

NEW TRADES BUILDING at: BUCKEYE HILLS CAREER CENTER

351 BUCKEYE HILLS ROAD • RIO GRANDE, OHIO 45674

GENERAL PROJECT NOTES

- COMPLETE SET. ALL CONTRACTORS AND SUBCONTRACTORS SHALL REVIEW COMPLETE SETS OF CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE INTERCONNECTED AND SHALL NOT BE SEPARATED, READ, OR INTERPRETED SEPARATELY.
- DISCREPANCY. SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THESE NOTES, or WITH EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.
 - EXTERIOR DIMENSIONS ARE TO OUTSIDE FACE OF SHEATHING / OUTSIDE FACE OF FOUNDATION WALL.
 - INTERIOR DIMENSIONS ARE TO FACE OF STUDS UNLESS NOTED OTHERWISE.
- FIELD VERIFY. CONTRACTORS SHALL FIELD VERIFY ALL DIMENSIONS AND AREA ESTIMATES PRIOR TO COMMENCING WORK. SHOULD DIMENSIONAL DISCREPANCIES EXIST, OR IF NOTED DIMENSIONS DO NOT COORDINATE WITH SPACE REQUIREMENTS OF EQUIPMENT, ETC., IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING. OBTAIN WRITTEN RESPONSE FROM THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- SITE SURVEY. SITE BOUNDARY LINES, BOUNDARY DIMENSIONS, BOUNDARY DECLINATIONS, AND EXISTING GRADES ARE BASED UPON THE SITE SURVEY WHICH WAS PROVIDED BY THE OWNER FOR REFERENCE ONLY. THE CONTRACTORS SHALL BE DEEMED TO HAVE INSPECTED THE SITE AND SATISFIED THEMSELVES AS TO THE ACTUAL GRADES, LEVELS, DIMENSIONS AND DECLINATIONS AND THE TRUE CONDITIONS UNDER WHICH THE WORK SHALL BE PERFORMED.
- CODES AND REGULATIONS. ALL CONSTRUCTION AND MATERIALS SHALL BE IN STRICT COMPLIANCE WITH THE MOST RECENT EDITIONS OF ALL LOCAL AND STATE BUILDING CODES AND REGULATIONS, AS WELL AS ALL OTHER SPECIFIC OR IMPLIED APPLICABLE REGULATIONS, INCLUDING HEALTH AND SAFETY REQUIREMENTS, AS MAY BE IMPLIED OR STATED WITH ISSUANCE OF THE BUILDING PERMIT.
- SAFETY. THE ARCHITECT IS NOT ENGAGED IN, AND DOES NOT SUPERVISE, CONSTRUCTION. IT IS SOLELY THE RESPONSIBILITY OF EACH CONTRACTOR TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION, INCLUDING THE POSTING OF REQUIRED SIGNAGE AND NOTICES.
- REQUIRED MEANS OF EGRESS SHALL BE MAINTAINED AT ALL TIMES DURING DEMOLITION, CONSTRUCTION, REMODELING, ALTERATIONS, OR ADDITIONS TO ANY BUILDING. EXISTING MEANS OF EGRESS NEED NOT BE MAINTAINED WHERE APPROVED TEMPORARY MEANS OF EGRESS ARE PROVIDED.
- CONSTRUCTION MEANS AND METHODS.
 - THE ARCHITECT and OWNER SHALL HAVE THE RIGHT TO RELY ON A LEVEL OF SKILL AND COMPETENCY FROM ALL INVOLVED CONTRACTORS, CONSULTANTS, AND TRADES WHICH IS CONSISTENT WITH LOCALLY ACCEPTED INDUSTRY STANDARDS.
 - THE ARCHITECT HAS NO EXPERTISE IN, AND TAKES NO RESPONSIBILITY FOR, CONSTRUCTION MEANS AND METHODS OR FOR JOB SITE SAFETY DURING CONSTRUCTION.
 - PROCESSING AND/OR APPROVING SUBMITTALS MADE BY THE CONTRACTOR WHICH MAY CONTAIN INFORMATION RELATED TO CONSTRUCTION METHODS OR SAFETY ISSUES, OR PARTICIPATION IN MEETINGS WHERE SUCH ISSUES MIGHT BE DISCUSSED, SHALL NOT BE CONSTRUED AS VOLUNTARY ASSUMPTION BY THE ARCHITECT OF ANY RESPONSIBILITY FOR CONSTRUCTION OR SAFETY PROCEDURES.
- EXISTING CONDITIONS. ALL SUBCONTRACTORS SHALL VISIT THE PROJECT SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS, COMPARE AND CONFIRM THE CONTRACT DOCUMENTS, SUBSEQUENT REQUIREMENTS, AND ALL REGULATORY AGENCY REQUIREMENTS APPLICABLE FOR COMPLETION OF THE PROPOSED WORK. IF VARIATIONS OR DISCREPANCIES ARE FOUND, SAME INFORMATION SHALL BE FURNISHED IMMEDIATELY, IN WRITTEN FORMAT, TO THE ARCHITECT. OBTAIN WRITTEN RESPONSE FROM THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- ERRORS, INCONSISTENCIES, OMISSIONS. THE CONTRACTORS SHALL CONSULT WITH THE ARCHITECT FOR CLARIFICATION REGARDING ERRORS, OMISSIONS, OR DISCREPANCIES IN THE CONTRACT DOCUMENTS. IF THE CONTRACTORS PERFORM ANY CONSTRUCTION ACTIVITY KNOWING IT INVOLVES A RECOGNIZED ERROR, INCONSISTENCY OR OMISSION OR IS UNCLEAR IN THE CONTRACT DOCUMENTATION WITHOUT NOTIFYING THE ARCHITECT IN WRITING, AND WITHOUT THE ARCHITECT'S ANSWER IN WRITING, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR SUCH PERFORMANCE AND SHALL BEAR A FULL AMOUNT OF THE ATTRIBUTABLE COST FOR CORRECTION.
- DETAILS and WALL SECTIONS ARE INTENDED TO SHOW A METHOD OF ACCOMPLISHING THE WORK. MODIFICATIONS MAY BE REQUIRED TO SUIT THE JOB DIMENSIONS AND CONDITIONS. WHERE DETAIL OR INFORMATION IS NOT PROVIDED, THE CONTRACTORS SHALL USE CONVENTIONAL ACCEPTED PRACTICE. CONDITIONS REQUIRING NON-CONVENTIONAL DETAILING OR ADDITIONAL INFORMATION SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION. OBTAIN WRITTEN RESPONSE FROM THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- ERECTION PROCEDURES. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER IT IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE, AND TO ENSURE THE STABILITY OF THE BUILDING AND ITS COMPONENT PARTS, AND THE ADEQUACY OF TEMPORARY OR INCOMPLETE CONNECTIONS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF ANY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE DOWNS, WHICH MIGHT BE NECESSARY. SUCH MATERIALS ARE NOT SHOWN ON THE DRAWINGS. FOLLOWING THE COMPLETION OF THE PROJECT, REDISTRIBUTION OF SUCH MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- BLOCKING. PROVIDE SUFFICIENT BLOCKING, HANGERS, SUPPORTS, FITTINGS, ETC. FOR SECURING OF ALL ITEMS WHETHER FURNISHED BY THE OWNER OR CONTRACTORS, INCLUDING RAILINGS, GUARDS, GRAB BARS, COUNTERS, SHELVING, CASEWORK, FURNISHINGS, ETC.
- MANUFACTURER'S and INDUSTRY STANDARDS OF INSTALLATION SHALL BE FOLLOWED FOR GYPSUM WALL BOARD AND STEEL STUD WALL SYSTEMS.
- MECHANICAL, PLUMBING, ELECTRICAL: THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEMS, AND FOR INSTALLING ALL NECESSARY BLOCKING, FRAMING OR GENERAL CONSTRUCTION TO FACILITATE INSTALLATION OF THESE SYSTEMS.
- UNDERGROUND UTILITIES. SUBCONTRACTORS SHALL VERIFY ALL UNDERGROUND UTILITIES AND CONDITIONS WITH THE OWNER AND THE PROPER AUTHORITIES. CALL UPS AT 811, TWO DAYS BEFORE DIGGING.
- SCOPE OF WORK. ALL CONTRACTORS AND MATERIALS, LABOR AND OTHER PROCESSES ARE REQUIRED TO COMPLETE ALL CATEGORIES OF THE WORK INDICATED BY ALL OF THE CONTRACT DOCUMENTS, OR THAT WORK WHICH MAY BE OTHERWISE REFERRED TO IN THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION.
- PERMITS. PRIOR TO COMMENCEMENT OF WORK, ALL PERMITS SHALL BE APPLIED FOR AND OBTAINED BY EACH SUBCONTRACTOR AND ALL APPLICABLE FEES SHALL BE PAID BY THE SUBCONTRACTOR. SUBCONTRACTORS SHALL SECURE ALL PERMITS AND INSPECTIONS.
- MATERIAL STORAGE. SUBCONTRACTORS SHALL COORDINATE ON-SITE MATERIAL STORAGE WITH THE GENERAL CONTRACTOR.
- CLEAN-UP. SUBCONTRACTORS SHALL KEEP THE JOB SITE NEAT AND ORDERLY, REMOVE SCRAP MATERIAL DAILY AND SHALL CLEAN THE SITE AND THE WORK THOROUGHLY UPON COMPLETION.

NOTE:
THESE DRAWINGS ARE BASED ON:
VARCO PRUDEN BUILDING SYSTEMS
3200 PLAYERS CLUB CIRCLE MEMPHIS, TN 38125
(901) 748-8000

AVAILABLE THROUGH:
RIEDEL-WILKS BUILDING STRUCTURES, INC.
420 7th AVENUE G HUNTINGTON, WV 25702
(304) 523-5452



VICINITY MAP

BUILDING CODE DATA

APPLICABLE CODES:

NEW BUILDING CODE:	2024 OHIO BUILDING CODE
EXISTING BUILDING CODE:	2024 OHIO EXISTING BUILDING CODE
MECHANICAL CODE:	2024 OHIO MECHANICAL CODE
ELECTRICAL CODE:	2017 NATIONAL ELECTRICAL CODE
PLUMBING CODE:	2024 OHIO PLUMBING CODE
FIRE CODE:	2017 OHIO FIRE CODE
ACCESSIBILITY CODES:	
NEW BUILDING:	ICC A117.1 2017 (NEW BUILDINGS & ADDITIONS)
ENERGY CODE:	2012 OHIO ENERGY CONSERVATION CODE

PROJECT SUMMARY:

PROJECT DESCRIPTION:

- PROPOSED NEW CONSTRUCTION OF A 7,448 S.F. 2-STORY, STEEL FRAME ELECTRIC LINEMAN TRAINING FACILITY.

BUILDING SUMMARY:

CONSTRUCTION TYPE:

- II B = CMU & STEEL FRAME EXTERIOR WALLS, STEEL FRAME INTERIOR WALLS, STEEL ROOF TRUSSES, CONCRETE SLAB-ON-GRADE.
- 2 STORY
- FULLY SPRINKLERED, NFPA 13
- FIRE ALARM

NON-SEPARATED USE GROUPS:

- E EDUCATION (HIGH SCHOOL & ADULT CAREER CENTER)
- S-1 STORAGE > 10% OF AREA OF THE STORY

MAX ALLOWABLE BUILDING HEIGHT = 55':

- ACTUAL = 24'

MAX ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE:

- E = 2 ACTUAL = 2
- S-1 = 2 ACTUAL = 2

MAX ALLOWABLE AREA PER STORY, SPRINKLERED:

- E = 58,800 S.F.
- S-1 = 70,000 S.F.
- ACTUAL 1st STORY = 5,151 G.S.F.
- ACTUAL 2nd STORY = 2,297 G.S.F.

EGRESS SUMMARY:

OCCUPANT LOAD:

- E = 65 OCCUPANTS
- S-1 = 42 OCCUPANTS
- TOTAL = 107 OCCUPANTS

E EGRESS:

- MIN. NUMBER OF REQUIRED EXITS = 2 ACTUAL = 2
- MAX. EXIT ACCESS TRAVEL DISTANCE = 200' ACTUAL = 139'-3"

PLUMBING FACILITIES

HISTORICAL DATA SHOWS THAT APPROX. 85% OF THE BUILDING OCCUPANTS ARE MALE. THE FOLLOWING QUANTITIES ARE ADJUSTED FOR THIS RATIO.

	USE GROUP	OCCUPANT LOAD	FORMULA	CALCULATION		PROVIDED
				REQD.	TOTAL	
FEMALES	E	10	WC=1/50	0.2	= 0.27	1 WC
	S-1	7	WC=1/100	0.07	= 0.27	
	E	10	LAV=1/50	0.2	= 0.27	1 LAV
MALES	S-1	7	LAV=1/100	0.07	= 0.27	
	E	55	WC=1/50	1.1	= 1.45	3 WC
	S-1	35	WC=1/100	0.35	= 1.45	
	E	55	LAV=1/50	1.1	= 1.45	2 LAV
	S-1	35	LAV=1/100	0.35	= 1.45	
D.F.		107	DF=1/100	1.07	= 1.07	2 D.F.
SERVICE SINK				1	= 1	1

INDEX OF DRAWINGS

DESIGNED UNDER A SEPARATE PERMIT BY OTHERS:
FIRE ALARM AND FULL BUILDING NFPA 13 AUTOMATIC FIRE SUPPRESSION SYSTEM.

ATTACHMENTS: CIVIL ENGINEERING PLANS PREPARED BY OTHERS.
PRE-ENGINEERED METAL BUILDING PLANS PREPARED BY OTHERS.
MECHANICAL COMPLIANCE CERTIFICATE.
INTERIOR LIGHTING CERTIFICATE.

A0.0	COVER SHEET
C1.1	OVERALL SITE LAYOUT
C1.2	ENLARGED PARTIAL SITE LAYOUT
A1.1	1st FLOOR PLAN
A1.2	2nd FLOOR PLAN
A1.3	REFLECTED CEILING PLANS
A2.1	SCHEDULES & INTERIOR ELEVATIONS
A3.1	EXTERIOR ELEVATIONS
A3.2	EXTERIOR ELEVATIONS
S1.0	FOUNDATION PLAN
S1.1	2nd FLOOR FRAMING PLAN
S2.0	SECTIONS & DETAILS
M1.0	1st FLOOR MECHANICAL PLAN
M2.0	2nd FLOOR MECHANICAL PLAN
M3.0	MECHANICAL SCHEDULES AND DETAILS
M3.1	MECHANICAL VENTILATION CALCULATIONS
M4.0	MECHANICAL SPECIFICATIONS
P1.0	1st FLOOR PLUMBING PLAN
P2.0	2nd FLOOR PLUMBING PLAN
P3.0	PLUMBING SCHEDULES AND DETAILS
E1.0	1st FLOOR LIGHTING PLAN
E2.0	2nd FLOOR LIGHTING PLAN
E3.0	1st FLOOR POWER PLAN
E4.0	2nd FLOOR POWER PLAN
E5.0	ELECTRICAL SPECIFICATIONS AND SCHEDULES

DESIGN LOADS

DESIGN LIVE LOADS

E UNIFORM LIVE LOAD =	100 PSF
S-1 UNIFORM LIVE LOAD =	125 PSF
STAIR UNIFORM LIVE LOAD =	100 PSF
STAIR CONCENTRATED LOAD =	300 LBS.
HANDRAIL & GUARD RAIL =	50 PLF
RAIL CONCENTRATED LOAD =	200 LBS.
BALUSTERS CONCENTRATED LOAD =	50 LBS.

WIND DESIGN DATA

BUILDING CATEGORY	1
WIND EXPOSURE CATEGORY =	B
ULTIMATE DESIGN WIND SPEED =	115 MPH
NOMINAL DESIGN WIND SPEED =	90 MPH
WIND IMPORTANCE FACTOR =	1.0
TOPOGRAPHIC EFFECTS =	NO

ROOF SNOW DESIGN DATA

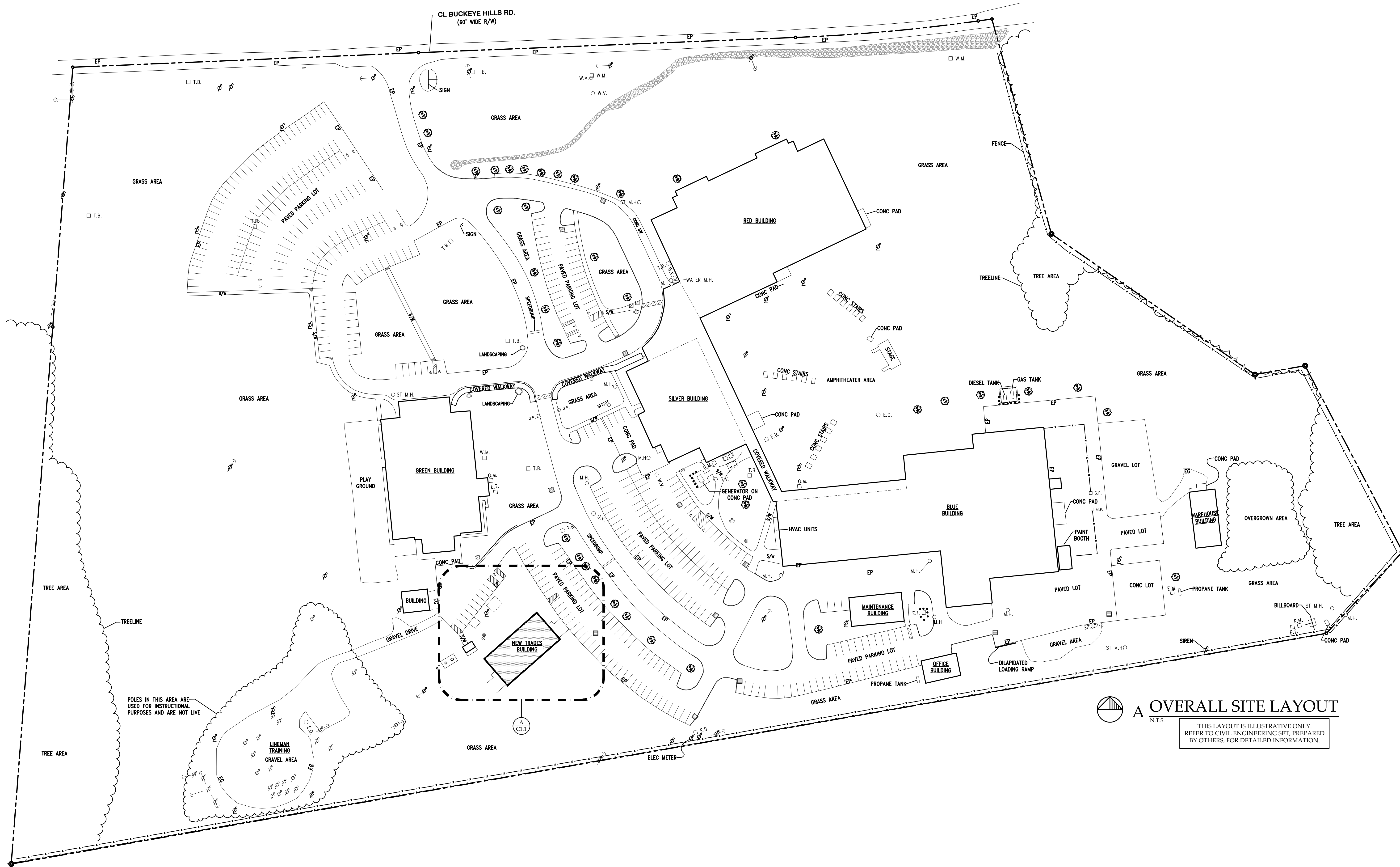
MINIMUM ROOF LIVE LOAD =	20 PSF
DESIGN ROOF LIVE LOAD =	25 PSF
GROUND SNOW LOAD =	20 PSF
FLAT ROOF SNOW LOAD =	20 PSF
LOW SLOPE ROOF LOAD =	22 PSF
SNOW EXPOSURE FACTOR C_e =	1.0
SNOW LOAD IMPORTANCE FACTOR =	1.0
THERMAL FACTOR C_t =	1.0

SEISMIC DESIGN DATA

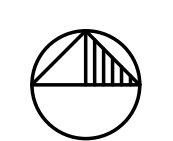
SEISMIC RISK CATEGORY =	II
SEISMIC USE GROUP =	1
SEISMIC DESIGN CATEGORY	B
DESIGN SPECTRAL RESPONSE =	$S_{ds} = 0.177$ $S_{di} = 0.1056$
MAPPED SPECTRAL RESPONSE ACCEL. =	$S_s = 0.166$ +/- $S_t = 0.066$
SITE CLASS	D
ANALYSIS PROCEDURE =	EQUIVALENT LATERAL FORCE
BASIC SEISMIC-FORCE RESISTING SYSTEM =	LIGHT FRAMED WALLS SHEATHED W/ WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE.

CLIMATE and GEOGRAPHIC DATA

CLIMATE ZONE =	5
WINTER DESIGN TEMPERATURE =	5° F
FROST LINE DEPTH =	32"
CONCRETE WEATHERING =	SEVERE
AIR FREEZING INDEX =	LESS THAN 1500
DECAY PROBABILITY	SLIGHT to MODERATE
TERMITE INFESTATION =	MODERATE TO HEAVY
ASSUMED SOIL BRG. CAPACITY =	2,000 PSF ASSUMED



POLES IN THIS AREA ARE USED FOR INSTRUCTIONAL PURPOSES AND ARE NOT LIVE



A OVERALL SITE LAYOUT


N.T.S.

THIS LAYOUT IS ILLUSTRATIVE ONLY. REFER TO CIVIL ENGINEERING SET, PREPARED BY OTHERS, FOR DETAILED INFORMATION.

- PRELIMINARY 04-21-2022
- BID SET 03-06-2024
- PERMIT SET
- REVISIONS:

JCKL ARCHITECTS
 P.O. BOX 340037
 COLUMBUS, OHIO 43234
 PHONE: (614) 764-1996
 tom@marsharchitects.com

OVERALL SITE LAYOUT
BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING
 351 BUCKEYE HILLS ROAD
 RIO GRANDE, OHIO 45674





A ENLARGED PARTIAL SITE LAYOUT
SCALE: 1" = 20'-0"

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ENLARGED SITE PLAN

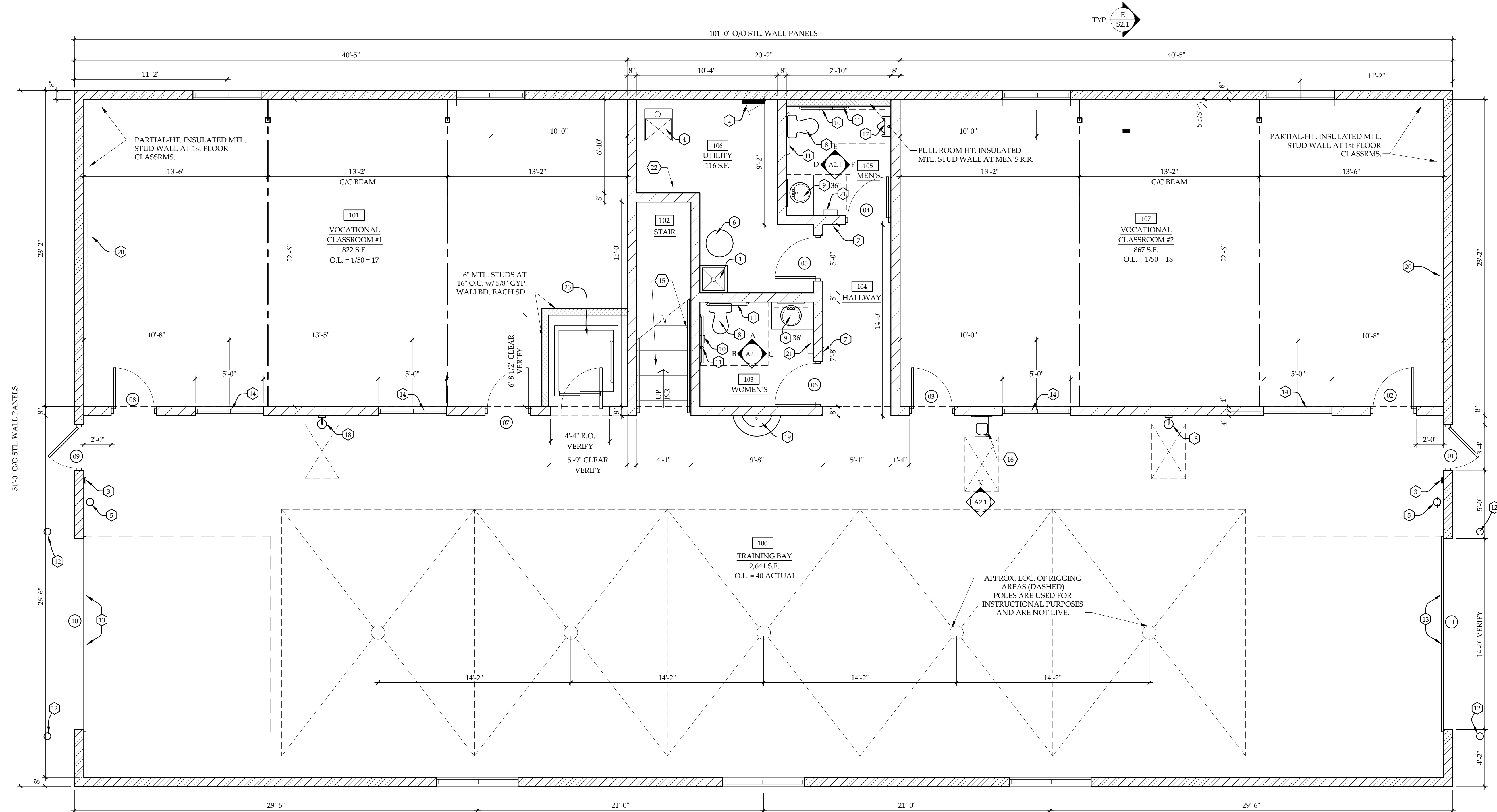
BUCKEYE HILLS CAREER CENTER

NEW TRADES BUILDING

351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674



- PRELIMINARY 04-21-2022
- BID SET 03-06-2024
- PERMIT SET
- REVISIONS:



FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"
5,151 S.F.

WALL SCHEDULE:

NOTES:
PROVIDE & INSTALL MOISTURE RESISTANT GYPSUM BOARD IN RESTROOMS.

- 3-5/8" PARTIAL HT. WALL, ROUGH TOP AT 23 11 1/4" +/- AFF. METAL STUDS AT 24" O.C. w/ INSULATION. 5/8" GYPSUM BOARD AT INTERIOR FACE. 8" INSULATED STEEL WALL PANEL AT EXTERIOR FACE. NOTE: EXTEND STUD WALL FULL-ROOM HT. AT MEN'S R.R. #105.
- 8" W. INSULATED STEEL WALL PANEL.
- 6" METAL STUD WALL AT 16" O.C. w/ 5/8" GYPSUM WALLBOARD OVER.
- 3-5/8" METAL STUD WALL AT 16" O.C. w/ 5/8" GYPSUM WALL BOARD OVER.
- 8" W. CMU WALL w/ #5 AT 48" O.C. VERTICAL REINFORCING (TYP.)

FLOOR PLAN NOTES:

GENERAL NOTES

- A. VERIFY COLORS, STYLES, & MATERIALS w/ OWNER.
- B. BUILDING IS TO BE FULLY SPRINKLERED.
- C. BUILDING IS TO BE EQUIPPED w/ FIRE ALARM.

CODED NOTES

- 1. PROVIDE & INSTALL MOP SINK & ACCESSORIES.
- 2. PROPOSED LOCATION FOR ELECTRIC PANEL.
- 3. PROVIDE & INSTALL EXIT TACTILE SIGN. SEE DETAIL B/A1.1
- 4. PROPOSED LOCATION FOR FURNACE.
- 5. PROVIDE & INSTALL 10 LB. ABC FIRE EXTINGUISHER. EXACT LOCATION TO BE VERIFIED BY LOCAL FIRE INSPECTOR.
- 6. PROPOSED LOCATION FOR WATER HEATER.
- 7. PROVIDE & INSTALL RESTROOM DESIGNATION SIGNAGE. SEE DETAILS C/A1.1 & D/A1.1
- 8. PROVIDE & INSTALL NEW ADA COMPLIANT TOILET & ACCESSORIES.
- 9. PROVIDE & INSTALL ADA COMPLIANT LAV. IN COUNTER TOP AT 34" A.F.F. (SIZE AS NOTED) OPEN BELOW. w/ FAUCET, ACCESSORIES, LAV GUARD & MIRROR ABV.
- 10. PROVIDE & INSTALL TOILET PAPER HOLDER.
- 11. PROVIDE & INSTALL STAINLESS STEEL ADA COMPLIANT GRAB BAR.
- 12. PROVIDE & INSTALL METAL CONCRETE FILLED BOLLARD. PAINT. SEE DETAIL C/A3.2.
- 13. PROVIDE & INSTALL 14'-0" WIDE x 14'-0" TALL OVERHEAD INSULATED METAL DOOR WITH ELECTRONIC OPENER.
- 14. PROVIDE & INSTALL 5" W x 4" H FIXED ALUMINUM STOREFRONT PANEL. PREFINISHED. NARROW STILE. 1/2" SOLID SURFACE SILL @ 48" A.F.F.
- 15. PROVIDE & INSTALL NEW STAIRS w/ METAL RAILING @ 36" ABOVE NOSING w/ 12" EXTENSIONS TOP & BOTTOM. RISERS = 7" MAX. / TREADS = 11"

- 16. PROVIDE AND INSTALL WATER BOTTLE REFILLING STATION WITH SINGLE ADA COMPLIANT SPOUT. ELKAY # LZS8WSLK OR EQUAL. WITH CHILLER AND WATER FILTER. SPOUT HT. AT MAX. 36" A.F.F.
- 17. (OMITTED)
- 18. PROVIDE & INSTALL FLOOR-MTD. COMBO. EYE WASH / EMERGENCY SHOWER STATION w/ FLOOR DRAIN.
- 19. PROVIDE & INSTALL HAND WASH BASIN. 36" SEMI-CIRCULAR. TERREON BOWL WITH FOOT OPERATION.
- 20. PROPOSED LOCATION FOR 75" LED TV (WALL MOUNTED) w/ HDMI CONNECTION. COORDINATE w/ OWNER. MIN. SIZE 14" x 14"
- 21. PROVIDE & INSTALL DYSON AIR HAND DRYER DRYER MTD. AT ADA COMPLIANT HT.
- 22. PROVIDE & INSTALL UNDER-STAIR ACCESS PANEL. SURFACE-MOUNTED STEEL DOOR WITH DRYWALL FLANGE. PAINTABLE SURFACE. NON FIRE-RATED. SPRING CLOSER. SELF-LATCHING. MIN. SIZE 14" x 14"
- 23. PROVIDE & INSTALL LULLA ELEVATOR. APPROX. 48" W x 54" D CLEAR CAB INTERIOR. CONFIRM FIN. INTERIOR HOISTWAY DIMENSIONS w/ MANUF. INCLUDE ADA HANDS-FREE PHONE, LED LIGHTS, CAR-MTD. DIRECTIONAL INDICATOR w/ AUDIBLE SIGNALS. OWNER TO SELECT FINISHES. ARROW LIFT OR EQUAL.

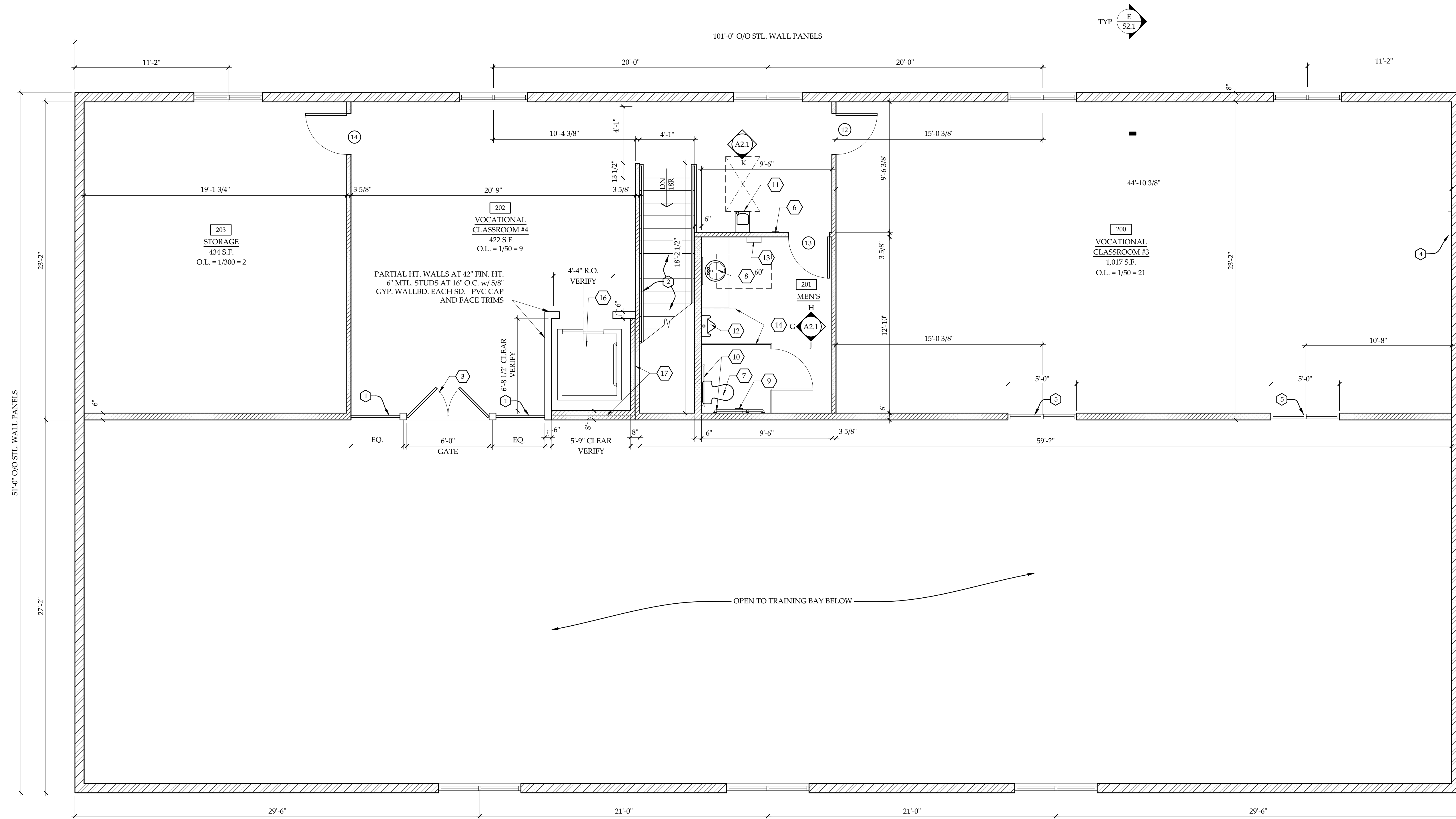
FIRST FLOOR PLAN

BUCKEYE HILLS CAREER CENTER

NEW TRADES BUILDING

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SECOND FLOOR PLAN

BUCKEYE HILLS CAREER CENTER

NEW TRADES BUILDING

351 BUCKEYE HILLS ROAD

RIO GRANDE, OHIO 45674



A SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0" 2,297 G.S.F.

FLOOR PLAN NOTES:

GENERAL

A. VERIFY COLORS, STYLES, & MATERIALS w/ OWNER.

SPECIFIC

- PROVIDE & INSTALL NEW METAL GUARD RAIL @ 42" A.F.F. w/ 1/2" Ø METAL BALUSTERS @ 4" O.C.
- PROVIDE & INSTALL NEW STAIRS w/ METAL RAILING @ 36" ABOVE NOSING w/ 12" EXTENSIONS TOP & BOTTOM. RISERS = 7" MAX / TREADS = 11"
- PROVIDE & INSTALL 6'-0" WIDE x 42" H GATE/RAILING w/ FLUSH BOLT & LOCK.
- PROPOSED LOCATION FOR PULL DOWN SCREEN & SHORT THROW PROJECTOR. COORDINATE w/ OWNER.
- PROVIDE & INSTALL 5'W x 4'H FIXED ALUMINUM STOREFRONT PANEL. PREFINISHED. NARROW STILE. 1/2" SOLID SURFACE SILL @ 48" A.F.F.
- PROVIDE & INSTALL RESTROOM DESIGNATION SIGNAGE. SEE DETAILS C/A1.0 & D/A1.0
- PROVIDE & INSTALL NEW ADA COMPLIANT TOILET & ACCESSORIES.
- PROVIDE & INSTALL ADA COMPLIANT LAV. IN COUNTER TOP AT 34" A.F.F. (SIZE AS NOTED) OPEN BELOW. w/ FAUCET, ACCESSORIES, LAV GUARD & MIRROR ABV.
- PROVIDE & INSTALL TOILET PAPER HOLDER.
- PROVIDE & INSTALL STAINLESS STEEL ADA COMPLIANT GRAB BAR.
- PROVIDE AND INSTALL WATER BOTTLE REFILLING STATION WITH SINGLE ADA COMPLIANT SPOUT. ELKAY # LZS8WSLK OR EQUAL. WITH CHILLER AND WATER FILTER. SPOUT HT. AT MAX. 36" A.F.F.
- PROVIDE & INSTALL ADA COMPLIANT URINAL & ACCESSORIES.
- PROVIDE & INSTALL DYSON AIR HAND DRYER MTD. AT ADA COMPLIANT HT.
- PROVIDE & INSTALL TOILET STALL PARTITIONS.
- PROVIDE & INSTALL 10 LB. ABC FIRE EXTINGUISHER. EXACT LOCATION TO BE VERIFIED BY LOCAL FIRE INSPECTOR.
- PROVIDE & INSTALL LULU ELEVATOR. APPROX. 48"W x 54"D CLEAR CAB INTERIOR. CONFIRM FIN. INTERIOR HOISTWAY DIMENSIONS w/ MANUF. INCLUDE ADA HANDS-FREE PHONE, LED LIGHTS, CAR-MTD. DIRECTIONAL INDICATOR w/ AUDIBLE SIGNALS. OWNER TO SELECT FINISHES. ARROW LIFT OR EQUAL.
- PROVIDE & INSTALL (2) 3/8" STEEL STUD AT 16" O.C. WALL w/ 3/4" AIR CAP. ENSURE 8" OVERALL WIDTH TO ALIGN w/ HOISTWAY WALL BELOW. 5/8" GYPSUM WALLBOARD BOTH EXTERIOR SIDES OF WALL.

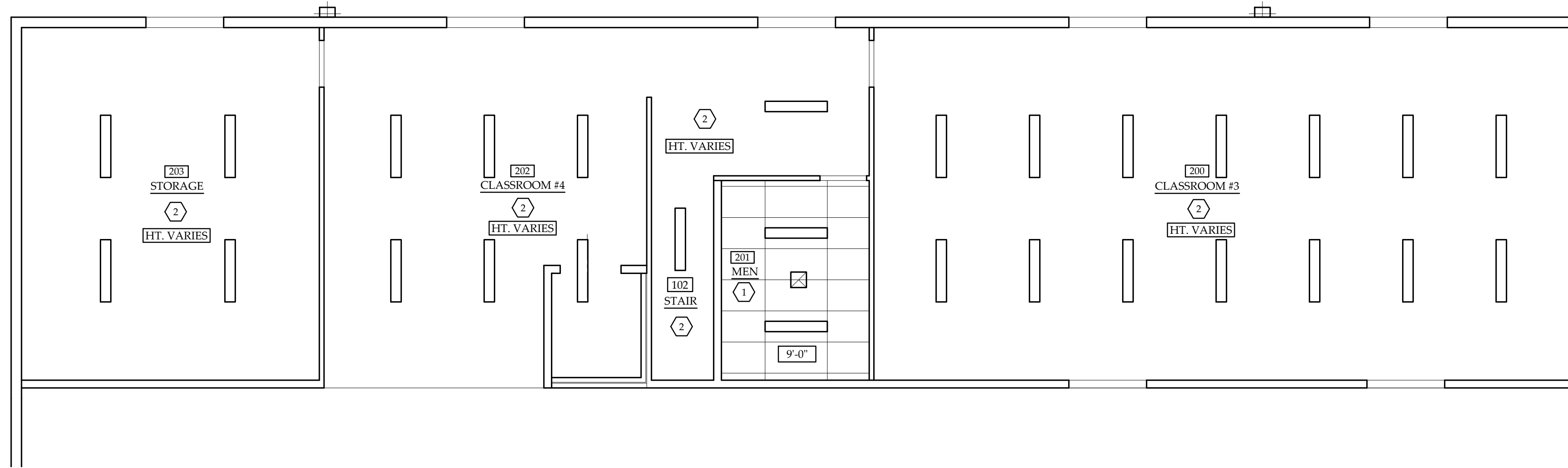
WALL SCHEDULE:

NOTES:

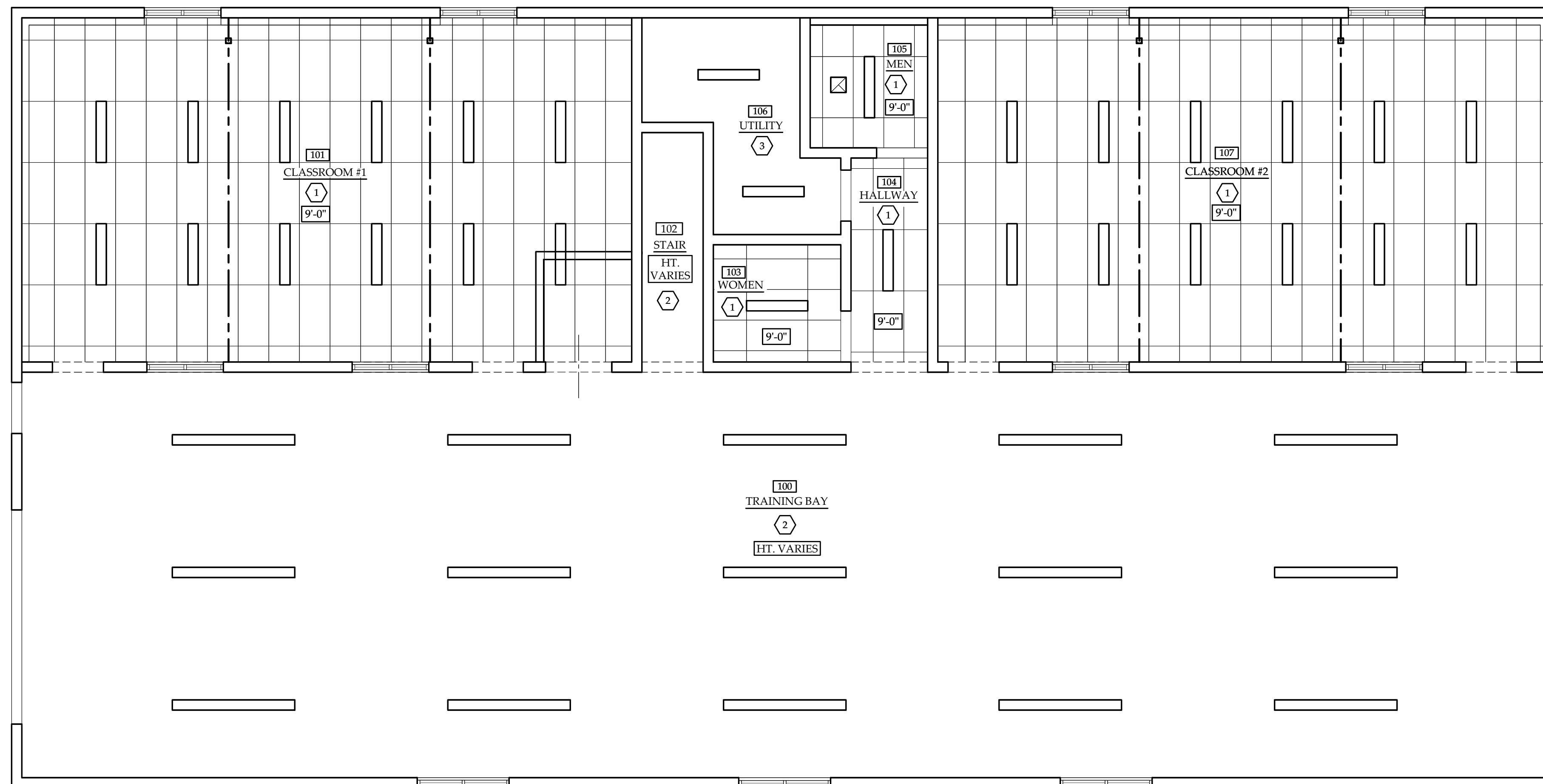
PROVIDE & INSTALL MOISTURE RESISTANT GYPSUM BOARD IN RESTROOMS.

- 3-5/8" PARTIAL HT. WALL. ROUGH TOP AT 23 11 1/4" AFF. METAL STUDS AT 24" O.C. w/ INSULATION. 5/8" GYPSUM BOARD AT INTERIOR FACE. 8" INSULATED STEEL WALL PANEL AT EXTERIOR FACE. NOTE: EXTEND STUD WALL FULL-ROOM HT. AT MEN'S R.R. #105.
- 8" W. INSULATED STEEL WALL PANEL.
- 6" METAL STUD WALL AT 16" O.C. w/ 5/8" GYPSUM WALLBOARD OVER.
- 3-5/8" METAL STUD WALL AT 16" O.C. w/ 5/8" GYPSUM WALL BOARD OVER.
- 8" W. CMU WALL w/ #5 AT 48" O.C. VERTICAL REINFORCING (TYP.)

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- BID SET 03-06-2024
- PERMIT SET
- REVISIONS:



A 2nd FLOOR REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"



B 1st FLOOR REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"

REFLECTED CEILING PLAN NOTES:

GENERAL

- A. FIELD VERIFY ALL CONDITIONS AND DIMENSIONS.
- B. VERIFY ALL COLORS, MATERIALS, AND STYLES w/ OWNER.

CODED PLAN NOTES:

1. PROVIDE & INSTALL SUSPENDED 2'x4' ACOUSTICAL CEILING TILE & GRID. HEIGHT AS NOTED. INSTALL IN ACCORDANCE w/ ASTM C 635 and ASTM C 636.
2. EXPOSED ROOF INSULATION ABOVE w/ LINER.
3. EXPOSED STRUCTURE and DECKING. OPTIONAL PAINT.

REFLECTED CEILING PLANS

BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING

351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674



- PRELIMINARY 04-21-2022
- BID SET 03-06-2024
- PERMIT SET
- REVISIONS:

000 ROOM FINISH SCHEDULE:

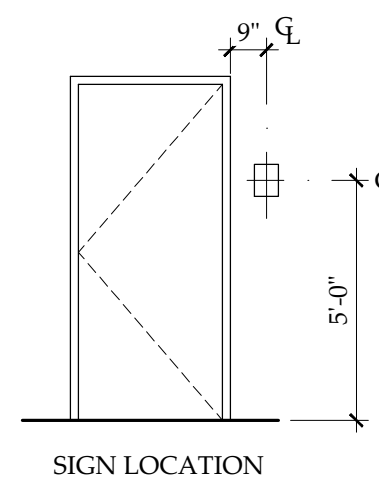
ROOM	FLOORS	BASE	WALLS	CEILING
SPACE DESIGNATION	SEAL	FIN	FIN	FIN
DESCRIPTION	SEAL	FIN	FIN	FIN
100 TRAINING BAY	●	●	●	●
101 CLASSROOM #1	●	●	●	●
102 STAIR	●	●	●	●
103 WOMEN	●	●	●	●
104 HALLWAY	●	●	●	●
105 MEN	●	●	●	●
106 UTILITY	●	●	●	●
107 CLASSROOM #2	●	●	●	●
200 CLASSROOM #3	●	●	●	●
201 MEN	●	●	●	●
202 CLASSROOM #4	●	●	●	●
203 STORAGE	●	●	●	●

ADA COMPLIANT SIGNAGE:

- SIGN MOUNTING HEIGHT**
 - HEIGHT OF THE BASELINE OF THE LOWEST RAISED CHARACTERS AND BRAILLE SHALL BE MIN. 48" A.F.F. HEIGHT OF THE BASELINE OF THE HIGHEST RAISED CHARACTERS AND BRAILLE SHALL BE MAX. 60" A.F.F.
 - BOTTOM OF PROJECTING OVERHEAD SIGNS SHALL BE MOUNTED MIN. 6'-8" A.F.F.
- DOOR SIGN** TO BE MOUNTED ON THE WALL BESIDE THE LATCH SIDE OF THE DOOR.
 - ENSURE 18"x18" CLEAR FLOOR AREA CENTERED ON THE RAISED CHARACTERS AND BEYOND THE ARC OF THE DOOR SWING.
 - WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE OF THE DOOR, SIGNS SHALL BE MOUNTED ON THE NEAREST ADJACENT WALL.
- SIZING:**
 - CHARACTER SIZING, SPACING, LINES OF TEXT, AND MARGINS SHALL COMPLY WITH ICC A117.1-2009.
 - SIGN SIZE SHALL COMPLY WITH ICC A117.1-2009.
 - RAISED CHARACTERS, BRAILLE, AND PICTOGRAMS SHALL COMPLY WITH ICC ANSI 117.1-2009.
 - PICTOGRAMS MUST HAVE MIN. 6" OF FIELD HT. AND USE INTERNATIONAL SYMBOLS OF ACCESS WHENEVER POSSIBLE.
- FINISH AND CONTRAST** BETWEEN CHARACTERS, PICTOGRAMS AND THEIR BACKGROUNDS SHALL BE HIGH CONTRAST AND HAVE NON-GLARE FINISH.
 - OWNER TO SELECT SIGN COLORS AND LIGHT-ON-DARK OR DARK-ON-LIGHT SCHEME.

GENERAL DOOR NOTES:

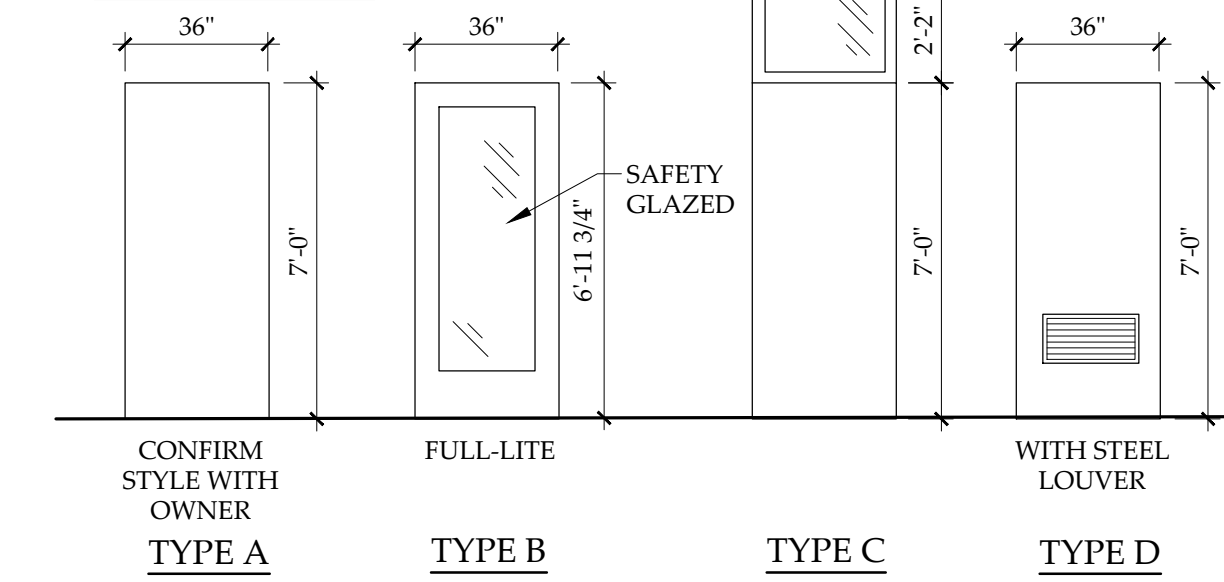
- ROUGH OPENINGS TO BE CONFIRMED WITH MANUFACTURER.
- MAXIMUM EFFORT REQUIRED TO OPERATE DOORS SHALL NOT EXCEED:
 - 8.5 L.B.F. FOR EXTERIOR DOORS.
 - 5.0 L.B.F. FOR INTERIOR DOORS.
- DOORS TO BE MIN. 3" (2 STUDS) FROM INTERSECTING WALLS UNLESS NOTED OTHERWISE.
- FINISHES TO BE SELECTED BY OWNER.



00 DOOR SCHEDULE:

DOOR TAG	DOOR SLAB SIZE (CONFIRM ROUGH OPENING SIZE WITH MANUFACTURER)	DOOR		FRAME		SIGNAGE TYPE	NOTES
		TYPE	DOOR SWING	COMP.	FINISH		
01	3'-0" x 7'-0"	C	RHR	●	●	●	1 U
02	3'-0" x 7'-0"	B	RH	●	●	●	2 X
03	3'-0" x 7'-0"	B	LH	●	●	●	2 X
04	3'-0" x 7'-0"	D	RH	●	●	●	3 W
05	3'-0" x 7'-0"	D	LH	●	●	●	5 Y
06	3'-0" x 7'-0"	D	LH	●	●	●	3 V
07	3'-0" x 7'-0"	B	RH	●	●	●	2 X
08	3'-0" x 7'-0"	B	LH	●	●	●	2 X
09	3'-0" x 7'-0"	C	LHR	●	●	●	1 U
10	14'-0" x 14'-0"	D	OVHD	●	●	●	1 U
11	14'-0" x 14'-0"	A	OVHD	●	●	●	1 U
12	3'-0" x 7'-0"	B	LH	●	●	●	2 X
13	3'-0" x 7'-0"	D	LH	●	●	●	4 W
14	3'-0" x 7'-0"	A	RH	●	●	●	5 Z

DOOR TYPES:



SIGNAGE:

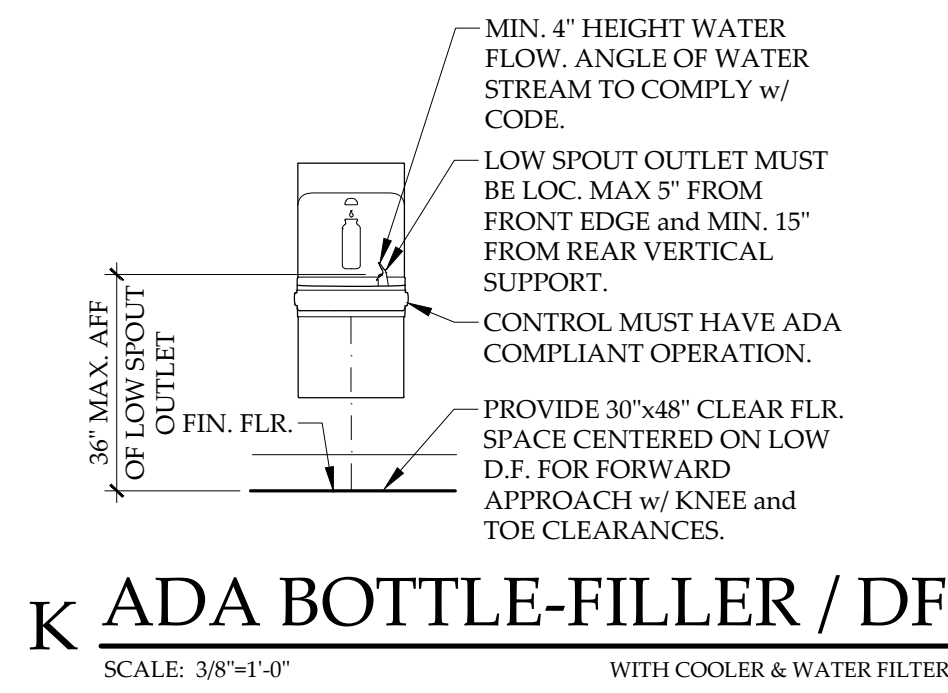


DOOR HARDWARE GENERAL NOTES:

- THIS HARDWARE SCHEDULE IS GENERIC. DETAILED INFORMATION AND SPECIFICATIONS SHALL BE PROVIDED BY CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING DOOR QUANTITIES, SWINGS, ETC. AND FOR PROVIDING A COMPLETE HARDWARE PACKAGE.
- BALANCE OF HARDWARE NOT LISTED HERE SHALL BE PROVIDED BY DOOR SUPPLIER.
- ALL HARDWARE SHALL BE ADA COMPLIANT.
- COORDINATE KEYING SYSTEMS WITH OWNER.
- OPTIONAL KEYCARD LOCK SYSTEM. COORDINATE WITH OWNER AND ELECTRIC PLANS.
- HARDWARE FINISH AND STYLE TO BE SELECTED BY OWNER.
- ADA COMPLIANT THRESHOLDS SHALL NOT EXCEED 1/2" HEIGHT. THRESHOLDS EXCEEDING 1/4" HEIGHT SHALL HAVE A MAX. 1:2 BEVEL.
- EXIT SIGNS SHALL BE LOCATED AT ALL EXITS AND EXIT ACCESS DOORS (REFER TO ELECTRIC PLANS):
 - SPACING = MAX. 100' BETWN. SIGNS.
 - INTERNALLY ILLUMINATED AT ALL TIMES.
 - BATTERY BACK-UP POWER FOR MIN. 90 MINUTES IN THE EVENT OF A POWER OUTAGE.

HARDWARE SETS:

- | | | | | |
|--|---|---|---|---|
| <p>1 EXIT DOORS</p> <ul style="list-style-type: none"> (1) PUSH BAR EXIT DEVICE w/ EXTERIOR KEYPED DEAD BOLT (3) BUTT HINGES (1) FLUSH CLOSER (1) OVERHEAD STOP (2) KICK PLATES (1) ADA COMPLIANT THRESHOLD (1) SWEEP (1) WEATHERSTRIPPING (1) TACTILE EXIT SIGN | <p>2 CLASSROOMS</p> <ul style="list-style-type: none"> (1) CLASSROOM LOCK (1) LEVER HANDLE SET (3) BUTT HINGES (1) FLUSH CLOSER (1) OVERHEAD STOP (1) TACTILE ROOM NAME SIGN | <p>3 PRIVATE RESTRMS.</p> <ul style="list-style-type: none"> (1) PRIVACY LOCK (1) LEVER HANDLE SET (3) BUTT HINGES (1) OVERHEAD STOP (1) TACTILE ROOM NAME SIGN | <p>4 RESTROOMS</p> <ul style="list-style-type: none"> (1) PASSAGE LATCH (1) LEVER HANDLE SET (3) BUTT HINGES (1) FLUSH CLOSER (1) OVERHEAD STOP (1) TACTILE ROOM NAME SIGN | <p>5 UTILITY, STORAGE</p> <ul style="list-style-type: none"> (1) STOREROOM LOCK (1) LEVER HANDLE SET (3) BUTT HINGES (1) OVERHEAD STOP (1) TACTILE ROOM NAME SIGN |
|--|---|---|---|---|



K ADA BOTTLE-FILLER / DF
SCALE: 3/8"=1'-0" WITH COOLER & WATER FILTER

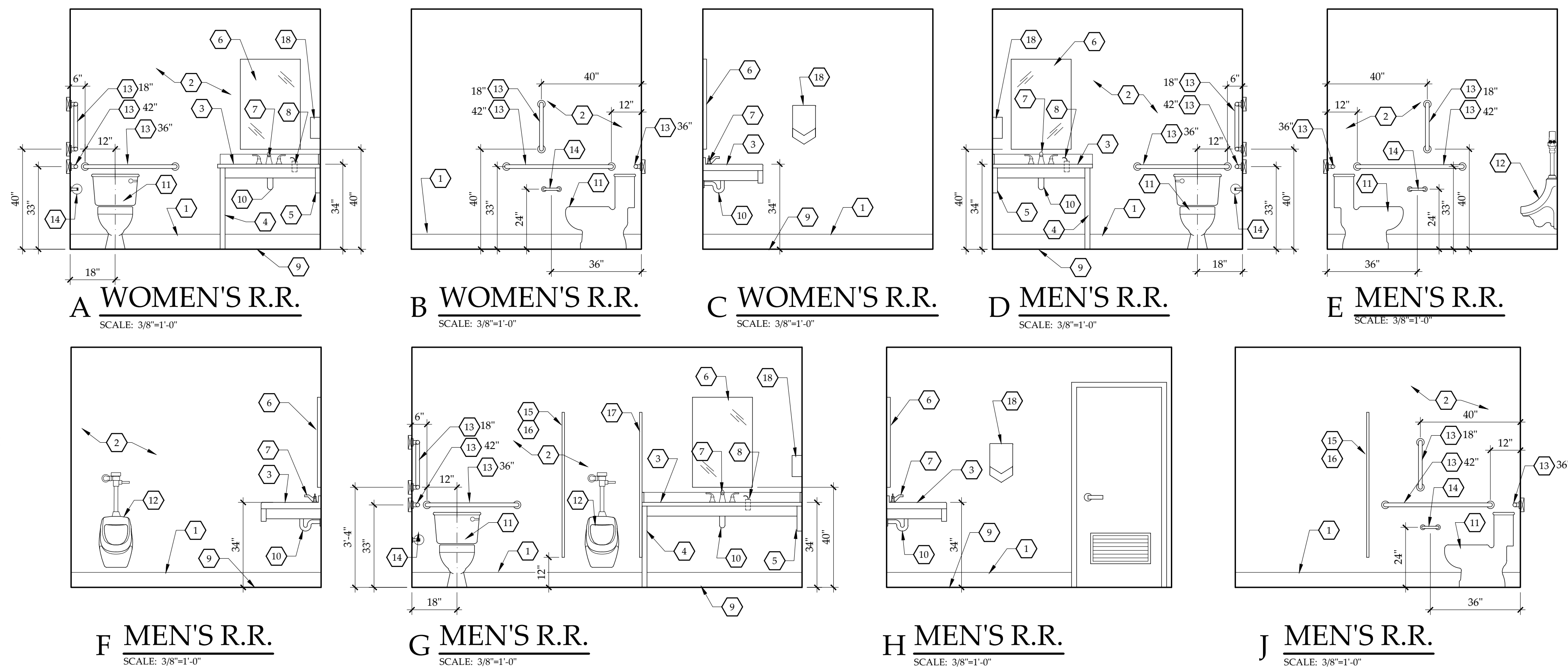
GENERAL INTERIOR ELEVATION NOTES

- OWNER TO SELECT STYLES AND COLORS OF ITEMS BELOW. SUBMIT CUT-SHEETS AND SAMPLES WHERE APPLICABLE.
- INSTALL 2x10 SOLID WOOD BLOCKING AT ALL RESTROOM ACCESSORIES AND ALL WALL-MOUNTED ITEMS.

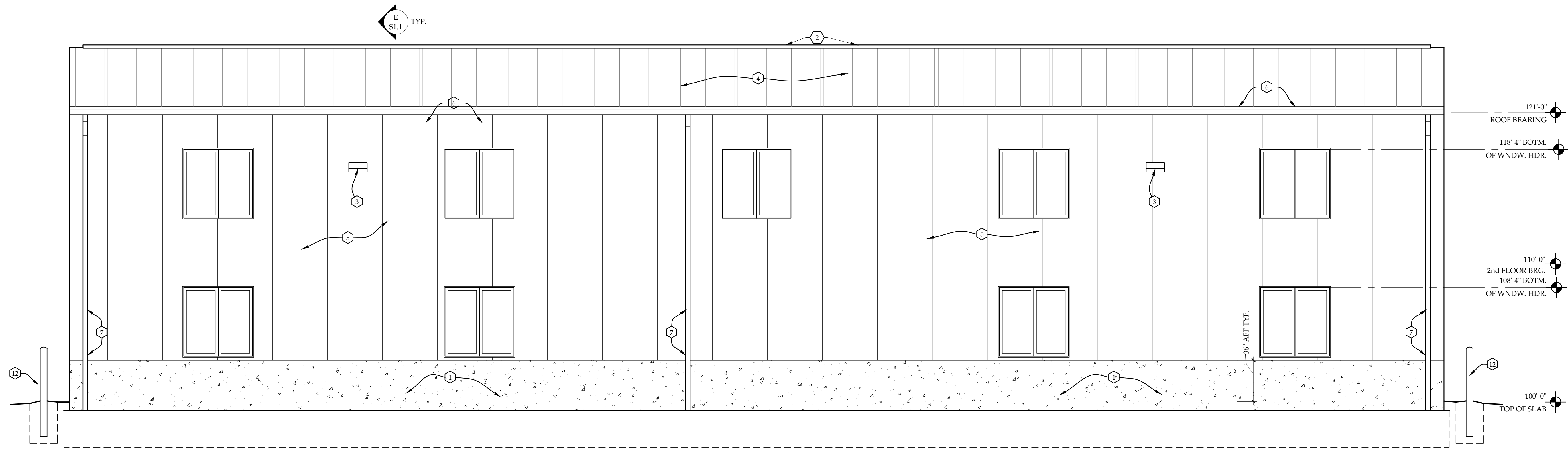
00 RESTROOM CODED NOTES

- COVERED BASE MIN. 6".
- NONABSORBENT SURFACE SHALL BE LOCATED TO MIN. 4" HEIGHT ON WALLS AND PARTITIONS WHICH FALL WITHIN 2' OF THE WATER CLOSET.
- COUNTER TO BE ONE PIECE, 1"-10"D., SOLID SURFACE WITH UNDER-MOUNT LAV AND MIN. 4"H. SIDE AND BACK SPLASHES. 4" H FRONT APRON.
- S.S. POST COUNTERTOP SUPPORT, 2" SQUARE.
- WALL BRACE COUNTER TOP SUPPORT TO BE LAMINATED OR SOLID SURFACE.
- MIRROR. 24"W x 36"H FRAMELESS PLATE GLASS MIRROR. SIZE AS NOTED.
- FAUCET MUST BE AUTOMATIC OR HAVE ADA COMPLIANT LEVER HANDLE(S).
- SOAP DISPENSER. LAV-MOUNTED. MUST HAVE AUTOMATIC OR ADA COMPLIANT OPERATION.
- CLEAR FLOOR SPACE. PROVIDE 30"x48" CLEAR FLOOR SPACE CENTERED ON LAV. FOR FORWARD APPROACH w/ KNEE and TOE CLEARANCE.
- INSULATE EXPOSED SUPPLY and DRAIN PIPES. NO SHARP OR ABRASIVE SURFACES UNDER LAVATORY.
- WATER CLOSET. FLOOR-MOUNTED, TANK-STYLE VITREOUS CHINA TOILET. FLUSH CONTROL. MUST HAVE AUTOMATIC OR ADA COMPLIANT OPERATION. HAND-OPERATED CONTROL. MUST BE LOCATED ON THE OPEN SIDE OF TOILET. SEAT TO BE OPEN-FRONT, TOP AT 18" AFF. MIN. 60"x60" FLOOR SPACE.
- URINAL. VITREOUS CHINA. ELONGATED. PROVIDE 30"W x 48"D CLEAR FLOOR SPACE CENTERED ON URINAL FOR FORWARD APPROACH. FLUSH CONTROL MUST HAVE AUTOMATIC OR ADA COMPLIANT OPERATION AT MAX. 44" AFF. FRONT RIM AT MAX. 17" AFF.

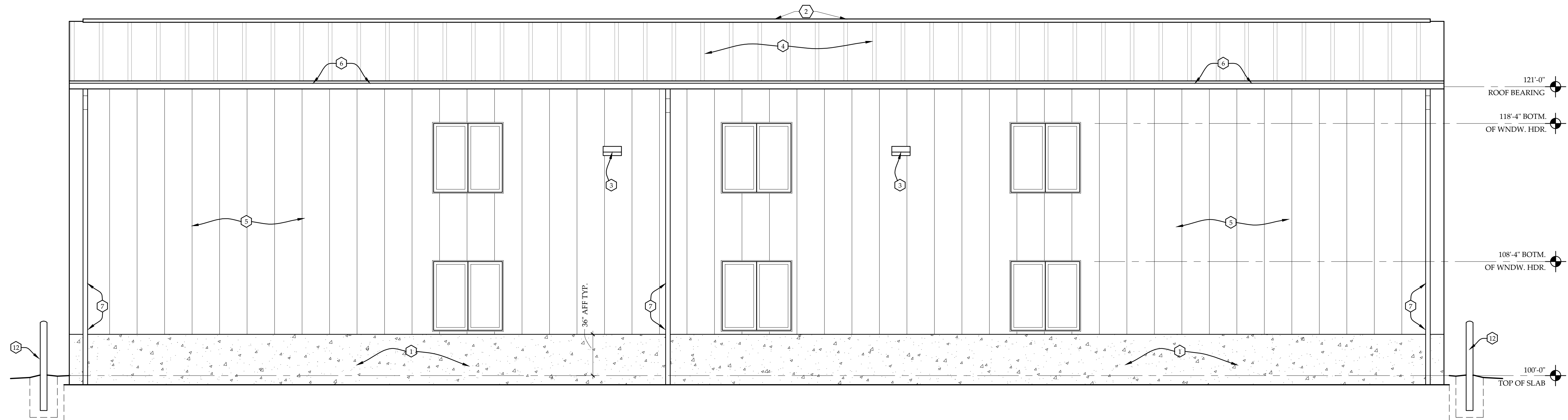
- GRAB BARS (SIZE AS NOTED) MUST BE 1 1/4"-2" DIAM. SHAPE, STAINLESS STEEL, HAVE TEXTURED GRIPPING SURFACE, STRUCTURAL STRENGTH, FITTINGS, AND ADA COMPLIANT INSTALLATION. PROVIDE BLOCKING IN WALLS AS REQUIRED. MIN. 1 1/2" CLEARANCE BETWEEN FIN. WALL OR PARTITION AND ALL GRAB BARS TYP.
- TOILET PAPER DISPENSER MUST HAVE ADA COMPLIANT OPERATION AND CONTINUOUS PAPER FLOW.
- TOILET COMPARTMENT PARTITION. 58" FLOOR-ANCHORED 12" AFF. SOLID SURFACE. COLOR SELECTED BY OWNER. STANDARD FLOOR-ANCHORED STYLE w/ LEVELING DEVICE. FULL-HEIGHT SATIN S.S., SELF-CLOSING HINGE. THRU-BOLTED PANEL-TO-STILE BRACKETS.
- TOILET COMPARTMENT DOOR. CLEAR DOOR OPENING TO BE MIN. 52". OUT-SWINGING, SELF-CLOSING DOOR. REINFORCED LATCH WITH ADA COMPLIANT OPERATION and THRU-BOLTED KEEPER MOUNTED AT 34"-48" AFF. DOOR PULL ON BOTH SIDES OF DOOR LOCATED NEAR LATCH and MOUNTED 34"-48" AFF. PROVIDE DOOR STOP and THRU-BOLTED CLOTHES HOOK MOUNTED AT MAX. 48" AFF. MAX. 4" CLEAR TO THE COMPARTMENT DOOR OPENING FROM SIDE WALL OR FROM THE PARTITION FARTHEST FROM WC.
- WALL-HUNG URINAL SCREEN. SOLID-SURFACE. 30"W x 58"H. WALL-MOUNTED 12" AFF.
- AIR HAND DRYER TO BE AUTOMATIC OR HAVE ADA COMPLIANT OPERABLE PARTS AT 42" AFF. MAX. 4" PROTRUSION FROM WALL.



- PRELIMINARY 04-21-2022
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- REVISIONS:



A NORTH ELEVATION
SCALE: 1/4" = 1'-0"



B SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

COLOR SCHEDULE:

EXTERIOR FINISHES	
- METAL WALL COLOR	= COOL GRANITE GRAY
- METAL ROOF COLOR	= COOL GRANITE GRAY
- TRIM COLOR	= COOL GRANITE GRAY
- OVERHEAD / MAN DOORS	= COOL DARK BRONZE
- WINDOW & DOOR FRAMES	= COOL DARK BRONZE

WINDOW GENERAL NOTES:

1. PROVIDE & INSTALL PAIR (2) 2'-6" W x 5'-0" H, THERMALLY-BROKEN, FIXED METAL WINDOW AS SHOWN.
2. GLAZING TO BE INSULATED, LOW-E, and HAVE A MAXIMUM U-FACTOR OF 0.35. GLAZING MUST RESIST WIND, SNOW, SEISMIC, AND DEAD LOADS AS REQ'D. BY CODE. COLOR SELECTED BY OWNER.
3. CONFIRM ROUGH OPENING SIZES w/ WINDOW MANUFACTURER.
4. INSTALLATION SHALL BE PER MANUFACTURER'S INSTRUCTIONS and INCLUDE SELF-ADHERED FLASHING AND SEALANT AT ALL WINDOWS.

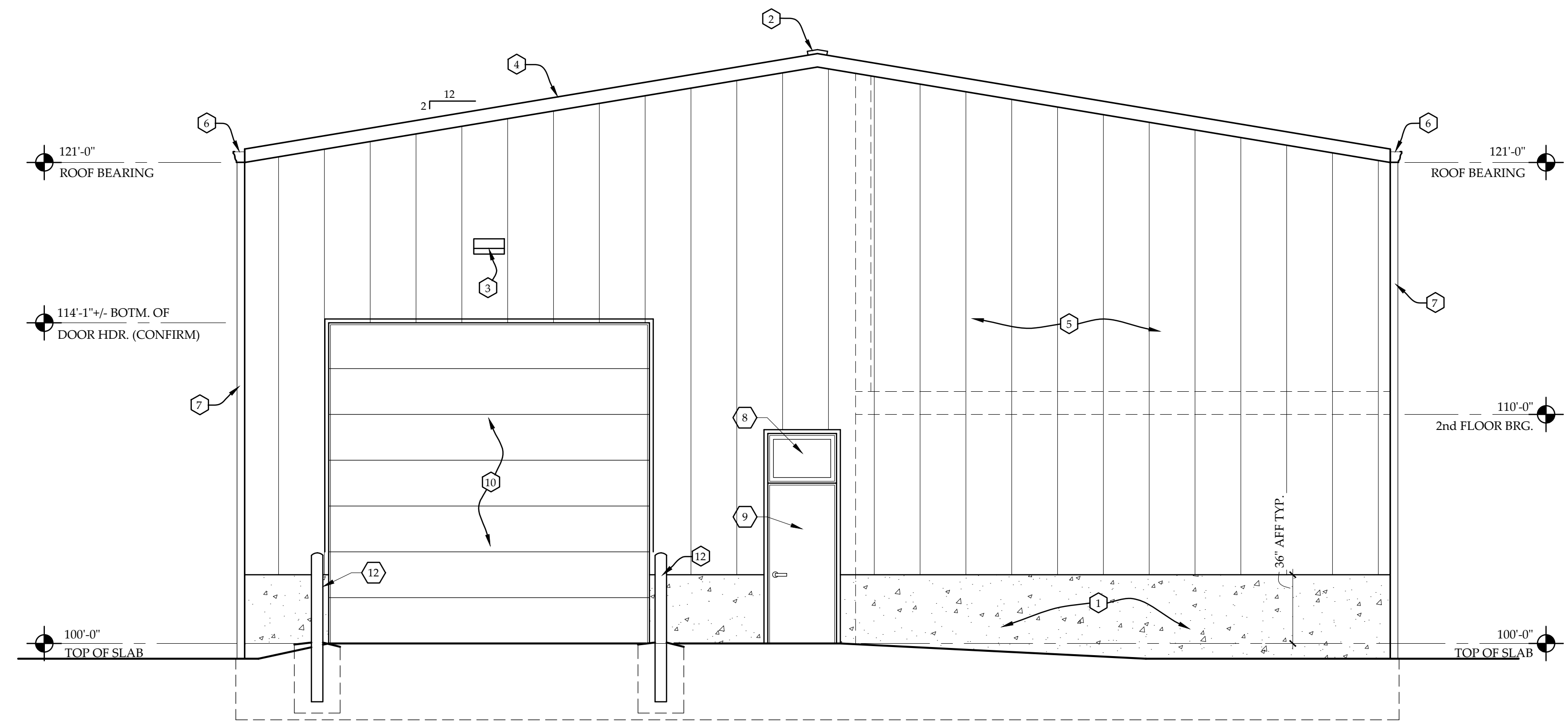
EXTERIOR ELEVATION NOTES:

GENERAL NOTES

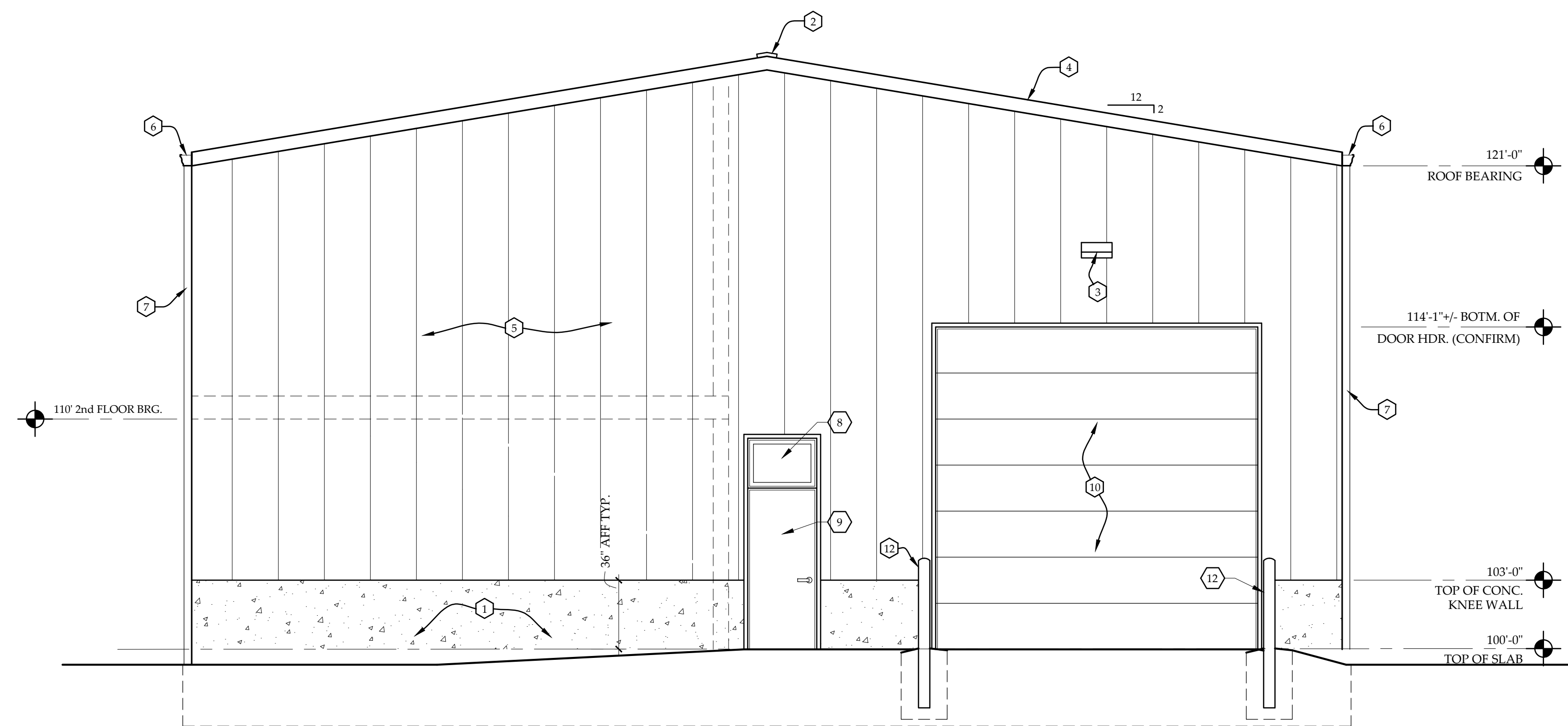
- A. VERIFY COLORS, STYLES, & MATERIALS w/ OWNER.

CODED NOTES

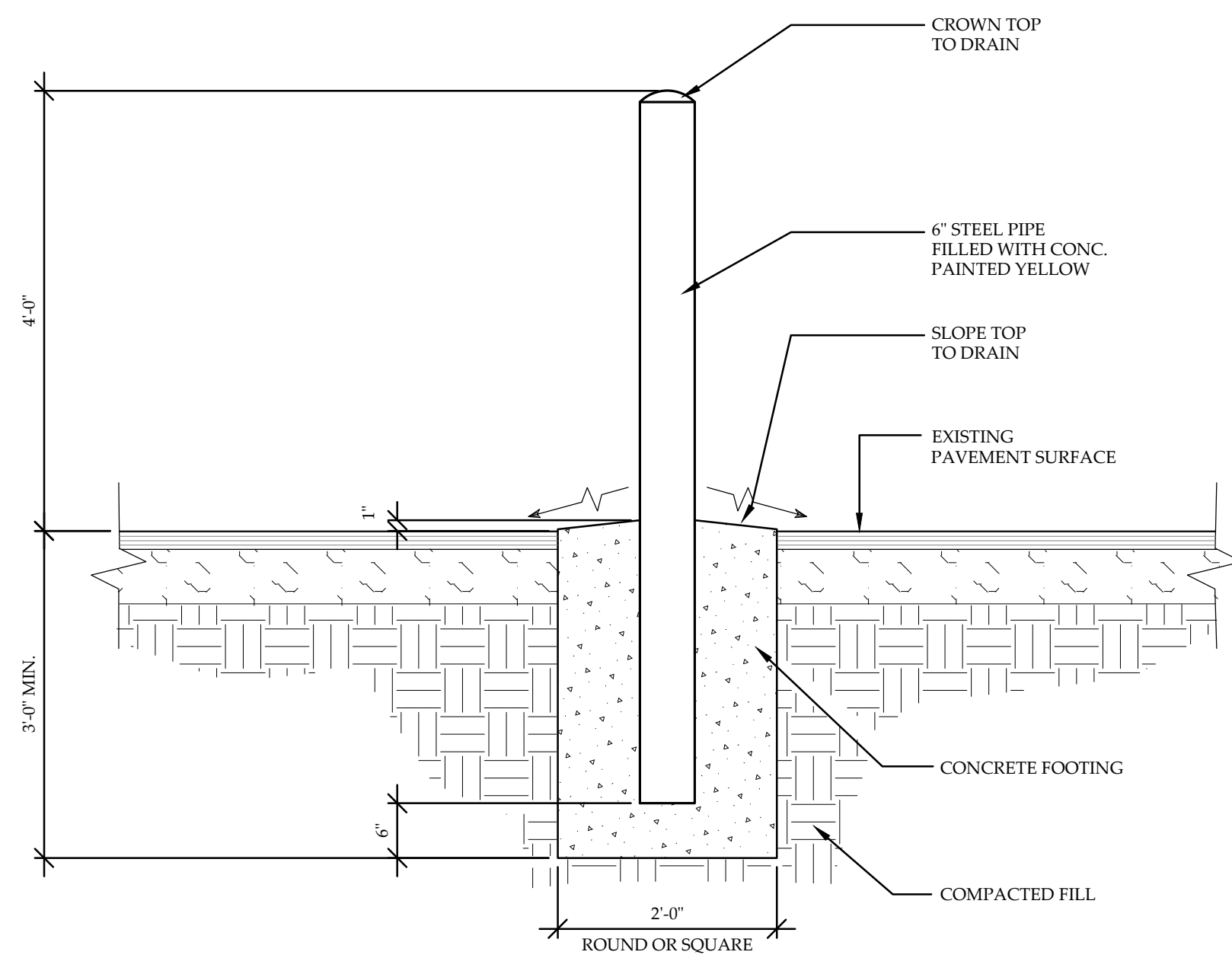
1. EXPOSED POURED CONCRETE FOUNDATION WALL SEALED.
2. PROVIDE & INSTALL CONTINUOUS METAL RIDGE VENT.
3. PROVIDE & INSTALL LED WALL PACK.
4. PROVIDE & INSTALL STANDING SEAM METAL ROOF.
5. PROVIDE & INSTALL RIBBED METAL SIDING.
6. PROVIDE & INSTALL NEW 6" METAL GUTTER (TO MATCH ROOF COLOR) BRACKETED TO FASCIA @ 18" O.C.
7. PROVIDE & INSTALL NEW 3"x4" METAL DOWNSPOUT BRACKETED TO WALL @ 6'-0" O.C. DRAIN TO SPLASH BLOCK.
8. PROVIDE & INSTALL FIXED TRANSOM ABOVE DOOR. 26"H x DOOR WIDTH.
9. PROVIDE & INSTALL 3'-0"x7'-0" INSULATED METAL DOOR IN METAL FRAME.
10. PROVIDE & INSTALL 14'-0"x14'-0" INSULATED METAL OVERHEAD DOOR.
11. (OMITTED)
12. PROVIDE & INSTALL METAL CONCRETE FILLED BOLLARD. PAINT. SEE DETAIL C/A3.2



A EAST ELEVATION
SCALE: 1/4" = 1'-0"



B WEST ELEVATION
SCALE: 1/4" = 1'-0"



C BOLLARD DETAIL
SCALE: 3/4" = 1'-0"

EXTERIOR ELEVATION NOTES:

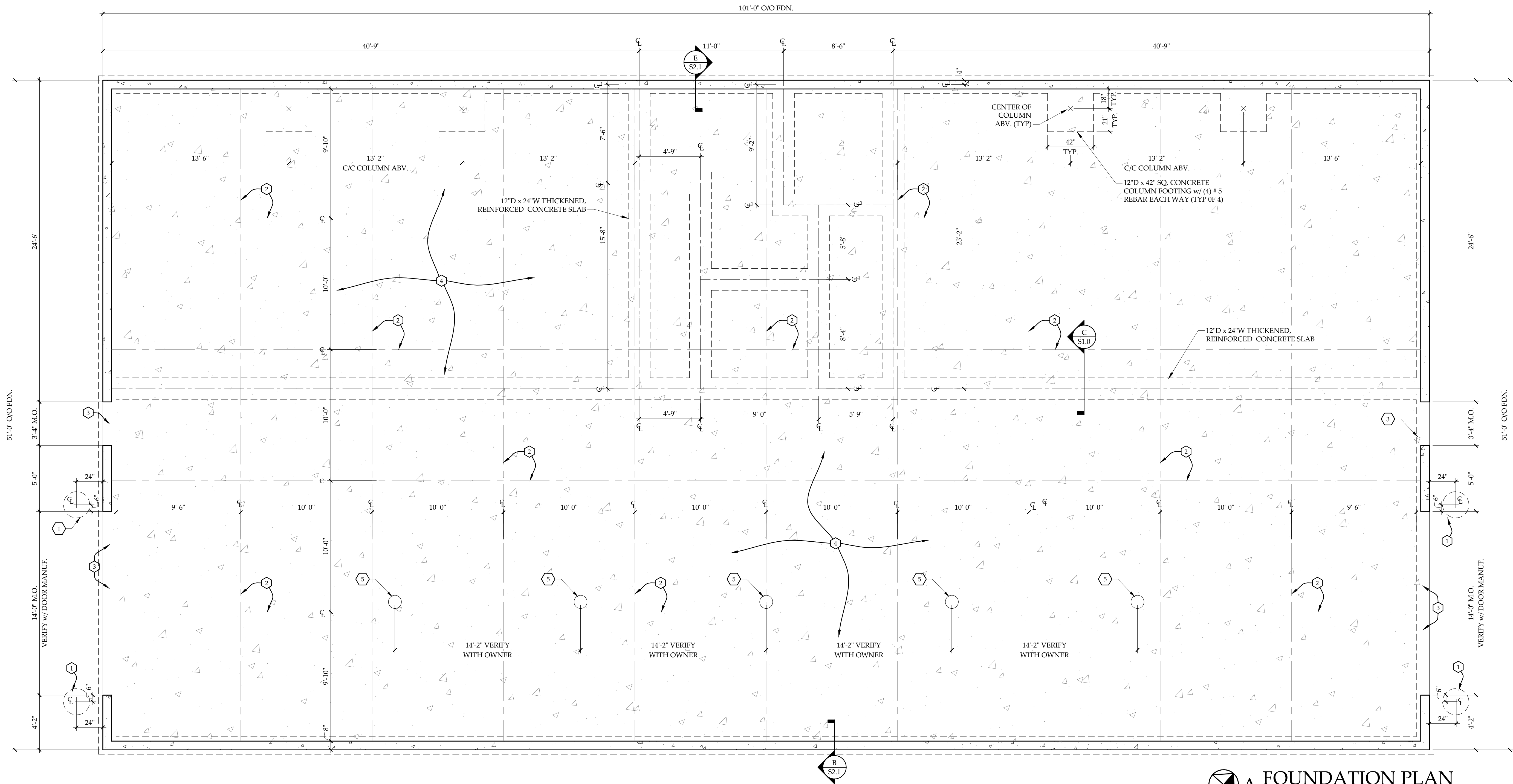
GENERAL

A. VERIFY COLORS, STYLES, & MATERIALS w/ OWNER.

SPECIFIC

1. EXPOSED POURED CONCRETE FOUNDATION WALL. SEALED.
2. PROVIDE & INSTALL CONTINUOUS METAL RIDGE VENT.
3. PROVIDE & INSTALL LED WALL PACK.
4. PROVIDE & INSTALL STANDING SEAM METAL ROOF.
5. PROVIDE & INSTALL RIBBED METAL SIDING.
6. PROVIDE & INSTALL NEW 6" METAL GUTTER (TO MATCH ROOF COLOR) BRACKETED TO FASCIA @ 18" O.C.
7. PROVIDE & INSTALL NEW 3"x4" METAL DOWNSPOUT BRACKETED TO WALL @ 6'-0" O.C. DRAIN TO SPLASH BLOCK.
8. PROVIDE & INSTALL FIXED TRANSOM ABOVE DOOR. 26"H x DOOR WIDTH.
9. PROVIDE & INSTALL 3'-0"x7'-0" INSULATED METAL DOOR IN METAL FRAME.
10. PROVIDE & INSTALL 14'-0"x14'-0" INSULATED METAL OVERHEAD DOOR.
11. (OMITTED)
12. PROVIDE & INSTALL METAL CONCRETE FILLED BOLLARD. PAINT. SEE DETAIL C/A3.2

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<input checked="" type="checkbox"/>	BID SET	03-06-2024
<input type="checkbox"/>	PERMIT SET	
<input type="checkbox"/>	REVISIONS:	



A FOUNDATION PLAN
SCALE: 1/4"=1'-0"

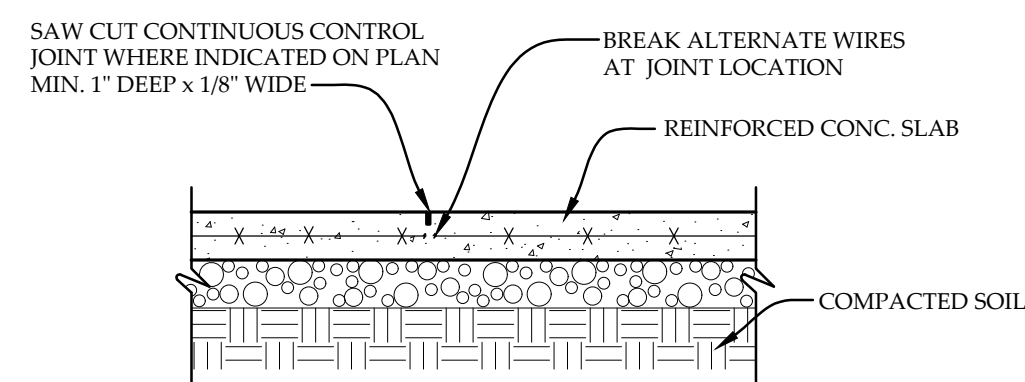
FOUNDATION PLAN NOTES:

GENERAL NOTES

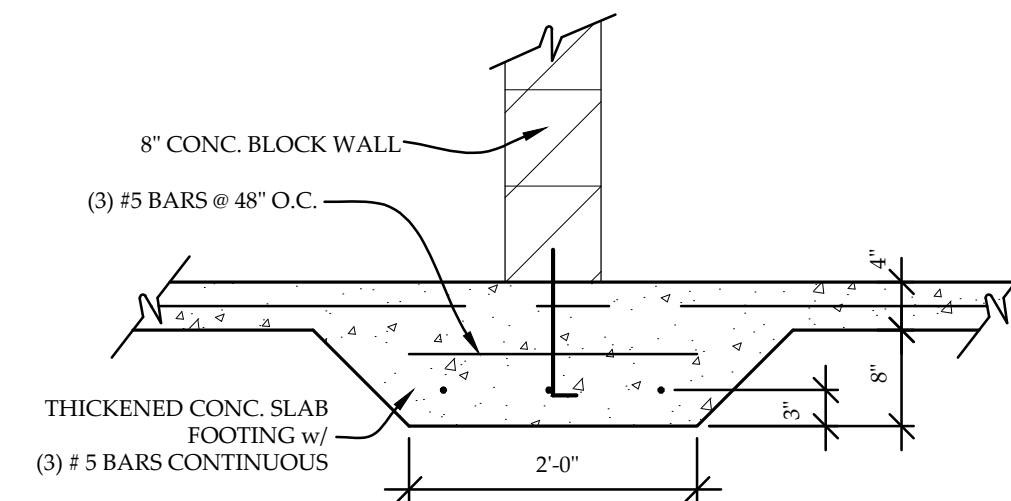
A. ALL WOOD IN CONTACT w/ CONCRETE/MASONRY IS TO BE PRESSURE TREATED.

CODED NOTES

1. PROVIDE & INSTALL 24" ROUND (OR SQUARE) CONCRETE FOOTING FOR BOLLARD. SEE DETAIL C/A/3.2
2. PROVIDE & INSTALL CONTROL JOINT w/ POLY URETHANE SEALANT (SELF LEVELLING). SEE DETAIL B/S1.0
3. HOLD DOWN FOUNDATION FOR DOOR OPENING & POUR CONCRETE SLAB THROUGH.
4. PROVIDE & INSTALL 4" CONCRETE SLAB w/ 666 W1.4xW1.4 W.W.F. ON 6 MIL VAPOR BARRIER OVER 4" (MIN.) COMPACTED GRAVEL.
5. PROVIDE & INSTALL IN-GROUND SLEEVE w/ CLAMPS TO TEMPORARILY MOUNT AND SECURE RIGGING POLES.
 - PROVIDE SLEEVE DEPTH AND REINFORCEMENT AS REQ'D BY MANUF. TO ENSURE STABILITY AND PREVENT OVER-TURNING OF THE POLE WITH THE ADDED LOAD OF MOUNTED UTILITY WORKERS.
 - PROVIDE SLEEVE WITH LOW PROFILE HEIGHT ABOVE SLAB SO THAT VEHICLES CAN DRIVE OVER IT WHEN POLE IS NOT IN PLACE.
 - COORDINATE QUANTITY, LOCATIONS, AND MANUF. SPECIFICATIONS WITH OWNER.



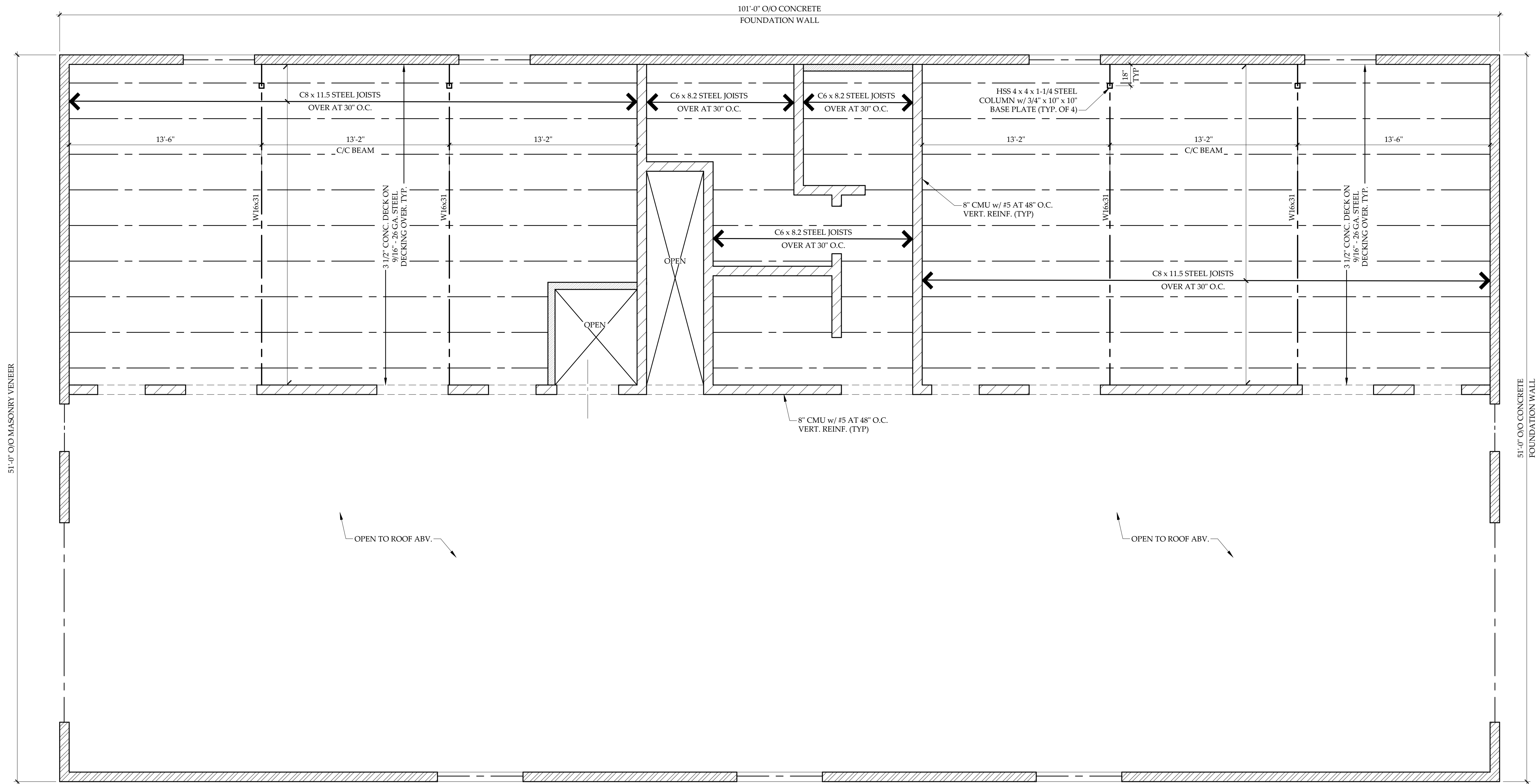
B CONTROL JOINT
SCALE: 3/4"=1'-0"



C THICKENED SLAB DETAIL
SCALE: 3/4"=1'-0"

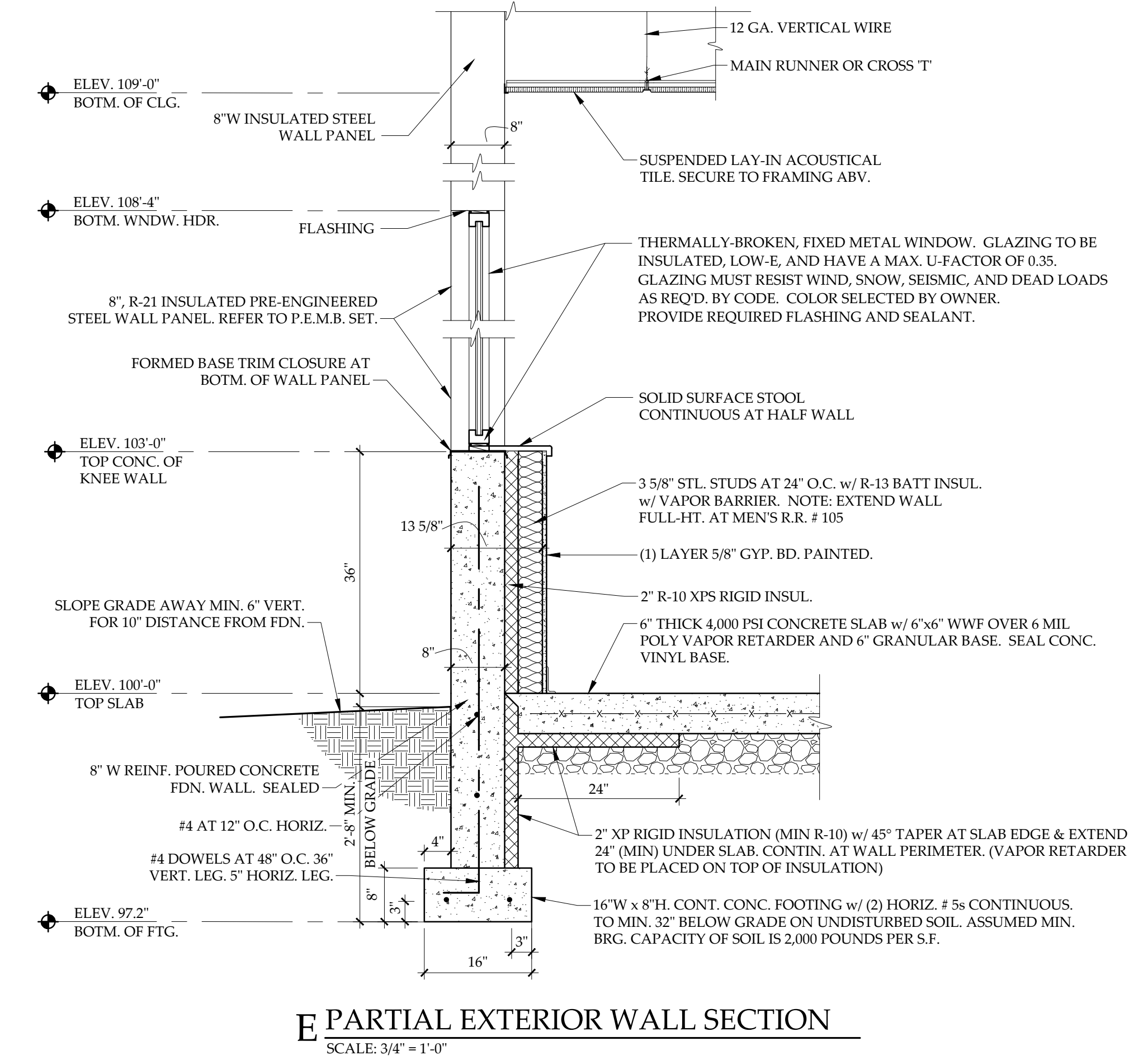
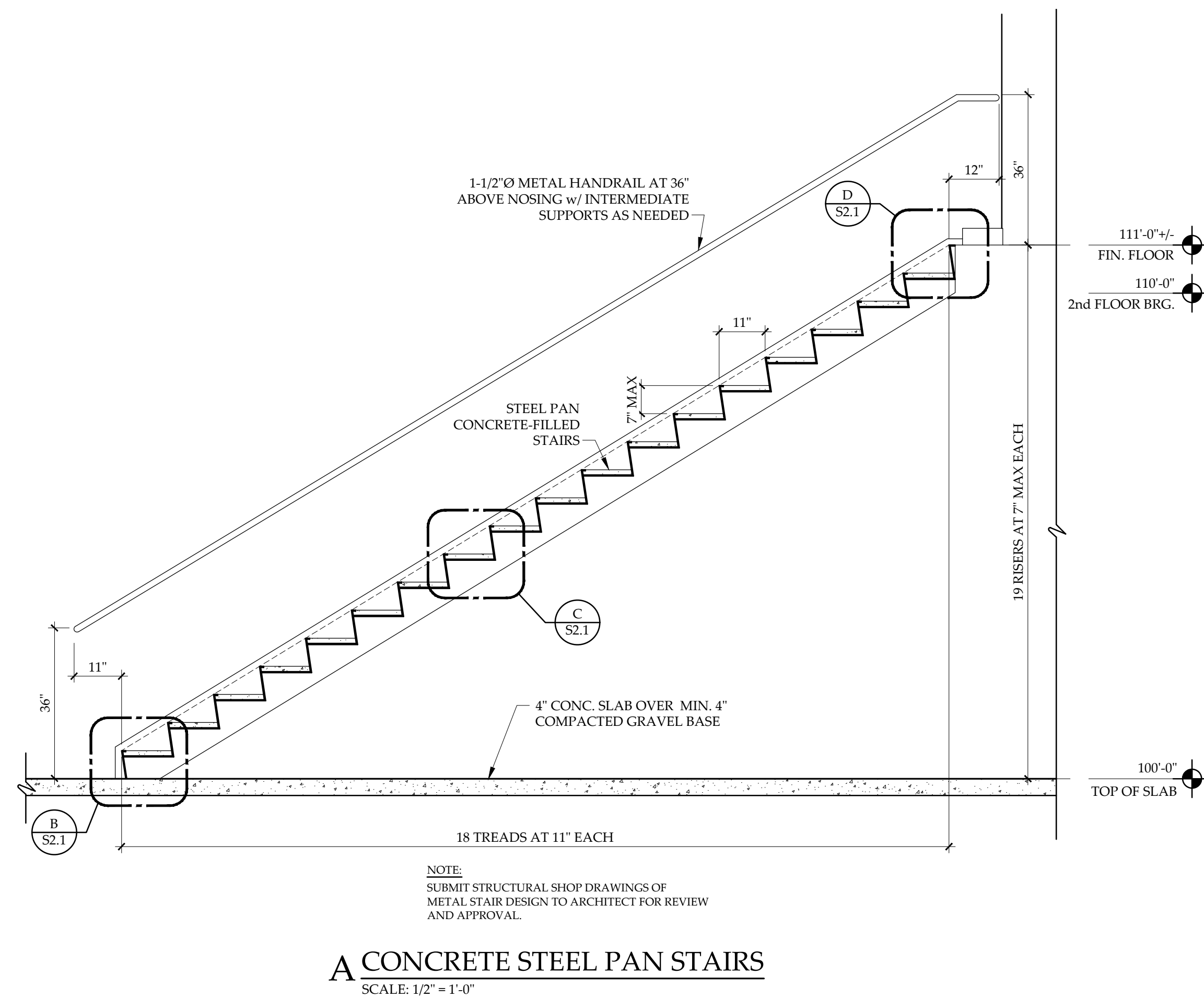
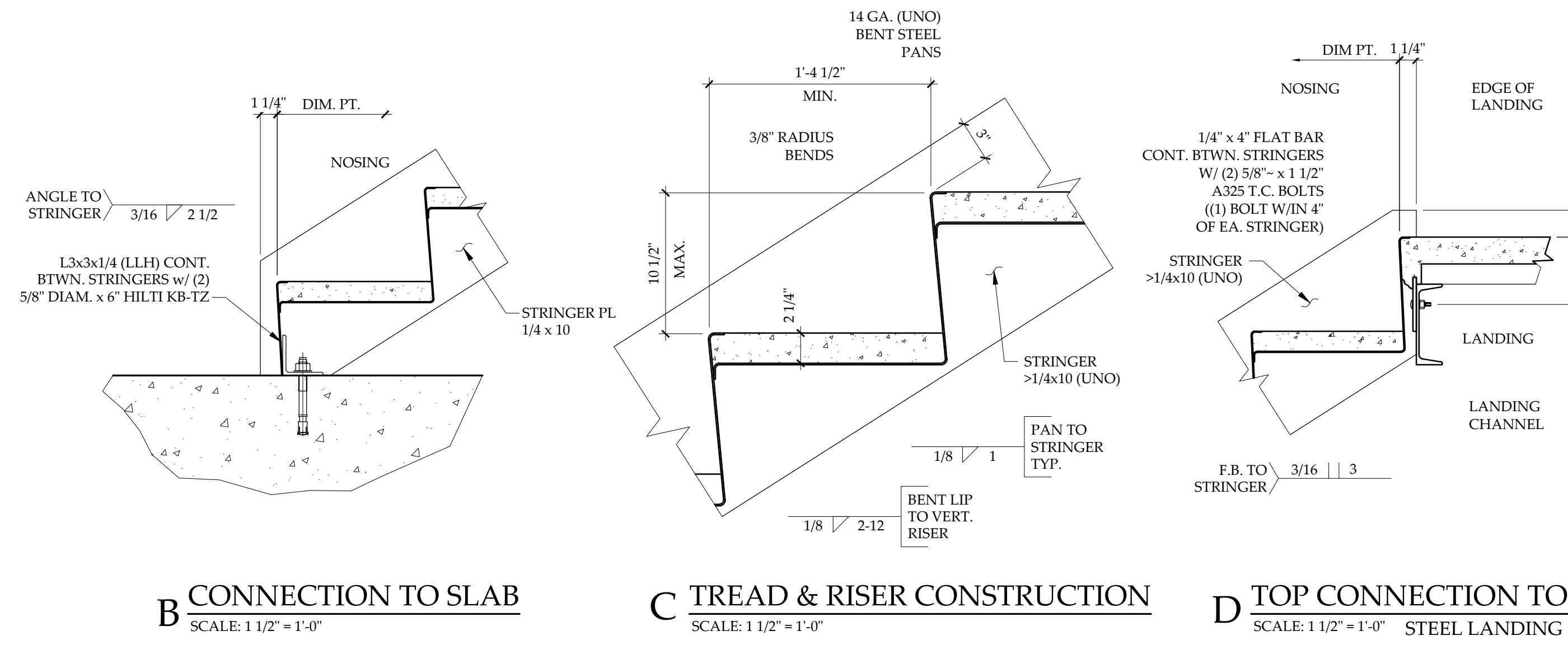
FOUNDATION WALL SCHEDULE:

	8' W POURED, REINF. CONCRETE FOUNDATION WALL ON 16" W x 8" H CONT. CONC. FOOTING w/ (2) HORIZ. #5 CONTIN. REBARS. EXTEND FTG. TO MIN. 32" BELOW GRADE ON UNDISTURBED SOIL.
--	--



A 2nd FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"

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<input checked="" type="checkbox"/>	BID SET	03-06-2024
<input type="checkbox"/>	PERMIT SET	
<input type="checkbox"/>	REVISIONS:	



SECTIONS

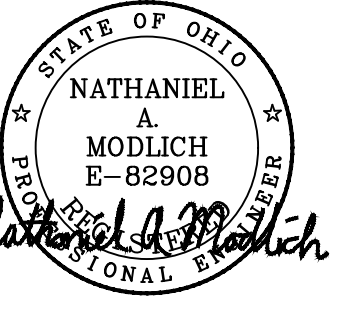
BUCKEYE HILLS CAREER CENTER

NEW TRADES BUILDING

351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674



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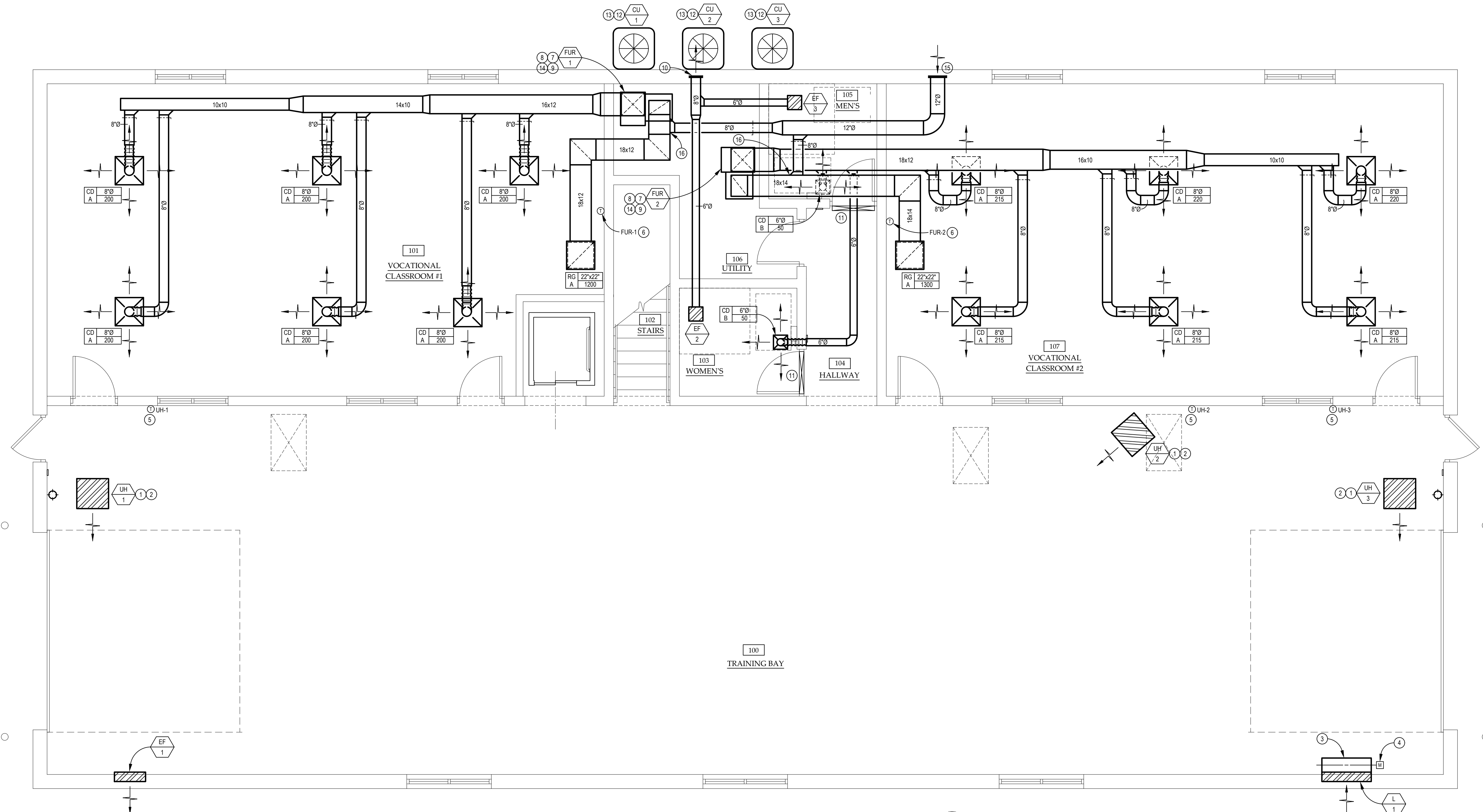


FIRST FLOOR MECHANICAL PLAN

BUCKEYE HILLS CAREER CENTER

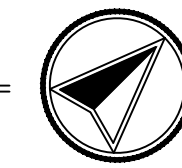
NEW TRADES BUILDING

351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674



FIRST FLOOR MECHANICAL PLAN

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



MECHANICAL CODED NOTES

- 1 NEW GAS FIRED UNIT HEATER TO BE SUSPENDED WITH ALL THREADED RODS AND NEOPRENE VIBRATION ISOLATORS FROM STRUCTURE FRAMING AS HIGH AS POSSIBLE. COORDINATE EXACT HEIGHT IN FIELD.
- 2 MECHANICAL CONTRACTOR SHALL EXTEND VERTICAL INTAKE AND EXHAUST PIPING THROUGH ROOF COMPLETE WITH CONCENTRIC TERMINATION KIT. INSTALL COMBUSTION AND VENT PIPING PER MANUFACTURER'S INSTALLATION REQUIREMENTS AND PIPE SIZES. SEAL ROOF PENETRATION WEATHERTIGHT.
- 3 INSTALL 12" PLENUM BEHIND LOUVER TO PLACE MOTORIZED DAMPER. COVER OPENING WITH 1"x1" WIRE MESH SCREEN.
- 4 INSTALL 120V MOTORIZED DAMPER IN LOUVER PLENUM BOX THAT WILL BE INTERLOCKED WITH EF-1.
- 5 THERMOSTAT FOR NEW UNIT HEATER TO BE MOUNTED AT 48" A.F.F.
- 6 MC TO PROVIDE AND INSTALL THERMOSTAT. MOUNT THERMOSTAT AT 48" ABOVE FINISHED FLOOR. PROVIDE LOW VOLTAGE CONTROL WIRING AND MAKE SYSTEM FULLY FUNCTIONAL.
- 7 MC TO ROUTE REFRIGERANT LIQUID & SUCTION LINES FROM FURNACE (FUR). ROUTE PIPING TO EXTERIOR CONDENSING UNIT (CU) ON GROUND. MAKE FINAL CONNECTION AND TEST SYSTEM FOR REFRIGERANT FLOW. SEAL WALL PENETRATION WEATHER TIGHT. INSULATE PIPING WITH 1" BLACK ARMAFLEX INSULATION (TYPICAL).
- 8 3/4" PVC CONDENSATE DRAIN FROM DX COIL AND DRAIN PAN TO BE ROUTED TO FLOOR DRAIN IN MECHANICAL ROOM AND TERMINATED WITH 2" AIR GAP.
- 9 FULL SIZE RETURN AIR DUCT CONNECTION AT FUR COMPLETE WITH FILTER RACK.
- 10 WALL EXHAUST CAP. COORDINATE EXACT LOCATION WITH ARCHITECTURAL ELEVATIONS. ENSURE A MINIMUM 10'-0" CLEARANCE FROM ALL FRESH AIR INTAKES. COORDINATE WITH GC FOR SEALING WALL PENETRATION WEATHERTIGHT.
- 11 DOOR TO BE UNDER CUT 1". COORDINATE WITH GC.
- 12 MECHANICAL CONTRACTOR SHALL EXTEND REFRIGERANT PIPING THRU WALL, SEAL WALL PENETRATION WEATHER TIGHT, FROM CU AND CONNECT TO DX COOLING COIL ON FURNACE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND INSULATE SUCTION PIPING WITH 1" ARMAFLEX.
- 13 4" HIGH CONCRETE HOUSEKEEPING PAD BY MECHANICAL CONTRACTOR. MOUNT LEVEL IN ALL DIRECTIONS. NOTE: HOUSE KEEPING PAD TO BE A MINIMUM OF 6" LARGER THAN CU/MAU IN ALL DIRECTIONS. VERIFY EXACT MOUNTING LOCATION IN FIELD.
- 14 EXTEND COMBUSTION AIR AND VENT FROM FURNACE AND EXTEND THRU WALL COMPLETE WITH CONCENTRIC TERMINATION KIT. INSTALL COMBUSTION AND VENT PIPING PER MANUFACTURER'S INSTALLATION REQUIREMENTS AND PIPE SIZES. SEAL WALL PENETRATION WEATHERTIGHT.
- 15 12"Ø OUTSIDE AIR DUCT THROUGH WALL WITH WALL CAP. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. ENSURE A MINIMUM 10'-0" CLEARANCE FROM EXHAUST AIR.
- 16 8"Ø OUTSIDE AIR CONNECTION TO MAIN RETURN OF FURNACE WITH MANUAL VOLUME DAMPER.

NATURAL VENTILATION FRESH AIR CALCULATIONS	
OVERHEAD DOOR	193 SQ.FT. OPENING
TRAINING BAY - 2586 SQ.FT.	
2586 SQ.FT. x 4% = 103 SQ.FT. OPENING REQ'D	(2) DOORS = 386 SQ.FT OPENING

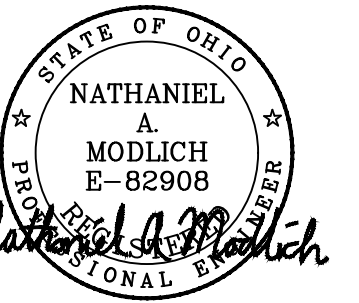
- PRELIMINARY 04-21-2022
- BID SET 12-08-2023
- PERMIT SET
- REVISIONS:

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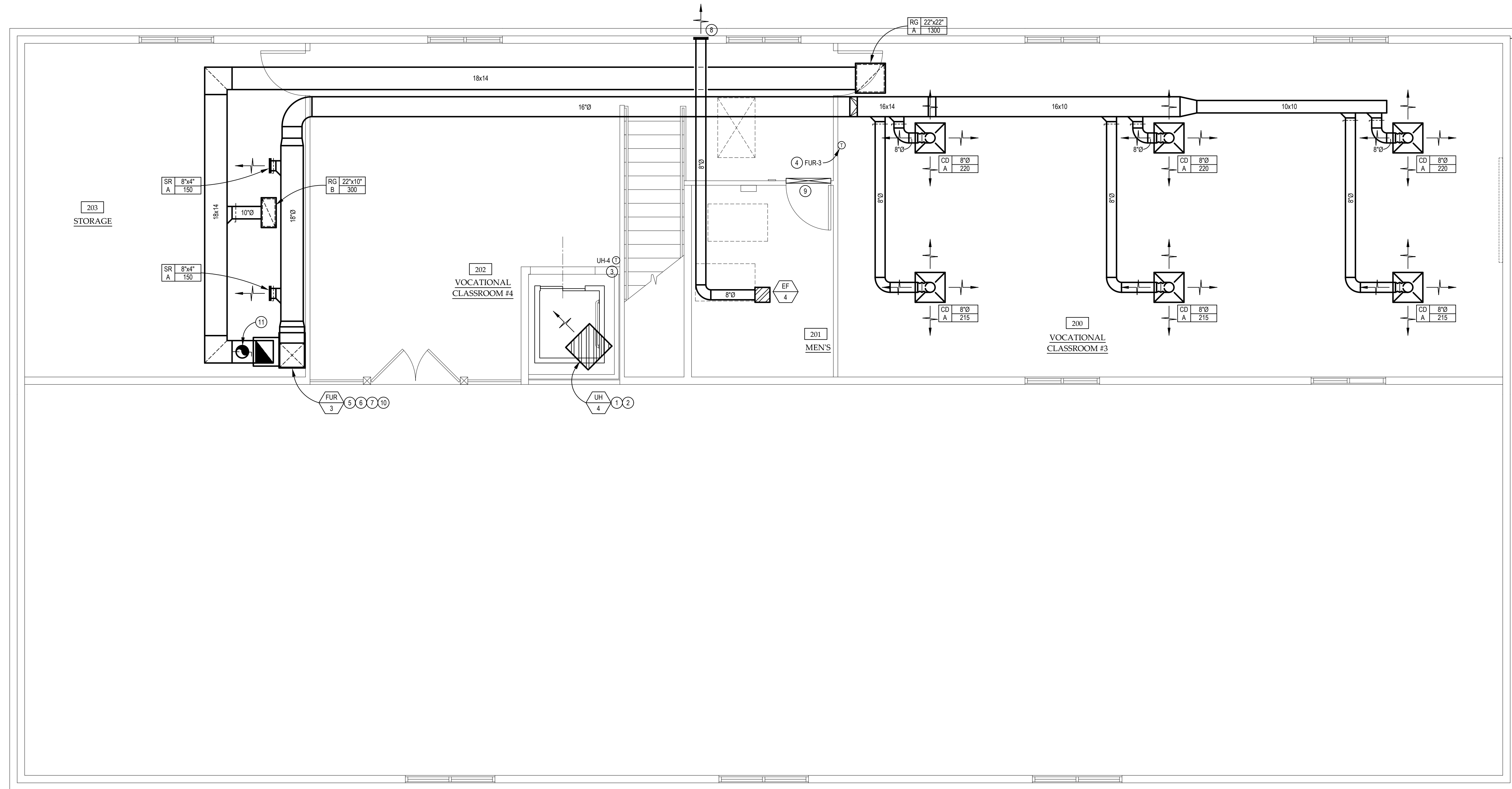


SECOND FLOOR MECHANICAL PLAN

BUCKEYE HILLS CAREER CENTER

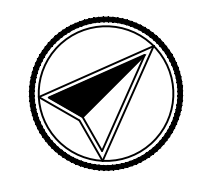
NEW TRADES BUILDING

351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674



SECOND FLOOR MECHANICAL PLAN

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



MECHANICAL CODED NOTES

- 1 NEW GAS FIRED UNIT HEATER TO BE SUSPENDED WITH ALL THREADED RODS AND NEOPRENE VIBRATION ISOLATORS FROM STRUCTURE FRAMING AS HIGH AS POSSIBLE. COORDINATE EXACT HEIGHT IN FIELD.
- 2 MECHANICAL CONTRACTOR SHALL EXTEND VERTICAL INTAKE AND EXHAUST PIPING THROUGH ROOF COMPLETE WITH CONCENTRIC TERMINATION KIT. INSTALL COMBUSTION AND VENT PIPING PER MANUFACTURER'S INSTALLATION REQUIREMENTS AND PIPE SIZES. SEAL ROOF PENETRATION WEATHERTIGHT.
- 3 THERMOSTAT FOR NEW UNIT HEATER TO BE MOUNTED AT 48" A.F.F.
- 4 MC TO PROVIDE AND INSTALL THERMOSTAT. MOUNT THERMOSTAT AT 48" ABOVE FINISHED FLOOR. PROVIDE LOW VOLTAGE CONTROL WIRING AND MAKE SYSTEM FULLY FUNCTIONAL.
- 5 MC TO ROUTE REFRIGERANT LIQUID & SUCTION LINES FROM FURNACE (FUR). ROUTE PIPING TO EXTERIOR CONDENSING UNIT (CU) ON GROUND. MAKE FINAL CONNECTION AND TEST SYSTEM FOR REFRIGERANT FLOW. SEAL WALL PENETRATION WEATHER TIGHT. INSULATE PIPING WITH 1" BLACK ARMAFLEX INSULATION (TYPICAL).
- 6 3/4" PVC CONDENSATE DRAIN FROM DX COIL AND DRAIN PAN TO BE ROUTED TO FLOOR DRAIN IN MECHANICAL ROOM AND TERMINATED WITH 2" AIR GAP.
- 7 FULL SIZE RETURN AIR DUCT CONNECTION AT FUR COMPLETE WITH FILTER RACK.
- 8 WALL EXHAUST CAP. COORDINATE EXACT LOCATION WITH ARCHITECTURAL ELEVATIONS. ENSURE A MINIMUM 10'-0" CLEARANCE FROM ALL FRESH AIR INTAKES. COORDINATE WITH GC FOR SEALING WALL PENETRATION WEATHERTIGHT.
- 9 DOOR TO BE UNDER CUT 1". COORDINATE WITH GC.
- 10 EXTEND COMBUSTION AIR AND VENT FROM FURNACE AND EXTEND THRU ROOF COMPLETE WITH CONCENTRIC TERMINATION KIT. INSTALL COMBUSTION AND VENT PIPING PER MANUFACTURER'S INSTALLATION REQUIREMENTS AND PIPE SIZES. SEAL ROOF PENETRATION WEATHERTIGHT.
- 11 10"Ø OUTSIDE AIR DUCT THROUGH ROOF WITH ROOF CAP. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. ENSURE A MINIMUM 10'-0" CLEARANCE FROM EXHAUST AIR.

<input type="checkbox"/>	PRELIMINARY	04-21-2022
<input checked="" type="checkbox"/>	BID SET	12-08-2023
<input type="checkbox"/>	PERMIT SET	
<input type="checkbox"/>	REVISIONS:	

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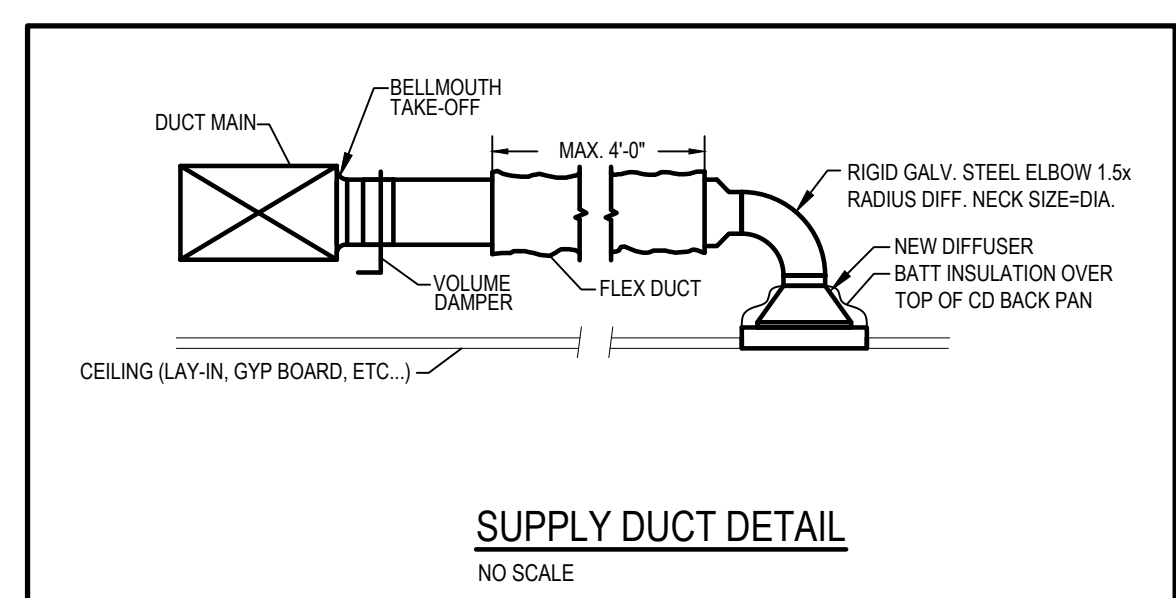
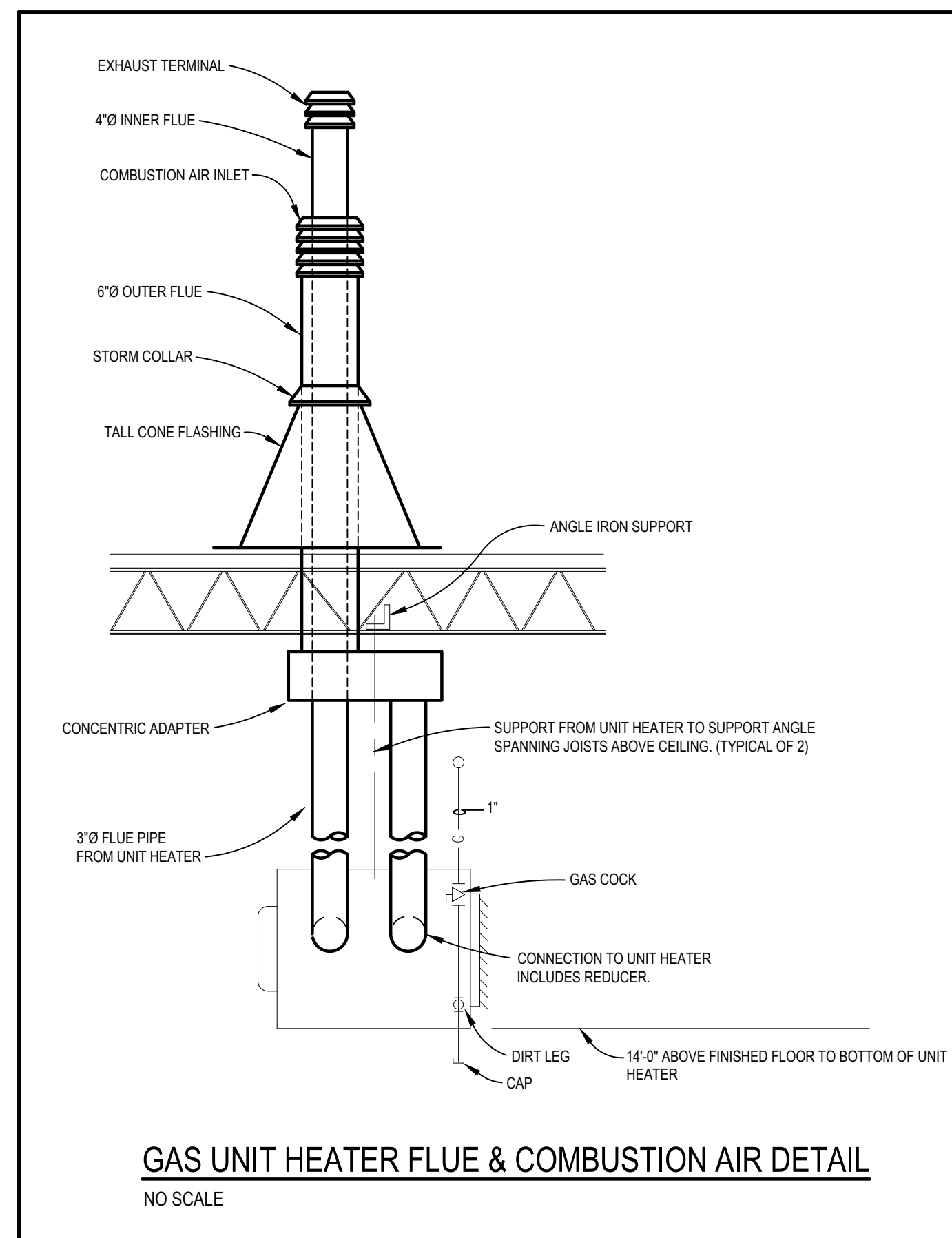
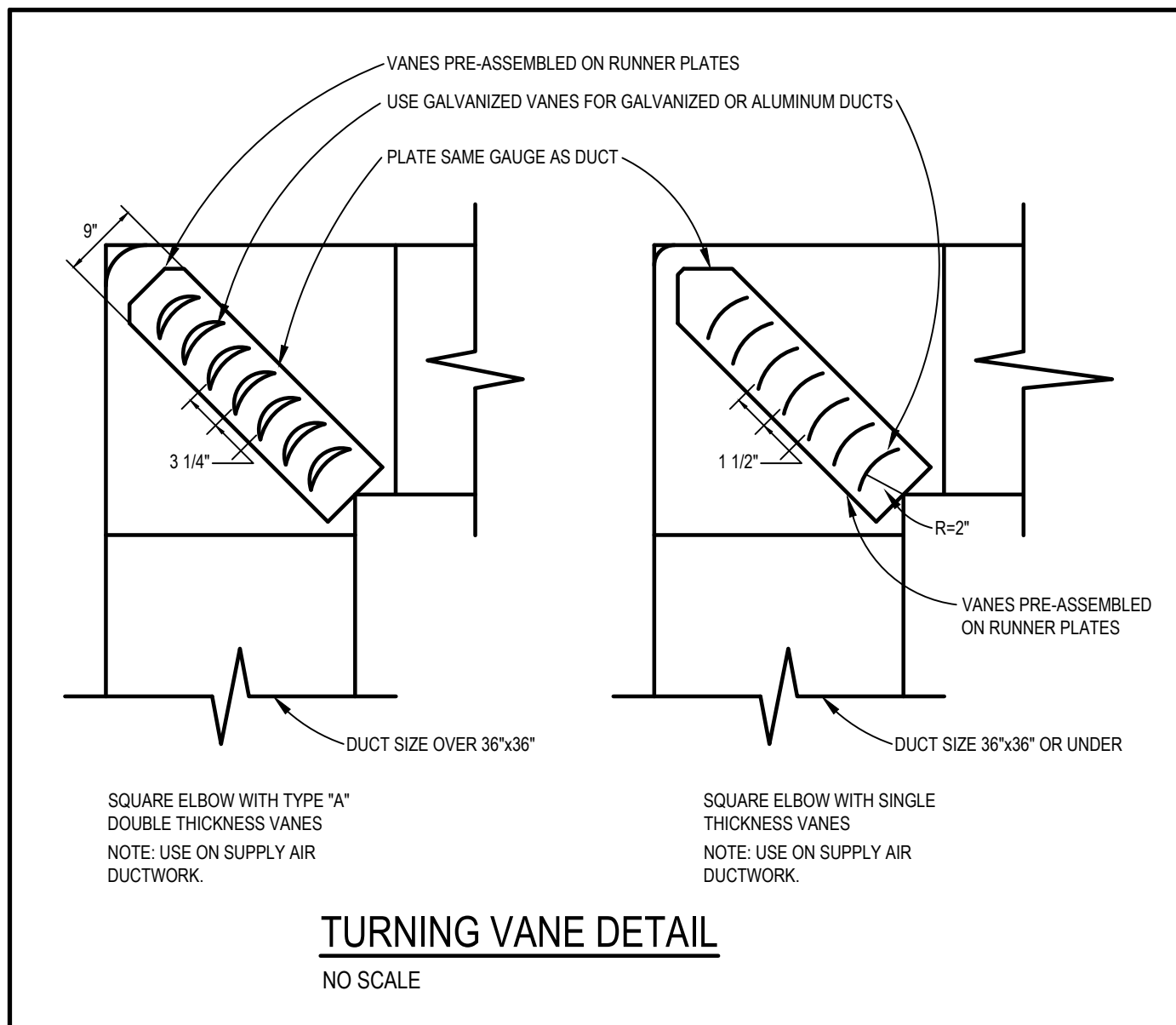
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M2.0

MECHANICAL GENERAL NOTES:

- EQUIPMENT SHALL BE INSTALLED PER THE STATE CODE AND THE EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE MORE STRICT REQUIREMENT SHALL APPLY.
- HANGERS, ANCHORS AND SUPPORTS SHALL SUPPORT THE PIPING AND THE CONTENT OF THE PIPING. HANGERS AND STRAPPING MATERIALS SHALL BE OF APPROVED MATERIALS THAT WILL NOT PROMOTE GALVANIC ACTION.
- MECHANICAL VENTILATION WILL BE PROVIDED AS INDICATED ON THE VENTILATION SCHEDULE.
- THE MECHANICAL VENTILATION SHALL OCCUR DURING OCCUPIED TIMES AND WILL BE BALANCED BY A CERTIFIED AIR BALANCING COMPANY TO ENSURE AIRFLOW RATES DESIGNED.
- SUPPLY AIR DUCTWORK SHALL BE CLASSIFIED FOR 2" WC.
- FLEXIBLE AIR DUCT SHALL BE TESTED IN ACCORDANCE WITH UL 181. FLEXIBLE DUCT SHALL NOT EXCEED 6 FEET IN LENGTH.
- ALL DUCTWORK JOINTS SHALL BE SECURELY FASTENED AND SEALED WITH MASTICS.
- DUCTWORK SHALL BE SUPPORTED AT MAXIMUM 8 FEET ON CENTERS. FLEXIBLE DUCTS SHALL BE SUPPORTED PER MANUFACTURER'S INSTALLATION MANUAL.
- REGISTERS, GRILLES AND DIFFUSERS SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. MECHANICAL CONTRACTOR TO FURNISH AND INSTALL BALANCING DAMPERS AT BOTH THE DIFFUSER AND AT THE BRANCH DUCT.
- DUCT INSULATION SHALL HAVE FLAME INDEX OF 25 OR LESS AND SMOKE INDEX OF 50 OR LESS. EXTERNAL DUCT INSULATION FACTORY INSULATED FLEXIBLE DUCT SHALL HAVE IDENTIFIED THE MANUFACTURER, R-VALUE, FLAME AND SMOKE INDEX.
- THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE, THE MECHANICAL CONTRACTOR SHALL INCLUDE ALL NEEDED OFFSETS, CHANGES IN DIRECTION, TRANSITIONS, ETC. NEEDED FOR COMPLETE AND OPERATIONAL SYSTEMS.
- PERFORM ALL WORK IN ACCORDANCE WITH THE RULES & REGULATIONS OF THE APPROPRIATE STATE AND LOCAL BUILDING CODES AND SUBTITLES.
- QUESTIONS REGARDING THESE DRAWINGS SHALL BE ADDRESSED TO THE ENGINEER PRIOR TO THE AWARDED OF THE CONTRACT. OTHERWISE THE ENGINEER'S INTERPRETATION OF THE MEANING AND INTENT OF THE DRAWINGS SHALL BE FINAL.
- IF CONFLICTS EXIST, PRIORITY OF LOCATION IN REFLECTED CEILING GRID SHALL BE AS FOLLOWS FROM HIGH TO LOW: LIGHTS, MECHANICAL.
- THE MECHANICAL CONTRACTOR SHALL ACCURATELY COORDINATE THE SIZES AND LOCATION OF ALL DUCTWORK, PIPING, AND EQUIPMENT WITH THE LOCATION OF LIGHTING FIXTURES, STRUCTURAL MEMBERS, AND THE WORK OF ALL OTHERS TRADES TO PREVENT CONFLICT. DUCTWORK CONFLICTING WITH LIGHTING FIXTURE LOCATIONS SHALL BE MOVED AT THIS CONTRACTOR'S EXPENSE.
- ALL DUCTWORK DIMENSIONS NOTED ON PLANS REFER TO THE CLEAR INSIDE OPENING REQUIRED.
- MECHANICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR AND B.A.S. CONTRACTOR FOR FINAL EQUIPMENT BALANCING AND TESTING OF CONTROLS.
- AIR BALANCE REPORT AND HVAC AUTOMATIC SHUTOFF TEST REPORT REQUIRED TO BE SUBMITTED TO INSPECTOR BY CONTRACTOR.
- ALL ROOF MOUNTED MECHANICAL EQUIPMENT SHALL BE MOUNTED LEVEL IN ALL DIRECTIONS.



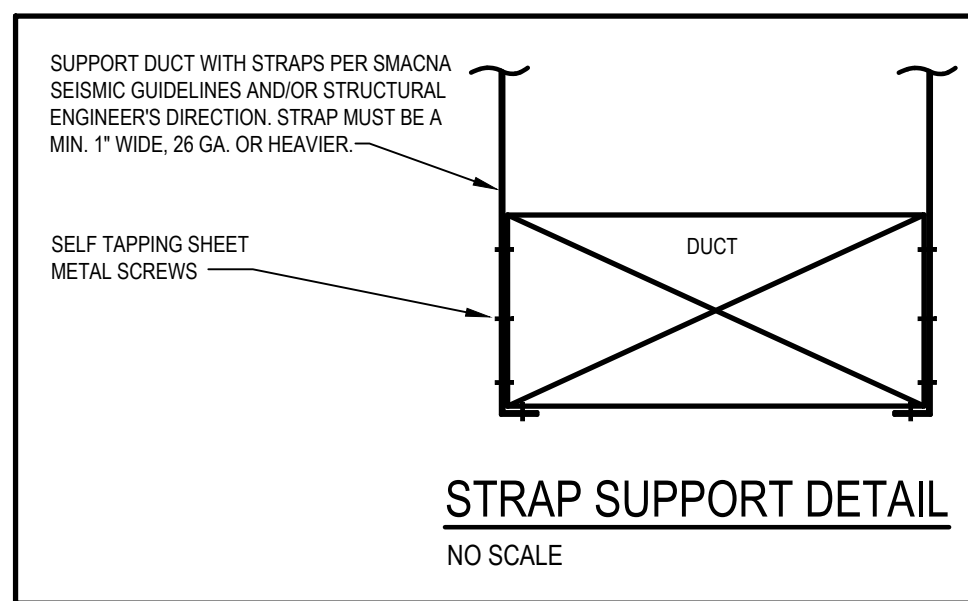
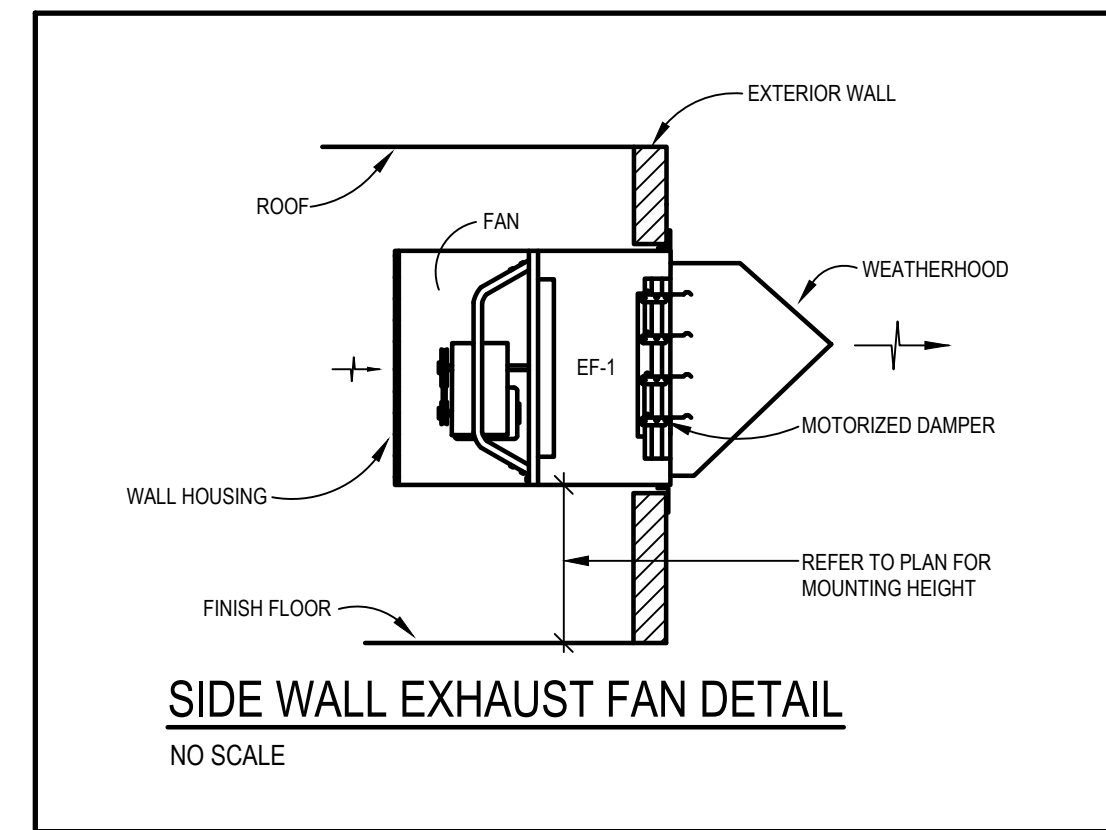
LOUVER SCHEDULE							
TAG	MANUFACTURER & MODEL NUMBER	SERVICE	CFM	TOTAL SIZE	INLET VELOCITY (FFM)	AIR PRESS. DROP (IN.)	REMARKS
L 1	RUKSIN ELF375DX	OUTSIDE AIR	3850	42"x48"	600	0.035" W.G.	SEE NOTES BELOW.

NOTES:
 1. WITH ALUMINUM BIRDSCREEN AND 6" FRAME DEPTH.
 2. PROVIDE WITH RUSKIN CD-50 MOTOR OPERATED DAMPER. INTERLOCK WITH RESPECTIVE EXHAUST FAN OPERATION.
 3. FINISH SELECTED BY ARCHITECT.
 4. EXTRUDED 6062T5 ALUMINUM CONSTRUCTION.
 5. FIELD FAB SUPPORTS.
 6. WITH ALUMINUM BIRDSCREEN.

FURNACE SCHEDULE																								
TAG	MANUFACTURER & MODEL NUMBER	CFM	ESP (IN.)	OUTDOOR AIR	WEIGHT (LBS)	HEATING CAPACITY			MOTOR HP & VOLTAGE	MOCP	DX COOLING COIL DATA			AIR COOLED CONDENSING UNIT					REMARKS					
						INPUT (MBH)	OUTPUT (MBH)	EFF. %			MODEL No.	TOTAL (MBH)	SENSIBLE (MBH)	E.A.T (DB/WB)	MODEL No.	NOM. TONNAGE	AMBIENT AIR TEMP.	SEER		VOLTAGE	MCA	MOCP	WEIGHT (LBS)	
FUR 1	LENNOX ML193UH070XE36B	1200	0.7	240	200	70	66	93	1/2 120V, 1 Ø	15	LENNOX C35-368-2F	34.8	25.4	80/67	CU 1	LENNOX ML4XK1-038	3.0	95°	15.5	208/230V 1Ø	18.0	30	200	REFER TO NOTES BELOW
FUR 2	LENNOX ML193UH090XE48C	1400	0.7	280	225	88	84	93	3/4 HP 120V, 1 Ø	15	LENNOX C35-48C-2F	41.5	30.3	80/67	CU 2	LENNOX ML4XK1-042	3.5	95°	16	208/230V 1Ø	23.4	40	225	REFER TO NOTES BELOW
FUR 3	LENNOX ML193UH090XE48C	1600	0.7	320	240	88	84	93	3/4 HP 120V, 1 Ø	15	LENNOX C35-48C-2F	47.0	34.3	80/67	CU 3	LENNOX ML4XK1-048	4.0	95°	15	208/230V 1Ø	24.2	40	240	REFER TO NOTES BELOW

FURNISH WITH THE FOLLOWING:
 1. PROGRAMMABLE HT/COOL T/STAT
 2. FLUE AND COMBUSTION AIR CONCENTRIC VENT KIT (SCHEDULE 40 PVC)
 3. 2 SETS OF 1" THICK PLEATED (MERV 8) THROUGHWAY FILTERS
 4. REFRIGERANT ACC. AND LINE SIZE KIT
 5. SUCTION LINE TO BE INSULATED
 6. BALL-BEARING FAN MOTOR
 7. COMPRESSOR START ASSIST
 8. CRANKCASE HEATER
 9. CYCLE PROTECTION
 10. EVAPORATOR FREEZE T/STAT
 11. LOW AMBIENT CONTROL TO 0°F
 12. OUTDOOR AIR TEMPERATURE SENSOR
 13. WINTER START CONTROL
 14. PROVIDE FLASHING AND COUNTER FLASHING AT CONCENTRIC KIT.
 15. MAKE GAS CONNECTION TO UNIT WITH GAS COOK, UNION AND 6" DIRT LEG.

SIMILAR MANUFACTURER: JOHNSON/YORK, CARRIER



DUCTWORK SCHEDULE				
DUCT SYSTEM	SMACNA PRESSURE CLASS	SMACNA SEAL CLASS	DUCT MATERIAL	INSULATION
SUPPLY AIR DUCTWORK	2" W.C.	B	GALVANIZED STEEL	2" DUCT WRAP
OUTSIDE AIR DUCTWORK	1" W.C.	B	GALVANIZED STEEL	2" DUCT WRAP
RETURN AIR DUCTWORK	1" W.C.	B	GALVANIZED STEEL	1" DUCT LINER
EXHAUST AIR DUCTWORK	1" W.C.	C	GALVANIZED STEEL	NONE

NOTE: ALL DUCTWORK SIZES ARE AIRWAY DIMENSIONS

GAS UNIT HEATER SCHEDULE										
TAG	MANUFACTURER & MODEL NUMBER	TYPE	INPUT MBH	OUTPUT MBH	CFM	FULL LOAD AMPS	MOTOR HP & VOLTAGE	VENT CONNECTION	COMBUSTION AIR INLET	REMARKS
UH 1	REZNOR UDZ-075	NG-FIRED FAN TYPE	75.0	62.25	961	3.7	0.06 HP 115V, 1Ø	4" ROUND	4" ROUND	SEE NOTES BELOW
UH 2	REZNOR UDZ-075	NG-FIRED FAN TYPE	75.0	62.25	961	3.7	0.06 HP 115V, 1Ø	4" ROUND	4" ROUND	SEE NOTES BELOW
UH 3	REZNOR UDZ-075	NG-FIRED FAN TYPE	75.0	62.25	961	3.7	0.06 HP 115V, 1Ø	4" ROUND	4" ROUND	SEE NOTES BELOW
UH 4	REZNOR UDZ-30	NG-FIRED FAN TYPE	30.0	24.6	456	1.9	0.06 HP 115V, 1Ø	4" ROUND	4" ROUND	SEE NOTES BELOW

NOTES: PROVIDE WITH THE FOLLOWING ITEMS:
 1. VIBRATION ISOLATORS
 2. SINGLE STAGE GAS VALVE
 3. 115VOLT/24VOLT CONTROL TRANSFORMER
 4. FULL FAN GUARD
 5. POWER VENTER
 6. VENT AND COMBUSTION AIR ROOF PENETRATION
 7. NATURAL GAS
 SIMILAR MFG'S: STERLING & TRANE

FAN SCHEDULE										
TAG	MANUFACTURER & MODEL NUMBER	AREA SERVED	SERVICE	CFM	ESP	MOTOR HP & VOLTAGE	FAN RPM	FAN TYPE	MAX. SOUND LEVEL	REMARKS
EF 1	GREENHECK SBE-3H24-7	100 TRAINING BAY	EXHAUST	3850	0.4	3/4 HP 120V/1P	1100	WALL MTD.	18.6 SONES	1, 2, 3, 4, 6 & 7
EF 2	GREENHECK SP-B110	103 WOMEN'S	EXHAUST	75	.375	80 WATTS 120V, 1PH	769	CLG MTD.	1.0 SONES	1, 2, 3, 4 & 5
EF 3	GREENHECK SP-B110	105 MENS	EXHAUST	75	.375	80 WATTS 120V, 1PH	769	CLG MTD.	1.0 SONES	1, 2, 3, 4 & 5
EF 4	GREENHECK SP-B200	201 MENS	EXHAUST	150	.375	172 WATTS 120V, 1PH	904	CLG MTD.	3.0 SONES	1, 2, 3, 4 & 5

NOTES: PROVIDE WITH THE FOLLOWING ITEMS:
 1. DISCONNECT SWITCH
 2. VIBRATION ISOLATORS (NEOPRENE)
 3. AUTOMATIC BACKDRAFT DAMPER
 4. SOLID STATE SPEED CONTROL SWITCH (INTEGRAL MTD. FOR BALANCING ONLY)
 5. SWITCH WITH LIGHT
 6. WALL SWITCH
 7. WEATHERHOOD
 SIMILAR MANUFACTURERS: COOK, PENNBARRY

MECHANICAL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
SA	SUPPLY AIR	TOO	TOP OF DUCT
EA	EXHAUST AIR	BOO	BOTTOM OF DUCT
EF	EXHAUST FAN	[Symbol]	FLEXIBLE DUCT (10'-0" MAX. LENGTH)
CD	CEILING DIFFUSER	[Symbol]	SMOKE DETECTOR
OA	OUTSIDE AIR	[Symbol]	FLEXIBLE DUCT CONNECTOR
RA	RETURN AIR	[Symbol]	DUCT W/ INTERNAL LINING
RG	RETURN GRILLE	[Symbol]	MANUAL VOLUME DAMPER
FUR	FURNACE	[Symbol]	FIRE DAMPER
CU	CONDENSING UNIT	[Symbol]	SMOKE DAMPER
UH	UNIT HEATER	[Symbol]	CHANGE IN ELEVATION RISE (R) OR DROP (D)
PC	PLUMBING CONTRACTOR	[Symbol]	ELBOW W/ DBL THICKNESS TURNING VANES
EC	ELECTRICAL CONTRACTOR	[Symbol]	FRESH RETURN/EXHAUST AIR DUCT
MC	MECHANICAL CONTRACTOR	[Symbol]	SUPPLY AIR DUCT
GC	GENERAL CONTRACTOR	[Symbol]	CONNECT TO EXISTING
⊕	THERMOSTAT		

GRILLE, REGISTER AND DIFFUSER SCHEDULE											
TAG	MANUFACTURER & MODEL NUMBER	CFM	AIR PATTERN	NECK SIZE	DAMPER	FRAME STYLE	PANEL SIZE	MAXIMUM NC LEVEL	FINISH	MATERIAL	REMARKS
CD A	PRICE SPD	AS NOTED	AS SHOWN	AS NOTED	OPPOSED BLADE	LAY-IN CEILING	24x24	30	WHITE	STEEL	TAG [Symbol] NECK SIZE
CD B	PRICE SPD	AS NOTED	AS SHOWN	AS NOTED	OPPOSED BLADE	SURFACE MOUNTED	12x12	30	WHITE	STEEL	TAG [Symbol] NECK SIZE
RG A	PRICE 80D	AS NOTED	RETURN	AS NOTED	-	LAY-IN CEILING	24x24	30	WHITE	STEEL	TAG [Symbol] NECK SIZE
RG B	PRICE 80D	AS NOTED	RETURN	AS NOTED	-	LAY-IN CEILING	24x12	30	WHITE	STEEL	TAG [Symbol] NECK SIZE
SR A	PRICE 52DD	AS NOTED	AS SHOWN	AS NOTED	OPPOSED BLADE	DUCT MOUNTED	NECK SIZE + 1-3/4"	30	WHITE	STEEL	TAG [Symbol] NECK SIZE

SIMILAR MANUFACTURERS: TITUS, KRUGER, HART & COOLEY, LIMA (VERIFY FRAME STYLES IN FIELD AND VERIFY WHERE RADIATION DAMPERS ARE REQUIRED.)

JCKL ARCHITECTS
 P.O. BOX 340037
 COLUMBUS, OHIO 43234
 PHONE: (614) 764-1996



MECHANICAL SCHEDULES & DETAILS
BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING
 351 BUCKEYE HILLS ROAD
 RIO GRANDE, OHIO 45674

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VERSION 1.5 using ASHRAE 62.1-2010

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft)	Zone Max Occupancy	Table 6.1 OA per Occupant	Table 6.1 c/mvT2	Pz * Rp	Az * Ra	Table 6.2 Ventilation Effectiveness	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
Vocational CR #1 (FUR-1)	Educational Facilities	Classrooms (AGE 9+)	865.0	31.0	10.0	0.12	310	104	0.8	517

Indoor Contaminants	Maximum Reference Value (PPM)	Steady State Using the VRP*	Steady State Using the IAQ Method	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority
Acetaldehyde	100.0	0.0112	0.0187	Yes	0.0048	50%	OSHA
Acetone	250.0	0.0175	0.0100	Yes	0.0054	25%	NIOSH
Ammonia	25.00	0.01780	0.01184	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00113	Yes	0.0022	20%	OSHA
2-Butanone (MEK)	200.0	0.00203	0.00110	Yes	0.00133	20%	NIOSH
Carbon Dioxide**	5000	1119	1952	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.0004	80%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	10%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	25%	NIOSH
Methane	NA	1.00004	1.00004	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00078	0.00056	Yes	0.00121	10%	OSHA
Propane	1000.0	0.00968	0.00968	Yes	0.00000	0%	NIOSH
Tetrahydrofuran	3.0000	0.00000	0.00000	Yes	0.00000	15%	OSHA
Tetrahydrofuran	100.0000	0.00037	0.00020	Yes	0.00001	15%	OSHA
Toluene	100.0000	0.00533	0.00171	Yes	0.00032	30%	NIOSH
1,1,1-Trichloroethane	350.0000	0.00078	0.00015	Yes	0.00058	30%	NIOSH
Xylene	100.0000	0.00230	0.00073	Yes	0.00000	30%	OSHA

Building materials and furnishings assumed to have no VOCs and off-gassing is complete. IAQ acceptable at reduced outside air levels? **Yes**

*ASHRAE & NIOSH CO2 Limit
1 = ASHRAE & NIOSH CO2 Limit
2 = CO2 Level at IAQ Procedure OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate

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IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

Date	7/8/2022
Job Name	
Representative	
Engineer	
Contractor	



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VERSION 1.5 using ASHRAE 62.1-2010

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft)	Zone Max Occupancy	Table 6.1 OA per Occupant	Table 6.1 c/mvT2	Pz * Rp	Az * Ra	Table 6.2 Ventilation Effectiveness	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
Vocational CR #2 (FUR-2)	Educational Facilities	Classrooms (AGE 9+)	865.0	31.0	10.0	0.12	310	104	0.8	517

Indoor Contaminants	Maximum Reference Value (PPM)	Steady State Using the VRP*	Steady State Using the IAQ Method	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority
Acetaldehyde	100.0	0.0112	0.0187	Yes	0.0048	50%	OSHA
Acetone	250.0	0.0175	0.0100	Yes	0.0054	25%	NIOSH
Ammonia	25.00	0.01780	0.01184	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00113	Yes	0.0022	20%	OSHA
2-Butanone (MEK)	200.0	0.00203	0.00110	Yes	0.00133	20%	NIOSH
Carbon Dioxide**	5000	1119	1731	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.0004	80%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	10%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	25%	NIOSH
Methane	NA	1.00004	1.00004	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00078	0.00056	Yes	0.00121	10%	OSHA
Propane	1000.0	0.00968	0.00968	Yes	0.00000	0%	NIOSH
Tetrahydrofuran	3.0000	0.00000	0.00000	Yes	0.00000	15%	OSHA
Tetrahydrofuran	100.0000	0.00037	0.00020	Yes	0.00001	15%	OSHA
Toluene	100.0000	0.00533	0.00171	Yes	0.00032	30%	NIOSH
1,1,1-Trichloroethane	350.0000	0.00078	0.00015	Yes	0.00058	30%	NIOSH
Xylene	100.0000	0.00230	0.00073	Yes	0.00000	30%	OSHA

Building materials and furnishings assumed to have no VOCs and off-gassing is complete. IAQ acceptable at reduced outside air levels? **Yes**

*ASHRAE & NIOSH CO2 Limit
1 = ASHRAE & NIOSH CO2 Limit
2 = CO2 Level at IAQ Procedure OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate

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Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

Date	7/8/2022
Job Name	
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VERSION 1.5 using ASHRAE 62.1-2010

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft)	Zone Max Occupancy	Table 6.1 OA per Occupant	Table 6.1 c/mvT2	Pz * Rp	Az * Ra	Table 6.2 Ventilation Effectiveness	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
Vocational CR #3 (FUR-3)	Educational Facilities	Classrooms (AGE 9+)	975.0	35.0	10.0	0.12	350	117	0.8	584

Indoor Contaminants	Maximum Reference Value (PPM)	Steady State Using the VRP*	Steady State Using the IAQ Method	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority
Acetaldehyde	100.0	0.0112	0.0187	Yes	0.0048	50%	OSHA
Acetone	250.0	0.0175	0.0100	Yes	0.0054	25%	NIOSH
Ammonia	25.00	0.01780	0.01184	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00113	Yes	0.0022	20%	OSHA
2-Butanone (MEK)	200.0	0.00203	0.00110	Yes	0.00133	20%	NIOSH
Carbon Dioxide**	5000	1119	1715	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.0004	80%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	10%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	25%	NIOSH
Methane	NA	1.00004	1.00004	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00078	0.00056	Yes	0.00121	10%	OSHA
Propane	1000.0	0.00968	0.00968	Yes	0.00000	0%	NIOSH
Tetrahydrofuran	3.0000	0.00000	0.00000	Yes	0.00000	15%	OSHA
Tetrahydrofuran	100.0000	0.00037	0.00020	Yes	0.00001	15%	OSHA
Toluene	100.0000	0.00533	0.00171	Yes	0.00032	30%	NIOSH
1,1,1-Trichloroethane	350.0000	0.00078	0.00015	Yes	0.00058	30%	NIOSH
Xylene	100.0000	0.00230	0.00073	Yes	0.00000	30%	OSHA

Building materials and furnishings assumed to have no VOCs and off-gassing is complete. IAQ acceptable at reduced outside air levels? **Yes**

*ASHRAE & NIOSH CO2 Limit
1 = ASHRAE & NIOSH CO2 Limit
2 = CO2 Level at IAQ Procedure OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate

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IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

Date	7/8/2022
Job Name	
Representative	
Engineer	
Contractor	

JCKL ARCHITECTS

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MECHANICAL VENTILATION CALCULATIONS

BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING
351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674



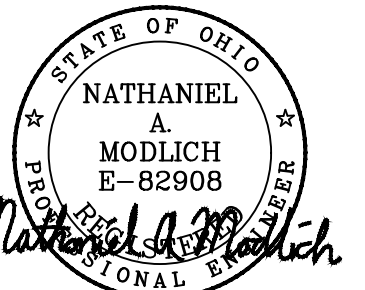
- PRELIMINARY 04-21-2022
- BID SET 12-08-2023
- PERMIT SET
- REVISIONS:

M3.1

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**BUCKEYE HILLS
CAREER CENTER**

MECHANICAL SPECIFICATIONS

BUCKEYE HILLS CAREER CENTER

NEW TRADES BUILDING

351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674

PRELIMINARY 04-21-2022

BID SET 12-08-2023

PERMIT SET

REVISIONS:

M4.0

MECHANICAL GENERAL

- A. THE CONTRACTOR FOR THIS WORK IS REFERRED TO "INSTRUCTIONS TO BIDDERS" AND "GENERAL CONDITIONS" AND "SPECIAL CONDITIONS" AS PART OF THIS CONTRACT.
- B. CONTRACTOR ALSO REFERRED TO ALL ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND OTHER OWNER DRAWINGS PERTAINING TO PROJECT. ALL OF ABOVE MENTIONED DRAWINGS, AS WELL AS THEIR RESPECTIVE SPECIFICATIONS, ARE A PART OF CONTRACT DOCUMENTS.
- C. MECHANICAL DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER. FURNISH ANY MATERIAL OR LABOR CALLED FOR IN ONE EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH.
- D. INSTALL AND CONNECT EQUIPMENT, SERVICES AND MATERIALS IN ACCORDANCE WITH BEST ENGINEERING PRACTICE AND ACCORDANCE WITH VARIOUS MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS. FURNISH AND INSTALL COMPLETE AUXILIARY PIPING, VALVES, WATER SEALS, ELECTRICAL CONNECTIONS, ETC., RECOMMENDED BY MANUFACTURER OR REQUIRED FOR PROPER OPERATION.
- E. FURNISH MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON DRAWINGS OR CALLED FOR IN SPECIFICATIONS BUT WHICH IS OBVIOUSLY A COMPONENT PART OF AND NECESSARY TO COMPLETE WORK OF SIMILAR CHARACTER.
- F. THIS CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS OR LICENSES REQUIRED TO CARRY OUT THIS WORK. HE SHALL PAY FOR ALL CHARGES MADE BY INSPECTION. NOTE: ALL CONTRACTORS SHALL BE LICENSED IN THE COUNTY, CITY, ETC. TO PERFORM ALL NEW WORK.
- G. THIS CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES AND ALL LOCAL LEGAL REQUIREMENTS. ALL LAWS, RULES AND REGULATIONS OF STATE AND LOCAL GOVERNING AGENCIES SHALL BE CONSIDERED A PART OF THESE SPECIFICATIONS AS FULLY AS IF WRITTEN HEREIN. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY CHANGES NECESSARY FOR CODE COMPLIANCE REGARDLESS OF THE METHOD OF INSTALLATION SHOWN ON THE DRAWINGS OR SPECIFIED.
- H. THIS CONTRACTOR SHALL TAKE OUT PERMIT WITH PROVISIONS OF INSPECTION BEFORE STARTING ANY WORK. FEE FOR SAME SHALL BE PART OF THIS CONTRACT.
- I. WHEN WORK IS COMPLETED, THIS CONTRACTOR SHALL FURNISH TO THE ARCHITECT CERTIFICATES OF APPROVAL FROM THE RESPONSIBLE INSPECTION AGENCIES BEFORE FINAL PAYMENT OF CONTRACT WILL BE ALLOWED.
- J. TESTING OF ALL WORK UNDER THIS CONTRACT SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE. ALL APPARATUS, EQUIPMENT, FIXTURES, ETC., SHALL FULLY MEET THE REQUIREMENTS OF THESE SPECIFICATIONS AND DRAWINGS.
- K. THE BID SHALL CONTEMPLATE THE FURNISHING AND INSTALLING OF MATERIAL AND EQUIPMENT, EXACTLY AS SPECIFIED OR SHOWN AS SIMILAR BY THE CONTRACT DOCUMENTS. THE CONTRACTOR SUBMITTING ON SIMILAR EQUIPMENT WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH CHANGES IN ARCHITECTURAL, STRUCTURAL, MECHANICAL AND/OR ELECTRICAL TRADES DUE TO THE SIMILAR EQUIPMENT CHARACTERISTICS SUBMITTED. BIDS SUBMITTED SHALL LIST ANY ITEMS OF MATERIAL OR EQUIPMENT OTHER THAN SPECIFIED OR SIMILAR TO THE ONES CALLED FOR. SUBSTITUTIONS SHALL BE APPROVED SEVEN WORKING DAYS BEFORE BIDS ARE SUBMITTED. OTHERWISE, THIS CONTRACTOR SHALL COMPLY WITH SPECIFICATION REQUIREMENTS.
- L. INSTALL FINAL APPLICATION OF LUBRICATION OIL, REFRIGERANT CHARGE, AND ALL OTHER SUPPLIES NECESSARY TO PLACE THE EQUIPMENT IN OPERATION.
- M. CONTRACTOR SHALL GUARANTEE HIS WORK TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE.
- N. ALL POWER WIRING OF MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL CONTRACTOR. FURNISH THE ELECTRICAL CONTRACTOR WIRING DIAGRAMS FOR ALL ELECTRICALLY POWERED EQUIPMENT PROVIDED WITH THE CONTRACT WHICH SHALL INDICATE THE SERVICE REQUIRED AND ELECTRIC LOAD INVOLVED.
- O. THIS CONTRACTOR SHALL VISIT SITE BEFORE SUBMITTING BID AND MAKE ALL NECESSARY OBSERVATIONS, MEASUREMENTS, AND NOTE CONDITIONS UNDER WHICH HIS WORK IS TO BE PERFORMED. NO EXTRA COMPENSATION WILL BE ALLOWED FOR FAILURE TO DO SO.
- P. SUBMIT SHOP DRAWINGS, CATALOG SHEETS FOR EQUIPMENT, FIXTURES, DUCTWORK LAYOUT, WIRING DIAGRAMS, ETC., IN SIX (6) COPIES TO THE ARCHITECT FOR REVIEW. EACH CONTRACTOR IS RESPONSIBLE TO DISTRIBUTE APPROVED SHOP DRAWINGS TO ALL OTHER TRADES AFFECTED BY HIS WORK, EQUIPMENT, ETC., FOR COORDINATION.
- Q. ASSEMBLE AND SUBMIT TO THE ARCHITECT FOR SUBSEQUENT SUBMISSION TO THE OWNER, THREE (3) COMPLETE SETS OF OPERATIONS MANUALS AND MAINTENANCE REQUIREMENTS, COPY OF FUTURE CUTS WITH MANUFACTURER'S NAME AND MODEL NUMBER, EQUIPMENT WARRANTIES, ETC., FOR EACH ITEM FURNISHED.
- R. ALL CONTRACTORS MUST COORDINATE EACH PIECE OF EQUIPMENT WITH ALL OTHER TRADES (GENERAL CONTRACTOR, PLUMBING CONTRACTOR, MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR, ETC.) AFFECTED BY THAT PIECE OF EQUIPMENT (ROOF OPENINGS, WEIGHTS, POWER REQUIREMENTS, VOLTAGES, ETC.) PRIOR TO ORDERING EQUIPMENT AND AGAIN PRIOR TO INSTALLATION (ROOFTOP EQUIPMENT PRIOR TO LIFTING ONTO ROOF). NO EXTRA COMPENSATION WILL BE APPROVED IF COORDINATION IS NOT PERFORMED BY EACH RESPECTIVE CONTRACTOR AND SUBCONTRACTOR.
- S. CONTRACTOR HAS EXAMINED THE CONTRACT DOCUMENTS AND REPRESENTS TO OWNER THAT THE CONTRACT DOCUMENTS ARE COMPLETE AND SUFFICIENT AND INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK FOR THE CONTRACT SUM. CONTRACTOR FURTHER REPRESENTS THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS BECOME FAMILIAR WITH THE ACCESS REQUIREMENTS AND OTHER CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND HAS RECEIVED ALL CLARIFICATIONS NEEDED BY CONTRACTOR TO ASSURE ITSELF THAT THE WORK CAN BE PERFORMED FOR THE CONTRACT SUM. IF THERE IS ANY INCONSISTENCY IN THE QUALITY OR QUANTITY OF WORK REQUIRED UNDER THE CONTRACT DOCUMENTS, OR SHOULD THE DRAWINGS AND SPECIFICATIONS APPEAR TO BE IN DISAGREEMENT WITH EACH OTHER RELATIVE TO THE QUALITY OR QUANTITY OF WORK REQUIRED, THE CONTRACTOR SHALL PROVIDE THE BETTER QUALITY AND/OR GREATER QUANTITY UNLESS WRITTEN INSTRUCTIONS ARE OTHERWISE FURNISHED TO CONTRACTOR BY OWNER.
- T. DEVIATIONS FROM THESE CONSTRUCTION DOCUMENTS WITHOUT WRITTEN OWNER OR ARCHITECT CONSENT WILL BE AT RISK TO THE G.C. ANY EFFORT MADE BY THE ARCHITECT AND/OR ENGINEER TO MODIFY THE CONSTRUCTION DOCUMENTS OR LETTERS OF RESPONSIBILITY FOR APPROVAL BY INSPECTORS DUE TO WORK PERFORMED BY CONTRACTOR OTHER THAN THE ORIGINAL DESIGN WILL BE BILLED TO CLIENT WHO WILL BACK CHARGE TO G.C. AS A DEDUCT FROM THEIR PAYMENTS.
- U. NOTE: THE MECHANICAL AND PLUMBING CADD FILES OF THE CONSTRUCTION DOCUMENTS ARE THE INTELLECTUAL PROPERTY OF POINT ONE DESIGN, LLC, AND WILL NOT BE AVAILABLE FOR THE CONSTRUCTION PHASE UNLESS MET WITH A REDUCTION IN COST TO THE OWNER AND/OR PURCHASED AT A NOMINAL RATE PER DRAWING (TO BE NEGOTIATED).

PLUMBING SPECIFICATIONS

- A. CONNECT SEWER, STORM, GAS, VENTS AND WATER LINES AS INDICATED ON THE PLUMBING PLANS. DETERMINE THE EXACT LOCATION OF ALL EXISTING SERVICE CONNECTIONS BEFORE STARTING THE INSTALLATION OF ANY WORK. COORDINATE ALL WORK WITH OTHER TRADES, THE GENERAL CONTRACTOR AND THE OWNER'S FIELD REPRESENTATIVE.
- B. PLUMBING WORK SHALL CONFORM TO GOOD ENGINEERING PRACTICE AND BE IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES AND OWNER'S REQUIREMENTS. PLUMBING CONTRACTOR SHALL BE LICENSED IN THIS AREA TO PERFORM THE NEW WORK.
- C. SANITARY SEWERS, VENTS AND STORM INSIDE OF THE BUILDING SHALL BE SERVICE WEIGHT, CAST IRON, NO HUB WITH COMPRESSION TYPE NEOPRENE JOINTS. ABS OR PVC SCHEDULE 40 PIPE SHALL BE AS APPROVED BY THE LOCAL AUTHORITY AND OWNER IN CONCEALED (UNDERFLOOR) LOCATIONS.
- D. ALL COLD AND HOT WATER LINES SHALL BE TYPE 1/2" COPPER WITH 98-2 TIN ANTIMONY (NO LEAD) SOLDER.
- E. GAS PIPING ABOVE GROUND SHALL BE SCHEDULE 40 BLACK STEEL WITH 125 POUND BLACK MALLEABLE IRON SCREWED FITTINGS. GAS PIPING COMPOUND AT JOINTS SHALL BE PER NFPA BULLETIN #54 AND LOCAL CODES. GAS VALVES SHALL BE UL LISTED FOR GAS SERVICE SUCH AS DEZURICK MODEL 5-425 FOR 2" AND LESS.
- F. INSULATE ALL NEW HOT AND COLD WATER PIPING WITH NONCOMBUSTIBLE ARMSTRONG "ARMAFLEX" TYPE I FOAM INSULATION WITH SEALED JOINTS OR WITH OWENS CORNING FIBERGLASS ASJSSLS-I HEAVY DENSITY PIPE INSULATION WITH VAPOR BARRIER AND SEALED JOINTS. INSULATION THICKNESS SHALL BE AS FOLLOWS:
HOT & COLD WATER BRANCH PIPING UP TO 1" 1/2" THICKNESS
HOT & COLD WATER MAIN PIPING UP TO 1-1/2" 1" THICKNESS
HOT & COLD WATER MAIN PIPING 2" AND OVER 1-1/2" THICKNESS
ALL PIPING BELOW ROOF DECK TO BE INSULATED WITH NEXT SIZE PIPE THICKNESS.
- G. PLUMBING CONTRACTOR SHALL INSTALL SHOCK ABSORBERS IN PIPING SYSTEM TO PREVENT NOISE AND DAMAGE DUE TO WATER HAMMER, WHERE NECESSARY. BRANCH PIPING SHALL HAVE ACCESSIBLE SERVICE VALVES. PROVIDE SHUT-OFF VALVES IN THE SUPPLY PIPING TO EVERY FIXTURE.
- H. PLUMBING CONTRACTOR SHALL PROVIDE 1 SET OF "AS-BUILT" DRAWINGS TO THE OWNER.
- I. CHLORINATION OF WATER PIPING: THE DOMESTIC WATER PIPING SYSTEM SHALL BE FLUSHED WITH CLEAN POTABLE WATER UNTIL CONTAMINATED WATER DOES NOT APPEAR AT THE OUTLET AND SHALL BE FILLED WITH A SOLUTION CONTAINING 50 PARTS PER MILLION OF CHLORINE AND ALLOWED TO STAND FOR A PERIOD (AS PRESCRIBED BY THE CODE) BEFORE FLUSHING. THE SYSTEM SHALL BE FLUSHED COMPLETELY WITH CLEAN WATER UNTIL ALL RESIDUAL CHLORINE CONTENT IS REMOVED. CHLORINATION SHALL BE PERFORMED AFTER ALL PIPING AND FINAL CONNECTIONS AND PRESSURE TESTING HAS BEEN COMPLETED. IF, AFTER THE PIPES HAVE BEEN CHLORINATED, THE PIPES HAVE TO BE DISMANTLED, THE CHLORINATION PROCESS MUST BE REPEATED.
- J. LABOR SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY MECHANICS SKILLED IN THEIR PARTICULAR TRADE. PIPE AND EQUIPMENT SHALL BE INSTALLED SQUARE AND PLUMB AND ACCESSIBLE FOR PROPER OPERATION AND SERVICE.
- K. CUTTING OR PATCHING NECESSARY TO PERMIT THE INSTALLATION OF ANY WORK UNDER THIS CONTRACT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
- L. PROVIDE ANY NECESSARY EXCAVATING AND BACKFILLING FOR THE INSTALLATION OF WORK SPECIFIED IN THIS DIVISION. AFTER THE PIPE HAS BEEN INSTALLED, TESTED AND APPROVED, THE TRENCHES SHALL BE BACKFILLED AND WELL TAMPED TO GRADE WITH APPROVED MATERIAL.
- M. PIPING
1. ALL PIPING SHALL BE RUN CONCEALED EXCEPT WHERE SHOWN OTHERWISE ON DRAWINGS.
2. VALVES, TRAPS, CLEANOUTS AND OTHER APPARATUS SHALL BE INSTALLED IN AN EASILY ACCESSIBLE LOCATION.
3. SOIL WASTE, STORM, VENT, OFFSETS AND HOUSE DRAINS SHALL BE INSTALLED WITH A MINIMUM UNIFORM GRADE OF 1/8" TO THE FOOT FOR 3" THRU 6" PIPE AND 1/4" TO THE FOOT FOR 2-1/2" AND LESS.
4. HOT AND COLD WATER LINES SHALL BE AT LEAST 1/2" APART WHERE PIPING IS PARALLEL.
5. ESCUTCHEON PLATES SHALL BE PROVIDED WHERE ALL PIPE PASSES THROUGH A FINISHED WALL.
6. CONNECTIONS FROM STEEL TO COPPER PIPING SHALL BE MADE WITH DIELECTRIC TYPE UNIONS, EPCO OR OTHER APPROVED TYPE.
- N. COPPER PIPING SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED 7'-0" AND AT EACH CHANGE IN HORIZONTALS OR VERTICAL. HANGERS SHALL SUPPORT PIPING AT PIPE WITH INSULATION OVER TOP OR WITH METAL SLEEVE TO PROTECT INSULATION FROM BEING CRUSHED.
1. HANGER SHIELD: HANGERS FOR PIPING SHALL BE PLACED AROUND THE OUTSIDE OF THE INSULATION AND PROTECTIVE SHIELDS SHALL BE INSTALLED AT EVERY HANGER LOCATION. SHIELD SHALL NOT BE LESS THAN 2/3 THE CIRCUMFERENCE OF THE INSULATION AND WHERE SPEED CLIPS ARE USED, THE METAL SHIELD SHALL BE CONTINUOUS AROUND THE CIRCUMFERENCE OF THE PIPE INSULATION. SHIELDS SHALL BE FABRICATED OF THE FOLLOWING GAUGES:
NOMINAL PIPE SIZE METAL GAUGE
0" -1-1/2" 20
2" -3" 16
3-1/2" AND UP 14
- O. CLEAN OUT ALL LINES, ADJUST ALL VALVES AND CLEAN ALL PLUMBING FIXTURES AND EQUIPMENT. ROUT OUT ALL EXISTING SANITARY SEWERS BEING TIED INTO TO INSURE THE PROPER FLOW. PLUMBING CONTRACTOR TO FURNISH AND INSTALL CLEAR SILICONE CAULK AROUND PERIMETER OF PLUMBING FIXTURES.
- P. AFTER THE PLUMBING PIPING HAS BEEN INSTALLED, INSPECTED AND APPROVED, THE PIPING SYSTEM SHALL BE FLUSHED TO REMOVE ANY FOREIGN MATTER FROM THE PIPES.
- Q. ALL PARTS OF THE PLUMBING FIXTURES AND ASSOCIATED EQUIPMENT SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE GUARANTEE PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE BUILDING.
- R. NOTE: ALL PIPE INSULATION (HOT AND COLD PIPE INSULATION, ROOF DRAIN SUMP, STORM LEADERS AND DOWNSPOUTS) SHALL CONFORM TO THE FIRE AND SMOKE RATES BELOW:
FLAME SPREAD - 25 OR LESS
SMOKE DEVELOPED - 50 OR LESS

PLUMBING SPECIFICATIONS (CONTINUED)

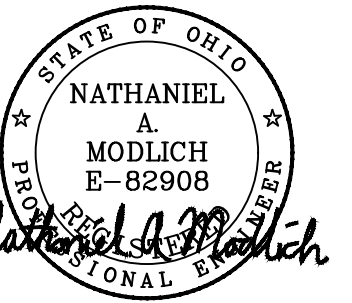
- S. GENERAL REQUIREMENTS OF PLUMBING FIXTURES AND TRIM:
1. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL STOPS, TRAPS, ESCUTCHEONS, CONNECTIONS, ETC., AS NECESSARY FOR A COMPLETE INSTALLATION.
2. TERMINATE ALL WATER ROUGH-INS WITH SHUT-OFF VALVES BEFORE CONNECTING EQUIPMENT AND FIXTURES.
3. PURGE ALL WATER LINES BEFORE MAKING FINAL CONNECTIONS.
4. FLASH AND COUNTERFLASH ALL OPENINGS THRU ROOFS WITH APPROVED ROOFING MATERIALS BUILT A MINIMUM OF 10" INTO THE ROOFING IN ALL DIRECTIONS FROM THE OUTSIDE OF THE PIPE.
5. WATER AND WASTE LINES TO BE ROUGHED INSIDE WALLS. EXTEND WATER AND WASTE LINES OUT OF WALLS TO EQUIPMENT AND FIXTURES.
6. WHERE THE WORD "FURNISH" OR "INSTALL" APPEARS FOR THE PLUMBING CONTRACT, IT SHALL BE INTERPRETED TO MEAN THE PLUMBING CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND SUPPLIES NECESSARY TO INSTALL AND PLACE IN OPERATION CONDITION.
7. GENERAL WATER PRESSURE SHALL NOT EXCEED 60 PSI. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL PRESSURE REDUCING VALVES FOR WATER AS REQUIRED.
- T. EXCAVATION AND BACKFILL
1. PERFORM ALL EXCAVATION AND BACKFILL NECESSARY FOR INSTALLATION OF WORK.
2. REFER TO DIVISION 2 - SITEWORK FOR ADDITIONAL SPECIFIC ITEMS OF EXCAVATION AND BACKFILL REQUIRED UNDER THE DIVISION.
3. ALL EXCAVATED MATERIALS IN BUILDING INTERIORS, SHALL BE LOADED ON TRUCKS IMMEDIATELY UPON DIGGING AND REMOVED FROM THE BUILDING. THE MATERIAL MAY BE DEPOSITED ON SITE IF AGREED TO BY THE GENERAL CONTRACTOR FOR HIS USE. IF NOT REQUIRED FOR SITE FILL, THEN EXCAVATED MATERIALS MUST BE REMOVED FROM THE SITE IMMEDIATELY.
4. EXISTING SUB-GRADE, BOTH INTERIOR AND EXTERIOR SHALL BE RESTORED AS A PART OF THIS WORK, UPON INSTALLATION OF UNDERGROUND WORK.
5. EXCAVATION FOR TRENCHES WITHIN 3 FT. OF THE EDGE OF ANY FOOTING AND BELOW THE ELEVATION OF BOTTOM OF FOOTING, SHALL BE BACKFILLED WITH 3000 LB. CONCRETE MIX TO THE LEVEL OF FOOTING.
6. SHORE OR SHEET PILE TRENCHES AS NECESSARY TO PREVENT CAVING. DO NOT ENDANGER WORK OF OTHER CONTRACTORS OR EXISTING STRUCTURES.
7. TRENCHES FOR UNDERGROUND SEWERS, INTERIOR AND EXTERIOR, SHALL BE EXCAVATED 4" BELOW GRADE AND DEPTH REQUIRED. PLACE 4" LAYER OF PEA GRAVEL (OR BANK RUN SAND) AND INSTALL PIPE. BACKFILL WITH PEA GRAVEL TO 12" ABOVE PIPE.
8. BACKFILL TO FINISH SUB-GRADE ON THE INTERIOR OF BUILDING, UNDER ALL PAVED AREAS AND SIDEWALKS WITH BANK-RUN GRAVEL. MECHANICALLY COMPACT IN LAYERS NOT TO EXCEED 6".
9. BACKFILL TO FINISH SUB-GRADE FOR EXTERIOR TRENCHES NOT UNDER PAVED AREAS OR SIDEWALK WITH SAND OR SELECT MATERIAL EXCAVATED TO 6" ABOVE FINISH SUB-GRADE.
10. PROVIDE, OPERATE PUMPING EQUIPMENT AS NECESSARY TO KEEP TRENCHES, OTHER EXCAVATIONS FREE OF WATER.
11. WHEN EXCAVATION IS NECESSARY IN AN EXISTING LAWN, RESOD TO MATCH EXISTING LAWN, AS APPROVED.
12. WHERE TRENCHES CROSS ROADS, WALKS OR PUBLIC THOROUGHFARES, PROVIDE SUITABLE BARRICADES AND BRIDGES ADEQUATELY PROTECTED BY SIGNS OR RED FLAGS DURING DAY AND NIGHT.
13. REPAVE ALL STREETS OR SIDEWALKS DISTURBED AT CONTRACTOR'S EXPENSE, TO SATISFACTION OF ARCHITECT AND AUTHORITIES HAVING JURISDICTION.
14. WHERE BUILDING SERVICE LINES ENTER OR LEAVE BUILDING SUCH AS WATER, SEWER, AND ARE INSTALLED ON FILLED EARTH, PROVIDE CONTINUOUS SUPPORT ON A REINFORCED CONCRETE BEAM FURNISHED AND INSTALLED AS A PART OF THIS WORK. SUPPORT BEAM ON BUILDING END WITH VERTICAL SUPPORT DOWN TO FOUNDATION FOOTING AND ON UNDISTURBED EARTH AT OTHER END.
- U. DEWATERING:
1. PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
2. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. PROVIDE AND MAINTAIN PUMPS, WELL POINTS, SUMPS, SUCTION AND DISCHARGE LINES, AND OTHER DEWATERING SYSTEM COMPONENTS NECESSARY TO CONVEY WATER AWAY FROM EXCAVATIONS.
3. ESTABLISH AND MAINTAIN TEMPORARY DRAINAGE DITCHES AND OTHER DIVERSIONS OUTSIDE EXCAVATION LIMITS TO CONVEY RAIN WATER AND WATER REMOVED FROM EXCAVATIONS TO COLLECTING OR RUNOFF AREAS. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DRAINAGE DITCHES.

HEATING, VENTILATING & AIR CONDITIONING SPECIFICATIONS

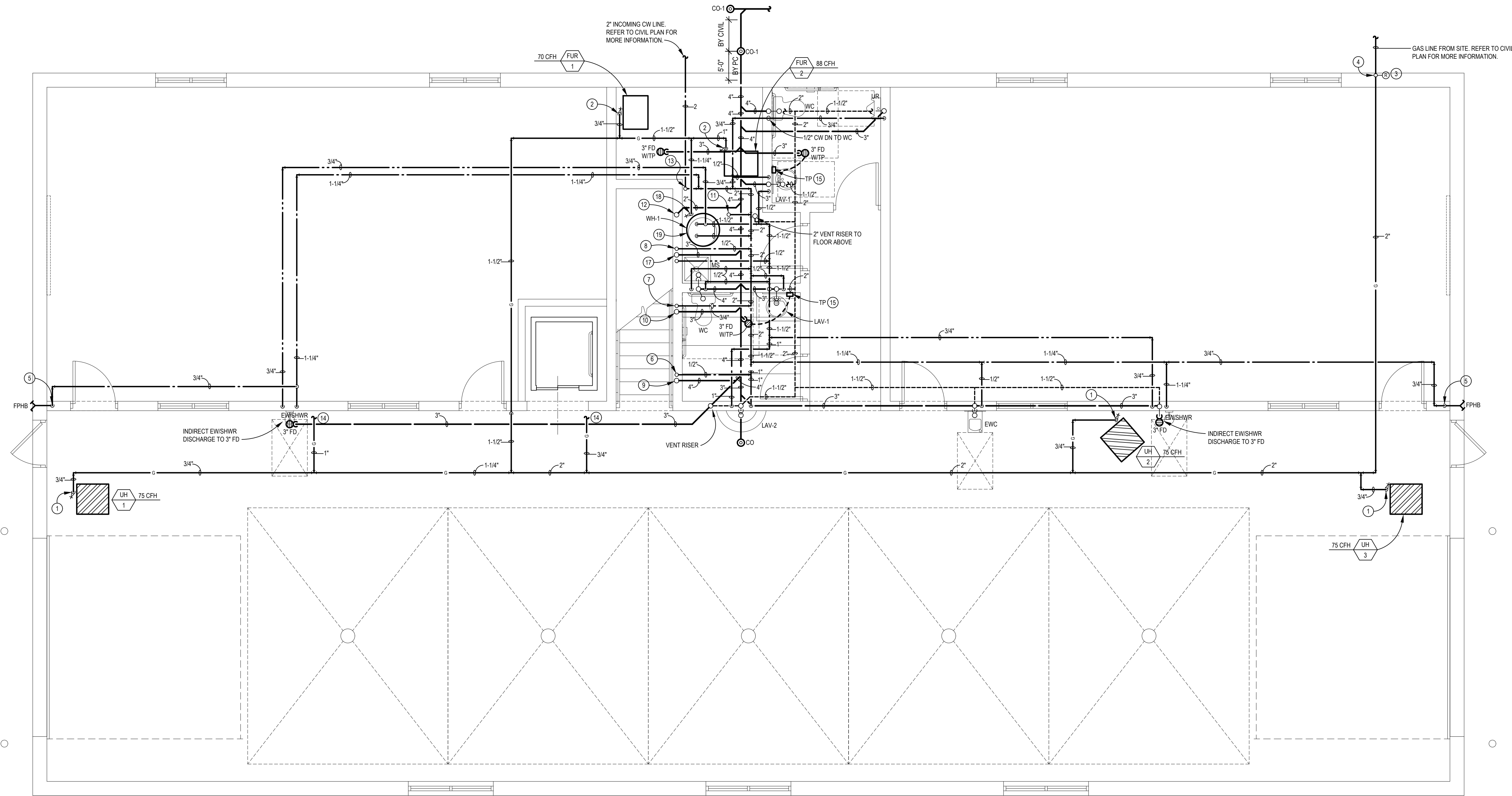
- A. IN RESPECT TO ALL MATERIALS REQUIRED, THE CONTRACTOR SHALL FURNISH MATERIALS MEETING AIE, NEMA, NELA, ASME AND ASTM SPECIFICATIONS. THE INSTALLATION OF ALL WORK SHALL CONFORM TO ASHRAE GUIDE AND SHEET METAL PROMOTION PLAN STANDARDS. THE MECHANICAL CONTRACTOR IS RESPONSIBLE TO PAY ALL FEES FOR PERMITS PRIOR TO STARTING WORK.
- B. MATERIALS SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED, AND SHALL BE PROTECTED FROM ALL INJURY UNTIL FINAL ACCEPTANCE OF THE SYSTEM. MECHANICAL CONTRACTOR SHALL BE LICENSED IN THIS AREA TO PERFORM THE NEW WORK.
- C. THIS CONTRACTOR SHALL REMOVE ALL TOOLS, SURPLUS MATERIALS AND DEBRIS OF ALL KINDS FROM HIS WORK AND LEAVE ALL IN A CLEAN, PERFECT CONDITION, FULLY SATISFACTORY TO THE ARCHITECT.
- D. CONTRACTOR SHALL PROVIDE OWNER WITH ONE (1) SET OF "AS-BUILT" DRAWINGS.
- E. FURNISH ALL MATERIALS, TRANSPORTATION, RIGGING, HOISTING, ETC. TO PROVIDE A COMPLETE AND OPERABLE HEATING, AIR CONDITIONING AND VENTILATING SYSTEM.
- F. ALL EQUIPMENT IS TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND GOOD PRACTICES. COORDINATE ALL WORK WITH OTHER TRADES AND WITH THE GENERAL CONTRACTOR.
- G. ALL TEMPERATURE CONTROL WIRING SHALL BE DONE BY THE MECHANICAL CONTRACTOR. THIS CONTRACTOR SHALL FURNISH ALL REQUIRED CONTROLS AND WIRING DIAGRAMS AND SHALL SUPERVISE INSTALLATION.
- H. SYSTEM IS TO BE AIR BALANCED BY AN INDEPENDENT BALANCE COMPANY, TO INCLUDE DIFFUSER CFM, RETURN CFM AND EXHAUST CFM WITH THREE (3) REPORTS SUBMITTED TO THE OWNER AND THREE (3) MAINTENANCE MANUALS TURNED OVER TO OWNER BEFORE FINAL ACCEPTANCE. ALL SYSTEMS AND EQUIPMENT ARE TO BE GUARANTEED FOR PARTS AND LABOR FOR ONE YEAR (EXCEPT AIR CONDITIONING COMPRESSOR SHALL HAVE FIVE (5) YEAR WARRANTY).
- I. DUCTWORK AND PLENUMS SHALL BE AS SCHEDULED ON THE DRAWINGS PER SMACNA "DUCT CONSTRUCTION" CLASSIFICATION.
ALL EXPOSED DUCTWORK SHALL BE DOUBLE WALL INSULATED SPIRAL DUCT. SPIRAL DUCT AND ALL FITTINGS SHALL BE FURNISHED AND INSTALLED PER MANUFACTURER'S REQUIREMENTS, UNITED SHEET METAL, SPIRAMATIC OR SEMCO, WITH ELBOWS 12" AND SMALLER TO BE DIE FORMED FREE FLOW TYPE. IF CONTRACTOR OBTAINS APPROVAL FROM ENGINEER TO USE SINGLE WALL SPIRAL DUCTWORK, NO GORE LOCK ELBOWS OR ADJUSTABLE FITTINGS SHALL BE USED UNLESS SEALANT IS PROVIDED AT EACH SEAM.
- J. SHEET METAL FABRICATION AND INSTALLATION SHALL BE AS FOLLOWS:
1. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH STANDARDS SET FORTH IN LATEST EDITION OF THE ASHRAE GUIDE AND SMACNA STANDARDS UNLESS MODIFIED HEREIN.
2. DUCT DIMENSIONS ARE GROSS EXCEPT FOR LINED DUCTS WHERE DIMENSIONS ARE NET FREE AREA.
3. DUCT SIZES SHOWN ON THE PLANS ARE ACTUAL SHEET METAL INSIDE DIMENSIONS AND SHALL BE ADHERED TO UNLESS JOB CONDITIONS REQUIRE ALTERATIONS. REVISIONS TO DUCT SIZES SHALL BE BASED ON THE "TOLL-FRICTION" METHOD.
4. ALL ELBOWS IN THE DUCT SYSTEM SHALL BE MADE WITH CENTERLINE RADIUS OF ONE AND ONE-HALF (1 1/2) TIMES THE TURNING WIDTH OF THE DUCT. WHERE SPACE PROHIBITS THE SPECIFIED MINIMUM RADIUS, SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES SHALL BE INSTALLED. CHANGES IN DUCT SIZES SHALL BE 15 DEG. DIVERGING AND 90 DEG. CONTRACTING. FLOW MAXIMUM ANGLES.
5. THE GENERAL ROUTE OF THE DUCTS IS SHOWN ON THE PLANS. THE EXACT ROUTE SHALL BE DETERMINED BY JOB CONDITIONS AND SHALL BE COORDINATED WITH ALL OTHER TRADES. ALL GRILLES, REGISTERS, DIFFUSERS, ETC. SHALL BE LOCATED SYMMETRICALLY WITH ELECTRIC LIGHT ARCHITECTURAL TREATMENT, ETC.
6. HANGERS TO BE 8 FT. CENTERS MAXIMUM WITH STRAPS FOR DUCTS (BENT UNDER BOTTOM OF DUCT AND ATTACHED). DUCTWORK SHALL BE SEALED.
7. INSTALL DUCTWORK TIGHT TO BOTTOM OF STRUCTURAL STEEL.
8. NO FIBERGLASS DUCTBOARD WILL BE PERMITTED.
- K. FURNISH AND INSTALL ALL MANUAL SPLITTER DAMPERS AND DEFLECTORS INDICATED ON DRAWINGS OR NECESSARY TO PROPERLY DISTRIBUTE AND BALANCE AIR.
- L. HVAC EQUIPMENT SHALL BE AS SCHEDULED ON DRAWING.
- M. INSULATION SHALL BE AS FOLLOWS:
1. ALL INSULATION, VAPOR BARRIER, JACKETS AND ADHESIVE USED FOR APPLYING INSULATION SHALL HAVE FIRE HAZARD RATINGS AS TESTED UNDER ASTM-B4, NFPA-255, AND UL-723 NOT EXCEEDING A FLAME SPREAD 25 AND SMOKE DEVELOPED OF 50.
2. ALL NEW CONCEALED SUPPLY AIR DUCTWORK SHALL BE WRAPPED WITH OWENS-CORNING TYPE 150, 1-1/2" DUCT WRAP (6-0 R VALUE). TARE ALL SEAMS AND JOINTS.
3. RETURN AIR DUCTWORK SHALL BE LINED WITH 1" ACOUSTIC LINING, OWENS-CORNING TYPE 300.
4. OTHER APPROVED MANUFACTURERS, MANSVILLE, KNAUF, CERTAINTED.
- N. PROVIDE WITH SPIN-IN TRUNK CONNECTIONS WITH AIR SCOOP AND VOLUME DAMPER.
- O. FLEXIBLE CONNECTION AT THE INLET AND OUTLET OF THE AIR MOVING UNIT, EXHAUST FANS AND HVAC UNIT CONNECTED TO DUCTWORK. MATERIALS SHALL BE NON-COMBUSTIBLE TWELVE (12) OUNCES PER SQUARE YARD, NFPA-90A APPROVED.
- P. FLEXIBLE INSULATED DUCT SHALL BE THERMAFLEX TYPE M-KE FACTORY ASSEMBLED DUCT CONSISTING OF COLD ROLLED FLAT STEEL SPRING, CONTINUOUS NON-PERFORATED INNER AIR SEAL LINER, G-23 THERMAL CONDUCTANCE FIBERGLASS INSULATION, AND FIBERGLASS REINFORCED METALIZED FULL VAPOR BARRIER. DUCTS SHALL BE LISTED BY UL, CONFORM TO NFPA CLASS 1 WITH FLAME SPREAD RATING OF 25 OR LESS AND SMOKE DEVELOPMENT OF 50 OR LESS.

REFRIGERANT PIPING NOTES:

1. A/C CONDENSATE DRAIN PIPING SHALL BE TYPE 1/2" HARD DRAWN COPPER TUBING (ASTM B-88 LATEST REVISION) WITH WROUGHT COPPER FITTING AND SOLDERED JOINTS WITH 95-5 TIN ANTIMONY.
2. CONNECTION BETWEEN COPPER PIPING AND FERROUS PIPING OR EQUIPMENT SHALL BE MADE WITH DIELECTRIC UNION.
3. REFRIGERANT PIPING SHALL BE TYPE 1/2" HARD DRAWN COPPER REFRIGERATION GRADE (ARC), WROUGHT COPPER FITTINGS (LONG RADIUS ELBOWS). COPPER TO BRASS OR STEEL JOINTS SHALL BE MADE USING A 45% SILVER ALLOY SUCH AS "EASY-FLO" WITH FLUX. INERT NITROGEN SHALL BE PASSED THROUGH THE PIPING DURING BRAZING OPERATIONS TO PREVENT OXIDATION. PIPING SHALL BE CUT USING TUBING CUTTER ONLY. HACKSAW CUTS ARE PROHIBITED.
4. AFTER THE INSTALLATION IS COMPLETE, LEAK TEST THE COMPLETE SYSTEM USING A MIXTURE OF NITROGEN AND SYSTEM REFRIGERANT PRESSURIZED TO 75 PSIG.
5. AFTER LEAK TESTING, THE ENTIRE PIPING SYSTEM SHALL BE EVACUATED TO 1,500 MICRONS.
6. AFTER EVACUATION, THE SYSTEM SHALL BE CHARGED WITH THE PROPER AMOUNT OF REFRIGERANT FOR DESIGNED OPERATION.
7. THE REFRIGERANT LINES MAY BE PRE-ENGINEERED SYSTEM BY UNIT MANUFACTURER INSTEAD OF MATERIAL LISTED ABOVE.
8. PIPING INSULATION
A) REFRIGERANT PIPING SUCTION LINE TO BE INSULATED WITH 1" THICK ARMAFLEX PIPE INSULATION.
B) CONDENSATE DRAIN LINE FROM AHU TO BE INSULATED WITH 1" THICK ARMAFLEX PIPE INSULATION.



FIRST FLOOR PLUMBING PLAN
BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING
351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674

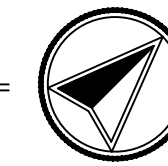


PLUMBING CODED NOTES:

- ① EXTEND AND CONNECT NATURAL GAS LINE TO UH COMPLETE W/SHUT-OFF VALVE AND DIRT LEG.
- ② EXTEND AND CONNECT NATURAL GAS LINE TO FURNACE COMPLETE W/SHUT-OFF VALVE AND DIRT LEG.
- ③ NEW 2" GAS LINE UP WITH PRESSURE REGULATOR AND SHUT OFF VALVE. COORDINATE WITH LOCAL GAS COMPANY FOR ALL REQUIREMENTS.
- ④ 2" GAS LINE TO RISE UP HIGH AND THROUGH EXTERIOR WALL. RUN GAS PIPING HIGH IN SPACE.
- ⑤ 3/4" CW DROP IN WALL ON WARM SIDE OF INSULATION TO FPHB.
- ⑥ 1/2" CW LINE UP TO WC ON SECOND FLOOR.
- ⑦ 3/4" CW LINE UP TO UR ON SECOND FLOOR.
- ⑧ 1/2" CW AND HW LINES UP TO LAV-1 ON SECOND FLOOR.
- ⑨ 4" SANITARY LINE FROM WC ON SECOND FLOOR.
- ⑩ 3" SANITARY LINE FROM UR ON SECOND FLOOR.
- ⑪ 1/2" CW LINE UP TO EWC ON SECOND FLOOR.
- ⑫ 2" SANITARY LINE FROM EWC ON SECOND FLOOR.
- ⑬ 2" CW LINE UP THROUGH FLOOR WITH SHUT OFF VALVE. VERIFY IF METER OR SUB METER IS REQUIRED.
- ⑭ SEE SHEET P2.0 FOR CONTINUATION OF GAS PIPING.
- ⑮ DROP 1/2" COLD WATER LINE TO TRAP PRIMER (TP). DROP 1/2" CW LINE FROM TP DISTRIBUTION UNIT DOWN INTO WALL TO BELOW FLOOR. RUN 1/2" CW LINE BELOW FLOOR AND CONNECT TO TRAP PRIMER CONNECTION AT FLOOR DRAIN COMPLETE WITH 1/2" THICK ARMAFLEX PIPE INSULATION.
- ⑯ 1-1/4" GAS LINE TO DROP AND ENTER INTO CEILING SPACE OF FIRST FLOOR. VERIFY EXACT LOCATION IN FIELD.
- ⑰ 3" SANITARY LINE FROM LAV-1 ON SECOND FLOOR.
- ⑱ EXTEND AND CONNECT NATURAL GAS LINE TO WATER HEATER COMPLETE W/SHUT-OFF VALVE AND DIRT LEG.
- ⑲ GAS WATER HEATER INTAKE AND EXHAUST PVC PIPING TO BE ROUTED TO NEAREST EXTERIOR WALL. INSTALL PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS. SEAL WALL PENETRATION WEATHER TIGHT. KEEP A MINIMUM OF 10' FROM ALL OUTSIDE AIR INTAKES.

FIRST FLOOR PLUMBING PLAN

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



PLUMBING GENERAL NOTES:

1. THE LOCATIONS OF PIPING AND EQUIPMENT AS SHOWN ON THE DRAWING ARE GENERAL ONLY. THE PLUMBING CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL PIPING AND EQUIPMENT IN THE FIELD PRIOR TO EXECUTING HIS WORK.
2. PLUMBING CONTRACTOR SHALL COORDINATE EXACT LOCATION OF SERVICES IN BUILDING PRIOR TO STARTING ANY WORK.
3. ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED A MINIMUM OF 12" ABOVE THE ROOF. ALL VENTS SHALL BE A MINIMUM OF 10'-0" FROM ANY OUTSIDE AIR INTAKE.
4. ALL WATER PIPING TO RUN ON WARM SIDE OF THE BUILDING INSULATION. PLUMBING CONTRACTOR TO COORDINATE WITH GENERAL CONTRACTOR.
5. THE PLUMBING CONTRACTOR TO COORDINATE ALL CUTTING OF ROOF, WALLS AND FLOORS WITH GENERAL CONTRACTOR PRIOR TO EXECUTING HIS WORK.
6. SEAL PENETRATIONS THRU FIRE-RATED WALLS WITH THE PROPER FIRE STOPPING MATERIAL TO MAINTAIN FIRE RATING.
7. PLUMBING CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES (MECHANICAL, FIRE PROTECTION, ELECTRICAL, ETC.).
8. THE PLUMBING CONTRACTOR SHALL VERIFY EXISTING PLUMBING FIXTURES AND EQUIPMENT TO REMAIN ARE IN GOOD WORKING CONDITION. NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES.
9. REFER TO DWG. M4.0 FOR SPECIFICATIONS.

GAS PIPING NOTES:

1. PLUMBING CONTRACTOR TO NOTIFY THE AUTHORITY HAVING JURISDICTION WHEN THE INSTALLATION IS READY FOR INSPECTION (AT ROUGH-IN PRIOR TO COVERING AND FINAL).
2. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL MANUAL SHUT-OFF VALVE, DRIPS AND/OR SEDIMENT TRAPS AT EACH PIECE OF EQUIPMENT AND AT THE OUTLET OF THE METER. VALVES AND DRIPS SHALL BE READILY ACCESSIBLE TO PERMIT CLEANING, EMPTYING OR SERVICING.
3. GAS PIPING IS SIZED WITH LONGEST LENGTH METHOD AND BASED ON THE INTERNATIONAL FUEL GAS CODE; SCHEDULE 40 METALLIC PIPE TABLE 402.4(2).
4. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PRESSURE TESTING AND INSPECTION PRIOR TO ACCEPTANCE. PER NFPA 54. TEST PRESSURE SHALL BE NO LESS THAN 1-1/2 TIMES THE MAXIMUM WORKING PRESSURE, BUT NOT LESS THAN 3 PSI. TEST SHALL BE NOT LESS THAN 1/2 HOUR PER 500 CF OF PIPE VOLUME.
5. GAS PIPING ABOVE GROUND SHALL BE SCHEDULE 40 BLACK STEEL WITH 125 POUND BLACK MALLEABLE IRON SCREWED FITTINGS FOR 2" AND SMALLER. GAS PIPING COMPOUND AT JOINTS SHALL BE PER NFPA BULLETIN #54 AND LOCAL CODES. GAS VALVES SHALL BE UL LISTED FOR GAS SERVICE SUCH AS DEZURICK MODEL S-425 FOR 2" AND LESS AND MODEL F-425 FOR 2-1/2" AND LARGER. NOTE: WELDED PIPE TO BE WITH APPROVED WELD-O-LET FITTINGS.
6. ALL NEW EXTERIOR GAS PIPING IS TO BE PRIMED AND PAINTED WITH TWO (2) COATS OF RUST RESISTANT PAINT, COLOR AS SELECTED BY ARCHITECT AS REQUIRED BY SECTION 404 OF THE INTERNATIONAL FUEL GAS CODE.

NATURAL GAS DEMAND

FURNACE (FUR-1)	70.0 CFH
FURNACE (FUR-2)	88.0 CFH
FURNACE (FUR-3)	88.0 CFH
UNIT HEATER (UH-1)	75.0 CFH
UNIT HEATER (UH-2)	75.0 CFH
UNIT HEATER (UH-3)	75.0 CFH
UNIT HEATER (UH-4)	30.0 CFH
WATER HEATER (WH-1)	199.0 CFH
TOTAL GAS DEMAND	700.0 CFH

NOTES:
1. PLUMBING CONTRACTOR SHALL VERIFY EXISTING GAS PRESSURE. GAS PIPING IS BASED ON 7" WC. IF HIGHER PRESSURE IS PROVIDED PC SHALL PROVIDE PRESSURE REGULATORS AT ALL GAS-FIRED EQUIPMENT AND ADJUST PIPE SIZING.
2. GAS PIPE SIZES ARE BASED ON THE INTERNATIONAL FUEL GAS CODE; TABLE 402.4(2) SCHEDULE 40 METALLIC PIPE; INLET PRESSURE OF LESS THAN 2 PSI; PRESSURE DROP OF 0.5" WC AND 200 FEET (TOTAL LENGTH OF PIPE).

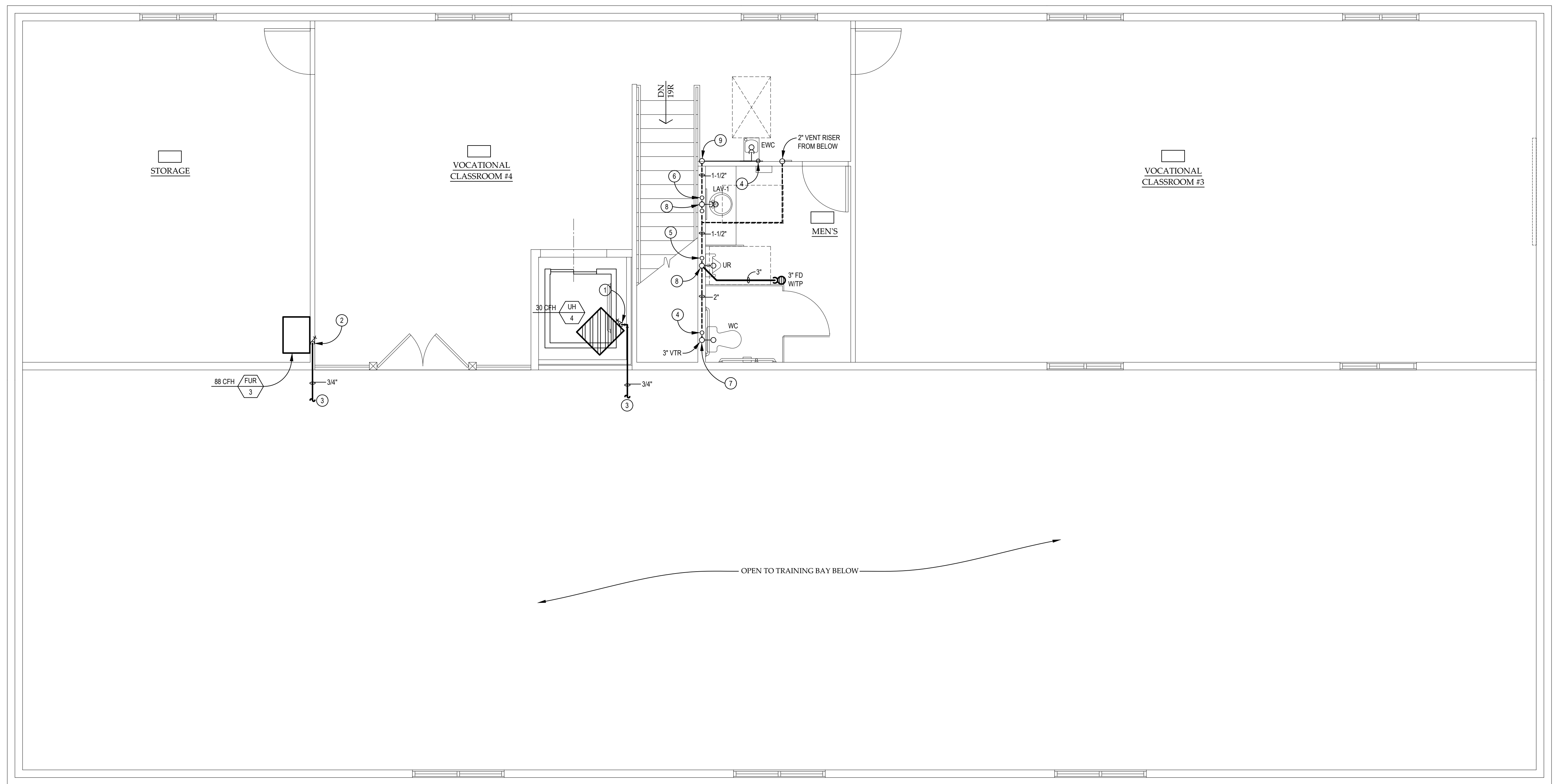
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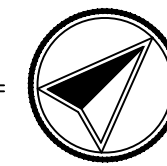
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- BID SET 12-08-2023
- PERMIT SET
- REVISIONS:



SECOND FLOOR PLUMBING PLAN

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



PLUMBING CODED NOTES:

- ① EXTEND AND CONNECT NATURAL GAS LINE TO UH COMPLETE WSHUT-OFF VALVE AND DIRT LEG.
- ② EXTEND AND CONNECT NATURAL GAS LINE TO FURNACE COMPLETE WSHUT-OFF VALVE AND DIRT LEG.
- ③ SEE SHEET P1.0 FOR CONTINUATION OF GAS PIPING.
- ④ 1/2" CW LINE FROM BELOW.
- ⑤ 3/4" CW LINE FROM BELOW.
- ⑥ 1/2" C AND HW LINES FROM BELOW.
- ⑦ 4" SANITARY LINE DOWN IN WALL.
- ⑧ 3" SANITARY LINE DOWN IN WALL.
- ⑨ 2" SANITARY LINE DOWN IN WALL.



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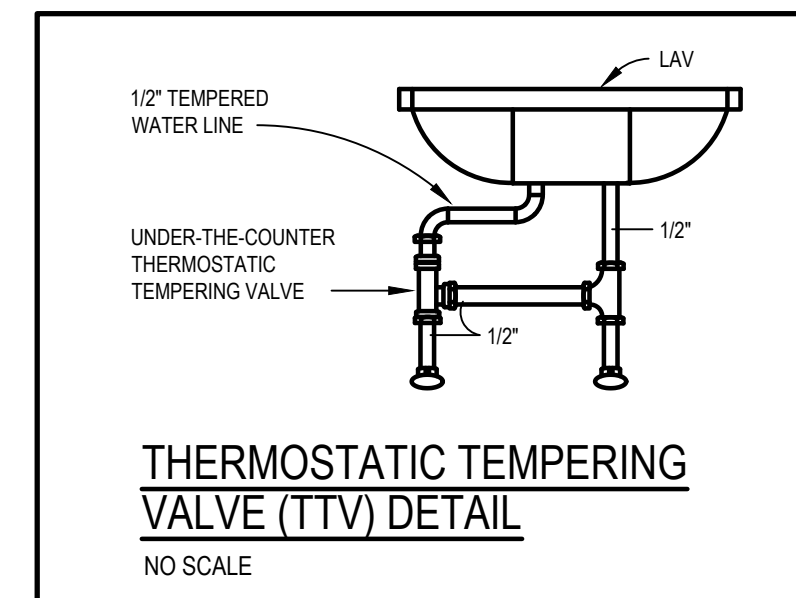
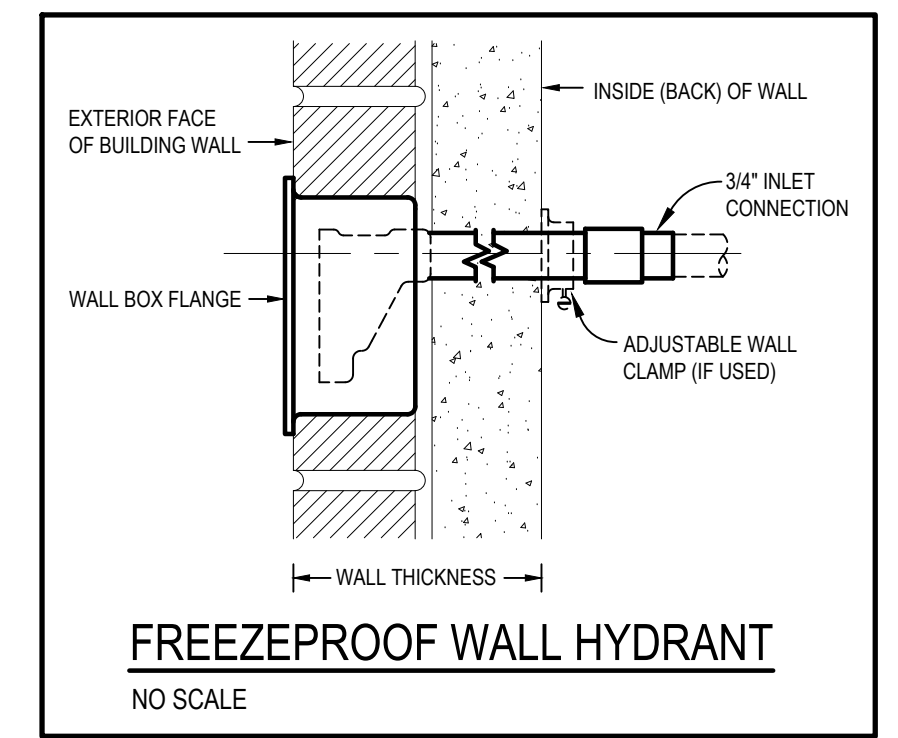
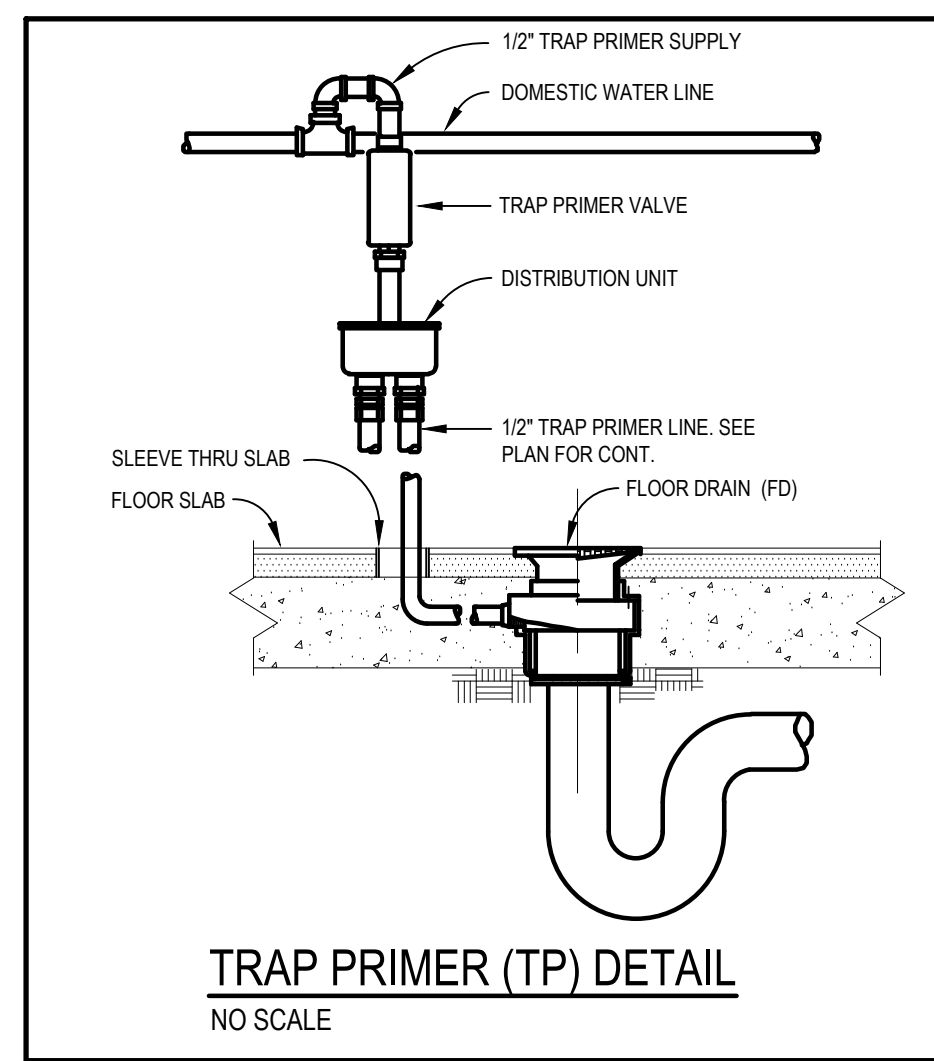
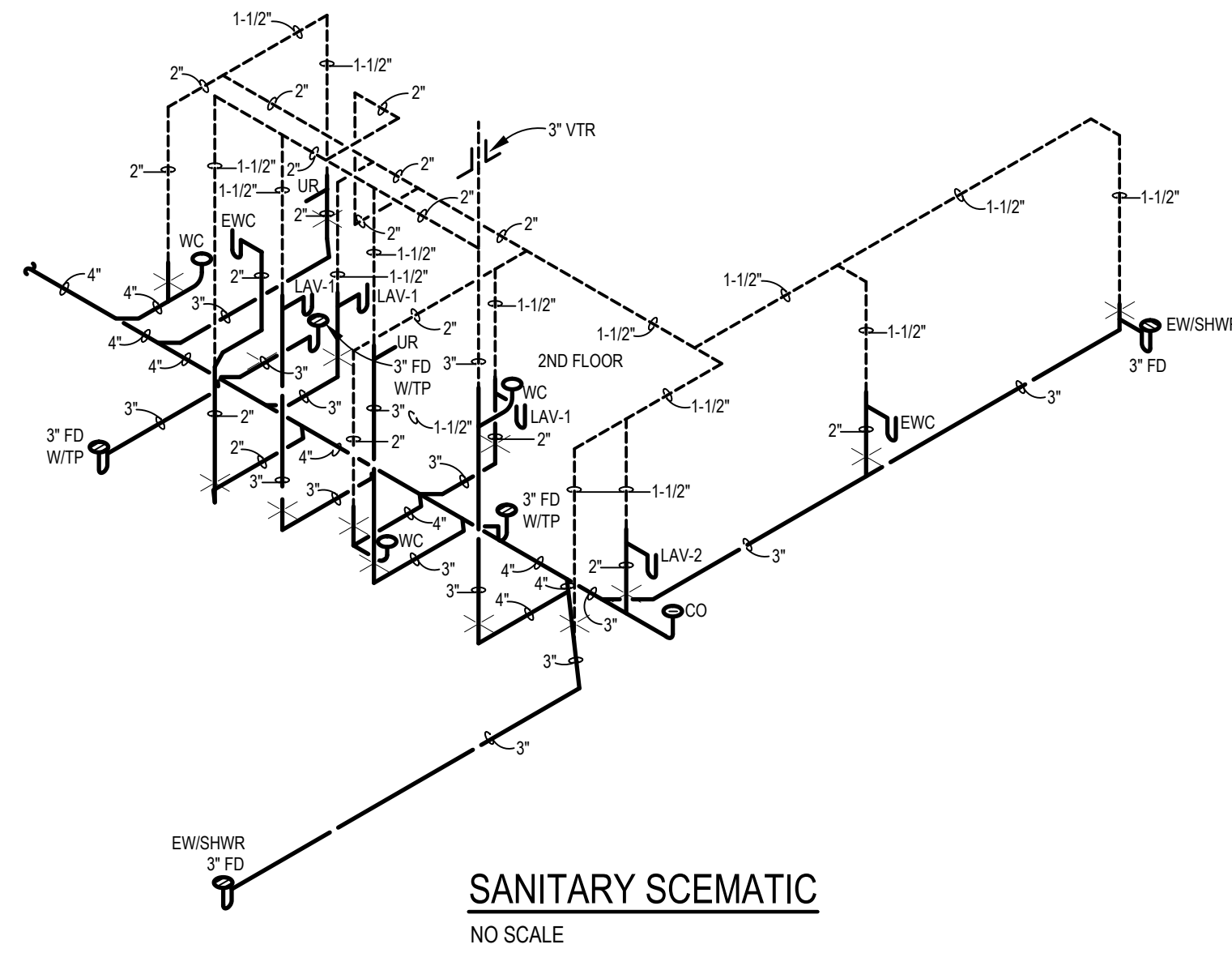
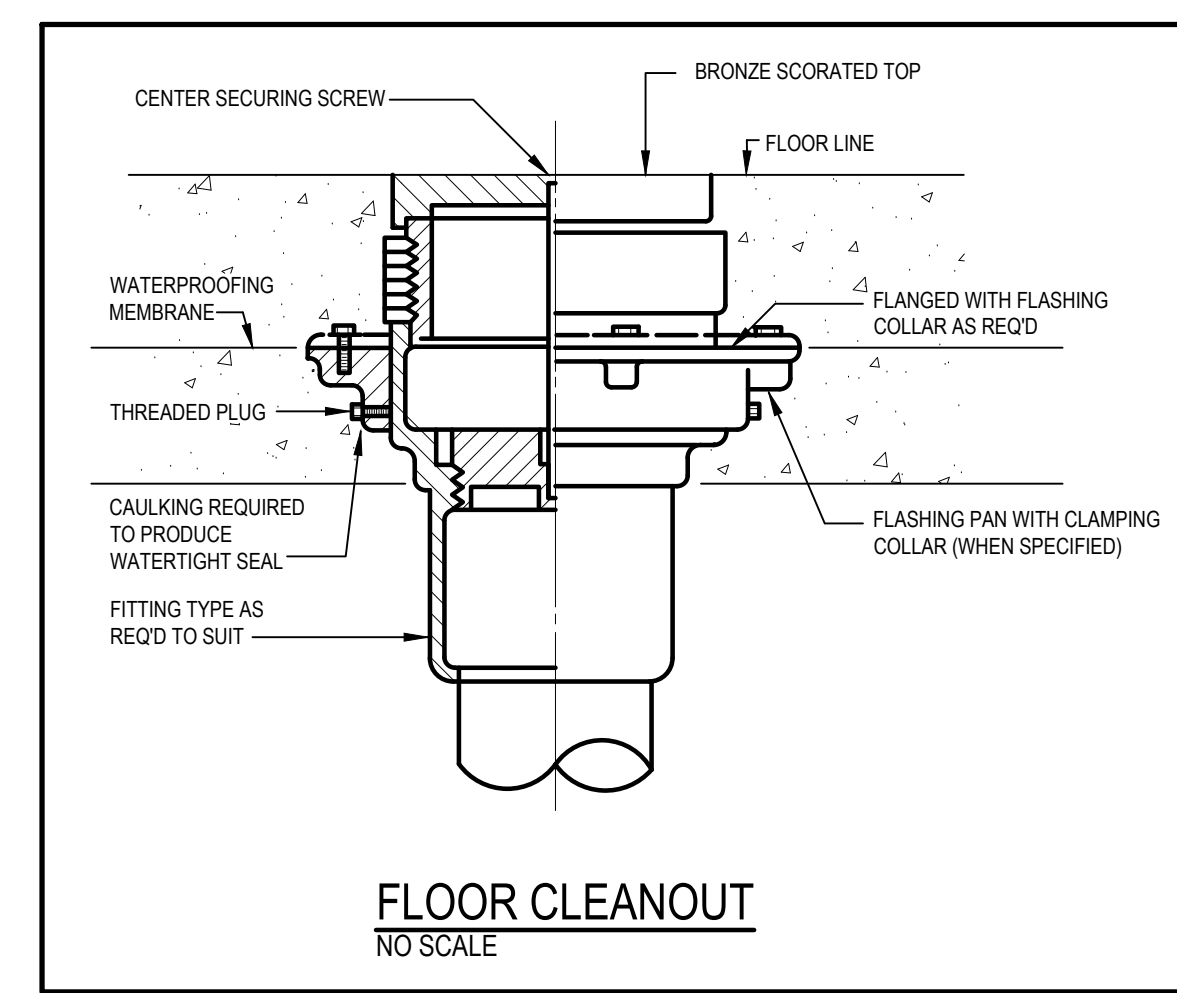
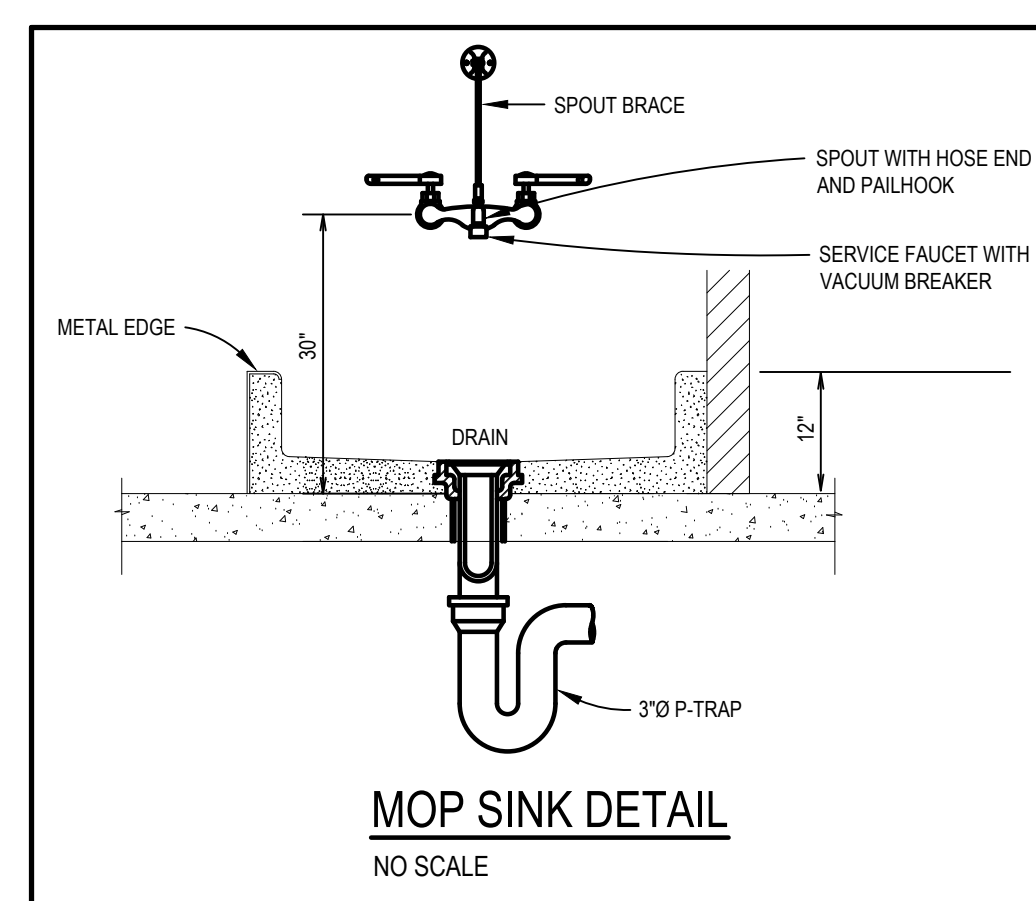
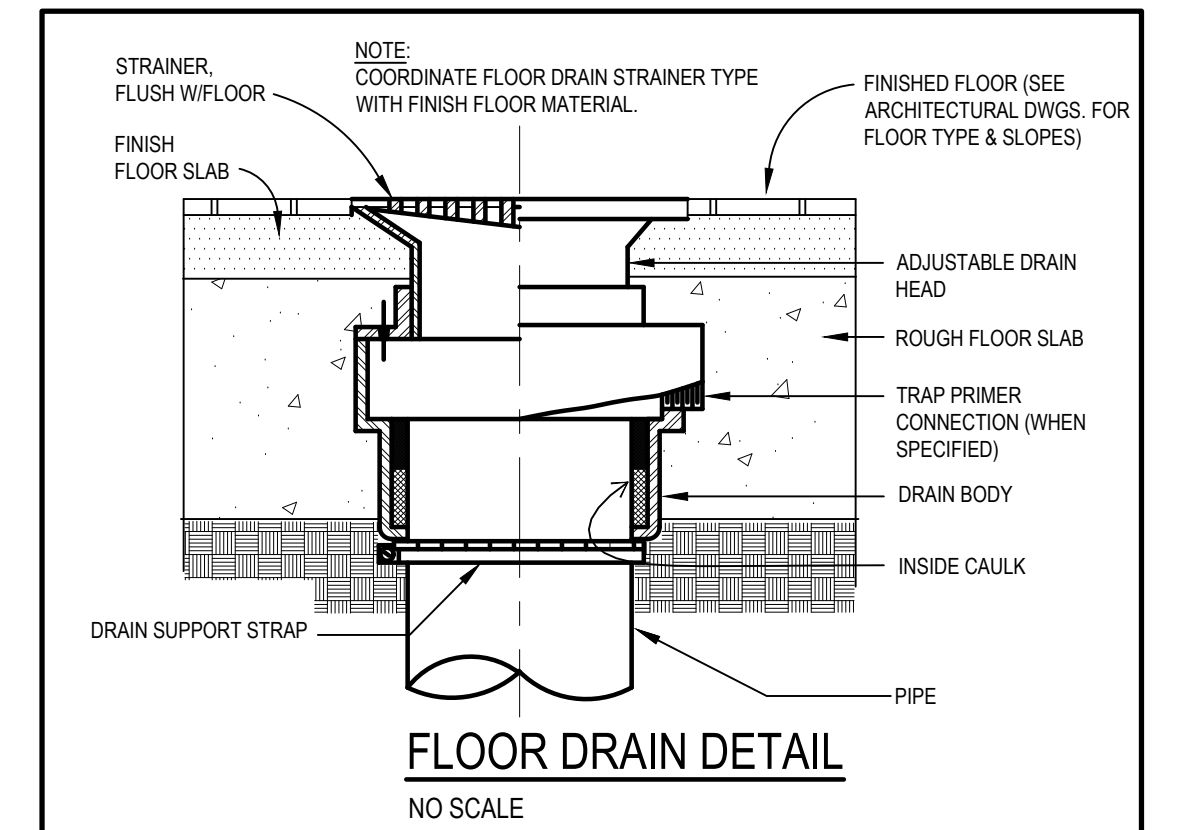
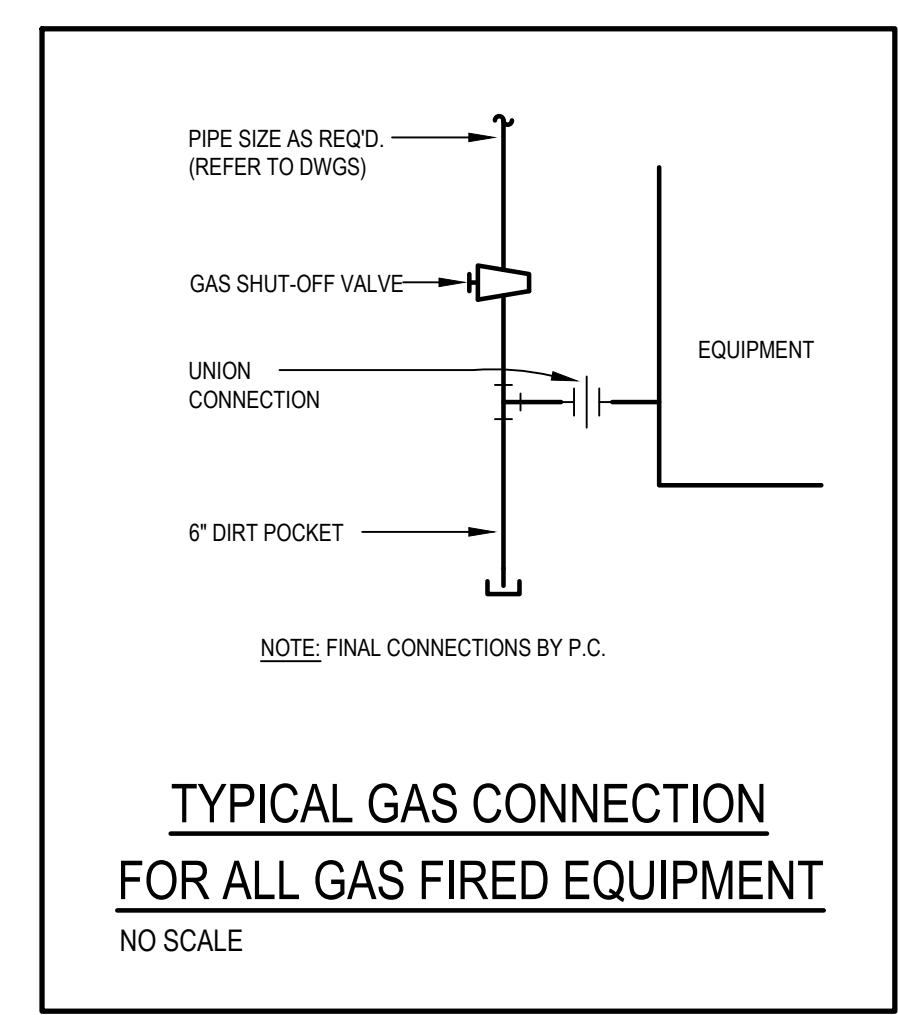
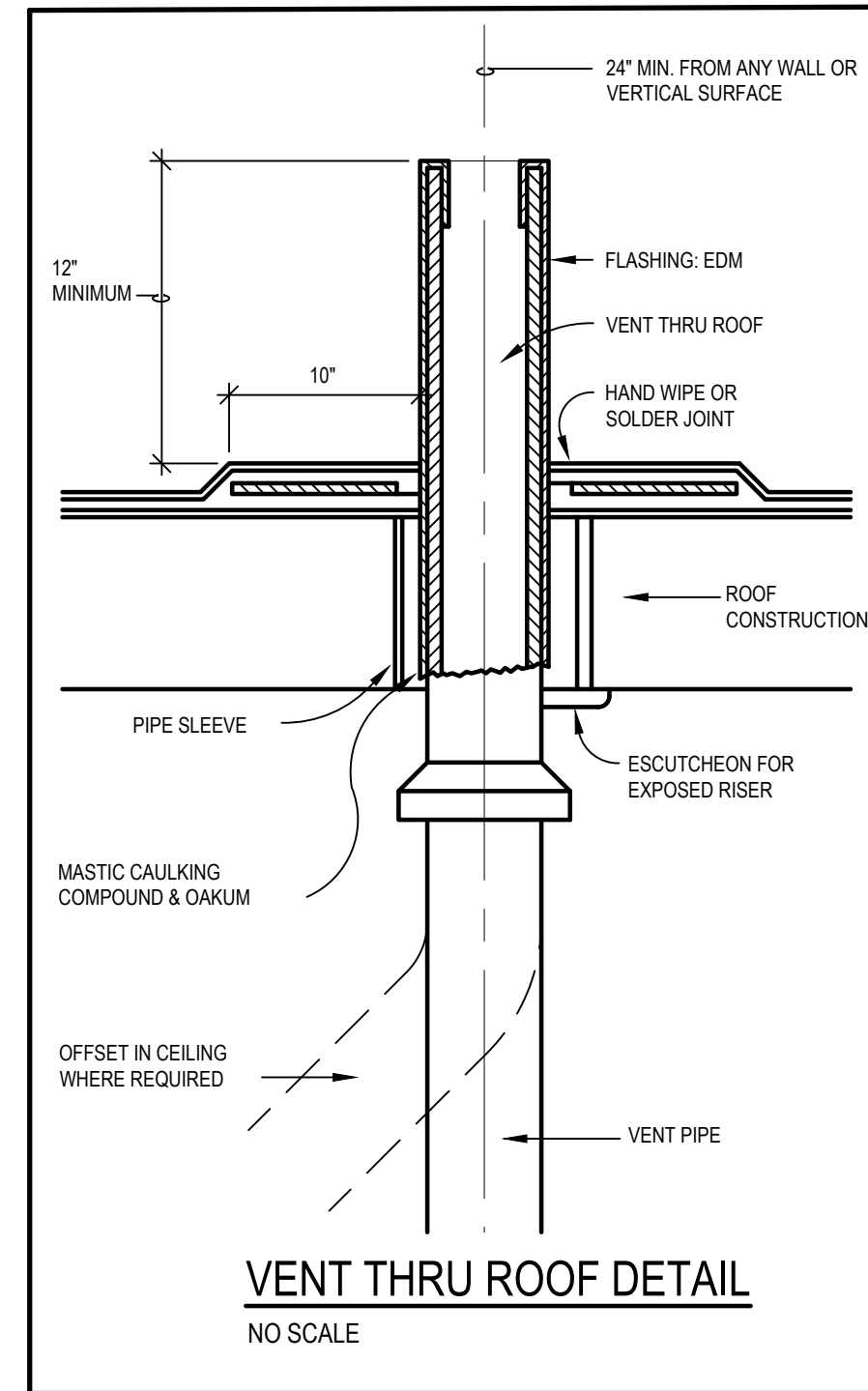
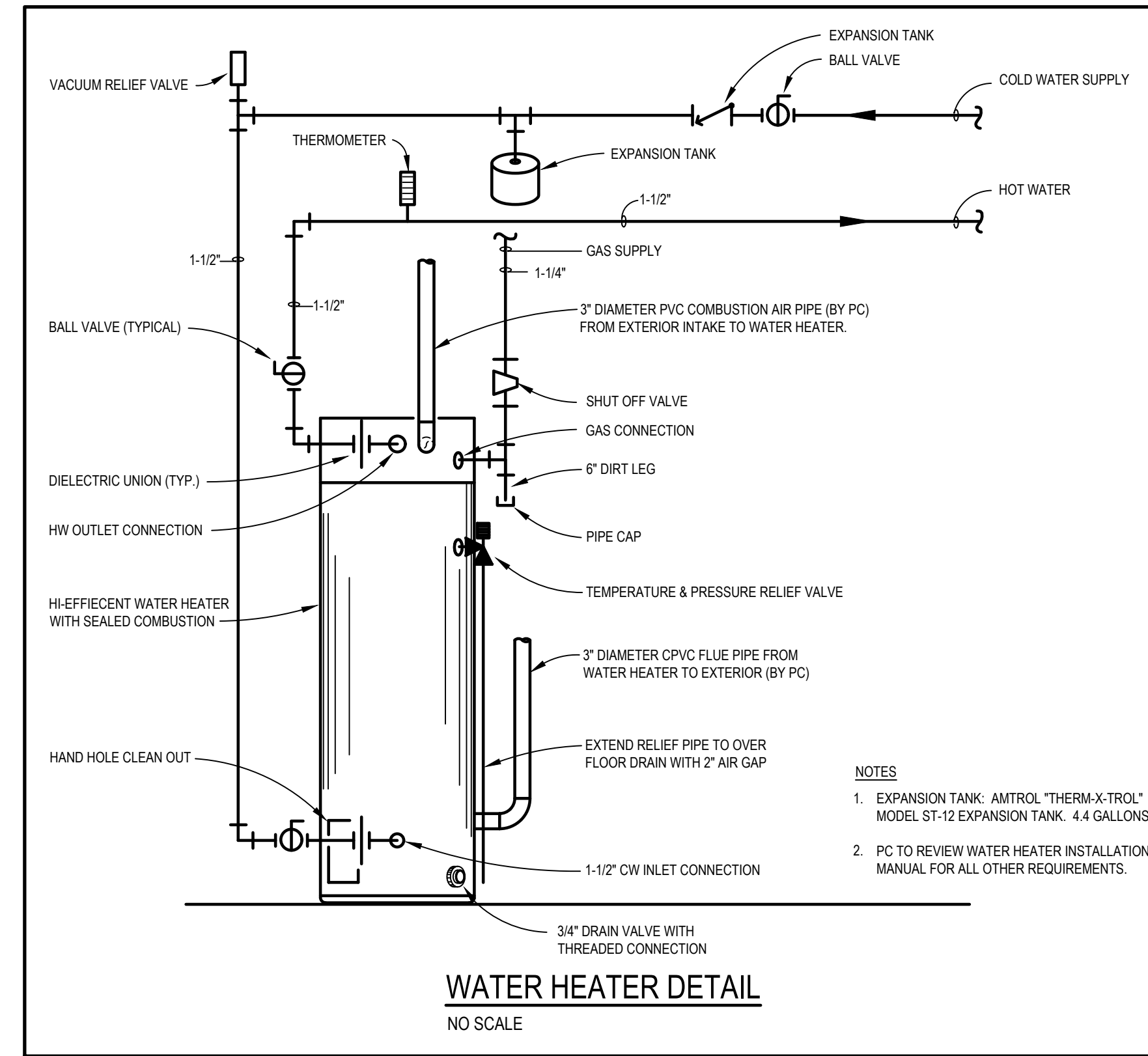
REVISIONS:

PLUMBING FIXTURE SCHEDULE								
MARK	ITEM	FIXTURE	FAUCET/VALVE	MTG. HT.	CW	HW	TRAP	ACCESSORIES
WC	WATER CLOSET (HANDICAP)	AM. STD. 215AA.004 CADET	--	16-1/2"	1/2"	--	INTEG.	NOTE-1
LAV-1	LAVATORY	AM. STD. 0480.166 RONDALYN	AM. STD. 7490.172H	COUNTER MOUNTED	1/2"	1/2"	1-1/2"	NOTE-2
LAV-2	LAVATORY	BRADLEY WF2503 TERRICON	-	REFER TO ARCH. SET	1"	1"	1-1/2"	NOTE-6
EWSHWR	EYEWASH/SHOWER COMBINATION	HAWS 8300-8309	-	FLOOR MTD. PER ARCH.	1-1/4"	3/4"	1-1/2"	NOTE-7
MS	MOP SINK	MUSTEE 63M	MUSTEE 63.600A	FLOOR MTD	1/2"	1/2"	2"	NOTE-3
EWC	ELECTRIC WATER COOLER	ELKAY LZ38WSLK	-	WALL MOUNTED (27" TO BOTTOM)	1/2"	-	1-1/2"	NOTE-4
UR	URINAL (HANDICAP)	AM. STD. 650.1511 WASHEROOK	SLOAN 186 (1.0 GPF)	15" TO RIM	3/4"	-	INTEG.	NOTE-5

- NOTE-1
FLOOR MOUNTED, VITREOUS CHINA, ELONGATED BOWL, 1.6 GPF, SIPHON-ACTION-JET. FURNISH WITH CHURCH #8500C OPEN FRONT SEAT LESS COVER. FLUSH LEVEL TO BE INSTALLED OPPOSITE OF WALL.
- NOTE-2
VITREOUS CHINA, SELF-RIMMING COUNTERTOP LAVATORY WITH FAUCET LEDGE AND FRONT OVERFLOW. CONFORMS TO ANSI A112.19.2. METAL LEVER HANDLES AND NO. 7723.018 OFFSET GRID DRAIN, CHROME TRAP WITH CLEANOUT AND CHROME SUPPLIES WITH WHEEL STOPS. MOUNT AT ELEVATIONS INDICATED ON ARCHITECTURAL DRAWINGS.
- NOTE-3
FLOOR MOUNTED 24"x24" NOMINAL SIZE, DURASTONE. FURNISH WITH MUSTEE MODEL #67.2424 DURAGUARD WALL GUARDS. MODEL #63.401 VINYL BUMPER GUARDS, MODEL #65.700 HOSE AND BRACKET AND MODEL #65.600 MOP HANGER.
- NOTE-4
WALL MOUNTED BARRIER FREE. FURNISH WITH BOTTLE FILL STATION INCLUDING ELECTRONIC FILL SENSOR AND ELECTRONIC FRONT AND SIDE BUBBLER PUSHBAR ACTIVATION, VISUAL FILTER MONITOR, CERTIFIED NSF 42 AND S3 FILTER FOR LEAD, PARTICULATE, CHLORINE AND ODOR REDUCTION WITH 5000 GALLON FILTER CAPACITY, WASTE DRAIN WITH TRAP, SUPPLY AND STOP AND WALL HANGER. EXACT COLOR AND FINISH TO BE SELECTED BY ARCHITECT.
- NOTE-5
WALL MOUNTED, VITREOUS CHINA, ELONGATED 14" RIM FROM FINISHED WALL, 3/4" TOP SPUD, 1.0 GPF, WASHOUT FLUSH ACTION AND THREADED 2" INSIDE OUTLET CONNECTION. FURNISH WITH WALL HANGER, WASTE DRAIN AND TRAP. VERIFY EXACT MOUNTING HEIGHT OF FIXTURE WITH ARCHITECTURAL DRAWINGS.
- NOTE-6
DEEP BOWL, ADA COMPLIANT WASH FOUNTAIN. PROVIDE PRE-ASSEMBLED BOWL AND PEDESTAL, 36" DIAMETER SEMI-CIRCULAR BOWL, 7-1/2" DEEP, INFRARED SENSOR OPERATED.
- NOTE-7
EMERGENCY COMBINATION EYE/FACE WASH STATION/DRENCH SHOWER, STAINLESS STEEL BOWL, TAILPIECE & P-TRAP. PROVIDE WITH TEMPERING VALVE. TEMPERING VALVE SHALL COMPLY WITH ANSI Z358-1 AND BE ASSE 1071 CERTIFIED. STAINLESS STEEL PIPING

PLUMBING EQUIPMENT SCHEDULE:

- WATER HEATER (WH-1):
AO SMITH MODEL NO. 8TH-199, 97% THERMAL EFFICIENCY, 100-GALLON STORAGE CAPACITY, 199.0 MBH INPUT WITH A RECOVERY CAPACITY OF 261.0 GPH @ 90 DEG F TEMPERATURE RISE, 120V, 1 PHASE POWER SUPPLY. HEATER SHALL BE EQUIPPED WITH AN AUTOMATIC GAS SHUT-OFF DEVICE. FURNISH AND INSTALL AN ASME TEMPERATURE/PRESSURE RELIEF VALVE.
- EXPANSION TANK (ET-1):
AMTROL "THERM-X-TROL" MODEL #ST-5, 2.1 GALLON TANK VOLUME, NON-ASME CONSTRUCTION, 3/4" SYSTEM CONNECTION (OR SIMILAR-OWNER APPROVED).
- FLOOR DRAIN (FD)
J.R. SMITH MODEL 2010.4-P550 DUCO CAST IRON BODY WITH TRAP PRIMER CONNECTION AND ADJUSTABLE NICKEL BRONZE STRAINER HEAD AND ROUND TOP.
- FLOOR CLEANOUT (CO)
J.R. SMITH MODEL NO. 4020 DUCO CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORATED SECURED NICKEL BRONZE TOP. NOTE: WHERE CLEANOUTS ARE INSTALLED IN CARPETED AREAS PROVIDE WITH CARPET CLAMPING FRAME (SUFFIX-X).
- THERMOSTATIC TEMPERING VALVE (TTV)
SYMMONS "MAXLINE" MODEL 7-210-CK WITH A MINIMUM OF 5 GPM AND 2 GPM @ 10 PSI PRESSURE DIFFERENTIAL. TTV MAY BE USED FOR UP TO TWO (2) ADJACENT LAVATORIES. NOTE: TEMPERING VALVE SHALL BE LISTED TO ASSE 1070 STANDARD AND SHALL LIMIT THE TEMPERED WATER TO A MAXIMUM OF 110°F.
- TRAP PRIMER (TP)
SHALL BE PRECISION PLUMBING PRODUCTS MODEL PR-500 PRESSURE DROP ACTIVATED BRASS TRAP SEAL PRIMER, WITH INLET OPENING OF 1/2" MALE N.P.T. AND OUTLET OPENING OF FEMALE 1/2" N.P.T. COMPLETE WITH FOUR VIEW HOLES AND REMOVABLE FILTER SCREEN.
- CLEANOUT (CO-1)
J.R. SMITH # 4100 SERIES CAST CLEAN OUT WITH ADJUSTABLE TOP AND ABS CLOSURE PLUG. NICKEL BRONZE DOUBLE EXTRA HEAVY DUTY TOP.
- FROST PROOF HOSE BIBB (FPBH):
WOODFORD MODEL NO. 65 ANTI-SIPHON NON-FREEZE WALL HYDRANT WITH 3/4" HOSE CONNECTION, INTEGRAL VACUUM BREAKER, 3/4" INLET & LOOSE KEY TO OPERATE HYDRANT (OR SIMILAR-OWNER APPROVED).



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PLUMBING SCHEDULES & DETAILS

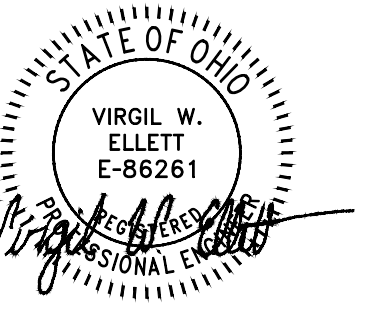
BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING
351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674

- PRELIMINARY 04-21-2022
- BID SET 12-08-2023
- PERMIT SET
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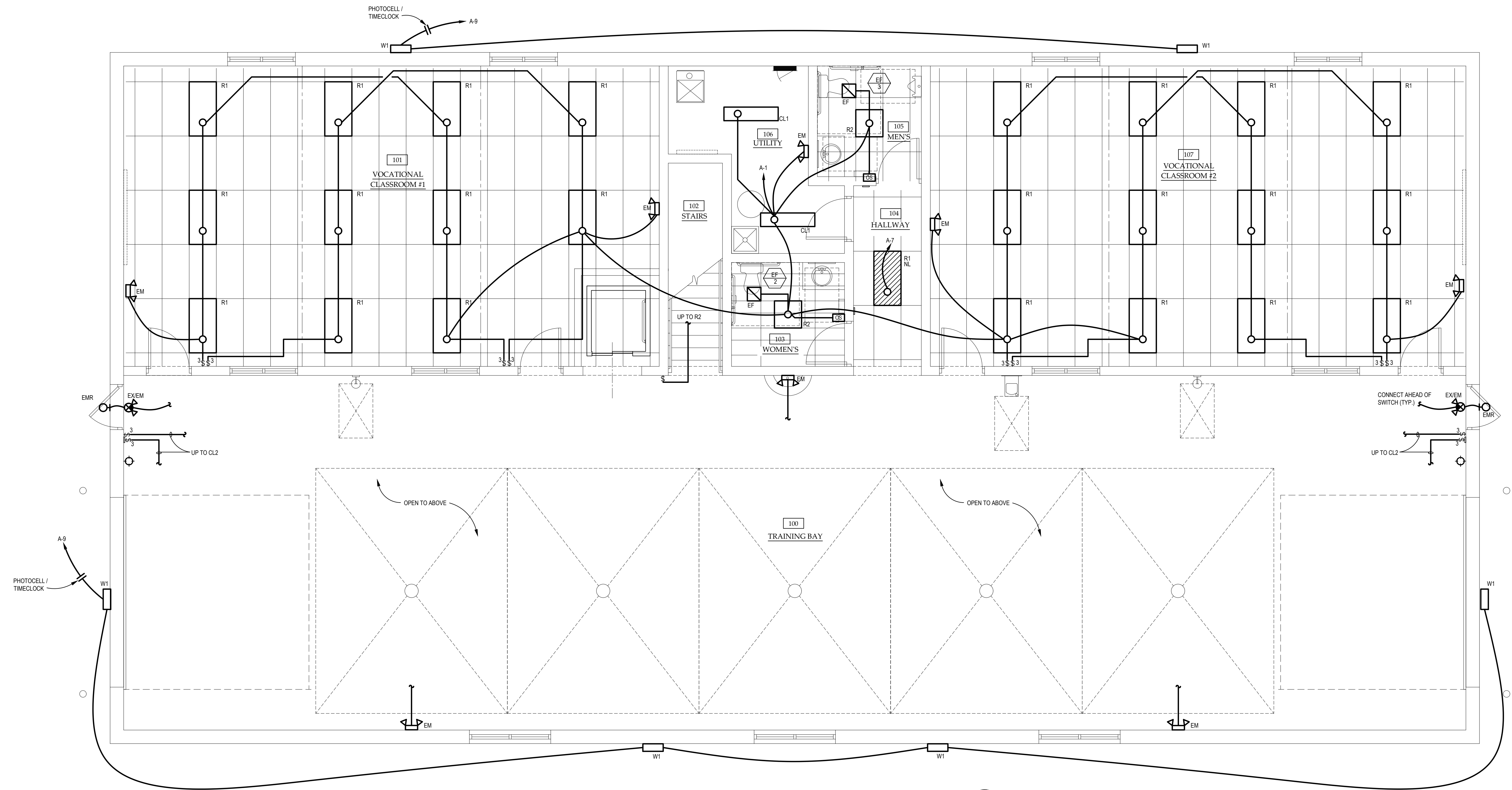
FIRST FLOOR LIGHTING PLAN

BUCKEYE HILLS CAREER CENTER

NEW TRADES BUILDING

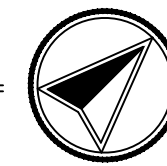
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RIO GRANDE, OHIO 45674

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- REVISIONS:



FIRST FLOOR LIGHTING PLAN

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



LIGHTING FIXTURE SCHEDULE					
MARK	DESCRIPTION	VOLT	LAMP	MOUNT	MANUFACTURER
R1	2' X 4' RECESSED LED PANEL SATIN WHITE LENS	120	39.3W LED 4000 LUM 4000K	RECESSED LAYIN	LITHONIA CPX-2X4-4000LUM-80CRI-40K-SW-MIN10-ZT-MVOLT
R2	2' X 2' RECESSED LED PANEL SATIN WHITE LENS	120	31W LED 3200 LUM 4000K	RECESSED LAYIN	LITHONIA CPX-2X2-3200LUM-80CRI-40K-SW-MIN10-ZT-MVOLT
CL1	4' LED STRIP	120	35.3W LED 4000 LUM 4000K	CEILING/ SURFACE	LITHONIA CSS-L48-4000LM-40K-80CRI
CL2	LED HIGHBAY	120	95W LED 13750 LUM 4000K	CEILING @ 18' A.F.F.	LITHONIA JEBL-12L-40K-80CRI-WH
W1	EXTERIOR LED WALLPACK WET LOCATION LISTED	120	47W LED 6000 LUM 4000K	EXTERIOR WALL @ 18' A.F.F.	LITHONIA WPA2-LED-40K-MVOLT-00BXD-M2
EXEM	SELF CONTAINED EMERGENCY EXIT COMBO	120	LED FURNISH WITH UNIT	UNIVERSAL	LITHONIA QUANTUM SERIES "HO" ON (2) UNITS
EMR	EXIT DISCHARGE EMERGENCY REMOTE POWERED FROM EXEM	LV	LED FURNISH WITH UNIT	EXTERIOR WALL ABOVE DOOR	LITHONIA ELA-T-QWP-L0309
EM	SELF CONTAINED EMERGENCY EGRESS LIGHT	120	LED FURNISH WITH UNIT	WALL @ 90°	LITHONIA EUZL

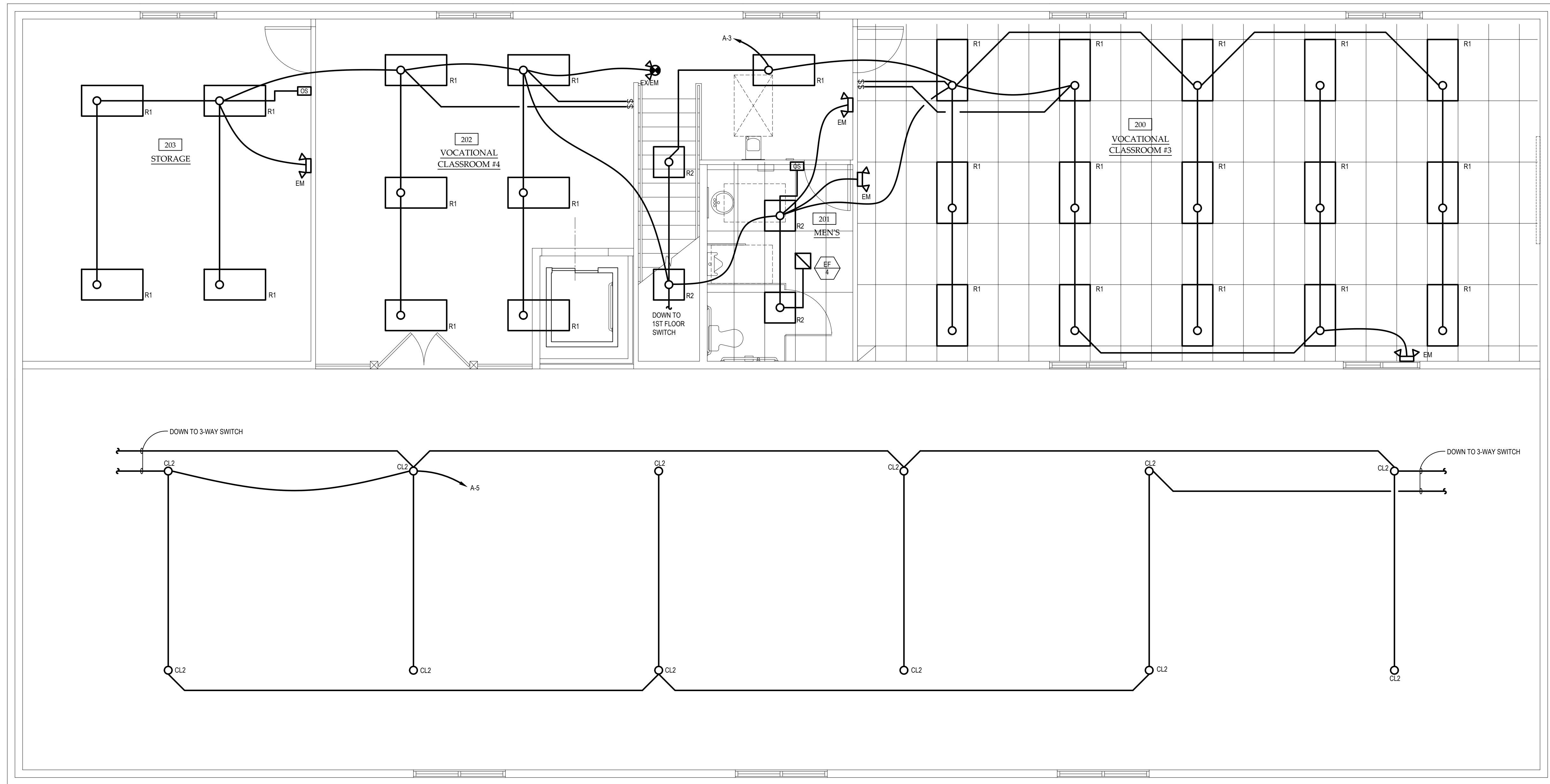
NOTES:
1. CONNECT ALL EXIT & EMERGENCY LIGHTS TO LOCAL AREA LIGHTING CIRCUIT AHEAD OF ANY SWITCHING AND AUTOMATIC CONTROLS.
2. EQUAL FIXTURES BY COOPER, HUBBELL, LSI, PHILLIPS OR LITHONIA.

1 Point One Design, Ltd.
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2800 Corporate Exchange Dr., Suite 270 Columbus, Ohio 43211
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columbus@pointonedesign.com

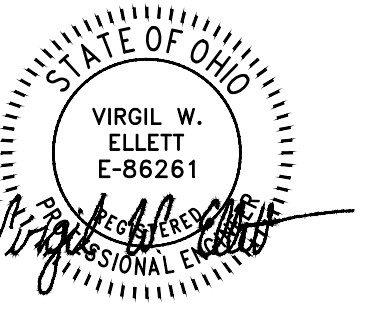
8941 York Theta Drive North Royalton, Ohio 44133
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cleveland@pointonedesign.com

E1.0



SECOND FLOOR LIGHTING PLAN 

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



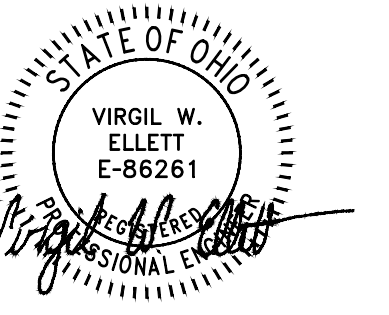
SECOND FLOOR LIGHTING PLAN

BUCKEYE HILLS CAREER CENTER

NEW TRADES BUILDING

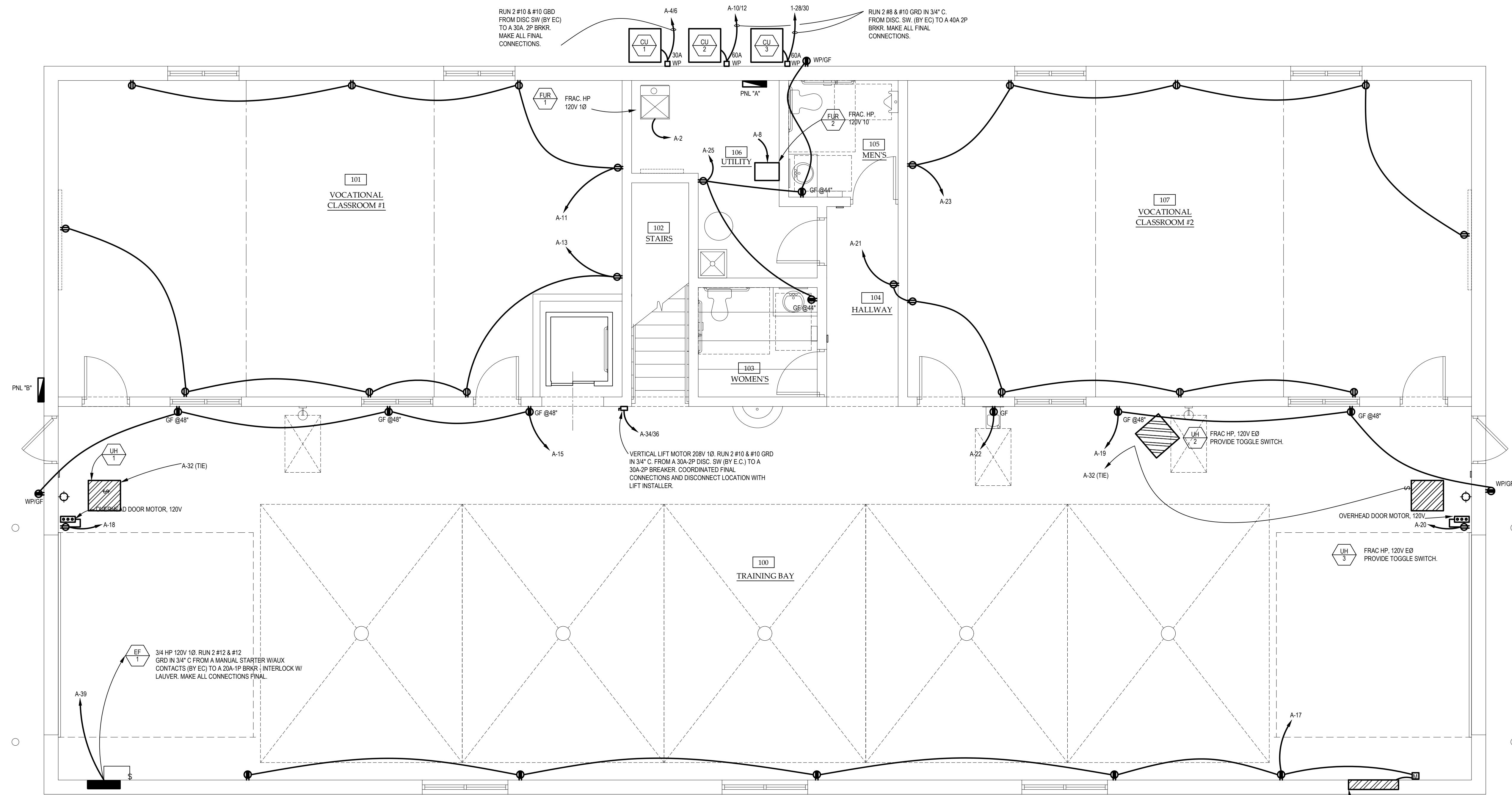
351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674

- PRELIMINARY 04-21-2022
- BID SET 12-08-2023
- PERMIT SET
- REVISIONS:

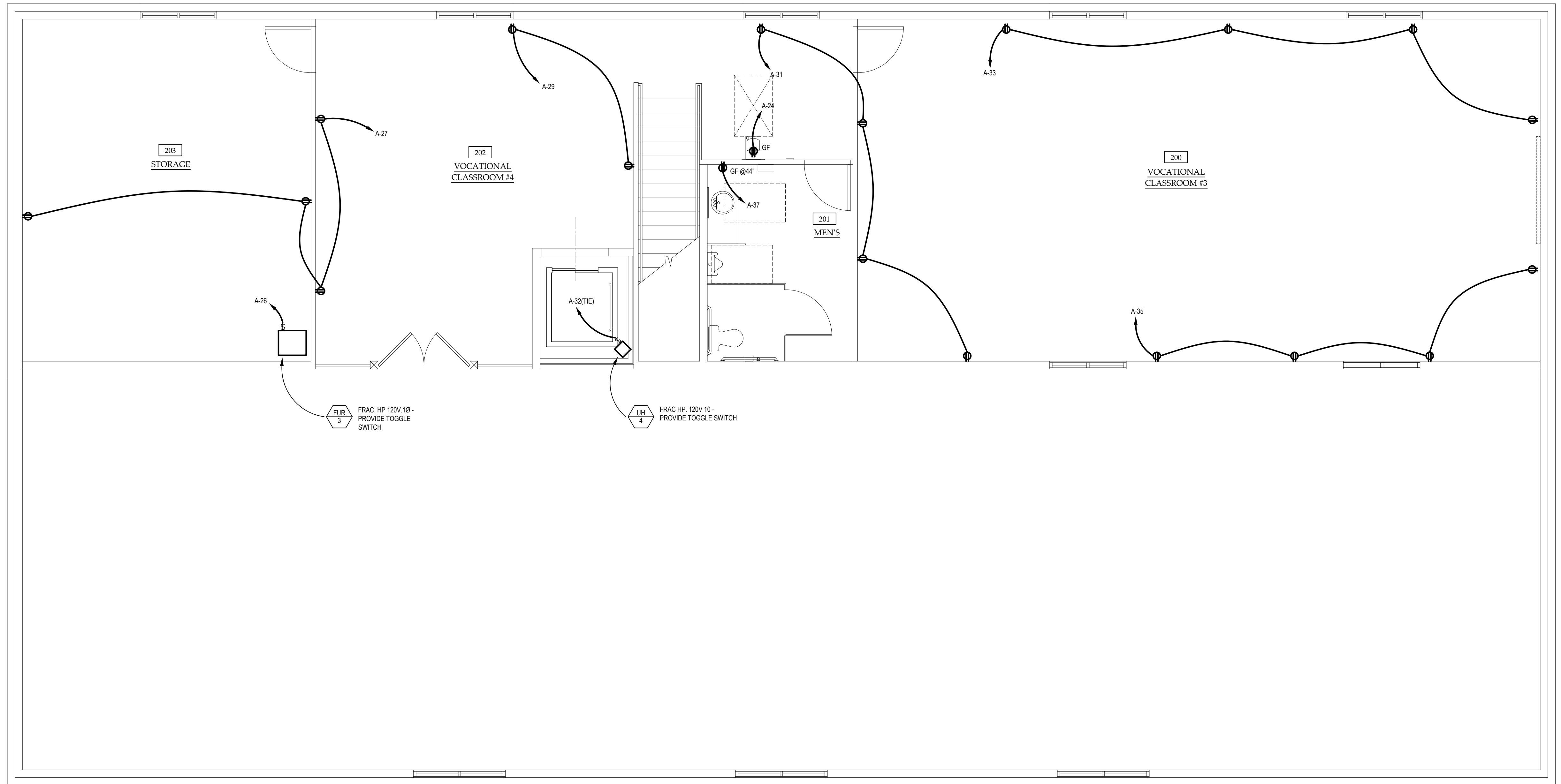


FIRST FLOOR POWER PLAN
BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING
351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674

<input type="checkbox"/>	PRELIMINARY	04-21-2022
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<input type="checkbox"/>	PERMIT SET	
<input type="checkbox"/>	REVISIONS:	

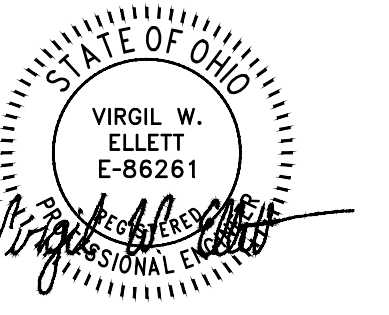
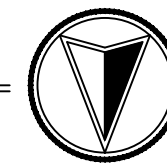


FIRST FLOOR POWER PLAN
SCALE: 1/4" = 1'-0"



SECOND FLOOR POWER PLAN

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

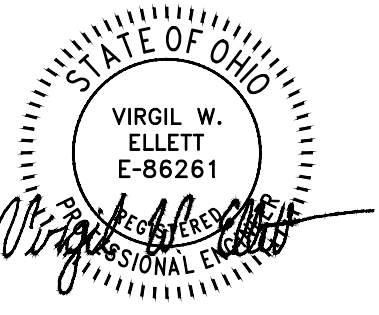


SECOND FLOOR POWER PLAN

BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING

351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674

- PRELIMINARY 04-21-2022
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ELECTRICAL SPECIFICATION AND SCHEDULES
BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING
351 BUCKEYE HILLS ROAD
RIO GRANDE, OHIO 45674

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E5.0

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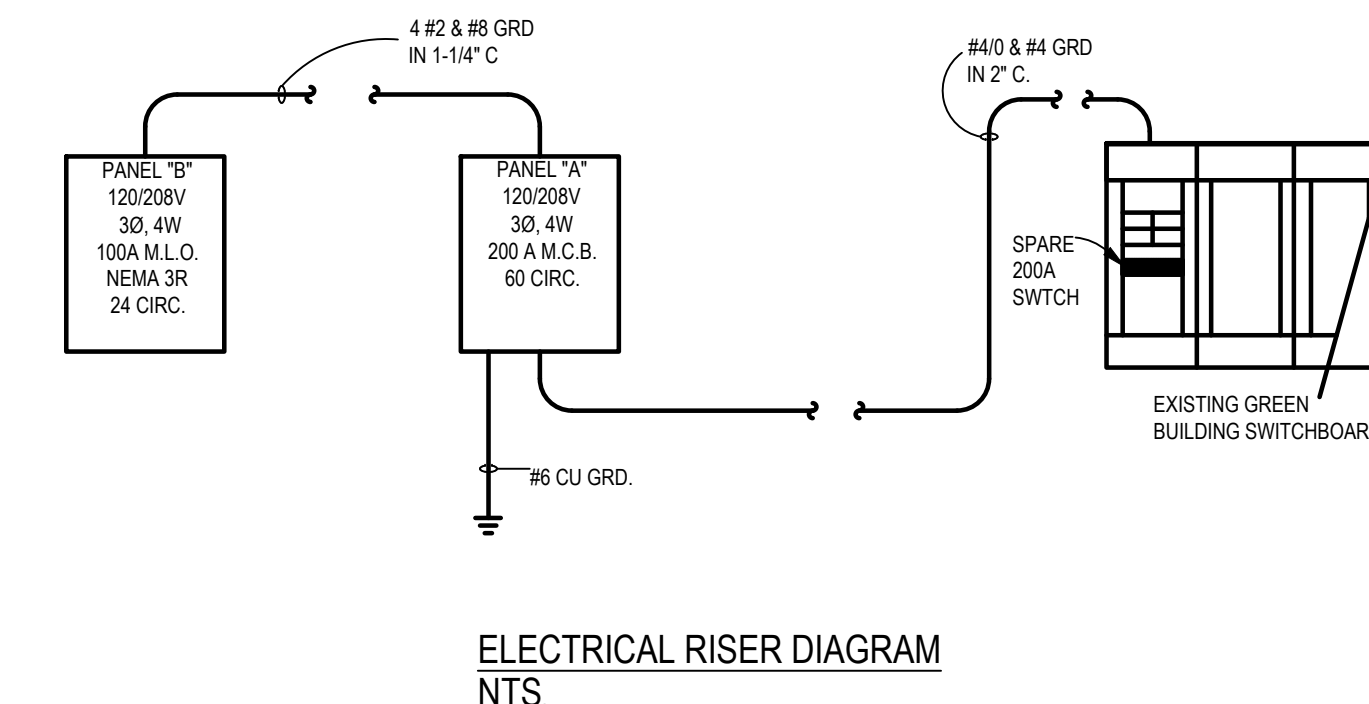
ELECTRICAL SPECIFICATIONS

- THE REQUIREMENTS AS SET FORTH UNDER GENERAL CONDITIONS, INSTRUCTIONS TO BIDDERS AND GENERAL REQUIREMENTS ARE A PART OF THIS CONTRACT. BIDS SHALL BE BASED ON A COMPLETE/FULL SET OF DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK WITH WORK PERFORMED BY OTHER TRADES.
- CONTRACTOR SHALL VISIT SITE PRIOR TO BIDDING. BIDS SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS. FIELD VERIFY ALL EXISTING ELECTRICAL LOCATIONS, CONDITIONS ETC. FAILURE TO VISIT THE SITE SHALL NOT RELIEVE THE CONTRACTOR FROM ANY RESPONSIBILITY IN THE PERFORMANCE OF THE ELECTRICAL WORK. BEGINNING OF WORK INDICATES ACCEPTANCE OF EXISTING CONDITIONS.
- FURNISH ALL LABOR, MATERIALS, TESTING, EQUIPMENT, INCIDENTALS AND TOOLS TO PERFORM ELECTRICAL WORK SHOWN, NOTED OR SCHEDULED FOR A COMPLETE AND FINISHED INSTALLATION. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND AS SUCH APPEAR ON THE UNDERWRITERS LABORATORIES LIST OF APPROVED ITEMS AND SHALL BE SIZED IN CONFORMITY WITH REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND OTHER APPLICABLE CODES, WHICHEVER ARE MORE STRINGENT.
- ALL WORK IS TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES. ALL ELECTRICAL EQUIPMENT & MATERIALS SHALL BE U.L. LABELED AND LISTED PER NEC 110.3.
- SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES, ASSESSMENTS AND INSPECTION CERTIFICATES THAT RELATE TO THE ELECTRICAL CONTRACT. FURNISH APPROVED CERTIFICATE OF FINAL INSPECTION, AND TURN OVER TO OWNER AT COMPLETION OF PROJECT.
- THESE ELECTRICAL PLANS ARE DIAGRAMMATIC, NOT SHOWING EVERY ITEM IN EXACT LOCATION OR DETAIL. MEASUREMENTS AND LOCATIONS MUST BE FIELD-VERIFIED AND COORDINATED WITH ARCHITECTURAL, PLUMBING, HVAC, FIRE PROTECTION, STRUCTURAL AND OTHER BUILDING DRAWINGS.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH SHOP DRAWINGS, REVIEWED AND STAMPED APPROVED BY THE CONTRACTOR, FOR APPROVAL BY THE ARCHITECT AND ENGINEER, PRIOR TO ORDERING EQUIPMENT SUCH AS LIGHT FIXTURES, DISTRIBUTION EQUIPMENT, AND FIRE ALARM SYSTEM.
- CONDUIT SHALL BE STANDARD STEEL RIGID OR EMT (THIN WALL) ACCORDING TO LOCAL CODE REQUIREMENTS. CONDUIT SHALL BE CONCEALED IN FINISHED AREAS, EXCEPT AS OTHERWISE APPROVED BY THE ARCHITECT. THE USE OF SURFACE RACEWAY EXCEPT AS CALLED FOR ON DRAWINGS SHALL REQUIRE APPROVAL OF THE ARCHITECT. EMT CONNECTIONS SHALL BE COMPRESSION OR SET-SCREW TYPE. FLEXIBLE CONDUIT OR TYPE MC CABLE SHALL BE APPROVED FOR CONCEALED BRANCH CIRCUITING AND FOR FINAL CONNECTIONS TO LIGHT FIXTURES, MOTORS AND VIBRATING EQUIPMENT AND WHERE SO USED TO BE GROUNDED WITH A SEPARATE FULL SIZED GREEN GROUNDING CONDUCTOR. EXPOSED FINAL TYPE MC/FLEX CONNECTIONS SHALL BE LIMITED TO 10'-0" IN LENGTH. ARRANGE CIRCUITS SO AS TO AVOID THE USE OF JUNCTION BOXES ABOVE DRYWALL CEILING AREAS. JUNCTION BOXES LOCATED ABOVE LAY-IN CEILINGS ARE ACCEPTABLE.
- MINIMUM SIZES OF CONDUITS SHALL BE 1/2". ALL CONDUIT AND WIRING SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING WALLS.
- PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF ELECTRICAL WORK. ALL CORE DRILLING OR CUTTING OF FIRE-RATED FLOORS, SHAFTS AND WALLS SHALL BE FIRE-STOPPED PRIOR TO FINISH PATCHING. ALL PENETRATIONS SHALL BE FIRE SEALED TO MATCH THE FIRE RATING OF THE FLOOR, SHAFT OR WALL PENETRATED.
- WIRE SHALL BE SINGLE CONDUCTOR COPPER WITH 600 VOLT INSULATION. MINIMUM WIRE SIZE SHALL BE #12 AWG. ALL WIRE AND CABLE SHALL BE NEW AND SHALL BE BROUGHT TO THE SITE IN UNBROKEN PACKAGES. INCREASE CONDUCTOR BY ONE SIZE FOR EVERY 150' INCREMENT OF DISTANCE FROM THE PANEL BOARD FOR 120 VOLT CIRCUITS. GENERAL WIRING SHALL BE THW, THWN, THHN, OR XHHW. ALUMINUM CONDUCTORS ARE NOT PERMITTED.
- FURNISH AND INSTALL A COMPLETE WIRED GROUNDING SYSTEM FOR ELECTRICAL SERVICE ENTRANCE, ELECTRICAL EQUIPMENT AND CIRCUITS AS SHOWN ON THE DRAWINGS AND REQUIRED PER N.E.C. ARTICLE 250. ALL GROUNDING CONDUCTORS SHALL BE GREEN, WHERE EXPOSED IN PANEL, OUTLETS, BOXES, ETC.
- RECEPTACLES SHALL BE 20 AMP, 3-WIRE GROUNDING TYPE EQUAL TO HUBBELL 5362. WALL SWITCHES SHALL BE 20 AMP SPECIFICATION GRADE, RATED AT 120 VOLT OR 277 VOLT AS REQUIRED. ALL DEVICE COVERPLATES SHALL BE PASS AND SEYMOUR OR EQUAL.
- PROVIDE BRANCH CIRCUIT PANELS WHICH SHALL BE OF THE BOLTED CIRCUIT BREAKER TYPE WITH SOLID COPPER BUSSING FULL SIZED NEUTRAL, 25% GROUND BUSSING, OVERALL HINGED/LOCKABLE DOOR, AND TYPEWRITTEN DIRECTORY INSIDE DOOR. ALL SERVICE ENTRANCE EQUIPMENT SHALL BEAR THE MANUFACTURER'S LABEL WHICH SHALL STATE THAT THE EQUIPMENT IS RATED FOR SERVICE ENTRANCE APPLICATION IN ACCORDANCE WITH N.E.C. #20-70. LOAD BALANCE ALL ELECTRICAL PHASES AT PANEL. TWO AND THREE POLE BREAKERS SHALL BE COMMON TRIP TYPE. SQUARE D OR EQUAL. BY EATON, CUTLER-HAMMER, OR GENERAL ELECTRIC.
- PROVIDE SAFETY AND DISCONNECT SWITCHES, FUSED OR NON-FUSED, AS CALLED FOR ON DRAWINGS AND AS REQUIRED BY CODE. FUSES AS MANUFACTURED BY BUSSMAN OR EQUAL. DISCONNECT SWITCHES THAT ARE INSTALLED AT AIR CONDITIONING EQUIPMENT, HEAT PUMPS, ETC SHALL BE FUSED IN ACCORDANCE WITH THE EQUIPMENT'S NAME PLATE REQUIREMENTS PER N.E.C. 440.21 & 110.3B. SWITCHES SHALL BE HEAVY DUTY, QUICK MAKE/BREAK TYPE, FUSIBLE OR NON-FUSIBLE. LOAD AND HORSEPOWER RATED AS MANUFACTURED BY SQUARE D, EATON, CUTLER HAMMER, OR GENERAL ELECTRIC, WEATHERPROOF WHERE APPLICABLE.
- PROVIDE ARC FLASH HAZARD WARNING LABELS ON ALL ELECTRICAL EQUIPMENT INCLUDING SWITCHBOARDS, PANELBOARDS, MOTOR CONTROLLERS, AND ANY OTHER EQUIPMENT LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING OR MAINTENANCE. LABELS SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION.
- OUTLET BOXES AND COVERS SHALL BE GALVANIZED, ONE-PIECE PRESSED STEEL KNOCKOUT. JUNCTION, PULL BOXES AND COVERS SHALL BE GALVANIZED STEEL. CODE GAUGE SIZE. INSTALL BOXES RIGIDLY ON BUILDING STRUCTURE AND SUPPORT INDEPENDENTLY OF THE CONDUIT SYSTEM. ALSO PROVIDE APPROPRIATE BOX EXTENSIONS TO EXTEND BOXES TO FINISHED FACES OF WALLS ETC. ALL OUTLET BOXES TO HAVE SUITABLE BLOCKING BEHIND THEM TO MINIMIZE THE DEFLECTION THAT OCCURS WHEN PLUGGING/UNPLUGGING INTO THESE DEVICES.
- ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICE AND PROVIDE LIGHTING, POWER AND WIRING AS REQUIRED TO FACILITATE APPLICABLE TEMPORARY NEEDS FOR ALL TRADES. HE SHALL FURNISH EXTENSION CORDS FOR HIS OWN USE. ANY TEMPORARY WIRING, FUSES, ETC., SHALL BE REMOVED UPON COMPLETION OF THE PROJECT. PROVIDE GROUND FAULT PROTECTION AS REQUIRED BY N.E.C. AND LOCAL CODES.
- ALL ELECTRIC WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS CHANNELS, RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK AND SHALL BE FASTENED TO BUILDING STEEL, CONCRETE OR MASONRY, BUT NOT PIPING OR DUCTWORK. ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. CONDUITS SHALL BE IN STRAIGHT LINES PARALLEL WITH OR AT RIGHT ANGLES TO COLUMN LINES OR BEAMS AND SEPARATED AT LEAST 3 INCHES FROM WATER LINES WHEREVER THEY RUN ALONGSIDE OR ACROSS SUCH LINES. ALL CONDUCTORS SHALL BE IN CONDUIT, DUCTS OR OTHER CODE APPROVED RACEWAYS.
- PANELBOARDS AND DISCONNECT SWITCHES SHALL BE IDENTIFIED WITH ENGRAVED BAKELITE NAMEPLATES AS TO DESIGNATION AND VOLTAGE.
- MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS APPEARING IN THAT PERIOD SHALL BE CORRECTED AT THE ELECTRICAL CONTRACTOR'S EXPENSE. FOR THE SAME PERIOD, ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY THE ELECTRICAL CONTRACTOR.
- IT IS THE INTENT THAT THE FOREGOING WORK SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE WORK SHALL BE FURNISHED.

Panel ID: A		Voltage: 208 / 120		Panel Type: NOOD OR EQUAL											
Location: UTILITY RM		Phase: 3		Encl. Type: NEMA-1											
Mounting: SURFACE		Wire: 4		AIC:											
Main Type: 200A MCB		Bus Amperage: 225 Amps													
All phases to be balanced to within 7% using actual connected loads.															
CKT NO.	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CKT BKR	CKT OPTION	N.E.C. LOAD (KVA)	ACTUAL LOAD (KVA)	PHASE	ACTUAL LOAD (KVA)	N.E.C. LOAD (KVA)	ACTUAL LOAD (KVA)	CKT BKR	CKT OPTION	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	CKT NO.
1	12	LIGHTING / EF	20/1		1.100	1.100	A	1.200	1.200	20/1			FURNACE 1	12	2
3	12	LIGHTING / EF	20/1		0.966	0.966	B	1.500	1.500	30/2			CONDENSING UNIT 1	10	4
5	12	LIGHTING	20/1		1.140	1.140	C	1.500	1.500	--	--	--		10	6
7	12	NIGHT LIGHTS	20/1		0.700	0.700	A	1.440	1.440	20/1			FURNACE 2	12	8
9	12	EXT. LIGHTS	20/1		0.282	0.282	B	1.950	1.950	40/2			CONDENSING UNIT 2	8	10
11	12	RECEPTACLES	20/1		0.720	0.720	C	1.950	1.950	--	--	--		8	12
13	12	RECEPTACLES	20/1		0.900	0.900	A	2.250	2.250	30/2			WATER HEATER	10	14
15	12	RECEPTACLES	20/1		0.720	0.720	B	2.250	2.250	--	--	--		10	16
17	12	RECEPTACLES	20/1		0.900	0.900	C	1.200	1.200	20/1			OVER HEAD DOOR	12	18
19	12	RECEPTACLES	20/1		0.540	0.540	A	1.200	1.200	20/1			OVER HEAD DOOR	12	20
21	12	RECEPTACLES	20/1		0.900	0.900	B	0.400	0.400	20/1			EMC	12	22
23	12	RECEPTACLES	20/1		0.900	0.900	C	0.400	0.400	20/1			EMC	12	24
25	12	RECEPTACLES	20/1		0.540	0.540	A	1.440	1.440	20/1			FURNACE 3	12	26
27	12	RECEPTACLES	20/1		0.720	0.720	B	2.000	2.000	40/2			CONDENSING UNIT 3	8	28
29	12	RECEPTACLES	20/1		0.540	0.540	C	2.000	2.000	--	--	--		8	30
31	12	RECEPTACLES	20/1		0.720	0.720	A	0.000	0.000	20/1			UNIT HTS	12	32
33	12	RECEPTACLES	20/1		0.720	0.720	B	2.080	2.080	30/2			VEHICLE LIFT	10	34
35	12	RECEPTACLES	20/1		0.720	0.720	C	2.080	2.080	--	--	--		10	36
37	12	RECEPTACLES	20/1		0.180	0.180	A	0.000	0.000	90/3			FEED TO	2	38
39	12	EF-1	20/1		0.500	0.500	B	0.000	0.000	--	--		PANEL "B"	2	40
41	12	TIMECLOCK	20/1		0.200	0.200	C	0.000	0.000	--	--	--		2	42
43		SPACE			0.000	0.000	A	0.000	0.000				SPACE		44
45		SPACE			0.000	0.000	B	0.000	0.000				SPACE		46
47		SPACE			0.000	0.000	C	0.000	0.000				SPACE		48
49		SPACE			0.000	0.000	A	0.000	0.000				SPACE		50
51		SPACE			0.000	0.000	B	0.000	0.000				SPACE		52
53		SPACE			0.000	0.000	C	0.000	0.000				SPACE		54
55		SPACE			0.000	0.000	A	0.000	0.000				SPACE		56
57		SPACE			0.000	0.000	B	0.000	0.000				SPACE		58
59		SPACE			0.000	0.000	C	0.000	0.000				SPACE		60
Actual Load Panel Summary					N.E.C. Load Panel Summary					Breaker Options (If Used):					
Phase A: 12.6 KVA					Phase A: 12.6 KVA					105.1 AMPS					
Phase B: 15.0 KVA					Phase B: 15.0 KVA					124.9 AMPS					
Phase C: 14.3 KVA					Phase C: 14.3 KVA					118.8 AMPS					
Total: 41.8 KVA					Total: 41.8 KVA					116.2 AMPS					
										E - EXISTING BREAKER TO REMAIN					
										N - NEW BREAKER TO MATCH AIC RATING					

Panel ID: B		Voltage: 208 / 120		Panel Type: NOOD OR EQUAL											
Location: EXT. WALL		Phase: 3		Encl. Type: NEMA-3R											
Mounting: SURFACE		Wire: 4		AIC:											
Main Type: MLO		Bus Amperage: 100 Amps													
All phases to be balanced to within 7% using actual connected loads.															
CKT NO.	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CKT BKR	CKT OPTION	N.E.C. LOAD (KVA)	ACTUAL LOAD (KVA)	PHASE	ACTUAL LOAD (KVA)	N.E.C. LOAD (KVA)	ACTUAL LOAD (KVA)	CKT BKR	CKT OPTION	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	CKT NO.
1		SPARE	20/1		0.000	0.000	A	0.000	0.000	20/1			SPARE		2
3		SPARE	20/1		0.000	0.000	B	0.000	0.000	20/1			SPARE		4
5		SPARE	20/1		0.000	0.000	C	0.000	0.000	20/1			SPARE		6
7		SPARE	20/1		0.000	0.000	A	0.000	0.000	20/1			SPARE		8
9		SPARE	20/1		0.000	0.000	B	0.000	0.000	20/1			SPARE		10
11		SPARE	20/1		0.000	0.000	C	0.000	0.000	20/1			SPARE		12
13		SPARE			0.000	0.000	A	0.000	0.000				SPARE		14
15		SPARE			0.000	0.000	B	0.000	0.000				SPARE		16
17		SPARE			0.000	0.000	C	0.000	0.000				SPARE		18
19		SPARE			0.000	0.000	A	0.000	0.000				SPARE		20
21		SPARE			0.000	0.000	B	0.000	0.000				SPARE		22
23		SPARE			0.000	0.000	C	0.000	0.000				SPARE		24
Actual Load Panel Summary					N.E.C. Load Panel Summary					Breaker Options (If Used):					
Phase A: 0.0 KVA					Phase A: 0.0 KVA					0.0 AMPS					
Phase B: 0.0 KVA					Phase B: 0.0 KVA					0.0 AMPS					
Phase C: 0.0 KVA					Phase C: 0.0 KVA					0.0 AMPS					
Total: 0.0 KVA					Total: 0.0 KVA					0.0 AMPS					
										GF - GROUND FAULT BREAKER					
										E - EXISTING BREAKER TO REMAIN					
										N - NEW BREAKER TO MATCH AIC RATING					

ELECTRICAL LEGEND			
ELECTRICAL LEGEND NOTES			
1. MOUNTING HEIGHTS INDICATED ARE TO THE TOP OF THE DEVICE OR FIXTURE.			
2. MOUNTING HEIGHTS ARE TYPICAL UNLESS NOTED OTHERWISE ON THE FLOOR PLANS.			
3. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL INFORMATION ON EXACT DEVICE AND FIXTURE LOCATIONS, MOUNTING HEIGHTS AND COORDINATION WITH ARCHITECTURAL HARDWARE AND FIXTURES.			
4. NOT ALL SYMBOLS APPLY.			
LIGHTING		POWER	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
⌘	WALL SWITCH @48" A.F.F. 20A, 120V	⊕	DUPLEX RECEPTACLE @20" A.F.F. 20A, 125V
⌘ ₃	THREE-WAY SWITCH @48" A.F.F., 20A, 120V	⊕ _{WF}	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER @20" A.F.F., 20A, 125V
⌘ _D	WALL SWITCH @48" A.F.F. 20A, 120V	⊕ _{WP}	DUPLEX RECEPTACLE WITH WEATHERPROOF WHILE-IN-USE COVER @18" A.F.F. OR A.F.G. 20A, 125V
⊞	OCCUPANCY SENSOR WALL MOUNTED @48" A.F.F.	⊕ ₂	DOUBLE DUPLEX RECEPTACLE @ 20" A.F.F. 20A, 125V
⊞ _C	OCCUPANCY SENSOR CEILING MOUNTED	⊕ _S	SPECIAL RECEPTACLE AMPERAGE, @20" A.F.F. COORDINATE NEMA CONFIG. WITH EQUIPMENT FED.
⊞ _R	LIGHTING OUTLET, RECESSED OR SURFACE MOUNTED PER FIXTURE SCHEDULE	⊞	JUNCTION BOX MOUNTED AS NOTED.
⊞ _{NL}	LIGHT FIXTURE ON NIGHT LIGHT	⊞ _S	SAFETY DISCONNECT SWITCH @60" A.F.F. TO TOP
⊞	CEILING LIGHTING OUTLET, RECESSED OR SURFACE MOUNTED PER FIXTURE SCHEDULE	⊞ _S	PANELBOARD, SURFACE MOUNTED @6'-0" A.F.F. TO TOP
⊞ _H	WALL LIGHTING OUTLET @ HEIGHT PER FIXTURE SCHEDULE OF ARCHITECTURAL ELEVATIONS.	⊞ _F	PANELBOARD, FLUSH MOUNTED @6'-0" A.F.F. TO TOP
⊞ _E	EMERGENCY EXIT LIGHT, SINGLE FACE, CLG. MOUNTED.	⊞ _{EF}	CEILING EXHAUST FAN BY M.C. WIRED BY (FURN E.C.) MAKE ALL CONNECTIONS AS INDICATED ON DRAWING.
⊞ _E	EMERGENCY EXIT LIGHT, SINGLE FACE, WALL MOUNTED	⊞ _R	4" SQ. BOX W/IG PLASTER RING @20" A.F.F. FOR DATA OUTLET. COVERPLATE WIRING & TERMINATION BY OWNER RUN 3/4" FROM BOX UP IN WALL TO ABOVE ACCESSIBLE CEILING
⊞ _E	COMBINATION EMERGENCY EXIT/EGRESS LIGHT, SINGLE FACE, CEILING MOUNTED	⊞ _{SD}	COMBINATION OCCUPANCY DIMMER(O/N)/SENSOR(OFF) @48" AFF
⊞ _{EMR}	EMERGENCY EGRESS LIGHT @90" A.F.F. WALL MOUNTED		
⊞ _{EMR}	EMERGENCY REMOTE HEAD FOR EXIT DISCHARGE		



— GENERAL NOTES —

- THIS CONTRACT IS FOR THE INSTALLATION OF A NEW WET PIPE SPRINKLER SYSTEM. DESIGN AND INSTALLATION AS PER NFPA #13 2016, OBC, AND LOCAL CODE REQUIREMENTS.
- SPRINKLER SYSTEM DESIGN IN TRAINING BAY AND STORAGE AREA BASED ON ORDINARY HAZARD OCCUPANCY WITH HEAD SPACING NOT TO EXCEED 130 SQ. FT. HYDRAULIC CALCULATIONS BASED ON A DENSITY OF 0.15 GPM/1500 SQFT.

ALL OTHER AREAS WILL BE BASED ON LIGHT HAZARD WITH HEAD SPACING NOT TO EXCEED 225 SQ. FT.

- ALL MATERIAL SHALL BE UL LISTED AND/OR FM APPROVED.
- ALL NEW SPRINKLER SYSTEM PIPING 1"–1½" SHALL BE SCH. 40 BLACK STEEL WITH THREADED ENDS AND CAST IRON SCREWED FITTINGS.

ALL NEW SPRINKLER SYSTEM PIPING 1½" AND LARGER SHALL BE SCH. 10 BLACK STEEL WITH ROLL GROOVED ENDS AND GROOVED MECHANICAL FITTINGS.

- ALL HANGERS AS PER NFPA #13.
- INSTALLATION SHALL BE COMPLETED BY AN INSTALLER CERTIFIED BY THE STATE OF OHIO.
- UPON COMPLETION OF INSTALLATION REQUIRED TESTS SHALL BE PERFORMED IN ACCORDANCE WITH NFPA AND COPIES OF TEST CERTIFICATES SHALL BE PROVIDED TO THE OWNER.

* NOTE
EXACT HANGER LOCATIONS SHALL BE FIELD DETERMINED PER NFPA GUIDELINES AS FOLLOWS:

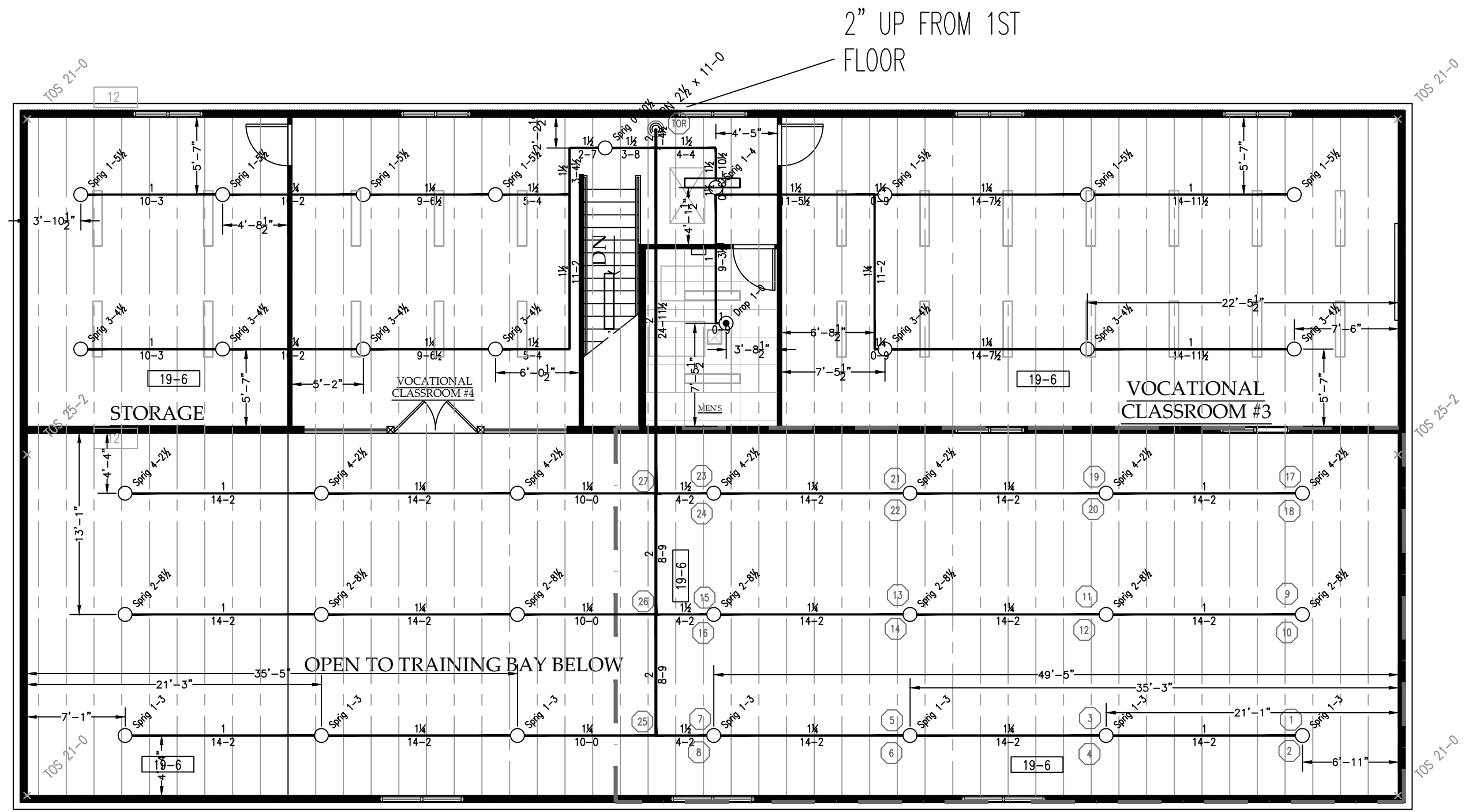
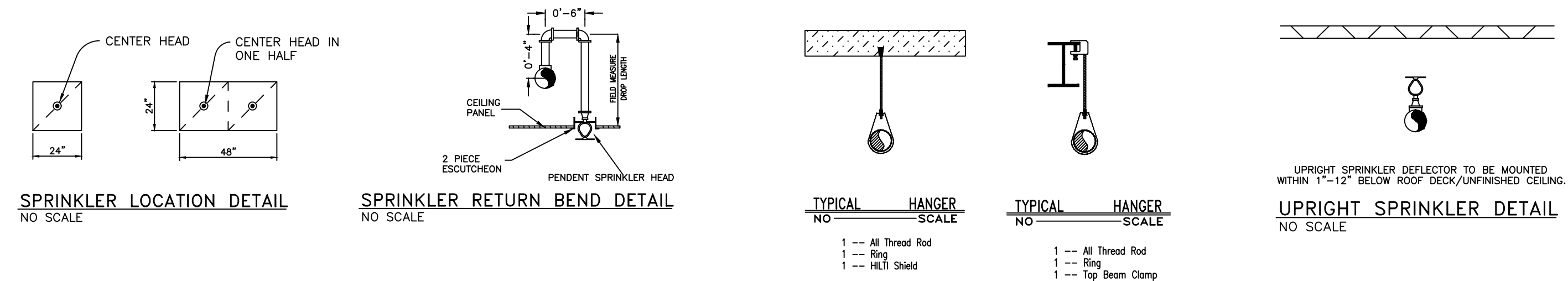
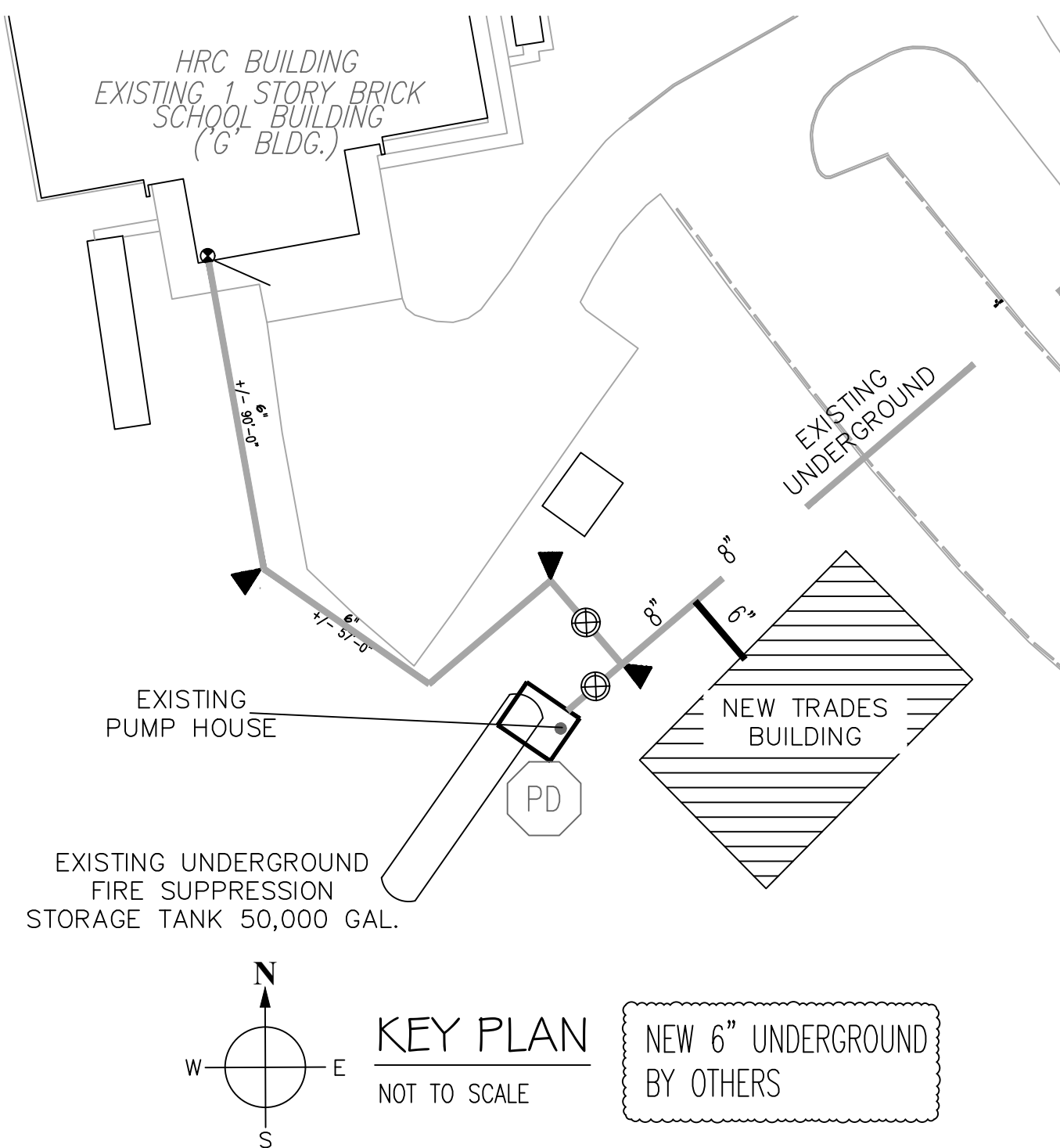
MAXIMUM DISTANCE BETWEEN HANGERS												
NOMINAL PIPE SIZE (in.)	¾"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"	8"
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0

LEGEND:

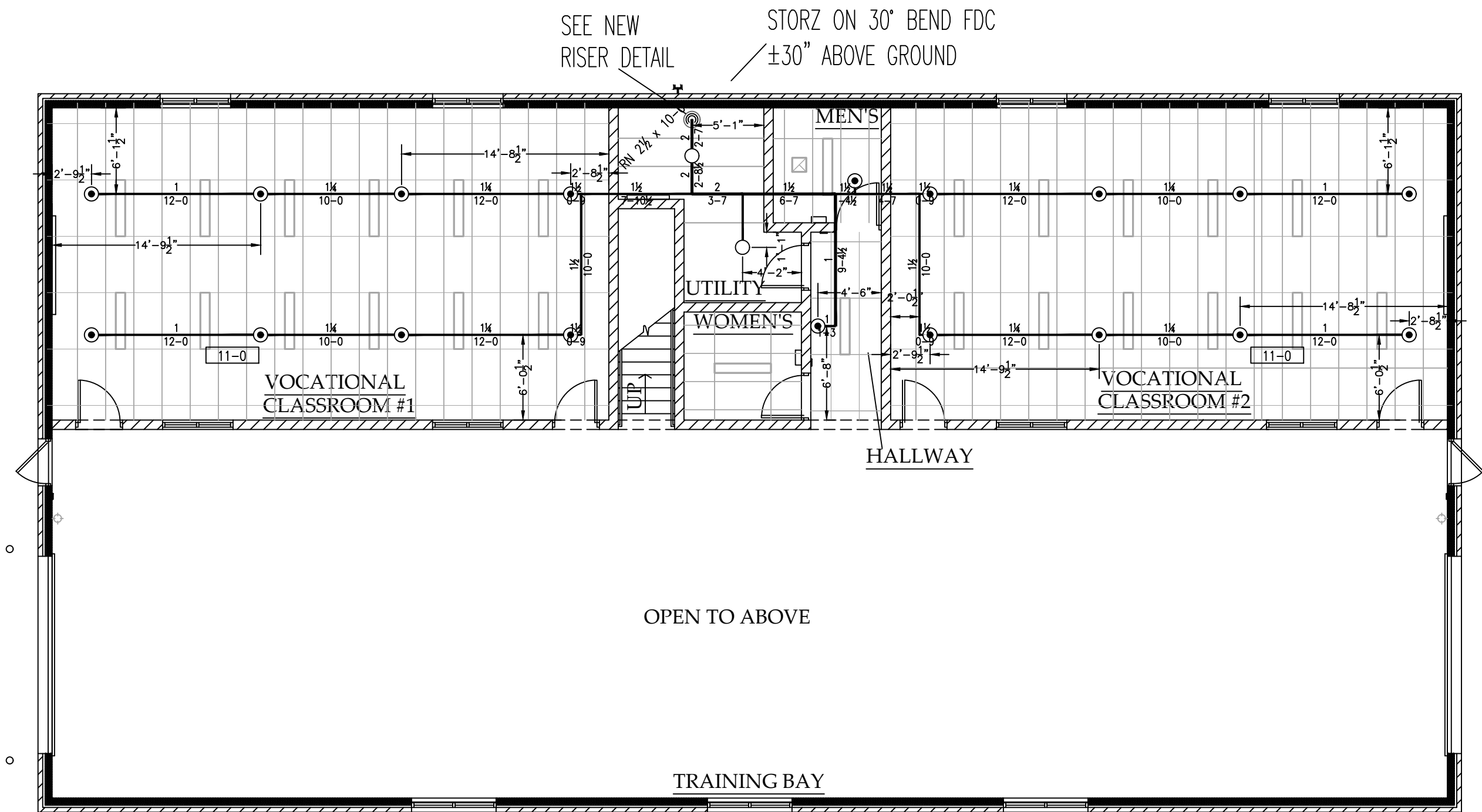
- New K5.6 Q.R. upright
- ⊙ New K5.6 Q.R. pendent
- Elevation change
- Existing pipe to remain
- New pipe
- ⊗ Hydraulic node
- X-X Pipe elevation C/L AFF

EXISTING FIRE PUMP HOUSE
EXISTING FIRE PUMP DATA

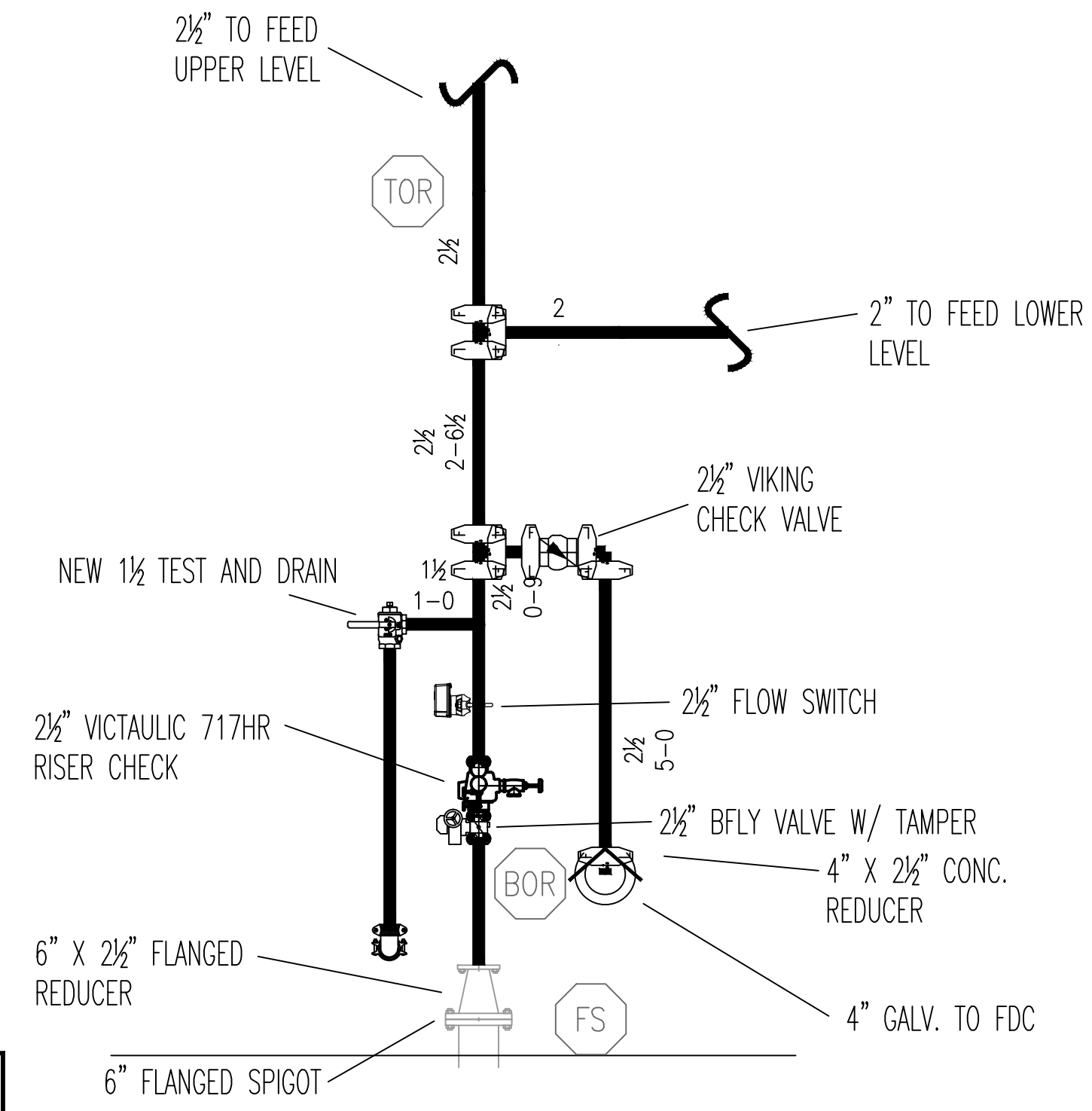
STATIC PRESSURE	125 PSI	FIRE PUMP	IT-AC
RESIDUAL PRESSURE	81 PSI	SIZE Q.R. @ PSI	150 Q.R. @ 125 PSI
PROT. READING	N/A	TYPE OF DRIVER	DIESEL MOTOR
FLOW IN G.P.M.	1125 G.P.M.	TRANSFER SW	YES
DATE OF TEST	N/A	ELECTRICAL REGS	400V/3W/3Ø 142
TIME OF TEST	N/A	SUCTION FROM	STORAGE TANK



SECOND FLOOR FIRE PROTECTION LAYOUT
SCALE 1/8"=1'-0"



FIRST FLOOR FIRE PROTECTION LAYOUT
SCALE 1/8"=1'-0"



NEW WET RISER DETAIL
SCALE: 1/2"=1'-0"

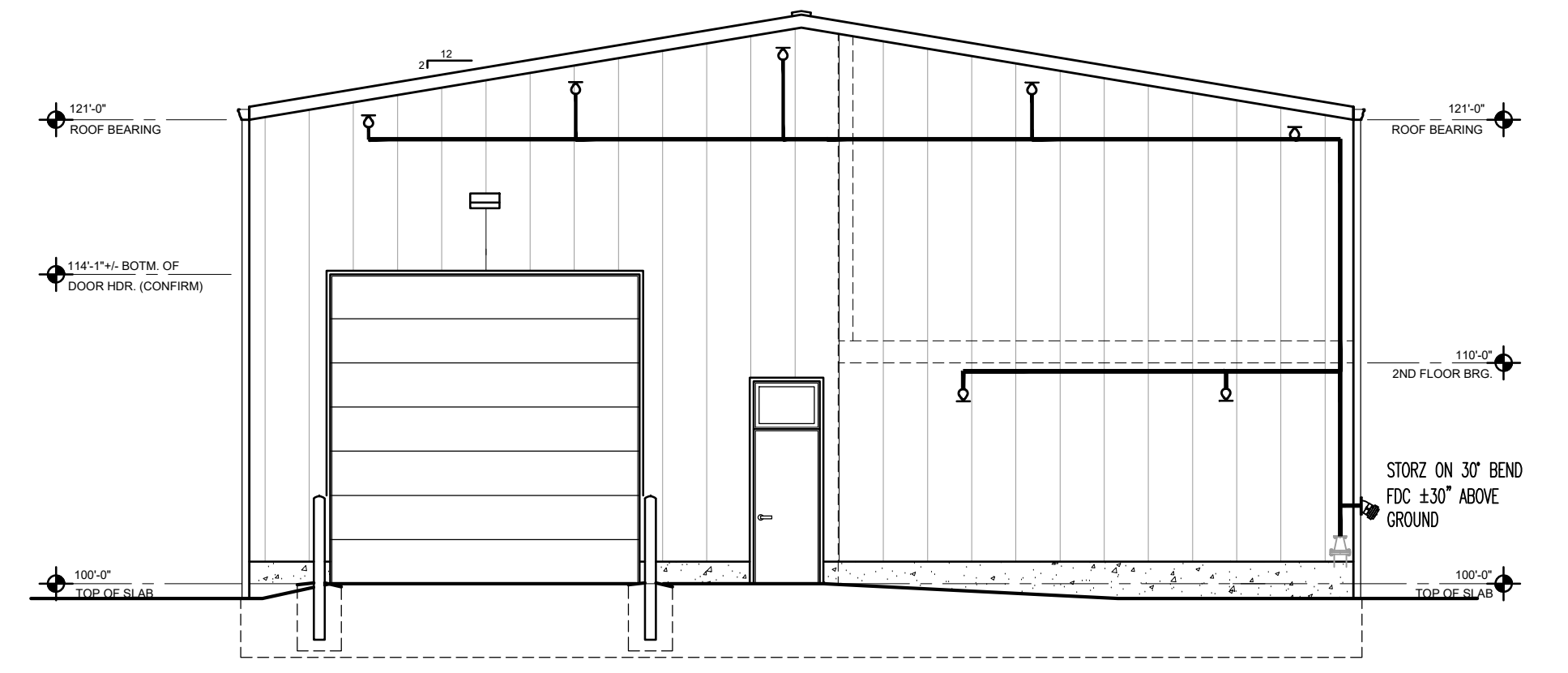
HYDRAULIC SYSTEM
This building is protected by a hydraulically designed Automatic Sprinkler System.

Location: BUCKEYE HILLS
ORD. HAZARD - WET
NFPA #13, 2016
No. of Sprinklers: 12

Basis of Design
1. DENSITY: 0.15 GPM/SQFT
2. DESIGNED AREA OF DISCHARGE: 1500 SQFT

System Demand
1. DISCHARGE: 328.2 GPM
2. RESIDUAL PRESSURE AT THE BASE OF RISER: 77.4 PSI
3. HOSE STREAM ALLOWANCE: 250 GPM
4. SAFETY FACTOR: 28.2 PSI

CENTRAL FIRE PROTECTION CO., INC.
Springfield, OH (937)-322-0713



CROSS SECTION
NOT TO SCALE

ESCUTCHEON	IDENTIFICATION NUMBER	VIKING SPRINKLERS					
TYPE/FINISH	(SIN)	SYM.	TEMP.	K=	MAKE/STYLE	FIN.	TOTAL
NONE	VK300	○	155°	5.6	VIKING / Q.R. S.C. UPRIGHT	BR	19
RECESSED/CH	VK302	⊙	155°	5.6	VIKING / Q.R. S.C. PENDENT	CH	39
TOTAL							58

CONTRACTOR'S CERTIFICATION NUMBER: 53-57-1093	DESIGNER'S CERTIFICATION: Alan L. Arnold	ALAN L. ARNOLD ASSESSOR #8994 NCEET III #124671
CENTRAL FIRE PROTECTION CO., INC.		
NEW TRADES BUILDING, BUCKEYE HILLS 351 BUCKEYE HILLS RD. RIO GRANDE, OH 45674		
583 SELMA RD. SPRINGFIELD, OH. 45505 (937)322-0713	DRAWN BY: D.J.W.	SCALE: AS NOTED
DATE: 2-27-24	TRACED: APPD	SURVEYED BY: FPI OF I
FILE: BUCKEYE HILLS NEW TRADE BLDG.DWG	JOB NUMBER: V-1531-24	

CENTRAL FIRE PROT. CO., INC.
583 SELMA RD.
SPRINGFIELD, OH 45505

HYDRAULIC CALCULATIONS

FOR

NEW TRADES BUILDING BUCKEYE HILLS
351 BUCKEYE HILLS RD. RIO GRANDE, OH45674

FILE NUMBER: V-1531-24 BUCKEYE HILLS
DATE: FEB 27, 2024

-DESIGN DATA-

OCCUPANCY CLASSIFICATION: ORD. HAZARD - WET
DENSITY: 0.15 gpm/sq. ft.
AREA OF APPLICATION: 1500 sq. ft.
COVERAGE PER SPRINKLER: 130 sq. ft. (MAX)
NUMBER OF SPRINKLERS CALCULATED: 12 sprinklers
TOTAL SPRINKLER WATER FLOW REQUIRED: 328.2 gpm
TOTAL WATER REQUIRED (including hose): 578.2 gpm
FLOW AND PRESSURE (@ BOR): 328.2 gpm @ 77.4 psi
SPRINKLER ORIFICE SIZE: K5.6 = 1/2 inch
NAME OF CONTRACTOR: CENTRAL FIRE PROTECTION CO., INC.
DESIGN/LAYOUT BY: ALAN ARNOLD
AUTHORITY HAVING JURISDICTION: CIVIL ENGINEERING
CONTRACTOR CERTIFICATION NUMBER: 53-57-1093

CALCULATIONS BY HASS COMPUTER PROGRAM (LICENSE # 64622373)
HRS SYSTEMS, INC.

DATE: 2/27/2024 CKEYE HILLS\04 HASS FILES\V-1531-24 BUCKEYE HILLS CALC.SDF
 JOB TITLE:

WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
PD	125.0	81.0	1125.0	112.2	578.2	84.0

Available pressure is 28.2 psi (25%) greater than required pressure.

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	578.2 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	250.0 GPM
OTHER HOSE STREAM ALLOWANCES	0.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	328.2 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
1	20.8	K= 5.60	19.3	24.6
2	19.5	- - - -	20.5	- - -
3	20.8	K= 5.60	21.3	25.9
4	19.5	- - - -	23.2	- - -
5	20.8	K= 5.60	23.9	27.4
6	19.5	- - - -	25.8	- - -
7	20.8	K= 5.60	29.5	30.4
8	19.5	- - - -	31.8	- - -
9	22.3	K= 5.60	19.3	24.6
10	19.5	- - - -	21.4	- - -
11	22.3	K= 5.60	21.3	25.8
12	19.5	- - - -	24.1	- - -
13	22.3	K= 5.60	23.8	27.3
14	19.5	- - - -	26.8	- - -
15	22.3	K= 5.60	29.4	30.4
16	19.5	- - - -	32.8	- - -
17	23.8	K= 5.60	20.7	25.5
18	19.5	- - - -	23.8	- - -
19	23.8	K= 5.60	22.8	26.7
20	19.5	- - - -	26.7	- - -
21	23.8	K= 5.60	25.4	28.2
22	19.5	- - - -	29.6	- - -
23	23.8	K= 5.60	31.3	31.3
24	19.5	- - - -	35.9	- - -
25	19.5	- - - -	36.3	- - -
26	19.5	- - - -	37.3	- - -
27	19.5	- - - -	40.7	- - -
TOR	19.5	- - - -	66.9	- - -
BOR	5.0	- - - -	77.4	- - -
FS	1.0	- - - -	84.0	- - -
UG1	-5.0	- - - -	86.9	- - -
PD	2.0	SOURCE	84.0	328.2

DATE: 2/27/2024CKEYE HILLS\04 HASS FILES\V-1531-24 BUCKEYE HILLS CALC.SDF

JOB TITLE:

PIPE DATA

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q (GPM)	DIA (IN)	LENGTH	PRESS.
	NODES	(FT)	(K)	(PSI)	(GPM)	VEL (FPS)	HW (C)	(FT)	SUM.
							FL/FT		(PSI)
Pipe: 1	1	20.8	5.6	19.3	24.6	-24.6	1.049	1.25	PF 0.6
	2	19.5	0.0	20.5	0.0	9.1	120	FTG E	PE 0.5
							0.191	TL 3.25	PV
Pipe: 2	2	19.5	0.0	20.5	0.0	-24.6	1.049	14.17	PF 2.7
	4	19.5	0.0	23.2	0.0	9.1	120	FTG ----	PE 0.0
							0.191	TL 14.17	PV
Pipe: 3	3	20.8	5.6	21.3	25.9	-25.9	1.049	1.25	PF 1.3
	4	19.5	0.0	23.2	0.0	9.6	120	FTG T	PE 0.5
							0.209	TL 6.25	PV
Pipe: 4	4	19.5	0.0	23.2	0.0	-50.5	1.380	14.17	PF 2.7
	6	19.5	0.0	25.8	0.0	10.8	120	FTG ----	PE 0.0
							0.190	TL 14.17	PV
Pipe: 5	5	20.8	5.6	23.9	27.4	-27.4	1.049	1.25	PF 1.5
	6	19.5	0.0	25.8	0.0	10.2	120	FTG T	PE 0.5
							0.232	TL 6.25	PV
Pipe: 6	6	19.5	0.0	25.8	0.0	-77.8	1.380	14.17	PF 6.0
	8	19.5	0.0	31.8	0.0	16.7	120	FTG ----	PE 0.0
							0.422	TL 14.17	PV
Pipe: 7	7	20.8	5.6	29.5	30.4	-30.4	1.049	1.25	PF 1.8
	8	19.5	0.0	31.8	0.0	11.3	120	FTG T	PE 0.5
							0.283	TL 6.25	PV
Pipe: 8	8	19.5	0.0	31.8	0.0	-108.2	1.610	4.17	PF 4.5
	25	19.5	0.0	36.3	0.0	17.1	120	FTG T	PE 0.0
							0.367	TL 12.17	PV
Pipe: 9	25	19.5	0.0	36.3	0.0	-108.2	2.067	8.75	PF 1.0
	26	19.5	0.0	37.3	0.0	10.3	120	FTG ----	PE 0.0
							0.109	TL 8.75	PV
Pipe: 10	9	22.3	5.6	19.3	24.6	-24.6	1.049	2.75	PF 0.9
	10	19.5	0.0	21.4	0.0	9.1	120	FTG E	PE 1.2
							0.191	TL 4.75	PV
Pipe: 11	10	19.5	0.0	21.4	0.0	-24.6	1.049	14.17	PF 2.7
	12	19.5	0.0	24.1	0.0	9.1	120	FTG ----	PE 0.0
							0.191	TL 14.17	PV
Pipe: 12	11	22.3	5.6	21.3	25.8	-25.8	1.049	2.75	PF 1.6
	12	19.5	0.0	24.1	0.0	9.6	120	FTG T	PE 1.2
							0.209	TL 7.75	PV
Pipe: 13	12	19.5	0.0	24.1	0.0	-50.5	1.380	14.17	PF 2.7
	14	19.5	0.0	26.8	0.0	10.8	120	FTG ----	PE 0.0
							0.190	TL 14.17	PV

DATE: 2/27/2024CKEYE HILLS\04 HASS FILES\V-1531-24 BUCKEYE HILLS CALC.SDF
 JOB TITLE:

PIPE TAG	Q (GPM)	DIA (IN)	LENGTH	PRESS.
END ELEV. NOZ. PT DISC. VEL (FPS) HW (C) (FT) SUM.				
NODES (FT) (K) (PSI) (GPM) FL/FT (PSI)				
Pipe: 14	-27.3	1.049	PL 2.75	PF 1.8
13 22.3 5.6 23.8 27.3 10.1 120	10.1	120	FTG T	PE 1.2
14 19.5 0.0 26.8 0.0 0.232	0.0	0.232	TL 7.75	PV
Pipe: 15	-77.8	1.380	PL 14.17	PF 6.0
14 19.5 0.0 26.8 0.0 16.7 120	16.7	120	FTG ----	PE 0.0
16 19.5 0.0 32.8 0.0 0.422	0.0	0.422	TL 14.17	PV
Pipe: 16	-30.4	1.049	PL 2.75	PF 2.2
15 22.3 5.6 29.4 30.4 11.3 120	11.3	120	FTG T	PE 1.2
16 19.5 0.0 32.8 0.0 0.282	0.0	0.282	TL 7.75	PV
Pipe: 17	-108.2	1.610	PL 4.17	PF 4.5
16 19.5 0.0 32.8 0.0 17.0 120	17.0	120	FTG T	PE 0.0
26 19.5 0.0 37.3 0.0 0.367	0.0	0.367	TL 12.17	PV
Pipe: 18	-216.4	2.067	PL 8.75	PF 3.4
26 19.5 0.0 37.3 0.0 20.7 120	20.7	120	FTG ----	PE 0.0
27 19.5 0.0 40.7 0.0 0.392	0.0	0.392	TL 8.75	PV
Pipe: 19	-25.5	1.049	PL 4.25	PF 1.3
17 23.8 5.6 20.7 25.5 9.5 120	9.5	120	FTG E	PE 1.8
18 19.5 0.0 23.8 0.0 0.204	0.0	0.204	TL 6.25	PV
Pipe: 20	-25.5	1.049	PL 14.17	PF 2.9
18 19.5 0.0 23.8 0.0 9.5 120	9.5	120	FTG ----	PE 0.0
20 19.5 0.0 26.7 0.0 0.204	0.0	0.204	TL 14.17	PV
Pipe: 21	-26.7	1.049	PL 4.25	PF 2.1
19 23.8 5.6 22.8 26.7 9.9 120	9.9	120	FTG T	PE 1.8
20 19.5 0.0 26.7 0.0 0.223	0.0	0.223	TL 9.25	PV
Pipe: 22	-52.2	1.380	PL 14.17	PF 2.9
20 19.5 0.0 26.7 0.0 11.2 120	11.2	120	FTG ----	PE 0.0
22 19.5 0.0 29.6 0.0 0.202	0.0	0.202	TL 14.17	PV
Pipe: 23	-28.2	1.049	PL 4.25	PF 2.3
21 23.8 5.6 25.4 28.2 10.5 120	10.5	120	FTG T	PE 1.8
22 19.5 0.0 29.6 0.0 0.246	0.0	0.246	TL 9.25	PV
Pipe: 24	-80.5	1.380	PL 14.17	PF 6.4
22 19.5 0.0 29.6 0.0 17.3 120	17.3	120	FTG ----	PE 0.0
24 19.5 0.0 35.9 0.0 0.450	0.0	0.450	TL 14.17	PV
Pipe: 25	-31.3	1.049	PL 4.25	PF 2.8
23 23.8 5.6 31.3 31.3 11.6 120	11.6	120	FTG T	PE 1.8
24 19.5 0.0 35.9 0.0 0.299	0.0	0.299	TL 9.25	PV
Pipe: 26	-111.8	1.610	PL 4.17	PF 4.7
24 19.5 0.0 35.9 0.0 17.6 120	17.6	120	FTG T	PE 0.0
27 19.5 0.0 40.7 0.0 0.390	0.0	0.390	TL 12.17	PV

DATE: 2/27/2024 CKEYE HILLS\04 HASS FILES\V-1531-24 BUCKEYE HILLS CALC.SDF
 JOB TITLE:

PIPE TAG	Q (GPM)	DIA (IN)	LENGTH	PRESS.
END ELEV. NOZ. PT DISC. VEL (FPS) HW (C) (FT) SUM.				
NODES (FT) (K) (PSI) (GPM) FL/FT (PSI)				
Pipe: 27	-328.2	2.067	PL 26.00	PF 26.3
27 19.5 0.0 40.7 0.0 31.4 120 FTG E				PE 0.0
TOR 19.5 0.0 66.9 0.0 0.847 TL 31.00				PV
Pipe: 28	-328.2	2.635	PL 16.00	PF 4.2
TOR 19.5 0.0 66.9 0.0 19.3 120 FTG ----				PE 6.3
BOR 5.0 0.0 77.4 0.0 0.260 TL 16.00				PV
Pipe: 29	-328.2	2.635	PL 4.00	PF 4.9
BOR 5.0 0.0 77.4 0.0 19.3 120 FTG GD				PE 1.7
FS 1.0 0.0 84.0 0.0 0.260 TL 19.00				PV
Pipe: 30	-328.2	6.357	PL 30.00	PF 0.3
FS 1.0 0.0 84.0 0.0 3.3 120 FTG ET				PE 2.6
UG1 -5.0 0.0 86.9 0.0 0.004 TL 86.00				PV
Pipe: 31	-328.2	8.249	PL 70.00	PF 0.1
UG1 -5.0 0.0 86.9 0.0 2.0 120 FTG E				PE -3.0
PD 2.0 SRCE 84.0 (N/A) 0.001 TL 91.00				PV

NOTES (HASS):

- (1) Calculations were performed by the HASS 2023 D computer program in accordance with NFPA (2020) under license no. 64622373 granted by HRS Systems, Inc. 208 Southside Square Petersburg, TN 37144 (931) 659-9760
- (2) The system has been calculated to provide an average imbalance at each node of 0.002 gpm and a maximum imbalance at any node of 0.075 gpm.
- (3) Total pressure at each node is used in balancing the system. Maximum water velocity is 31.4 ft/sec at pipe 27.
- (4) Items listed in bold print on the cover sheet are automatically transferred from the calculation report.
- (5) Available pressure at source node PD under full flow conditions is 109.80 psi with a flow of 633.37 gpm.

DATE: 2/27/2024CKEYE HILLS\04 HASS FILES\V-1531-24 BUCKEYE HILLS CALC.SDF
 JOB TITLE:

(6) PIPE FITTINGS TABLE

User Pipe Table Name: CUSTOM

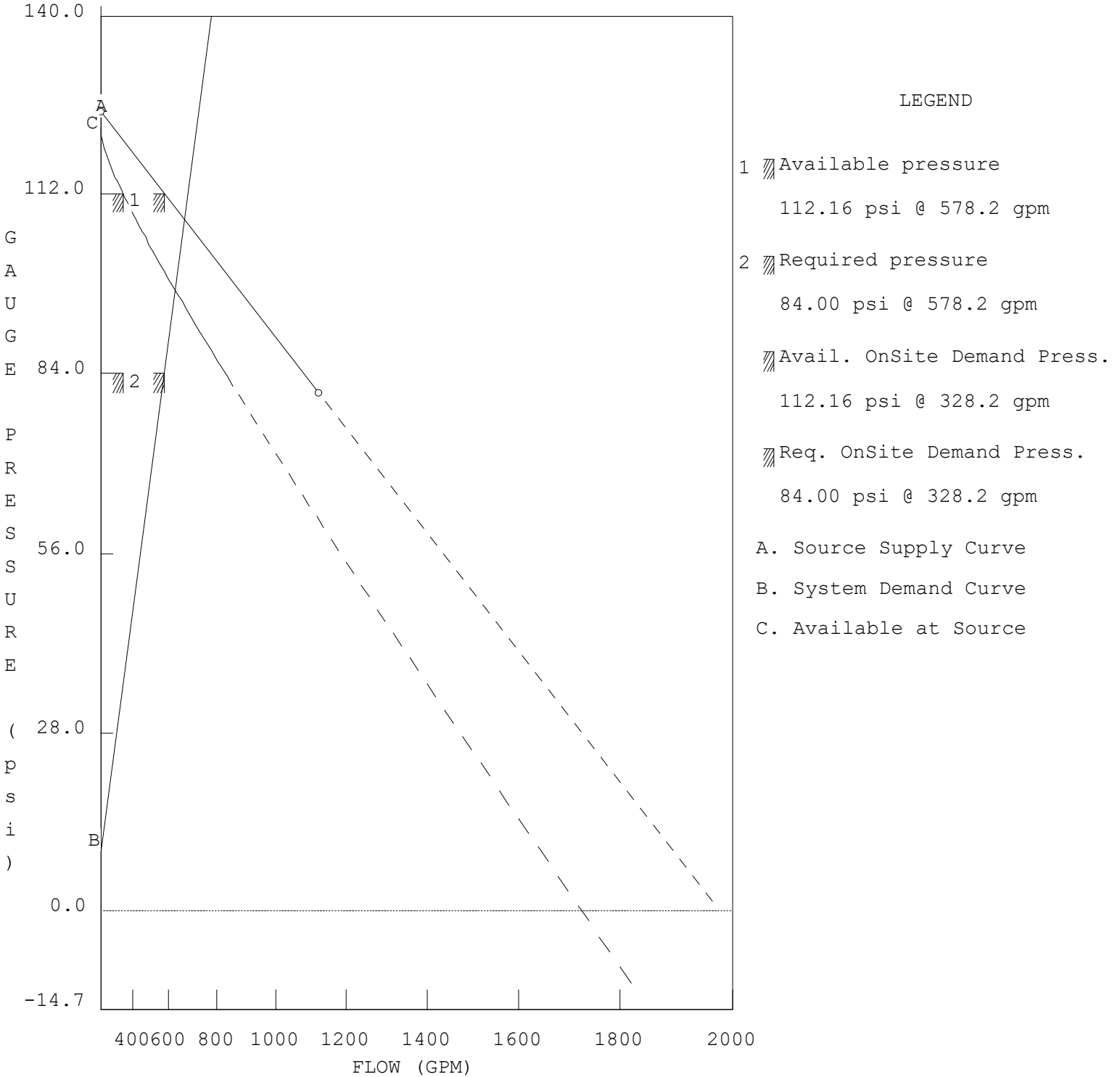
PAGE: A MATERIAL: S40-T HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet								
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv	N NPTee
1.049	2.00	5.00	2.00	5.00	6.00	1.00	10.00	10.00	5.00
1.380	3.00	6.00	2.00	7.00	6.00	1.00	10.00	10.00	6.00
1.610	4.00	8.00	2.00	9.00	6.00	1.00	10.00	10.00	8.00
2.067	5.00	10.00	3.00	11.00	6.00	1.00	10.00	10.00	10.00
2.635	8.00	17.00	6.00	19.00	10.00	1.00	14.00	14.00	17.00
6.357	18.00	38.00	11.00	40.00	13.00	4.00	35.00	35.00	38.00
8.249	21.00	41.00	15.00	53.00	14.00	5.00	37.00	37.00	41.00

DATE: 2/27/2024 CKEYE HILLS\04 HASS FILES\V-1531-24 BUCKEYE HILLS CALC.SDF
 JOB TITLE:

WATER SUPPLY ANALYSIS

Static: 125.00 psi Resid: 81.00 psi Flow: 1125.0 gpm

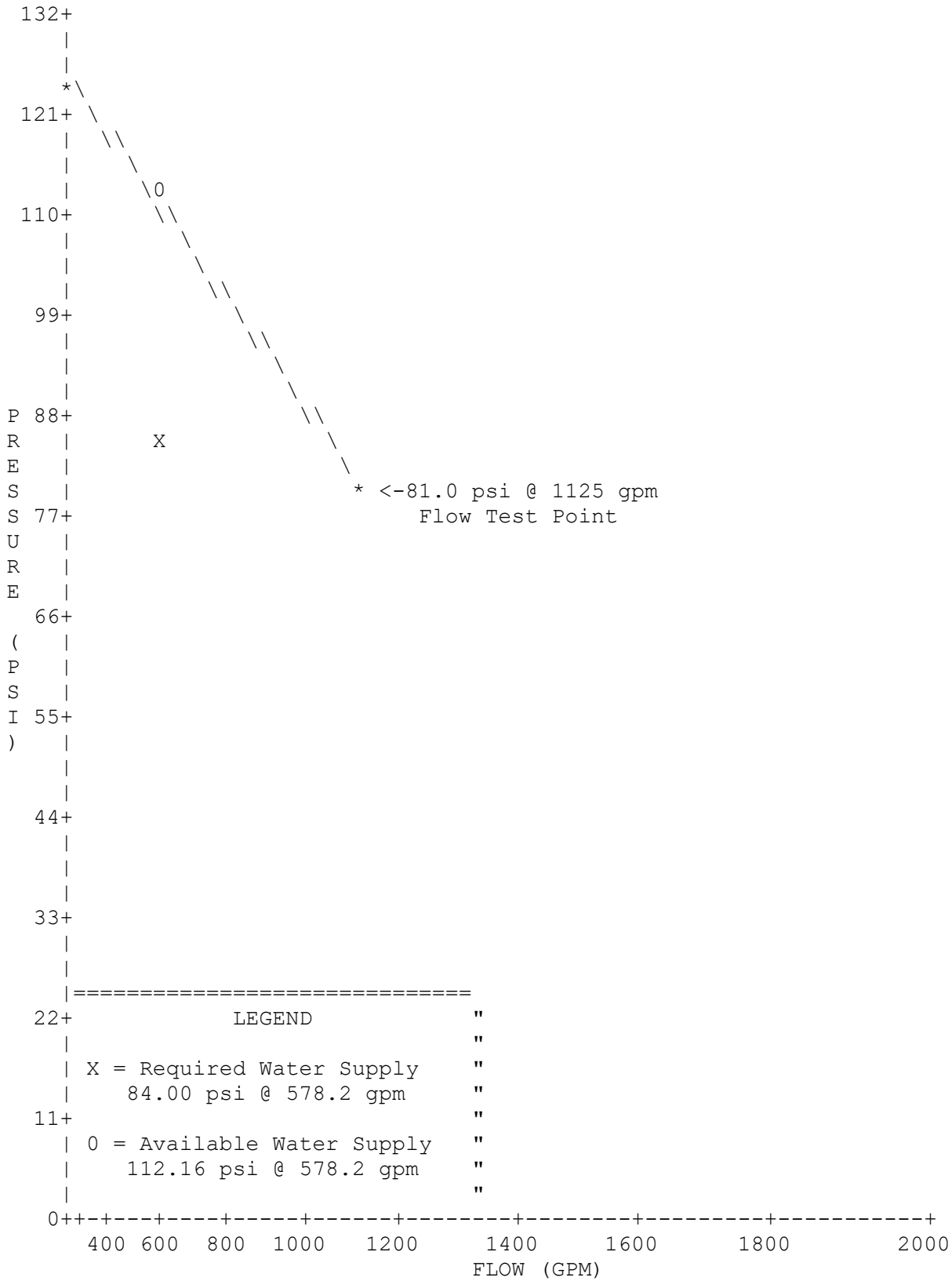


Note: (1) Dashed Lines indicate extrapolated values from Test Results

(2) On Site pressures are based on hose stream deduction at the source

DATE: 2/27/2024 CKEYE HILLS\04 HASS FILES\V-1531-24 BUCKEYE HILLS CALC.SDF
 JOB TITLE:

WATER SUPPLY CURVE



MATERIAL SUBMITTAL

FOR

NEW TRADES BUILDING
351 BUCKEYE HILLS RD.
RIO GRANDE, OH 45674

CENTRAL FIRE PROTECTION CO., INC.
583 SELMA ROAD
SPRINGFIELD, OHIO 45505
(937) 322-0713

V-1531-24

2/26/24

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APPROVALS AND SPECIFICATIONS

- ASTM A135, Grade A
- ASTM A795, Type E, Grade A
- Pressure rated to 300 psi
- Underwriters Laboratories—United States of America
- Underwriters Laboratories—Canada
- Factory Mutual
- NFPA-13
- NFPA-13R
- NFPA-14
- CIVIL DEFENSE APPROVAL—United Arab Emirates
- Made in the United States of America
- UL, ULC & FM listed for roll-groove, plain-end and welded joints for wet, dry, preaction and deluge sprinkler systems.
- LEED v4 Certified

FINISHES AND COATINGS

- Schedule 10 & 40 Sprinkler Pipe receives an OD mill coating of water-based paint which has corrosion protection expected with a painted carbon steel product, i.e. it would be expected to resist corrosion for an extended and indefinite period in a clean and dry environment and, as environmental conditions deteriorate, the corrosion protection would also diminish.
- Schedule 10 & 40 Sprinkler Pipe (black) receives an ID mill coating of Eddy Guard II MIC preventative coating. EG2 has been tested at independent laboratories to resist bacterial growth and maintain minimal bacterial count after multiple flushes (25) of the pipe.
- Schedule 10 & 40 Sprinkler Pipe when Hot Dip Galvanized by ASTM A123 and supplied by Bull Moose Tube is UL listed and FM approved.

PRODUCT IDENTIFICATION

- Every length of Bull Moose fire sprinkler pipe features large, easy-to-read, continuous stenciling, clearly identifying the manufacturer, type of pipe, size, and length.

	Nominal Pipe Size (inches)	1	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"
Schedule 10	O.D. (in)	1.315	1.660	1.900	2.375	2.875	3.500	4.500	6.625	8.625
	I.D. (in)	1.097	1.442	1.682	2.157	2.635	3.260	4.260	6.357	8.249
	Empty Weight (lb/ft)	1.410	1.810	2.090	2.640	3.530	4.340	5.620	9.290	16.940
	Water Filled Weight (lb/ft)	1.800	2.518	3.053	4.223	5.893	7.957	11.796	23.038	40.086
	C.R.R.*	15.27	9.91	7.76	6.27	4.92	3.54	2.50	1.158	1.805
	Pieces per Lift	91	61	61	37	30	19	19	10	7
Schedule 40	O.D. (in)	1.315	1.660	1.900	2.375	2.875	3.500	4.500		
	I.D. (in)	1.049	1.380	1.610	2.067	2.469	3.068	4.026		
	Empty Weight (lb/ft)	1.680	2.270	2.720	3.660	5.800	7.580	10.800		
	Water Filled Weight (lb/ft)	2.055	2.918	3.602	5.114	7.875	10.783	16.316		
	C.R.R.*	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
	Pieces per Lift	70	51	44	30	30	19	19		

*Calculated using Standard UL CRR formula, UL Fire Protection Directory, Category VIZY


SUBMITTAL INFORMATION

Project

Contractor

Engineer

Specification Reference

Date System Type

Locations

Comments

- Schedule 10 - Black
 Schedule 10 - Hot Dip Galvanized
 Schedule 40 - Black
 Schedule 40 - Hot Dip Galvanized

Fire Sprinkler Pipe

Schedule 10 and Schedule 40

Submittal Data Sheet



FM Approved and Fully Listed Sprinkler Pipe

Wheatland's Schedule 10 and Schedule 40 steel fire sprinkler pipe is FM Approved and UL, C-UL and FM Listed.

Approvals and Specifications

Both products meet or exceed the following standards:

- ASTM A135, Type E, Grade A (Schedule 10)
- ASTM A795, Type E, Grade A (Schedule 40)
- NFPA 13

Manufacturing Protocols

Schedule 10 and Schedule 40 are subjected to the toughest possible testing protocols to ensure the highest quality and long-lasting performance.

Finishes and Coatings

All Wheatland black steel fire sprinkler pipe up to 6" receives a proprietary mill coating to ensure a clean, corrosion-resistant surface that outperforms and outlasts standard lacquer coatings. This coating allows the pipe to be easily painted, without special preparation. Schedule 10 and Schedule 40 can be ordered in black, or with hot-dip galvanizing, to meet FM/UL requirements for dry systems that meet the zinc coating specifications of ASTM A795 or A53. All Wheatland galvanized material is also UL Listed.

Product Marking

Each length of Wheatland fire sprinkler pipe is continuously stenciled to show the manufacturer, type of pipe, grade, size and length. Barcoding is acceptable as a supplementary identification method.

SCHEDULE 10 SPECIFICATIONS

NPS	NOM OD		NOM ID		NOMINAL WALL		NOMINAL WEIGHT		UL CRR*	PIECES Lift
	in.	mm	in.	mm	in.	mm	lbs./ft.	kg/m		
1¼	1.660	42.2	1.442	36.6	.109	2.77	1.81	2.69	7.3	61
1½	1.900	48.3	1.682	42.7	.109	2.77	2.09	3.11	5.8	61
2	2.375	60.3	2.157	54.8	.109	2.77	2.64	3.93	4.7	37
2½	2.875	73.0	2.635	66.9	.120	3.05	3.53	5.26	3.5	30
3	3.500	88.9	3.260	82.8	.120	3.05	4.34	6.46	2.6	19
4	4.500	114.3	4.260	108.2	.120	3.05	5.62	8.37	1.6	19
5	5.563	141.3	5.295	134.5	.134	3.40	7.78	11.58	1.5	13
6	6.625	168.3	6.357	161.5	.134	3.40	9.30	13.85	1.0	10
8	8.625	219.1	8.249	209.5	.188	4.78	16.96	25.26	2.1	7

* Calculated using Standard UL CRR formula, UL Fire Protection Directory, Category VIZY.

* The CRR is a ratio value used to measure the ability of a pipe to withstand corrosion. Threaded Schedule 40 steel pipe is used as the benchmark (value of 1.0).

SCHEDULE 40 SPECIFICATIONS

NPS	NOM OD		NOM ID		NOMINAL WALL		NOMINAL WEIGHT		UL CRR*	PIECES Lift
	in.	mm	in.	mm	in.	mm	lbs./ft.	kg/m		
1	1.315	33.4	1.049	26.6	.133	3.38	1.68	2.50	1.00	70
1¼	1.660	42.2	1.380	35.1	.140	3.56	2.27	3.39	1.00	51
1½	1.900	48.3	1.610	40.9	.145	3.68	2.72	4.05	1.00	44
2	2.375	60.3	2.067	52.5	.154	3.91	3.66	5.45	1.00	30

* Calculated using Standard UL CRR formula, UL Fire Protection Directory, Category VIZY.

* The CRR is a ratio value used to measure the ability of a pipe to withstand corrosion. Threaded Schedule 40 steel pipe is used as the benchmark (value of 1.0).



SUBMITTAL INFORMATION

PROJECT:

CONTRACTOR:

DATE:

ENGINEER:

SPECIFICATION REFERENCE:

SYSTEM TYPE:

LOCATIONS:

COMMENTS:

BLACK

HOT-DIP GALVANIZED



Schedule 10 Steel Sprinkler Pipe

Youngstown Tube manufactures Schedule 10 pipe in sizes 1 ¼” thru 6” using only *high quality domestic steel coils*. This ensures a uniform superior product for roll grooving, welding or plain end uses. Youngstown Tube's schedule 10 pipe is produced under ASTM A135/A795 Type E, Grade A, NH standards. Every piece is Eddy-Current tested and conforms to internal SPC testing and recording.

Youngstown Tube Schedule 10 steel sprinkler pipe is coated with a waterbased black enamel coating, YTC Guard[®] antimicrobial coating and a continuous color coded *white* stencil, and stored indoors ready for immediate shipment.

Approvals:

- * UL, CUL Listed
- * FM Approved

Youngstown Tube schedule 10 pipe meets the rigorous testing and certification processes of Underwriters Laboratory and Factory Mutual for steel sprinkler pipe with working pressures of 300 psi or less. It also meets the requirements of NFPA 13 and can be used in wet, dry, deluge and preaction systems.

Continuous color-coded **WHITE** stencil

Schedule 10 *

Pipe Size	Pipe OD	Pipe ID	Nominal Wall	Weight per Foot	Standard Length	Pieces per Bundle	Feet per Bundle	Weight per Bundle	UL Untreated CRR
1 ¼	1.660	1.442	.109	1.81	21	61	1,281	2,319	8.5
1 ½	1.900	1.682	.109	2.08	21	44	924	1,921	6.8
2	2.375	2.157	.109	2.64	21	37	777	2,051	5.5
2 ½	2.875	2.635	.120	3.53	21	37	777	2,742	4.1
3	3.500	3.260	.120	4.33	21	24	504	2,182	3.0
4	4.500	4.260	.120	5.61	21	19	399	2,238	1.8
6	6.625	6.357	.134	9.29	21	10	210	1,951	1.16

Warning: Schedule 10 pipe can not be threaded or cut-grooved!





Schedule 40 Steel Sprinkler Pipe



Youngstown Tube manufactures Schedule 40 pipe in sizes 1” thru 2” using only high quality domestic steel coils. This ensures a uniform superior product for threading, roll grooving, welding or plain end uses. Youngstown Tube's schedule 40 pipe is produced under ASTM A135/A795 Type E, Grade A, NH standards. Every piece is Eddy-Current tested and conforms to internal SPC testing and recording.

Youngstown Tube Schedule 40 steel sprinkler pipe is coated with a waterbased black enamel coating, YTC Guard[®] antimicrobial coating and a continuous color coded red stencil, and stored indoors ready for immediate shipment.

Approvals:

- * UL, CUL Listed
- * FM Approved

Youngstown Tube schedule 40 pipe meets the rigorous testing and certification processes of Underwriters Laboratory and Factory Mutual for steel sprinkler pipe with working pressures of 300 psi or less. It also meets the requirements of NFPA 13 and can be used in wet, dry, deluge and preaction systems.

Continuous color-coded RED stencil

Schedule 40

Pipe Size	Pipe OD	Pipe ID	Nominal Wall	Weight per Foot	Standard Length	Pieces per Bundle	Feet per Bundle	Weight per Bundle	UL Threaded CRR
1	1.315	1.049	.133	1.68	21	61	1,281	2,152	1.00
1 ¼	1.660	1.380	.140	2.27	21	61	1,281	2,907	1.00
1 ½	1.900	1.610	.145	2.72	21	44	924	2,511	1.00
2	2.375	2.067	.154	3.65	21	37	777	2,836	1.00



90° ELBOW

- Approved By UL, ULC and FM at 300 psi
- Cast Iron ASTM A 126 Class B.
- NPT Thread per ANSI/ASME B1.20.1.
- Dimension per ASME B16.4
- Marked with SPD
- For current listing/approval details contact a Titus representative



Nominal Size in/mm	Pressure PSI/MPa	Dimension		Unit WT LB/KGS
		A	B	
1	300	1.50	1.50	0.90
25	2065	38.1	38.1	0.41
1-1/4	300	1.75	1.75	1.39
32	2065	44.45	44.45	0.63
1-1/2	300	1.94	1.94	1.83
40	2065	49.27	49.27	0.83
2	300	2.25	2.25	3.10
50	2065	57.15	57.15	1.41
2-1/2	300	2.70	2.70	4.80
65	2065	68.58	68.58	2.18

90° REDUCED ELBOW

- Approved By UL, ULC and FM at 300 psi
- Cast Iron ASTM A 126 Class B.
- NPT Thread per ANSI/ASME B1.20.1.
- Dimension per ASME B16.4
- Marked with SPD
- For current listing/approval details contact a Titus representative



Nominal Size in/mm	Pressure PSI/MPa	Dimension		Unit WT LB/KGS
		A	B	
1x1/2	300	1.26	1.36	0.68
25x15	2065	32.0	34.5	0.31
1x3/4	300	1.37	1.45	0.77
25x20	2065	34.80	36.83	0.35
1-1/4x1/2	300	1.34	1.53	0.97
32x15	2065	34.04	38.86	0.44
1-1/4x3/4	300	1.45	1.62	1.08
32x20	2065	36.83	41.15	0.49
1-1/4x1	300	1.58	1.67	1.19
32x25	2065	40.13	42.42	0.54
1-1/2x1/2	300	1.41	1.66	1.17
40x15	2065	35.8	42.2	0.53
1-1/2x3/4	300	1.52	1.75	1.30
40x20	2065	38.61	44.45	0.59
1-1/2x1	300	1.65	1.80	1.43
40x25	2065	41.91	45.72	0.65
1-1/2x1/-1/4	300	1.82	1.88	1.65
40x32	2065	46.23	47.75	0.75
2x1/2	300	1.49	1.88	1.72
50x15	2065	37.85	47.75	0.78
2x3/4	300	1.60	1.97	1.85
50x20	2065	40.6	50.0	0.84
2x1	300	1.73	2.02	2.00
50x25	2065	43.94	51.31	0.91
2x1-1/4	300	1.90	2.10	2.31
50x32	2065	48.26	53.34	1.05
2x1-1/2	300	2.02	2.16	2.53
50x40	2065	51.31	54.86	1.15

45° ELBOW

- Approved By UL, ULC and FM at 300 psi
- Cast Iron ASTM A 126 Class B.
- NPT Thread per ANSI/ASME B1.20.1.
- Dimension per ASME B16.4
- Marked with SPD
- For current listing/approval details contact a Titus representative



Nominal Size in/mm	Pressure PSI/MPa	Dimension		Unit WT LB/KGS
		A	B	
1	300	1.120	1.120	0.81
25	2065	28.448	28.448	0.37
1-1/4	300	1.290	1.290	1.23
32	2065	32.766	32.766	0.56
1-1/2	300	1.430	1.430	1.65
40	2065	36.322	36.322	0.75
2	300	1.680	1.680	2.68
50	2065	42.672	42.672	1.22

REDUCED COUPLING

- Approved By UL, ULC and FM at 300 psi
- Cast Iron ASTM A 126 Class B.
- NPT Thread per ANSI/ASME B1.20.1.
- Dimension per ASME B16.4
- Marked with SPD
- For current listing/approval details contact a Titus representative



Nominal Size in/mm	Pressure PSI/MPa	Dimension	Unit WT LB/KGS
		A	
1x1/2 25x15	300 2065	1.70 43.18	0.616 0.28
1x3/4 25x20	300 2065	1.70 43.18	0.684 0.311

TEE

- Approved By UL, ULC and FM at 300 psi
- Cast Iron ASTM A 126 Class B.
- NPT Thread per ANSI/ASME B1.20.1.
- Dimension per ASME B16.4
- Marked with SPD
- For current listing/approval details contact a Titus representative



Nominal Size in/mm	Pressure PSI/MPa	Dimension		Unit WT LB/KGS
		A	B	
1	300	1.50	1.50	1.25
25	2065	38.10	38.10	0.57
1-1/4	300	1.75	1.75	1.91
32	2065	44.45	44.45	0.87
1-1/2	300	1.94	1.94	2.55
40	2065	49.27	49.27	1.16
2	300	2.25	2.25	3.96
50	2065	57.15	57.15	1.80
2-1/2	300	2.70	2.70	6.38
65	2065	68.58	68.58	2.90

REDUCED TEE

- Approved By UL, ULC and FM at 300 psi
- Cast Iron ASTM A 126 Class B.
- NPT Thread per ANSI/ASME B1.20.1.
- Dimension per ASME B16.4
- Marked with SPD
- For current listing/approval details contact a Titus representative



Nominal Size in/mm	Pressure PSI/MPa	Dimension			Unit WT LB/KGS
		A	B	C	
1x1/2x1	300	1.50	1.36	1.50	1.06
25x15x25	2065	38.10	34.54	38.10	0.48
1x3/4x1	300	1.50	1.45	1.50	1.10
25x20x25	2065	38.10	36.83	38.10	0.50
1x1x1/2	300	1.26	1.26	1.36	0.97
25x25x15	2065	32.00	32.00	34.54	0.44
1x1x3/4	300	1.37	1.37	1.45	1.08
25x25x20	2065	34.80	34.80	36.83	0.49
1x1x1-1/4	300	1.67	1.67	1.58	1.45
25x25x32	2065	42.42	42.42	40.13	0.66
1x1x1-1/2	300	1.80	1.80	1.65	1.72
25x25x40	2065	45.72	45.72	41.91	0.78
1-1/4x1x1/2	300	1.34	1.26	1.53	1.19
32x25x15	2065	34.04	32.00	38.86	0.54
1-1/4x1x3/4	300	1.45	1.37	1.62	1.34
32x25x20	2065	36.83	34.80	41.15	0.61
1-1/4x1x1	300	1.58	1.50	1.67	1.45
32x25x25	2065	40.13	38.10	42.42	0.66
1-1/4x1x1-1/4	300	1.75	1.67	1.75	1.78
32x25x32	2065	44.45	42.42	44.45	0.81
1-1/4x1x1-1/2	300	1.88	1.80	1.82	1.94
32x25x40	2065	47.75	45.72	46.23	0.88
1-1/4x1-1/4x1/2	300	1.34	1.34	1.53	1.36
32x32x15	2065	34.04	34.04	38.86	0.62
1-1/4x1-1/4x3/4	300	1.45	1.45	1.62	1.41
32x32x20	2065	36.83	36.83	41.15	0.64
1-1/4x1-1/4x1	300	1.58	1.58	1.67	1.63
32x32x25	2065	40.13	40.13	42.42	0.74
1-1/4x1-1/4x1-1/2	300	1.88	1.88	1.82	1.91
32x32x40	2065	47.75	47.75	46.23	0.87
1-1/4x1-1/4x2	300	2.10	2.10	1.90	2.64
32x32x50	2065	53.34	53.34	48.26	1.20
1-1/2x1x1/2	300	1.41	1.34	1.66	1.43
40x25x15	2065	35.81	34.04	42.16	0.65
1-1/2x1x3/4	300	1.52	1.37	1.75	1.52
40x25x20	2065	38.61	34.80	44.45	0.69
1-1/2x1x1	300	1.65	1.50	1.80	1.78
40x25x25	2065	41.91	38.10	45.72	0.81
1-1/2x1x1-1/4	300	1.82	1.67	1.88	1.98
40x25x32	2065	46.23	42.42	47.75	0.90
1-1/2x1x1-1/2	300	1.94	1.80	1.94	2.20
40x25x40	2065	49.28	45.72	49.28	1.00
1-1/2x1-1/4x1/2	300	1.41	1.34	1.66	1.58
40x32x15	2065	35.81	34.04	42.16	0.72
1-1/2x1-1/4x3/4	300	1.52	1.45	1.75	1.72
40x32x20	2065	38.61	36.83	44.45	0.78
1-1/2x1-1/4x1	300	1.65	1.58	1.80	1.91
40x32x25	2065	41.91	40.13	45.72	0.87
1-1/2x1-1/4x1-1/4	300	1.82	1.75	1.88	2.27
40x32x32	2065	46.23	44.45	47.75	1.03

Nominal Size in/mm	Pressure PSI/MPa	Dimension			Unit WT LB/KGS
		A	B	C	
1-1/2x1-1/4x1-1/2	300	1.94	1.88	1.94	2.42
40x32x40	2065	49.28	47.75	49.28	1.10
1-1/2x1-1/4x2	300	2.16	2.10	2.02	2.95
40x32x50	2065	54.86	53.34	51.31	1.34
1-1/2x1-1/2x1/2	300	1.41	1.41	1.66	1.80
40x40x15	2065	35.81	35.81	42.16	0.82
1-1/2x1-1/2x3/4	300	1.52	1.52	1.75	1.91
40x40x20	2065	38.61	38.61	44.45	0.87
1-1/2x1-1/2x1	300	1.65	1.65	1.80	2.09
40x40x25	2065	41.91	41.91	45.72	0.95
1-1/2x1-1/2x1-1/4	300	1.82	1.82	1.88	2.42
40x40x32	2065	46.23	46.23	47.75	1.10
1-1/2x1-1/2x2	300	2.16	2.16	2.02	2.99
40x40x50	2065	54.86	54.86	51.31	1.36
2x1x2	300	2.25	2.02	2.25	3.21
50x25x50	2065	57.15	51.31	57.15	1.46
2x1x1/4x2	300	2.25	2.10	2.25	3.50
50x32x50	2065	57.15	53.34	57.15	1.59
2x1x1/2x1/2	300	1.49	1.41	1.88	2.27
50x40x15	2065	37.85	35.81	47.75	1.03
2x1x1/2x3/4	300	1.60	1.52	1.97	2.38
50x40x20	2065	40.64	38.61	50.04	1.08
2x1x1/2x1	300	1.73	1.65	2.02	2.53
50x40x25	2065	43.94	41.91	51.31	1.15
2x1x1/2x1-1/4	300	1.90	1.82	2.10	2.86
50x40x32	2065	48.26	46.23	53.34	1.30
2x1x1/2x1-1/2	300	2.02	1.94	2.16	3.08
50x40x40	2065	51.31	49.28	54.86	1.40
2x1x1/2x2	300	2.25	2.16	2.25	3.59
50x40x50	2065	57.15	54.86	57.15	1.63
2x2x1/2	300	1.49	1.49	1.88	2.57
50x50x15	2065	37.85	37.85	47.75	1.17
2x2x3/4	300	1.60	1.60	1.97	2.77
50x50x20	2065	40.64	40.64	50.04	1.26
2x2x1	300	1.73	1.73	2.02	2.93
50x50x25	2065	43.94	43.94	51.31	1.33
2x2x1-1/4	300	1.90	1.90	2.10	3.21
50x50x32	2065	48.26	48.26	53.34	1.46
2x2x1-1/2	300	2.02	2.02	2.16	3.52
50x50x40	2065	51.31	51.31	54.86	1.60
2x2x2-1/2	300	2.60	2.60	2.39	5.06
50x50x65	2065	66.04	66.04	60.71	2.30

PLUG

- Approved By UL, ULC and FM at 300 psi
- Cast Iron ASTM A 126 Class B.
- NPT Thread per ANSI/ASME B1.20.1.
- Dimension per ASME B16.4
- Marked with SPD
- For current listing/approval details contact a Titus representative



Nominal Size in/mm	Pressure PSI/MPa	Dimension	Unit WT LB/KGS
		A	
1/2	300	0.94	0.10
15	2065	23.88	0.05
3/4	300	1.07	0.18
20	2065	27.18	0.08
1	300	1.25	0.29
25	2065	31.75	0.13
1-1/4	300	1.36	0.46
32	2065	34.54	0.21
1-1/2	300	1.45	0.64
40	2065	36.83	0.29
2	300	1.56	1.08
50	2065	39.62	0.49

CAST IRON THREADED FITTINGS



Class 125 (Standard)

<input type="checkbox"/> FIGURE 351 90° Elbow	Size		A		B		Unit Weight	
							Black	
	NPS	DN	in	mm	in	mm	lbs	kg
	1/4	8	1/2	13	13/16	22	0.16	0.07
	3/8	10	9/16	14	15/16	24	0.25	0.11
	1/2	15	11/16	17	1 1/8	29	0.40	0.18
	3/4	20	13/16	22	1 15/16	33	0.60	0.27
	1	25	15/16	24	1 1/2	38	0.92	0.42
	1 1/4	32	1 1/8	29	1 3/4	44	1.44	0.65
	1 1/2	40	1 5/16	33	1 15/16	49	1.95	0.88
	2	50	1 9/16	40	2 1/4	57	3.13	1.42
	2 1/2	65	1 13/16	47	2 11/16	68	4.94	2.24
	3	80	2 3/16	56	3 1/8	79	7.21	3.27
	3 1/2	90	2 7/16	62	3 7/16	87	9.67	4.39
	4	100	2 11/16	68	3 13/16	98	12.17	5.52
	5	125	3 5/16	84	4 1/2	114	21.46	9.73
	6	150	3 7/8	98	5 1/8	130	31.33	14.21
8	200	5 3/16	132	6 9/16	167	64.56	29.28	


Note: See following page for pressure-temperature ratings.

PROJECT INFORMATION		APPROVAL STAMP	
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Address:		<input type="checkbox"/> Approved as noted	
Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			


CAST IRON THREADED FITTINGS




Class 125 (Standard)

<input type="checkbox"/> FIGURE 390 Countersunk Plugs	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	1	25	0.20	0.09	0.20	0.09
	1¼	32	0.32	0.15	0.32	0.15
	1½	40	0.47	0.21	0.47	0.21
	2	50	0.84	0.38	0.84	0.38
	2½	65	1.40	0.63	–	–
	3	80	2.25	1.02	–	–
	3½	90	3.02	1.37	–	–
	4	100	3.76	1.71	–	–

See Fig. 390 in Malleable Iron for other available sizes.

<input type="checkbox"/> FIGURE 381 Cap	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	2½	65	2.55	1.16	–	–
	3	80	4.10	1.86	–	–
	4	100	6.40	2.90	–	–
	5	125	10.70	4.85	–	–
	6	150	14.20	6.44	14.20	6.44
	8	200	27.23	12.35	27.23	12.35

<input type="checkbox"/> FIGURE 370 Locknut	Size		Minimum Dimensions								Unit Weight	
			A		B		C		D		Black	
	NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
	2½	65	3.500	89	3.180	81	.590	15	0.90	2	1.13	0.51
	3	80	4.270	108	3.840	98	.670	17	0.90	2	1.60	0.73
	4	100	5.380	137	5.000	127	.800	20	.130	3	1.10	0.50

For nominal sizes smaller than 2½" (65 DN), see Fig. 1134 in the Malleable Iron Section.

According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.


Note: See following page for pressure-temperature ratings.

PROJECT INFORMATION		APPROVAL STAMP	
Project:		<input type="checkbox"/> Approved	13
Address:		<input type="checkbox"/> Approved as noted	
Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			


CAST IRON THREADED FITTINGS





Class 125 (Standard)

<input type="checkbox"/> FIGURE 387 Square Head Plugs, Cored	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	3/4*	20	0.13	0.06	0.13	0.06
	1	25	0.25	0.11	0.25	0.11
	1 1/4	32	0.39	0.18	0.39	0.18
	1 1/2	40	0.50	0.23	0.50	0.23
	2	50	0.82	0.37	0.82	0.37
	2 1/2	65	1.32	0.60	1.32	0.60
	3	80	1.87	0.85	1.87	0.85
	3 1/2	90	2.50	1.13	2.50	1.13
	4	100	4.00	1.81	4.00	1.81

* Zinc Plated

<input type="checkbox"/> FIGURE 388 Square Head Plugs, Solid	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	1/2	15	0.10	0.05	0.10	0.05
	3/4	20	0.17	0.08	0.17	0.08
	1	25	0.32	0.15	0.32	0.15
	1 1/4	32	0.53	0.24	0.53	0.24
	1 1/2	40	0.76	0.34	0.76	0.34
	2	50	1.23	0.56	1.23	0.56
	2 1/2	65	2.00	0.91	2.00	0.91
	3	80	3.18	1.44	3.18	1.44
	3 1/2	90	4.38	1.99	-	-

<input type="checkbox"/> FIGURE 389 Bar Plugs, Cored	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	4	100	3.82	1.73	3.82	1.73
	5	125	6.50	2.95	6.50	2.95
	6	150	9.94	4.51	9.94	4.51
	8	200	20.26	9.19	20.26	9.19

<input type="checkbox"/> FIGURE 380 Bar Plugs, Solid	Size		Unit Weight	
			Black	
	NPS	DN	lbs	kg
	4	100	5.68	2.58
	5	125	9.60	4.35
	6	150	14.78	6.70

According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.

Note: See following page for pressure-temperature ratings.

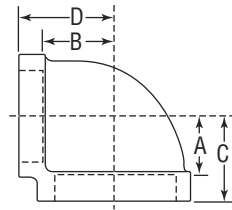
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Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			

CAST IRON THREADED FITTINGS



Class 125 (Standard)

FIGURE 352
90° Elbow, Reducing



Size				A		B		C		D		Unit Weight	
												Black	
NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
1/2	15	1/4	8	5/8	16	3/4	19	1 1/16	27	1 1/16	27	0.40	0.18
		3/8	10	5/8	16	11/16	17	1 1/16	27	1 1/16	27	0.34	0.15
3/4	20	1/2	15	11/16	17	13/16	22	1 1/4	32	1 1/4	32	0.51	0.23
1	25	1/2	15	11/16	17	15/16	24	1 3/8	35	1 3/8	35	0.67	0.30
		3/4	20	13/16	22	15/16	24	1 7/16	37	1 7/16	37	0.76	0.34
1 1/4	32	1/2	15	11/16	17	1 1/16	27	1 1/2	38	1 1/2	38	1.07	0.49
		3/4	20	13/16	22	1 1/8	29	1 5/8	41	1 5/8	41	1.02	0.46
		1	25	15/16	24	1 1/8	29	1 11/16	43	1 11/16	43	1.21	0.55
1 1/2	40	1/2	15	3/4	19	1 1/4	32	1 5/8	41	1 5/8	41	1.53	0.69
		3/4	20	7/8	22	1 5/16	33	1 13/16	47	1 13/16	47	1.55	0.70
		1	25	1	25	1 1/4	32	1 13/16	47	1 13/16	47	1.44	0.65
		1 1/4	32	1 3/16	30	1 1/4	32	1 7/8	48	1 7/8	48	1.74	0.79
2	50	1/2	15	1 3/16	30	1 7/16	37	1 3/8	35	1 3/8	35	2.22	1.01
		3/4	20	1 5/16	33	1 1/2	38	2	51	2	51	2.20	1.00
		1	25	1 1/16	27	1 7/16	37	2	51	2	51	2.08	0.94
		1 1/4	32	1 3/16	30	1 7/16	37	2 1/16	52	2 1/16	52	2.33	1.06
		1 1/2	40	1 5/16	33	1 1/2	38	2 1/8	54	2 1/8	54	2.59	1.17
2 1/2	65	1	25	1	25	1 3/4	44	2 5/16	59	2 5/16	59	2.93	1.33
		1 1/4	32	1 3/16	30	1 3/4	44	2 3/8	60	2 3/8	60	3.41	1.55
		1 1/2	40	1 5/16	33	1 13/16	47	2 7/16	62	2 7/16	62	3.68	1.67
		2	50	1 9/16	40	1 7/8	48	2 9/16	65	2 9/16	65	4.01	1.82
3	80	1 1/4	32	1 5/8	41	2 5/16	59	2 15/16	75	2 15/16	75	5.98	2.71
		1 1/2	40	1 5/8	41	2 5/16	59	2 15/16	75	2 15/16	75	5.65	2.56
		2	50	1 5/8	41	2 1/4	57	2 15/16	75	2 15/16	75	5.25	2.38
		2 1/2	65	1 7/8	48	2 3/16	56	3 1/16	78	3 1/16	78	6.44	2.92
4	100	2	50	2 3/16	56	2 15/16	75	3 5/8	92	3 5/8	92	11.89	5.39
		2 1/2	65	2 3/16	56	2 3/4	70	3 5/8	92	3 5/8	92	11.27	5.11
		3	80	2 3/16	56	2 11/16	68	3 5/8	92	3 5/8	92	10.63	4.82
5	125	4	100	2 13/16	73	3 5/16	84	4 3/8	111	4 3/8	111	16.47	7.47
6	150	3	80	2 5/16	59	3 13/16	98	4 13/16	124	4 13/16	124	19.43	8.81
		4	100	2 13/16	73	3 7/8	98	4 15/16	125	4 15/16	125	23.53	10.67
		5	125	3 3/8	86	3 13/16	98	5	127	5	127	26.66	12.09

Note: See following page for pressure-temperature ratings.

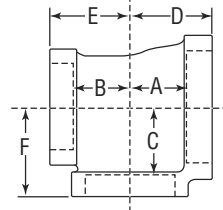
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Engineer:		Remarks:	15
Submittal Date:			
Notes 1:			
Notes 2:			

CAST IRON THREADED FITTINGS



Class 125 (Standard)

FIGURE 359
Tee Reducing



Size			A		B		C		D		E		F		Unit Weight						
NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Black					
																lbs	kg				
1/2	15	1/2	15	1/4	8	1 1/16	17	11/16	17	13/16	22	1 1/8	29	1 1/8	29	1 1/8	29	0.57	0.26		
				3/8	10	1 1/16	17	11/16	17	3/4	19	1 1/8	29	1 1/8	29	1 1/8	29	0.57	0.26		
				3/4	20	1 3/16	22	13/16	22	11/16	17	1 1/4	32	1 1/4	32	1 3/16	22	0.68	0.31		
				1	25	1	25	1	25	13/16	22	1 7/16	37	1 7/16	37	1 3/8	35	1.00	0.45		
3/4	20	1/2	15	1/4	8	1 1/16	17	11/16	17	13/16	22	1 3/16	22	1 1/8	29	1 1/4	32	0.64	0.29		
				3/8	10	1 3/16	22	13/16	22	13/16	22	1 5/16	24	1 1/4	32	1 5/16	24	0.75	0.34		
		3/4	20	1/4	8	9/16	14	9/16	14	7/8	22	1 1/16	17	1 1/16	17	1 3/16	22	0.62	0.28		
				3/8	10	1 1/16	17	11/16	17	15/16	24	1 3/16	22	1 3/16	22	1 1/4	32	0.75	0.34		
				1/2	15	1 1/16	17	11/16	17	13/16	22	1 3/16	22	1 3/16	22	1 1/4	32	0.76	0.34		
				1	25	1 5/16	24	1 5/16	24	1 3/16	22	1 7/16	37	1 7/16	37	1 3/8	35	0.99	0.45		
1	25	1/2	15	1/4	8	1 5/16	24	1 5/16	24	1 5/16	24	1 1/2	38	1 1/4	32	1 1/2	38	1.08	0.49		
				3/8	10	1 1/16	17	3/4	19	1 5/16	24	1 1/4	32	1 3/16	22	1 3/8	35	0.90	0.41		
				1/2	15	1 3/16	22	13/16	22	1 5/16	24	1 3/8	35	1 1/4	32	1 7/16	37	0.91	0.41		
		3/4	20	1/4	8	1 5/16	24	1 5/16	24	1 5/16	24	1 1/2	38	1 3/8	35	1 1/2	38	1.08	0.49		
				3/8	10	1 1/16	17	11/16	17	1 5/16	24	1 1/4	32	1 3/16	22	1 3/8	35	0.89	0.40		
				1/2	15	1 3/16	22	13/16	22	1 5/16	24	1 3/8	35	1 5/16	24	1 7/16	37	1.00	0.45		
		1	25	1	25	1/4	8	1 5/16	24	1 5/16	24	1 5/16	24	1 1/2	38	1 7/16	37	1 1/2	38	1.13	0.51
						3/8	10	1 1/16	17	11/16	17	1 1/8	29	1 1/8	29	1 1/4	32	1 3/8	35	1.01	0.46
						1/2	15	1 1/16	17	11/16	17	1 5/16	24	1 1/4	32	1 1/4	32	1 3/8	35	1.01	0.46
						3/4	20	1 3/16	22	13/16	22	1 5/16	24	1 3/8	35	1 3/8	35	1 7/16	37	1.11	0.50
						1 1/4	32	1 1/8	29	1 1/8	29	1 5/16	24	1 11/16	43	1 11/16	43	1 9/16	40	1.49	0.68
						1 1/2	40	1 1/4	32	1 1/4	32	1	25	1 13/16	47	1 13/16	47	1 5/8	41	1.84	0.83
2	50	1 7/16	37	1 7/16	37	1	25	2	50	2	50	1 3/4	44	2.70	1.22						

Note: See page 6 for pressure-temperature ratings.

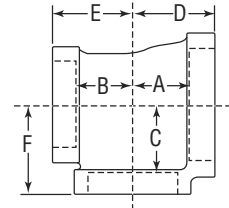
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Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	16
Submittal Date:			
Notes 1:			
Notes 2:			

CAST IRON THREADED FITTINGS



Class 125 (Standard)

FIGURE 359
Tee Reducing



Size			A		B		C		D		E		F		Unit Weight					
NPS	DN		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg				
1 1/4	15	1/2	15	1 3/16	22	1 3/16	22	1 1/8	29	1 7/16	37	1 5/16	24	1 5/8	41	1.00	0.45			
		1	25	1 5/16	24	1 5/16	24	1 1/8	29	1 9/16	40	1 3/8	35	1 11/16	43	1.38	0.63			
		1 1/4	32	1 1/8	29	1 1/8	29	1 1/8	29	1 3/4	44	1 9/16	40	1 3/4	44	1.64	0.74			
	20	3/4	20	1 3/16	22	1 3/16	22	1 1/8	29	1 7/16	37	1 5/16	24	1 5/8	41	1.27	0.58			
		1	25	1 5/16	24	1 5/16	24	1 1/8	29	1 9/16	40	1 7/16	37	1 11/16	43	1.43	0.65			
		1 1/4	32	1 1/8	29	1 1/8	29	1 1/8	29	1 3/4	44	1 5/8	41	1 3/4	44	1.73	0.78			
	32	25	1/2	15	1 1/16	17	1 1/16	17	1 1/8	29	1 5/16	24	1 1/4	32	1 9/16	40	1.27	0.58		
			3/4	20	1 3/16	22	1 3/16	22	1 1/8	29	1 7/16	37	1 3/8	35	1 5/8	41	1.36	0.62		
			1	25	1 5/16	24	1 5/16	24	1 1/8	29	1 9/16	40	1 9/16	40	1 11/16	43	1.53	0.69		
		1 1/4	32	1 1/8	29	1 1/8	29	1 1/8	29	1 3/4	44	1 11/16	43	1 3/4	44	1.79	0.81			
		1 1/2	40	1 1/4	32	1 1/4	32	1 3/16	22	1 7/8	48	1 13/16	47	1 13/16	47	2.07	0.94			
		2	50	1 7/16	37	1 7/16	37	1 3/16	22	2 1/16	52	2	50	1 7/8	48	2.66	1.21			
	32	1/2	15	1 1/16	17	1 1/16	17	1 1/8	29	1 5/16	24	1 5/16	24	1 9/16	40	1.47	0.67			
		3/4	20	1 3/16	22	1 3/16	22	1 1/8	29	1 7/16	37	1 7/16	37	1 5/8	41	1.57	0.71			
		1	25	1 5/16	24	1 5/16	24	1 1/8	29	1 9/16	40	1 9/16	40	1 11/16	43	1.73	0.78			
	40	32	1 1/2	40	1 1/4	32	1 1/4	32	1 3/16	22	1 7/8	48	1 7/8	48	1 13/16	47	2.29	1.04		
			2	50	1 7/16	37	1 7/16	37	1 3/16	22	2 1/16	52	2 1/16	52	1 7/8	48	2.81	1.27		
			1 1/4	32	1 3/16	22	1 1/8	29	1 1/4	32	1 13/16	47	1 9/16	40	1 7/8	48	1.93	0.88		
		15	1 1/2	40	1 5/16	24	1 1/4	32	1 5/16	24	1 15/16	49	1 11/16	43	1 15/16	49	2.14	0.97		
			3/4	20	1 1/2	40	1 5/16	24	1 1/4	32	1 5/16	24	1 15/16	49	1 3/4	44	1 15/16	49	2.18	0.99
			1	25	1/2	15	1 3/16	22	3/4	19	1 1/4	32	1 7/16	37	1 5/16	24	1 11/16	43	1.75	0.79
	40	25	3/4	20	7/8	22	1 3/16	22	1 1/4	32	1 1/2	38	1 3/8	35	1 3/4	44	1.70	0.77		
			1	25	1	25	1 5/16	24	1 1/4	32	1 5/8	41	1 1/2	38	1 13/16	47	1.72	0.78		
			1 1/4	32	1 3/16	22	1 1/8	29	1 1/4	32	1 13/16	47	1 11/16	43	1 7/8	48	2.08	0.94		
32		1 1/2	40	1 5/16	24	1 1/4	32	1 5/16	24	1 15/16	49	1 13/16	47	1 15/16	49	2.29	1.04			
		2	50	1 1/2	38	1 7/16	37	1 5/16	24	2 1/8	54	2	50	2	51	2.91	1.32			
		1 1/4	32	1/2	15	1 3/16	22	1 1/16	17	1 1/4	32	1 7/16	37	1 5/16	24	1 11/16	43	1.67	0.76	
40	25	3/4	20	7/8	22	1 3/16	22	1 1/4	32	1 1/2	38	1 7/16	37	1 3/4	44	1.79	0.81			
		1	25	1	25	1 5/16	24	1 1/4	32	1 5/8	41	1 9/16	40	1 13/16	47	1.97	0.89			
		1 1/4	32	1 3/16	22	1 1/8	29	1 1/4	32	1 13/16	47	1 3/4	44	1 7/8	48	2.28	1.03			
	32	1 1/2	40	1 5/16	24	1 1/4	32	1 5/16	24	1 15/16	49	1 7/8	48	1 15/16	49	2.50	1.13			
		2	50	1 1/2	38	1 7/16	37	1 5/16	24	2 1/8	54	2 1/16	52	2	51	3.07	1.39			
		1 1/2	40	1/2	15	1 3/16	22	1 3/16	22	1 1/4	32	1 7/16	37	1 7/16	37	1 11/16	43	1.84	0.83	
40	25	3/4	20	7/8	22	7/8	22	1 1/4	32	1 1/2	38	1 1/2	38	1 3/4	44	1.95	0.88			
		1	25	1	25	1	25	1 1/4	32	1 5/8	41	1 5/8	41	1 13/16	47	2.13	0.97			
		1 1/4	32	1 3/16	22	1 3/16	22	1 1/4	32	1 13/16	47	1 13/16	47	1 7/8	48	2.44	1.11			
	32	2	50	1 1/2	38	1 1/2	38	1 5/16	24	2 1/8	54	2 1/8	54	2	51	3.23	1.46			
		2 1/2	65	1 13/16	47	1 13/16	47	1 5/16	24	2 7/16	62	2 7/16	62	2 3/16	56	4.15	1.88			

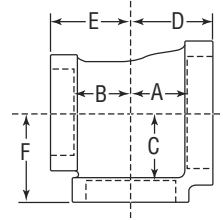
Note: See page 6 for pressure-temperature ratings.

CAST IRON THREADED FITTINGS



Class 125 (Standard)

FIGURE 359
Tee Reducing



Size			A		B		C		D		E		F		Unit Weight		
															Black		
NPS	DN		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg	
2	1/2	15	1 1/2	40	15/16	24	1 3/8	35	1 1/2	38	2	51	1 13/16	47	2 1/8	54	2.95 1.34
			2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	1 7/8	48	2 1/4	57	3.30 1.50
	3/4	20	1 1/4	32	1 3/16	22	1 1/8	29	1 7/16	37	1 7/8	48	1 3/4	44	2 1/16	52	2.50 1.13
			1 1/2	40	1 5/16	24	1 5/16	24	1 1/2	38	2	51	1 13/16	47	2 1/8	54	3.40 1.54
			2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	1 15/16	49	2 1/4	57	3.31 1.50
			2 1/2	65	1 7/8	48	1 13/16	47	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.88 2.21
	1	25	1	25	1 1/16	17	1 1/16	17	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.70 1.22
			1 1/4	32	1 3/16	22	1 1/8	29	1 1/2	38	1 7/8	48	1 3/4	44	2 1/16	52	2.94 1.33
			1 1/2	40	1 5/16	24	1 1/4	32	1 1/2	38	2	51	1 13/16	47	2 1/8	54	2.85 1.29
			2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	2	51	2 1/4	57	3.46 1.57
			2 1/2	65	1 7/8	48	1 13/16	47	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.88 2.21
			3	76	1 7/8	48	1 7/8	48	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.88 2.21
	1 1/4	32	1/2	15	1 1/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.48 1.12
			3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 1/2	38	1 15/16	49	2.50 1.13
			1	25	1 1/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.73 1.24
			1 1/4	32	1 3/16	22	1 1/8	29	1 7/16	37	1 7/8	48	1 3/4	44	2 1/16	52	2.90 1.32
			1 1/2	40	1 5/16	24	1 1/4	32	1 1/2	38	2	51	1 7/8	48	2 1/8	54	3.13 1.42
			2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	2 1/16	52	2 1/4	57	3.71 1.68
			2 1/2	65	1 7/8	48	1 3/4	44	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.54 2.06
			3	76	1 7/8	48	1 7/8	48	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.54 2.06
	1 1/2	40	1/2	15	1 3/16	22	1 3/16	22	1 7/16	37	1 1/2	38	1 7/16	37	1 7/8	48	2.34 1.06
			3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 1/2	38	1 15/16	49	2.46 1.12
			1	25	1 1/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.66 1.21
			1 1/4	32	1 3/16	22	1 3/16	22	1 7/16	37	1 7/8	48	1 13/16	47	2 1/16	52	2.98 1.35
1 1/2			40	1 5/16	24	1 5/16	24	1 1/2	38	2	51	1 15/16	49	2 1/8	54	3.24 1.47	
2			50	1 9/16	40	1 1/2	38	1 9/16	40	2 1/4	57	2 1/8	54	2 1/4	57	3.70 1.68	
2 1/2			65	1 7/8	48	1 15/16	49	1 9/16	40	2 9/16	65	2 9/16	65	2 7/16	62	5.46 2.48	
2	50	1/2	15	1 3/16	22	1 3/16	22	1 7/16	37	1 1/2	38	1 1/2	38	1 7/8	48	2.74 1.24	
		3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 9/16	40	1 15/16	49	2.86 1.30	
		1	25	1 1/16	17	1 1/16	17	1 7/16	37	1 3/4	44	1 3/4	44	2	51	3.05 1.38	
		1 1/4	32	1 3/16	22	1 3/16	22	1 7/16	37	1 7/8	48	1 7/8	48	2 1/16	52	3.38 1.53	
		1 1/2	40	1 5/16	24	1 5/16	24	1 1/2	38	2	51	2	51	2 1/8	54	3.59 1.63	
		2 1/2	65	1 7/8	48	1 7/8	48	1 9/16	40	2 9/16	65	2 9/16	65	2 7/16	62	5.17 2.34	
		3	100	3	76	3	76	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	7.87 3.57	

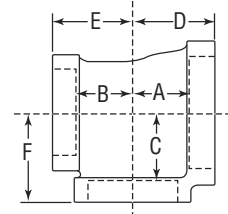
Note: See page 6 for pressure-temperature ratings.

CAST IRON THREADED FITTINGS



Class 125 (Standard)

FIGURE 359
Tee Reducing



Size		A		B		C		D		E		F		Unit Weight				
NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg			
2 1/2	65	1/2	15	2 1/2	65	1 13/16	47	1 13/16	47	2 11/16	68	2 1/4	57	2 11/16	68	5.20	2.36	
		3/4	20	2 1/2	65	1 13/16	47	1 3/4	44	1 13/16	47	2 11/16	68	2 1/4	57	2 11/16	68	5.10
	1	25	2	50	1 9/16	40	1 9/16	40	1 7/8	48	2 7/16	62	2 1/8	54	2 9/16	65	5.03	2.28
			2 1/2	65	1 13/16	47	1 3/4	44	1 13/16	47	2 11/16	68	2 5/16	59	2 11/16	68	5.36	2.43
	1 1/4	32	2	50	1 9/16	40	1 1/2	38	1 7/8	48	2 7/16	62	2 1/8	54	2 9/16	65	4.96	2.25
			2 1/2	65	1 13/16	47	1 3/4	44	1 13/16	47	2 11/16	68	2 3/8	60	2 11/16	68	5.40	2.45
	1 1/2	40	1 1/2	40	1 5/16	24	1 5/16	22	1 13/16	47	2 3/16	56	1 5/16	49	2 7/16	62	4.23	1.92
			2	50	1 9/16	40	1 1/2	38	1 7/8	48	2 7/16	62	2 1/8	54	2 9/16	65	4.85	2.20
			2 1/2	65	1 13/16	47	1 13/16	47	1 13/16	47	2 11/16	68	2 7/16	62	2 11/16	68	4.85	2.20
	2	50	1/2	15	3/4	19	13/16	22	1 3/4	44	1 11/16	43	1 1/2	38	2 3/16	56	5.82	2.64
			3/4	20	7/8	22	7/8	22	1 3/4	44	1 3/4	44	1 9/16	40	2 1/4	57	3.62	1.64
			1	25	1	25	1 1/16	17	1 3/4	44	1 5/16	49	1 3/4	44	2 5/16	59	3.92	1.78
			1 1/4	32	1 3/16	22	1 3/16	22	1 3/4	44	2 1/16	52	1 7/8	48	2 3/8	60	4.26	1.93
			1 1/2	40	1 5/16	24	1 5/16	24	1 13/16	47	2 3/16	56	2	51	2 7/16	62	4.42	2.00
			2	50	1 9/16	40	1 9/16	40	1 7/8	48	2 7/16	62	2 1/4	57	2 9/16	65	5.17	2.34
			2 1/2	65	1 13/16	47	1 7/8	48	1 13/16	47	2 11/16	68	2 9/16	65	2 11/16	68	6.00	2.72
			3	80	2 1/16	52	2 1/8	54	1 7/8	48	3	80	2 7/8	73	2 13/16	73	7.35	3.33
	2 1/2	65	1/2	15	3/4	19	3/4	19	1 3/4	44	1 11/16	43	1 11/16	43	2 3/16	56	4.00	1.81
			3/4	20	7/8	22	7/8	22	1 3/4	44	1 3/4	44	1 3/4	44	2 1/4	57	4.29	1.95
			1	25	1	25	1	25	1 3/4	44	1 5/16	49	1 5/16	49	2 5/16	59	4.48	2.03
			1 1/4	32	1 3/16	22	1 3/16	22	1 3/4	44	2 1/16	52	2 1/16	52	2 3/8	60	4.83	2.19
			1 1/2	40	1 5/16	24	1 5/16	24	1 13/16	47	2 3/16	56	2 3/16	56	2 7/16	62	5.14	2.33
			2	50	1 9/16	40	1 9/16	40	1 7/8	48	2 7/16	62	2 7/16	62	2 9/16	65	5.88	2.67
			3	80	2 1/16	52	2 1/16	52	1 7/8	48	3	80	3	80	2 13/16	73	8.09	3.67
4			100	2 3/4	70	2 13/16	73	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	14.03	6.36	
3	80	3/4	20	3	80	2 1/8	54	2 1/8	54	3 1/8	79	2 11/16	68	3 1/8	79	8.25	3.74	
		1	25	3	80	2 1/8	54	2 1/8	54	3 1/8	79	2 11/16	68	3 1/8	79	8.30	3.76	
		1 1/4	32	3	80	2 1/8	54	2 1/8	54	3 1/8	79	2 13/16	73	3 1/8	79	8.46	3.84	
		1 1/2	40	3	80	2 1/8	54	2 3/16	56	2 1/8	54	3 1/8	79	2 13/16	73	3 1/8	79	8.13
	2	50	1 1/2	40	1 9/8	35	1 1/2	38	2 3/16	56	2 5/16	59	2 3/16	56	2 13/16	73	6.83	3.10
			2	50	1 9/16	40	1 9/16	40	2 3/16	56	2 9/16	65	2 1/4	57	2 15/16	75	7.29	3.31
			2 1/2	65	1 7/8	48	1 15/16	49	2 1/8	54	2 13/16	73	2 9/16	65	3 1/16	78	7.10	3.22
			3	80	2 1/8	54	2 3/16	56	2 1/8	54	3 1/8	79	2 15/16	75	3 1/8	79	8.79	3.99
	2 1/2	65	1	25	1	25	1 5/16	24	2 1/8	54	2 1/16	52	1 5/16	49	2 11/16	68	5.51	2.50
			1 1/4	32	1 1/4	32	1 3/16	22	2 1/8	54	2 3/16	56	2 1/16	52	2 3/4	70	5.92	2.68
			1 1/2	40	1 3/8	35	1 5/16	24	2 3/16	56	2 5/16	59	2 3/16	56	2 13/16	73	6.23	2.83
			2	50	1 9/16	40	1 1/2	38	2 3/16	56	2 9/16	65	2 7/16	62	2 15/16	75	6.81	3.09
			2 1/2	65	1 7/8	48	1 13/16	47	2 1/8	54	2 13/16	73	2 11/16	68	3 1/16	78	7.66	3.47
			3	80	2 1/8	54	2 1/8	54	2 1/8	54	3 1/8	79	3 1/16	78	3 1/8	79	9.13	4.14
	3	80	1/2	15	1 5/16	24	1 5/16	24	2 3/16	56	1 7/8	48	1 7/8	48	2 5/8	67	6.08	2.76
			3/4	20	1 5/16	24	1 5/16	24	2 1/8	54	1 7/8	48	1 7/8	48	2 5/8	67	6.06	2.75
			1	25	1	25	1	25	2 1/8	54	2 1/16	52	2 1/16	52	2 11/16	68	6.27	2.84
			1 1/4	32	1 1/4	32	1 1/4	32	2 1/8	54	2 3/16	56	2 3/16	56	2 3/4	70	6.75	3.06
			1 1/2	40	1 3/8	35	1 3/8	35	2 3/16	56	2 5/16	59	2 5/16	59	2 15/16	75	7.10	3.22
			2	50	1 9/16	40	1 9/16	40	2 3/16	56	2 9/16	65	2 9/16	65	2 7/8	73	7.75	3.51
			2 1/2	65	1 7/8	48	1 7/8	48	2 1/8	54	2 13/16	73	2 13/16	73	3 1/16	78	8.92	4.01
			4	100	2 11/16	68	2 11/16	68	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	12.80	5.80

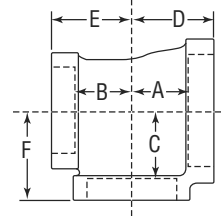
Note: See page 6 for pressure-temperature ratings.

CAST IRON THREADED FITTINGS



Class 125 (Standard)

FIGURE 359
Tee Reducing



Size		A		B		C		D		E		F		Unit Weight									
														Black									
NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg						
3 1/2	90	3 1/2	90	1 1/2	40	1 3/8	35	1 3/8	35	2 7/16	62	2 3/8	60	2 3/8	60	3 1/16	78	8.87	4.02				
				2	50	1 5/8	41	1 5/8	41	2 7/16	62	2 5/8	67	2 5/8	67	3 3/16	81	9.94	4.51				
4	100	1	25	4	100	2 3/4	70	2 15/16	75	2 3/4	70	3 3/4	95	3 1/2	89	3 3/4	95	13.52	6.13				
				1 1/2	40	4	100	2 3/4	70	2 7/8	73	2 3/4	70	3 3/4	95	3 1/2	89	3 3/4	95	13.47	6.11		
		2	50	2	50	1 11/16	43	1 7/8	48	2 3/4	70	2 11/16	68	2 9/16	65	3 1/2	89	3 3/4	95	11.34	5.14		
				4	100	2 3/4	70	2 3/4	70	2 3/4	70	3 3/4	95	3 1/2	89	3 3/4	95	13.89	6.30				
		2 1/2	65	2 1/2	65	1 7/8	48	1 13/16	47	2 5/8	67	2 15/16	75	2 13/16	73	3 9/16	90	3 3/4	95	11.78	5.34		
				4	100	2 3/4	70	2 3/4	70	2 3/4	70	3 3/4	95	3 5/8	92	3 3/4	95	15.75	7.14				
		3	80	2 1/2	65	1 7/8	48	1 7/8	48	2 5/8	67	2 15/16	75	2 13/16	73	3 9/16	90	3 3/4	95	11.25	5.10		
				3	80	2 1/4	57	2 1/8	54	2 11/16	68	3 1/4	83	3 1/8	79	3 5/8	92	3 3/4	95	12.50	5.67		
		4	100	4	100	2 3/4	70	2 11/16	68	2 3/4	70	3 3/4	95	3 5/8	92	3 3/4	95	15.04	6.82				
						1	25	1 3/16	22	1 3/16	22	2 3/4	70	2 5/16	59	2 5/16	59	3 5/16	84	3 3/4	95	10.40	4.72
						1 1/4	32	1 5/16	24	1 5/16	24	2 5/8	67	2 5/16	59	2 5/16	59	3 5/16	84	3 3/4	95	10.38	4.71
						1 1/2	40	1 7/16	37	1 7/16	37	2 11/16	68	2 7/16	62	2 7/16	62	3 5/16	84	3 3/4	95	10.75	4.88
						2	50	1 11/16	43	1 11/16	43	2 3/4	70	2 11/16	68	2 11/16	68	3 1/2	89	3 3/4	95	11.63	5.27
						2 1/2	65	2	51	2	51	2 5/8	67	2 15/16	75	2 15/16	75	3 9/16	90	3 3/4	95	12.85	5.83
5	125	5	125	3	80	2 1/4	57	2 1/4	57	2 11/16	68	3 1/4	83	3 1/4	83	3 5/8	92	14.12	6.40				
				5	125	3 3/8	86	3 3/8	86	2 13/16	73	4 3/8	111	4 3/8	111	4	102	20.88	9.47				
6	150	6	150	6	150	3 7/8	98	3 7/8	98	2 7/8	73	4 15/16	125	4 15/16	125	4 1/16	103	26.36	11.95				
				2	50	1 3/4	44	1 3/4	44	3 7/16	87	2 15/16	75	2 15/16	75	4 1/8	105	3 3/4	95	17.43	7.90		
				3	80	2 5/16	59	2 5/16	59	3 1/4	83	3 1/2	89	3 1/2	89	4 1/4	108	3 3/4	95	20.00	9.07		
				4	100	2 13/16	71	2 13/16	71	3 3/8	86	4	102	4	102	4 3/8	111	3 3/4	95	23.83	10.81		
				4	100	2 7/8	73	2 13/16	71	3 7/8	98	4 1/16	103	4	102	4 15/16	125	3 3/4	95	30.00	13.61		
				2 1/2	65	2	51	2	51	3 13/16	97	3 1/4	83	3 1/4	83	4 3/4	121	3 3/4	95	25.67	11.64		
				3	80	2 3/8	60	2 3/8	60	3 13/16	97	3 9/16	90	3 9/16	90	4 13/16	122	3 3/4	95	27.46	12.45		
				4	100	2 7/8	73	2 7/8	73	3 7/8	98	4 1/16	103	4 1/16	103	4 15/16	125	3 3/4	95	32.44	14.71		
5	125	3 3/8	86	3 3/8	86	3 13/16	97	4 5/8	117	4 5/8	117	5	127	3 3/4	95	37.00	16.78						

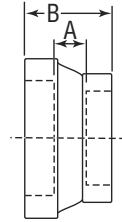
Note: See page 6 for pressure-temperature ratings.

CAST IRON THREADED FITTINGS



Class 125 (Standard)

FIGURE 367
Concentric Reducer



Size				A		B*		Unit Weight	
NPS	DN	NPS	DN	in	mm	in	mm	Black	
								lbs	kg
3/4	20	1/2	15	5/8	16	19/16	40	0.40	0.18
1	25	1/2 (Hex)	15	11/16	17	11/16	43	0.54	0.24
		3/4 (Hex)	20	7/16	11	1 1/2	38	0.63	0.29
1 1/4	32	1/2	15	9/16	14	1 5/8	41	0.84	0.38
		3/4	20	1	25	2 1/8	54	0.90	0.41
		1	25	15/16	24	2 1/8	54	1.07	0.49
1 1/2	40	1/2	15	1/2	13	1 5/8	41	1.00	0.45
		3/4	20	1/2	13	1 5/8	41	1.20	0.54
		1	25	1/2	13	1 3/4	44	1.50	0.68
		1 1/4	32	1	25	2 1/4	57	1.45	0.66
2	50	1/2	15	5/8	16	2	51	2.00	0.91
		3/4	20	3/4	19	2	51	1.90	0.86
		1	25	3/4	19	2	51	1.83	0.83
		1 1/4	32	13/16	22	2 1/8	54	1.78	0.81
		1 1/2	40	7/8	22	2 3/16	56	1.98	0.90
2 1/2	65	1 1/2	40	3/4	19	2	51	3.10	1.41
		2	50	1	25	2 9/16	65	2.98	1.35
3	80	3/4	20	15/16	24	2 1/2	64	4.31	1.95
		2	50	1 1/16	27	2 3/4	70	3.96	1.80
		2 1/2	65	15/16	24	2 13/16	73	4.40	2.00
4	100	2	50	1 3/16	30	2 15/16	75	6.50	2.95
		2 1/2	65	1 3/16	30	3 1/8	79	7.78	3.53
		3	80	1 1/16	27	3 1/8	79	7.01	3.18
5	125	4	100	1 1/16	27	3 5/16	84	10.48	4.75
6	150	4	100	1 1/8	29	3 7/16	87	13.83	6.27
		5	125	1 1/8	29	3 9/16	90	15.53	7.04
8	200	6	150	1 1/4	32	3 7/8	98	29.10	13.20

* Dimension "B" does not conform to ASME standard.

Note: See following page for pressure-temperature ratings.

PROJECT INFORMATION		APPROVAL STAMP	
Project:		<input type="checkbox"/> Approved	
Address:		<input type="checkbox"/> Approved as noted	
Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			

CAST IRON THREADED FITTINGS



Class 125 (Standard)

<input type="checkbox"/> FIGURE 358 Tee	Size		A		B		Unit Weight	
			Black					
	NPS	DN	in	mm	in	mm	lbs	kg
	1/4	8	1/2	13	13/16	22	0.22	0.10
	3/8	10	5/8	16	1	25	0.35	0.16
	1/2	15	11/16	17	1 1/8	29	0.56	0.25
	3/4	20	13/16	22	1 5/16	33	0.84	0.38
	1	25	15/16	24	1 1/2	38	1.25	0.57
	1 1/4	32	1 1/8	29	1 3/4	44	2.03	0.92
	1 1/2	40	1 5/16	33	1 15/16	49	2.70	1.22
	2	50	1 9/16	40	2 1/4	57	4.23	1.92
	2 1/2	65	1 13/16	47	2 11/16	68	6.67	3.02
	3	80	2 3/16	56	3 1/8	79	10.00	4.54
	3 1/2	90	2 7/16	62	3 7/16	87	13.29	6.03
	4	100	2 11/16	68	3 3/4	95	16.33	7.41
	5	125	3 5/16	84	4 1/2	114	27.33	12.39
	6	150	3 7/8	98	5 1/8	130	40.85	18.53
8	200	5 3/16	132	6 9/16	167	79.00	35.83	

<input type="checkbox"/> FIGURE 360 Cross	Size		A		B		Unit Weight	
			Black					
	NPS	DN	in	mm	in	mm	lbs	kg
	1/2	15	9/16	14	13/16	22	2.80	1.27
	3/4	20	13/16	22	1 5/16	33	1.03	0.47
	1	25	15/16	24	1 1/2	38	1.59	0.72
	1 1/4	32	1 1/8	29	1 3/4	44	2.42	1.10
	1 1/2	40	1 5/16	33	1 15/16	49	3.21	1.46
	2	50	1 9/16	40	2 1/4	57	5.28	2.39
	2 1/2	65	1 13/16	47	2 11/16	68	8.07	3.66
	3	80	2 3/16	56	3 1/8	79	11.84	5.37
	4	100	2 3/4	70	3 13/16	98	19.63	8.90

Note: See following page for pressure-temperature ratings.

PROJECT INFORMATION		APPROVAL STAMP	
Project:		<input type="checkbox"/> Approved	
Address:		<input type="checkbox"/> Approved as noted	
Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			



Anvil standard and extra heavy cast iron threaded fittings are manufactured in accordance with ASME B16.4. Plugs and bushings are manufactured in accordance with ASME B16.14.

NOTE: Figure 367 Concentric Reducers do not meet the overall length requirement of ASME B16.4. All other dimensions are in compliance.



For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil Sales Representative.

Cast Iron Threaded Fittings Pressure - Temperature Ratings					
Temperature		Pressure			
		Class 125		Class 250	
(°F)	(°C)	psi	bar	psi	bar
-20° to 150°	-28.9 to 65.6	175	12.1	400	27.6
200°	93.3	165	11.4	370	25.5
250°	121.1	150	10.3	340	23.4
300°	148.9	140	9.7	310	21.4
350°	176.7	125	8.6	300	20.7
400°	204.4	-	-	250	17.2

Standards and Specifications					
	Dimensions	Material	Galvanizing*	Thread	Pressure Rating
CAST IRON THREADED FITTINGS					
Class 125	ASME B16.4	ASTM A-126 (A)	ASTM A-153	ASME B1.20.1	ASME B16.4
Class 250	ASME B16.4	ASTM A-126 (A)	ASTM A-153	ASME B1.20.1	ASME B16.4
CAST IRON PLUGS AND BUSHINGS					
	ASME B16.14	ASTM A- 126 (A)	ASTM A-153	ASME B1.20.1	ASME B16.14

* ASTM B 633, Type I, SC 4, may be supplied as alternate zinc coating per applicable ASME B16 product standard.

General Assembly of Threaded Fittings

- 1) Inspect both male and female components prior to assembly.
 - Threads should be free from mechanical damage, dirt, chips and excess cutting oil.
 - Clean or replace components as necessary.
- 2) Application of thread sealant
 - Use a thread sealant that is fast drying, sets-up to a semi hard condition and is vibration resistant. Alternately, an anaerobic sealant may be utilized.
 - Thoroughly mix the thread sealant prior to application.
 - Apply a thick even coat to the male threads only. Best application is achieved with a brush stiff enough to force sealant down to the root of the threads.
- 3) Joint Makeup
 - For sizes up to and including 2" pipe, wrench tight makeup is considered three full turns past handtight. Handtight engagement for 1/2" through 2" thread varies from 4 1/2 turns to 5 turns.
 - For 2 1/2" through 4" sizes, wrench tight makeup is considered two full turns past handtight. Handtight engagement for 2 1/2" through 4" thread varies from 5 1/2 turns to 6 3/4 turns.



1.0 PRODUCT DESCRIPTION

Available Sizes

- 1 ¼ – 8"/DN32 – DN200

Maximum Working Pressure

- Pressure ratings for Victaulic FireLock™ Fittings conform to the ratings of Victaulic FireLock EZ™ Style 009N couplings (refer to [publication 10.64](#) for more information).

Application

- FireLock™ fittings are designed for use exclusively with Victaulic couplings that have been Listed or Approved for Fire Protection Services. Use of other couplings or flange adapters may result in bolt pad interference.
- Connects pipe, provides change in direction and adapts sizes or components

Pipe Materials

- Carbon steel

2.0 CERTIFICATION/LISTINGS



EN 10311
Regulation (EU)
No. 305/2011

3.0 SPECIFICATIONS – MATERIAL

Fitting: Ductile iron conforming to ASTM A536, Grade 65-45-12.

Fitting Coating:

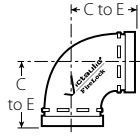
- Orange enamel.
- Red enamel in Europe, Middle East, Africa, and India.
- Optional: Hot dipped galvanized.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

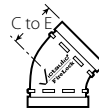
System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

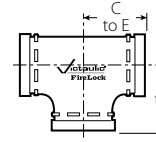
4.0 DIMENSIONS



No. 001



No. 003



No. 002



No. 006

Nominal Size inches DN	Actual Outside Diameter inches mm	No. 001 90° Elbow		No. 003 45° Elbow		No. 002 Straight Tee		No. 006 Cap	
		C to E inches mm	Approximate Weight Each lb kg	C to E inches mm	Approximate Weight Each lb kg	C to E inches mm	Approximate Weight Each lb kg	T inches mm	Approximate Weight Each lb kg
1 ¼ DN32	1.660 42.4	— —	— —	— —	— —	— —	— —	0.82 21	0.3 0.1
1 ½ DN40	1.900 48.3	— —	— —	— —	— —	— —	— —	0.82 21	0.4 0.2
2 DN50	2.375 60.3	2.75 70	1.7 0.8	2.00 51	1.8 0.8	2.75 70	2.4 1.1	0.88 22	0.6 0.3
2 ½	2.875 73.0	3.00 76	3.1 1.4	2.25 57	2.2 1.0	3.00 76	3.6 1.6	0.88 22	1.0 0.5
DN65	3.000 76.1	3.00 76	3.30 1.5	2.25 57	2.4 1.1	3.00 76	3.8 1.7	— —	— —
3 DN80	3.500 88.9	3.38 86	4.0 1.8	2.50 64	3.1 1.4	3.38 86	5.3 2.4	0.88 22	1.2 0.5
	4.250 108.0	4.00 102	5.7 2.6	3.00 76	5.1 2.3	4.00 102	7.5 3.4	— —	— —
4 DN100	4.500 114.3	4.00 102	6.7 3.0	3.00 76	5.6 2.5	4.00 102	8.7 3.9	1.00 25	2.4 1.1
5	5.563 141.3	4.88 124	12.6 5.7	3.25 83	8.3 3.8	4.88 124	15.7 7.1	1.00 25	4.1 1.9
DN125	5.500 139.7	4.88 124	12.4 5.6	3.25 82.6	8.2 3.7	4.88 124	15.4 6.9	— —	— —
	6.250 158.8	5.50 140	12.6 5.7	3.50 89	9.2 4.2	5.50 140	17.9 8.0	— —	— —
6 DN150	6.625 168.3	5.50 140	18.3 8.3	3.50 89	11.7 5.3	5.50 140	22.7 10.3	1.00 25	5.9 2.7
	6.500 165.1	5.43 140	17.6 7.9	3.50 89	11.4 5.2	5.50 140	22.0 9.9	— —	— —
8 DN200	8.625 219.1	6.81 173	25.5 11.6	4.25 108	20.4 9.3	6.94 176	38.7 17.6	1.13 29	12.7 5.8
	8.515 216.3	6.81 173	23.1 10.5	— —	— —	6.94 176	33.6 15.2	— —	— —

5.0 PERFORMANCE

Flow Data

Size		Frictional Resistance Equivalent of Straight Pipe ¹			
Nominal Size inches DN	Actual Outside Diameter inches mm	Elbows		No. 002 Straight Tee	
		No. 001 90° Elbow feet meters	No. 003 45° Elbow feet meters	Branch feet meters	Run feet meters
1 ¼ DN32	1.660 42.4	— —	— —	— —	— —
1 ½ DN40	1.900 48.3	— —	— —	— —	— —
2 DN50	2.375 60.3	3.5 1.1	1.8 0.5	8.5 2.6	3.5 1.1
2 ½	2.875 73.0	4.3 1.3	2.2 0.7	10.8 3.3	4.3 1.3
DN65	3.000 76.1	4.5 1.4	2.3 0.7	11.0 3.4	4.5 1.4
3 DN80	3.500 88.9	5.0 1.5	2.6 0.8	13.0 4.0	5.0 1.5
	4.250 108.0	6.4 2.0	3.2 0.9	15.3 4.7	6.4 2.0
4 DN100	4.500 114.3	6.8 2.1	3.4 1.0	16.0 4.9	6.8 2.1
5	5.563 141.3	8.5 2.6	4.2 1.3	21.0 6.4	8.5 2.6
DN125	5.500 139.7	8.3 2.5	4.1 1.3	20.6 6.3	8.3 2.5
	6.250 158.8	9.4 2.9	4.9 1.5	25.0 7.6	9.6 2.9
6 DN150	6.625 168.3	10.0 3.0	5.0 1.5	25.0 7.6	10.0 3.0
	6.500 165.1	9.8 3.0	4.9 1.5	24.5 7.5	9.8 3.0
8 DN200	8.625 219.1	13.0 4.0	5.0 1.5	33.0 10.1	13.0 4.0
	8.515 216.3	13.0 4.0	— —	33.0 10.1	13.0 4.0

¹ The flow data listed is based upon the pressure drop of Schedule 40 pipe.

6.0 NOTIFICATIONS

General Notes

NOTE: When assembling FireLock EZ™ couplings onto end caps, take additional care to make certain the end cap is fully seated against the gasket end stop. For FireLock EZ™ Style 009N/009H couplings, use FireLock™ No. 006 end caps containing the “EZ” marking on the inside face or No. 60 end caps containing the “QV EZ” marking on the inside face. Non-Victaulic end cap products shall not be used with Style 009/009V/009H/009N couplings.

7.0 REFERENCE MATERIALS

[10.64: Victaulic® FireLock™ Rigid Coupling Style 009N](#)

[10.02: Victaulic® FireLock™ Rigid Coupling Style 005H with Vic-Plus™ Gasket System](#)

[29.01: Victaulic® Terms and Conditions of Sale](#)

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

Intellectual Property Rights

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Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

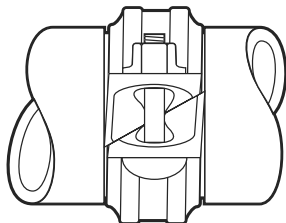
Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

Trademarks

Victaulic and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.

Victaulic® FireLock™ Rigid Coupling Style 005H



Exaggerated for clarity

Patented

1.0 PRODUCT DESCRIPTION

Available Sizes

- 1 ¼ – 8"/DN32 – DN200

Maximum Working Pressure

- Up to 350 psi/2413 kPa

Function

- Joins carbon steel pipe with grooved ends conforming to [publication 25.01](#)
- This product is designed for fire protection systems only

Pipe Material

- Schedule 10, Schedule 40 or specialty carbon steel pipe listed in Section 5. For use with alternative materials and wall thicknesses please contact Victaulic
- Carbon Steel
- Stainless Steel
- For exceptions reference section 6.0 Notifications

2.0 CERTIFICATION/LISTINGS



[See Victaulic Publication 10.01 for more details.](#)

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

3.0 SPECIFICATIONS – MATERIAL

Housing: Ductile iron conforming to ASTM A-536, grade 65-45-12. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

Housing Coating: (specify choice)

- Standard:** Orange enamel (North America); red enamel (Europe)
- Optional:** Hot dipped galvanized.

Coupling Gasket (specify choice):

- Grade “E” EPDM Type A Vic-Plus™ Gasket System¹
EPDM (Violet color code). FireLock products have been Listed by Underwriters Laboratories Inc. and Approved by Factory Mutual Research for wet and dry (oil free air) sprinkler services up to the rated working pressure using the Grade “E” Type A Vic-Plus™ Gasket System, requiring no field lubrication for most installation conditions.
- Grade “L” silicone
Recommended for dry heat, air without hydrocarbons to +350°F and certain chemical services.
For dry services, Victaulic continues to recommend the use of Grade “E” Type A FlushSeal® Gasket. Contact Victaulic for details.

¹ Standard gasket and FlushSeal gasket approved for dry pipe systems to -40°F/-40°C. Based on “typical” pipe surface conditions, supplemental lubricant is recommended for services installed below 0°F/-18°C and for all dry pipe systems or systems to be subjected to air tests prior to being filled with water. Supplemental lubrication may also be required on pipe with raised or undercut weld seams or pipe that has voids and/or cracks at the weld seams. Victaulic continues to recommend the use of FlushSeal gaskets for dry services.

NOTE

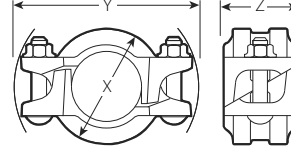
- Additional gasket styles are available. Contact Victaulic for details.

Bolts/Nuts: Heat-treated plated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.

4.0 DIMENSIONS

Style 005H

Rated for wet and dry sprinkler systems at 350 psi/2413 kPa for 1 ¼ – 4”/32 – 100 mm sizes and 300 psi /2068 kPa for 4 ¼ – 8”/108 – 200 mm sizes; Schedule 10 roll grooved or Schedule 40 cut or roll grooved steel pipe. Style 005H is rigid and does not accommodate expansion, contraction or angular deflection.



Style 005H

Size		Maximum Working Pressure ^{1 4} psi kPa	Maximum End Load ¹ lbs N	Allow. Pipe End Separation ² inches mm	Bolt/Nut ³ No –size inches	Dimensions			Approx. Weight Each lbs kg
Nominal inches mm	Actual Outside Diameter inches mm					X inches mm	Y inches mm	Z inches mm	
1 ¼ 32	1.660 42.4	350 2413	755 3370	0.05 1.2	2 – ¾ × 2 ¼	2.75 70	4.50 114	1.88 48	1.2 0.5
1 ½ 40	1.900 48.3	350 2413	990 4415	0.05 1.2	2 – ¾ × 2 ¼	3.00 76	4.75 121	1.88 48	1.2 0.5
2 50	2.375 60.3	350 2413	1550 6900	0.07 1.7	2 – ¾ × 2 ½	3.50 89	5.25 133	1.88 48	1.6 0.7
2 ½ 65	2.875 73.0	350 2413	2270 10110	0.07 1.7	2 – ¾ × 2 ½	4.00 102	5.75 146	1.88 48	1.9 .09
76.1 mm	3.000 76.1	350 2413	2475 11010	0.07 1.7	2 – ¾ × 2 ½	4.13 105	5.75 146	1.88 48	1.9 0.9
3 80	3.500 88.9	350 2413	3365 14985	0.07 1.7	2 – ¾ × 2 ½	4.63 118	6.13 156	1.88 48	2.1 1.0
4 100	4.500 114.3	350 2413	5565 24770	0.16 4.1	2 – ¾ × 2 ½	5.75 146	7.25 184	2.13 54	3.1 1.4
108.0mm	4.250 108.0	300 2068	4255 18940	0.16 4.1	2 – ¾ × 2 ½	5.63 143	7.25 184	2.13 54	3.1 1.4
5 125	5.563 141.3	300 2068	7290 32445	0.16 4.1	2 – ½ × 3	6.88 175	9.00 229	2.13 54	4.5 2.0
133.0mm	5.250 133.0	300 2068	6495 28900	0.16 4.1	2 – ½ × 2 ¾	6.63 168	9.00 229	2.13 54	4.5 2.0
139.7 mm	5.500 139.7	300 2068	7125 31715	0.16 4.1	2 – ½ × 2 ¾	6.88 175	9.00 229	2.13 54	4.8 2.2
6 150	6.625 168.3	300 2068	10340 46020	0.16 4.1	2 – ½ × 3	8.00 203	10.00 254	2.13 53	5.0 2.3
159.0mm	6.250 159.0	300 2068	9200 40955	0.16 4.1	2 – ½ × 2 ¾	7.63 194	10.00 254	2.13 54	5.5 2.5
165.1 mm	6.500 165.1	300 2068	9955 44295	0.16 4.1	2 – ½ × 3	8.15 207	10.00 254	2.13 54	5.5 2.5
8 200	8.625 219.1	300 2068	17525 78000	0.19 4.8	2 – 5/8 × 4 ¼	10.50 267	13.14 334	2.63 67	11.3 5.1

¹ Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe. WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.

² The allowable pipe separation dimension shown is for system layout purposes only. Style 005H couplings are considered rigid connections and will not accommodate expansion or contraction of the piping system.

³ Number of bolts required equals number of housing segments. Metric thread size bolts are available (color coded gold) for all coupling sizes upon request. Contact Victaulic for details.

⁴ Style 005H couplings are VdS and LPC Approved to 16 Bar/235 psi.

5.0 PERFORMANCE

Style 005H

The information provided below is based on the latest listing and approval data at the time of publication. Listings/ Approvals are subject to change and/or additions by the approvals agencies.

Contact Victaulic for performance on other pipe and the latest listings and approvals.


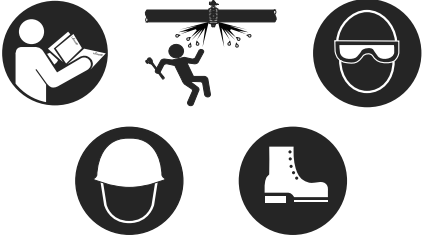
Related Working Pressure psi					Related Working Pressure psi					Related Working Pressure psi				
Pipe Sch.	Size	UL	ULC	FM	Pipe Sch.	Size	UL	ULC	FM	Pipe Sch.	Size	UL	ULC	FM
	inches					inches					inches			
5	1¼ – 3	175	175	175	EL	1¼ – 2	300	N/A	N/A	MT	1¼ – 2	300	N/A	N/A
10, 40	1¼ – 3	350	350	350	ET	1¼ – 2	300	N/A	N/A	STF	1¼ – 4	N/A	N/A	300
	5 – 8	300	300	300	EZ	4 – 6	300 ⁶	N/A	300	Steady Thd.	1¼ – 2	N/A	N/A	300
BLT	1¼ – 2	300	300	N/A	FF	1¼ – 4	N/A	N/A	300	TF	3 – 8	N/A	N/A	300
DF	1¼ – 4	300	300	300	GAL -7	1¼ – 2	300	N/A	N/A	WLS	1¼ – 2	300	300	N/A
DT	1¼ – 2	300	300	N/A	MLT	1¼ – 2	300	N/A	N/A	XL	1¼ – 3	300	300	300
EF	1¼ – 4	175 ⁷	N/A	175	MF	1¼ – 4	300	N/A	300 ⁵					

⁵ FM approved for service in 1 1/2 – 4" pipe.

⁶ UL Listed for service up to 4" pipe only.

⁷ UL Listed for service up to 3" only.

6.0 NOTIFICATIONS

 WARNING	
	<ul style="list-style-type: none"> • Read and understand all instructions before attempting to install any Victaulic products. • Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products. • Wear safety glasses, hardhat, and foot protection. <p>Failure to follow these instructions could result in death or serious personal injury and property damage.</p>
<ul style="list-style-type: none"> • These products shall be used only in fire protection systems that are designed and installed in accordance with current, applicable National Fire Protection Association (NFPA 13, 13D, 13R, etc.) standards, or equivalent standards, and in accordance with applicable building and fire codes. These standards and codes contain important information regarding protection of systems from freezing temperatures, corrosion, mechanical damage, etc. • The installer shall understand the use of this product and why it was specified for the particular application. • The installer shall understand common industry safety standards and potential consequences of improper product installation. • It is the system designer's responsibility to verify suitability of materials for use with the intended fluid media within the piping system and external environment. • The material specifier shall evaluate the effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on materials to confirm system life will be acceptable for the intended service. <p>Failure to follow installation requirements and local and national codes and standards could compromise system integrity or cause system failure, resulting in death or serious personal injury and property damage.</p>	

NOTICE
<ul style="list-style-type: none"> • Victaulic does not recommend the use of any furnace butt-welded pipe with sizes 2"/DN50 and smaller Victaulic gasketed joint products. This includes, but is not limited to, ASTM A53 Type F pipe.

7.0 REFERENCE MATERIALS

- [10.01 Victaulic Products for Fire Protection Piping Systems – Regulatory Approval Reference Guide](#)
- [I-100 Victaulic Field Installation Handbook](#)

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

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Note

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Installation

Reference should always be made to the [Victaulic installation handbook](#) or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on WeChat.

Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

Trademarks

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115 STANDARD DUTY LOOP HANGER



The 115 Standard Duty Loop Hanger is ideal for suspending stationary, non-insulated pipe lines, including CPVC pipes, in fire sprinkler systems. A knurled insert nut helps simplify vertical adjustments and flared edges on the base (1/2" to 4" sizes) help protect pipes from coming into contact with any sharp edges of the hanger.

CERTIFICATIONS



FEATURES

Flared edges help prevent any sharp surfaces from coming into contact with the pipe (1/2" to 4" sizes)

Retained insert nut helps ensure the loop hanger and insert nut stay together

Recommended for the suspension of stationary non-insulated pipe lines

Manufactured to use the minimum rod size permitted by NFPA® for fire sprinkler piping

Conforms with Federal Specification WW-H-171 (Type 10), Manufacturers Standardization Society (MSS) SP-58 (Type 10)

SPECIFICATIONS

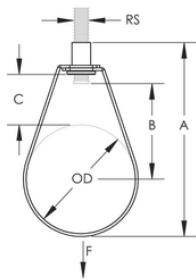
Finish Pregalvanized

Material Steel

Catalog Number	Pipe Size	Outer Diameter(OD)	Rod Size(RS)	A	B	C	Static Load(F)
1150050EG	1/2"	0.840"	3/8"	2 13/16"	1 1/8"	1"	300 lb
1150075EG	3/4"	1.050"	3/8"	3"	1 3/16"	15/16"	300 lb
1150100EG	1"	1.315"	3/8"	3 1/4"	1 3/8"	15/16"	300 lb
1150125EG	1 1/4"	1.660"	3/8"	3 9/16"	1 1/2"	15/16"	300 lb
1150150EG	1 1/2"	1.900"	3/8"	3 13/16"	1 5/8"	15/16"	300 lb

Catalog Number	Pipe Size	Outer Diameter(OD)	Rod Size(RS)	A	B	C	Static Load(F)
1150200EG	2"	2 3/8"	3/8"	4 1/4"	1 7/8"	15/16"	300 lb
1150250EG	2 1/2"	2 7/8"	3/8"	5 15/16"	3 7/16"	2"	525 lb
1150300EG	3"	3 1/2"	3/8"	6 9/16"	3 1/2"	1 15/16"	525 lb
1150350EG	3 1/2"	4"	3/8"	7 1/16"	3 3/4"	1 15/16"	585 lb
1150400EG	4"	4 1/2"	3/8"	7 9/16"	4"	1 15/16"	650 lb
1150500EG	5"	5 9/16"	1/2"	9 13/16"	4 3/4"	2 1/4"	1,000 lb
1150600EG	6"	6 5/8"	1/2"	11 5/16"	6 5/16"	3 5/16"	1,000 lb
1150800EG	8"	8 5/8"	1/2"	12 7/8"	6 7/8"	2 7/8"	1,000 lb

DIAGRAMS



WARNING

nVent products shall be installed and used only as indicated in nVent's product instruction sheets and training materials. Instruction sheets are available at www.nvent.com and from your nVent customer service representative. Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death and/or void your warranty.

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nVent reserves the right to change specifications without notice.

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2



300 UNIVERSAL BEAM CLAMP



CERTIFICATIONS



SPECIFICATIONS

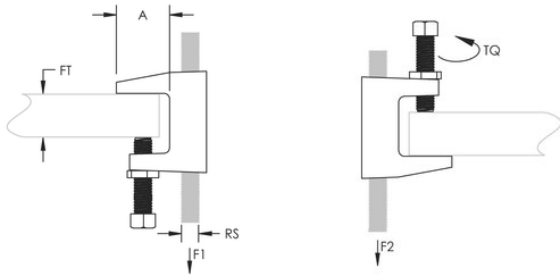
Material Cast Iron

Catalog Number	Finish	Rod Size(RS)	Flange Thickness(F T)	A	Torque(TQ)	Static Load 1(F1)	Static Load 2(F2)	Packing Quantity
3000037EG	Electrogalvanized	3/8"	3/4" Max	1 1/8"	5 ft lb	500 lb	250 lb	1.0000
3000037PL	Plain	3/8"	3/4" Max	1 1/8"	5 ft lb	500 lb	250 lb	1.0000
3000050EG	Electrogalvanized	1/2"	3/4" Max	1 1/8"	8 ft lb	950 lb	760 lb	1.0000
3000050PL	Plain	1/2"	3/4" Max	1 1/8"	8 ft lb	950 lb	760 lb	1.0000
3000062EG	Electrogalvanized	5/8"	3/4" Max	1 1/8"	5 ft lb	950 lb	760 lb	1.0000
3000062PL	Plain	5/8"	3/4" Max	1 1/8"	5 ft lb	950 lb	760 lb	1.0000
3000075EG	Electrogalvanized	3/4"	3/4" Max	1 1/8"	5 ft lb	950 lb	760 lb	1.0000
3000075PL	Plain	3/4"	3/4" Max	1 1/8"	5 ft lb	950 lb	760 lb	1.0000
3000087EG	Electrogalvanized	7/8"	3/4" Max	1 1/8"	5 ft lb	950 lb	760 lb	1.0000
3000087PL	Plain	7/8"	3/4" Max	1 1/8"	5 ft lb	950 lb	760 lb	1.0000

ADDITIONAL PRODUCT DETAILS

Setscrew must be tightened and torqued onto the sloped side of the I-beam.

DIAGRAMS



WARNING

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THREADED ROD



FEATURES

Cut to length as needed

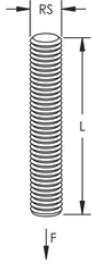
SPECIFICATIONS

Yield Strength	36,000 psi
Tensile Strength	58,000 psi
Finish	Electrogalvanized
Material	Steel

Catalog Number	Rod Size(RS)	Length(L)	Static Load(F)
0502506EG	1/4"	6'	240 lb
0502510EG	1/4"	10'	240 lb
0503706EG	3/8"	6'	600 lb
0503710EG	3/8"	10'	610 lb
0503712EG	3/8"	12'	600 lb
0505006EG	1/2"	6'	1,130 lb
0505010EG	1/2"	10'	1,130 lb
0505012EG	1/2"	12'	1,130 lb
0506206EG	5/8"	6'	1,810 lb
0506210EG	5/8"	10'	1,810 lb
0506212EG	5/8"	12'	1,810 lb
0507506EG	3/4"	6'	2,710 lb
0507510EG	3/4"	10'	2,710 lb
0507512EG	3/4"	12'	2,710 lb

Catalog Number	Rod Size(RS)	Length(L)	Static Load(F)
0508706EG	7/8"	6'	3,770 lb
0508710EG	7/8"	10'	3,770 lb

DIAGRAMS



WARNING

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39

HDI Drop-in Anchor

Internally threaded anchor for through fastenings (galvanised version)



Applications



Hanging threaded rods for pipe suspension

Features and Benefits

Internally threaded anchor for medium load range applications

Through fastening setting is possible

Anchor, setting tool and Hilti drill bit form a matched tolerance system provide reliable fastening
Intelligent expansion section adapts to the base material and reduces number of hammer blows up to 50%

Easy to read brand and size identification (red laser print)

Description	Drill bit diameter	Anchor length	Item No.
HDI 5/8" ANSI	27/32 in.	2 9/16 in.	00045755
HDI 1/4" ANSI	3/8 in.	1 in.	00045752
HDI 3/8" ANSI	1/2 in.	1 9/16 in.	00045753
HDI 1/2" ANSI	5/8 in.	2 in.	00045754
HDI 3/4" ANSI	1 in.	3 3/16 in.	00045756
HDI 1/4"	3/8 in.	1 in.	00336425
HDI 3/8"	1/2 in.	1 9/16 in.	00336426
HDI 1/2"	5/8 in.	2 in.	00336427
HDI 5/8"	27/32 in.	2 9/16 in.	00336428
HDI 3/4"	1 in.	3 3/16 in.	00336429



GUARDIAN

FIRE EQUIPMENT, INC.
MIAMI, FL

Ph. 800.327.6584 • Fax 800.827.3869

DETAIL AND SUBMITTAL SHEET

6600 Series - Storz Fire Dept Connections and Dry Hydrants

Project/Location: _____

Date: _____

Architect/Engineer: _____

Qty: _____

Contractor: _____

Appropriate Selection

Storz Connections - Used as auxiliary connections through which the fire department can pump water to supplement existing water supplies.

Straight and 30° Angle Pattern Adapters - Locking Storz inlet x Female NPT outlet, forged aluminum with powder coat finish.

Optional Components

- Identification plate - refer to 6400 Series
- Storz caps - refer below

Free-Standing Type - Straight pattern Storz adapter with Storz cap, forged aluminum with powder coat finish and galvanized steel elbow.

Components

- Brass identification plate lettered as required and 18" high cover sleeve.
- Rough chrome plated* finish

Straight Model No.	30° Angle Model No.	Free-Standing	Size
<input type="checkbox"/> 6614	<input type="checkbox"/> 6624	<input type="checkbox"/> 6634*	4" NPT x 4" Storz
<input type="checkbox"/> 6615	<input checked="" type="checkbox"/> 6625	<input type="checkbox"/> 6635*	4" NPT x 5" Storz
<input type="checkbox"/> 6616	<input type="checkbox"/> 6626	<input type="checkbox"/> 6636*	4" NPT x 6" Storz
<input type="checkbox"/> 6617	<input type="checkbox"/> 6627	<input type="checkbox"/> 6637*	6" NPT x 4" Storz
<input type="checkbox"/> 6618	<input type="checkbox"/> 6628	<input type="checkbox"/> 6638*	6" NPT x 5" Storz

Identification Plate Lettering (Models 6634 - 6639)

AUTO SPKR STANDPIPE AUTO SPKR & STANDPIPE

*Optional Finish: -D Polished chrome plated

Storz Caps - Blind cap with securing wire or chain, forged aluminum with powder coat finish

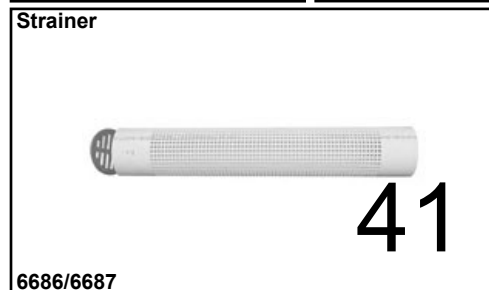
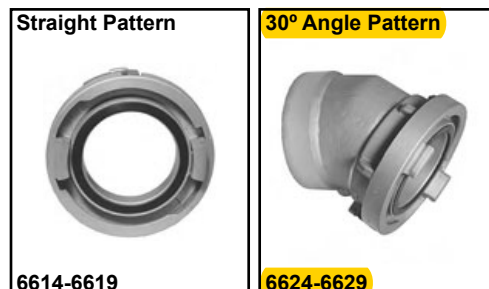
Model No.	Size	Model No.	Size
<input type="checkbox"/> 6644	4" Storz	<input type="checkbox"/> 6646	6" Storz
<input checked="" type="checkbox"/> 6645	5" Storz		

Dry Hydrants - Provides a fire water supply in rural settings where pressurized water systems are insufficient or unavailable. Assemblies include hose thread adapter and strainer constructed of hard-coated aluminum and schedule 40 PVC 5" 90° elbow. Caps (optional) are hard-coated aluminum

Model No.	Hydrant Size	Model No.	Cap Size
<input type="checkbox"/> 6664	6" PVC x 4 1/2" male NST	<input type="checkbox"/> 6674	4 1/2" NST
<input type="checkbox"/> 6665	6" PVC x 5" male NST	<input type="checkbox"/> 6675	5" NST
<input type="checkbox"/> 6667	6" PVC x 6" male NST	<input type="checkbox"/> 6676	6" NST

PVC Suction Strainer

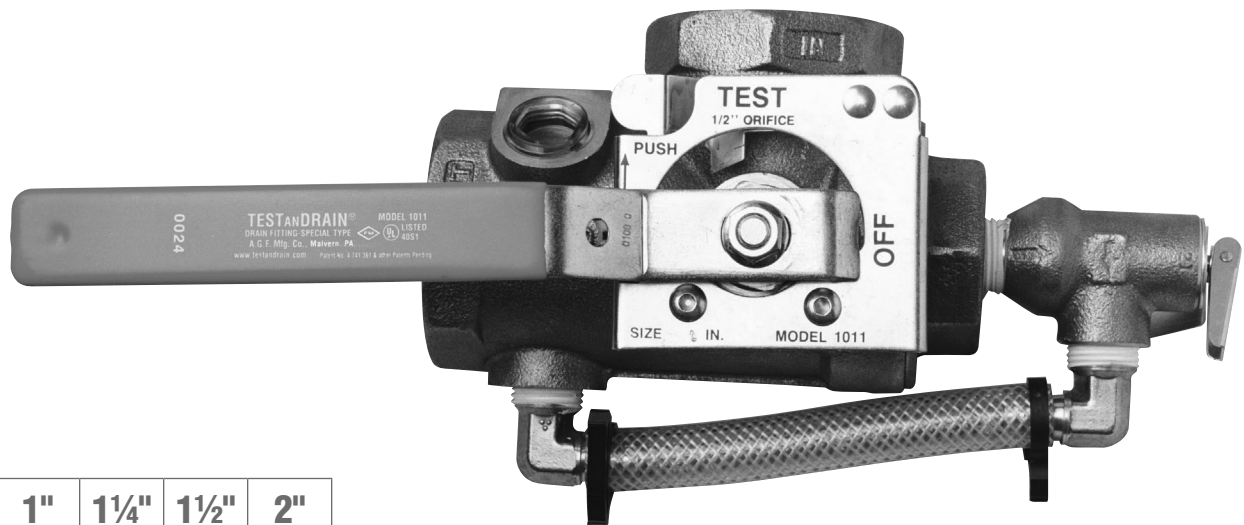
Model No.	Size	Model No.	Size
<input type="checkbox"/> 6686	6" Horizontal	<input type="checkbox"/> 6688	6" Vertical (Barrel)
<input type="checkbox"/> 6687	8" Horizontal	<input type="checkbox"/> 6689	8" Vertical (Barrel)





Model 1011A TEST_{AND}DRAIN[®]

Sectional Floor Control Test and Drain Valve
for Systems Requiring Pressure Relief Valve



Sizes:

3/4"	1"	1 1/4"	1 1/2"	2"
------	----	--------	--------	----

The AGF **Model 1011A TEST_{AND}DRAIN[®]** provides the test and express drain functions for wet fire sprinkler systems on multi-story installations requiring pressure relief (NFPA 13 and NFPA 13R). The **Model 1011A** features a **Model 7000 Pressure Relief Valve** with drain pipe.

The **Model 1011A** is available in a full range of sizes (3/4" to 2") with NPT connections (BSPT available). The **Model 7000 Pressure Relief Valve** (UL/FM) features a flushing handle and a 175 PSI factory rating (other pressure ratings available).

- Complies with NFPA 13 and NFPA 13R Requirements
- Compact, Single-Handle Ball Valve
- Tamper-Resistant Test Orifice and Sight Glasses
- 300 PSI rated.
- Specifiable orifice sizes: 3/8" (2.8K), 7/16" (4.2K), 1/2" (5.6K), 17/32" (8.0K), 5/8" (11.2K, ELO), 3/4" (14.0K, ESFR), and K25
- Relieves Excess System Pressure caused by Surges or Temperature Changes
- Shipped with Relief Valve and Bypass Drain Ports Plugged to Expedite Pressure Testing
- Locking Kit Available

Repair kits are available for all **TEST_{AND}DRAIN[®]** valves. Kit includes: Adapter Gasket (1), Ball (1), Valve Seats (2), Stem Packing (1), and Stem Washer (1). *Valve and orifice size must be specified when ordering.*

NOTE: It is important to note that the pressure rating of the relief valve indicates an operating range of pressure for both opening and closing of the valve. Standard relief valves are required to OPEN in a range of pressure between 90% and 105% of their rating. The valves are required to CLOSE at a pressure above 80% of that rating. The relief valve should be installed where it is easily accessible for maintenance. Care should be taken that the relief valve CANNOT be isolated from the system when the system is operational. A relief valve should NEVER have a shutoff valve or a plug downstream of its outlet.

Reliability, Versatility, Code Compatibility

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Model 1011A TEST AND DRAIN®

Model 1011A 300 PSI Bronze Ball Valve, Model 7000 Pressure Relief Valve
Factory Rated at 175 PSI with other setting available

Dimensions

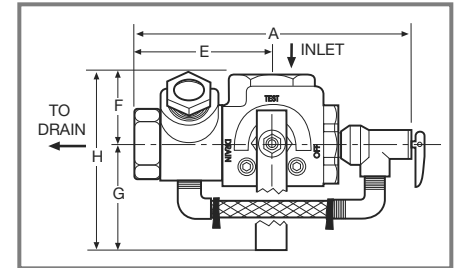
SIZE	A	B	C	D	E	F	G	H
3/4"	79/16" (191 mm)	1 1/2" (37.5 mm)	23/16" (57 mm)	35/8" (93 mm)	33/8" (86 mm)	113/16" (46 mm)	49/16" (117 mm)	63/8" (162.5 mm)
1"	79/16" (191 mm)	1 1/2" (37.5 mm)	23/16" (57 mm)	35/8" (93 mm)	33/8" (86 mm)	113/16" (46 mm)	49/16" (117 mm)	63/8" (162.5 mm)
1 1/4"	715/16" (201 mm)	1 11/16" (43 mm)	29/16" (65 mm)	4 1/4" (108 mm)	35/8" (91 mm)	115/16" (51 mm)	59/16" (141 mm)	7 1/2" (192 mm)
1 1/2"	815/16" (227 mm)	1 13/16" (45 mm)	3 1/4" (81.5 mm)	5 1/16" (127 mm)	37/8" (99 mm)	25/8" (67 mm)	8 1/4" (207 mm)	10 7/8" (274 mm)
2"	815/16" (227 mm)	1 13/16" (45 mm)	3 1/4" (81.5 mm)	5 1/16" (127 mm)	37/8" (99 mm)	25/8" (67 mm)	8 1/4" (207 mm)	10 7/8" (274 mm)

The Model 1011A provides the following...

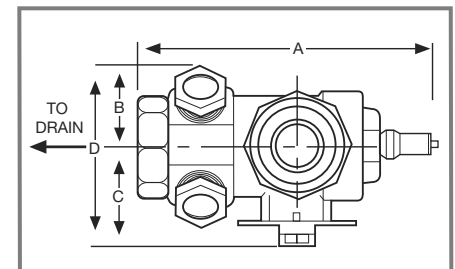
From the 2013 Edition of NFPA 13

- Chapter 8.16.2.4.1* Provisions shall be made to properly drain all parts of the system.
- Chapter 8.16.2.4.2 Drain connections, interior sectional or floor control valve(s) – & 8.16.2.4.3 shall be provided with a drain connection having a minimum size as shown in Table 8.16.2.4.2.
- Chapter 8.16.2.4.4 Drains shall discharge outside or to a drain capable of handling the flow of the drain.
- Chapter A.8.17.4.2 (Wet Pipe System) test connection is permitted to terminate into a drain capable of accepting full flow... using an approved sight test connection containing a smooth bore corrosion-resistant orifice giving a flow equivalent to one sprinkler...
- Chapter 8.17.4.2.2 The test connection valve shall be accessible.
- Chapter 8.17.4.2.4 shall be permitted to be installed in any location... downstream of the waterflow alarm.
- Chapter 8.17.4.3.1 (Dry Pipe System) a trip test connection not less than 1" in diameter, terminating in a smooth bore corrosion-resistant orifice, to provide a flow equivalent to one sprinkler...
- Chapter 8.17.4.3.2 The trip test connection... with a shutoff valve and plug not less than 1", at least one of which shall be brass.
- Chapter 7.1.2 - a wet pipe system shall be provided with a listed relief valve set to operate at 175 PSI or 10 PSI in excess of the maximum system pressure, whichever is greater.
- Chapter 8.16.1.2.3* A listed relief valve of not less than 1/2" in size shall be provided on the discharge side of the pressure-reducing valve set to operate at a pressure not exceeding rated pressure of the system.
- Chapter A.8.16.1.2.3 - consideration should be given to piping the discharge from the (pressure relief) valve

Model 1011A - Front View



Model 1011A - Plan View



Orifice Sizes

3/8", 7/16", 1/2", 17/32", 5/8" ELO*,
3/4" ESRF*, and K25**

Materials

- Handle Steel
- Stem Rod Brass
- Ball C.P. Brass
- Body Bronze
- Valve Seat Impregnated Teflon®
- Indicator Plate Steel
- Relief Valve Bronze
- Bypass Fittings... Brass
- Bypass Tubing.... Nylobraid

Approvals

UL and ULC Listed:
(EX4019 & EX4533)
FM Approved
NYC-BSA No. 720-87-SM



USA Patent # 4741361 and Other Patents Pending



AGF Manufacturing Inc.
100 Quaker Lane, Malvern, PA 19355
Phone: 610-240-4900
Fax: 610-240-4906
www.testandrain.com

Job Name: _____

Architect: _____

Engineer: _____

Contractor: _____

*Available on 1 1/4" to 2" size units only • **Available on 1 1/2" and 2" size units only

FireLock® Butterfly Valve



SERIES 705
WITH WEATHERPROOF ACTUATOR

The Series 705 Butterfly Valve features a weatherproof actuator housing Approved for indoor or outdoor use, a ductile iron body and disc with EPDM seats. Designed for fire protection services only. Victaulic FireLock Series 705 Butterfly Valve is cULus Listed, LPCB Listed, FM and VdS Approved for 300 psi/2068 kPa service. Contact Victaulic for details of agency approvals.



APPROVALS AND LISTINGS

	Approval/Listing Service Pressures Series 705 Butterfly Valve			
	cULus	FM	VdS	LPCB
2"/50mm	up to 300psi/2068kPa	n/a	up to 300psi/2068kPa	up to 300psi/2068kPa
2 1/2"/65mm	up to 300psi/2068kPa	up to 300psi/2068kPa	n/a	up to 300psi/2068kPa
76.1mm	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa
3"/80mm	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa
4"/100mm	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa
5"/125mm	up to 300psi/2068kPa	up to 300psi/2068kPa	n/a	up to 300psi/2068kPa
139.7mm	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa
6"/150mm	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa
165.1mm	up to 300psi/2068kPa	up to 300psi/2068kPa	n/a	up to 300psi/2068kPa
8"/200mm	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa	up to 300psi/2068kPa
10"/250mm	up to 300psi/2068kPa	up to 300psi/2068kPa	n/a	up to 300psi/2068kPa
12"/300mm	up to 300psi/2068kPa	up to 300psi/2068kPa	n/a	up to 300psi/2068kPa

JOB/OWNER

System No. _____
Location _____

CONTRACTOR

Submitted By _____
Date _____

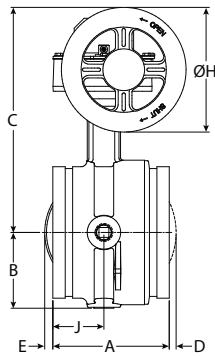
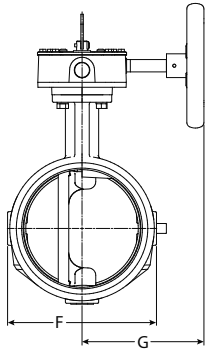
ENGINEER

Spec Sect _____ Para _____
Approved _____
Date _____

FireLock® Butterfly Valve

SERIES 705
WITH WEATHERPROOF ACTUATOR

DIMENSIONS –



Note: Optional 1/2"/15mm tap available.
 Contact Victaulic for details.

Size		Dimensions – Inches/millimeters									
Size	Outside Diameter	End to End A	B	C	D	E	F	G	DIA H	J	
2" 60.3 mm	2.375 60.3	4.25 108.0	2.28 57.9	6.41 162.8	—	—	4.00 101.6	4.22 107.2	4.50 114.3	2.12 53.8	
2½" 73 mm	2.875 73.0	3.77 95.8	2.28 57.9	7.54 191.5	—	—	4.00 101.6	4.22 107.2	4.50 114.3	1.77 45.0	
76.1 mm	3.000 76.1	3.77 95.8	2.28 57.9	7.54 191.5	—	—	4.00 101.6	4.22 107.2	4.50 114.3	1.77 45.0	
3" 88.9 mm	3.500 88.9	3.77 95.8	2.53 64.3	7.79 197.9	—	—	4.50 114.3	4.22 107.2	4.50 114.3	1.77 45.0	
108 mm	4.250 108.0	4.63 117.6	2.88 73.2	8.81 223.8	—	—	5.50 139.7	4.22 107.2	4.50 114.3	2.20 55.9	
4" 114.3 mm	4.500 114.3	4.63 117.6	2.88 73.2	8.81 223.8	—	—	5.50 139.7	4.22 107.2	4.50 114.3	2.20 55.9	
133 mm	5.250 133.0	5.88 149.4	3.35 85.1	10.88 276.4	—	—	6.56 166.6	6.19 157.2	6.30 160.0	2.58 65.5	
139.7 mm	5.500 139.7	5.88 149.4	3.35 85.1	10.88 276.4	—	—	6.56 166.6	6.19 157.2	6.30 160.0	2.58 65.6	
5" 141.3 mm	5.563 141.3	5.88 149.4	3.35 85.1	10.88 276.4	—	—	6.56 166.6	6.19 157.2	6.30 160.0	2.58 65.5	
159 mm	6.250 159.0	5.88 149.4	3.84 97.5	11.38 289.1	—	0.41 10.4	7.52 191.0	6.19 157.2	6.30 160.0	2.58 65.5	
165.1 mm	6.500 165.1	5.88 149.4	3.84 97.5	11.38 289.1	—	0.41 10.4	7.52 191.0	6.19 157.2	6.30 160.0	2.58 65.5	
6" 168.3	6.625 168.3	5.88 149.4	3.84 97.5	11.38 289.1	—	0.41 10.4	7.52 191.0	6.19 157.2	6.30 160.0	1.90 48.3	
8" 219.1 mm	8.625 219.1	5.33 135.4	5.07 128.8	13.53 343.6	0.80 20.3	1.47 37.3	10.00 254.0	6.19 157.2	8.10 205.7	2.33 59.2	
10" 273 mm	10.750 273.0	6.40 162.6	6.37 161.8	15.64 397.3	1.41 35.8	1.81 46.0	12.25 311.2	8.10 205.7	9.00 228.6	—	
12" 323.9 mm	12.750 323.9	6.50 165.1	7.36 186.9	16.64 422.7	2.30 58.4	2.80 71.1	14.25 362.0	8.10 205.7	9.00 228.6	—	

FireLock® Butterfly Valve

**SERIES 705
WITH WEATHERPROOF ACTUATOR**

SWITCH AND WIRING

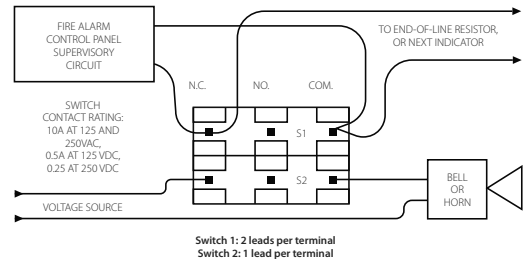
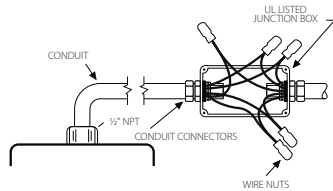
1. The supervisory switch contains two single pole, double throw, pre-wired switches.
2. Switches are rated:
 - 10 amps @ 125 or 250 VAC/60 Hz
 - 0.50 amps @ 125 VDC
 - 0.25 amps @ 250 VDC
3. **Switches supervise the valve in the “OPEN” position.**
4. One switch has two #18 insulated wires per terminal, which permit complete supervision of leads (refer to diagrams and notes below). The second switch has one #18 insulated wire per terminal. This double circuit provides flexibility to operate two electrical devices at separate locations, such as an indicating light and an audible alarm, in the area that the valve is installed.
5. A #14 insulated ground lead (green) is provided.

Switch #1 = S1 For connection to the supervisory circuit of a UL Listed alarm control panel

Switch #2 = S2 Auxiliary switch that may be connected to auxiliary devices, per the authority having jurisdiction

S1 { Normally Closed: (2) Blue
Common: (2) Yellow

S2 { Normally Closed: Blue with Orange Stripe
Normally Open: Brown with Orange Stripe
Common: Yellow with Orange Stripe



NOTE: The above diagram shows a connection between the common terminal (yellow – S1 and yellow-with-orange stripe – S2) and the normally closed terminal (blue – S1 and blue-with-orange stripe – S2). In this example, the indicator light and alarm will stay on until the valve is fully open. When the valve is fully open, the indicator light and alarm will go out. Cap off any unused wires (e.g. brown with orange stripe).

Only S1 (two leads per terminal) may be connected to the fire alarm control panel.

The connection of the alarm switch wiring shall be in accordance with NFPA 72 and the auxiliary switch per NFPA 70 (NEC).

FireLock® Check Valves



SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

SERIES 717HR HIGH PRESSURE - cULus, FM
SERIES 717R - cULus, FM

The Series 717R and Series 717HR FireLock High Pressure check valves are CAD-designed for hydrodynamic efficiency and available in 2 – 3”/50 – 80mm (Series 717HR) and 4 – 8”/100 – 200mm (Series 717R) sizes.

Series 717HR valves are cULus Listed and FM Approved for service up to the pressures shown on the chart below.

In the Series 717HR High Pressure Check Valve, the stainless steel disc is seated against the O-ring seal which is installed in the electroless nickel-plated end face. The Series 717R check valve features an elastomer encapsulated disc and a welded in nickel seat for superior corrosion resistance. Both valves feature a spring-assisted, single disc design which provides a leak-free seal with as little as 5 ft/1.5 m of head. Either valve can be installed in horizontal or vertical positions.

In both valve designs, the single disc mechanism incorporates a spring-assisted feature for non-slamming operation. Each valve is factory tested to the rated working pressure. For systems not requiring a Riser Check option refer to publication 10.08. Both valve designs include upstream and downstream pressure taps.

The drain valves supplied with the Victaulic Riser Kit are cULus and FM Approved for services up to 300 psi/2068 kPa. Grooved ends allow fast, easy installation with just two Victaulic couplings or the valve may be mounted to flanged (ANSI CL.150) equipment using Victaulic Style 741 Vic-Flange® or Style 744 FireLock flange adapters on either end.

The Victaulic riser check kit for the 2”/60.3mm S717HR has a 3/4” drain valve and the kit for the 2-1/2 to 3”/65-80mm S717HR includes a 1 1/4” drain valve. The kit for the 4-8”/100-200mm S717R valve includes a 2” drain valve. All kits also include gauges (2), gauge isolation valves (2), pipe nipples and pipe plugs. In both models, the riser check kit must be specified when ordered.



SERIES 717HR - SHOWN WITH THE VICTAULIC RISER CHECK KIT (2 – 3”/50 – 80 mm)



SERIES 717R - SHOWN WITH THE VICTAULIC RISER CHECK KIT (4 – 8”/100 – 200 mm)

Size	Approval/Listing Service Pressures			
	Series 717HR (bare valve)		Series 717R	
	cULus*	FM*	cULus	FM
2”/50mm	up to 365psi/2517 kPa	up to 365psi/2517 kPa	n/a	n/a
2 1/2”/65mm	up to 365psi/2517 kPa	up to 365psi/2517 kPa	n/a	n/a
76.1mm	up to 365psi/2517 kPa	up to 365psi/2517 kPa	n/a	n/a
3”/80mm	up to 365psi/2517 kPa	up to 365psi/2517 kPa	n/a	n/a
4”/100mm	n/a	n/a	up to 365psi/2517kPa	up to 365psi/2517kPa
5”/125mm	n/a	n/a	up to 365psi/2517kPa	up to 365psi/2517kPa
6”/150mm	n/a	n/a	up to 365psi/2517kPa	up to 365psi/2517kPa
8”/200mm	n/a	n/a	up to 365psi/2517kPa	up to 365psi/2517kPa

* Note: When supplied with the Victaulic Riser Check Kit, the Series 717HR can be used for services up to 300psi/2068kPa.

JOB OWNER

System No. _____
 Location _____

CONTRACTOR

Submitted By _____
 Date _____

ENGINEER

Spec Sect _____ Para _____
 Approved _____
 Date _____

www.victaulic.com

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REV_H



FireLock® Check Valves



SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

SERIES 717HR HIGH PRESSURE - cULus, FM
SERIES 717R - cULus, FM

MATERIAL SPECIFICATIONS

Body: Ductile iron conforming to ASTM A-536, grade 65-45-12. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

Body Coating: Series 717HR and Series 717R: painted black enamel.

Body Seat: Series 717HR (2 - 3"/50 - 80mm) machined surfaces electroless nickel plated. Series 717R (4 - 8"/100 - 200mm) welded-in nickel seat.

Disc Seal or Coating:

- **Grade "T" Nitrile (Series 717HR ONLY)**

Nitrile (Orange color code). Temperature range -20°F to +180°F/-29°C to +82°C. Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range; except hot, dry air over +140°F/+60°C and water over +150°F/+66°C. NOT RECOMMENDED FOR HOT WATER SERVICES.

- **Grade "E" EPDM (Series 717R ONLY)**

EPDM (Green color code). Temperature range -30°F to +230°F/-34°C to +110°C. Recommended for cold and hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. UL classified in accordance with ANSI/NSF 61 for cold +86°F/+30°C and hot +180°F/+82°C potable water service. NOT RECOMMENDED FOR PETROLEUM SERVICES.

* Services listed are General Service Recommendations only. It should be noted that there are services for which these gaskets are not recommended. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service recommendations and for a listing of services which are not recommended.

Discs:

- Series 717HR (2 - 3"/50 - 80mm): 300 Series Stainless Steel
- Series 717R valves (4 - 12"/100 - 300mm) Elastomer-coated ductile iron

Shaft:

- Series 717HR: Brass
- Series 717R: Type 316 stainless steel

Spring: All sizes Type 302/304 stainless

Shaft Plug:

- Series 717HR: Type 416 Stainless Steel
- Series 717R: Zinc-plated carbon steel

Pipe Plug: Zinc-plated carbon steel

FireLock® Check Valves

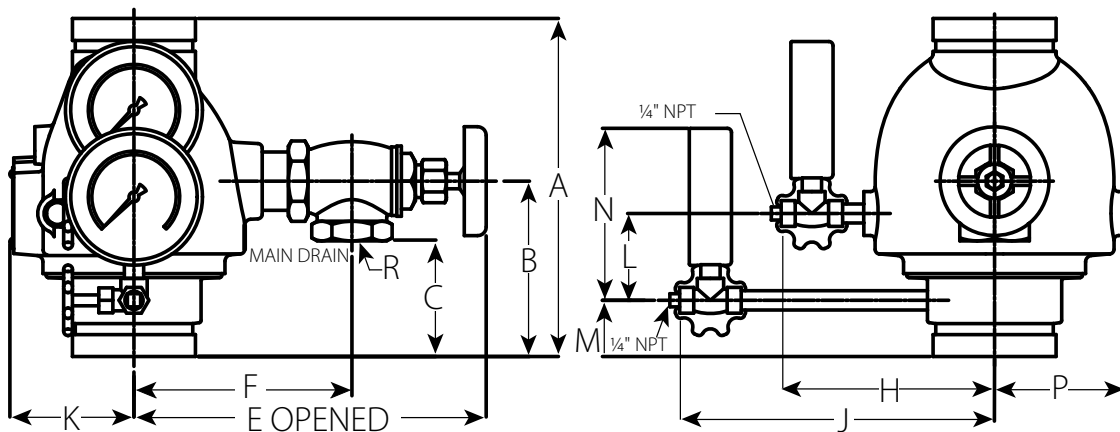


SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

SERIES 717HR HIGH PRESSURE - cULus, FM
 SERIES 717R - cULus, FM

DIMENSIONS 717HR

Size	Dimensions – Inches/mm														Approx. Wgt. Each
Nominal Size Inches/mm	A	B	C	D	E (OPENED)	F	H	J	K	L	M	N	P	R	Lbs. kg
2 60.3	8.66 219.8	4.40 111.9	3.16 80.1	–	8.50 215.9	4.74 120.4	5.57 141.5	8.50 216.0	3.23 82.0	2.10 53.3	1.58 40.3	4.90 124.3	3.23 82.0	¾" NPT	15.0 6.8
2 ½ 73	9.37 238.0	4.99 126.7	3.29 83.6	–	10.50 266.7	5.87 149.0	5.82 147.8	8.71 221.2	3.31 84.1	2.37 60.2	1.60 40.7	4.90 124.3	3.47 88.1	1 ¼" NPT	19.5 8.8
76.1 mm	9.37 238.0	4.99 126.7	3.29 83.6	–	10.50 266.7	5.87 149.0	5.82 147.8	8.71 221.2	3.31 84.1	2.37 60.2	1.60 40.7	4.90 124.3	3.47 88.1	1 ¼" NPT	19.5 8.8
3 88.9	9.62 244.3	4.99 126.7	3.31 84.2	–	10.78 273.8	6.20 157.6	6.07 154.2	8.96 227.6	3.53 89.7	2.47 62.7	1.60 40.6	4.90 124.3	3.72 94.5	1 ¼" NPT	25.5 11.6



2"/60.3 mm – 3"/88.9 mm
 SERIES 717 HR

FireLock® Check Valves

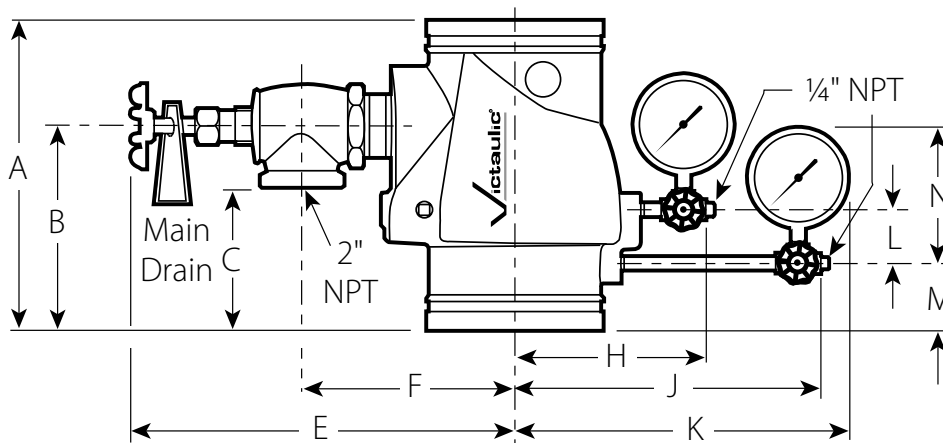


SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

SERIES 717HR HIGH PRESSURE - cULus, FM
 SERIES 717R - cULus, FM

DIMENSIONS 717R

Size		Dimensions – Inches/mm													Approx. Wgt. Each
Nominal Size Inches/mm	Actual Outside Diameter Inches/mm	E-E A	B	C	D	E	F	H	J	K	L	M	N	Lbs. kg	
4 100	4.500 114.3	9.63 245	6.25 159	4.00 102	3.75 95	14.25 362	6.88 175	6.70 170	10.45 265	11.25 286	2.00 51	2.00 51	5.25 133	28.0 12.7	
5 125	5.563 141.3	10.50 267	6.50 165	4.25 108	3.75 95	14.75 375	7.38 188	7.37 187	11.87 302	12.75 324	2.15 55	1.88 48	5.25 133	35.0 15.9	
139.7 mm	5.500 139.7	10.50 267	6.50 165	4.25 108	3.75 95	14.75 375	7.38 188	7.37 187	11.87 302	12.75 324	2.15 55	1.88 48	5.25 133	35.0 15.9	
6 150	6.625 168.3	11.50 292	7.63 194	5.38 137	3.75 95	15.50 394	8.03 204	7.70 196	12.20 310	13.00 330	2.38 61	2.13 54	5.25 133	46.0 20.9	
165.1 mm	6.500 165.1	11.50 292	7.63 194	5.38 137	3.75 95	15.50 394	8.03 204	7.70 196	12.20 310	13.00 330	2.38 61	2.13 54	5.25 133	46.0 20.9	
8 200	8.625 219.1	14.00 356	8.25 210	6.00 152	3.75 95	16.38 416	9.00 229	8.85 225	12.75 324	13.50 343	2.15 55	2.88 73	5.25 133	72.0 32.7	



FireLock® Check Valves

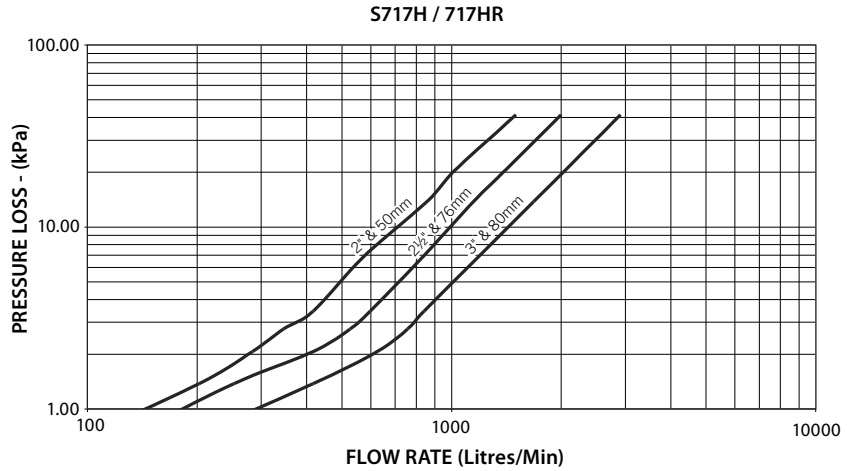
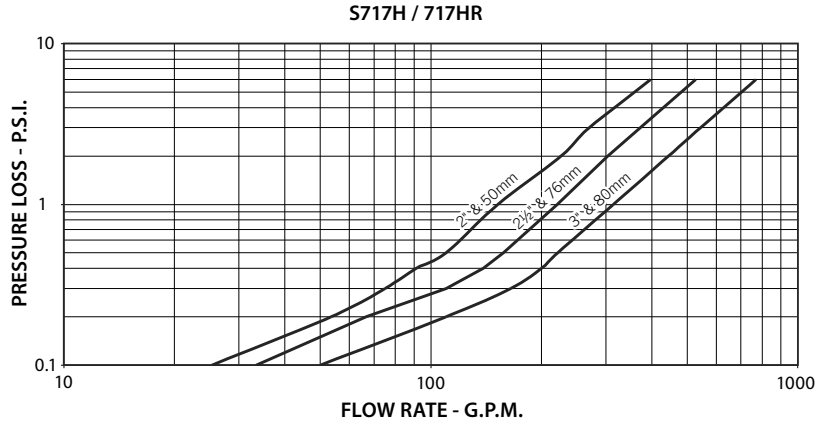
SERIES 717HR HIGH PRESSURE - cULus, FM
SERIES 717R - cULus, FM



SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

FLOW CHARACTERISTICS

The charts below express the flow of water at 60°F/16°C through valve.



FireLock® Check Valves

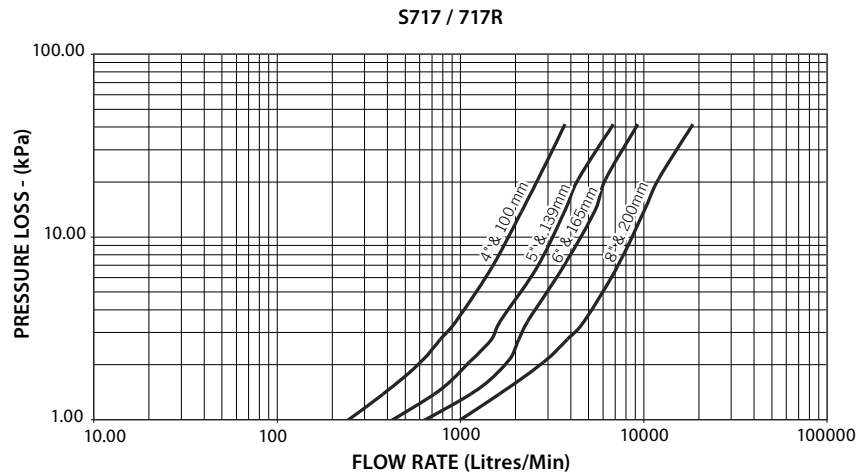
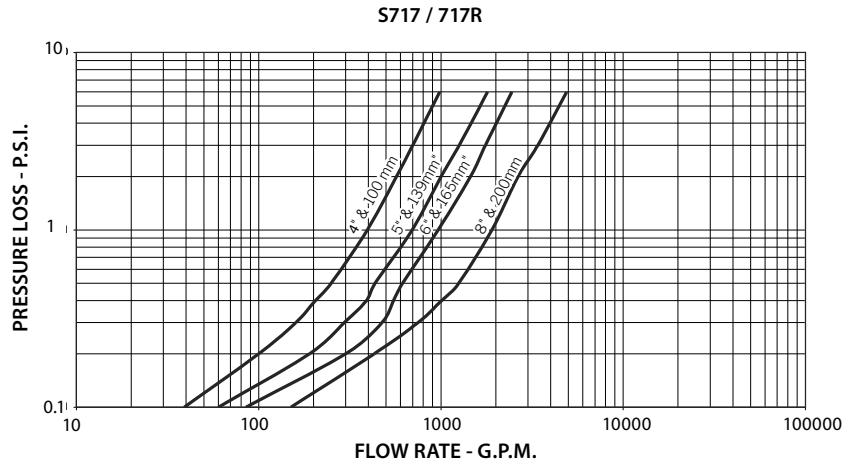
SERIES 717HR HIGH PRESSURE - cULus, FM
 SERIES 717R - cULus, FM



SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

FLOW CHARACTERISTICS

The charts below express the flow of water at 60°F/16°C through valve.




WARRANTY

Refer to the Warranty section of the current Price List or contact Victaulic for details.

NOTE

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

	<h1 style="margin: 0;">TECHNICAL DATA</h1>	<h2 style="margin: 0;">SWING CHECK VALVE MODEL D-1 & G-1</h2>
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The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

The Viking Swing Check Valve is a general purpose rubber-faced check valve approved for use in fire protection systems. The Swing Check Valve is manufactured with a ductile iron body, brass seat, and a rubber-faced clapper assembly, hinged to a removable access cover for easy inspection and maintenance.

The valve may be installed vertically or horizontally with access cover facing up. For availability of flanged-flanged and grooved-grooved options, refer to Table 1. Tapped openings (with plugs) and gauge connections are provided on both the inlet and outlet chambers of the valve.

FEATURES

- A. Ductile iron body for less weight and extra strength.
- B. Rated to 300 psi (20.7 bar) water working pressure.
- C. Rubber-faced clapper hinged to access cover for quick removal and easy servicing. All moving parts can be serviced without removing the valve from the installed position.
- D. With the cover/clapper assembly removed, the clapper rubber replacement requires removal of only one screw.
- E. Can be installed vertically or horizontally with access cover facing up.



2. LISTINGS AND APPROVALS

cULus Listed: Guide No. HMER
FM Approved: Single Check Valves
NYC Department of Buildings: MEA 89-92-E, Vol. XI

3. TECHNICAL DATA

Specifications:

Rated to 300 psi (20.7 bar) water working pressure.
 Factory tested hydrostatically to 600 psi (41.4 bar).
 Standard Flanged Connections: ANSI B16.42 Class 150 (mates with ANSI Class 125 and Class 150 flanges).
 Standard Grooved Connections: ANSI/AWWA C606
 Tapped Bosses: 2-1/2" (DN65), 3" (DN80) and 4" (DN100): Two 1/2" (15 mm) NPT
 6" (DN150) and 8" (DN200): Two 3/4" (20 mm) NPT

Viking Technical Data may be found on The Viking Corporation's Web site at <http://www.vikinggroupinc.com>. The Web site may include a more recent edition of this Technical Data Page.

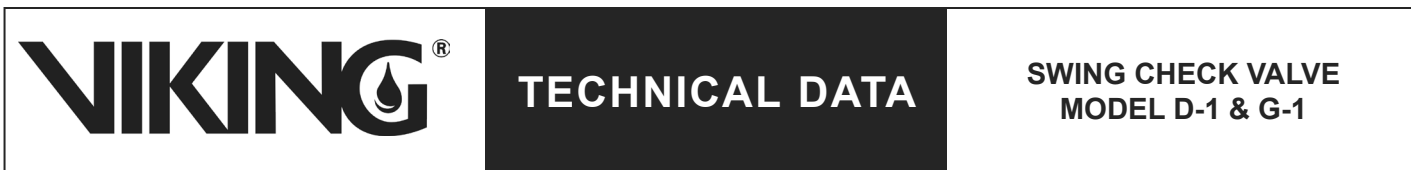
Material Standards: Refer to Figure 1.

Ordering Information: Refer to Table 1 for part numbers and shipping weight.

Table 1					
Size Valve Nominal	Inlet Type	Outlet Type	Friction Loss*	Shipping Weight	Part No.
2-1/2" (DN65)	Groove	Groove	6 ft.(1.8 m)	16 lbs. (7 kg)	05497C
3" (DN80)	Goove	Groove	10 ft. (3.1 m)	20 lbs. (9 kg)	08536
4" (DN100)	Flange	Flange	13 ft. (4.0 m)	47 lbs. (21 kg)	08538
4" (DN100)	Groove	Groove	13 ft. (4.0 m)	27 lbs. (12 kg)	08539
6" (DN150)	Flange	Flange	20 ft. (6.0 m)	75 lbs. (34 kg)	08542
6" (DN150)	Groove	Groove	20 ft. (6.0 m)	51 lbs. (23 kg)	08543
8" (DN200)	Flange	Flange	23 ft. (7.0 m)	135 lbs. (61 kg)	08546
8" (DN200)	Groove	Groove	23 ft. (7.0 m)	106 lbs. (48 kg)	08547

*Expressed in equivalent length of Schedule 40 pipe based on Hazen & Williams formula: C = 120.

Systems with water working pressures above 175 psi (12 bar) may require extra-heavy pattern fittings. Viking Swing Check Valve flanges are Ductile Iron ANSI B16.42, Class 150, with a maximum water working pressure of 300 psi (20.7 bar). ANSI B16.42, Class 150 flanges are NOT compatible with ANSI Class 250 or Class 300 flanges. To mate the Viking Swing Check Valve with ANSI Class 250 or Class 300 flanges, use the grooved-inlet/grooved-outlet style installed with listed grooved/ flanged adapters of the appropriate pressure rating. For piping with grooved connections, the grooved-inlet/grooved-outlet style Swing Check Valve may be installed with listed grooved couplings of the appropriate pressure rating.



The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

4. INSTALLATION

The Swing Check Valve must be installed in an area not subject to physical damage. When corrosive atmospheres and/or contaminated water supplies are present, it is the owner's responsibility to verify compatibility with the Swing Check Valve and associated equipment. Prior to installing the valve, thoroughly flush the water supply piping to verify that no foreign matter is present. The Swing Check Valve may be installed in the vertical position with direction of flow up, or in the horizontal position with the access cover up.

Systems with water working pressures above 175 psi (12 bar) may require extra-heavy pattern fittings. Viking Swing Check Valve flanges are Ductile Iron ANSI B16.42, Class 150, with a maximum water working pressure of 300 psi (20.7 bar). ANSI B16.42, Class 150 flanges are not compatible with ANSI Class 250 or Class 300 flanges. To mate the Viking Swing Check Valve with ANSI Class 250 or Class 300 flanges, use the grooved-inlet/grooved-outlet style installed with listed grooved/flanged adapters of the appropriate pressure rating. For piping with grooved connections, the grooved-inlet/grooved-outlet style Swing Check Valve may be installed with listed grooved couplings of the appropriate pressure rating.

5. OPERATION (Refer to Figure 1)

Flow through the Viking Swing Check Valve lifts the rubber-gasketed clapper (8, and 9) off the seat (12) to enter the sprinkler piping. When flow through the valve stops, the clapper (8) closes quickly. The rubber gasket (9) forms a tight seal against the brass water seat (12), trapping pressure above the clapper and preventing reverse flow from sprinkler piping.

Hydrostatic Test:

The Swing Check Valve is manufactured and listed for use at a maximum water working pressure of 300 psi (20.7 bar). The valve is factory tested at 600 psi (41.4 bar). Check Valves may be hydrostatically tested (in accordance with NFPA 13) at 350 psi (24.1 bar) and/or 50 psi (3.4 bar) above the normal water working pressure for limited periods of time (two hours) for the purpose of acceptance by the Authority Having Jurisdiction. If air testing is required, do not exceed 40 psi (2.8 bar) air pressure.

6. INSPECTIONS, TESTS AND MAINTENANCE

NOTICE: The owner is responsible for maintaining the fire-protection system and devices in proper operating condition.

The Viking Swing Check Valve must be kept free of foreign matter, freezing conditions (when used on wet systems), corrosive atmospheres, contaminated water supplies, and any condition that could impair its operation or damage the device.

It is imperative that the system be inspected and tested on a regular basis. The frequency of the inspections may vary due to contaminated water supplies, corrosive water supplies, and corrosive atmospheres. For minimum maintenance and inspection requirements, refer to NFPA 25. In addition, the Authority Having Jurisdiction may have additional maintenance, testing, and inspection requirements that must be followed.

WARNING: Any system maintenance which involves placing a control valve or detection system out of service may eliminate the fire-protection capabilities of that system. Prior to proceeding, notify all the Authority Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected areas.

6-A. Five-Year Internal Inspection

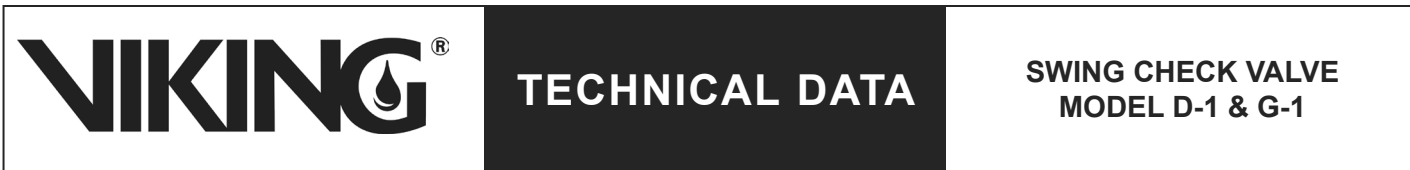
Internal inspection of Swing Check Valves is recommended every five years unless inspections and tests indicate more frequent inspections are required.

(Refer to Figure 1)

1. Notify the Authority Having Jurisdiction, remote station alarm monitors, and those in the area affected that the system will be taken out of service. Consideration should be given to employment of a fire patrol in the affected areas.
2. Close the water supply main control valve, placing the system out of service.
3. Open the main drain. If necessary, open the system test valve to vent and completely drain the system.
4. Use the appropriate wrench to loosen and remove the cover screws (14), and remove the cover/clapper assembly (2-11).
5. Inspect the water seat (12). Wipe away all contaminants, dirt, and mineral deposits. DO NOT use solvents or abrasives.
6. Inspect the cover/clapper assembly (2-11) and the cover gasket (13). Test the hinged clapper (8) for freedom of movement. Renew or replace damaged or worn parts as required.

CAUTION: Never apply any lubricant to seats, gaskets, or any internal operating parts of the valve. Petroleum-based grease or oil will damage rubber components and may prevent proper operation.

7. When Internal inspection of the Check Valve is complete, perform step 6 of paragraph 11. VALVE MAINTENANCE to re-install the cover/clapper assembly (2-11).



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6-B. Valve Maintenance

(Refer to Figure 1)

1. Perform steps 1 through 5 of paragraph 6.A - FIVE-YEAR INTERNAL INSPECTION.
2. To remove clapper rubber (9):
 - a. Use the appropriate wrenches to loosen and remove the button-head socket screw (11), hex nut (6), sealing washer (7), and rubber retainer (10).
 - b. Remove the clapper rubber (9) for inspection. If the clapper rubber shows signs of wear, such as cracking, cuts, or excessively deep grooves where the rubber contacts the water seat, replace the rubber.
3. To re-install clapper rubber (9):
 - a. Place the clapper rubber (9) over the center hub of the rubber retainer (10).
 - b. Position the retainer (10) (with rubber in place) against the clapper (8) as shown in Figure 1.
 - c. Replace and tighten the button-head socket screw (11), sealing washer (7), and hex nut (6). The sealing washer (7) and hex nut (6) must be located on the top side of the clapper as shown in Figure 1. Do not over-tighten.
4. To remove clapper (8), and/or hinge pin (4):
 - a. Remove the hinge pin retaining rings (5) to free the hinge pin (4) for removal. After the hinge pin (4) is removed, the clapper (8) can be removed.
5. To re-install clapper (8), and/or hinge pin (4):
 - a. Verify that the clapper rubber (9) is in good condition and that it is properly installed.
 - b. Position the clapper (8) with the elongated hinge holes aligned between the holes of the hinge bracket welded inside the cover (2). The system (top) side of the clapper (8) must face the direction indicated by the flow arrow stamped inside the cover (2).
 - c. Insert the hinge pin (4) through the holes at one end of the hinge assembly. Continue to push the hinge pin (4) through the holes at the remaining end of the hinge assembly.
 - d. Re-install the hinge pin retaining rings (5).
6. To re-install cover/clapper assembly (2-11):
 - a. Verify that cover gasket (13) is in position and in good condition.
 - b. Slide the cover/clapper assembly (2-11) into the Swing Check Valve so that the clapper rubber (9) contacts the water seat (12).
 - c. Replace the cover screws (14). Use the appropriate wrench to cross-tighten all screws to the torque value shown in Table 2 for the valve used. DO NOT over-tighten.

7. AVAILABILITY

The Viking Swing Check Valve is available through a network of domestic and international distributors. See the Viking Corp. Web site for closest distributor or contact The Viking Corporation.

8. GUARANTEES

For details of warranty, refer to Viking’s current list price schedule or contact The Viking Corporation directly.

Valve Size	Screw Size	Torque Values
2-1/2" (DN65)	3/8"-16 HHC	19 ft-lbs 2.63 kg-m
3" (DN80)	3/8"-16 HHC	19 ft-lbs 2.63 kg-m
4" (DN100)	3/8"-16 HHC	19 ft-lbs 2.63 kg-m
6" (DN150)	1/2"-13 HHC	45 ft-lbs 6.23 kg-m
8" (DN200)	5/8"-11 HHC	93 ft-lbs 12.9 kg-m



TECHNICAL DATA

SWING CHECK VALVE MODEL D-1 & G-1

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

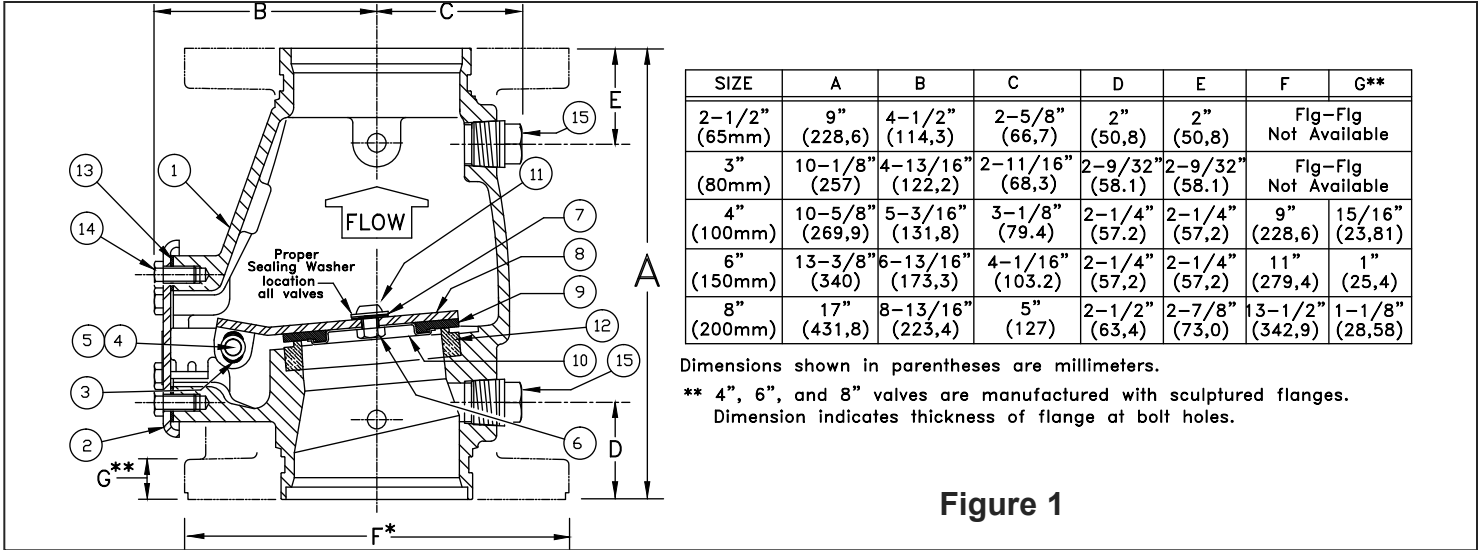


Figure 1

ITEM NO.	PART NUMBER					DESCRIPTION	MATERIAL	NO. REQ'D				
	D-1	G-1	G-1	G-1	G-1							
	2-1/2" (DN65)	3" (DN80)	4" (DN100)	6" (DN150)	8" (DN200)			2-1/2"	3"	4"	6"	8"
1	--	--	--	--	--	Body	Ductile Iron, ASTM A536 (65-45-12)	1	1	1	1	1
2	--	--	--	--	--	Cover Assembly, 300 PSI WWP	E-Coated HSLA Steel, A715 and Stainless Steel, UNS-S30400	1	1	1	1	1
3	07576	07576	07576	07576	None	Bushing	Lubricomp 189 Ryton	2	2	2	2	0
4	05355A	05355A	04900A	04991A	05334A	Clapper Hinge Pin	Stainless Steel, UNS-S30400	1	1	1	1	1
5	05445A	05445A	05445A	05445A	05369A	Hinge Pin Retaining Ring	Stainless Steel, UNS-S15700	2	2	2	2	2
6	01755A					Clapper Hex Jam Nut #10-24 UNC	Stainless Steel, UNS-S30400	1	0	0	0	0
		08159	08159			Clapper Hex Jam Nut 3/8"-24 UNF	Stainless Steel, UNS-S30400	0	1	1	0	0
				08144	08144	Clapper Hex Jam Nut 1/2"-20 UNC	Stainless Steel, UNS-S30400	0	0	0	1	1
7	06595A	08158	08158	08143	08143	Sealing Washer	EPDM and Stainless Steel	1	1	1	1	1
8	*	*	*	*	*	Clapper	Teflon® Coated HR Steel UNS-G10180	1	1	1	1	1
9	*	*	*	*	*	Clapper Rubber	EPDM, ASTM D2000	1	1	1	1	1
10	*	*	*	*	*	Clapper Rubber Retainer	Stainless Steel, UNS-S30400	1	1	1	1	1
11	06595A					H.H.C. Screw #10-24 UNC x 1/2" (12.7 mm) lg.	Stainless Steel, UNS-S30400	1	0	0	0	0
		10194	10194			Screw, Button Head, Socket, 3/8" - 24 UNF x 1/2"	Stainless Steel, UNS-S30400	0	1	1	0	0
				10308		Screw, Button Head, Socket, 1/2" - 20 UNF x 3/4" (19.1 mm) lg.	Stainless Steel, UNS-S30400	0	0	0	1	1
					10686	Screw, Button Head, Socket, 1/2" - 20 UNF x 7/8"	Stainless Steel, UNS-S30400	0	0	0	0	1
12	--	--	--	--	--	Seat	Brass, UNS-C84400	1	1	1	1	1
13	05354B	05354B	04649B	04992B	05339C	Cover Gasket	EPDM, ASTM D2000	1	1	1	1	1
14	01517A	01517A	01517A			H.H.C. Screw 3/8"-16 UNC x 3/4" (19,1 mm) lg.	Steel, Zinc Plated	4	4	6	0	0
				04993A		H.H.C. Screw 1/2"-13 UNC x 7/8" (22,2 mm) lg.	Steel, Zinc Plated	0	0	0	6	0
					01922A	H.H.C. Screw 5/8"-11 UNC x 1-1/4" (31,8 mm) lg.	Steel, Zinc Plated	0	0	0	0	6
15	--	--	--			1/2" (15 mm) NPT Pipe Plug	Steel	2	2	2	0	0
				--	--	3/4" (20 mm) NPT Pipe Plug	Steel	0	0	0	2	2

-- Indicates replacement part is not available

* Indicates replacement part only available in a Sub-Assembly listed below.

Sub-Assemblies

3, 6-11	05499B	08518	08519	08520	08521	Clapper Assembly
9, 10	--	14864	14865	14866	--	Replacement Clapper Rubber Kit*

*Clapper rubbers are different on 3", 4", & 6" G-1 valve than original manufacture. If clapper rubber requires replacement, order replacement rubber kit.



Specifications subject to change without notice.

Ordering Information			
Nominal Pipe Size		Model	Part Number
2"	DN50	VSR-2	1144402
2 1/2"	DN65	VSR-2 1/2	1144425
3"	DN80	VSR-3	1144403
3 1/2"	-	VSR-3 1/2	1144435
4"	DN100	VSR-4	1144404
5"	-	VSR-5	1144405
6"	DN150	VSR-6	1144406
8"	DN200	VSR-8	1144408

Optional: Cover Tamper Switch Kit, stock no. 0090148

Replaceable Components: Retard/Switch Assembly, stock no. 1029030

UL, CUL and CSFM Listed, FM Approved, LPCB Approved, For CE Marked (EN12259-5) / VdS Approved model use VSR-EU

Service Pressure: 450 PSI (31 BAR) - UL

Flow Sensitivity Range for Signal:

4-10 GPM (15-38 LPM) - UL

Maximum Surge: 18 FPS (5.5 m/s)

Contact Ratings: Two sets of SPDT (Form C)

10.0 Amps at 125/250VAC

2.0 Amps at 30VDC Resistive

10 mAmps min. at 24VDC

Conduit Entrances: Two knockouts provided for 1/2" conduit.

Individual switch compartments suitable for dissimilar voltages.

Environmental Specifications:

- NEMA 4/IP54 Rated Enclosure suitable for indoor or outdoor use with factory installed gasket and die-cast housing when used with appropriate conduit fitting.
- Temperature Range: 40°F - 120°F, (4.5°C - 49°C) - UL
- Non-corrosive sleeve factory installed in saddle.

Service Use:

Automatic Sprinkler

NFPA-13

One or two family dwelling

NFPA-13D

Residential occupancy up to four stories

NFPA-13R

National Fire Alarm Code

NFPA-72

WARNING

- Installation must be performed by qualified personnel and in accordance with all national and local codes and ordinances.
- Shock hazard. Disconnect power source before servicing. Serious injury or death could result.
- Risk of explosion. Not for use in hazardous locations. Serious injury or death could result.

CAUTION

Waterflow switches that are monitoring wet pipe sprinkler systems shall not be used as the sole initiating device to discharge AFFF, deluge, or chemical suppression systems. Waterflow switches used for this application may result in unintended discharges caused by surges, trapped air, or short retard times.

Important: This document contains important information on the installation and operation of the VSR waterflow switches. Please read all instructions carefully before beginning installation. A copy of this document is required by NFPA 72 to be maintained on site.

General Information

The Model VSR is a vane type waterflow switch for use on wet sprinkler systems. It is UL Listed for use on a steel pipe; schedules 5 through 40, sizes 2" - 6" and is UL Listed and FM Approved for use on steel pipe; schedules 10 through 40, sizes 2" thru 8" (50 mm thru 200 mm). LPC approved sizes are 2" thru 8" (50 mm thru 200 mm). See Ordering Information chart.

The VSR may also be used as a sectional waterflow detector on large systems. The VSR contains two single pole, double throw, snap action switches and an adjustable, instantly recycling pneumatic retard. The switches are actuated when a flow of 10 GPM (38 LPM) or more occurs downstream of the device. The flow condition must exist for a period of time necessary to overcome the selected retard period.

Enclosure

The VSR switches and retard device are enclosed in a general purpose, die-cast housing. The cover is held in place with two tamper resistant screws which require a special key for removal. A field installable cover tamper switch is available as an option which may be used to indicate unauthorized removal of the cover. See bulletin number 5401103 for installation instructions of this switch.

Installation (see Fig. 1)

These devices may be mounted on horizontal or vertical pipe. On horizontal pipe they shall be installed on the top side of the pipe where they will be accessible. The device should not be installed within 6" (15 cm) of a fitting which changes the direction of the waterflow or within 24" (60 cm) of a valve or drain.

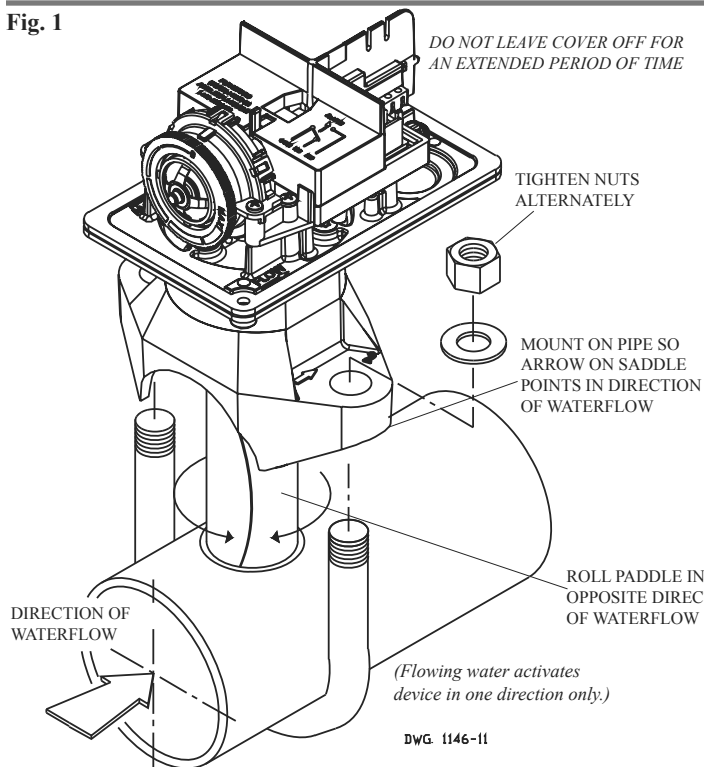
NOTE: Do not leave cover off for an extended period of time.

Drain the system and drill a hole in the pipe using a hole saw in a slow speed drill (see Fig. 1). Clean the inside pipe of all growth or other material for a distance equal to the pipe diameter on either side of the hole. Roll the vane so that it may be inserted into the hole; do not bend or crease it. Insert the vane so that the arrow on the saddle points in the direction of the waterflow. Take care not to damage the non-corrosive bushing in the saddle. The bushing should fit inside the hole in the pipe. Install the saddle strap and tighten nuts alternately to required torque (see the chart in Fig. 1). The vane must not rub the inside of the pipe or bind in any way.

CAUTION

Do not trim the paddle. Failure to follow these instructions may prevent the device from operating and will void the warranty. Do not obstruct or otherwise prevent the trip stem of the flow switch from moving when water flows as this could damage the flow switch and prevent an alarm. If an alarm is not desired, a qualified technician should disable the alarm system.

Fig. 1

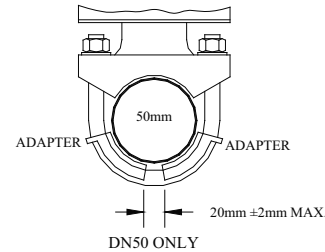
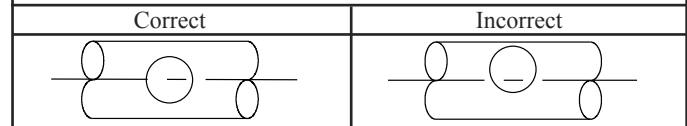


Retard Adjustment

The delay can be adjusted by rotating the retard adjustment knob from 0 to the max setting (60-90 seconds). The time delay should be set at the minimum required to prevent false alarms

CAUTION

Hole must be drilled perpendicular to the pipe and vertically centered. Refer to the Compatible Pipe/Installation Requirements chart for size.



DWG# 1146-1F

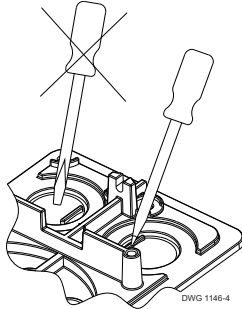
Compatible Pipe/ Installation Requirements

Model	Nominal Pipe Size		Nominal Pipe O.D.		Pipe Wall Thickness										Hole Size		U-Bolt Nuts Torque	
	inch	mm	inch	mm	Lightwall		Schedule 10 (UL)		Schedule 40 (UL)		BS-1387 (LPC)		DN (VDS)		inch	mm	ft-lb	n-m
VSR-2	2	DN50	2.375	60.3	.065	1.651	0.109	2.77	0.154	3.91	0.142	3.6	0.091	2.3	1.25 ± .125/ .062	33.0 ± 2.0	20	27
VSR-2 1/2	2.5	-	2.875	73.0	.084	2.134	0.120	3.05	0.203	5.16	-	-	-	-				
VSR-2 1/2	-	DN65	3.000	76.1	-	-	-	-	-	-	0.142	3.6	0.102	2.6				
VSR-3	3	DN80	3.500	88.9	.083	2.108	0.120	3.05	0.216	5.49	0.157	4.0	0.114	2.9	2.00 ± .125	50.8 ± 2.0		
VSR-3 1/2	3.5	-	4.000	101.6	-	-	0.120	3.05	0.226	5.74	-	-	-	-				
VSR-4	4	DN100	4.500	114.3	.084	2.134	0.120	3.05	0.237	6.02	0.177	4.5	0.126	3.2				
VSR-5	5	-	5.563	141.3	-	-	0.134	3.40	0.258	6.55	-	-	-	-				
VSR-6	6	DN150	6.625	168.3	.115	2.921	0.134	3.40	0.280	7.11	0.197	5.0	0.157	4.0				
VSR-8	8	DN200	8.625	219.1	-	-	0.148	3.76	0.322	8.18	0.248	6.3	0.177	4.5				

NOTE: For copper or plastic pipe use Model VSR-CF.

Fig. 2

To remove knockouts: Place screwdriver at inside edge of knockouts, not in the center.



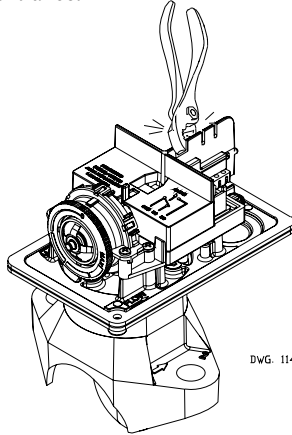
DWG 1146-4

NOTICE

Do not drill into the base as this creates metal shavings which can create electrical hazards and damage the device. Drilling voids the warranty.

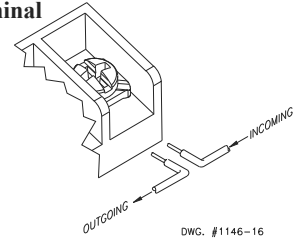
Fig. 3

Break out thin section of cover when wiring both switches from one conduit entrance.



DWG 1146-13

Fig. 4 Switch Terminal Connections Clamping Plate Terminal



DWG. #1146-16

WARNING

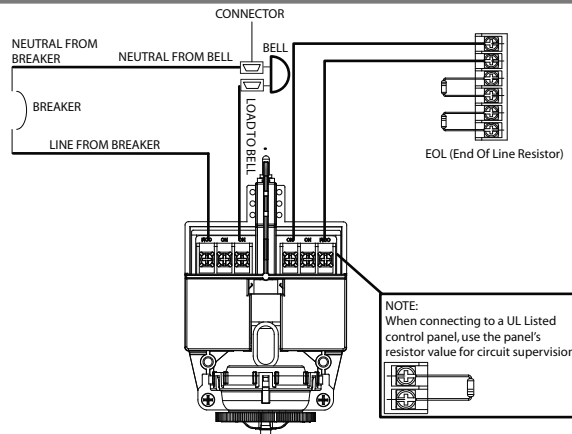
An uninsulated section of a single conductor should not be looped around the terminal and serve as two separate connections. The wire must be severed, thereby providing supervision of the connection in the event that the wire become dislodged from under the terminal. Failure to sever the wire may render the device inoperable risking severe property damage and loss of life.

Do not strip wire beyond 3/8" or length or expose an uninsulated conductor beyond the edge of the terminal block. When using stranded wire, capture all strands under the clamping plate.

Fig. 5 Typical Electrical Connections

Notes:

1. The Model VSR has two switches, one can be used to operate a central station, proprietary or remote signaling unit, while the other contact is used to operate a local audible or visual annunciator.
2. For supervised circuits, see "Switch Terminal Connections" drawing and warning note (Fig. 4).



NOTE:
When connecting to a UL Listed control panel, use the panel's resistor value for circuit supervision.

Testing

The frequency of inspection and testing for the Model VSR and its associated protective monitoring system shall be in accordance with applicable NFPA Codes and Standards and/or the authority having jurisdiction (manufacturer recommends quarterly or more frequently).

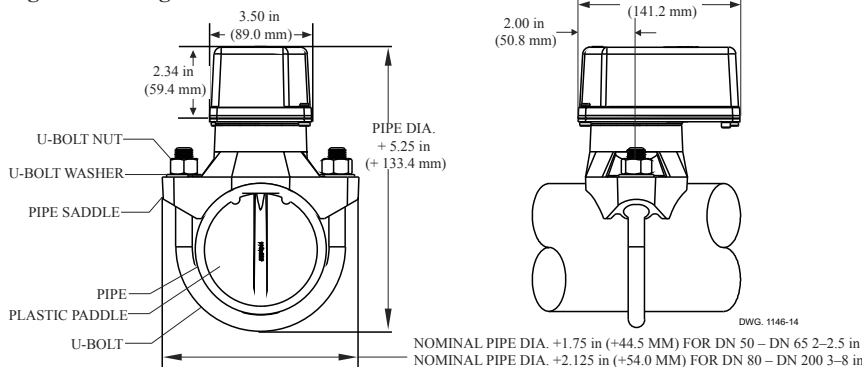
If provided, the inspector's test valve shall always be used for test purposes. If there are no provisions for testing the operation of the flow detection device on the system, application of the VSR is not recommended or advisable.

A minimum flow of 10 GPM (38 LPM) is required to activate this device.

NOTICE

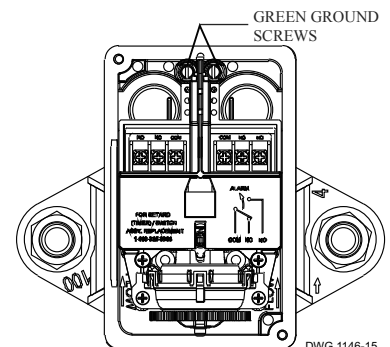
Advise the person responsible for testing of the fire protection system that this system must be tested in accordance with the testing instructions.

Fig. 6 Mounting Dimensions



DWG. 1146-14

Fig. 7



DWG 1146-15

Maintenance

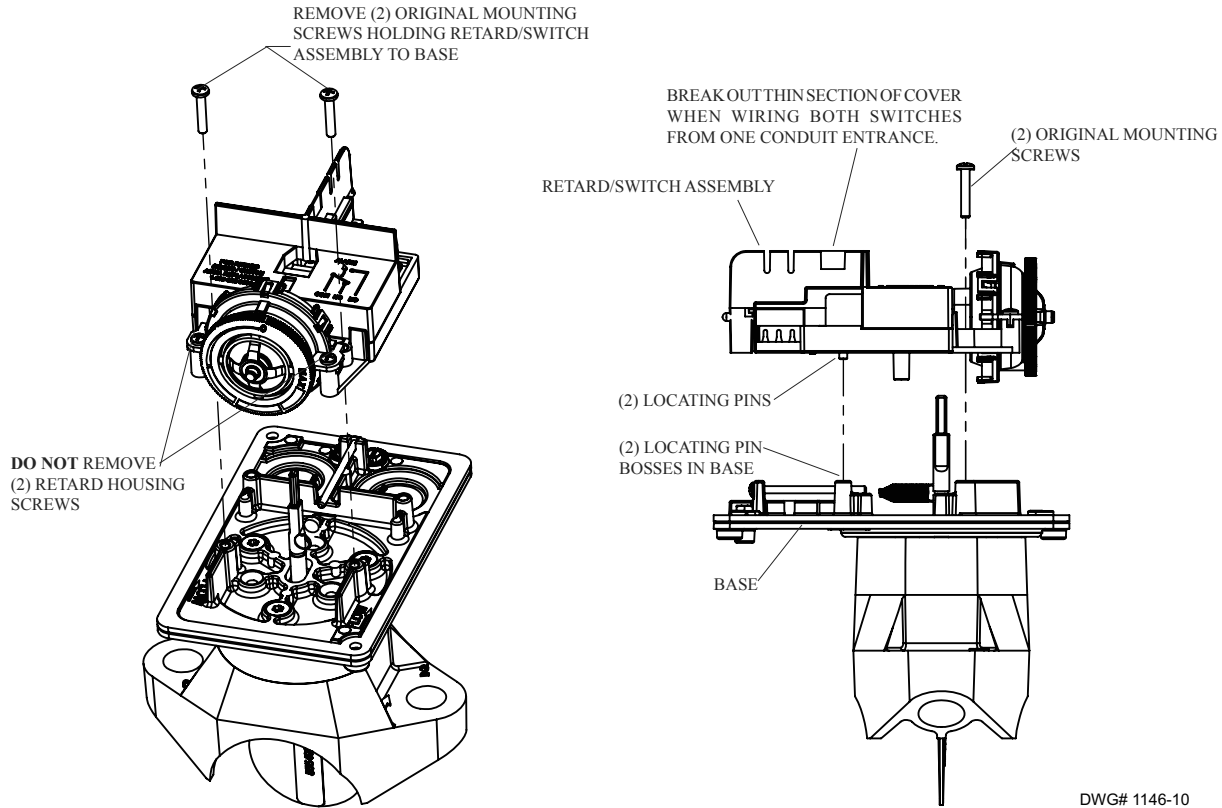
Inspect detectors monthly. If leaks are found, replace the detector. The VSR waterflow switch should provide years of trouble-free service. The retard and switch assembly are easily field replaceable. In the unlikely event that either component does not perform properly, please order replacement retard switch assembly stock #1029030 (see Fig. 8). There is no maintenance required, only periodic testing and inspection.

Retard/Switch Assembly Replacement (See Fig. 8)

NOTICE The Retard/Switch Assembly is field-replaceable without draining the system or removing the waterflow switch from the pipe

1. Make sure the fire alarm zone or circuit connected to the waterflow switch is bypassed or otherwise taken out of service.
2. Disconnect the power source for local bell (if applicable).
3. Identify and remove all wires from the waterflow switch.
4. Remove the (2) mounting screws holding retard/switch assembly to the base. **Do not** remove the (2) retard housing screws.
5. Remove the retard assembly by lifting it straight up over the tripstem.
6. Install the new retard assembly. Make sure the locating pins on the retard/switch assembly fit into the locating pin bosses on the base.
7. Re-install the (2) original mounting screws.
8. Reconnect all wires. Perform a flow test and place the system back in service.

Fig. 8



Removal of Waterflow Switch

- To prevent accidental water damage, all control valves should be shut tight and the system completely drained before waterflow detectors are removed or replaced.
- Turn off electrical power to the detector, then disconnect wiring.
- Loosen nuts and remove U-bolts.
- Gently lift the saddle far enough to get your fingers under it. With your fingers, roll the vane so it will fit through the hole while continuing to lift the waterflow detector saddle.
- Lift detector clear of pipe.



TECHNICAL DATA

MICROFAST® QUICK RESPONSE UPRIGHT SPRINKLER VK300 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

The Viking Microfast® Quick Response Upright Sprinkler VK300 is a small, thermosensitive, glass-bulb spray sprinkler available in several different finishes and temperature ratings to meet design requirements. The special Polyester and Electroless Nickel PTFE (ENT) coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive atmospheres and are listed/approved as corrosion resistant as indicated in the Approval Charts. (Note: **FM global approves the ENT coating as corrosion resistant.** FM Global has no approval classification Polyester coatings as corrosion resistant.)



2. LISTINGS AND APPROVALS



cULus Listed: Category VNIV

FM Approved: Classes 2002 and 2020

Refer to Approval Chart 1 and Design Criteria on for cULus Listing requirements and refer to Approval Chart 2 and Design Criteria FM Approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)*
 Maximum Working Pressure: 175 psi (12 bar) wwp.
 Factory tested hydrostatically to 500 psi (34.5 bar)
 Testing: U.S.A. Patent No. 4,831,870
 Thread size: 1/2" NPT, 15 mm BSP
 Nominal K-Factor: 5.6 U.S. (80.6 metric**)
 Glass-bulb fluid temperature rated to -65 °F (-55 °C)
 Overall Length: 2-3/16" (56 mm)

*cULus Listing, FM Approval, and NFPA 13 installs require a minimum of 7 psi (0.5 bar). The minimum operating pressure for LPCB and CE Approvals ONLY is 5 psi (0.35 bar).

Material Standards:

Frame Casting: Brass UNS-C84400 or QM Brass
 Deflector: Brass UNS-C23000 or Copper UNS-C19500
 Bulb: Glass, nominal 3 mm diameter
 Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
 Screw: Brass UNS-C36000
 Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400

For Polyester Coated Sprinklers: Belleville Spring-Exposed

For ENT Coated Sprinklers: Belleville Spring-Exposed, Screw and Pipcap - ENT plated

Ordering Information: (Also refer to the current Viking price list.)

Order Viking Microfast® Quick Response Upright Sprinkler VK300 by first adding the appropriate suffix for the sprinkler finish and then the appropriate suffix for the temperature rating to the sprinkler base part number.

Finish Suffix: Brass = A, Chrome = F, White Polyester = M-/W, Black Polyester = M-/B, and ENT = JN

Temperature Suffix (°F/°C): 135°/57° = A, 155°/68° = B, 175°/79° = D, 200°/93° = E, and 286°/141° = G

For example, sprinkler VK300 with a 1/2" NPT thread, Brass finish and a 155 °F/68 °C temperature rating = Part No. 12978AB

Available Finishes And Temperature Ratings: Refer to Table 1.

Accessories: (Also refer to the "Sprinkler Accessories" section of the Viking data book.)

Sprinkler Wrench: Standard Wrench: Part No. 10896W/B (available since 2000)


Sprinkler Cabinets:

A. Six-head capacity: Part No. 01724A (available since 1971)
 B. Twelve-head capacity: Part No. 01725A (available since 1971)

Viking Technical Data may be found on
 The Viking Corporation's Web site at
<http://www.vikinggroupinc.com>.
 The Web site may include a more recent
 edition of this Technical Data Page.

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

	TECHNICAL DATA	MICROFAST® QUICK RESPONSE UPRIGHT SPRINKLER VK300 (K5.6)
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The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

5. OPERATION

During fire conditions, the heat-sensitive liquid in the glass bulb expands, causing the glass to shatter, releasing the pip cap and sealing spring assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

6. INSPECTIONS, TESTS AND MAINTENANCE

Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

The Viking Microfast® Quick Response Upright Sprinkler VK300 is available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating ¹	Maximum Ambient Ceiling Temperature ²	Bulb Color
Ordinary	135 °F (57 °C)	100 °F (38 °C)	Orange
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow
Intermediate	200 °F (93 °C)	150 °F (65 °C)	Green
High	286 °F (141 °C)	225 °F (107 °C)	Blue

Sprinkler Finishes: Brass, Chrome, White Polyester, Black Polyester, and ENT

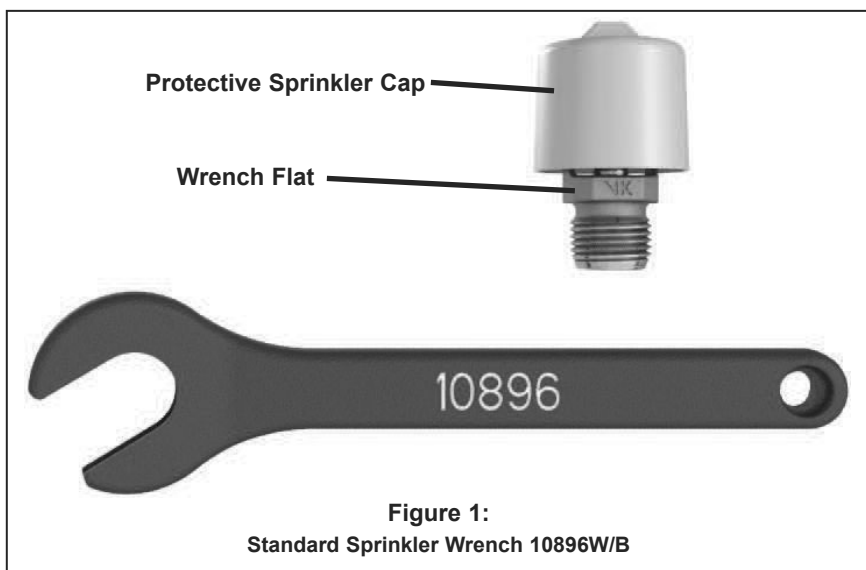
Corrosion-Resistant Coatings³: White Polyester, Black Polyester, and Black PTFE. ENT in all temperature ratings except 135 °F (57 °C)

Footnotes

¹ The sprinkler temperature rating is stamped on the deflector.

² Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.

³ The corrosion-resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Charts. These tests cannot and do not represent all possible corrosive environments. Prior to installation, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester, ENT, and PTFE coatings. For ENT coated automatic sprinklers, the waterway is coated.



**Figure 1:
Standard Sprinkler Wrench 10896W/B**



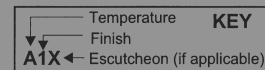
TECHNICAL DATA

MICROFAST® QUICK RESPONSE UPRIGHT SPRINKLER VK300 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Approval Chart 1 (UL)

Microfast® Quick Response Upright Sprinkler VK300
 Maximum 175 PSI (12 bar) WWP



Base Part Number ¹	SIN	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³				
		NPT	BSP	U.S.	metric ²	Inches	mm	cULus	VdS	LPCB	NYC ⁸	CE
12978	VK300	1/2"	15 mm	5.6	80.6	2-3/16	56	A1, B2	--	--	See footnote 7.	--

NOTICE - Product Below - Limited Availability (Contact Local Viking Office)

06661B	VK300	1/2"	15 mm	5.6	80.6	2-3/16	56	A1, B2	--	--	See footnote 7.	--
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Approved Temperature Ratings

A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141°C)

B - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141°C)

Approved Finishes

1 - Brass, Chrome, White Polyester^{5,6}, and Black Polyester^{5,6}
 2 - ENT⁶

Footnotes

- ¹ Base part number is shown. For complete part number, refer to Viking's current price schedule.
- ² Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.
- ³ This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.
- ⁴ Listed by Underwriters Laboratories Inc. for us in the U.S. and Canada
- ⁵ Other colors are available on request with the same Listings and Approvals as the standard colors.
- ⁶ cULus Listed as corrosion resistant.
- ⁷ Meets New York City requirements, effective July 1, 2008
- ⁸ Accepted for use, City of New York Board of Standards and Appeals, Calendar Number 219-76-SA and City of New York Department of Buildings, MEA 89-92-E, Vol. 16.

DESIGN CRITERIA - UL

(Also refer to Approval Chart 1 above.)

cULus Listing Requirements:

The Viking Microfast® Quick Response Upright Sprinkler VK300 is cULus Listed as indicated in Approval Chart 1 for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers.

- Designed for use in Light and Ordinary Hazard occupancies.
- The sprinkler installation rules contained in NFPA 13 for standard spray upright sprinklers must be followed.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page QR1-3 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.



TECHNICAL DATA

MICROFAST® QUICK RESPONSE UPRIGHT SPRINKLER VK300 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Approval Chart 2 (FM)

Microfast® Quick Response
Upright Sprinkler VK300
Maximum 175 PSI (12 bar) WWP

KEY	
Temperature	↓
Finish	←
A1X ← Escutcheon (if applicable)	←

Base Part Number ¹	SIN	Thread Size		Nominal K-Factor		Overall Length		FM Approvals ³ (Refer also to Design Criteria below.)
		NPT	BSP	U.S.	metric ²	Inches	mm	
12978	VK300	1/2"	15 mm	5.6	80.6	2-3/16	56	A1, B2

NOTICE - Product Below - Limited Availability (Contact Local Viking Office)

06661B	VK300	1/2"	15 mm	5.6	80.6	2-3/16	56	A1, B2
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Approved Temperature Ratings

A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C)
B - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C)

Approved Finishes

1 - Brass, Chrome, White Polyester⁵, and Black Polyester⁵
2 - ENT⁶

Footnotes

¹ Base part number is shown. For complete part number, refer to Viking's current price schedule.

² Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

³ This table shows the FM Approvals available at the time of printing. Check with the manufacturer for any additional approvals.

⁵ Other colors are available on request with the same Approvals as the standard colors.

⁶ FM approved as corrosion resistant.

DESIGN CRITERIA - FM

(Also refer to Approval Chart 2 above.)

FM Approval Requirements:

The Microfast® Quick Response Upright Sprinkler VK300 is FM Approved as a quick response **Non-Storage** upright sprinkler as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). FM Global Loss Prevention Data Sheets contain guidelines relating to, but not limited to: minimum water supply requirements, hydraulic design, ceiling slope and obstructions, minimum and maximum allowable spacing, and deflector distance below the ceiling.

NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page QR1-3 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.



TECHNICAL DATA

MICROFAST® QUICK RESPONSE PENDENT SPRINKLER VK302 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page: www.vikinggroupinc.com

1. DESCRIPTION

The Viking Microfast® Quick Response Pendent Sprinkler VK302 is a small thermosensitive glass bulb spray sprinkler available with various finishes and temperature ratings to meet design requirements. The special Polyester and Electroless Nickel PTFE (ENT) coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive environments and are Listed and Approved as indicated in the Approval Charts.

2. LISTINGS AND APPROVALS



cULus Listed: Category VNIV



FM Approved: Class Series 2000



VdS Approved: Certificates G414009, G414010, G4040095, and 4880045



LPCB Approved: Certificate 096e/06



CE: Standard EN 12259-1, Declaration of Performance DOP_Sprinklers_LPCB_5-2-19, DOP_VK302ENT_29-1-20 & DOP_VK302-57C_30-9-20

China Approval: Approved according to China GB standard



MED Certified: Standard EN 12259-1, EC-certificate of conformity 0832-MED-1003

Refer to Approval Chart 1 and Design Criteria cULus Listing requirements, and refer to Approval Chart 2 and Design Criteria for FM Approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)
 Rated to 175 psi (12 bar) water working pressure
 Factory tested hydrostatically to 500 psi (34.5 bar)
 Thread size: 1/2" NPT, 15 mm BSP
 Nominal K-Factor: 5.6 U.S. (80.6 metric**)
 Glass-bulb fluid temperature rated to -65 °F (-55 °C)
 Overall Length: 2-1/4" (58 mm)

*cULus Listing, FM Approval, and NFPA 13 installs require a minimum of 7 psi (0.5 bar). The minimum operating pressure for LPCB and CE Approvals ONLY is 5 psi (0.35 bar).

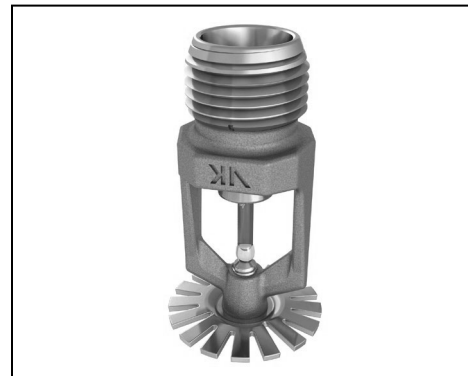
Material Standards:

Frame Casting: Brass UNS-C84400 or QM Brass
 Deflector: Phosphor Bronze UNS-C51000 or Copper UNS-C19500
 Bulb: Glass, nominal 3 mm diameter
 Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
 Screw: Brass UNS-C36000
 Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400
For Polyester Coated Sprinklers: Belleville Spring-Exposed
For ENT Coated Sprinklers: Belleville Spring-Exposed, Screw and Pipcap - ENT plated.

Ordering Information:

 (Also refer to the current Viking price list.)

Order Quick Response Pendent Sprinklers by first adding the appropriate suffix for the sprinkler finish and then the appropriate suffix for the temperature rating to the sprinkler base part number.



WARNING: Cancer and Reproductive Harm-
www.P65Warnings.ca.gov



TECHNICAL DATA

MICROFAST® QUICK RESPONSE PENDENT SPRINKLER VK302 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page: www.vikinggroupinc.com

Finish Suffix: Brass = A, Chrome = F, White Polyester = M-/W, Black Polyester = M-/B, and ENT = JN

Temperature Suffix: 135 °F (57 °C) = A, 155 °F (68 °C) = B, 175 °F (79 °C) = D, 200 °F (93 °C) = E, 286 °F (141 °C) = G

For example, sprinkler VK302 with a Brass finish and a 155 °F (68 °C) temperature rating = Part No. 12979AB

Available Finishes And Temperature Ratings: Refer to Table 1.

Accessories: (Also refer to the current Viking price list.)

Sprinkler Wrenches:

A. Standard Wrench: Part No. 21475M/B.

B. Wrench for Recessed Pendent Sprinklers: Part No. 13655W/B** (available since 2006)

C. Optional Protective Sprinkler Cap Remover/Escutcheon Installer Tool*** Part No. 15915 (available since 2010)

**A ½" ratchet is required (not available from Viking).

***Allows use from the floor by attaching a length of 1" diameter CPVC tubing to the tool. Ideal for sprinkler cabinets. Refer to Bulletin F_051808.

Sprinkler Cabinets:

A. Six-head capacity: Part No. 01724A (available since 1971)

B. Twelve-head capacity: Part No. 01725A (available since 1971)

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, the heat-sensitive liquid in the glass bulb expands, causing the glass to shatter, releasing the pip cap and sealing spring assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

6. INSPECTIONS, TESTS AND MAINTENANCE

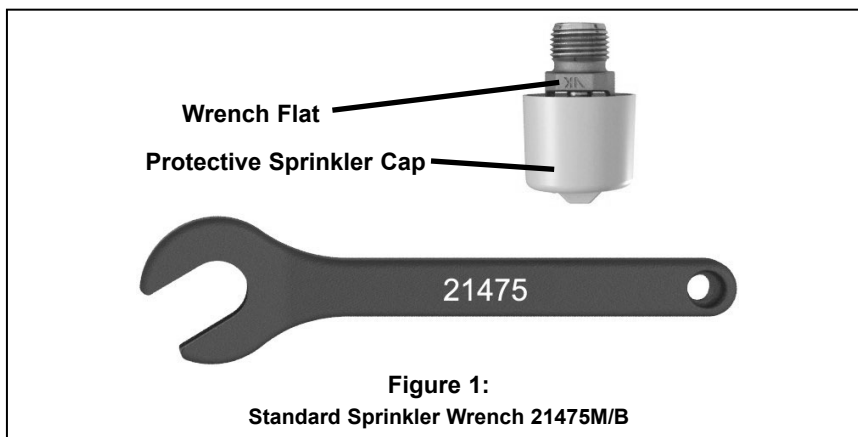
Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

The Viking Microfast® Quick Response Pendent Sprinkler VK302 is available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.





TECHNICAL DATA

MICROFAST® QUICK RESPONSE PENDENT SPRINKLER VK302 (K5.6)

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TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating ¹	Maximum Ambient Ceiling Temperature ²	Bulb Color
Ordinary	135 °F (57 °C)	100 °F (38 °C)	Orange
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow
Intermediate	200 °F (93 °C)	150 °F (65 °C)	Green
High	286 °F (141 °C)	225 °F (107 °C)	Blue

Sprinkler Finishes: Brass, Chrome, White Polyester, Black Polyester, and ENT

Corrosion-Resistant Coatings³: White Polyester, and Black Polyester. ENT in all temperature ratings except 135 °F (57 °C)

Footnotes

¹ The sprinkler temperature rating is stamped on the deflector.

² Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.

³ The corrosion-resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Charts. These tests cannot and do not represent all possible corrosive environments. Prior to installation, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester and ENT coatings. For ENT coated automatic sprinklers, the waterway is coated.

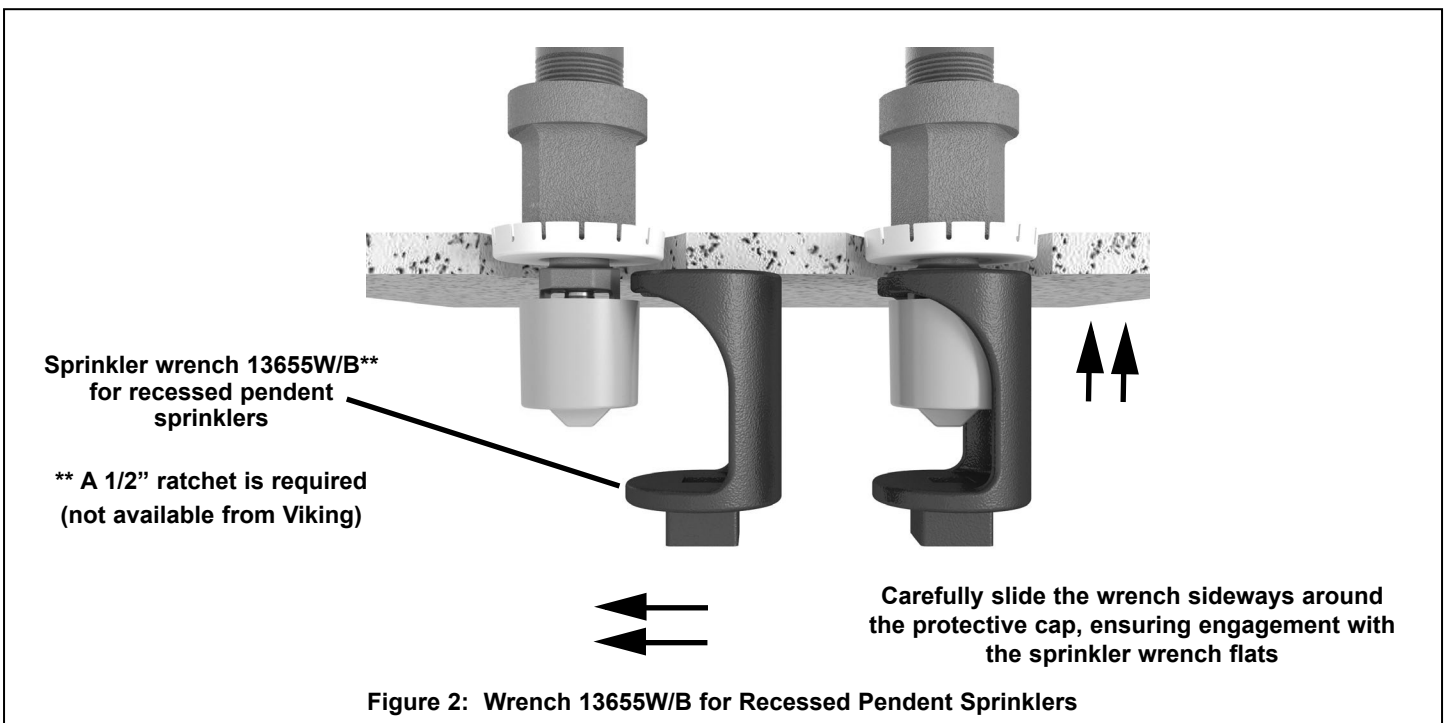


Figure 2: Wrench 13655W/B for Recessed Pendent Sprinklers

	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<h3 style="margin: 0;">MICROFAST® QUICK RESPONSE PENDENT SPRINKLER VK302 (K5.6)</h3>
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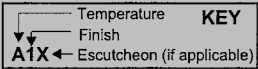
Approval Chart 1 (UL) The Viking Microfast® Quick Response Pendent Sprinkler VK302 Maximum 175 PSI (12 Bar) WWP														
Base Part Number ¹	SIN	Sprinkler Style	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³ (Refer also to Design Criteria.)					
			NPT	BSP	U.S.	metric ²	Inches	mm	cULus ⁴	VdS	LPCB	CE ⁷	MED ⁸	China Approval
12979	VK302	Pendent	1/2"	15 mm	5.6	80.6	2-1/4	58	A1Z, B1Y, D2, C2X	A1	A1Z, B1Y	D1Z, C1Y, D2, A1Z, B1Y	D1	--
21354 ⁹	VK302	Pendent	--	15 mm	5.6	80.6	2-1/4	58	D3	--	--	--	--	D3
NOTICE - Product Below - Limited Availability (Contact Local Viking Office)														
06662B	VK302	Pendent	1/2"	15 mm	5.6	80.6	2-1/4	58	A1Z, B1Y, D2, C2X	--	--	--	--	--
18021	VK302	Pendent	1/2"	15 mm	5.6	80.6	2-1/4	58	A1Z, B1Y	A1	A1Z, B1Y	D1Z, C1Y, D2	D1	--
Approved Temperature Ratings			Approved Finishes				Approved Escutcheons							
A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C) B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C) C - 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C) D - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C)			1 - Brass, Chrome, White Polyester ^{5,6} , Black Polyester ^{5,6} 2 - ENT ⁵ 3 - Chrome				X - Standard surface-mounted escutcheon or the Viking Micromatic® Model E-1 Recessed Escutcheon Y - Standard surface-mounted escutcheon or recessed with the Viking Micromatic® Model E-1, E-2, or E-3 Recessed Escutcheon Z - Standard surface-mounted escutcheon							
Footnotes														
¹ Base part number shown. For complete part number, refer to Viking's current price schedule. ² Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0. ³ This table shows the listings and approvals available at the time of printing. Other approvals may be in process. ⁴ Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada. ⁵ cULus Listed as corrosion-resistant. ⁶ Other colors are available on request with the same Listings and Approvals as the standard colors. ⁷ CE: Standard EN 12259-1, Declaration of Performance DOP_Sprinklers_LPCB_5-2-19, DOP_VK302ENT_29-1-20 & DOP_VK302-57C_30-9-20. ⁸ MED Certified, Standard EN 12259-1, EC-0832-MED-1003. ⁹ Approved according to China GB Standard.														

DESIGN CRITERIA - UL (Also refer to Approval Chart 1 above.)
<p>cULus Listing Requirements:</p> <p>The Viking Microfast® Quick Response Pendent Sprinkler VK302 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers.</p> <ul style="list-style-type: none"> • Designed for use in Light and Ordinary occupancies. • The sprinkler installation rules contained in NFPA 13 for standard spray pendent sprinklers must be followed. • Venting is not required.
<p>IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080614 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.</p>

	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<h3 style="margin: 0;">MICROFAST® QUICK RESPONSE PENDENT SPRINKLER VK302 (K5.6)</h3>
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The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
 Visit the Viking website for the latest edition of this technical data page: www.vikinggroupinc.com

Approval Chart 2 (FM) The Viking Microfast® Quick Response Pendent Sprinkler VK302 Maximum 175 PSI (12 Bar) WWP									
Base Part Number ¹	SIN	Sprinkler Style	Thread Size		Nominal K-Factor		Overall Length		FM Approvals ³ (Refer also to Design Criteria.)
			NPT	BSP	U.S.	metric ²	Inches	mm	
12979	VK302	Pendent	1/2"	15 mm	5.6	80.6	2-1/4	58	A1Z, B1Y, D2X, C2
21354 ⁶	VK302	Pendent	--	15 mm	5.6	80.6	2-1/4	58	C3
NOTICE - Product Below - Limited Availability (Contact Local Viking Office)									
06662B	VK302	Pendent	1/2"	15 mm	5.6	80.6	2-1/4	58	A1Z, B1Y, D2X, C2
18021	VK302	Pendent	1/2"	15 mm	5.6	80.6	2-1/4	58	A1Z, B1Y
Approved Temperature Ratings			Approved Finishes				Approved Escutcheons		
A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C) B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C) C - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C) D - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C)			1 - Brass, Chrome, White Polyester ⁴ , and Black Polyester ⁴ 2 - ENT ⁵ 3 - Chrome				X - Standard surface-mounted escutcheon or the Viking Micromatic® Model E-1 Recessed Escutcheon Y - Standard surface-mounted escutcheon or recessed with the Viking Micromatic® Model E-1 or E-2 Recessed Escutcheon Z - Standard surface-mounted escutcheon		
Footnotes									
¹ Base part number shown. For complete part number, refer to Viking's current price schedule. ² Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0. ³ This table shows the FM Approvals available at the time of printing. Other approvals may be in process. ⁴ Other colors are available on request with the same Approvals as the standard colors. ⁵ FM approved as corrosion resistant. ⁶ Approved according to China GB Standard.									



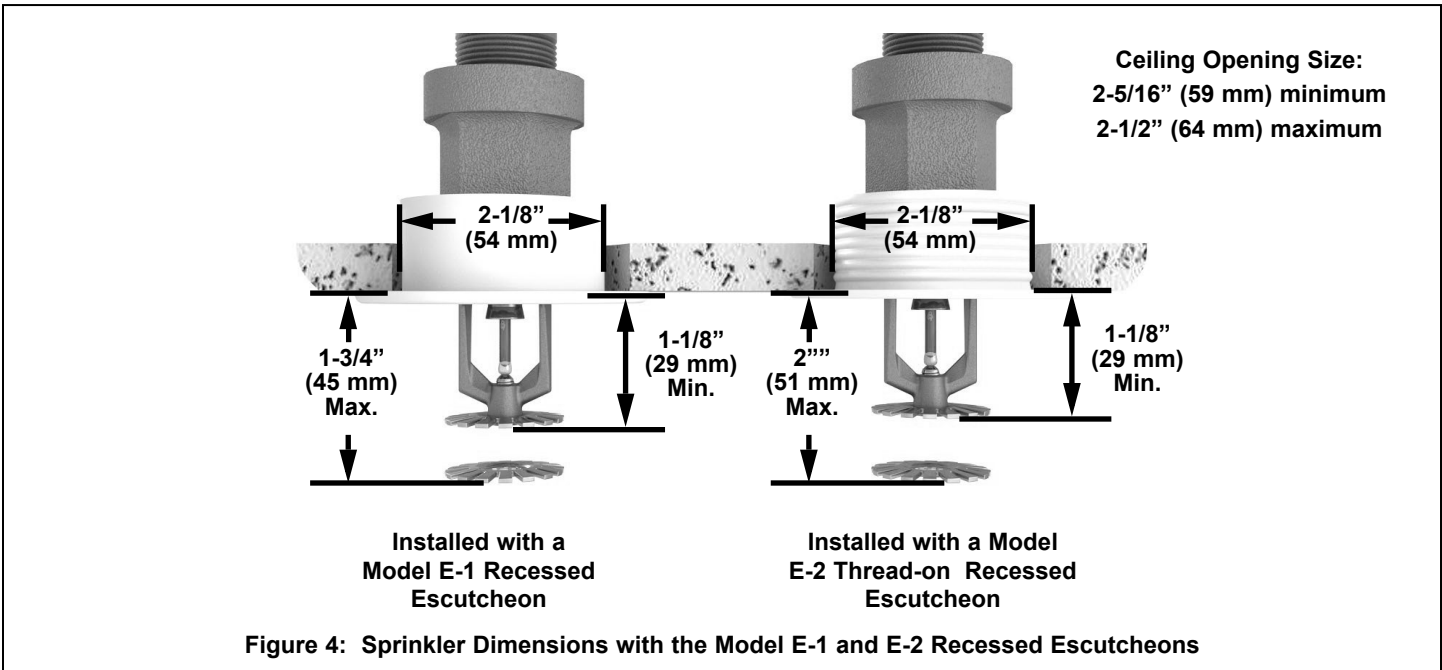
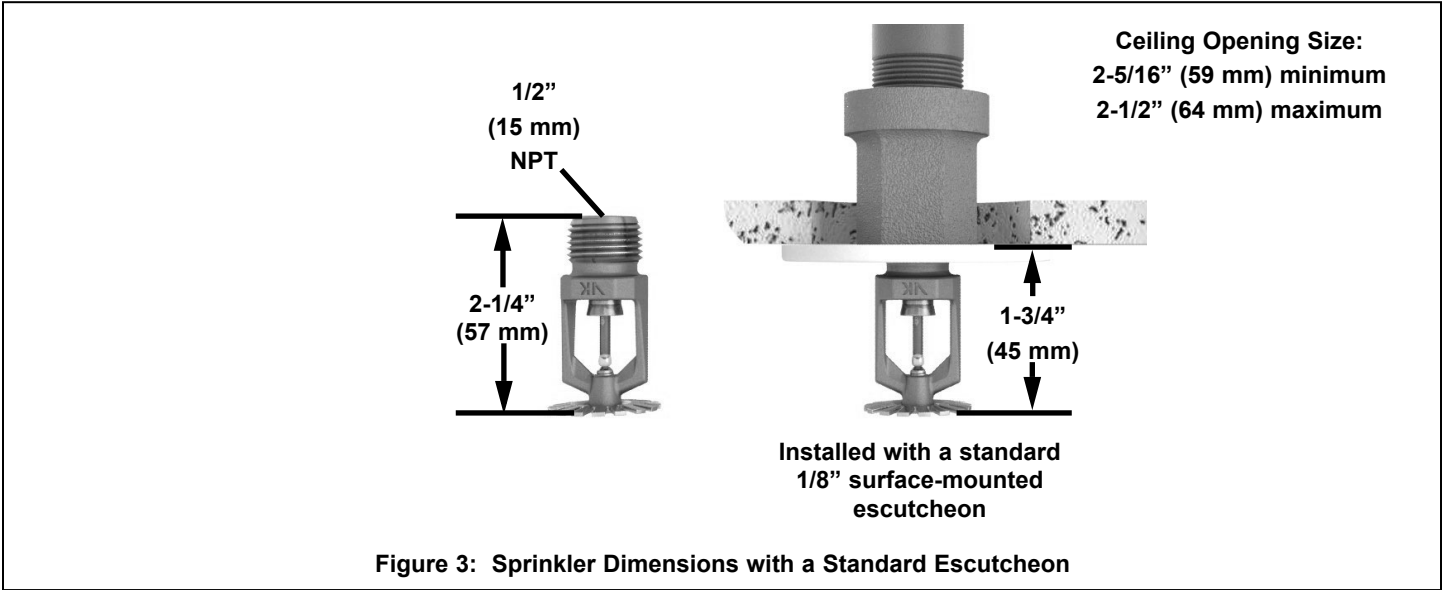
DESIGN CRITERIA - FM (Also refer to Approval Chart 2 above.)
<p>FM Approval Requirements:</p> <p>The Viking Microfast® Quick Response Pendent Sprinkler VK302 is FM Approved as quick response Non-storage pendent sprinklers as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). FM Global Loss Prevention Data Sheets contain guidelines relating to, but not limited to: minimum water supply requirements, hydraulic design, ceiling slope and obstructions, minimum and maximum allowable spacing, and deflector distance below the ceiling.</p> <p>NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.</p>
<p>IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080614 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.</p>



TECHNICAL DATA

MICROFAST® QUICK RESPONSE PENDENT SPRINKLER VK302 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
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BULLETIN

CARE AND HANDLING OF SPRINKLERS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

SPRINKLERS ARE FRAGILE - HANDLE WITH CARE!

General Handling and Storage:

- Store sprinklers in a cool, dry place.
- Protect sprinklers during storage, transport, handling, and after installation.
- Use the original shipping containers. DO NOT place sprinklers loose in boxes, bins, or buckets.
- Keep sprinklers separated at all times. DO NOT allow metal parts to contact sprinkler operating elements.

For Pre-Assembled Drops:

- Protect sprinklers during handling and after installation.
- For recessed assemblies, use the protective sprinkler cap (Viking Part Number 10364).

Sprinklers with Protective Shields or Caps:

- DO NOT remove shields or caps until after sprinkler installation and there no longer is potential for mechanical damage to the sprinkler operating elements.
- **Sprinkler shields or caps MUST be removed BEFORE placing the system in service!**
- Remove the sprinkler shield by carefully pulling it apart where it is snapped together.
- Remove the cap by turning it slightly and pulling it off the sprinkler.

Sprinkler Installation:

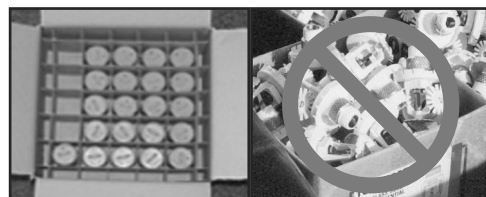
- DO NOT use the sprinkler deflector or operating element to start or thread the sprinkler into a fitting.
- **Use only the designated sprinkler head wrench!** Refer to the current sprinkler technical data page to determine the correct wrench for the model of sprinkler used.
- DO NOT install sprinklers onto piping at the floor level.
- Install sprinklers after the piping is in place to prevent mechanical damage.
- DO NOT allow impacts such as hammer blows directly to sprinklers or to fittings, pipe, or couplings in close proximity to sprinklers. Sprinklers can be damaged from direct or indirect impacts.
- DO NOT attempt to remove drywall, paint, etc., from sprinklers.
- **Take care not to over-tighten the sprinkler and/or damage its operating parts!**

Maximum Torque:

- 1/2" NPT: 14 ft-lbs. (19.0 N-m)**
- 3/4" NPT: 20 ft-lbs. (27.1 N-m)**
- 1" NPT: 30 ft-lbs. (40.7 N-m)**



CORRECT (Original container used) **INCORRECT** (Placed loose in box)



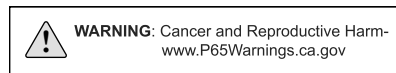
CORRECT (Protected with caps) **INCORRECT** (Protective caps not used)



CORRECT (Piping is in place at the ceiling) **INCORRECT** (Sprinkler at floor level)



CORRECT (Special installation wrenches) **INCORRECT** (Designated wrench not used)



⚠ WARNING

Any sprinkler with a loss of liquid from the glass bulb or damage to the fusible element should be destroyed. Never install sprinklers that have been dropped, damaged, or exposed to temperatures exceeding the maximum ambient temperature allowed. Sprinklers that have been painted in the field must be replaced per NFPA 13. Protect sprinklers from paint and paint overspray in accordance with the installation standards. Do not clean sprinklers with soap and water, ammonia, or any other cleaning fluid. Do not use adhesives or solvents on sprinklers or their operating elements.

Refer to the appropriate technical data page and NFPA standards for complete care, handling, installation, and maintenance instructions. For additional product and system information Viking data pages and installation instructions are available on the Viking Web site at www.vikinggroupinc.com.

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BULLETIN

CARE AND HANDLING
OF SPRINKLERS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

PROTECTIVE SPRINKLER SHIELDS AND CAPS

General Handling and Storage:

Many Viking sprinklers are available with a plastic protective cap or shield temporarily covering the operating elements. The snap-on shields and caps are factory installed and are intended to help protect the operating elements from mechanical damage during shipping, storage, and installation. NOTE: It is still necessary to follow the care and handling instructions on the appropriate sprinkler technical data sheets* when installing sprinklers with bulb shields or caps.

WHEN TO REMOVE THE SHIELDS AND CAPS:

NOTE: SHIELDS AND CAPS MUST BE REMOVED FROM SPRINKLERS BEFORE PLACING THE SYSTEM IN SERVICE!

Remove the shield or cap from the sprinkler only after checking all of the following:

- The sprinkler has been installed*.
- The wall or ceiling finish work is completed where the sprinkler is installed and there no longer is a potential for mechanical damage to the sprinkler operating elements.

SHIELDS AND CAPS MUST BE REMOVED FROM SPRINKLERS BEFORE PLACING THE SYSTEM IN SERVICE!



Figure 1: Sprinkler shield being removed from a pendent sprinkler.



Figure 2: Sprinkler cap being removed from a pendent sprinkler.



Figure 3: Sprinkler cap being removed from an upright sprinkler.

HOW TO REMOVE SHIELDS AND CAPS:

No tools are necessary to remove the shields or caps from sprinklers. DO NOT use any sharp objects to remove them! **Take care not to cause mechanical damage to sprinklers when removing the shields or caps.** When removing caps from fusible element sprinklers, use care to prevent dislodging ejector springs or damaging fusible elements. NOTE: Squeezing the sprinkler cap excessively could damage sprinkler fusible elements.

- To remove the shield, simply pull the ends of the shield apart where it is snapped together. Refer to Figure 1.
- To remove the cap, turn it slightly and pull it off the sprinkler. Refer to Figures 2 and 3.

NOTICE

Refer to the current sprinkler technical data page to determine the correct sprinkler wrench for the model of sprinkler used.

WARNING

Never install sprinklers that have been dropped, damaged, or exposed to temperatures in excess of the maximum ambient temperature allowed.

* Refer to the appropriate current technical data pages for complete care, handling, and installation instructions. Data pages are included with each shipment from Viking or Viking distributors. They can also be found on the Web site at www.vikinggroupinc.com.



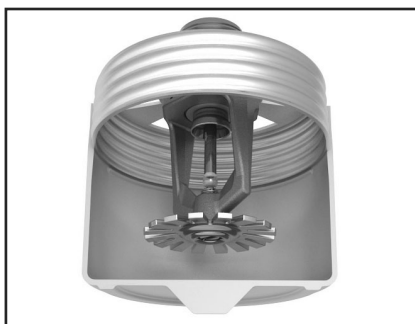
BULLETIN

CARE AND HANDLING
OF SPRINKLERS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com



CAUTION CONCEALED COVER ASSEMBLIES ARE FRAGILE!
 TO ASSURE SATISFACTORY PERFORMANCE OF THE PRODUCT, HANDLE WITH CARE.



Concealed Sprinkler and Adapter
 Assembly with Protective Cap



Concealed Sprinkler and Adapter
 Assembly (Protective Cap Removed)



Cover Plate Assembly
 (Pendent Cover 12381 shown)



GENERAL HANDLING AND STORAGE INSTRUCTIONS:

- Do not store in temperatures exceeding 100 °F (38 °C). Avoid direct sunlight and confined areas subject to heat.
- Protect sprinklers and cover assemblies during storage, transport, handling, and after installation.
 - Use original shipping containers.
 - Do not place sprinklers or cover assemblies loose in boxes, bins, or buckets.
- Keep the sprinkler bodies covered with the protective sprinkler cap any time the sprinklers are shipped or handled, during testing of the system, and while ceiling finish work is being completed.
- Use only the designated Viking recessed sprinkler wrench (refer to the appropriate sprinkler data page) to install these sprinklers. **NOTE:** The protective cap is temporarily removed during installation and then placed back on the sprinkler for protection until finish work is completed.
- Do not over-tighten the sprinklers into fittings during installation.
- Do not use the sprinkler deflector to start or thread the sprinklers into fittings during installation.
- Do not attempt to remove drywall, paint, etc., from the sprinklers.
- Remove the plastic protective cap from the sprinkler before attaching the cover plate assembly. **PROTECTIVE CAPS MUST BE REMOVED FROM SPRINKLERS BEFORE PLACING THE SYSTEM IN SERVICE!**

Refer to the appropriate current technical data pages for complete care, handling, and installation instructions. Data pages are included with each shipment from Viking or Viking distributors. They can also be found on the Web site at www.vikinggroupinc.com.



BULLETIN

CARE AND HANDLING
OF SPRINKLERS

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USE THE FOLLOWING PRECAUTIONS WHEN HANDLING WAX-COATED SPRINKLERS

Many of Viking's sprinklers are available with factory-applied wax coating for corrosion resistance. These sprinklers MUST receive appropriate care and handling to avoid damaging the wax coating and to assure satisfactory performance of the product.

General Handling and Storage of Wax-Coated Sprinklers:

- Store the sprinklers in a cool, dry place (in temperatures below the maximum ambient temperature allowed for the sprinkler temperature rating. Refer to Table 1 below.)
- Store containers of wax-coated sprinklers separate from other sprinklers.
- Protect the sprinklers during storage, transport, handling, and after installation.
- Use original shipping containers.
- Do not place sprinklers in loose boxes, bins, or buckets.

Installation of Wax-Coated Sprinklers:

Use only the special sprinkler head wrench designed for installing wax-coated Viking sprinklers (any other wrench may damage the unit).

- Take care not to crack the wax coating on the units.
- For touching up the wax coating after installation, wax is available from Viking in bar form. Refer to Table 1 below. The coating MUST be repaired after sprinkler installation to protect the corrosion-resistant properties of the sprinkler.
- Use care when locating sprinklers near fixtures that can generate heat. Do not install sprinklers where they would be exposed to temperatures exceeding the maximum recommended ambient temperature for the temperature rating used.
- Inspect the coated sprinklers frequently soon after installation to verify the integrity of the corrosion resistant coating. Thereafter, inspect representative samples of the coated sprinklers in accordance with NFPA 25. Close up visual inspections are necessary to determine whether the sprinklers are being affected by corrosive conditions.

TABLE 1

Sprinkler Temperature Rating (Fusing Point)	Wax Part Number	Wax Melting Point	Maximum Ambient Ceiling Temperature ¹	Wax Color
155 °F (68 °C) / 165 °F (74 °C)	02568A	148 °F (64 °C)	100 °F (38 °C)	Light Brown
175 °F (79 °C)	04146A	161 °F (71 °C)	150 °F (65 °C)	Brown
200 °F (93 °C)	04146A	161 °F (71 °C)	150 °F (65 °C)	Brown
220 °F (104 °C)	02569A	170 °F (76 °C)	150 °F (65 °C)	Dark Brown
286 °F (141 °C)	02569A	170 °F (76 °C)	150 °F (65 °C)	Dark Brown

¹ Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.



Never install sprinklers that have been dropped, damaged, or exposed to temperatures in excess of the maximum ambient temperature allowed.

Refer to the appropriate current technical data pages for complete care, handling, and installation instructions. Data pages are included with each shipment from Viking or Viking distributors. They can also be found on the Web site at www.vikinggroupinc.com.



BULLETIN

REGULATORY AND HEALTH WARNINGS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

1. DESCRIPTION

Regulatory and Health Warnings applying to materials used in the manufacture and construction of fire protection products are provided herein as they relate to legally mandated jurisdictional regions.

WARNING

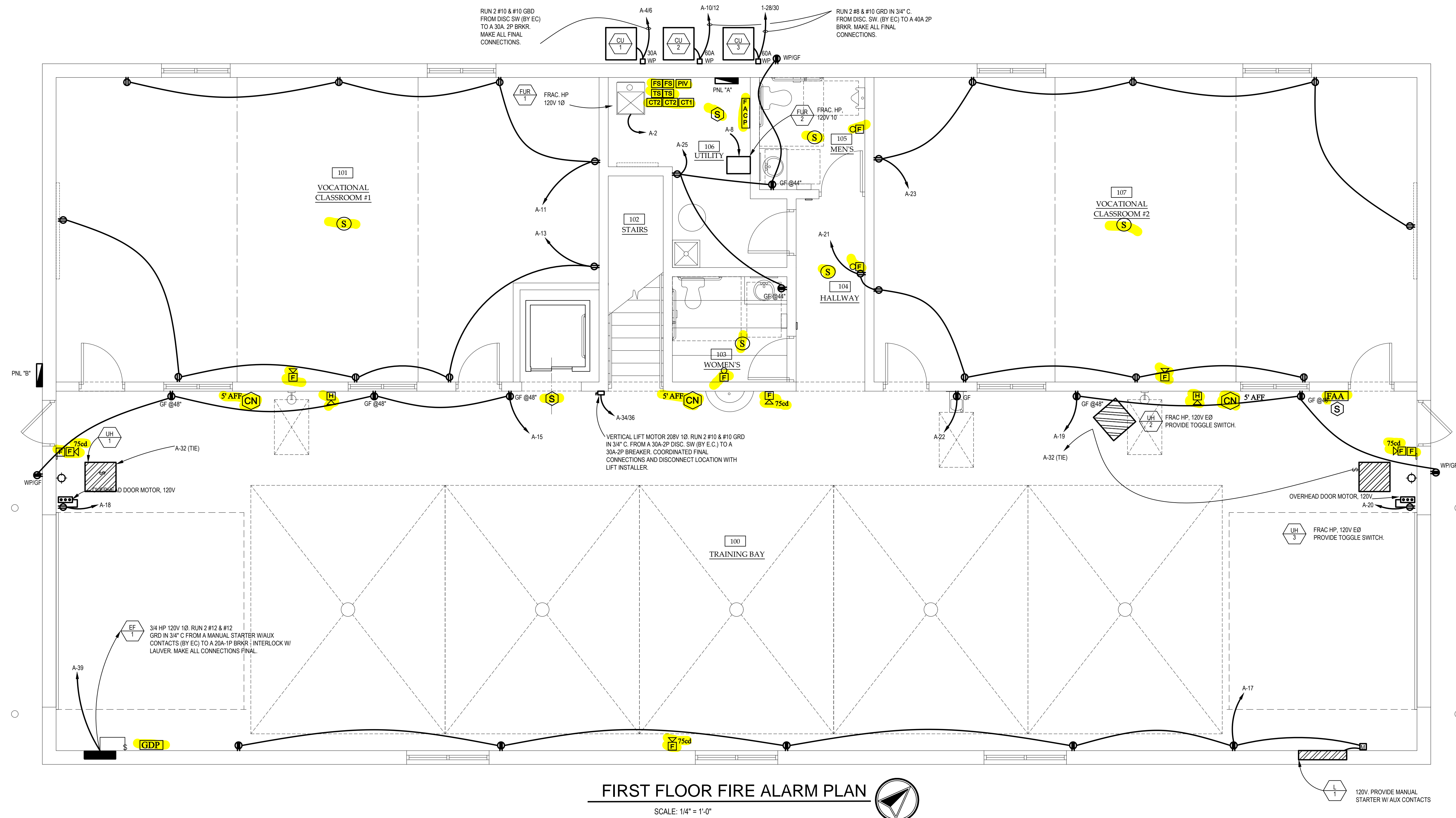
STATE OF CALIFORNIA, USA

Installing or servicing fire protection products such as sprinklers, valves, piping etc. can expose you to chemicals including, but not limited to, lead, nickel, butadiene, titanium dioxide, chromium, carbon black, and acrylonitrile which are known to the State of California to cause cancer or birth defects or other reproductive harm.

For more information, go to www.P65Warnings.ca.gov

2. WARRANTY TERMS AND CONDITIONS

For details of warranty, refer to Viking's current list price schedule at www.vikinggroupinc.com or contact Viking directly.



FIRST FLOOR FIRE ALARM PLAN

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

PROJECT SUMMARY:

PROJECT DESCRIPTION:

- PROPOSED NEW CONSTRUCTION OF A 7,333 S.F., 2-STORY, STEEL FRAME ELECTRIC LINEMAN TRAINING FACILITY.

BUILDING SUMMARY:

CONSTRUCTION TYPE:

- II B = CMU & STEEL FRAME EXTERIOR WALLS, STEEL FRAME INTERIOR WALLS, STEEL ROOF TRUSSES, CONCRETE SLAB-ON-GRADE.
- 2 STORY

NON-SEPARATED USE GROUPS:

- E EDUCATION (HIGH SCHOOL & ADULT CAREER CENTER)
- S-1 STORAGE > 10% OF AREA OF THE STORY

SYSTEMS LEGEND

FIRE ALARM SYSTEM

- FACP** FIRE ALARM CONTROL PANEL WITH IP DIALER
- FAA** FIRE ALARM ANNUNCIATOR
- S** SMOKE DETECTOR
- F** PULL STATION
- 75cd** HORN STROBE (NUMBER INDICATES CANDELA RATING)
- CF** STROBE
- FS** FLOW SWITCH
- TS** TAMPERS SWITCH
- PIV** PIV TAMPERS SWITCH
- CT1** SINGLE INPUT MODULE
- CT2** DUAL INPUT MODULE
- CR** RELAY MODULE

INTERCOM SYSTEM

- S** INTERCOM CEILING SPEAKER
- S** INTERCOM HORN SPEAKER

GAS DETECTION SYSTEM

- GDP** GAS DETECTION CONTROL PANEL
- CN** CARBON MONOXIDE & NITROGEN DIOXIDE DETECTOR
- CF** GAS DETECTION HORN STROBE

SYSTEMS ARE OWNER FURNISHED, CONTRACTOR INSTALLED

INTERCOM SPEAKERS TO TIE TO EXISTING CAMPUS WIDE SYSTEM

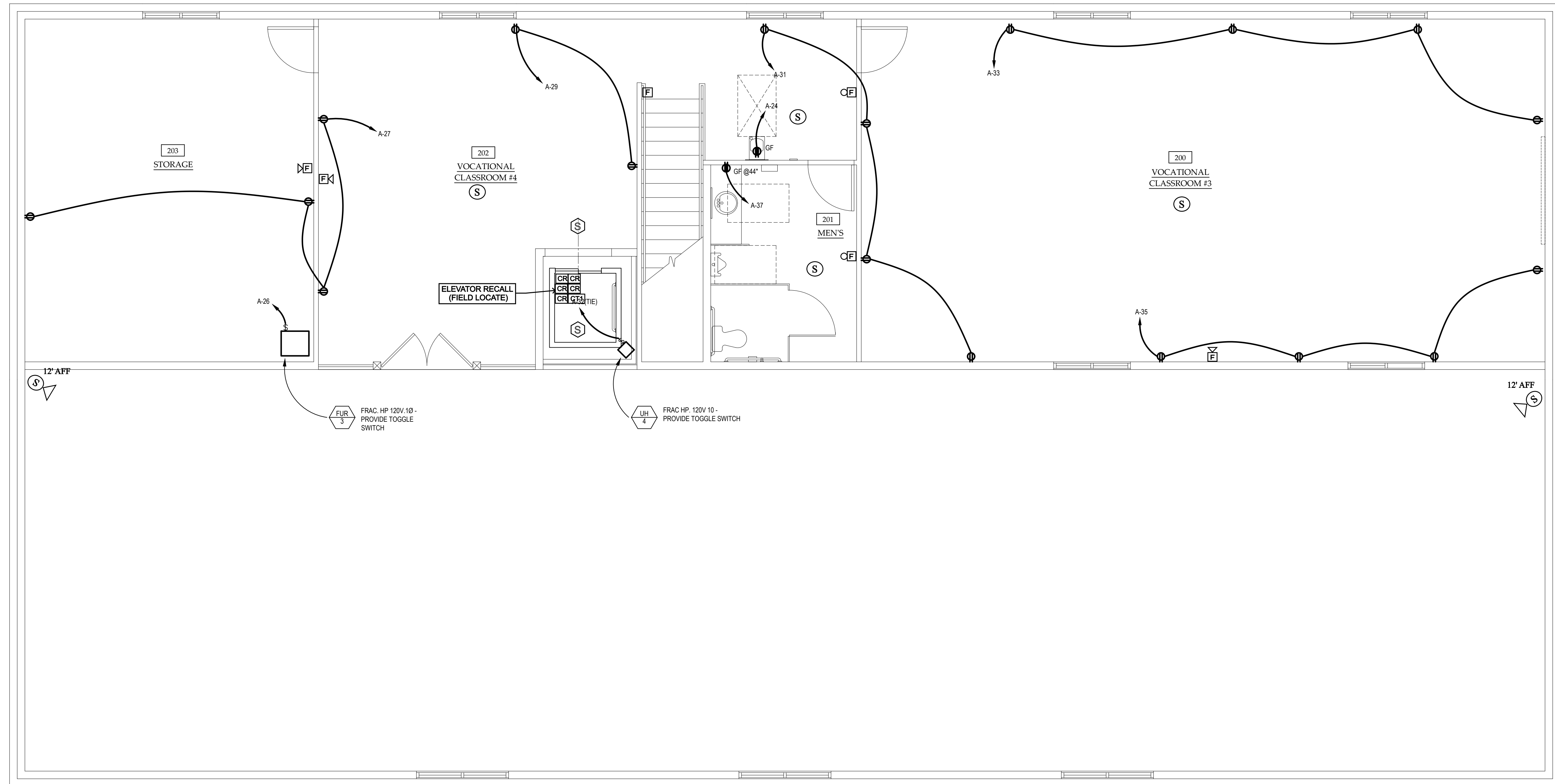
INTERCONNECT GAS DETECTION PANEL WITH EXHAUST FAN AND LOUVERS TO START FANS AND OPEN LOUVERS ON DETECTION OF GAS

PRELIMINARY 04-21-2022

BID SET 12-08-2023

PERMIT SET

REVISIONS:



SECOND FLOOR POWER PLAN
BUCKEYE HILLS CAREER CENTER
NEW TRADES BUILDING
 351 BUCKEYE HILLS ROAD
 RIO GRANDE, OHIO 45674



SECOND FLOOR FIRE ALARM PLAN

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



SYSTEMS LEGEND

FIRE ALARM SYSTEM		INTERCOM SYSTEM	
[FACP]	FIRE ALARM CONTROL PANEL WITH IP DIALER	(S)	INTERCOM CEILING SPEAKER
[FAA]	FIRE ALARM ANNUNCIATOR	(S)	INTERCOM HORN SPEAKER
(S)	SMOKE DETECTOR	[GDP]	GAS DETECTION CONTROL PANEL
[F]	PULL STATION	(CN)	CARBON MONOXIDE & NITROGEN DIOXIDE DETECTOR
75cd [NE]	HORN STROBE (NUMBER INDICATES CANDELA RATING)	[GKH]	GAS DETECTION HORN STROBE
[CF]	STROBE		
[FS]	FLOW SWITCH		
[TS]	TAMPER SWITCH		
[PIV]	PIV TAMPER SWITCH		
[CT1]	SINGLE INPUT MODULE		
[CT2]	DUAL INPUT MODULE		
[CR]	RELAY MODULE		

SYSTEMS ARE OWNER FURNISHED, CONTRACTOR INSTALLED

INTERCOM SPEAKERS TO TIE TO EXISTING CAMPUS WIDE SYSTEM

INTERCONNECT GAS DETECTION PANEL WITH EXHAUST FAN AND LOUVERS TO START FANS AND OPEN LOUVERS ON DETECTION OF GAS

<input type="checkbox"/>	PRELIMINARY	04-21-2022
<input checked="" type="checkbox"/>	BID SET	12-08-2023
<input type="checkbox"/>	PERMIT SET	
<input type="checkbox"/>	REVISIONS:	

FA2.0



a division of BlueScope Buildings North America, Inc.

DRAWING INDEX	
DRAWING TITLE	PAGES
Cover Sheet	1
Codes and Loads	3
Notes	
Anchor Rod Plan	4 - 5
Primary Structural	6 - 15
Secondary Structural	16 - 24
Covering	25 - 33
Special Drawings	
Standard Erection Details	
Planograph Details	

DRAWING RELEASE HISTORY		
TYPE	DATE	DESCRIPTION
		NOT FOR CONSTRUCTION

GENERAL NOTES

MATERIALS

3 PLATE WELDED SECTIONS
 COLD FORMED LIGHT GAGE SHAPES
 BRACE RODS
 HOT ROLLED MILL SHAPES
 HOT ROLLED ANGLES
 HOLLOW STRUCTURAL SECTION (HSS)
 CLADDING

ASTM DESIGNATION

A529, A572, A1011, A1018
 A653, A1011
 A572, A510
 A36, A529, A572, A588, A992
 A529, A572, A588, A992
 A500
 A653, A792

GRADE 55
 GRADE 60
 GRADE 50
 GRADE 36 OR 50
 GRADE 50
 GRADE B
 GRADE 50 OR GRADE 80

HIGH STRENGTH BOLT TIGHTENING REQUIREMENTS

IT IS THE RESPONSIBILITY OF THE ERECTOR TO ENSURE PROPER BOLT TIGHTNESS IN ACCORDANCE WITH APPLICABLE REGULATIONS. SEE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS FOR MORE INFORMATION. SEE ERECTION GUIDE FOR BOLT TIGHTENING INSTRUCTIONS. THE FOLLOWING CRITERIA MAY BE USED TO DETERMINE THE BOLT TIGHTNESS (I.E. -SNUG TIGHT OR PRE-TENSION) UNLESS REQUIRED OTHERWISE BY LOCAL JURISDICTION OR CONTACT.

ALL A490 BOLTS SHALL BE "PRE-TENSIONED". A325 BOLTS IN PRIMARY FRAMING AND BRACING CONNECTIONS MAY BE "SNUG-TIGHT" EXCEPT AS FOLLOWS;

PRE-TENSION A325 BOLTS IF BUILDING SUPPORTS A CRANE GREATER THAN 5 TON CAPACITY.

PRE-TENSION A325 BOLTS IF BUILDING SUPPORTS MACHINERY THAT CREATES VIBRATION, IMPACT, OR STRESS REVERSALS ON CONNECTIONS.

PRE-TENSION A325 BOLTS IF LOCATED IN HIGH SEISMIC AREAS. FOR IBC BASED CODES; HIGH SEISMIC IS DESIGN CATEGORY D, E OR F. SEE CODES AND LOADS SECTION BELOW FOR DETAILS.

PRE-TENSION ANY CONNECTION WITH DESIGNATION A325-SC. SLIP CRITICAL (SC) CONNECTIONS MUST BE FREE OF PAINT, OIL, OR OTHER MATERIALS THAT REDUCE FRICTION AT CONTACT SURFACES. GALVANIZED OR LIGHTLY RUSTED SURFACES ARE ACCEPTABLE.

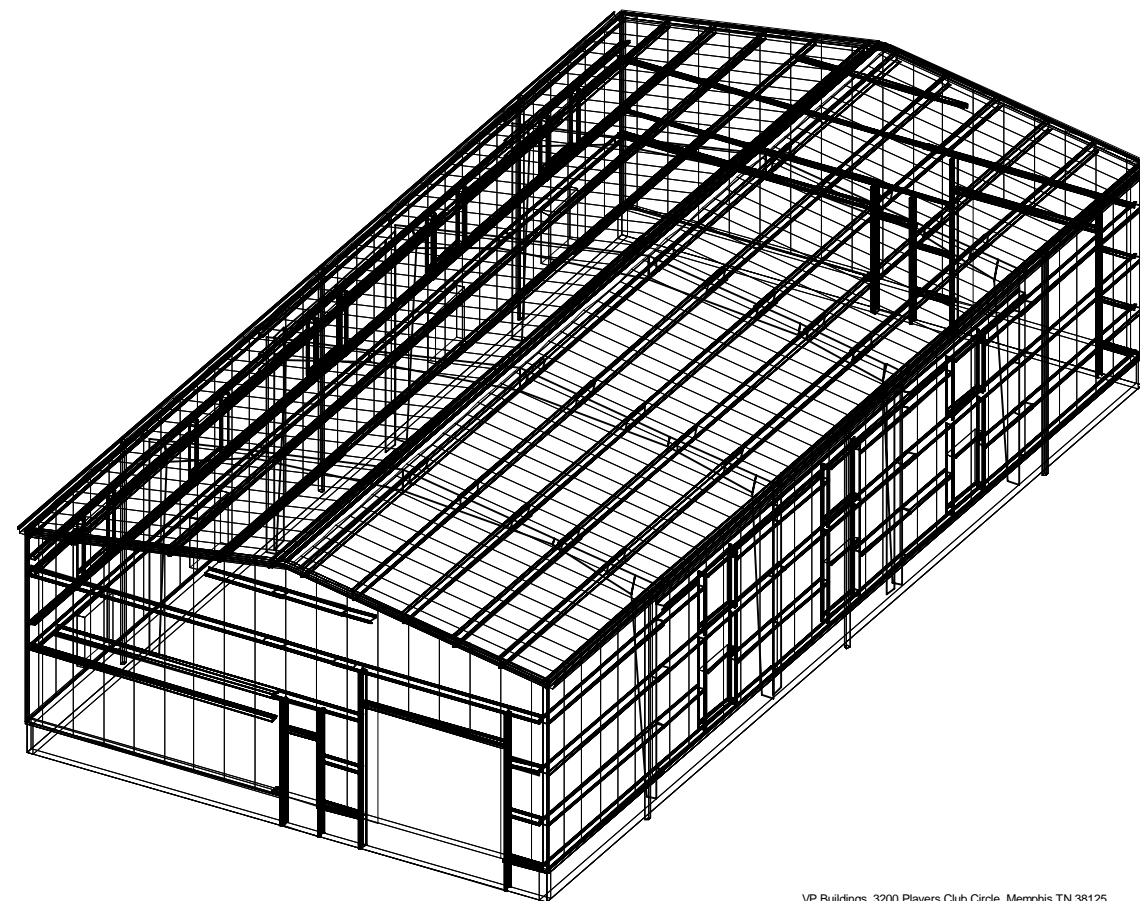
IN CANADA ALL A325 AND A490 BOLTS SHALL BE "PRE-TENSIONED", EXCEPT FOR SECONDARY MEMBERS AND FLANGE BRACES.

SECONDARY MEMBERS AND FLANGE BRACE CONNECTIONS ARE ALWAYS "SNUG TIGHTENED" UNLESS INDICATED OTHERWISE IN ERECTION DRAWING DETAILS.

INSPECTION AND TESTING

SPECIAL INSPECTIONS AND TESTING REQUIRED BY AUTHORITY HAVING JURISDICTION (AHJ) DURING CONSTRUCTION AND/OR STEEL FABRICATION IS THE RESPONSIBILITY OF THE OWNER OR OWNERS AUTHORIZED AGENT. WHEN REQUIRED, THE OWNER SHALL EMPLOY A QUALITY ASSURANCE AGENCY (QAA) APPROVED BY THE AHJ. THE BUILDER IS RESPONSIBLE TO COORDINATE BETWEEN THE QAA FIRM AND BBNA FABRICATION FACILITIES. THE TYPE AND EXTENT OF SPECIAL INSPECTIONS AND NDT WELD TESTING MUST BE SPECIFICALLY STIPULATED IN CONTRACT DOCUMENTS OR BBNA WILL ASSUME SPECIAL INSPECTIONS AND/OR NDT TESTING ARE WAIVED AS PERMITTED BY THE BUILDING CODE BASED ON BBNA FACILITIES IAS AC472 ACCREDITATION.

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN



VP Buildings 3200 Players Club Circle Memphis TN 38125

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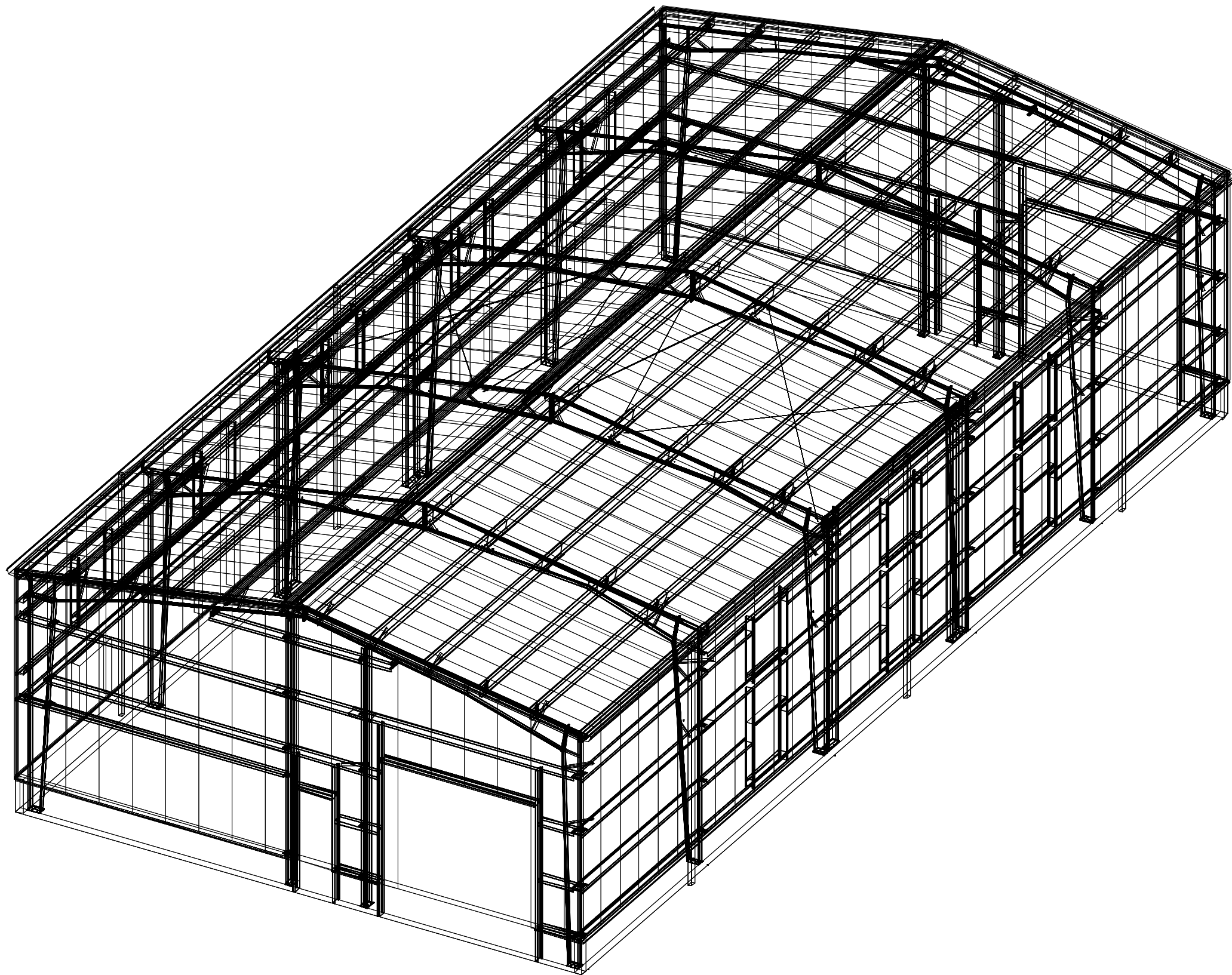
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B COVER SHEET

BUILDER	Riedel-wilks Building Structures, Inc.	JOB #	
CUSTOMER		DATE	3/8/2024
LOCATION	Rio Grande, Ohio	DRAWN/CHECK	
PROJECT	BHCC New Trades bldg	PAGE	1
BUILDERS PO#		VP VERSION:	2023.4a





NOT FOR CONSTRUCTION

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B	VP Buildings 3200 Players Club Circle Memphis TN 38125		
	REV	DATE	BY
			DESCRIPTION
			NTS

PERSPECTIVE DRAWING	
BUILDER	Riedel-wilks Building Structures, Inc.
CUSTOMER	
LOCATION	Rio Grande, Ohio
PROJECT	BHCC New Trades bldg
BUILDER'S PO#	



JOB #	
DATE	3/8/2024
DRAWN/CHECK	
PAGE	2

3/8/2024

9:39:37

FILENAME: BHCC new trades building -2-8-2024

VP VERSION: 2023.4a a division of BlueScope Buildings North America, Inc.

Codes and Loads
 WHEN MULTIPLE BUILDINGS ARE INVOLVED, SPECIFIC LOAD FACTORS FOR DIFFERING OCCUPANCIES, BUILDING DIMENSIONS,
 HEIGHTS, FRAMING SYSTEMS, ROOF SLOPES, ETC., MAY RESULT IN DIFFERENT LOAD APPLICATION FACTORS THAN
 INDICATED BELOW. SEE CALCULATIONS FOR FURTHER DETAILS. WIND LOADS ARE APPLIED TO OVERALL BUILDING ENVELOPE.
 COMMON WALLS BETWEEN CONNECTED SHAPES ARE NOT SUBJECT TO EXTERNAL WIND LOADS.

City: Rio Grande County: Gallia State: Ohio Country: United States

Building Code
 Building Code: 2015 International Building Code Structural: 10AISC - ASD Rainfall: I: 6.00 inches per hour
 Building Risk/Occupancy Category: II (Standard Occupancy Structure) Cold Form: 12AISI - ASD f'c: 3000.00 psi Concrete

Dead and Collateral Loads
 Collateral Gravity: 7.00 psf
 Collateral Uplift: 0.00 psf

Material Dead Weight
 Roof Covering + Second. Dead Load: 2.40 psf
 Frame Weight (assumed for seismic): 2.50 psf

Roof Live Load
 Roof Live Load: 25.00 psf Not Reducible

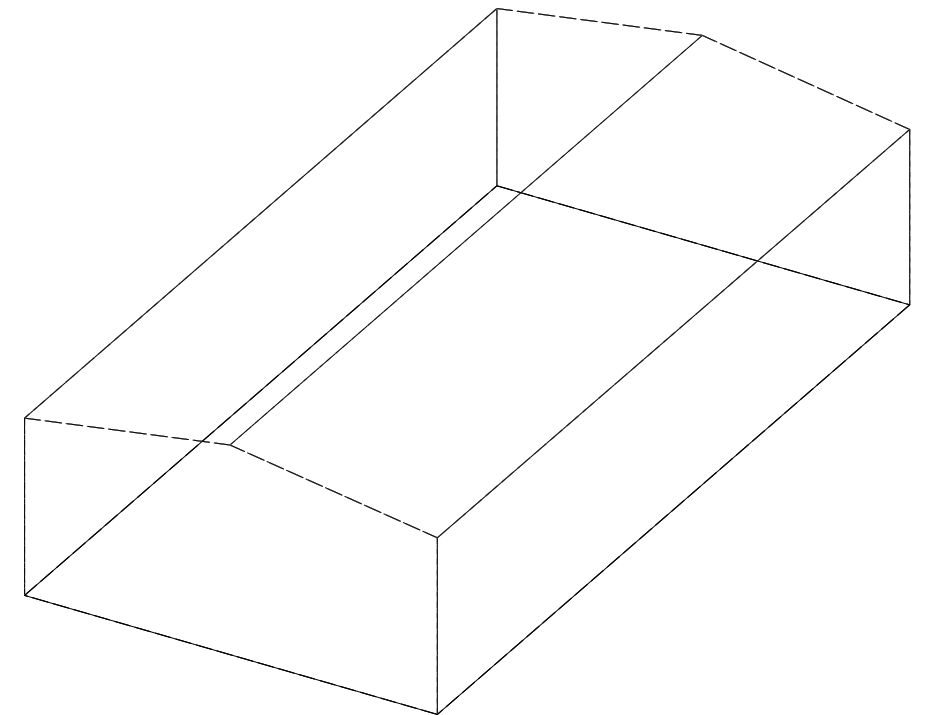
Wind Load
 Wind Speed: Vult: 115.00 (Vasd: 89.08) mph
 The 'Envelope Procedure' is Used
 Wind Exposure: B - Kz: 0.701
 Parts Wind Exposure Factor: 0.701
 Wind Enclosure: Enclosed
 Topographic Factor: Kzt: 1.0000

Snow Load
 Ground Snow Load: pg: 20.00 psf
 Flat Roof Snow: pf: 12.60 psf
 Design Snow (Sloped): ps: 11.73 psf
 Rain Surcharge: 0.00
 Specified Minimum Roof Snow: 22.00 psf (USR)
 Exposure Factor: 1 Fully Exposed - Ce: 0.90
 Snow Importance: Is: 1.000
 Thermal Factor: Heated - Ct: 1.00
 Ground / Roof Conversion: 0.70
 Unobstructed, Slippery

Seismic Load
 Lateral Force Resisting Systems using Equivalent Force Procedure
 Mapped MCE Acceleration: Ss: 16.60 %g
 Mapped MCE Acceleration: S1: 6.70 %g
 Site Class: Stiff soil (D)
 Seismic Importance: Ie: 1.000
 Design Acceleration Parameter: Sds: 0.1771
 Design Acceleration Parameter: Sd1: 0.1072
 Seismic Design Category: B
 Seismic Snow Load: 0.00 psf
 % Snow Used in Seismic: 0.00
 Diaphragm Condition: Flexible
 Fundamental Period Height Used: 21/8/8

Transverse Direction Parameters
 System NOT detailed for Seismic
 Redundancy Factor: Rho: 1.00
 Fundamental Period: Ta: 0.3284
 R-Factor: 3.00
 Overstrength Factor: Omega: 2.50
 Deflection Amplification Factor: Cd: 3.00
 Base Shear: V: 0.0590 x W

Longitudinal Direction Parameters
 System NOT detailed for Seismic
 Redundancy Factor: Rho: 1.00
 Fundamental Period: Ta: 0.3284
 R-Factor: 3.00
 Overstrength Factor: Omega: 2.50
 Deflection Amplification Factor: Cd: 3.00
 Base Shear: V: 0.0590 x W



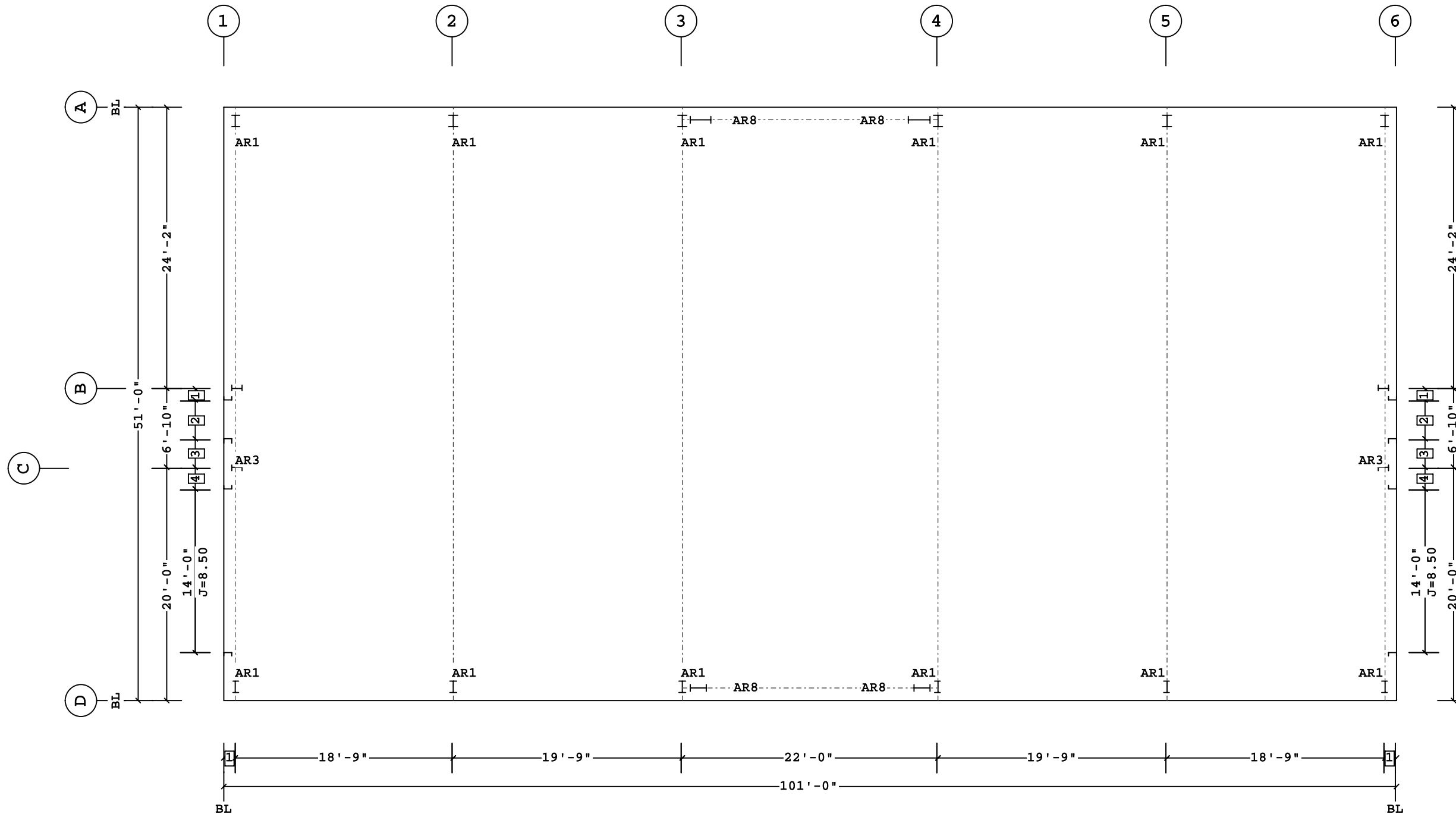
Snow Buildup Shape	Surface	Description	X Location	Y Location	Magnitude
New Trades bldg	Roof: A	Unbalanced Snow Load 1, Shifted Left : Roof: A	0.0 ft	9.6 ft	9.9 psf
			0.0 ft	0.0 ft	9.9 psf
			101.0 ft	0.0 ft	9.9 psf
			101.0 ft	9.6 ft	9.9 psf
New Trades bldg	Roof: B	Unbalanced Snow Load 1, Shifted Right : Roof: B	0.0 ft	9.6 ft	9.9 psf
			0.0 ft	0.0 ft	9.9 psf
			101.0 ft	0.0 ft	9.9 psf
			101.0 ft	9.6 ft	9.9 psf

- The Snow Buildup loading shown is in addition to the flat or sloped roof snow.
- The X and Y Location dimensions are from the point of origin of each surface.

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

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FILENAME: BHCC new trades building -2-8-2024		3/8/2024 9:39:37	VPC VERSION: 2023.4a a division of BlueScope Buildings North America, Inc.																														



ANCHOR ROD PLAN

- 4 1'-10"
 - 3 2'-5 1/2"
 - 2 3'-4 1/2" J=8.50
 - 1 1'-0"
- Dimension Key

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

NOT FOR CONSTRUCTION

Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)

<-> THE BUILDING IS DESIGNED WITH BRACING DIAGONALS IN THE DESIGNATED BAYS. COLUMN BASE REACTIONS, BASE PLATES AND ANCHOR RODS ARE AFFECTED BY THIS BRACING AND DIAGONALS MAY NOT BE RELOCATED WITHOUT CONSULTING THE BUILDING SUPPLIERS ENGINEER.

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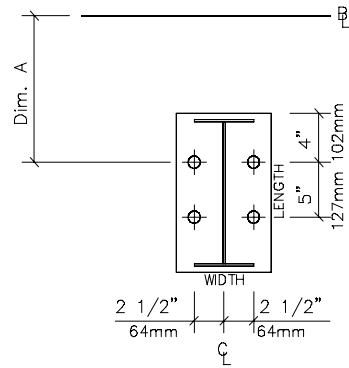
B	VP Buildings 3200 Players Club Circle Memphis TN 38125			ANCHOR ROD PLAN	
	REV	DATE	BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
					CUSTOMER
					LOCATION Rio Grande, Ohio
					PROJECT BHCC New Trades bldg
					BUILDER'S POW
NTS				VP BUILDINGS VP CO. P/LEEN	JOB # DATE 3/8/2024 DRAWN/CHECK
				VPC VERSION: 2023.4a	PAGE 4

3/8/2024

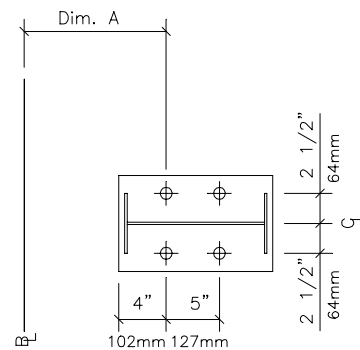
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FILENAME: BHCC new trades building -2-8-2024

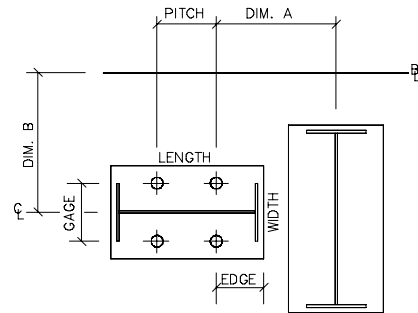
a division of BlueScope Buildings North America, Inc.



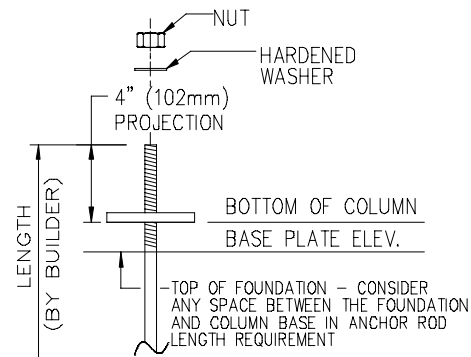
AR1 (4)3/4" Dia.
 Max Plate W=10", L=1'-1", Min Thk=3/8"
 Dim: A=1'-0"
 Elev.=100'-0"



AR3 (4)3/4" Dia.
 Max Plate W=8", L=11", Min Thk=3/8"
 Dim: A=1'-0"
 Elev.=100'-0"

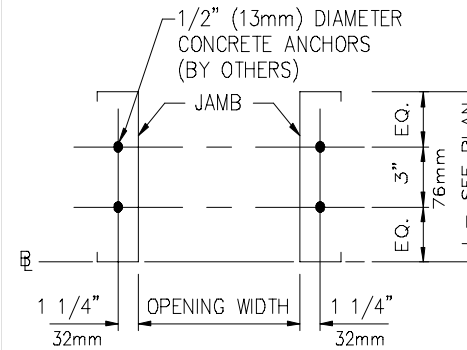


AR8 (4)3/4" Dia.
 Max Plate W=8", L=1'-11", Min Thk=3/8"
 Dim: A=11 1/2" B=1'-1"
 Gage=5" Pitch=5" Edge Out=4"
 Elev.=100'-0"



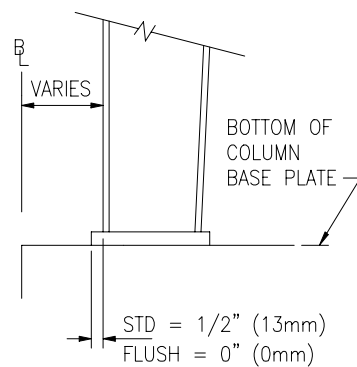
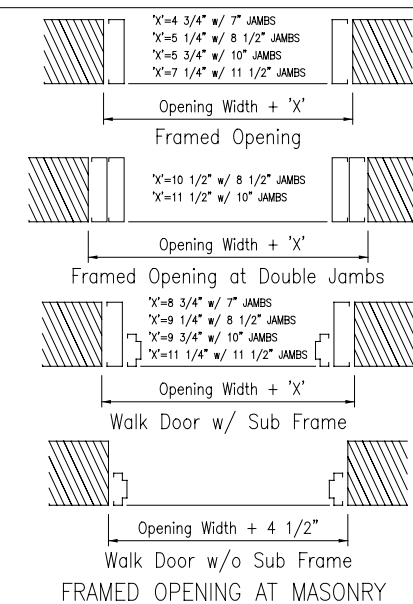
THE 4" PROJECTION ABOVE THE BOTTOM OF THE BASE PLATE IS A SUGGESTED MINIMUM TO ENSURE ADEQUATE ANCHOR ROD LENGTH. A DIFFERENT PROJECTION MAY BE REQUIRED BY THE FOUNDATION DESIGNER.
 THE ANCHOR ROD PROJECTION MAY NEED TO BE CUT OFF IF THERE IS INTERFERENCE WITH OTHER PARTS.

SUGGESTED ANCHOR ROD PROJECTION



NOTE: 1" (25mm) PROJECTION ABOVE BOTTOM OF JAMB CLIP
 SEE PLAN FOR JAMB SIZES : J = SIZE
 JAMB 'EQ.' VALUES:
 7 EQ = 2" 51mm, 8.5 EQ = 2 3/4" 70mm
 10 EQ = 3 1/2" 89mm, 11.5 EQ = 4 1/4" 108mm

FRAMED OPENING DETAIL



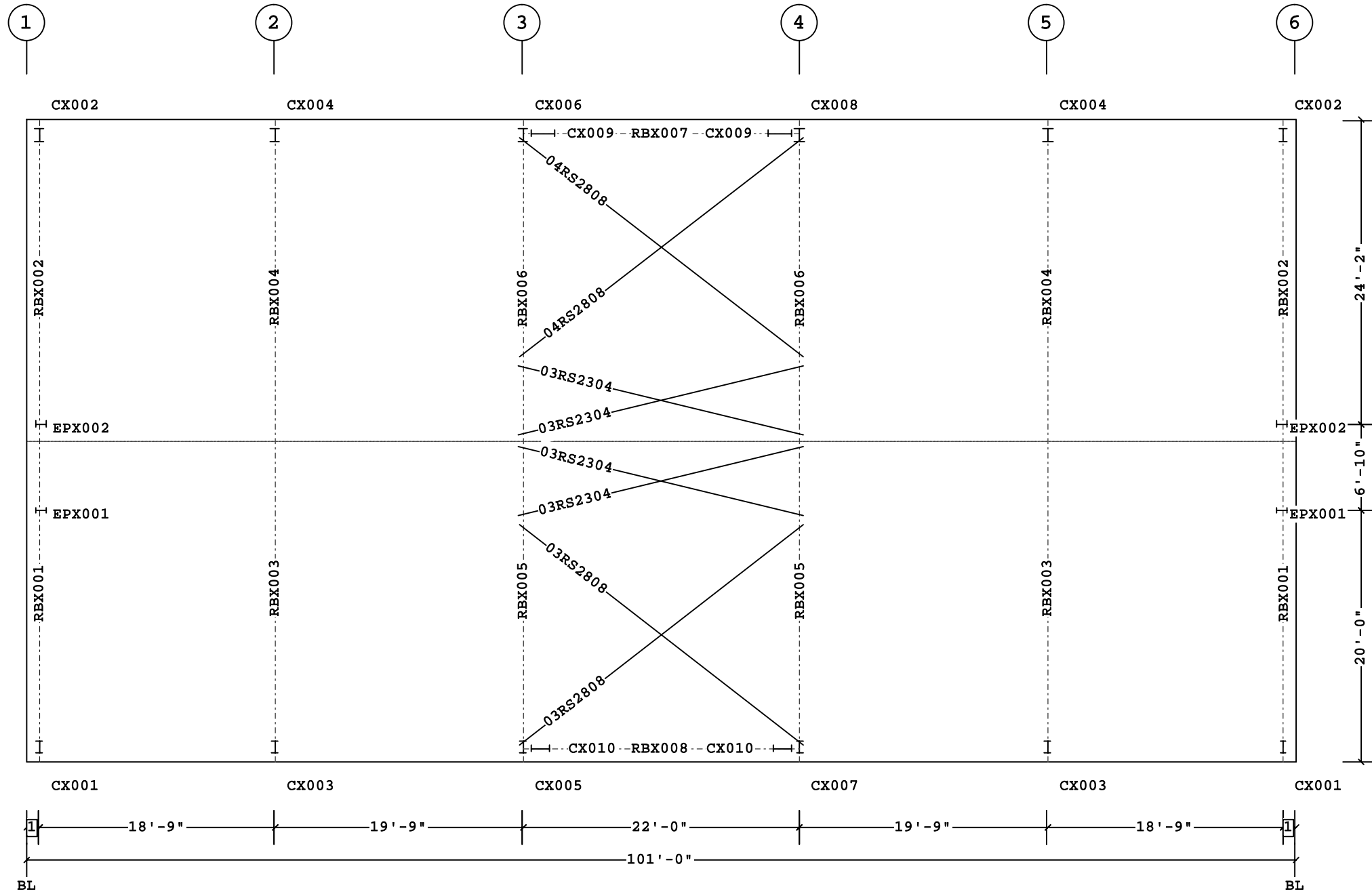
TYPICAL COLUMN BASE PLATE DETAIL

- ANCHOR RODS, NUTS, HARDENED WASHERS AND ANY OTHER EMBEDDED ITEMS ARE TO BE FURNISHED BY CONTRACTOR.
- ANCHOR ROD DIAMETERS WERE DETERMINED BY ALLOWABLE SHEAR AND TENSION PER AISC SPECIFICATIONS (FY=36KSI). (ASTM F1554 GRADE 36) ANCHOR ROD LENGTH, EFFECTS OF EMBEDDED ANCHOR ROD EDGE DIMENSIONS AND METHOD OF TRANSFERRING FORCES FROM ANCHOR RODS TO FOOTINGS ARE TO BE DETERMINED BY OTHERS.
- UNLESS OTHERWISE SPECIFIED, ANCHOR RODS ARE DESIGNED AND DETAILED AS "CAST-IN-PLACE" ANCHOR RODS WITH "SNUG TIGHT" CONNECTIONS.
- FOUNDATION MUST BE LEVEL, SQUARE AND SMOOTH. ANCHOR RODS MUST BE ACCURATELY PLACED AS SHOWN ON THIS DRAWING OR STEEL WILL NOT FIT. THE BUILDER IS RESPONSIBLE FOR ACCURATE SETTING OF ANCHOR RODS PER AISC CODE OF STANDARD PRACTICE, SEC 7.5 VARIATIONS ARE SUMMARIZED BELOW:
 - CENTERS OF ANY TWO AR'S WITHIN A COLUMN BASE GROUP; +-1/8"
 - CENTERS OF ADJACENT AR GROUPS; +-1/4"
 - TOPS OF AR'S; +-1/2"
 - ACCUMULATED DIM BETWEEN CENTERS OF AR GROUPS ALONG COLUMN LINE; +-1/4" PER 100FT., NOT TO EXCEED 1" TOTAL.
 - DIM FROM CENTER OF ANY AR GROUP FROM COLUMN LINE; +-1/4"
- DESIGN LOADS AND REACTIONS ARE FURNISHED IN THE REACTIONS REPORT.

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

NOT FOR CONSTRUCTION

<p>THE VP ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY VP.</p>	<p>THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP BUILDINGS.</p> <p>THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING. DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.</p>	<p>B</p> <p>VP Buildings 3200 Players Club Circle Memphis TN 38125</p>	ANCHOR ROD PLAN - DETAILS		<p>JOB #</p> <p>DATE 3/8/2024</p> <p>DRAWN/CHECK</p>
			<p>REV</p> <p>DATE</p> <p>BY</p> <p>DESCRIPTION</p>	<p>BUILDER Riedel-wilks Building Structures, Inc.</p> <p>CUSTOMER</p> <p>LOCATION Rio Grande, Ohio</p> <p>PROJECT BHCC New Trades bldg</p> <p>BUILDER'S POW</p>	



Bracing Part Schedule

Part	Qty	Length	Detail
03RS2304	4	23'-4"	BR01G2
03RS2808	2	28'-8"	BR01G2
04RS2808	2	28'-8"	BR01G2

PRIMARY AND ROOF BRACING PLAN

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

1 1'-0"
 Dimension Key

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
 2. SLOT REINFORCEMENT PLATES NEED NOT BE LOCATED ON THE SAME SIDE OF THE WEB AS THE HILLSIDE WASHER.

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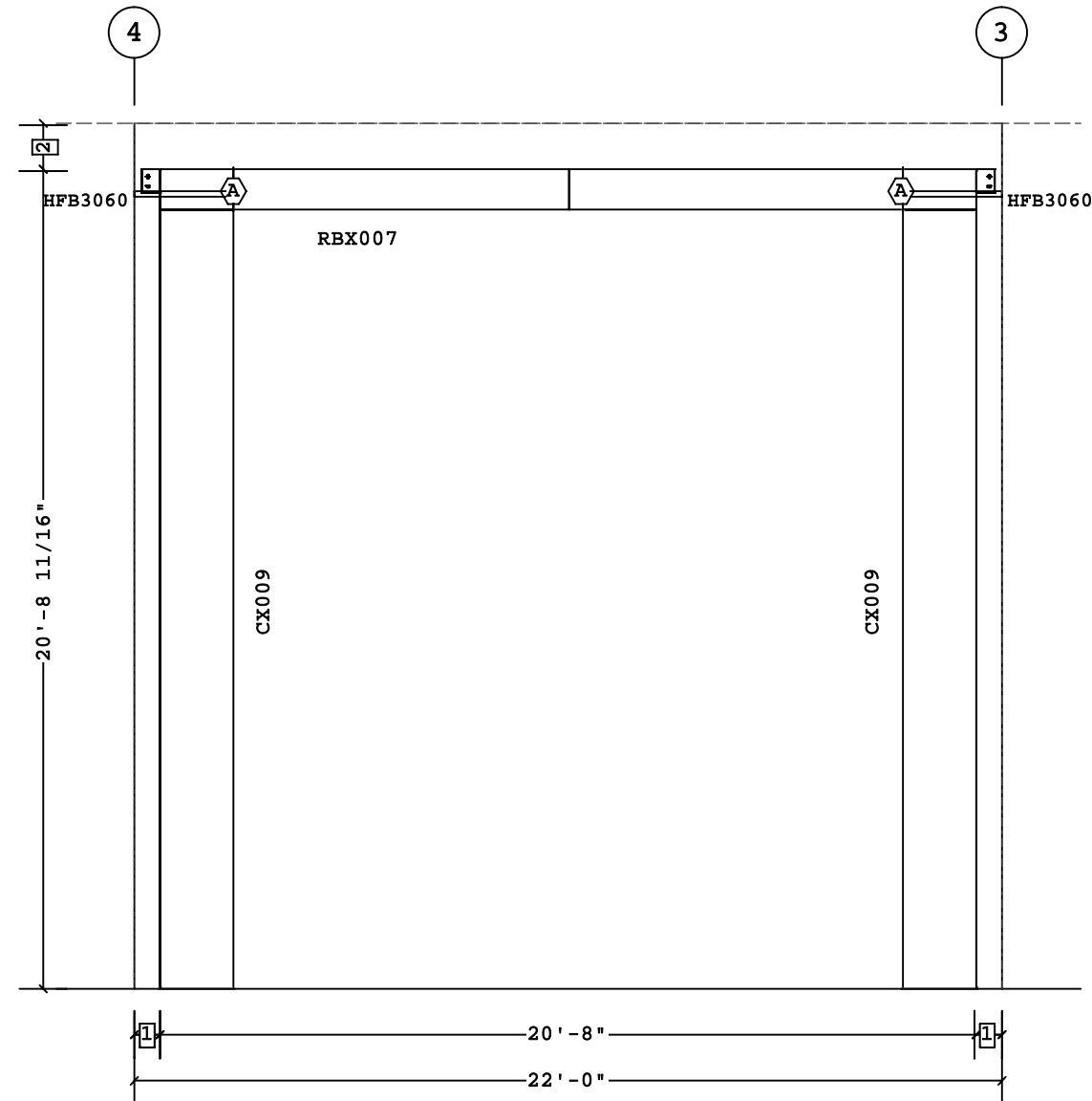
VP Buildings 3200 Players Club Circle Memphis TN 38125			
REV	DATE	BY	DESCRIPTION
NTS			
3/8/2024		9:39:40	

PRIMARY AND ROOF BRACING PLAN		JOB #	
BUILDER	Riedel-wilks Building Structures, Inc.	DATE	3/8/2024
CUSTOMER		DRAWN/CHECK	
LOCATION	Rio Grande, Ohio		
PROJECT	BHCC New Trades bldg		
BUILDER'S POW		PAGE	6
VPC VERSION: 2023.4a		a division of BlueScope Buildings North America, Inc.	



Part	Mem	Width	Thick	WebThk.	Depth1	Depth2	Approx. Lgth	Approx. Weight
CX009	1	6.0000	.2500	.1345	1'-10"	1'-10"	20'-8 11/16"	460#
RBX007	2-3	6.0000	.2500	.1345	1'-0"	1'-0"	16'-11 1/2"	283#
CX009	4	6.0000	.2500	.1345	1'-10"	1'-10"	20'-8 11/16"	460#

Frame Clearances
 Horiz. Clearance between members 1(CX009) and 4(CX009): 17'-0"
 Vert. Clearance at member 1(CX009): 19'-8 3/16"
 Vert. Clearance at member 4(CX009): 19'-8 3/16"
 Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)



PORTAL FRAME ELEVATION ALONG A

Bolt Connection & Plate Schedule								
Id	Qty	Grade	Bolt Dia.	Bolt Length	Plate Thick.	Rows Out	Rows In	PartNo
A	8	A325	3/4"	2 1/2"	1/2"	2	2	0097284

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

- 2 1'-2"
- 1 8"
- Dimension Key

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg Wall 2, Frame 3

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
 2. SLOT REINFORCEMENT PLATES NEED NOT BE LOCATED ON THE SAME SIDE OF THE WEB AS THE HILLSIDE WASHER.

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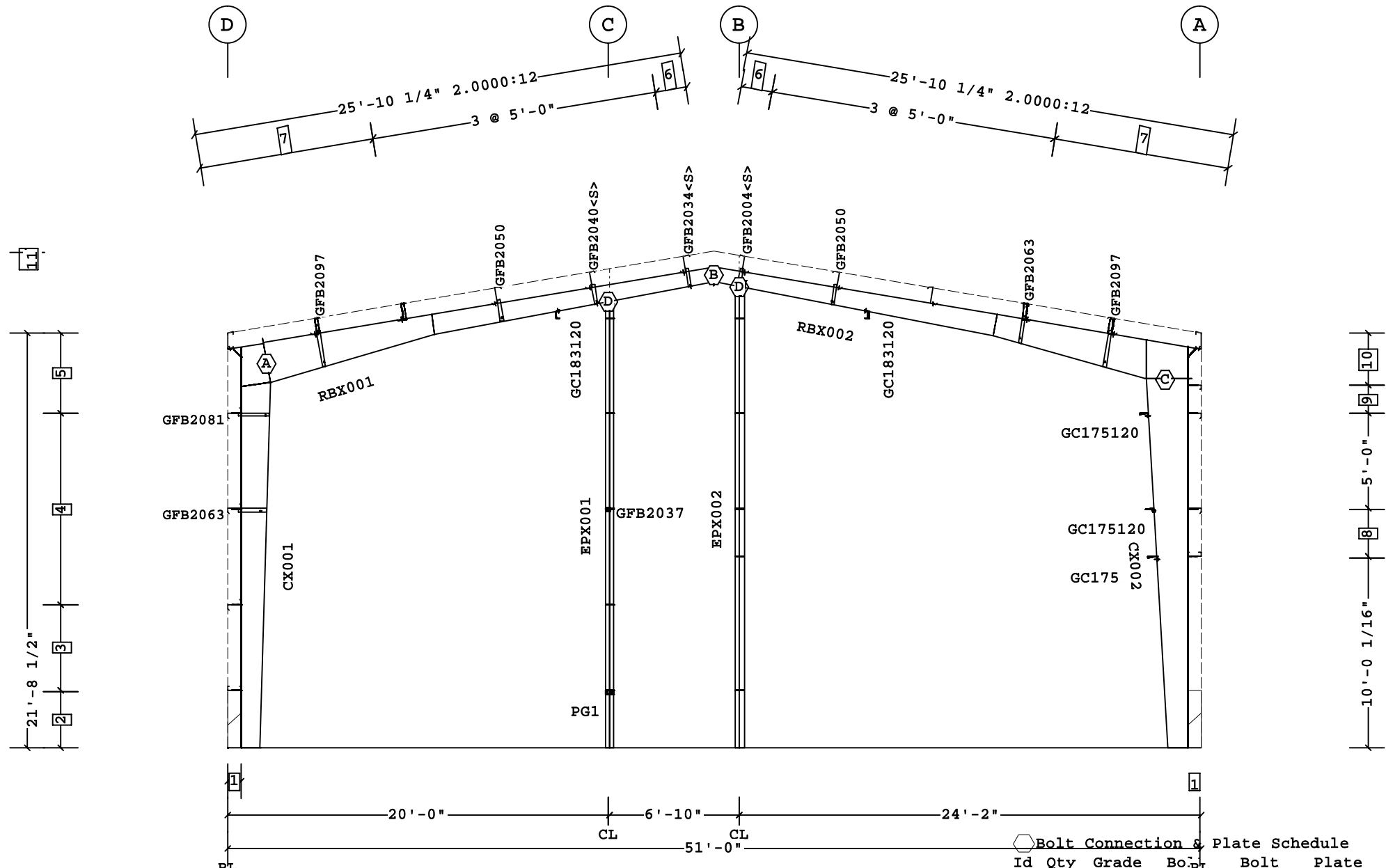
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REV	DATE	BY	DESCRIPTION
B			VP Buildings 3200 Players Club Circle Memphis TN 38125
			NTS

PORTAL FRAME ELEVATION ALONG A		VP BUILDINGS	
BUILDER	Riedel-wilks Building Structures, Inc.	VP BUILDINGS	JOB #
CUSTOMER		VP BUILDINGS	DATE
LOCATION	Rio Grande, Ohio	VP BUILDINGS	3/8/2024
PROJECT	BHCC New Trades bldg	VP BUILDINGS	DRAWN/CHECK
BUILDER'S POW		VP BUILDINGS	PAGE
		VP BUILDINGS	7

Part	Mem	Width	Thick	WebThk.	Depth1	Depth2	Approx.Lgth	Approx.Weight	Detail
CX001	1	6.0000	.2500	.1345	1'-0"	1'-6"	21'-2"	394#	
RBX001	2	5.0000	.1875	.1345	2'-1"	1'-0"	23'-11 3/8"	334#	
	3	5.0000	.1875	.1345	1'-0"	9"			
RBX002	4	5.0000	.1875	.1345	9"	1'-1"	25'-9 15/16"	369#	
	5	5.0000	.1875	.1345	1'-1"	2'-0"			
CX002	6	8.0000	.2500	.1345	1'-0"	2'-2"	19'-3 9/16"	467#	
EPX001	7	5.0000	.1875	.1345	10"	10"	23'-2 5/8"	264#	BR25CA
EPX002	8	6.0000	.3125	.1345	10"	10"	23'-11 11/16"	423#	BR25A3

Frame Clearances
 Horiz. Clearance between members 1(CX001) and 6(CX002): 45'-10 15/16"
 Vert. Clearance at member 1(CX001): 19'-0 15/16"
 Vert. Clearance at member 6(CX002): 19'-3 9/16"
 Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)



- 11 25'-11 1/2" Ridge Ht.
- 10 2'-8 1/2"
- 9 1'-6"
- 8 2'-5 15/16"
- 7 2 @ 4'-7 1/4"
- 6 1'-7 11/16"
- 5 4'-2 1/2"
- 4 2 @ 5'-0"
- 3 4'-5 15/16"
- 2 3'-0 1/16"
- 1 8 1/2"

FRAME CROSS SECTION AT FRAME LINE(S) 1

Bolt Connection & Plate Schedule

Id	Qty	Grade	Bo. Dia.	Bolt Length	Plate Thick.	Rows Out	Rows In	PartNo
A	8	A325	3/4"	2 1/2"	3/8"	3	1	0097284
B	6	A325	3/4"	2 1/2"	3/8"	1	2	0097284
C	6	A325	3/4"	2 1/2"	3/8"	2	1	0097284
D	2	A325	3/4"	2 1/2"	-	-	-	0097284

<S> - (2) Washers (095872) req'd at Flange Brace to Secondary.

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

Dimension Key

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg Wall 4, Frame 1

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
 2. SLOT REINFORCEMENT PLATES NEED NOT BE LOCATED ON THE SAME SIDE OF THE WEB AS THE HILLSIDE WASHER.

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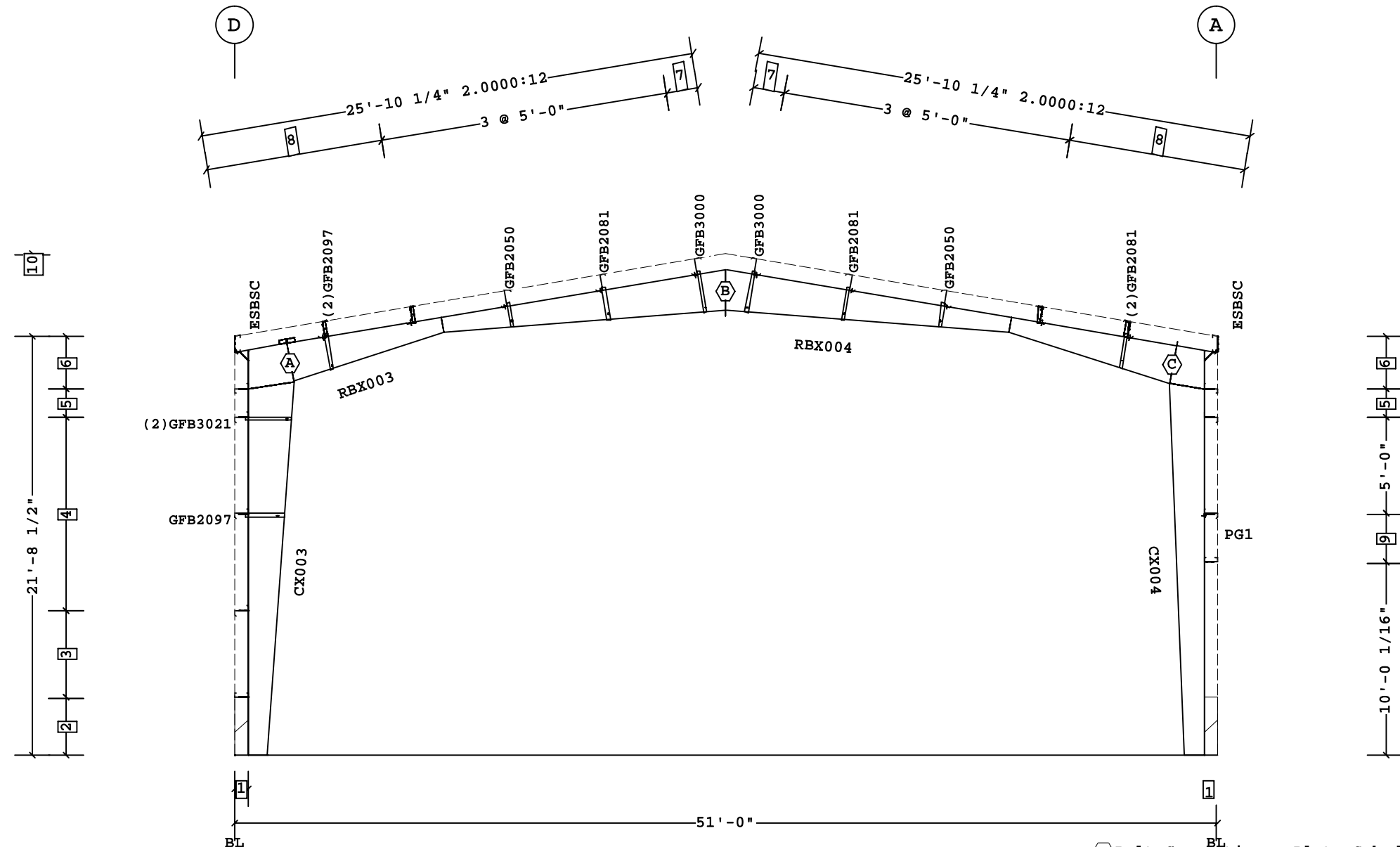
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B	VP Buildings 3200 Players Club Circle Memphis TN 38125		FRAME CROSS SECTION AT FRAME LINE(S) 1	
	REV	DATE	BY	DESCRIPTION
BUILDER: Riedel-wilks Building Structures, Inc.		CUSTOMER: Rio Grande, Ohio		
PROJECT: BHCC New Trades bldg		BUILDER'S POW		
NTS		VP BUILDINGS VP BUILDINGS VP BUILDINGS		
3/8/2024 9:39:43		VP VERSION: 2023.4a		
FILENAME: BHCC new trades building -2-8-2024		JOB #		
		DATE: 3/8/2024		
		DRAWN/CHECK		
		PAGE 8		



Part	Mem	Width	Thick	WebThk.	Depth1	Depth2	Approx. Lgth	Approx. Weight
CX003	1	6.0000	.2500	.1345	1'-0"	2'-4"	21'-3 11/16"	468#
RBX003	2	5.0000	.2500	.1644	2'-0"	9"	23'-1 1/16"	392#
	3	5.0000	.1875	.1345	9"	2'-1"		
RBX004	4	5.0000	.1875	.1345	2'-1"	9"	23'-8 1/8"	407#
	5	5.0000	.2500	.1644	9"	2'-0"		
CX004	6	9.0000	.3750	.1345	1'-0"	1'-9"	21'-2 1/2"	707#

Frame Clearances
 Horiz. Clearance between members 1(CX003) and 6(CX004): 45'-5 13/16"
 Vert. Clearance at member 1(CX003): 19'-3 5/8"
 Vert. Clearance at member 6(CX004): 19'-2 7/16"
 Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)



- 10 25'-11 1/2" Ridge Ht.
- 9 2'-5 15/16"
- 8 2 @ 4'-7 1/4"
- 7 1'-7 11/16"
- 6 2'-8 1/2"
- 5 1'-6"
- 4 2 @ 5'-0"
- 3 4'-5 15/16"
- 2 3'-0 1/16"
- 1 8 1/2"

□ Dimension Key

FRAME CROSS SECTION AT FRAME LINE(S) 2

⬡ Bolt Connection & Plate Schedule

Id	Qty	Grade	Bolt Dia.	Bolt Length	Plate Thck.	Rows Out	Rows In	PartNo
A	10	A325	3/4"	2 1/2"	3/8"	3	2	0097284
B	6	A325	3/4"	2 1/2"	3/8"	1	2	0097284
C	6	A325	3/4"	2 1/2"	1/2"	2	1	0097284

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg Wall 4, Frame 2

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
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VP Buildings 3200 Players Club Circle Memphis TN 38125			
REV	DATE	BY	DESCRIPTION
NTS			

FRAME CROSS SECTION AT FRAME LINE(S) 2

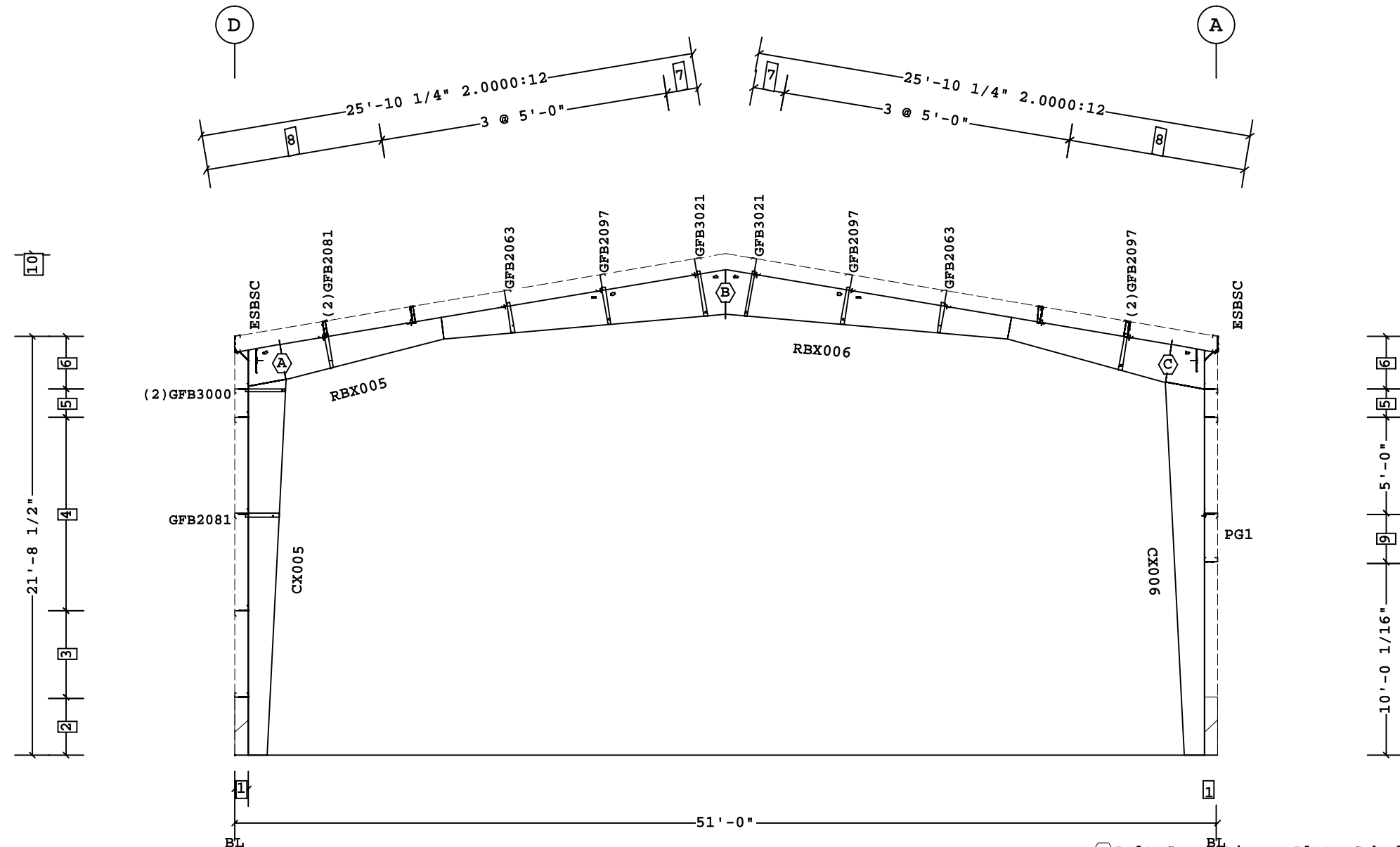
BUILDER	Riedel-wilks Building Structures, Inc.
CUSTOMER	
LOCATION	Rio Grande, Ohio
PROJECT	BHCC New Trades bldg
BUILDER'S POW	



JOB #	
DATE	3/8/2024
DRAWN/CHECK	
PAGE	9

Part	Mem	Width	Thick	WebThk.	Depth1	Depth2	Approx. Lgth	Approx. Weight
CX005	1	6.0000	.3125	.1345	1'-0"	1'-11"	21'-2 15/16"	503#
RBX005	2	5.0000	.3125	.1644	1'-10"	1'-1"	23'-5 3/4"	445#
	3	5.0000	.1875	.1345	1'-1"	2'-3"		
RBX006	4	5.0000	.1875	.1345	2'-3"	1'-1"	23'-5 1/8"	433#
	5	5.0000	.2500	.1644	1'-1"	2'-0"		
CX006	6	9.0000	.3750	.1345	1'-0"	2'-0"	21'-3"	738#

Frame Clearances
 Horiz. Clearance between members 1(CX005) and 6(CX006): 45'-7 13/16"
 Vert. Clearance at member 1(CX005): 19'-4 13/16"
 Vert. Clearance at member 6(CX006): 19'-2 15/16"
 Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)



- 10 25'-11 1/2" Ridge Ht.
- 9 2'-5 15/16"
- 8 2 @ 4'-7 1/4"
- 7 1'-7 11/16"
- 6 2'-8 1/2"
- 5 1'-6"
- 4 2 @ 5'-0"
- 3 4'-5 15/16"
- 2 3'-0 1/16"
- 1 8 1/2"

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

⬡ Bolt Connection & Plate Schedule

Id	Qty	Grade	Bolt Dia.	Bolt Length	Plate Thick.	Rows Out	Rows In	PartNo
A	8	A325	3/4"	2 1/2"	1/2"	3	1	0097284
B	6	A325	3/4"	2 1/2"	3/8"	1	2	0097284
C	6	A325	3/4"	2 1/2"	1/2"	2	1	0097284

☐ Dimension Key

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg Wall 4, Frame 3

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
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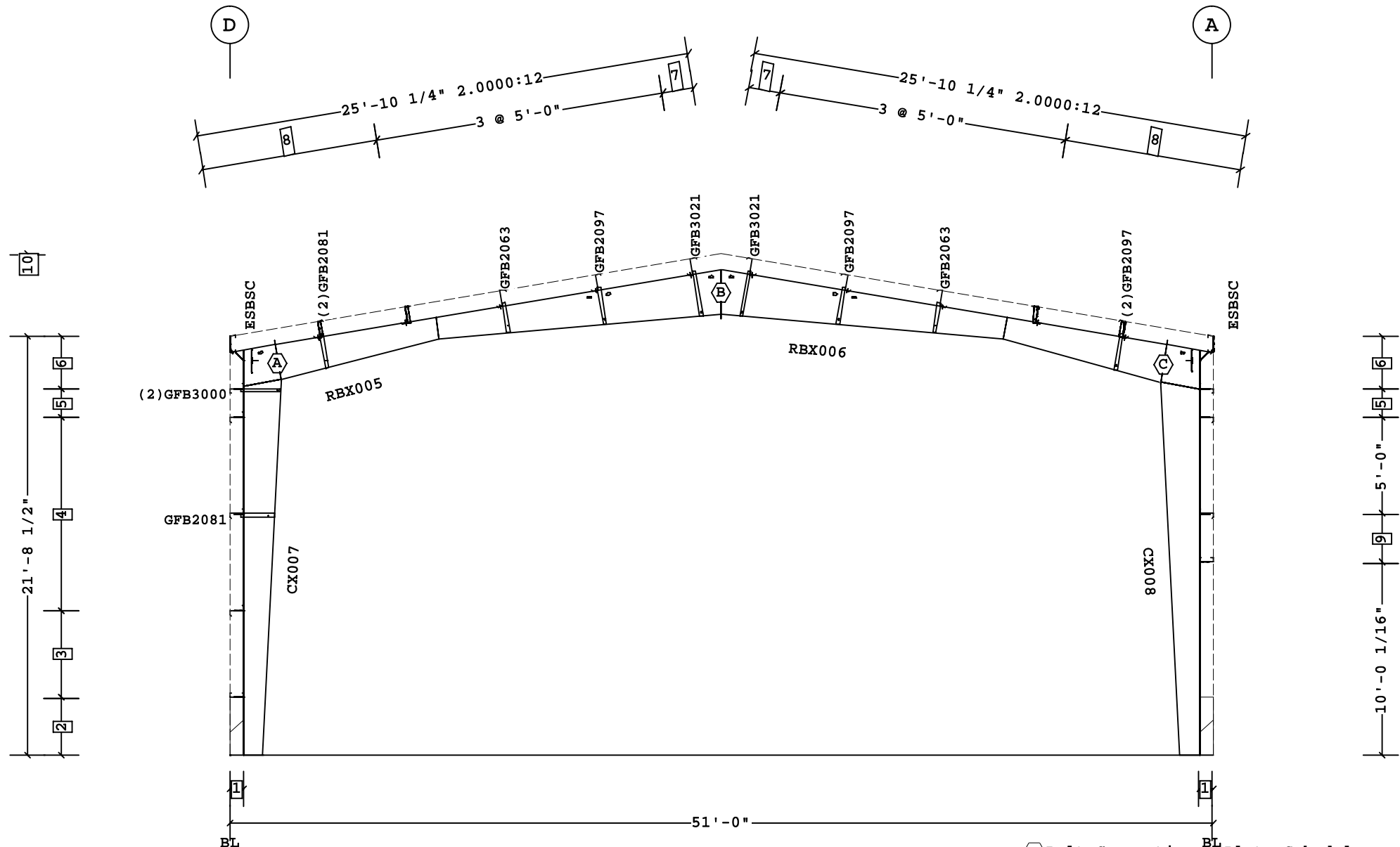
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B	VP Buildings 3200 Players Club Circle Memphis TN 38125		
	REV	DATE	BY
NTS			

FRAME CROSS SECTION AT FRAME LINE(S) 3		 VP BUILDINGS <small>VP BUILDINGS</small>	JOB #
BUILDER	Riedel-wilks Building Structures, Inc.		DATE
CUSTOMER		PROJECT	BHCC New Trades bldg
LOCATION	Rio Grande, Ohio	BUILDER'S POW	
VP VERSION	2023.4a	PAGE	10
FILENAME	BHCC new trades building -2-8-2024	<small>a division of BlueScope Buildings North America, Inc.</small>	

Part	Mem	Width	Thick	WebThk.	Depth1	Depth2	Approx. Lgth	Approx. Weight
CX007	1	6.0000	.3125	.1345	1'-0"	1'-11"	21'-2 15/16"	503#
RBX005	2	5.0000	.3125	.1644	1'-10"	1'-1"	23'-5 3/4"	445#
	3	5.0000	.1875	.1345	1'-1"	2'-3"		
RBX006	4	5.0000	.1875	.1345	2'-3"	1'-1"	23'-5 1/8"	433#
	5	5.0000	.2500	.1644	1'-1"	2'-0"		
CX008	6	9.0000	.3750	.1345	1'-0"	2'-0"	21'-3"	738#

Frame Clearances
 Horiz. Clearance between members 1(CX007) and 6(CX008): 45'-7 13/16"
 Vert. Clearance at member 1(CX007): 19'-4 13/16"
 Vert. Clearance at member 6(CX008): 19'-2 15/16"
 Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)



- 10 25'-11 1/2" Ridge Ht.
- 9 2'-5 15/16"
- 8 2 @ 4'-7 1/4"
- 7 1'-7 11/16"
- 6 2'-8 1/2"
- 5 1'-6"
- 4 2 @ 5'-0"
- 3 4'-5 15/16"
- 2 3'-0 1/16"
- 1 8 1/2"

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

Bolt Connection & Plate Schedule								
Id	Qty	Grade	Bolt Dia.	Bolt Length	Plate Thick.	Rows Out	Rows In	PartNo
A	8	A325	3/4"	2 1/2"	1/2"	3	1	0097284
B	6	A325	3/4"	2 1/2"	3/8"	1	2	0097284
C	6	A325	3/4"	2 1/2"	1/2"	2	1	0097284

Dimension Key

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg Wall 4, Frame 4

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
 2. SLOT REINFORCEMENT PLATES NEED NOT BE LOCATED ON THE SAME SIDE OF THE WEB AS THE HILLSIDE WASHER.

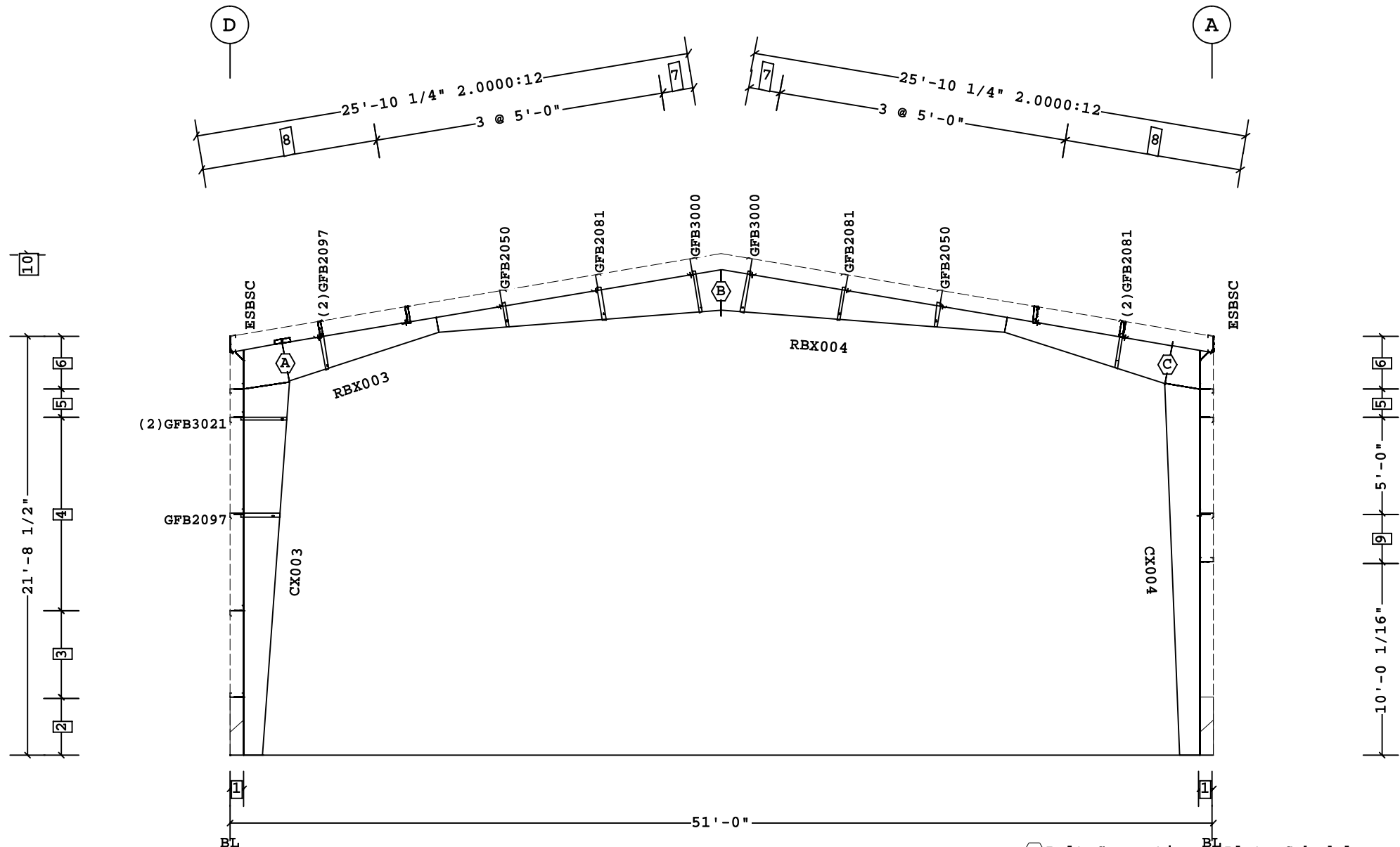
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B VP Buildings 3200 Players Club Circle Memphis TN 38125	FRAME CROSS SECTION AT FRAME LINE(S) 4		 VP BUILDINGS WPCO/PRL/EN	JOB # DATE 3/8/2024 DRAWN/CHECK
	BUILDER	Riedel-wilks Building Structures, Inc.		
	CUSTOMER			
	LOCATION	Rio Grande, Ohio		
PROJECT	BHCC New Trades bldg	BUILDER'S POW	VP VERSION: 2023.4a	PAGE 11
REV	DATE	BY	DESCRIPTION	FILENAME: BHCC new trades building -2-8-2024
			NTS	3/8/2024 9:39:48 a division of BlueScope Buildings North America, Inc.

Part	Mem	Width	Thick	WebThk.	Depth1	Depth2	Approx. Lgth	Approx. Weight
CX003	1	6.0000	.2500	.1345	1'-0"	2'-4"	21'-3 11/16"	468#
RBX003	2	5.0000	.2500	.1644	2'-0"	9"	23'-1 1/16"	392#
	3	5.0000	.1875	.1345	9"	2'-1"		
RBX004	4	5.0000	.1875	.1345	2'-1"	9"	23'-8 1/8"	407#
	5	5.0000	.2500	.1644	9"	2'-0"		
CX004	6	9.0000	.3750	.1345	1'-0"	1'-9"	21'-2 1/2"	707#

Frame Clearances
 Horiz. Clearance between members 1(CX003) and 6(CX004): 45'-5 13/16"
 Vert. Clearance at member 1(CX003): 19'-3 5/8"
 Vert. Clearance at member 6(CX004): 19'-2 7/16"
 Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)



- 10 25'-11 1/2" Ridge Ht.
- 9 2'-5 15/16"
- 8 2 @ 4'-7 1/4"
- 7 1'-7 11/16"
- 6 2'-8 1/2"
- 5 1'-6"
- 4 2 @ 5'-0"
- 3 4'-5 15/16"
- 2 3'-0 1/16"
- 1 8 1/2"

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

Bolt Connection & Plate Schedule								
Id	Qty	Grade	Bolt Dia.	Bolt Length	Plate Thick.	Rows Out	Rows In	PartNo
A	10	A325	3/4"	2 1/2"	3/8"	3	2	0097284
B	6	A325	3/4"	2 1/2"	3/8"	1	2	0097284
C	6	A325	3/4"	2 1/2"	1/2"	2	1	0097284

Dimension Key

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg Wall 4, Frame 5

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
 2. SLOT REINFORCEMENT PLATES NEED NOT BE LOCATED ON THE SAME SIDE OF THE WEB AS THE HILLSIDE WASHER.

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REV	DATE	BY	DESCRIPTION
B			VP Buildings 3200 Players Club Circle Memphis TN 38125
			NTS

FRAME CROSS SECTION AT FRAME LINE(S) 5

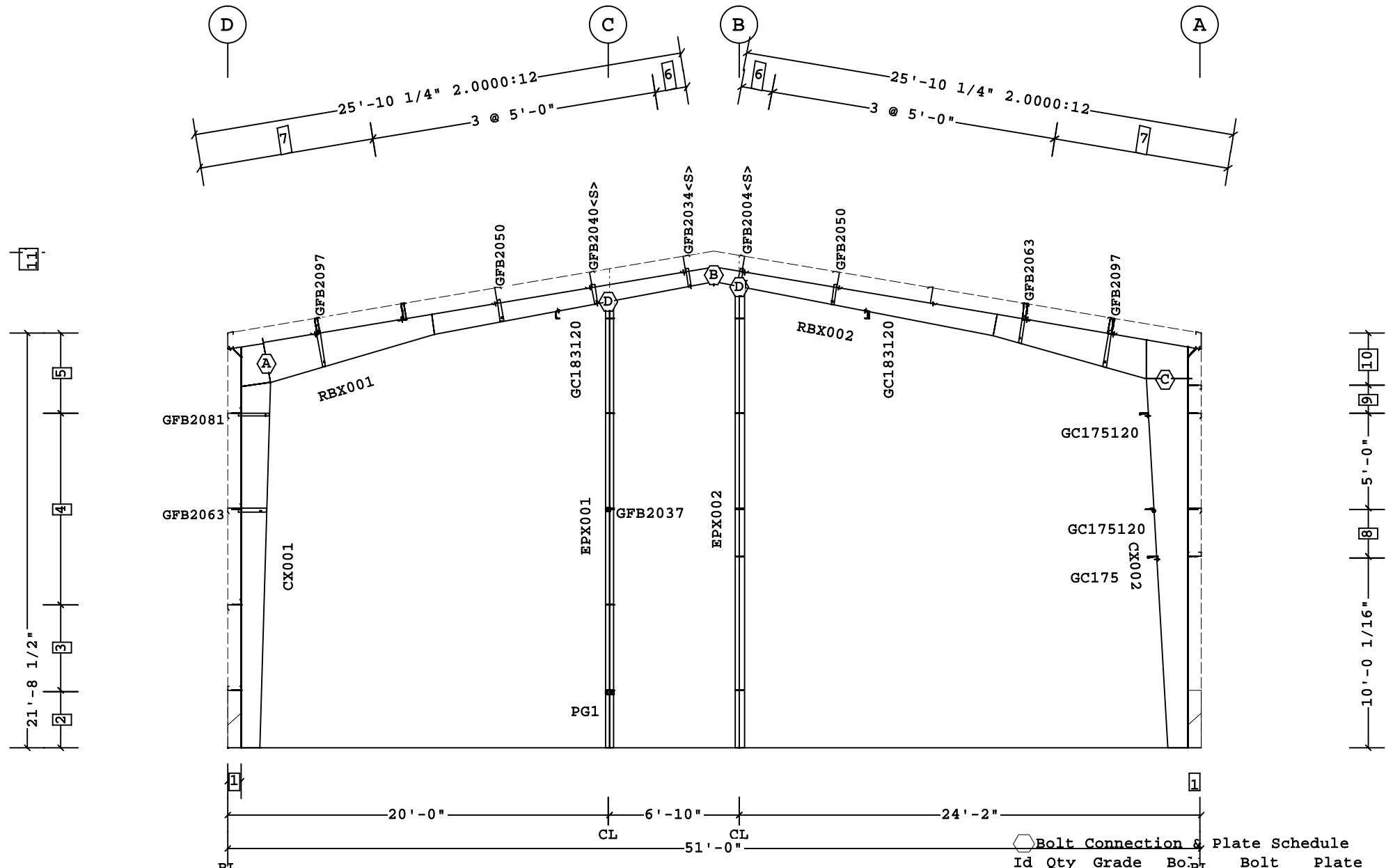
BUILDER	Riedel-wilks Building Structures, Inc.
CUSTOMER	
LOCATION	Rio Grande, Ohio
PROJECT	BHCC New Trades bldg
BUILDER'S POW	



JOB #	
DATE	3/8/2024
DRAWN/CHECK	
PAGE	12

Part	Mem	Width	Thick	WebThk.	Depth1	Depth2	Approx.Lgth	Approx.Weight	Detail
CX001	1	6.0000	.2500	.1345	1'-0"	1'-6"	21'-2"	394#	
RBX001	2	5.0000	.1875	.1345	2'-1"	1'-0"	23'-11 3/8"	334#	
	3	5.0000	.1875	.1345	1'-0"	9"			
RBX002	4	5.0000	.1875	.1345	9"	1'-1"	25'-9 15/16"	369#	
	5	5.0000	.1875	.1345	1'-1"	2'-0"			
CX002	6	8.0000	.2500	.1345	1'-0"	2'-2"	19'-3 9/16"	467#	
EPX001	7	5.0000	.1875	.1345	10"	10"	23'-2 5/8"	264#	BR25CA
EPX002	8	6.0000	.3125	.1345	10"	10"	23'-11 11/16"	423#	BR25A3

Frame Clearances
 Horiz. Clearance between members 1(CX001) and 6(CX002): 45'-10 15/16"
 Vert. Clearance at member 1(CX001): 19'-0 15/16"
 Vert. Clearance at member 6(CX002): 19'-3 9/16"
 Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)



- 11 25'-11 1/2" Ridge Ht.
- 10 2'-8 1/2"
- 9 1'-6"
- 8 2'-5 15/16"
- 7 2 @ 4'-7 1/4"
- 6 1'-7 11/16"
- 5 4'-2 1/2"
- 4 2 @ 5'-0"
- 3 4'-5 15/16"
- 2 3'-0 1/16"
- 1 8 1/2"

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

Bolt Connection & Plate Schedule

Id	Qty	Grade	Bo. Dia.	Bolt Length	Plate Thick.	Rows Out	Rows In	PartNo
A	8	A325	3/4"	2 1/2"	3/8"	3	1	0097284
B	6	A325	3/4"	2 1/2"	3/8"	1	2	0097284
C	6	A325	3/4"	2 1/2"	3/8"	2	1	0097284
D	2	A325	3/4"	2 1/2"	-	-	-	0097284

<S> - (2) Washers (095872) req'd at Flange Brace to Secondary.

Dimension Key

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg Wall 4, Frame 6

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
 2. SLOT REINFORCEMENT PLATES NEED NOT BE LOCATED ON THE SAME SIDE OF THE WEB AS THE HILLSIDE WASHER.

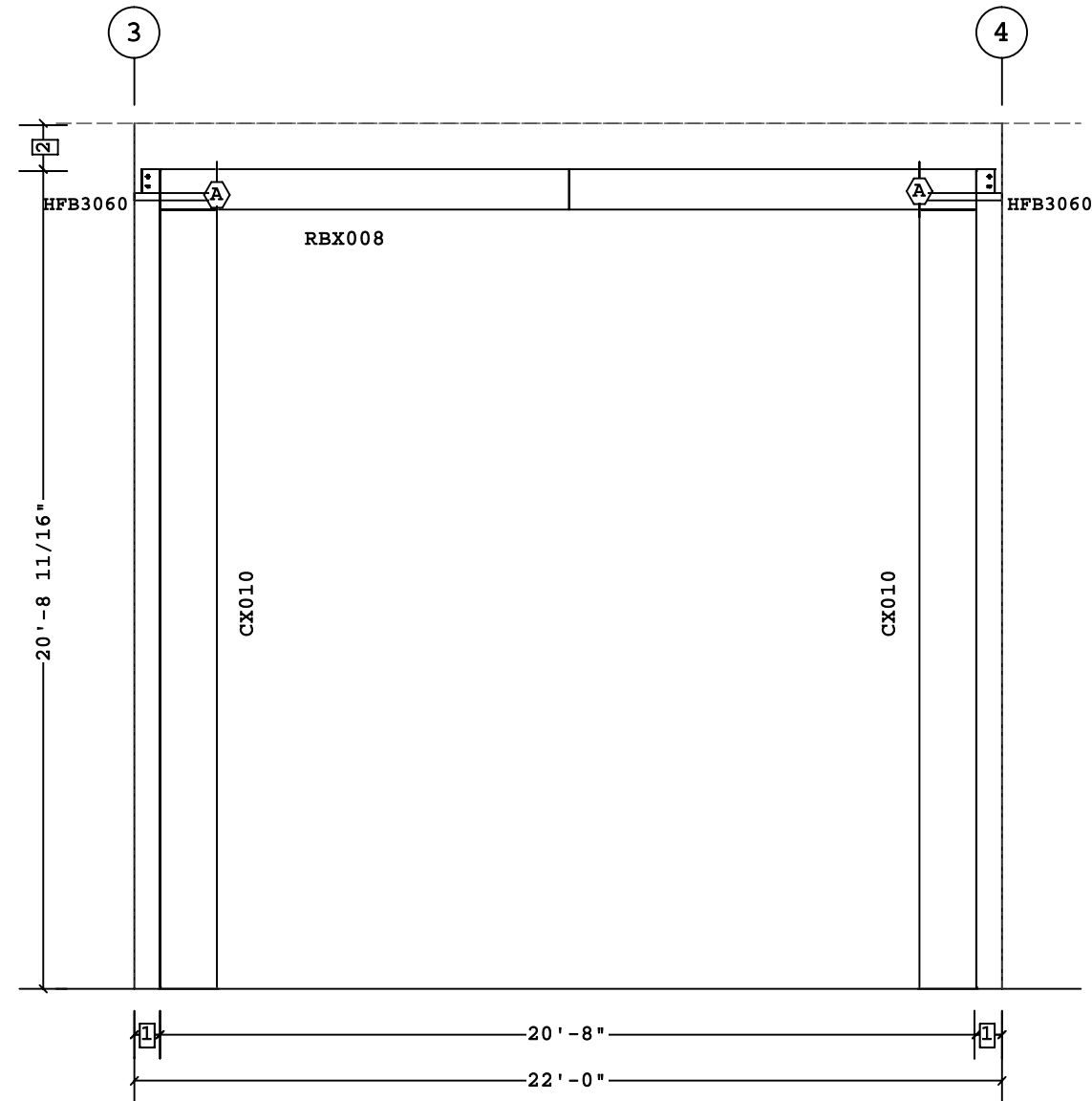
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B	VP Buildings 3200 Players Club Circle Memphis TN 38125		FRAME CROSS SECTION AT FRAME LINE(S) 6	
	REV	DATE	BY	DESCRIPTION
	BUILDER Riedel-wilks Building Structures, Inc.		CUSTOMER	
	LOCATION Rio Grande, Ohio		PROJECT BHCC New Trades bldg	
BUILDER'S POW		BUILDER'S POW		
NTS		VP BUILDINGS VP BUILDINGS VP BUILDINGS		
3/8/2024 9:39:51		VP VERSION: 2023.4a		
FILENAME: BHCC new trades building -2-8-2024		PAGE 13		

Part	Mem	Width	Thick	WebThk.	Depth1	Depth2	Approx.Lgth	Approx.Weight
CX010	1	6.0000	.2500	.1345	1'-5"	1'-5"	20'-8 11/16"	402#
RBX008	2-3	6.0000	.2500	.1345	1'-0"	1'-0"	17'-9 3/4"	296#
CX010	4	6.0000	.2500	.1345	1'-5"	1'-5"	20'-8 11/16"	402#

Frame Clearances
 Horiz. Clearance between members 1(CX010) and 4(CX010): 17'-10"
 Vert. Clearance at member 1(CX010): 19'-6 3/16"
 Vert. Clearance at member 4(CX010): 19'-6 3/16"
 Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)



PORTAL FRAME ELEVATION ALONG D

Bolt Connection & Plate Schedule

Id	Qty	Grade	Bolt Dia.	Bolt Length	Plate Thick.	Rows Out	Rows In	PartNo
A	8	A325	3/4"	2 1/2"	3/8"	2	2	0097284

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

- 2 1'-2"
- 1 8"
- Dimension Key

NOT FOR CONSTRUCTION

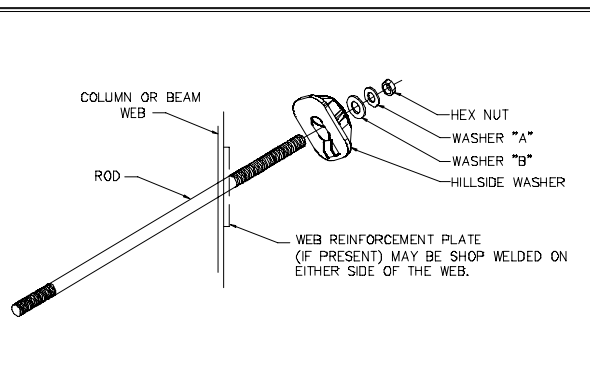
Shape Name = New Trades bldg Wall 4, Frame 3

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.
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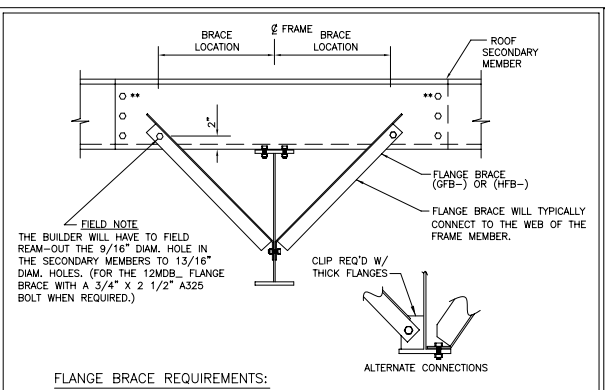
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B	VP Buildings 3200 Players Club Circle Memphis TN 38125			PORTAL FRAME ELEVATION ALONG D		
	REV	DATE	BY	DESCRIPTION	BUILDER	Riedel-wilks Building Structures, Inc.
					CUSTOMER	
					LOCATION	Rio Grande, Ohio
				PROJECT	BHCC New Trades bldg	
				BUILDER'S POW		
NTS				VP BUILDINGS VP CO. PULLEN		JOB #
				VP VERSION: 2023.4a		DATE 3/8/2024
				a division of BlueScope Buildings North America, Inc.		DRAWN/CHECK
						PAGE 14



DESCRIPTION/PART NO				
ROD DIA	NUT	HARD STEEL ROUND WASHER A	HARD STEEL WASHER B	HILLSIDE WASHER
3/8"	95291	3/8" FLAT WASHER (96408)	1/2" BEVEL SQUARE WASHER (46040)	
1/2"	95230	1/2" FLAT WASHER (95872)	3/4" FLAT ROUND WASHER (95946)	543334
5/8"	95233	5/8" FLAT WASHER (95945)		
3/4"	95235	3/4" FLAT WASHER (95946)		
7/8"	95237	7/8" FLAT WASHER (95947)	1" FLAT ROUND WASHER (95948)	543335
1"	95238	1" FLAT WASHER (95948)		
1 1/8"	95239	1 1/8" FLAT WASHER (95949)	1 1/8" FLAT ROUND WASHER (95949)	543336

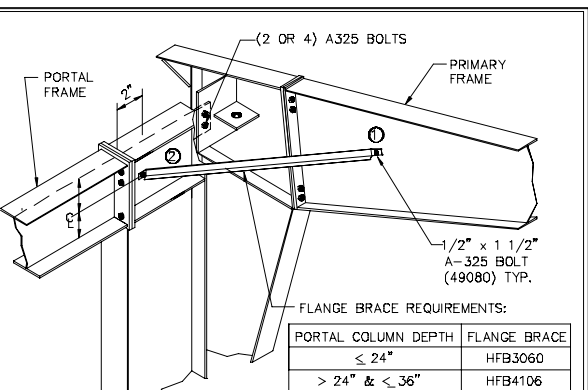
REV. DATE: 08/02/17 REV. NO. 04
BR01G2 ROD BRACE WEB SLOT ASSEMBLY



FIELD NOTE
THE BUILDER WILL HAVE TO FIELD REAM-OUT THE 9/16" DIAM. HOLE IN THE SECONDARY MEMBERS TO 13/16" DIAM. HOLES. (FOR THE 12MDBL FLANGE BRACE WITH A 3/4" X 2 1/2" A325 BOLT WHEN REQUIRED.)

FLANGE BRACE REQUIREMENTS:
 RULE#1- ALL FLANGE BRACES ON CROSS SECTIONS MUST BE INSTALLED.
 RULE#2- SINGLE FLANGE BRACES ARE REQUIRED WHEN PART MARK ON CROSS SECTION IS NOT ACCOMPANIED BY (2).
 RULE#3- FLANGE BRACES ARE REQUIRED BOTH SIDES OF THE FRAME WEB WHEN PART MARK IS ACCOMPANIED BY (2).
 RULE#4- WHENEVER POSSIBLE, PLACE SINGLE BRACES TOWARD THE CENTER OF THE BUILDING.
 RULE#5- WHENEVER POSSIBLE, PLACE ALL SINGLE BRACES ON THE SAME SIDE OF THE FRAME WEB.
 ** 10" & 11 1/2" PURLINS REQUIRE 3 BOLTS AT EACH END OF PURLIN LAP.

REV. DATE: 05/08/18 REV. NO. 02
BR06AE TYPICAL FLANGE BRACE CONNECTIONS CONT. PURLIN LAP SHOWN, CONT. GIRT & SIMPLE PURLIN

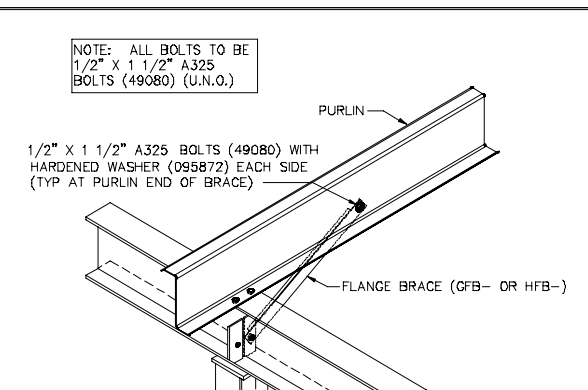


FLANGE BRACE REQUIREMENTS:

PORTAL COLUMN DEPTH	FLANGE BRACE
≤ 24"	HFB3060
> 24" & ≤ 36"	HFB4106
> 36"	HFB6032

NOTES:
 ① FIELD DRILL 9/16" HOLES IN PRIMARY AND PORTAL FRAME WEBS FOR FLANGE BRACE CONNECTIONS.
 ② DRILL 9/16" HOLE IN PORTAL FRAME COLUMN WEB APPROX. 2" FROM BOLTING PLATE @ BEAM C.

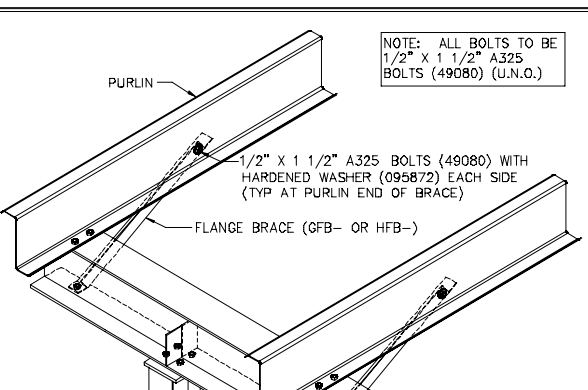
REV. DATE: 03/17/18 REV. NO. 03
BR12J1 PORTAL FRAME DETAIL CONNECTION TO FRAME



NOTE: ALL BOLTS TO BE 1/2" X 1 1/2" A325 BOLTS (49080) (U.N.O.)

1/2" X 1 1/2" A325 BOLTS (49080) WITH HARDENED WASHER (095872) EACH SIDE (TYP AT PURLIN END OF BRACE)

REV. DATE: 06/24/11 REV. NO. 01
BR25A3 ENDPOST TOP BRACING ENDPOST WITHIN 6" (152mm) OF PURLIN



NOTE: ALL BOLTS TO BE 1/2" X 1 1/2" A325 BOLTS (49080) (U.N.O.)

1/2" X 1 1/2" A325 BOLTS (49080) WITH HARDENED WASHER (095872) EACH SIDE (TYP AT PURLIN END OF BRACE)

REV. DATE: 01/16/15 REV. NO. 03
BR25CA ENDPOST TOP BETWEEN PURLINS NO CAP CHANNEL - BRACED TO PURLINS ONLY

F = FEET G = GAGE
 I = INCHES O = OPERATION
 E = EIGHTHS C = FIN/COLOR

PANEL/COVERING
 W 1 3 1 1 7 2 6 1 K T D
 * F F I I E G G O C C C
 LENGTH CODE

INSULATION
 I B 1 3 0 1 0 3 6 0 3 0 W V
 ** F F F I I I I I E C C
 LENGTH WIDTH THK CODE

SECONDARY (STANDARD)
 O B Z 1 9 1 1 4 1 7 - - - - -
 * * * F F I I E G G * * * * *

DEPTH | LENGTH | GAGE ADJUST.CODES
 | SHAPE

SECONDARY (SPECIAL)
 0 0 1 0 B Z 1 9 1 1 4 1 7 - - -
 * * * * * F F I I E G G * * * *

COUNTER DEPTH & LENGTH | GAGE ADJUST.CODES
 | SHAPE

ROD BRACING
 O 3 R S 2 5 1 0
 I E * * F F I I
 DIA LENGTH

RS = THREADS BOTH ENDS
 RT = THREADS ONE END - CLEVIS ONE END
 RU = CLEVIS BOTH ENDS
 RP = THREAD BOTH ENDS - NO HILLSIDES

CX*** = COLUMN (PLATE)
 CGX*** = COLUMN (GAGE)
 WCX*** = COLUMN (HOTROLL)

RBX*** = RAFTER (PLATE)
 BGX*** = RAFTER (GAGE)
 WRX*** = RAFTER (HOTROLL)
 TRX*** = TRUSS RAFTER

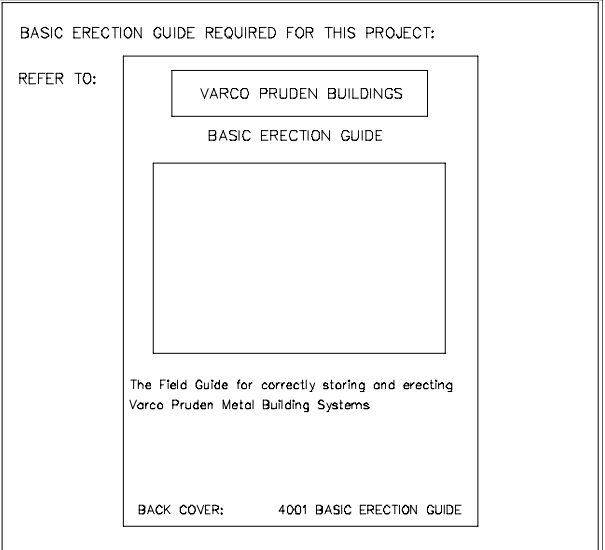
ICX*** = INTERIOR COLUMN
 PCX*** = PIPE COLUMN
 TCX*** = TUBE COLUMN

EPX*** = ENDPOST (PLATE)
 EGX*** = ENDPOST (GAGE)

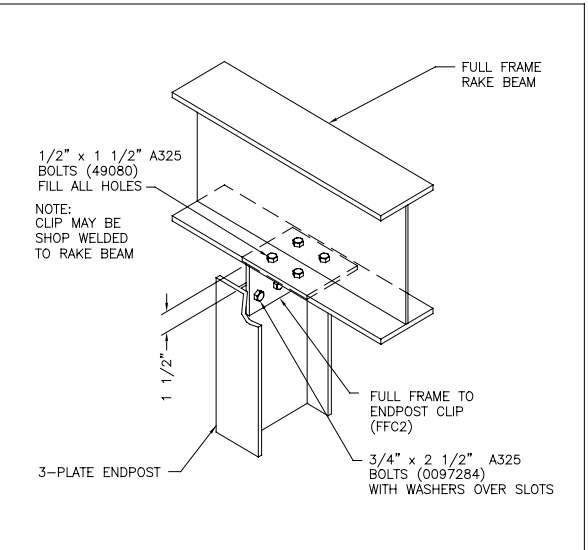
CBX*** = CANOPY (PLATE)
 CBX*** = PIGGYBACK CANOPY

DCC*** = 8 1/2" GAGE POST
 DCE*** = 10" GAGE POST

REV. DATE: 08/29/12 REV. NO. 01
EN50B1 MARK NUMBER KEY COMMON GENERATED MARK NUMBERS



REV. DATE: 07/30/14 REV. NO. 00
ENV002 BASIC ERECTION GUIDE - STRUCTURAL



REV. DATE: 04/04/22 REV. NO. 02
PF10CA 3-PLATE ENDPOST TO FULL FRAME FULL FRAME ENDWALL

NOT FOR CONSTRUCTION

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, UNLESS NOTED OTHERWISE.

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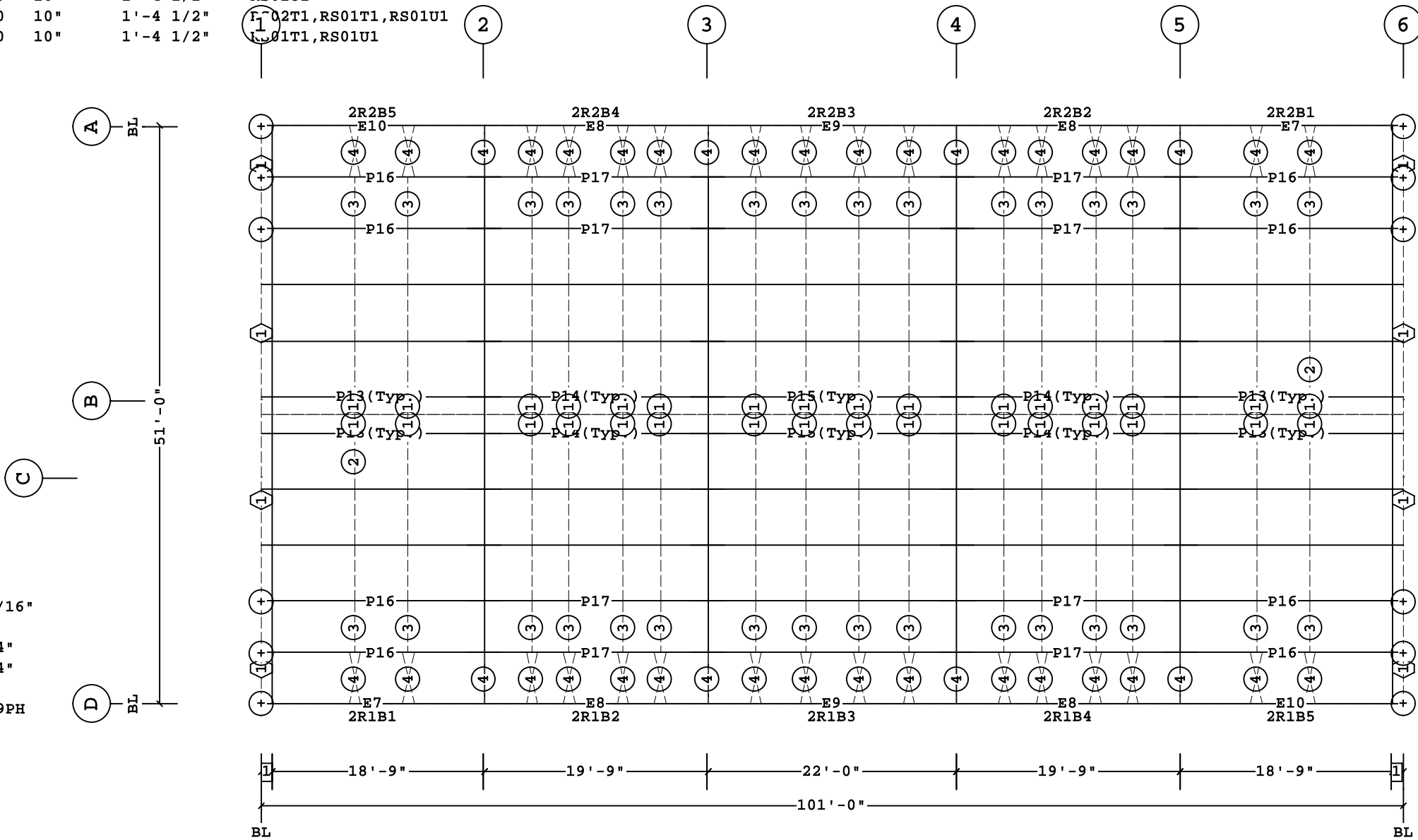
B	VP Buildings 3200 Players Club Circle Memphis TN 38125			PRIMARY BRACING SED'S	
	REV	DATE	BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
					CUSTOMER
					LOCATION Rio Grande, Ohio
				PROJECT BHCC New Trades bldg	BUILDER'S POW
NTS				VP VERSION: 2023.4a	PAGE 15
3/8/2024 SEDSheet		9:39:52		FILENAME: BHCC new trades building -2-8-2024	



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Secondary Part Schedule

Mark	Part	Thick.	Depth	Lap	Detail
E10	00210ES1908417B02	0.0600	10"		RS12PH,RS12PA
E7	00110ES1908417B02	0.0600	10"		RS12PH,RS12PA
E8	10E1908417DDB02	0.0600	10"		RS12PA
E9	10E2111417DDB02	0.0600	10"		RS12PA
P13	10Z2102416A2B0	0.0680	10"	1'-4 1/2"	RS02T1,RS01U1
P14	10Z220841622B0	0.0680	10"	1'-4 1/2"	RS01U1
P15	10Z241141722B0	0.0600	10"	1'-4 1/2"	RS01U1
P16	10Z2102417A2B0	0.0600	10"	1'-4 1/2"	RS02T1,RS01T1,RS01U1
P17	10Z220841722B0	0.0600	10"	1'-4 1/2"	RS01T1,RS01U1



Secondary Bracing Schedule

Id	Qty	Mark No	Spacing
1	32	CPBRC020000	1'-7 11/16"
2	96	CPBB050108(Typ.)	5'-0"
3	32	CPBB040814	4'-7 1/4"
4	72	PBA0411	4'-7 1/4"

See SED:

BR09PK, BR09RY, BR09RZ, BR09JG, BR09PH
BR09JR, BR09JH, BR09K5, BR09K2

Part Mark Key

1 RKCB15
(+) SSR Fixed Clip Location

ROOF SECONDARY PLAN

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

1 1'-0"
Dimension Key

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg

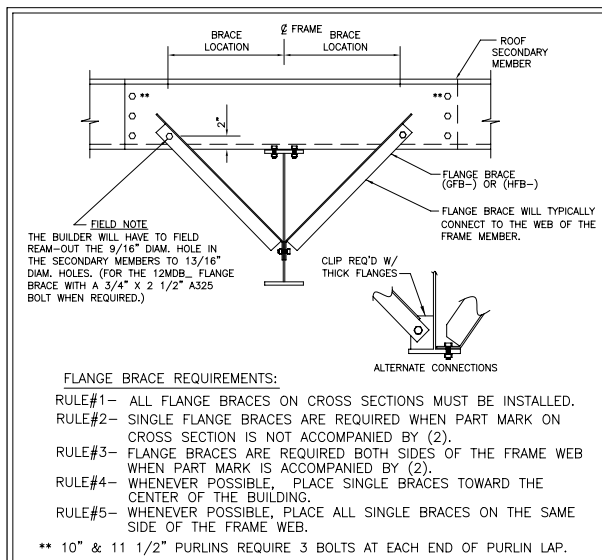
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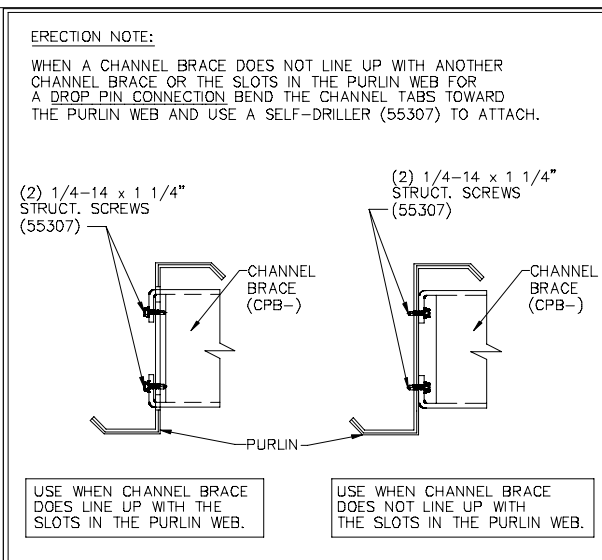
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REV		DATE	BY	DESCRIPTION	BUILDER	CUSTOMER	LOCATION	PROJECT	BUILDER'S POW	JOB #	DATE	DRAWN/CHECK
				VP Buildings	Riedel-wilks Building Structures, Inc.		Rio Grande, Ohio	BHCC New Trades bldg			3/8/2024	
				3200 Players Club Circle Memphis TN 38125								
				NTS								
				3/8/2024	9:39:55	FILENAME: BHCC new trades building -2-8-2024						

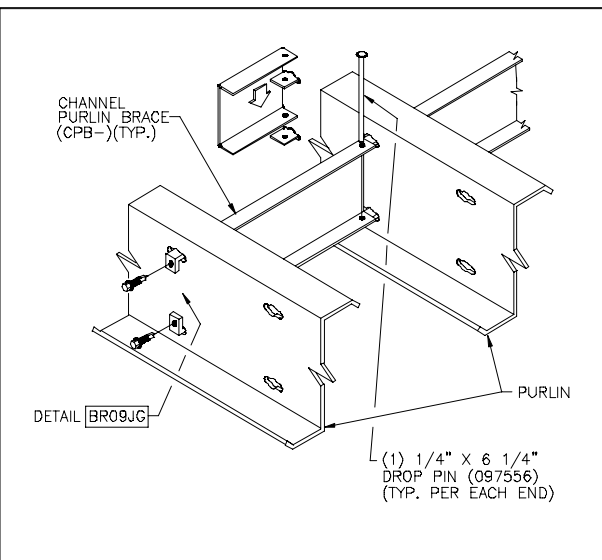




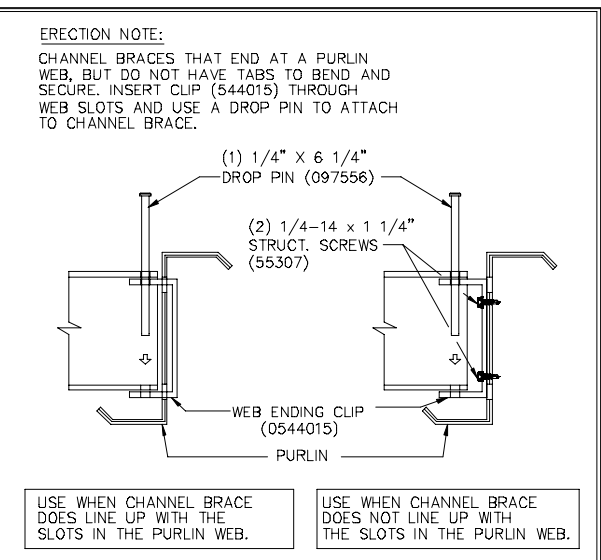
REV. DATE:05/08/18 REV. NO.02
 BR06AE TYPICAL FLANGE BRACE CONNECTIONS CONT. PURLIN LAP SHOWN, CONT. GIRT & SIMPLE PURLIN



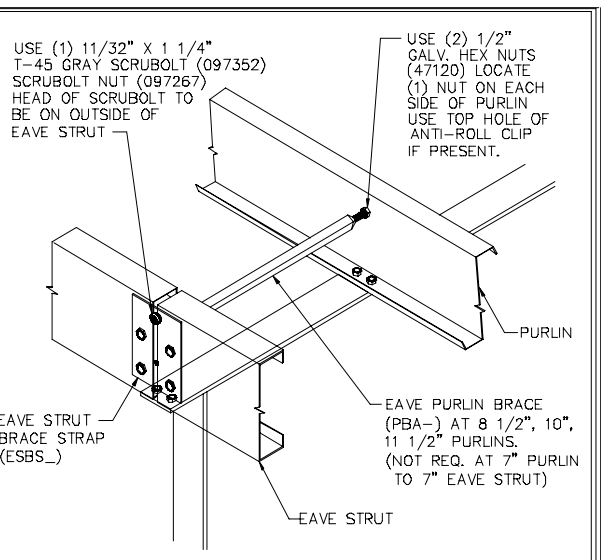
REV. DATE:04/09/11 REV. NO.01
 BR09JG CHANNEL BRACE ENDING AT PURLIN WEB SELF-DRILLER WITH BENT TABS



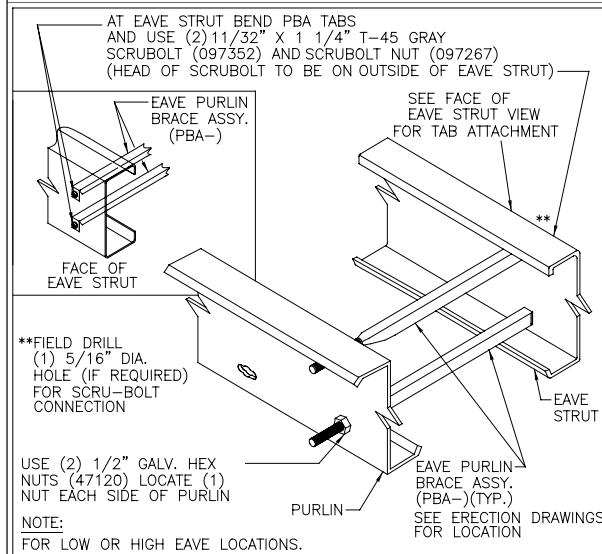
REV. DATE:07/01/09 REV. NO.00
 BR09JH SINGLE CHANNEL PURLIN BRACE ENDING AT PURLIN WEB LOCATION



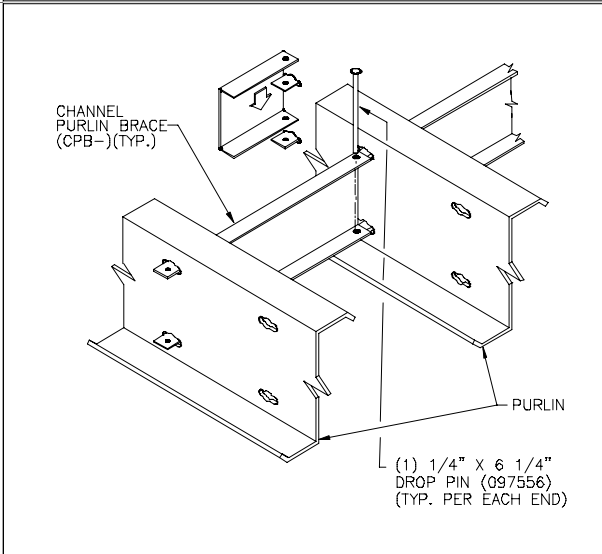
REV. DATE:04/09/11 REV. NO.01
 BR09JR CHANNEL BRACE ENDING AT PURLIN WEB WEB ENDING CLIP WITH DROP PIN



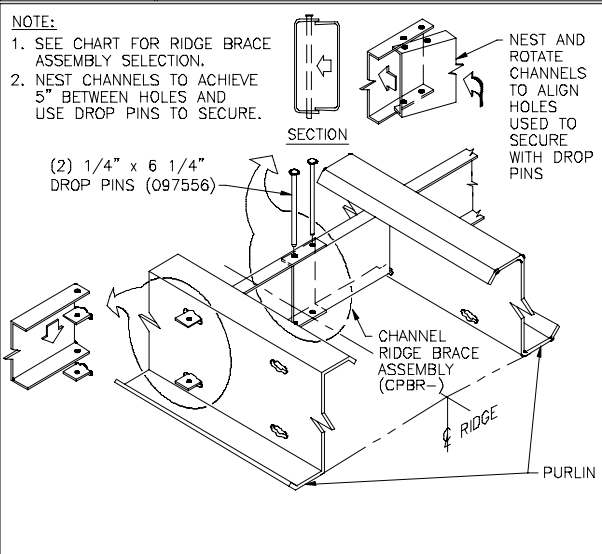
REV. DATE:07/26/16 REV. NO.05
 BR09K2 EAVE BRACE STRAP AND EAVE PURLIN BRACE LOCATED AT EAVE - CENTERLINE OF FRAME



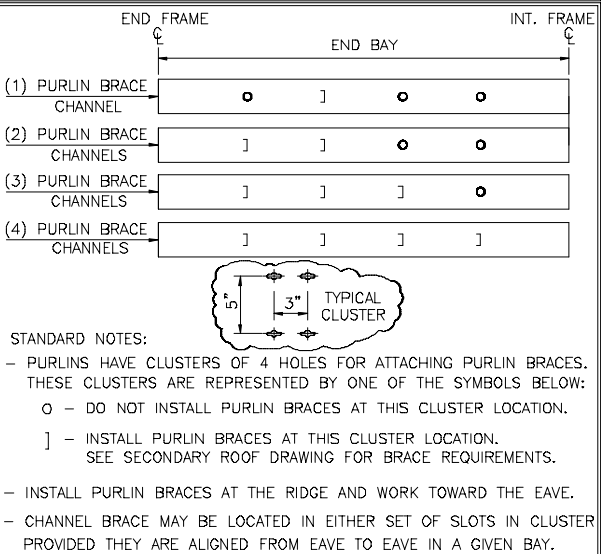
REV. DATE:02/22/22 REV. NO.05
 BR09K5 EAVE STRUT BRACE



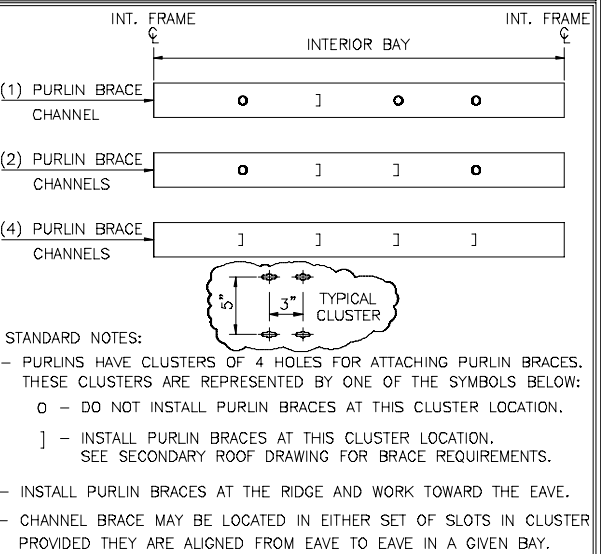
REV. DATE:07/01/09 REV. NO.00
 BR09PH SINGLE CHANNEL PURLIN BRACE INTERMEDIATE LOCATION



REV. DATE:07/01/09 REV. NO.00
 BR09PK CHANNEL RIDGE BRACE ASSEMBLY SINGLE BRACE AT SYMMETRICAL RIDGE



REV. DATE:07/01/09 REV. NO.00
 BR09RY PURLIN BRACE CLUSTER LOCATION END BAY CHANNEL LOCATION



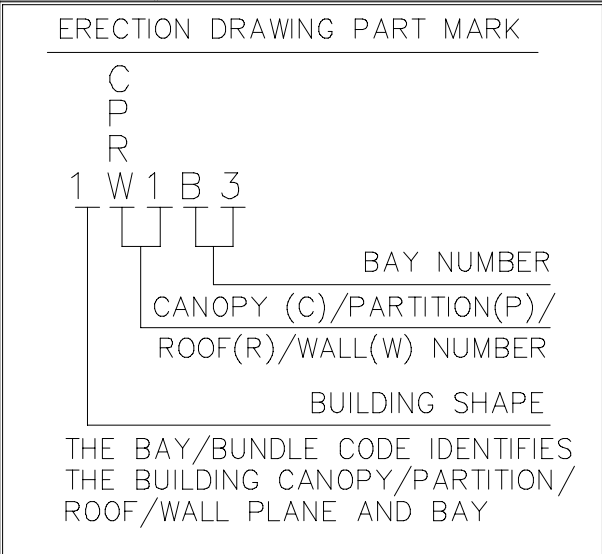
REV. DATE:07/01/09 REV. NO.00
 BR09RZ PURLIN BRACE CLUSTER LOCATION INTERIOR BAY CHANNEL LOCATION

DEPTH	SHAPE	GAGE
07 = 7"	Z = ZEE	11 = 0.113
08 = 8 1/2"	C = CEE	12 = 0.098
10 = 10"	E = LOW EAVE STRUT	13 = 0.088
11 = 11 1/2"	H = HIGH EAVE STRUT	14 = 0.079
		15 = 0.073
		16 = 0.068
		17 = 0.060

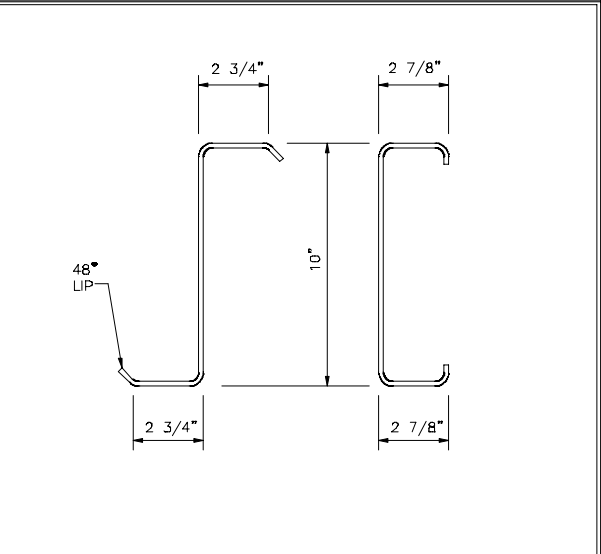
REV. DATE:07/01/09 REV. NO.00
 EN51B1 SECONDARY PART MARK NUMBER COMMON GENERATED MARK NUMBERS

DEPTH	SHAPE	GAGE
07 = 7"	ZS = ZEE	11 = 0.113
08 = 8 1/2"	CS = CEE	12 = 0.098
10 = 10"	ES = LOW EAVE STRUT	13 = 0.088
11 = 11 1/2"	HS = HIGH EAVE STRUT	14 = 0.079
	BB = BACK TO BACK CEE	15 = 0.073
	FB = FACE TO BACK CEE	16 = 0.068
	FF = FACE TO FACE CEE	17 = 0.060

REV. DATE:07/01/09 REV. NO.00
 EN51B2 SPECIAL SECONDARY PART MARK KEY COMMON GENERATED MARK NUMBERS



REV. DATE:01/31/13 REV. NO.01
 EN51B3 SECONDARY BUNDLE LOCATION KEY ALL SECONDARY DEPTHS



REV. DATE:07/01/06 REV. NO.00
 EN53G1 PURLIN AND GIRTS SIZES 10" 254mm

NOT FOR CONSTRUCTION

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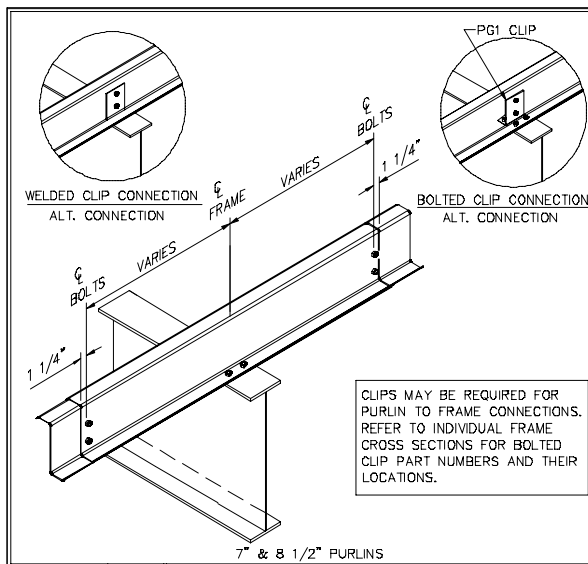
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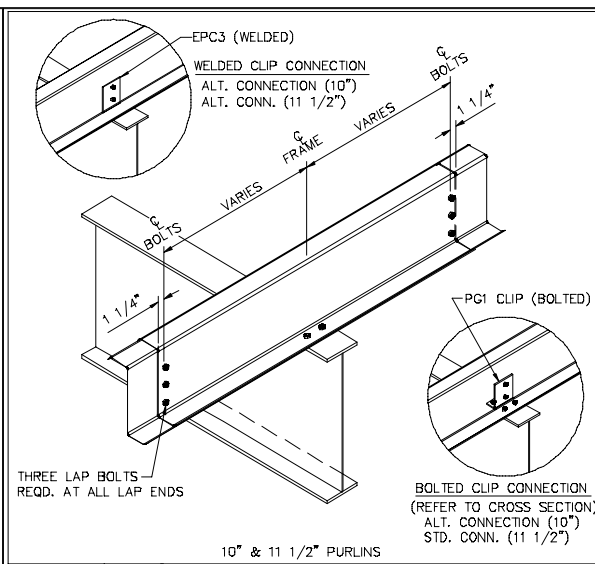
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REV	DATE	BY	DESCRIPTION

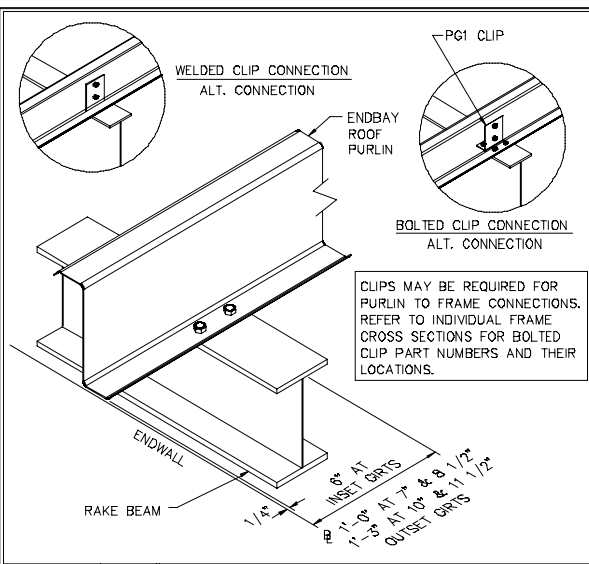
VP Buildings		ROOF SECONDARY SED'S (a)	
3200 Players Club Circle Memphis TN 38125		BUILDER	Riedel-wilks Building Structures, Inc.
		CUSTOMER	
		LOCATION	Rio Grande, Ohio
		PROJECT	BHCC New Trades bldg
		BUILDER'S POW	
VP BUILDINGS		JOB #	
VP BUILDINGS		DATE	3/8/2024
VP BUILDINGS		DRAWN/CHECK	
VPC VERSION: 2023.4a		PAGE	17



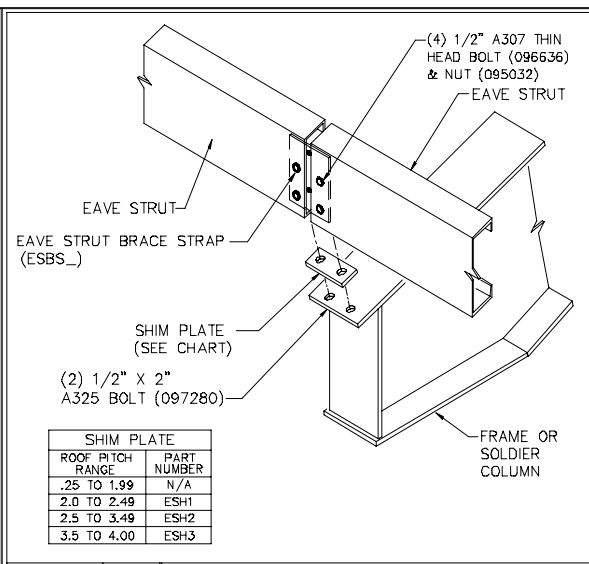
REV. DATE:06/17/15 | REV. NO. 02 | PURLIN CONNECTION AT INTERIOR FRAME CONTINUOUS PURLINS | RS01T1



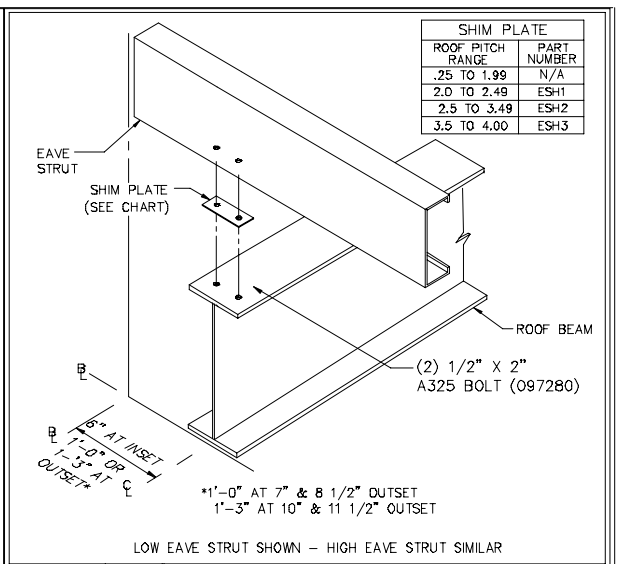
REV. DATE:06/17/14 | REV. NO. 02 | PURLINS AT INTERIOR FRAME CONTINUOUS PURLINS | RS01U1



REV. DATE:06/17/15 | REV. NO. 02 | PURLIN CONNECTION TO END FRAME CONTINUOUS PURLINS | RS02T1



REV. DATE:07/20/16 | REV. NO. 03 | EAVE STRUT CONNECTION AT INTERIOR FRAME | RS12PA



REV. DATE:03/26/15 | REV. NO. 01 | EAVE STRUT CONNECTION AT END FRAME | RS12PH

SHIM PLATE	
ROOF PITCH RANGE	PART NUMBER
.25 TO 1.99	N/A
2.0 TO 2.49	ESH1
2.5 TO 3.49	ESH2
3.5 TO 4.00	ESH3

SHIM PLATE	
ROOF PITCH RANGE	PART NUMBER
.25 TO 1.99	N/A
2.0 TO 2.49	ESH1
2.5 TO 3.49	ESH2
3.5 TO 4.00	ESH3

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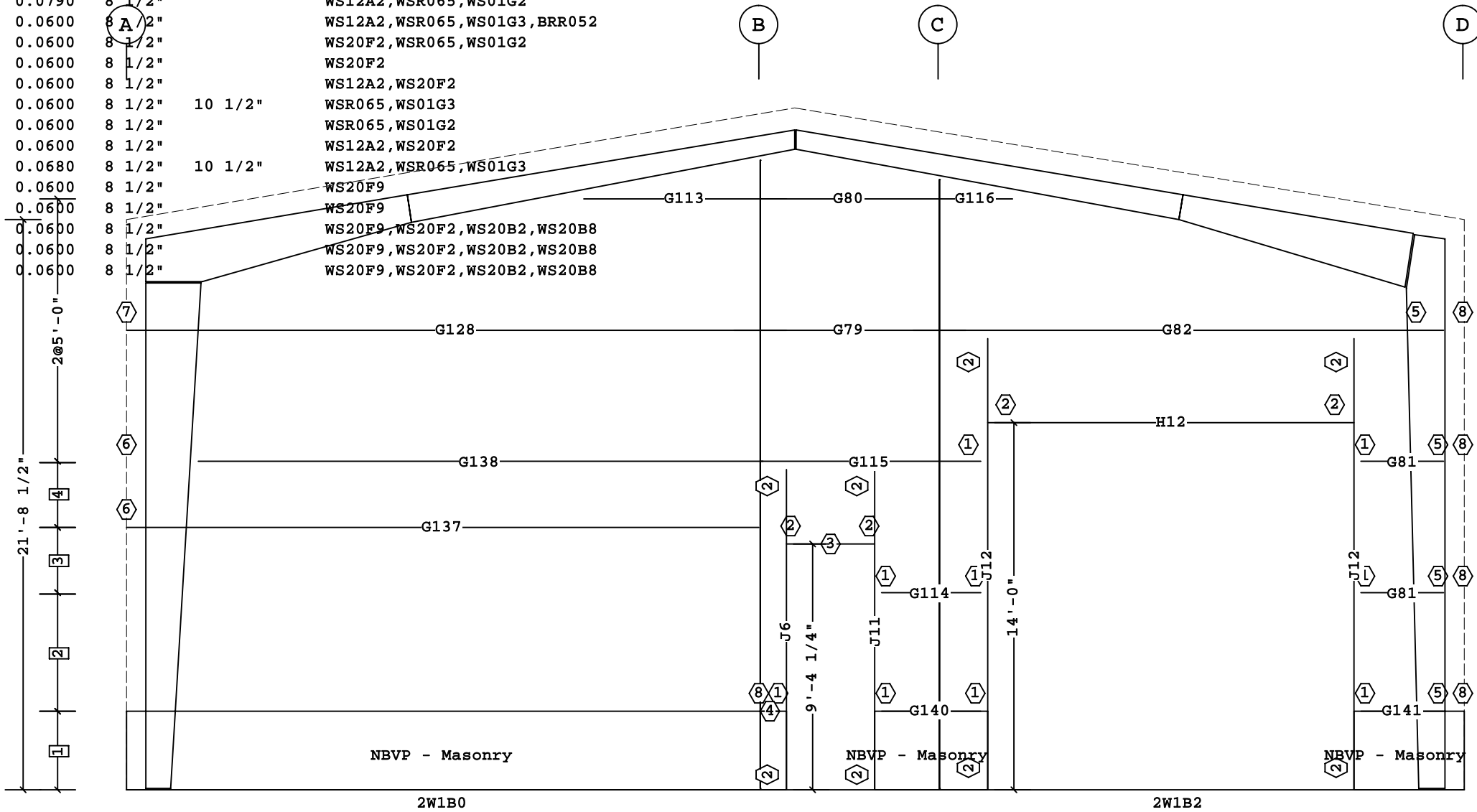
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B	VP Buildings 3200 Players Club Circle Memphis TN 38125		
	REV	DATE	BY

ROOF SECONDARY SED'S (b)		 VPC VERSION: 2023.4a a division of BlueScope Buildings North America, Inc.	JOB # DATE DRAWN/CHECK PAGE	
BUILDER	Riedel-wilks Building Structures, Inc.			3/8/2024
CUSTOMER				
LOCATION	Rio Grande, Ohio			
PROJECT	BHCC New Trades bldg			18

Secondary Part Schedule

Mark	Part	Thick.	Depth	Lap	Detail
G113	00308ZS060961700	0.0600	8 1/2"	10 1/2"	WS12A2, WS01G3, WSR065, WS04C2
G114	00408ZS030901700	0.0600	8 1/2"		WS20F2
G115	00508ZS080441700	0.0600	8 1/2"		WS20F2, WSR065, WS01G2
G116	00608ZS020921700	0.0600	8 1/2"		WS12A2, WS04C2, WSR065, WS01G2
G128	08Z25016171100	0.0600	8 1/2"	10 1/2"	WS12A2, WSR065, WS01G3
G137	00108CS210701400	0.0790	8 1/2"		WS12A2, WSR065, WS01G2
G138	00108ZS210651700	0.0600	8 1/2"		WS12A2, WSR065, WS01G3, BRR052
G139	JCP051080	0.0600	8 1/2"		WS20F2, WSR065, WS01G2
G140	00208CS030901700	0.0600	8 1/2"		WS20F2
G141	08C0301417GQ00	0.0600	8 1/2"		WS12A2, WS20F2
G79	08Z08094171100	0.0600	8 1/2"	10 1/2"	WSR065, WS01G3
G80	08Z0609417DD00	0.0600	8 1/2"		WSR065, WS01G2
G81	08Z0301417GQ00	0.0600	8 1/2"		WS12A2, WS20F2
G82	08Z2002416Q100	0.0680	8 1/2"	10 1/2"	WS12A2, WSR065, WS01G3
H12	00408JS1400017	0.0600	8 1/2"		WS20F9
H8	00108JS0304417	0.0600	8 1/2"		WS20F9
J11	00308JS1202217	0.0600	8 1/2"		WS20F9, WS20F2, WS20B2, WS20B8
J12	00508JS1702217	0.0600	8 1/2"		WS20F9, WS20F2, WS20B2, WS20B8
J6	00208JS1202217	0.0600	8 1/2"		WS20F9, WS20F2, WS20B2, WS20B8



9	4'-2"	8	GFA106
8	1'-10"	7	GFA400
7	2'-5 1/2"	6	GFA306
6	3'-4 1/2"	5	VCC07003090
5	1'-0"	4	G139
4	2'-5 15/16"	3	H8
3	2'-6 1/16"	2	PG1
2	4'-5 15/16"	1	JTG1
1	3'-0 1/16"		

□ Dimension Key ○ Part Mark Key

SECONDARY ELEVATION AT 1

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg, Wall = 1

1. UNLESS NOTED, USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS.
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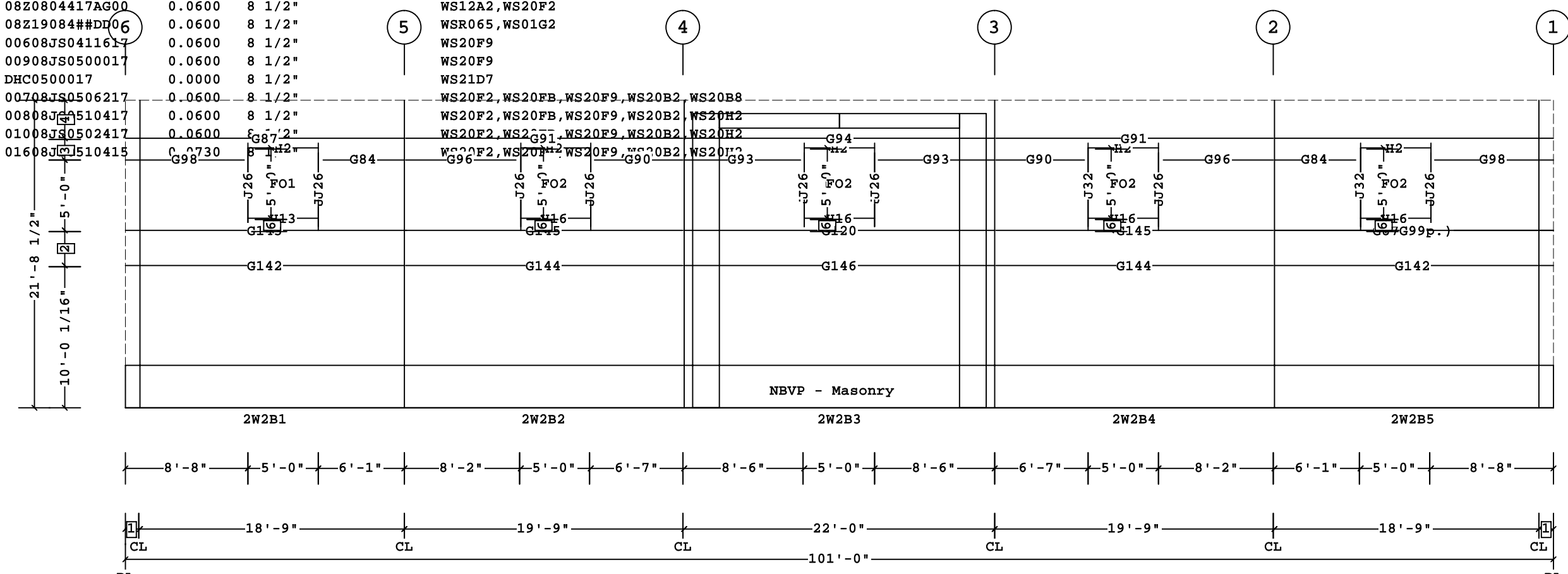
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B VP Buildings 3200 Players Club Circle Memphis TN 38125	REV DATE BY DESCRIPTION			BUILDER Riedel-wilks Building Structures, Inc.	
				CUSTOMER	
				LOCATION Rio Grande, Ohio	
				PROJECT BHCC New Trades bldg	
				BUILDER'S POW	
NTS			VP BUILDINGS VP BUILDINGS WPCO/PRL/EN		JOB # DATE 3/8/2024 DRAWN/CHECK
3/8/2024 9:39:59			FILENAME: BHCC new trades building -2-8-2024		VPC VERSION: 2023.4a PAGE 19 a division of BlueScope Buildings North America, Inc.

Secondary Part Schedule

Mark	Part	Thick.	Depth	Lap	Detail
G120	08Z2111415DD00	0.0730	8 1/2"		WSR065,WS01G2
G142	08C1908417AD00	0.0600	8 1/2"		WS12A2,WSR065,WS01G2
G143	08Z1910017AC00	0.0600	8 1/2"		WS12A2,WSR065,WS01G3
G144	08C1908417DD00	0.0600	8 1/2"		WSR065,WS01G2
G145	08Z1908416DD00	0.0680	8 1/2"		WSR065,WS01G2
G146	08C2111415DD00	0.0730	8 1/2"		WSR065,WS01G2
G84	08Z0509417DG00	0.0600	8 1/2"		WS20F2,WSR065,WS01G2
G87	08Z1908417AD00	0.0600	8 1/2"		WS12A2,WSR065,WS01G2
G90	08Z0603417DG00	0.0600	8 1/2"		WS20F2,WSR065,WS01G2
G91	08Z1908417DD00	0.0600	8 1/2"		WSR065,WS01G2
G93	08Z0802417DG00	0.0600	8 1/2"		WS20F2,WSR065,WS01G2
G94	08Z2111417DD00	0.0600	8 1/2"		WSR065,WS01G2
G96	08Z0710417DG00	0.0600	8 1/2"		WS20F2,WSR065,WS01G2
G98	08Z0804417AG00	0.0600	8 1/2"		WS12A2,WS20F2
G99	08Z19084##DD006	0.0600	8 1/2"		WSR065,WS01G2
H13	00608JS0411617	0.0600	8 1/2"		WS20F9
H16	00908JS0500017	0.0600	8 1/2"		WS20F9
H2	DHC0500017	0.0000	8 1/2"		WS21D7
J13	00708JS0506217	0.0600	8 1/2"		WS20F2,WS20FB,WS20F9,WS20B2,WS20B8
J26	00808JS0510417	0.0600	8 1/2"		WS20F2,WS20FB,WS20F9,WS20B2,WS20H2
J27	01008JS0502417	0.0600	8 1/2"		WS20F2,WS20F9,WS20B2,WS20H2
J32	01608JS0510415	0.0730	8 1/2"		WS20F2,WS20FB,WS20F9,WS20B2,WS20H2

Framed Opening Locations									
Id	Width	Height	Sill Ht.	Frame	To	Dimen.	Description		
FO1	5'-0"	5'-0"	13'-4"	1	Jamb-L	7'-8"	5050 window opening		
FO2	5'-0"	5'-0"	13'-4"	2	Jamb-L	8'-2"	5050 window opening		
FO2	5'-0"	5'-0"	13'-4"	3	Jamb-L	8'-6"	5050 window opening		
FO2	5'-0"	5'-0"	13'-4"	4	Jamb-L	6'-7"	5050 window opening		
FO2	5'-0"	5'-0"	13'-4"	5	Jamb-L	6'-1"	5050 window opening		



SECONDARY ELEVATION AT A

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

- 6 10"
 - 5 0'-0"
 - 4 2'-8 1/2"
 - 3 1'-6"
 - 2 2'-5 15/16"
 - 1 1'-0"
- Dimension Key

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg, Wall = 2

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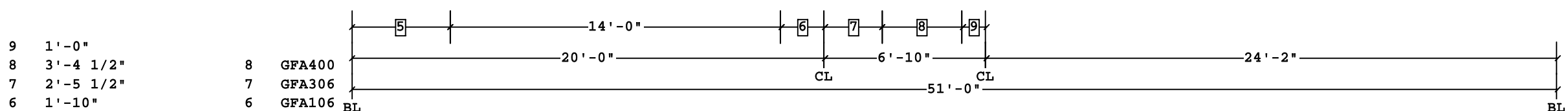
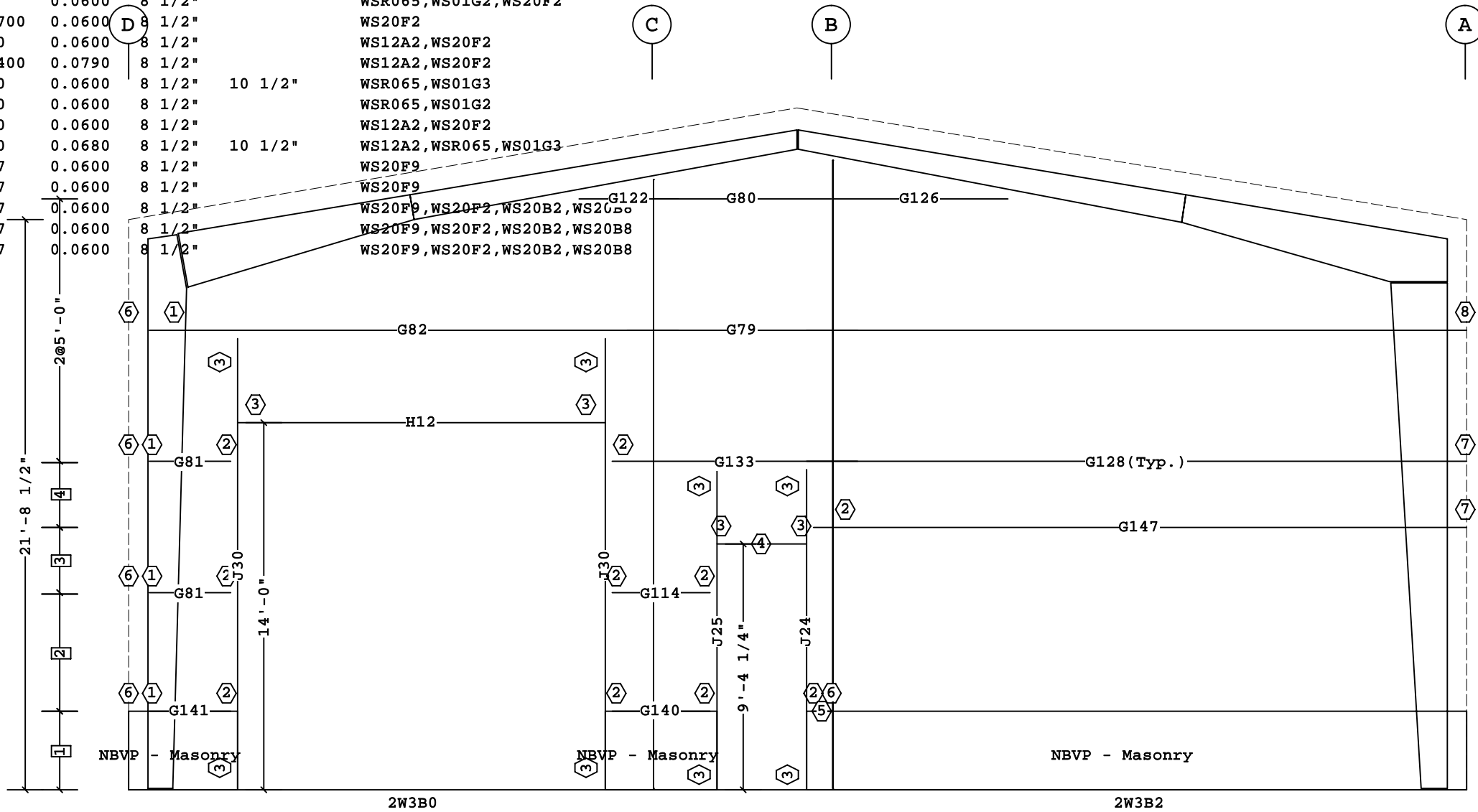
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B	VP Buildings 3200 Players Club Circle Memphis TN 38125			SECONDARY ELEVATION AT A	
	REV	DATE	BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
					CUSTOMER
					LOCATION Rio Grande, Ohio
NTS				PROJECT BHCC New Trades bldg	 VP BUILDINGS WPCO/PRL/EN
				BUILDER'S POW	
				DATE 3/8/2024	
				DRAWN/CHECK	
				VP VERSION: 2023.4a	PAGE 20
				FILENAME: BHCC new trades building -2-8-2024	a division of BlueScope Buildings North America, Inc.

Secondary Part Schedule

Mark	Part	Thick.	Depth	Lap	Detail
G114	00408ZS030901700	0.0600	8 1/2"		WS20F2
G122	00708ZS021061700	0.0600	8 1/2"	10 1/2"	WS12A2, WS01G3, WSR065, WS04C2
G126	01108ZS060821700	0.0600	8 1/2"		WS12A2, WS04C2, WSR065, WS01G2
G128	08Z25016171100	0.0600	8 1/2"	10 1/2"	WS12A2, WSR065, WS01G3
G133	00208ZS090441700	0.0600	8 1/2"	10 1/2"	WSR065, WS01G3, WS20F2
G139	JCP051080	0.0600	8 1/2"		WSR065, WS01G2, WS20F2
G140	00208CS030901700	0.0600	8 1/2"		WS20F2
G141	08C0301417GQ00	0.0600	8 1/2"		WS12A2, WS20F2
G147	00308CS220401400	0.0790	8 1/2"		WS12A2, WS20F2
G79	08Z08094171100	0.0600	8 1/2"	10 1/2"	WSR065, WS01G3
G80	08Z0609417DD00	0.0600	8 1/2"		WSR065, WS01G2
G81	08Z0301417GQ00	0.0600	8 1/2"		WS12A2, WS20F2
G82	08Z2002416Q100	0.0680	8 1/2"	10 1/2"	WS12A2, WSR065, WS01G3
H12	00408JS1400017	0.0600	8 1/2"		WS20F9
H8	00108JS0304417	0.0600	8 1/2"		WS20F9
J24	01408JS1202217	0.0600	8 1/2"		WS20F9, WS20F2, WS20B2, WS20B8
J25	01208JS1202217	0.0600	8 1/2"		WS20F9, WS20F2, WS20B2, WS20B8
J30	01108JS1702217	0.0600	8 1/2"		WS20F9, WS20F2, WS20B2, WS20B8



SECONDARY ELEVATION AT 6

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg, Wall = 3

- UNLESS NOTED, USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS.
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	REV	DATE	BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
					CUSTOMER
					LOCATION Rio Grande, Ohio
				PROJECT BHCC New Trades bldg	
				BUILDER'S POW	
NTS			VP BUILDINGS VP CO. PULLEN		
3/8/2024 9:40:01			VP VERSION: 2023.4a		
FILENAME: BHCC new trades building -2-8-2024			PAGE 21		

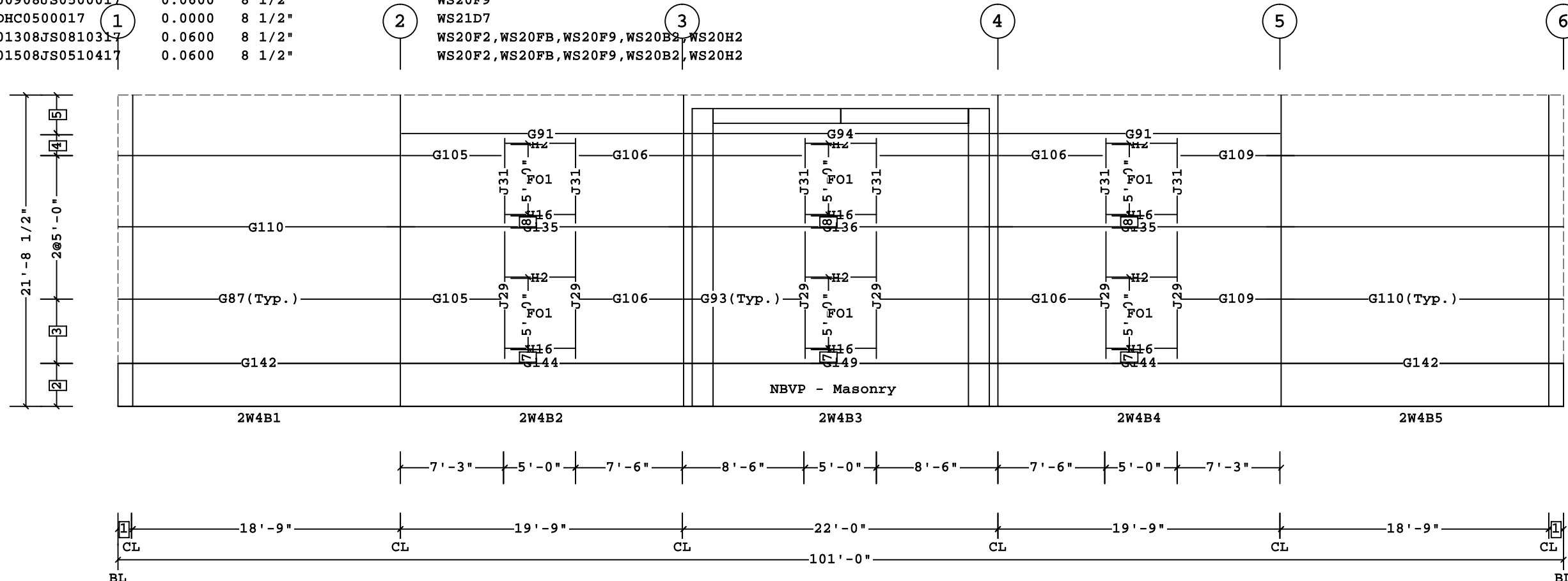


Secondary Part Schedule

Mark	Part	Thick.	Depth	Lap	Detail
G105	08Z0611417DG00	0.0600	8 1/2"		WS20F2, WSR065, WS01G2
G106	08Z0702417DG00	0.0600	8 1/2"		WSR065, WS01G2, WS20F2
G109	08Z0711417G100	0.0600	8 1/2"	10 1/2"	WSR065, WS01G3, WS20F2
G110	08Z2008417A100	0.0600	8 1/2"	10 1/2"	WS12A2, WSR065, WS01G3
G135	08Z21084171100	0.0600	8 1/2"	10 1/2"	WSR065, WS01G3
G136	08Z23114171100	0.0600	8 1/2"	10 1/2"	WSR065, WS01G3
G142	08C1908417AD00	0.0600	8 1/2"		WS12A2, WSR065, WS01G2
G144	08C1908417DD00	0.0600	8 1/2"		WSR065, WS01G2
G149	08C2111417DD00	0.0600	8 1/2"		WSR065, WS01G2
G87	08Z1908417AD00	0.0600	8 1/2"		WS12A2, WSR065, WS01G2
G91	08Z1908417DD00	0.0600	8 1/2"		WSR065, WS01G2
G93	08Z0802417DG00	0.0600	8 1/2"		WS20F2, WSR065, WS01G2
G94	08Z2111417DD00	0.0600	8 1/2"		WSR065, WS01G2
H16	00908JS0500017	0.0600	8 1/2"		WS20F9
H2	DHC0500017	0.0000	8 1/2"		WS21D7
J29	01308JS0810317	0.0600	8 1/2"		WS20F2, WS20FB, WS20F9, WS20B2, WS20H2
J31	01508JS0510417	0.0600	8 1/2"		WS20F2, WS20FB, WS20F9, WS20B2, WS20H2

Framed Opening Locations

Id	Width	Height	Sill Ht.	Frame	To	Dimen.	Description
FO1	5'-0"	5'-0"	13'-4"	2	Jamb-L	7'-3"	5050 window opening
FO1	5'-0"	5'-0"	4'-0"	2	Jamb-L	7'-3"	5050 window opening
FO1	5'-0"	5'-0"	4'-0"	3	Jamb-L	8'-6"	5050 window opening
FO1	5'-0"	5'-0"	13'-4"	3	Jamb-L	8'-6"	5050 window opening
FO1	5'-0"	5'-0"	13'-4"	4	Jamb-L	7'-6"	5050 window opening
FO1	5'-0"	5'-0"	4'-0"	4	Jamb-L	7'-6"	5050 window opening



- 8 10"
- 7 11 15/16"
- 6 0'-0"
- 5 2'-8 1/2"
- 4 1'-6"
- 3 4'-5 15/16"
- 2 3'-0 1/16"
- 1 1'-0"

Dimension Key

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg, Wall = 4

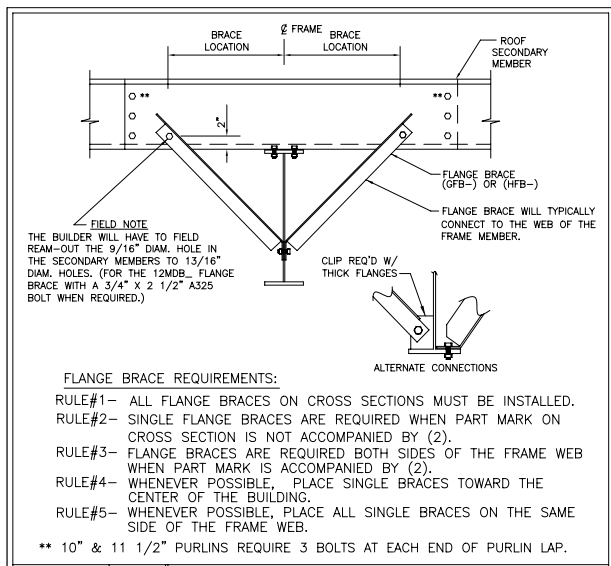
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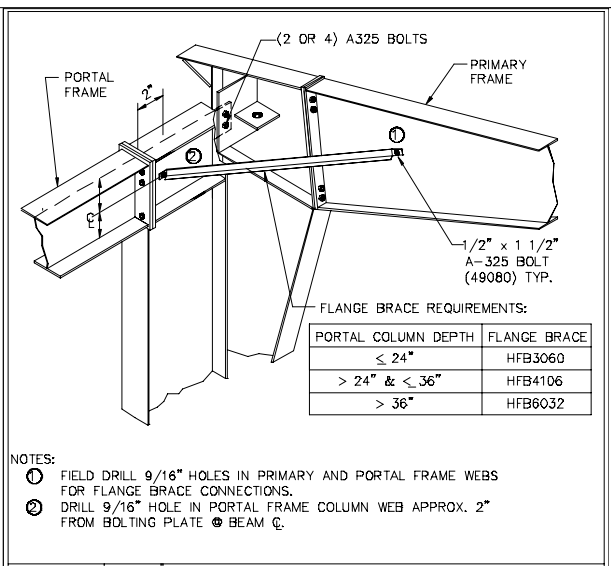
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B	VP Buildings 3200 Players Club Circle Memphis TN 38125			SECONDARY ELEVATION AT D	
	REV	DATE	BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
					CUSTOMER
					LOCATION Rio Grande, Ohio
				PROJECT BHCC New Trades bldg	
				BUILDER'S POW	
NTS				VP VERSION: 2023.4a	PAGE 22
3/8/2024		9:40:02		FILENAME: BHCC new trades building -2-8-2024	

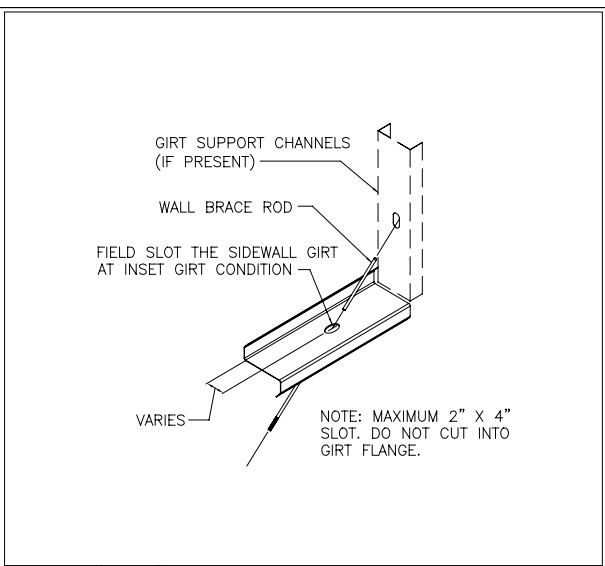




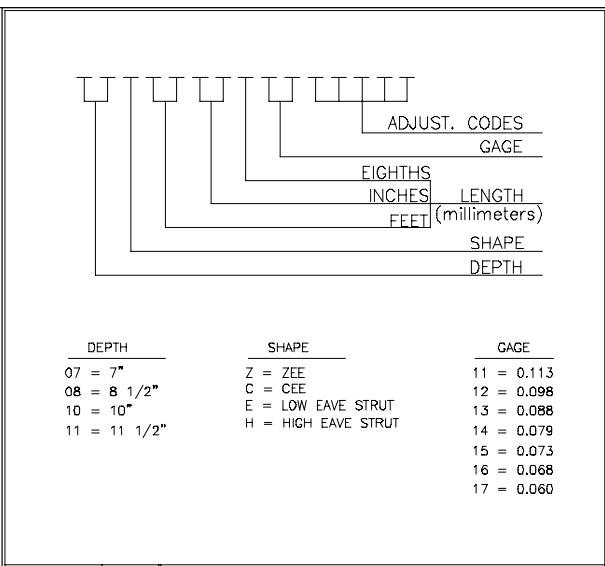
REV. DATE:05/06/18 REV. NO.02
BR06AE TYPICAL FLANGE BRACE CONNECTIONS
CONT. PURLIN LAP SHOWN, CONT. GIRT & SIMPLE PURLIN



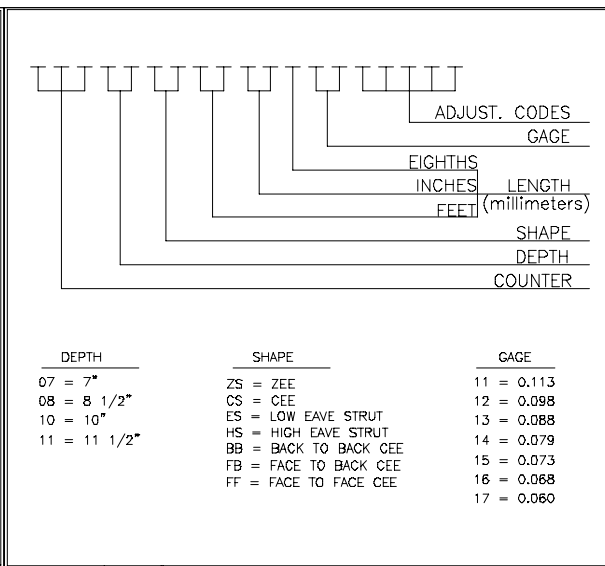
REV. DATE:03/17/16 REV. NO.03
BR12J1 PORTAL FRAME DETAIL CONNECTION TO FRAME



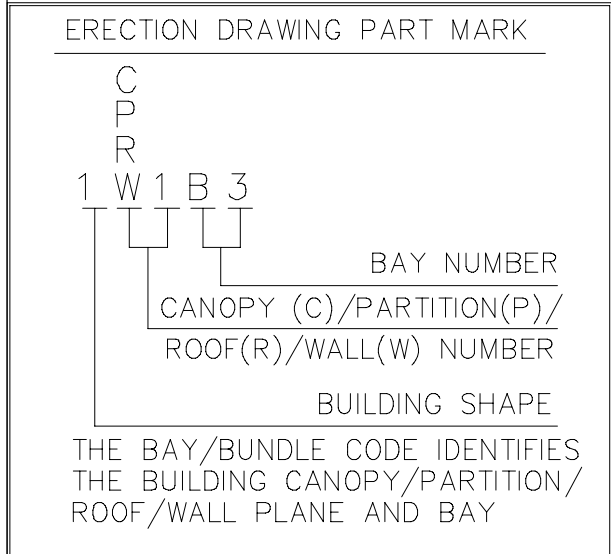
REV. DATE:09/10/20 REV. NO.00
BRR052 INSET GIRTS WITH BRACE RODS FIELD WORK BRACE SLOT



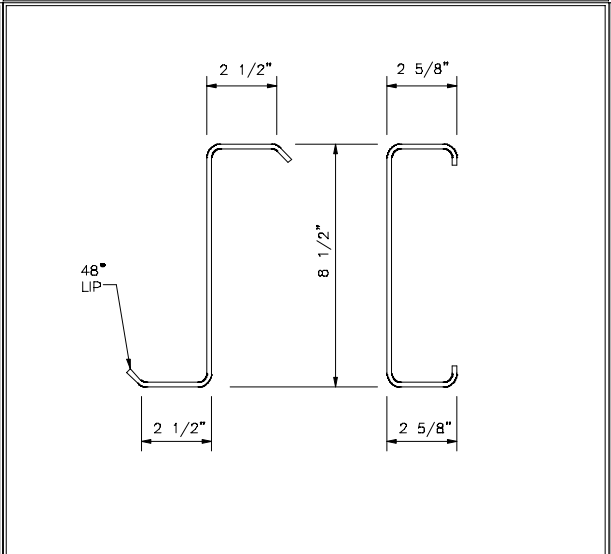
REV. DATE:07/01/08 REV. NO.00
EN51B1 SECONDARY PART MARK NUMBER COMMON GENERATED MARK NUMBERS



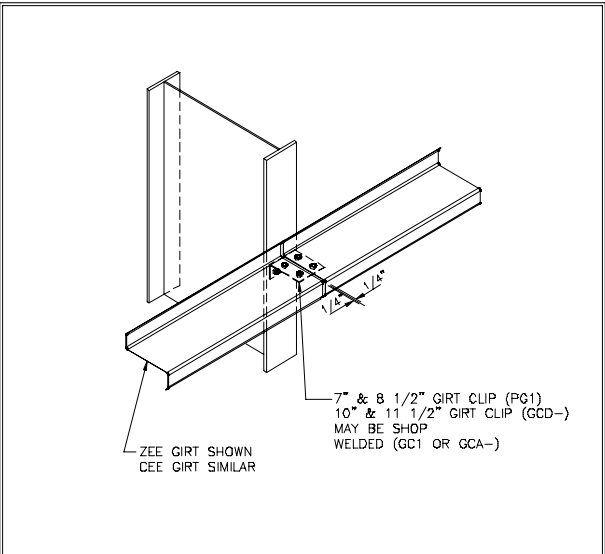
REV. DATE:07/01/08 REV. NO.00
EN51B2 SPECIAL SECONDARY PART MARK KEY COMMON GENERATED MARK NUMBERS



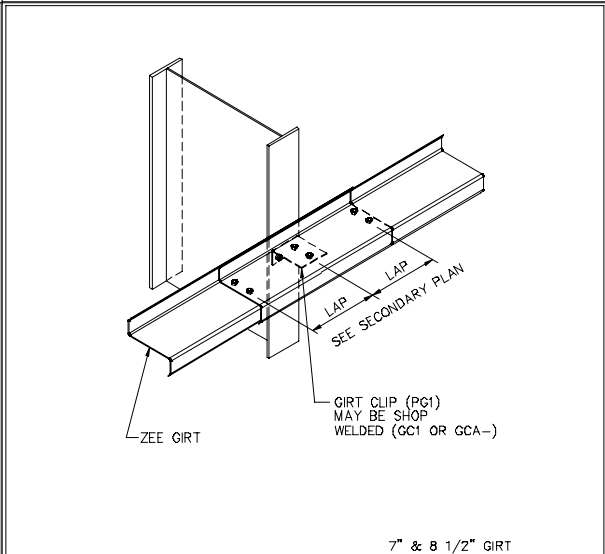
REV. DATE:01/31/13 REV. NO.01
EN51B3 SECONDARY BUNDLE LOCATION KEY ALL SECONDARY DEPTHS



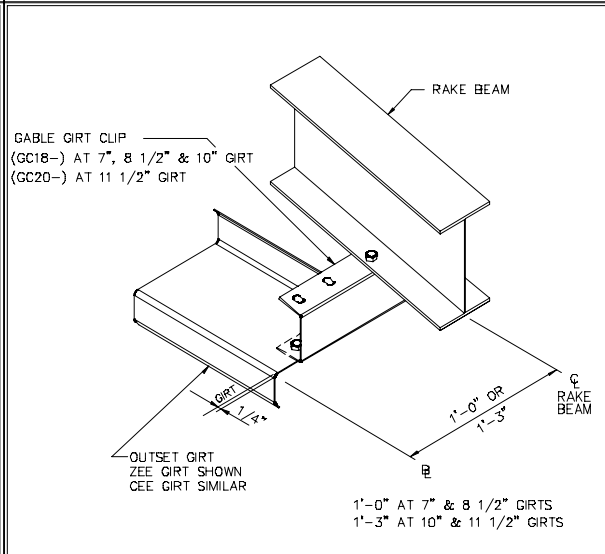
REV. DATE:07/01/08 REV. NO.00
EN53F1 PURLIN AND GIRT SIZES 8 1/2" 216mm



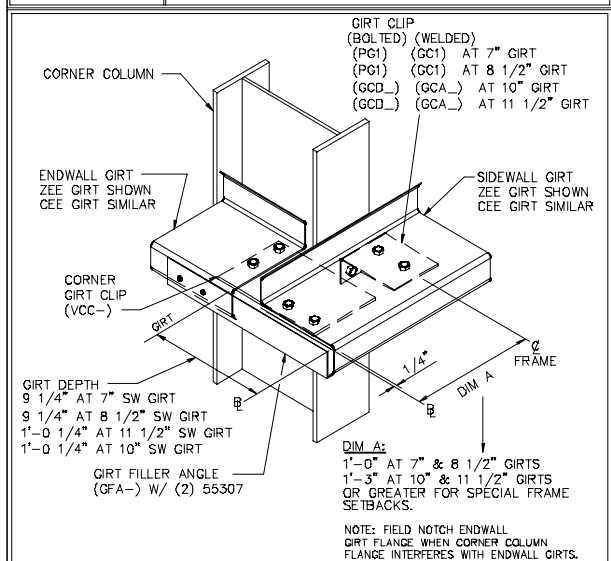
REV. DATE:07/01/08 REV. NO.00
WS01G2 GIRT CONN. AT COLUMN OUTSET SIMPLE GIRTS



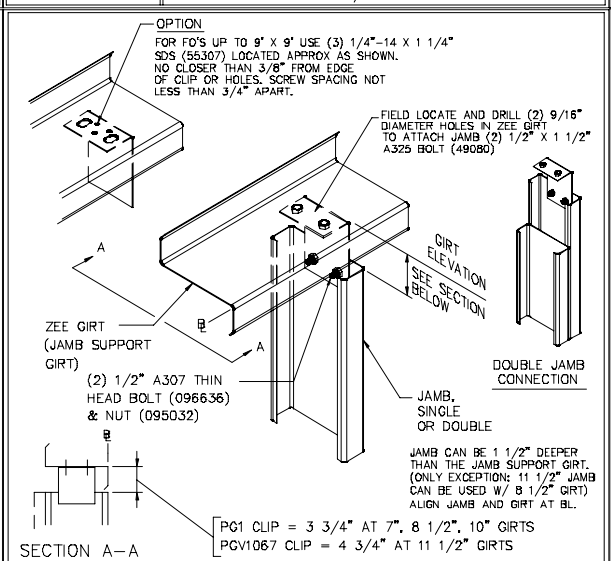
REV. DATE:07/26/11 REV. NO.01
WS01G3 GIRT CONN. AT COLUMN OUTSET CONTINUOUS GIRT



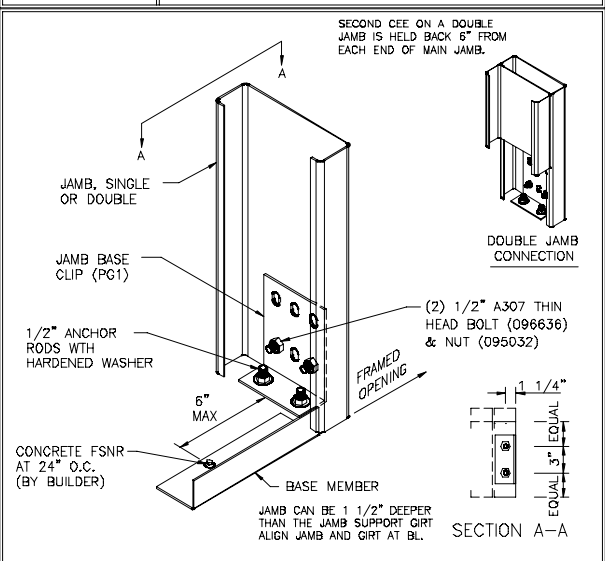
REV. DATE:07/23/13 REV. NO.01
WS04C2 GABLE GIRT CONN. TO RAKE BEAM OUTSET GIRTS



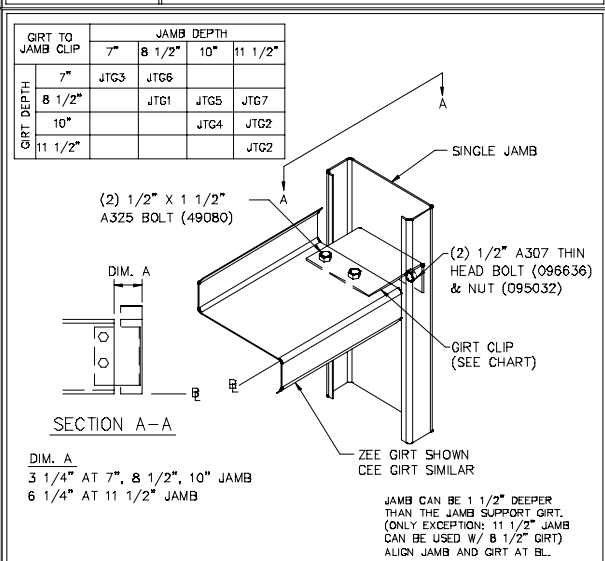
REV. DATE:04/05/17 REV. NO.03
WS12A2 GIRT CONN. AT CORNER COLUMN ANY OUTSET GIRT AT EW, ANY GIRT AT SW



REV. DATE:11/30/15 REV. NO.03
WS20B2 JAMB TO GIRT SINGLE OR DOUBLE JAMB, ANY ZEE GIRT



REV. DATE:07/01/08 REV. NO.00
WS20B8 JAMB BASE ATTACHMENT SINGLE OR DOUBLE JAMB



REV. DATE:07/21/15 REV. NO.04
WS20F2 GIRT TO JAMB SINGLE JAMB

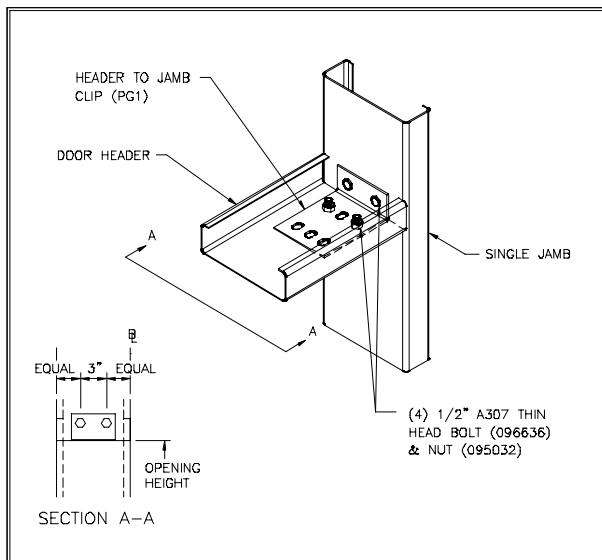
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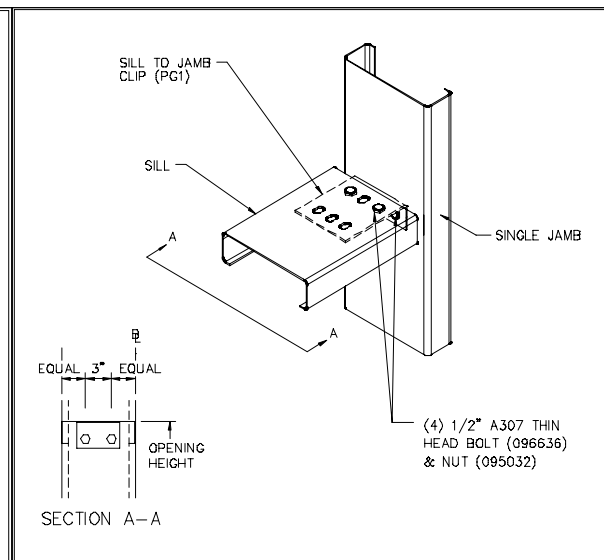
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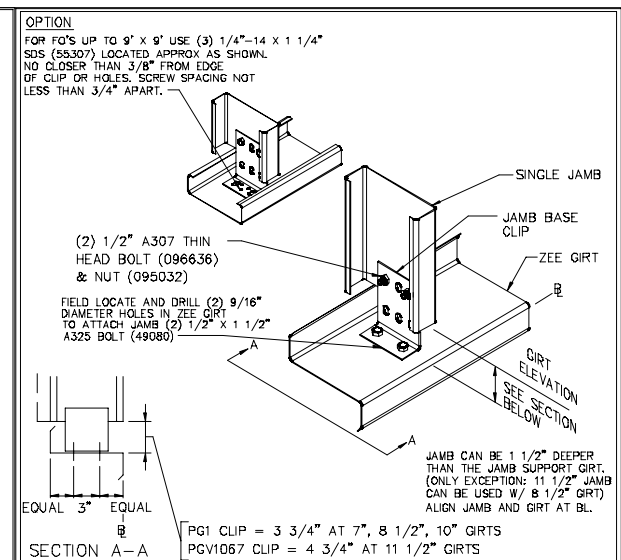
B VP Buildings 3200 Players Club Circle Memphis TN 38125				WALL SECONDARY SED'S (a)	
REV	DATE	BY	DESCRIPTION	BUILDER	Riedel-wilks Building Structures, Inc.
				CUSTOMER	
				LOCATION	Rio Grande, Ohio
				PROJECT	BHCC New Trades bldg
				BUILDER'S POW	
NTS				VPC VERSION:	2023.4a
3/8/2024 SEDSheet		9:40:02		FILENAME:	BHCC new trades building -2-8-2024
				JOB #	
				DATE	3/8/2024
				DRAWN/CHECK	
				PAGE	23



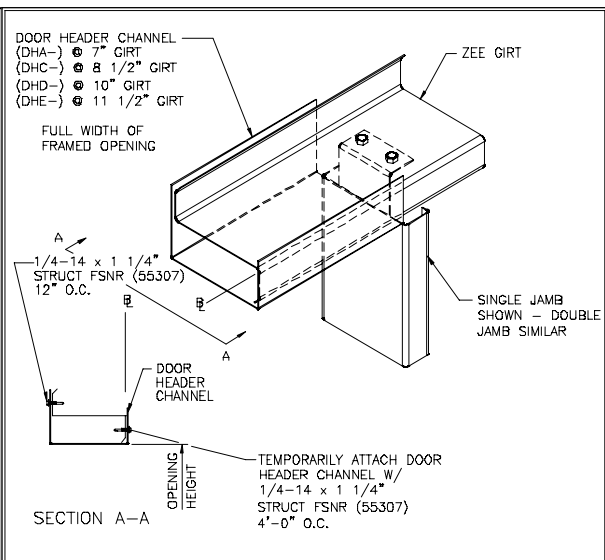
REV. DATE: 07/01/09 | REV. NO. 00 | WS2DF9
HEADER TO JAMB
 ANY HEADER, ANY SINGLE JAMB



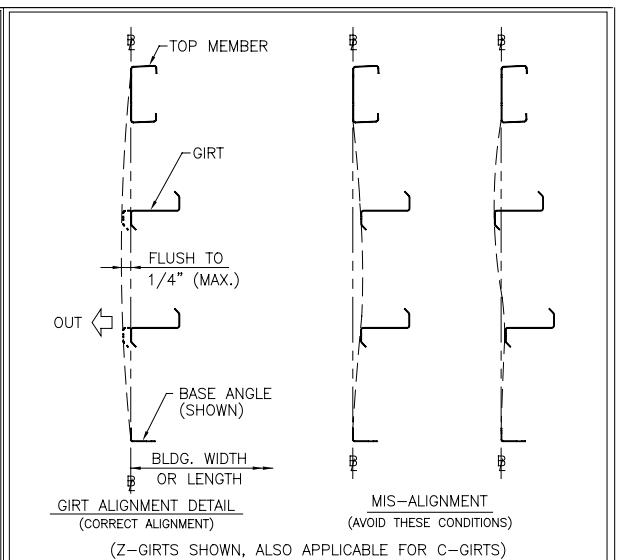
REV. DATE: 07/01/11 | REV. NO. 00 | WS2DFB
SILL TO JAMB
 ANY SILL, ANY SINGLE JAMB



REV. DATE: 12/01/15 | REV. NO. 01 | WS20H2
JAMB BASE TO GIRTS
 ALL JAMB AND GIRTS DEPTHS



REV. DATE: 07/01/09 | REV. NO. 00 | WS21D7
DOOR HEADER CHANNEL CONN.
 ANY ZEE GIRTS, ANY JAMB



REV. DATE: 06/23/22 | REV. NO. 00 | WSR065
WALL SECONDARY FRAMING ALIGNMENT

NOT FOR CONSTRUCTION

1. UNLESS NOTED, USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS.
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B	VP Buildings 3200 Players Club Circle Memphis TN 38125		
	REV	DATE	BY

WALL SECONDARY SED'S (b)		 VP BUILDINGS WPCO/PRL/EN	JOB #
BUILDER	Riedel-wilks Building Structures, Inc.		DATE
CUSTOMER			3/8/2024
LOCATION	Rio Grande, Ohio		DRAWN/CHECK
PROJECT	BHCC New Trades bldg		
BUILDER'S POW		VP VERSION: 2023.4a	PAGE 24

Covering Schedule
 Id Qty Length Type Gage OP Fin. Color
 #10 51 25'-6 3/4" SSR 24 2 K GG
 #11 51 25'-6 3/4" SSR 24 2 K GG
 Oper. Code:2=SQ,SQ
 Finish:K=KXL (Kynar)
 Color:GG=Cool Granite Gray

Trim Schedule
 Id Parts Color Details
 T1 BS1,FPRF1,GGC2,MCC1 Cool Dark Bronze RC38N1
 T2 (51)560778 Not Applicable EN01B2,EN52D1,ENV001,ENV011,RC00A1,RCV326
 T3 SRCF06,(10)SRCF10,SRM06,(10)SRM10 Match Roof Color RC34A7,RCV418,RCV419,RCV420,RCV421,RCV531
 T4 S420,SRR2 Cool Dark Bronze RCV501,RCV502
 T5 BS1,FPRF1,GGC2,MCC1 Cool Dark Bronze RC38N1
 T6 (51)560778 Not Applicable EN01B2,EN52D1,ENV001,ENV011,RC00A1,RCV326

Insulation Schedule (Install in same direction as Covering)
 Id Qty Type Start Run Last Run Thick. Facing
 BLK1 17 IC 29'-6" 29'-6" 9.25 AV
 BLK2 17 IC 28'-0" 28'-0" 9.25 AV
 Starter Width= 6'-0", Interm. Width= 6'-0", End Width= 6'-0"
 Location =Outside Secondary Structural
 Direction =Across Secondary Structural
 Type:IC=Fiberglass Blanket
 Facing:AV=VR-R

Accessory Schedule
 Qty Color Description Detail
 3 Cool Granite Gray Walk Door Canopy 5' x 4' 6" ENV003

Dimension Key
 1 1'-6" Starter Panel (Cut Dim. = 1'-7")

detailed for a UL90 rating Construction #113 or 113A
 - The roof panels on this project has been
 Ice Damming Conditions Exist BL
 Use at endlaps, first clip from ridge and first from eave
 Use at panel mid-point when panel is 38.0 ft or longer
 MODULE CONTROL STRIPS

ROOF COVERING PLAN

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

Planograph Schedule
 Id Details
 T1
 T2 S-090028
 T3
 T4
 T5
 T6 S-090028

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg

- PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS TO STRUCTURAL BEAMS
- STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.
- DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.
- SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.

THE VP ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY VP.

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 THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.

VP Buildings 3200 Players Club Circle Memphis TN 38125			
REV	DATE	BY	DESCRIPTION
NTS			

ROOF COVERING PLAN	
BUILDER	Riedel-wilks Building Structures, Inc.
CUSTOMER	
LOCATION	Rio Grande, Ohio
PROJECT	BHCC New Trades bldg
BUILDER'S POF	



JOB #	
DATE	3/8/2024
DRAWN/CHECK	
PAGE	25

Id	Qty	Type	Start Length	Gage	OP	Fin.	Color	Increment	Direction
#16	3	W	22'-8"	26	1	K	TD	-6"	Left to Right
#1	4	W	10'-1 1/2"	26	1	K	TD	-6"	Left to Right
#2	2	W	19'-2"	26	1	K	TD	-6"	Left to Right
#3	9	W	22'-8"	26	1	K	TD	-6"	Right to Left

Oper. Code:1=SQ,SQ
 Finish:K=KXL (Kynar)
 Color:TD=Standard Color

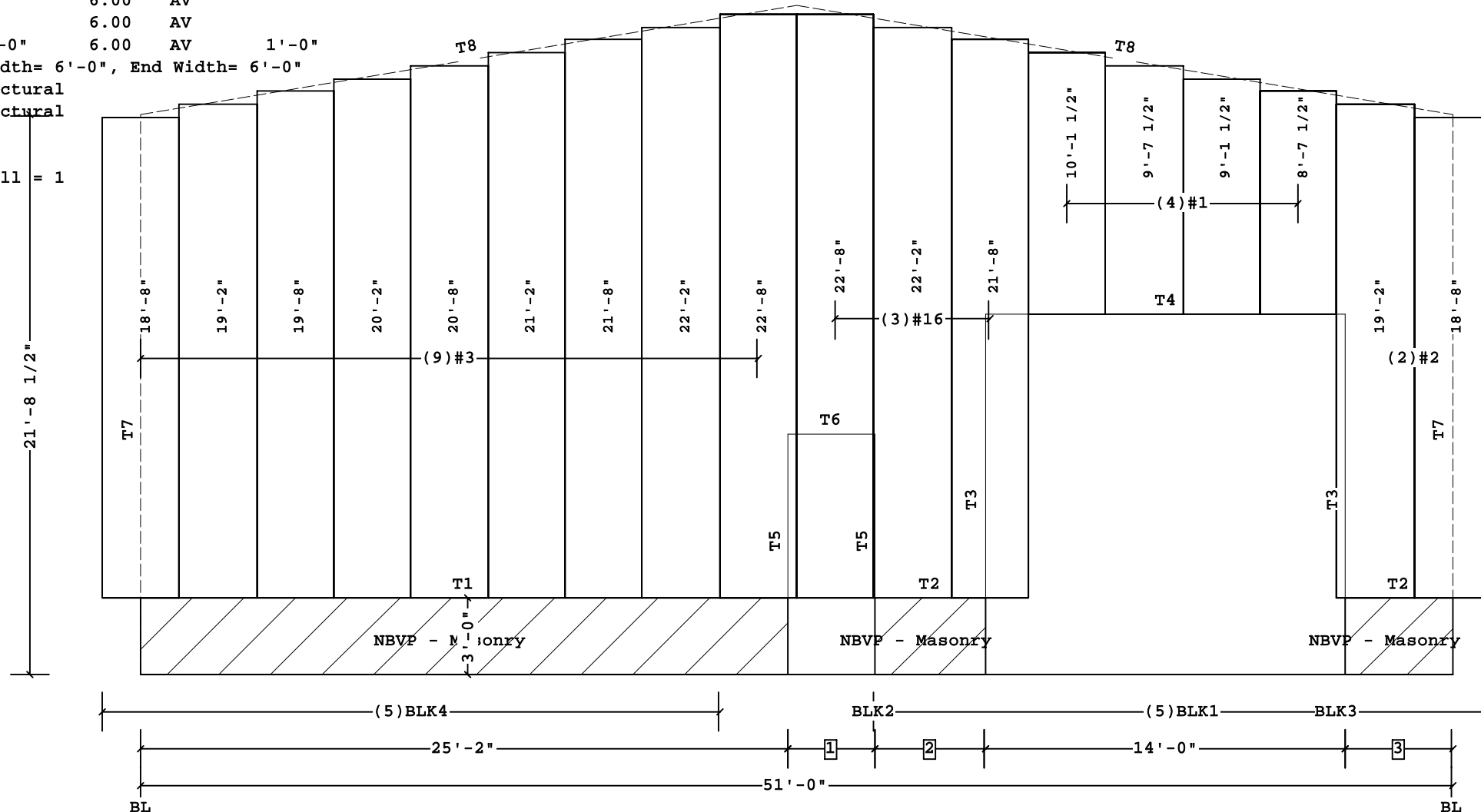
Id	Parts	Color	Details
T1	BA125, (3)BT10	Cool Dark Bronze	WSR065, EN52A1, ENV003, RC00A1, WC01AB, WC04G1
T2	(0.2)BA125, BT10	Cool Dark Bronze	WSR065, EN52A1, ENV003, RC00A1, WC01AB, WC04G1, WSR065
T3	DFT12, JT12	Cool Dark Bronze	WC24A1
T4	DFT14, HTS14	Cool Dark Bronze	WC24A2
T5	DFT10, JT07	Cool Dark Bronze	WC24A1
T6	DFT05, HTS05	Cool Dark Bronze	WC24A2
T7	CT20	Match Wall Color	WC20A1
T8	(3)RFR10-130, RKF16, RKF10, (3)RSB10, (3)RS	Cool Dark Bronze	RC10A2, RC30A1, RS10L5

Insulation Schedule (Install in same direction as Covering)

Id	Qty	Type	Start Run	Last Run	Thick.	Facing	Increment
BLK1	5	IC	24'-0"	20'-0"	6.00	AV	1'-0"
BLK2	1	IC	3'-0"		6.00	AV	
BLK3	1	IC	3'-0"		6.00	AV	
BLK4	5	IC	24'-0"	20'-0"	6.00	AV	1'-0"

Starter Width= 6'-0", Interm. Width= 6'-0", End Width= 6'-0"

Location =Outside Secondary Structural
 Direction =Across Secondary Structural
 Type:IC=Fiberglass Blanket
 Facing:AV=VR-R
 Shape Name = New Trades bldg, Wall = 1



- 3 4'-2"
- 2 4'-3 1/2"
- 1 3'-4 1/2"

Dimension Key

Fastener Schedule

Part	Description
0097597STD	(T-2) #17/#12-14 x 1 7/8" Stand-Off, 5/16" Hex Hd, SS Cap w/Washer
Roof Struct 1 1/2	(T-2) #12-14 x 1 1/2", 5/16" Hex Hd, SS Cap w/Washer
0097585-105	(T-2) #12-14 x 1 1/2", 5/16" Hex Hd, SS Cap w/Washer
Roof Stitch 7/8	SS(T-1) 1/4-14 x 7/8", 5/16" Hex Hd, SS Cap w/Washer

COVERING ELEVATION AT 1

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

NOT FOR CONSTRUCTION

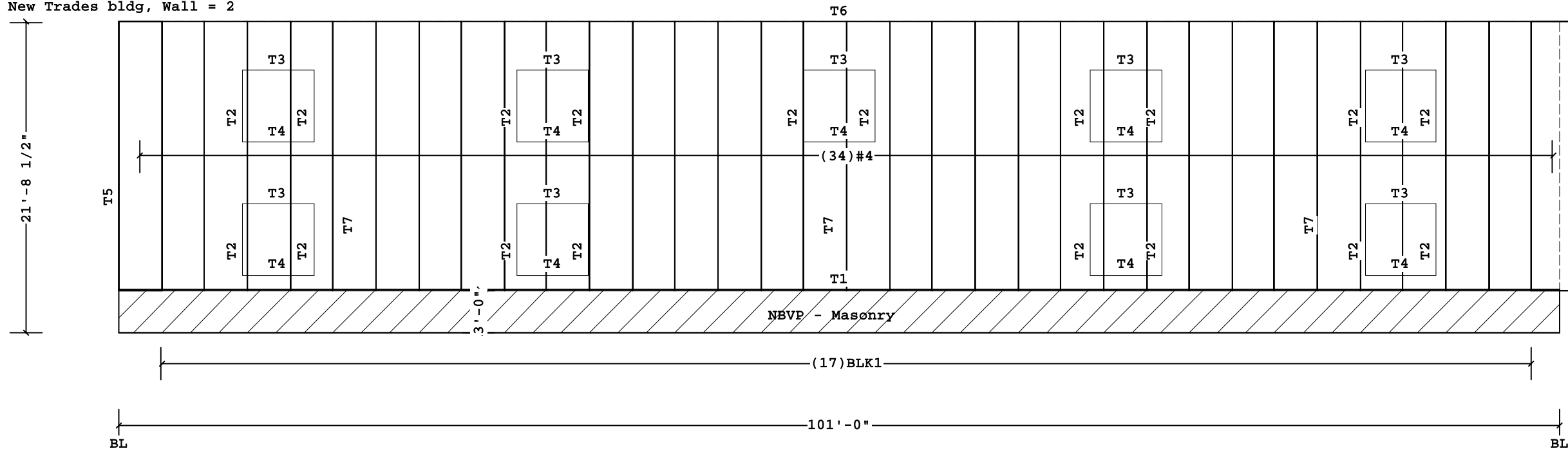
Shape Name = New Trades bldg, Wall = 1

<p>1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS TO STRUCTURAL BEAMS</p> <p>2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.</p> <p>3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.</p> <p>4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.</p>	<p>THE VP ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY VP.</p>	<p>THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. IT IS PROVIDED SOLELY FOR ERRECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP BUILDINGS.</p> <p>THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERRECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.</p>	<p>B</p> <p>VP Buildings 3200 Players Club Circle Memphis TN 38125</p>	<p>COVERING ELEVATION AT 1</p>		<p>JOB #</p> <p>DATE 3/8/2024</p> <p>DRAWN/CHECK</p>			
				REV	DATE		BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
									CUSTOMER
									LOCATION Rio Grande, Ohio
				PROJECT BHCC New Trades bldg	<p>VP BUILDINGS VP CO. PULLEN</p>	<p>PAGE 26</p>			
				BUILDER'S POW					

Covering Schedule
 Id Qty Type Start Length Gage OP Fin. Color Direction
 #4 34 W 18'-9 1/4" 26 1 K TD Left to Right
 Oper. Code:1=SQ,SQ
 Finish:K=KXL (Kynar)
 Color:TD=Standard Color

Trim Schedule
 Id Parts Color Details
 T1 (4.0)BA125,(11)BT10 Cool Dark Bronze WSR065,EN52A1,ENV003,RC00A1,WC01AB,WC04G1
 T2 DFT05,JT05 Cool Dark Bronze WC24A1
 T3 DFT05,HTS05 Cool Dark Bronze WC24A2
 T4 TDFH05 Cool Dark Bronze WC24A4
 T5 CT20 Match Wall Color WC20A1
 T6 (5)EG202,EG122,(11)GRA10,(10)PCA10A,PCA05A,(52)STR4 Cool Dark Bronze RC03A2,RC32A1,RC38E2,RC61A6,RCV324,RCV536,WC04G1,WC11F1
 T7 5CE75,(3)CP510,DN1,(5)DST1 Match Wall Color RC38P1

Insulation Schedule (Install in same direction as Covering)
 Id Qty Type Start Run Last Run Thick. Facing Increment
 BLK1 17 IC 20'-0" 20'-0" 6.00 AV
 Starter Width= 6'-0", Intern. Width= 6'-0", End Width= 6'-0"
 Location =Outside Secondary Structural
 Direction =Across Secondary Structural
 Type:IC=Fiberglass Blanket
 Facing:AV=VR-R
 Shape Name = New Trades bldg, Wall = 2



COVERING ELEVATION AT A

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

Fastener Schedule
 Part Description
 0097597STD (T-2) #17/#12-14 x 1 7/8" Stand-Off, 5/16" Hex Hd, SS Cap w/Washer
 Roof Struct 1 1/2 (T-2) #12-14 x 1 1/2", 5/16" Hex Hd, SS Cap w/Washer
 0097585-105 (T-2) #12-14 x 1 1/2", 5/16" Hex Hd, SS Cap w/Washer
 Roof Stitch 7/8 SS(T-1) 1/4-14 x 7/8", 5/16" Hex Hd, SS Cap w/Washer

NOT FOR CONSTRUCTION

Shape Name = New Trades bldg, Wall = 2

1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS TO STRUCTURAL BEAMS
 2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.
 3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.
 4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.

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B	VP Buildings 3200 Players Club Circle Memphis TN 38125			COVERING ELEVATION AT A	
	REV	DATE	BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
					CUSTOMER
					LOCATION Rio Grande, Ohio
				PROJECT BHCC New Trades bldg	 <small>VP BUILDINGS</small> <small>VP CO. PRLDEN</small>
				BUILDER'S POW	
NTS				VP VERSION: 2023.4a	PAGE 27
3/8/2024		9:40:09		FILENAME: BHCC new trades building -2-8-2024	

Id	Qty	Type	Start Length	Gage	OP	Fin.	Color	Increment	Direction
#5	9	W	22'-8"	26	1	K	TD	-6"	Left to Right
#6	3	W	22'-8"	26	1	K	TD	-6"	Right to Left
#7	4	W	10'-1 1/2"	26	1	K	TD	-6"	Right to Left
#8	2	W	19'-2"	26	1	K	TD	-6"	Right to Left

Oper. Code:1=SQ,SQ
 Finish:K=KXL (Kynar)
 Color:TD=Standard Color

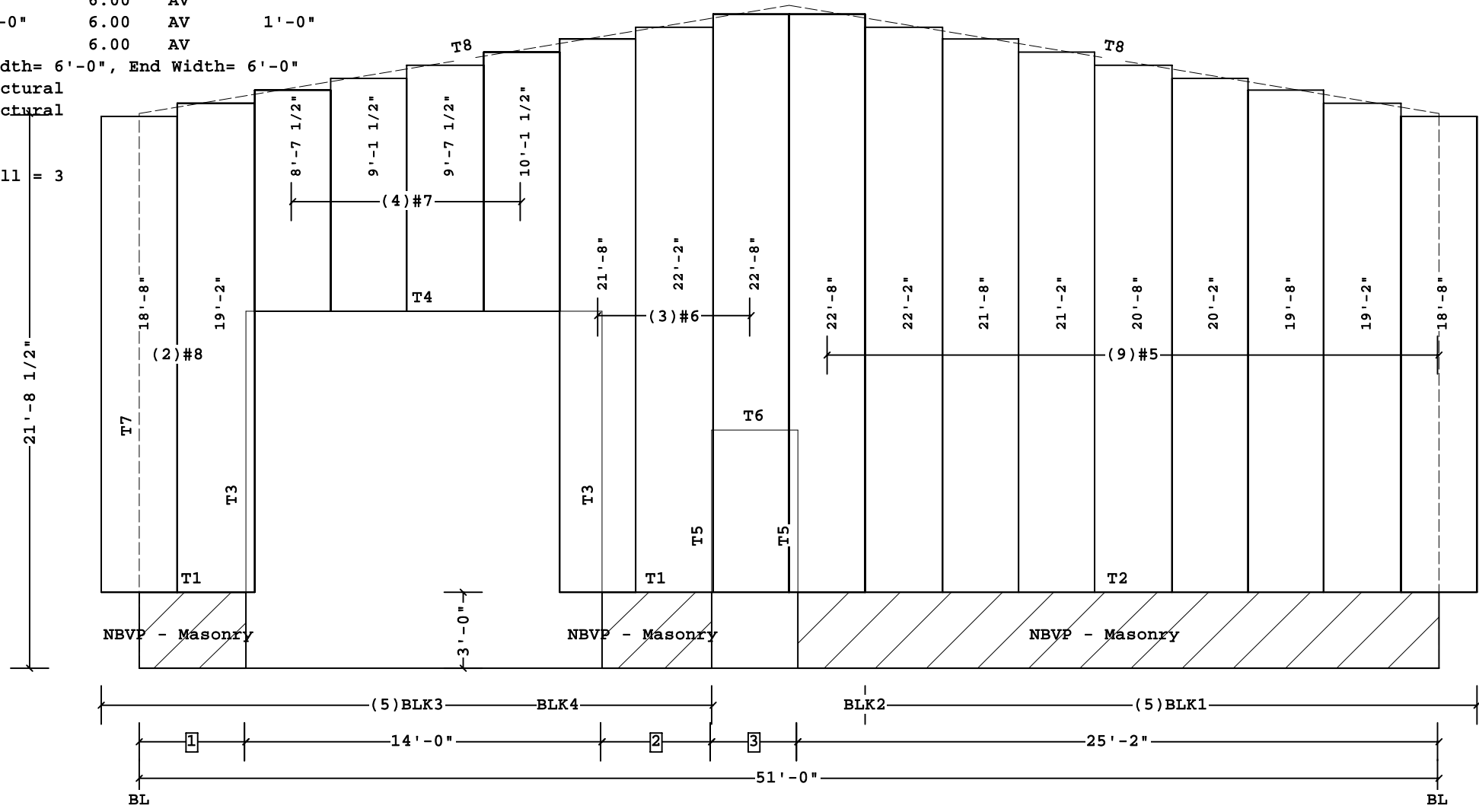
Id	Parts	Color	Details
T1	(0.2)BA125,BT10	Cool Dark Bronze	WSR065,EN52A1,ENV003,RC00A1,WC01AB,WC04G1,WSR065
T2	BA125,(3)BT10	Cool Dark Bronze	WSR065,EN52A1,ENV003,RC00A1,WC01AB,WC04G1
T3	DFT12,JT12	Cool Dark Bronze	WC24A1
T4	DFT14,HTS14	Cool Dark Bronze	WC24A2
T5	DFT10,JT07	Cool Dark Bronze	WC24A1
T6	DFT05,HTS05	Cool Dark Bronze	WC24A2
T7	CT20	Match Wall Color	WC20A1
T8	(3)RFR10-130,RKF16,RKF10,(3)RSB10,(3)RS(Cool Dark Bronze	Cool Dark Bronze	RC10A2,RC30A1,RS10L5

Insulation Schedule (Install in same direction as Covering)

Id	Qty	Type	Start Run	Last Run	Thick.	Facing	Increment
BLK1	5	IC	24'-0"	20'-0"	6.00	AV	1'-0"
BLK2	1	IC	3'-0"		6.00	AV	
BLK3	5	IC	24'-0"	20'-0"	6.00	AV	1'-0"
BLK4	1	IC	3'-0"		6.00	AV	

Starter Width= 6'-0", Interm. Width= 6'-0", End Width= 6'-0"

Location =Outside Secondary Structural
 Direction =Across Secondary Structural
 Type:IC=Fiberglass Blanket
 Facing:AV=VR-R
 Shape Name = New Trades bldg, Wall = 3



- 3 3'-4 1/2"
- 2 4'-3 1/2"
- 1 4'-2"

Dimension Key

Fastener Schedule

Part	Description
0097597STD	(T-2) #17/#12-14 x 1 7/8" Stand-Off, 5/16" Hex Hd, SS Cap w/Washer
Roof Struct 1 1/2	(T-2) #12-14 x 1 1/2", 5/16" Hex Hd, SS Cap w/Washer
0097585-105	(T-2) #12-14 x 1 1/2", 5/16" Hex Hd, SS Cap w/Washer
Roof Stitch 7/8	SS(T-1) 1/4-14 x 7/8", 5/16" Hex Hd, SS Cap w/Washer

COVERING ELEVATION AT 6

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

NOT FOR CONSTRUCTION

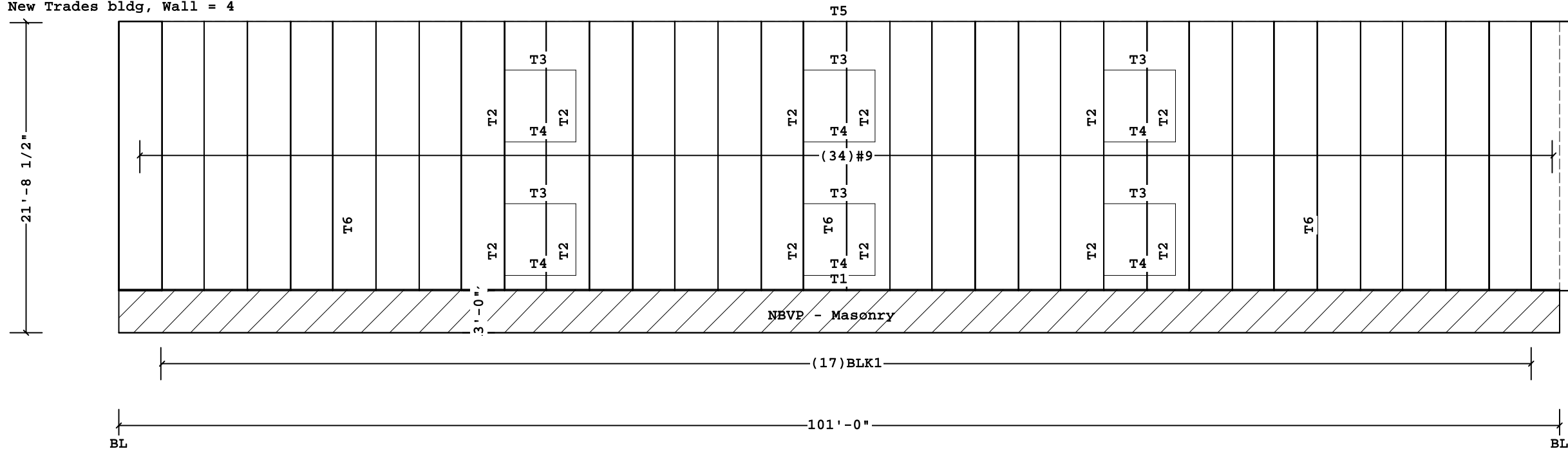
Shape Name = New Trades bldg, Wall = 3

<p>1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS TO STRUCTURAL BEAMS</p> <p>2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.</p> <p>3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.</p> <p>4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.</p>	<p>THE VP ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY VP.</p>	<p>THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. IT IS PROVIDED SOLELY FOR ERRECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP BUILDINGS.</p> <p>THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERRECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.</p>	<p>B VP Buildings 3200 Players Club Circle Memphis TN 38125</p>	COVERING ELEVATION AT 6		<p>VP BUILDINGS VP CO. PRLDEN</p>	<p>JOB # DATE 3/8/2024 DRAWN/CHECK</p>			
				REV	DATE			BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
										CUSTOMER
										LOCATION Rio Grande, Ohio
				PROJECT BHCC New Trades bldg						
				BUILDER'S POW						
NTS				VP VERSION: 2023.4a	PAGE 28	a division of BlueScope Buildings North America, Inc.				
3/8/2024 9:40:11				FILENAME: BHCC new trades building -2-8-2024						

Covering Schedule
 Id Qty Type Start Length Gage OP Fin. Color Direction
 #9 34 W 18'-9 1/4" 26 1 K TD Left to Right
 Oper. Code:1=SQ,SQ
 Finish:K=KXL (Kynar)
 Color:TD=Standard Color

Trim Schedule
 Id Parts Color Details
 T1 (4.0)BA125,(11)BT10 Cool Dark Bronze WSR065,EN52A1,ENV003,RC00A1,WC01AB,WC04G1
 T2 DFT05,JT05 Cool Dark Bronze WC24A1
 T3 DFT05,HTS05 Cool Dark Bronze WC24A2
 T4 TDFH05 Cool Dark Bronze WC24A4
 T5 (5)EG202,EG122,(11)GRA10,(10)PCA10A,PCA05A,(52)STR4 Cool Dark Bronze RC03A2,RC32A1,RC38E2,RC61A6,RCV324,RCV536,WC04G1,WC11F1
 T6 5CE75,(3)CP510,DN1,(5)DST1 Match Wall Color RC38P1

Insulation Schedule (Install in same direction as Covering)
 Id Qty Type Start Run Last Run Thick. Facing Increment
 BLK1 17 IC 20'-0" 20'-0" 6.00 AV
 Starter Width= 6'-0", Interm. Width= 6'-0", End Width= 6'-0"
 Location =Outside Secondary Structural
 Direction =Across Secondary Structural
 Type:IC=Fiberglass Blanket
 Facing:AV=VR-R
 Shape Name = New Trades bldg, Wall = 4



COVERING ELEVATION AT D

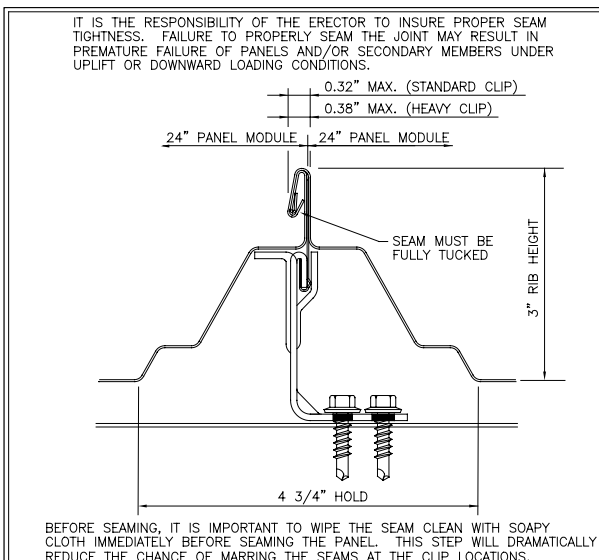
Fastener Schedule
 Part Description
 0097597STD (T-2) #17/#12-14 x 1 7/8" Stand-Off, 5/16" Hex Hd, SS Cap w/Washer
 Roof Struct 1 1/2 (T-2) #12-14 x 1 1/2", 5/16" Hex Hd, SS Cap w/Washer
 0097585-105 (T-2) #12-14 x 1 1/2", 5/16" Hex Hd, SS Cap w/Washer
 Roof Stitch 7/8 SS(T-1) 1/4-14 x 7/8", 5/16" Hex Hd, SS Cap w/Washer

PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

NOT FOR CONSTRUCTION

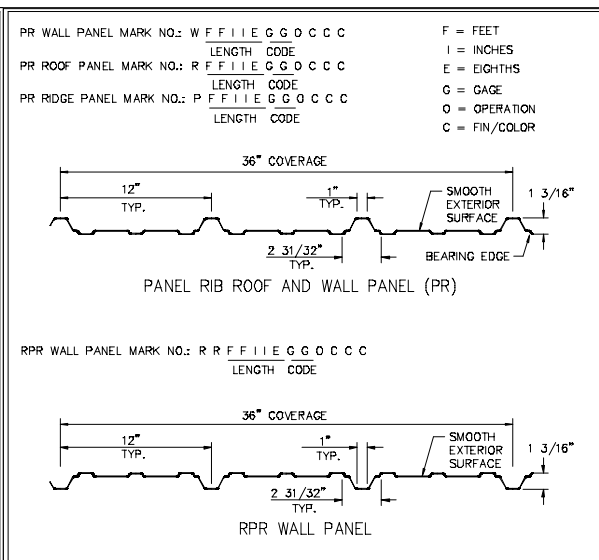
Shape Name = New Trades bldg, Wall = 4

1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS TO STRUCTURAL BEAMS 2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED. 3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS. 4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.	THE VP ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY VP.	THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP BUILDINGS. THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.	B VP Buildings 3200 Players Club Circle Memphis TN 38125	COVERING ELEVATION AT D		 VP BUILDINGS WPCO.PRLDEN	JOB # DATE 3/8/2024 DRAWN/CHECK			
				REV	DATE			BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
										CUSTOMER
										LOCATION Rio Grande, Ohio
				PROJECT BHCC New Trades bldg	BUILDER'S POW	VP VERSION: 2023.4a	PAGE 29			



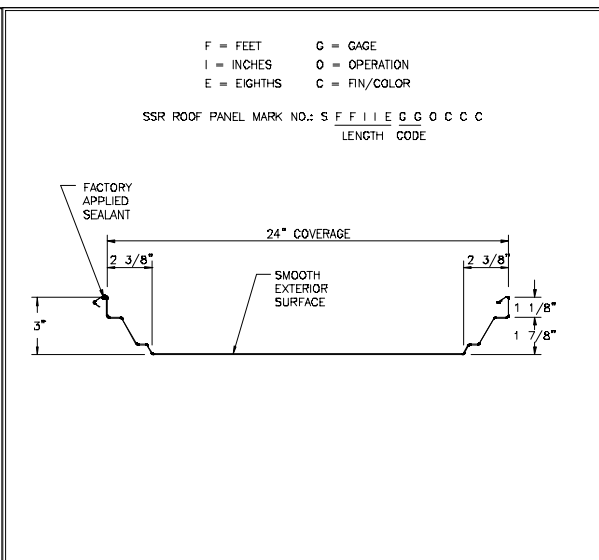
REV. DATE: 01/28/21 REV. NO. 04
EN01B2

SSR SEAMING GUIDELINES
RIB AND SEAM PROFILE



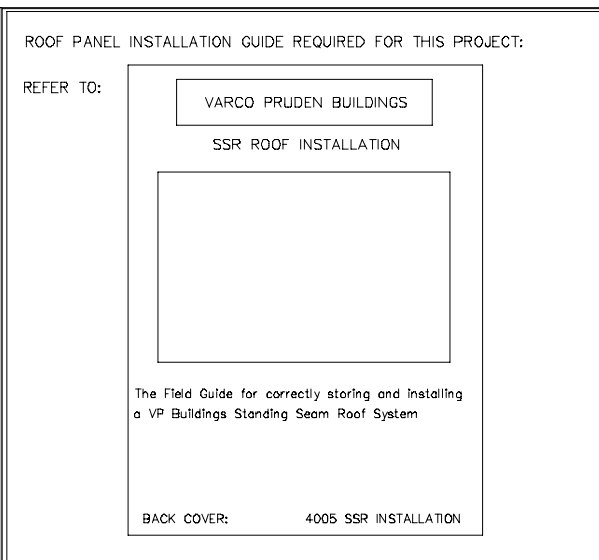
REV. DATE: 11/17/17 REV. NO. 01
EN52A1

PR ROOF & PR/RPR WALL PANELS



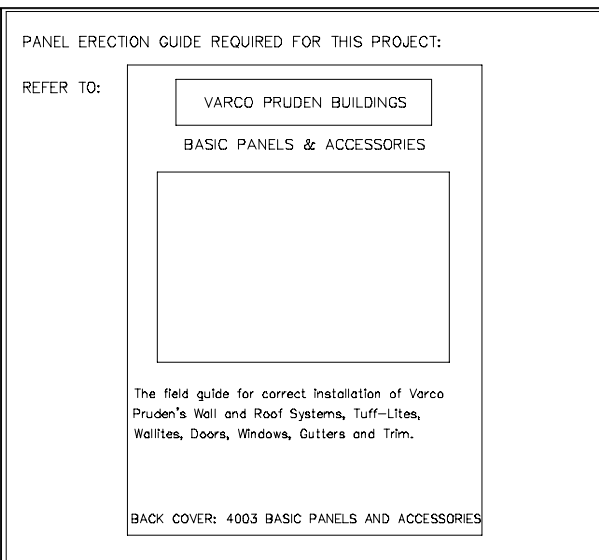
REV. DATE: 07/01/08 REV. NO. 00
EN52D1

STANDING SEAM ROOF PANELS (SSR)



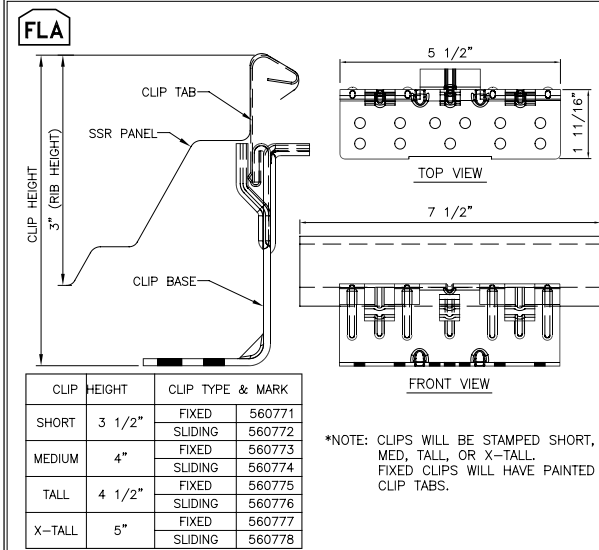
REV. DATE: 01/30/14 REV. NO. 00
ENV001

ROOF INSTALLATION GUIDE - SSR



REV. DATE: 01/30/14 REV. NO. 00
ENV003

BASIC PANEL AND ACCESSORIES
CONTAINS: PR ROOF - WALLS: PR, RPR, VR



REV. DATE: 05/19/20 REV. NO. 03
ENV011

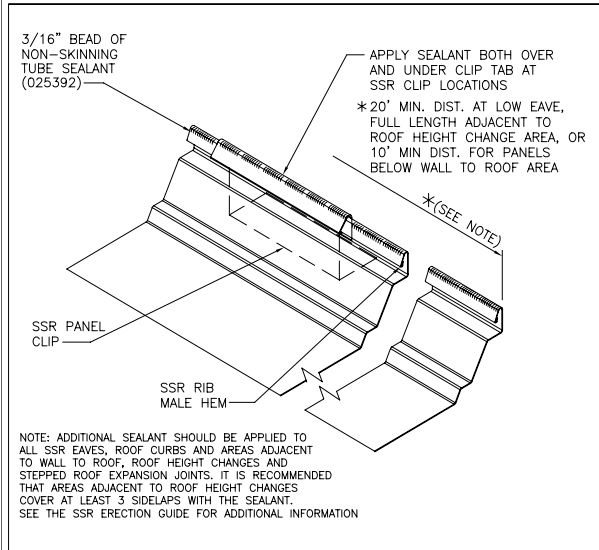
SSR PANEL CLIP (HEAVY CLIP)
PROFILE AND MARK NUMBERS

1. STANDARD ERECTION DETAILS (SED) SUPERSEDE SIMILAR DETAILS FOUND IN THE ERECTION GUIDES. REFER TO THE ERECTION GUIDES FOR OTHER DETAILS, INSTALLATION PROCEDURES AND ACCESSORIES NOT DESCRIBED IN THE SED'S.

2. ALL PANEL AND TRIM SURFACES MUST BE FREE OF DIRT AND OIL AT MASTIC AND SEALANT LOCATIONS.

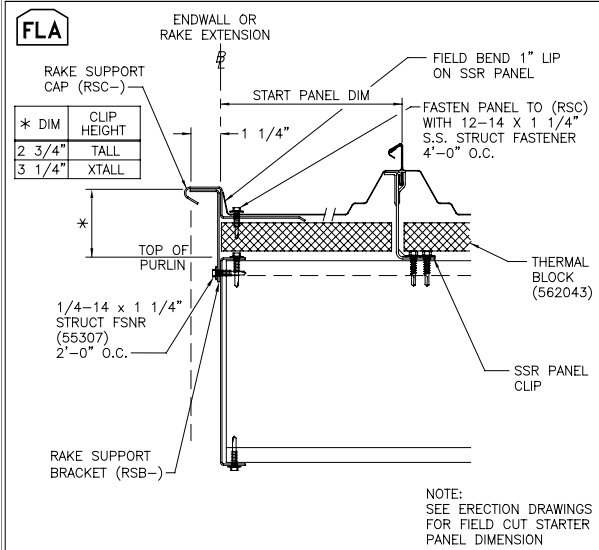
REV. DATE: 07/01/08 REV. NO. 00
RC00A1

NOTES



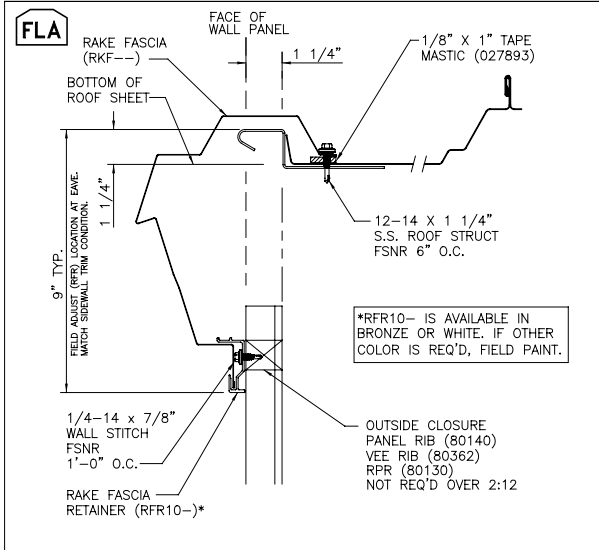
REV. DATE: 09/19/16 REV. NO. 02
RC03A2

SSR PANEL SIDELAP
ADDITIONAL WEATHERSEAL AT ICE DAMMING COND.



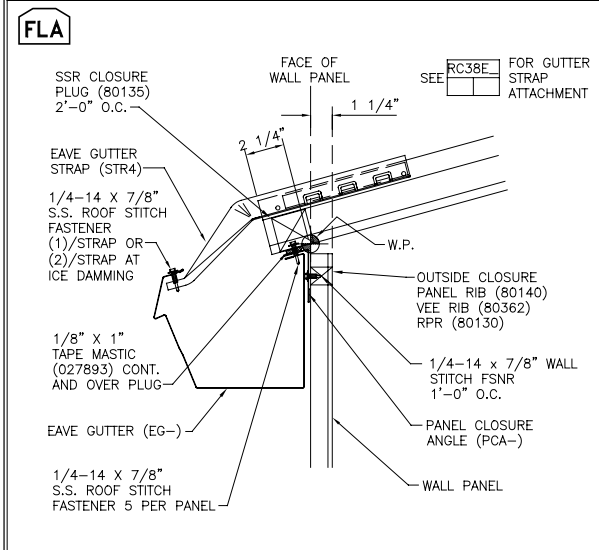
REV. DATE: 06/26/19 REV. NO. 06
RC10A2

SSR STARTING RAKE
PR, VR, OR RPR WALL W/ THERMAL BLOCK



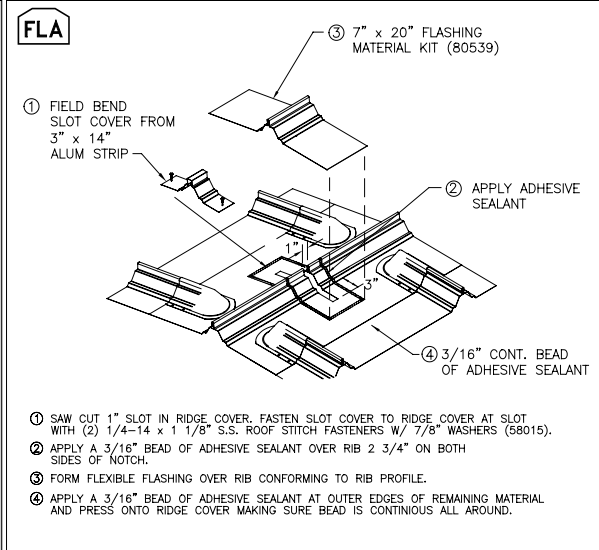
REV. DATE: 06/26/19 REV. NO. 07
RC30A1

SSR RAKE TRIM
PR, VR OR RPR WALL



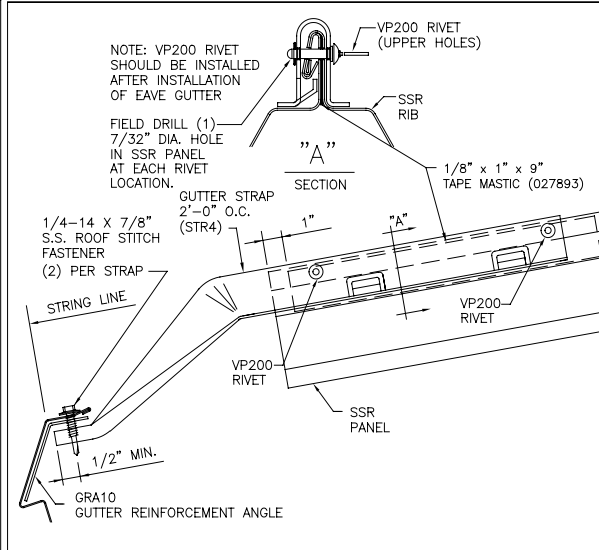
REV. DATE: 06/26/19 REV. NO. 08
RC32A1

SSR ROOF W/ EAVE GUTTER
PR, VR OR RPR WALL



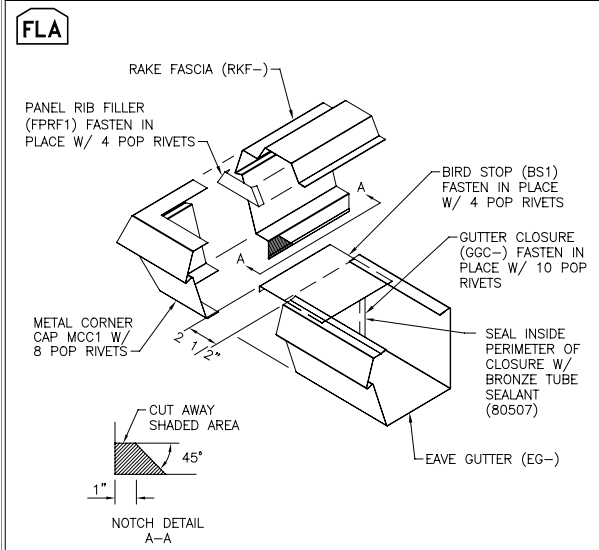
REV. DATE: 06/26/19 REV. NO. 01
RC34A7

SSR RIDGE
EXPANSION JOINT (@ 160'-0" O.C. MAX.)



REV. DATE: 03/23/21 REV. NO. 06
RC38E2

GUTTER STRAP ATTACHMENT
SSR ROOF (ICE DAMMING)



REV. DATE: 06/26/19 REV. NO. 04
RC38N1

EAVE GUTTER CORNER ASSEMBLY
ALL SYSTEMS

NOT FOR CONSTRUCTION

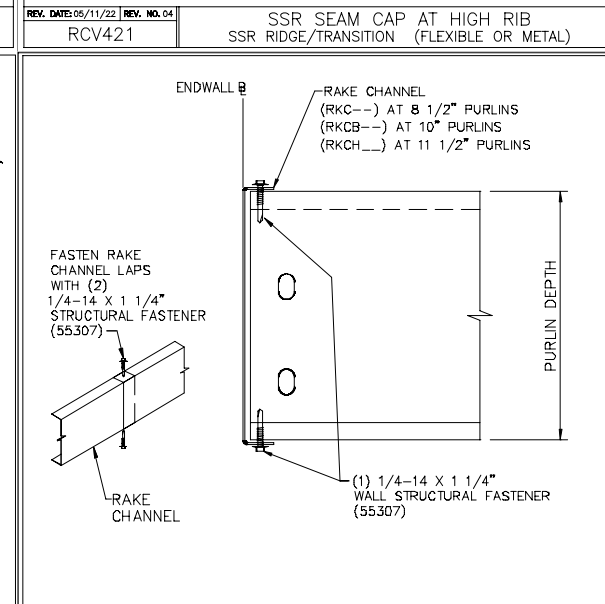
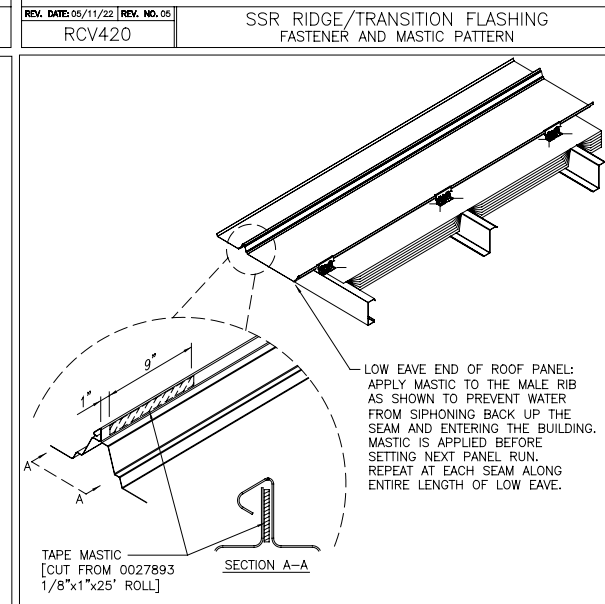
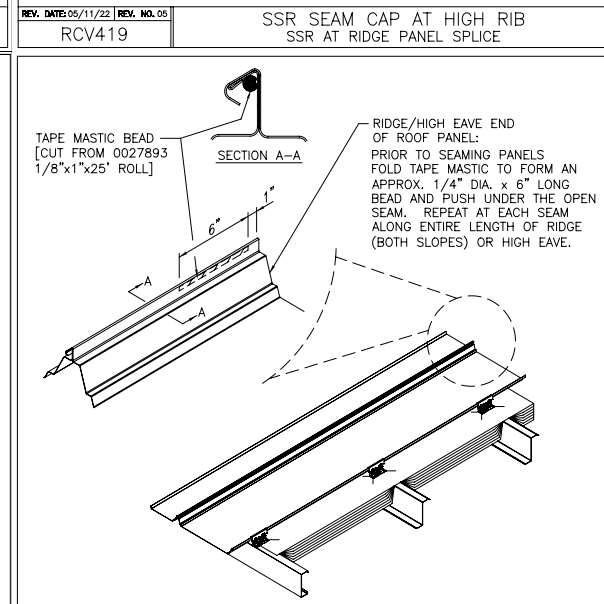
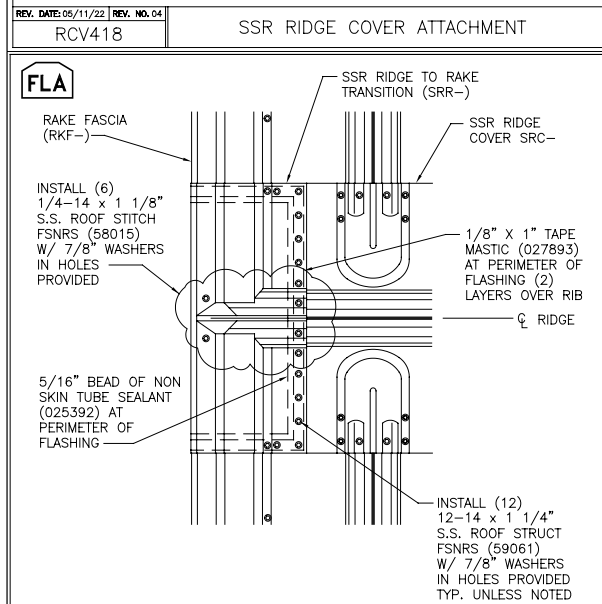
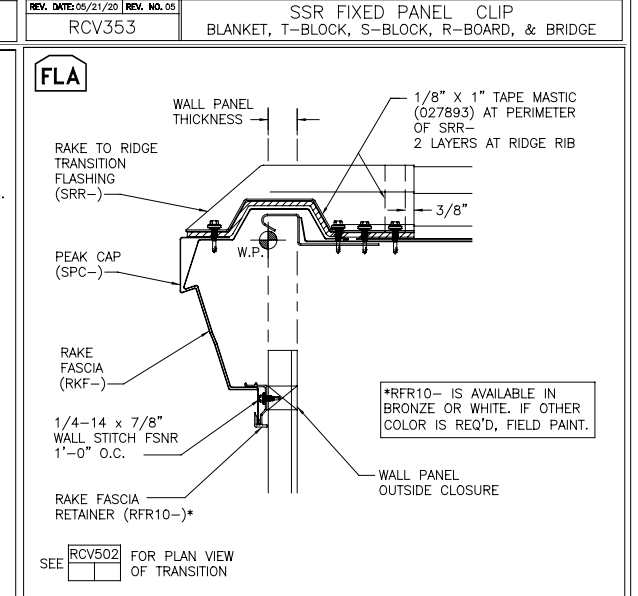
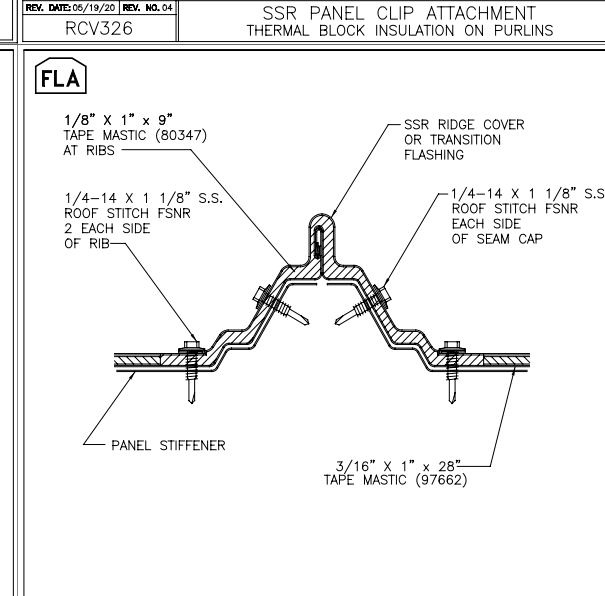
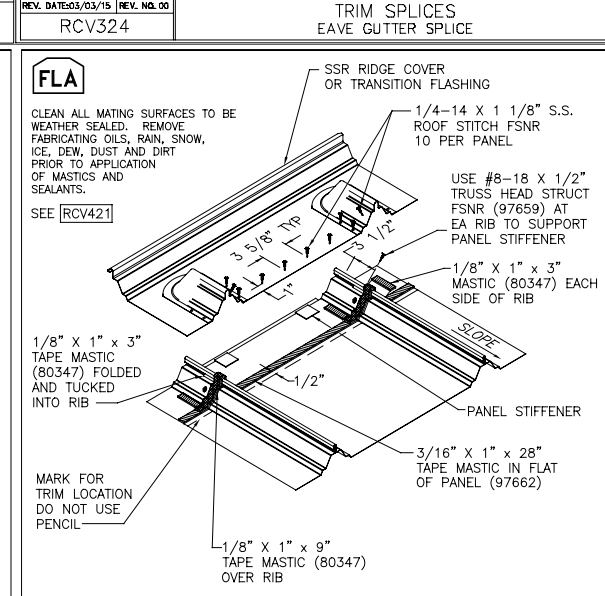
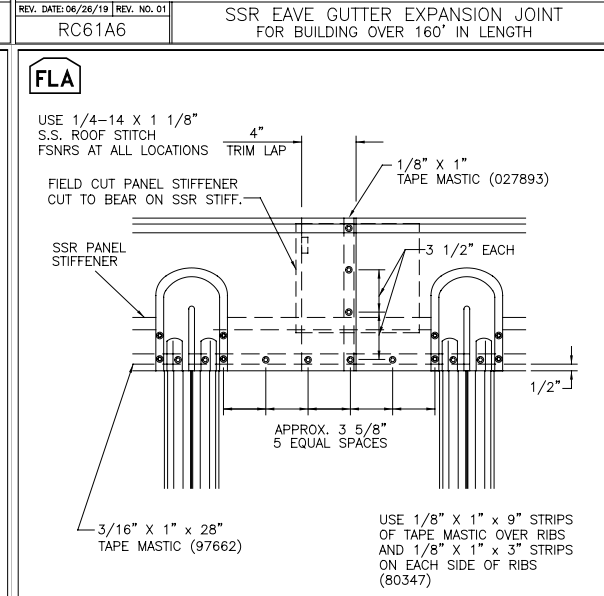
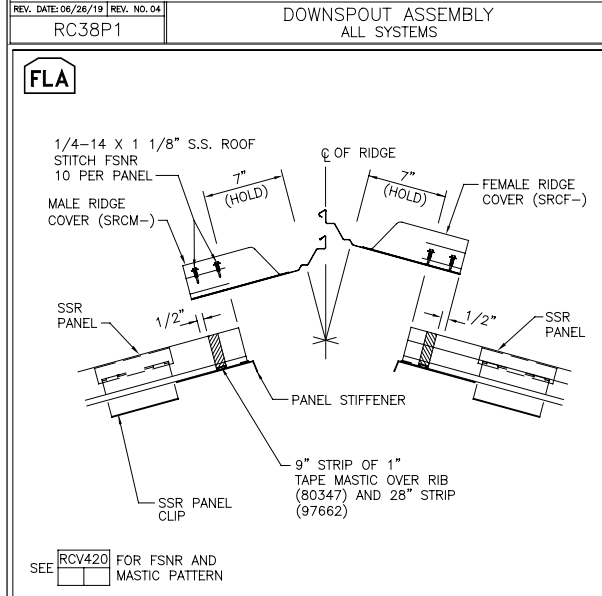
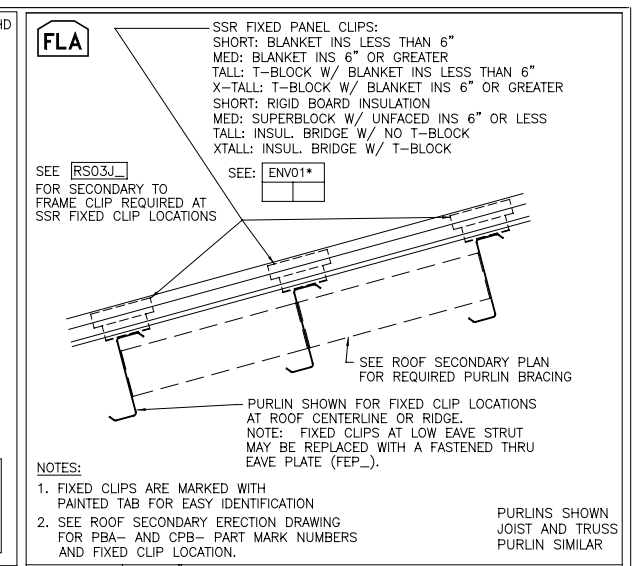
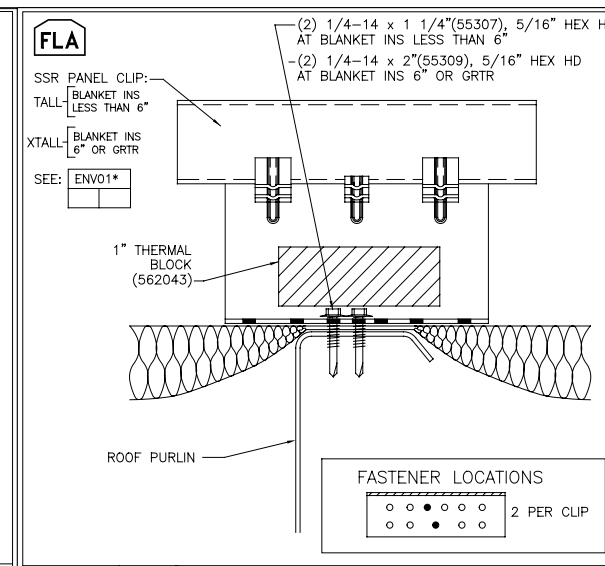
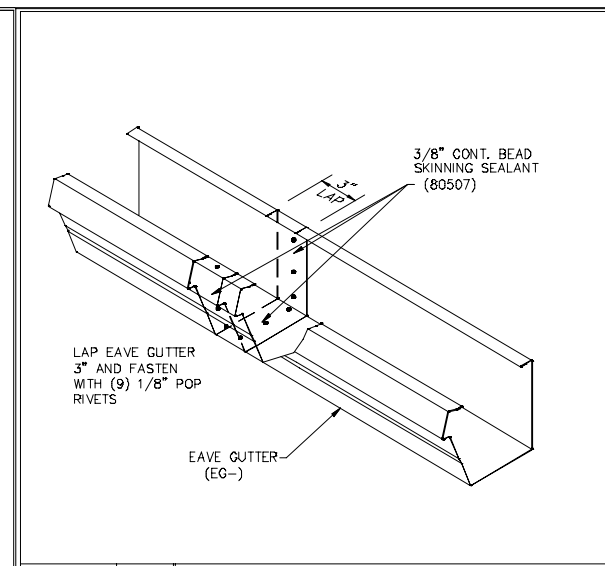
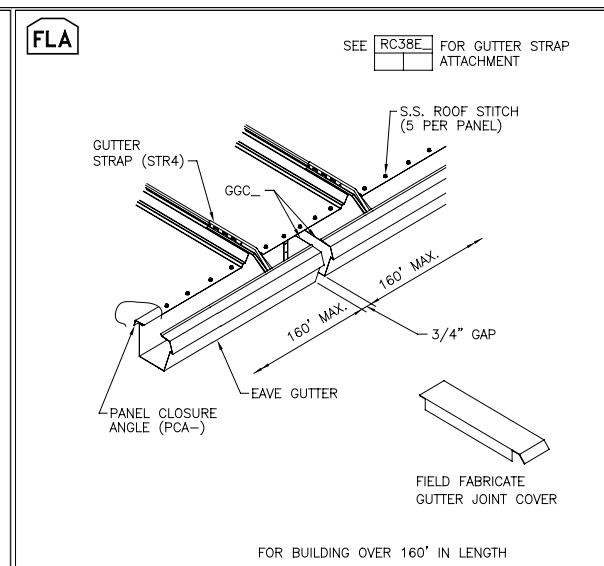
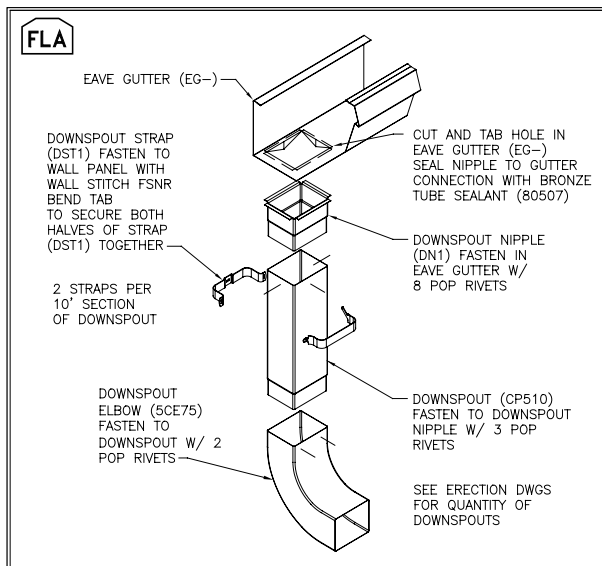
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THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING. DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.

REV	DATE	BY	DESCRIPTION
NTS			

VP Buildings		COVERING & TRIM SED'S (a)	
3200 Players Club Circle Memphis TN 38125		BUILDER	Riedel-wilks Building Structures, Inc.
		CUSTOMER	
		LOCATION	Rio Grande, Ohio
		PROJECT	BHCC New Trades bldg
		BUILDER'S POW	
VP BUILDINGS		JOB #	
WPCO/PRUDEN		DATE	3/8/2024
VPC VERSION: 2023.4a		DRAWN/CHECK	
a division of BlueScope Buildings North America, Inc.		PAGE	30

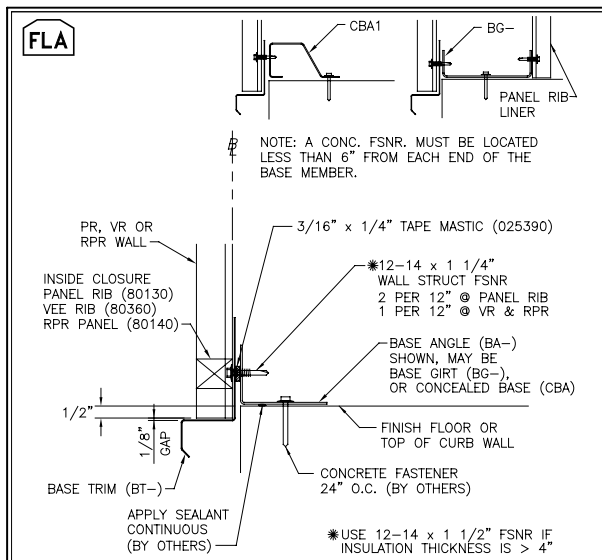


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REV	DATE	BY	DESCRIPTION	BUILDER	Riedel-wilks Building Structures, Inc.		JOB #
				CUSTOMER	Rio Grande, Ohio		DATE
				PROJECT	BHCC New Trades bldg		3/8/2024
				BUILDER'S POW			DRAWN/CHECK
NTS				VPC VERSION:	2023.4a		PAGE
3/8/2024 SEDSheet 9:40:18				FILENAME:	BHCC new trades building -2-8-2024		31

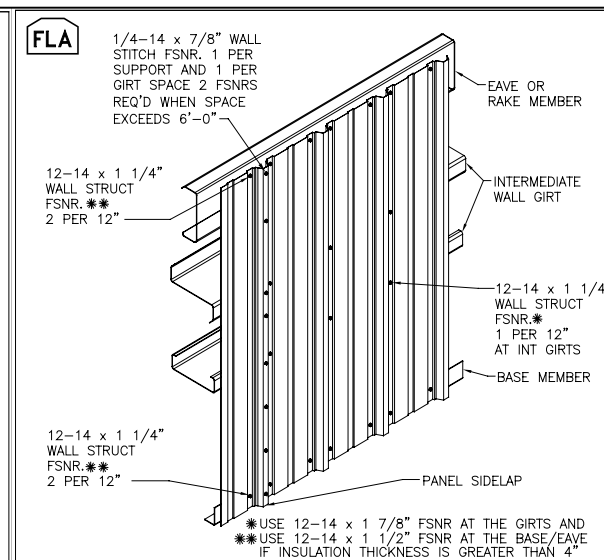


VPC VERSION: 2023.4a



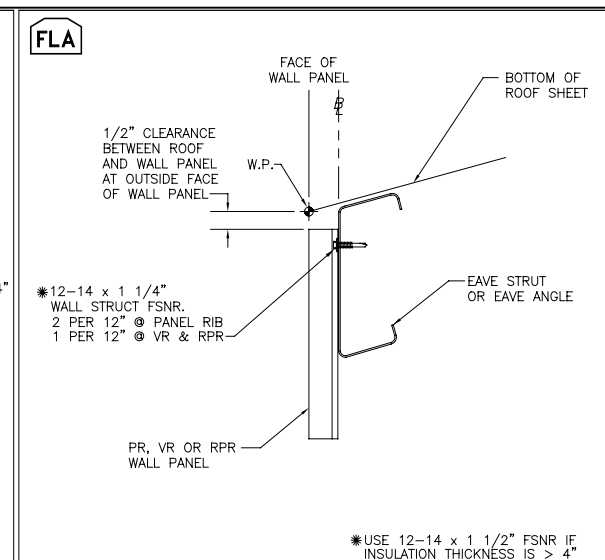
REV. DATE: 06/26/19 REV. NO. 06
WC01AB

BASE OF WALL ATTACHMENT
PR, VR OR RPR W/ BASE TRIM



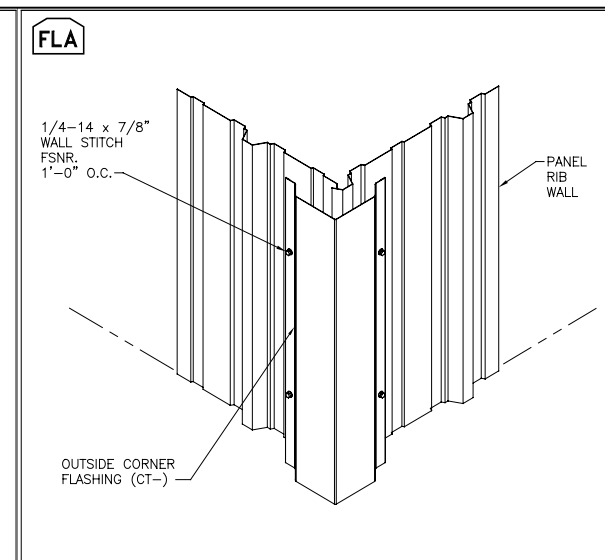
REV. DATE: 06/26/19 REV. NO. 04
WC04G1

PANEL RIB WALL
FASTENER PATTERNS



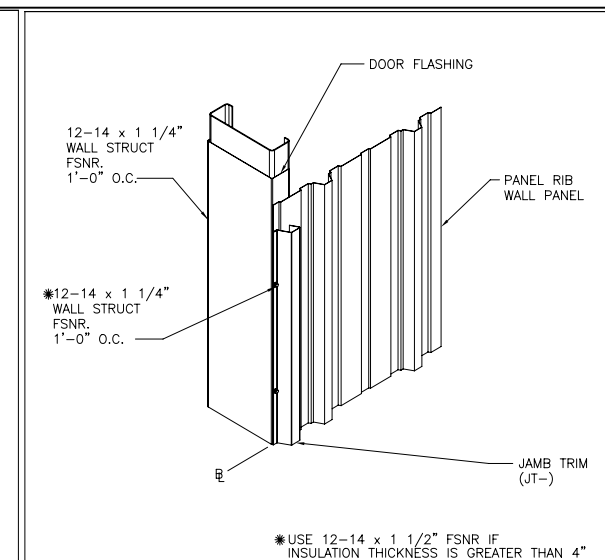
REV. DATE: 06/26/19 REV. NO. 04
WC11F1

PR, VR & RPR WALL AT EAVE
STANDARD EAVE MEMBER



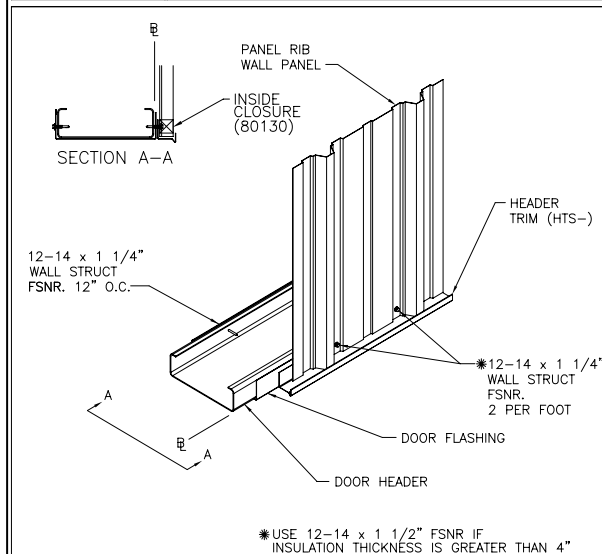
REV. DATE: 06/26/19 REV. NO. 01
WC20A1

OUTSIDE CORNER TRIM
PANEL RIB WALL



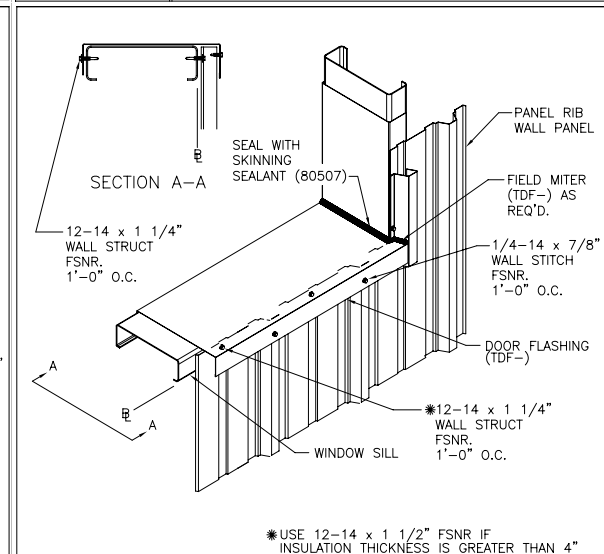
REV. DATE: 06/21/18 REV. NO. 01
WC24A1

JAMB TRIM AT OVERHEAD DOOR
PANEL RIB WALL



REV. DATE: 06/21/18 REV. NO. 03
WC24A2

WALL TRIM AT DOOR HEAD
OVERHEAD DOOR OPENING



REV. DATE: 06/21/18 REV. NO. 01
WC24A4

SILL TRIM
FRAMED OPENING (PANEL RIB)

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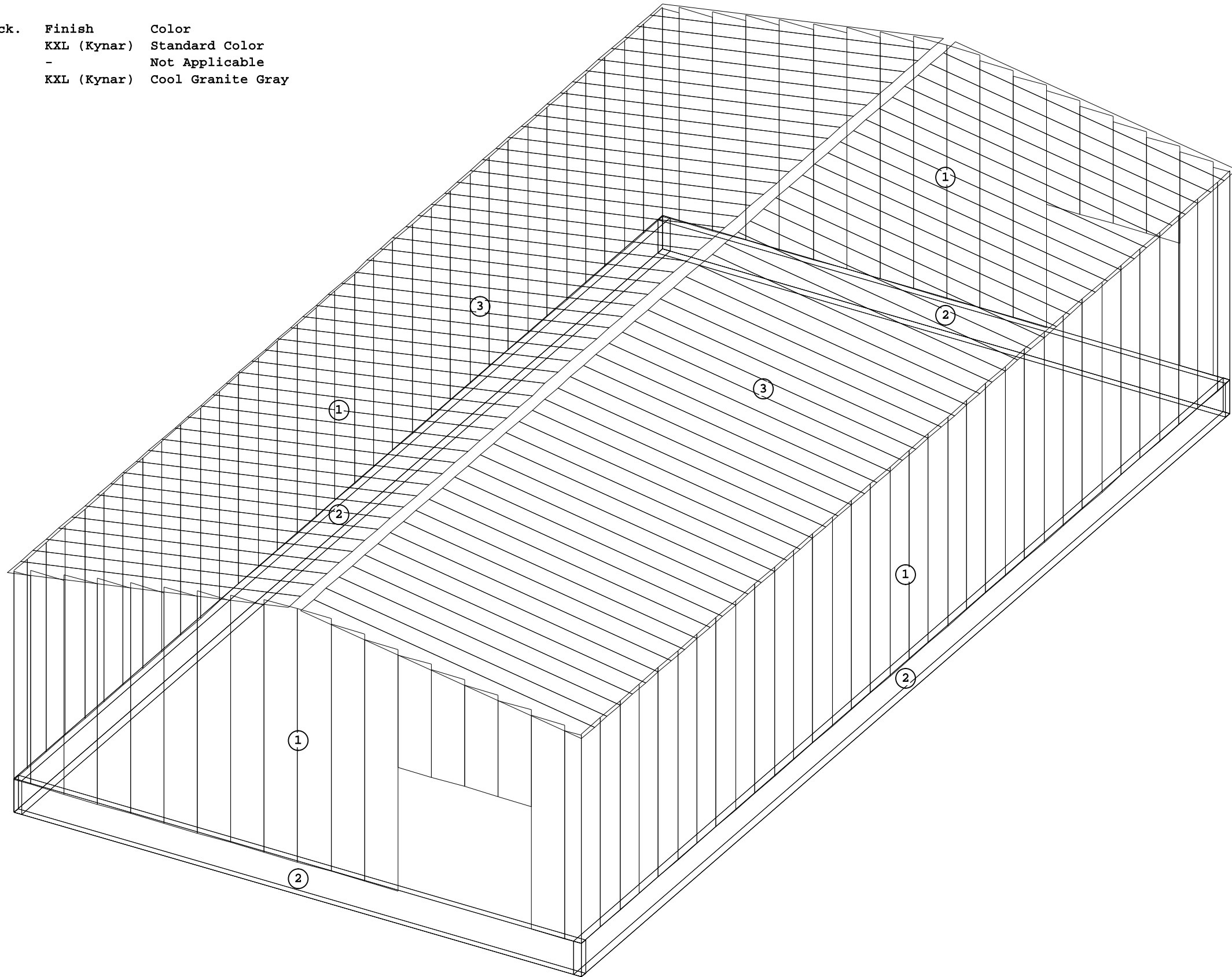
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	REV	DATE	BY
NTS			
3/8/2024 SEDSheet 9:40:20			

COVERING & TRIM SED'S (c)	
BUILDER	Riedel-wilks Building Structures, Inc.
CUSTOMER	
LOCATION	Rio Grande, Ohio
PROJECT	BHCC New Trades bldg
BUILDER'S POW	

	JOB #
	DATE
	DRAWN/CHECK
	PAGE
VPC VERSION: 2023.4a	
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Covering Location Schedule

Loc.	Type	Thick.	Finish	Color
1	Panel Rib	26	KXL (Kynar)	Standard Color
2	NBVP - Masonry	8"	-	Not Applicable
3	SSR	24	KXL (Kynar)	Cool Granite Gray




PRELIMINARY DRAWINGS - NOT FOR FINAL DESIGN

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B	VP Buildings 3200 Players Club Circle Memphis TN 38125			COVERING PERSPECTIVE	
	REV	DATE	BY	DESCRIPTION	BUILDER Riedel-wilks Building Structures, Inc.
					CUSTOMER
					LOCATION Rio Grande, Ohio
					PROJECT BHCC New Trades bldg
				BUILDER'S POW	JOB #
NTS					DATE 3/8/2024
3/8/2024 9:40:21					DRAWN/CHECK
FILENAME: BHCC new trades building -2-8-2024					PAGE 33
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