

Circle K C-Store
Hualapai Mtn & Eastern
Kingman, AZ

ABBREVIATIONS

AB	ANCHOR BOLT
ABC	AGGREGATE BASE COMPOUND
ADDL	ADDITIONAL
AST	ABOVE GROUND STORAGE TANK
ALT	ALTERNATE
BLDG	BUILDING
BOT	BOTTOM
BRDR	BOARDER
BTU	BRITISH THERMAL UNIT
CALCS	CALCULATIONS
C.J.	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CONC.	CONCRETE
CONT.	CONTINUOUS
DBL	DOUBLE
DEV. LEN.=	DEVELOPED LENGTH
DWG	DRAWING
DWV	DRAINAGE WASTE VENT
EA	EACH
EF	EACH FACE
ELEC	ELECTRICAL
EL. ELEV.	ELEVATION
E.W.	EACH WAY
EXT.	EXTERIOR
F.E.	FINISH ELEVATION
F.F.E.	FINISH FLOOR ELEVATION
F.G.	FINISH GRADE
FIN.	FINISHED
FND.	FOUNDATION
F.O.	FACE OF
F.R.	FIRE RESISTANT
FTG	FOOTING
GA.	GAUGE
GALV.	GALVENIZED
GRD.	GRADE
HDR.	HEADER
HGT.	HEIGHT
HORIZ.	HORIZONTAL
HR.	HOOR
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
INSUL.	INSULATION
K	THOUSAND
LAV.	LAVATORY
LDGR.	LEDGER
L.L.	LIVE LOAD
MAX	MAXIMUM
MFG.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MLDG.	MOULDING
MTL.	METAL
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
NPW	NON-POTABLE WATER
N.T.S.	NOT TO SCALE
OHD.	OVERHEAD
O.C.	ON CENTER
O/C	
(O.C.)	OWNER FURNISHED CONTRACTOR INSTALLED
(O.O.)	OWNER FURNISHED OWNER INSTALLED
OD	OUTSIDE DIAMETER
OSB	ORIENTED STRAND BOARD
P.B.	PARTICLE BOARD
PLT.	PLATE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
P.T.	PREASSURE TREATED
PR.	PAIR
QTY.	QUANTITY
R	RADIUS
REINF	REINFORCEMENT
REQ'D.	REQUIRED
REV.	REVERSE(D)
RO	ROUGH OPENING
R.P.B.P	REDUCED PRESSURE PRINCIPLE BACK-FLOW PREVENTION
S.D.	SMOKE DETECTOR
SIM.	SIMILAR
STL.	STEEL
STND.	STANDARD
STO.	STORAGE
SUSP.	SUSPENDED
T/O	TOP OF
TYP.	TYPICAL
UST	UNDERGROUNHD STORAGE TANK
VR	VEEDER ROOT
VNT	VENT
VTR	VENT THRU ROOF
W/	WITH

DEVELOPMENT DATA

SEE ARCHITECT AND CIVIL DRAWINGS FOR SITE DATA, CIRCULATION AND CONTROL DIMENSIONS.

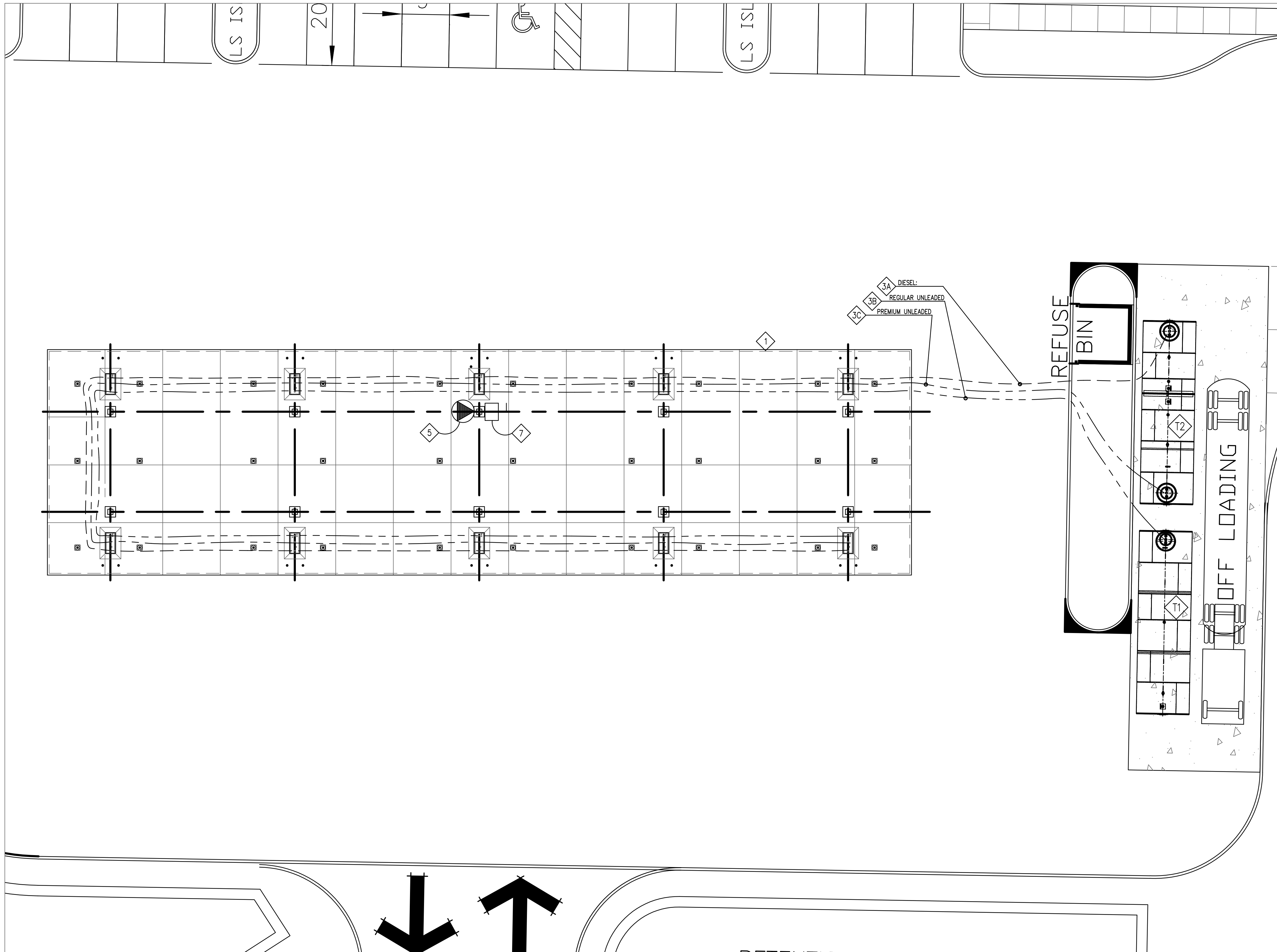
OWNER	SHUFFLER BILLY L PBT SHUFFLER PROPERTY, RICCA LIVING TRUST, SHUFFLER PAULA , SHUFFLER SANDRA
PROJECT LOCATION:	E. HUALAPAI MNT. RD & EASTERN ST. KINGMAN ARIZONA, 86401
PETROLEUM CONTRACTOR	AZTECH PETROLEUM SERVICES, INC. 4449 ABLE, KINGMAN, AZ. 86401 (928) 757-8787 – aztech@frontiernet.net Contact: Paul Tucker
A.P.N.	321-16-054A
SITE AREA:	PARCEL SIZE 5.84 ACRES / 254,390 SF
ZONING:	C2-HMR
SETBACKS	CITY OF KINGMAN ZONING CODE TABLE 3-30.030.A FRONT 20' CORNER EXTERIOR: 20' CORNER INTERIOR: 20' REAR 20'
FUEL CANOPY AREA:	1,024 S.F.
TYPE OF CONSTRUCTION:	VB
ASSESSORS DESCRIPTION:	TRACT: 1900A CECIL DAVIS ADDITION UNIT 4 BLK 6 LOT 1 EXCEPT THE NORTH 270' AS MEASURED ALONG THE WEST BOUNDARY OF SAID BLK 6 CONT 5.84 ACRES 321-16-054 (321-16-054 A & B) TOWNSHIP 21N, RANGE 16W, SECTION 19

SPECIAL INSPECTIONS:

- HIGH STRENGTH BOLTS (Where Occurs).
2018 IBC: Table 1705.3(3): Inspect Anchors cast in
concrete (Reference Standard ACI 318:17.8.8.2)
- SEE METAL CANOPY FABRICATORS NOTES.

SITE





SHEET KEY NOTES

Plan Symbol 1

- NEW CANOPY INSTALLED PER MFR'S. RECOMMENDATIONS
- C-STORE BY OTHERS - SEE ARCHITECTURAL DOCUMENTS
- ADVANCED POLYMER TECHNOLOGIES, Inc ~ "POLY-TECH. (UL-P-175-D, UL971) OR EQUAL - 1.5" PRIMARY UNDERGROUND PIPING INSTALLED IN APT 4" DUCTING PIPE. INSTALL PER MANUFACTURERS RECOMMENDATIONS AND ALL APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS.
 - DIESEL: _____
 - REGULAR UNLEADED _____
 - PREMIUM UNLEADED _____
- UNDERGROUND PETROLEUM TANK FARM
Underground Storage Tanks (UST's) to be installed per manufacturers recommendations and all applicable codes and regulations.
 - 25,000 GALLON TRUE NORTH REGULAR UNLEADED UNDERGROUND TANK
 - 25,000 GALLON TRUE NORTH UNDERGROUND TANK - SPLIT DIESEL / PREMIUM UNLEADED.
- FIRE EXTINGUISHER (4 A 80 BC, OR BETTER) MOUNTED TO COLUMN AT DISPENSER, OR ON POLE MOUNTED CABINET AT TANK FARM. (SITE VERIFY LOCATION)
- 2018 IFC - Chapter 23:
Motor Fuel-Dispensing Facilities and Repair Garages
2305.5 Fire extinguishers: Approved portable fire extinguishers complying with Section 906 with a minimum rating of 2-A:20-B:C shall be provided and located such that an extinguisher is not more than 75 feet (22 860 mm) from pumps, dispensers or storage tank fill-pipe openings.
 - 2303.2 emergency disconnect switches:
An approved, clearly identified and readily accessible emergency disconnect switch shall be provided at an approved location to stop the transfer of fuel to the fuel dispensers in the event of a fuel spill or other emergency. an emergency disconnect switch for exterior fuel dispensers shall be located within 100 feet (30 480 mm) of, but not less than 20 feet (6096 mm) from, the fuel dispensers. for interior fuel-dispensing operations, the emergency disconnect switch shall be installed at an approved location. such devices shall be distinctly labeled as: emergency fuel shutoff. signs shall be provided in approved locations.
2303.2.1 Height:
The height of the emergency disconnect switch shall be not less than 42 inches (1067 mm) and not more than 48 inches (1372 mm) measured vertically, from the floor level to the activating button.
- Asphalt paving and parking by others.

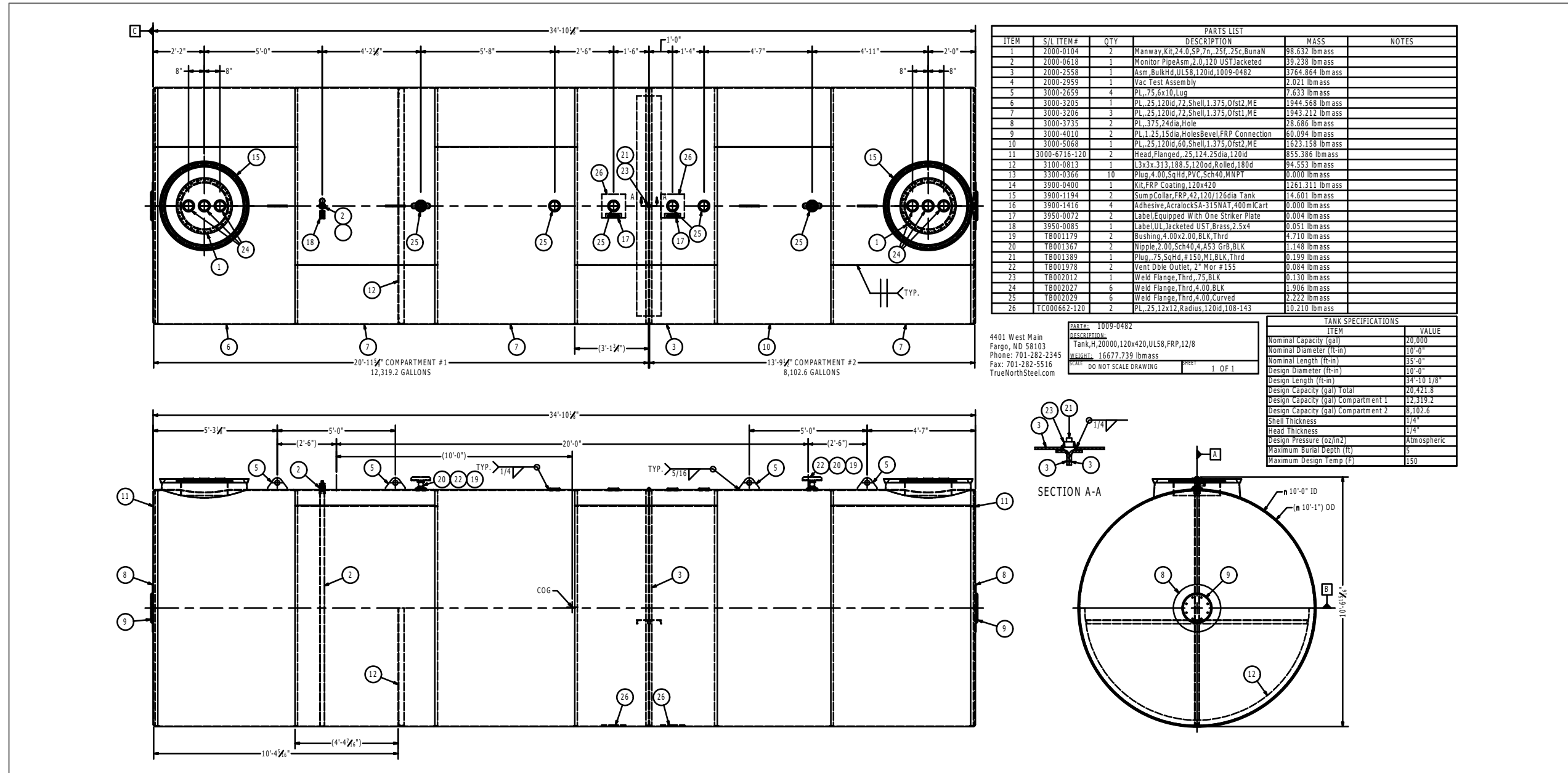
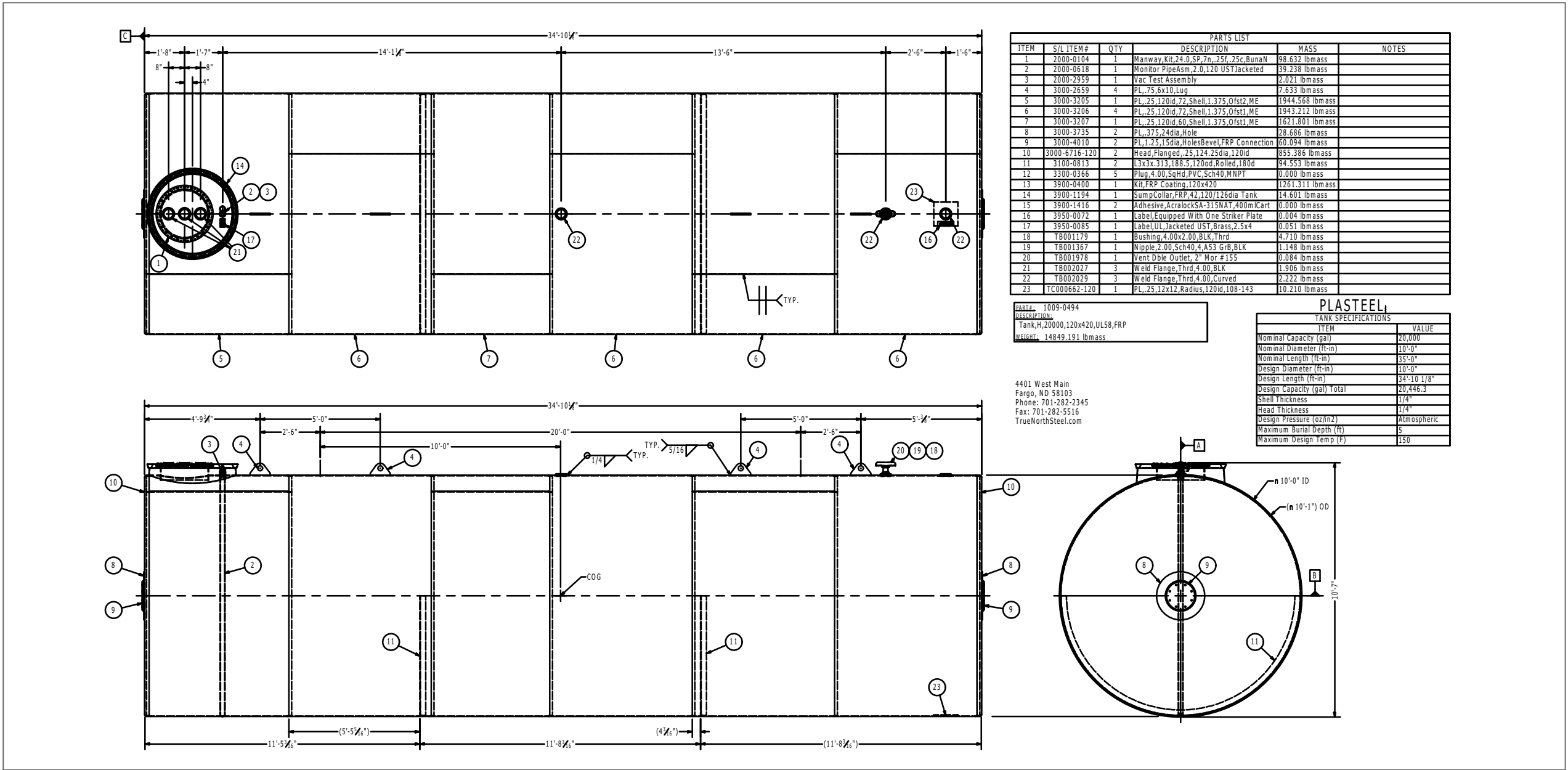
These drawings, as provided by AzTech Petroleum, are for informational purposes only. They do not constitute a contract. The use of these drawings shall be limited to the specific site for which prepared.

AzTech Petroleum Service, Inc.
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Kingman, Arizona 86401
Phone: 928.757.8787 Fax: 928.682.0828

- Drawings For -
Hualapai Circle-k
Hualapai and Eastern
Kingman, Arizona 86401
APN: 421-16-054A

REVISIONS			
MARK	DATE	NOTES	

DATE: SEPTEMBER, 2025
SCALE: AS NOTED
DRAWN: SRT
CHECKED: PT
SHEET TITLE:
FUEL SYSTEM PIPING PLAN
SHEET NUMBER:
PP-1.0
3 of 15



Products (Red Thread and Green) Threaded HP Series Silver Streak	Minimum		Maximum	
	ft.	m	ft.	m
1"- 4" Piping	2	0.6	15	4.6
6"- 24" Pipng	3	0.9	15	4.6
30"- 42" Piping	4	1.2	15	4.6

- TABLE 3 (Recommended Buriel Depths
(Excerpt's from pipe installation handbook)
- (1) Based on a 1000 psi composite constrained soil modulus. Contact Fiber Glass Systems, Applications Engineering for recommendations if other soil conditions or special loading conditions exist.
- (2) Consult factory for greater burial depth recommendations.

Trench Preparation – Final bedding of the trench must be as uniform and continuous as possible. Before back-filling, fill all gaps under the pipe with proper bedding material. Avoid sharp bends and sudden changes in slope. It is important to remove all sharp rocks, cribbage, or other foreign objects that could come in contactwith the piping.

BURIAL DEPTH:
Minimum burial depth in unpaved areas for pipe subjected to vehicular loads depends on pipe grade, pipe size, vehicle axle weight, and the bedding material. Depths for axle loads of 34,000 lbs., minimum depth of cover (from the top of the pipe to the surface) and moderately compacted non-clay bearing soils is shown in Table 3.
Maximum burial depth is dependent on the backfill material. For moderately compacted soils that do not contain large amounts of highly expansive clays, the maximum burial depth is shown in Table 3.

The pipe should always be buried below the frost line.

1 PIPE INSTALLATION SCALE: None
PP-3.3

Bedding Material	Compact Proctor Density
Crushed rock or pea gravel ¾" max. size.	Not Required
Coarse-grained sand or soil with little or no fines	75–85%
Coarse-grained sand or soil with more than 12% fines.	85–95%
Sand or gravel with more than 30% coarse-grained particles.	85–95%
Sand or gravel with less than 30% coarse-grained particles.	Greater than 95%

TABLE 4 (Recommended Bedding Materials)
(Excerpt's from pipe installation handbook)

Bedding Requirements – Fiberglass pipe can be damaged by point contact or wea rwith the trench bottom and walls, improper bedding materials, or adjacent pipe. Use recommended bedding material a minimum of 6 inches thick at the bottom, sides, and top of the piping (refer to Table 4). Adjacent pipes should be spaced the greater of 6 inches or one pipe diameter. The piping can be laid directly on the trench bottom if the native soil meets the requirements of a recommended bedding material (refer to Table 4). In some situations, the trench bottom can be "scratched" such that a natural cradle of dirt is formed. Never lay fiberglass piping directly against native rock or shale. Always use dry, unfrozen bedding materials that do not contain foreign objects or debris. Never use water flood for compaction. Slurries can be used that are intended for burial of flexible piping systems. When using slurries, caremust be taken to prevent floating or deformation of the piping.

Pipe Support – Fiberglass pipe is flexible and requires the support of the bedding material to keep the pipe round in burial applications. It is very important that a recommended bedding material is properly compacted around the entire circumference of the pipe. (Refer to Table 4) Tamp the bedding material under the bottom half of the piping to prevent voids or areas of low compaction. Vibratory or similar tamping equipment can drive small stones or debris into the pipewall if they are present in the bedding material. Avoid striking the pipe with tamping equipment as the pipe may be fractured.

2 PIPE INSTALLATION SCALE: None
PP-3.3

These drawings, as provided by AzTech Petroleum, are not to be used for the installation of petroleum product equipment under the terms and conditions of our signed contract. The use of these drawings shall be limited to the specific site for which prepared.

AzTech Petroleum Service, Inc.
4440 Able Drive
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Drawings For –
Hualapai Circle-k
Hualapai and Eastern
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APN: 421-16-054A

MARK	R E V I S I O N S	
	DATE	NOTES

DATE: SEPTEMBER, 2025
SCALE: AS NOTED
DRAWN: SRT
CHECKED: PT
SHEET TITLE:
UST DETAILS & PIPING NOTES
SHEET NUMBER:
PP-1.1
4 of 15

TRUE NORTH STEEL

PLASTEEL® ELUTRON®
Double-Wall Tank INSTALLATION INSTRUCTIONS

I. GENERAL

The PLASTEEL ELUTRON® underground tank is a U.L. Listed Jacketed tank providing corrosion protection and 360° secondary containment per U.L. 1746 and 58.

ELUTRON® underground tanks must be installed according to these installation instructions, the latest issue of the Flammable and Combustible Liquids Code, N.F.P.A. 30 for underground tanks and the Authority Having Jurisdiction (AHJ).

The installer and/or owner must read and be familiar with the entire installation instructions and Appendix A prior to installing the ELUTRON® tank. To activate the PLASTEEL ELUTRON® Tank Warranty, a completed and signed Certificate of Installation for the PLASTEEL ELUTRON® Underground Tank must be returned to the manufacturer. For additional installation references, consult the current editions of:

- Petroleum Equipment Institute, RP–100
- American Petroleum Institute, RP–1615.

If tank will be stored above ground more than 30 days, consult the manufacturer for procedures.

Products stored in the ELUTRON® tank must not exceed 150° (66° C). The ELUTRON® tank shall be maintained per API RP 1621, Appendix D.

II. VISUAL INSPECTION

Prior to setting tank in hole, inspect exterior for damage. If tank exterior is damaged, call factory regarding correct repair procedures. Exterior damage is indicated when the blue color of the FRP laminate has shown a white fractured pattern.

III. HANDLING

Good construction engineering practice, common sense and safety must prevail during this phase. ELUTRON® tanks are not to be dropped or rolled off of the delivery vehicle onto the ground or into the hole. The lifting hook or hooks provided must be used in combination with the proper capacity unloading equipment. It is the responsibility of the owner to provide the qualified personnel and safe, proper unloading equipment, with specific consideration given to tank weight and reach distance to set tank in excavation. The preferred lifting cable included angle is 60° and must never exceed 120°. A spreader bar may be used to achieve this angle.

IV. EXCAVATION DEPTH, BEDDING AND BACKFILL

Follow all applicable local regulations and codes. When excavating, allow a minimum clearance of 6" for backfill around the tank. For minimum burial cover, consult N.F.P.A. 30. If burial cover over top of tank exceeds five (5) feet, consult factory. Backfill materials should be clean, debris free, sand or pea gravel. Hydrocarbon exposed sand or pea gravel may be re-used if approved by the AHJ. Native sand may be used if approved by the tank manufacturer and the AHJ. Allow a minimum of 12" of backfill between traffic slab and all appurtenances that are attached to the tank. Damage to tank may occur if surface traffic loads are transmitted directly to tank.

V. ANCHORING SYSTEMS

CAUTION: The decision to use an anchoring system is the responsibility of the owner. Damage to the tank may occur if the tank is subjected to movement.

Consult the factory for number, size and type of holddown assemblies required when using a concrete pad under the tank. You may set and securely anchor the ELUTRON ® tank on the pad with a minimum of 6 "of backfill between tank bottom centerline and the pad. Upon AHJ approval, you may set and securely anchor the ELUTRON ® tank directly on the smooth, flat pad taking care to place a 12 "wide x 1 " thick piece of felt between the entire tank bottom centerline and the pad to minimize damage during placement. Consult factory for other anchoring techniques.

VI. TESTING

PRE-INSTALLATION: Aboveground, prior to replacement of tank in excavation, precisely follow one of the three testing options cited in Appendix A attached. Do not deviate from these procedures. If the ELUTRON® tank is delivered with a vacuum on the interstice, refer to Option #2 of Appendix A.

CAUTION: IF OPTION #3 IS USED, DO NOT APPLY ANY PRESSURE TO THE INTERSTICE BEFORE THOROUGHLY UNDERSTANDING AND FAITHFULLY FOLLOWING THE PROCEDURES CITED IN OPTION #3 OF APPENDIX A. DAMAGE TO TANK MAY OCCUR IF YOU DEVIATE FROM THE PROCEDURES AND SPECIFICATIONS

POST-INSTALLATION: Complete the backfill procedures to the top of the tank. Complete all piping and connections ensuring that unused openings are secured tight with threaded steel plugs. Apply a 5 PSIG pressure test in the primary tank and check for tightness of piping connections and tank manhole covers. Gauge should be checked prior to testing for accuracy and have a maximum limit of 15 PSIG.

CAUTION: HE PRIMARY TANK TEST PRESSURE SHALL NOT EXCEED 5 PSIG. DAMAGE TO TANK MAY OCCUR. ISOLATE PIPING FROM TANK BEFORE TESTING THE PIPING AT HIGHER PRESSURES.

The interstice (annular space) will be tested using option #2 or #3 in Appendix A.

OPTION: Request Appendix B for procedures to perform the Interstitial Vacuum Test that has been third party evaluated to meet the EPA tank tightness test protocol.

VII. VENTING

The primary tank must be vented to atmospheric pressure except for use with a vapor recovery system, provided the pressure or vacuum does not exceed 1 psi (6.9 kpa). Compliance is required for underground tank venting in N.F.P.A. 30. The interstitial space does not require venting. It is recommended that the interstice be sealed air tight.

CAUTION: DO NOT MANIFOLD VENT FROM PRIMARY TANK TO VENT FROM INTERSTITIAL SPACE.

VIII. PLASTEEL® SEALING PROCEDURES

These procedures must be performed prior to completion of backfill and AFTER TESTING. To ensure complete corrosion protection, the following instructions must be followed:

A. General instructions for working with fiberglass resin By carefully performing the following steps, your ELUTRON® tank will be fully protected from corrosion. The kit includes materials for covering and protecting the unused tank connections, tank handling hooks, and each of the pipe connections on top of the tank. The PLASTEEL® kit contains hazardous materials. Read the enclosed material safety data sheets before proceeding to work with PLASTEEL® kit materials. The standard kit includes the following materials and tools:

BOX A	
4 each 1 Qt. bottles PLASTEEL® resin	
BOX B	
1 each 1 Qt. bottle Resin emulsifier or Acetone	
4 each 1 Oz. bottles Catalyst	
6 each Star Mats	
10 each Mat strips	
6 each Plug mats	
1 – 3 each 4" Flat pipe plugs	
2 each Paint stirring sticks	
2 each 1–1/2" Paint brushes	
3 each Mixing cups	
1 each Sheet 60 grit sandpaper	
4 each Hook Mats	

Additional material is supplied when tank configured with containment collars, special fittings, manholes or extension spools

b. Preparation

Do not mix the catalyst with the resin until all the pieces you wish to impregnate have been fitted in place and the 1" strips of matting are laid out next to their corresponding pipe connections. Once the resin and catalyst are mixed, a chemical reaction begins that cannot be reversed. Working time for a mixed batch is about 30 minutes at 70° F. Higher temperatures make it set up more quickly, shortening working time. The key things to remember are: (1) Be prepared and have all parts prefitted and in place before mixing the resin. (2) Mix only as much resin as you can use in 30 minutes and mix it thoroughly—stir for at least 1 minute. (3) Work quickly and efficiently. Lower temperatures increase resin set-up time and require additional catalyst.

c. Mixing the catalyst

Resin and catalyst must be mixed in the proper proportions so that the resin will harden properly. Below is a list of some various size batches you could mix.

RESIN	CATALYST
1 qt.	1/2 oz.
1 pint	1/4 oz.
1 cup	1/8 oz.

If you're not sure how fast it will set up, it is better to mix several small batches rather than one big one.

d. Application

Using the paint brush provided, DAB the resin mixture into the cloth rather than painting it on. You are trying to completely soak the matting with resin, not just cover it.

e. Pipe and Risers

For standard threaded fittings: Apply resin to the base of the pipe and top of tank and push down the matting circle as shown. Impregnate with resin.

Impregnate the strips of matting and wrap like tape around the joint at the base and working upward. Apply any leftover resin to the out-side of the joints when done wrapping.

For special bolt-up flanges: Apply generous coating of resin to exposed metal edges of flange and wrap with resin impregnated matting strips. Apply leftover resin to nuts and bolts.

f. Steel Plugs

After fitting fiberglass matting, lift it up and apply mixed resin to the top of the tank surface where the matting will contact. Stick matting over plug into wet resin and totally impregnate matting with resin, dabbing in with paint brush as described above.

g. Manhole, Extension Spool and Handling Hooks

Apply generous coating of resin impregnated matting strips to exposed metal edges and to handling hooks (matting precut). Apply leftover resin to nuts and bolts except on access cover.

h. Cleanup

Hands and tools may be cleaned with resin emulsifier before the resin has hardened. No solvent will work once the resin has hardened.

NOTE:

The ELUTRON® tank installation is not complete until all exposed steel surfaces on tank are sealed with the PLASTEEL® fiberglass resin.

For additional assistance or information, call your PLASTEEL ELUTRON® tank factory

701-492-4425 TANK@TRUENORTHSTEEL.COM

TYPICAL REMOVAL & DISPOSAL OF EXISTING TANKS

The company will coordinate the removal of gasoline product in each existing tank prior to the start of this project to within 3 to 7 inches from the bottom of each tank.

Only tank manufacturer's trained and certified personnel using equipment and procedures specified be the tank manufacturer and following all government rules and regulations shall be permitted to enter a tank.

- 1.0 Disconnect all power to dispensers and tank top equipment.
- 2.0 Evacuate product from tanks and lines.
- 2.1 For Submersible Turbine Pump (STP) system, drain the product lines into tank by removing STP check valve and opening safety valve test ports. Disconnect the flex piping at the STP and drain the remaining product into an approved container.
- 2.2 For suction system, disconnect the product lines from tank or low point and drain into an approved container. Product removed from lines becomes property of Contractor and may be used as motor fuel.
- 2.3 Contractor is responsible for the removal of the liquid residue at the tank bottom and/or "Cleaning/Rinsing" of the tanks, where required. This must be accomplished on-site prior to tank removal. Contractor shall use an approved company to perform this work. The recovered material and reinsert shall be managed according to local, state, and Federal codes and regulations. The material must be taken to a facility that is approved by the company. The construction Manager MUST sign all waste manifests. See bid documents for a list of these approved sites and companies.
- 2.4 Contractor is responsible for the proper transpiration and disposal of all old tanks that are removed as part of this project. Contractor must provide proof of proper transportation and disposal at an approved facility in the form of a signed certificate or affidavit of proper disposal from the tank disposal facility ("Death Certificate"). This certificate must be included in the project close-out folder as outlined in section K-1.0. Consult bid documents of Construction Manager for specific local information regarding this issue.
- 3.0 When determined safe by the Construction Manager and local inspector, if present, degas tank to less than 10% of the Lower Explosive Limit (LEL) by inserting vapors by adding a minimum of 1.5 lbs of dry ice per 100 gallons of tank capacity, or other approved method allowed by local code with written approval from the Construction Manager.
- 4.0 Excavate to tank top, remove all tank appurtenances, plug all openings, remove tanks and place in a secure location.
- 5.0 Remove remaining product and vent piping from site at earliest time possible, if required.
- 6.0 For in-ground heating and used oil tanks, follow B-2.3 through B-5.0, as applicable. Some jurisdictions may have classified used oil as hazardous waste and must be managed as such.
- 7.0 A separate contract will be executed with an environmental consultant to perform an environmental site assessment. Construction Manager and/or Consultant shall inspect open excavation for evidence of a hydrocarbon release.

Flexible Piping
Installation Instructions

1.0 General Information

These installation instructions contain important information about the proper installation of Flexible Piping Systems. This information and instructions primarily deal with underground fuel piping. Other components such as tank sumps, dispenser sumps, and other piping systems used for tank vent, stage II vapor recovery and remote fill lines have their own individual installation instructions. Refer to manufacturers Piping Manual for more detailed instructions. This installation instruction or the information contained within, must be given to the site owner or operator upon completion of work.

NOTICE: Piping system components may only be installed and serviced by a trained and currently certified installer in order for the product warranty to be valid. The use of non-certified personnel or any deviations from these written procedures could result in damage or leakage of the system and void the product warranty.

2.0 UL Listings

FlexWorks double wall piping is listed with Underwriter's Laboratories (UL®) under file #MH16678 and labeled as follows: Motor Vehicle Fuels, High Blend Fuels, Concentrated Fuels and Aviation and Marine.

3.0 UL Listed Warranted Fuels

Below are the listed fuels that have been tested under UL 971 and are warranted for use with the FlexWorks Flexible Piping System.

4.0 Piping Applications

FlexWorks flexible piping may be used in the following applica-tions.

- Pressure System Supply Piping
- Suction System Supply Piping
- Tank Vent Piping
- Stage II Vapor Recovery Piping
- Remote Fill Lines

WARNING: FlexWorks piping is not warranted for above ground transmission of flammable liquids due to the possible exposure to fire.

5.0 Operating Pressures & Vacuums

FlexWorks piping and its associated fitting systems have a minimum five to one (5:1) safety factor from maximum rated operating pres-sure for the primary pipe. The product fluids transferred should not exceed the maximum operating pressures indicated on each pipe size. For suction systems the pipe is capable of withstanding 29" mercury vacuum.

6.0 Operating Temperatures

FlexWorks pipe is for underground use only and a maximum operat-ing temperature of 125°F (52°C).

7.0 NOT USED.

8.0 Storage, Transit & Handling

OPW-FCS requires that all piping, fittings and system components be stored in such a manner that they will not be subject to direct sunlight and /or excessive environmental conditions. OPW-FCS requires that the piping, fittings and system components are handled in such a manner that it will not cause any unnecessary damage. Do not drop, cut or cause severe impact to any of the components. Keep all piping, fittings and other components in the original packaging until ready for use. Keep all coupling protector caps/ covers on couplings and fittings until assembly. Inspect all fittings prior to installing. Parts that have been cut, cracked or otherwise misused should be replaced. Do not drive over, drag or damage FlexWorks Piping. Any damaged or compromised section of pipe should be discarded and not be used.

NOTICE: Never use knives or razor blades to open packaging as damage to piping could occur.

9.0 Assembly of FlexWorks Piping System

FlexWorks piping must be installed with OPW-FCS tools and fittings. These include an OPW-FCS coupling machine (fitted with the appropriate size swage kit, bull nose plugs, a pipe cutter tool and jacket cutter/swivel wrenches for the appropriate size pipe. Failure to use OPW-FCS tools and fittings may cause damage or failure of the system and void product warranty.

9.1 Pipe Burial Requirements

FlexWorks piping, and Access piping are strong, yet flexible, piping systems and must be buried in such a manner so that they will not compress. Be sure that proper pipe trenching, backfill materials and burial depth requirements are followed and in place prior to measur-ing and cutting FlexWorks piping and Access piping. Refer to the Flexible Piping Manual for complete instructions and warranty com-pliance.

Note: FlexWorks piping is intended for installation in normal soil applications.

CAUTION: Use extra caution when backfilling piping in trenches or open excavations so as not to damage or crush the piping or any associated fittings. Avoid sudden impacts from dumping backfill materials. Spread backfill gradually and evenly. Failure to do so could cause immediate or long-term damage to the piping.

CAUTION: FlexWorks and Access piping can be punctured by grade stakes or other sharp objects driven into the ground. The use of tracer tape or a schematic of the underground pip-ing should always be kept onsite and marked off prior to com-mencing any work that may damage the pipe.

NOTICE: Installation instructions for containment sumps are not contained within this FlexWorks Piping instructions. Refer to the dedicated product manuals for the correct installation procedures and techniques for the containment sumps and flexible entry boots.

9.2 Installing Pipe Adapters

All FlexWorks fittings have proprietary threads and cannot be directly connected to standard National Pipe Thread (NPT) pipe fittings without an OPW-FCS adapter. After all plumbing assemblies have been fabricated and installed inside the tank and dispenser sumps, install the appropriate OPW-FCS pipe adapter (Swivel Adapter or Fitting) into NPT threaded pipefitting. This is done with standard pipefitting tools, but caution should be taken not to damage the OPW-FCS threads or O-ring surfaces.

NOTICE: For NPT threads, use only UL classified thread sealant specifically formulated for gasoline and petroleum products. Do not over-tighten fittings for it could cause damage to the tapered threads.

CAUTION: Cutting the steel riser pipes and plumbing assemblies too long or too short could cause significant stress on the FlexWorks pipe and coupling that could ultimately cause failure. The FlexWorks fittings should always be in direct alignment with the flexible entry boot openings and cannot be used in lieu of a flex connector.

NOTE: It is important to select the correct size and type pipe entry boot to be used for a specific application and pipe size. Refer to the OPW-FCS Flexible Entry Boot Manual of detailed information for installing these entry seals.

9.3 Installing Access Piping

Access Piping is a large diameter corrugated flexible piping that adds additional protection to FlexWorks piping and allows the pipe to be removed and replaced without the need for excavation. Measuring and cutting Access Pipe should be done prior to measuring and installation of FlexWorks piping. The installation of Access Pipe is highly recommended for all FlexWorks piping systems. Refer to the Access Pipe installation manual for complete instructions and warranty compliance.

9.4 Measuring Pipe Distances: When measuring the distance between containment sumps to determine the proper length of a flexible pipe section to be installed, it is important to consider that the pipe is flexible and will not be installed perfectly straight. A slight weaving of the pipe in the piping trench is recommended to compensate for expansion and contraction characteristics of the piping. Measurements must be taken through the Duct chase pipe to insure the proper length. The measuring points will be from the face of the OPW-FCS fitting to the next OPW-FCS fitting. Record the "measured distance" and make the following adjustments depending on the connection system used: After the adjustments have been made to the recorded "measured distance", measure the outside of the unrolled flexible pipe carefully, following the bends in the piping and mark the location to be cut with a permanent marker. Cut the pipe with an OPW-FCS pipe cutter as described in the Flexible Piping Manual.

9.5 Coupling FlexWorks Piping

STOP: Before coupling FlexWorks Piping, some components such as entry boots and the Duct may need to be installed onto the pipe prior to coupling. Refer to the Flexible Piping Manual for further clarification.

The FlexWorks piping system requires the use of the OPW-FCS Cou-pling Machine for proper installation of the pipe couplings onto the ends of the flexible pipe sections. Refer to the Flexible Piping Manual for proper coupling machine use and warranty compliance. Different sizes of Swivel Couplings require their own swage kit to properly swage the coupling onto the pipe. Refer to the OPW-FCS Products Price List for a list of the appropriate swage kit.

NOTICE: Do not use silicone-based lubricants to lubricate the swage. Only metal assembly paste or white lithium grease should be applied into the coupling insert. Make sure entire coupling assembly is on the machine prior to swaging.

NOTICE: Make sure that the pipe is in a vertical position an that the coupling ferrule is against the coupling nut and the swivel nut is flush against the faceplate at all times during the swaging cy-cl-e.

9.6 Coupling Inspection: Inspect the installed pipe coupling assem-bly inside and out to make sure there was no damage to the insert, ferrule or nut during the swaging operation.

NOTICE: Before and after the coupling process the protective coupling cover should be kept on the coupling. This precaution will lessen the possibility of damage and contamination by dirt, sand and debris that could compromise the sealing process.

9.7 Installing Coupled Pipe Sections

After a pipe section has been coupled and inspected, the coupled pipe section may be connected to the OPW-FCS adapters and/ or fittings.

9.8 Installing Pipe Through Chase: At this stage all of the Access chase piping sections should already be installed. Install the appropriate size Bull Nose Plug into the coupling and push the FlexWorks piping through the Duct. (Refer to OPW-FCS's Flexible Underground Piping Manual for complete instructions)

9.9 Connecting Pipe Sections

After all coupled pipe sections have been inserted into the containment sumps then connection of the pipe sections can begin inside the containment sumps. Prior to connecting all double wall Flex-Works piping with swivel couplings, install the appropriate size test boot.

NOTICE: Prior to connecting Swivel Couplings, inspect the pipe couplings to make sure all seals are in place and free of dirt and debris. Look for any damage to the seals that may have occurred during the coupling procedure or when in-stalling through the Access Pipe.

9.9.1 Swivel Fitting Systems: When installing swivel couplings, hand tighten the coupling onto the OPW-FCS fittings until it is snug. With an OPW-FCS swivel wrench, tighten the coupling nut ¼ turn more or to 200 in./lbs. Do not allow the pipe to rotate while tightening. The ¼ turn procedure will prevent over tightening of the coupling past the maximum 200 in./lbs.

CAUTION: Over tightening of the coupling will cause damage to the coupling gasket and result in the eventual leak of the system.

CAUTION: Never use pipe dope or sealant on the threads of a Swivel Coupling.

9.9.2 ¾" and 1" Swivel Pipe Couplings: The ¾" and 1" FlexWorks pipe couplings are fixed male NPT fittings and are assembled as rigid steel pipe. After installing the appropriate test boot, apply a liberal amount of UL Listed thread sealant to the threads of the coupling and tighten to 20 ft./lbs.

9.9.3 Interstitial Test and Connector Tube Assemblies
The jacket of double wall FlexWorks piping must be tested to ensure liquid tightness. Connect all test and connector tubes into the test boots. Tighten all band clamps to 30 in./lbs.

10.0 Testing Supply Pipe

It is important to properly test the FlexWorks piping system prior to backfill to insure there are no leaks in the primary or secondary piping. The following test procedures are provided as a guideline only and the manufacturer assumes no responsibility or liability for the consequences of any testing practices.

Note: Access piping provides additional protection and the ability to perform routine maintenance or removal of Flex-Works piping and is not intended as containment. Air testing of the Access piping is not required however, should testing of the chase be desired, pressurize the Access Pipe to no more than 5 PSI.

CAUTION: Integrity testing with air, gas or water can be dangerous and it is very important that the proper testing equipment be used and that the testing procedures be adhered to. OPW-FCS assumes no responsibility or liability for the consequences of any testing practices. Only qualified and experienced personnel should conduct the air pressure testing. Never disconnect couplings, caps, or plugs unless the air pressure has been released.

NOTICE: All testing requirements must be in accordance with all applicable codes.

CAUTION: Always make sure the underground storage tank and dispensers are isolated from the piping system when conducting pressure tests.

NOTICE: Significant temperature changes can result in a pres-sure reading differential.

10.1 Primary Pressure Testing

- Pre Backfill Pressure Testing: Before backfilling of the pipe, an air pressure hold & soap test is required. Pressurize the primary pipe to sixty pounds per square inch (60 PSI). Gradually apply air pressure into the flexible piping line and maintain this pressure for a minimum of 1 hour, or in accordance with the authority having jurisdiction (AHJ), prior to backfilling.
- Post Backfill Air Pressure Testing: After backfilling, if the pressure on the primary was released, an additional air pres-sure hold test is required. Pressurize the primary pipe to sixty pounds per square inch (60 PSI). Gradually apply air pres-sure into the flexible piping line and maintain this pressure for a minimum of 1 hour, or in accordance with the authority having jurisdiction (AHJ), making sure that there is no drop in pressure.

10.2 Secondary Pressure Testing

- Pre Backfill Air Pressure Testing: After the primary line pressure stabilizes, gradually apply air pressure into the inter-stitial space of the flexible piping line. Do not exceed ten pounds per square inch (10psi) or 69kPa, making sure there is no drop in pressure for a minimum of one hour, or in ac-cordance with the authority having jurisdiction (AHJ).
- Post Backfill Air Pressure Testing: After backfilling an air pressure hold test is required. After the primary has held pressure steadily for at least 1 hour, gradually apply air pres-sure to the secondary test tube, not to exceed 10 PSI. Main-tain this pressure for a minimum of 1 hour, or in accordance with the authority having jurisdiction (AHJ), making sure that there is no drop or increase in pressure.

NOTICE: During pressurizing, check the reading on the inter-stitial test gauge that should be securely connected to the Interstitial Test Tube. Any increase in pressure will indicate a leak in the primary pipe or fittings.

NOTICE: All testing requirements must be in accordance with all applicable codes.

CAUTION: Always make sure the underground storage tank and dispensers are isolated from the piping system when conducting pipe pressure tests.

11.0 Routine Maintenance and Visual Inspections

OPW-FCS recommends routine (at least once a month) visual inspections inside all containment sumps. Fuel leaks collected in containment sumps must be reported immediately and investigated by the site owner. If leakage or damage to the piping system is suspected, OPW-FCS must be notified immediately.

All sumps must be kept free of fuel, water and debris. When changing fuel filters at the dispenser, make sure any spilled product is cleaned out of the bottom of the dispenser sump to prevent a possible fire hazard.

CAUTION: Ignoring or disabling leak detection alarms can lead to further damage and possible failure of the system.

CAUTION: Failure to remove fuel and liquids from containment sumps may compromise the performance and integrity of the sump and its associated fittings and seals over prolonged periods of time.

12.0 Warranty Registration
Warranty registration must be completed and mailed to OPW-FCS for warranty activation. A copy of the warranty registration should be given to the site owner for their records.

13.0 OPW-FCS Contact
OPW-FCS can be contacted if there are any questions concerning the installation, maintenance or repair of FlexWorks piping. Additional publications are also available on OPW-FCS's website www.opwglobal.com or upon request.

These drawings, as provided by AzTech Petroleum, are not to be used for the reproduction of petroleum product equipment under the terms and conditions of our signed contract. The use of these drawings shall be the responsibility of the user for which prepared.

AzTech Petroleum Service, Inc.
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Fax: 928.692.0629

– Drawings For –
Hualapai Circle-k
Hualapai and Eastern
Kingman, Arizona 86401
APN: 421-16-054A

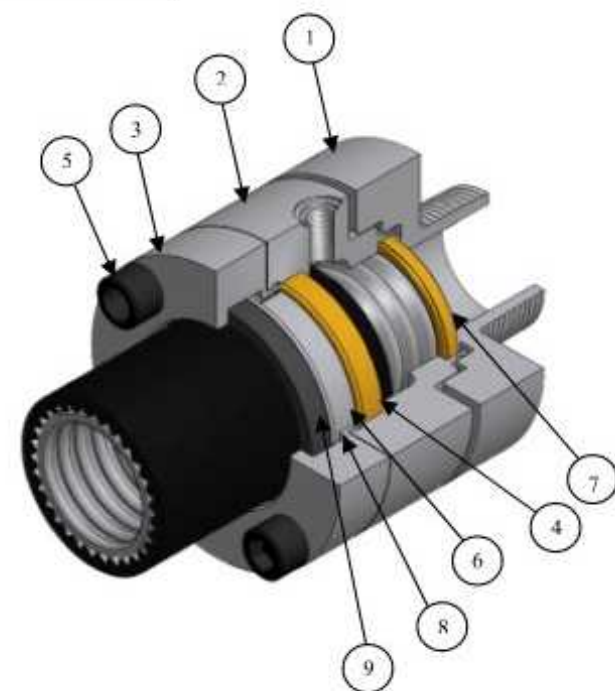
R E V I S I O N S			
MARK	DATE	NOTES	

DATE: SEPTEMBER, 2025	
SCALE: AS NOTED	
DRAWN: SRT	
CHECKED: PT	
SHEET TITLE: TRUE NORTH UST SPECS, & PIPING NOTES	
SHEET NUMBER: PP-1.2 5 of 15	



FITTING COMPONENT LISTING AND MATERIALS

DoubleTrac Pipe Size	1"	1-1/2"	2"
PART #	UGE-DTSC-16	UGE-DTSC-24	UGE-DTSC-32
CLAMP I.D.	1-1/2"	2-3/8"	2-7/8"
Maximum Horizontal Clamp Spacing (ft.)	6	8	10
Maximum Vertical Clamp Spacing (ft.)	15	15	15



#	DESCRIPTION
1	NPT ADAPTOR END BRASS OR SST
2	MAIN BODY BRASS OR SST
3	REAR BODY BRASS OR SST
4	JACKET LOCK BRASS
5	CAP SCREW SST OR HIGH ALLOY STEEL
6	REAR SLEEVE BRASS OR SST
7	SPLIT RING SET BRASS OR SST
8	RETAINING RING SST
9	REAR SEAL FKM FLUORO-ELASTOMER

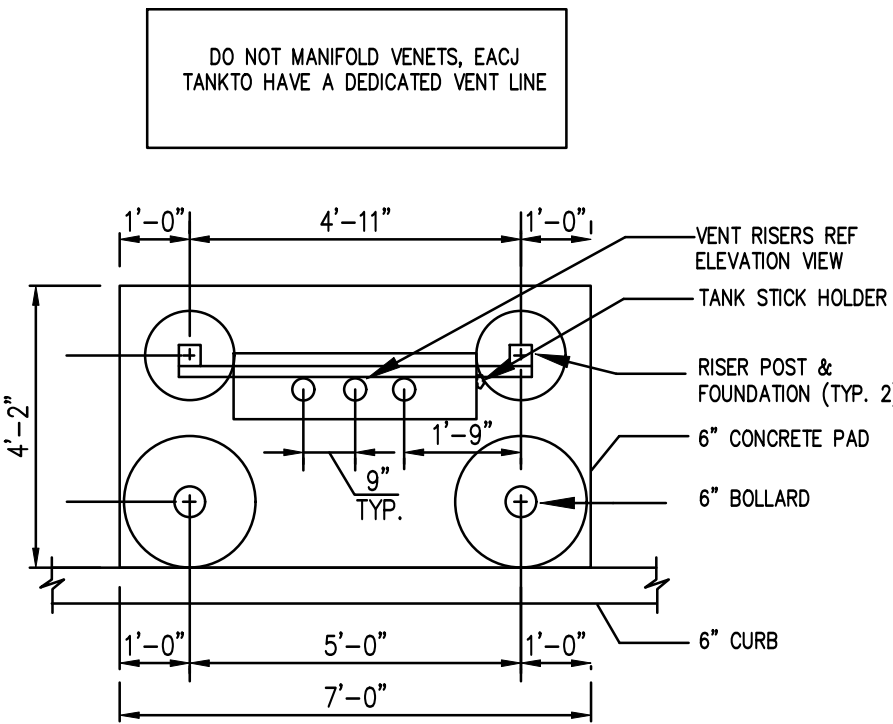
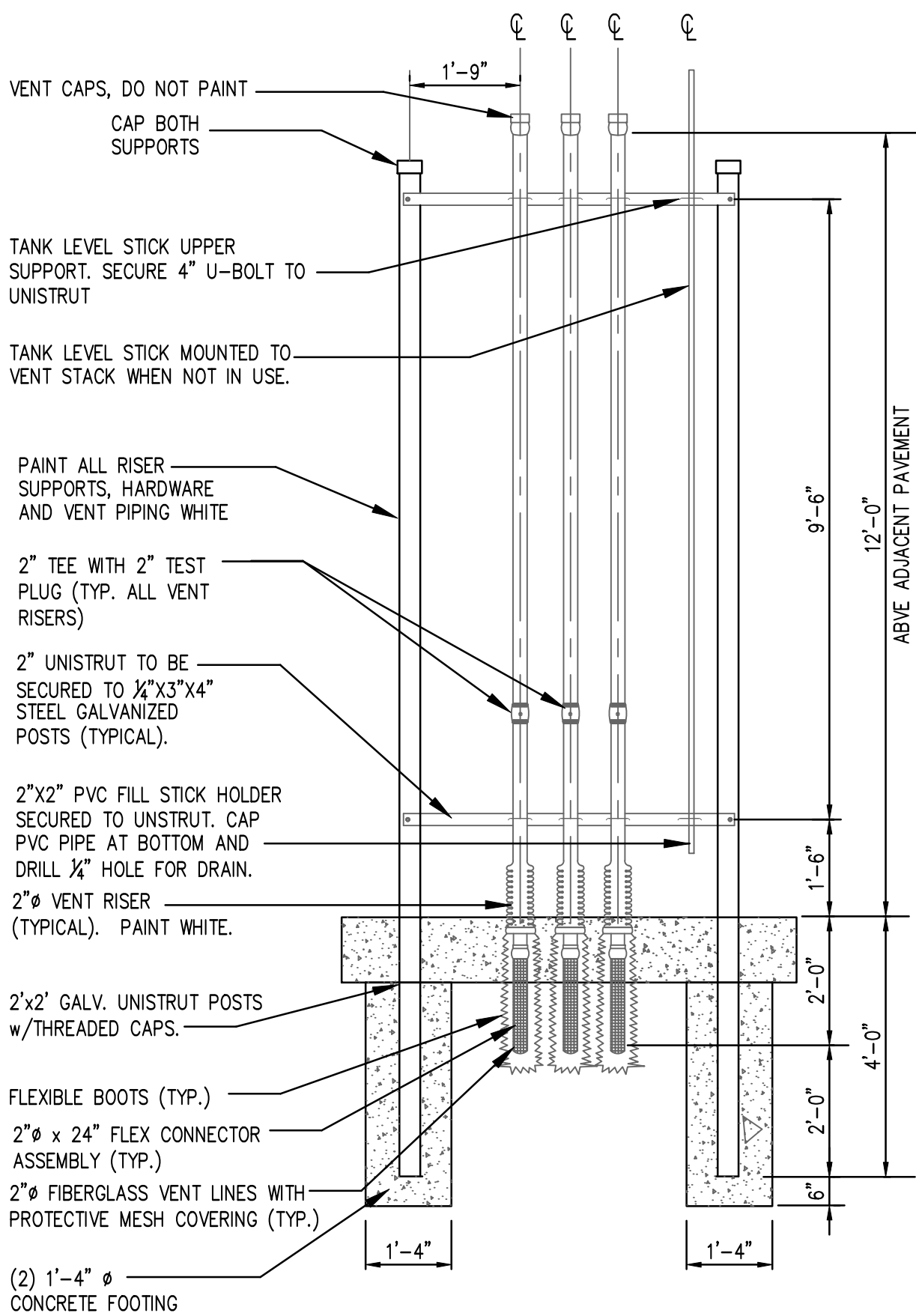
The diagram illustrates the proposed pipe-jacket assembly. It consists of a stainless steel corrugated pipe (left) joined to a non-metallic nylon 12 jacket (right). An EFEP barrier is located at the joint. The jacket has an outer diameter (JACKET O.D.) and an inner diameter (PIPE I.D.).

PART #	UGF-FSP-16	UGF-FSP-24	UGF-FSP-32
SIZE (Inch)	1"	1-1/2"	2"
JACKET O.D. (Nom)	1.550"	2.300"	2.925"
INSIDE DIAMETER (Nom)	1.060"	1.525"	2.060"
MINIMUM BEND RADIUS	12"	24"	32"
WEIGHT / FT (lbs.)	0.75	1.50	2.00

Page 2 of 3



(c) Location and arrangement of vents for Category 3 flammable liquids with a flashpoint at or above 100°F (37.8°C), Category 4 flammable liquids and liquids with a flashpoint greater than 199.4°F (93°C) (formerly designated Class IIIB Combustible liquids). Vent pipes from tanks storing Category 3 flammable liquids with a flashpoint at or above 100°F (37.8°C), Category 4 flammable liquids or liquids with a flashpoint greater than 199.4°F (93°C) (formerly designated Class IIIB Combustible liquids) shall terminate outside of building and higher than the fill pipe opening. Vent outlets shall be above normal snow level. They may be fitted with return bends, course screens or other devices to minimize ingress of foreign material.



1 VENT STACK DIAGRAM

SCALE: NONE

These drawings, as provided by AzTech Petroleum, are restricted to the installation of petroleum product equipment under the terms and conditions of our signed contract. The use of these drawings shall be restricted to the original site for which prepared.



Phone: 928.757.8787
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- Drawings For -
Hualapai Circle-k

PN: 421-16-054A

[illegible]

DATE: SEPTEMBER, 2025

SCALE: AS NOTED

AS NOTED

DRAWN: 555

DRAWING	SRT
REVISION	

CHECKED: _____ PT _____

SHEET TITLE:

PIPE & VENT

DETAILS

SHEET NUMBER: **D-17**

P-1.3

0 of 15

Table 1.10 Trenching and Backfilling(to be used with Figure 1.1)

Pipe Size		Surface Condition	Min. Burial Depth		Min. Select Backfill	
			A		B	
in	mm		in	mm	in	mm
2	50	Unpaved	18	432	12	305
		Paved, min. 4" (100 mm) asphalt	12	305	8	203
		Paved, min. 4" (100 mm) concrete	9	229	5	127
		Paved, min. 6" (150 mm) concrete	9	229	3	76
3	80	Unpaved	20	508	14	256
		Paved, min. 4" (100 mm) asphalt	13	330	9	229
		Paved, min. 4" (100 mm) concrete	11	279	7	178
		Paved, min. 6" (150 mm) concrete	10	254	4	102
4	100	Unpaved	20	508	14	356
		Paved, min. 4" (100 mm) asphalt	14	356	10	254
		Paved, min. 4" (100 mm) concrete	11	279	7	178
		Paved, min. 6" (150 mm) concrete	10	254	4	102
6	150	Unpaved	36	914	14	356
		Paved, min. 4" (100 mm) asphalt	24	610	10	254
		Paved, min. 4" (100 mm) concrete	20	508	7	178
		Paved, min. 6" (150 mm) concrete	16	406	4	102

Concrete Native Soil

Asphalt Select Backfill

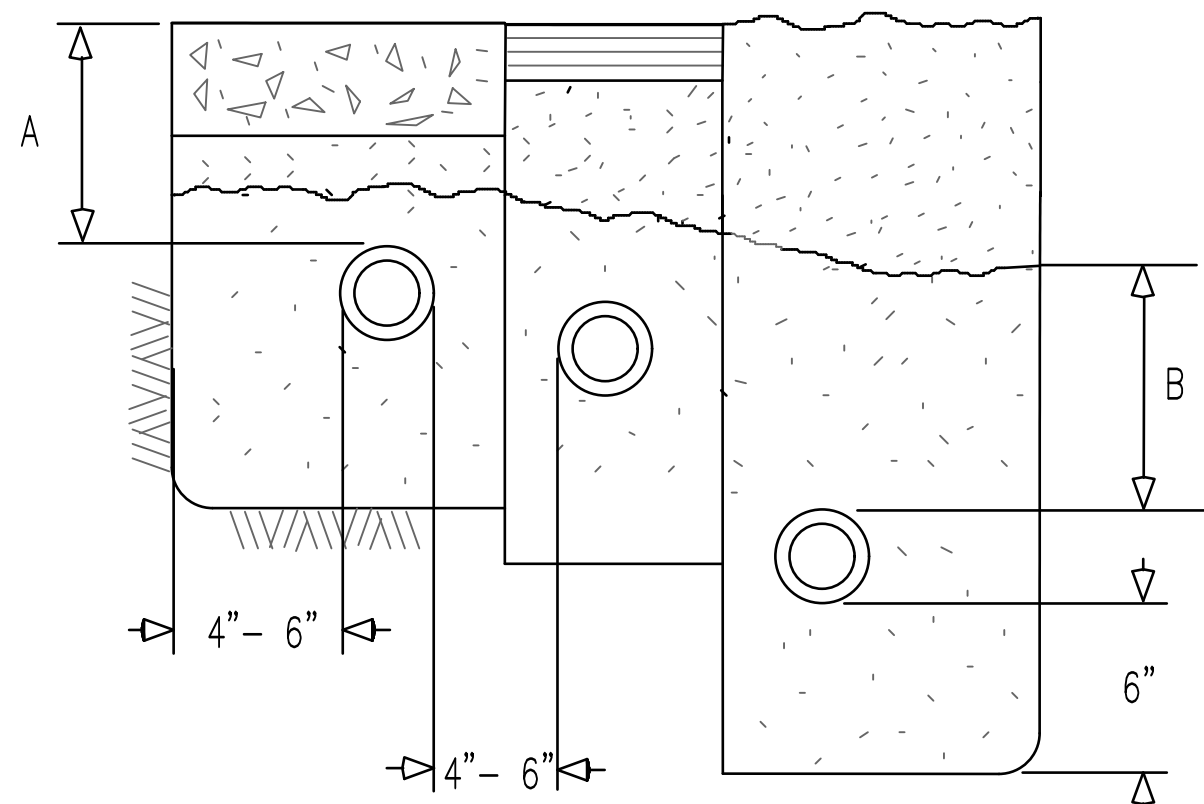
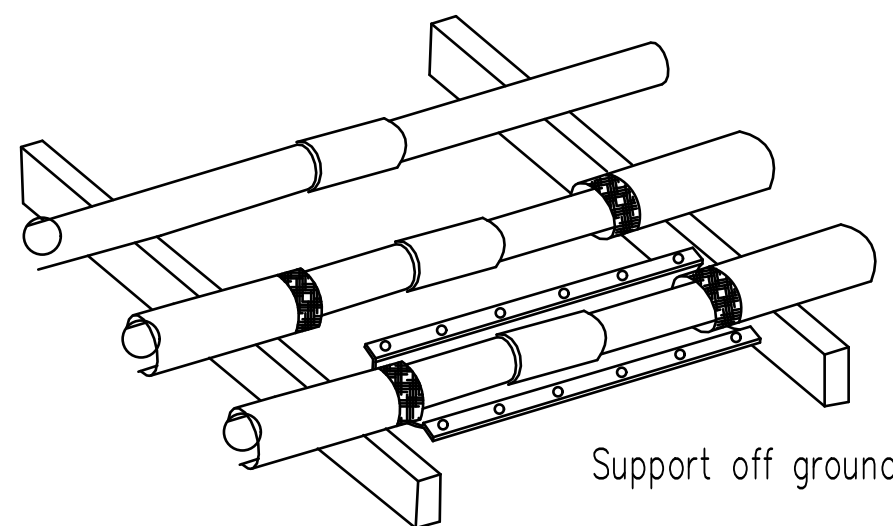


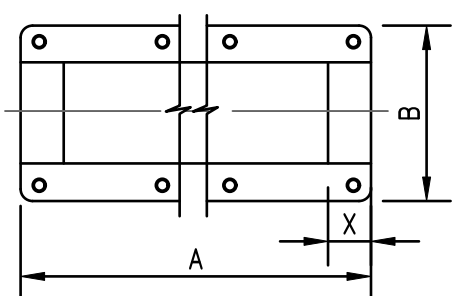
Figure 1.1
Recommended Trenching, Bedding and Backfill(see Table 1.10)

During layout, bonding, and inspection, support pipe off of the ground (e.g., 2"x4") to keep joints clean and bedding out of pipe



5 RED THREAD IIA – DUALOY 3000/L – DUALOY 3000/LCX

Fiberglass Primary, Secondary containment, and Coaxial piping for Underground Fuel Installations



Nominal Pipe Size	Length	OD	Insertion Bell	Wt
(in) (mm)	(in) (in)	(in) (in)	(in) (in)	(in) (in)
2	50	14.00	4.00	8 ² 1.50 1.3
3	80	14.00	6.00	8 1.50 1.7
4	100	14.00	7.00	8 1.50 2.0

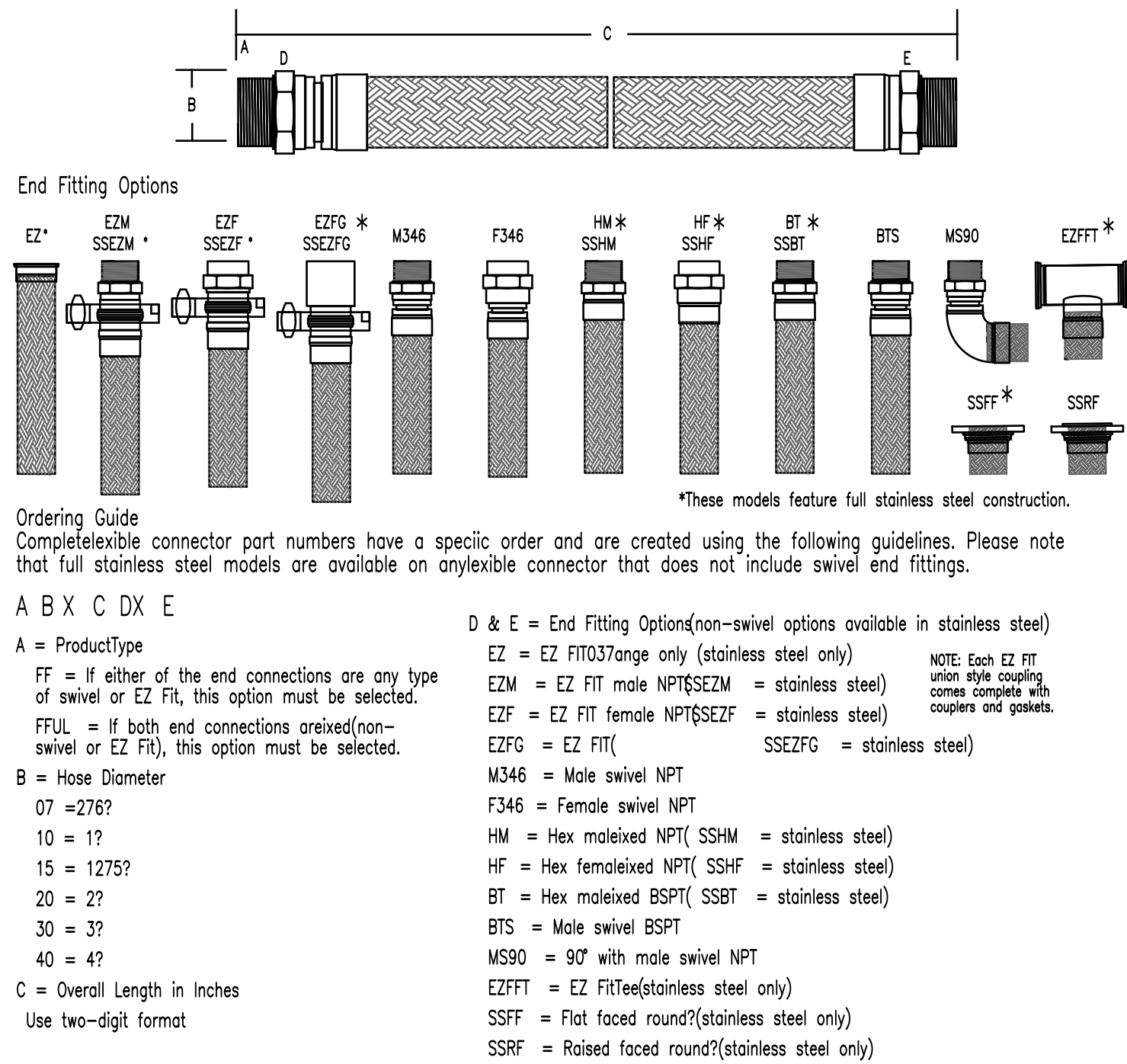
1) Repair coupling inside diameters match pipe outside diameters of the same nominal pipe size
2) Number of bolt holes

REPAIR COUPLINGS

(CLAMSHELL TERMINATION FITTING sim.)

6
PP-1.4

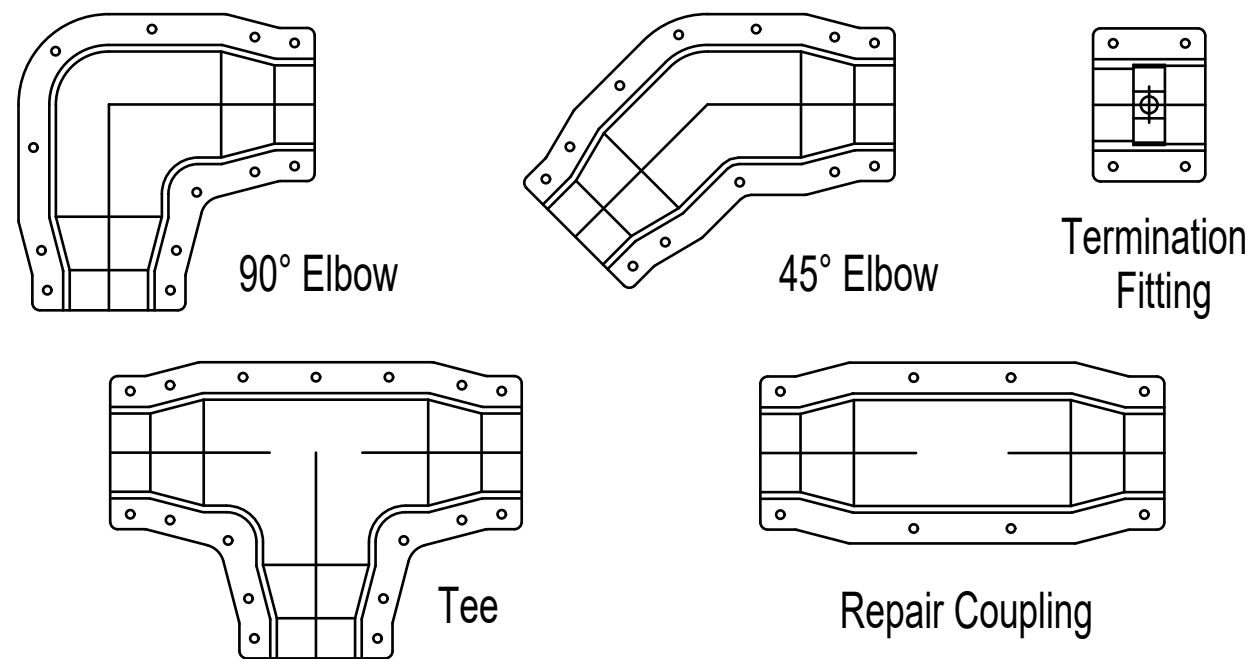
N.T.S.



1 FRANKLIN FUELING "FLEX-ING" FLEXIBLE CONNECTORS

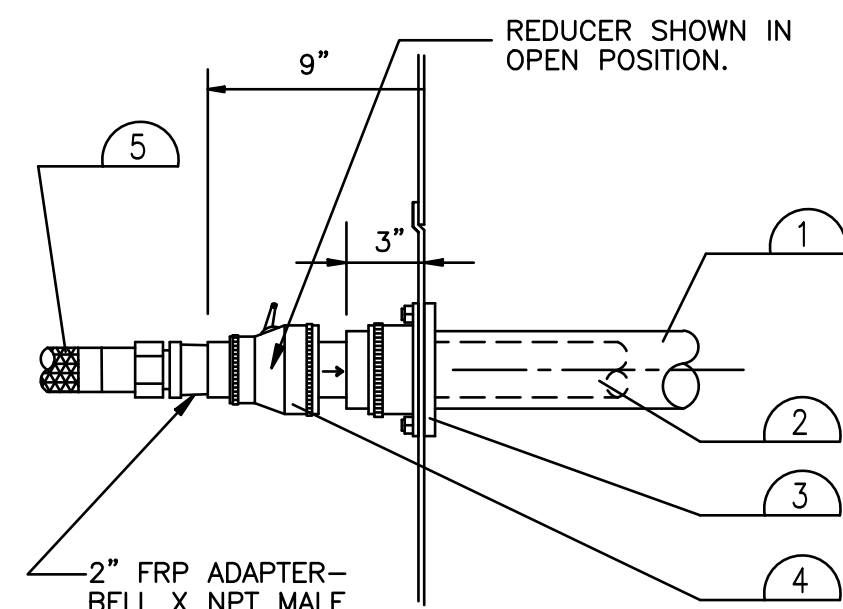
UL 2039 listed for above and below ground installation for use with gasoline, gas alcohol blends (up to E85), diesel, and Biodiesel.

- Meets USA NFPA 30-A fire code requirements.
- Outer shell: 304 stainless steel
- Inner core: 321 stainless steel
- End fittings: Nickel plated steel or stainless steel.
- 100% pressure tested to 100 PSI to assure quality



Containment fittings are then joined with bolts. Insert and begin threading each bolt into the pre-inserted nut by hand. A nut driver or powered device can be used to assemble the bolts. If a power tool is used to tighten the bolts, confirm tightness of each bolt with a nut driver. Note: Tighten the inner radius bolts first.

2 CONTAINMENT FITTINGS



7 PRODUCT PIPING/ SUMP PENETRATION N.T.S.

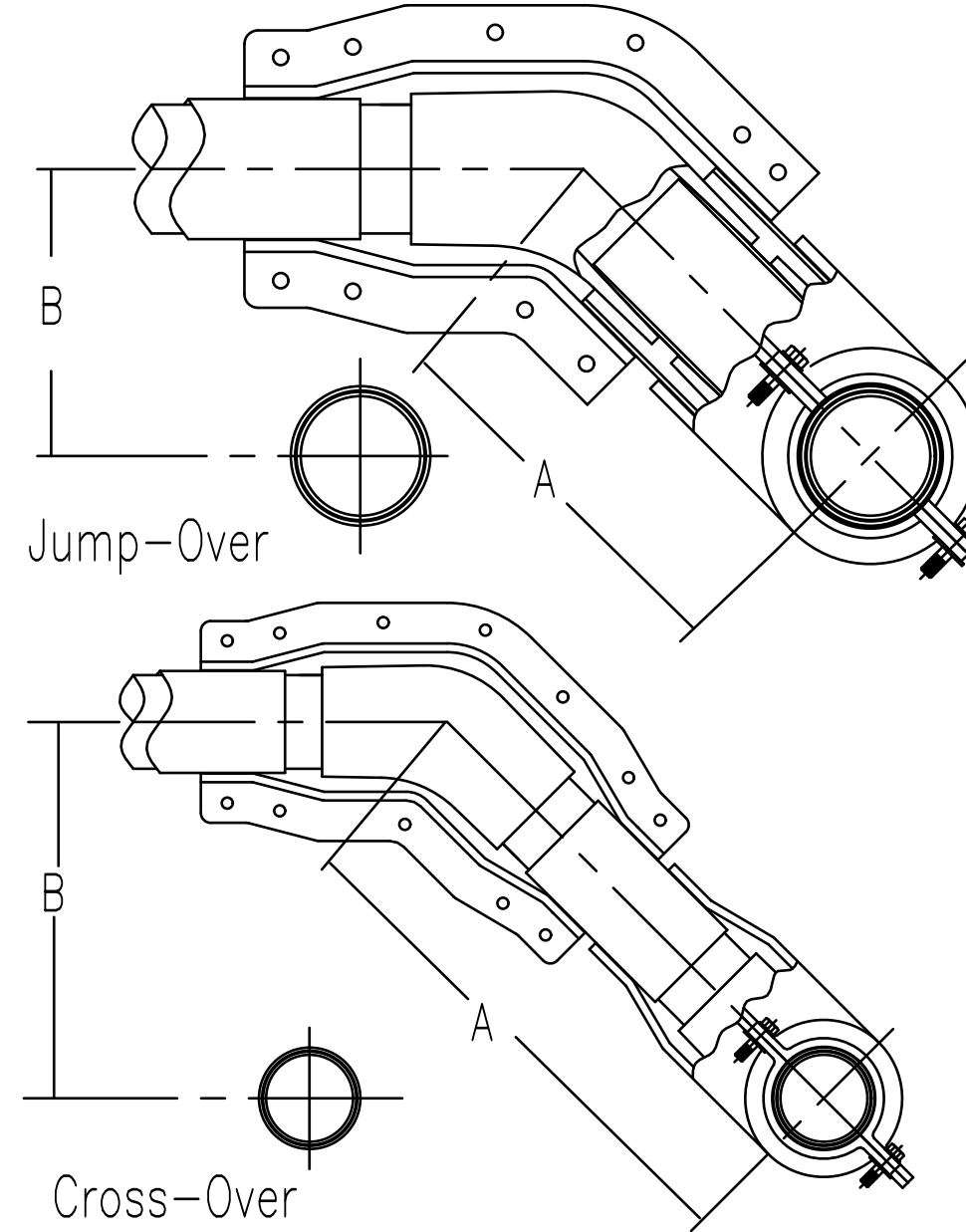
FIBERGLASS PIPE AND FITTINGS TO BE AMERON OR A.O. SMITH RED THREAD IIA. FITTINGS AND PIPING MAY NOT BE MIXED. USE ALCOHOL COMPATIBLE ADHESIVE.

Jump-overs and Crossovers

Assemblies for crossing lines can be made in one of two ways. For lines where the tee and 45° elbow need to be very close (a jump-over), the clamshell fittings can be cut at the beginning of the tapered portion on the branch of the tee and one leg of the elbow. A piece of single wall pipe of then extlarger size.

Lines where there is sufficient distance between the tee and 45° elbow to allow for the full clamshell fittings, the crossover can be made by simply bonding the fittings and clamshells to

Jump-over assembly made with next larger size single-wall containment pipe and clamshell fittings cut at start of taper to allow minimum length.



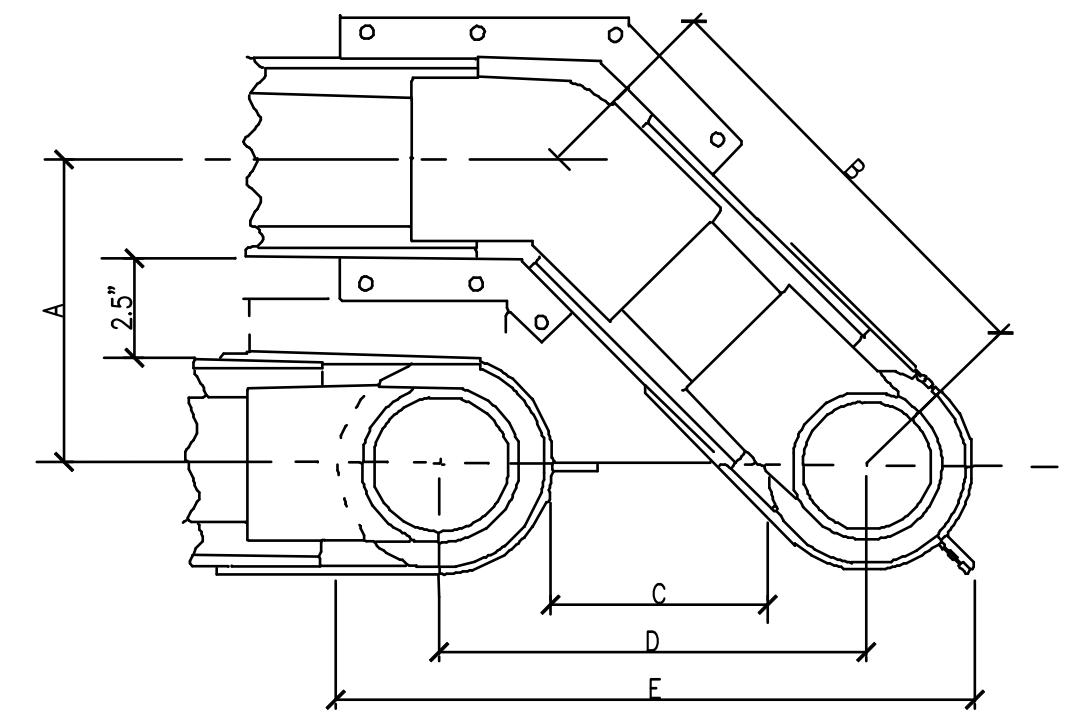
Cross-over assembly made with LCX pipe and full clamshell fittings for installations where longer length is allowed or needed

Pipe Size		Minimum Length()			
		Jump-Over		Cross-Over	
in	mm	in	mm	in	mm
2	50	7 1/2	190	12 5/8	320
3	80	9 3/4	250	14 3/4	375
4	100	10 1/4	260	16 1/2	420

Pipe Size		Minimum Length()			
		Jump-Over		Cross-Over	
in	mm	in	mm	in	mm
2	50	5 1/4	135	9	227
3	80	6 7/8	175	10 1/2	265
4	100	4 1/4	185	11 5/8	295

3 JUMP OVERS AND CROSS OVERS

- 3" FIBERGLASS PIPE (FRP)
 - ALL PENETRATIONS MUST BE PERPENDICULAR TO CONTAINMENT SUMPS.
 - PIPING SHALL B E LAID AND CONTINUOUSLY SUPPORTED ON A 6" COMPACTED BED OF PEA GRAVEL. NO PIPING SHALL BE SUPPORTED BY BLOCKS, PLANKS, OR OTHER DEBRIS. MAINTAIN 7" MINIMUM COVER BETWEEN SLAB BOTTOM AND TOP OF FRP PIPE/FITTINGS (WHERE OCCURS). PIPE STANDARD FALL TO BE 1/4" PER FOOT. VAPOR LINE FALL TO BE VERIFIED AFTER PIPING IS LAID ON GRAVEL BEDDING.
 - FIBERGLASS PIPE AND FITTINGS TO BE AMERON OR A.O. SMITH RED THREAD IIA. FITTINGS AND PIPING MAY NOT BE MIXED. USE ALCOHOL COMPATIBLE ADHESIVE.
- 2" FIBERGLASS PIPE (FRP)
- APT 3" ENTRY BOOT.
- BLUE LINE 3" x 2" TEST BOOTS w/TEST PORT, ENTRY BOOT
 - MINIMUM BEND RADIUS 4".
- FLEXING FLEX CONN. 2"x24" M&M SWIVEL END.



NOTE: The 2.5" (64 mm) critical dimension must be inspected in the field

The procedure for making a crossover are identical to those used for making Red Thread IIA with the exception that the legs of the containment fittings do not need to be shortened to accommodate putting the primary fittings in close proximity.

During layout, bonding, and inspection, support pipe off of the ground (e.g., 2"x4") to keep joints clean and bedding out of pipe

NOTE: Use self tapping screws or match drill holes (5/16") at a distance of 3/4" (19mm) from the cut end of the 45° elbow and the tee. This is to assure a colmpressive forace is applied near the end of the containment fitting adhesive bond line.

Fittings	Containment Pipe Size		
	3" max. in.	4" max. in.	6" max. in.
Remove from 45° elbow	1.25	2.00	1.25
Remove from side run of tee	1.50	1.63	1.00
Product nipple size (1)	2 x 8	3 x 8	4 x 10
Containment nipple size	3 x 6	4 x 6	6 x 8

Containment Pipe Inches	A in.	B in.	C in.	D in.	E in.
3	7.50	10.60	6.50	10.00	14.50
4	8.50	12.00	7.50	12.00	16.50
6	10.65	15.00	8.00	14.75	22.00

4 SUMP CONNECTIONS

GENERAL NOV PIPING NOTES

NOV 'DUALOY PIPING' INSTALLED PER MANUFACTURERS INSTRUCTIONS.

Refer to NOV Fiber Glass Systems
UL/ULCListed Red Thread IIA
Dualoy 3000L and Dualoy 3000/LCX
Piping Systems
General Installation Instructions

These drawings, as provided by AzTech Petroleum, are for informational purposes only. They are not to be used for design or construction of petroleum product equipment under the terms and conditions of our signed contract. This drawing and design shall be restricted to the original site for which prepared.

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Hualapai Circle-k
Hualapai and Eastern
Kingman, Arizona 86401
APN: 421-16-054A

REVISIONS	NOTES
DATE	

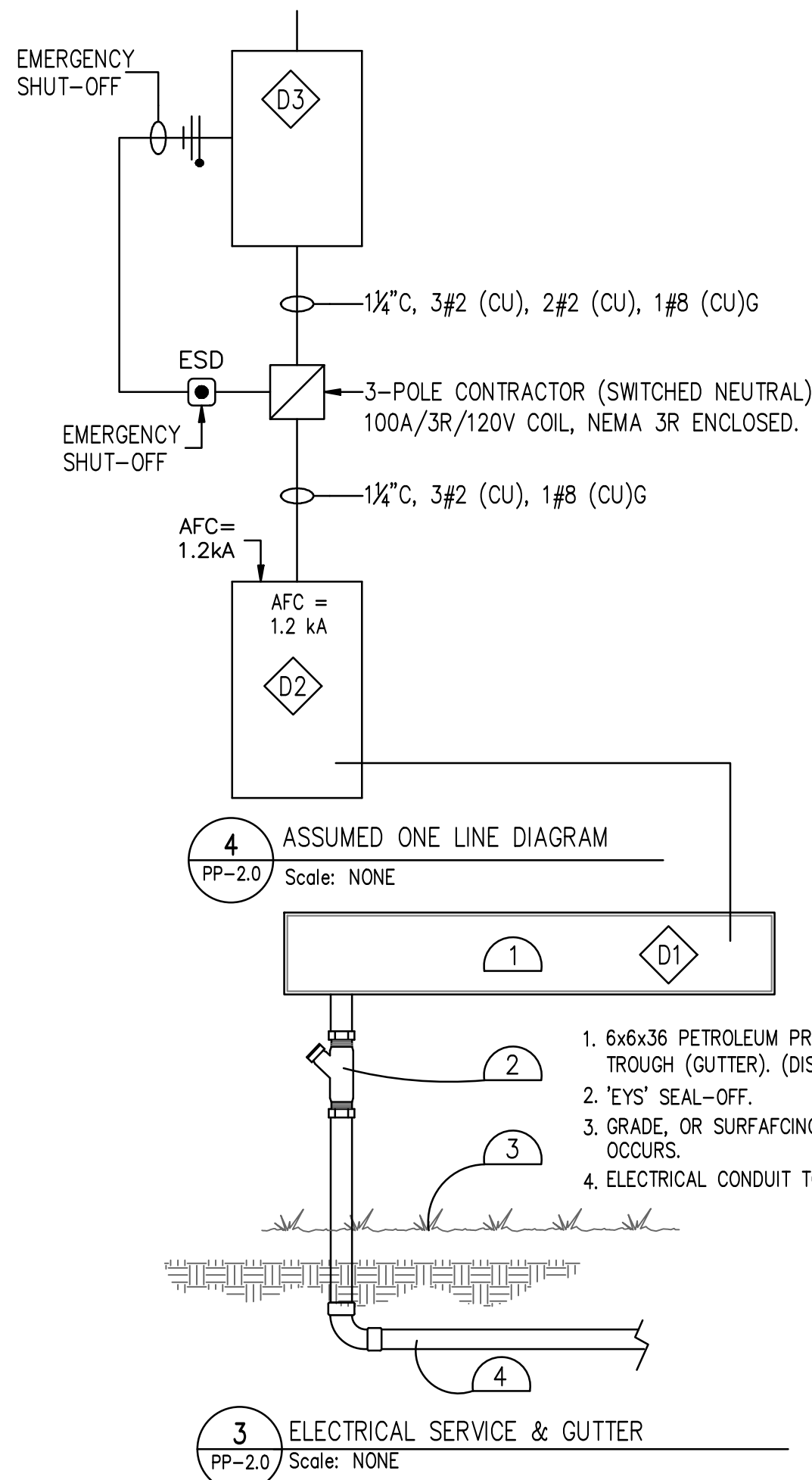
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DRAWN: SRT
CHECKED: PT
SHEET TITLE: NOV PIPING NOTES & DETAILS
SHEET NUMBER: P-1.3.1
7 of 15

LEGEND

P – PREMIUM UNLEADED
R – REGULAR UNLEADED
D – DIESEL
F = FILL
V = TANK VENT
T = TANK LEVELING MONITOR
STP = SUBMERSIBLE TURBINE MONITOR
X = EXTRA TANK OPENING
A = ANNULAR SPACE
E = EXTRACTOR
P = PLLD
C = CONDUIT

DESCRIPTION	AMP/POLE	LOAD
FE PETRO 1.5HP, 7.9A PUMPS (AT FUEL STORAGE TANKS)	20/1	*200
GILBARCO DISPENSER's	20/1	*200
TANK MONITOR's	20/1	*200
CARD READER's	20/1	*1300
TANK MONITOR's	20/1	*1300
EMERGENCY STOP	20/1	*150

5 EQUIPMENT LOADS
PP-2.0 * VERIFY w/MFGR's SPECS

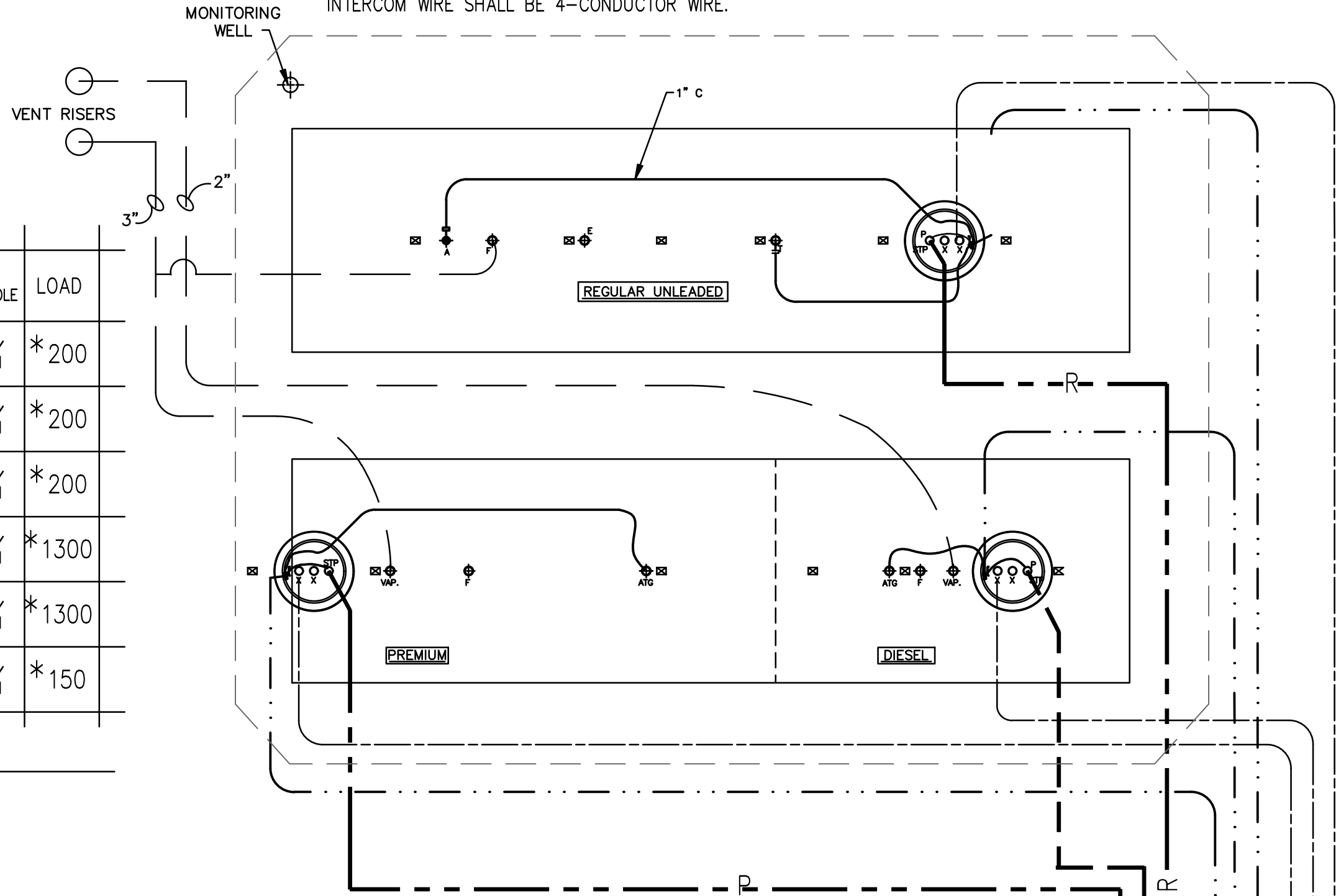


GENERAL NOTE:
ALL PETROLEUM PRODUCT EQUIPMENT IS TO BE INSTALLED PER MANUFACTURERS INSTRUCTIONS AND SPECIFICATIONS. REFER TO MANUFACTURERS/PROVIDORS INSTALLATION MANUALS FOR ALL FOUNDATIONS AND SUPPORTS, CONNECTIONS, PRODUCT DETAILS, WIRING AND SPECIFICATIONS.

NOTE:
2-SETS OF 18 GAUGE WIRE (UNSHIELDED), 1-EACH FOR CRIND AND PUMP. PULL WITH INTERCOM CABLE IN CONDUIT No. 3.

NOTE:
PROVIDE 12 GAUGE/ 120 VOLT WIRE FOR TURBIN HOOKS. 2-WIRES FOR BLEND MPD's AND 2-WIRES FOR DIESEL. PULL WITH POWER CIRCUIT IN CONDUIT.

NOTE:
INTERCOM WIRE SHALL BE 4-CONDUCTOR WIRE.



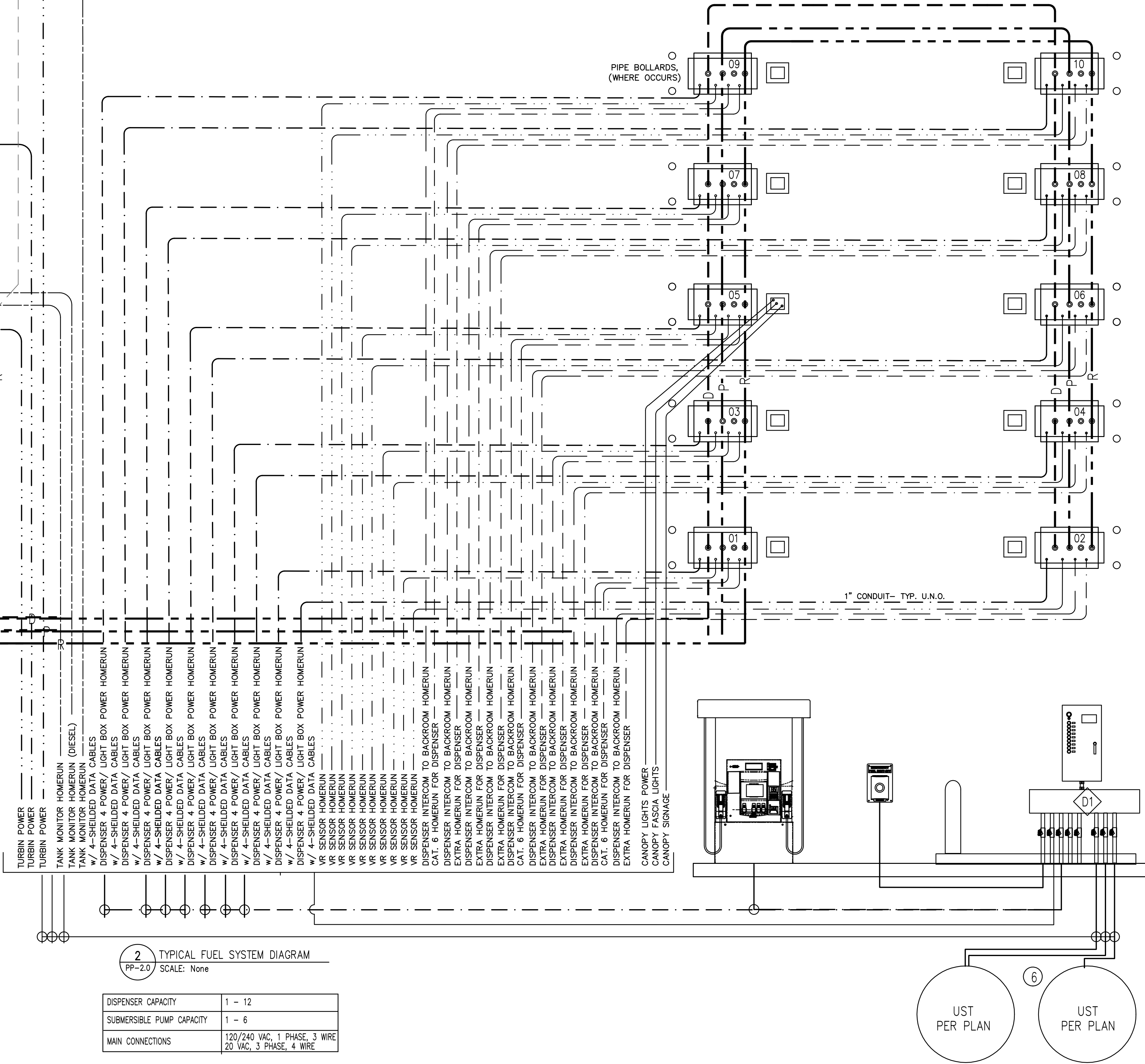
NOTE:
SEE SHEET PP-1.0 FOR TANK DRAWINGS.

GENERAL NOTES

- TANKS MUST BE CONTINUOUSLY VENTED DURING CONSTRUCTION.
- 2-SETS OF 18 GAUGE WIRE UNSHIELDED, 1 EACH FOR CRIND AND PUMP. PULL WITH INTERCOM CABLE.
- PROVIDE 12 GAUGE/120 VOLT WIRE FOR TURBIN HOOKS. 2 WIRES FOR BLEND MPD's AND 3 WIRES FOR DIESEL. PULL WITH POWER CIRCUIT.
- INTERCOM WIRE TO BE 4-CONDUCTOR WIRE.
- INTRINSICALLY SAFE SYSTEMS RUN IN PVC COATED RIGID METAL CONDUIT.
- SEE SHEET PP-1.0 FOR UST SIZES.
- CANOPY (NOT SHOWN ON THIS SHEET) PER FABRICATORS DIMS, CALCS, SPECS AND DRAWINGS. CANOPY SHOWN ON SITE PLAN, SHEET PP-SITE.
- 3,000 PSI, 8 IN. CONCRETE TANK SLAB REINFORCED WITH #3 REBAR @ 18" O/C. E.W. ON 3 IN. CHAIRS (TYP. U.N.O.)
- FUEL DISPENSERS: GILBARCO ENCORE 3+1 (U.N.O.), INSTALLED PER MANUFACTURER'S INSTRUCTIONS. (SEE PP-SITE FOR SITE CONFIGURATION, QUANTITY AND PLACEMENT OF DISPENSERS)
- CANOPY COLUMN'S SHOWN ON THIS SHEET ARE ILLUSTRATIVE. SEE PP-SITE, AND CANOPY FABRICATORS DRAWINGS, AND SPECIFICATIONS.

PANEL BOARD AND PULL STATION:

- D1 PULL BOXES.
SURFACE MOUNT 6"x6"x36" (RAIN TIGHT GUTTER) PETROLEUM PRODUCT PULL BOX.
- D2 100A (PETROLEUM PRODUCT) SHUNT TRIP PANEL
A. EXCLUSIVELY FOR PETROLEUM PRODUCTS
- D3 PRIMARY PANELBOARD
A. PETROLEUM PRODUCT ELECTRICAL SYSTEMS
PANELBOARD PULLED PRIMARY PANEL BOARD.
- E TANK MONITOR. (VERIFY INSTALLATION LOCATION PRIOR TO CONSTRUCTION).
- F PROVIDE (2)-1" PVC CONDUIT FROM PULL STATION TO JUNCTION BOX AT CASHIER COUNTER (VERIFY LOCATION).



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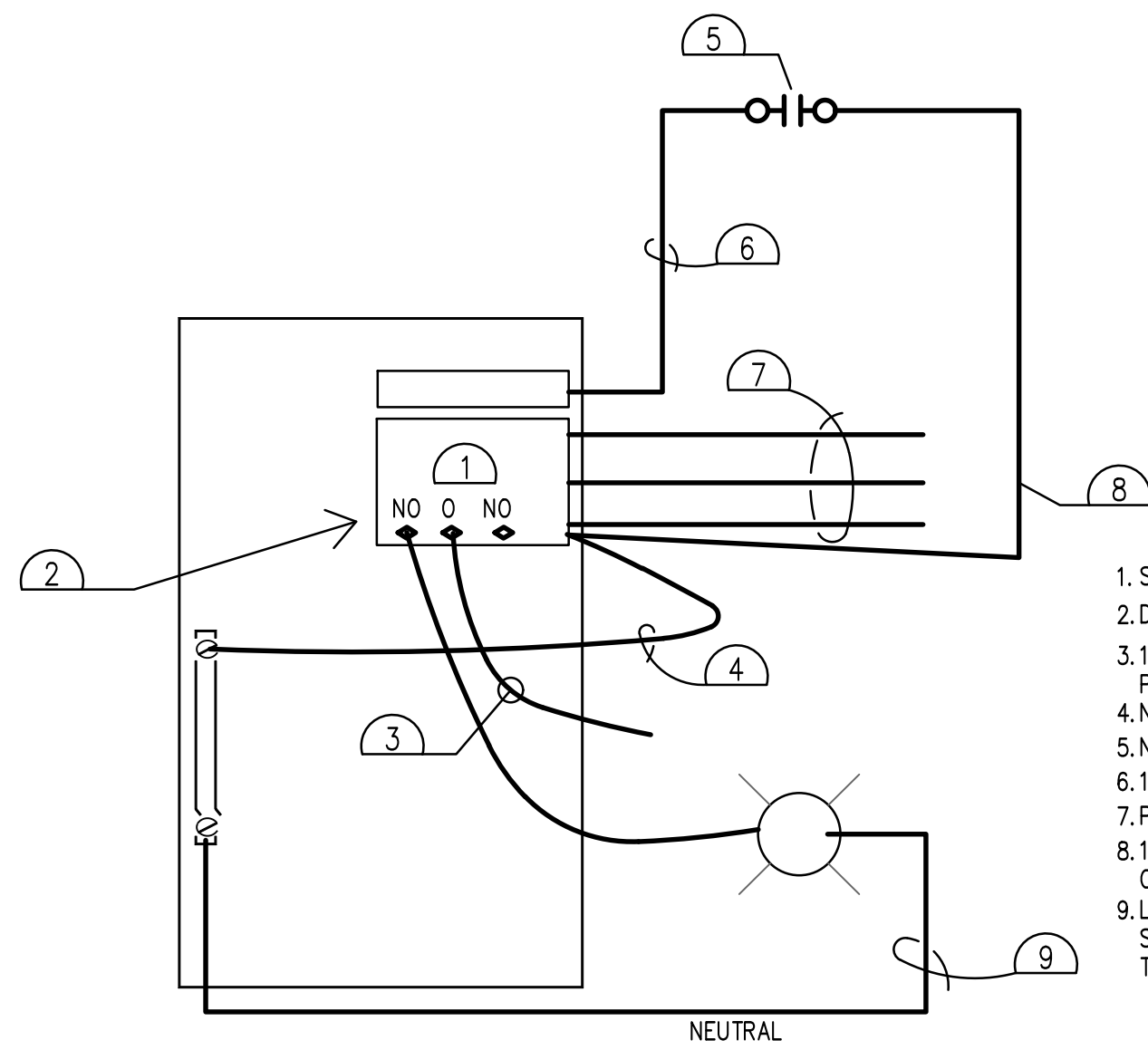
AzTech Petroleum Service, Inc.

4440 Able Drive
Kingman, Arizona 86401
Phone: 928.757.8787
Fax: 928.682.0628

Drawings For -
Hualapai Circle-k
Hualapai and Eastern
Kingman, Arizona 86401
APN: 421-16-054A

MARK	DATE	NOTES

DATE: SEPTEMBER, 2025
SCALE: AS NOTED
DRAWN: SRT
CHECKED: PT
SHEET TITLE: FUEL SYSTEM ILLUSTRATION
SHEET NUMBER: PP-2.0
8 of 15

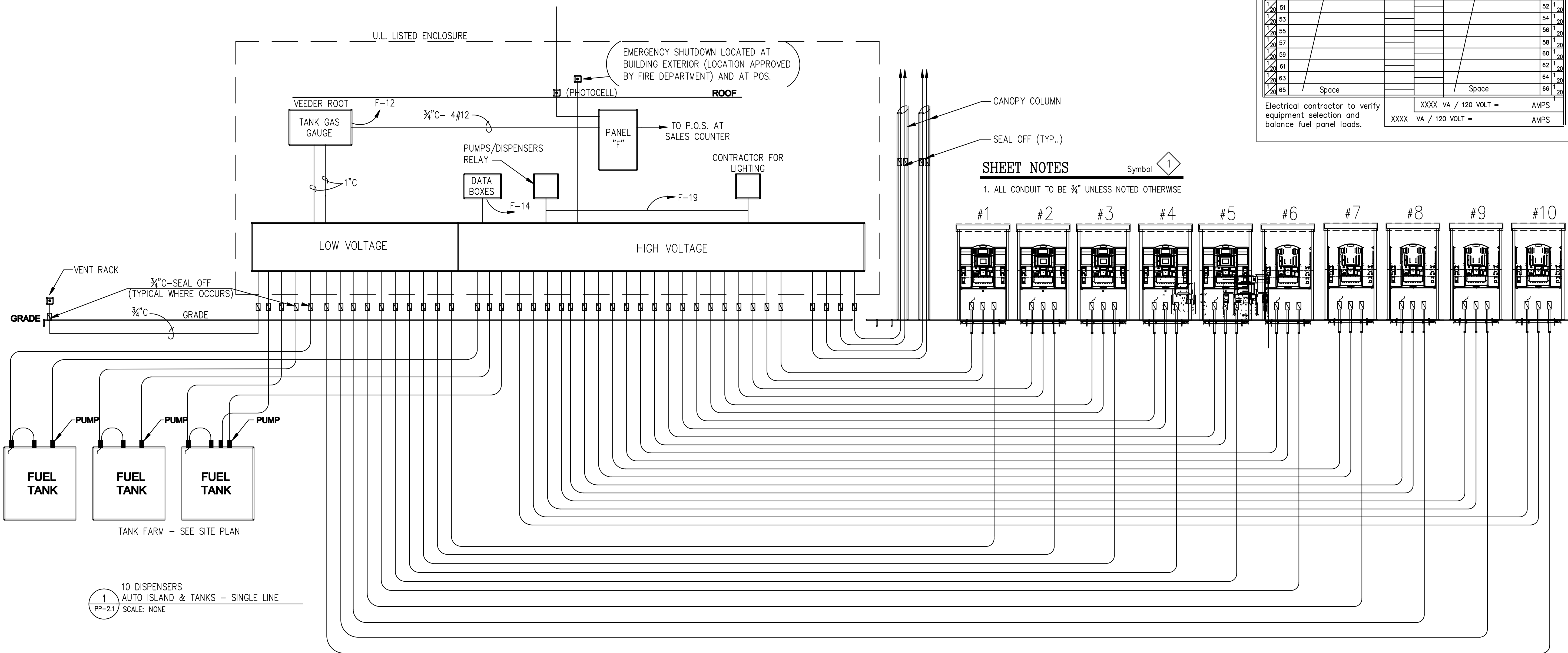


1. SHUNT TRIP BREAKER.
2. DRY AUXILIARY CONTACTS
3. 120V FROM BREAKER OR OTHER POWER SOURCE
4. NEUTRAL FOR SHUNT TRIP
5. NORMALLY OPEN
6. 120 VOLTS THROUGH NO CONTACT
7. POWER OUT
8. 120V THAT ACTIVATES THE SHUNT COIL AND TRIPS THE BREAKER.
9. LIGHT STROBE ALARM TO NOTIFY THE SHUNT TRIP BREAKER HAS BEEN TRIPPED.

2
PP-21

SHUNT TRIP

SCALE: NONE



SHEET NOTES

1. ALL CONDUIT TO BE 3/4" UNLESS NOTED OTHERWISE

Symbol 1

PANELBOARD SCHEDULE

PB1 200 AMP M.L.O., 1Ø , 3W, 120/240 VOLT
NEMA 1, FLUSH MOUNT, 66 CIRCUIT

CB NO	USE OR AREA SERVED	A	B	USE OR AREA SERVED	NO CB
1	Gas Dispenser	648	648	Gas Dispenser	2
3	Gas Dispenser	648	648	Gas Dispenser	4
5	Gas Dispenser	648	648	Gas Dispenser	6
7	Gas Dispenser	648	648	Gas Dispenser	8
9	Gas Dispenser	648	648	Gas Dispenser	10
11	Control Power	648	648	Veeder Root	12
13	Cashier Outlets	580	580	Data Boxes	14
15	Cashier Outlets	580	580	Cashier Outlets	16
17	Control Power	648	648	Data Boxes	18
19	Lighting Leg	240	240	Space	20
21	Canopy Signage	480	480	Canopy Signage	22
23	Canopy Lights	2120	2120	Canopy Lights	24
25	Space	2120	2120	Space	26
27	Regular Unlead Turbine	1638	1638	Premium Unlead Turbin	28
29	Space	1638	1638	Space	30
31	Space	1638	1638	Space	32
33	Diesel Turbine	1638	1638	Space	34
35	Space	1638	1638	Space	36
37	Space	1638	1638	Space	38
39	Space	1638	1638	Space	40
41	Space	1638	1638	Space	42
43	Space	1638	1638	Space	44
45	Space	1638	1638	Space	46
47	Space	1638	1638	Space	48
49	Space	1638	1638	Space	50
51	Space	1638	1638	Space	52
53	Space	1638	1638	Space	54
55	Space	1638	1638	Space	56
57	Space	1638	1638	Space	58
59	Space	1638	1638	Space	60
61	Space	1638	1638	Space	62
63	Space	1638	1638	Space	64
65	Space	1638	1638	Space	66

Electrical contractor to verify equipment selection and balance fuel panel loads.

XXXX VA / 120 VOLT = AMPS
XXXX VA / 120 VOLT = AMPS

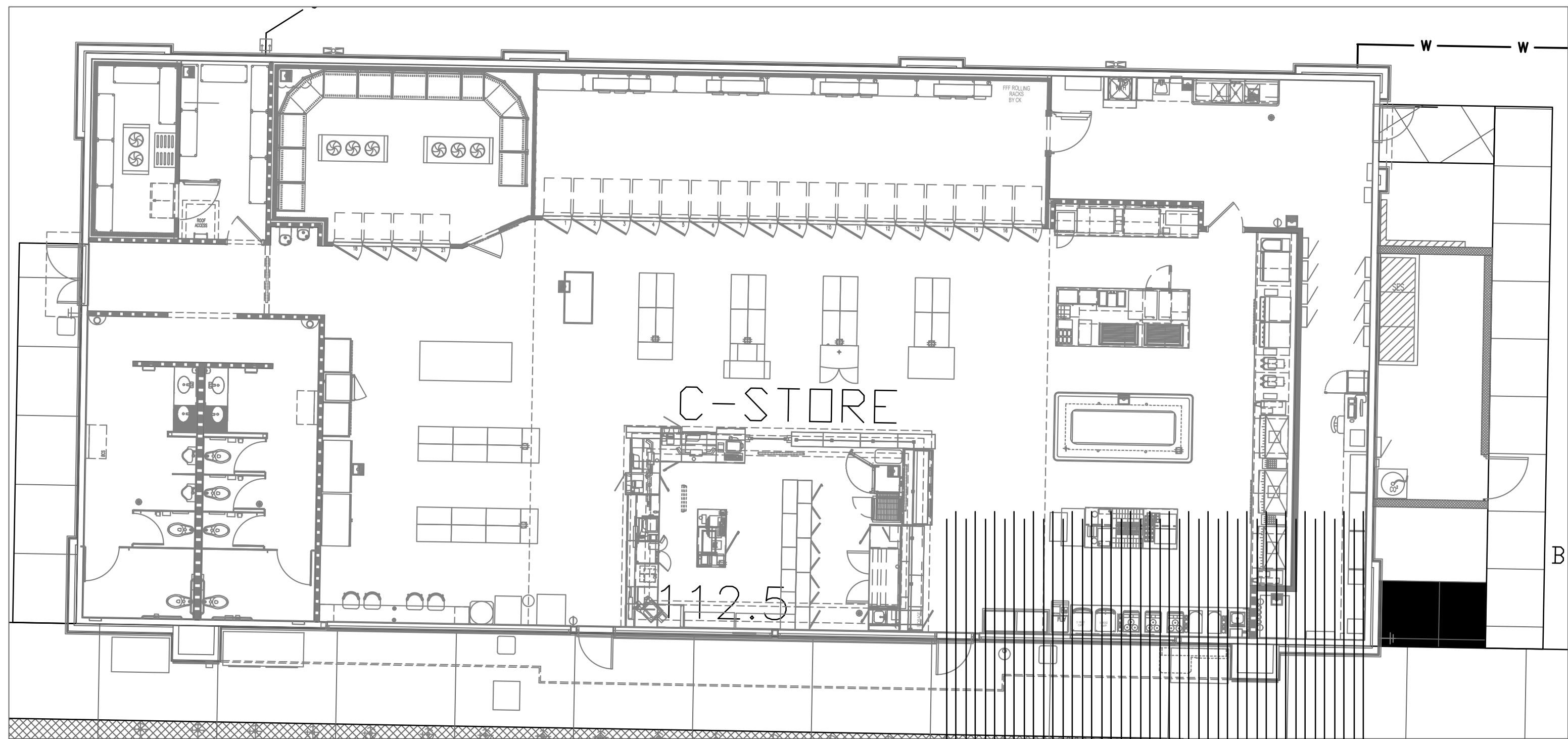
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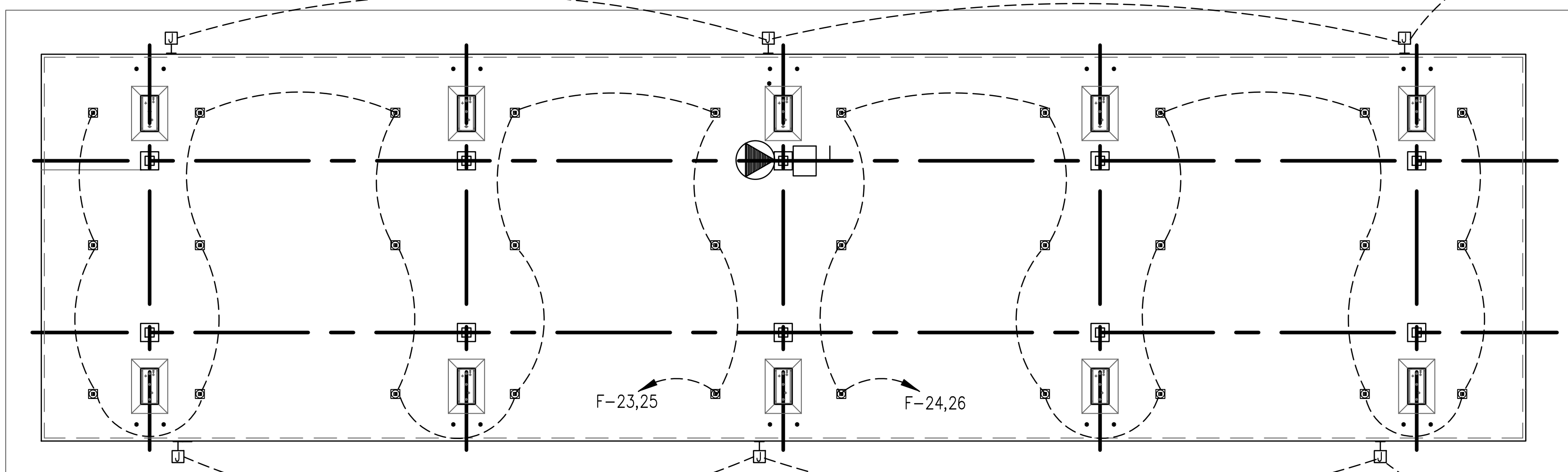
MARK	DATE	NOTES

DATE: SEPTEMBER, 2025
SCALE: AS NOTED
DRAWN: SRT
CHECKED: PT
SHEET TITLE:
**DISPENSERS
SINGLE LINE**
SHEET NUMBER:
PP-2.1
9 of 15

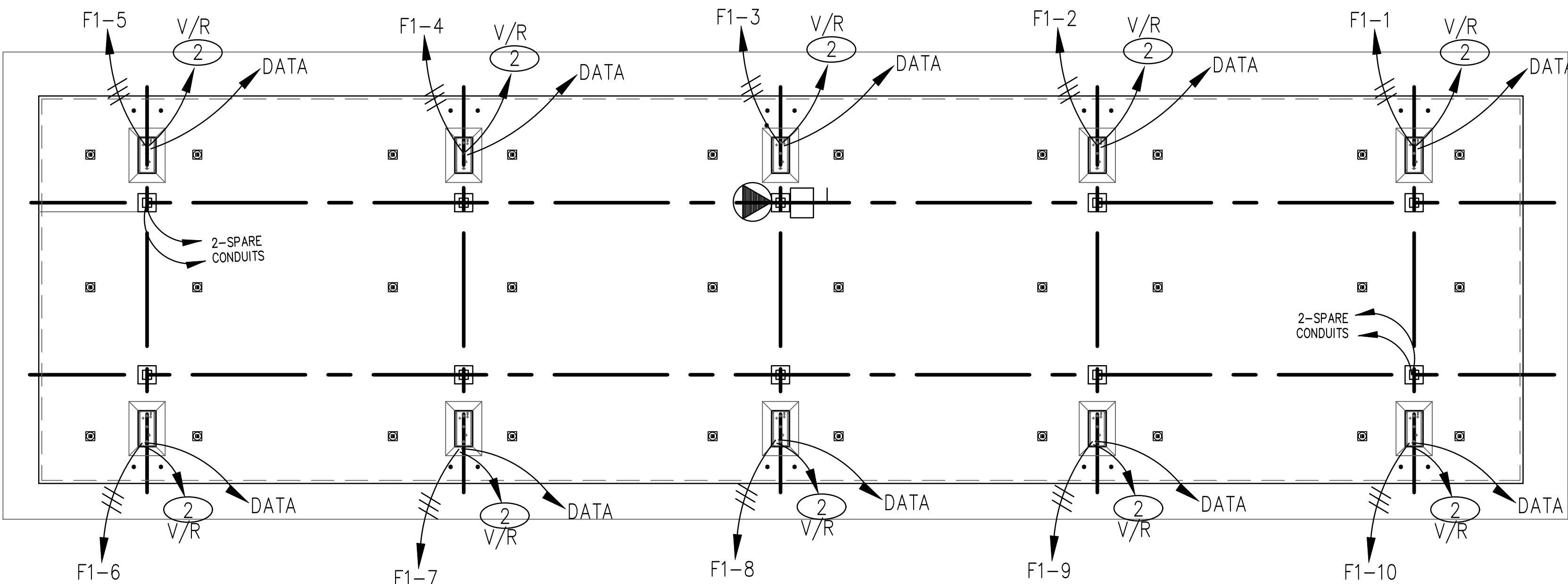


4 HUALAPAI & EASTERN CIRCLE-K CONVENIENCE STORE
PP-2.2

(50) CONDUITS (VERIFY) TO DISPENSERS ISLAND'S,
FUEL TANKS AND CANOPY (INCLUDES 4-SPARES).
[VERIFY LOCATION OF FUEL EQUIPMENT]



2 CANOPY LIGHTING
PP-2.0
SCALE: 1"= 10.00'



1 HUALAPAI & EASTERN CIRCLE-K DISPENSER ELECTRICAL
PP-2.2
SCALE: 1"= 10.00'

SHEET KEY NOTES

Symbol 1

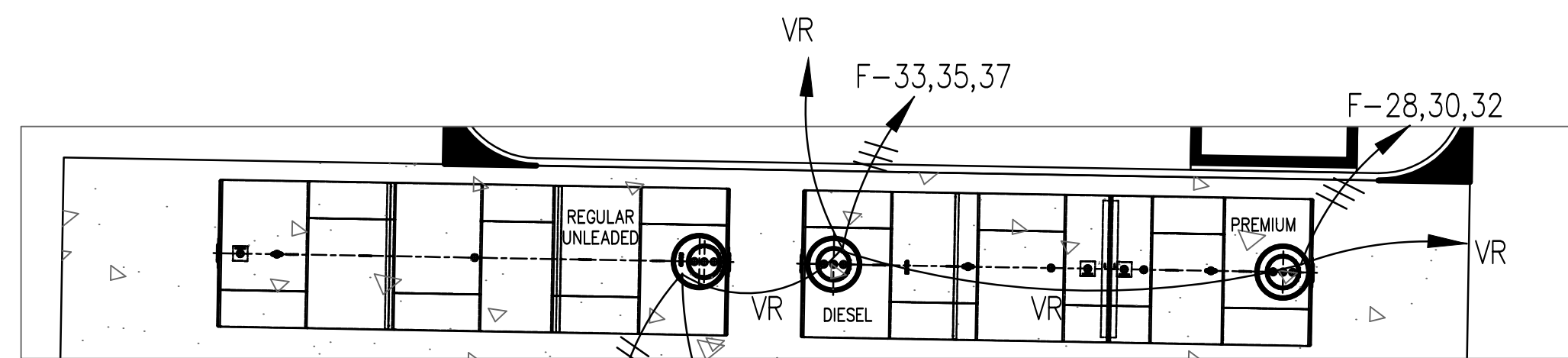
- 1 TO FUEL CONTROL PANEL FOR SHUTDOWN OF FUEL.
- 2 3/4" CONDUIT WITH CONTROL CABLE TO FUEL SYSTEM MONITOR PANEL.
- 3 (48) 9,400 lumen PAD gas station LED canopy lights.
- 4 CONNECT TO SIGNS ON CANOPY (2) CIRCUITS AT 120V EACH.

PANELBOARD SCHEDULE

PB1 200 AMP M.L.O., 1Ø , 3W, 120/240 VOLT NEMA 1, FLUSH MOUNT, 66 CIRCUIT									
CB NO	USE OR AREA SERVED	A	B	USE OR AREA SERVED	NO	CB			
1	Gas Dispenser	548		Gas Dispenser	2	2			
3	Gas Dispenser	548	548	Gas Dispenser	4	4			
5	Gas Dispenser	548	548	Gas Dispenser	6	6			
7	Gas Dispenser	548	548	Gas Dispenser	8	8			
9	Gas Dispenser	548	548	Gas Dispenser	10	10			
11	Control Power	548	548	Veeder Root	12	12			
13	Cashier Outlets	580		Data Boxes	14	14			
15	Cashier Outlets	580	580	Cashier Outlets	16	16			
17	Control Power	548	580	Data Boxes	18	18			
19	Lighting Leg	240		Space	20	20			
21	Canopy Signage	480		Canopy Signage	22	22			
23	Canopy Lights	480	2120	Canopy Lights	24	24			
25		2120	2120		26	26			
27	Regular Unlead Turbine		16.38	Premium Unlead Turbin	28	28			
29			16.38		30	30			
31			16.38		32	32			
33	Diesel Turbine		16.38	Space	34	34			
35			16.38		36	36			
37			16.38		38	38			
39	Space				40	40			
41					42	42			
43					44	44			
45					46	46			
47					48	48			
49					50	50			
51					52	52			
53					54	54			
55					56	56			
57					58	58			
59					60	60			
61					62	62			
63					64	64			
65	Space			Space	66	66			

Electrical contractor to verify
equipment selection and
balance fuel panel loads.

XXXX VA / 120 VOLT = AMPS
XXXX VA / 120 VOLT = AMPS



3 HUALAPAI & EASTERN CIRCLE-K PETROLEUM TANK FARM
PP-2.0
CLASS I, DIVISION I, N.E.C. 514 - 2018 CODE
SCALE: 1"= 10.00'

OUTDOOR LIGHTING SHALL SHALL
MEET CITY OUTDOOR LIGHTING
STANDARDS PER CITY ZONING
ORDINANCE 1924 SECTION 4-70

- FLOOD LIGHTS ARE PROHIBITED.
(SEC. 4-70.050.A)
- WALL PACK LIGHTS AND
OUTDOOR LIGHTING MUST BE
FULLY SHIELDED. (TABLE
4-70.030.A.)
- LIGHT FIXTURES LOCATED
WITHIN 50 FEET OF A
RESIDENTIAL ZONE OR PUBLIC
ROW MUST UTILIZE AN
INTERNAL OR EXTERNAL
SHIELD. (SEC. 4-70.030.F AND
FIGURE 4-70.030.1)

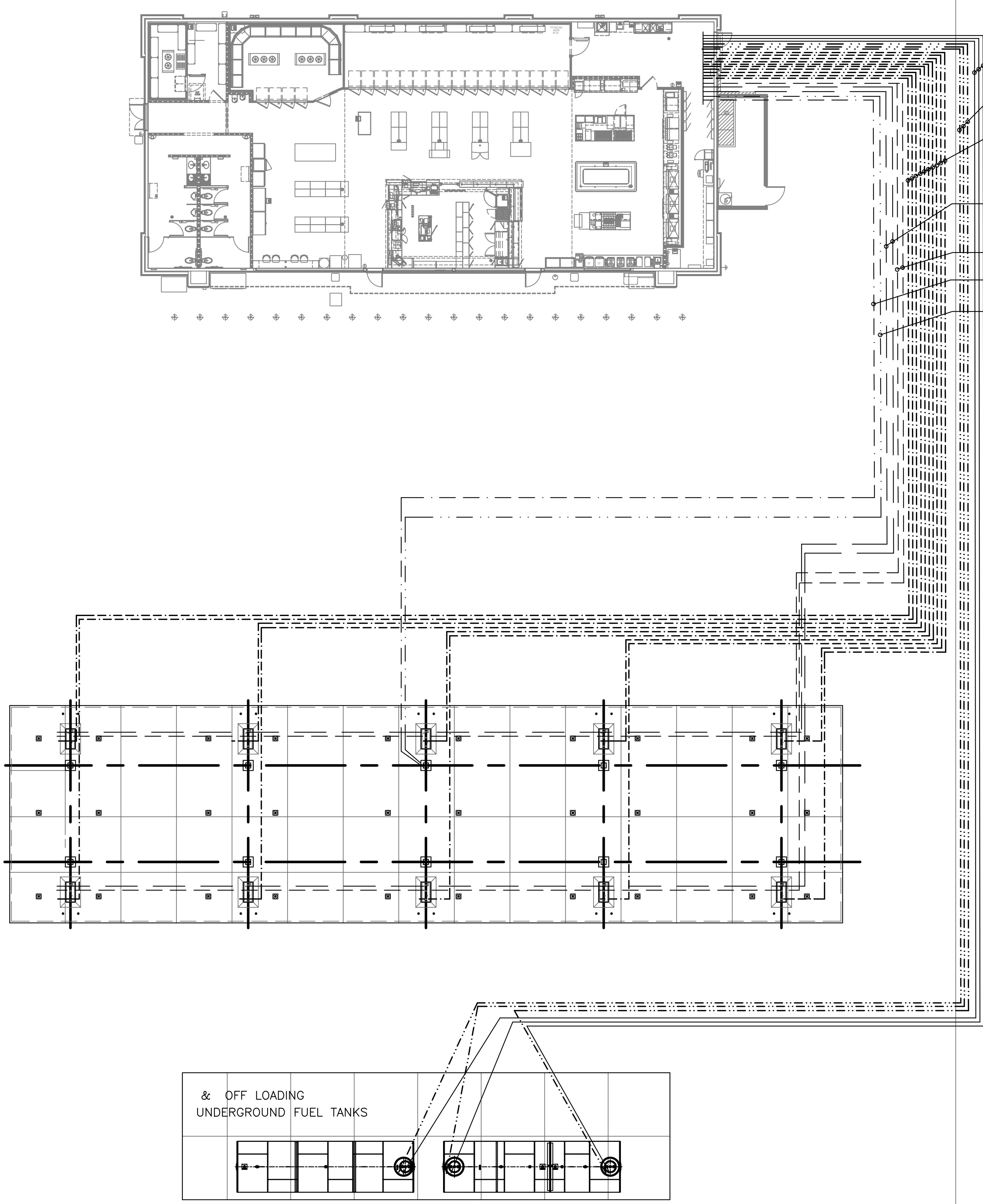
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- Drawings For -
Hualapai Circle-k
Hualapai and Eastern
Kingman, Arizona 86401
APN: 421-16-054A

REVISIONS		NOTES
MARK	DATE	

DATE: SEPTEMBER, 2025
SCALE: AS NOTED
DRAWN: SRT
CHECKED: PT
SHEET TITLE:
DISPENSER,
CANOPY & UST
POWER & LIGHTING
SHEET NUMBER:
PP-2.2
10 of 15



- B2 (3) 3/4"C w/ 3#12(CU.) 1# 12 CU-G
- B1 (3) 3/4"C w/ 3#12(CU.) 1# 12 CU-G
- A1 (10) 3/4" w/ 3#12(CU.) 3# 14 CONTROL, 1 TWISTED PAIR 18GA. COMMON. CAT 6 CABLE, 2GA. SHEILD, 2 PAIR 22 GA. INTERCOM.
- A2 (2) 3/4"C. w/ CAT 6 CABLE, 2GA. SHEILD, 2 PAIR 22 GA. INTERCOM.
- A3 (2) 3/4"C. CARD READER CONTROLS.
- A4 (1) 3/4"C. FOR CANOPY VIDEO
- A5 (1) 3/4"C. FOR CANOPY LIGHTS

GENERAL NOTE:
ALL PETROLEUM PRODUCT EQUIPMENT IS TO BE INSTALLED PER MANUFACTURERS INSTRUCTIONS AND SPECIFICATIONS. REFER TO MANUFACTUREERS/PROVIDORS INSTALLATION MANUALS FOR ALL FOUNDATIONS AND SUPPORTS, CONNECTIONS, PRODUCT DETAILS, WIRING AND SPECIFICATIONS.

ELECTRICAL LEGEND

ELEC. CONDUITS FROM PB. TO DISPENSER & UST's:
NOTE: ROUTING SHOWN IS DIAGRAMMATIC. LICENSED ELECTRICAL INSTALLER TO DETERMINE BEST ROUTING ON SITE, DEPENDING ON FOUND CONDITIONS.

- A1 DISPENSER POWER 3/4" WRAPPED IMC w/10 MIL. TAPE TO DISPENSERS. PROVIDE SEAL OFF ON BOTH ENDS.
- A2 DISPENSER MONITOR SENSOR AND INTERCOM 3/4" WRAPPED IMC w/10 MIL. TAPE TO DISPENSER MONITOR LIQUID SENSORS.
- A3 CARD READER 3/4" WRAPPED IMC w/10 MIL.
- A4 CANOPY VIDEO 3/4" WRAPPED IMC w/10 MIL.
- A5 CANOPY LIGHTS 3/4" WRAPPED IMC w/10 MIL. TAPE TO CANOPY LIGHTING. (VERIFY LIGHTING AND CONDUIT LOCATIONS w/PROPOSED CANOPY DESIGN [BY OTHERS] PRIOR TO CONSTRUCTION).

ELEC. CONDUITS TO TANK FARM:

- B1 TURBINE POWER 3 ~ 1/2" WRAPPED IMC w/10 MIL. TAPE TO TURBINE POWER.
- B2 TURBINE MONITOR 3 ~ 1/2" WRAPPED IMC w/10 MIL. TAPE TO TURBINE POWER.
- B3 OVERFILLLIGHT ON ALARM 3 ~ 3/4" WRAPPED IMC w/10 MIL. TAPE TO TURBIN MONITOR.
- C EMERGENCY DISCONNECT. LINE OF SIGHT DISCONNECT'S @ PERIMETER AND CASHIERS AREA. FIELD VERIFY LOCATIONS (APPROVED BY FIRE MARSHAL) PRIOR TO INSTALLATION. MINIMUM 20 FT., MAXIMUM 100 FT. FROM DISPENSERS.

PANEL BOARD AND PULL STATION:

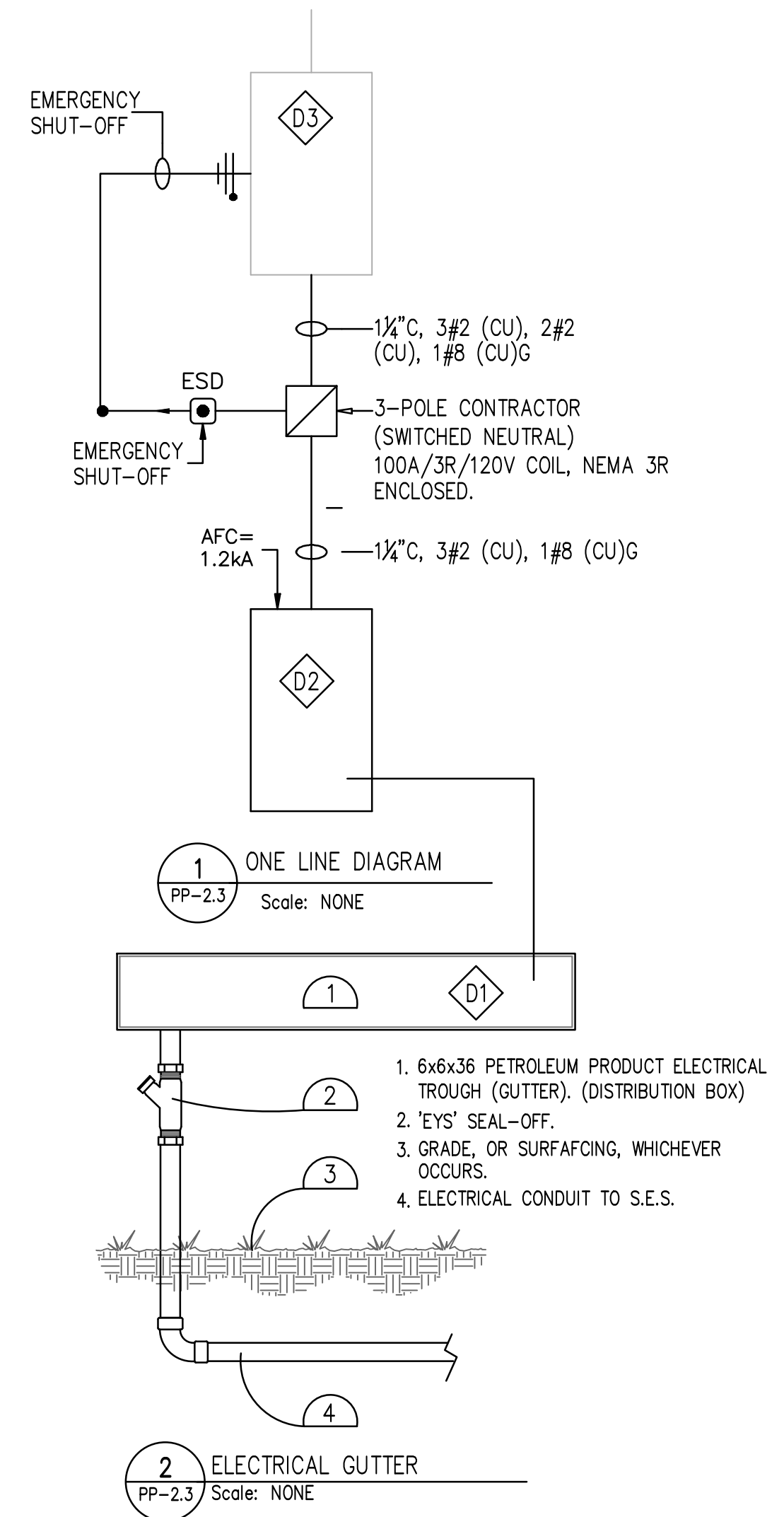
- D1 PULL BOXES. SURFACE MOUNT 6"x6"x36" (RAIN TIGHT GUTTER) PETROLEUM PRODUCT PULL BOX.
- D2 100A (PETROLEUMK PRODUCT) SHUNT TRIP PANEL A. EXCLUSIVELY FOR PETROLEUM PRODUCTS
- D3 PRIMARY PANELBOARD A. PETROLEUM PRODUCT ELECTRICAL SYSTEMS PANELBOARD TO BE PULLED PRIMARY PANEL BOARD.
- E TANK MONITOR. (VERIFY INSTALLATION LOCATION PRIOR TO CONSTRUCTION).
- F PROVIDE (2)-1" PVC CONDUIT FROM PULL STATION TO JUNCTION BOX AT CASHIER COUNTER (VERIFY LOCATION).

UNDERGROUND PETROLEUM TANK FARM

- T1 15K GALLON SPLIT DIESEL/SUPER UNLEADED.
- T2 15K GALLON REGULAR UNLEADED

CANOPY

- L1 PROVIDE AND INSTALL (30) Cree LED 130 WATT (OR EQ.) LIGHTS IN CANOPY.



DESCRIPTION	AMP/POLE	LOAD
FE PETRO 1.5HP, 7./9A PUMPs (AT FUEL STORAGE TANKS)	20/1	*200
ENCORE DISPENSERs	20/1	*400
TANK MONITORs	20/1	*200
CARD READERs	20/1	*1300
TANK MONITORs	20/1	*1300
EMERGENCY STOP	20/1	*150
CANOPY LIGHTS	20/21	*1500

3 EQUIPMENT LOADS
Scale: NONE
* VERIFY w/MFGR's SPECS

PETROLEUM PIPING PLAN SCALE: 1" = 20.00'
GRAPHIC SCALE IN FEET

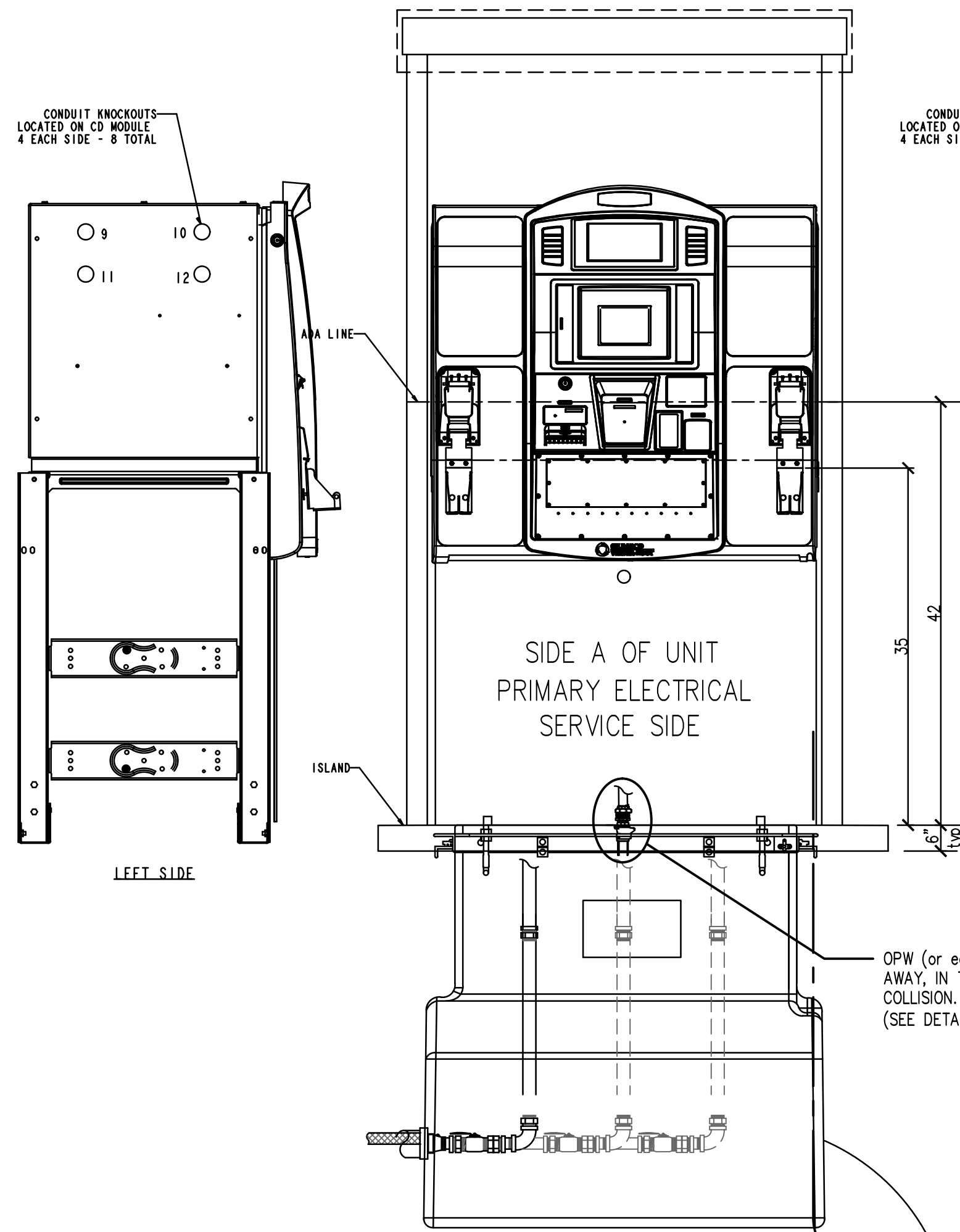
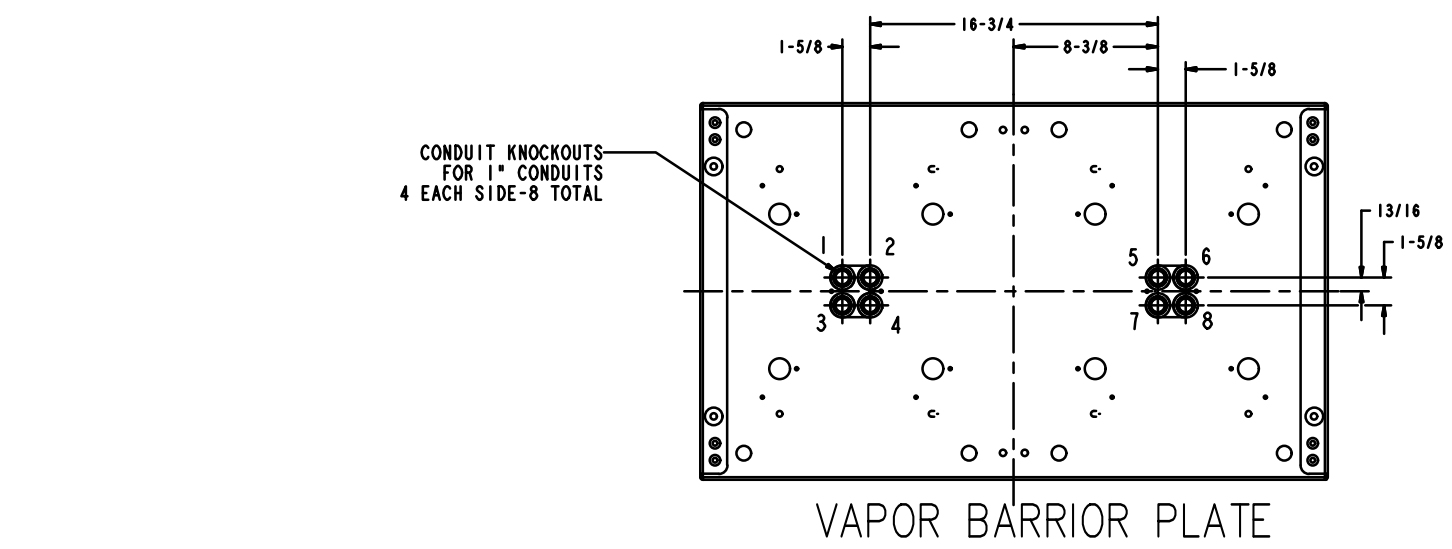
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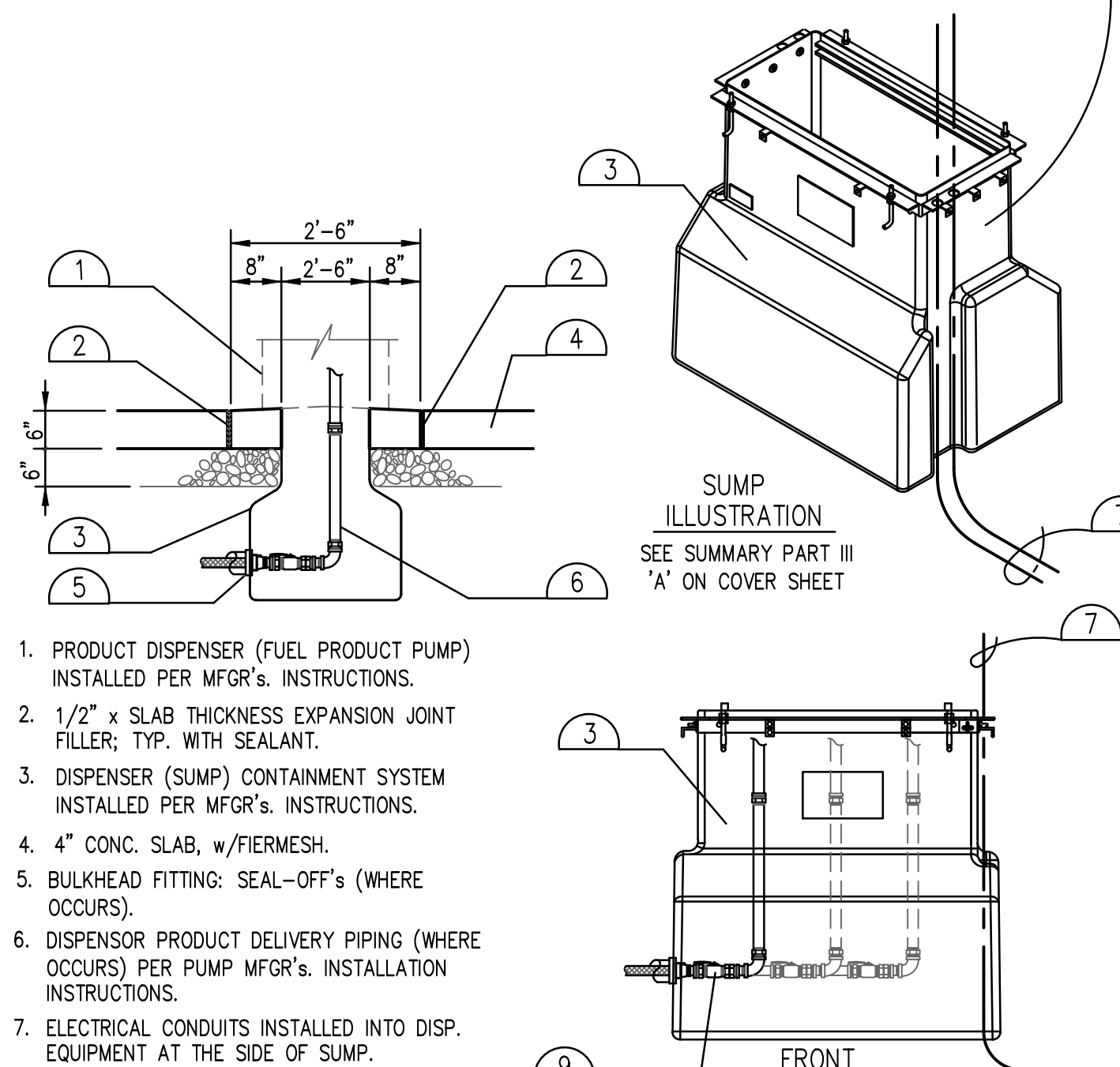
Hualapai Circle-k
Hualapai and Eastern
Kingman, Arizona 86401
APN: 421-16-054A

MARK	DATE	NOTES

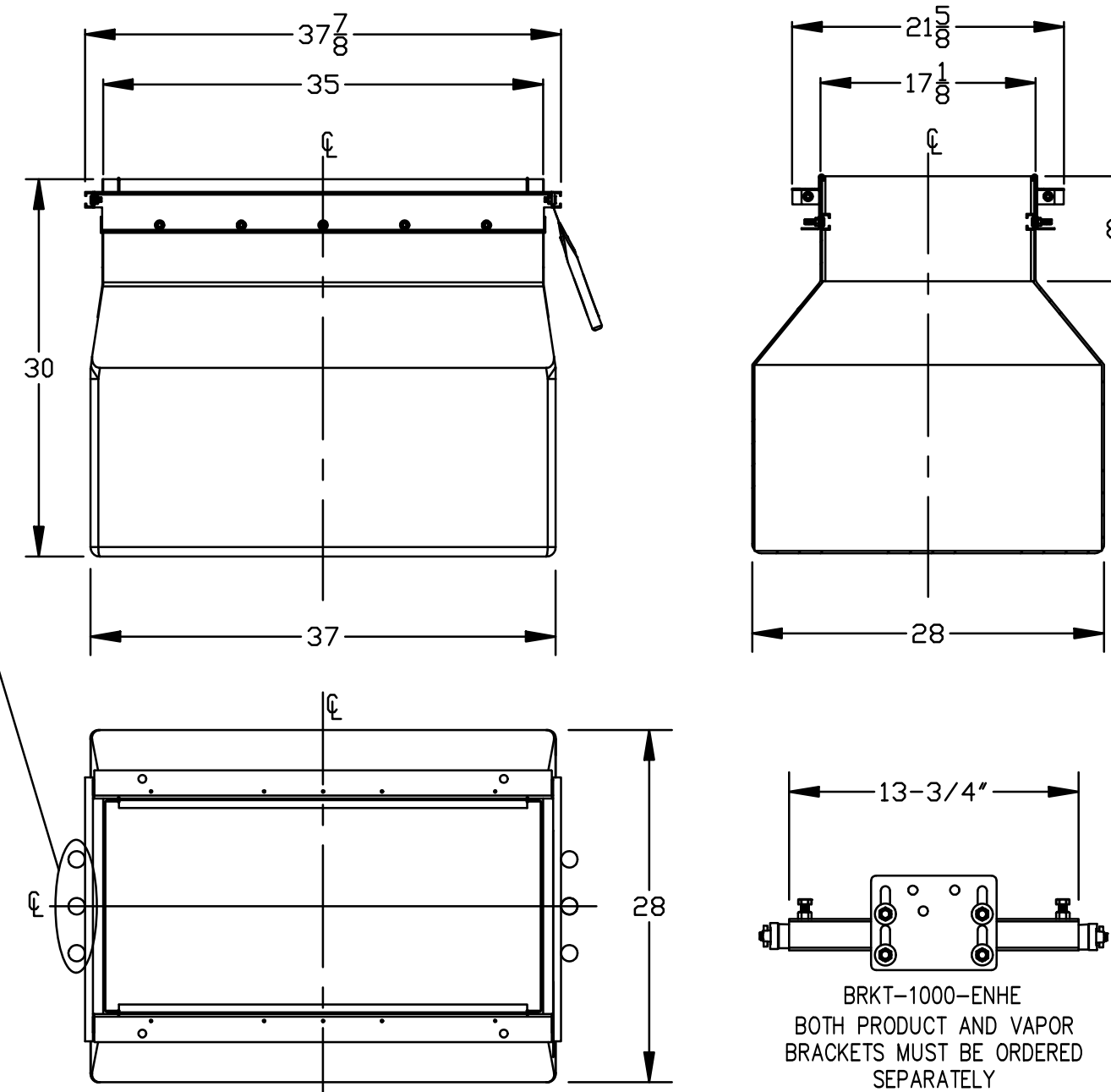
DATE: SEPTEMBER, 2025
SCALE: AS NOTED
DRAWN: SRT
CHECKED: PT
SHEET TITLE: PETROLEUM PRODUCT ELECTRICAL SINGLE LINE
SHEET NUMBER: PP-2.3
11 of 15



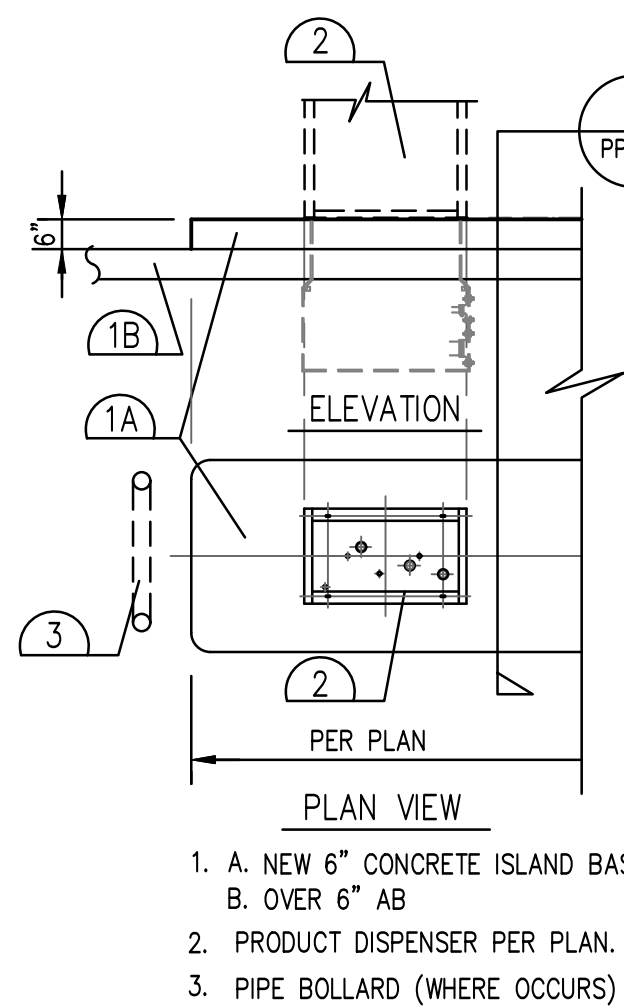
1 TYPICAL AUTO ENCORE 3+1 PRODUCT DISPENSER
SCALE: None



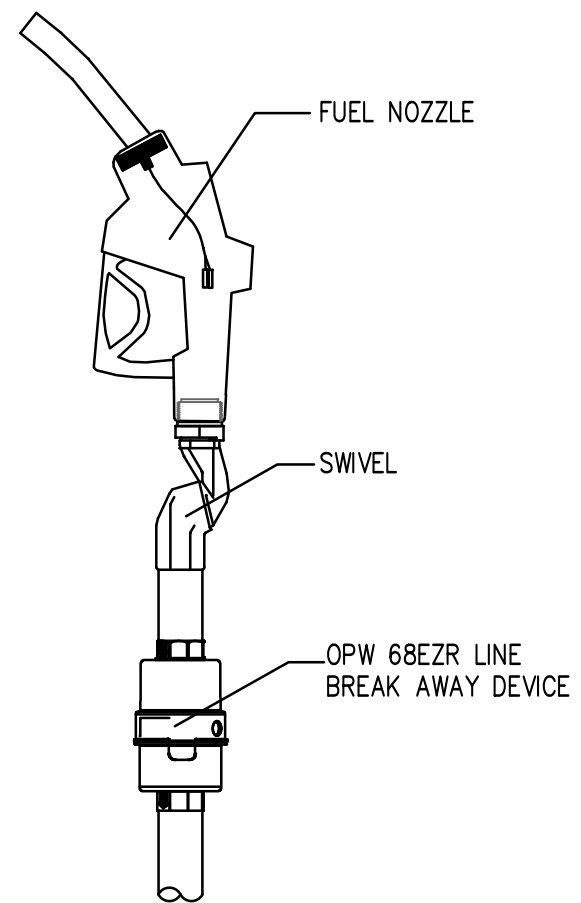
6 TYPICAL FUEL ISLAND SUMP
SCALE: None



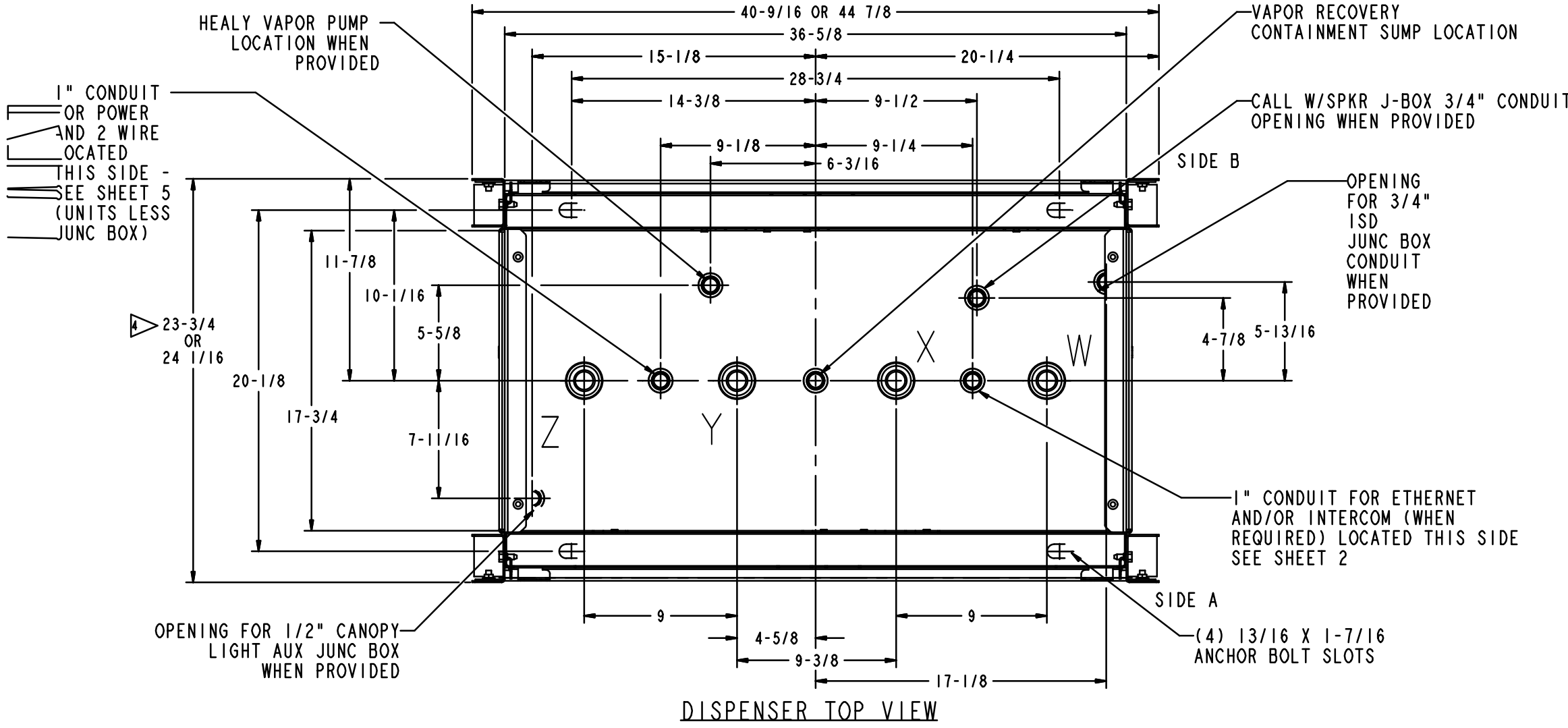
7 BRAVO B1000-ENC DISPENSER SUMP
FOR GILBARCO ENCORE ONLY.
SCALE: None



3 RAISED FUEL ISLAND
SCALE: None

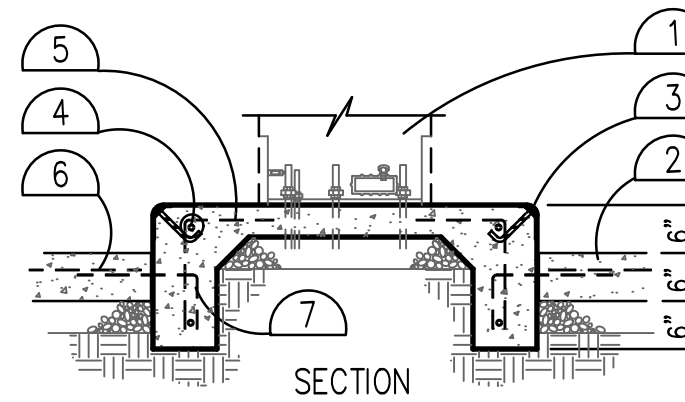


4 OPW 68EZR NOZZLE DRIVE
OFF BREAK AWAY DEVICE
SCALE: None



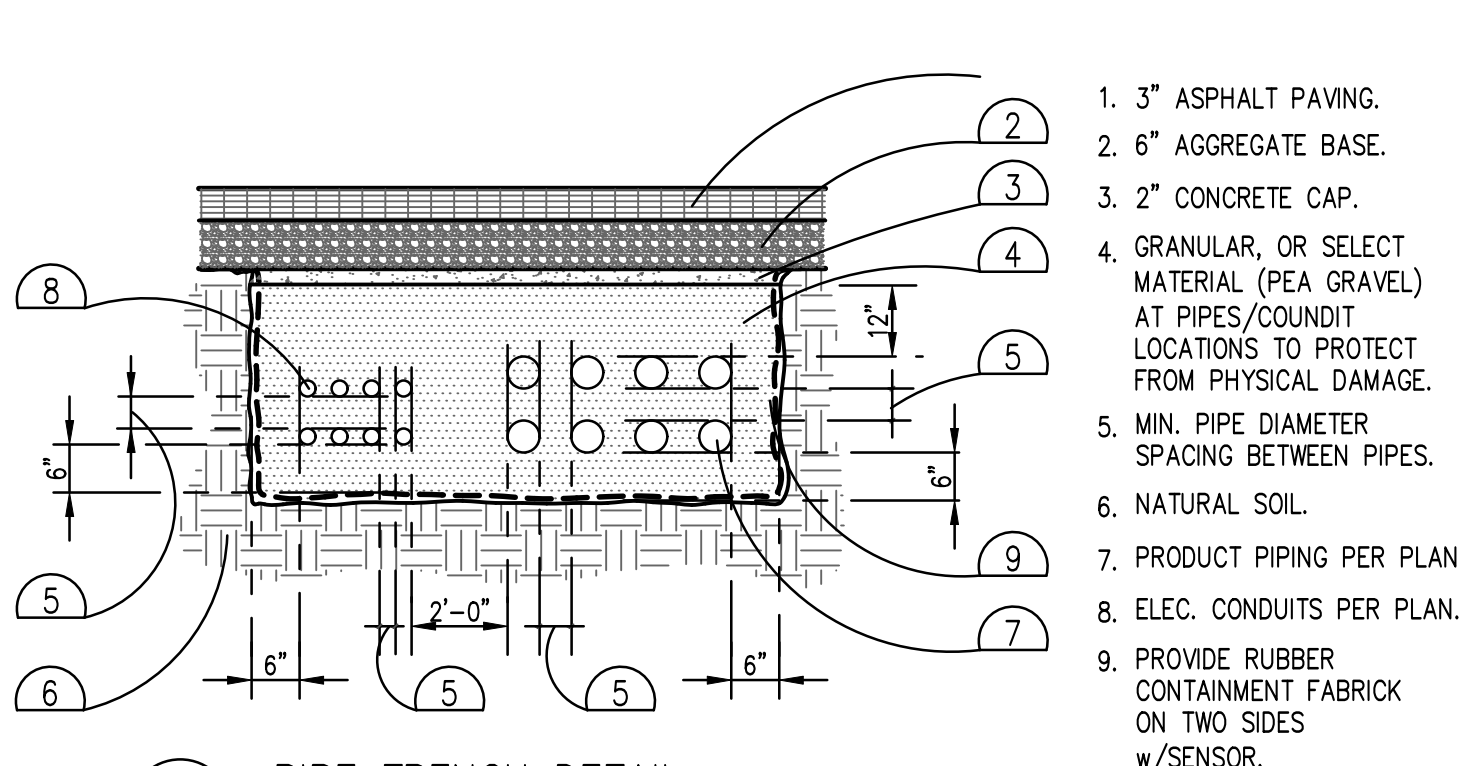
2 ENCORE 500/700
SCALE: None

INLETS	MODEL#	DISPENSER MODELS
W	NA0	1 GRADE 2 HOSE MPD
W & X	NA1	2 GRADE 4 HOSE MPD
	NG4	2 GRADE SINGLE HOSE MPD
	NN1/NN2/NN3	X+0 SELECTABLE BLENDER
	NJ0	3 GR MULTI HOSE BLENDER
W, X & Y	NA2	3 GRADE 6 HOSE MPD
	NG0	3 GRADE SINGLE HOSE MPD
	NL0/NL1/NL2	X+1 SELECTABLE BLENDER
	NJ2	3+1 MULTI HOSE BLENDER
W, X, Y & Z	NA3	4 GRADE 8 HOSE MPD
	NG1	3+1 SINGLE HOSE MPD

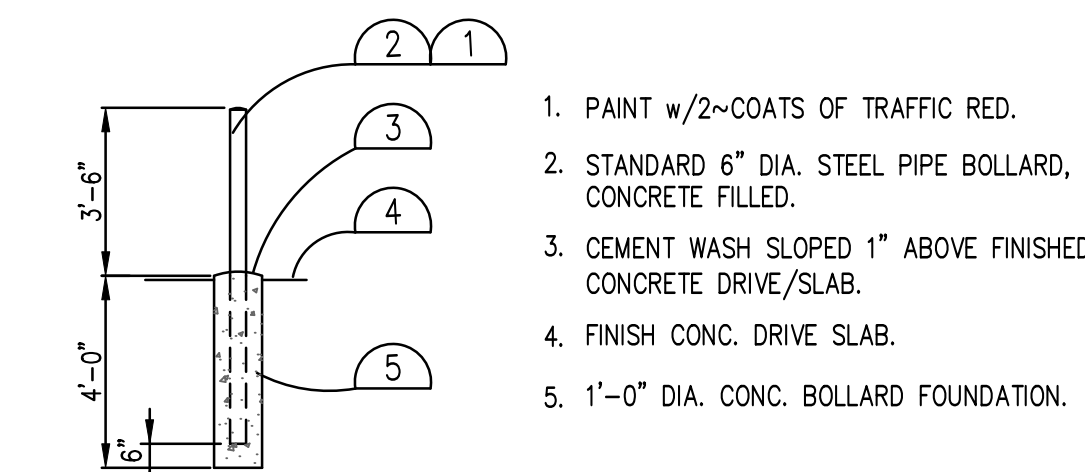


5 RAISED FUEL ISLAND SECTION
Scale: NONE

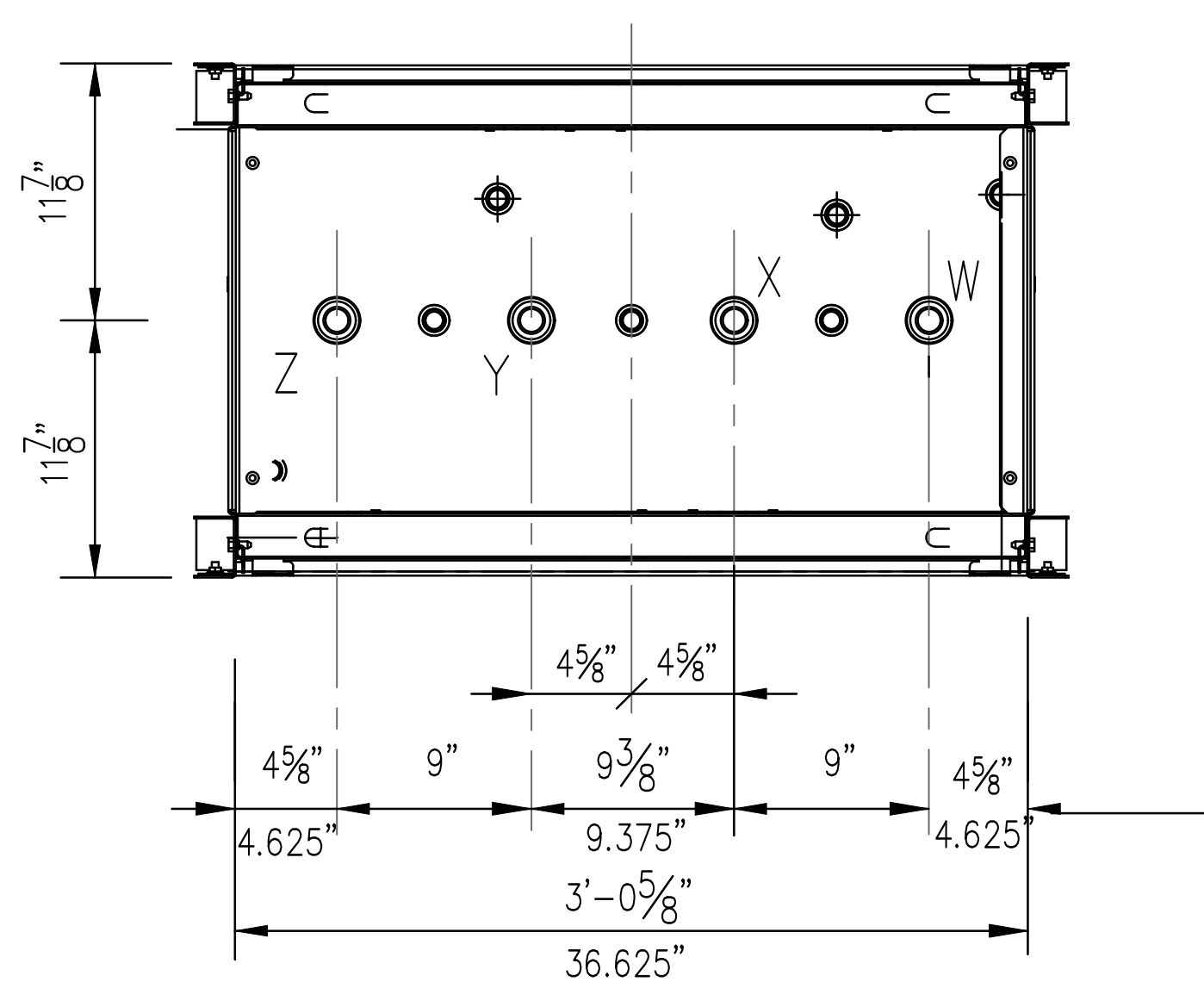
1. PRODUCT DISPENSER. (SEE DETAIL 1/PP-3.1))
2. 2500 PSI CONC. (TYP.)
3. STEEL CURB. OVER CONC. CANT. w/3/8" WELDED ANCHOR BOLTS @ 24" O/C.
4. #5 REBAR CONT. @ T&B.
5. #4 REBAR @ 12" O/C.
6. #4 @ 24" O/C E.W.
7. #4 REBAR @ 24" O/C.
8. MIN. 3" CONC. COVER OVER STEEL



8 PIPE TRENCH DETAIL
SCALE: None



9 TYPICAL PIPE BOLLARD
SCALE: None



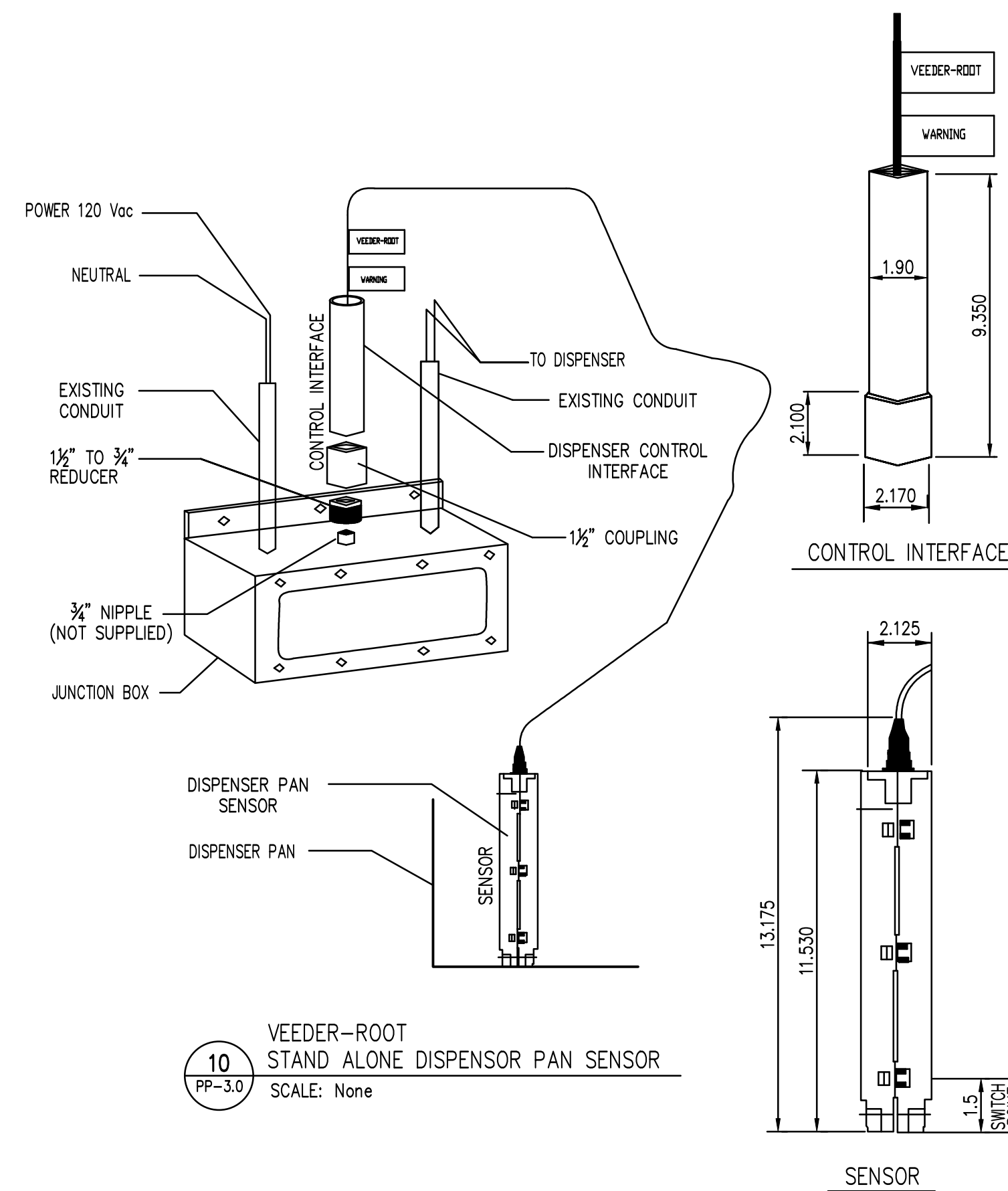
2A ENCORE 500/700
(PIPE LOCATIONS)
SCALE: None

INLET	PRODUCT
W	1
X	2
Y	3
Z	4

PRODUCT INLET TABLE

1. All piping and electrical installations must conform to all applicable regulations, including NFPA30, Flammable and Combustible liquid code: NFPA30A, Automotive and Marine Service Station Code; NFPA 70, National Electrical Code. Do not "daisy chain" the dispensers power circuit to any other equipment.
2. Piping from tank to dispenser should slope upwards to avoid air or liquid traps.
3. Use universal joints at dispensers to allow for ground movement.
4. Firmly mount the dispenser to the island using the anchor bolt locations shown. (See anchoring detail on installation manual provided with tank.) Use of all anchoring locations recommended.
5. Emergency shutoff valves and breakaway devices are examples of requirements stated in the NFPA30A Automotive and Marine Service Station Code. These, as well as any other safety devices required by NFPA30 & 30A, must be installed and maintained per manufacturer's instructions.
6. The feed stocks must be plumbed for the dispenser to work properly.
7. Connect optional intercom circuit to a listed class 2 powered intercom only with 19 gauge (min.), at least 90 degree C, 600V gas & oil resistant UL Listed Wire. Wires back to intercom power must be run in separate dedicated listed metallic conduit.

2B DISPENSER NOTES
SCALE: None



10 VEEDER-ROOT
STAND ALONE DISPENSER PAN SENSOR
SCALE: None

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APN: 421-16-054A

R E V I S I O N S	
MARK	DATE
	NOTES

12 of 15

Pipe Pulling

When dispensing pipe from a reel, always pull it from the bottom of the reel or the pipe may become kinked. If the pipe becomes kinked when taking it off the reel, do not use the kinked section of pipe. When approaching the end of a reel of pipe, disconnect both ends of the pipe from the reel to avoid kinking.

Fittings

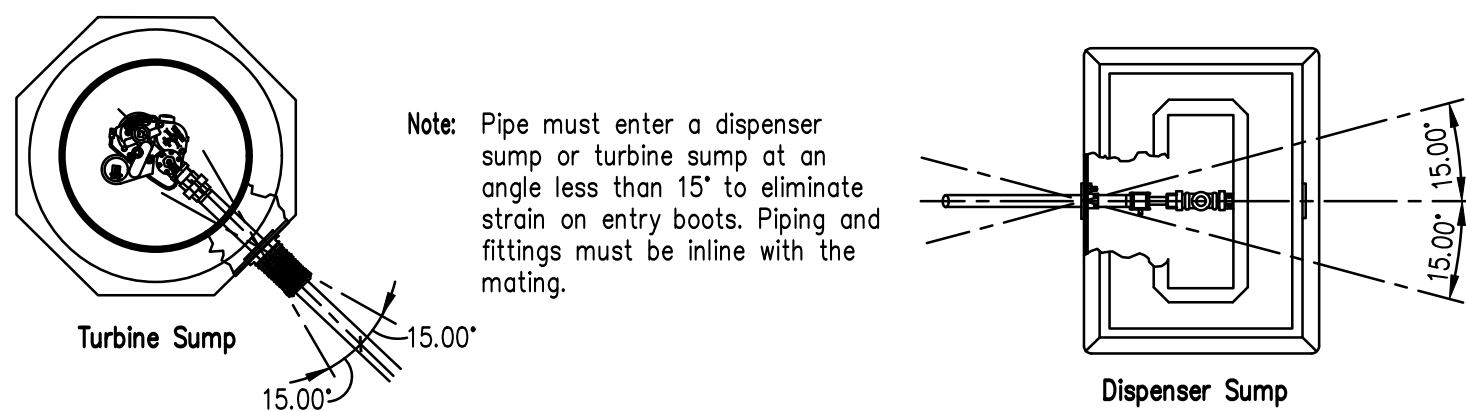
FFS requires that OEM fittings be used in all XP series piping systems. Each offers a variety of options for XP series pipe fittings, each with its own unique installation instructions. Each XP series fitting package will have detailed installation instructions specific to that design to insure a proper, leak-tight assembly.

NPT threads are used on all fittings and should be sealed with a gas and oil resistant pipe sealant. When completing the installation of a clamshell fitting, tighten the clamps so they are metal to metal. Swage fitting installations must be done using only ATP swage fitting tooling. Using other manufacturer's tooling will result in improper assembly and potential failure.

FFS offers galvanized pipe connectors to prevent corrosion. Pipe connectors can be purchased locally as long as they are 150 lb malleable, standard with NPT threads.

Boots

Entry boots come in sizes made to accommodate all pipe sizes including conduit and rigid pipe from 1/2" to 4". When installing pipe into entry boots, piping must not be more than 15 degrees from perpendicular to the sump walls. Entry angles in excess of 15 degrees from perpendicular can cause excessive stress, which may damage entry boots, kink the pipe and/or cause environmental contamination. Entry boots should also not be installed in the bottom of any containment sump.



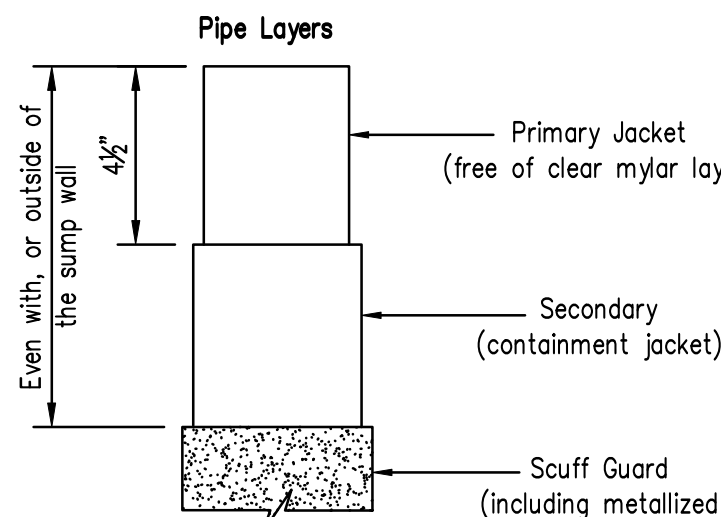
Ducting

Ducting is available as a piping chase, which allows for removal after installation. APT ducting is not a containment layer, but it is air-testable. Pull the ducting and cut it to the proper length, but don't attach it to any entry boots at this time. Feed the primary pipe through the ducting using duct tape to keep the end of the pipe from contacting on the ducting ribs as it's fed through.

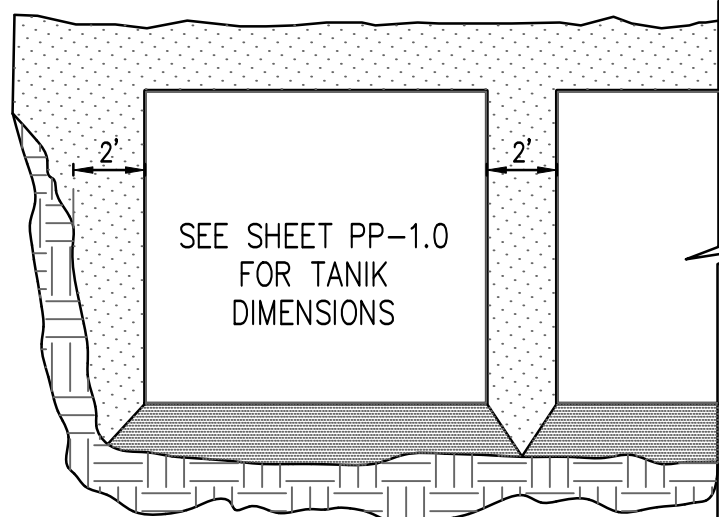
Note: When installing pipe ducting, cut the ducting to the appropriate length to eliminate excessive bends.

Pipe Cutback

Once the pipe run is pulled and each section is cut to length, square off the end of the pipe, de-burr it, and then proceed with the cutback. If you are using SC (Secondary Containment) piping, cut back the scuff guard layer even with or outside the sump wall and cut back the SC layer 1/2". For further cutback details, see the process's complete description in the DWC-XP-XXX Double Wall Cutter (SC) installation instructions.

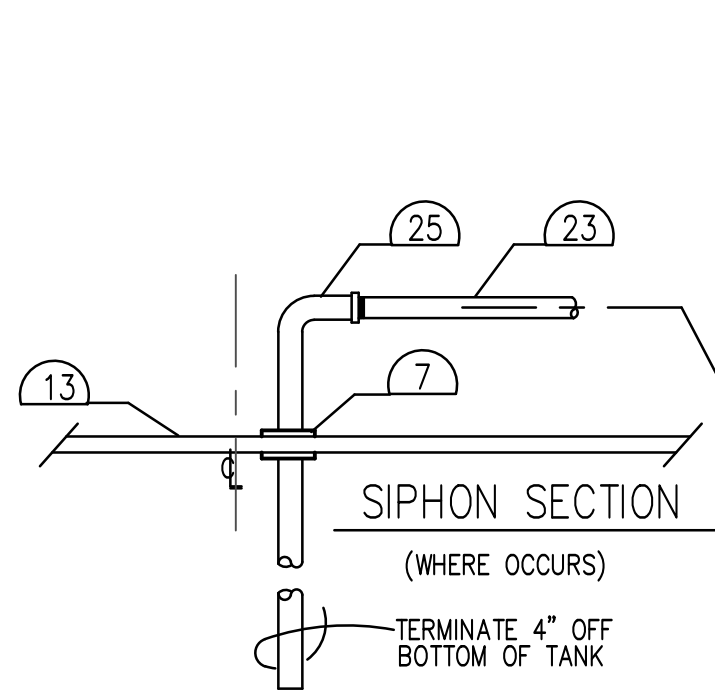


* The scuff guard must cut back to be even with, or outside of, the sump wall ensuring that the entry boot seals on the SC jacket and not on the scuff guard layer.

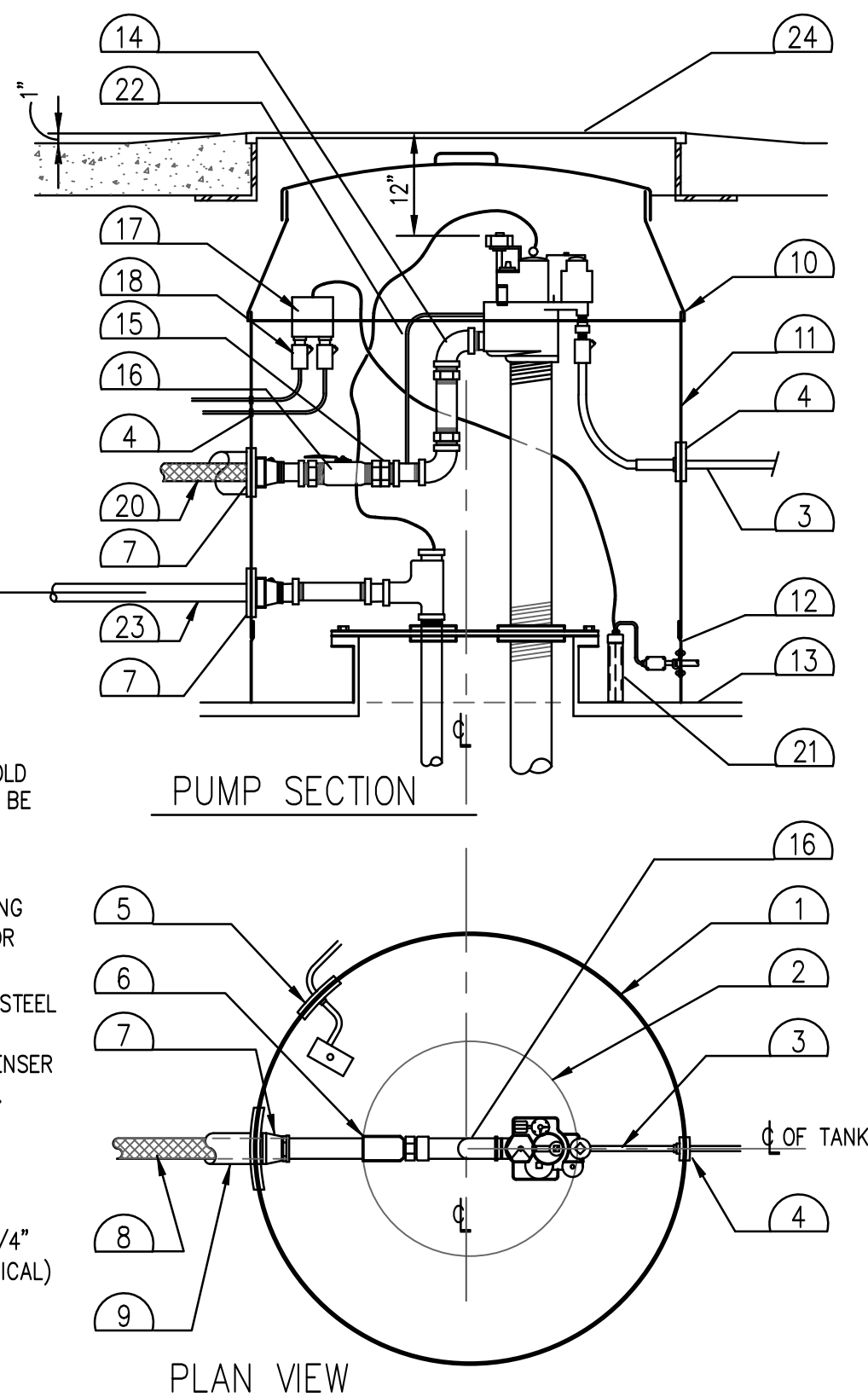


Set tanks on a bead of backfill material 1 foot thick. At least 2 feet of backfill material is required between adjacent tanks and between tanks and excavation walls.

Verify that the backfill material is free of debris, rock, ice, snow, or organic material that could damage the tank and interfere with proper backfill compaction.

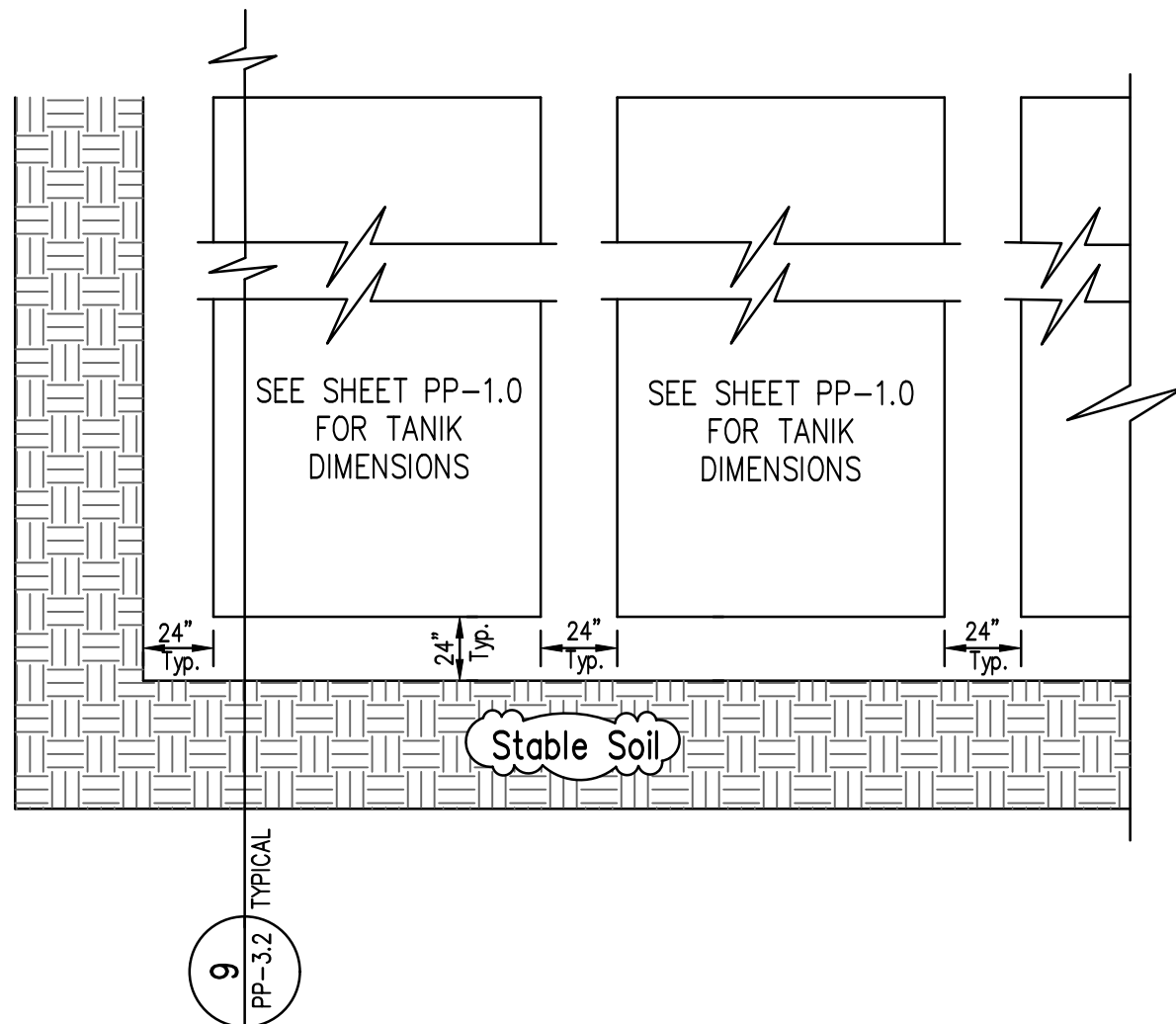


- 45" DIA. CONTAINMENT COLLAR AND FRP SUMP RISER w/32" DIA. LID.
- 22" DIA. FLANGED MANWAY.
- 3/4" CONDUIT w/ 3/4" SEALOFF FITTING @ BOTH ENDS.
- ELECTRICAL BULKHEAD FITTING.
- ELECTRICAL BULKHEAD FITTING, CONDUIT TO J-BOX w/SEALOFF FITTING. (SEE SITE PLAN FOR CONTINUATION).
- 2" BELL & MALE N.T.P. ADAPTER.
- 2" BULKHEAD FITTING
- PRODUCT PIPING (PER PLAN).
- SECONDARY TEST BOOT.
- FIELD WELD FRP RISER (TYP.)
- 42" DIA. FRP SUMP RISER.
- FRP CONTAINMENT COLLAR.
- TANK SHELL.
- 2" GALV. ELL.
- 2" GALV. UNION.
- 2" BALL VALVE. (MUST HOLD PRESSURE FOR TANKS TO BE INDIVIDUALLY TESTED.)
- JUNCTION BOX.
- CONDUIT w/SEALOFF FITTING (REFER TO ELECTRICAL FOR CONNECTION).
- 1 1/2" GALV. SCHED. 40 STEEL RISER.
- PRODUCT PIPING TO DISPENSER (PER PLANS AND SPECS.).
- LEAK SENSOR
- SIPHON LINE
- 2" FRP SIPHON LINE.
- ALL TANK BOXES SET 1 1/4" ABOVE FINISH GRADE (TYPICAL)
- 2" FLEX CONNECTOR.



A. EXCAVATION & TANK CLEARANCE

Do not enter the tank excavation unless in compliance with OSHA regulations. Follow OSHA guidelines for tank excavation. Collapsing excavation walls can cause injury or death



4 TRUE NORTH STEEL UST CLEARANCE

PP-3.1

Scale: NONE

3 1.5/.75 HP. SUBMERSIBLE PUMP N.T.S.

PP-3.1

1 PIPE PULLING

PP-3.1

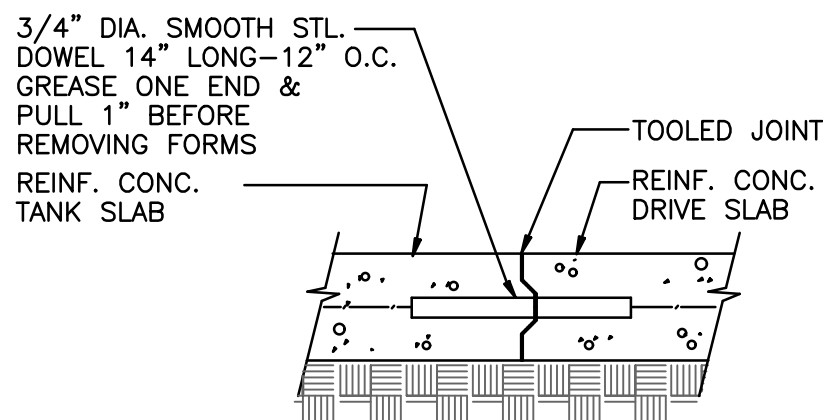
N.T.S.

SCALE: None

2 TANK BURIAL

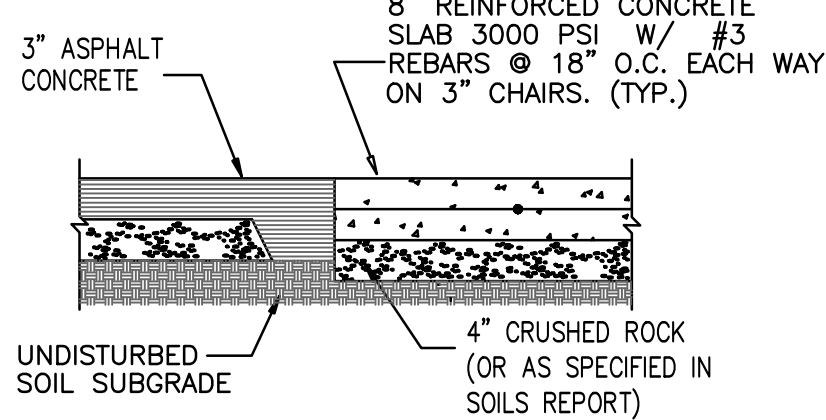
PP-3.1

N.T.S.



KEY JOINT "A"

UTILIZE FOR NEW CONCRETE TO NEW CONCRETE JOINT, FOR NEW CONCRETE TO EXISTING CONCRETE JOINT, DRILL EXISTING CONCRETE SLAB AND ELIMINATE KEY.

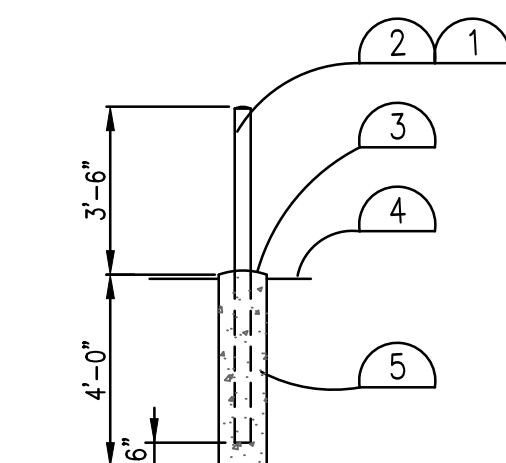


KEY JOINT "B"

6 TYPICAL KEY JOINT

PP-3.1

Scale: NONE

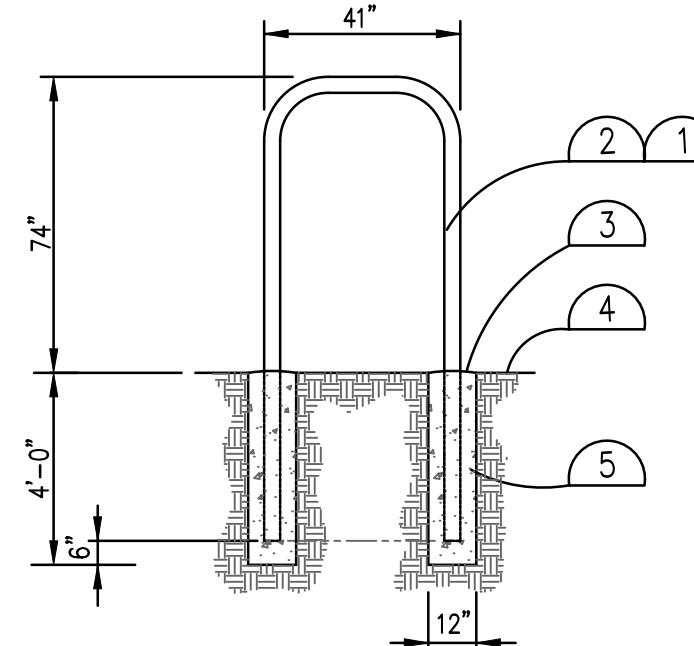


TYPICAL SINGLE PIPE BOLLARD

SCALE: None

10

PP-3.1

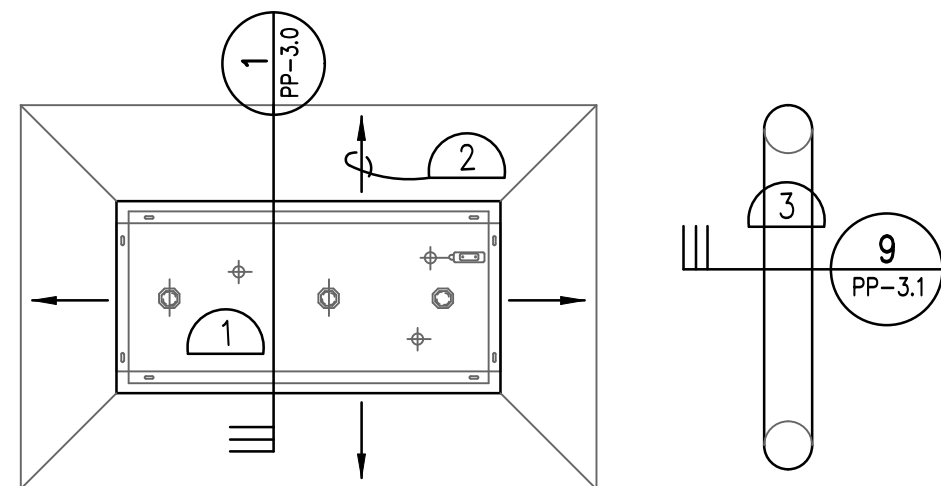


TYPICAL PIPE BOLLARD

SCALE: None

9

PP-3.1

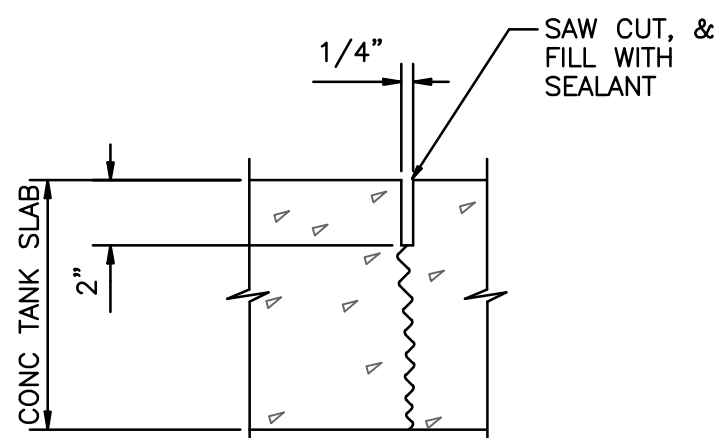


- ENCORE (700) 3+1 DISPENSERS UNLESS NOTED OTHERWISE
- SLOPE MIN. 1/4" PER FT. ALL AROUND.
- PIPE BOLLARD (WHERE OCCURS)

11 TYP. GROUND FUEL ISLAND

PP-3.1

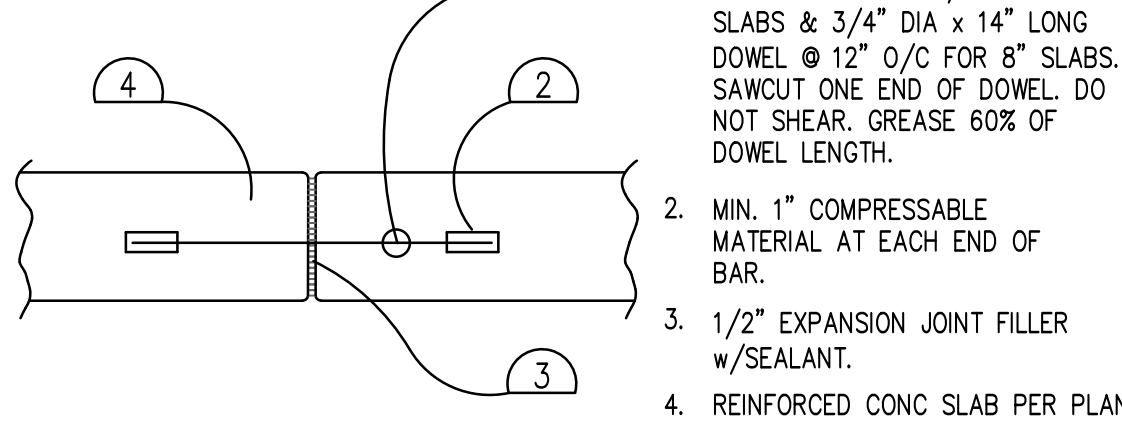
SCALE: None



7 TYPICAL CONTROL JOINT @ TANK SLAB

PP-3.1

Scale: NONE



EXPANSION/CONTRACTION JOINTS

N.T.S.

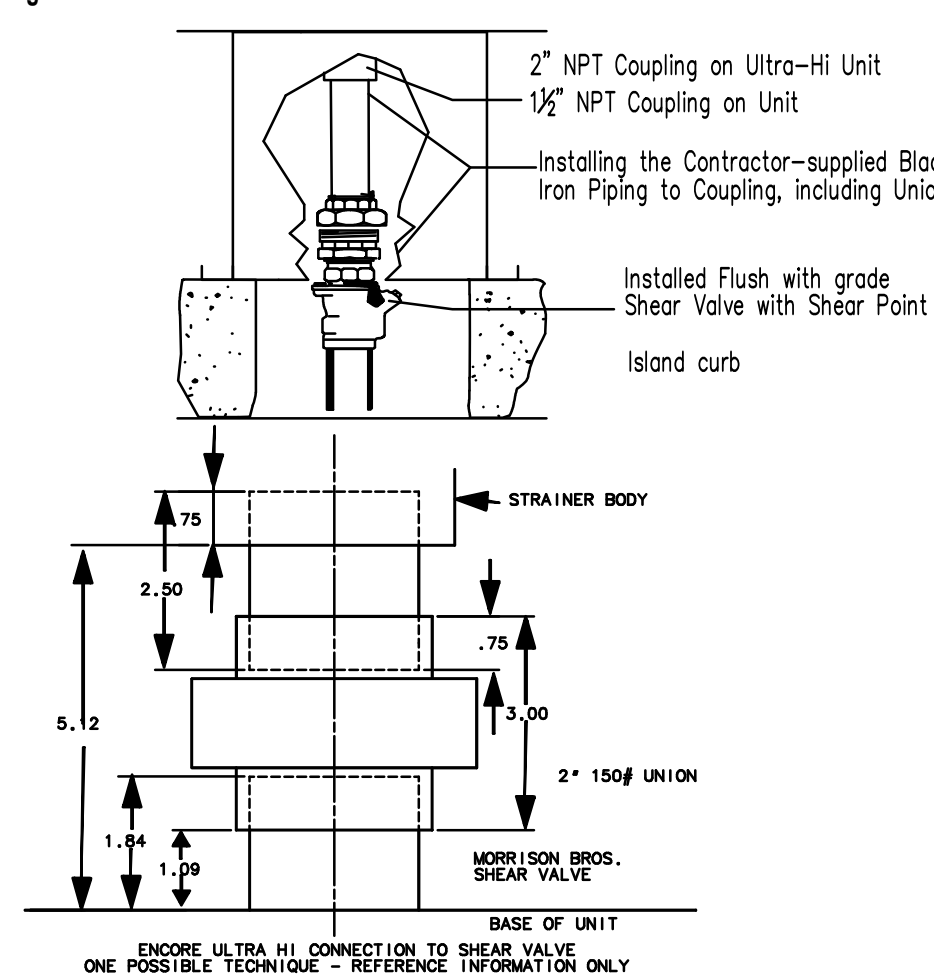
8

PP-3.1

WARNING

For Ultra-Hi units, do not permanently remove the strainer under any circumstances to accommodate the shear valves from certain manufacturers that may not properly position the shear section of the valve. Use a Morrison or equivalent shear valve to ensure proper position of the shear section of the shear valve. Failure to use the strainer could result in failure of the valves or meters, void warranty, and create a safety hazard with an improperly operating valve.

Figure 6-5: Shear Valve at Grade



Notes:

- Regular (on-double wall) shear valve is shown.
- OPW supplies an Encore Ultra-Hi comp at lb doublepoppet shear valvewith a union top (PW Part Number 10RUP-2006).
- It is a mandatory code requirement that the shear section of the shear valve be within ±3/4 inches (or to shear valve manufacturer's requirement, whichever is tighter) from the plane of the bottom of the base of a dispenser. Not all shear valve styles allow the maintenance of this tolerance for Encore Ultra-Hi units. A N23047 single poppet male top Morrison 2 X 2 636M-020DAV or a code-approved equivalent shear to modify the dispenser plumbing (or example, remove the strainer ho using) to accommodate other model valves, or install units such that the shear groove of the shear valve is not within: 3/4inches of the base plane of the dispenser. Use a Check Valve (23274) between the union and strainer housing to ensure that the shear section is properly located.

6 DISPENSER SHEAR VALVE

PP-3.1

Scale: NONE

These drawings, as provided by AzTech Petroleum, are not to be used for the design of petroleum product equipment under the terms and conditions of our signed contract. The use of these drawings shall be restricted to the specific site for which prepared.

AzTech Petroleum Service, Inc.

4440 Able Drive
Kingman, Arizona 86401

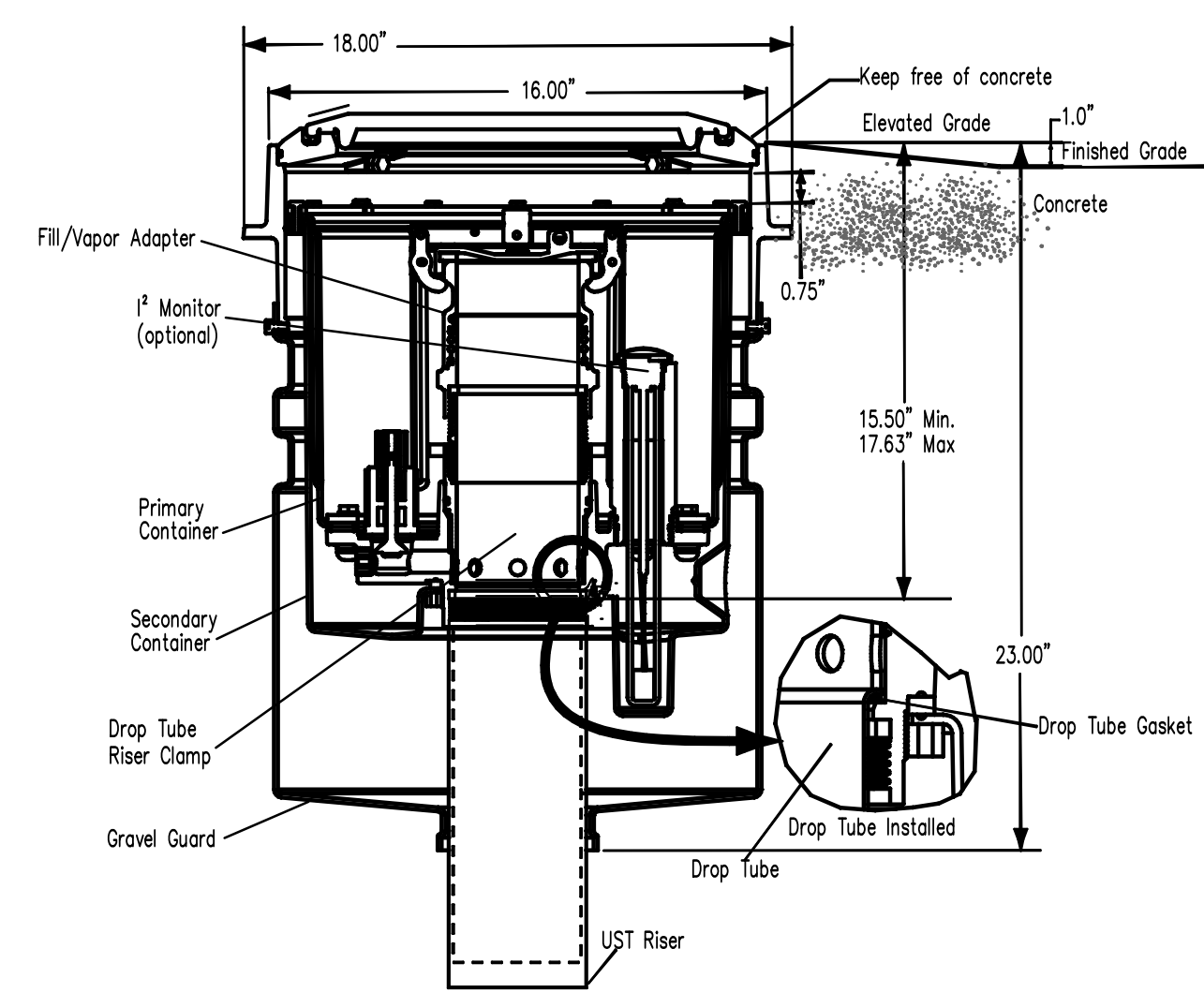
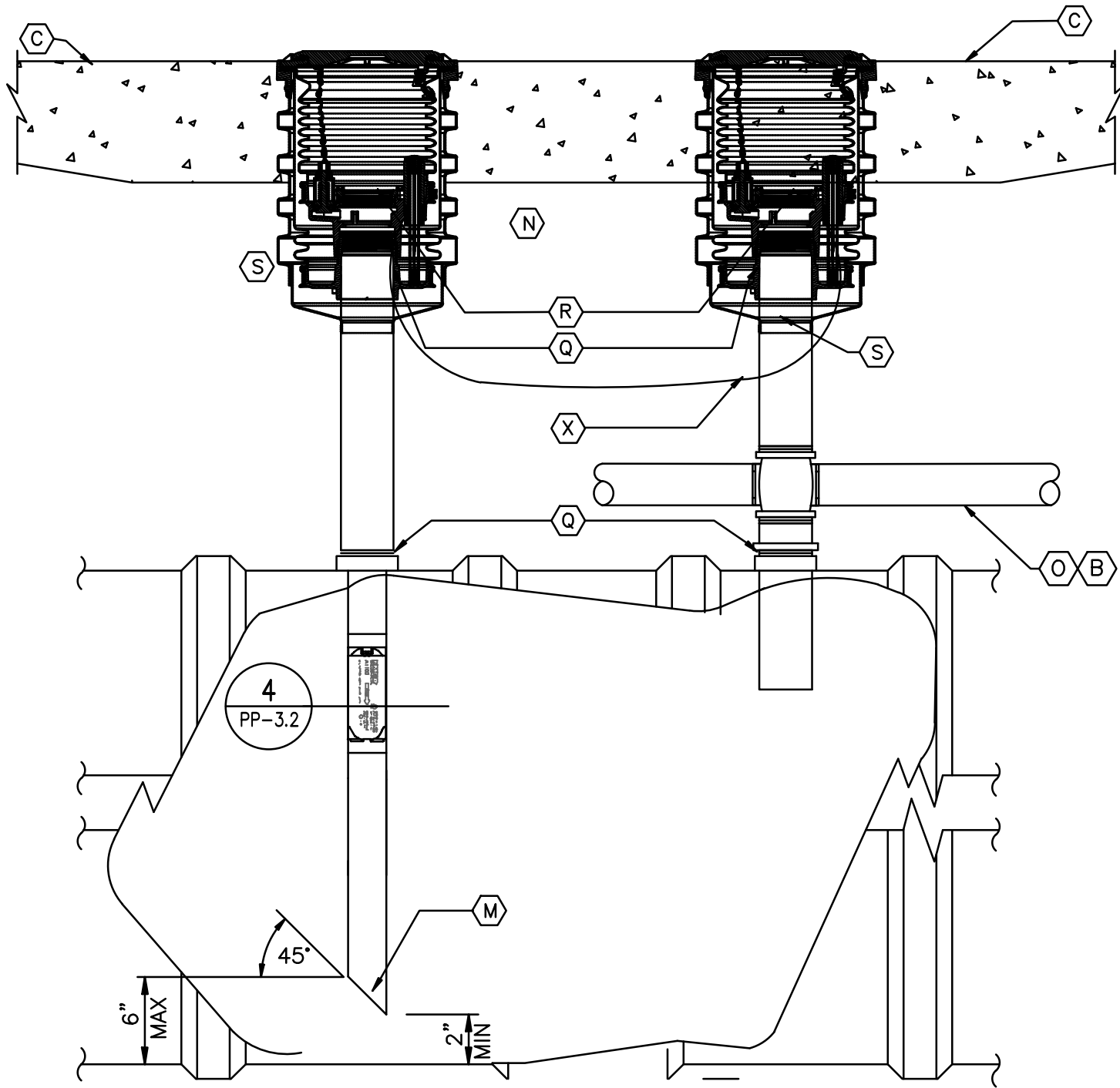
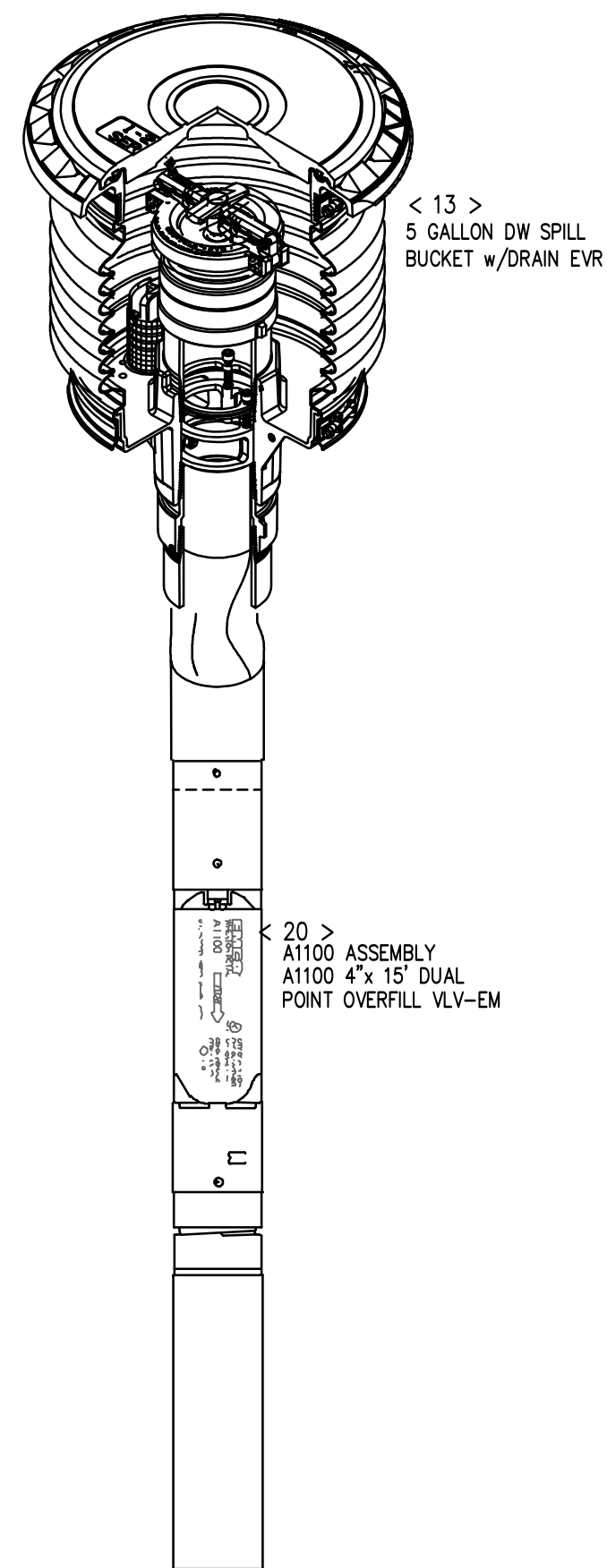
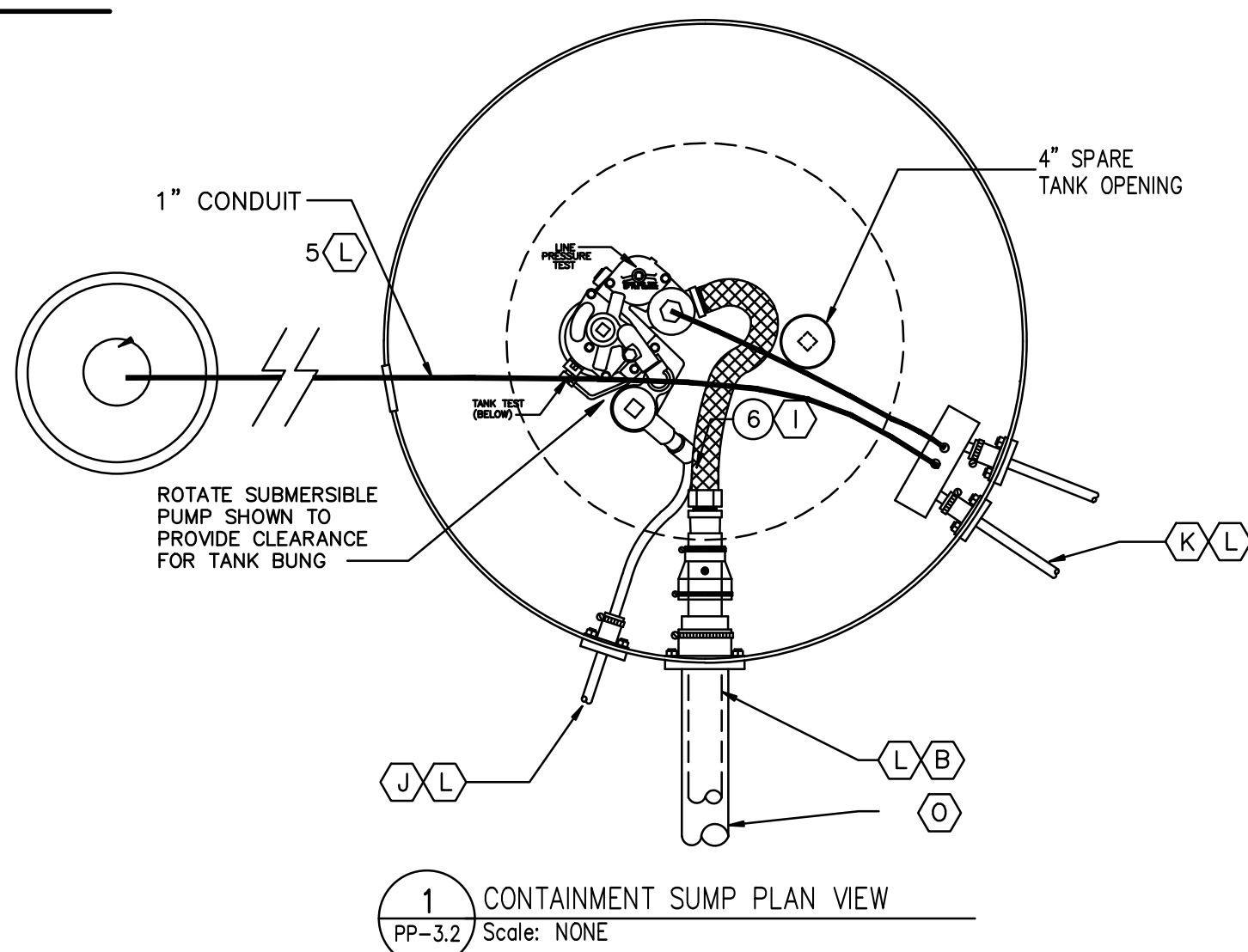
Phone: 928.757.6787
Fax: 928.682.0628

Drawings For -
Hualapai Circle-k
Hualapai and Eastern
Kingman, Arizona 86401

APN: 421-16-054A

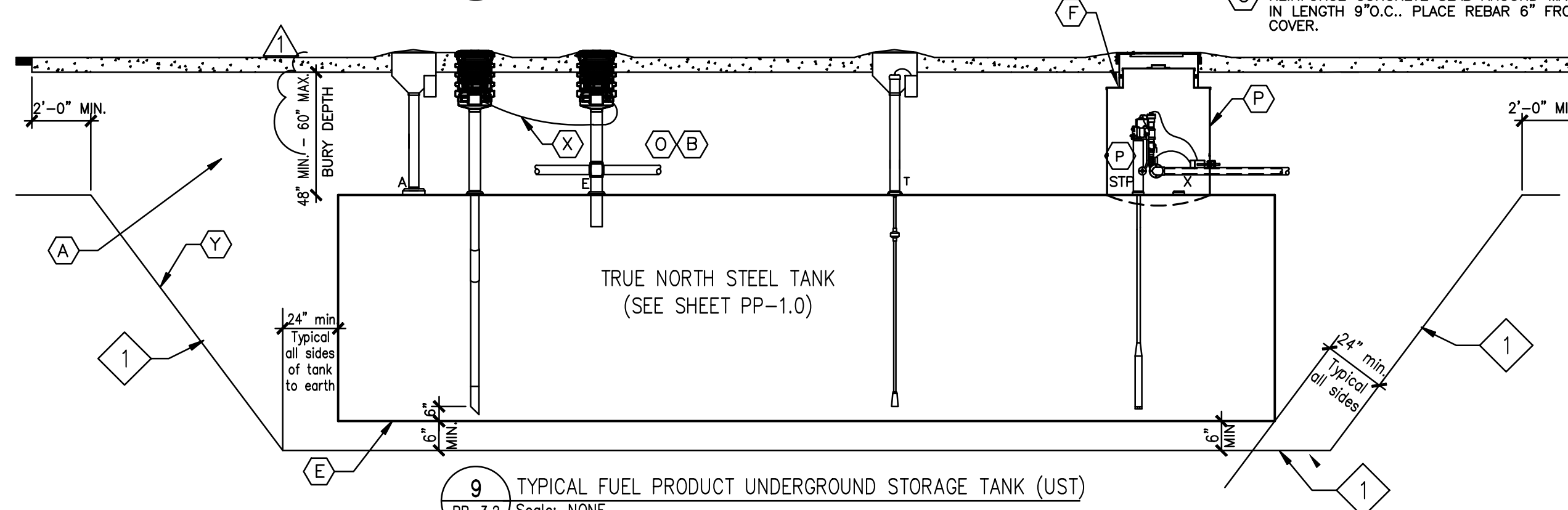
MARK	DATE	NOTES

DATE: SEPTEMBER, 2025
SCALE: AS NOTED
DRAWN: SRT
CHECKED: PT
SHEET TITLE: PETROLEUM PRODUCT DETAILS
SHEET NUMBER: PP-3.1
13 of 15



NOTE: (AT DIESEL TANK ONLY)
 PROVIDE AND INSTALL VAPOR RECOVERY RISER. SCOTCHRAP TAPE AS INDICATED FOR FUTURE USE. TERMINATE RISER WITH THREADED END AND CAP. PROVIDE AND INSTALL NEW MANHOLE WITH LOCKABLE COVER.

8 PRODUCT PIPING / SUMP PENETRATION
 Scale: NONE
 PP-3.2

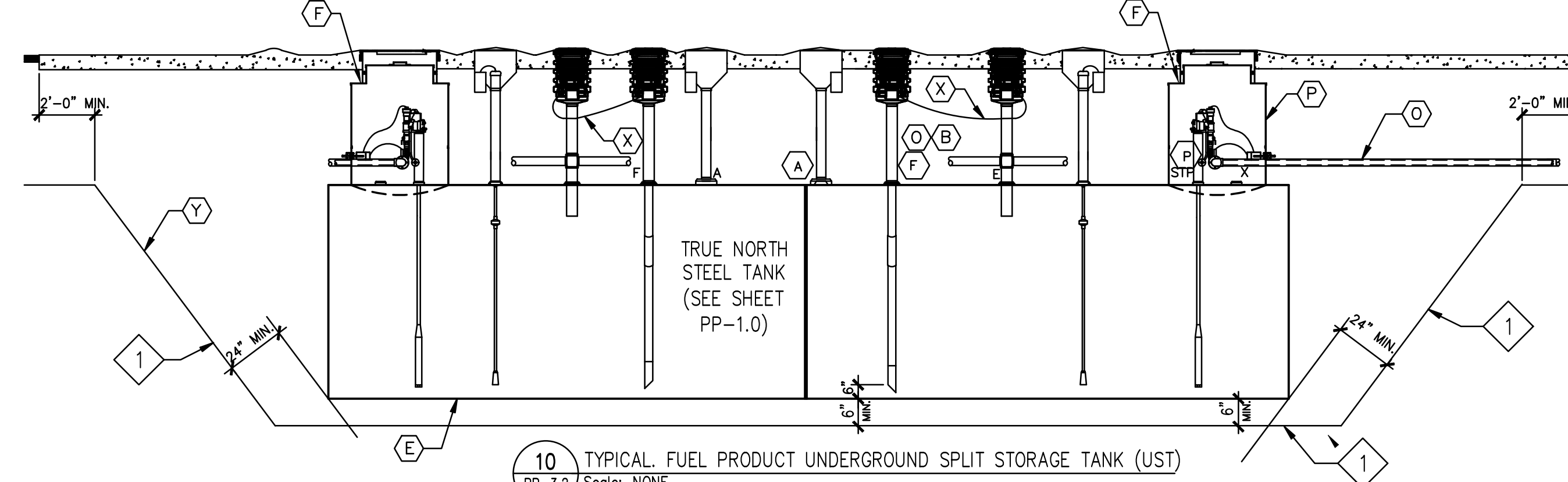


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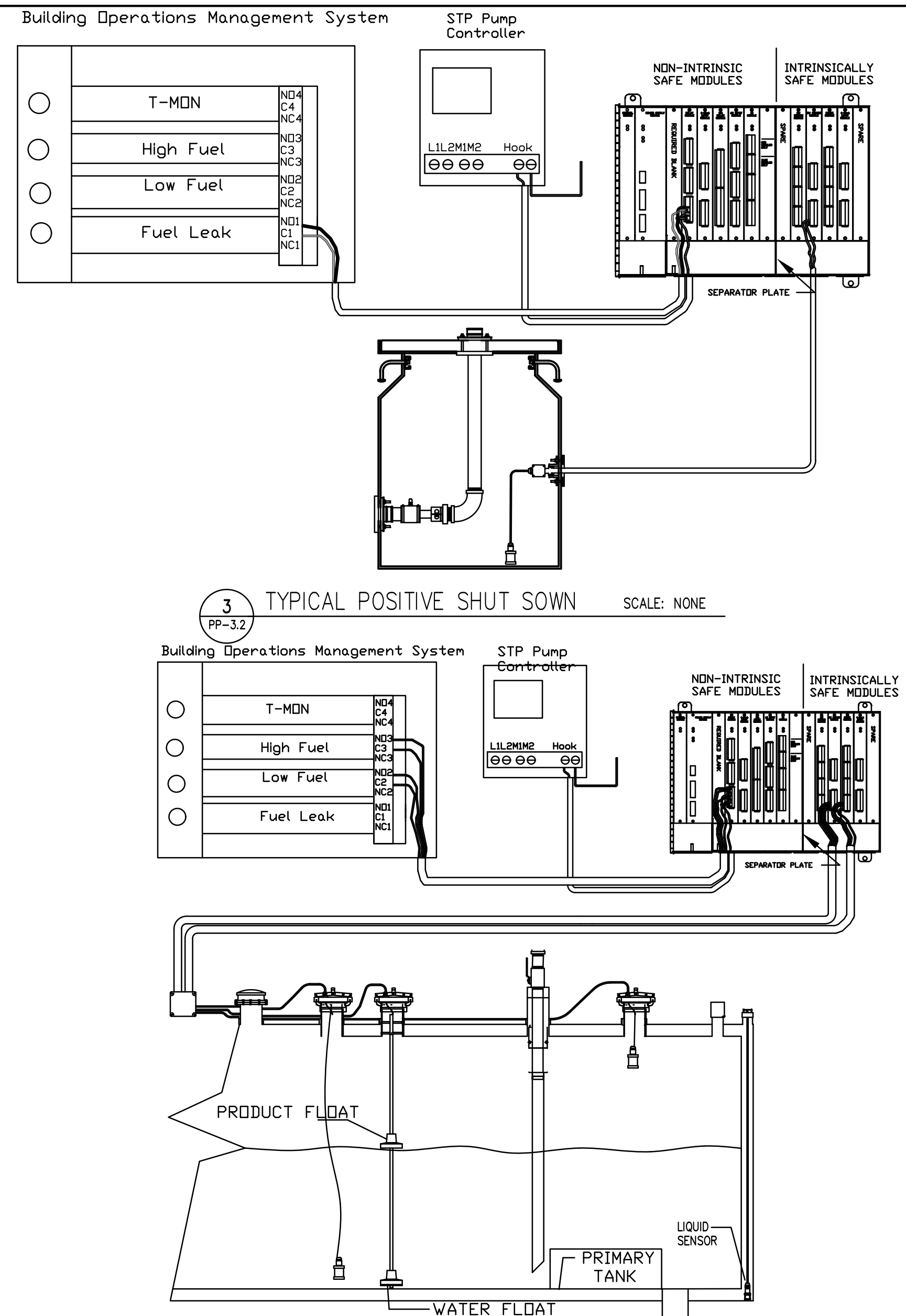
- A PEA GRAVEL BACKFILL. ALL OTHER MATERIAL MUST BE APPROVED BY TANK MANUFACTURER AND OWNER'S FIELD REPRESENTATIVE.
- B PIPE AND FITTINGS: ADVANCED POLYMER TECHNOLOGIES, Inc ~ "POLY-TECH" (UL-P-175-D) 1.75" FLEXIBLE DOUBLE WALL UNDERGROUND PIPING INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND ALL APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. (PER CONTRACT)
- C ALTERNATE PIPE AND FITTINGS: FRANKLIN FUELING 1.75" FLEXIBLE DOUBLE WALL UNDERGROUND PIPING INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND ALL APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. (PER CONTRACT)
- D SLOPE CONCRETE AWAY FROM ALL MANHOLES 1" RISE OVER 12" RUN. EXCEPT WHERE INDICATED.
- E DO NOT USE THREAD SEALANT ON THREADS COMMON TO CAGE AND BASE. WHEN INSTALLING CAGE INTO BASE, LUBRICATE THREADS WITH LIGHT COATING OF GREASE. DO NOT OVERTIGHTEN.
- F TANK BOTTOMS SHALL BE INSTALLED LEVEL.
- G INSTALL LID ONTO SUMP RISER AND SUMP RISER ONTO SUMP BASE USING ALL SUPPLIED GASKETS/ "O" RINGS, BOLTS, STEEL PLATES, ETC. PER SUMP MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- H REINFORCE CONCRETE SLAB AROUND MANHOLE W/ 3-#4 REBAR 8' IN LENGTH 9" O.C.. PLACE REBAR 6" FROM SIDES OF BOX. MIN. 2" COVER.
- I 8" THICK 3000 PSI CONCRETE SLAB REINFORCED W/ #3 REBAR @ 18" O.C. TANK SLAB TO EXTEND 2' PAST TANK HOLE IN ALL DIRECTIONS.
- J MINIMUM BEND RADIUS 4".
- K 1" CONDUIT FROM EACH SUBMERSIBLE PUMP TO BUILDING. TERMINATE WITH SEAL-OFF PER NFPA SPECIFICATIONS.
- L 1" CONDUIT FOR CONTAINMENT SUMP SENSORS. LOOP CONDUIT BETWEEN CONTAINMENT SUMPS, THROUGH JUNCTION BOX. SEAL OFF 1" HOME RUN AT BOTH 1ST TANK AND BUILDING. DO NOT PIPE INTO WIRING TROUGH.
- M ALL PENETRATIONS MUST BE PERPENDICULAR TO CONTAINMENT SUMPS.
- N CUT AND POSITION FILL TUBE WITH ANGLE AWAY FROM SUBMERSIBLE PUMP. VERIFY DROP TUBE HEIGHT.
- O INSTALL TANK ID. MARKERS IN THE SPILL CONTAINMENT MANHOLES USING WORM CLAMP AROUND FILL RISERS. INCLUDE OXYGENATED FUEL DATE TAGS WHERE APPLICABLE. SECURE IN PLACE.
- P PIPING TO BE PLACED PER APPLICABLE CODES AND MANUFACTURERS INSTRUCTIONS.
- Q INTERIOR OF FIBERGLASS CONTAINMENT SUMP TO BE CLEAR OF PEA GRAVEL, TRASH AND ANY LIQUID.
- R THOROUGHLY HAND CLEAN WITH WIRE BRUSH THE G.I. RISER SURFACE WITHIN 3" OF EXISTING TANK FITTING. ALL METALLIC COMPONENTS ABOVE TANK AND LOWER 1" OF SPILL CONTAINER. APPLY EPOXY PRIMER TO THESE AREAS. WRAP WITH 3M TAPE 20 MIL THICK.
- S 4" G.I. NIPPLE, TIGHT FILL ADAPTER (OR STAGE 1 VR DRY BREAK) AND LOCKING CAP. MAINTAIN 1 1/2" TO 2" BETWEEN CAP AND OVERFILL CONTAINER COVER. USE STABILIZER BARS SUPPLIED WITH OVERFILL CONTAINER TO ESTABLISH CORRECT FINISHED ELEVATION.
- T THE TORQUE RECOMMENDATION FOR TIGHTENING THE SPILL CONTAINERS TO THE RISER PIPES IS 250FT. LBS. MAXIMUM.
- U 5 1/2" BELOW THE MANHOLE RIM ELEVATION.
- V STAGE 1 VAPOR RECOVERY ADAPTOR FINISHED HEIGHT TO BE 3 1/2" TO 4 1/2" BELOW THE MANHOLE RIM ELEVATION.
- W "T&B" MODEL 3902 OR "O.Z./GEDNEY" MODEL G-100G 1/2"-1" HEAVY DUTY GROUNDING CLAMP OR OWNER APPROVED EQUAL.
- X #8 BRAIDED OR SOLID COPPER GROUNDING CONDUCTOR ROUTED IN SERIES BETWEEN BOTH SPILL CONTAINERS. CONNECT TO SPILL CONTAINERS AT GROUNDING STUDS PROVIDED. SECURELY CRIMP TO CONDUCTOR WITH "TRYTOOL" NO. MR4C OR MY29. SPLICES ARE NOT PERMITTED BETWEEN GROUNDING STUDS AND/OR GROUNDING ROD.
- Y SLOPE PER SOILS REPORT OR TANK MANUFACTURER INSTALLATION INSTRUCTIONS.

TYPICAL U.S.T. INSTALLATION

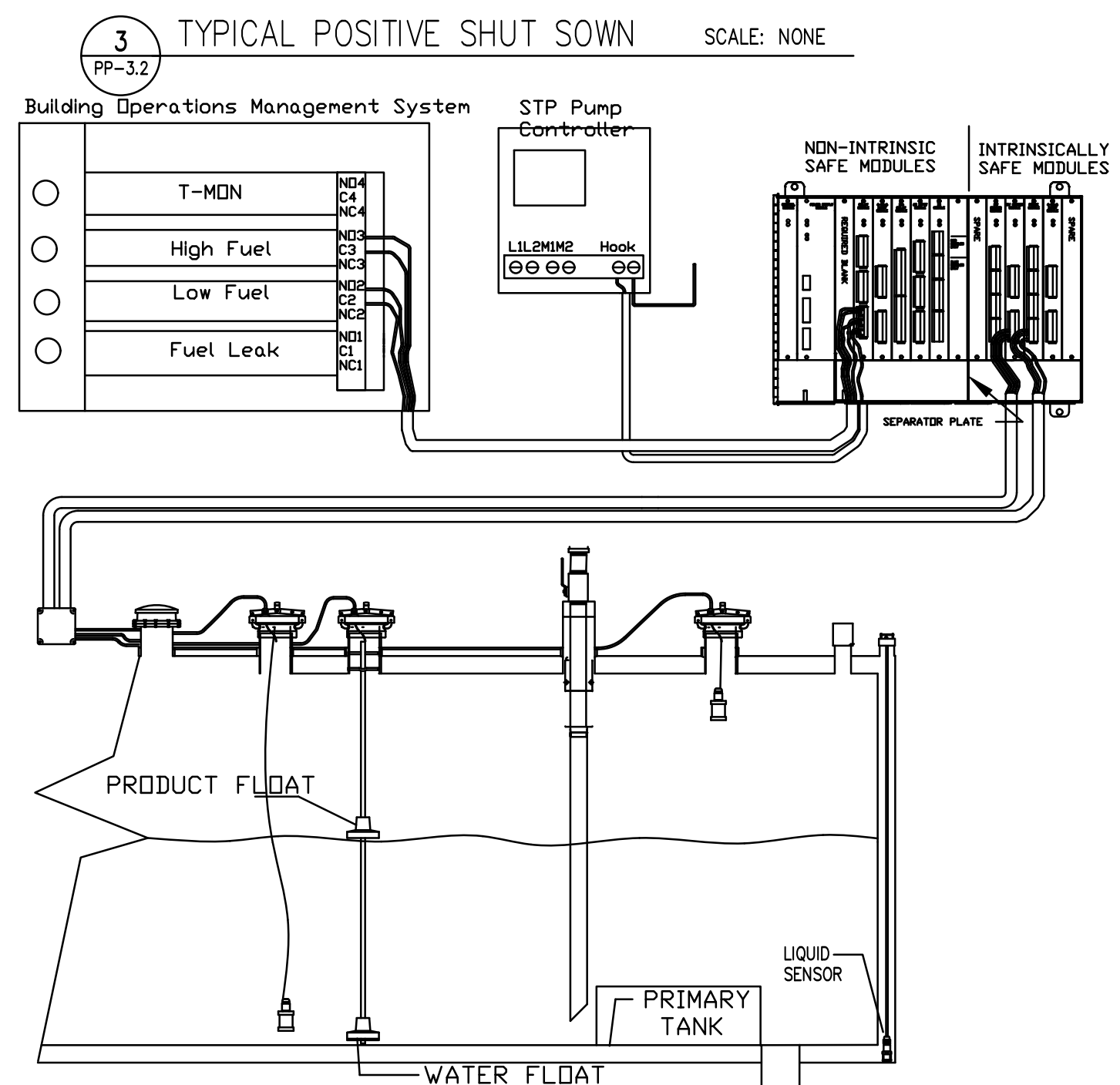
1 LIMITS TO TANKFIELD EXCAVATION



10 TYPICAL FUEL PRODUCT UNDERGROUND SPLIT STORAGE TANK (UST)
 Scale: NONE
 PP-3.2



7 TYPICAL HIGH AND LOW LEVEL ALARMS. Scale: NONE. PP-3.2



PETROLEUM EQUIPMENT TO BE INSTALLED PER MANUFACTURERS INSTALLATION INSTRUCTIONS, AND APPLICABLE CODES, ORDINANCE AND STANDARDS OF PRACTICE

AzTech Petroleum Service, Inc.
 4440 Able Drive
 Kingman, Arizona 86401
 Phone: 928.757.8787
 Fax: 928.682.0628

Drawings For -
 Hualapai Circle-k
 Hualapai and Eastern
 Kingman, Arizona 86401
 APN: 421-16-054A

MARK	DATE	NOTES

DATE: SEPTEMBER, 2025
 SCALE: AS NOTED
 DRAWN: SRT
 CHECKED: PT
 SHEET TITLE:
 TYPICAL UNDERGROUND TANK INSTALLATION
 SHEET NUMBER:
 PP-3.2
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A. GENERAL:

- 1.0 UNKNOWN SITUATIONS OR CONDITIONS NOT COVERED IN THESE AND THE MANUFACTURERS INSTRUCTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR. MANUFACTURER'S SPECIALISTS ARE AVAILABLE FOR CONSULTATION. THE PRESENCE OF THE MANUFACTURER OF OBSERVER AT AN INSTALLATION SITE DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR THE PROPER INSTALLATION OF EQUIPMENT.
- 2.0 QUESTIONS REGARDING INSTALLATION PROCEDURES SHOULD BE DIRECTED TO THE MANUFACTURER'S FIELD REPRESENTATIVE.
- 3.0 THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION AND OPERATIONAL TESTING EQUIPMENT SHALL BE FOLLOWED TO AVOID THE POSSIBILITY OF DAMAGE TO THE EQUIPMENT.
- 4.0 HANDLE AND INTALL ALL ITEMS PER MANUFACTURER'S INSTRUCTINS, THESE DRAWINGS, ALL APPLICABLE LAWS, CODES AND REGULATIONS AND BEST STANDARAD AND PRACTICE.
- 5.0 THESE PLANS ARE TO BE CONSIDERED SCHEMATIC IN NATURE. GENERAL SCOPE IS DEFINED, HOWEVER ACTUAL SCOPE AND INSTALLATION IS DEPENDENT ON FOUND CONDITIONS AT SITE. BEST ROUTING, INSTALLATION AND LOCATIONS TO BE DETERMINED ON SITE.
- 6.0 SECURITY FENCING AND BARRICADES TO BE PROVIDED WHERE REQUIRED.
- 7.0 FOR INSTALLATIONS AT EXISTING STORES, WORK WILL BE SCHEDULED AND PERFORMED TO PROVIDE THE LEAST INTERFERENCE POSSIBLE WITH NORMAL OPERATIONS. ALL DEBRIS, ESCCESS EXCAVATION MATERIALS, MACHINERY AND EQUIPMENT TO BE MAINTAINED CLEAR OF DRIVEWAYS IN USE DURING NORMAL OPERATION. WHERE APPLICABLE, LIGHTED BARRICADES WILL BE PROVIDED FOR PUBLIC PROTECTION. WHEN IT BECOMES NECESSARY TO CLOSE A DRIVEWAY FOR MORE THAN TWENTY-FOUR (24) HOURS EVERY EFFORT WILL BE MADE TO PROVIDE TEMPORARY TRAVEL SERVICE FOR TRAFFIC.
- 8.0 MATERIAL SAFETY DATA SHEETS (MSDS) FOR CHEMICAL COMPOUNDS REGULATED THROUGH USEPA USED ON-SITE, OR HAVING THE POTENTIAL FOR HUMAN CONTACT (IE: GASOLINE, DRY ICE, SOLVENTS, GLUES, ETC.) TO BE MAINTAINED ON-SIT DURING THE COURSE OF WORK.
- 9.0 EVERY EFFORT TO BE MADE TO MITIGATE RAIN DAMAGE4 AND DELAYS (IE: PUMPA, TARPS, ETC.).
- 10.0 SECURITY FENCING AND BARRICADES TO BE PROVIDED WHERE REQUIRED.
- 11.0 A COPY OF THE SPECIFICATIONS AND DRAWING, ALONG WITH APPROVED SITE PLAN (w/AS-BUILD NOTATIONS) TO BE ON-SITE AT ALL TIMES..
- 12.0 GENERAL INSTALLATION NOTE: ALL PETROLEUM PRODUCT EQUIPMENT AND SYSTEMS TO BE INSTALLED PER MANUFACTURERS INSTRUCTIONS AND SPECIFICATIONS. REFER TO MANUFACTURERS/PROVIDORS INSTALLATION MANUALS FOR ALL FOUNDATIONS, SUPPORTS, CONNECTIONS, PRODUCT DETAILS, WIRING AND SPECIFICATIONS.

B. CODES:

- 1.0 PLANS AND SPECIFICATIONS REPRESENT MINIMUM REQUIREMENTS. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF STATE AND FEDERAL RULES AND REGULATIONS OF LOCAL JURISDICTIONS HAVING AUTHORITY WHEN THOSE REQUIREMENTS EXCEED THESE MINIMUMS.
- 1.1 2018 INTERNATIONAL BUILDING CODE.
- 1.2 2018 INTERNATIONAL FIRE CODE.
- 1.3 2017 NATIONAL ELECTRIC CODE.

C. EXCAVATION:

- 1.0 EXCAVATAION TO BE SIZED PER TANK MANUFACTURER'S GUIDELINES. PIPELINE TRENCHING PER PIPE MANUFACTURERS GUIDELINES AND APPLICABLE CODES AND ORDINANCE.
- 2.0 UNSTABLE SOILS MAY REQUIRE FILTER FABRIC EXCAVATION LINER. IF A GEOTECHNICAL REPORT/EVALUATION IS REQUIRED BY THE AUTHORITY HAVING JURISDICTION, OR RECOMMENDED BY CONTACTOR, IT IS TO BE EXECUTED BY SEPARATE INSTRUMENT, OR CHANGE ORDER, AND AT THE OWNERS EXPENSE.
- 3.0 MINIMIZE SURFACE WATER ENTERING EXCAVATIONS BY CONSTRUCTING DIVERSION DAMS AROUND TANKFIELD EXCAVATION AND PIPING TRENCHES..

D. PIPING SYSTEM:

- 1.0 ALL PIPING AND FITTING SHALL BE OF A TYPE APPROVED FOR THE INTENDED USE AND BEAR AN UNDERWRITERS LABEL.
- 2.0 ALL MATERIALS, WORKMANSHIP AND INSTALLATION PRACTICES TO BE IN ACCORDANCE WITH NFPA 30 & 30A AND ALL OTHER APPLICABLE CODES.
- 3.0 MATERIALS:
- 3.1 ALL VENT AND VAPOR RETURN PRIMARY PRODUCT AND SECONDARY CONTAINMENT LINES SJALL BE FRP SMITH FIBERGLASS "RED THREAD II-A" (WITH D80000 SERIES ADHESIVES) OR FRP AMERON "DUALOY 3000LX" WITH ALCOHOL FITTING AND AZOLT ADHESIVES. DO NOT MIX MANUFACTURER'S MATERIALS.
- 3.2 TANK RISERS SHALL BE SCHEDULE 40 (ASTM-5-120.. GALVANIZED IRON PIPE. FITTINGS SHALL BE 300 PSI GALVANIZED MALLEABLE IRON. ALL GALVANIZED PIPE AND FITINGS EXPOSED TO BSKFILL MATERIAL (INCLUDING EXTRACTOR BASE) SHALL BE TREATD BY COATING WITH "KLOPPERS" BITUMASTIC OT COAL TAR EPOXY AND WRAPPED WITH FELT OR 3M TAPE. ALL TREATED PARTS SHALL BE CLEAN AND CORROSION FREE PRIOR TO APPLYING COATING.
- 3.3 ALL NPT THREADED CONNECTIONS TO BE TREATED WITH "SEALS PIPE" AS MANUFACTURED BY PERMATEX, "PST 567" AS MANUFACTURED BY LOOKTITE, OR "THE HEAVYWEIGHT" AS MANUFACTURED BY JAMAR.

4.0 INSTALLATIONS:

- 4.1 DOUBLE WALL PRODUCT PIPING SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
- 4.2 PROVIDE CLEAN PEA GRAVEL/SAND AT ALL PIPING TRENCHES 6" OVER & 4" UNDER, OR PER MANUFACTURERS RECOMMENDATIONS. THE MORE STRINGENT GOVERNS.
- 4.3 BEDDING AND BACKFILL MATERIAL SHALL BE SAME AS THE TANKFIELD. PRODUCT LINE TRENCH SUB-GRADE SHALL BE COMPACTED TO 90% PROCTOR DENSITY PRIOR TO INSTALLING BEDDING AND BACKFILL MATERIAL.
- 4.4 PRODUCT LINES SHALL SLOPE CONTINUOUSLY UPWARD FROM STP SUMP A MINIMUM OF 1/8" PAER FT. STAGE II VAPOR RECOVERY LINES SHALL SLOPE CONTINUOUSLY FROM VAPOR MANIFOLD O A MINIMUM OF 1/8" PER FT. STAGE II LINES TO BE STUBBED UP THROUGH THE DISPENSER PAN AND CAPPED IF LOCATION IS NOT SCHEDULED FOR STAGE II.

5.0 CONNECTIONS:

- 5.1 NPT THREADED CONNECTIONS:
- 5.1.1 THREADS SHALL BE CLEAN OF ALL SAND AND THREAD CUTTING OIL PRIOR TO JOINING.
- 5.1.2 APPLY THREAD SEALANT PER E-3-3. START ALL THREADED CONNECTIONS BY HAND. SECURE FRP COMPONENTS USING ONLY A STRAP WRENCH. DO NOT FORCE THREADS. IF CONECTION BINDS, REMOVE AND RECLEAN.
- 5.1.3 DO NOT OVERTIGHTEN. TORQUE FRP TO STEEL CONNCTRIONS TO 75 FT. LBS. WHEN USING POWER TONGS.

5.2 FRP BONDED CONNECTIONS:

- 5.2.1 TAPER/SCARF PIPE ENDS PER MANUFACTURER'S INSTRUCTIONS. CLEAN BONDING SURFACES USING ONLY PIPE MANUFACTURER'S APPROVED CLEANER. DO NOT ALLOW CLEANER TO COME INTO CONTACT WITH TANK SURFACES OR SUMP SEALING DEVICES.
- 5.2.2 MIX AND APPLY ADHESIVES PER MANUFACTURER'S INSTRUCTIONS.
- 5.2.3 JOIN COMPONENTS PER MANUFACTURER'S INSTRUCTIONS. CURE CONNECTION PER PIPE MANUFACTURER'S SPECIFICATIONS USING PIPE MANUFACTURER'S APPROVED ELECTRIC HEATING COLLAR OR CHEMICAL HEAT PACK WHEN TEMPERATURE IS BELOW, OR WIL FALL BELOW 60° PRIOR TO CURING.

6.0 LINE TESTING (prior to backfill):

- 6.1 CAUTION: NITROGEN FROM A GROUNDED SOURCE SHALL BE USED IN LIEU OF AIR FOR TESTING PIPING SYSTEM IF A M OTOR FUEL HAS BEEN USED TO BALLAST A TANK.
- 6.2 PRODUCT LINES TO BE TESTED FROM STP TO SHEAR VALVE.
- 6.3 VENT/VAPOR SYSTEM SHALL BE TESTED FROM TOP OF VENT, THROUGH MANIFOLD, EXTRACTOR BASE AND RISER, STAGE I ADAPTERS, CAPS AND CONTAINMENT MANHOLES, STAGE II VAPOR LINES TO ISLANDS & STAGAE II FILL CONNECTORS AT DISPENSER(S). REPLACE BALL FLOAT CAGES WITH PLUGS AND REPLACE STAGE I VAPOR RECOVERY SPILL CONTAINERDRAIN VALVES WITH G.I. PLUGS. CAUTION: VERIFY THAT EXTRACTOR PLUG IS INSTALLED AND CAP REMOVED FROM FILL RISER PRIOR TO PRESSURE TESTING VENT/VAPOR SYSTEM.
- 6.4 SLOWLY PRESSURIZE PRODUCT LINES AND VENT/VAPOR LINES T 50 PSI. SOAP TEST PIPE SURFACES, INCLUDING JOINS AND FITTINGS. CORRECT ANY LEAKS AND RETEST.
- 6.5 IMMEDIATELY RELIEVE PRESSURE FROM STAGE II VR/VENT SYSTEM AND REMOVE EXTRACTOR PLUGS. REDUCE PRIMARY LINE PRESSURE TO 30 PSI. MONITOR DAILY UNTIL ALL YARD PAVING IS COMPLETE.
- 6.6 ASSEMBLE SECONDARY SYSTEM AND PRESSUTIZE TO 5 PSI. SOAP TEST ALL PIPE SURFACES, INCLUDING JOINTS AND FITTINGS. CORRECT ANY LEAKS AND RETEST. REDUCE PRESSURE TO 3 PSI AND MONITOR DAILY UNTIL ALL YARD PAVING IS COMPLETE.
- 7.0 COMPLETE BACKFILLING PIPING TRENCHES AND TOP OF TANKS TO ALLOW FOR AN 8" THIC CONCRETE SLAB w/#3 REBAR @ 18" O/C E.W. AND 6" THICK YARD/CANOPY PAVING, 3,000 PSI, WITH OR WITH OUT FIBER MESH (PER CONTRACT). #3 REBAR DOWELS @ 18" O/C INSTALLED CONNECTING NEW PIPING TRENCH CONCRETE WITH EXISTING SIT PAVING, OR WHEN REPLACING TANKS AART AN EXISTING SITE. SEE BID DOCUMENTS AND CONTRACT FOR ADDITIONAL CONTRACT NOTES AND SPECIFICATIONS.
- 8.0 WHEN REQUIRED BY STATE OR LOCAL CODES PROVIDE 4 IN. DIAMETER, .020 SLOTTED PVC OBSERVATION WELLS. CAPS TO BE PAINTED WHITE WITH BLACK TRIANGLE IN CENTER.
- 9.0 SOAPING OF THE TANKS MANWAYS AND FITTINGS DURING THE TESTS IS TO BE DONE USING A SMALL GARDEN TYPE HAND PRESSURIZED SPRAY UNIT. THE TEST SOAP SHALL BE A HIGH FOAMING SOAP, "SEAM TEST SOLUTION" MANUFACTURED BY WINTON PRODUCTS, CHARLOTTE, N.C.: AMWAY LOC HIGH SOAP, OR EQUAL.

E. TANK AND DISPENSER PIPING SPECIFICATIONS.

- 1.0 ALL UNDERGROUND PIPING SHALL BE PLACED WITH A MINIMUM NUMBER OF BENDS AND CONTINUOUSLY PITCHED TO PROVIDE A MAXIMUM SLOPE. (PROVIDE A MINIMUM SLOPE OF 1/8" PER FOOT.) INSTALL ALL PRODUCT AND VAPOR RETURN LINES IN A COMMON TRENCH WITH THE CONCRETE PAVEMENT SCORED TO INDICATE THE BOUNDARIES AND DIRECTION OF PIPING TRENCHES.
- 2.0 STEEL PIPE, WHERE USED, SHALL BE NEW STANDARD BLACK IRON WITH BLACK MALLEABLE IRON FITTINGS. ALL UNIONS SHALL HAVE BRASS TO METAL GROUND JOINT SEAT (250# UNIONS). REAM BURR FROM PIPE ENDS AND REMOVE ALL FOREIGN WATER FROM THE INSIDE BEFORE ASSEMBLING. MAKE UP SCREWED JOINTS WITH PERMATEX FORM A-GASKET #2, KEYS PIPE COMPOUND, OR APPROVED EQUAL. ALL BURIED STEEL PIPING TO BE COATED WITH A COAL TAR/ BITUMINOUS COMPOUND AND WRAPPED WITH KRAFT PAPER (TWO LAYERS EACH).
- 3.0 SECURELY PLUG ALL UNUSED TANK OPENINGS WITH SREW TYPE BLACK IRON PLUGS, DOPED AS SPECIFIED IN NOTE C ABOVE.

F. AIR AND WATER PIPING:

- 1.0 COPPER PIPE SHALL BE USED FOR ALL WATER AND AIR SUPPLY PIPING. TYPE "L" HARD DRAWN COPPER SHALL BE USED FOR PIPE NOT SET UNDER CONCRETE. TYPE "K" SOFT COPPER SHALL BE USED FOR PIPING UNDER CONCRETE. FITTINGS SHALL BE WROUGHT COPPER THROUGHOUT. DIELECTRIC COUPLINGS SHALL BE INSTALLED AT ANY MATERIAL CHANGE IN THE SYSTEM. CUT PIPE ACCURATELY TO MEASUREMENTS ESTABLISHED AT THE BUILDING AND WORK INTO PLACE WITHOUT SPRINGING OR FORCING. PIPE AND FITTINGS SHALL BE FREE FROM BURRS AND FINIS. PIPE ENDS SHALL BE REAMED AND CLEANED. JOINTS SHALL BE SOLDERED WITH STREAMLINE 95/5 SOLDER. WATER LINES SHALL BE INSTALLED ENTERING BOXES.

G. TANK INSTALLATION:

- 1.0 TANKS INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
- 2.0 LIFTING EQUIPMENT TO BE ADEQUATE TO HANDLE TANK WITHOUT DRAGGING. USE ALL LIFTING LUGS AND GUIDELINES WHEN LIFTING TANKS. REST TANKS N SMOOTH AND DEBRIS FREE GROUND. CHOK TANKS TO PREVENT ROLLING. Tie DOWN IF HIGH WINDS EXPECTED. USE MIN. 1/2" DIA. NYLON OR HEMP ROPE OVER TANK AND Tie TO WOODEN STAKEs OF ADEQUATE SIZE TO PREVENT TANKS FROM BEING MOVED BY HIGH WINDS. DO NOT DRAG, ROLL OR IMPACT TANKS.
- 3.0 TANK TO BE PLACED IN ACCORDANCE WITH TANK MANUFACTURER'S INSTALLATION MANUAL AND TANK DRAWINGS. N OTE THAT IF SOLIS ARE UNSTABLE, THE STANDARDS MAY BE INCREASED. DISTANCE BETWEEN TANKS GOVERNED BY MANUFACTURER'S INSTRUCTIONS, STATE AND LOCAL REQUIREMENTS, WHICHEVER IS GREATER. TANK TO BE CONTINUOUSLY VENTED AT ALL TIMES THROUGH CONSTRUCTION.
- 4.0 PRE-INSTALLATION TANK TESTING:
- 4.1 TANKS ARE TO BE SET LEVEL AND BACKFILLED TO TOP OF TANK THE SAME DAY AS TESTING.
- 4.2 PROVIDE TANK TEST MANIFOLD PER MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.
- 4.2.1 FURNISH AIR PRESSURE GAUGE WITH A MAXIMUM FUL SCALE READING OF 15 PSIG WITH 0/2 OR 1/4 PSIG INCREMENTS. PRESSURE GAUGE TO BE IN GOOD RAFAIR AND HAVE A CALIBRATION DATE WITHIN THIRTY (30) DAYS OF USE. PRESSURE GAUGES DAMAGED OR OUT OF CALIBRATION ARE NOT TO BE USED.
- 4.2.2 THE PRESSURE RELIEF VALVE ON THE TEST MANIOLD MUST BE RATED AT 6 PSIG TO REDUCE THE RISK OF OVER PRESSURIZING THE TANK.
- 4.3 TESTING THE PRIMARY (INTERNAL) TANK:
- 4.3.1 CONNECT THE TEST MANIFOLD TO AN AVAILABLE SERVICE FITTING. CHECK EACHREMAINING SERVICE FITTING TO ENSURE TANK SERVICE FITTINGS ARE PROPERLY SEATO, ADEQUETLY DOPED, PLUGGED AND TIGHTENED.
- 4.3.2 PRESSURIZE THE PRIMATRY TANK TO 5 PSIG, ADD OR REMOVE AIR AS NECESSARY TO STABILIZE PRESSURE. CLOSE THE VALVE ON THE TEST MANIFOLD AIR SUPPLY LINE.

- 4.3.3 MONITOR THE PRESSURE FOR 1-HOUR. SOAP TEST (USING HIGH FOAMING TEST SOLUTION - SEAM TEST SOLUTION MANUFACTURED BY WINTBIN PRODUCTS, CHARLOTTE, NB.C; AMWAY LEE SOAP, OR APPROVED EQUAL) ALL SERVICE FITTINGS, MANWAYS AND PLUGS. WATCH FOR ACTIVE AIR BUBBLES (WHICH INDICATE A LEAK).

- 4.3.4 CONNECT THE TEST MANFOLD TO AN AVAILABLE SERVICE FITTING. CHECK EACH REMAINING SERVICE FITTING TO ENSURE ALL ARE PROPERLY SEATED, ADEQUETLY DOPED, PLUGGED AND TIGHTENED.

TESTING THE SECONDARY (EXTERNAL) TANK:

- 4.4.1 MAINTAIN PRESSURE ON THE PRIMARY TANK. PLUG ALL OPEN FITTINGS ON THE SECONDARY TANK.
- 4.4.2 FREE THE HOSE FROM THE SERVICE FITTING BY CUTTING THE NYLON SAFETY LINE.
- 4.4.3 INSERT THE HOSE INTO THE QUICK DISCONNECT CHECK VALVE. THIS WILL ALLOW AIR TO TRANSFER FROM THE PRIMARY TO THE SECONDARY TANK.
- 4.4.4 PRESSURIZE TO 5 PSIG. ADD OR REMOVE AIR VIA THE SUPPLY VALVE AS NEEDED TO STABALIZE PRESSURE. CLOSE THE VALVE O N THE TEST MANIFOLD TO THE AIR SUPPLY LINE. DO NOT USE AN AIR COMPRESSOR TO PRESSURIZE THE SECONDARY TANK.
- 4.4.5 MONITOR THE PRESSURE FOR 1-HOUR. SOAP THE ENTIRE EXTERIOR OF THE TANK AND WATCH FOR AIR BUBBLES.
- 4.4.6 WHEN THE TEST IS COMPLETE, SLOWLY RELEASE AIR PRESSURE FROM THE TANK BY DISCONNECTING THE SUPPLY LINE AND OPENING THE SAFETY VALVE ON THE TEST MANIFOLD. WHEN AIR FLOW FROM THE SUPPLY VALVE STOPS, REMOVE THE TEST MANIFOLD.

5.0 INSTALLATION:

- 5.1 BEDDING AND BACKFILL MATERIAL TO BE WELL WASHED AD FREE OF ICS AND SNOW AND MEET ASTM D-448, ASTM C-333 AND AASHTO M-43 FOR QUALITY AND SOUNDNESS. NOTE: TANK WARRANTY IS VOIDED IF MATERIAL OTHER THAN THE FOLLOWING BED AND BACKFILL MATERIALS AARE EMPLOYED WITHOUT PRIOR WRITTEN APPROVAL FROM THE TANK MANUFACTURER.
- 5.1.1 PEA GRAVEL WITH A PARTICLE SIZE NOT LESS THAN 1/8" OR MORE THAN 3/4" DIAMETER, WITH NO MORE THAN 5% PASSING A No. 8 SIEVE.
- 5.1.2 CRUSHED STONE WITH A PARTICLE SIZE NOT LESS THAN 1/8" OR MORE THAN 1/2" DIAMETER, WITH NO MORE THAN 5% PASSING A No. 8 SIEVE.

5.2 STANDARD INSTALLATION PROCEDURE - DRY HOLE:

- 5.2.1 PLACE MINIMUM TWELVE (12) INCHES BEDDING MATERIAL SMOOTH AND LEVEL OVER EXCAVATION FLOOR. TANK TO BE SET LEVEL.
- 5.2.2 SET TANKS LEVEL ON BEDDING MATERIAL. USE ALL LIFTING LUGS PROVIDED AND GUIDE ROPES AT EACH TANK END, DO NOT SET TANKS DIRECTLY ON DEADMEN, OR CONCRETE SLAB IF USED. MEASURE TANK DIAMETER.
- 5.2.3 PLACE TWELVE-INCHES (12") BACKFILL MATERIAL EVENLY AROUND TANKS. USE WOODEN DOWEL PROBE TO WORK BACKFILL COMPLETELY UNDER TANK, BETWEEN RIBS AND UNDER END CAPS TO PROVIDE A SOLID SUPPORT FREE OF VOIDS. IT IS EXTREMELY IMPORTANT THAT CARE BE EXERCISED IN BACKFILLING OF TANKS UP TO TWO FEET (2') IN DEPTH FROM THE TANK BOTTOM AS FAILURES HAVE RESULTED WHERE VOIDS WERE EVIDENT UNDER TANK. GOOD COMPACTION AND SUPPORT FOR THE TANK CAN BE ACHIEVED BY SHAPING THE GRAVEL WITH A SHOVEL ALL AROUND THE PERIMETER OF EACH TANK.

- 5.2.4 REPEAT 5.3.3 (ABOVE) FOR NEXT TWELVE INCHES (12"), PROBING TO FILL ALL VOIDS AHTH E CRITICAL 5 TO 7 O'CLOCK SUPPORT AREAS OF THE TANK.

- 5.2.5 FRELY ADD ADDITIONAL BACKFILL MATERIAL TO TANK TOPS. (ADDITIONAL PROBING NOT REQUIRED.) MEASURE TANK DIAMETER.

5.3 INSTALLATION PROCEDURE - WET HOLE:

- 5.3.1 THE FOLLOWING PROCEDURE SHALL APPLY WHERE HIGH WATER TABLE IS EVIDENT, OR WHERE A FUTURE WATER CONDITION IS ANTICIPATED.
- 5.3.2 WATER SHOULD BE MAINTAINED AT THE LOWEST PRACTICAL LEVEL DURING INSTALLATION. A SUMP AND PUMP OR A SYSTEM OF WELL POINTS AND PUMPS IS THE RAECOMMENDED METHOD TO MINIMIZE WATER LEVEL IN THE HOLE. IT IS RECOMMENDED THAT AN EXPERIENCED DEWATERING CONTRACTOR BE EMPLOYED TO DEWATER THE EXCAVATION. THE TYPE OF SYSTEM REQUIRED WILL DEPEND ON THE WATER FLOW RATE INTO THE HOLE. THE HOLE BOTTOM SHOULD BE LEVEL AND FREE OF ROCKS AND DEBRIS.

- 5.3.3 PROVIDE A MINIMUM TWELVE INCH (12") THICK PEA GRAVEL BED AT BOTTOM OF HOLE. PEA GRAVEL MUST BE GRADED SMOOTH, COMPACTED AND LEVEL TO RECEIVE TANKS. CAREFULLY PLACE TANKS OF PEA GRAVEL BED. TANK IS TO BE SET LEVEL.

5.3.4 BALLASTING:

- 5.3.4.1 IF WATER IS REQUIRED TO SINK TANKS IN HIGH WATER TABLE CONDITION, THE MANUFACTURER'S TANK INSTALLATION INSTRUCTIONS MUST BE ADHERED TO EXACTLY.
- 5.3.4.2 WATER WITHIN THE TANK CANNOT BE AT A HIGHER LEVEL THAN THE OUTSIDE GROUND WATER.
- 5.3.4.3 BALLAST TANKS USING POTABLE WATER. REMOVE WATER ONLY AFTER TAN K SLAB IS CURED. PROPERLY DISPOSE OF WATER REMOVED FROM TANK.

- 5.3.5 WHILE LEVELING TANKS, INSURE THAT MINIMUM DISTANCE OF TWO FEET (2'-0") BETWEEN TANKS IS MAINTAINED. WHEN ANCHORING, PLACE STRAPS OVER TANKS AND FOLLOW PROCEDURE THAT FOLLOWS.

- 5.3.6 TANKS MUST BE ANCHORED WITH DEADMAN ON ALL WET HOLE INSTALLATIONS. ANCHORING TO BE DONE IN ACCORDANCE WITH THE TANK MANUFACTURER'S INSTALLATION INSTRUCTIONS.

- 5.3.7 USE PREFORMED FIBERGLASS HOLD DOWN STRAPS FURNISHED BY TANK MANUFACTURER ON TOP OF DESIGNATED RIBS. DO NOT USE STRAPS OF CABLES AGAINST THE TANK SHELL BETWEEN RIBS. ATTACH HOLD DOWN STRAP TO ANCHOR POINTS WITH 1/2" DIA. 6x9 PLOW STEEL WIRE ROPE. LOOPS USING AT LEAST THREE CABLE CLAMPS. ALL STRAPS SHOULD BE TIGHTENED WITH TURNBUCKLES TO GIVE SNUG FIT OF STRAPSTO TANK RIB. TURNBUCKLE DIAMETER TO BE 1/2" HOOK TYPE OF 1/2" TYPE. ONE TANK AT A TIME TO BE SET ON PEA GRAVEL, SECURELY ANCHORED AND TIGHTENED WITH THE ANCHORING STRAPS.

5.3.5 MOTOR FUEL BALLASTING (ALTERNATE):

- 5.3.5.1 CONSULT TANK MANUFACTURER'S INSTALLATION INSTRUCTIONS.

- 5.4 RISER COATING AND WRAPPING: PRIOR TO COMPLETION OF BACKFILL, AND AFTER PRESSURE TESTING TANK, COAT ALL CORRODIBLE COMPONENTS EXPOSED TO BACKFILL WITH COAL TAR EPOXY, "KLOPPERS" BITUMASTIC, AND WRAP WITH FELT OF 3M TAPE. ALL COMPONENTS TO BE CLEAN AND CORROSHN FREE BEFORE APPLYING COATING. EXTEND COATING THREE INCHES (3") ONTO ADJACENT FRP COMPONENTS.

INTERNAL PIPING AND PUMP

- 1.0 THE INTERNAL CLEARANCES FROM THE TOP OF FITTING TO TANK BOTTOM MUST BE MEASURED TO INSURE THAT ADEQUATE CLEARANCES ARE MAINTAINED FOR REMOTE PUMP, FILL TUBE, OR ANY OTHER PIPING INSTALLED.

- 2.0 VERIFY THE LENGTH OF ALL ACCESSORIES (SUBMERSIBLE PUMP, DROP TUBE, ETC.) TO INSURE PROPER CLEARANCE IS MAINTAINED.

I. ABOVE GROUND STORAGE TANKS:

- 1.0 OUTSIDE, ABOVE GRADE STORAGE OF CLASS I LIQUIDS SHALL BE LISTED AND LABELED UL 2085 PROTECTED ABOVE GROUND TANKS. SUCH TANK INSTALLATION SHALL BE IN ACCORDANCE WITH 2012 IFC SECTION 2206.
- 2.0 ABOVE GRADE STORAGE TANKS (UST's) TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, THESE DOCUMENTS, ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES AND ORDINANCE AND BEST INDUSTRY STANDARDS AND PRACTICE.

J. INSPECTION AND TESTING:

- 1.0 STAGE II PIPING SHALL BE TESTED IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES FOR BLOCKAGE AND PRESSURE DECAY.
- 2.0 NOTICE FOR INSPECTION: CONTRACTOR SHALL GIVE REASONABLE ADVANCE NOTICE TO ALL APPROPRIATE AUTHORITIES FOR THEIR INSPECTION OF THE UNDERGROUND INSTALLATIONS PRIOR TO BACKFILLING AND ALSO FOR THEIR PRESENCE DURING THE PRESSURE TESTING OF THE SYSTEM.
- 3.0 AFTER PRODUCT HAS BEEN PUT IN THE TANKS AND BEFORE FINAL ACCEPTANCE, THE SYSTEM SHALL BE COMPLETELY PURGED BY DISCHARGING PRODUCT THROUGH ALL DISPENSERS ON EACH PUMP SIMULTANEOUSLY AND CONTINUOUSLY UNTIL ALL EVIDENCE OF AIR DISAPPEARS. THE IMPACT VALVE PLUG UNDER EACH DISPENSER SHALL BE SEALED WITH A WIRE SEAL THROUGH THE HOLE IN THE PLUG AND AROUND THE VALVE.
- 4.0 ALL TANKS AND LINES (INCLUDING VENT LINES) SHALL BE PRESSURE TESTED IN ACCORDANCE WITH NFPA-329 AFTER PAVING AND ALL PIPE CONNECTIONS ARE COMPLETED. TEST LEAK DETECTORS PER MANUFACTURERS TEST PROCEDURE.
- 5.0 LINE LEAK DETECTORS SHALL BE TESTED PER MANUFACTURER'S INSTRUCTIONS. ALL TANKS AND LINES SHALL BE PRECISION TESTED BY A VOLUMETRIC TESTING IN ACCORDANCE WITH NFPA-329 AFTER PAVING AND ALL PIPE CONNECTIONS ARE COMPLETED.
- 6.0 ALL DISPENSERS TO BE CALIBRATED BY CONTRACTOR.
- 7.0 HBYDROSTATIC TEST FOR STP SUMP/BRAVO BOX/SPILL BUCKETS: THE SUBMERSIBLE TURBINE PUMP (STP) SUMP, SPILL BUCKET AND DISPENSER SUMP INSTALLATION TO BE TESTED FOR WATER-TIGHTNESS.

K. TANK AND LINE MONITORING SYSTEM:

- 1.0 TANK AND LINE MONITOR INSTALLED BY VEEDER ROOT TLS 350 CERTIFIED TECHNICIAN. INSTALLATION TO INCLUDE MOUNTING CONTROL NEAR ELECTRICAL PANEL. INSTALLING ALL TANK LEVEL PROBES, SUMP PROBES, LIQUID LEVEL SENSORS (AS REQUIRED), ALL CONDUITS AND WIRING, CONNECTING ALL CABLES AND SYSTEM START-UP.

L. CANOPY (IF REQUIRED)

- 1.0 CANOPY FABRICATION AND INSTALLATION BY OTHERS, COORDINATED BY PETROLEUM CONTRACTOR.
- 2.0 CONTRACTOR TYPICALLY RESPONSIBLE FOR THE FOLLOWING\, REGARDING CANOPY INSTALLATION: REMOVAL AND DISPOSAL OF OLD CANOPY (IF REQUIRED); NEW CANOPY LAYOUT (ELEVATIONS AND LOCATION), ELECTRICAL CONDUIT, CIRCUITS AND ALL CONNECTIONS, CANOPY FOOTINGS (AS DESIGNED AND ENGINEERED BY FABRICATOR), FOUNDAATION BOLTS, CANOPY DRAIN CONNECTNCS, COLUMN SHROUD INSTALLATION (WHERE REQUIRED/APPLICABLE) PAINTING, FLOOD TESTING COMPLETED CANOPY, COORDINATING CANOPY DELIVERY/ERECTION WITH FABRICATOR.
- 3.0 RAISED DISPENSER ISLANDS (WHERE OCCURS) TO BE SET INDEPENDENT OF CANOPY TO RESULT IN AN AVERAGE OF 6 INCH REVEAL, MINIMUM 5 1/2 IN. TO MAXIMUM 10 1/2 IN. (ELEVATION ABOVE ADJACENT FINISHED GRADE).

M. DISPENSER INSTALLATIONS:

- 1.0 DISPENSER TYPE AND QUANTITY PER THESE DOCUMENTS AND WRITTAN CONTRACT. INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
- 2.0 CONTRACTOR TO PROVIDE SEURE STORAGE FOR DISPENSERS, HOSES, NOZZLES AND BREAKAWAYS PRIOR TO INSTALLATION.
- 3.0 DISPENSERS SHALL BE INSTALLED LEVEL AND ANCHORED TO CONCRETE PUMP ISLANDS WITH AN ANCHORAGE BOX.
- 4.0 INSTALL AND ADJUST ALL SWIVELS, HOSES NOZZLES, NOZZLE HANGERS AND HOODS.
- 5.0 PADLOCK ALL DISPENSER NOZZLES. KEEP DISPENSER SHIPPING CARTONS OVER DISPENSERS FOR PROTECTION UNTIL THE HOSE RETRIEVERS ARE INSTALLED.
- 6.0 DISPENSER METERS SHALL BE ADJUSTED AS NEAR AS POSSIBLE TO ZERO. ADVISE DISPENSER MANUFACTURERS FIELD REPRESENTATIVE OF ANY METER THAT CAN NOT BE HELD TO +/- 3 1/2 CUBIC INCHES OF TOLERANCE IN A 5 GALLON CALIBRATION CAN FOR GASOLINE, AND A 100 GALLON CAN FOR DIESEL. TEST SHALL BE MADE IN ACCORDANCE WITH METHODS PRESCRIBED BY LOCAL DEPARTMENT OF WEIGHTS AND MEASURES. SEALER OF WEIGHTS AND MEASURES SHALL BE NOTIFIED OF INSTALLATION AND TESTS, AND ALL STAMPS AND SEALS AFFIXED TO DISPENSERS.
- 7.0 PURGE AIR FROM PIPING SYSTEM USING INDUSTRY STANDARD PRACTICES AND A GROUNDED CONTAINER APPROVED FOR STORAGE AND HANDLING CLASS I FLAMMABLE LIQUIDS.

ELECTRICAL CHECKOUT:

- 8.1 TURN OFF ALL STP CIRCUIT BREAKERS.
- 8.2 TURN OFF CONFIRM ALL NOZZLES ARE IN THEIR BOOTS.
- 8.3 TURN ON CIRCUIT BREAKER FOR ONE STP. ONE HOSE AT A TIME, FOR EACH PRODUCT GRADE MATCH INP ACTIVATED STP, PERFORM THE FOLLOWING AT EACH DISPENSER:
- 8.3.1 REMOVE NOZZLE.
- 8.3.2 ACTIVATE OPERATING HANDLE AND DISPENSE PRODUCT INTO AN APPROVED GROUNDED CONTAINER.
- 8.3.3 VERIFY QUOTY CORRECT STP TURNS ON.
- 8.3.4 VERIFY BRAND PANELS AND OCTANE DECALS ON EACH SIDE OF DISPENSER MATCHES PRODUCT BEING DISPENSED BY STP.
- 8.3.5 VERIFY CORRECT NOZZLE TYPE IS INSTALLED (IE: UNLEADED, DIESEL).

- 8.4 REPEAT MB.3 - 8.3.5 FOR EACH PRODUCT GRADE.

- 8.5 IF MISCONNECTIONS OR OTHER PROBLEMS OCCUR, MAKE APPROPRIATE CORRECTIONS AND REPEAT ENTIRE PROCESS.

- 8.6 CALIBRATE AND SEAL METERS.

- 8.7 FURNISH AND INSTALL NEW DISPENSER FILTERS FOLLOWING LIQUID TESTING AND PRODUCT LINE PURGING. ACTIVATE ALL PRODUCTS ON EACH DISPENSER AND INSPECT FILTER FOR LEAKS. RECHECK PRIMARY LINE CONNECTIONS AT DISPENSER BSE AND STP FOR LEAKS.

- 8.8 PERFORM EPOS START-UP AND PROVIDE CUSTOMER TRAINING PER AGREEMENT.
- 8.9 PROVIDE AND INSTALL PUMP No's, OCTANE DECALS, NO SMOKING DECALS AND EMERGENCY SHUT-OFF SIGNS PER APPLICABLE IMAGE GUIDELINES AND CODES.

- 8.9 PROVIDE AND INSTALL FIRE EXTINGUISHER AND APPROPRIATE DECALS.

N. OVERFILL PROTECTION:

- 1.0 EFFECTIVE DEC. 22, 1988 ALL NEW TANK INSTALLATIONS MUST HAVE OVERFILL PROTECTION TO MEET THE REQUIREMENTS OF THE FEDERAL REGULATIONS FOR UNDERGROUND STORAGE TANKS (40 CFR 280). THE FOLLOWING METHOD MUST BE USED:
FLOW RESTRICTION @ 90% CAPACITY OF THE TANK.

O. ELECTRICAL:

- 1.0 ELECTRICAL WORK TO CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND LATEST ADOPTED EDITION OF NATIONAL ELECTRIC CODE.
- 2.0 ALL WIRES MUST BE CONTINUOUS RUN (NO SPLICES) FROM DISPENSER TO CONSOLE TERMINAL STRIP BOX.
- 3.0 ALL SPARE WIRES TO BE LOOPEO AT ENDS, TAPED AND LABELED.
- 4.0 EMERGENCY STOP CONTROL SYSTEM SHALL BE IN ACCORDANCE WITH THE LOCAL AND STATE GOVERNING AUTHORITIES AND WITH NFPA 30A.
- 5.0 BURIED ELECTRICAL CONDUIT SHALL HAVE A MINIMUM OF 3" SAND OR PEA GRAVEL BACKFILL ON BOTH SIDES, TOP AND BOTTOM.
- 6.0 ALL ELECTRICAL CONDUITS PASSING THROUGH CLASS I LOCATIONS TO HAVE SEAL-OFFS. PER 1996 NEC.
- 7.0 MINIMUM WIRE SIZE IS 12 AWG AND ALL WIRING MUST BE IN CONDUIT.
- 8.0 INSTALL FUEL DISPENSING PUMP MAIN DISCONNECT. CLEARLY IDENTIFY THE FUEL PUMP DISCONNECT WITH APPROPRIATE SIGNAGE. (PER 2012 NEC 514-5(q)).
- 9.0 RIGID CONDUIT - THE USE OF "RIGID NONMETALLIC UNDERGROUND CONDUIT" WILL BE ALLOWED FOR ALL RETAIL FACILITY CONSTRUCTION PROJECTS WHEN & WHERE ALLOWED BY THE PROVISIONS AND REQUIREMENTS AS ADOPTED BY THE NATIONAL ELECTRIC CODE. NFPA 30A, NFPA 70 AND ALL APPLICABLE STATE AND LOCAL CODES.
- 10.0 SUBMERSIBLE PUMP RELAYS MUST BE USED IF 1 1/2 H.P. PUMP MOTORS ARE INSTALLED.
- 11.0 TERMINATE ALL CONDUITS WITH APPROPRIATE SEAL-OFFS FITTINGS AT EACH END.
- 12.0 APPLY THREAD SEALANT TO ALL CONDUIT AND JUNCTION BOX THREADED CONNECTIONS INSIDE SUMPS. INSTALL BONDING STRAPS WHERE REQUIRED BY CODE.
- 13.0 ELECTRICAL UNIONS AND PULL BOXES ARE N OT PERMITTED BELOW THE TOP OF A DISPENSER PAN/SUMP. PULL BOXES ARE NOT PERMITTED INSIDE AN STP SUMP. THE ONLY ELECTRICAL UNION PERMITTED INSIDE AN STP SUMP MAY ONLY BE INSTALLED BETWEEN THE EXPLOSION PROOF JUNCTION BOX AND THE STP.
- 14.0 CONDUIT SYSTEMS (IE: CONDUIT, SEAL-OFFS, EXPLOSION PROOF JUNCTION BOXES..) INSIDE STP AND DISPENSER SUMPS SHALL BE SOAP TESTED TO FIRST CONDUIT CONNECTION OUTSIDE STP OR DISPENSER SUMP AT 5 PSI AFTER ALL CONNECTIONS ARE MADE AND PRIOR TO INSTALLING WIRING.
- 15.0 EXPLOSION PROOF JUNCTION BOXES (WHERE OCCURS) TO BE CROUSE-HINDS MODEL GUP215 WITH S302 "O"-RING, OR APPROVED EQUAL. INSTALL PER NEC SECTIONS 501 AND 514, NFPA 30, 30A AND 70. CONDUIT TO BE 3/4", OF 1" DIA. GALVANIZED RIGID, OR 1/2" SCHEDULE 40 CONDUIT WHERE PERMITTED BY CODE. ALL MONITORING AND MPD CONTROL WIRING MUST BE INSTALLED IN RIGID METALLIC PVC COATED CONDUIT.
- 15.0 INSTALL AN APPROVED, CLEARLY IDENTIFIED AND READILY ACCESSIBLE EMERTANCY SHUT-OFF SWITCH LOCATED WITHIN 100 FT. OF, BUT NOT LESS THAN 20 FT. FROM FUEL DISPENSERS.
- 16.0 EACH STP AND DISPENSER SHALL BE ON ITS OWN HOME RUN.
- 17.0 ENSURE ALL BREAKERS IN PANELNBOARD ARE CLEARLY LABELED.
- 18.0 PROVIDE 100A SHUNT TRIP PANEL FOR FUEL SYSTEM SUB-PANEL. ELECTRICAL CONTRACTOR TO ENSURE THE ELECTRICAL SYSTEM IS PROPERLY BALANCED.
- 19.0 GILBARCO STP ISOLATION RELAY BOXES TO BE INSTALLED FOR EACH DISPENSER.
- 20.0 INSTALL FLEXIBLE PIPE CONNECTORS ON ALL PRODUCT LINES AT THE SUBMERSIBLE PUMPS AND AT DISPENSERS. FLEXIBLE CONNECTOR AT PUMP MUST NOT BE IN CONTACT WITH ANY BACKFILL MATERIAL.

P. FILL BOXES AND MANHOLE COVERS:

- 1.0 SET ALL GAUGE AND FILL BOXES, STREET BOXES OR MANHOLE COVERS 1" TO 2" ABOVE GRADE AND SLOPE FINISH PAVED SURFACE FROM RIM TO GRADE. SET EACH BOX OR MANHOLE IN MINIMUM 30 INCH SQUARE BY 6 INCH THICK CONCRETE IF IN OTHER THAN CONCRETE AREA. SLAB AROUND STREET BOXES SHALL BE A MINIMUM OF 48 INCHES SQUARE.
- 2.0 PAINTING:
- 2.0.1 PAINT FILL/STAGE I MANHOLES AS NOTED BELOW WITH AN OIL BASED, RUST FREE ENAMEL. ALL "+"s ARE TO BE 2 INCHES WIDE. PROVIDE "+" STENCIL FOR EACH UD. UP UNDER FILL LID AND 2 IN. OF CONCRETE SURROUNDING LID TO BE PAINTED APPROPRIATE COLOR.
- 2.0.1.1 REGULAR UNLEADED= WHITE w/BLACK +
- 2.0.1.2 PLUS UNLEADED = BLUE w/WHITE +
- 2.0.1.3 SUPREME UNLEADED= RED w/WHITE +
- 2.0.1.4 DIESEL= GREEN
- 2.0.1.5 STAGE I VAPOR= ORANGE

Q. STAGE II VAPOR RECOVERY

- 1.0 STAGE II LINES SHOULD BE CAPPED AT TANK AND DISPENSER IF NOT USED.

R. PUBLICATION LIST

Listed below are publications containing recommended practices and procedures for the proper maintenance of storage tank systems.

- API Recommended Practice 1621, Bulk Liquid Stock Control at Retail Outlets, Website: api-ec-api.org
- STI Document R-111, Storage Tank Maintenance.
- API Recommended Practice 2610, Design, construction, operation, Maintenance and Inspection of Terminal and Tank Facilities. Website: api-ec-api.org
- EPA's Operating and Maintaining Underground Storage Tank Systems, a copy of the manual can be downloaded at: Website: www.epa.gov/swerst1/pubs/ommanual.pdf
- ASTM Standard D6469-69, Standard Guide for Microbial Contamination in Fuels and Fuel Systems. Website: www.astm.org
- *PEI, RP-900, Recommended Practices for the Inspection and Maintenance of UST Systems. Forms for recording maintenance can be printed off PEI web site at www.pei.org/RP900.

S. EXCERPTS FROM NFPA 30

- 1.0 NFPA 30 - SECTION 4.3.2
Combustible liquids, as defined in 3.3.33.1 and 4.2.2, shall be classified in accordance with the following:
(1) Class II Liquid -Any liquid that has a flash point at or above 100°F (37.8°C) and below 140°F (60°C)
(2) Class III Liquid -Any liquid that has a flash point at or above 140°F (60°C)
(a) Class IIIA Liquid -Any liquid that has a flash point at or above 140°F (60°C), but below 200°F (93°C).
(b) Class IIIB Liquid -Any liquid that has a flash point at or above 200°F (93°C).

T. O.S.H.A.

1926.152((1)(2)(II)(A))
THE DISTANCE BETWEEN ANY TWO FLAMMABLE LIQUID STORAGE TANKS SHALL NOT BE LESS THAN 3 FEET (0.912 M).

U. 2018 IFC EXCERPTS

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