

6/5/2025 9:22:06 AM

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, producers, 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 producer 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 producer H.P. and voltage) to each VFD and from each VFD to producer 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 producer 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.

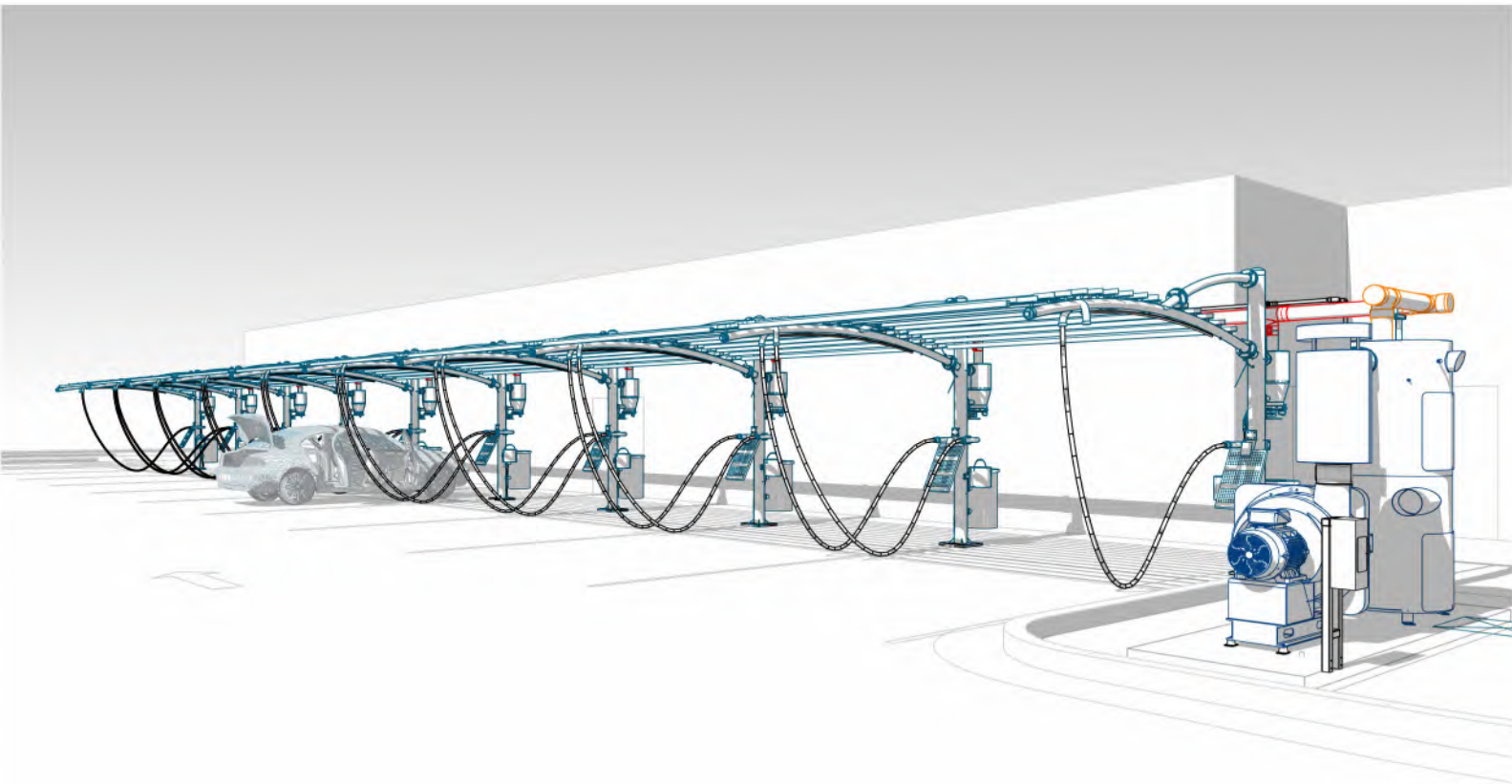
ADDITIONAL NOTES

VFD Systems:
Instructions for wiring VFD to producer 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.



VACUTECH

Elevation: 1,060' ASL AN **NCS** COMPANY

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VACUTECH
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CLUB CAR WASH

18318 EVANS ST.
OMAHA, NEBRASKA 68022

#	Revision	By	Chk	Date
1	REVISED DRAWINGS BY ADDING SQUARE TUBE TRELLIS AWNINGS AND 6" x 4" ALUMINUM SANITARY TEES, ALSO MADE THE POS ARCH 17' APART	TD	RY	10/3/24
2	PREPPED FOR ENGINEERING	JC	RY	5/29/25
3	ADDED ENGINEERING SPECIFICATIONS	RY	ML	6/5/25

COVER SHEET

Project Number	1521325
Date	8/15/24
Drawn By	FM
Checked By	TD

V001

GENERAL STRUCTURAL NOTES

DESIGN CRITERIA:

BUILDING CODE: INTERNATIONAL BUILDING CODE, 2018 EDITION (2018 IBC)

ROOF D.L. = 1.1 PSF (TRELLIS AWNING)
ROOF L.L. = 20 PSF
GROUND S.L. = 25 PSF

WIND:

BASIC WIND SPEED V = 105 MPH; ALLOWABLE WIND SPEED V ASD = 81.33 MPH
RISK CATEGORY = I; EXPOSURE = C

SEISMIC:

IMPORTANCE FACTOR, Ie = 1.0
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS S s = 0.075 S1 = 0.045
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS S DS = 0.08 SD1 = 0.071
SITE CLASS = D; SEISMIC DESIGN CATEGORY = B
SEISMIC RESISTING SYSTEM = STEEL ORDINARY CANTILEVER COLUMN SYSTEM
SEISMIC BASE SHEAR = (W x C s)
SEISMIC RESPONSE COEFFICIENT (C s) = 0.06
RESPONSE MODIFICATION FACTOR (R) = 1.25
ANALYSIS METHOD: EQUIVALENT LATERAL-FORCE PROCEDURE

ENGINEERING DESIGN PROVIDED BY OTHERS SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF NEBRASKA.

FOUNDATION:

FOOTINGS SHALL BE CONSTRUCTED IN UNDISTURBED SOIL. SOIL SHALL MEET THE FOLLOWING REQUIREMENTS:

- 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

PRESUMPTIVE LOAD BEARING VALUES WERE UTILIZED FOR THE FOUNDATION DESIGN. A SITE-SPECIFIC GEOTECHNICAL EVALUATION HAS NOT BEEN COMPLETED FOR THIS PROJECT. SML ENGINEERS ASSUMES NO LIABILITY WITH REGARD TO DIFFERENTIAL SETTLEMENT THAT COULD RESULT FROM FROST HEAVE OR THE PRESENCE OF EXPANSIVE OR COLLAPSIBLE SOILS. THIS STRUCTURE CAN TOLERATE SIGNIFICANT FOUNDATION MOVEMENT WITH A LITTLE EFFECT ON ITS INTEGRITY AND WITHOUT PRESENTING ANY UNDUE LIFE SAFETY HAZARDS.

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:

- STEEL CONSTRUCTION PER IBC 1705.2 & IBC 1705.12.1
 - FABRICATOR DOCUMENTATION
 - HIGH STRENGTH BOLTING – PERIODIC
- CONCRETE CONSTRUCTION: TABLE 1705.3
 - INSPECTION OF REINFORCEMENT AND VERIFICATION OF PLACEMENT.
 - INSPECTION OF ANCHORS CAST IN CONCRETE.
 - VERIFY USE OF REQUIRED DESIGN MIX.

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.
 - CONCRETE EXPOSED TO FREEZE/THAW CYCLES
 - LIMITED EXPOSURE TO WATER CONCRETE STRENGTH = 4,000 PSI., AIR ENTRAINMENT= 6% & W/CM= 0.55 (EXPOSURE CATEGORY F1)
 - FREQUENT EXPOSURE TO WATER MIN CONCRETE STRENGTH = 4,500 PSI, AIR ENTRAINMENT= 7.5% & W/CM= 0.45 (EXPOSURE CATEGORY F2)
 - LIMITED OR FREQUENT EXPOSURE TO WATER
 - 4000 PSI W/OUT FREEZE/THAW EXPOSURE OR CHLORIDES. (EXPOSURE CATEGORY C1)
 - W/ CHLORIDES (SUCH AS BRACKISH OR SALTWATER) =5,000 PSI. (EXPOSURE CATEGORY C2)
 - 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.

DRYPACK: NON-SHRINK NON-METALLIC GROUT.
MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 2 DAYS.
PLACE UNDER BEARING PLATES BEFORE INSTALLING FRAMING MEMBERS.

REINFORCING:

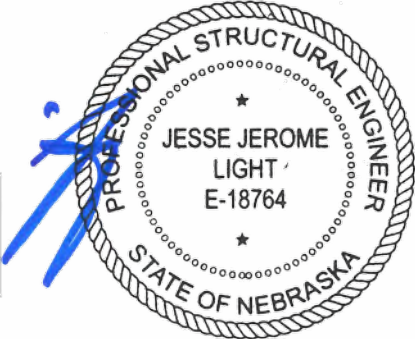
ASTM A615, GRADE 60 DEFORMED BARS. DETAIL PER LATEST A.C.I. CODE AND DETAILING MANUAL. PLACE REBAR PER C.R.S.I. STANDARDS.

**** 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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Consulting Structural and Forensic Engineers
JOB # 25-0333



Exp: 12/31/2026

6/6/2025

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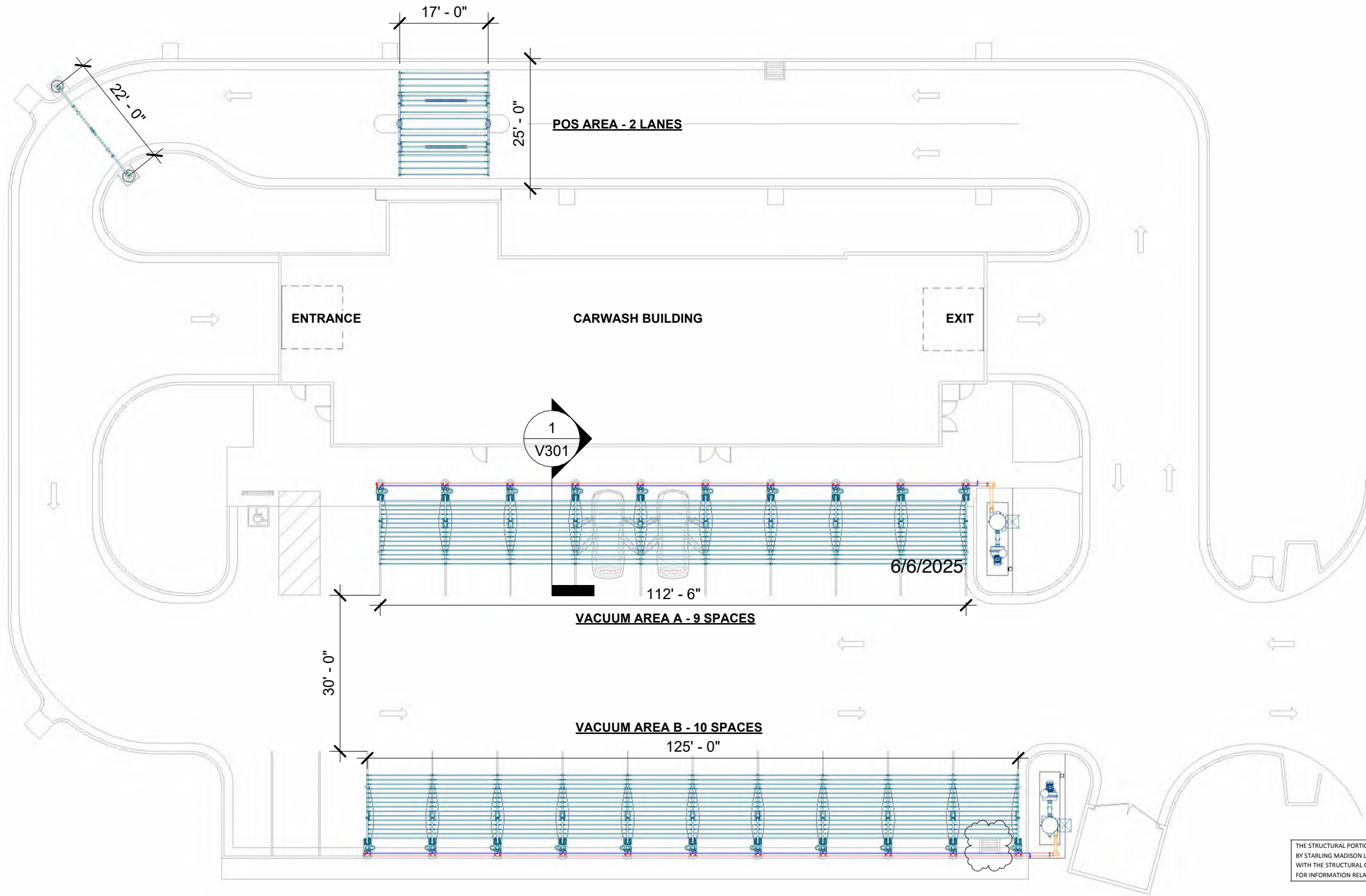
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3	ADDED ENGINEERING SPECIFICATIONS	RY	ML	6/5/25

GENERAL STRUCT. NOTES

Project Number	1521325
Date	8/15/24
Drawn By	JC
Checked By	RY

V002



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
- BOTH A & B 14'Lx4'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT
- 30"x30" MINIMUM SPACE REQUIRED TO REMOVE DEBRIS BUCKET FROM FILTER SEPARATOR

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

- | | |
|----|------------------------------------|
| 1 | 22' CAMERA ARCH |
| 2 | 10' FULL POS ARCH, TRELLIS |
| 2 | 8' POS LED LIGHT W/ CROSSBAR MOUNT |
| 18 | SQUARE TUBE CROSSBAR |

THE STORM DRAIN IS OBSTRUCTING THE MONOLITHIC FOOTING.

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JOB # 25-0333

6/6/2025
PROFESSIONAL STRUCTURAL ENGINEER
JESSE JEROME
LIGHT
E-18764
STATE OF NEBRASKA
Exp: 12/31/2026

1 OVERALL SITE PLAN

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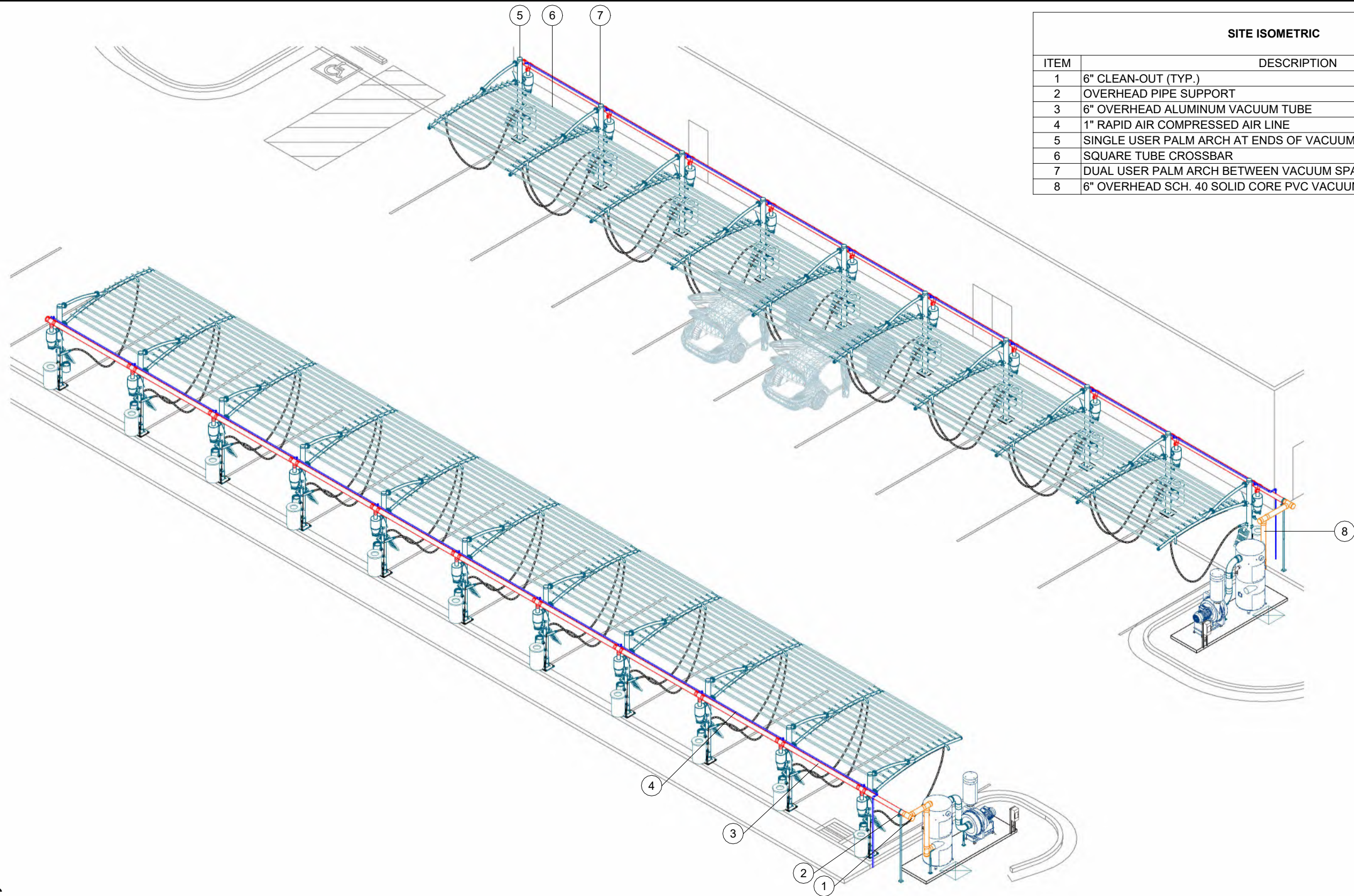
CLUB CAR WASH
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3	ADDED ENGINEERING SPECIFICATIONS	RY	ML	6/5/25

OVERALL SITE PLAN

Project Number 1521325
Date 8/15/24
Drawn By FM
Checked By TD

V101



SITE ISOMETRIC	
ITEM	DESCRIPTION
1	6" CLEAN-OUT (TYP.)
2	OVERHEAD PIPE SUPPORT
3	6" OVERHEAD ALUMINUM VACUUM TUBE
4	1" RAPID AIR COMPRESSED AIR LINE
5	SINGLE USER PALM ARCH AT ENDS OF VACUUM SPACES
6	SQUARE TUBE CROSSBAR
7	DUAL USER PALM ARCH BETWEEN VACUUM SPACES
8	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE

1 SITE ISOMETRIC

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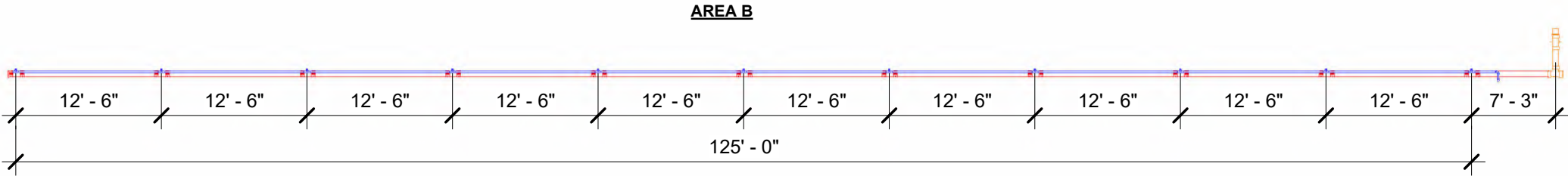
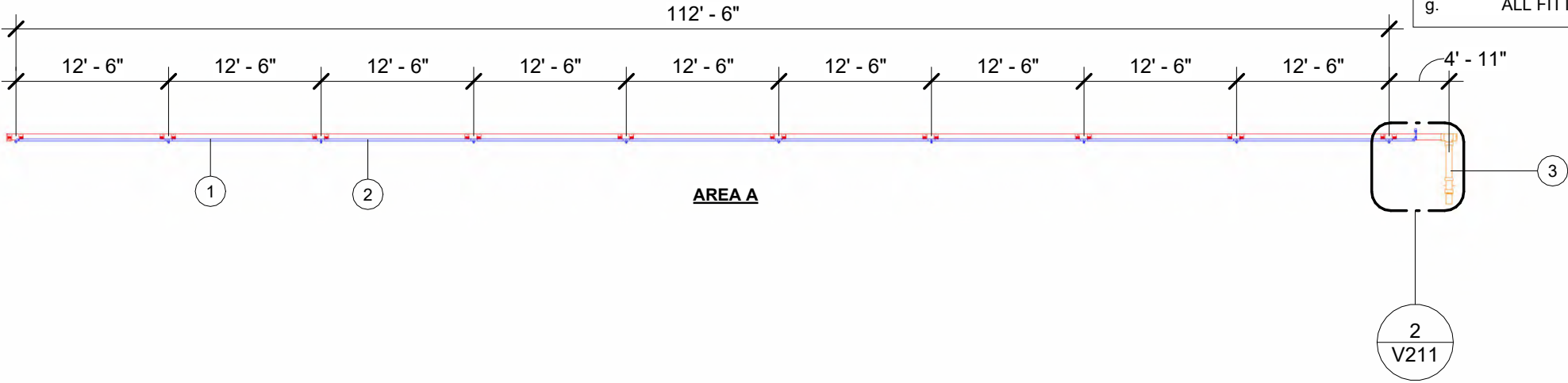
VACUUM SITE ISOMETRIC

Project Number	1521325
Date	8/15/24
Drawn By	FM
Checked By	TD

V121

PIPE LAYOUT	
ITEM	DESCRIPTION
1	6" OVERHEAD ALUMINUM VACUUM TUBE
2	1" RAPID AIR COMPRESSED AIR LINE
3	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE

- 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 PIPE LAYOUT

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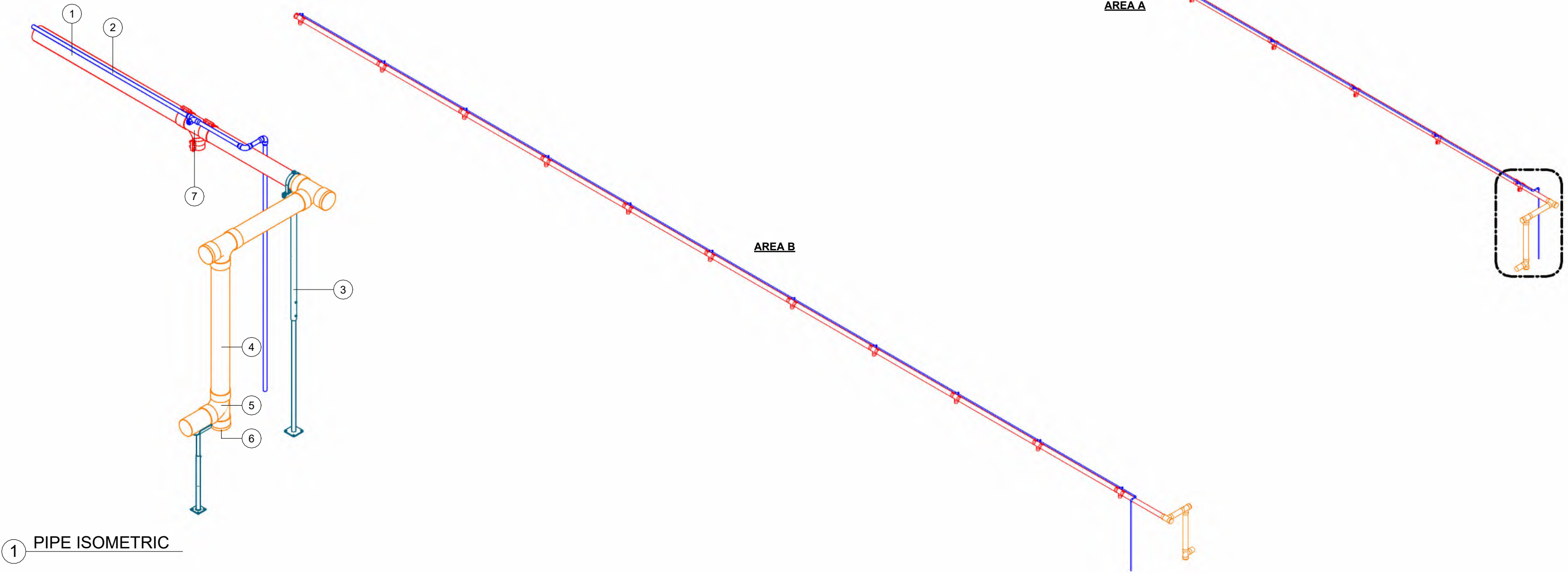
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PIPE LAYOUT		
Project Number	1521325	V201
Date	8/15/24	
Drawn By	RY	
Checked By	TD	

PIPE ISOMETRIC	
ITEM	DESCRIPTION
1	6" OVERHEAD ALUMINUM VACUUM TUBE
2	1" RAPID AIR COMPRESSED AIR LINE
3	OVERHEAD PIPE SUPPORT
4	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE
5	6" PVC SANITARY TEE
6	6" CLEAN-OUT (TYP.)
7	6"x4" ALUMINUM SANITARY TEE

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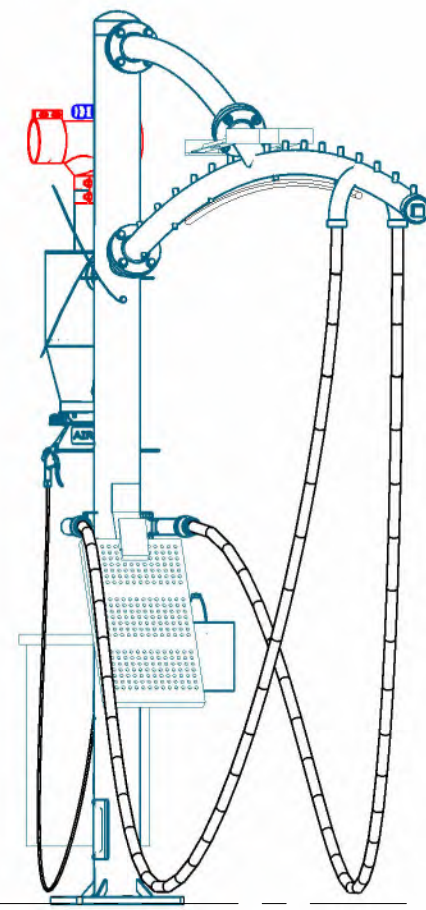
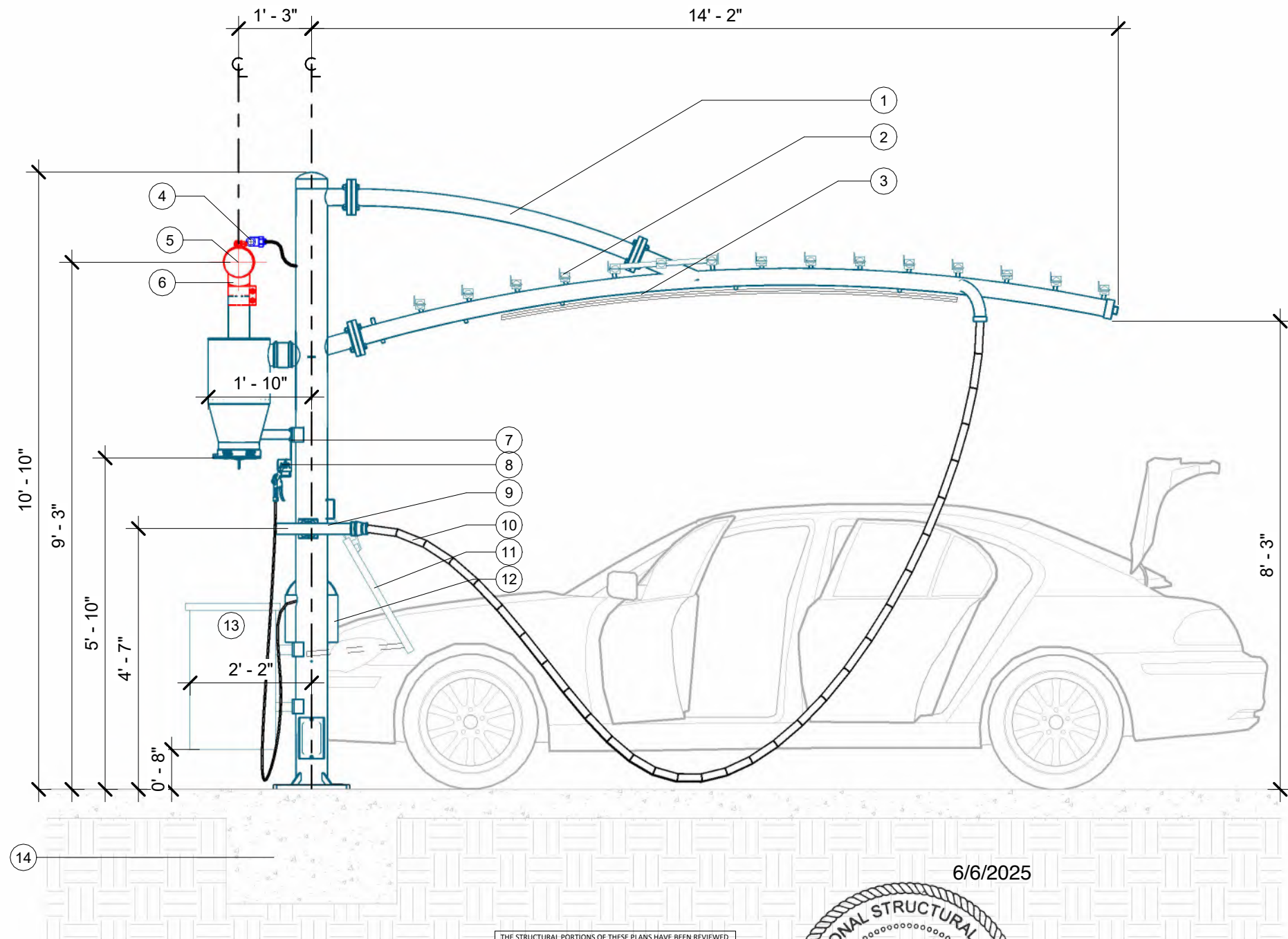
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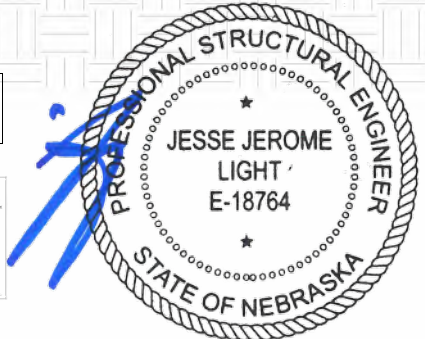
V211



F.G.
0' - 0"

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Consulting Structural and
Forensic Engineers



Exp: 12/31/2026

PARKING ELEVATION	
ITEM	DESCRIPTION
1	DUAL USER PALM ARCH
2	SQUARE TUBE CROSSBAR
3	8' LED LIGHT (BY OTHERS)
4	1" RAPID AIR COMPRESSED AIR LINE
5	6" OVERHEAD ALUMINUM VACUUM TUBE
6	6"x4" ALUMINUM SANITARY TEE
7	AIR TOOL HANGER
8	AIR NOZZLE & HOSE
9	CREVICE VACUUM TOOL
10	1-1/2"x15' RAPIDLOCK HOSE
11	13" MAT RACK W/ DOOR PROTECTION
12	TIGER TOWEL BIN
13	30 GALLON WASTE RECEPTACLE
14	MONOLITHIC FOOTING

1 PARKING ELEVATION

VACUTECH

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

CLUB CAR WASH

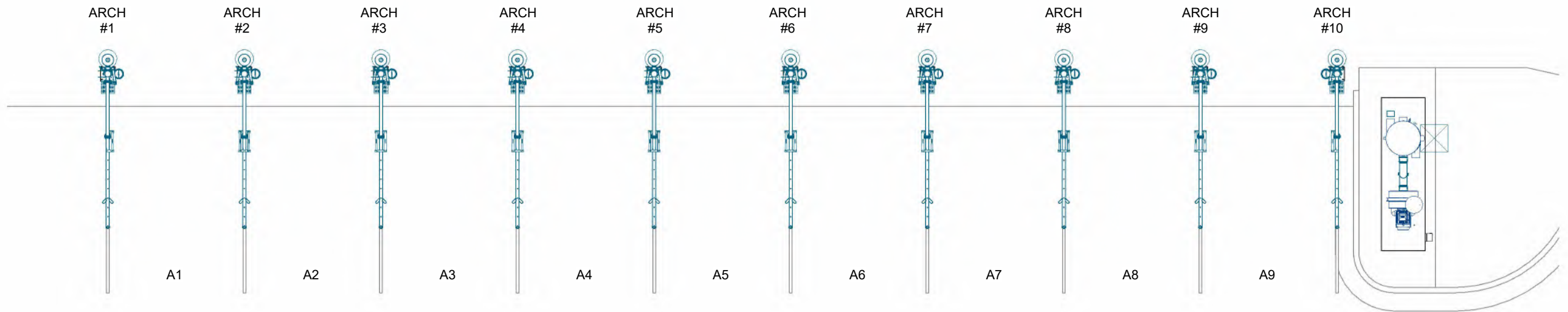
18318 EVANS ST.
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#	Revision	By	Chk	Date
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2	PREPPED FOR ENGINEERING	JC	RY	5/29/25
3	ADDED ENGINEERING SPECIFICATIONS	RY	ML	6/5/25

PARKING ELEVATION

Project Number	1521325
Date	8/15/24
Drawn By	RY
Checked By	TD

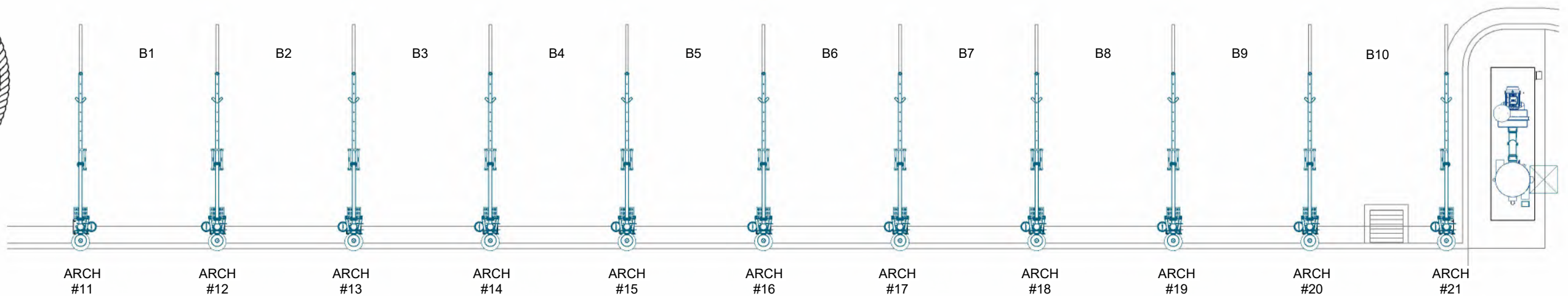
V301



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Fax: (602) 438-2505
Consulting Structural and
Forensic Engineers
JOB # 25-0333

6/6/2025



1 ARCH NUMBERING PLAN

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OMAHA, NEBRASKA 68022

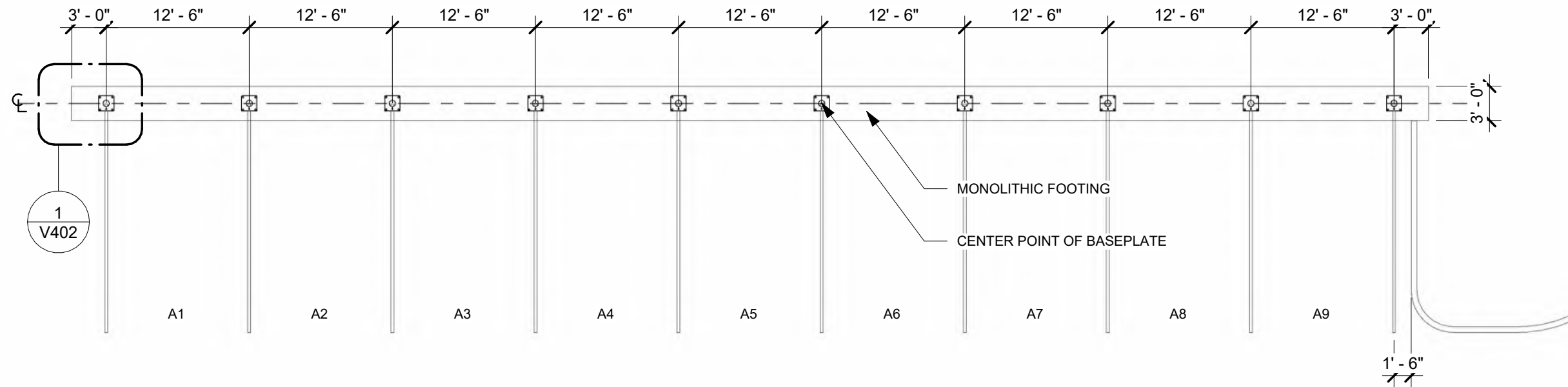
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ARCH NUMBERING PLAN

Project Number	1521325
Date	8/15/24
Drawn By	RY
Checked By	TD

V311

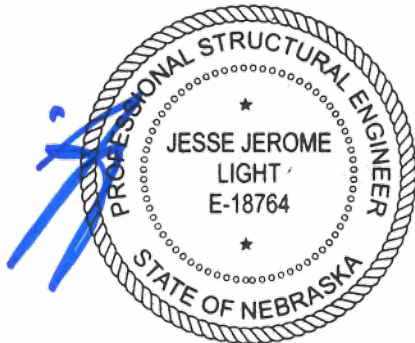
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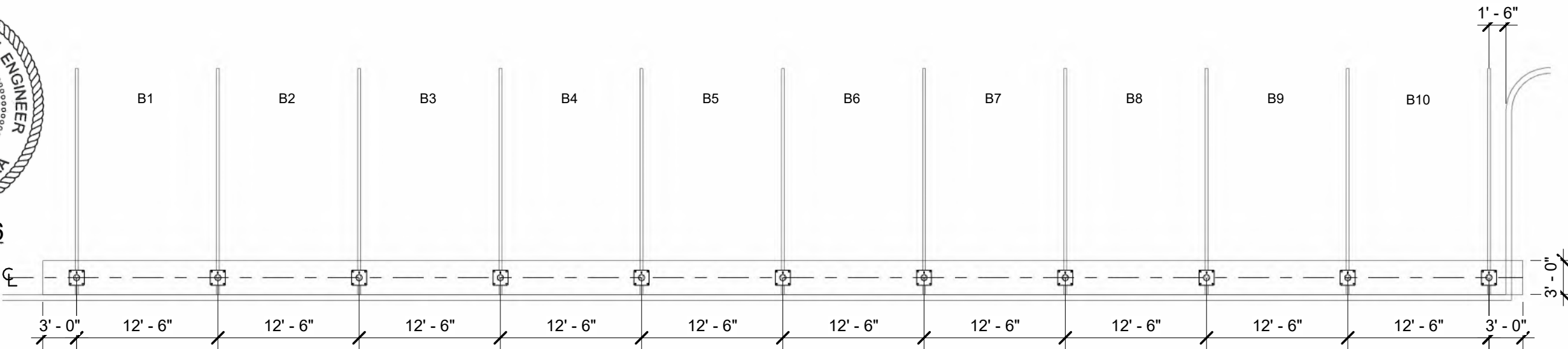
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6/6/2025



Exp: 12/31/2026



1 FOOTING LOCATION PLAN

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FOOTING LOCATION PLAN

Project Number	1521325
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Checked By	TD

V401

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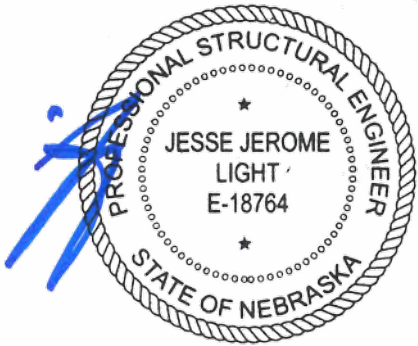
fax: (602) 438-2505

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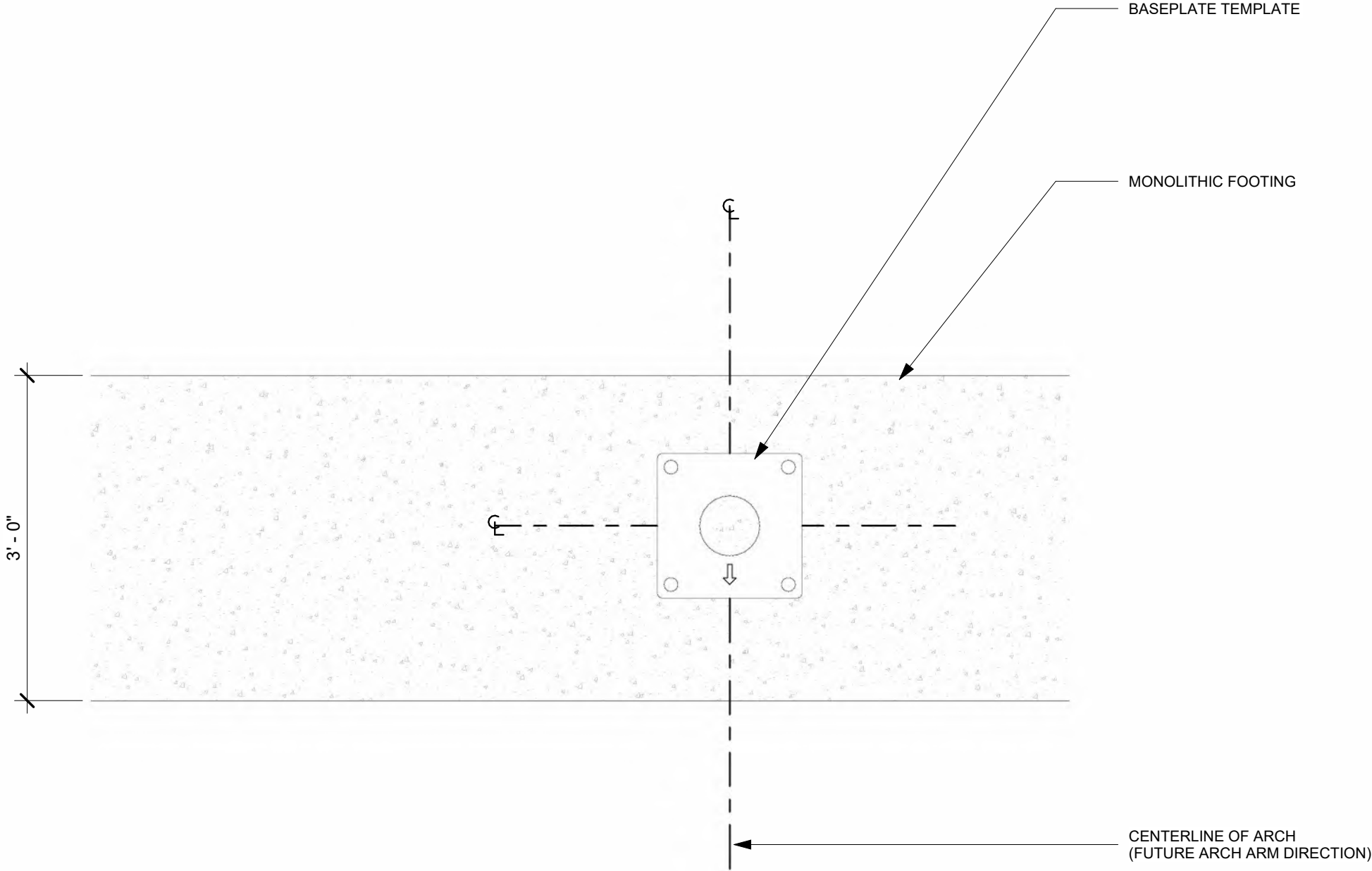
Forensic Engineers

JOB # 25-0333

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1 BASEPLATE TEMPLATE ORIENTATION

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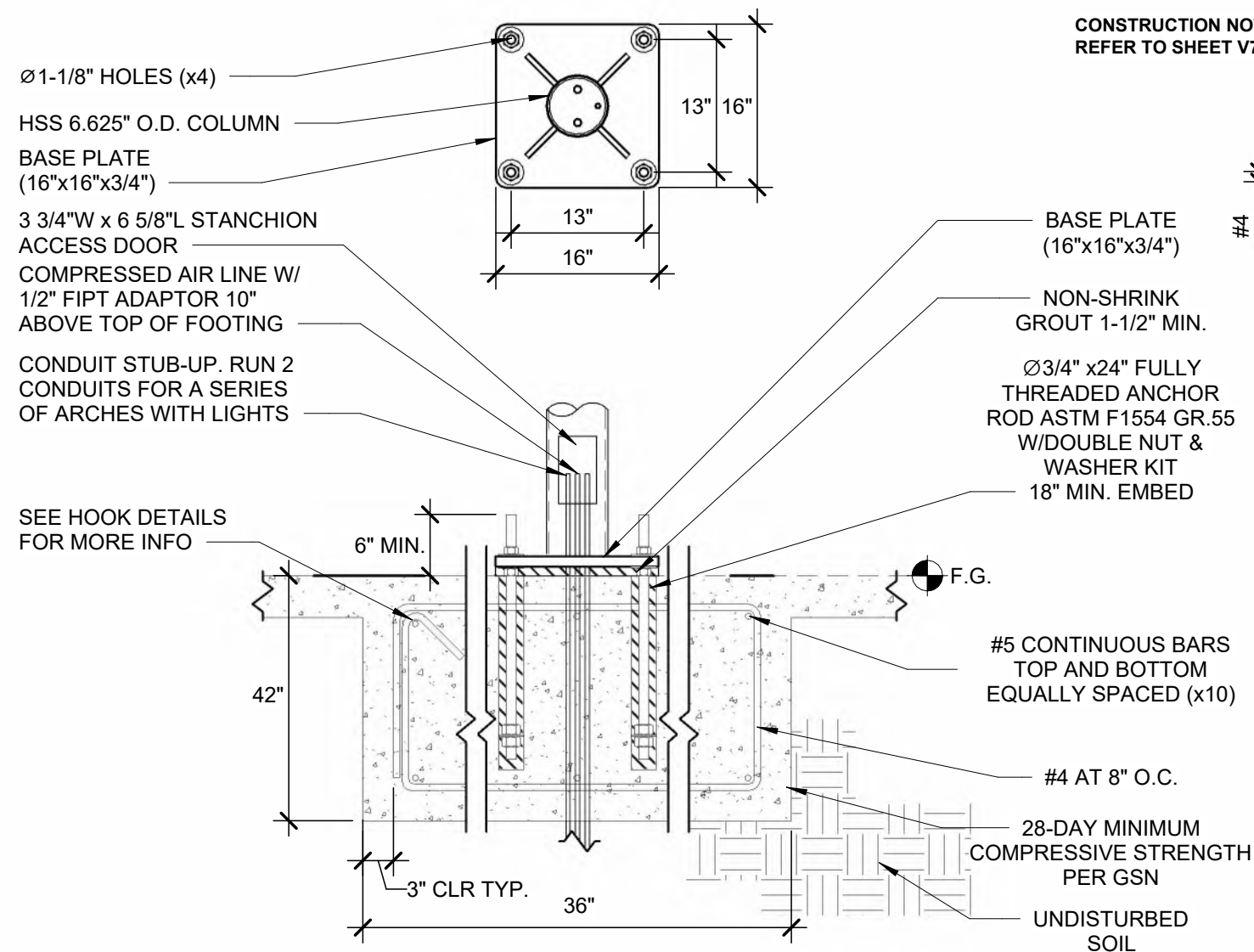
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BASEPLATE TEMPLATE

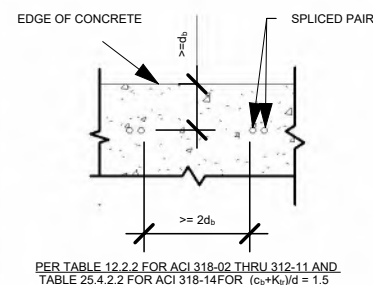
Project Number	1521325
Date	8/15/24
Drawn By	RY
Checked By	TD

V402

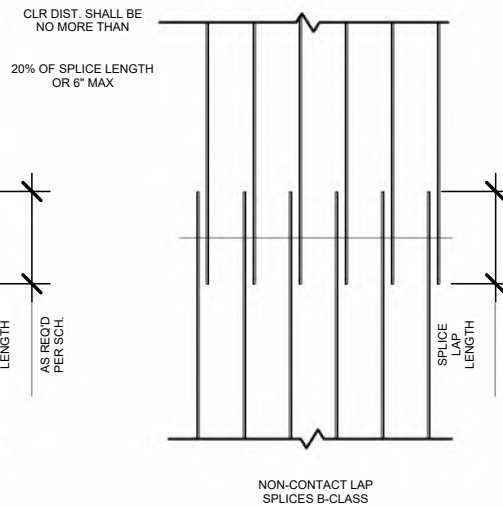
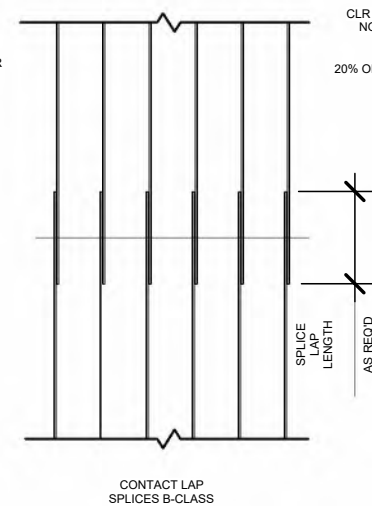


SPLICE DETAILS

TENSION LAP SPlice LENGTHS FOR UNCOATED BARS IN NORMAL WEIGHT CONCRETE WITH NO MORE THAN 12" OF CONCRETE BELOW HORIZ. REINF. BASED ON ACI 318-02 THRU 318-11 SECTION 12.2 AND 318-14 SECTION 25.4 FOR (C _b +K _{tr})/d = 1.5							
CONC. PSI			f _c (PSI)				
			3,000	3,500	4,000	4,500	5,000
SPlice TYPE			CLASS B	CLASS B	CLASS B	CLASS B	CLASS B
SIZE	d _b	2d _b					
#4 (60ksi)	0.5"	1.0"	30"	29"	26"	24"	24"
#5 (60ksi)	0.625"	1.25"	37"	34"	32"	30"	29"
#6 (60ksi)	0.75"	1.5"	43"	41"	38"	36"	34"



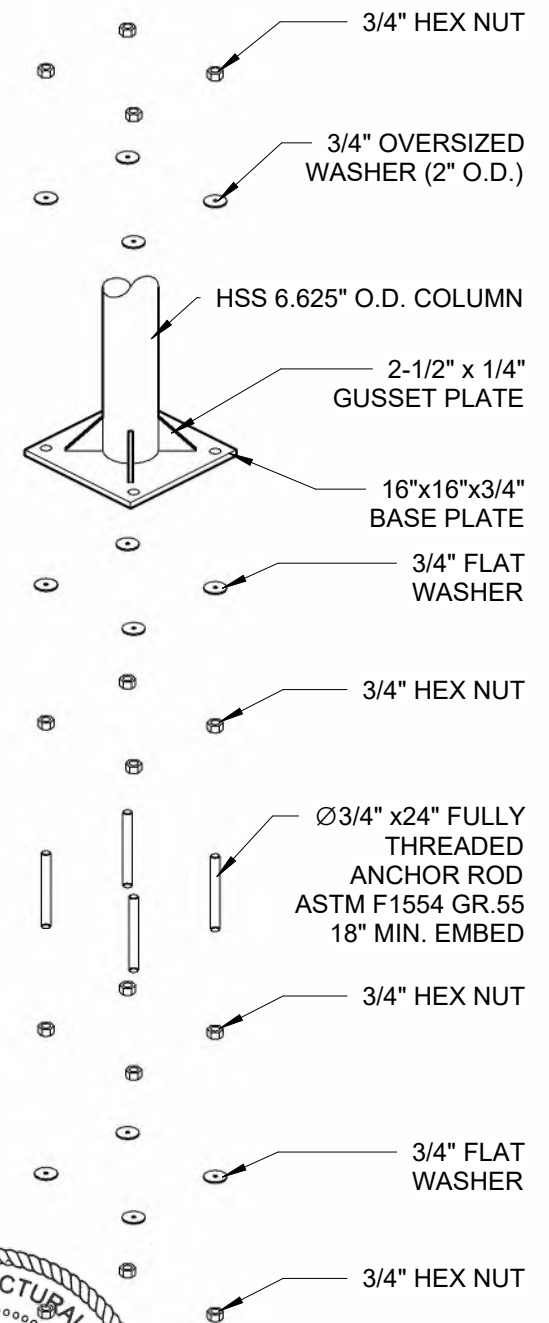
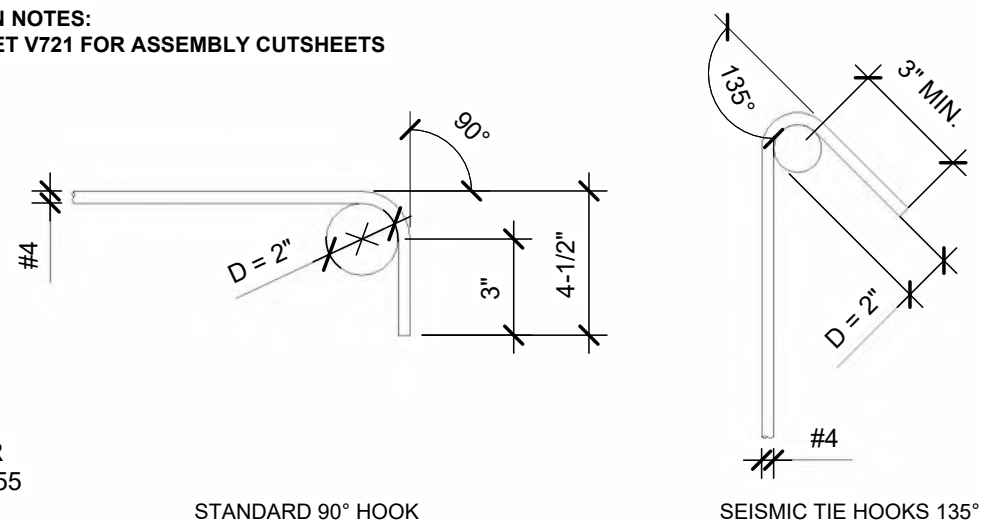
PER TABLE 12.2.2 FOR ACI 318-02 THRU 312-11 AND
TABLE 25.4.2.2 FOR ACI 318-14 FOR $(c_b + K_{tr})/d = 1.5$



NOTE:

1. MONOLITHIC FOOTING SHALL BE CONTINUOUS BETWEEN VACUUM CANOPY COLUMNS
2. MONOLITHIC FOOTING SHALL EXTEND PAST THE LAST CANOPY COLUMN A MINIMUM DISTANCE EQUAL TO THE FOOTING WIDTH ON EACH END, MEASURED FROM THE COLUMN CENTER.

HOOK DETAILS



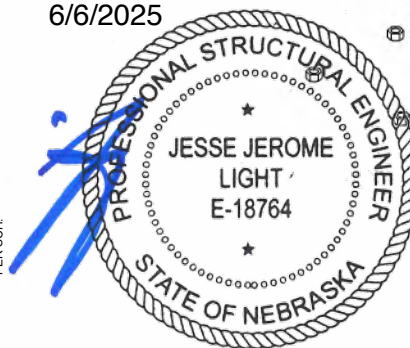
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fax. (602) 438-2505

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JOB # 25-0333

6/6/2025

Exp: 12/31/2026

1 MONOLITHIC FOOTING - PALM ARCH - SCH. 40 - ANCHOR RODS

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CLUB CAR WASH

18318 EVANS ST.
OMAHA, NEBRASKA 68022

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3	ADDED ENGINEERING SPECIFICATIONS	RY	ML	6/5/21

FOOTING DETAIL


Project Number	1521325
Date	8/15/24
Drawn By	RY
Checked By	TD

V411

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6/6/2025



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JOB # 25-0333

<h1>POS FOOTING DETAIL</h1>		<h1>V421</h1>
Project Number	1521325	
Date	8/15/24	
Drawn By	RY	
Checked By	TD	

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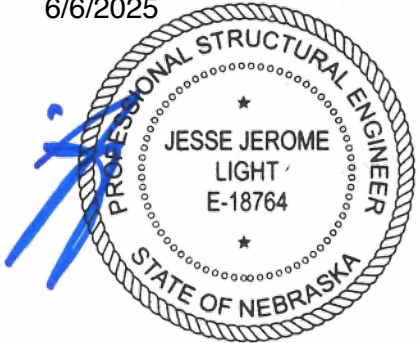
POS AREA

QTY	ITEM
1	22' CAMERA ARCH
2	10' FULL POS ARCH, TRELLIS
2	8' POS LED LIGHT W/ CROSSBAR MOUNT
18	SQUARE TUBE CROSSBAR

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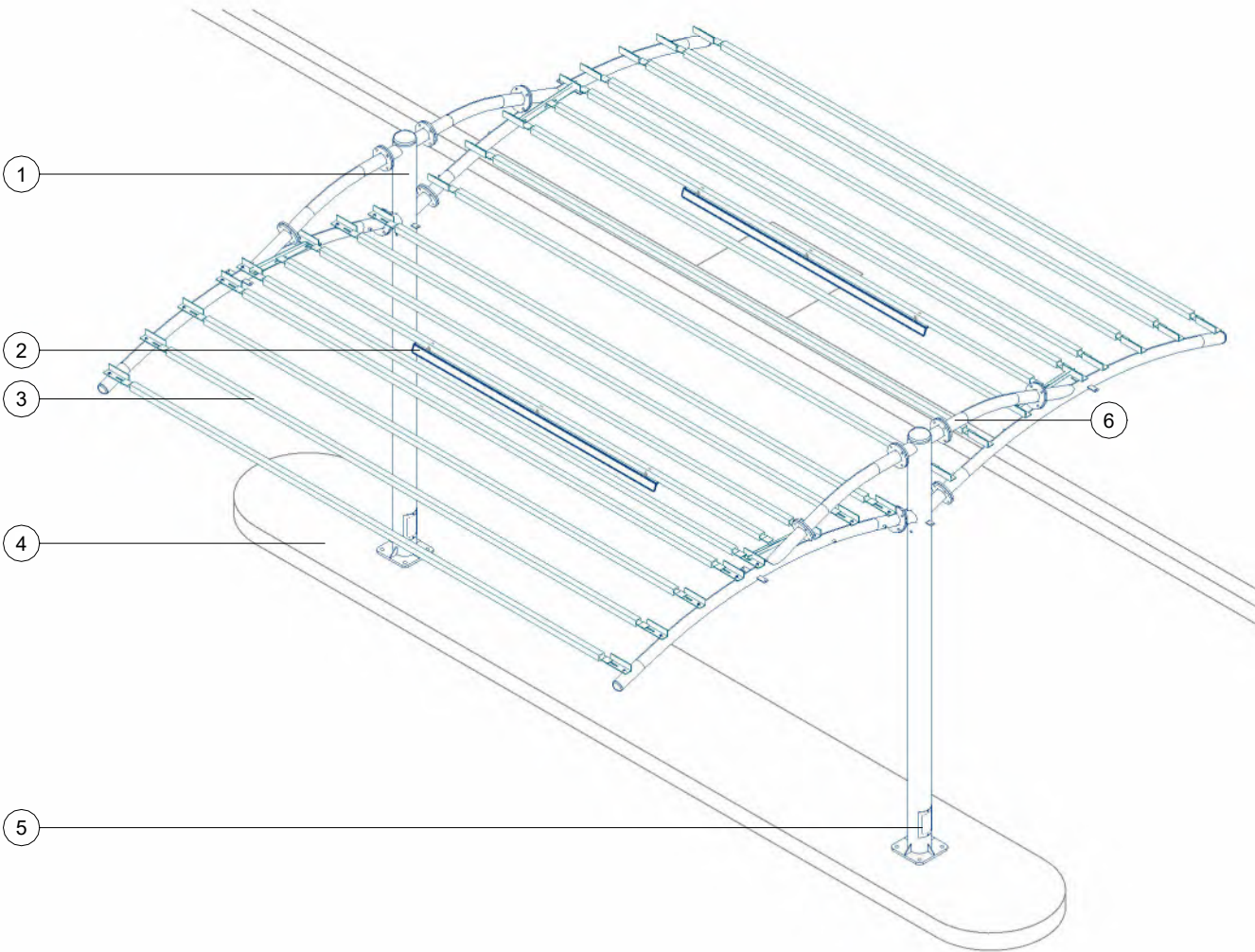
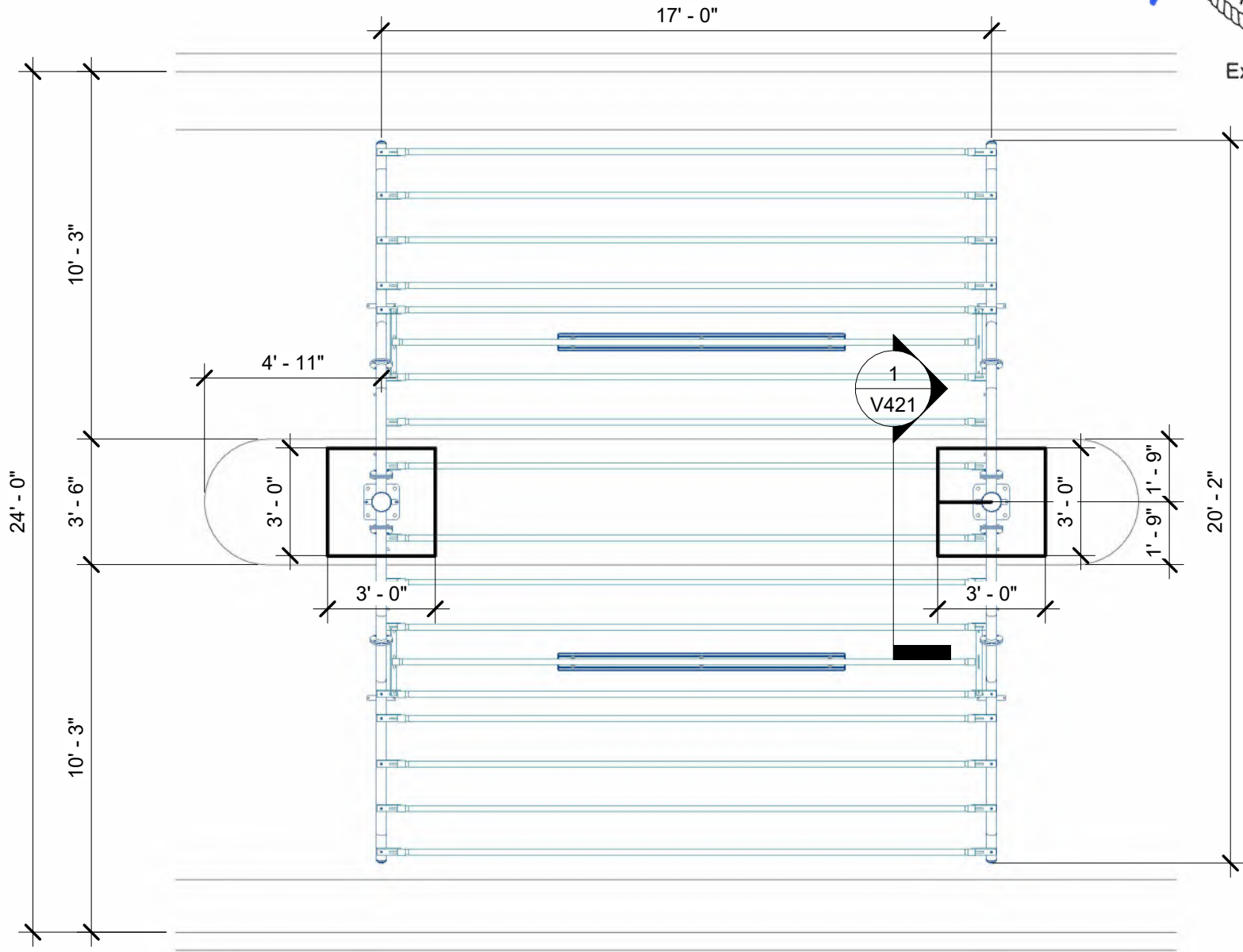


Exp: 12/31/2026

POS SITE ISOMETRIC

ITEM	DESCRIPTION
1	POS ARCH
2	8' POS LED LIGHT W/ CROSSBAR MOUNT
3	SQUARE TUBE CROSSBAR
4	POS ISLAND
5	ELECTRICAL ACCESS DOOR
6	CURB

FIELD VERIFY ALL DIMENSIONS



1 POS AREA

2 POS ISOMETRIC

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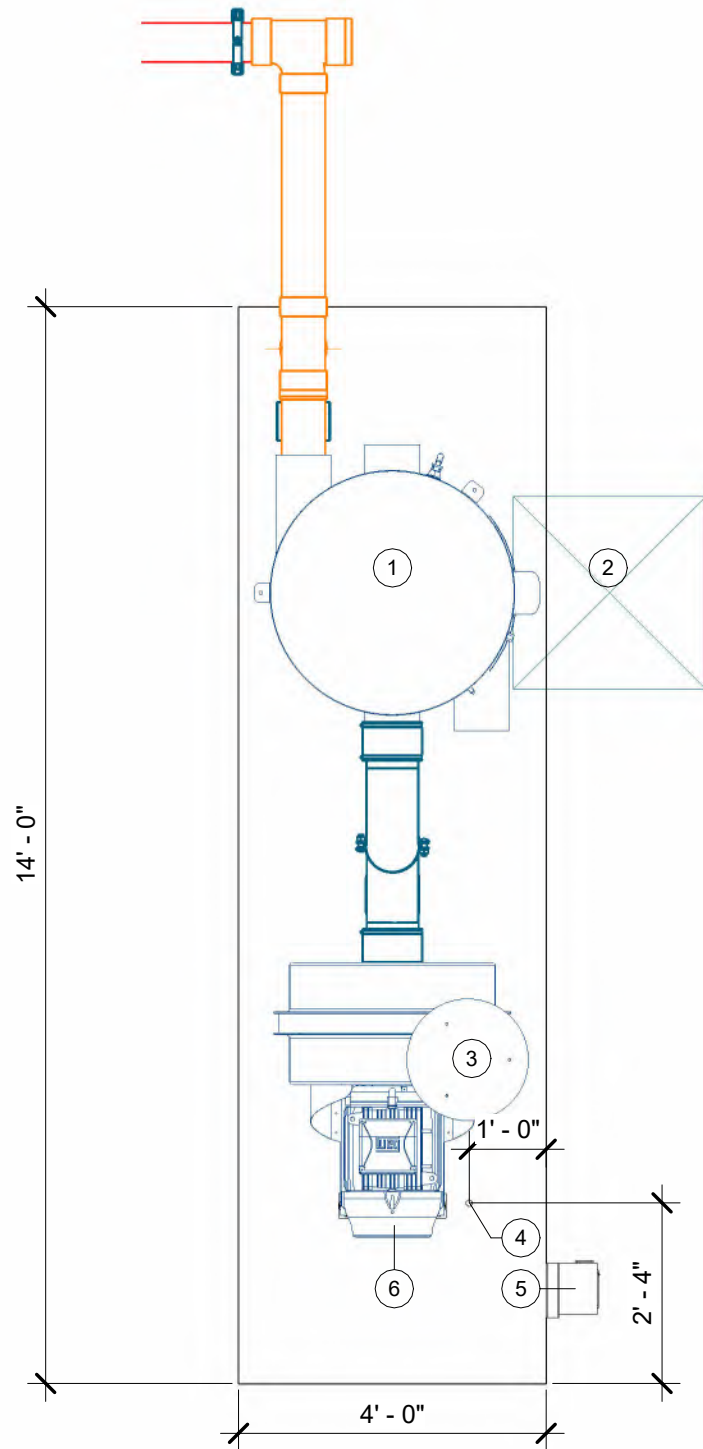
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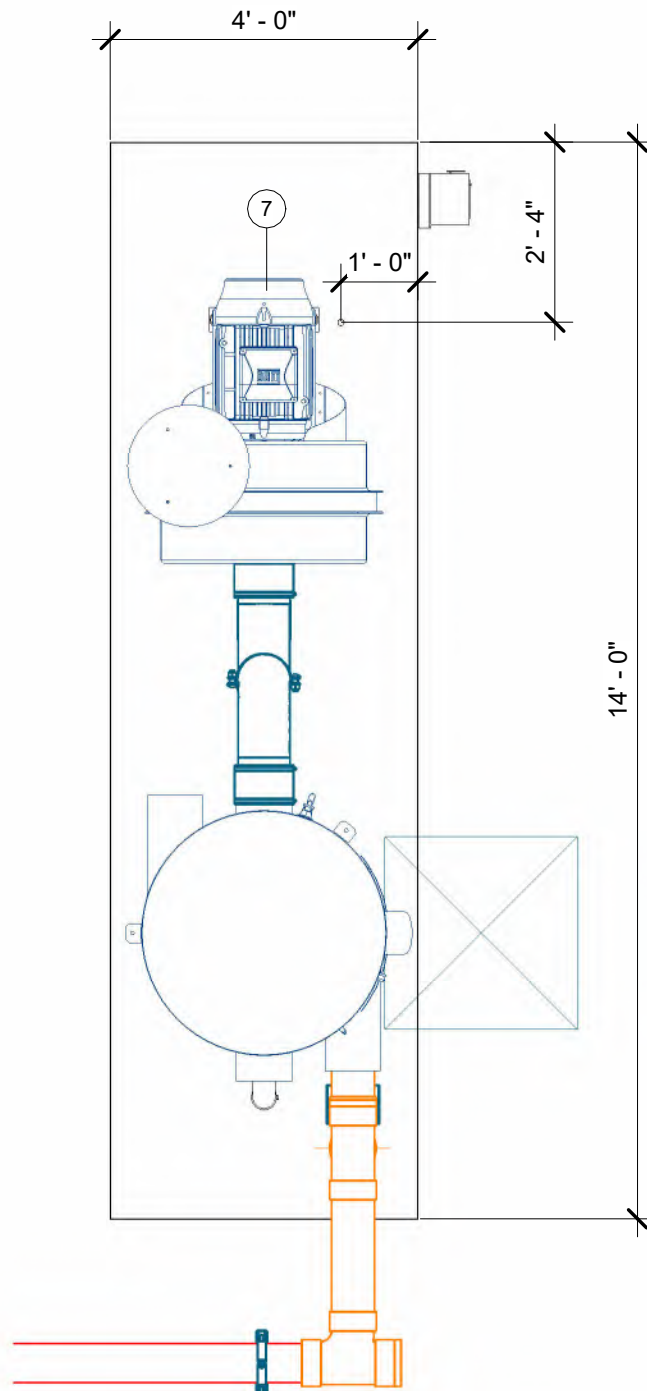
POS DETAILS

Project Number	1521325
Date	8/15/24
Drawn By	RY
Checked By	TD

V501



1 EQUIPMENT PLAN - A



2 EQUIPMENT PLAN - B

- EQUIPMENT NOTES:**
- AREA A & B 14'Lx4'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT
 - 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 PRODUCER TO OUTSIDE AIR OR ATMOSPHERE W/ 8 " ALUMINUM TUBE OR METAL PIPE
 - FIELD VERIFY ALL DIMENSIONS
 - SEE POWER EQUIPMENT DETAILS ON V701

EQUIPMENT SITE PLAN	
ITEM	DESCRIPTION
1	38x88 FILTER SEPARATOR
2	30"x30" MINIMUM SPACE REQUIRED TO REMOVE DEBRIS BUCKET
3	8" T4 OUTDOOR EXHAUST MUFFLER
4	RECOMMENDED PRODUCER MOTOR CONDUIT STUB-UP LOCATION, SIZE PER N.E.C.
5	RECOMMENDED DISCONNECT LOCATION (WITHIN SIGHT OF PRODUCER), CLEARANCE REQUIRED IN FRONT
6	40HP T4 DIRECT DRIVE PRODUCER
7	50HP T4 DIRECT DRIVE PRODUCER

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CLUB CAR WASH

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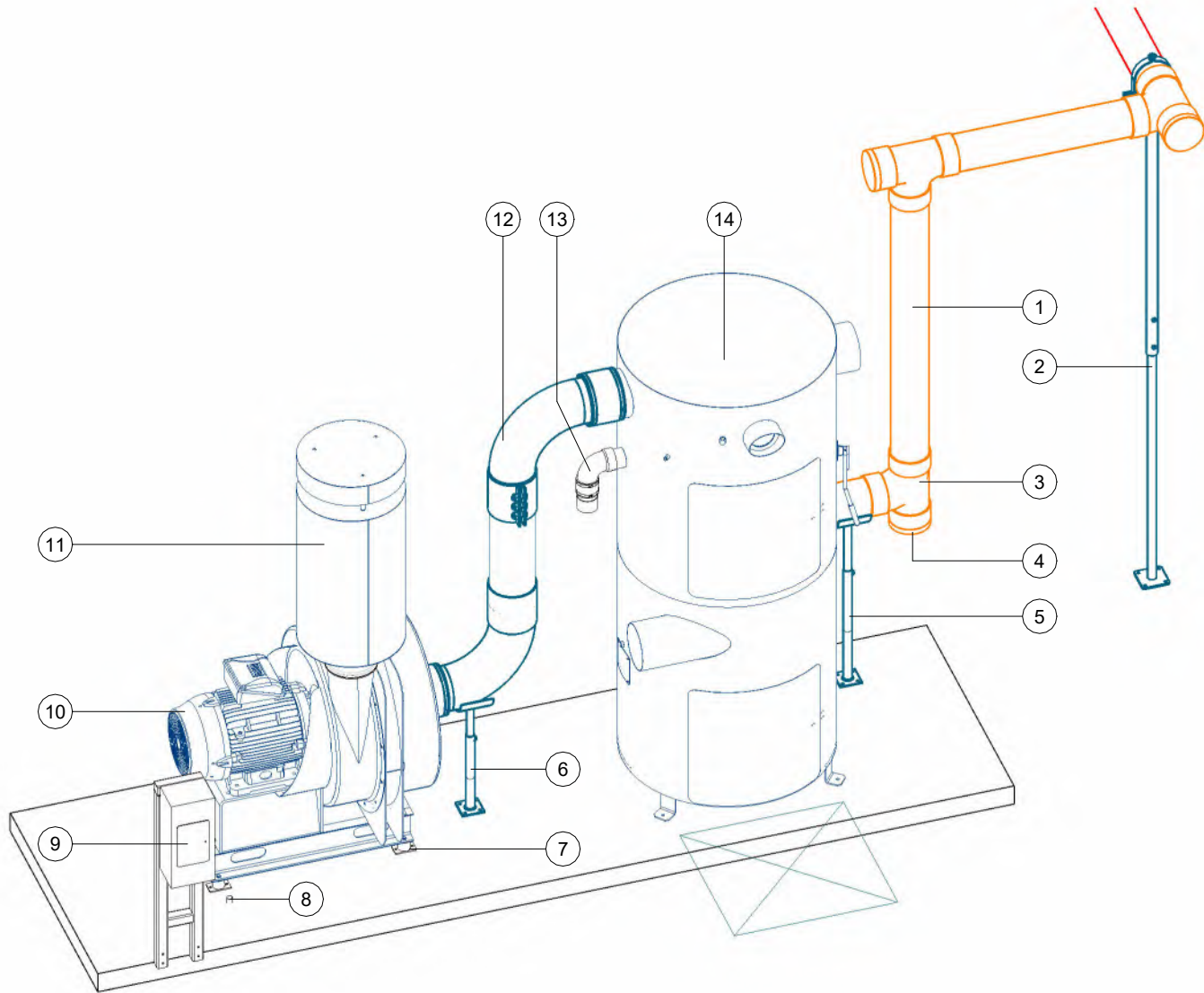
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EQUIPMENT SITE PLAN

Project Number	1521325
Date	8/15/24
Drawn By	RY
Checked By	TD

V601

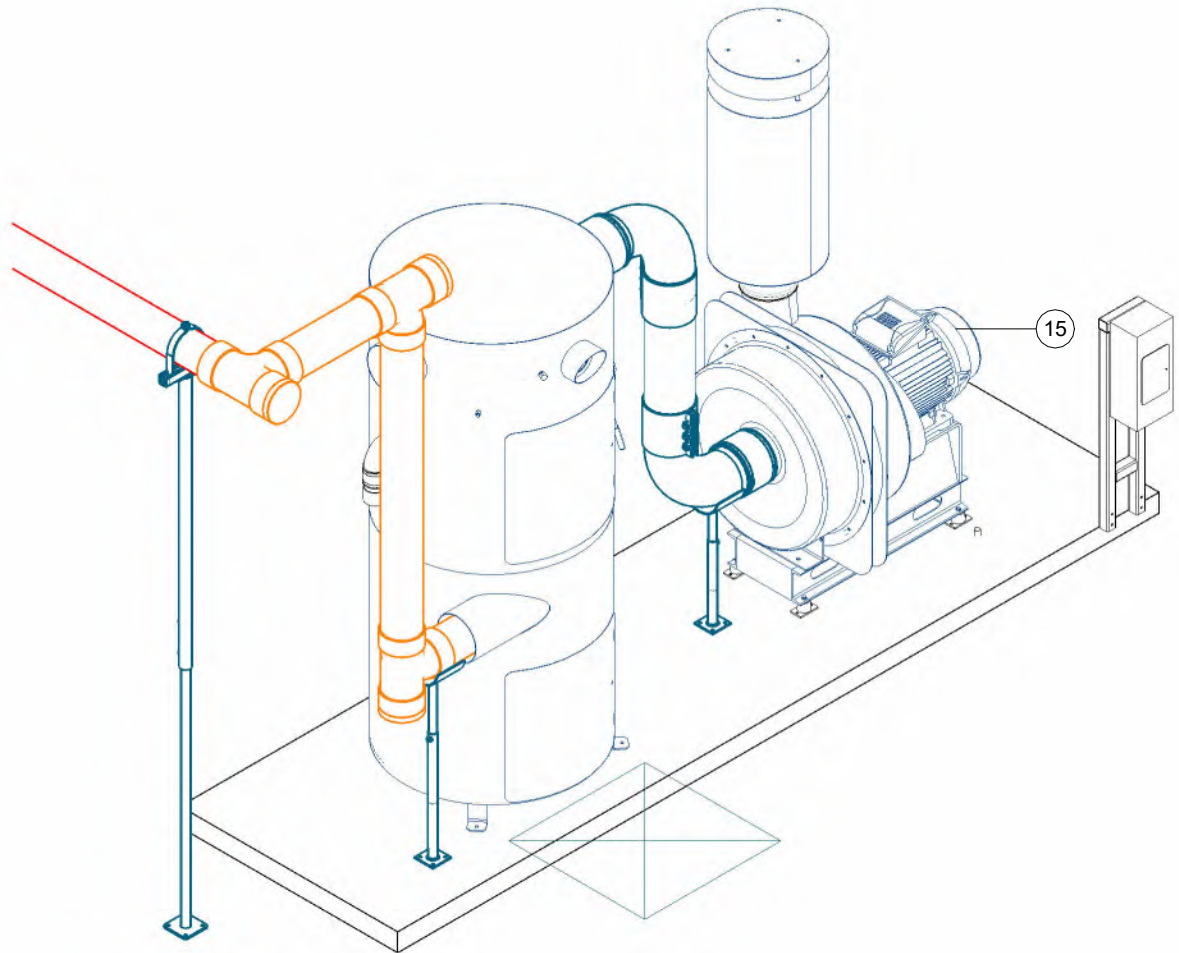
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1 EQUIPMENT ISOMETRIC - A

EQUIPMENT SITE ISOMETRIC	
ITEM	DESCRIPTION
1	6" OVERHEAD SCH. 40 SOLID CORE PVC VACUUM PIPE
2	OVERHEAD PIPE SUPPORT
3	6" PVC SANITARY TEE
4	6" CLEAN-OUT (TYP.)
5	SEPARATOR PIPE SUPPORT
6	PRODUCER PIPE SUPPORT
7	PRODUCER VIBRATION ISOLATOR
8	RECOMMENDED PRODUCER MOTOR CONDUIT STUB-UP LOCATION, SIZE PER N.E.C.
9	RECOMMENDED DISCONNECT LOCATION (WITHIN SIGHT OF PRODUCER), CLEARANCE REQUIRED IN FRONT
10	40HP T4 DIRECT DRIVE PRODUCER
11	8" T4 OUTDOOR EXHAUST MUFFLER
12	8" SEPARATOR/PRODUCER HOOK-UP KIT (ALUMINUM)
13	3" PRESSURE RELIEF VALVE
14	38x88 FILTER SEPARATOR
15	50HP T4 DIRECT DRIVE PRODUCER

- EQUIPMENT NOTES:**
- AREA A & B 14'Lx4'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT
 - 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
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2 EQUIPMENT ISOMETRIC - B

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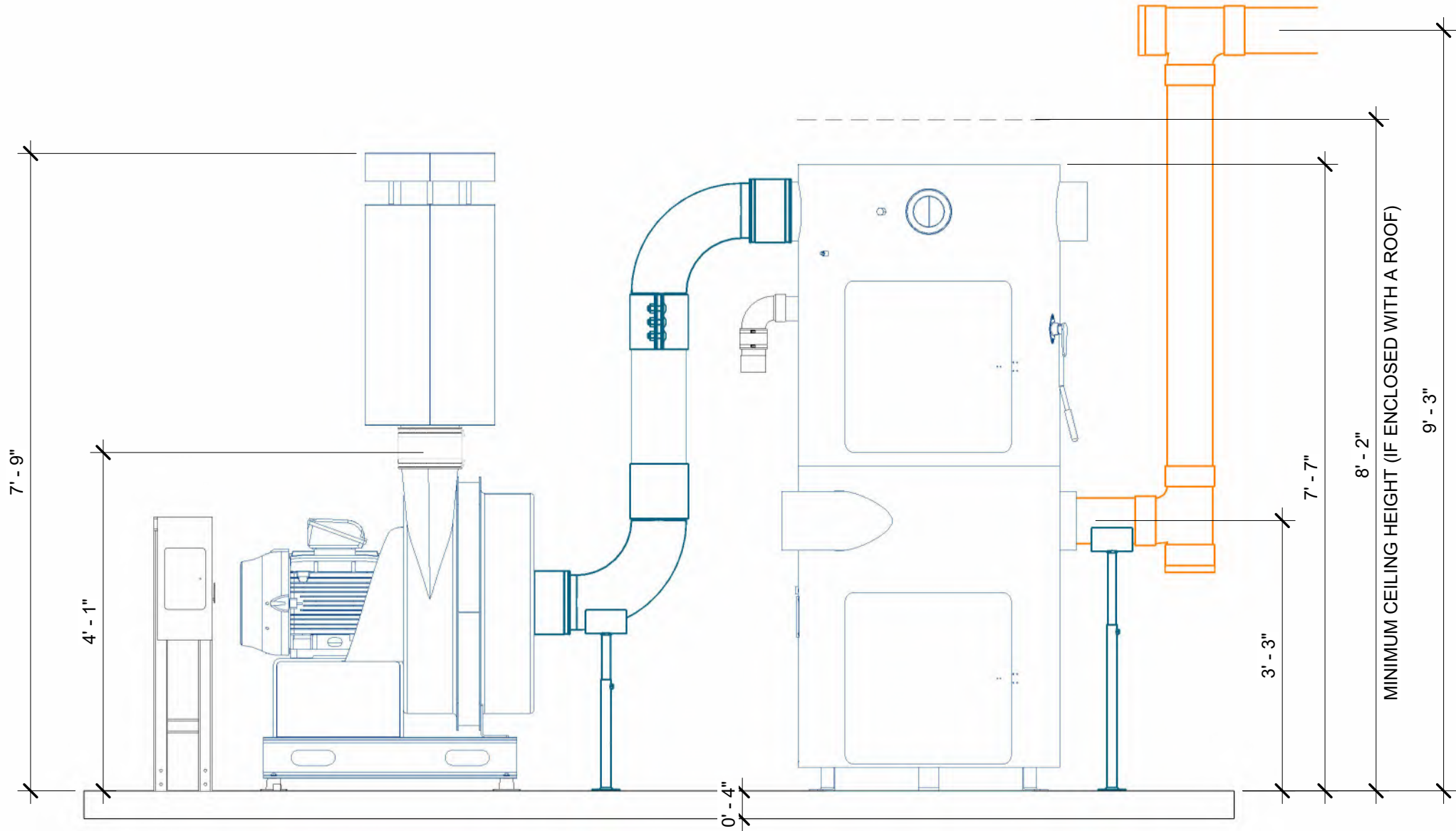
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EQUIP. SITE ISOMETRIC

Project Number 1521325
Date 8/15/24
Drawn By RY
Checked By TD

V611

- EQUIPMENT NOTES:**
- AREA A & B 14'Lx4'Wx4"H MINIMUM FLAT AND LEVEL CONCRETE FLOOR SPACE REQUIRED FOR VACUUM EQUIPMENT
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1 EQUIPMENT ELEVATION

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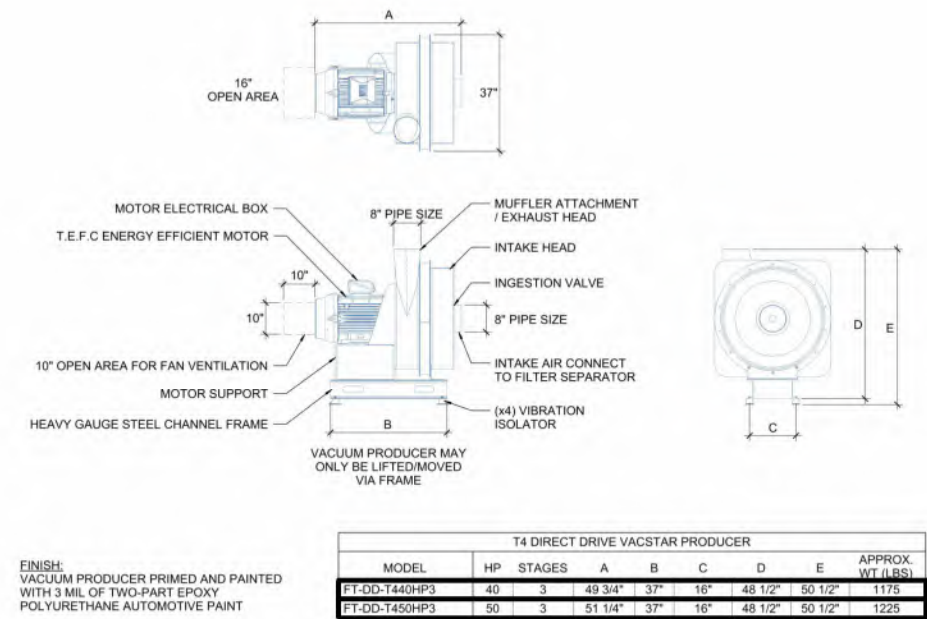
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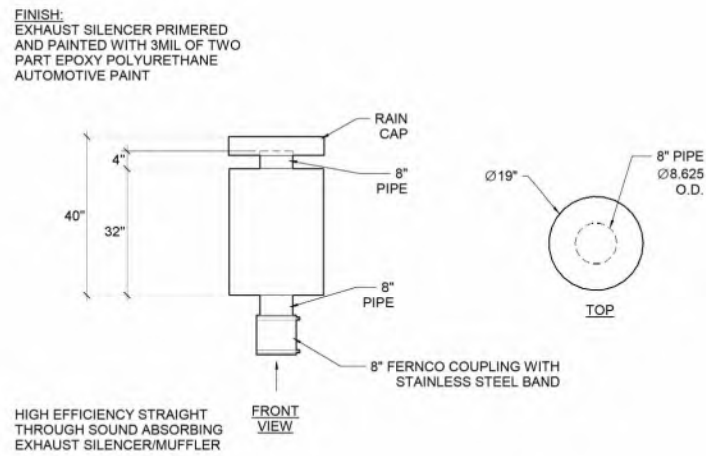
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Date 8/15/24
Drawn By RY
Checked By TD

V621

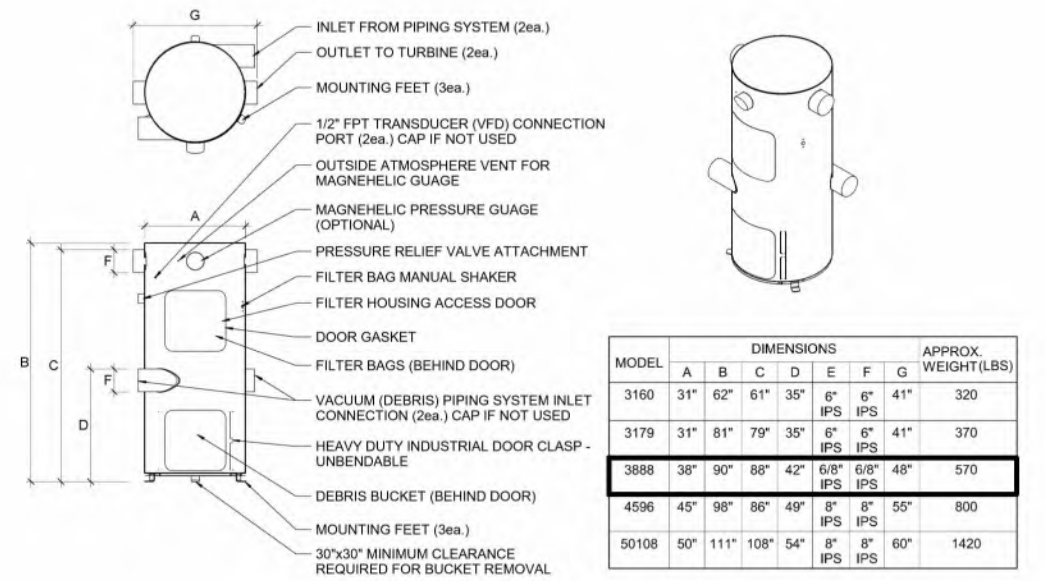
1 PRODUCER - T4 DD



2 EXHAUST SILENCER - T4 OUTDOOR



3 SEPARATOR - FILTER



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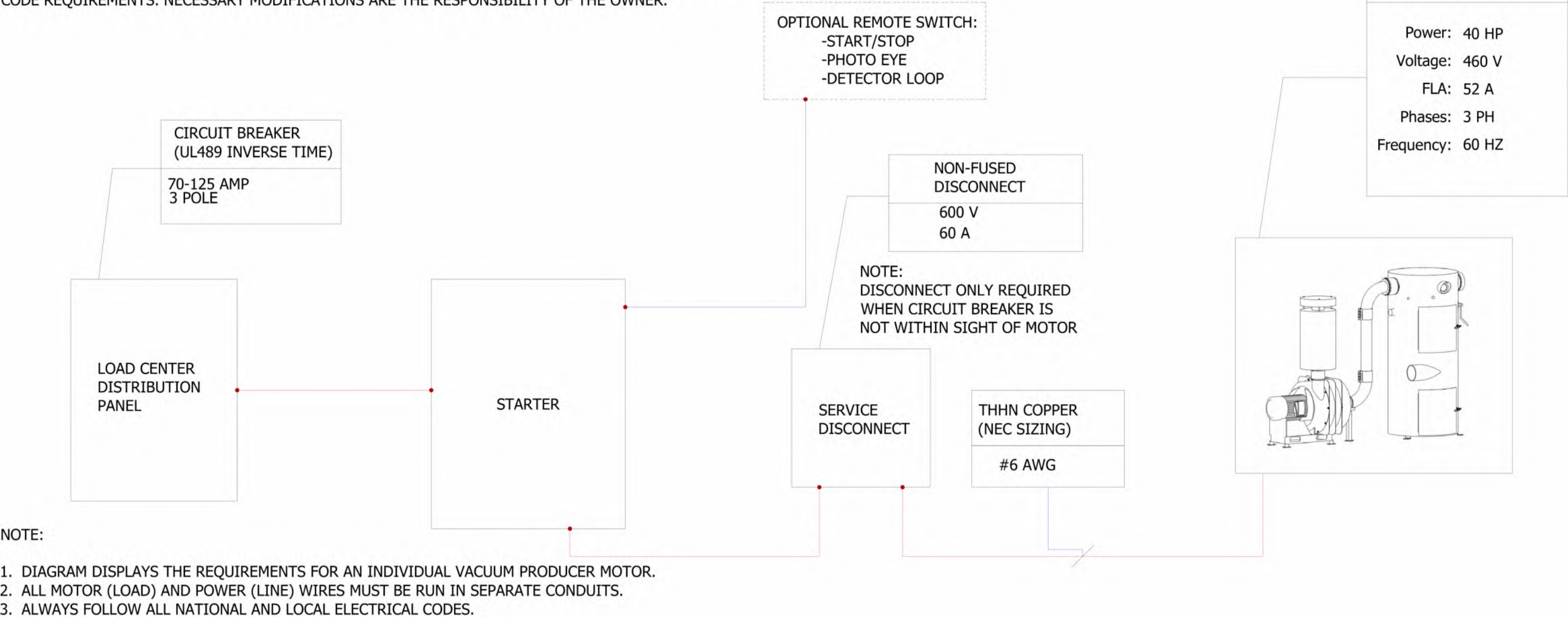
EQUIPMENT DETAILS

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V701

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.



1 ELECTRICAL DIAGRAM - MAG - 40HP 460V

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WEB: www.vacutecnhllc.com

CLUB CAR WASH

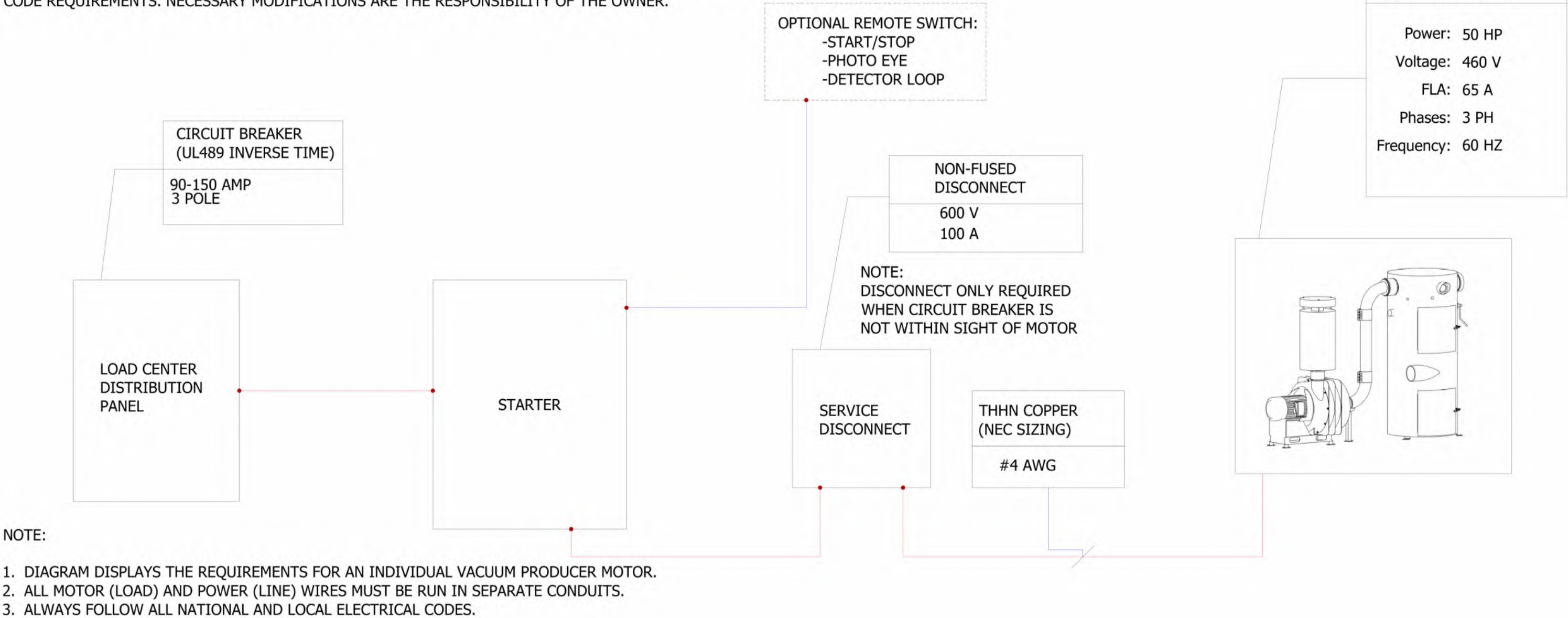
18318 EVANS ST.
OMAHA, NEBRASKA 68022

#	Revision	By	Chk	Date
1	REVISED DRAWINGS BY ADDING SQUARE TUBE TRELLIS AWNINGS AND 6" x 4" ALUMINUM SANITARY TEES, ALSO MADE THE POS ARCH 17' APART	TD	RY	10/3/24
2	PREPPED FOR ENGINEERING	JC	RY	5/29/25
3	ADDED ENGINEERING SPECIFICATIONS	RY	ML	6/5/25

ELECTRICAL DIAGRAM A		
Project Number	1521325	V702
Date	8/15/24	
Drawn By	RY	
Checked By	TD	

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.



1 ELECTRICAL DIAGRAM - MAG - 50HP 460V

VACUTECH
AN **NCS** COMPANY

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

CLUB CAR WASH

18318 EVANS ST.
OMAHA, NEBRASKA 68022

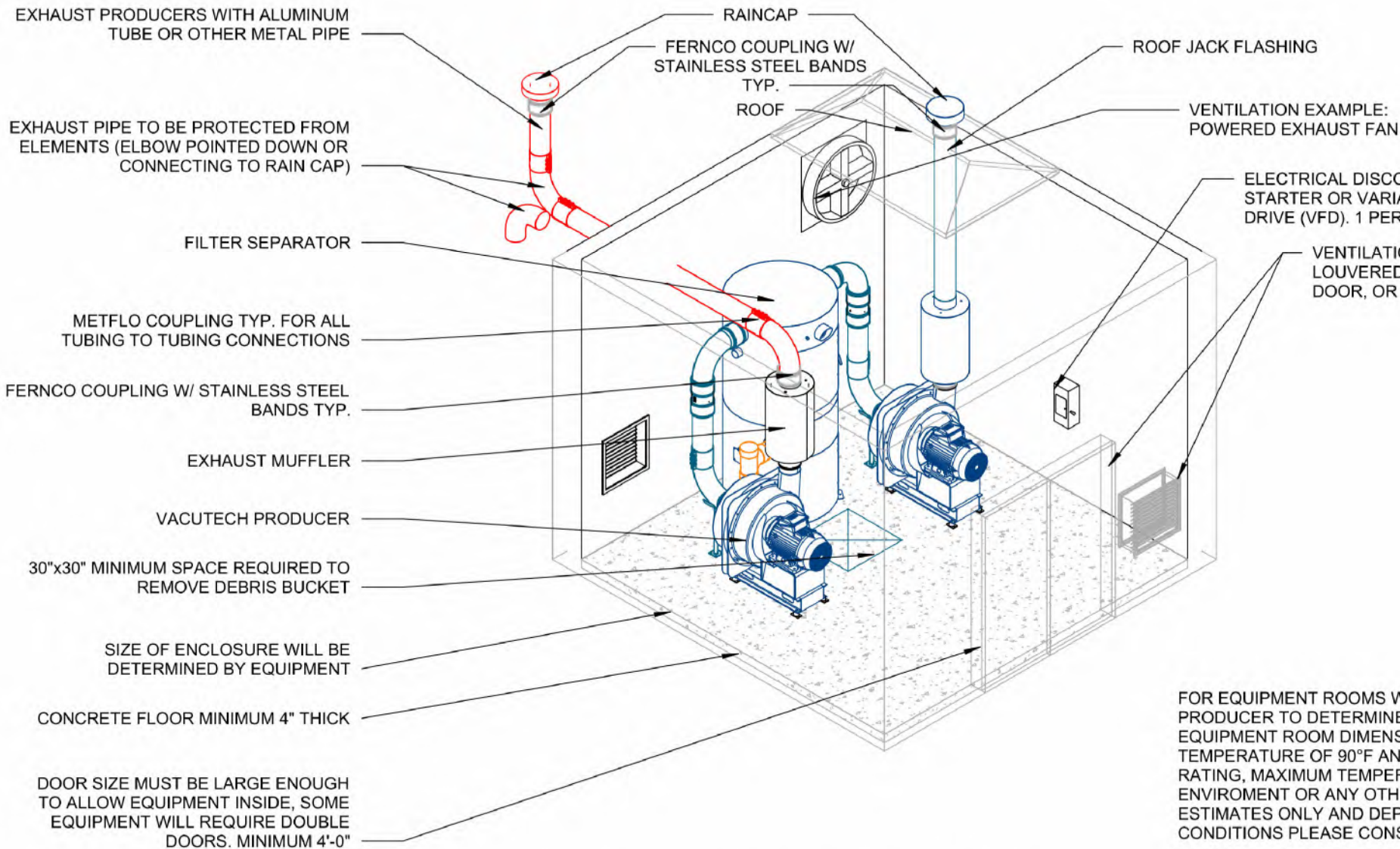
#	Revision	By	Chk	Date
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3	ADDED ENGINEERING SPECIFICATIONS	RY	ML	6/5/25

ELECTRICAL DIAGRAM B

Project Number	1521325
Date	8/15/24
Drawn By	RY
Checked By	TD

V703

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HP	ACROSS THE LINE STARTER		VARIABLE FREQUENCY DRIVE (VFD)	
	HEAT LOAD (BTU/HR)	REQUIRED AIR FLOW (CFM)	HEAT LOAD (BTU/HR)	REQUIRED AIR FLOW (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	1163
50	63611	4575	12722	1704
60	7633	5490	15267	1704
75	95416	6863	19083	2130
100	127222	9150	25444	2840

FOR EQUIPMENT ROOMS WITH MULTIPLE PRODUCER SETUPS, ADD THE CFM REQUIREMENT PER PRODUCER TO DETERMINE TOTAL CFM REQUIREMENT FOR THE EQUIPMENT ROOM. THIS ASSUMES EQUIPMENT ROOM DIMENSIONS 15'x15'X 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 ENVIROMENT OR ANY OTHER EQUIPMENT INSTALLED IN THE EQUIPMENT ROOM. THESE VALUES ARE ESTIMATES ONLY AND DEPEND ON EQUIPMENT ROOM DIMENSIONS, GEOGRAPHIC LOCATION AND SITE CONDITIONS PLEASE CONSULT YOUR MECHANICAL HVAC DESIGNER AND ASHRAE STANDARDS.

VACUUM EQUIPMENT INSTALLED IN AN ENCLOSURE WITH 4 WALLS AND A ROOF MUST BE ADEQUATELY VENTILATED OR ROOM CONDITIONED IN ORDERED 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 PRODUCER(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 ENVIROMENTAL TEMPERATURE FOR ELECTRICAL EQUIPMENT) WILL SHORTEN THE LIFE SPAN OF THE VACUUM EQUIPMENT AND MAY INVALIDATE THE VACUTECH LLC WARRANTY.

THE VACUUM PRODUCER MUST BE EXHAUSTED OUTSIDE WIHT METALLIC PIPE NO SMALLER THAN THE DIAMETER OF THE EXHAUST OUTLET OF THE PRODUCER. 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 REMAININNING 10 FEET OF THE OVERALL 20 FOOT RUN).

1 ENCLOSURE - TYPICAL REQUIREMENTS

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CLUB CAR WASH

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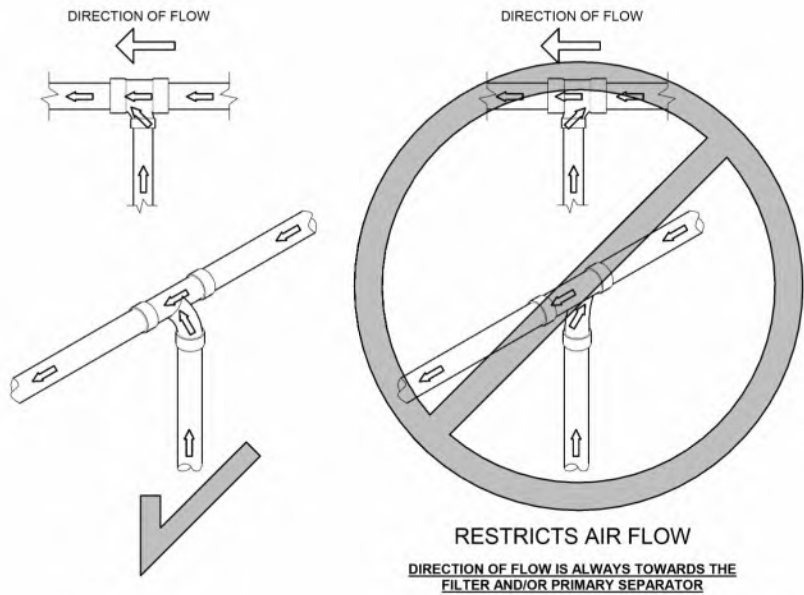
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ENCLOSURE DETAIL

Project Number	1521325
Date	8/15/24
Drawn By	RY
Checked By	TD

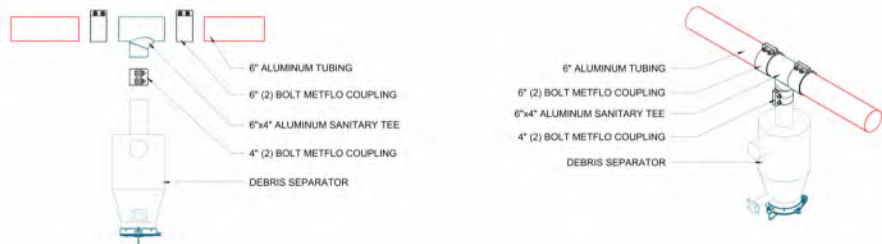
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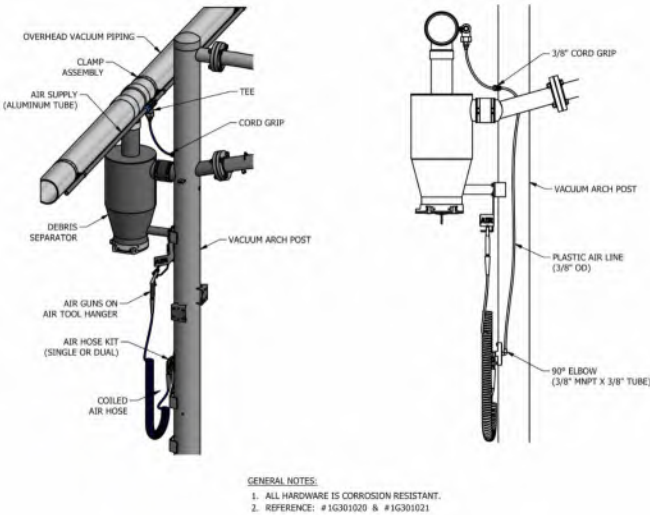


1 PIPE - PIPE FLOW

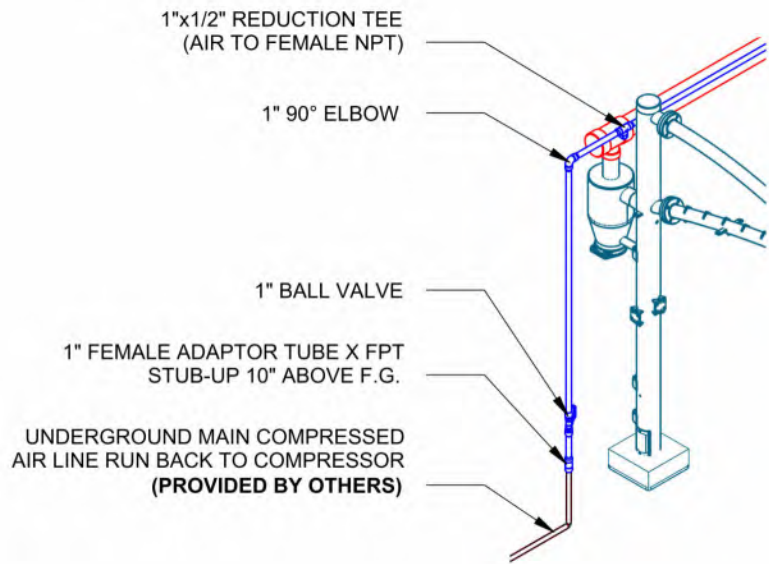
ALUMINUM SANITARY TEE & ALUMINUM TUBING CONNECTION



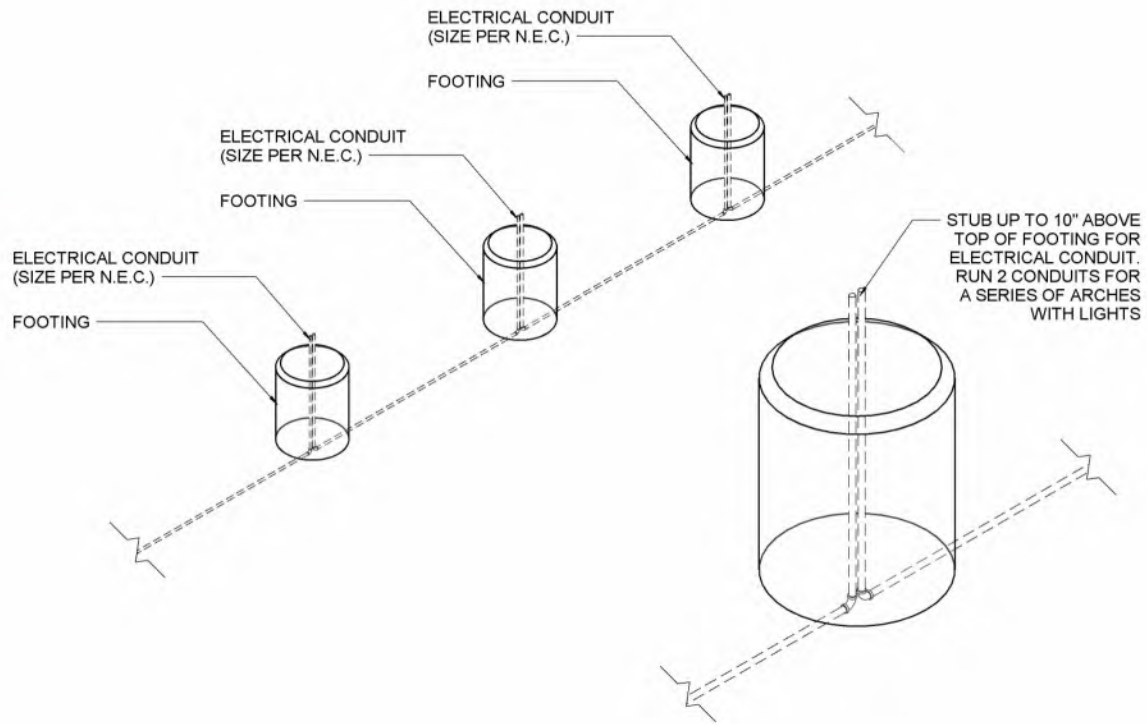
2 PIPE - 6x4 ALUMINUM TEE KIT



3 PIPE - RAPID AIR INSTALLATION



4 PIPE - RAPID AIR STUB-UP



5 TRENCH - CONDUIT STUB-UP

- 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'

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CLUB CAR WASH

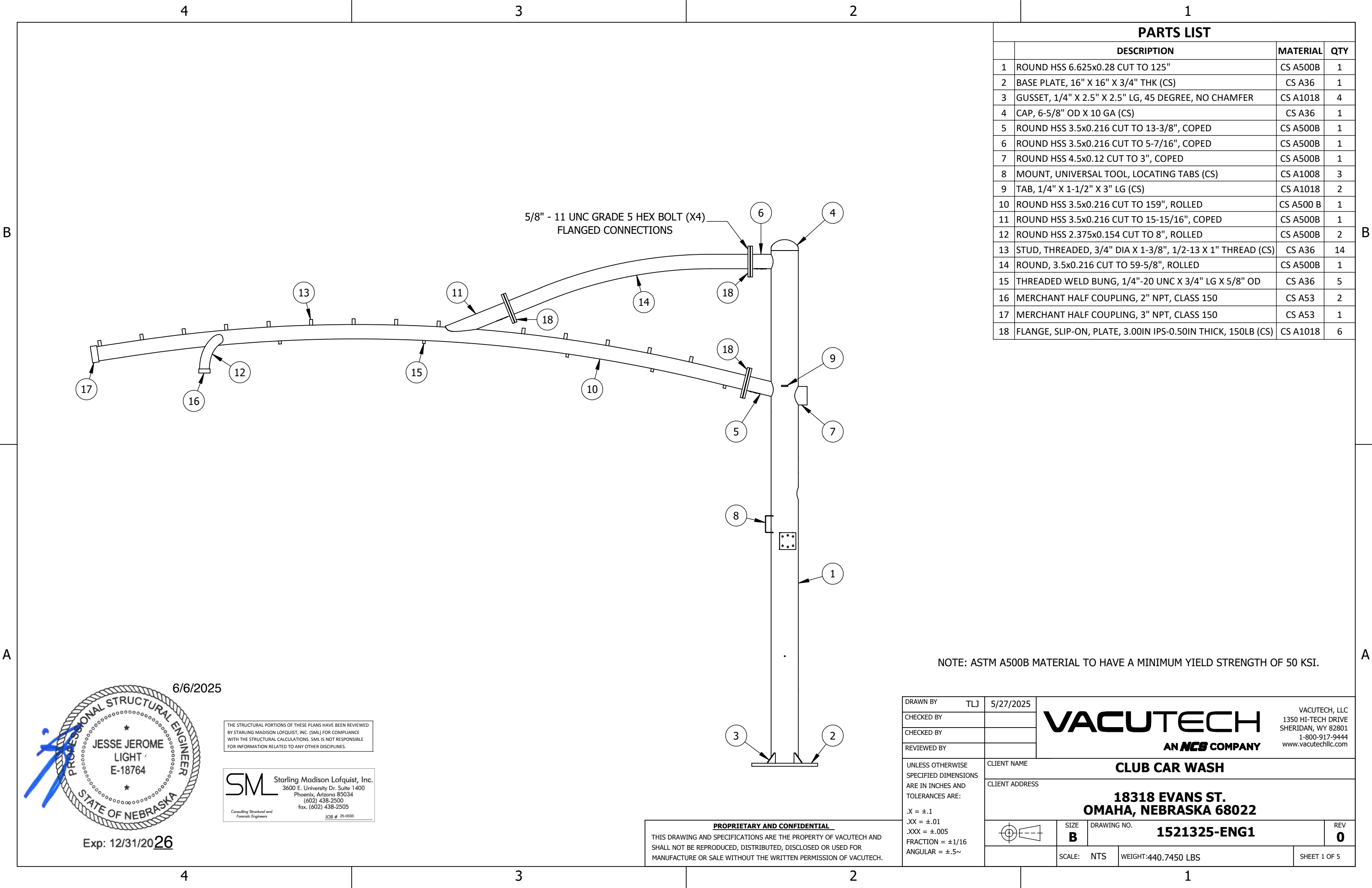
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PIPE DETAILS

Project Number	1521325
Date	8/15/24
Drawn By	RY
Checked By	TD

V721



PARTS LIST			
	DESCRIPTION	MATERIAL	QTY
1	ROUND HSS 6.625x0.28 CUT TO 125"	CS A500B	1
2	BASE PLATE, 16" X 16" X 3/4" THK (CS)	CS A36	1
3	GUSSET, 1/4" X 2.5" X 2.5" LG, 45 DEGREE, NO CHAMFER	CS A1018	4
4	CAP, 6-5/8" OD X 10 GA (CS)	CS A36	1
5	ROUND HSS 3.5x0.216 CUT TO 13-3/8", COPED	CS A500B	1
6	ROUND HSS 3.5x0.216 CUT TO 5-7/16", COPED	CS A500B	1
7	ROUND HSS 4.5x0.12 CUT TO 3", COPED	CS A500B	1
8	MOUNT, UNIVERSAL TOOL, LOCATING TABS (CS)	CS A1008	3
9	TAB, 1/4" X 1-1/2" X 3" LG (CS)	CS A1018	2
10	ROUND HSS 3.5x0.216 CUT TO 159", ROLLED	CS A500 B	1
11	ROUND HSS 3.5x0.216 CUT TO 15-15/16", COPED	CS A500B	1
12	ROUND HSS 2.375x0.154 CUT TO 8", ROLLED	CS A500B	2
13	STUD, THREADED, 3/4" DIA X 1-3/8", 1/2-13 X 1" THREAD (CS)	CS A36	14
14	ROUND, 3.5x0.216 CUT TO 59-5/8", ROLLED	CS A500B	1
15	THREADED WELD BUNG, 1/4"-20 UNC X 3/4" LG X 5/8" OD	CS A36	5
16	MERCHANT HALF COUPLING, 2" NPT, CLASS 150	CS A53	2
17	MERCHANT HALF COUPLING, 3" NPT, CLASS 150	CS A53	1
18	FLANGE, SLIP-ON, PLATE, 3.00IN IPS-0.50IN THICK, 150LB (CS)	CS A1018	6

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

6/6/2025

PROFESSIONAL STRUCTURAL ENGINEER

JESSE JEROME

LIGHT

E-18764

STATE OF NEBRASKA

Exp: 12/31/2026

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(602) 438-2500

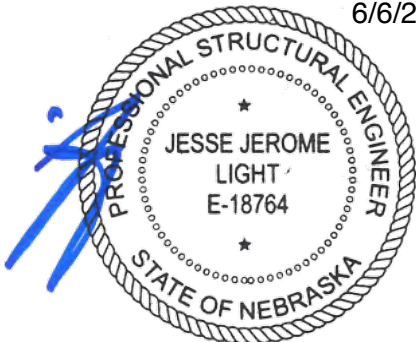
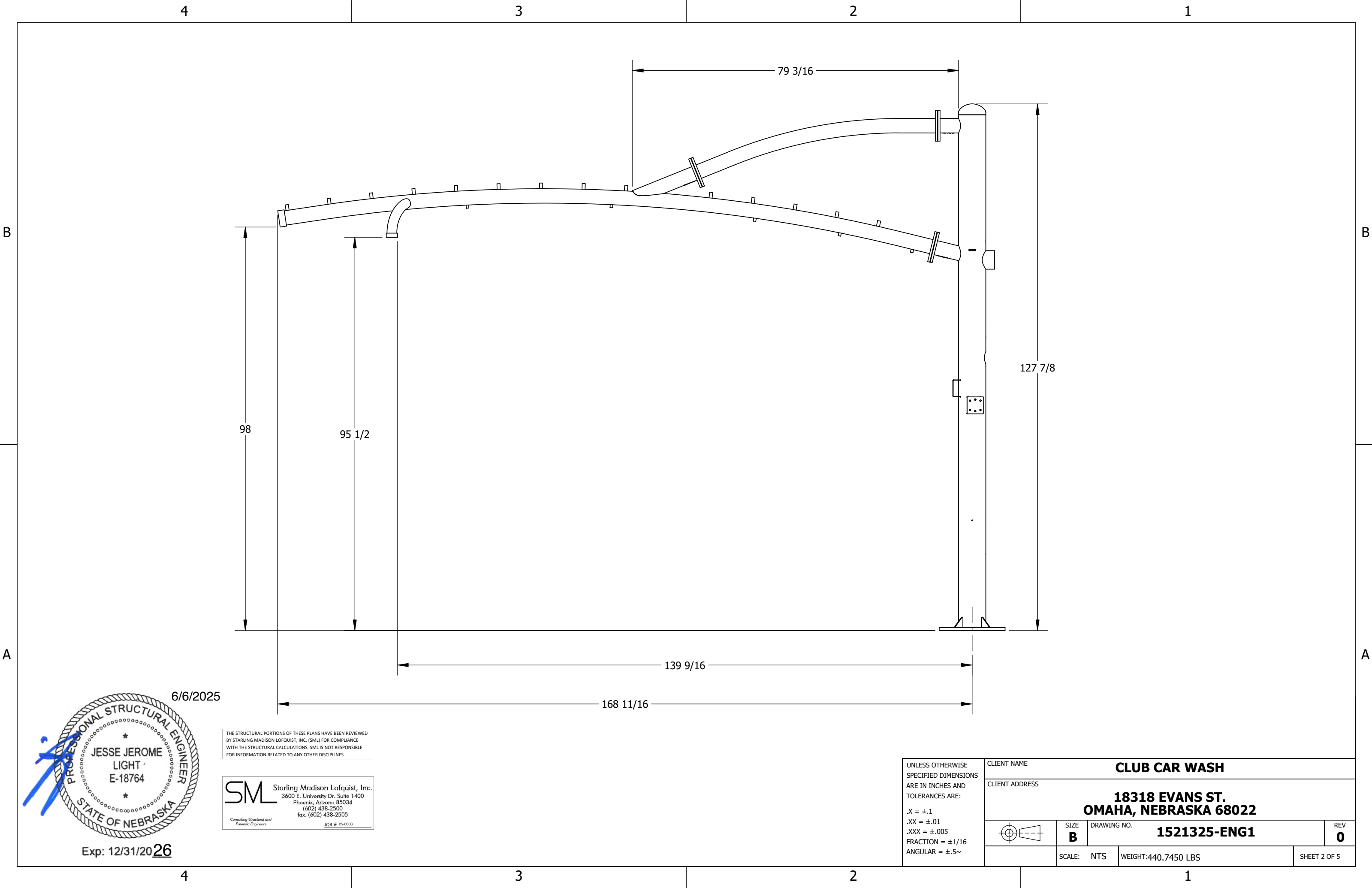
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Consulting Structural and Forensic Engineers

JOB # 25-0333

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DRAWN BY	TLJ	5/27/2025	<div><div>VACUTECH</div><div>AN <i>NCS</i> COMPANY</div></div> <div>VACUTECH, LLC 1350 HI-TECH DRIVE SHERIDAN, WY 82801 1-800-917-9444 www.vacutechllc.com</div>		
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REVIEWED BY					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND TOLERANCES ARE: .X = ±.1 .XX = ±.01 .XXX = ±.005 FRACTION = ±1/16 ANGULAR = ±.5~			CLIENT NAME CLUB CAR WASH		
			CLIENT ADDRESS 18318 EVANS ST. OMAHA, NEBRASKA 68022		
			<div><div></div><div>SIZE B</div></div>	DRAWING NO. 1521325-ENG1	REV 0
			SCALE: NTS	WEIGHT: 440.7450 LBS	SHEET 1 OF 5



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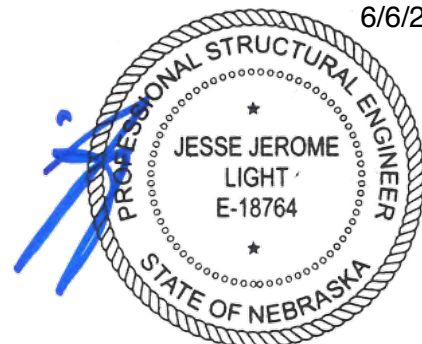
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	SIZE B	DRAWING NO. 1521325-ENG1	REV 0
	SCALE: NTS	WEIGHT: 440.7450 LBS	SHEET 2 OF 5

6/6/2025

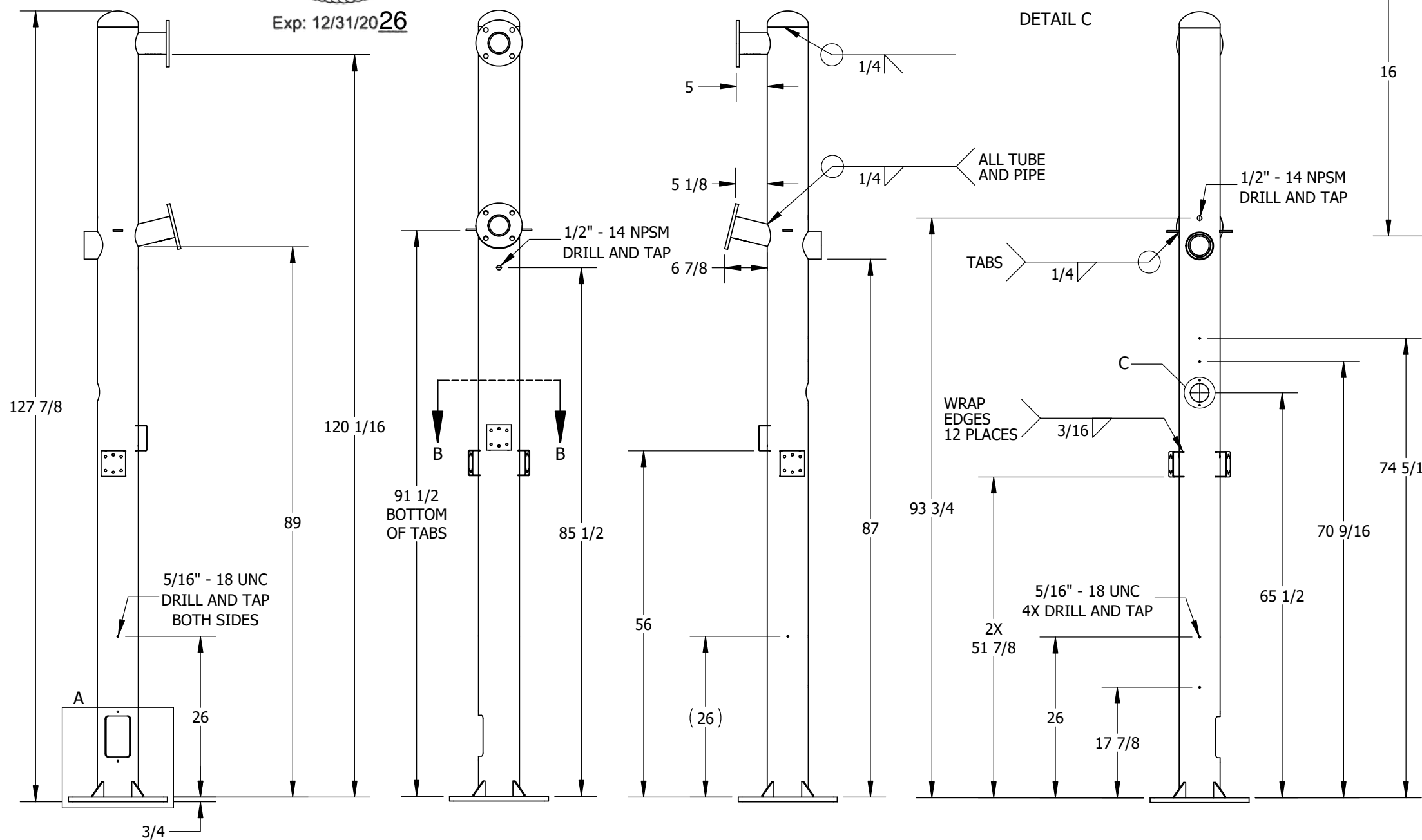
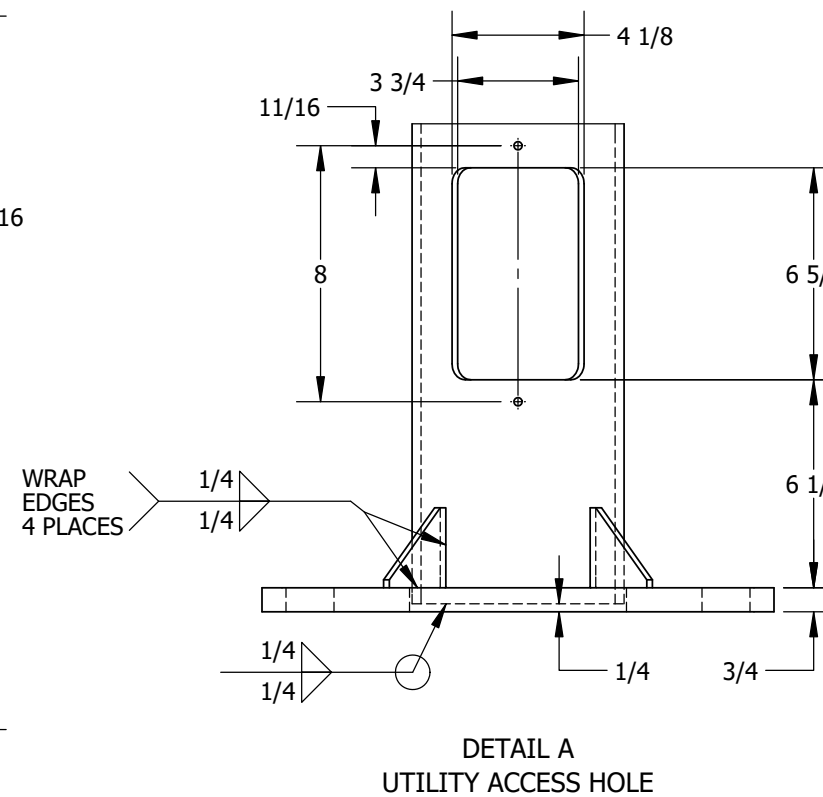
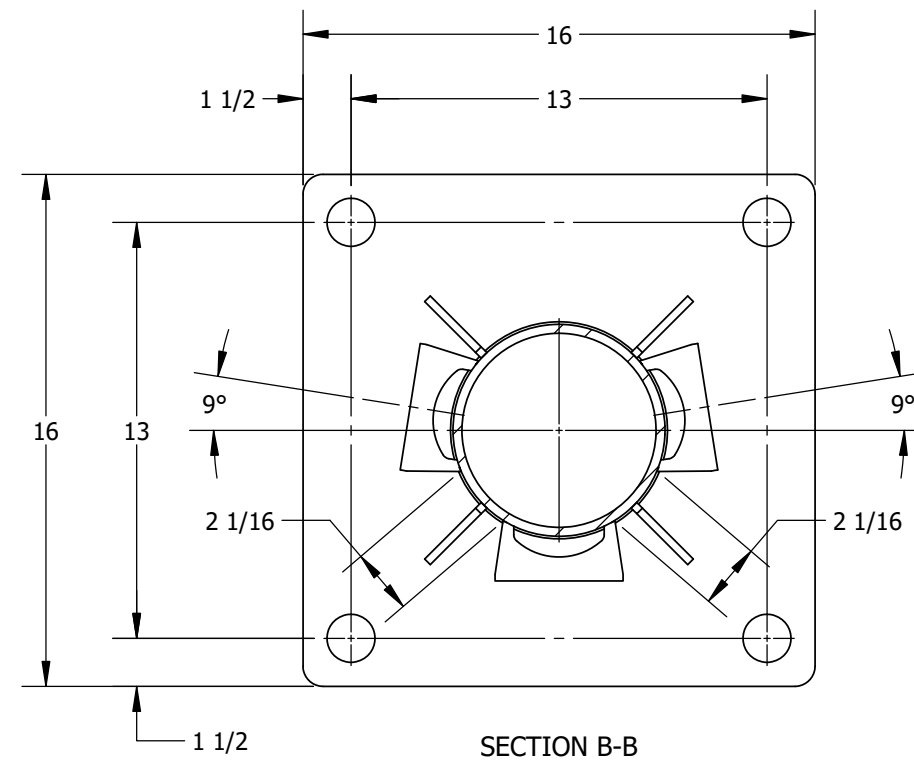
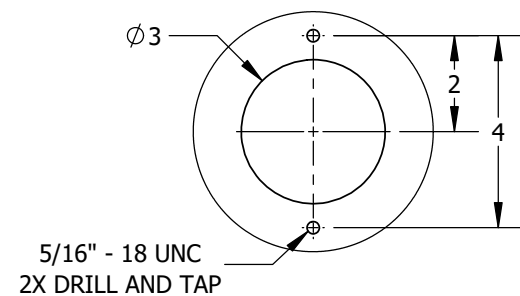


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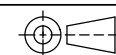
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.XXX = $\pm .005$
FRACTION = $\pm 1/16$
ANGULAR = $\pm .5^\circ$

CLIENT NAME

CLUB CAR WASH

CLIENT ADDRESS

**18318 EVANS ST.
OMAHA, NEBRASKA 68022**



SIZE	
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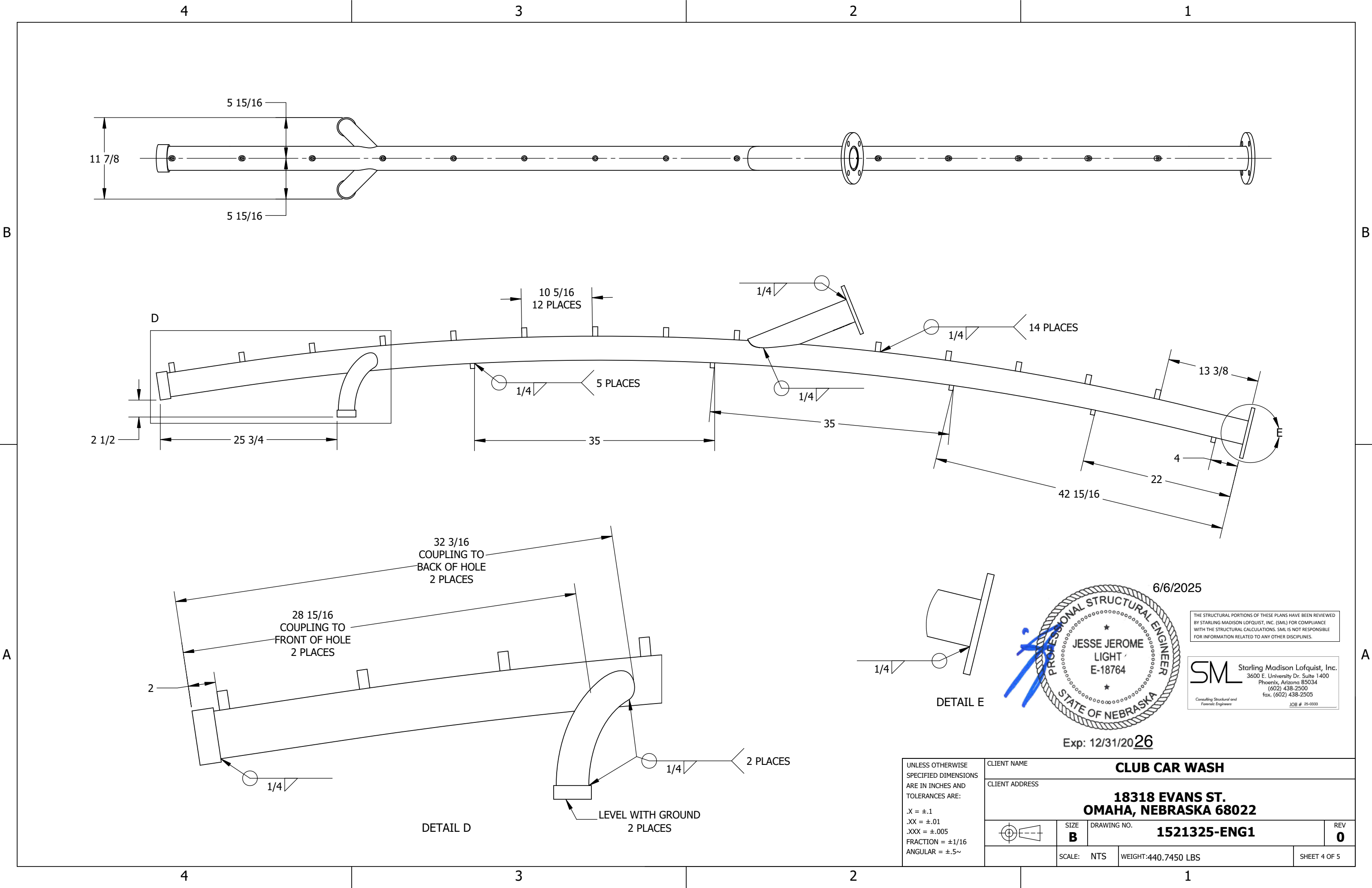
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REV
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SCALE: NTS

WEIGHT:440.7450 LBS

SHEET 3 OF 5

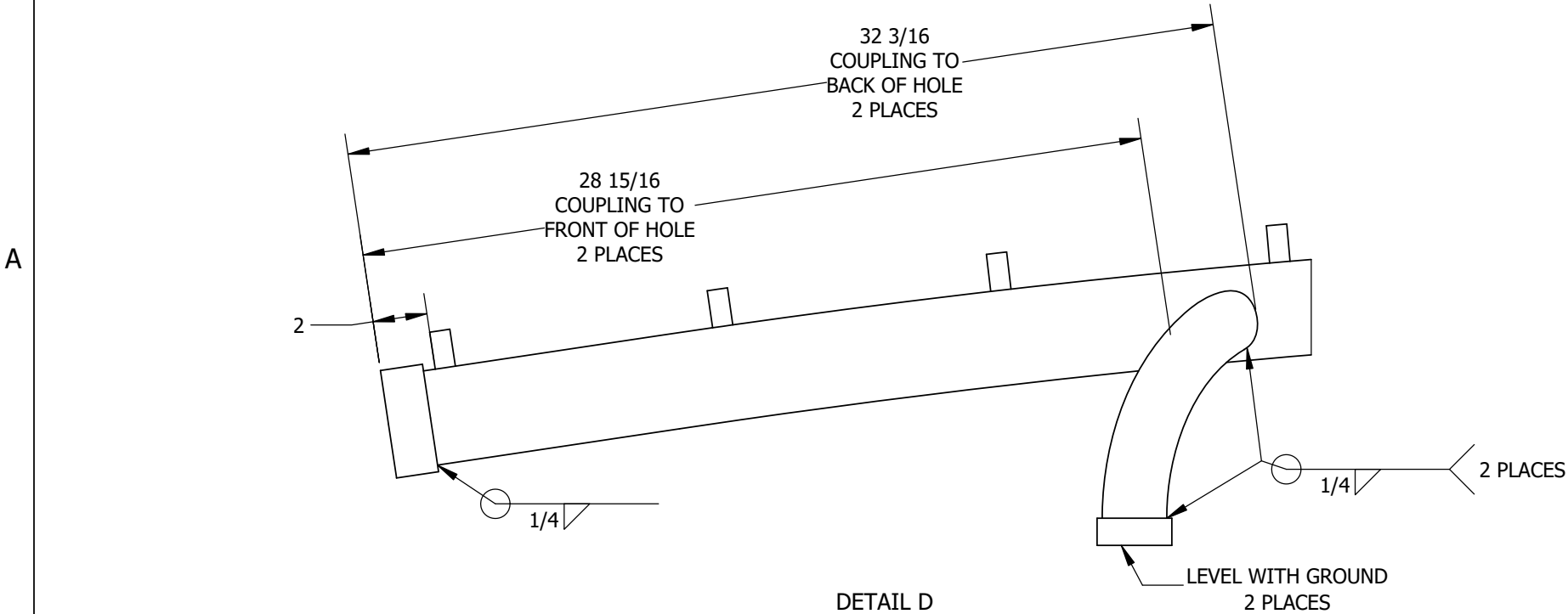


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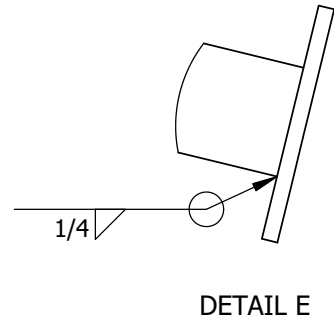
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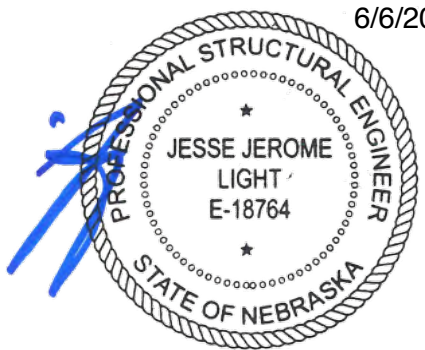
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DETAIL D



DETAIL E



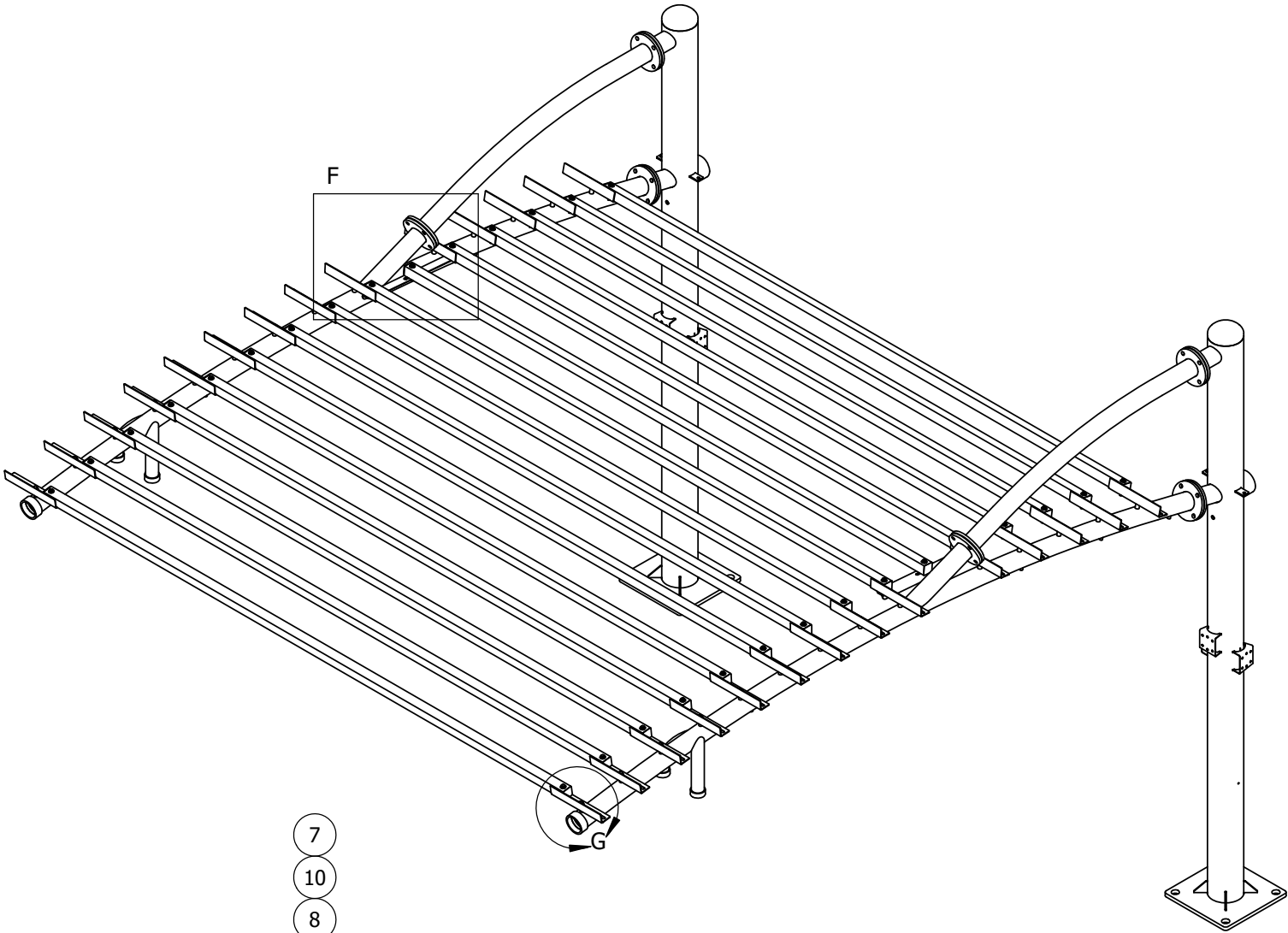
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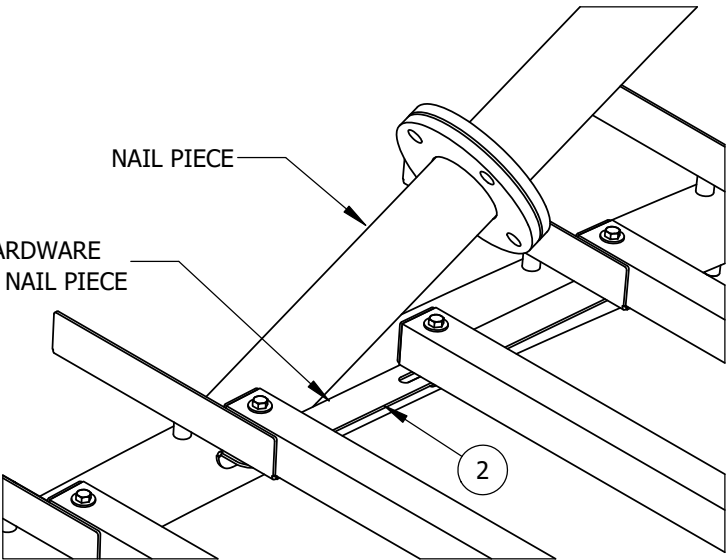
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	CLIENT ADDRESS 18318 EVANS ST. OMAHA, NEBRASKA 68022		
		SIZE B	DRAWING NO. 1521325-ENG1
	SCALE: NTS	WEIGHT: 440.7450 LBS	REV 0
		SHEET 4 OF 5	

PARTS LIST

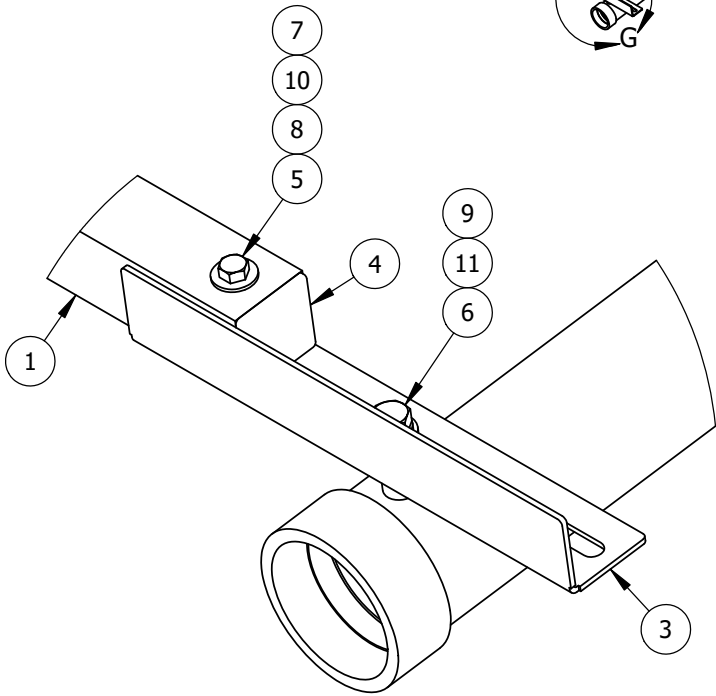
	DESCRIPTION	MATERIAL	QTY
1	SQUARE HSS 2x2x0.125 CUT TO 134-1/4"	AL B211 6061-T6	15
2	BENT, SHEET, 2x1x0.1345 NAIL BRACKET FOR TRELLIS (CS)	CS A1008	2
3	BENT, SHEET, 2x2x0.1345 ANGLE BRACKET FOR TRELLIS, 2 SIDED (CS)	CS A1008	28
4	SQUARE FINISHING PLUG FOR TUBING	Polyethylene Cross-Linked	30
5	HEX BOLT, 3/8"-16 UNC X 3" LG. (ZS GR 5)	ZS GR 5	30
6	HEX BOLT, 1/2"-13 UNC X 1" LG. (ZS GR 5)	ZS GR 5	28
7	HEX NUT, 3/8-16 UNC, GRADE 5	SW-Material	30
8	WASHER, FLAT, USS, 3/8" X 1.000" OD X .083" THK. (ZS)	ZS	60
9	WASHER, FLAT, SAE, 1/2" X 1.062" OD X .095" THK	ZS	28
10	WASHER, SPLIT LOCK, 3/8" (ZS)	ZS	30
11	WASHER, SPLIT LOCK, 1/2"	ZS	28



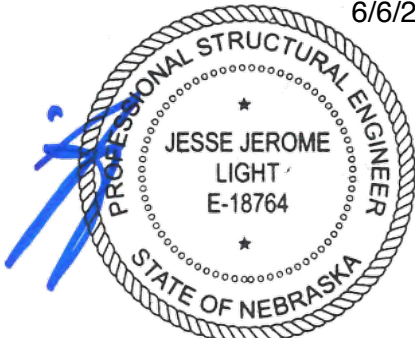
NAIL SPAN MOUNT IS ATTACHED USING HARDWARE FROM TRELLIS BARS ON BOTH SIDES OF THE NAIL PIECE



DETAIL F
NAIL SPAN CONNECTION
DETAIL



DETAIL G
TRELLIS BAR CONNECTION
ATTACHMENT DETAIL



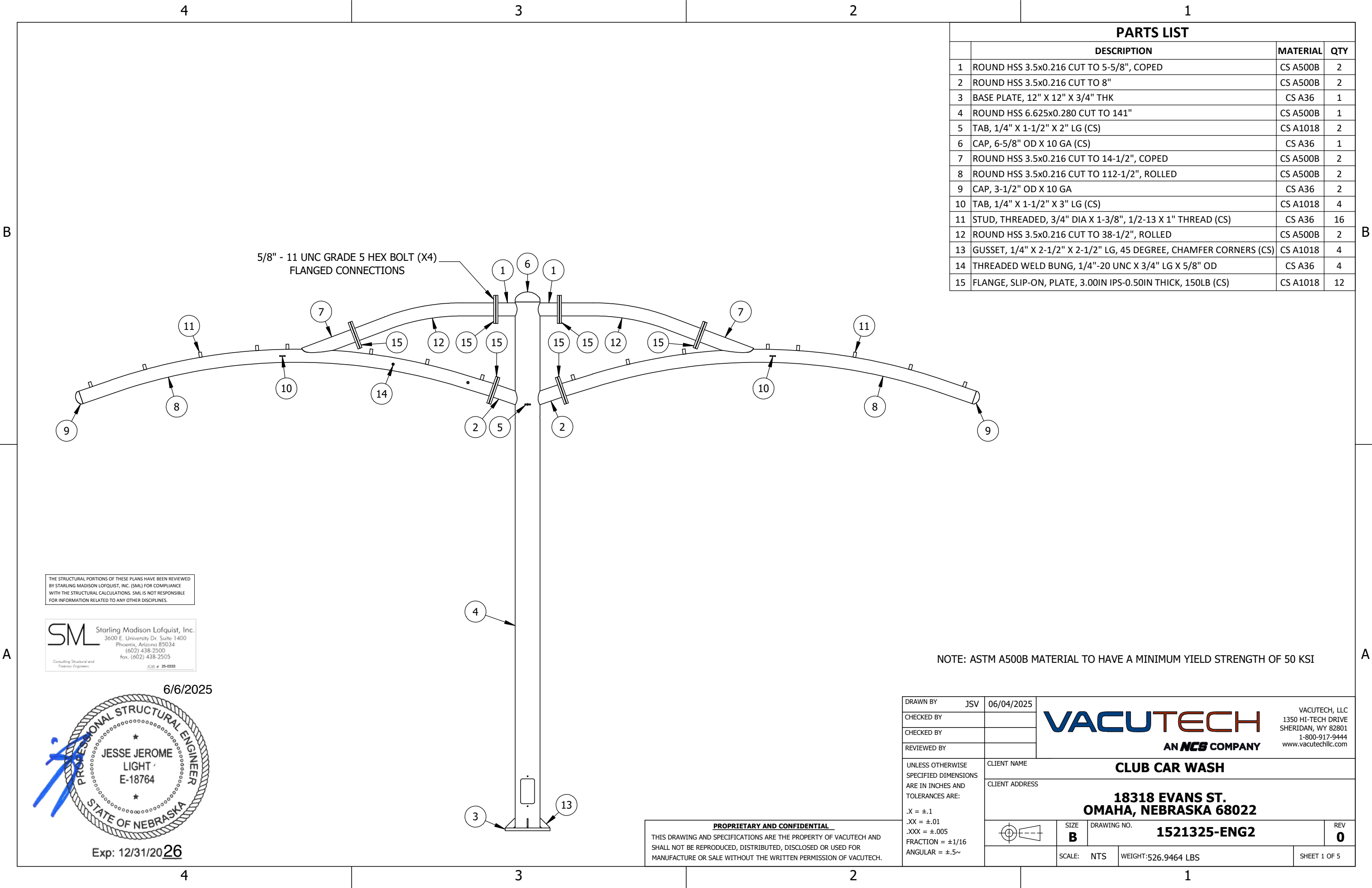
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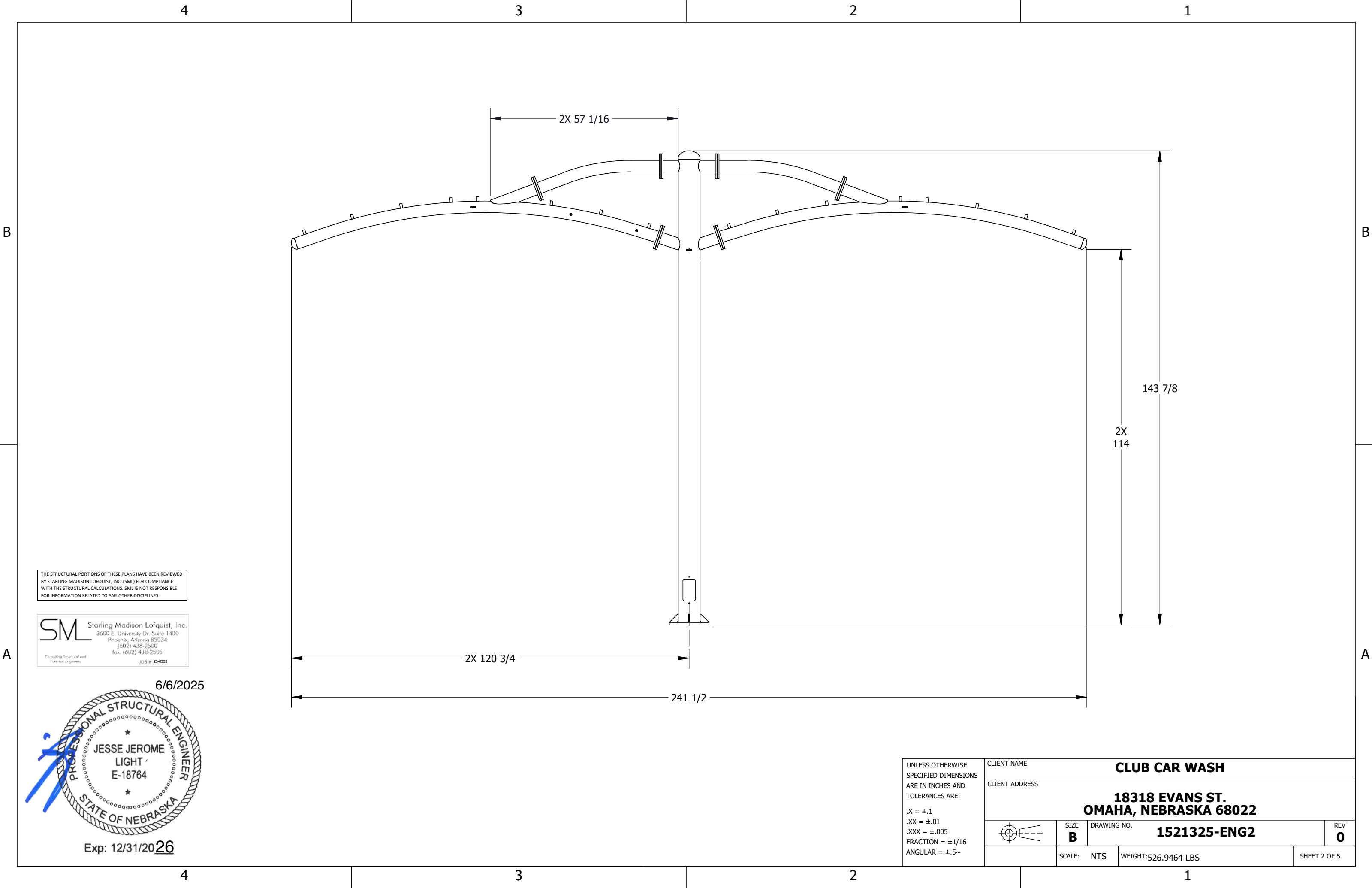
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	CLIENT ADDRESS 18318 EVANS ST. OMAHA, NEBRASKA 68022		
		SIZE B	DRAWING NO. 1521325-ENG1
	SCALE: NTS	WEIGHT: 440.7450 LBS	REV 0





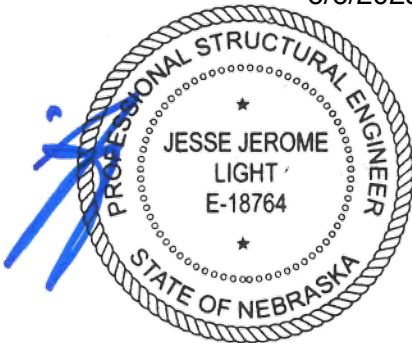
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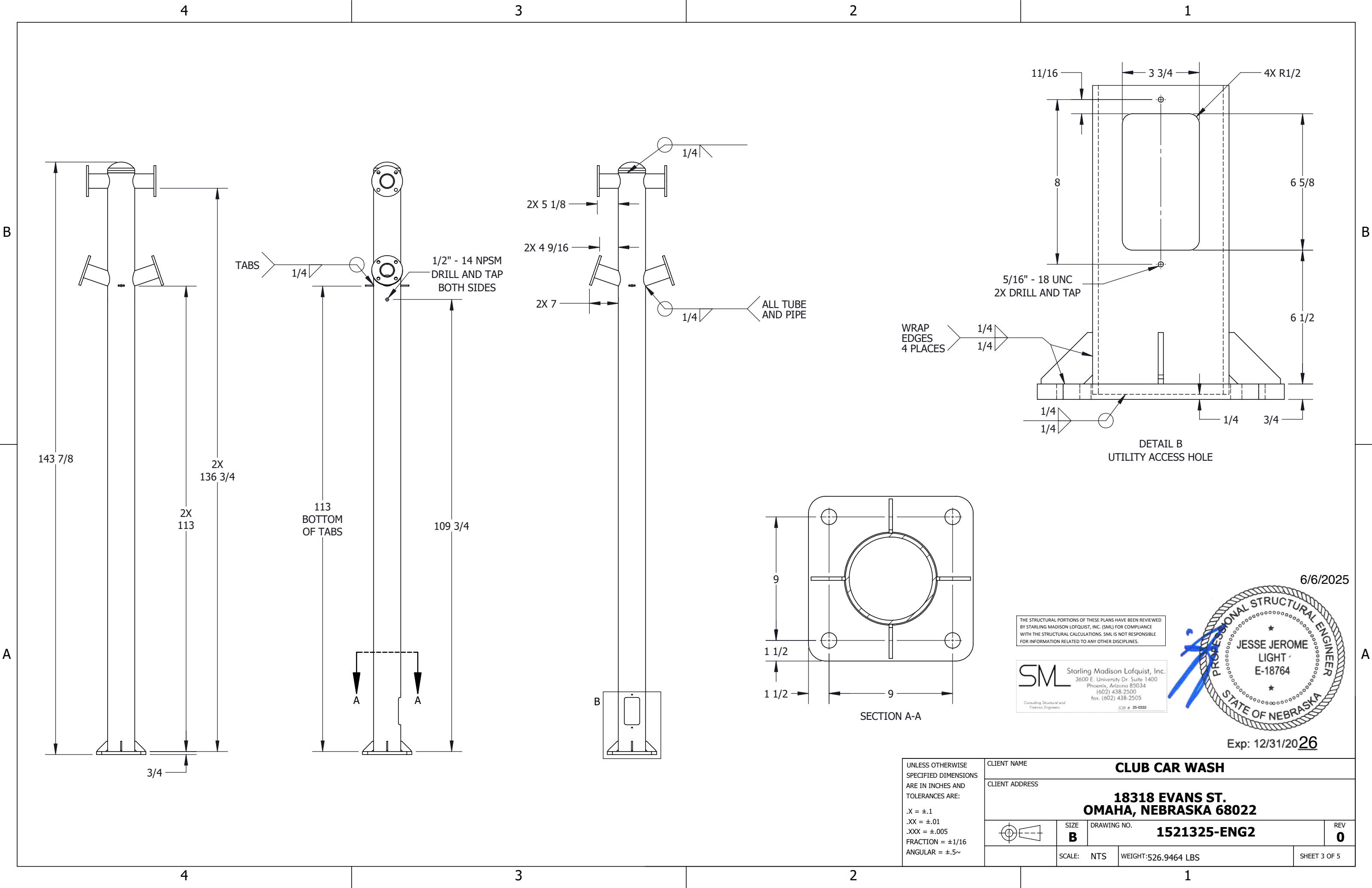


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CLIENT NAME				CLUB CAR WASH			
CLIENT ADDRESS				18318 EVANS ST. OMAHA, NEBRASKA 68022			
	SIZE	DRAWING NO.			REV		
	B	1521325-ENG2			0		
SCALE:		NTS	WEIGHT: 526.9464 LBS			SHEET 2 OF 5	



B

A

B

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
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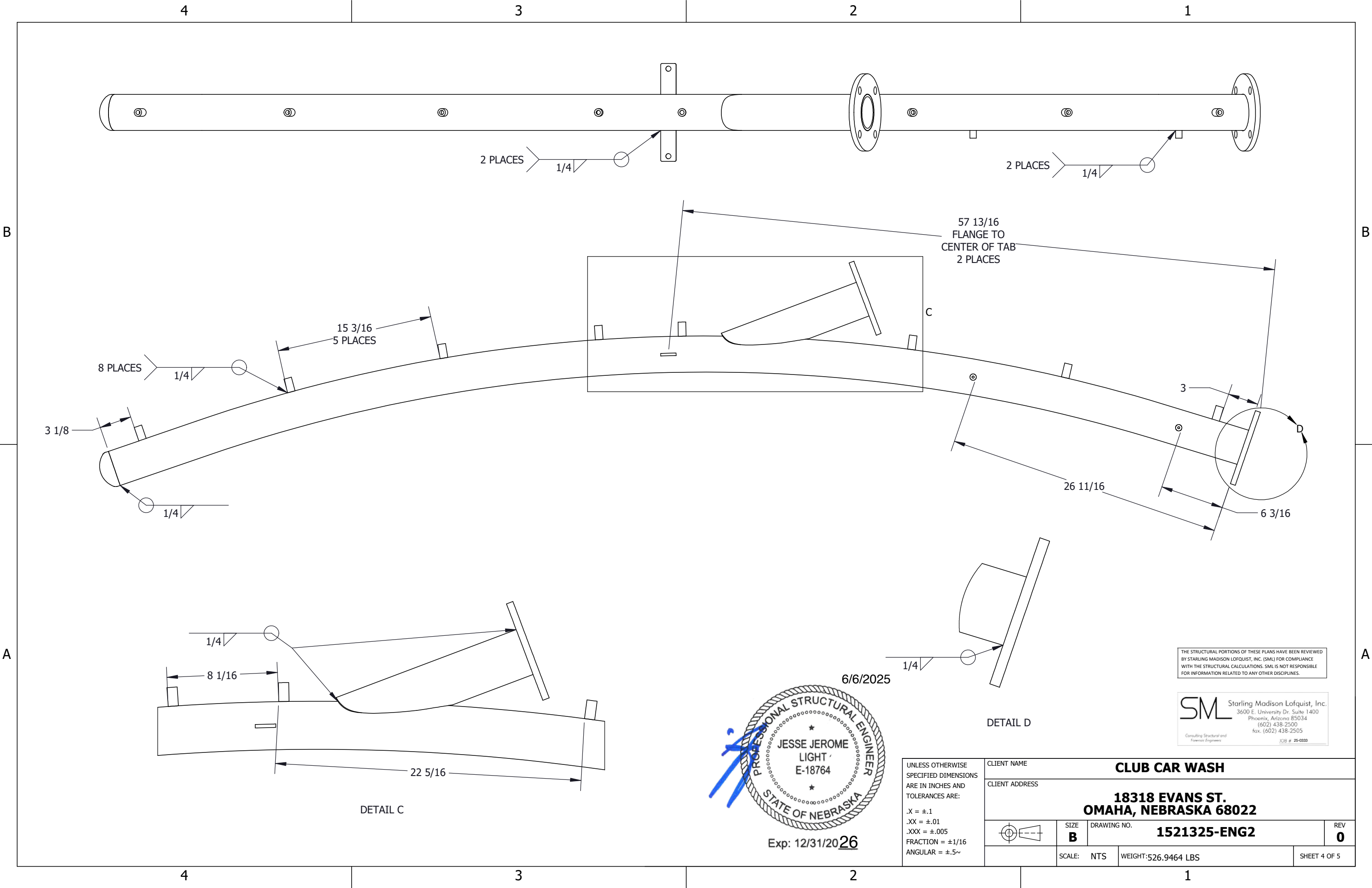
SML Starling Madison Lofquist, Inc.
3600 E. University Dr. Suite 1400
Phoenix, Arizona 85034
(602) 438-2500
fax. (602) 438-2505
JCIB # 25-0333
Consulting Structural and
Forensic Engineers



Exp: 12/31/2026

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

CLIENT NAME CLUB CAR WASH			
CLIENT ADDRESS 18318 EVANS ST. OMAHA, NEBRASKA 68022			
	SIZE B	DRAWING NO. 1521325-ENG2	REV 0
SCALE: NTS		WEIGHT: 526.9464 LBS	SHEET 3 OF 5

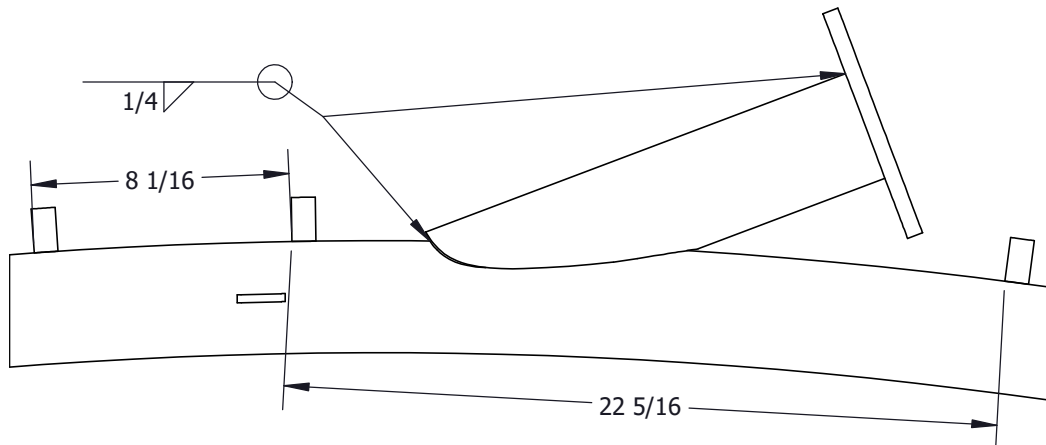


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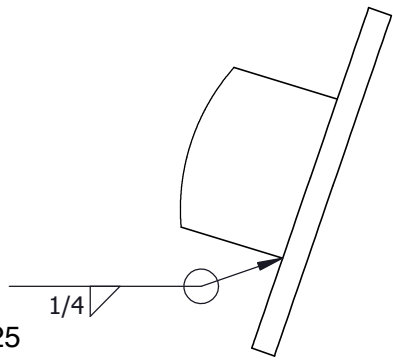
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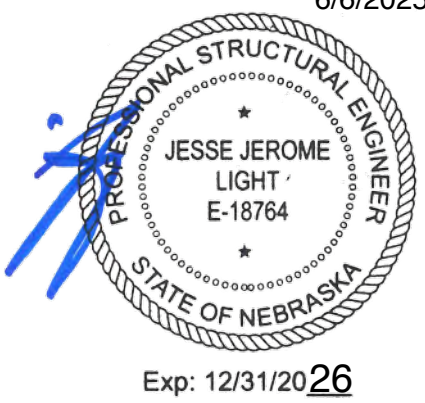
A



DETAIL C



DETAIL D

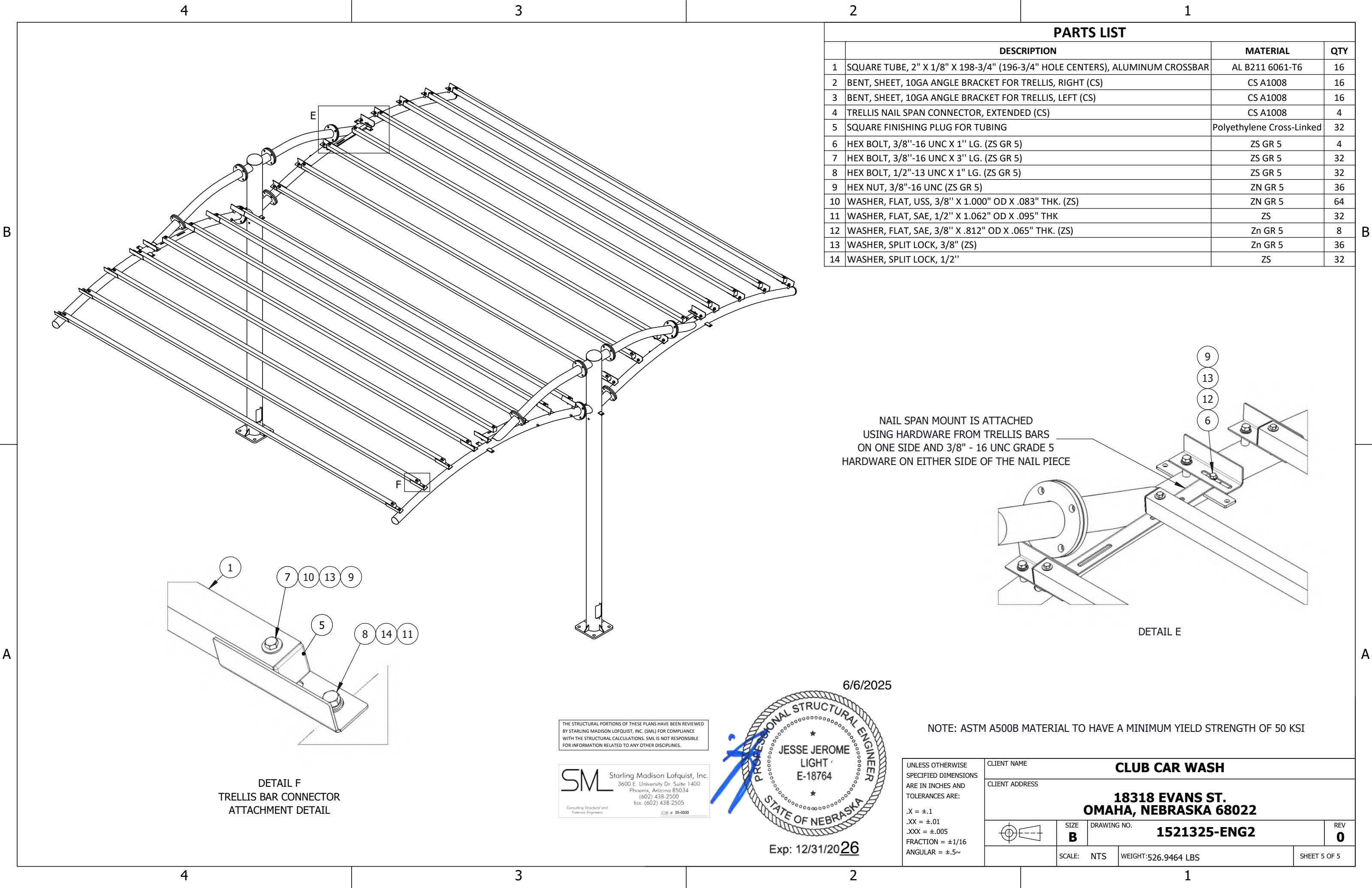


6/6/2025

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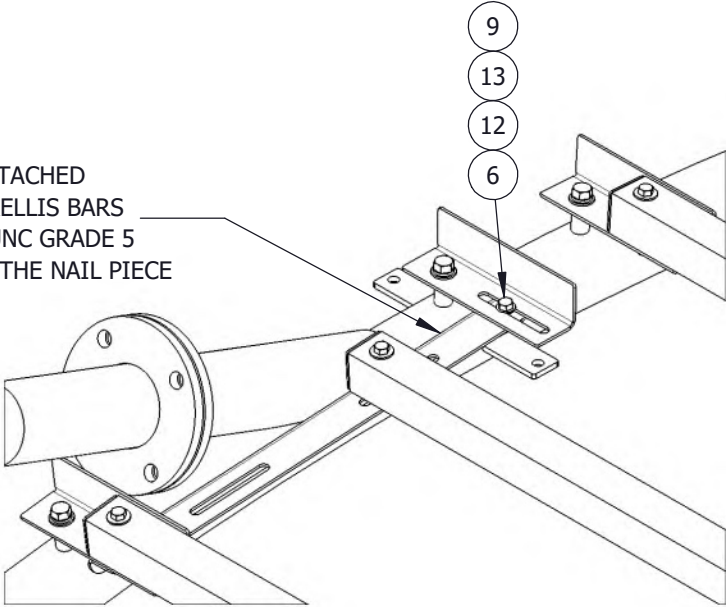
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JOB # 25-0333

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		CLIENT ADDRESS 18318 EVANS ST. OMAHA, NEBRASKA 68022	
	SIZE B	DRAWING NO. 1521325-ENG2	
	SCALE: NTS	WEIGHT: 526.9464 LBS	REV 0
			SHEET 4 OF 5

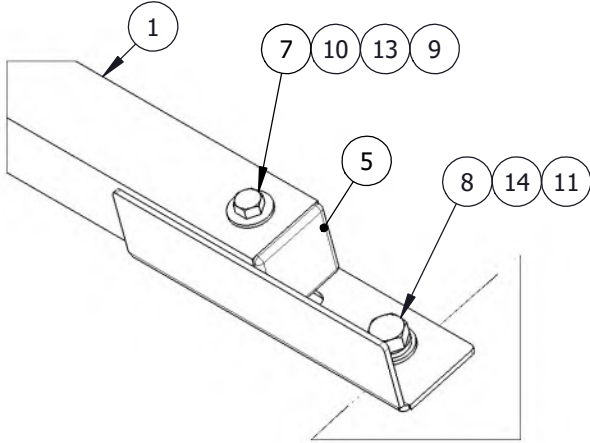


PARTS LIST			
	DESCRIPTION	MATERIAL	QTY
1	SQUARE TUBE, 2" X 1/8" X 198-3/4" (196-3/4" HOLE CENTERS), ALUMINUM CROSSBAR	AL B211 6061-T6	16
2	BENT, SHEET, 10GA ANGLE BRACKET FOR TRELLIS, RIGHT (CS)	CS A1008	16
3	BENT, SHEET, 10GA ANGLE BRACKET FOR TRELLIS, LEFT (CS)	CS A1008	16
4	TRELLIS NAIL SPAN CONNECTOR, EXTENDED (CS)	CS A1008	4
5	SQUARE FINISHING PLUG FOR TUBING	Polyethylene Cross-Linked	32
6	HEX BOLT, 3/8"-16 UNC X 1" LG. (ZS GR 5)	ZS GR 5	4
7	HEX BOLT, 3/8"-16 UNC X 3" LG. (ZS GR 5)	ZS GR 5	32
8	HEX BOLT, 1/2"-13 UNC X 1" LG. (ZS GR 5)	ZS GR 5	32
9	HEX NUT, 3/8"-16 UNC (ZS GR 5)	ZN GR 5	36
10	WASHER, FLAT, USS, 3/8" X 1.000" OD X .083" THK. (ZS)	ZN GR 5	64
11	WASHER, FLAT, SAE, 1/2" X 1.062" OD X .095" THK	ZS	32
12	WASHER, FLAT, SAE, 3/8" X .812" OD X .065" THK. (ZS)	Zn GR 5	8
13	WASHER, SPLIT LOCK, 3/8" (ZS)	Zn GR 5	36
14	WASHER, SPLIT LOCK, 1/2"	ZS	32

NAIL SPAN MOUNT IS ATTACHED
USING HARDWARE FROM TRELLIS BARS
ON ONE SIDE AND 3/8" - 16 UNC GRADE 5
HARDWARE ON EITHER SIDE OF THE NAIL PIECE



DETAIL E

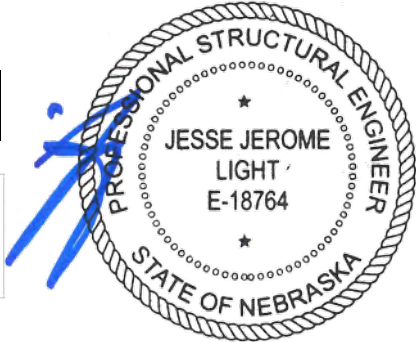


DETAIL F
TRELLIS BAR CONNECTOR
ATTACHMENT DETAIL

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SML

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JCB # 25-0333



Exp: 12/31/2026

6/6/2025

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

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	CLIENT ADDRESS 18318 EVANS ST. OMAHA, NEBRASKA 68022		
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	SCALE: NTS	WEIGHT: 526.9464 LBS	REV 0 SHEET 5 OF 5