

GENERAL NOTES

Preliminary Drawings:

Preliminary drawings may be provided with a quote to indicate the location of vacuum equipment, piping, and hoses. Drawings may be used in direct coordination with Architects' and Engineers' plans for city/AHJ/client approval. Accurate and complete site plans must be provided to ensure the quality of your vacuum area to coordinate issues such as vacuum parking space width/angle, traffic flow, and hose reach.

Drawings are preliminary until the final system order is signed by the client.

Changes made to a vacuum system without Vacutech's consultation voids all Vacutech responsibility as well as the system warranty.

INSTALLATION NOTES

Installation By Others:

Installation drawings are provided with each project. Most projects require 2 or more installers and a forklift. Buried pipe, footings and concrete equipment pad(s) should be completed before installing Vacutech systems. J-bolt template kits for footings for vacuum arches and stanchions are available for purchase from Vacutech. Refer to drawings for footing requirements. Changes to vacuum piping, vacuum equipment location, and vacuum equipment enclosure will effect the performance of your system. Changes made to a vacuum system without Vacutech's consultation voids all Vacutech responsibility and the system warranty.

Vacutech System Install:

Vacutech offers installation as an option when bidding a project.

Please note that the scope of Vacutech's installation only includes work above ground. Vacutech will install vacuum arches/stanchions to concrete footings, install vacuum piping and set vacuum equipment in place.

Vacutech does not dig trenches, auger footings, dig/backfill/bury pipe or conduit, or provide any work below grade.

Vacutech does not pour footings, install J-bolts, install concrete trenches with covers, pour concrete pads, pour grout or do concrete work of any kind. Vacutech does not do core drilling through walls or patch any type of wall coring.

Vacutech does not do any type of roof penetration sealing. I.e. rubber boots, flat room mating, or any other type of material.

Vacutech does not wire lights, turbines, disconnects, VFDs, starters or any other electrical component. Vacutech does not pull wire through conduits. These items must be done by a Licensed Electrician.

WARRANTY NOTES

CHANGES MADE TO VACUUM SYSTEM WITHOUT VACUTECH CONSULTATION VOIDS ALL VACUTECH RESPONSIBILITY AND SYSTEM WARRANTY

Equipment warranty information: (if applicable)

When vacuum equipment is installed in an enclosure with 4 walls and a roof it must be ventilated. Enclosure door must be louvered and an exhaust fan with thermostat set at 85°F must be installed to turn over air every 15 min. Vacuum turbine must be exhausted outside with metallic pipe no smaller than 6" with exhaust pipe opening protected from elements. Equipment pad must be flat and level.

Variable frequency drive (VFD) warranty information: (if applicable)

VFDs must be wired from main distribution panel in separate conduit (sized per code; based on turbine H.P. and voltage) to each VFD and from each VFD to turbine motor.

A separate conduit, sized per code, must also be installed from VFD to vacuum pressure transducer installed on filter separator. If two (2) or more VFD's are installed in one (1) enclosure, a separate conduit must be installed for each VFD. Install separate conduit from enclosure to each turbine motor, and each filter separator if there is more than one (1).

PIPE NOTES

Piping systems above ground

Piping system shall be schedule 40 (or sch 80) solid core PVC or ABS plastic pipe, with plastic D.W.V. (drain, waste and vent) fittings. Zinc, aluminum, or galvanized tubing, with directional flow zinc fittings of no less than 16 gauge, designed specifically for central vacuum systems are also acceptable.

Buried piping systems cast iron no-hub

In-ground piping systems that are subject to ground freeze/thaw conditions or excessive movement shall be cast iron with no-hub fittings and no-hub couplings (w/ stainless steel band).

Buried piping systems PVC sch 40 (or sch 80)

In-ground piping systems using PVC pipe shall be sch 40 (or sch 80) solid core, with PVC D.W.V. (drain, waste, and vent) fittings. Plastic pipe installed in-ground have a potential of possible cracking and wear. All plastic pipe systems in-ground must be below freeze line.

System notes:

All interior surfaces shall be free of burrs and obstructions for a non-restrictive air flow. ABS and PVC piping shall be cut straight and removed of burrs. Piping shall be attached together using a primer, and a cement (clear PVC cement for PVC/ black abs cement for abs) for a 100% tight seal.

Overhead piping systems shall be supported by means of approved pipe hangers, and shall be installed at a maximum of six feet O.C. when using abs or PVC pipe and ten feet when using zinc or aluminum tubing. All fittings supporting vacuum drop/hose assemblies shall be supported with within one foot on each side of fitting connection.

Piping systems shall be tested to hold 10 psi for a minimum of 24 hours.

When vacuum system is installed in potentially explosive environment, the following may be required as a minimum: Explosion proof motor Class I - Group D & Class II - Group E, F & G. Aluminum piping with zinc fittings. Primary and filtered separators and hose assemblies require special grounding. Verify all conditions.

PVC and ABS plastic pipe are not U.V. rated and will discolor and soften/cause bowing when exposed to direct sunlight. It is recommended that all exposed plastic pipe and fittings be primed and painted to help prevent this. It is recommended to use zinc, or aluminum tubing and zinc fittings be used when exposed to sun.

Plastic pipe exposed to elements:

PVC pipe will become brittle at 40° f and can crack/split when moving debris collides with it, it is recommended to use cast iron, zinc, or aluminum tubing for colder conditions.

ADDITIONAL NOTES

VFD Systems:

Instructions for wiring VFD to Turbine and Filter Separator are available for your electrician. After wiring is complete, call our customer service to complete programming.

Arch Systems: How Awnings are ordered (Coolaroo/Weblon)

Step 1: Arches are to be completely installed on site.

Step 2: After installation, Vacutech will send an awning measurement form to be filled out with instructions on how and where to measure. The awning form must be filled out entirely, signed, dated, and faxed or emailed to Vacutech for production.

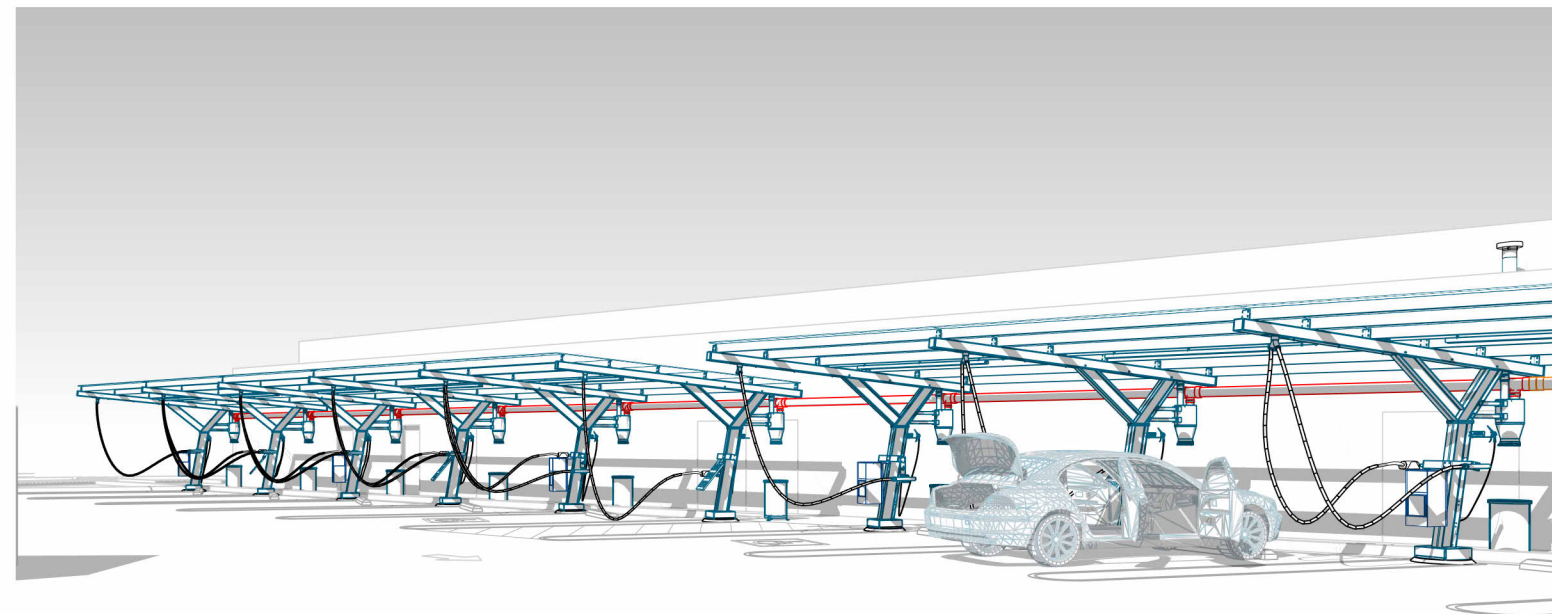
Step 3: Awnings are shipped to site w/ instructions.

Maintenance:

System longevity under continuous operation is extended by regular maintenance. Issues commonly result from failure to remove obstructions in the piping system, replace damaged or worn parts, or not regularly changing filter bags. Refer to Vacutech maintenance instructions

Assign a person to central vacuum maintenance:

To ensure continued trouble free central vacuum system operation and to avoid downtime during periods of heavy use, assign an employee to follow a strict maintenance schedule. Refer to Vacutech recommended maintenance schedule.



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Elevation: 5,869' ASL AN **NCS** COMPANY

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#	Revision	By	Chk	Date
4	ADDED ENGINEERED SPECIFICATIONS	TD	ML	8/21/23
5	REPLACED ALL PALM ARCHES WITH RIVAL ARCHES WITH CORRUGATED ALUMINUM AWNINGS	ML	SL	10/27/23
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8	REMOVED 6' LED LIGHTS & INSTALLED 8' LED LIGHTS	FD	TD	12/6/23
9	REVISED FOOTING DETAILS AND GENERAL STRUCTURAL NOTES PER ENGINEERING NOTES	FM	TJ	1/10/24

COVER SHEET

Project Number	117572
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Checked By	TD

V001

DESIGN CRITERIA:

BUILDING CODE: INTERNATIONAL BUILDING CODE, 2021 EDITION (2021 IBC)

ROOF D.L. = 1.2 PSF (CORRUGATED STEEL PANEL); ROOF L.L. = 20 PSF
GROUND S.L. = 45 PSF; ROOF S.L. = 30.24 PSF;

WIND:

BASIC WIND SPEED V = 101 MPH; ALLOWABLE WIND SPEED V_{ASD} = 78.23 MPH
RISK CATEGORY = I; EXPOSURE = C

SEISMIC:

IMPORTANCE FACTOR, I_e = 1.0
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS S_s = 0.02 S₁ = 0.056
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS S_{DS} = 0.214 S_{D1} = 0.090
SITE CLASS = D; SEISMIC DESIGN CATEGORY = B
SEISMIC RESISTING SYSTEM = STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
SEISMIC BASE SHEAR = (W x C_s)
SEISMIC RESPONSE COEFFICIENT (C_s) = 0.17
RESPONSE MODIFICATION FACTOR (R) = 1.25
ANALYSIS METHOD: EQUIVALENT LATERAL-FORCE PROCEDURE

FOUNDATION:

DESIGN SOIL PRESSURES PER IBC TABLE 1806.2; SOIL CLASS 5
DESIGN VERTICAL BEARING PRESSURE = 1500 PSF
DESIGN LATERAL BEARING PRESSURE = 100 PSF/FT (X2 INCREASE PER IBC 1806.3.4)

SPECIAL STRUCTURAL INSPECTION:

CONTACT THIRD PARTY SPECIAL INSPECTION AGENCY

PROVIDE SAFE ACCESS TO THE WORK FACILITIES BY THE SPECIAL STRUCTURAL INSPECTOR. NOTIFY ENGINEER OF CONSTRUCTION START DATE AND COORDINATE INSPECTIONS. PROVIDE THE ENGINEER 24 HOURS NOTICE OF SPECIAL INSPECTIONS. SPECIAL INSPECTIONS MAY BE CONDUCTED AS NOTED IN PARENTHESES BELOW. SEE IBC CHAPTER 17 FOR MORE SPECIFIC INFORMATION

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION PER IBC CHAPTER 17:

SPECIAL INSPECTION:

1. STEEL CONSTRUCTION PER IBC 1705.2 & IBC 1705.12.1
 - a. FABRICATOR DOCUMENTATION
 - b. HIGH STRENGTH BOLTING – PERIODIC
2. CONCRETE CONSTRUCTION: TABLE 1705.3
 - a. INSPECTION OF REINFORCEMENT AND VERIFICATION OF PLACEMENT.
 - b. INSPECTION OF ANCHORS CAST IN CONCRETE.
 - c. VERIFY USE OF REQUIRED DESIGN MIX.
3. PIER FOUNDATIONS: SECTION 1705.8 AND TABLE 1705.8
 - a. OBSERVATION, COMPLIANCE AND RECORDS PER PIER –CONTINUOUS
 - b. PLACEMENT LOCATION, PLUMBNESS, DIAMETER, LENGTH, EMBEDMENT REQUIREMENT - CONTINUOUS

CONCRETE:

ACI MANUAL OF CONCRETE PRACTICE, TYPE V CEMENT.
MINIMUM 28 DAY STRENGTH AS FOLLOWS:

- CONCRETE SHALL BE 3,000 psi AT 28 DAYS. (EXPOSURE CATEGORY F0, S0, W0, AND C0)
- * UNLESS ANY OF THE FOLLOWING CONDITIONS APPLY PER ACI 318 CONCRETE DURABILITY REQUIREMENTS.
- 1. CONCRETE EXPOSED TO FREEZE/THAW CYCLES
- 1.1. LIMITED EXPOSURE TO WATER CONCRETE STRENGTH = 4,000 PSI., AIR ENTRAINMENT= 6% & W/CM= 0.55 (EXPOSURE CATEGORY F1)
- 1.2. FREQUENT EXPOSURE TO WATER MIN CONCRETE STRENGTH = 4,500 PSI, AIR ENTRAINMENT= 7.5% & W/CM= 0.45 (EXPOSURE CATEGORY F2)
- 2. LIMITED OR FREQUENT EXPOSURE TO WATER
- 2.1. 4000 PSI W/OUT FREEZE/THAW EXPOSURE OR CHLORIDES. (EXPOSURE CATEGORY C1)
- 2.2. W/ CHLORIDES (SUCH AS BRACKISH OR SALTWATER)=5,000 PSI. (EXPOSURE CATEGORY C2)
- 3. IF SULFATES PRESENT REFER TO ACI 318 CHAPTER 19 FOR MIN. CONCRETE REQUIREMENTS (EXPOSURE CATEGORY S1, S2 & S3)
- ALL MIX DESIGNS SHALL BE ALKALI-SILICA REACTION (ASR) RESISTANT.
- WATER REDUCING ADMIXTURES SHALL CONFIRM TO ASTM C494
- FLY ASH: ASTM C-618 CLASS F, NOT TO EXCEED 15% OF THE CEMENTITIOUS MATERIALS BY WEIGHT.
- MECHANICALLY VIBRATE WHEN PLACED, EXCEPT SLABS ON GRADE. MAXIMUM SLUMP 5"
- NO ADDITIONAL ADMIXTURES WITHOUT APPROVAL.
- NO ADMIXTURES CONTAINING CHLORIDES

CONCRETE SHALL BE DEPOSITED AS CLOSE AS POSSIBLE TO ITS FINAL POSITION. CONCRETE WITHOUT TYPE F OR G WATER REDUCERS SHALL NOT BE ALLOWED TO DROP MORE THAN 5 FEET FROM A CHUTE OR "ELEPHANT TRUNK". CONCRETE WITH TYPE F OR G WATER REDUCERS SHALL NOT BE ALLOWED TO DROP MORE THAN 12 FEET FROM THE CHUTE OR "ELEPHANT TRUNK". IF CONCRETE MUST BE DROPPED MORE THAN ALLOWED ABOVE, HOPPERS, TREMIE AND CHUTES, "ELEPHANT TRUNKS" ETC. SHALL BE USED TO PREVENT SEGREGATION.

CONCRETE PLACED INTO CAISSONS SHALL EMPLOY THE USE OF A TREMIE. CONCRETE SHALL NOT BE PLACED INTO CAISSONS WITH MORE THAN 2 FEET OF STANDING WATER AT THE BOTTOM OF THE CAISSON.

REINFORCING:

ASTM A615, GRADE 60 DEFORMED BARS. DETAIL PER LATEST A.C.I. CODE AND DETAILING MANUAL. PLACE REBAR PER C.R.S.I. STANDARDS.

**** OWNER RESPONSIBILITIES****

****THE STRUCTURAL ENGINEERING DESIGN IS APPLICABLE FOR THE CONFIGURATION PRESENTED IN THESE DRAWINGS AND ONLY FOR THIS LOCATION. THE OWNER SHALL BEAR ALL RISK ASSOCIATED WITH ALTERNATE CONFIGURATIONS, LOADING AND/OR LOCATION.**

THE STRUCTURAL PORTIONS OF THESE PLANS HAVE BEEN REVIEWED BY STARLING MADISON LOFQUIST, INC. (SML) FOR COMPLIANCE WITH THE STRUCTURAL CALCULATIONS. SML IS NOT RESPONSIBLE FOR INFORMATION RELATED TO ANY OTHER DISCIPLINES.

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GENERAL STRUCTURAL NOTES		V002
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CONSTRUCTION NOTES

GENERAL NOTES:

- ALL DIMENSIONS TO BE FIELD VERIFIED BY OWNER
- IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
- PIER DESIGN AND REINFORCEMENT FOR CONCEPTUAL USE ONLY. CONSULT STRUCTURAL ENGINEER IN YOUR AREA FOR SPECIFIC DESIGN CRITERIA.
- COMPLY WITH ALL STATE/ COUNTY BUILDING CODES IN YOUR AREA

EQUIPMENT & MATERIAL:

- RUN COMPRESSED AIR TO AIR COMPRESSOR LOCATION (BY OTHERS)
- WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
- 23' 6" Lx10' Wx4" H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT VERIFY SEPARATOR WILL FIT THROUGH DOOR (60" CLEAR OPENING WIDTH RECOMMENDED)

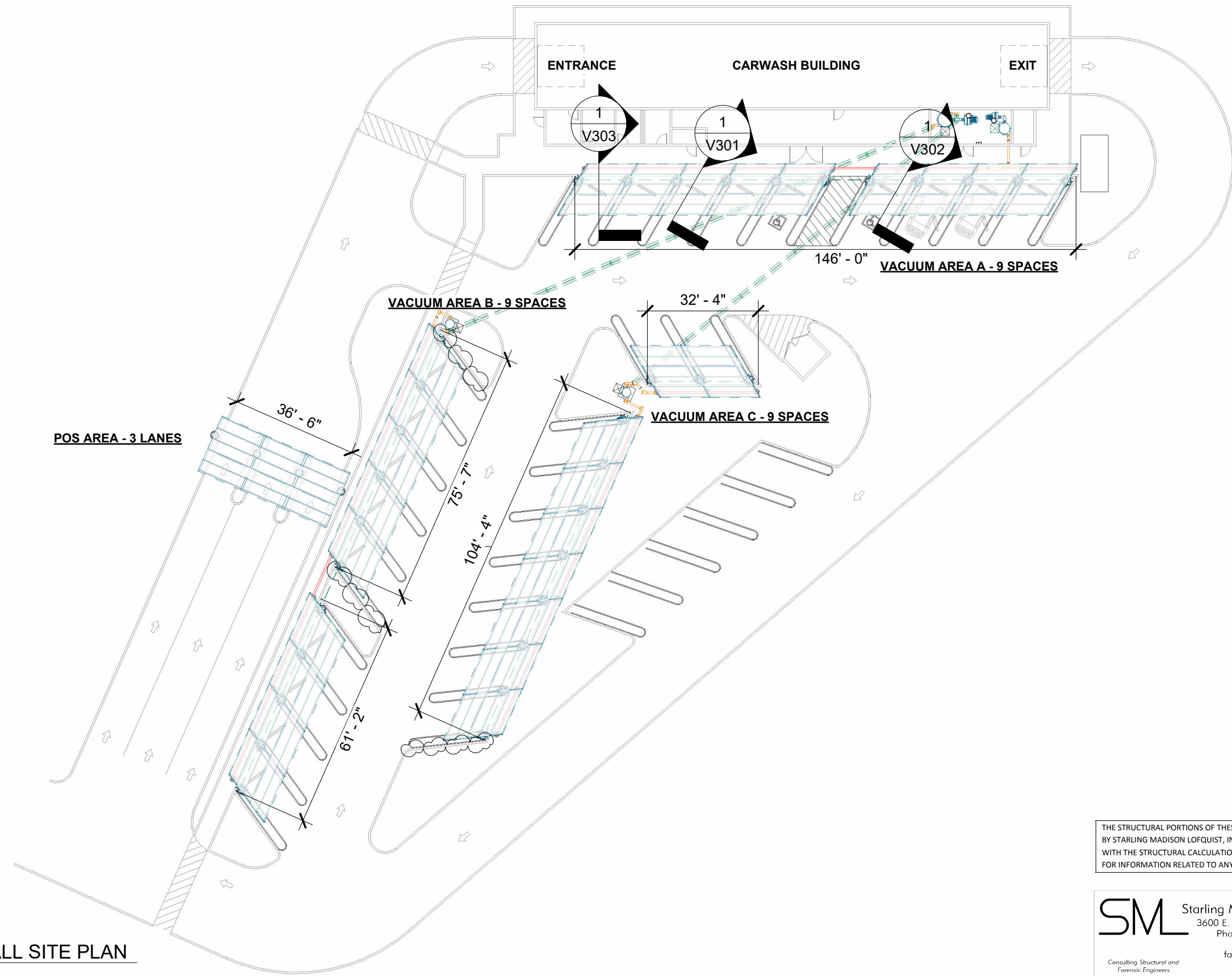
VACUUM & PLUMBING:

- SUPPORT SCHEDULE 40 PVC OVERHEAD DRY/WET VACUUM PIPE EVERY 6' MAXIMUM; USE UNISTRUT & CLAMP OR OTHER SUPPORT (PROVIDED BY OTHERS)
- ALL FITTINGS TO BE 'DWV'

POS AREA

QTY	ITEM
4	POS RIVAL ARCH
18	PURLINS
3	8' LED LIGHT
3	CORRUGATED STEEL AWNING

NOTE: CURBS ADJUSTED 1'-6" FROM CENTER OF FOOTING TO FACE OF CURB TO ALLOW FOR ADEQUATE ARCH SPACING



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1 OVERALL SITE PLAN

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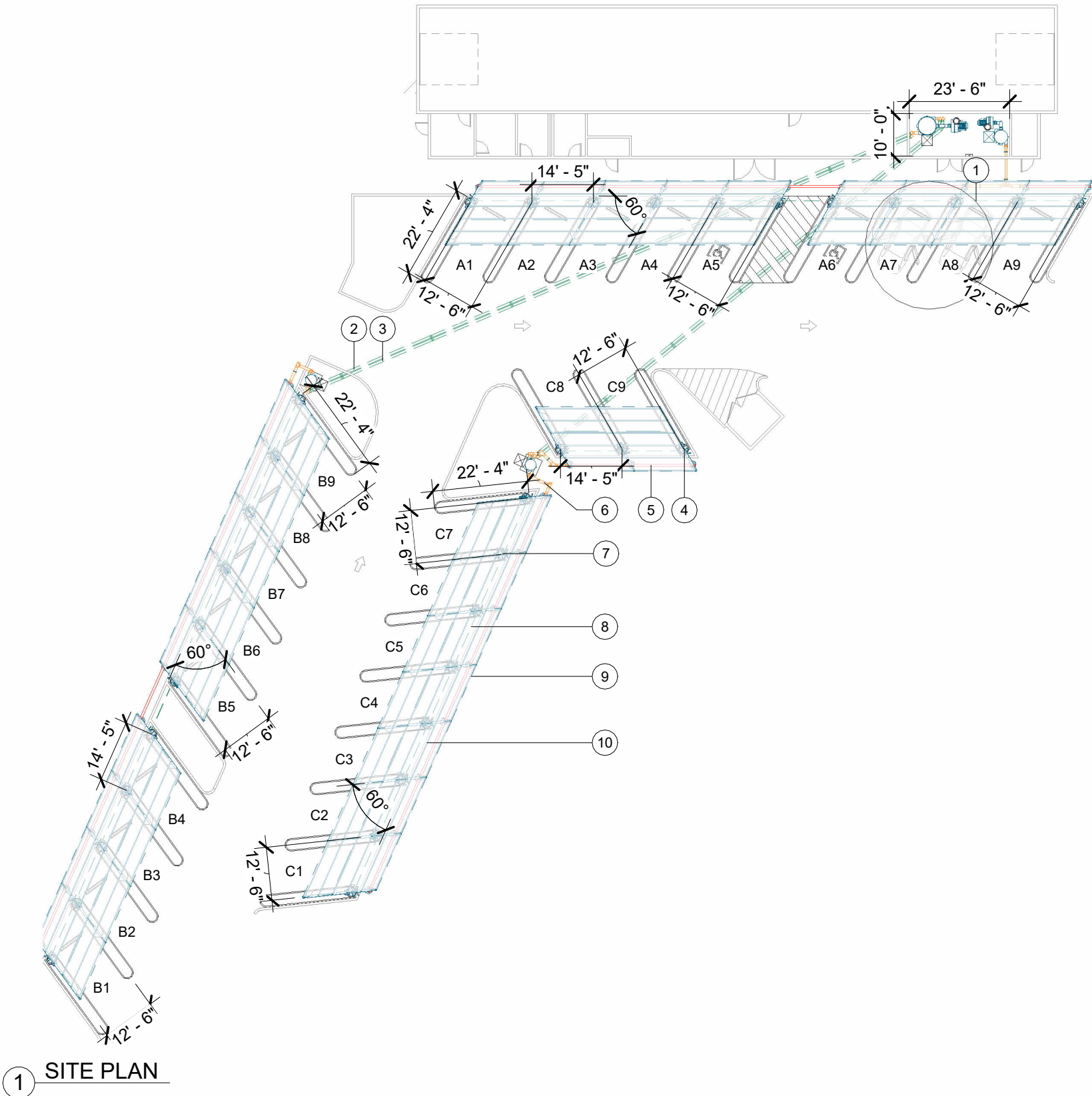
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OVERALL SITE PLAN		V101
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1 SITE PLAN

SITE PLAN	
ITEM	DESCRIPTION
1	15' HOSE REACH
2	6" SCH. 40 SOLID CORE PVC BURIED PRIMARY VACUUM PIPE (BY OTHERS)
3	6" SCH. 40 SOLID CORE PVC BURIED BACK-UP VACUUM PIPE (BY OTHERS)
4	SINGLE USER RIVAL ARCH AT ENDS OF VACUUM SPACES
5	6" OVERHEAD ALUMINUM VACUUM TUBE
6	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE
7	DUAL USER RIVAL ARCH BETWEEN VACUUM SPACES
8	BURIED COMPRESSED AIR LINE (BY OTHERS)
9	CORRUGATED STEEL AWNING BERRIDGE DEEP - DECK PANEL - 22 GA (1.5" TALL
10	PURLIN

VACUUM AREA A

QTY	ITEM
4	SINGLE USER RIVAL ARCH
7	DUAL USER RIVAL ARCH
9	CREVICE VACUUM TOOL & HOLDER
9	SONNY'S VACUUM TOOL & HOLDER
4	ADA MOUNTING BRACKET
11	U SHAPED TOOL HANGER BRACKET
8	AUTOVAC TOOL ADAPTER BRACKET
18	1-1/2"x15' RAPIDLOCK HOSE
18	AIR NOZZLE & HOSE (BY OTHERS)
11	AIR TOOL HANGER
54	PURLINS
5	13" MAT RACK W/ DOOR PROTECTION
11	30 GALLON (FLOOR MOUNTED) WASTE RECEPTACLE
6	TOWEL BIN
9	CORRUGATED ALUMINUM AWNING
9	8' LED LIGHT
3	96"-140" ADJUSTABLE OVERHEAD PIPE SUPPORT

VACUUM AREA C

QTY	ITEM
4	SINGLE USER RIVAL ARCH
7	DUAL USER RIVAL ARCH
9	CREVICE VACUUM TOOL & HOLDER
9	SONNY'S VACUUM TOOL & HOLDER
11	U SHAPED TOOL HANGER BRACKET
7	AUTOVAC TOOL ADAPTER BRACKET
18	1-1/2"x15' RAPIDLOCK HOSE
18	AIR NOZZLE & HOSE (BY OTHERS)
11	AIR TOOL HANGER
54	PURLINS
4	AIR ACCESS DOOR WITH FITTINGS NO HANGER
5	13" MAT RACK W/ DOOR PROTECTION
11	30 GALLON (FLOOR MOUNTED) WASTE RECEPTACLE
6	TOWEL BIN
9	CORRUGATED ALUMINUM AWNING
9	8' LED LIGHT

VACUUM AREA B

QTY	ITEM
4	SINGLE USER RIVAL ARCH
7	DUAL USER RIVAL ARCH
9	CREVICE VACUUM TOOL & HOLDER
9	SONNY'S VACUUM TOOL & HOLDER
11	U SHAPED TOOL HANGER BRACKET
7	AUTOVAC TOOL ADAPTER BRACKET
18	1-1/2"x15' RAPIDLOCK HOSE
18	AIR NOZZLE & HOSE (BY OTHERS)
11	AIR TOOL HANGER
54	PURLINS
4	AIR ACCESS DOOR WITH FITTINGS NO HANGER
5	13" MAT RACK W/ DOOR PROTECTION
11	30 GALLON (FLOOR MOUNTED) WASTE RECEPTACLE
6	TOWEL BIN
9	CORRUGATED ALUMINUM AWNING
7	8' LED LIGHT
1	96"-140" ADJUSTABLE OVERHEAD PIPE SUPPORT

VACUUM EQUIPMENT A

QTY	ITEM
1	40HP T4 DIRECT DRIVE TURBINE (HIGH ELEVATION)
1	8" T4 INDOOR EXHAUST SILENCER
1	38x88 FILTER SEPARATOR
1	96"-140" ADJUSTABLE OVERHEAD PIPE SUPPORT

VACUUM EQUIPMENT B & C

QTY	ITEM
1	75HP T5 DIRECT DRIVE TURBINE (HIGH ELEVATION)
1	8" T5 INDOOR EXHAUST SILENCER
2	31x60 PRIMARY SEPARATOR
1	50x108 FILTER SEPARATOR

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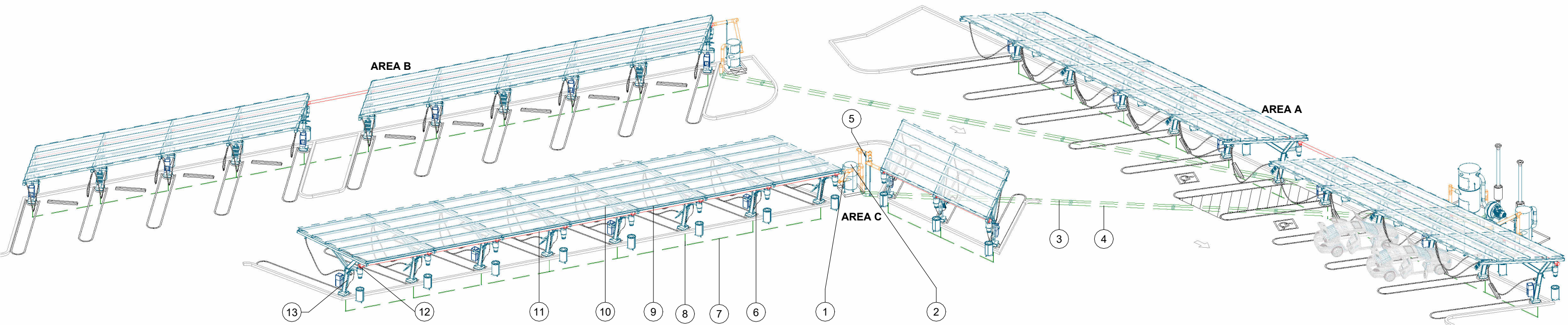
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VACUUM SITE PLAN	
Project Number	117572
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V111

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SITE ISOMETRIC	
ITEM	DESCRIPTION
1	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE
2	31x60 PRIMARY SEPARATOR
3	6" SCH. 40 SOLID CORE PVC BURIED PRIMARY VACUUM PIPE (BY OTHERS)
4	6" SCH. 40 SOLID CORE PVC BURIED BACK-UP VACUUM PIPE (BY OTHERS)
5	OVERHEAD PIPE SUPPORT
6	DUAL USER RIVAL ARCH BETWEEN VACUUM SPACES
7	BURIED COMPRESSED AIR LINE (BY OTHERS)
8	COMPRESSED AIR LINE RAN UP THROUGH FOOTING WITH 1/2" FIPT ADAPTER, 10" ABOVE FOOTING GRADE (BY OTHERS)
9	CORRUGATED STEEL AWNING BERRIDGE DEEP - DECK PANEL - 22 GA (1.5" TALL
10	PURLIN
11	6" OVERHEAD ALUMINUM VACUUM TUBE
12	6" CLEAN-OUT (TYP.)
13	SINGLE USER RIVAL ARCH AT ENDS OF VACUUM SPACES



1 SITE ISOMETRIC

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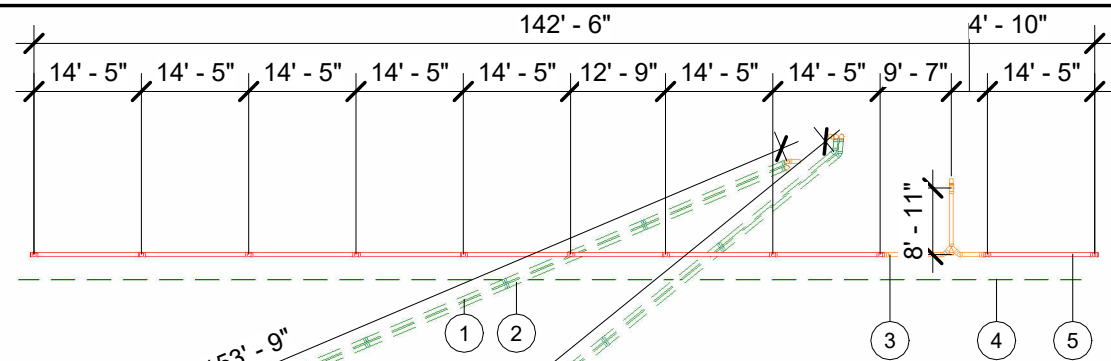
COBBLESTONE C82
 9572 TWENTY MILE ROAD
 PARKER, COLORADO 80134

#	Revision	By	Chk	Date
4	ADDED ENGINEERED SPECIFICATIONS	TD	ML	8/21/23
5	REPLACED ALL PALM ARCHES WITH RIVAL ARCHES WITH CORRUGATED ALUMINUM AWNINGS	ML	SL	10/27/23
6	POS ARCHES CHANGED TO RIVAL ARCHES	TJ	ML	11/20/23
7	CHANGED THE CONFIGURATION OF THE POS LAYOUT TO RUN PARALLEL WITH THE LANES	FM	TJ	11/28/23
8	REMOVED 6' LED LIGHTS & INSTALLED 8' LED LIGHTS	FD	TD	12/6/23
9	REVISED FOOTING DETAILS AND GENERAL STRUCTURAL NOTES PER ENGINEERING NOTES	FM	TJ	1/10/24

VACUUM SITE ISOMETRIC	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

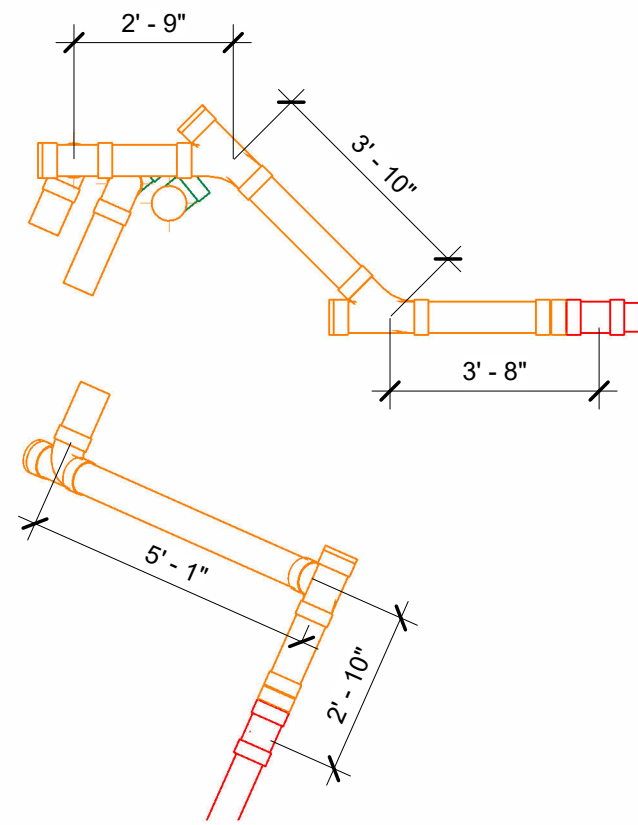
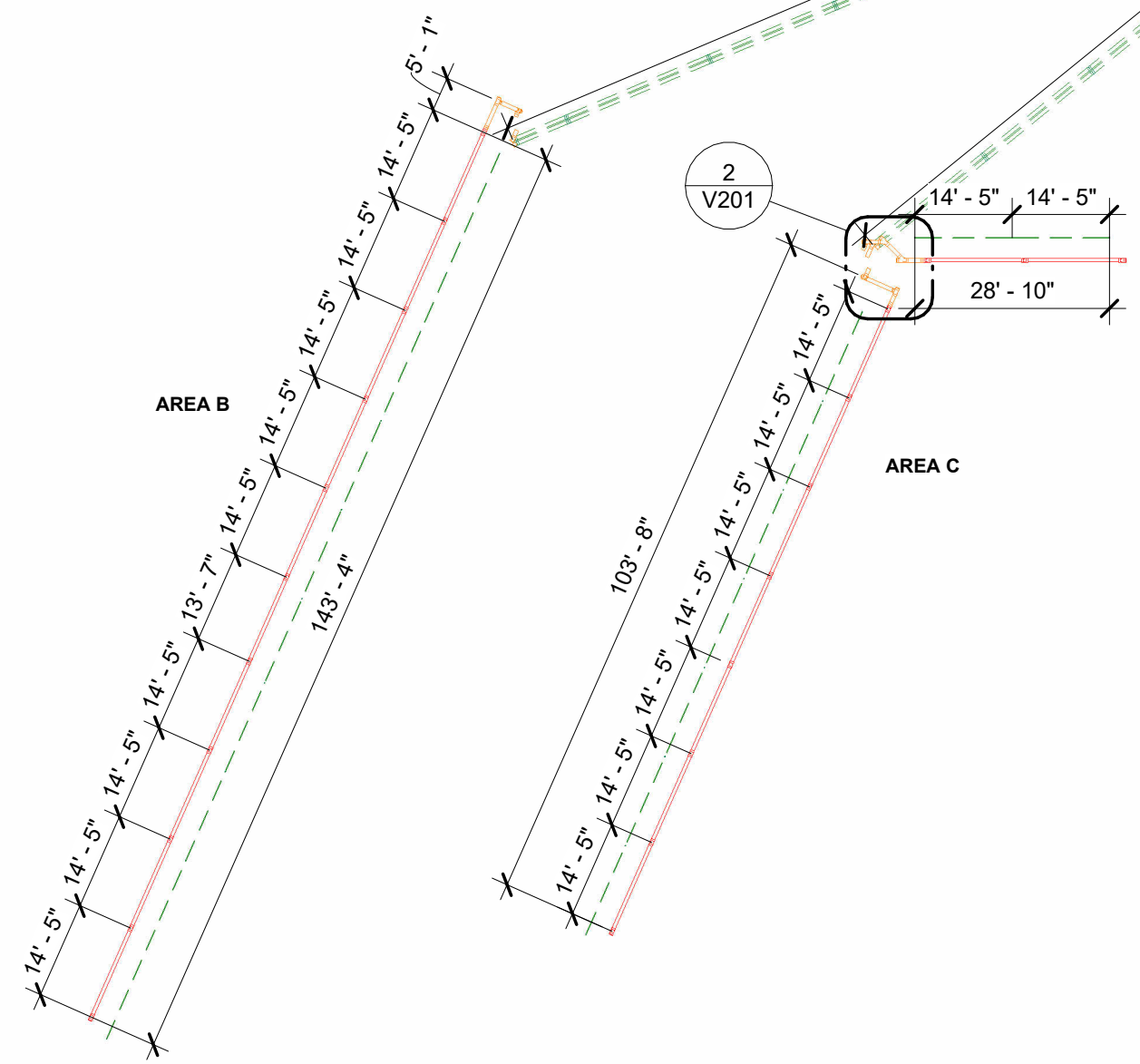
V121

1/10/2024 1:45:07 PM



- PIPE NOTES:**
- FIELD VERIFY ALL DIMENSIONS
 - SUPPORT SCHEDULE 40 PVC OVERHEAD DRY/WET VACUUM PIPE EVERY 6' MAXIMUM; USE UNISTRUT & CLAMP OR OTHER SUPPORT **(PROVIDED BY OTHERS)**
 - RUN COMPRESSED AIR TO AIR COMPRESSOR LOCATION **(BY OTHERS)**
 - COMPRESSED AIR RECOMMENDED WORKING PRESSURE IS 75PSIG AND 10SCFM AT INTERFACE
 - WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
 - REFER TO SHEET V721 FOR PIPE ASSEMBLY CUTSHEETS
 - ALL FITTINGS TO BE 'DWV'

PIPE LAYOUT	
ITEM	DESCRIPTION
1	6" SCH. 40 SOLID CORE PVC BURIED PRIMARY VACUUM PIPE (BY OTHERS)
2	6" SCH. 40 SOLID CORE PVC BURIED BACK-UP VACUUM PIPE (BY OTHERS)
3	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE
4	BURIED COMPRESSED AIR LINE (BY OTHERS)
5	6" OVERHEAD ALUMINUM VACUUM TUBE



1 PIPE LAYOUT

VACUTECH
 AN **NCS** COMPANY
 1350 HI-TECH DRIVE
 SHERIDAN, WY 82801
 PHONE: (307) 675-1982
 EMAIL: vacinfo@ncswash.com
 WEB: www.vacutechllc.com

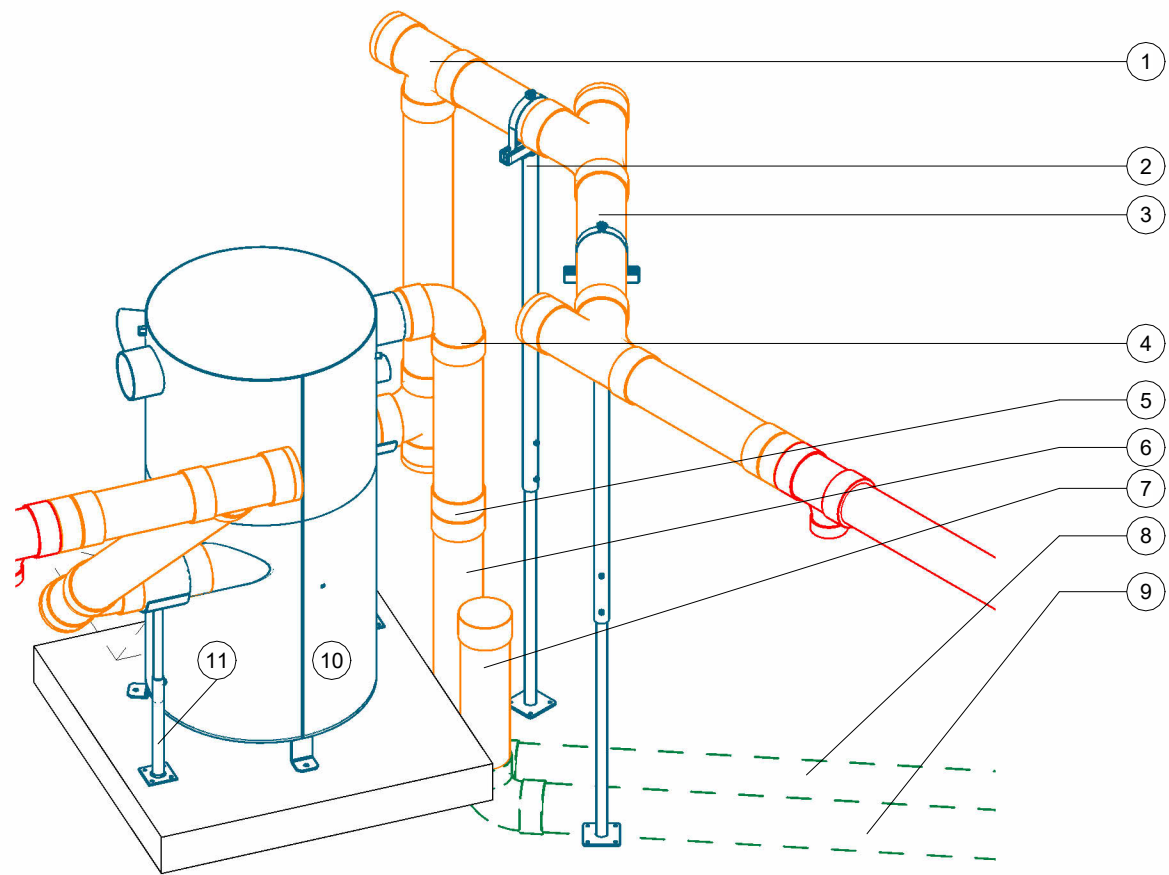
COBBLESTONE C82
 9572 TWENTY MILE ROAD
 PARKER, COLORADO 80134

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PIPE LAYOUT	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V201

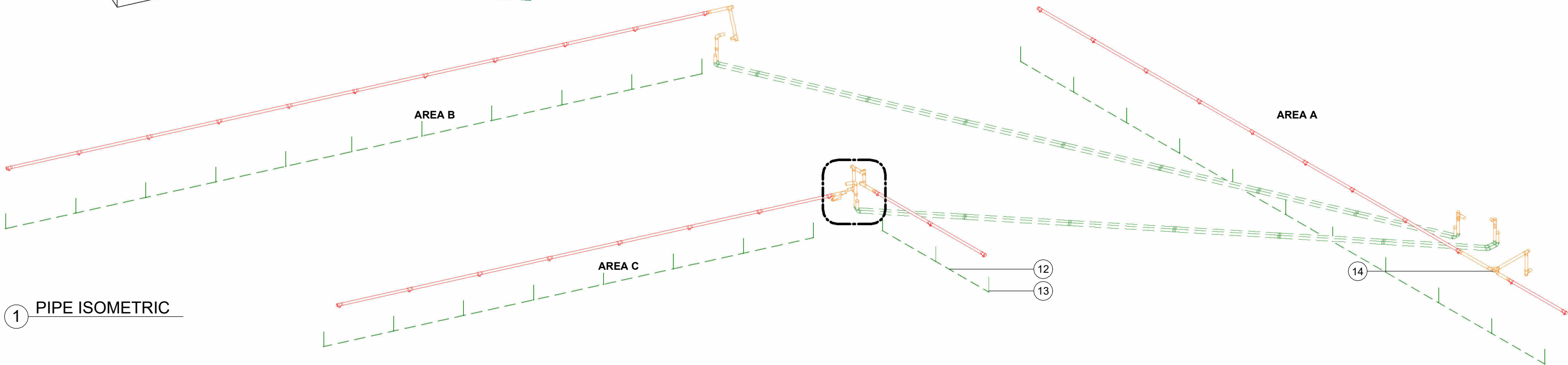
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PIPE NOTES:

- a. FIELD VERIFY ALL DIMENSIONS
- b. SUPPORT SCHEDULE 40 PVC OVERHEAD DRY/WET VACUUM PIPE EVERY 6' MAXIMUM; USE UNISTRUT & CLAMP OR OTHER SUPPORT **(PROVIDED BY OTHERS)**
- c. RUN COMPRESSED AIR TO AIR COMPRESSOR LOCATION **(BY OTHERS)**
- d. COMPRESSED AIR RECOMMENDED WORKING PRESSURE IS 75PSIG AND 10SCFM AT INTERFACE
- e. WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
- f. REFER TO SHEET V721 FOR PIPE ASSEMBLY CUTSHEETS
- g. ALL FITTINGS TO BE 'DWV'

PIPE ISOMETRIC	
ITEM	DESCRIPTION
1	6" PVC SANITARY TEE
2	OVERHEAD PIPE SUPPORT
3	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE
4	6" 90 DEGREE PVC ELBOW
5	6" FERNCO
6	6" PRIMARY PIPE STUB-UP LOCATION
7	6" BACK-UP PIPE STUB-UP LOCATION W/PVC SLIP CAP
8	6" SCH. 40 SOLID CORE PVC BURIED PRIMARY VACUUM PIPE (BY OTHERS)
9	6" SCH. 40 SOLID CORE PVC BURIED BACK-UP VACUUM PIPE (BY OTHERS)
10	31x60 PRIMARY SEPARATOR
11	SEPARATOR PIPE SUPPORT
12	BURIED COMPRESSED AIR LINE (BY OTHERS)
13	COMPRESSED AIR LINE RAN UP THROUGH FOOTING WITH 1/2" FIPT ADAPTER, 10" ABOVE FOOTING GRADE (BY OTHERS)
14	6" CLEAN-OUT (TYP.)



1 PIPE ISOMETRIC

VACUTECH
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COBBLESTONE C82
 9572 TWENTY MILE ROAD
 PARKER, COLORADO 80134

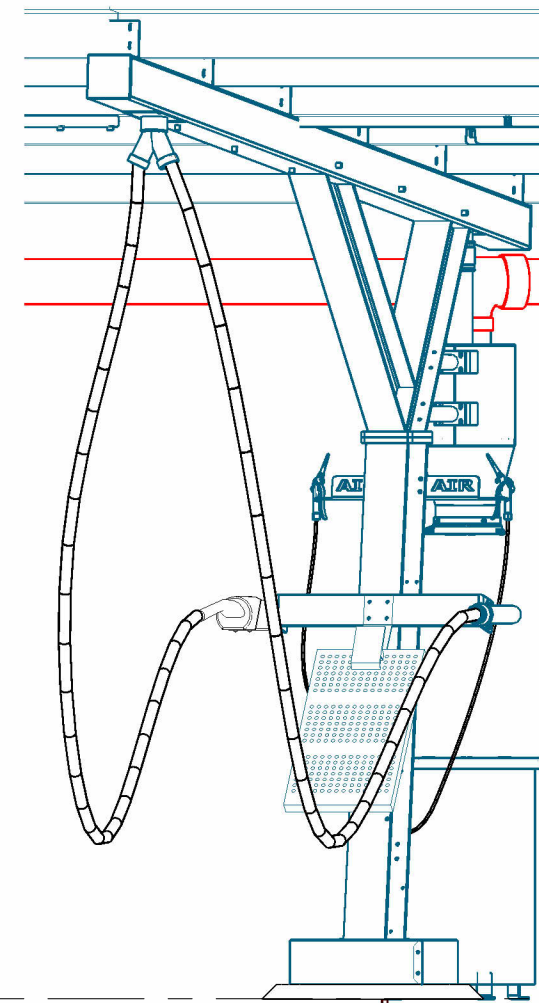
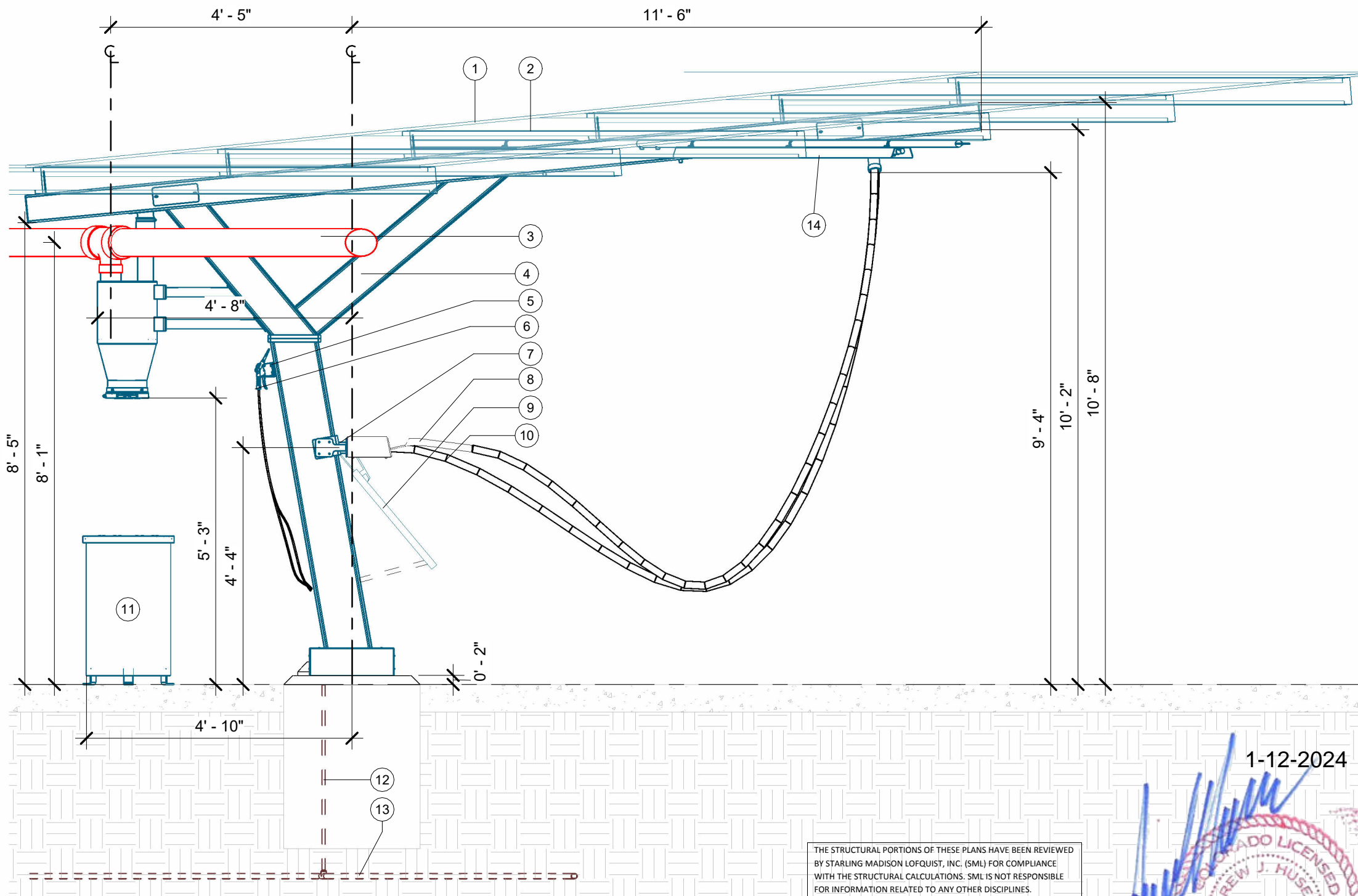
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PIPE ISOMETRIC	
Project Number	117572
Date	6/5/23
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Checked By	TD

V211

1/10/2024 1:45:12 PM

FIELD VERIFY ALL DIMENSIONS



F.G.
0' - 0"

1 PARKING ELEVATION

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SML Starling Madison Lofquist, Inc.
3600 E. University Dr. Suite 1400
Phoenix, Arizona 85034
(602) 438-2500
fax. (602) 438-2505
JOB # 641-23

1-12-2024
[Signature]
PROFESSIONAL ENGINEER
ANDREW J. HUSEMANN
43447
Exp. 10/31/2025

PARKING ELEVATION	
ITEM	DESCRIPTION
1	CORRUGATED STEEL AWNING BERRIDGE DEEP - DECK PANEL - 22 GA (1.5" TALL
2	PURLIN
3	6" OVERHEAD ALUMINUM VACUUM TUBE
4	DUAL USER RIVAL ARCH
5	AIR TOOL HANGER
6	AIR NOZZLE & HOSE
7	CREVICE VACUUM TOOL
8	SONNY'S VACUUM TOOL
9	13" MAT RACK W/ DOOR PROTECTION
10	1-1/2"x15' RAPIDLOCK HOSE
11	30 GALLON WASTE RECEPTACLE
12	COMPRESSED AIR LINE RAN UP THROUGH FOOTING WITH 1/2" FIPT ADAPTER, 10" ABOVE FOOTING GRADE (BY OTHERS)
13	BURIED COMPRESSED AIR LINE (BY OTHERS)
14	8' LED LIGHT

VACUTECH
AN **NCS** COMPANY
1350 HI-TECH DRIVE
SHERIDAN, WY 82801
PHONE: (307) 675-1982
EMAIL: vacinfo@ncswash.com
WEB: www.vacutechllc.com

COBBLESTONE C82
9572 TWENTY MILE ROAD
PARKER, COLORADO 80134

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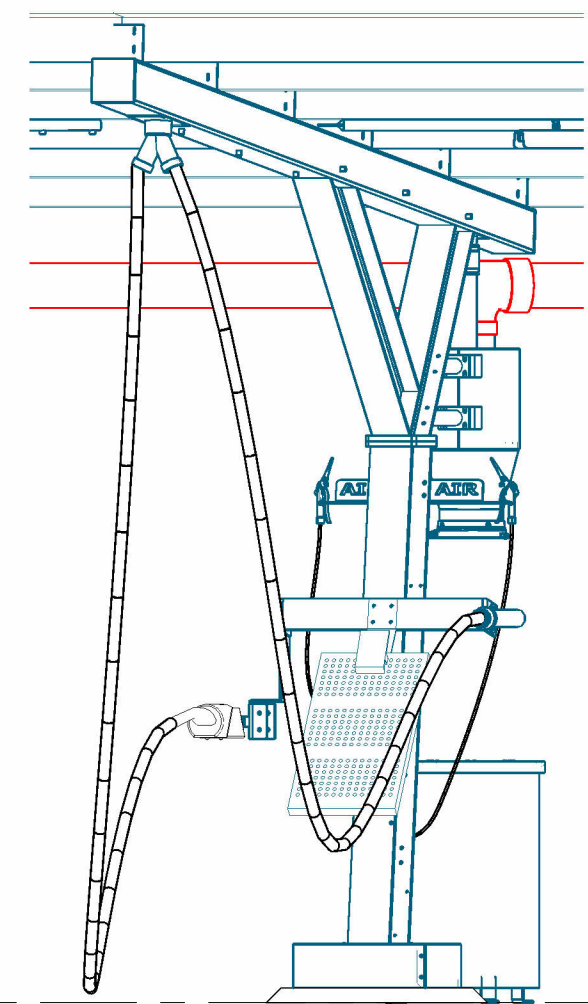
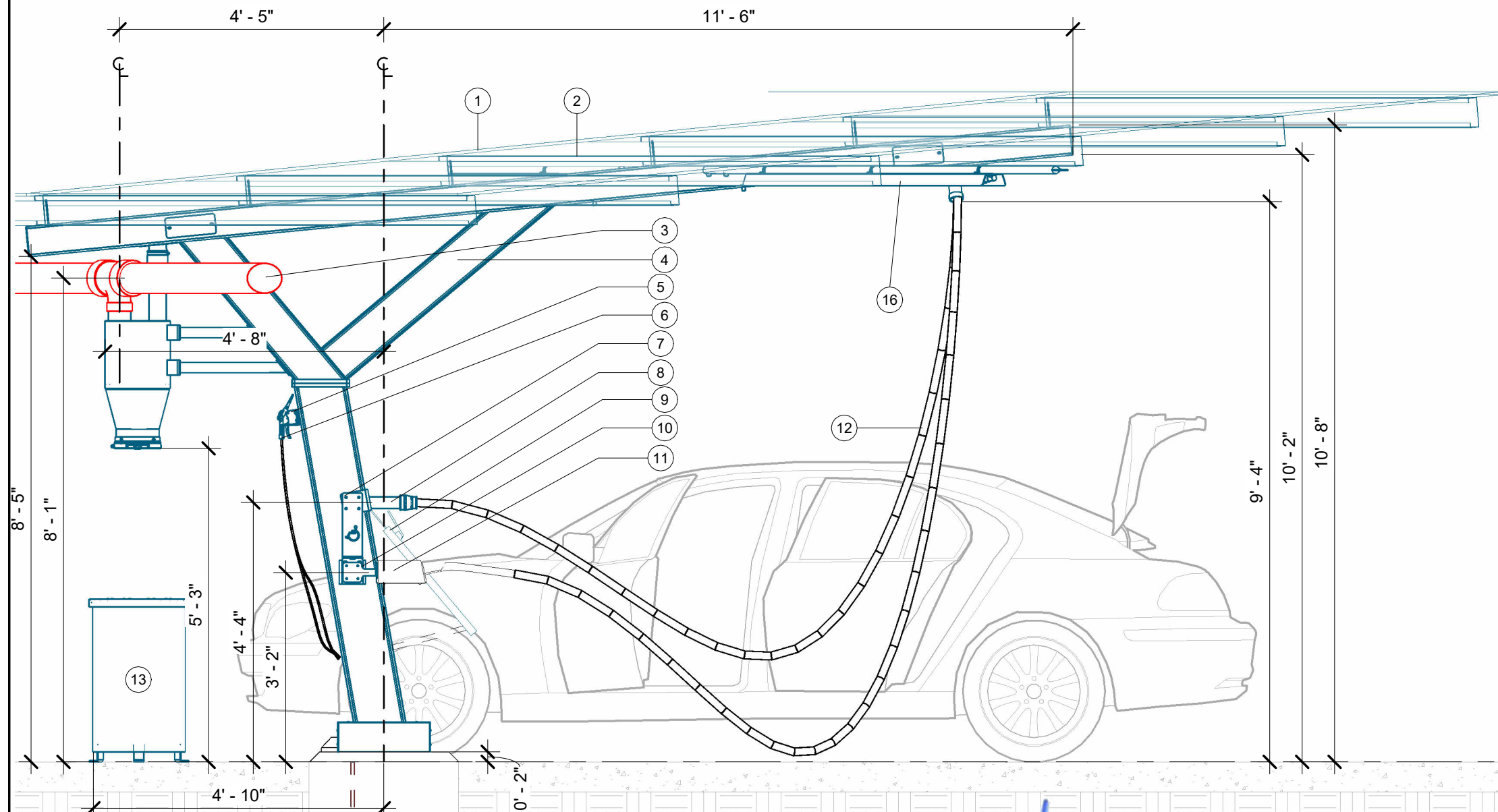
PARKING ELEVATION	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V301

1/10/2024 1:45:19 PM

FIELD VERIFY ALL DIMENSIONS

ADA VACUUM TOOL SHALL BE NO HIGHER THAN 48" ABOVE FINISHED GRADE FOR ADA VACUUM SPACES



F.G.
0' - 0"

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Phoenix, Arizona 85034
(602) 438-2500
fax. (602) 438-2505
JOB # 641-23
Consulting Structural and Forensic Engineers

1-12-2024
[Signature]
PROFESSIONAL ENGINEER
ANDREW J. HUSEMAN
43447
Exp. 10/31/2025

ADA PARKING ELEVATION	
ITEM	DESCRIPTION
1	CORRUGATED STEEL AWNING BERRIDGE DEEP - DECK PANEL - 22 GA (1.5" TALL
2	PURLIN
3	6" OVERHEAD ALUMINUM VACUUM TUBE
4	DUAL USER RIVAL ARCH
5	AIR TOOL HANGER
6	AIR NOZZLE & HOSE
7	ADA TOOL MOUNT BRACKET
8	CREVICE VACUUM TOOL

ADA PARKING ELEVATION	
ITEM	DESCRIPTION
9	13" MAT RACK W/ DOOR PROTECTION
10	AUTOVAC TOOL ADAPTER BRACKET
11	SONNY'S VACUUM TOOL
12	1-1/2"x15' RAPIDLOCK HOSE
13	30 GALLON WASTE RECEPTACLE
14	COMPRESSED AIR LINE RAN UP THROUGH FOOTING WITH 1/2" FIPT ADAPTER, 10" ABOVE FOOTING GRADE (BY OTHERS)
15	BURIED COMPRESSED AIR LINE (BY OTHERS)
16	8' LED LIGHT

1 ADA PARKING ELEVATION

VACUTECH
AN **NCS** COMPANY
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WEB: www.vacutechllc.com

COBBLESTONE C82
9572 TWENTY MILE ROAD
PARKER, COLORADO 80134

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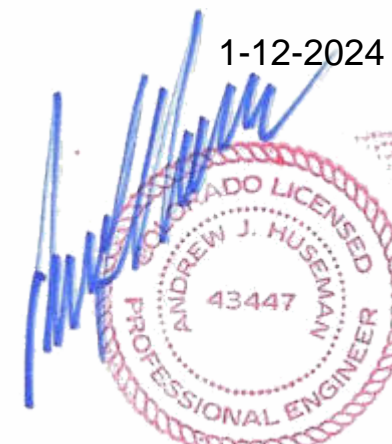
ADA PARKING ELEVATION	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V302

1/10/2024 1:45:26 PM

FIELD VERIFY ALL DIMENSIONS

1-12-2024

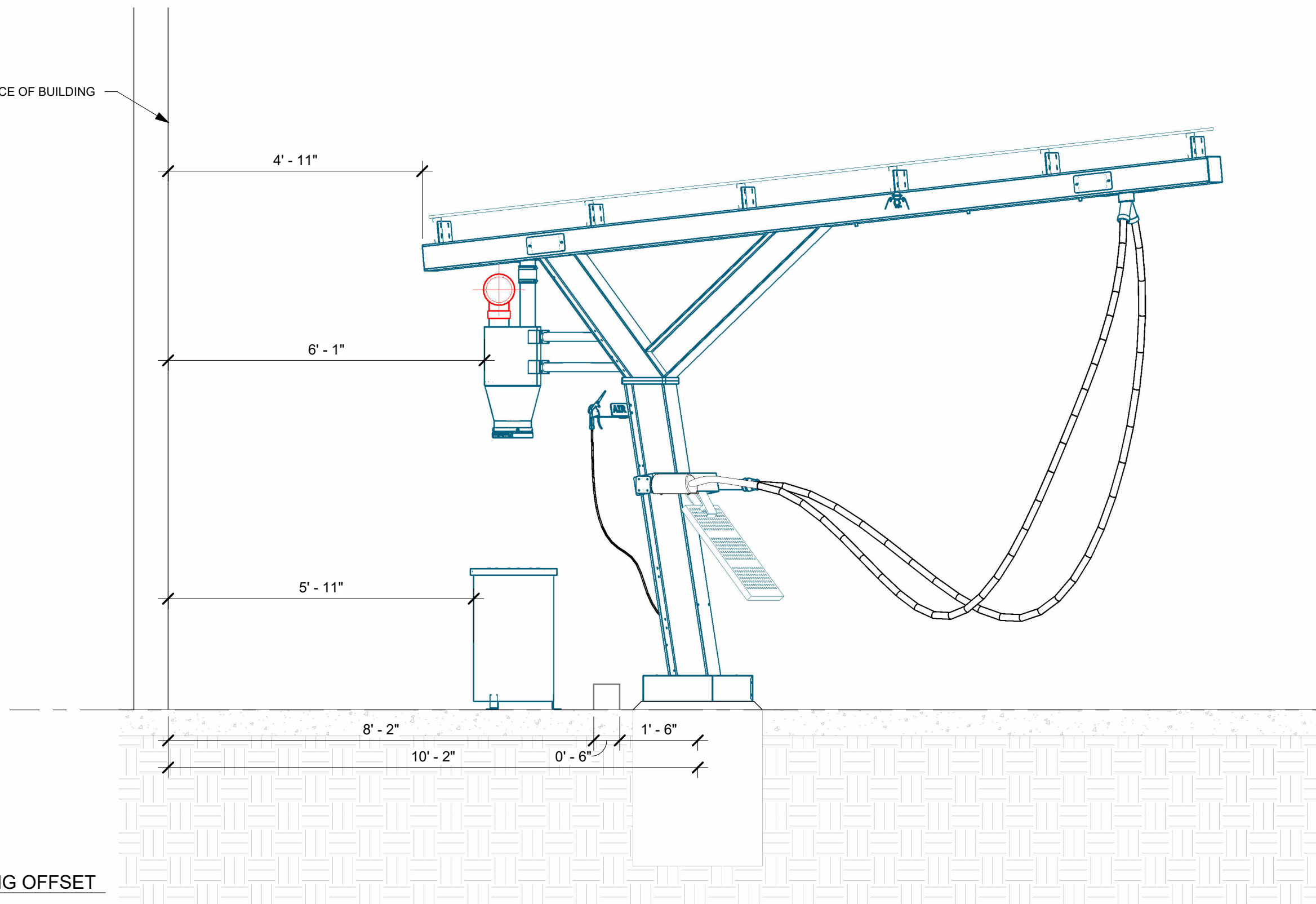


Exp. 10/31/2025

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 3600 E. University Dr. Suite 1400
 Phoenix, Arizona 85034
 (602) 438-2500
 fax: (602) 438-2505
 Consulting Structural and Forensic Engineers
 JOB # 641-23

FRONT FACE OF BUILDING



1 AREA A BUILDING OFFSET

VACUTECH

AN **NCS** COMPANY

1350 HI-TECH DRIVE
 SHERIDAN, WY 82801
 PHONE: (307) 675-1982
 EMAIL: vacinfo@ncswash.com
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COBBLESTONE C82

9572 TWENTY MILE ROAD
 PARKER, COLORADO 80134

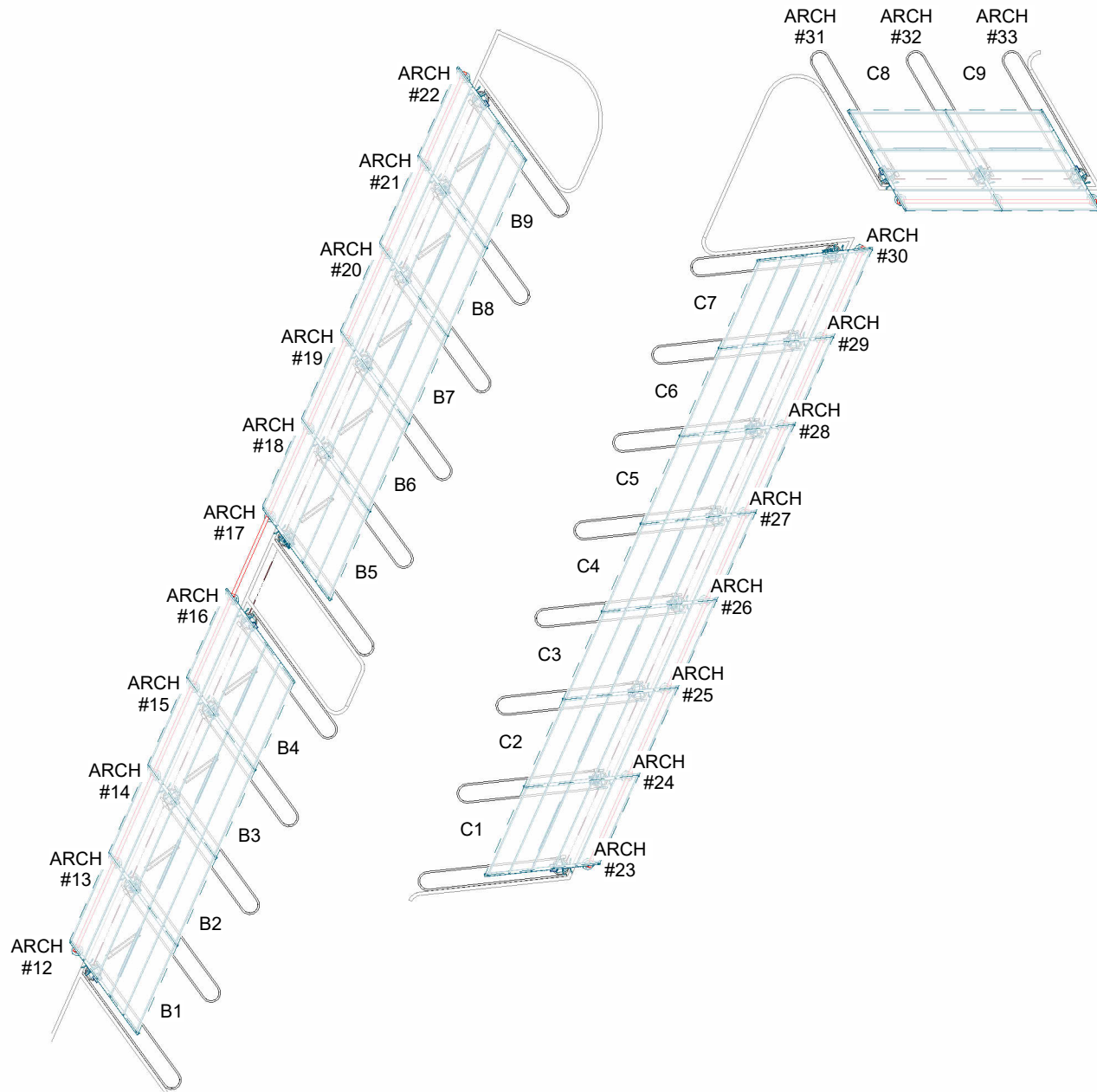
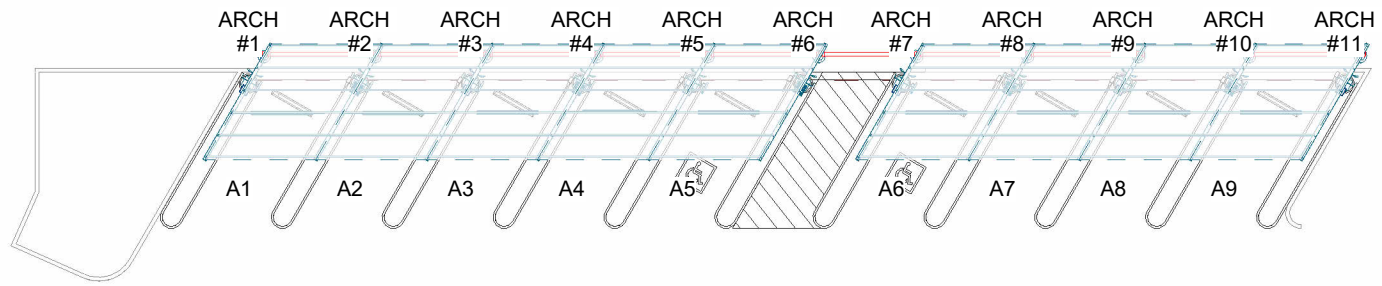
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BUILDING OFFSET

Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V303

1/10/2024 1:45:29 PM



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 Phoenix, Arizona 85034
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 Consulting Structural and Forensic Engineers
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1-12-2024

 Exp. 10/31/2025

1 ARCH NUMBERING PLAN

VACUTECH
 AN **NCS** COMPANY
 1350 HI-TECH DRIVE
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 PHONE: (307) 675-1982
 EMAIL: vacinfo@ncswash.com
 WEB: www.vacutecnhc.com

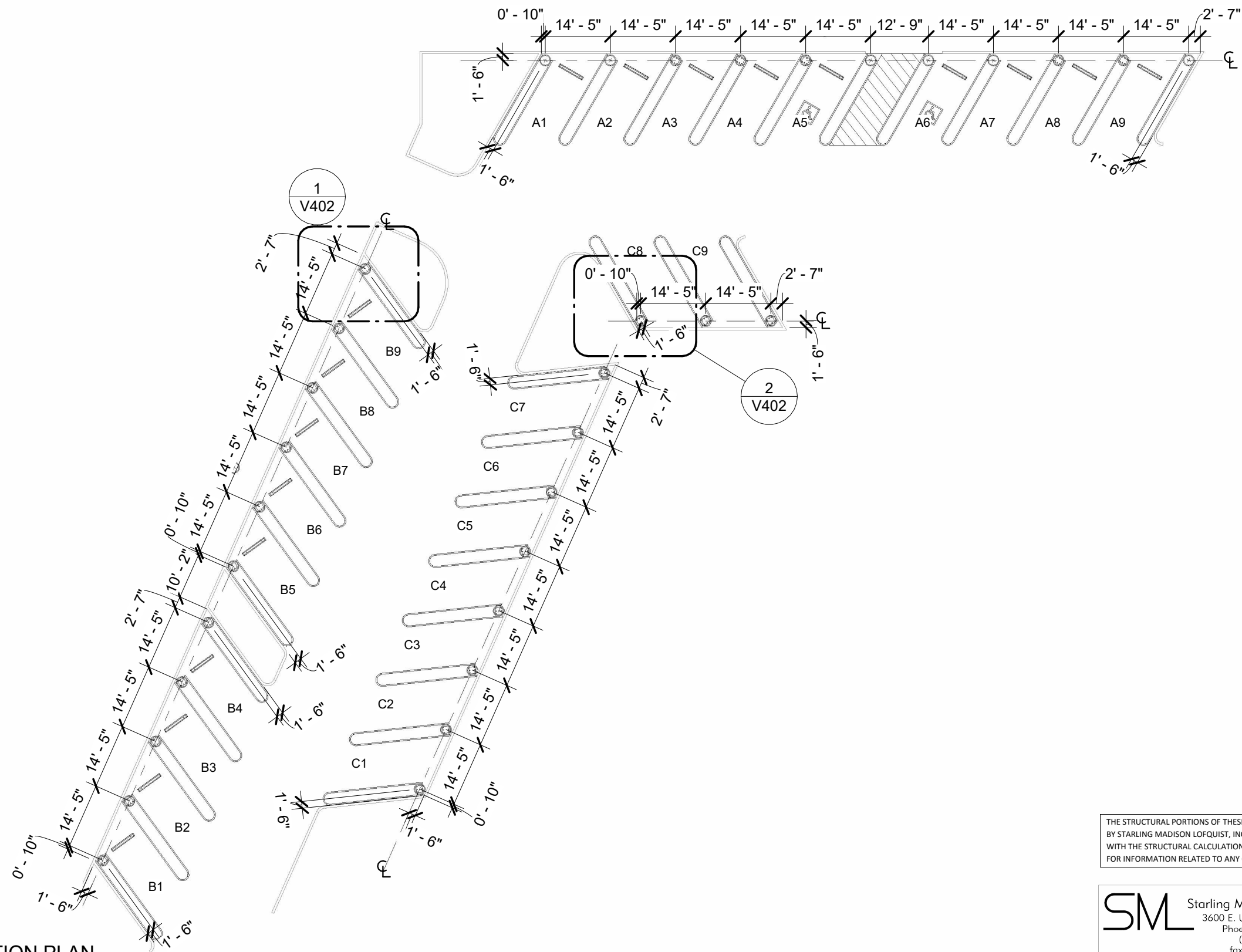
COBBLESTONE C82
 9572 TWENTY MILE ROAD
 PARKER, COLORADO 80134

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ARCH NUMBERING PLAN	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V311

1/10/2024 1:45:32 PM



1 FOOTING LOCATION PLAN

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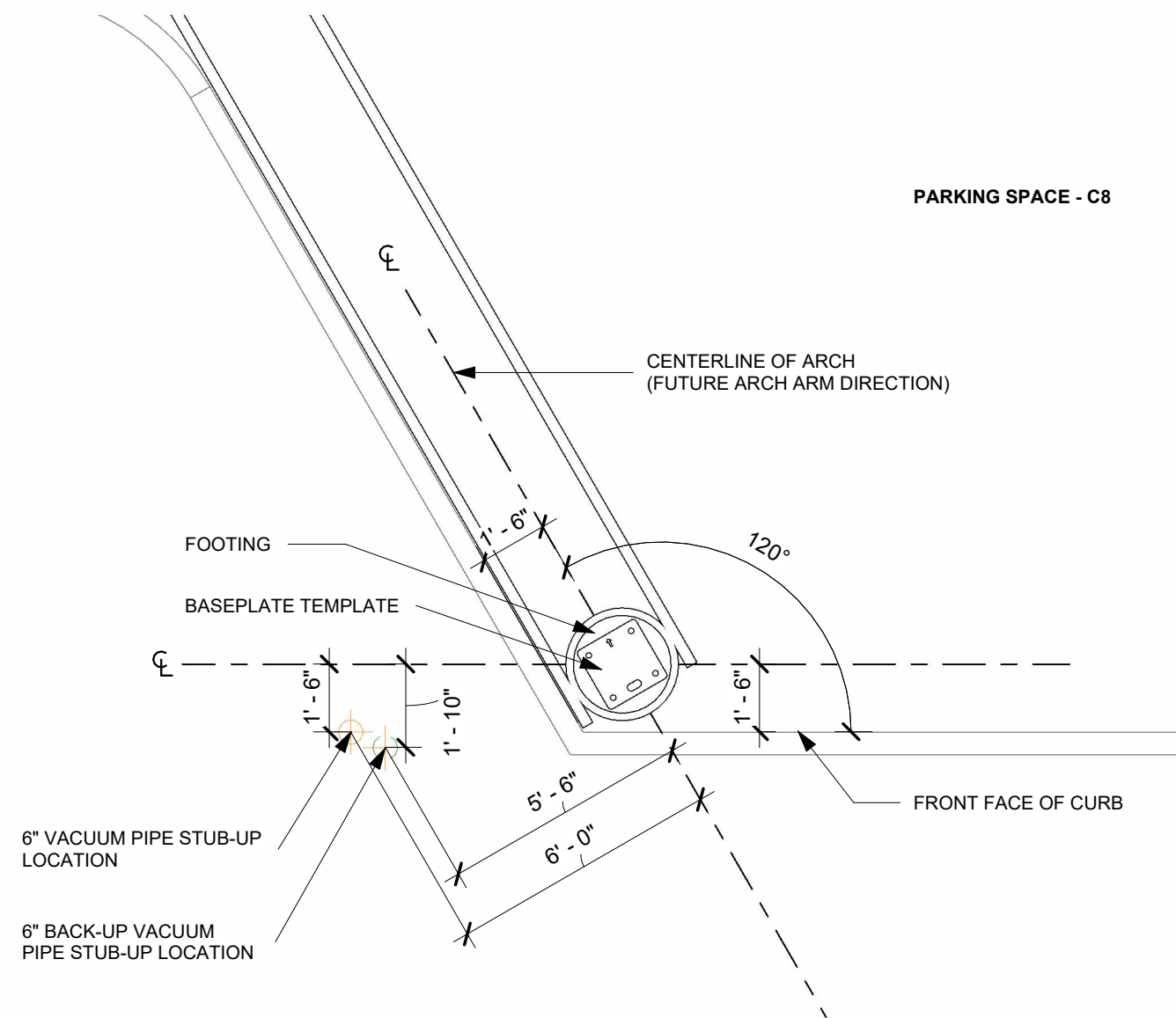
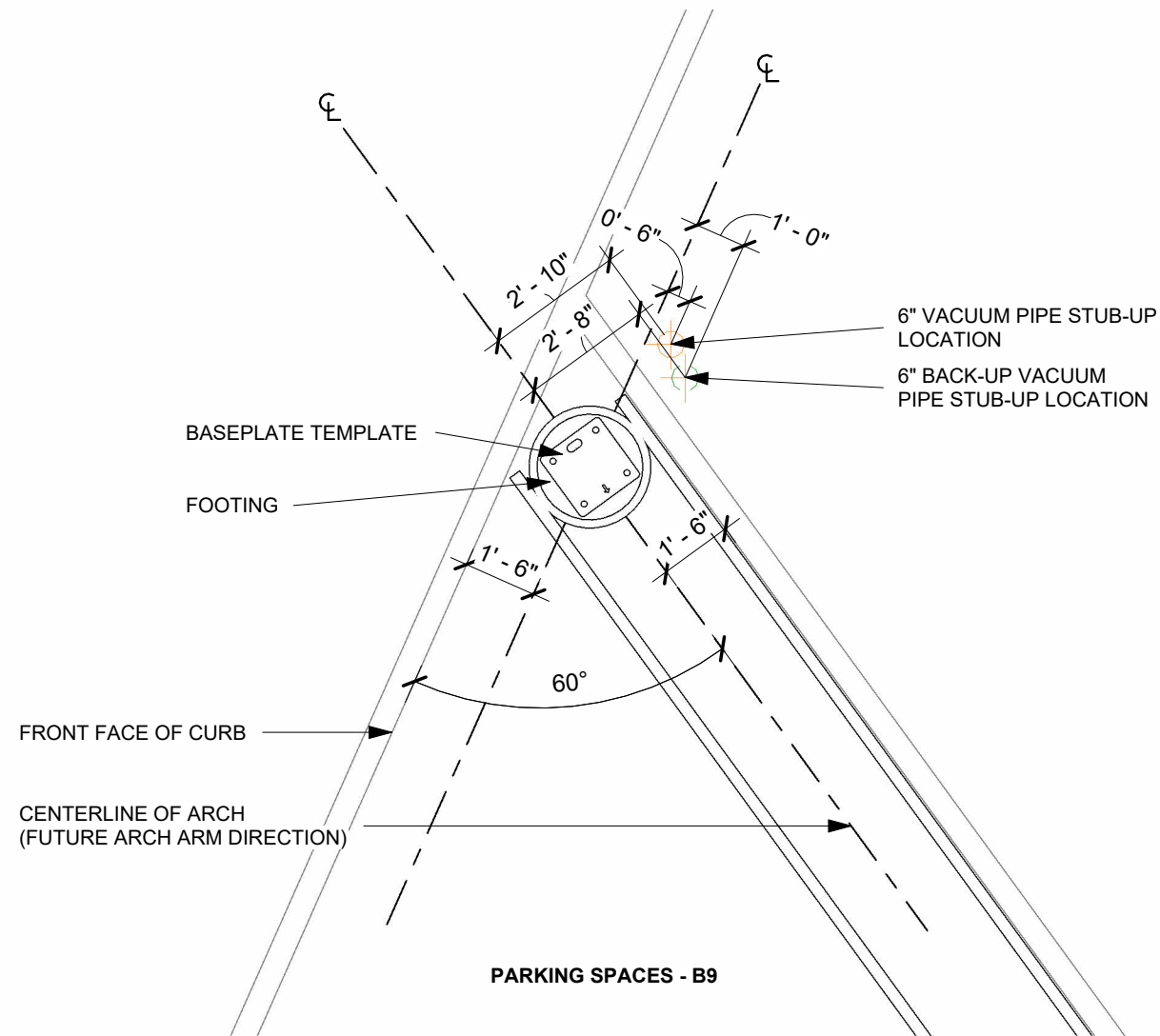
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FOOTING LOCATION PLAN	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD
V401	

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① BASEPLATE TEMPLATE ORIENTATION B

② BASEPLATE TEMPLATE ORIENTATION C

VACUTECH

AN **NCS** COMPANY

1350 HI-TECH DRIVE
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BASEPLATE TEMPLATE

Project Number 117572

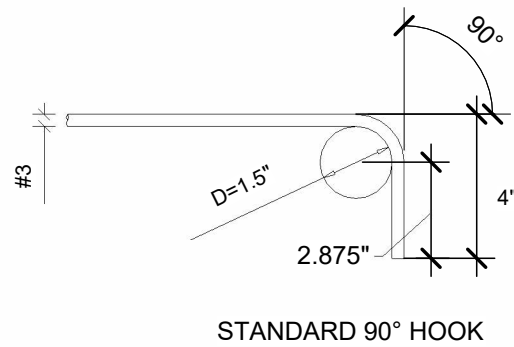
Date 6/5/23

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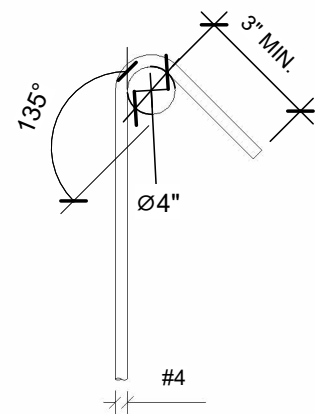
Checked By TD

V402

CONSTRUCTION NOTES:
REFER TO SHEET V721 FOR ASSEMBLY CUTSHEETS



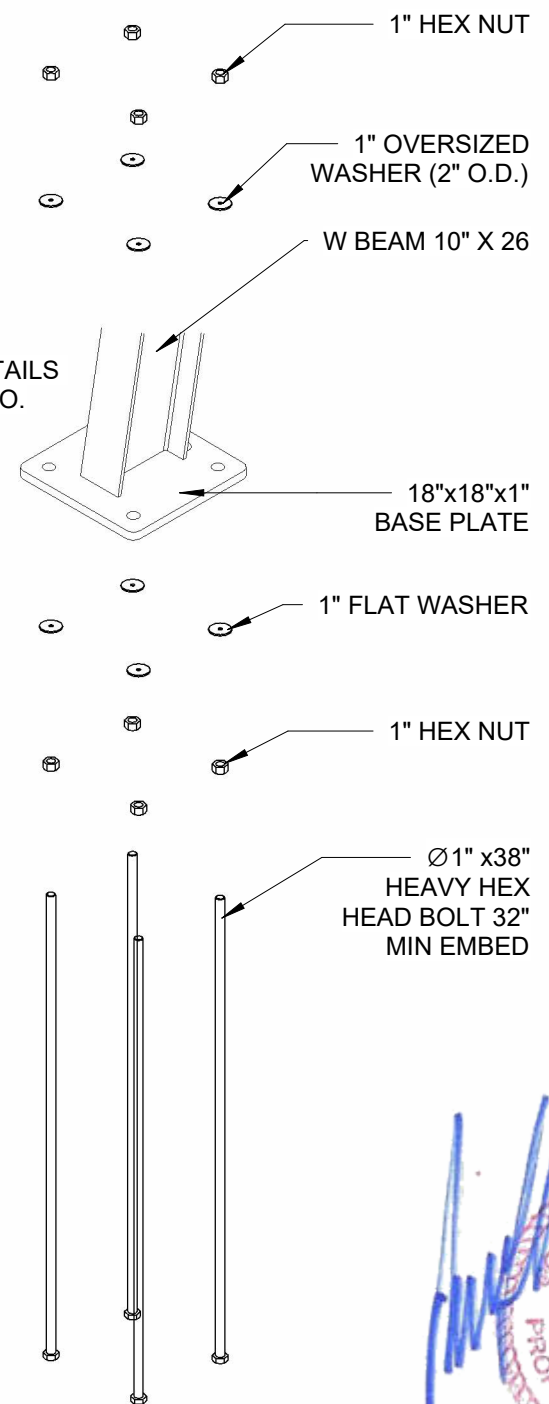
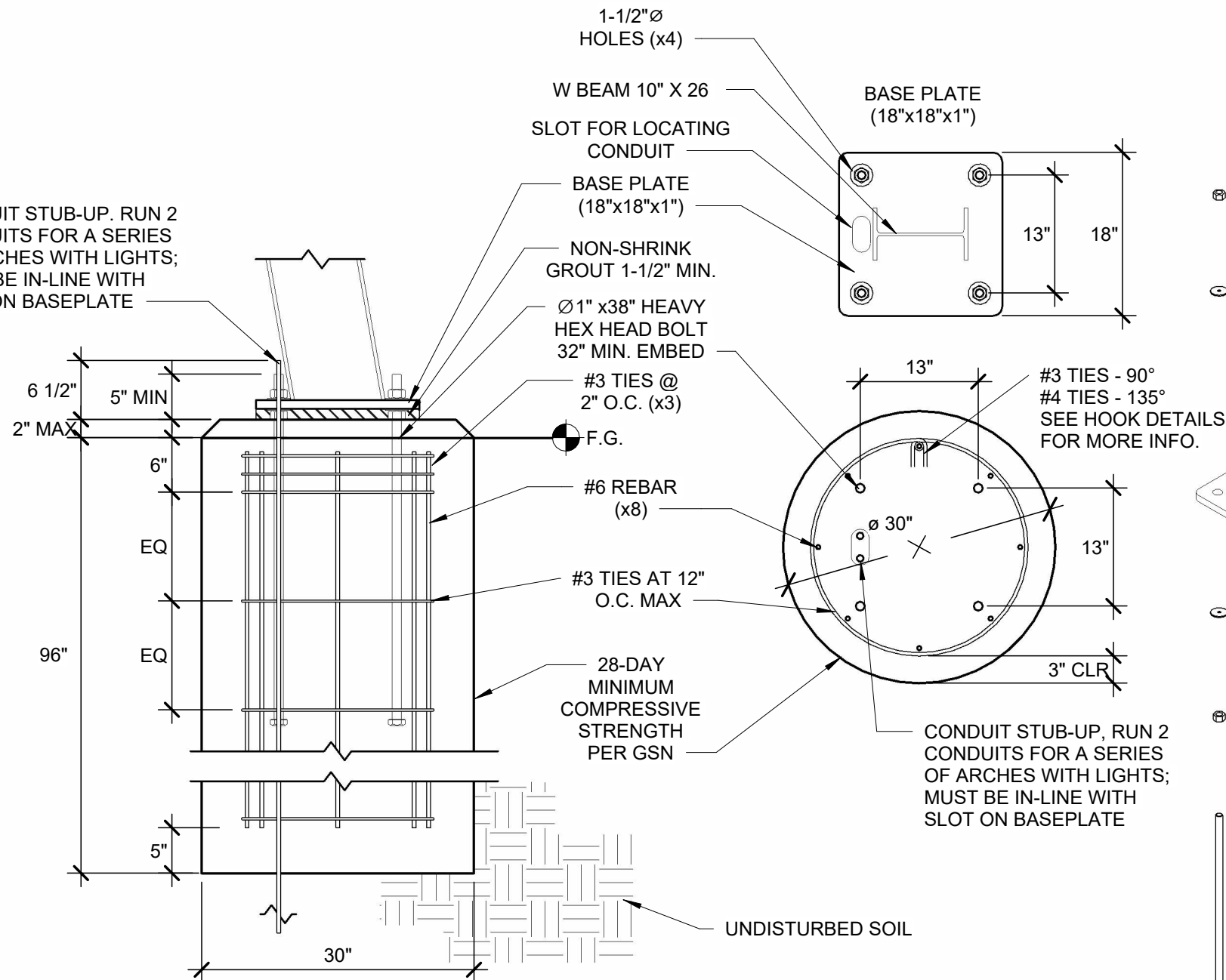
STANDARD 90° HOOK



SEISMIC TIE HOOKS 135°

HOOK DETAILS

CONDUIT STUB-UP. RUN 2 CONDUITS FOR A SERIES OF ARCHES WITH LIGHTS; MUST BE IN-LINE WITH SLOT ON BASEPLATE



NOTE:
MUST USE BASE PLATE TEMPLATE TO PROPERLY LOCATE ELECTRICAL CONDUIT.
VACUTECH IS NOT RESPONSIBLE FOR MISLOCATED CONDUIT W/O USING BASE PLATE TEMPLATE.

1 PIER FOOTING - RIVAL ARCH

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1-12-2024
Andrew J. Huseman
PROFESSIONAL ENGINEER
ANDREW J. HUSEMAN
43447
Exp. 10/31/2025

VACUTECH
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COBBLESTONE C82
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8	REMOVED 6' LED LIGHTS & INSTALLED 8' LED LIGHTS	FD	TD	12/6/23
9	REVISED FOOTING DETAILS AND GENERAL STRUCTURAL NOTES PER ENGINEERING NOTES	FM	TJ	1/10/24

FOOTING DETAIL

Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V411

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POS AREA

QTY	ITEM
4	POS RIVAL ARCH
18	PURLINS
3	8' LED LIGHT
3	CORRUGATED STEEL AWNING

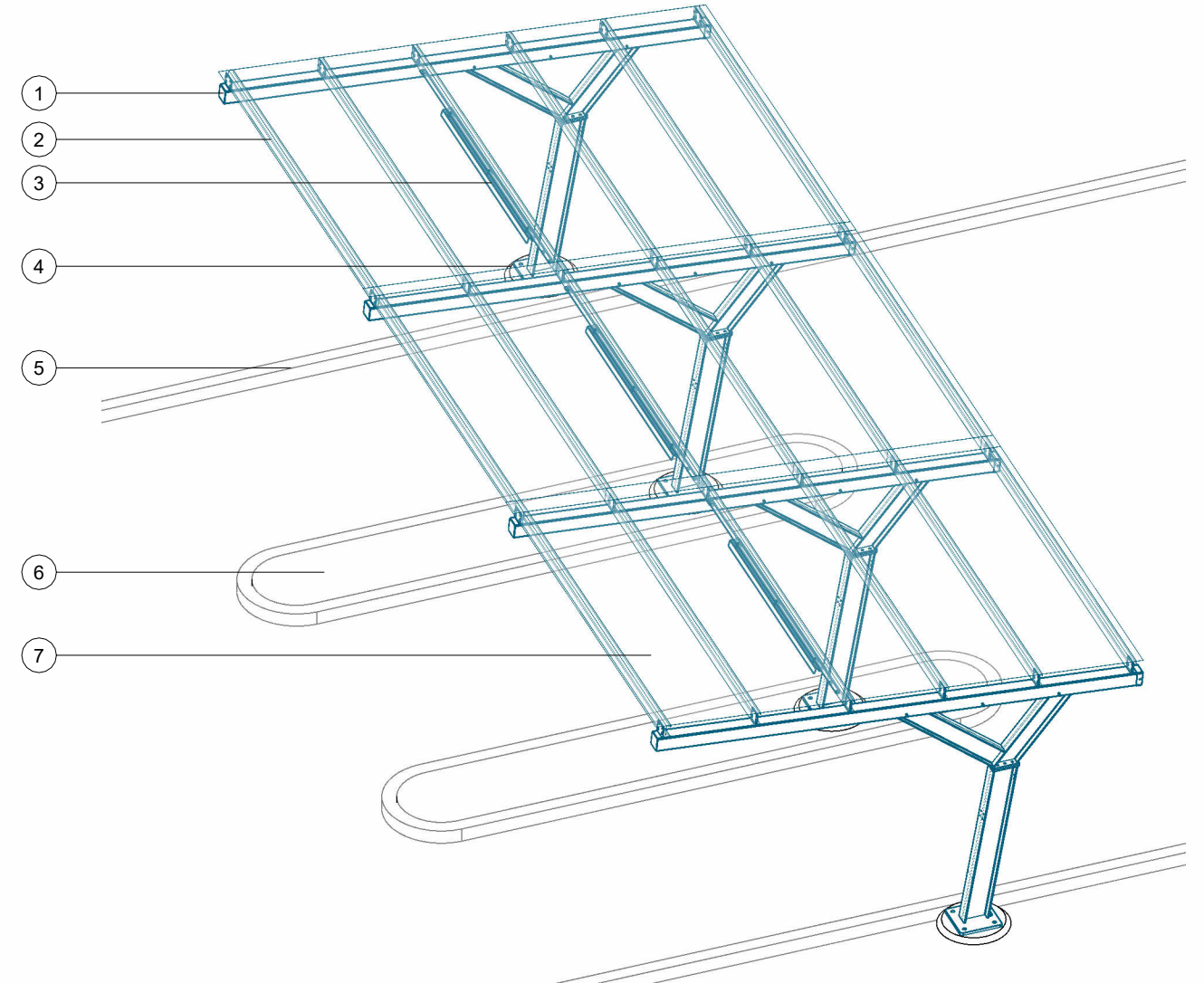
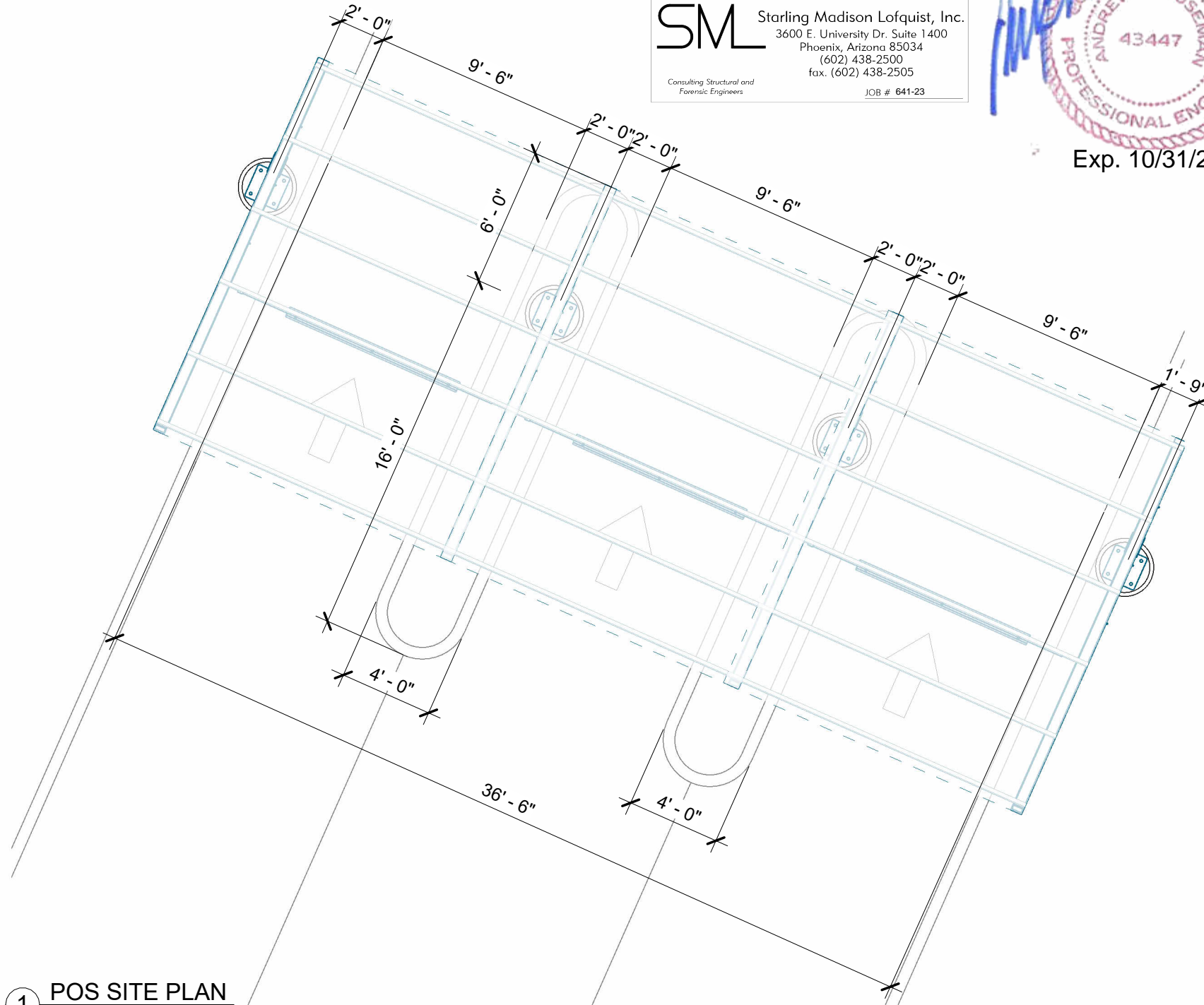
THE STRUCTURAL PORTIONS OF THESE PLANS HAVE BEEN REVIEWED BY STARLING MADISON LOFQUIST, INC. (SML) FOR COMPLIANCE WITH THE STRUCTURAL CALCULATIONS. SML IS NOT RESPONSIBLE FOR INFORMATION RELATED TO ANY OTHER DISCIPLINES.

SML Starling Madison Lofquist, Inc.
 3600 E. University Dr. Suite 1400
 Phoenix, Arizona 85034
 (602) 438-2500
 fax. (602) 438-2505
 Consulting Structural and Forensic Engineers
 JOB # 641-23

1-12-2024


FIELD VERIFY ALL DIMENSIONS

POS SITE ISOMETRIC	
ITEM	DESCRIPTION
1	POS ARCH
2	PURLIN
3	8' POS LED LIGHT W/ CROSSBAR MOUNT
4	POS ARCH FOOTING
5	CURB
6	POS ISLAND
7	CORRUGATED STEEL AWNING BERRIDGE DEEP - DECK PANEL - 22 GA (1.5" TALL)



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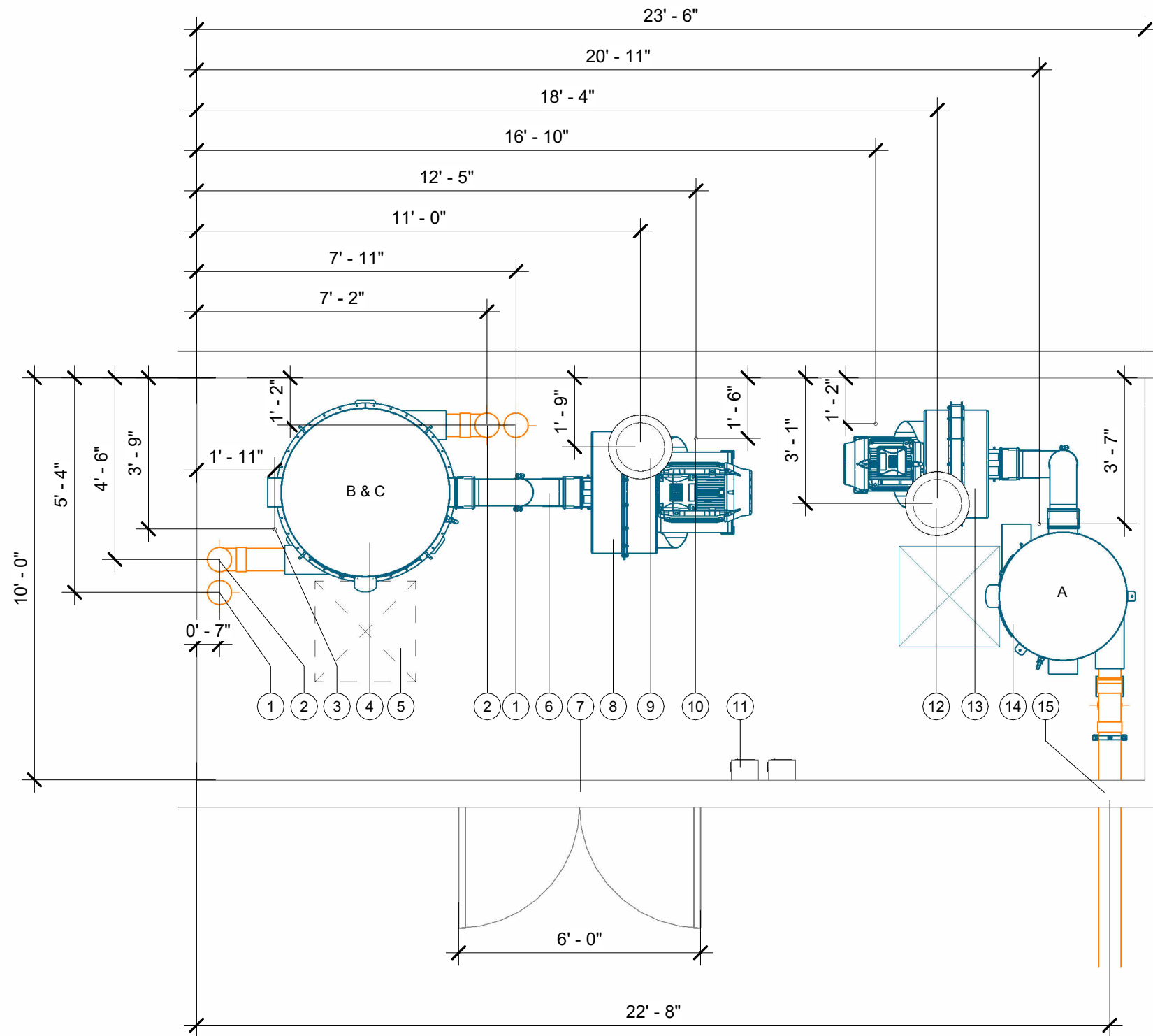
COBBLESTONE C82
 9572 TWENTY MILE ROAD
 PARKER, COLORADO 80134

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POS DETAILS	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V501

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- EQUIPMENT NOTES:**
- 23'6"Lx10'Wx4'H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT VERIFY SEPARATOR WILL FIT THROUGH DOOR (72" CLEAR OPENING WIDTH RECOMMENDED)
 - WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
 - NOTE: IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
 - EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE W/ 8" ALUMINUM TUBE OR METAL PIPE
 - FIELD VERIFY ALL DIMENSIONS
 - SEE POWER EQUIPMENT DETAILS ON V701
 - SEE VFD DETAILS ON V731

EQUIPMENT SITE PLAN	
ITEM	DESCRIPTION
1	6" BACK-UP VACUUM PIPE STUB-UP LOCATION
2	6" VACUUM PIPE STUB-UP LOCATION
3	3/4" CONDUIT STUB-UP LOCATION FOR TRANSDUCER WIRE; SEE CONDUIT REQUIREMENT FOR VFD & TURBINE
4	50x108 FILTER SEPARATOR
5	30"x30" MINIMUM SPACE REQUIRED TO REMOVE DEBRIS BUCKET
6	8" SEPARATOR/TURBINE HOOK-UP KIT (ALUMINUM)
7	VERIFY SEPARATOR WILL FIT THROUGH DOOR
8	75HP T5 DIRECT DRIVE TURBINE (HIGH ELEVATION)
9	8" T5 INDOOR EXHAUST SILENCER; EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE W/ 8" ALUMINUM TUBE OR METAL PIPE
10	RECOMMENDED TURBINE MOTOR CONDUIT STUB-UP LOCATION, SIZE PER N.E.C.
11	RECOMMENDED DISCONNECT LOCATION (WITHIN SIGHT OF TURBINE), CLEARANCE REQUIRED IN FRONT
12	8" T4 INDOOR EXHAUST SILENCER; EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE W/ 8" ALUMINUM TUBE OR METAL PIPE
13	40HP T4 DIRECT DRIVE TURBINE (HIGH ELEVATION)
14	38x88 FILTER SEPARATOR
15	WALL PENETRATION: CORE DRILLING MAY BE REQUIRED

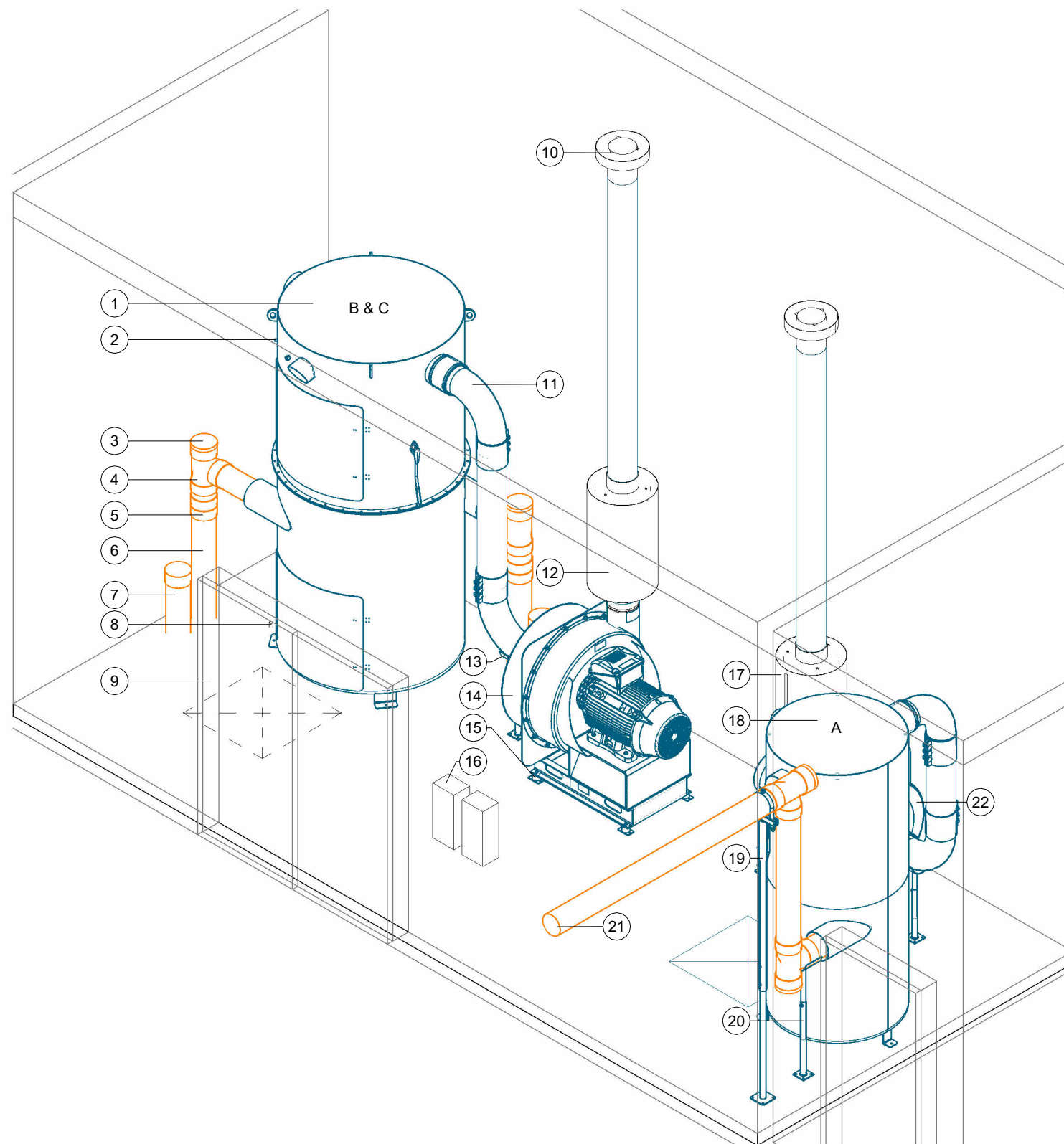
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EQUIPMENT SITE PLAN	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD
V601	

1/10/2024 1:45:44 PM



- EQUIPMENT NOTES:**
- 23'6" Lx10'Wx4'H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT VERIFY SEPARATOR WILL FIT THROUGH DOOR (72" CLEAR OPENING WIDTH RECOMMENDED)
 - WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
 - NOTE: IF VACUUM EQUIPMENT IS ENCLOSED WITH ROOF/CEILING, REFER TO VENTILATION REQUIREMENTS UNDER EQUIPMENT WARRANTY INFORMATION
 - EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE W/ 8" ALUMINUM TUBE OR METAL PIPE
 - FIELD VERIFY ALL DIMENSIONS
 - SEE POWER EQUIPMENT DETAILS ON V701
 - SEE VFD DETAILS ON V731

EQUIPMENT SITE ISOMETRIC	
ITEM	DESCRIPTION
1	50x108 FILTER SEPARATOR
2	TRANSDUCER CONNECTION LOCATION ON SEPARATOR
3	6" CLEAN-OUT (TYP.)
4	6" PVC SANITARY TEE
5	6" FERNCO
6	6" VACUUM PIPE STUB-UP LOCATION
7	6" BACK-UP VACUUM PIPE STUB-UP LOCATION
8	3/4" CONDUIT STUB-UP LOCATION FOR TRANSDUCER WIRE; SEE CONDUIT REQUIREMENT FOR VFD & TURBINE
9	VERIFY SEPARATOR WILL FIT THROUGH DOOR
10	8" ROOF CAP
11	8" SEPARATOR/TURBINE HOOK-UP KIT (ALUMINUM)
12	8" T5 INDOOR EXHAUST SILENCER; EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE W/ 8" ALUMINUM TUBE OR METAL PIPE
13	TURBINE PIPE SUPPORT
14	75HP T5 DIRECT DRIVE TURBINE (HIGH ELEVATION)
15	TURBINE VIBRATION ISOLATOR
16	RECOMMENDED DISCONNECT LOCATION (WITHIN SIGHT OF TURBINE), CLEARANCE REQUIRED IN FRONT
17	8" T4 INDOOR EXHAUST SILENCER; EXHAUST TURBINE TO OUTSIDE AIR OR ATMOSPHERE W/ 8" ALUMINUM TUBE OR METAL PIPE
18	38x88 FILTER SEPARATOR
19	OVERHEAD PIPE SUPPORT
20	SEPARATOR PIPE SUPPORT
21	WALL PENETRATION: CORE DRILLING MAY BE REQUIRED
22	40HP T4 DIRECT DRIVE TURBINE (HIGH ELEVATION)

1 EQUIPMENT ISOMETRIC

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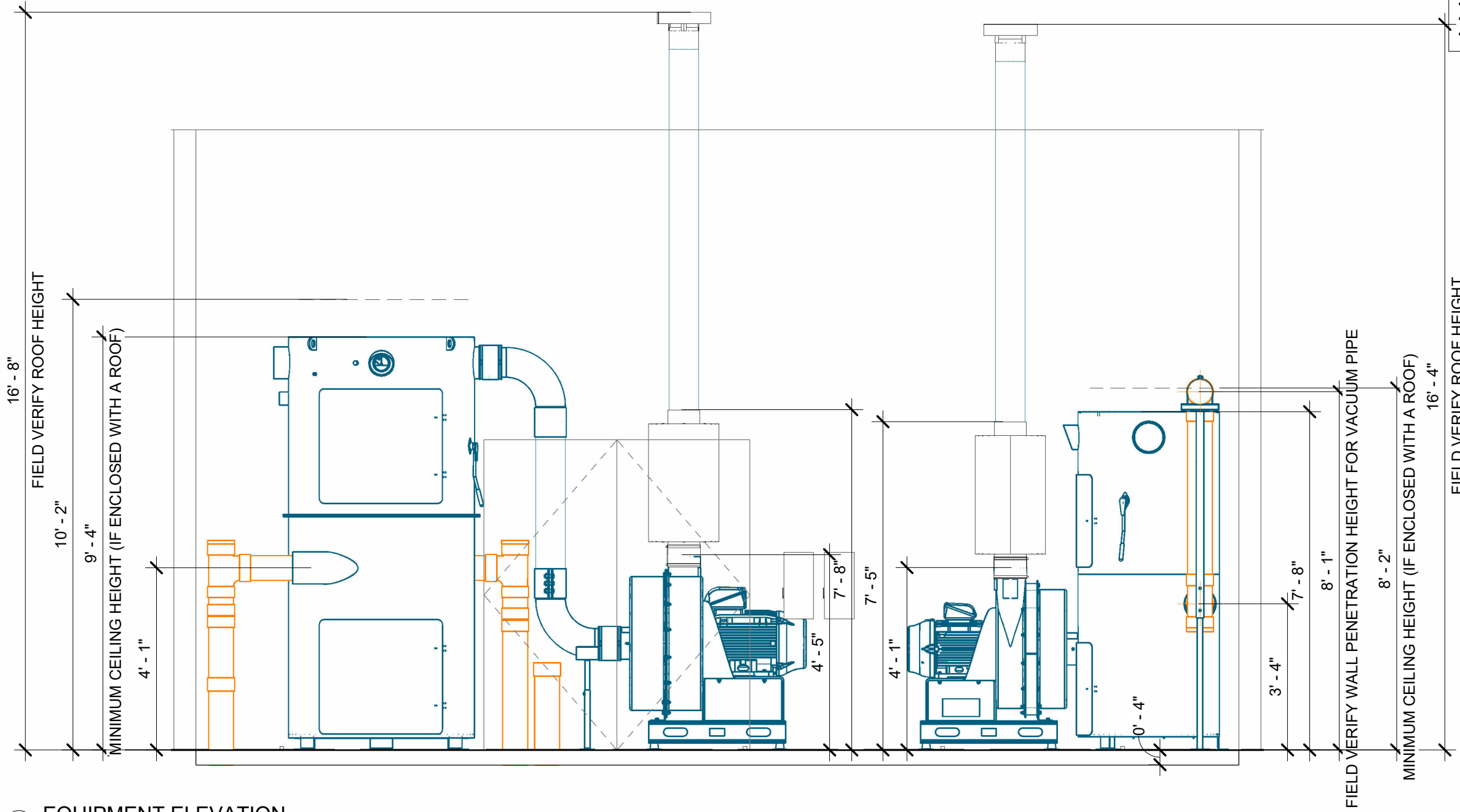
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EQUIP. SITE ISOMETRIC	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V611

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 - SEE POWER EQUIPMENT DETAILS ON V701
 - SEE VFD DETAILS ON V731



1 EQUIPMENT ELEVATION

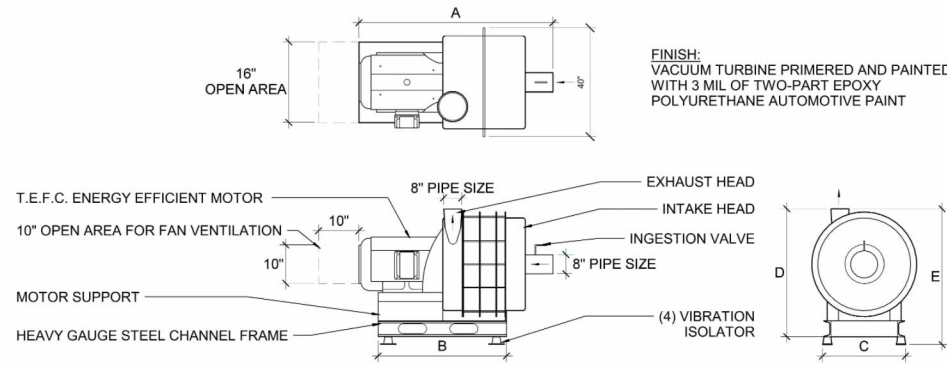
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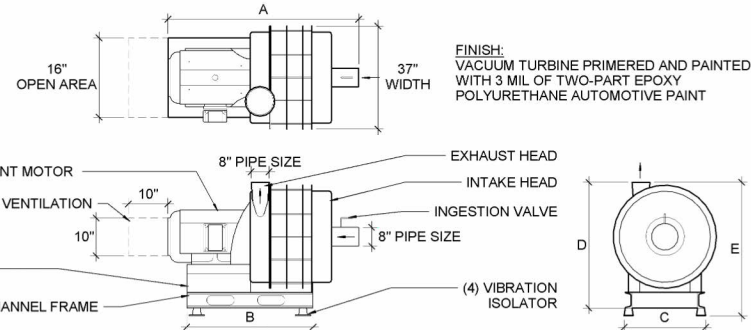
EQUIPMENT ELEVATION		V621
Project Number	117572	
Date	6/5/23	
Drawn By	FM	
Checked By	TD	

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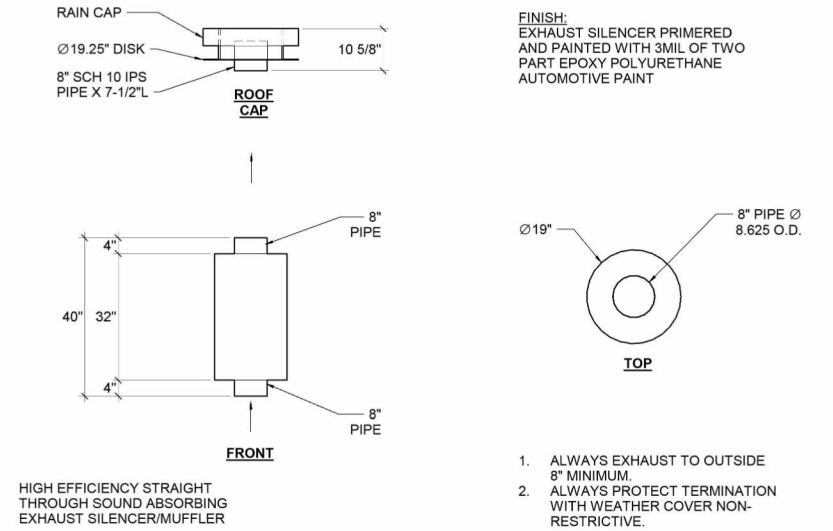
T5 DIRECT DRIVE VACSTAR TURBINE									
MODEL	HP	STAGES	A	B	C	D	E	APPROX. WT (LBS)	
FT-DD-T560HP2	60	2	50"	37"	24 1/16"	50 1/2"	52 1/2"	1495	
FT-DD-T575HP2	75	2	51"	37"	24 1/16"	50 1/2"	52 1/2"	1575	

1 TURBINE - T5 DD HIGH ELEVATION



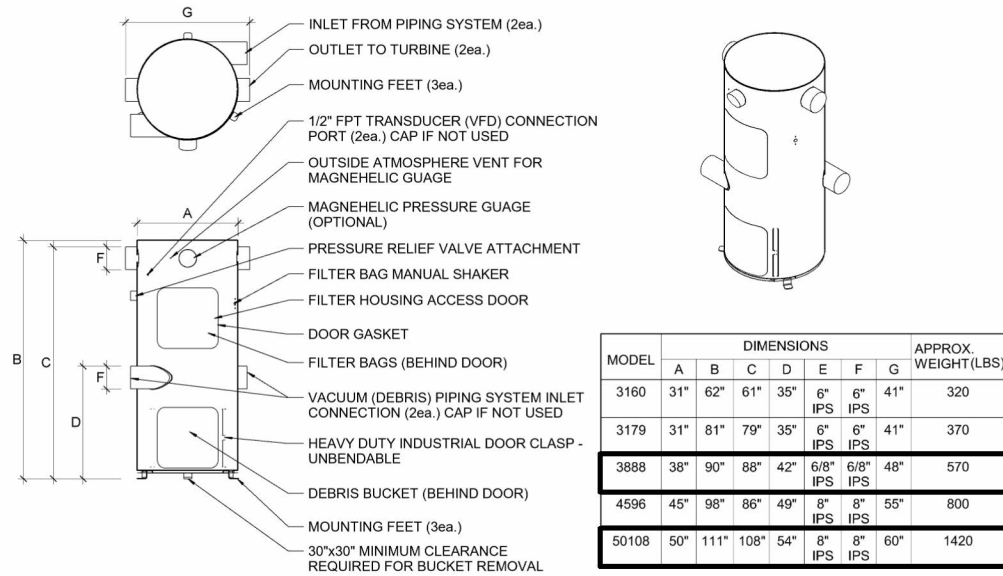
T4 DIRECT DRIVE HIGH ELEVATION VACSTAR TURBINE									
MODEL	HP	STAGES	A	B	C	D	E	APPROX. WT (LBS)	
FT-DD-T440HP3-HE	40	3	49 9/16"	37"	16"	48 1/2"	50 3/8"	1170	
FT-DD-T450HP3-HE	50	3	51 1/8"	37"	16"	48 1/2"	50 3/8"	1210	
FT-DD-T460HP3-HE	60	3	52 1/16"	39"	19"	50 1/2"	52 3/8"	1510	
FT-DD-T475HP3-HE	75	3	53 1/16"	39"	19"	50 1/2"	52 3/8"	1580	

2 TURBINE - T4 DD - HIGH ELEVATION



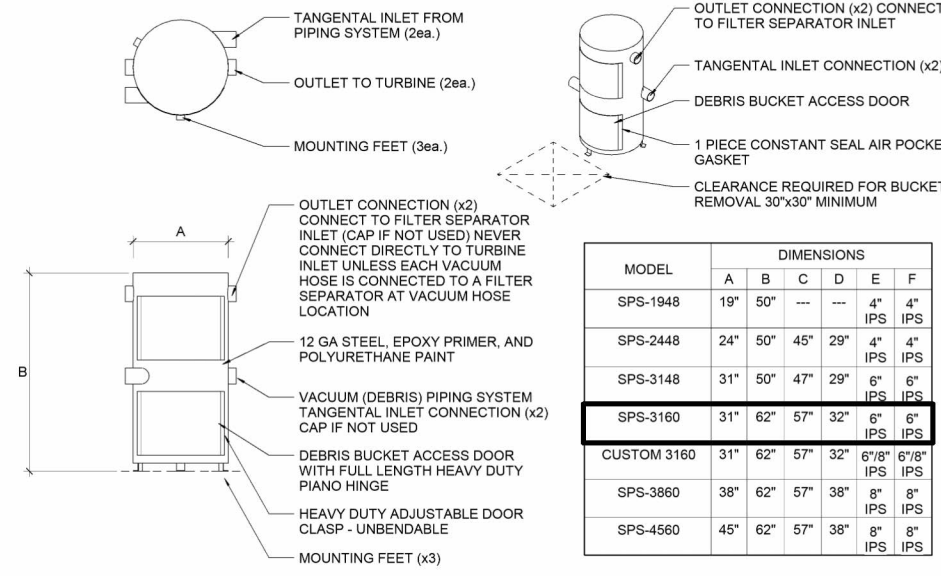
1. ALWAYS EXHAUST TO OUTSIDE 8" MINIMUM.
2. ALWAYS PROTECT TERMINATION WITH WEATHER COVER NON-RESTRICTIVE.

3 EXHAUST SILENCER - T4/T5 INDOOR



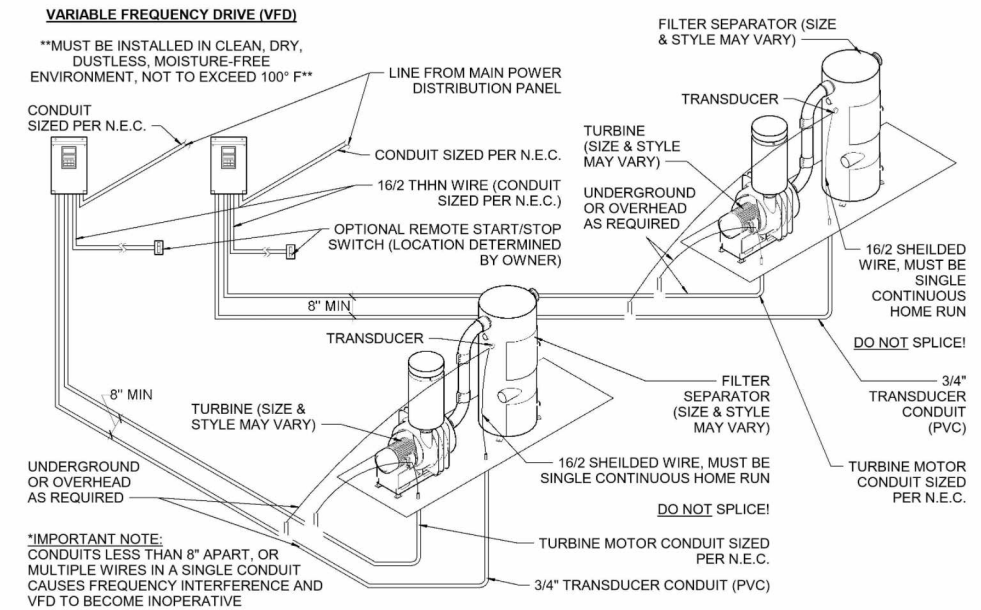
MODEL	DIMENSIONS							APPROX. WEIGHT (LBS)
	A	B	C	D	E	F	G	
3160	31"	62"	61"	35"	6" IPS	6" IPS	41"	320
3179	31"	81"	79"	35"	6" IPS	6" IPS	41"	370
3888	38"	90"	88"	42"	6 7/8" IPS	6 7/8" IPS	48"	570
4596	45"	98"	86"	49"	8" IPS	8" IPS	55"	800
50108	50"	111"	108"	54"	8" IPS	8" IPS	60"	1420

4 SEPARATOR - FILTER



MODEL	DIMENSIONS					
	A	B	C	D	E	F
SPS-1948	19"	50"	---	---	4" IPS	4" IPS
SPS-2448	24"	50"	45"	29"	4" IPS	4" IPS
SPS-3148	31"	50"	47"	29"	6" IPS	6" IPS
SPS-3160	31"	62"	57"	32"	6" IPS	6" IPS
CUSTOM 3160	31"	62"	57"	32"	6 7/8" IPS	6 7/8" IPS
SPS-3860	38"	62"	57"	38"	8" IPS	8" IPS
SPS-4560	45"	62"	57"	38"	8" IPS	8" IPS

5 SEPARATOR - PRIMARY



6 CONDUIT - 2 SYSTEM VFD - NEMA 12

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COBBLESTONE C82
9572 TWENTY MILE ROAD
PARKER, COLORADO 80134

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EQUIPMENT DETAILS	
Project Number	117572
Date	6/5/23
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V701

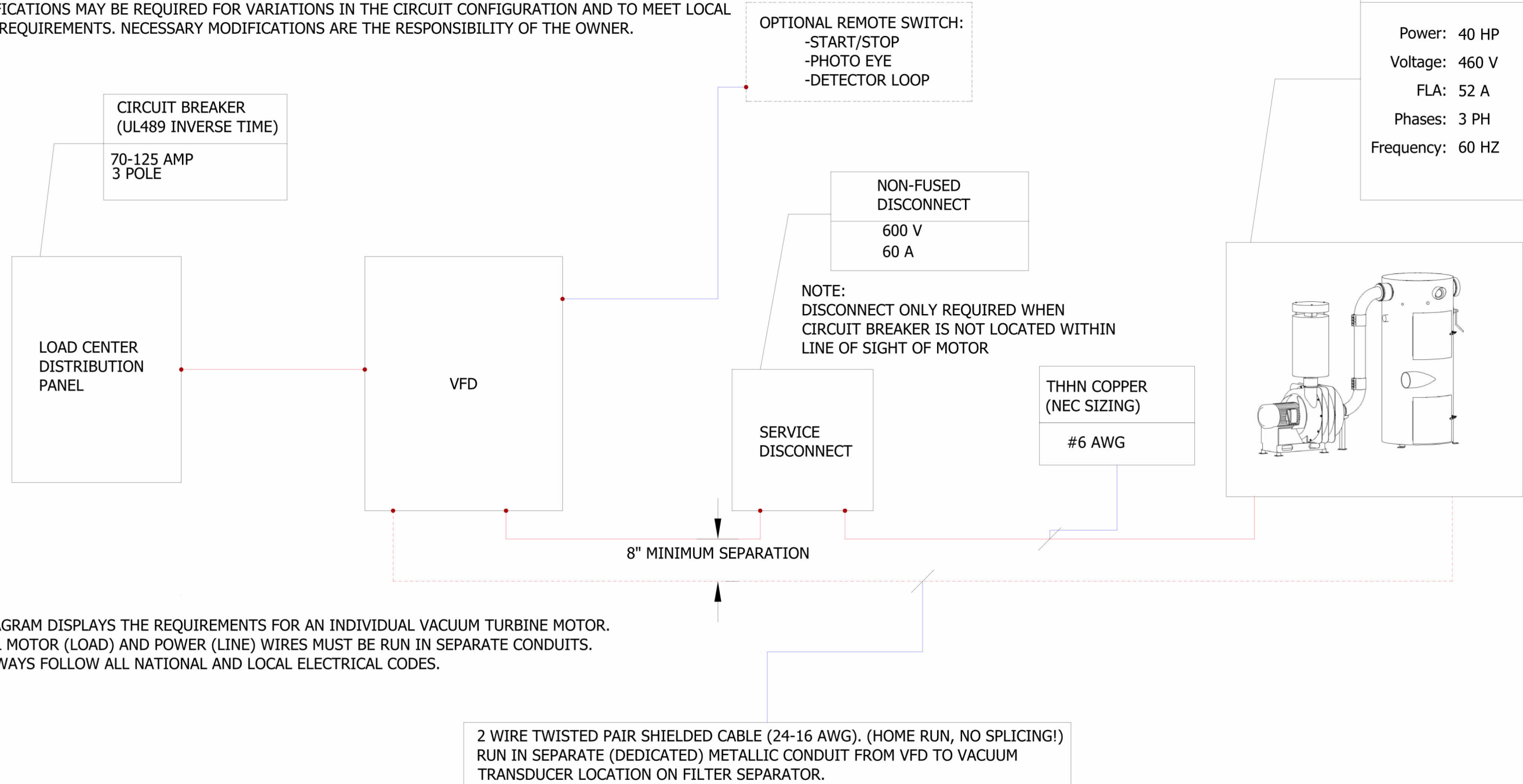
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DISCLAIMER:

DIAGRAMS ARE CONSISTENT WITH NATIONAL ELECTRIC CODE (NEC) FOR A SINGLE VACUUM PRODUCER CIRCUIT. MODIFICATIONS MAY BE REQUIRED FOR VARIATIONS IN THE CIRCUIT CONFIGURATION AND TO MEET LOCAL CODE REQUIREMENTS. NECESSARY MODIFICATIONS ARE THE RESPONSIBILITY OF THE OWNER.

VACUUM PRODUCER AND SEPARATOR

Power: 40 HP
 Voltage: 460 V
 FLA: 52 A
 Phases: 3 PH
 Frequency: 60 HZ



1 ELECTRICAL DIAGRAM - VFD - 40HP 460V

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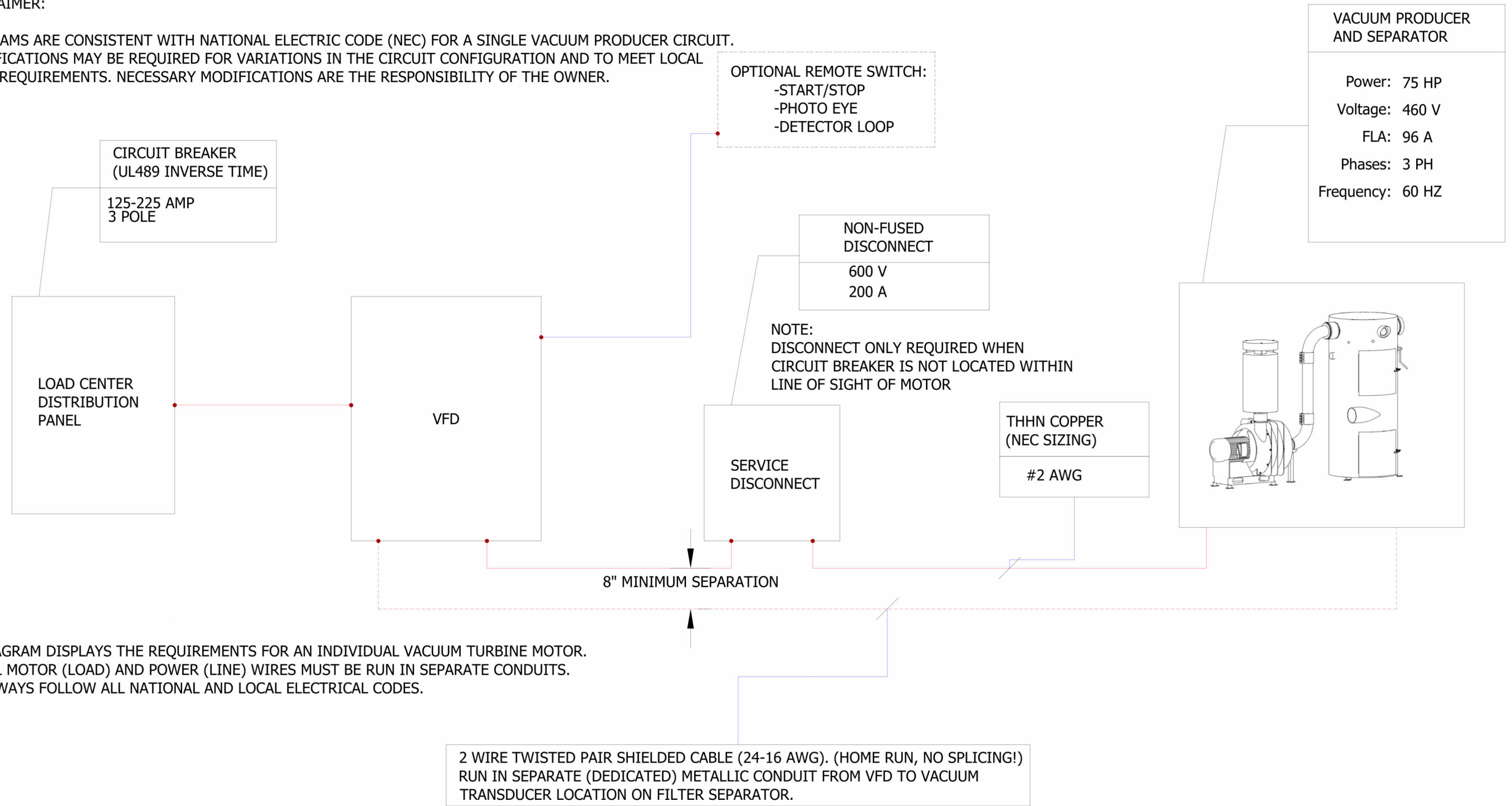
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ELECTRICAL DIAGRAM A		V702
Project Number	117572	
Date	6/5/23	
Drawn By	FM	
Checked By	TD	

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1 ELECTRICAL DIAGRAM - VFD - 75HP 460V

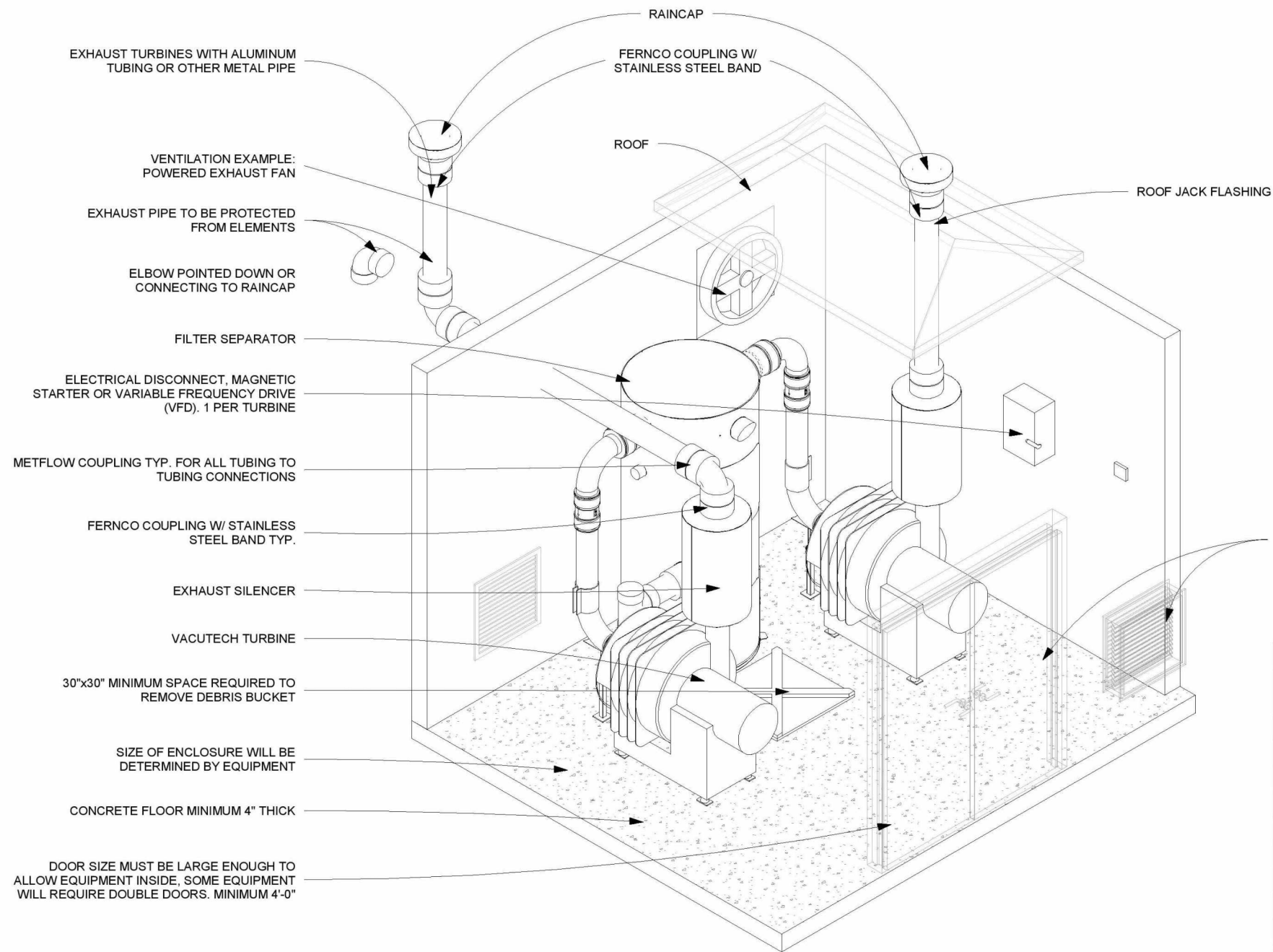
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ELECT. DIAGRAM B & C		V703
Project Number	117572	
Date	6/5/23	
Drawn By	FM	
Checked By	TD	

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- EXHAUST TURBINES WITH ALUMINUM TUBING OR OTHER METAL PIPE
- VENTILATION EXAMPLE: POWERED EXHAUST FAN
- EXHAUST PIPE TO BE PROTECTED FROM ELEMENTS
- ELBOW POINTED DOWN OR CONNECTING TO RAINCAP
- FILTER SEPARATOR
- ELECTRICAL DISCONNECT, MAGNETIC STARTER OR VARIABLE FREQUENCY DRIVE (VFD). 1 PER TURBINE
- METFLOW COUPLING TYP. FOR ALL TUBING TO TUBING CONNECTIONS
- FERNCO COUPLING W/ STAINLESS STEEL BAND TYP.
- EXHAUST SILENCER
- VACUTECH TURBINE
- 30"x30" MINIMUM SPACE REQUIRED TO REMOVE DEBRIS BUCKET
- SIZE OF ENCLOSURE WILL BE DETERMINED BY EQUIPMENT
- CONCRETE FLOOR MINIMUM 4" THICK
- DOOR SIZE MUST BE LARGE ENOUGH TO ALLOW EQUIPMENT INSIDE, SOME EQUIPMENT WILL REQUIRE DOUBLE DOORS. MINIMUM 4'-0"

VENTILATION EXAMPLE: LOUVERED ENCLOSURE DOOR, OR LOUVERS IN WALL

HEAT GENERATION TABLE

HP	Across the Line Starter		Variable Frequency Drive (VFD)	
	Heat Load (BTU/HR)	Required Airflow (CFM)	Heat Load (BTU/HR)	Required Airflow (CFM)
10	12722	915	2544	284
15	19084	1373	3817	426
20	25444	1830	5089	568
25	31805	2288	6361	710
30	38166	2745	7633	852
40	50889	3660	10178	1136
50	63611	4575	12722	1420
60	76333	5490	15267	1704
75	95416	6863	19083	2130
100	127222	9150	25444	2840

VACUUM EQUIPMENT INSTALLED IN AN ENCLOSURE WITH 4 WALLS AND A ROOF MUST BE ADEQUATELY VENTILATED OR ROOM CONDITIONED IN ORDER TO PROPERLY DISSIPATE THE HEAT GENERATED BY THE MECHANICAL AND ELECTRICAL EQUIPMENT. IMPROPER VENTILATION AND HEAT DISSIPATION CAN AND WILL RESULT IN DAMAGE TO THE MECHANICAL AND ELECTRICAL EQUIPMENT INCLUDING VFD'S, MOTOR STARTERS, ELECTRIC MOTORS AND VACUUM PRODUCERS. PLEASE REFERENCE THE HEAT GENERATION TABLE INCLUDED IN THIS DETAIL TO DETERMINE THE AMOUNT OF HEAT LOAD THAT THE TURBINE(S) AND STARTING EQUIPMENT WILL GENERATE AND THE CORRESPONDING REQUIRED AIR FLOW OF EXHAUST AND AIR INTAKE TO DISSIPATE THE HEAT GENERATED BY THE VACUTECH EQUIPMENT. IF ADDITIONAL EQUIPMENT IS INSTALLED IN THE EQUIPMENT ROOM (AIR COMPRESSORS, ELECTRICAL PANELS, TUNNEL CONTROLS, ETC.) PLEASE CONSULT YOUR HVAC DESIGN ENGINEER FOR PROPER TEMPERATURE CONTROL DESIGN OF YOUR EQUIPMENT ROOM. OPERATING TEMPERATURES ABOVE 104 °F (TYPICAL MAXIMUM ENVIRONMENTAL TEMPERATURE FOR ELECTRICAL EQUIPMENT) WILL SHORTEN THE LIFE OF THE VACUUM EQUIPMENT AND MAY INVALIDATE THE VACUTECH LLC WARRANTY.

THE VACUUM TURBINE MUST BE EXHAUSTED OUTSIDE WITH METALLIC PIPE NO SMALLER THAN THE DIAMETER OF THE EXHAUST OUTLET OF THE TURBINE. THE EXHAUST PIPE OPENING MUST BE PROTECTED FROM ELEMENTS. IF EXHAUST DISTANCE IS GREATER THAN 20 FEET USE ONE PIPE SIZE LARGER AFTER 10 FEET OF RUN (I.E. FOR A 20-FOOT RUN OF 8" EXHAUST, USE 8" FOR FIRST 10 FEET AND 10" FOR REMAINING 10 FEET OF THE OVERALL 20-FOOT RUN).

FOR EQUIPMENT ROOMS WITH MULTIPLE TURBINE SETUPS, ADD THE CFM REQUIREMENT PER TURBINE TO DETERMINE TOTAL CFM REQUIREMENT FOR THE EQUIPMENT ROOM. THIS ASSUMES EQUIPMENT ROOM DIMENSIONS 15' X 15' WITH 10' CEILINGS. THIS ASSUMES AN OUTSIDE AIR TEMPERATURE OF 90°F AND A MAXIMUM ROOM TEMPERATURE OF 104°F (NEMA CLASS F INSULATION RATING, MAXIMUM TEMPERATURE) AND DOES NOT ACCOUNT FOR RADIANT HEATING FROM THE ENVIRONMENT OR ANY OTHER EQUIPMENT INSTALLED IN EQUIPMENT ROOM. THESE VALUES ARE ESTIMATES ONLY AND DEPEND ON EQUIPMENT ROOM DIMENSIONS, GEOGRAPHIC LOCATION AND EQUIPMENT SETUP. TO CALCULATE YOUR SPECIFIC CONFIGURATION AND SITE CONDITIONS PLEASE CONSULT YOUR MECHANICAL HVAC DESIGNER AND ASHRAE STANDARDS.

1 ENCLOSURE - TYPICAL REQUIREMENTS

VACUTECH
 AN **NCS** COMPANY
 1350 HI-TECH DRIVE
 SHERIDAN, WY 82801
 PHONE: (307) 675-1982
 EMAIL: vacinfo@ncswash.com
 WEB: www.vacutechllc.com

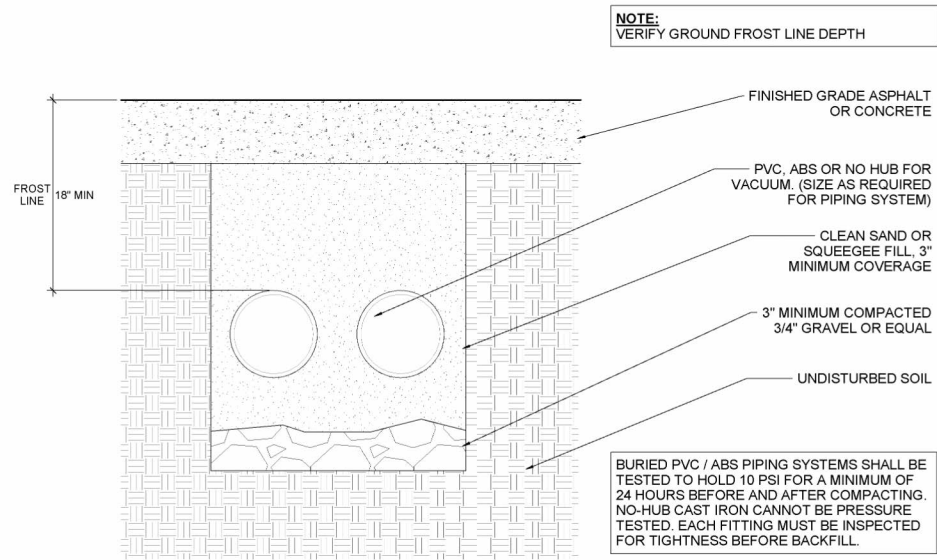
COBBLESTONE C82
 9572 TWENTY MILE ROAD
 PARKER, COLORADO 80134

#	Revision	By	Chk	Date
4	ADDED ENGINEERED SPECIFICATIONS	TD	ML	8/21/23
5	REPLACED ALL PALM ARCHES WITH RIVAL ARCHES WITH CORRUGATED ALUMINUM AWNINGS	ML	SL	10/27/23
6	POS ARCHES CHANGED TO RIVAL ARCHES	TJ	ML	11/20/23
7	CHANGED THE CONFIGURATION OF THE POS LAYOUT TO RUN PARALLEL WITH THE LANES	FM	TJ	11/28/23
8	REMOVED 6' LED LIGHTS & INSTALLED 8' LED LIGHTS	FD	TD	12/6/23
9	REVISED FOOTING DETAILS AND GENERAL STRUCTURAL NOTES PER ENGINEERING NOTES	FM	TJ	1/10/24

ENCLOSURE DETAIL	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

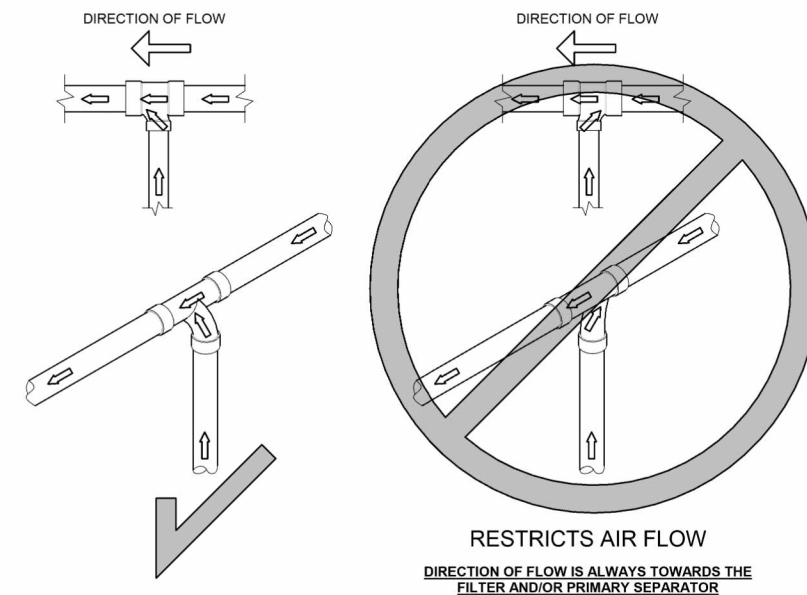
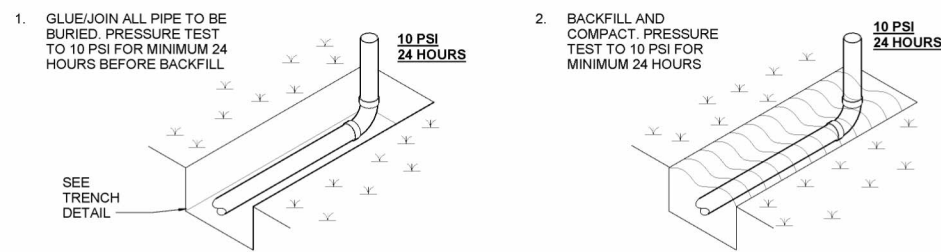
V711

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PIPE NOTES:

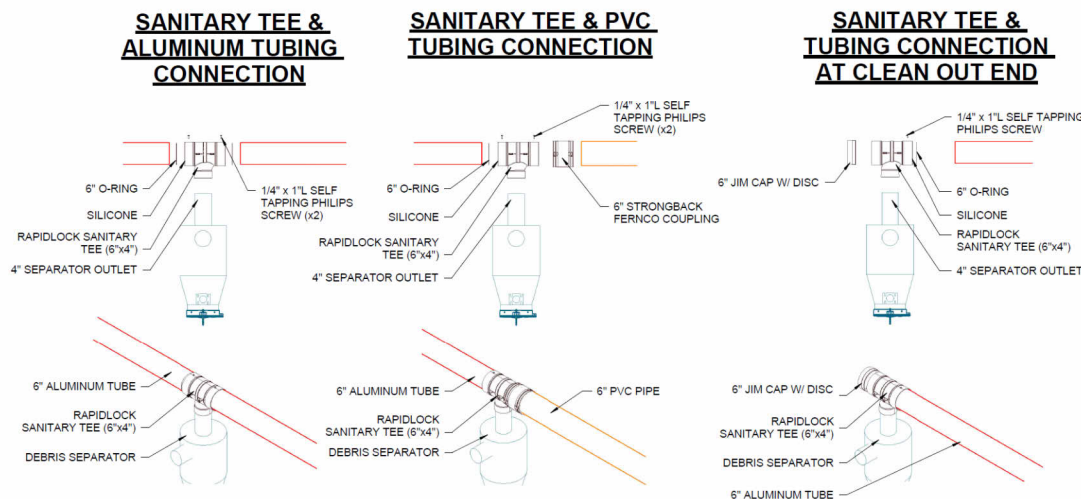
- a. FIELD VERIFY ALL DIMENSIONS
- b. SUPPORT SCHEDULE 40 PVC OVERHEAD DRY/WET VACUUM PIPE EVERY 6' MAXIMUM; USE UNISTRUT & CLAMP OR OTHER SUPPORT **(PROVIDED BY OTHERS)**
- c. RUN COMPRESSED AIR TO AIR COMPRESSOR LOCATION **(BY OTHERS)**
- d. COMPRESSED AIR RECOMMENDED WORKING PRESSURE IS 75PSIG AND 10SCFM AT INTERFACE
- e. WALL PENETRATION: CORE DRILLING MAY BE REQUIRED FIELD VERIFY HEIGHT
- f. REFER TO SHEET V721 FOR PIPE ASSEMBLY CUTSHEETS
- g. ALL FITTINGS TO BE 'DWV'



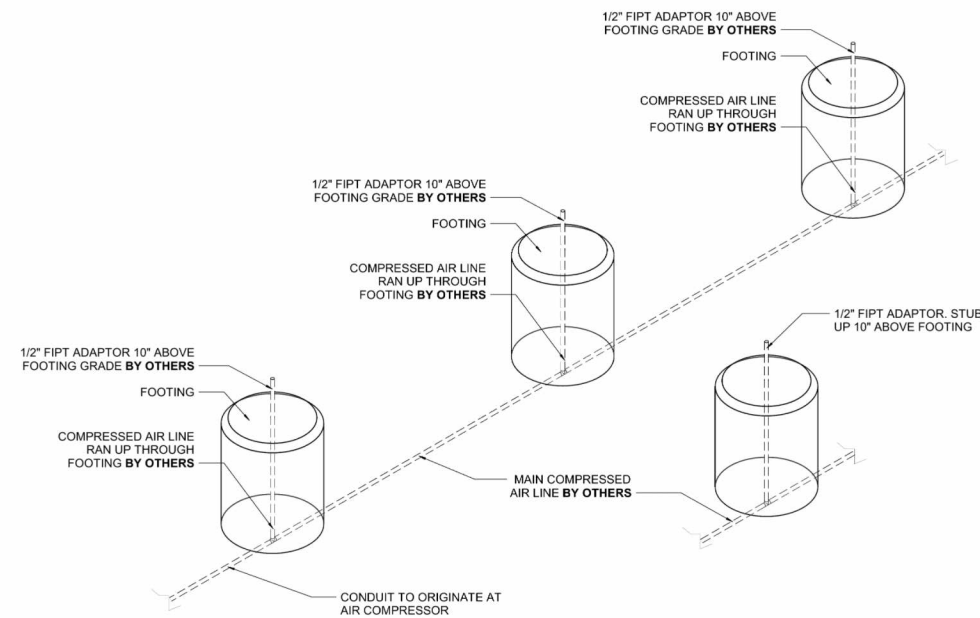
1 TRENCH - DUAL LINE

2 TRENCH - PRESSURE TEST

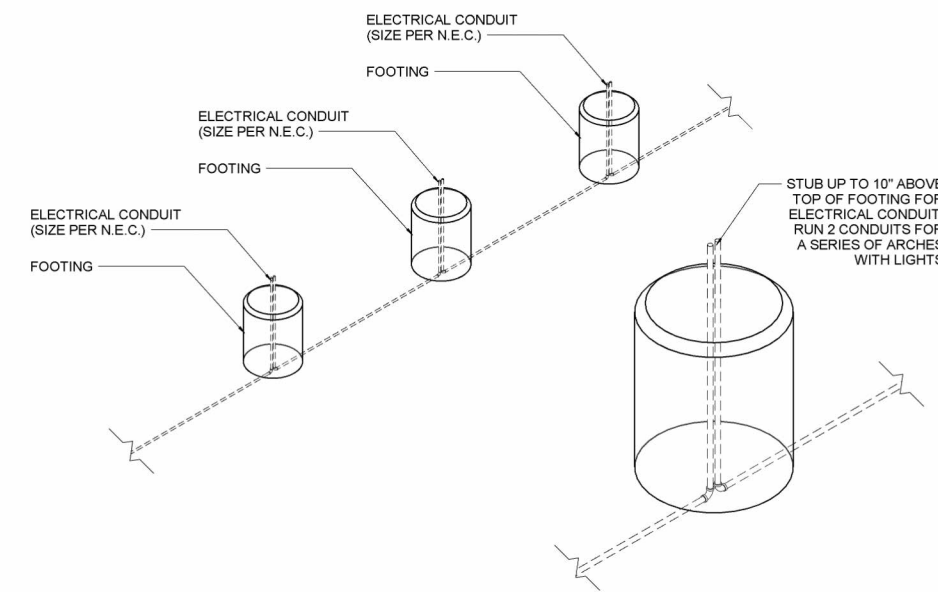
3 PIPE - PIPE FLOW



4 PIPE - 6x4 TEE KIT



5 TRENCH - AIR LINE STUB-UP



6 TRENCH - CONDUIT STUB-UP

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COBBLESTONE C82
9572 TWENTY MILE ROAD
PARKER, COLORADO 80134

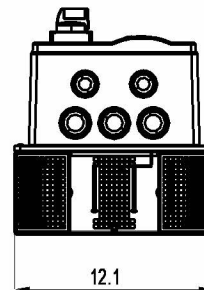
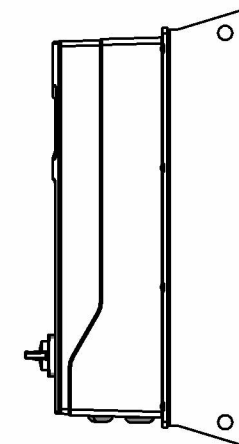
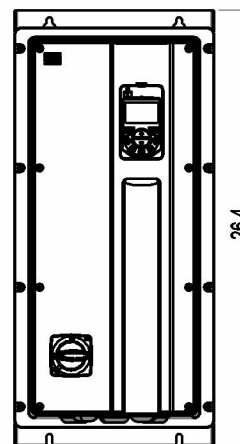
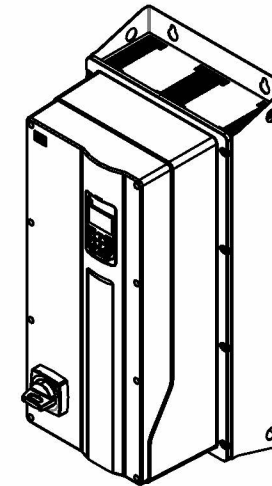
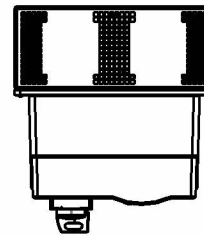
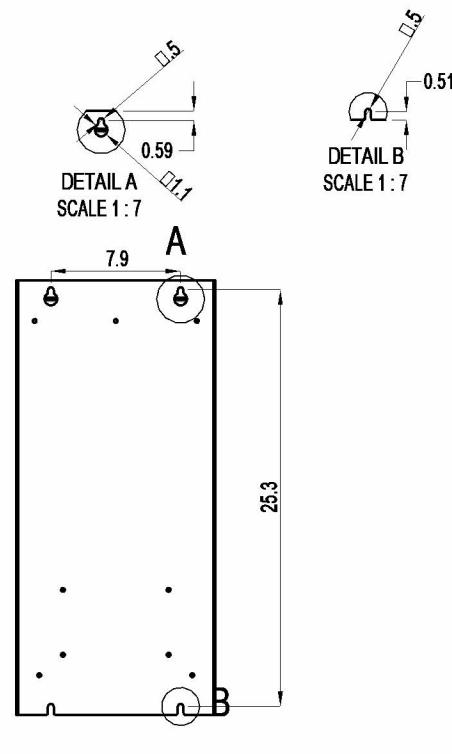
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PIPE DETAILS

Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V721

Variable Frequency Drive (VFD) - 40 HP , 480V - NEMA 12					
Voltage	Power	Height	Width	Depth	Weight
480V	40 HP	26.4	12.1	13.7	66.2



OPERATING CONDITIONS	
MIN. TEMPERATURE:	14 °F [-10 °C]
MAX. TEMPERATURE:	104 °F [40 °C]
HUMIDITY:	5% TO 95% NON-CONDENSING

WEG ELECTRIC NEMA 12 VARIABLE FREQUENCY DRIVE (VFD)

AVOID:

- DIRECT EXPOSURE TO SUNLIGHT, RAIN, HIGH HUMIDITY, OR SEA-AIR
- INFLAMMABLE OR CORROSIVE GASES OR LIQUIDS
- EXCESS VIBRATION
- DUST, METALLIC PARTICLES, AND OIL MIST

WARRANTY INFORMATION

VFD NOT TO BE OPERATED IN CONDITIONS OUTSIDE OF THOSE SPECIFIED IN 'OPERATING CONDITIONS'.

EACH VFD MUST BE WIRED FROM THE MAIN DISTRIBUTION PANEL IN SEPARATE CONDUIT (SIZED PER NEC) TO EACH VFD AND FROM EACH VFD TO PRODUCER MOTOR.

VFD NOTES

'VFD' OR 'VARIABLE FREQUENCY DRIVE' IS AN OPTIONAL STARTER CONTROL.

- VFD MUST BE INSTALLED IN A CLEAN, DRY, DUST-FREE, OIL-FREE & MOISTURE-FREE CLIMATE CONTROLLED ENVIRONMENT NOT TO EXCEED 104 DEGREES FAHRENHEIT.
- EXTERIOR RAIN-TIGHT NEMA 12 VFD ENCLOSURES ARE AVAILABLE FOR ADDITIONAL EXPENSE.
- CONDUIT FOR TRANSDUCER MUST BE 8" AWAY FROM ALL OTHER WIRING/CONDUIT AND MUST BE A HOME RUN (NO SPLICING) THAT SHALL NOT EXCEED 100'.
- ALL CONDUIT RUNS FOR VACUUM SYSTEM VFD(s) & MOTOR(s) MUST BE IN A SEPARATE CONDUIT A MINIMUM OF 12" APART.
- WHEN USING PVC CONDUIT, HIGH VOLTAGE LINE & LOAD WIRE MUST BE SHIELDED.

CARWASH EQUIPMENT ROOM IS NOT RECOMMENDED FOR VFD INSTALLATION, AND WILL AFFECT PRODUCT WARRANTY.

VFD MUST BE INSTALLED IN A DRY, CLEAN, OIL FREE, DUST FREE, MOISTURE FREE, CLIMATE CONTROLLED ENVIRONMENT

① VFD - 1B001124 - NEMA 12 - 40 HP 460V

VACUTECH
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SHERIDAN, WY 82801
PHONE: (307) 675-1982
EMAIL: vacinfo@ncswash.com
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COBBLESTONE C82

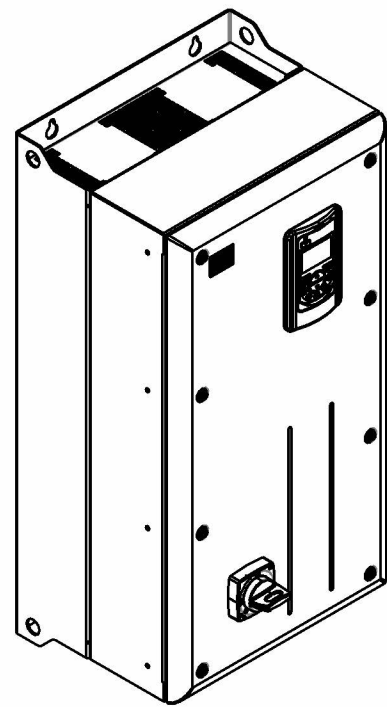
9572 TWENTY MILE ROAD
PARKER, COLORADO 80134

#	Revision	By	Chk	Date
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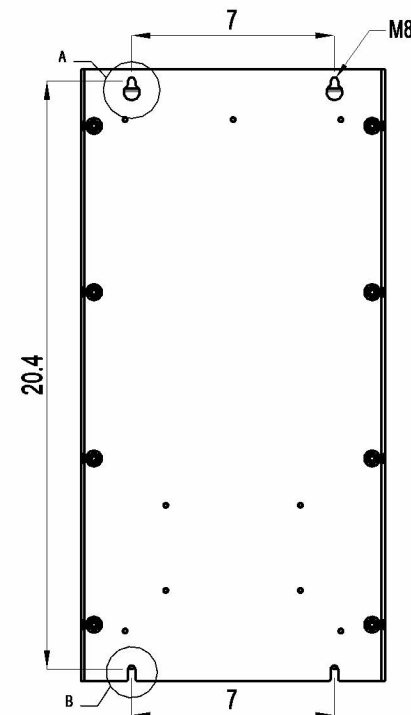
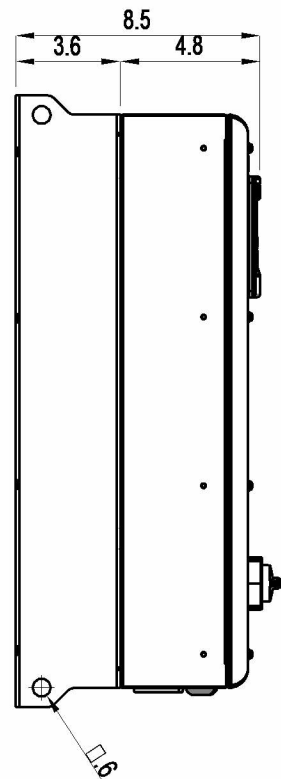
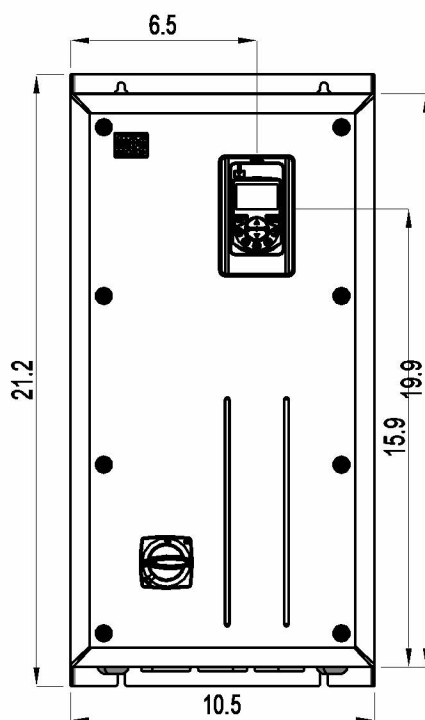
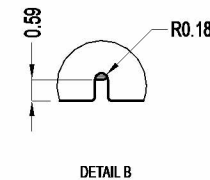
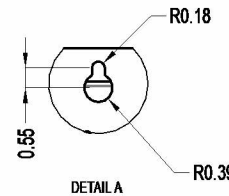
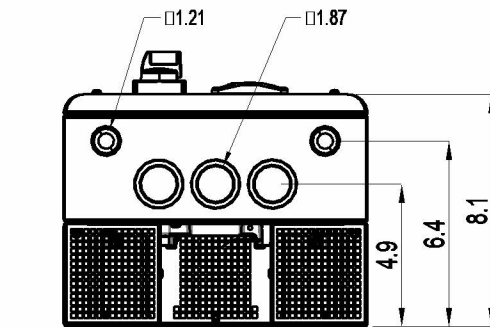
VFD DETAILS A

Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

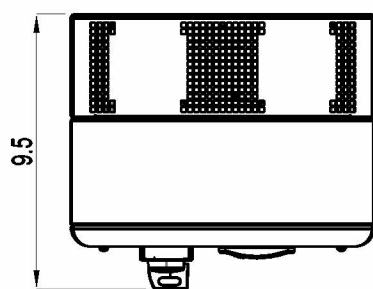
V731



Variable Frequency Drive (VFD) - 75 HP, 480V - NEMA 12					
Voltage	Power	Height	Width	Depth	Weight
480V	75 HP	29.7	14.8	13.3	108



OPERATING CONDITIONS	
MIN. TEMPERATURE:	14 °F [-10 °C]
MAX. TEMPERATURE:	104 °F [40 °C]
HUMIDITY:	5% TO 95% NON-CONDENSING



WEG ELECTRIC NEMA 12 VARIABLE FREQUENCY DRIVE (VFD)

AVOID:

- DIRECT EXPOSURE TO SUNLIGHT, RAIN, HIGH HUMIDITY, OR SEA-AIR
- INFLAMMABLE OR CORROSIVE GASES OR LIQUIDS
- EXCESS VIBRATION
- DUST, METALLIC PARTICLES, AND OIL MIST

WARRANTY INFORMATION

VFD NOT TO BE OPERATED IN CONDITIONS OUTSIDE OF THOSE SPECIFIED IN 'OPERATING CONDITIONS'.

EACH VFD MUST BE WIRED FROM THE MAIN DISTRIBUTION PANEL IN SEPARATE CONDUIT (SIZED PER NEC) TO EACH VFD AND FROM EACH VFD TO PRODUCER MOTOR.

VFD NOTES

'VFD' OR 'VARIABLE FREQUENCY DRIVE' IS AN OPTIONAL STARTER CONTROL.

- VFD MUST BE INSTALLED IN A CLEAN, DRY, DUST-FREE, OIL-FREE & MOISTURE-FREE CLIMATE CONTROLLED ENVIRONMENT NOT TO EXCEED 104 DEGREES FAHRENHEIT.
- EXTERIOR RAIN-TIGHT NEMA 12 VFD ENCLOSURES ARE AVAILABLE FOR ADDITIONAL EXPENSE.
- CONDUIT FOR TRANSDUCER MUST BE 8" AWAY FROM ALL OTHER WIRING/CONDUIT AND MUST BE A HOME RUN (NO SPLICING) THAT SHALL NOT EXCEED 100'.
- ALL CONDUIT RUNS FOR VACUUM SYSTEM VFD(s) & MOTOR(s) MUST BE IN A SEPARATE CONDUIT A MINIMUM OF 12" APART.
- WHEN USING PVC CONDUIT, HIGH VOLTAGE LINE & LOAD WIRE MUST BE SHIELDED.

CARWASH EQUIPMENT ROOM IS NOT RECOMMENDED FOR VFD INSTALLATION, AND WILL AFFECT PRODUCT WARRANTY.

VFD MUST BE INSTALLED IN A DRY, CLEAN, OIL FREE, DUST FREE, MOISTURE FREE, CLIMATE CONTROLLED ENVIRONMENT

1 VFD - 1B001127 - NEMA 12 - 75 HP 460V

VACUTECH
AN **NCS** COMPANY

1350 HI-TECH DRIVE
SHERIDAN, WY 82801
PHONE: (307) 675-1982
EMAIL: vacinfo@ncswash.com
WEB: www.vacutecchllc.com

COBBLESTONE C82

9572 TWENTY MILE ROAD
PARKER, COLORADO 80134

#	Revision	By	Chk	Date
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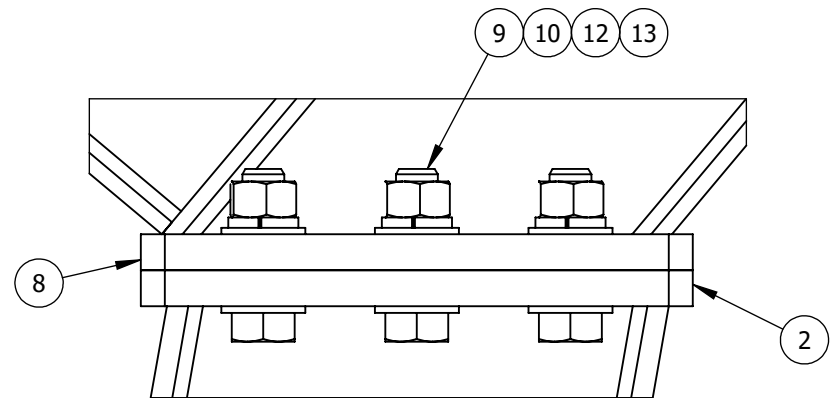
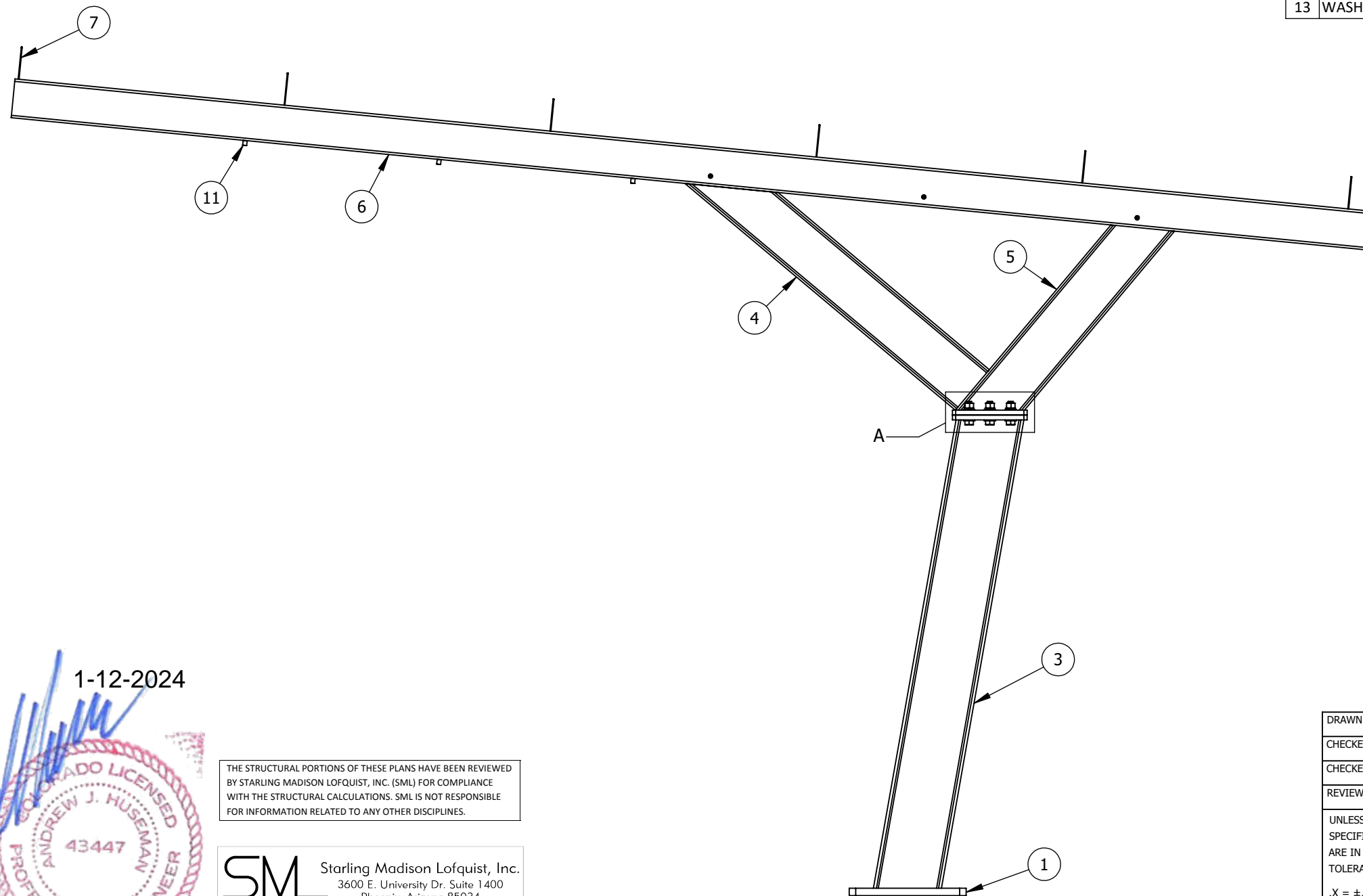
VFD DETAILS B & C	
Project Number	117572
Date	6/5/23
Drawn By	FM
Checked By	TD

V732

FOR ARCHES #1, 6, 7, 11, 12, 16, 17, 22, 23, 30, 31, 33

PARTS LIST

	DESCRIPTION	MATERIAL	QTY
1	PLATE, 1-1/8 X 18 X 18 RIVAL BASE PLATE (CS)	CS A36	1
2	PLATE, 3/4" RIVAL POST FLANGE TOP (CS)	CS A36	1
3	W BEAM, 10" X 26 CUT TO 75", RIVAL ARCH ANGLE CUT POST (CS)	CS A36	1
4	MACHINED, W BEAM, 8" X 18 CUT TO 54-5/16", RIVAL ARCH ARM FRONT (CS)	CS A992	1
5	MACHINED, W BEAM, 8" X 18 CUT TO 42 13/16", RIVAL ARCH ARM BACK, SEP HOLES (CS)	CS A36	1
6	SQUARE TUBE, 6" X 3/16" X 210", RIVAL ARCH STRAIGHT ARM WITH ACCESS POINTS (CS)	CS A500B	1
7	SHEET, 10 GA RIVAL ARCH PURLIN ATTACHMENT (CS)	CS A1008	6
8	PLATE, 3/4" RIVAL POST FLANGE TOP (CS)	CS A36	1
9	HEX BOLT, 7/8"-9 UNC X 3" LG. ZN GR8	Zn/Y GR 8	6
10	HEX NUT, 7/8-9 UNC, Zn/Y GR 8	Zn/Y GR 8	6
11	THREADED WELD BUNG, 1/4-20 UNC X .750" LG. X 5/8" OD.	CS A36	6
12	WASHER, FLAT, SAE, 7/8" X 1.750" OD X .134" THK, Zn/Y GR 8	Zn/Y GR 8	12
13	WASHER, SPLIT LOCK, 7/8", Zn/Y GR 8	Zn/Y GR 8	6



DETAIL A

1-12-2024

Exp. 10/31/2025

THE STRUCTURAL PORTIONS OF THESE PLANS HAVE BEEN REVIEWED BY STARLING MADISON LOFQUIST, INC. (SML) FOR COMPLIANCE WITH THE STRUCTURAL CALCULATIONS. SML IS NOT RESPONSIBLE FOR INFORMATION RELATED TO ANY OTHER DISCIPLINES.

SML Starling Madison Lofquist, Inc.
 3600 E. University Dr. Suite 1400
 Phoenix, Arizona 85034
 (602) 438-2500
 fax. (602) 438-2505
 JOB # 641-23

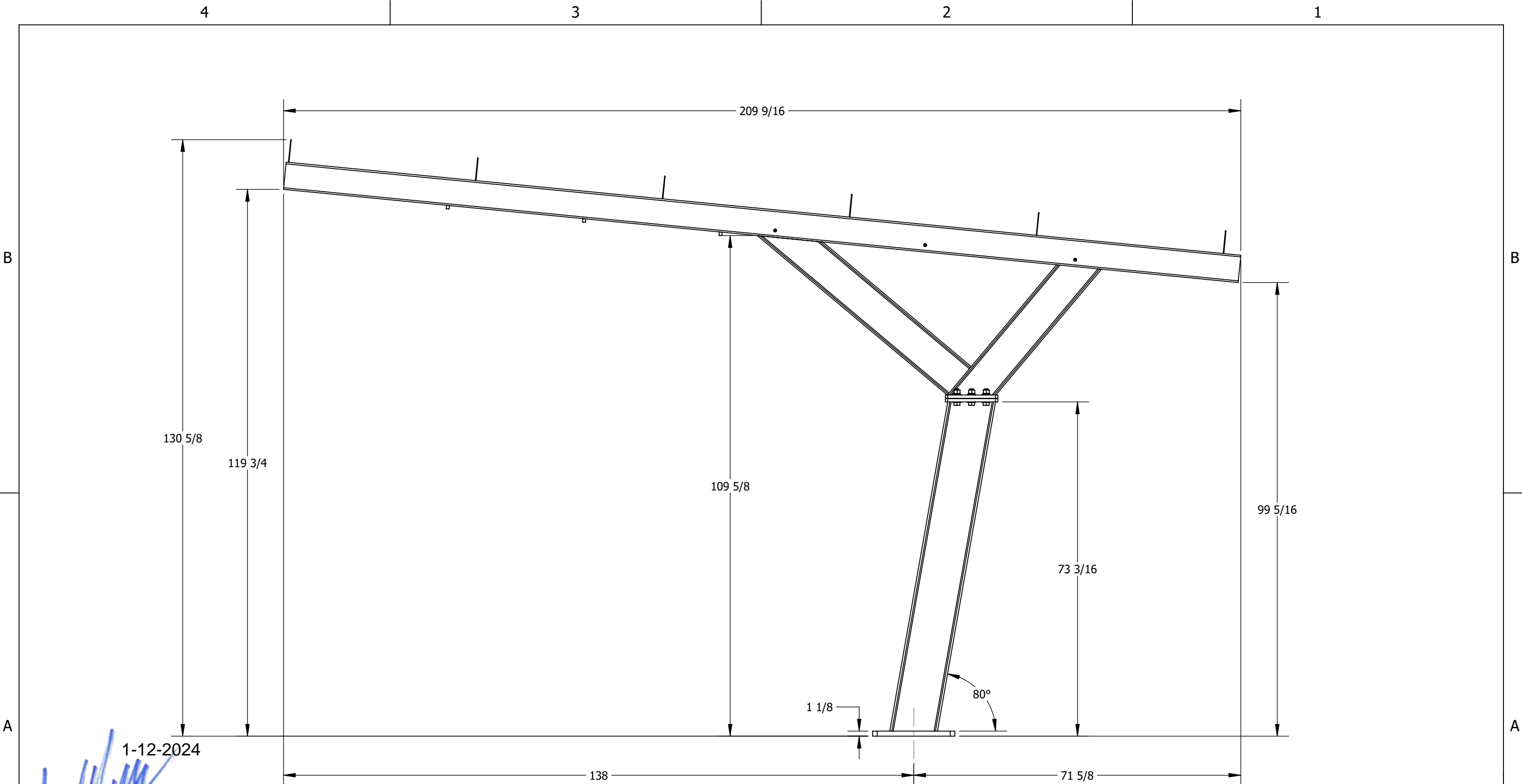
PROPRIETARY AND CONFIDENTIAL
 THIS DRAWING AND SPECIFICATIONS ARE THE PROPERTY OF VACUTECH AND SHALL NOT BE REPRODUCED, DISTRIBUTED, DISCLOSED OR USED FOR MANUFACTURE OR SALE WITHOUT THE WRITTEN PERMISSION OF VACUTECH.

DRAWN BY	AMV	01/09/2024
CHECKED BY		
CHECKED BY		
REVIEWED BY		

VACUTECH
 AN **NCS** COMPANY

VACUTECH, LLC
 1350 HI-TECH DRIVE
 SHERIDAN, WY 82801
 1-800-917-9444
 www.vacutechllc.com

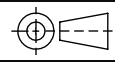
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND TOLERANCES ARE: .X = ±.1 .XX = ±.01 .XXX = ±.005 FRACTION = ±1/16 ANGULAR = ±.5°	CLIENT NAME COBBLESTONE	SIZE B	DRAWING NO. 117572-ENG1	REV 2
	CLIENT ADDRESS PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	SCALE: NTS	WEIGHT: 676.5985 LBS	SHEET 1 OF 5



THE STRUCTURAL PORTIONS OF THESE PLANS HAVE BEEN REVIEWED BY STARLING MADISON LOFQUIST, INC. (SML) FOR COMPLIANCE WITH THE STRUCTURAL CALCULATIONS. SML IS NOT RESPONSIBLE FOR INFORMATION RELATED TO ANY OTHER DISCIPLINES.

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 3600 E. University Dr. Suite 1400
 Phoenix, Arizona 85034
 (602) 438-2500
 fax. (602) 438-2505
 JOB # 641-23
Consulting Structural and Forensic Engineers

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 .XXX = ±.005
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 ANGULAR = ±.5°

CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS			
		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE	DRAWING NO.	REV
	B	117572-ENG1	2
SCALE:	NTS	WEIGHT: 676.5985 LBS	SHEET 2 OF 5

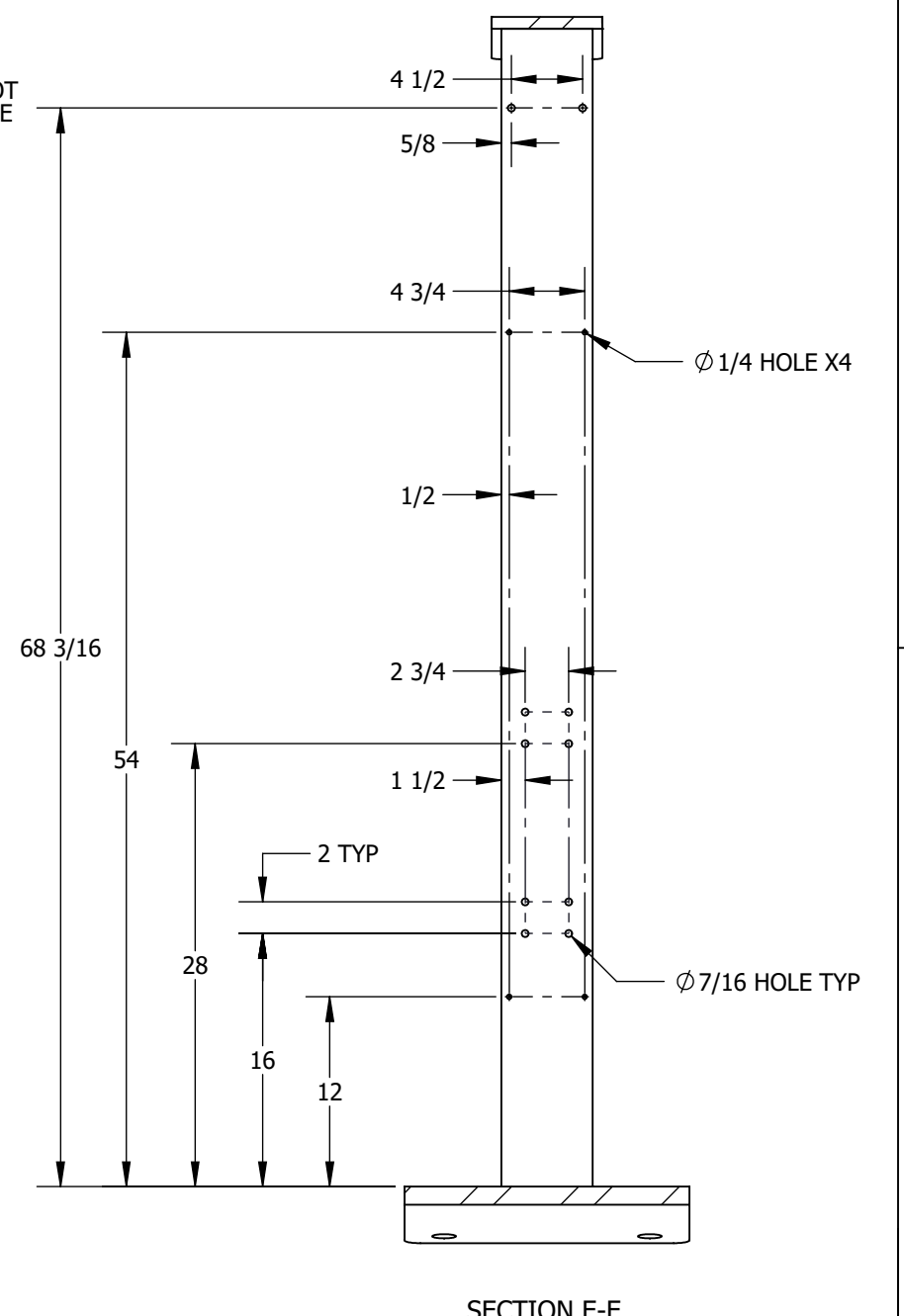
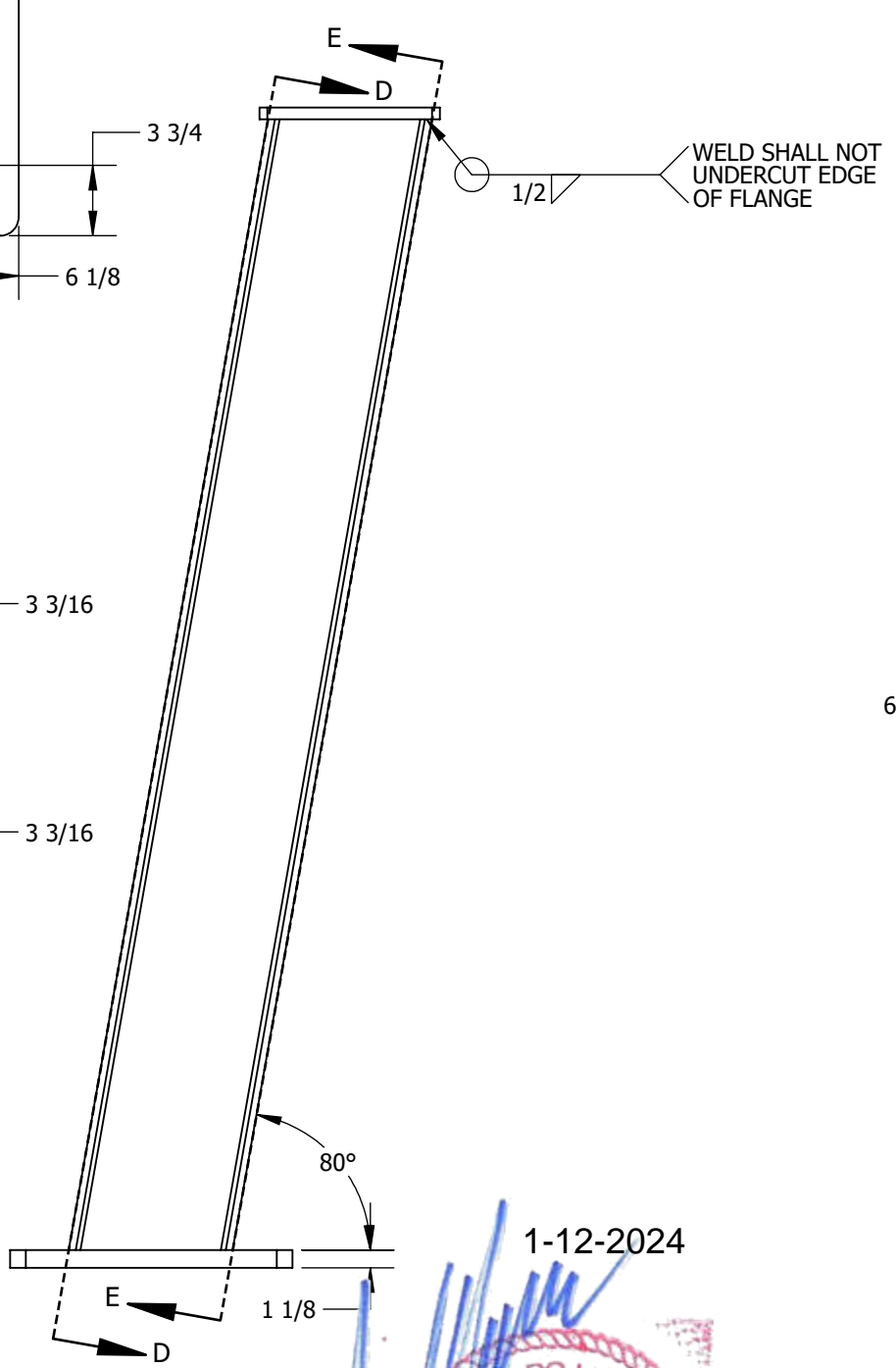
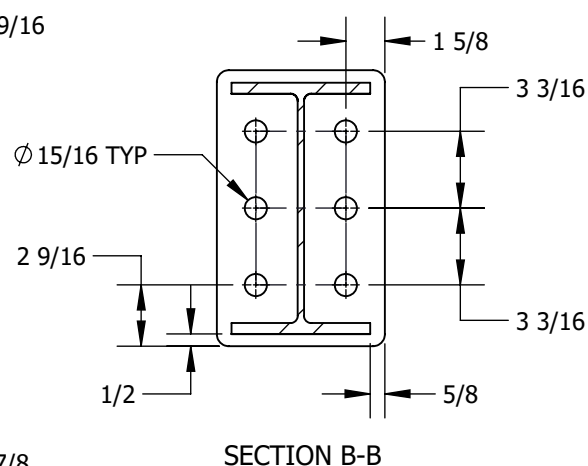
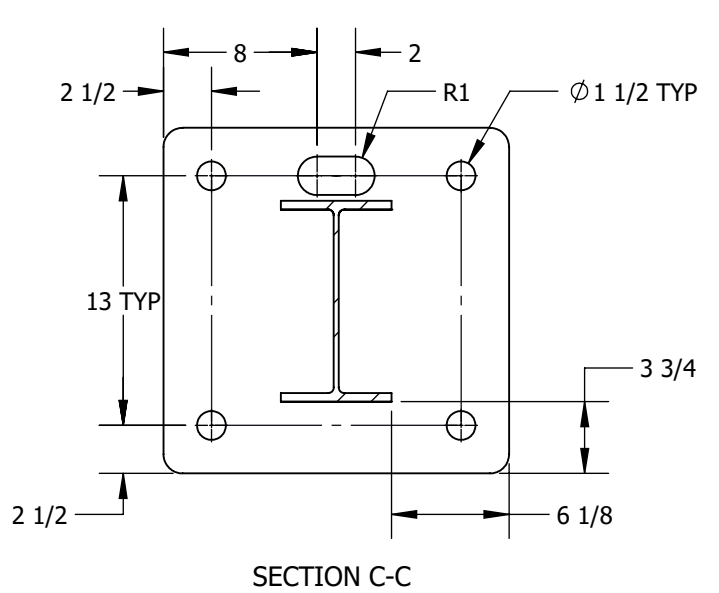
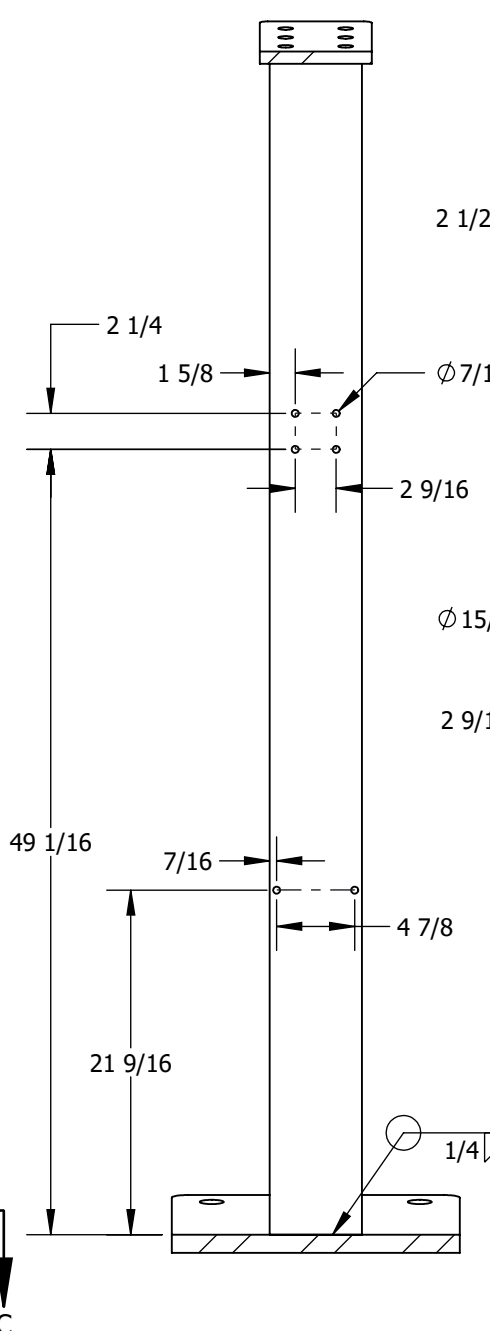
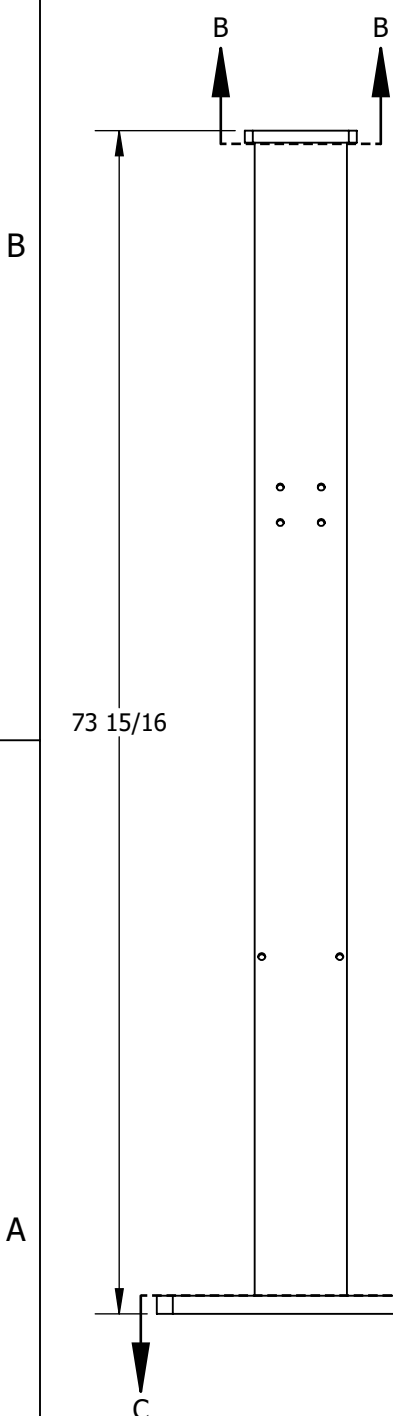
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 1-12-2024
 COLORADO LICENSED
 ANDREW J. HUSEMANN
 43447
 PROFESSIONAL ENGINEER
 Exp. 10/31/2025

4

3

2

1



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1-12-2024

Exp. 10/31/2025

PROFESSIONAL ENGINEER
 ANDREW J. HUSEMAN
 43447
 COLORADO LICENSED

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 .X = ±.1
 .XX = ±.01
 .XXX = ±.005
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CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE	DRAWING NO.	REV
	B	117572-ENG1	2
SCALE:	NTS	WEIGHT: 676.5985 LBS	SHEET 3 OF 5

4

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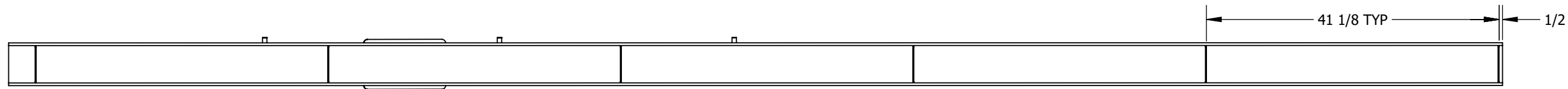
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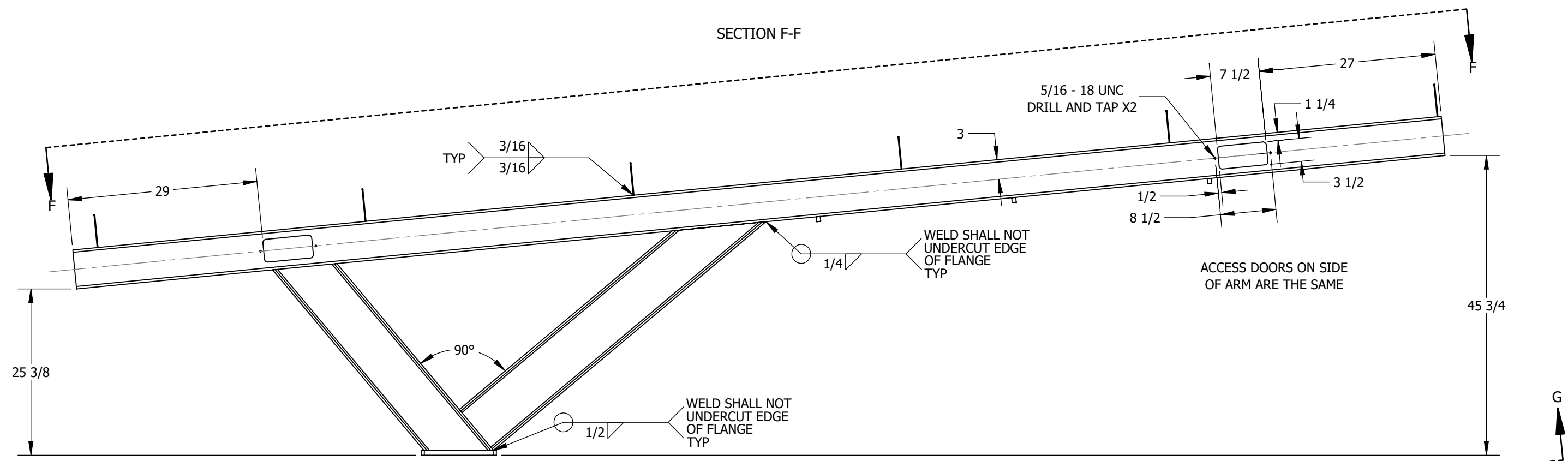
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SECTION F-F



25 3/8

45 3/4

TYP 3/16 3/16

5/16 - 18 UNC DRILL AND TAP X2

7 1/2

27

1 1/4

3 1/2

1/2

8 1/2

WELD SHALL NOT UNDERCUT EDGE OF FLANGE TYP

ACCESS DOORS ON SIDE OF ARM ARE THE SAME

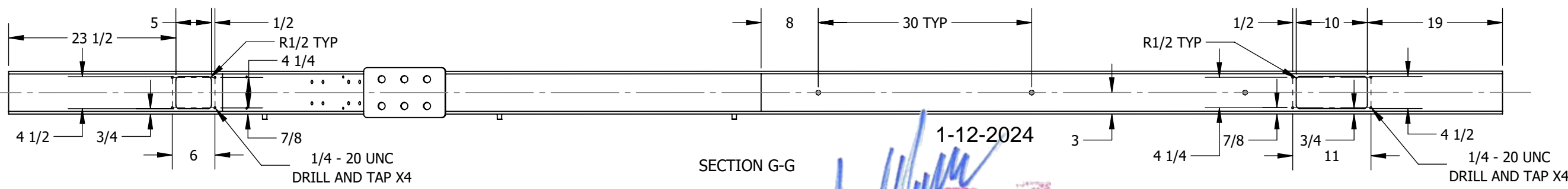
90°

1/2

WELD SHALL NOT UNDERCUT EDGE OF FLANGE TYP



SECTION G-G



23 1/2

5

1/2

R1/2 TYP

4 1/4

8

30 TYP

1/2

10

19

4 1/2

3/4

6

7/8

1/4 - 20 UNC DRILL AND TAP X4

SECTION G-G

8

30 TYP

1/2

10

19

R1/2 TYP

4 1/4

7/8

3/4

11

4 1/2

1/4 - 20 UNC DRILL AND TAP X4

THE STRUCTURAL PORTIONS OF THESE PLANS HAVE BEEN REVIEWED BY STARLING MADISON LOFQUIST, INC. (SML) FOR COMPLIANCE WITH THE STRUCTURAL CALCULATIONS. SML IS NOT RESPONSIBLE FOR INFORMATION RELATED TO ANY OTHER DISCIPLINES.

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 Phoenix, Arizona 85034
 (602) 438-2500
 fax. (602) 438-2505
 JOB # 641-23



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 .X = ±.1
 .XX = ±.01
 .XXX = ±.005
 FRACTION = ±1/16
 ANGULAR = ±.5°

CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE B	DRAWING NO. 117572-ENG1	REV 2
SCALE: NTS	WEIGHT: 676.5985 LBS	SHEET 4 OF 5	

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Exp. 10/31/2025

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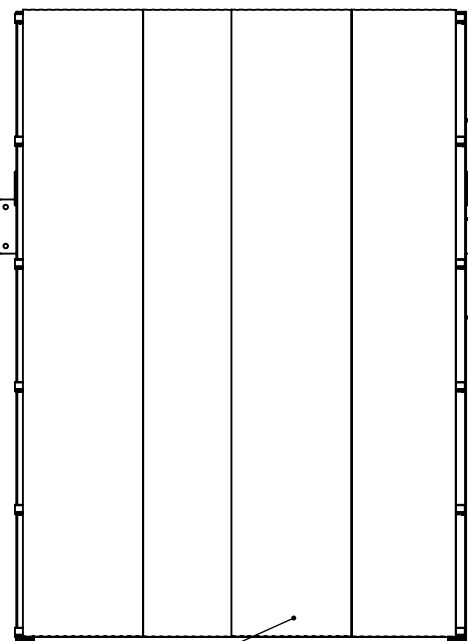
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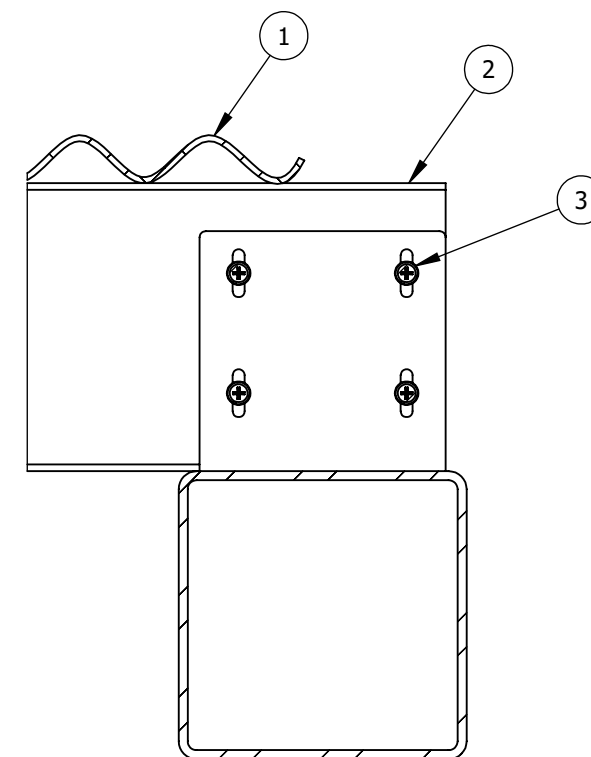
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PARTS LIST

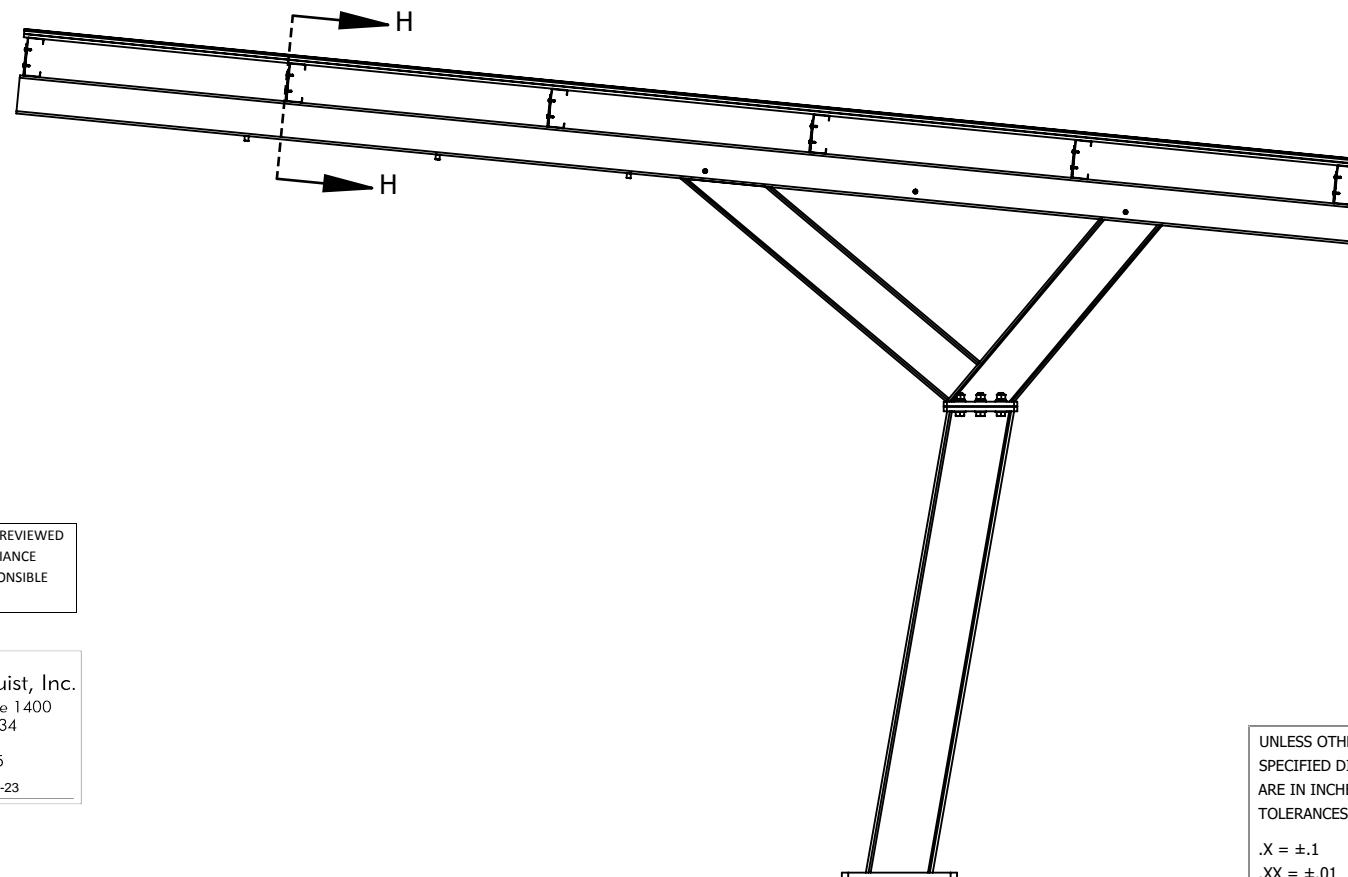
	DESCRIPTION	MATERIAL	QTY
1	CORRUGATED STEEL PANEL, BERRIDGE DEEP - DECK PANEL - 22 GA (1.5" TALL)	STEEL	5
2	PURLIN, CEE, 6" X 2 1/2" X 14 GA WALL CUT TO 173"	CS A1008	6
3	SCREW, 1/4" X 1/2", SELF TAPPING PAN HEAD, #3 DRIVE PHILLPS (SS)	SS 18-8	120



ATTACH CORRUGATED STEEL TO PURLINS USING # 12 STAINLESS HWH DRILL SCREWS (10) PER 36" PANEL, PER PURLIN, EQUALLY SPACED, ATTACH W/ 2 SCREWS AT EACH LOW FLUTE & SIDELAP W/ #12 STAINLESS DRILL SCREWS CONNECTIONS AT 12" O.C. WITH NEOPRENE WASHERS



SECTION H-H
TYPICAL PURLIN ATTACHMENT



1-12-2024

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 Phoenix, Arizona 85034
 (602) 438-2500
 fax. (602) 438-2505
 Consulting Structural and Forensic Engineers
 JOB # 641-23

GENERAL NOTES:

- CORRUGATED STEEL PANELS TO BE INSTALLED PERPENDICULAR TO PURLINS USING STAINLESS STEEL SELF-DRILLING/SELF TAP SCREWS

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 .XX = ±.01
 .XXX = ±.005
 FRACTION = ±1/16
 ANGULAR = ±.5°

CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE	DRAWING NO.	REV
	B	117572-ENG1	2
SCALE:	NTS	WEIGHT: 676.5985 LBS	SHEET 5 OF 5

4

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B

B

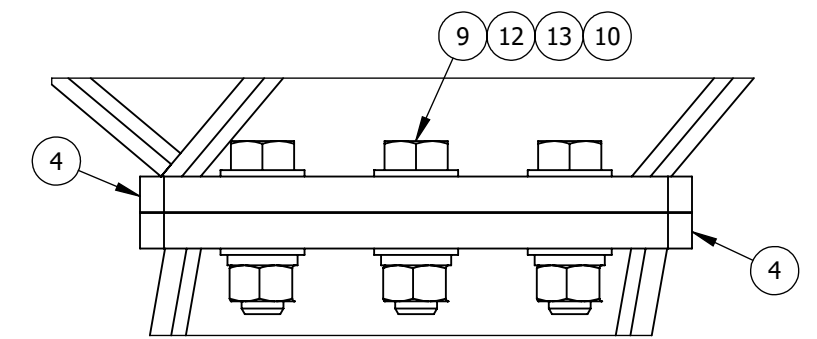
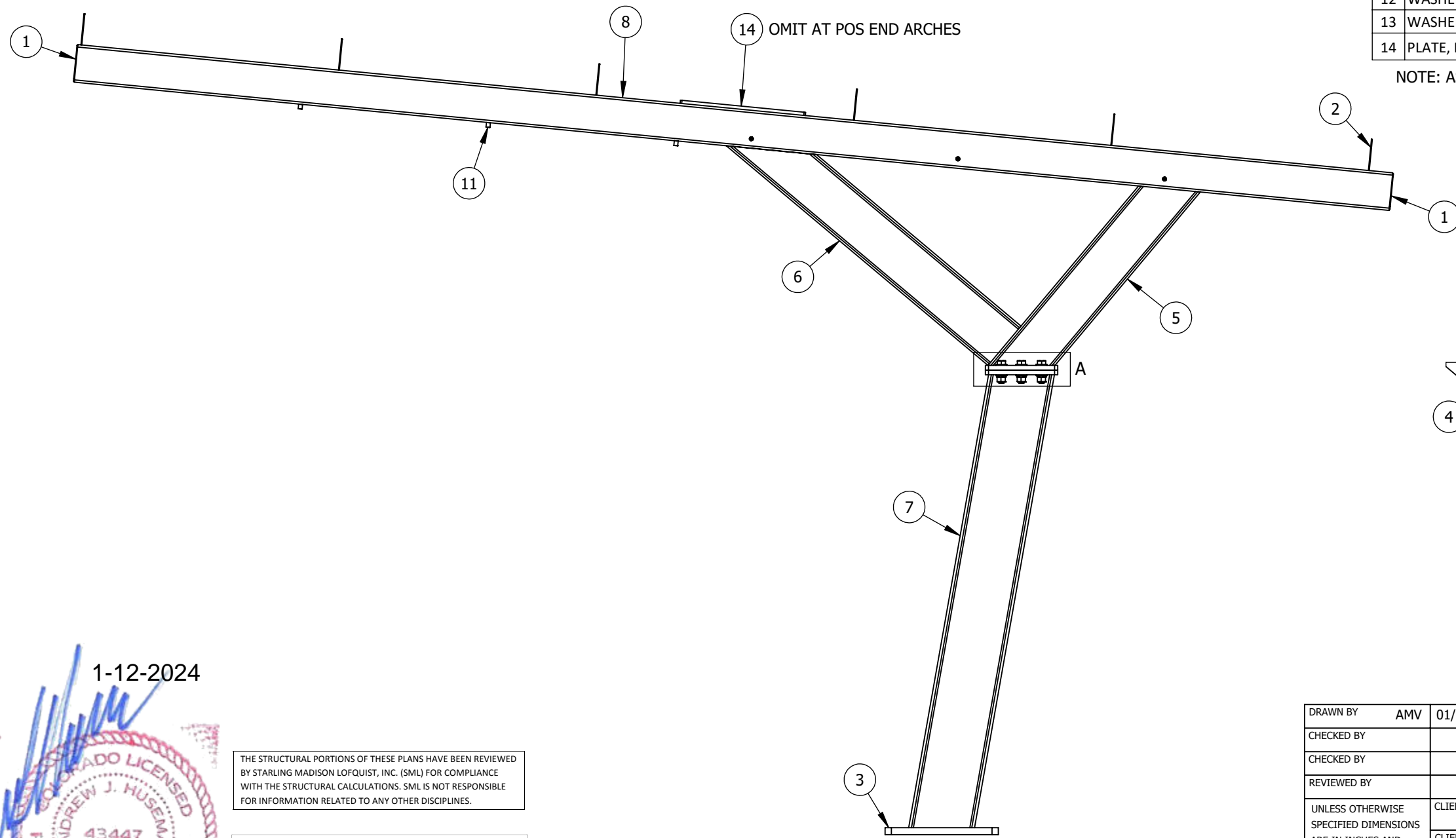
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PARTS LIST

	DESCRIPTION	MATERIAL	QTY
1	SHEET, 10 GA X 5.75" SQ RIVAL ARCH ARM ENDS (CS)	CS A1008	2
2	SHEET, 10 GA RIVAL ARCH PURLIN ATTACHMENT (CS)	CS A1008	6
3	PLATE, 1-1/8 X 18 X 18 RIVAL BASE PLATE (CS)	CS A36	1
4	PLATE, 3/4" RIVAL POST FLANGE TOP (CS)	CS A36	2
5	W BEAM, 8" X 18 CUT TO 42 13/16"	CS A992	1
6	W BEAM, 8" X 18 CUT TO 54 5/16"	CS A992	1
7	W BEAM, 10" X 26 CUT TO 75"	CS A992	1
8	SQUARE HSS 6.0 X 6.0 X 0.1875 CUT TO 210"	CS A500B	1
9	HEX BOLT, 7/8"-9 UNC X 3" LG. ZN GR8	Zn/Y GR 8	6
10	HEX NUT, 7/8-9 UNC, Zn/Y GR 8	Zn/Y GR 8	6
11	THREADED WELD BUNG, 1/4-20 UNC X .750" LG. X 5/8" OD.	CS A36	6
12	WASHER, FLAT, SAE, 7/8" X 1.750" OD X .134" THK, Zn/Y GR 8	Zn/Y GR 8	12
13	WASHER, SPLIT LOCK, 7/8", Zn/Y GR 8	Zn/Y GR 8	6
14	PLATE, RECTANGLE, 5" X 20" X 1/2" THICK (CS), RIVAL ARM SUPPORT	A36	1

NOTE: ASTM A500B MATERIAL TO HAVE A MINIMUM YEILD STRENGTH OF 50 KSI.



DETAIL A

1-12-2024

[Signature]

PROFESSIONAL ENGINEER
ANDREW J. HUSEMANN
43447
COLORADO LICENSED

Exp. 10/31/2025

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JOB # 641-23

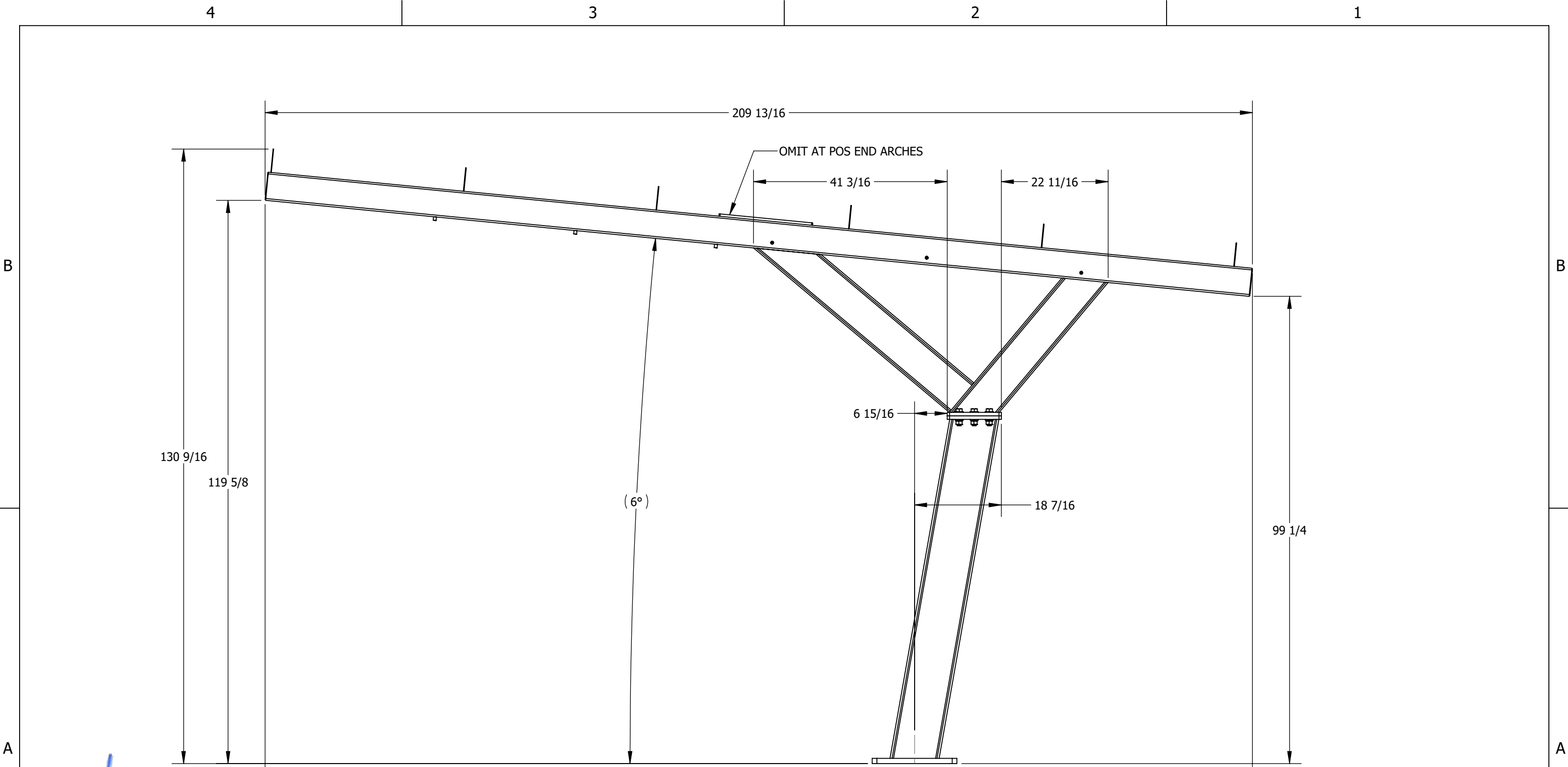
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	CLIENT ADDRESS	PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134		
	SIZE	DRAWING NO.	REV	
	B	117572-ENG2	2	
	SCALE: NTS	WEIGHT: 697.7801 LBS	SHEET 1 OF 5	



1-12-2024

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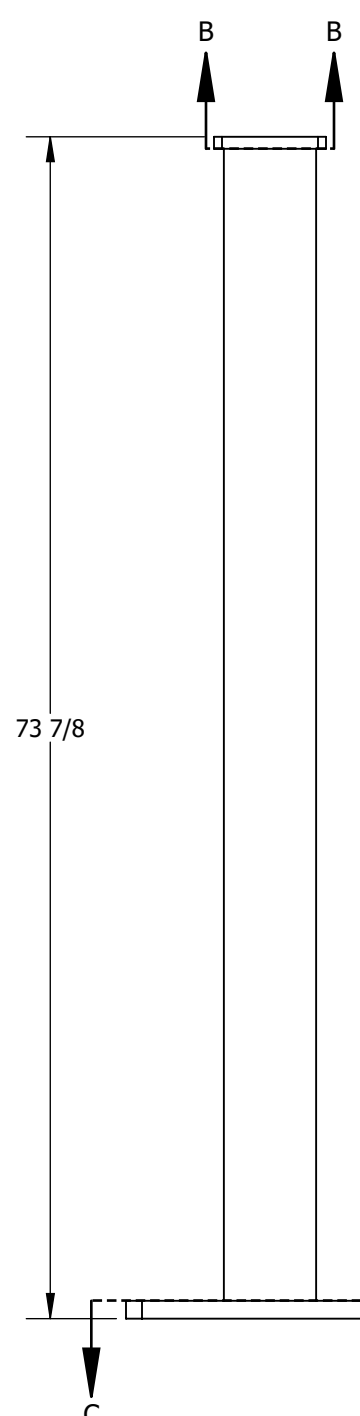
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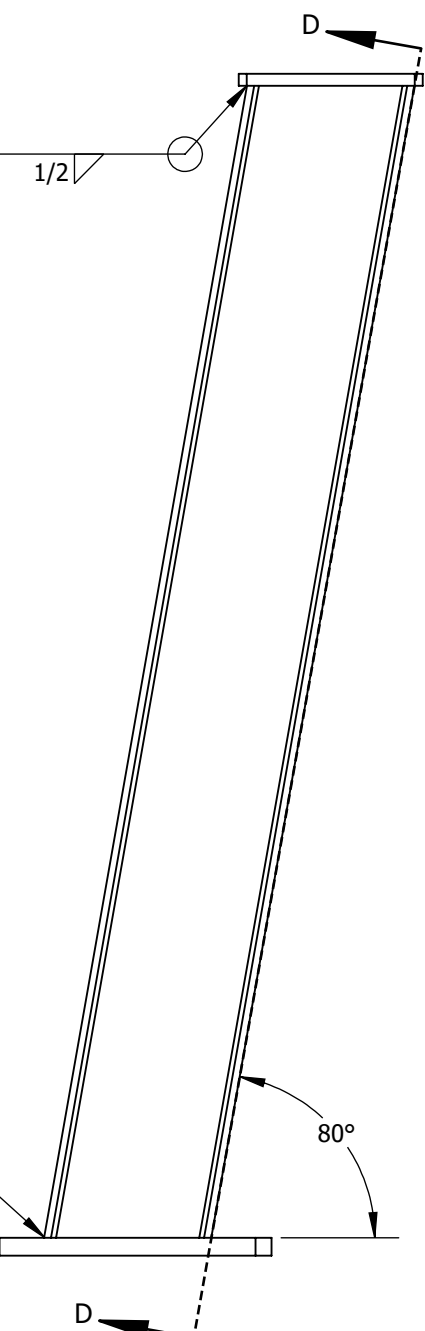


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 .XXX = ±.005
 FRACTION = ±1/16
 ANGULAR = ±.5°

CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE B	DRAWING NO. 117572-ENG2	REV 2
SCALE: NTS	WEIGHT: 697.7801 LBS	SHEET 2 OF 5	

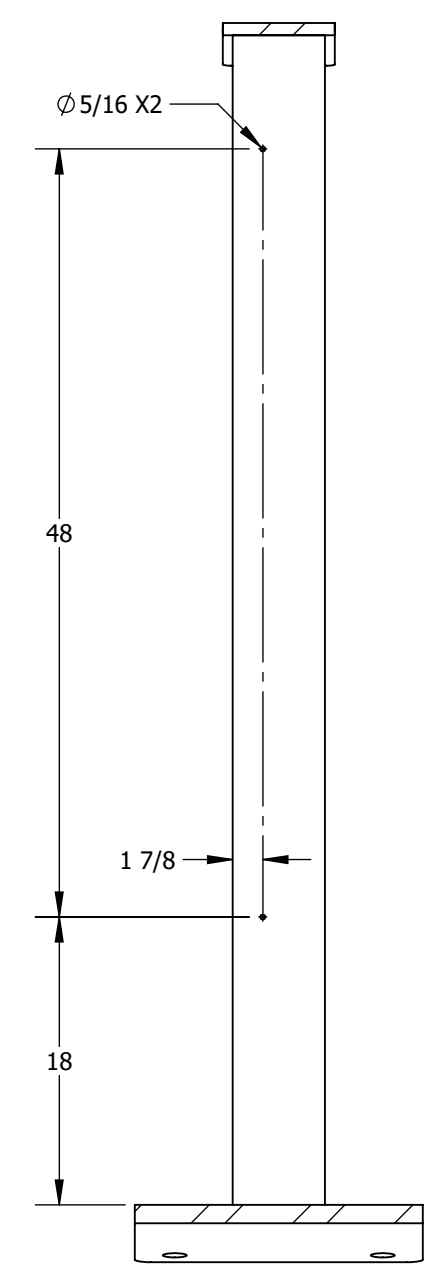


WELD SHALL NOT UNDERCUT EDGE OF FLANGE

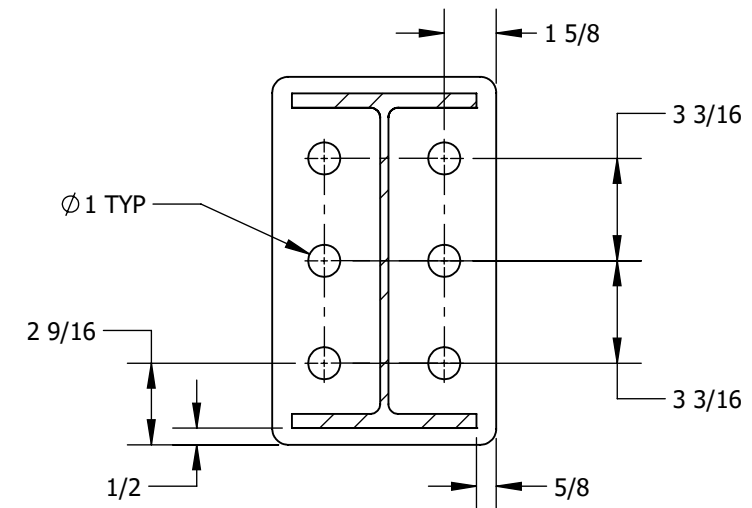


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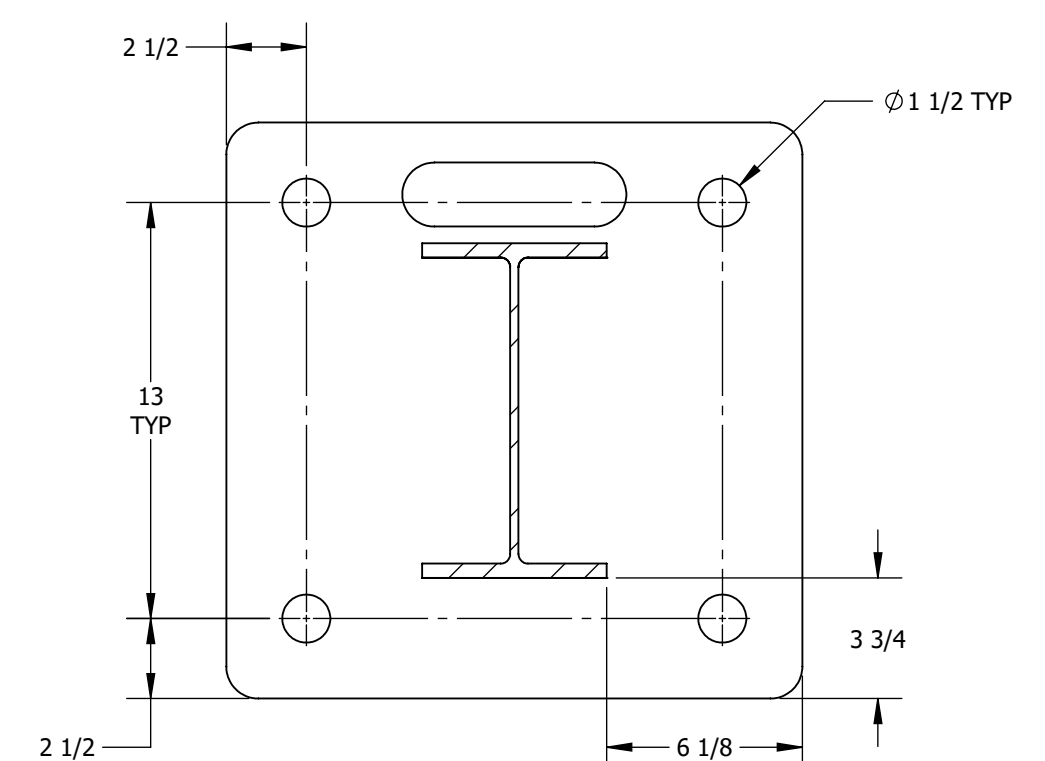
1-12-2024



SECTION D-D



SECTION B-B



SECTION C-C

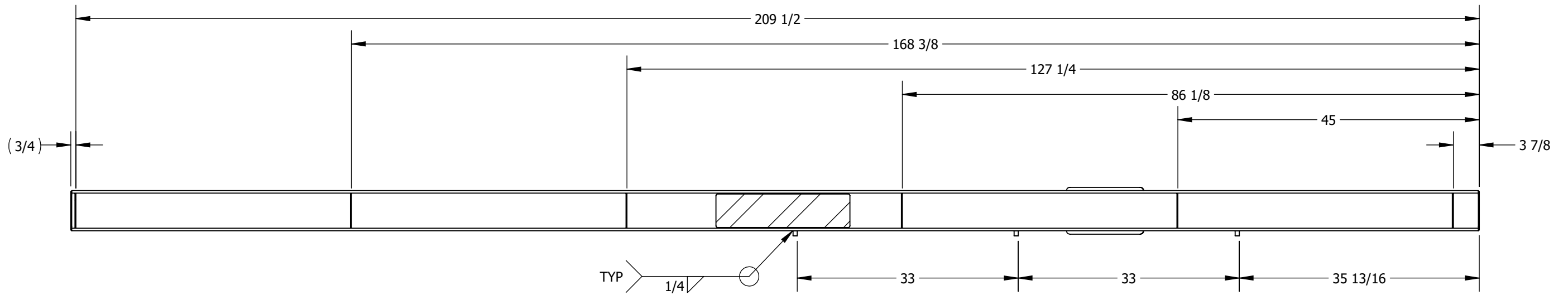
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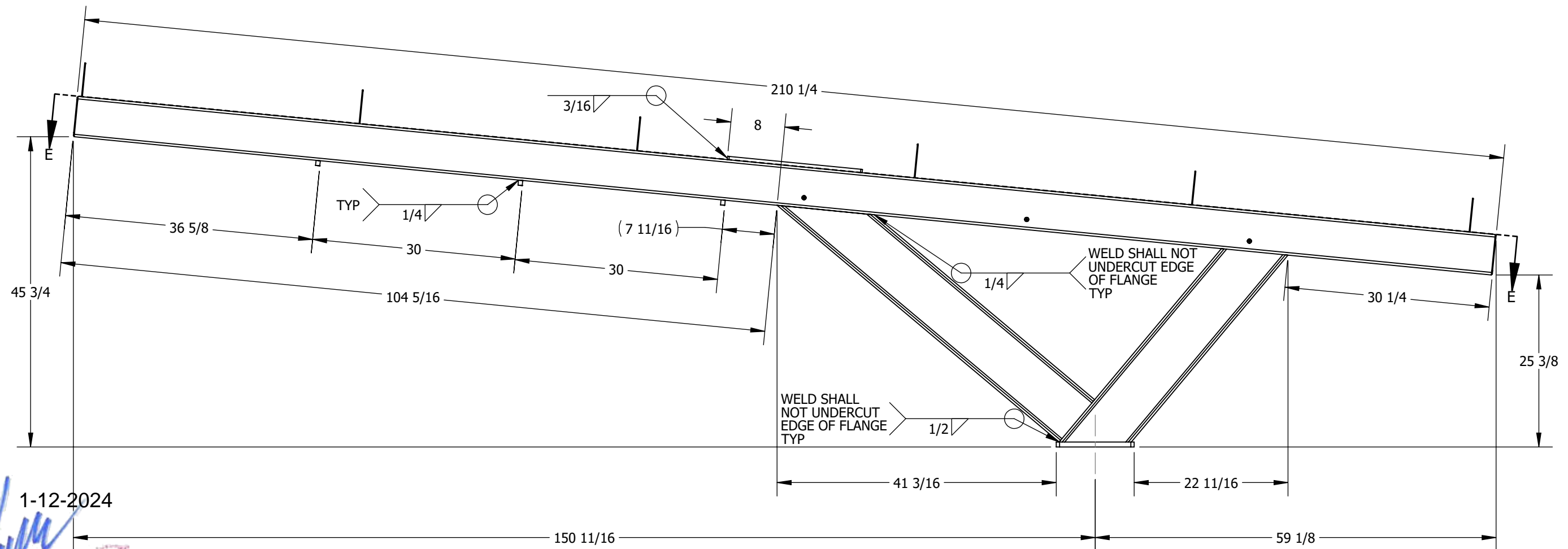
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 FRACTION = ±1/16
 ANGULAR = ±.5°

CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE	DRAWING NO.	REV
	B	117572-ENG2	2
SCALE:	NTS	WEIGHT: 697.7801 LBS	SHEET 3 OF 5

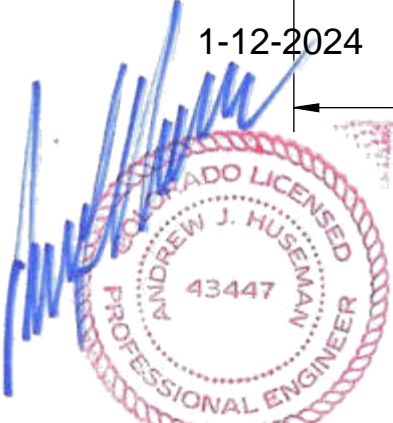
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SECTION E-E



1-12-2024



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CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE	DRAWING NO.	REV
	B	117572-ENG2	2
SCALE:	NTS	WEIGHT: 697.7801 LBS	SHEET 4 OF 5

4 3 2 1

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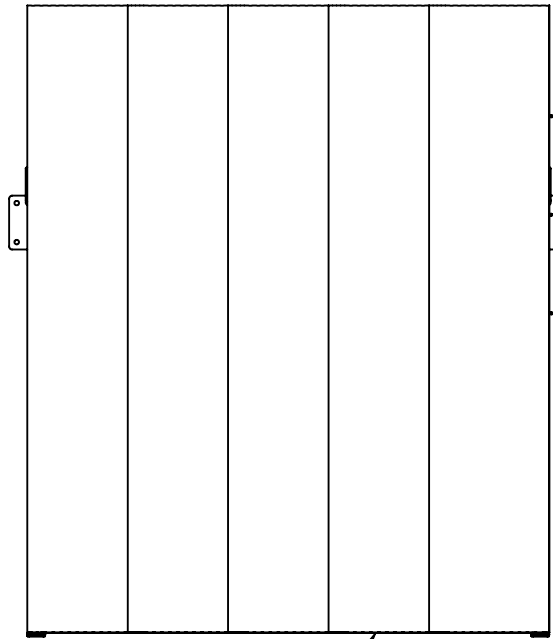
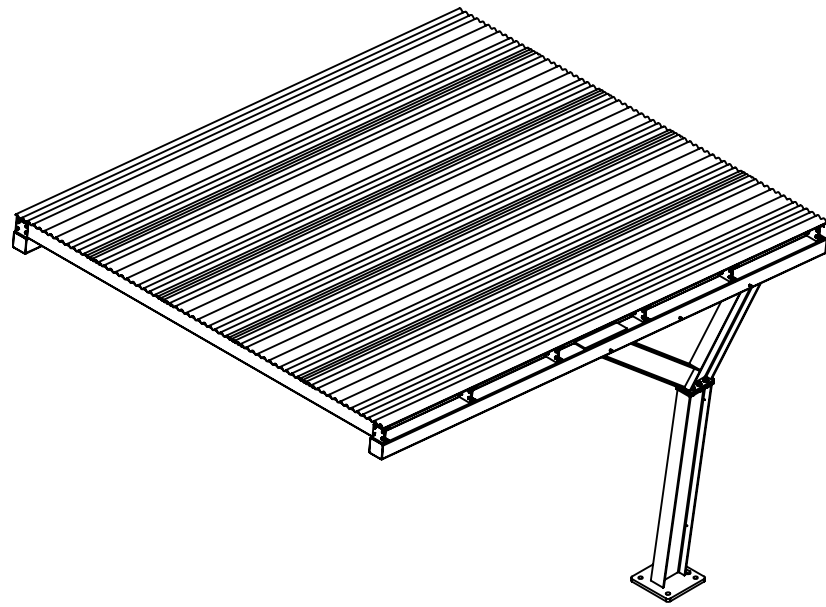
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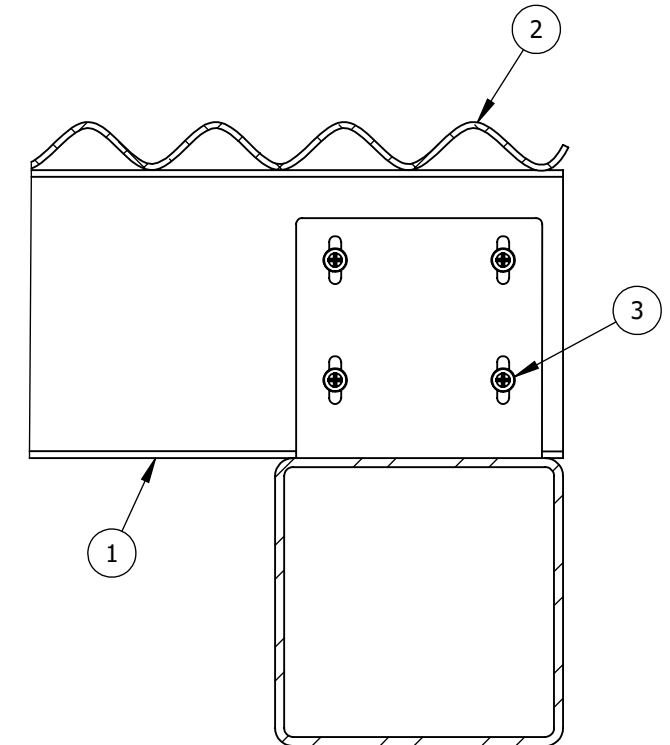
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	DESCRIPTION	MATERIAL	QTY
1	PURLIN, CEE, 6" X 2-1/2" X 14 GA WALL CUT TO 162"	ASTM A607 C1 GR55	6
2	CORRUGATED STEEL PANEL, BERRIDGE DEEP - DECK PANEL - 22 GA (1.5" TALL)	STEEL	5
3	SCREW, 1/4"X3/4", SELF TAPPING PAN HEAD, #3 DRIVE PHILLIPS (ZS) STEEL, ZINC PLATED	Zn CS	48

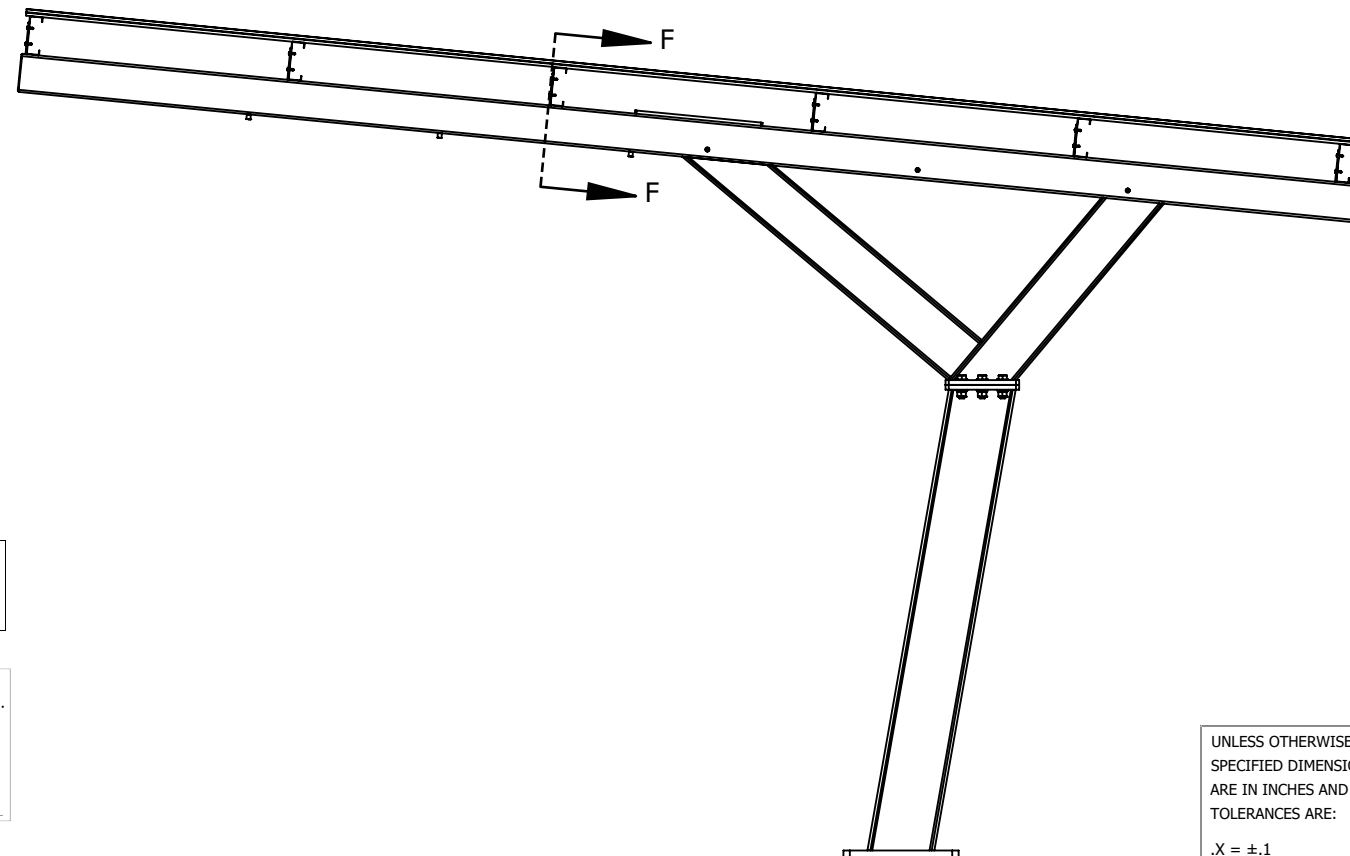


PROVIDE BARRIER BETWEEN DISSIMILAR METALS TO PREVENT GALVANIC CORROSION ALONG TOP OF C-PURLINS

ATTACH CORRUGATED STEEL TO PURLINS USING # 12 STAINLESS HWH DRILL SCREWS (10) PER 36" PANEL, PER PURLIN, EQUALLY SPACED, ATTACH W/ 2 SCREWS AT EACH BOTTOM FLUTE & SIDELAP W/ #12 STAINLESS DRILL SCREWS CONNECTIONS AT 12" O.C. WITH NEOPRENE WASHERS



SECTION F-F
TYPICAL PURLIN ATTACHMENT



1-12-2024



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Consulting Structural and Forensic Engineers
JOB # 641-23

Exp. 10/31/2025

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ANGULAR = ±.5°

CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE B	DRAWING NO. 117572-ENG2	REV 2
SCALE: NTS	WEIGHT: 697.7801 LBS	SHEET 5 OF 5	

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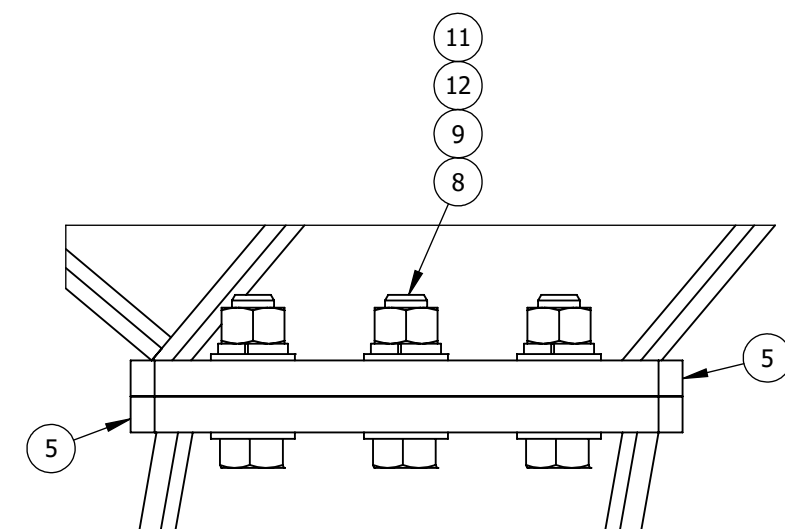
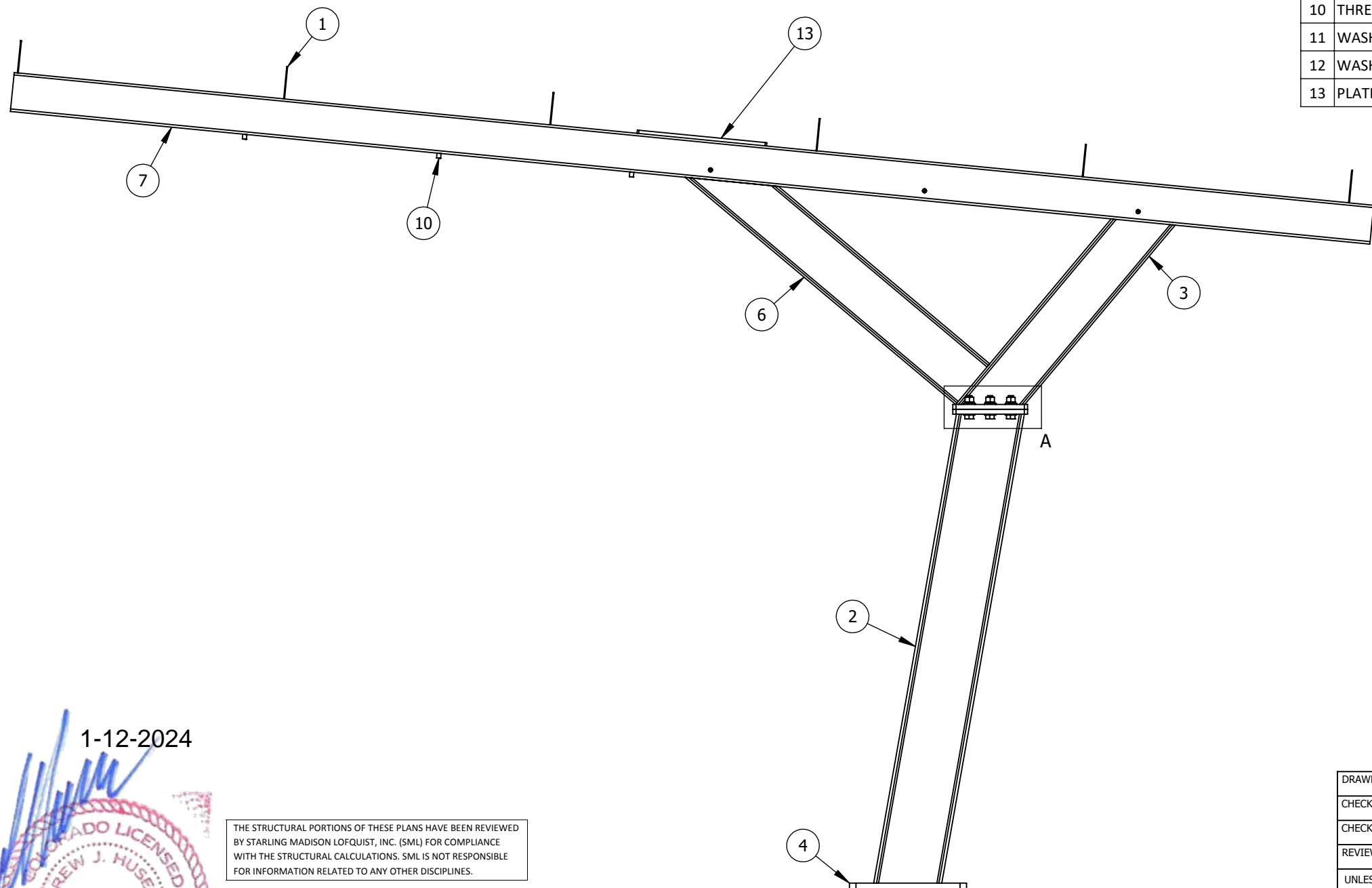
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FOR ALL ARCHES EXCEPT #1, 6, 7, 11, 12, 16, 17, 22, 23, 30, 31, 33

PARTS LIST

	DESCRIPTION	MATERIAL	QTY
1	SHEET, 10 GA RIVAL ARCH PURLIN ATTACHMENT (CS)	CS A1008	6
2	W BEAM, 10" X 26 CUT TO 75", RIVAL ARCH ANGLE CUT POST (CS)	CS A36	1
3	MACHINED, W BEAM, 8" X 18 CUT TO 42 13/16", RIVAL ARCH ARM BACK, SEP HOLES (CS)	CS A36	1
4	PLATE, 1-1/8 X 18 X 18 RIVAL BASE PLATE (CS)	CS A36	1
5	PLATE, 3/4" RIVAL POST FLANGE TOP (CS)	CS A36	2
6	W BEAM, 8" X 18 CUT TO 54-5/16", MITERED END	CS A36	1
7	SQUARE HSS 6.0x6.0x0.1875 CUT TO 210"	CS A500B	1
8	HEX BOLT, 7/8"-9 UNC X 3" LG. ZN GR8	Zn/Y GR 8	6
9	HEX NUT, 7/8-9 UNC, Zn/Y GR 8	Zn/Y GR 8	6
10	THREADED WELD BUNG, 1/4-20 UNC X .750" LG. X 5/8" OD.	CS A36	6
11	WASHER, FLAT, SAE, 7/8" X 1.750" OD X .134" THK, Zn/Y GR 8	Zn/Y GR 8	12
12	WASHER, SPLIT LOCK, 7/8", Zn/Y GR 8	Zn/Y GR 8	6
13	PLATE, RECTANGLE, 5" X 20" X 1/2" THICK (CS), RIVAL ARM SUPPORT	CS A36	1



DETAIL A

1-12-2024

[Signature]

PROFESSIONAL ENGINEER
ANDREW J. HUSEMAYR
43447
COLORADO LICENSED

Exp. 10/31/2025

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Consulting Structural and Forensic Engineers

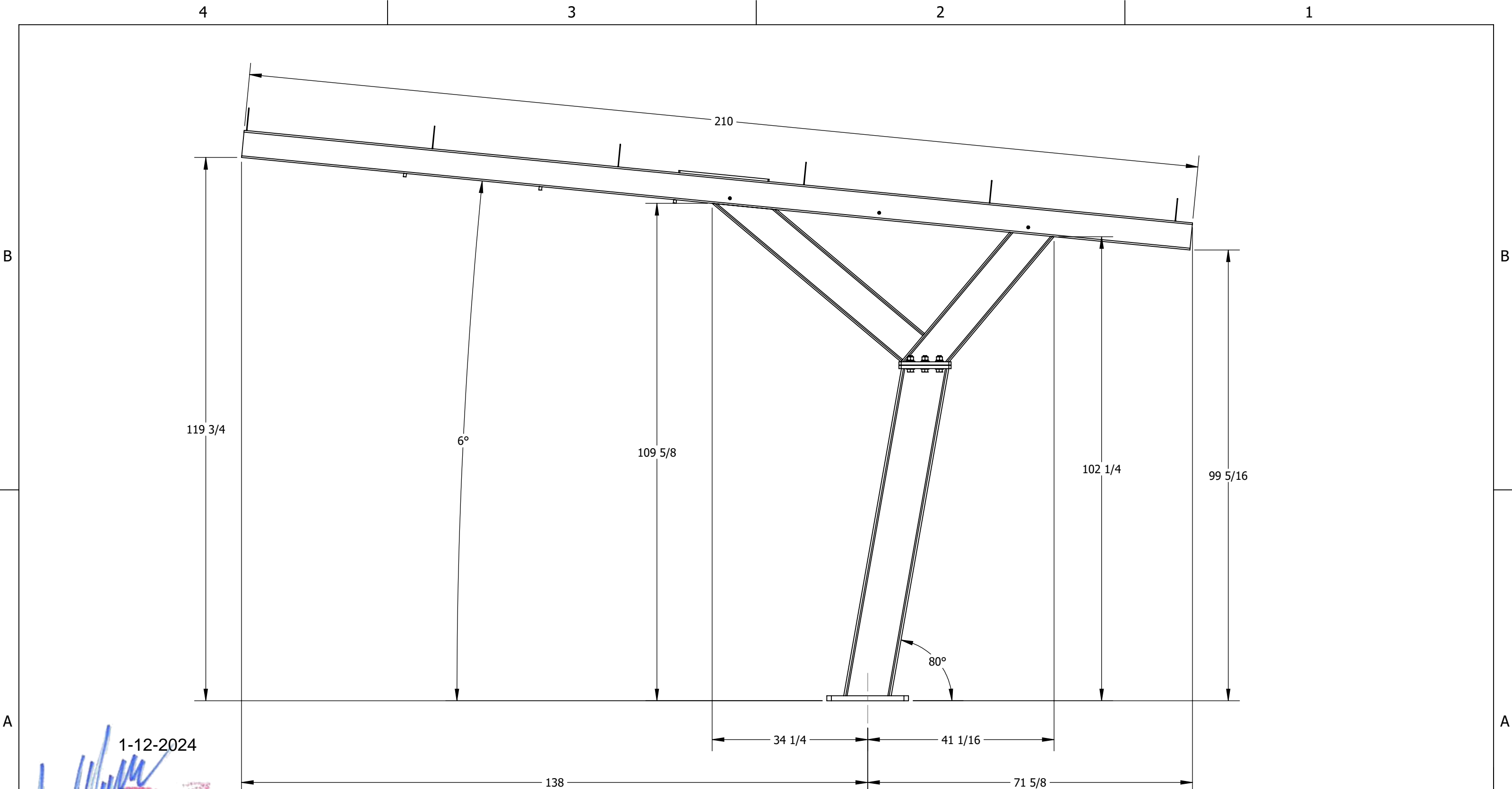
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	CLIENT ADDRESS PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	SCALE: NTS	WEIGHT: 691.7337 LBS	SHEET 1 OF 5



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 ANGULAR = ±.5°

CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS			
		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
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SCALE:	NTS	WEIGHT: 691.7337 LBS	SHEET 2 OF 5

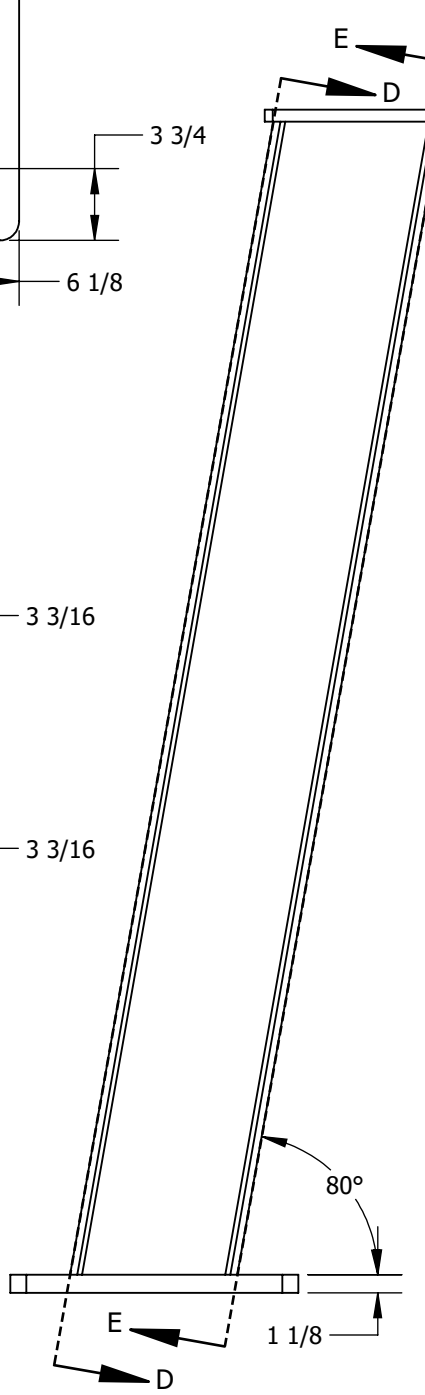
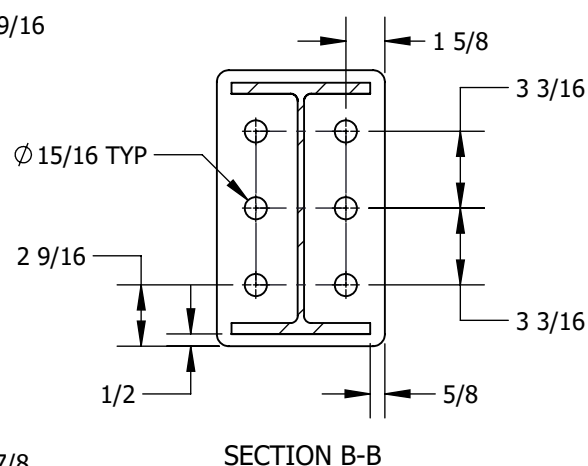
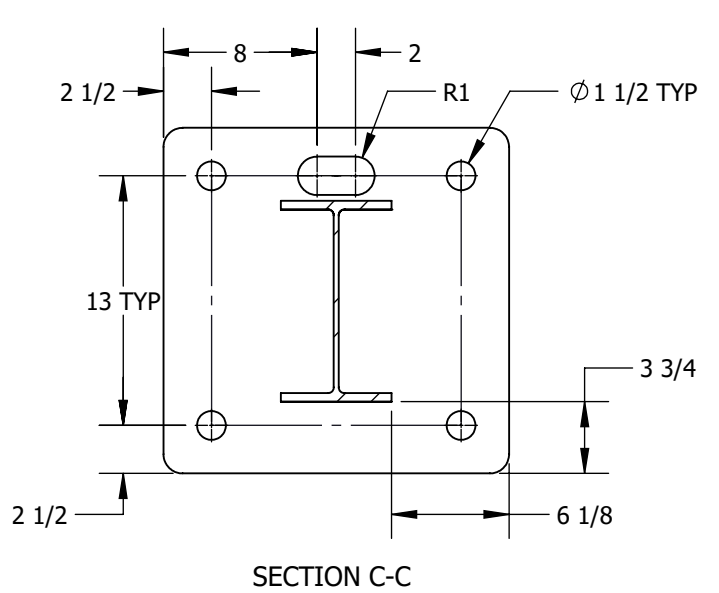
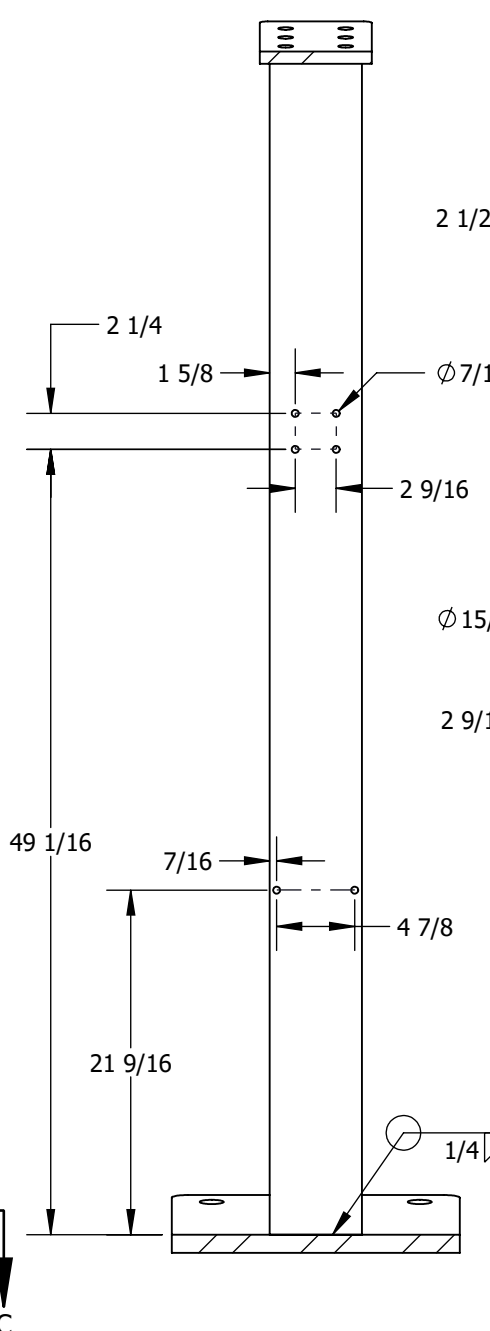
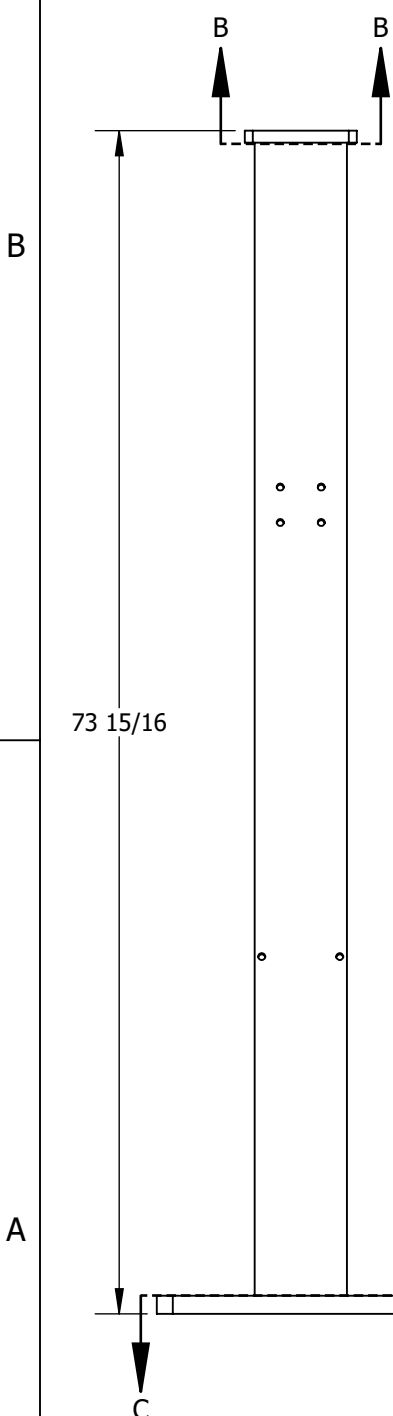
[Handwritten Signature]
 COLORADO LICENSED PROFESSIONAL ENGINEER
 ANDREW J. HUSEMANN
 43447
 Exp. 10/31/2025

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3

2

1



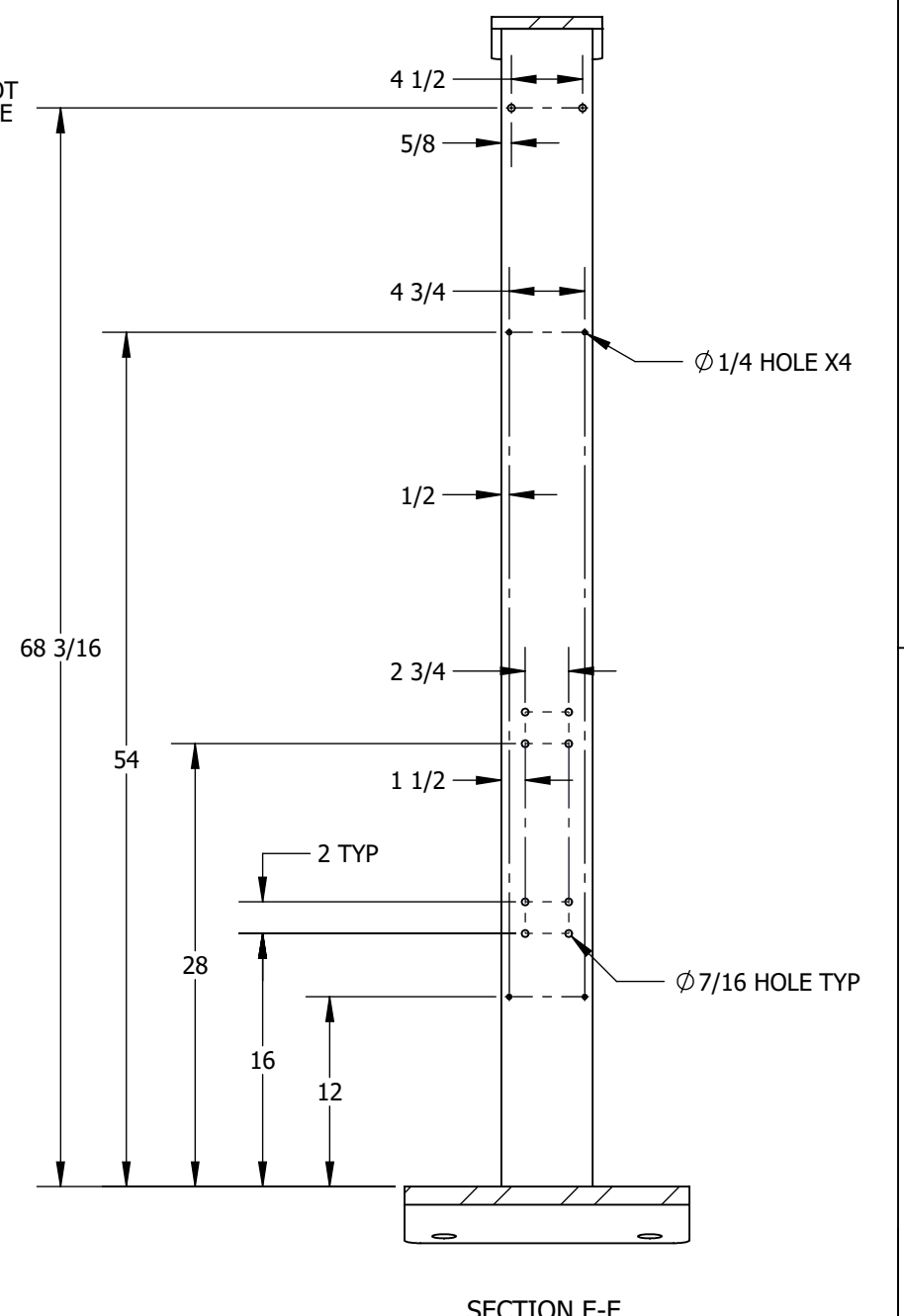
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ANDREW J. HUSEMAN
43447
PROFESSIONAL ENGINEER
COLORADO LICENSED

WELD SHALL NOT UNDERCUT EDGE OF FLANGE

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SML Starling Madison Lofquist, Inc.
3600 E. University Dr. Suite 1400
Phoenix, Arizona 85034
(602) 438-2500
fax. (602) 438-2505
JOB # 641-23

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND TOLERANCES ARE:
.X = ±.1
.XX = ±.01
.XXX = ±.005
FRACTION = ±1/16
ANGULAR = ±.5°

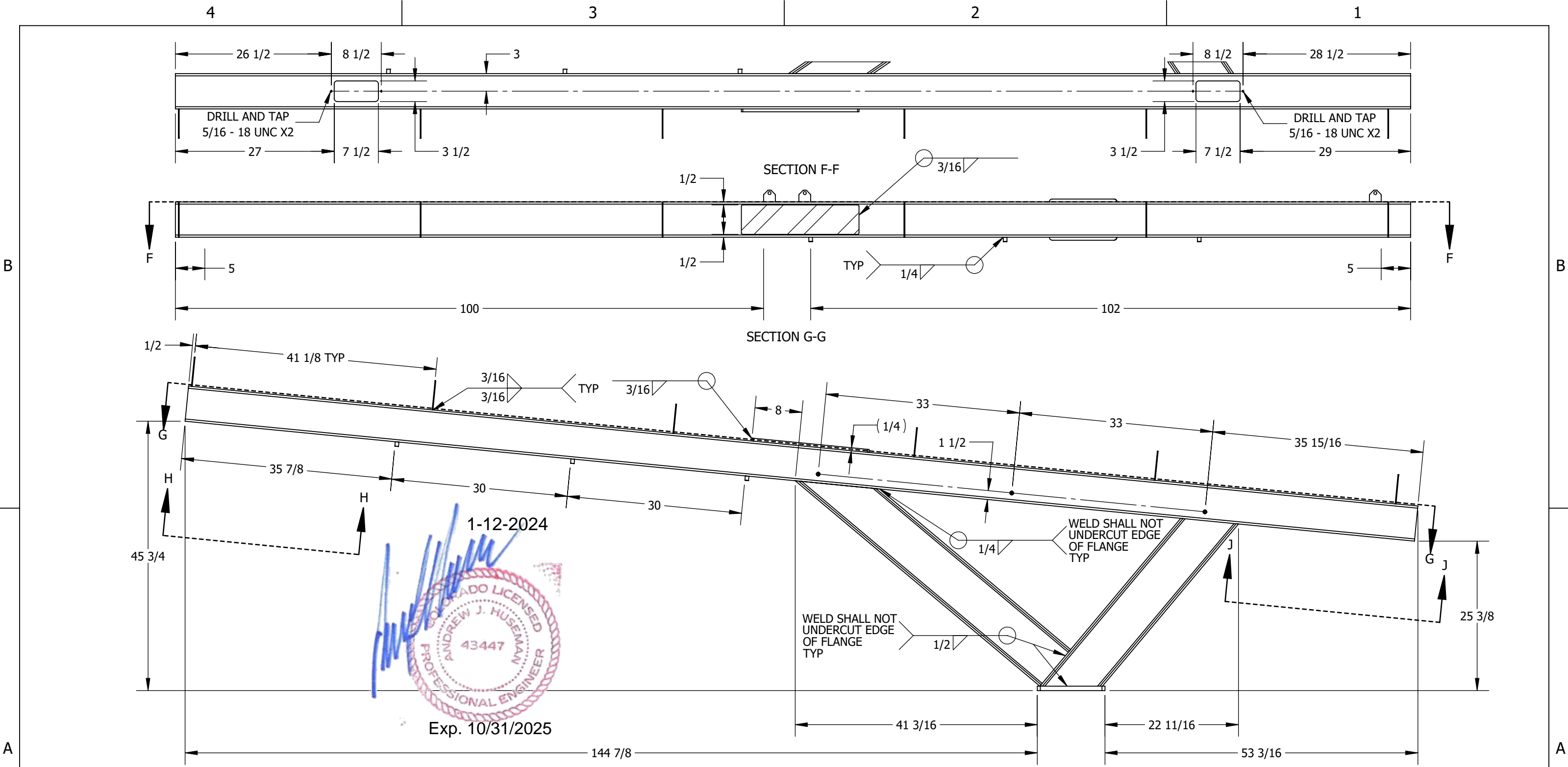
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CLIENT ADDRESS		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE	DRAWING NO.	REV
	B	117572-ENG3	0
SCALE:	NTS	WEIGHT: 691.7337 LBS	SHEET 3 OF 5

4

3

2

1



1-12-2024

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4

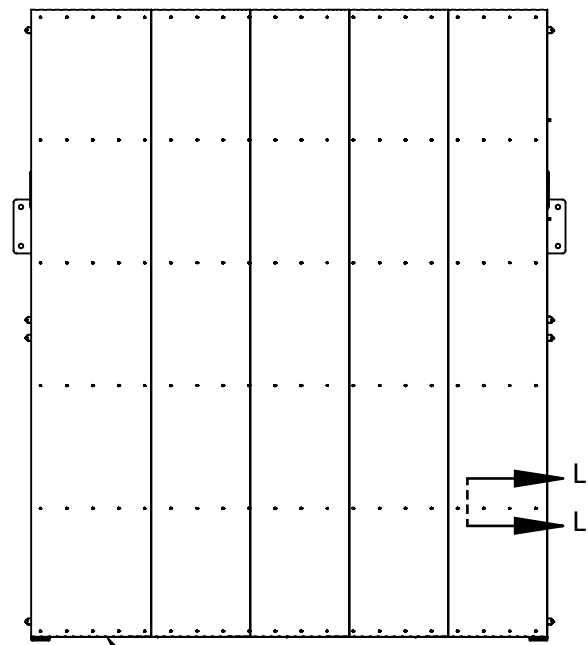
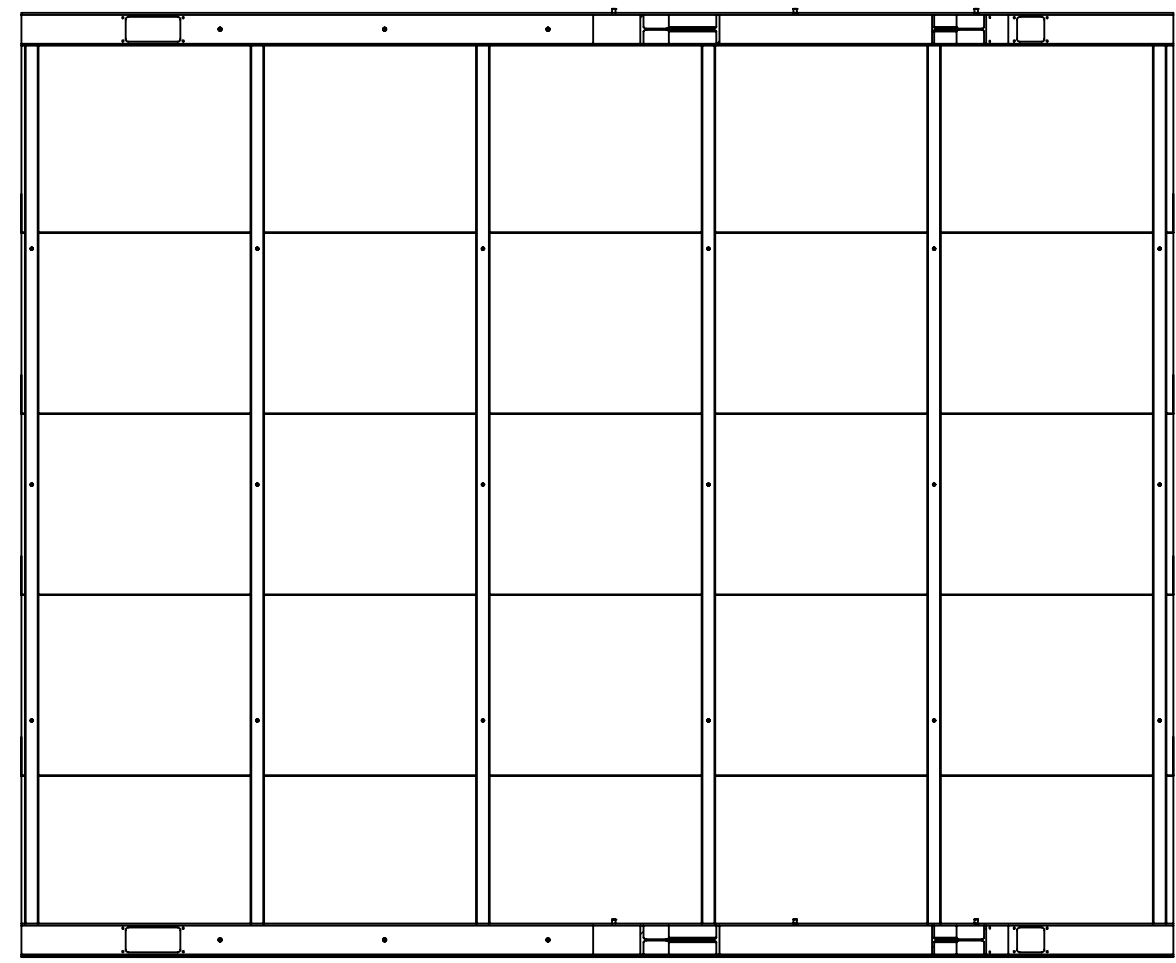
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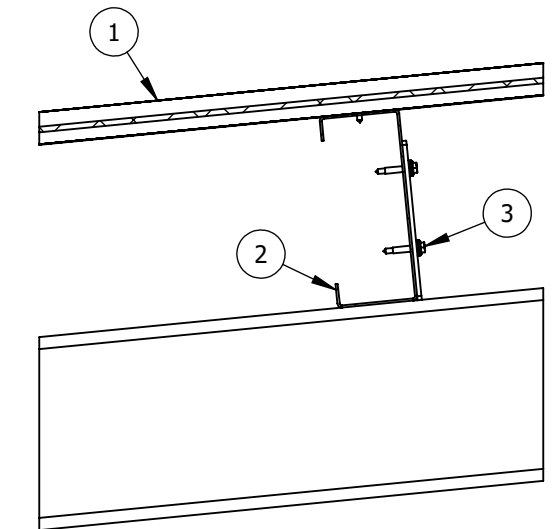
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PARTS LIST

	DESCRIPTION	MATERIAL	QTY
1	CORRUGATED STEEL PANEL, BERRIDGE DEEP - DECK PANEL - 22 GA (1.5" TALL)	STEEL	5
2	PURLIN, CEE, 6" X 2-1/2" X 14 GA WALL CUT TO 173"	ASTM A607 C1 GR55	6
3	SCREW, HEX HEAD, #10 - 3/4" SELF DRILLING W/ BONDED SEALING WASHER	Zn CS	48

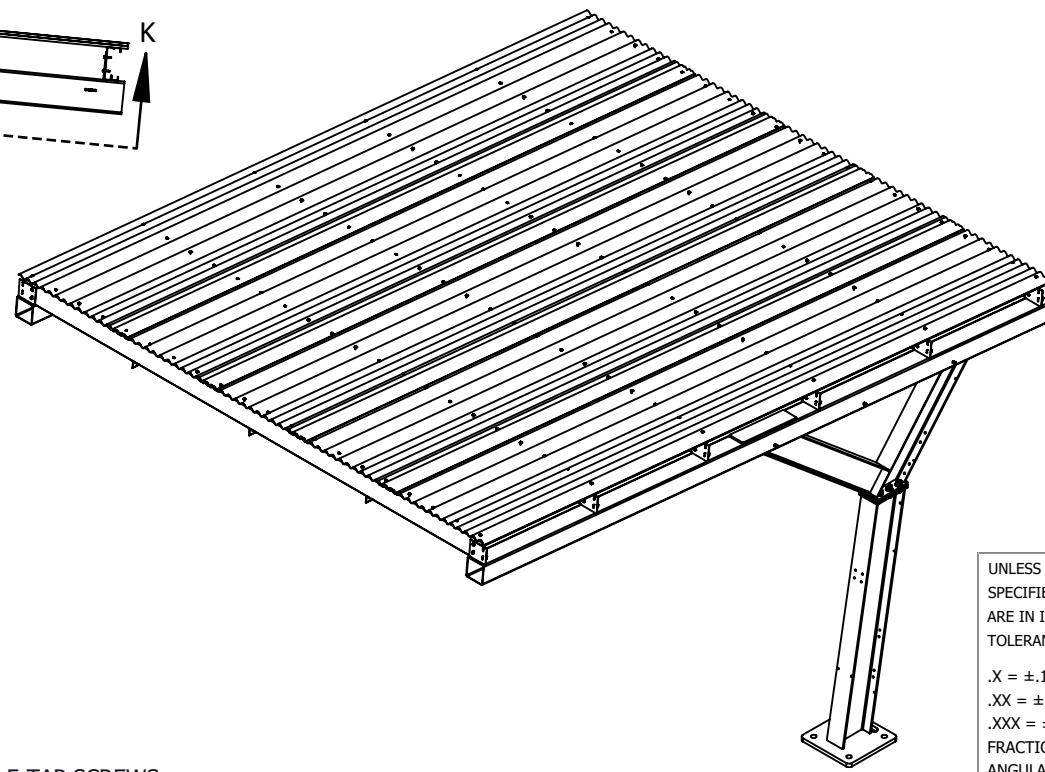
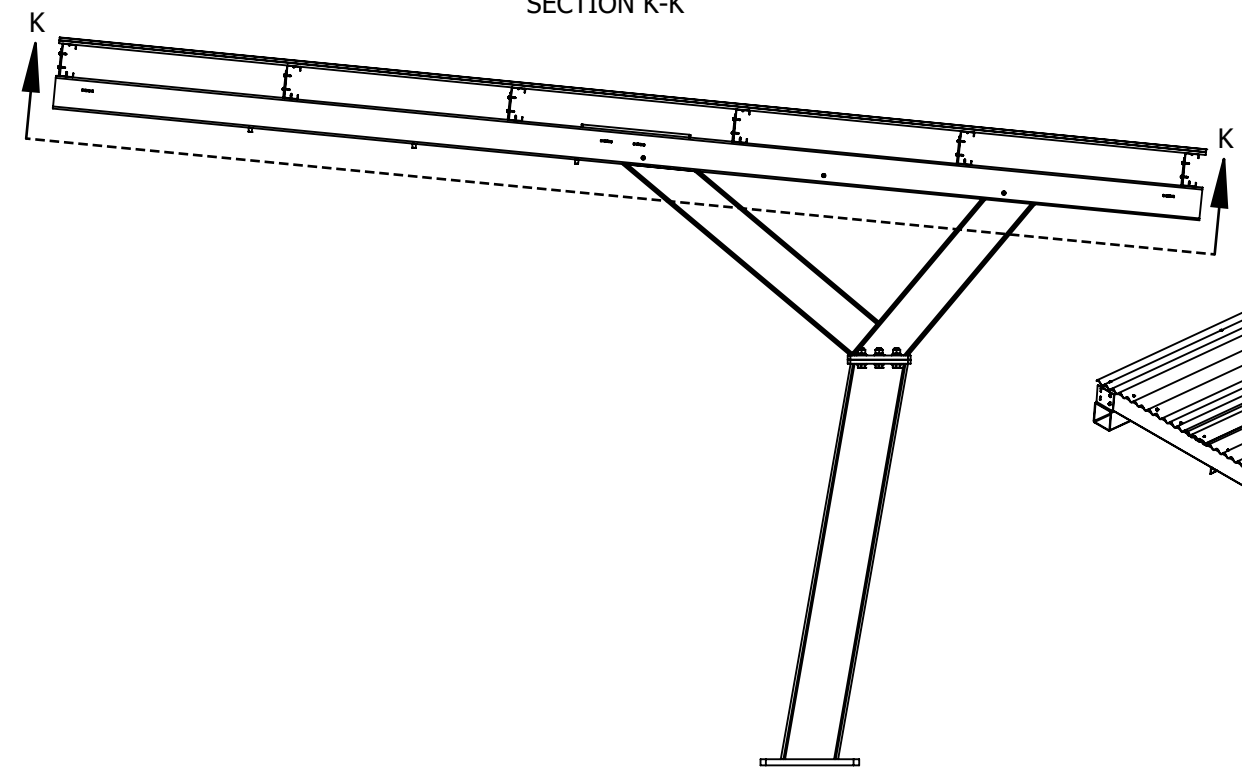


ATTACH CORRUGATED STEEL TO PURLINS USING # 12 STAINLESS HWH DRILL SCREWS (10) PER 36" PANEL, PER PURLIN, EQUALLY SPACED, ATTACH W/ 2 SCREWS AT EACH LOW FLUTE & SIDELAP W/ #12 STAINLESS DRILL SCREWS CONNECTIONS AT 12" O.C. WITH NEOPRENE WASHERS



SECTION L-L
PURLIN ATTACHMENT DETAIL
TYP

SECTION K-K



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GENERAL NOTES:
1. CORRUGATED STEEL PANELS TO BE INSTALLED PERPENDICULAR TO PURLINS USING SELF-DRILL/SELF-TAP SCREWS

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CLIENT NAME		COBBLESTONE	
CLIENT ADDRESS		PARKER ROAD & PINE LANE AVE. PARKER, COLORADO 80134	
	SIZE B	DRAWING NO. 117572-ENG3	REV 0
SCALE: NTS	WEIGHT: 691.7337 LBS	SHEET 5 OF 5	

4

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1