFICATIONS

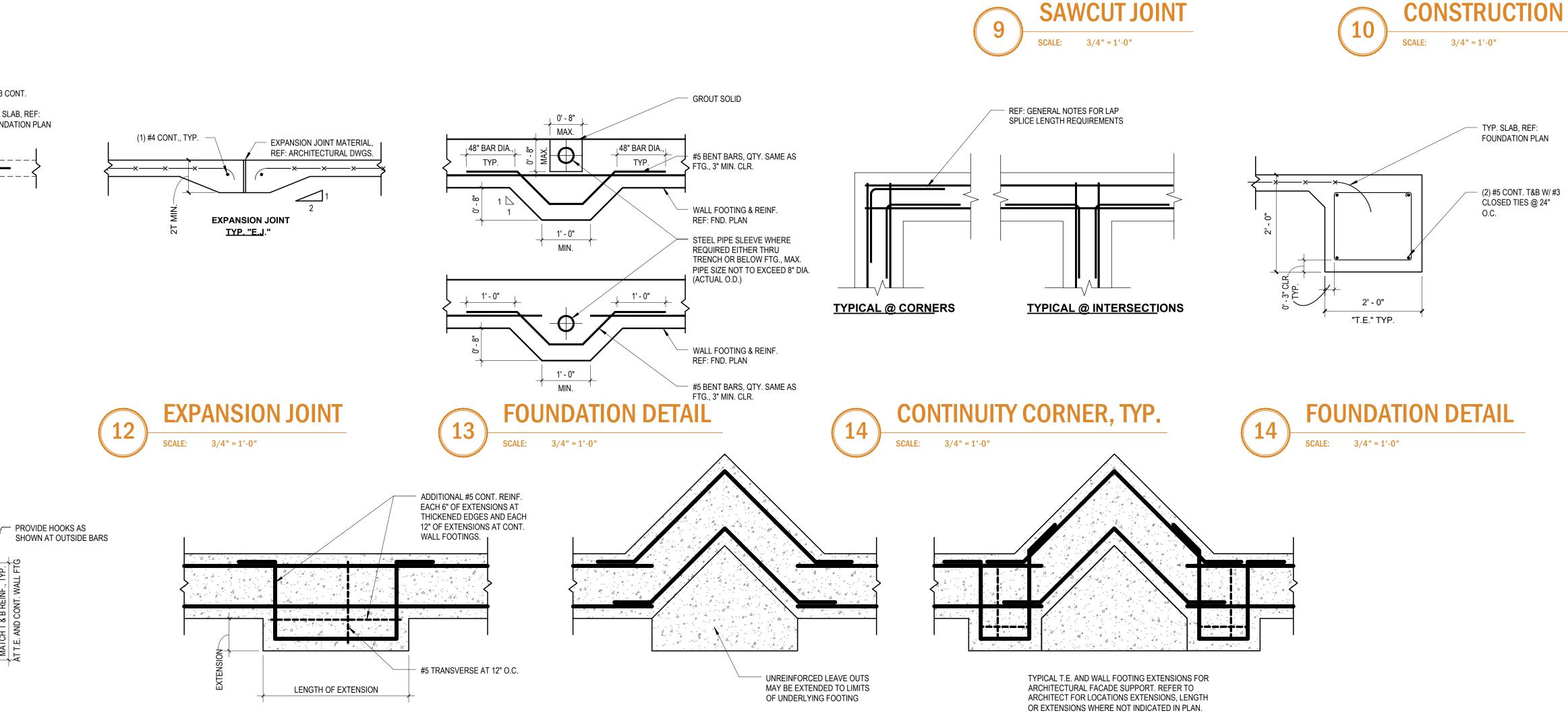


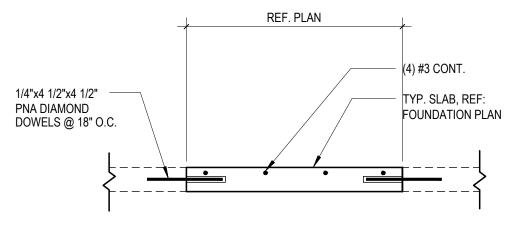


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MATC

SCALE: 3/4" = 1'-0"



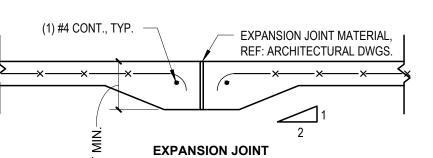


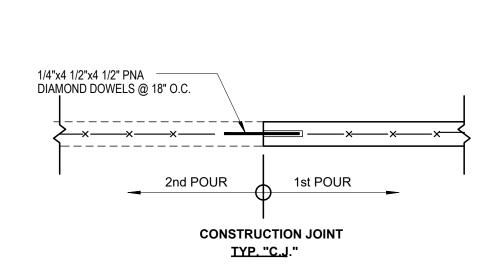
FOUNDATION DETAIL

SCALE: 3/4" = 1'-0"

11

9





- SAW CUTS TO BE MADE WITHIN 24 HOURS

ALL C.J.S. U.O.N. ON PLANS

ک<u>×____×____×____×____×____×____×____</u>×____×

SAWCUT JOINT

<u>TYP. "C.</u>J"

OF POUR, WWF SHALL BE CONTINUOUS @

1/8 TO 3/16 WIDE X 1" DEEP

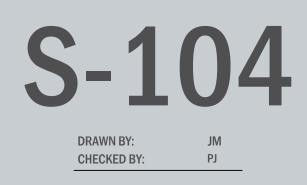
GROOVE W/ HIGH TRAFFIC

SEALANT FILER



* STATE OF PROFESSIONAL ENGINEER SEAL STATE OF FLORIDA

STANDARD FOUNDATION DETAILS AS NOTED SCALE:



PROJECT: STRUCTURAL

2023.08.23

SEFEC

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DRAWINGS FOR ST. KATHERINE'S CHURCH

7100 AIRPORT-PULLING ROAD, NAPLES, FL 34109 DATE: PROJECT NO .: REVISION

08/23/2023 23-0044 DATE

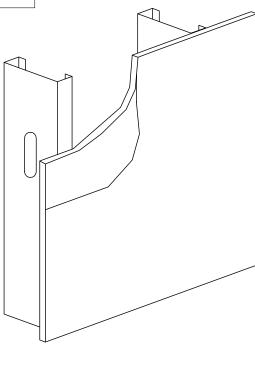
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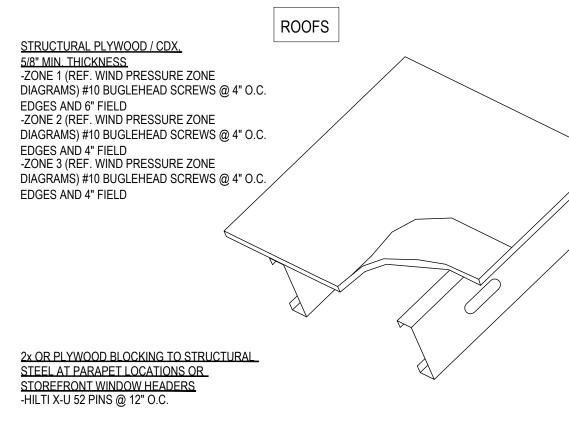


- STRUCTURAL PLYWOOD / CDX. 5/8" MIN. THICKNESS -ZONE 4 (REF. WIND PRESSURE ZONE DIAGRAMS) #10 BUGLEHEAD SCREWS @ 6" O.C.
- EDGES AND 6" FIELD -ZONE 5 (REF. WIND PRESSURE ZONE DIAGRAMS) #10 BUGLEHEAD SCREWS @ 6" O.C.
- EDGES AND 4" FIELD
- DENSGLASS -ZONE 4 (REF. WIND PRESSURE ZONE
- DIAGRAMS) #10 MIN. WAFERHEAD SCREWS @ 6"
- O.C. EDGES AND 6" FIELD -ZONE 5 (REF. WIND PRESSURE ZONE DIAGRAMS) #10 MIN. WAFERHEAD SCREWS @ 6" O.C. EDGES AND 4" FIELD

PLYWOOD OR DENSGLASS SHEATHING TO STRUCTURAL STEEL -ZONE 4 (REF. WIND PRESSURE ZONE DIAGRAMS) HILTI X-U 32 P8 S15 PINS @ 6" O.C. EDGES AND 6" FIELD -ZONE 5 (REF. WIND PRESSURE ZONE DIAGRAMS) HILTI X-U 32 P8 S15 PINS @ 6" O.C. EDGES AND 4" FIELD

1





SHEATHING FASTENER REQUIREMENTS

SCALE: 3/4" = 1'-0"



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STRUCTURAL **DRAWINGS FOR ST. KATHERINE'S CHURCH** 7100 AIRPORT-PULLING ROAD, NAPLES, FL 34109

DATE: PROJECT NO .: REVISION

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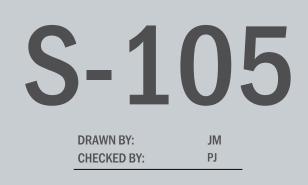
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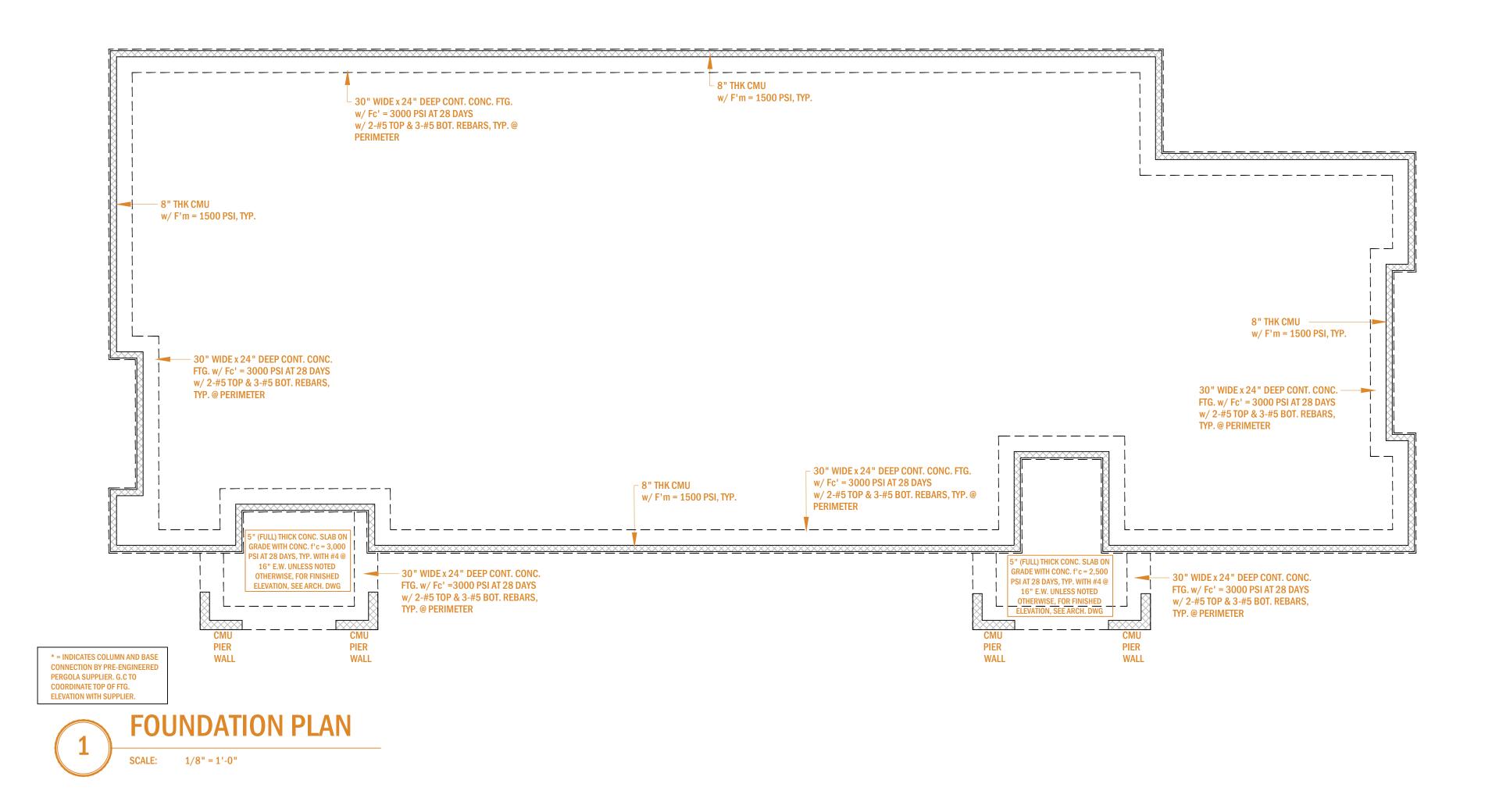


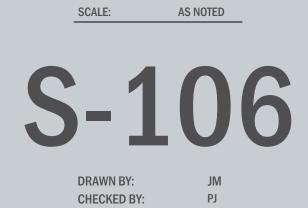
PROFESSIONAL ENGINEER SEAL STATE OF FLORIDA

STANDARD FRAMING DETAILS

SCALE: AS NOTED







FOUNDATION PLAN

PROFESSIONAL ENGINEER SEAL STATE OF FLORIDA



WITHIN 24 HRS. OF POUR. - REF. ARCH./ PLUMBING DRAWINGS FOR DRAIN SLOPES, ELEVATIONS AND SLAB

- INTERIOR FOOTINGS HEREIN ARE RELATIVE TO FINISHED FLOOR ELEVATION OF 100'-0". THE TOP OF ALL INTERIOR FOOTINGS SHALL BE THUS: 97'-0", TYP. U.O.N. - EXTERIOR FOOTINGS HEREIN ARE RELATIVE TO FINISHED FLOOR ELEVATION OF

- REFERENCE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND CONSTRUCTION OF NON-LOAD BEARING MTL. STUD WALLS, FIXTURES, AND OTHER ITEMS NOT PRESENTED HEREIN.

- 4" CONCRETE SLAB W/ 3000 PSI CONC. W/ 6X6XW2.1XW2.1 W.W.F. OVER 10

RETARDER ON TERMITE TREATED COMPACTED SOIL, TYP. U.O.N. (WWF NOT

- C.J. = CONTROL JOINT/CONSTRUCTION JOINT, TO BE COORDINATED (REF. SUBMITTAL SECTION OF GENERAL NOTES). CONTROL JOINTS SHALL BE 1" DEEP SAW CUTS TO BE MADE

OF ALL EXTERIOR FOOTINGS SHALL BE THUS: 97'-0", TYP. U.O.N.

STRIPS WITH REBAR. ONLY REQUIRED AT RISER ROOM SLAB)

RECESSES.

- CONTROL JOINTS (C.J.) SHALL BE LOCATED AT 12'-0" O.C. MAX. U.O.N. WITH LENGTH TO WIDTH RATIO NOT TO EXCEED 1.5:1

- OPENING/RE-ENTRANT CORNER, TYP. PROVIDE (2) #4 X 4'-0" LONG BARS @ MID-HEIGHT OF SLAB.

- DIAGONAL OR K-BRACE MEMBER "UP"

GENERAL NOTES:

100'-0". THE TOP

MIL. MIN. VAPOR

REQUIRED AT SLAB

- DIAGONAL OR K-BRACE MEMBER "DOWN"



STATE C

DATE: 08/23/2023 PROJECT NO .: 23-0044

DATE

2023.08.23

KATHERINE'S CHURCH 7100 AIRPORT-PULLING ROAD, NAPLES, FL 34109

STRUCTURAL **DRAWINGS FOR ST.**

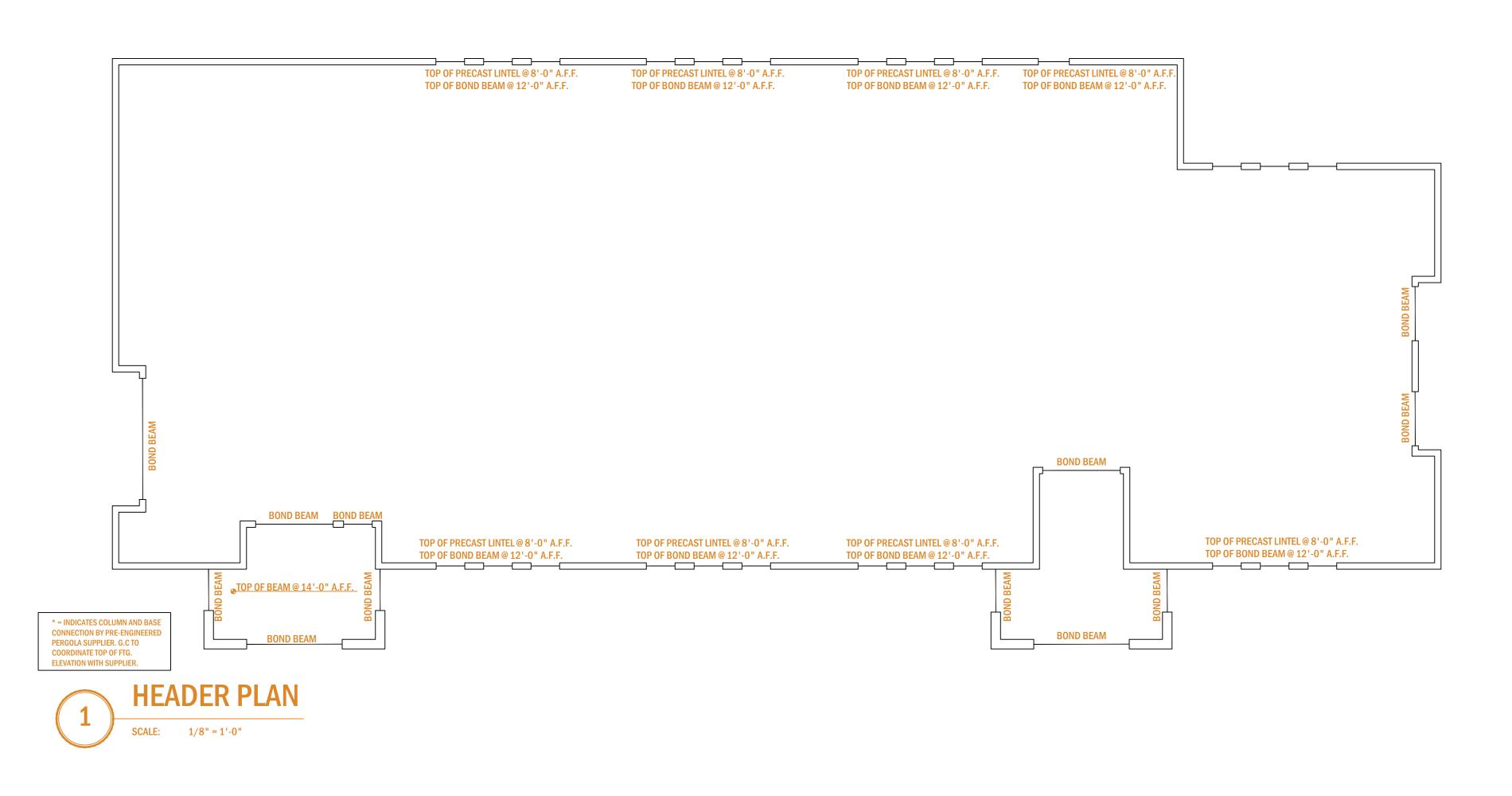
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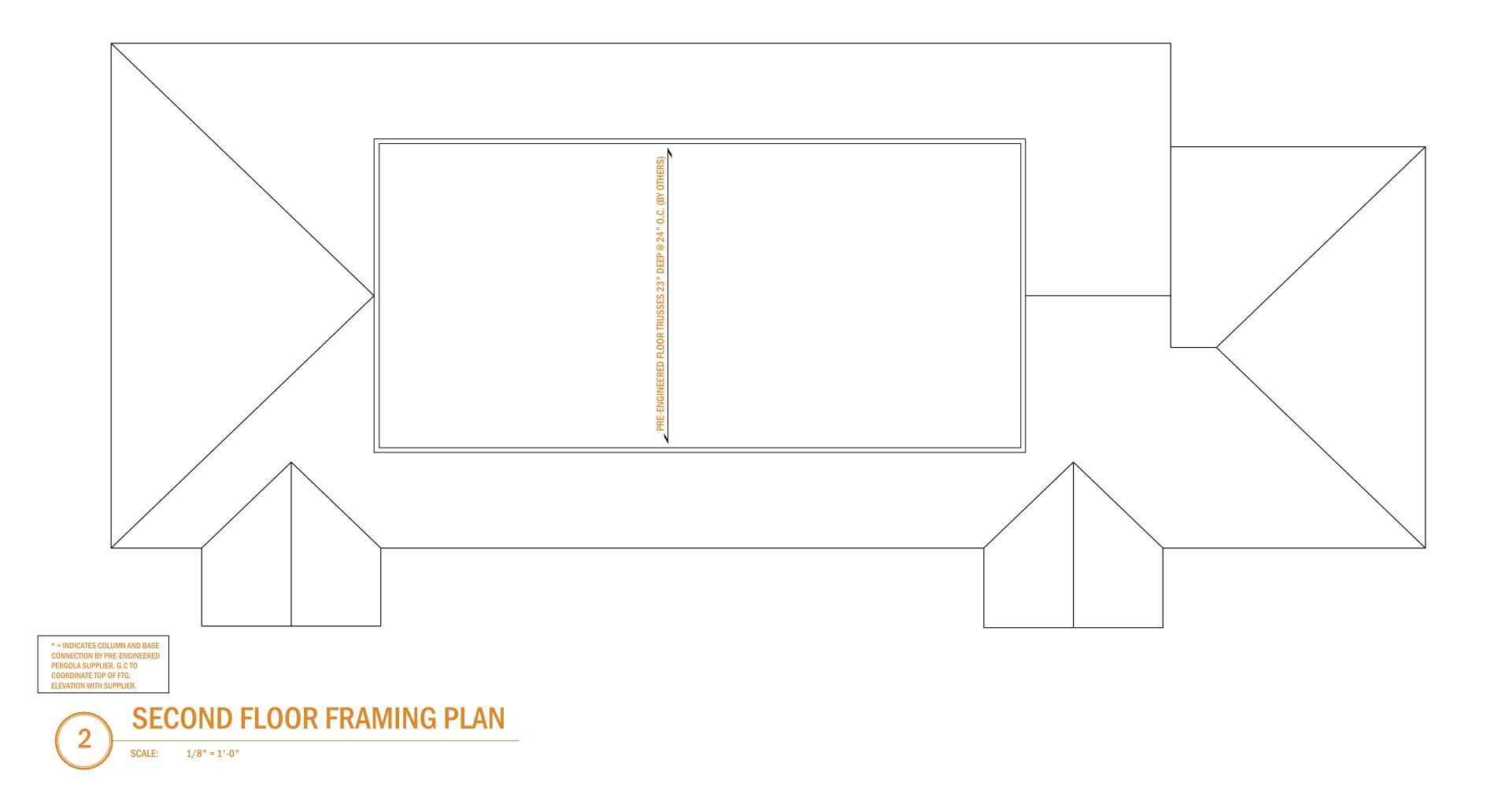
REVISION

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STRUCTURAL **DRAWINGS FOR ST. KATHERINE'S CHURCH**

PROJECT:

7100 AIRPORT-PULLING ROAD, NAPLES, FL 34109 DATE: PROJECT NO .: REVISION

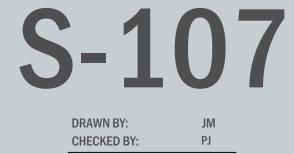
08/23/2023 23-0044 DATE

NOTES:



FRAMING PLANS

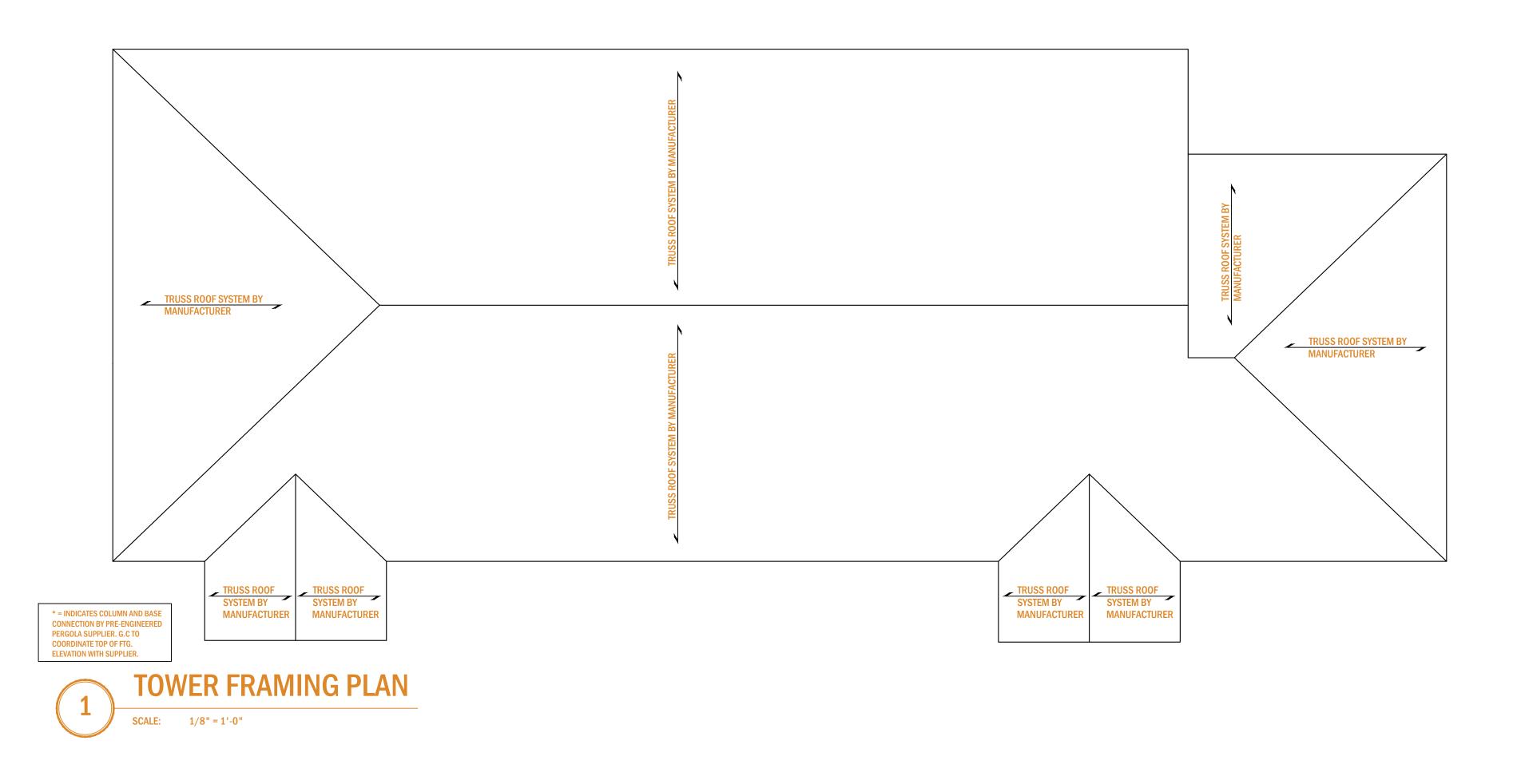




GENERAL NOTES: - ALL LOADS GIVEN ARE ASD - JST. ENGINEER TO DESIGN FOR ADDITIONAL LOADS (INCLUDING RTU'S) PRESENTED HEREIN AT K & LH-SERIES JST. - SPECIAL LOADING TAKEN INTO ACCOUNT IN KCS JOIST SELECTION - REFERENCE SECTIONS / DETAILS AS REQUIRED FOR ADDED JOIST BRACING AND ADDITIONAL LOADING - POSITION ALL RTUS ON SPECIAL JST. AS SHOWN, BTW. BRIDGING & BRACING FOR **REQ'D CLEARANCES** - JOIST SUPPLIER TO PROVIDE MIN. STD. BRIDGING AND BRACING PER SJI. - C = CAMBER IN INCHES - DIAGONAL OR K-BRACE MEMBER "UP" - DIAGONAL OR K-BRACE MEMBER "DOWN" - MOMENT CONNECTION - P = ADDITIONAL AXIAL LOAD (+/-) METAL DECK INFORMATION: <u>Pattern "A"</u> - 1 1/2" DEEP 22-GAGE (WR) PAINTED DECK. - FASTEN USING (7) 5/8" PUDDLE WELDS @ EACH SUPPORT PER 36" WIDTH [36/7], (5) #10 TEK SCREWS @ MIDSPAN OF SIDELAPS, AND 5/8" PUDDLE WELDS @ 6" O.C. ALONG EDGES (PROVIDE (2) 5/8" PUDDLE WELDS AT EACH SUPPORT AND ALONG EDGES @ 6" O.C. FOR ALL DECK FASTENING IN ZONES 3, REF. (S101 FOR ZONES)

PATTERN "B" - 11/2" DEEP 22-GAGE (WR) PAINTED DECK.

- FASTEN USING (7) 5/8" PUDDLE WELDS @ EACH SUPPORT PER 36" WIDTH [36/7], (3) #10 TEK SCREWS @ MIDSPAN OF SIDELAPS, AND 5/8" PUDDLE WELDS @ 6" O.C. ALONG EDGES (PROVIDE (2) 5/8" PUDDLE WELDS AT EACH SUPPORT AND ALONG EDGES @ 6" O.C. FOR ALL DECK FASTENING IN ZONES 3, REF. (S101 FOR ZONES)



WALL /



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2023.08.23

STRUCTURAL DRAWINGS FOR ST. KATHERINE'S CHURCH

7100 AIRPORT-PULLING ROAD, NAPLES, FL 34109 DATE: 08/23/2023 PROJECT NO.: 23-0044 REVISION DATE

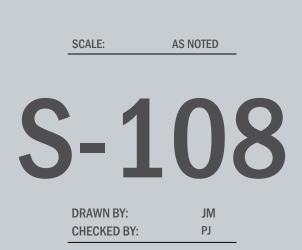
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NOTES:

PROJECT:



ROOF FRAMING PLAN



		RAFT	ER S	PAN TABLE		
	MEMBER SIZE AND SPACING MAXIMUM LET			MEMBER CONNECTIONS*		
	2" X 4" @ 16" O.C.	7'-5"		(2) 16d TOENAILS		
	2" X 6" @ 16" O.C.	10'-8"		(2) 16d TOENAILS		
	2" X 8" @ 16" O.C.	13'-9"		(3) 16d TOENAILS		
	2" X 10" @ 16" O.C.	16'-5"		(1) SIMPSON HTS20 OR (3) 16d TOENAILS		
	2" X 12" @ 16" O.C.	19'-3"		(1) SIMPSON HTS20 OR (4) 16d TOENAILS		
	2" X 4" @ 24" O.C.	6'-1"		(2) 16d TOENAILS		
	2" X 6" @ 24" O.C.	8'-6"		(2) 16d TOENAILS		
	2" X 8" @ 24" O.C.	11'-0"		(2) 16d TOENAILS		
	2" X 10" @ 24" O.C.	13'-0"		(3) 16d TOENAILS		
	2" X 12" @ 24" O.C.	15'-4"		(1) SIMPSON HTS20 OR (3) 16d TOENAILS		
* TOENAIL CONNECTIONS DESIGNED FOR SHEAR ONLY (i.e. RAFTER TO RIDGEBEAM). ** SOUTHERN YELLOW PINE, 55 PSF LOADING						
				NOTE: UPLIFT VALUE IS BASED ON S.P.F. LOCATION OF SECOND H10A (WHEN REQUIRED)		

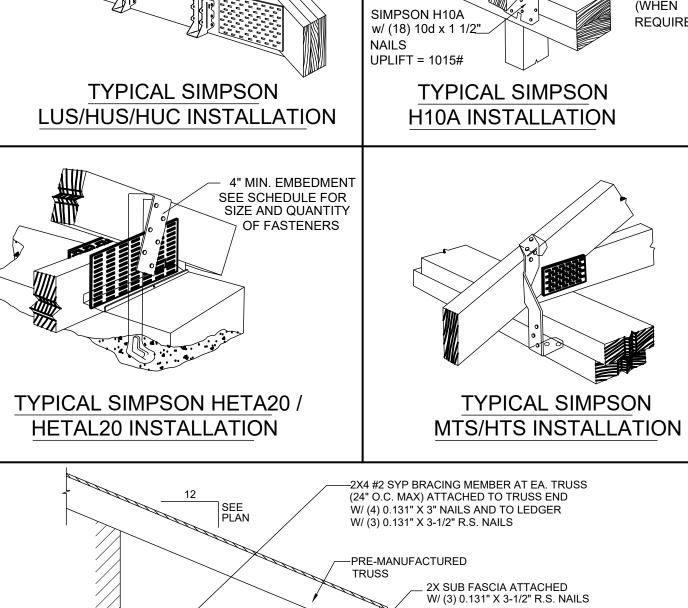
—7/16" MIN. APA RATED SHEATHING

ATTACHED PER TYP. WALL NAILING SCHEDULE

W/ (3) 0.131" X 3-1/2" R.S. NAILS

*NOTE: THE INTENT OF THIS DETAIL IS FOR CONVENTIONALLY FRAMED SOFFITS. IF THE CONTRACTOR IS TO USE A PRE-ENGINEERED/MANUFACTURED/TESTED ASSEMBLY, THE CONTRACTOR SHALL INSTALL THAT PRODUCT PER THE MANUFACTURER'S/FL PRODUCT APPROVAL'S SPECIFICATIONS. ANY SPECIFICATIONS PROVIDED BY THE MANUFACTURER SHALL SUPERCEDE THIS DETAIL.

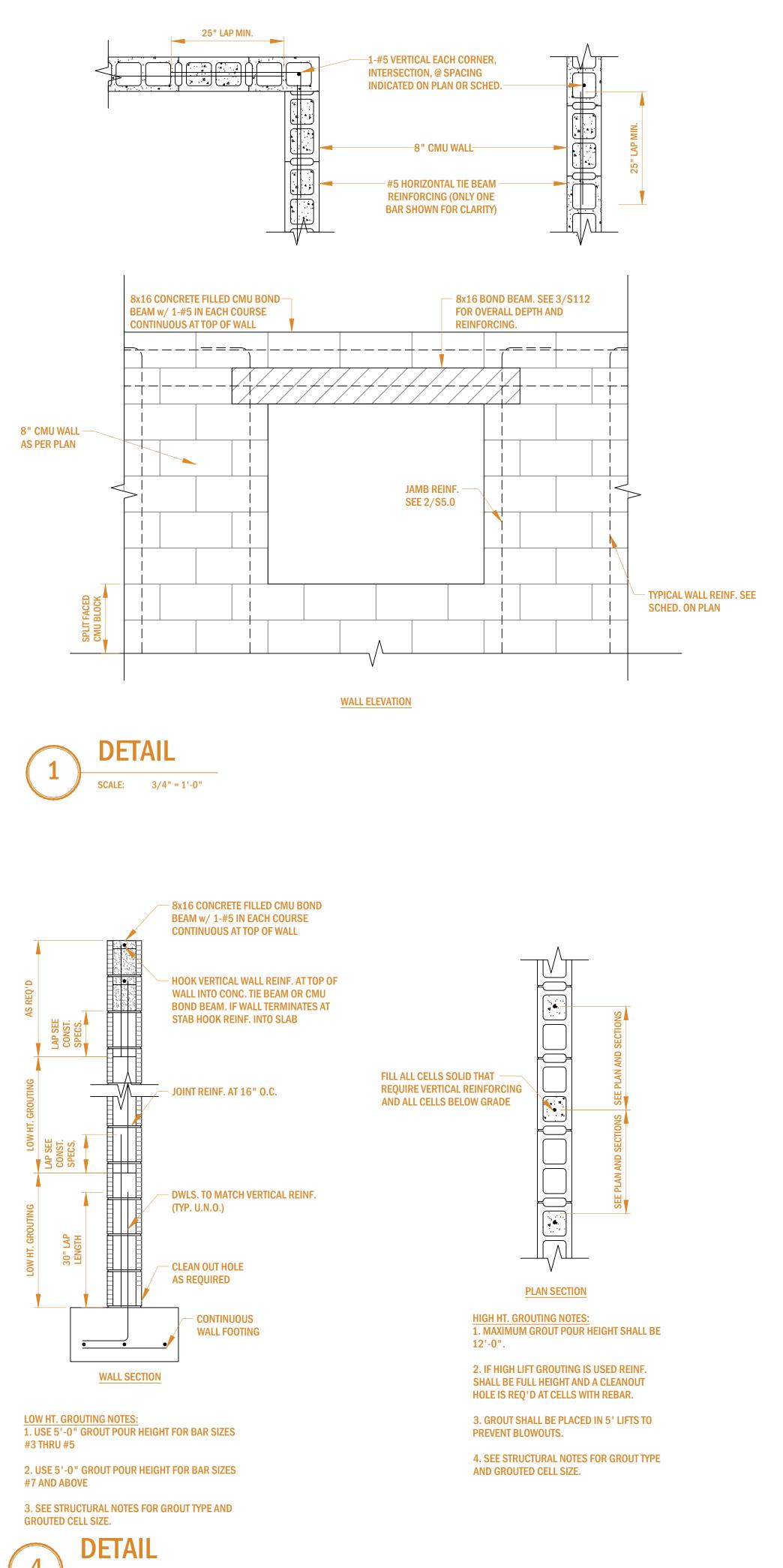
2X4 #2 SYP P.T. LEDGER ATTACHED TO MASONRY FOR SOFFITS GREATER THAN 16", INSTALL 2X4 #2 SYP W/ 1/4" X 3-1/4" TAPCONS AT 12" O.C. OR TO FRAMEBLOCKING AT 16" O.C. MAX SPACING ATTACHED AT W/ (3) 0.131" X 3-1/2" R.S. NAILS AT EA. STUD EA. END TO EA. BRACING MEMBER



48" MAX.

(16" O.C. MAX)

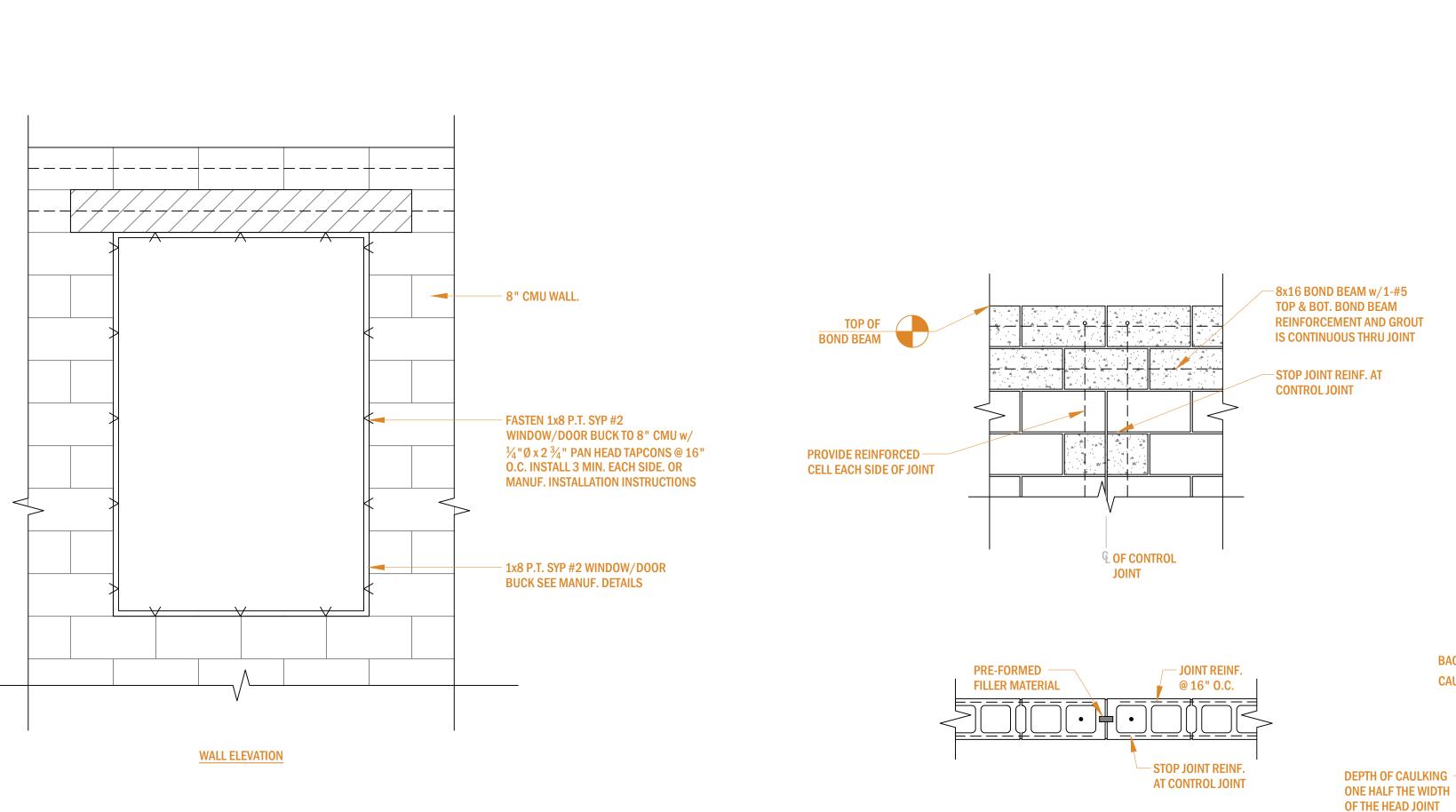
SF01 STRUCTURAL SOFFIT SCALE: N.T.S. REV. 02.21.2021 *REFER TO SHEET SN FOR DESIGN PRESSURES*



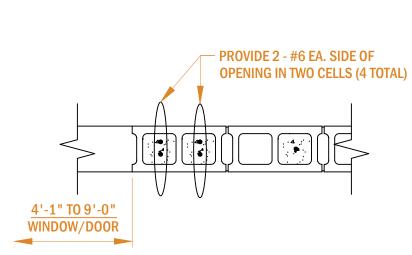
SCALE: 3/4" = 1'-0"





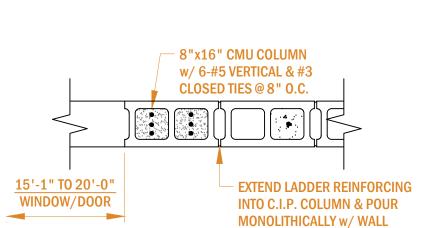


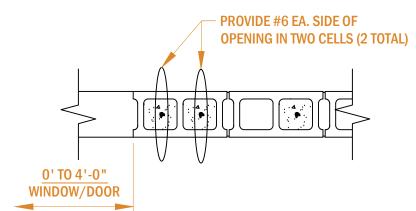
JAMB REINFORCING DETAILS SCALE: 3/4" = 1'-0"

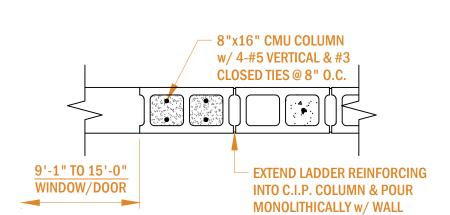


2

2







CMU CONTROL JOINT





OPEN BOTTOM

LINTEL BLOCK,

- BOND BEAM, w/2-#5

w/2-#5 TOP CONT.

CONT.

1. USE THESE BOND BEAM DETAILS U.N.O. ON PLANS.

2. FOR OPENING LOCATIONS, SEE ARCH. PLANS.

3. PROVIDE 8" BEARING EACH SIDE OF OPENING.

5. BOTTOM SHALL BE A SOLID INFILLED BOND BEAM.

•<u>•</u>•

<u>0' to 7'-0"</u>

4. GROUT BOND BEAM SOLID.

NOTES:

3



<u>7'-1" to 17'-0"</u>

CONT.

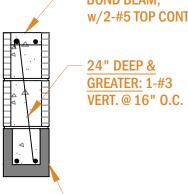
BOND BEAM SCHEDULE

SPAN

7'-1" TO 11'-0"

11'-1" TO 15'-0"

15'-1" TO 17'-0"



w/2-#5 TOP CONT. - 24" DEEP & GREATER: 1-#3

- BOND BEAM, w/2-#5

DEPTH

20"

24"

32"





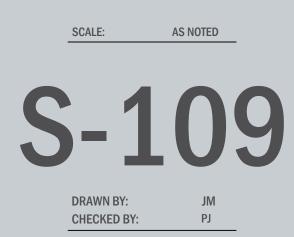
- OPEN BOTTOM BOND BEAM,



WIDTH OF HEAD JOINT

BACKER ROD

CAULKING -



MASONRY SECTIONS &

DETAILS

PROFESSIONAL ENGINEER SEAL STATE OF FLORIDA



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STRUCTURAL

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7100 AIRPORT-PULLING ROAD,

NAPLES, FL 34109

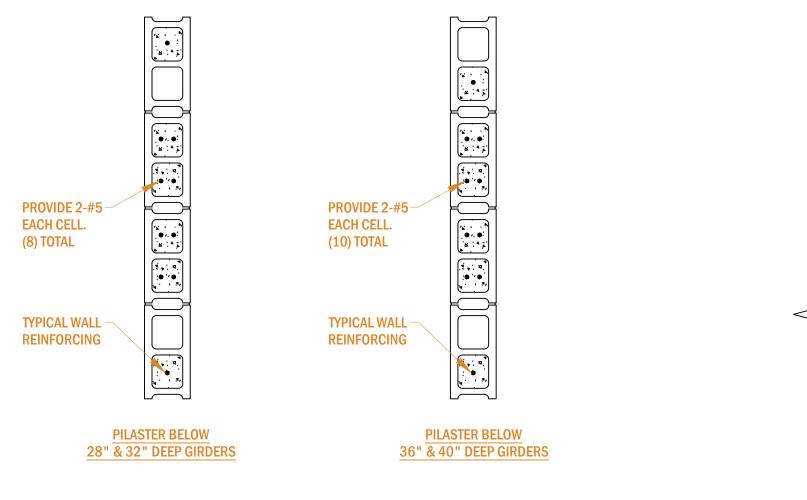
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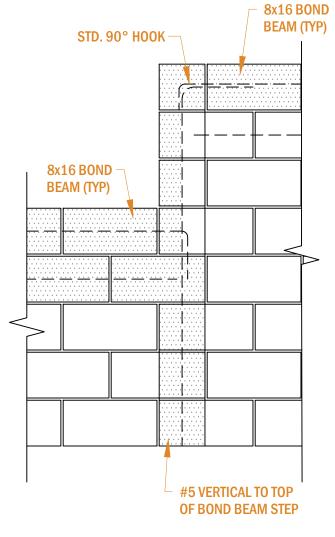
REVISION

PROJECT NO .:

1900 MARKET STREET ©2023 PHILADELPHIA, PA 19103

SEFLEC



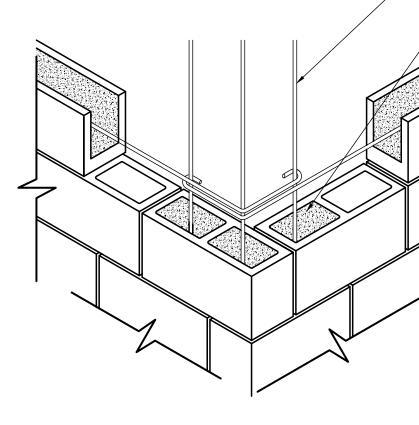




 CMU PILASTER AT ROOF GIRDERS

 SCALE:
 3/4" = 1'-0"







 TYP. #5 VERTICAL REBAR REINFORCING
 TYP. GROUT FILLED CELL WHERE VERTICAL REINFORCING
 TYP. BOND BEAM W/ #5 REBAR REINFORCING @ EVERY THIRD COURSE
 TYP. 8" CMU

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ARCHITECTURE I PROIMEREING I URBAN PLANNING I CONSTRUCTIONI DEVELOPMENT

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MASONRY SECTIONS & DETAILS

SCALE: AS NOTED

