



ADDENDUM NO. 2

Issue Date: April 29, 2021

Project Name: South Oslo Road WTP Improvements

Bid Number: 2021026

Bid Opening Date: May 19, 2021

This addendum is being released to answer questions received to date, provide meeting minutes, and modify the bid documents. The information and documents contained in this addendum are hereby incorporated in the invitation to bid. **This addendum must be acknowledged where indicated on the bid form, or the bid will be declared non-responsive.**

Modifications to Bid Documents:

DRAWINGS C-11, C-12, C-16, I-14, E-1, E-8, E-9, E-10 and E-18 have been updated to account for the changes described herein. These updated drawings are included within this addendum response.

SECTION 01010 – SUMMARY OF WORK

MODIFY item 1.7 C to state: "Contractor shall prepare and submit permit application and plans to Indian River County Building Department. Indian River County will pay for building permit application, impact and inspection fees, with the exception of re-inspection fees as set forth in the contract per 00100-1.23. The Contractor will be responsible to submit the permit application, obtain the permit and associated subcontractor permits."

SECTION 01150 – MEASUREMENT AND PAYMENT

MODIFY item 3.1 S.2 to state: "Basis of Payment: Payment shall be at the Contract Lump Sum Price and shall include, but not be limited to, furnishing all materials, labor and equipment required to construct the new 4,000-gallon bulk sodium hydroxide (NaOH) storage tank, piping, valves, instrumentation, heat tracing, insulation, electrical, tank supports, and any other items shown on the contract drawings and required for a complete and functional system."

SECTION 11212 – LIQUID CARBON DIOXIDE STORAGE TANKS

MODIFY item 2.1 C to state: "Tank shall be marked to identify the manufacturer date of manufacture and serial numbers must be permanently embossed into the tank. Tank shall be model 3075CAND as manufactured by TomCO₂ Equipment Company or approved equal."

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SECTION 11212 – LIQUID CARBON DIOXIDE STORAGE TANKS

ADD paragraph 2.1 H: Proposed liquid storage tank shall match dimensions of existing bulk storage tank and shall be installed at same elevation such that the liquid and vapor levels within the tanks will equalize once interconnected, allowing the tanks to be drawn from concurrently in parallel, or individually.

SECTION 16110 – LIGHTNING PROTECTION

DELETE item 1.1 B.3 and replace with “High Service Pump Station, (HSP #4 & #5).”

Attachments:

Revised Contract Drawings C-11, C-12, C-16, I-14, E-1, E-8, E-9, E-10 and E-18 per Addendum #2 Responses.

Pre-Bid Meeting

A non-mandatory Pre-Bid Conference was held on April 19th, at Indian River County Utilities South Oslo Road Water Treatment Plant, 1550 SW 9th Street, Vero Beach, FL 32962. The following items were discussed and found to be significant enough to list in an addendum, as well as respond to written questions.

GENERAL:

Permit fees: In accordance with INSTRUCTIONS TO BIDDERS, all permit, impact, or inspection fees in connection with this work are to be paid by INDIAN RIVER COUNTY. The Bidder shall NOT include any permit, impact, or inspection fees payable to INDIAN RIVER COUNTY.

Questions and Answers

Question #1: Please confirm if there is an Engineer’s Estimate for the subject referenced project. Please provide the Engineer’s Estimate for the subject referenced project. Thank you.

Response: Engineer’s Opinion of Probable Construction Costs is \$12,000,000 and includes base bid and additive alternate bid items.

Question #2: Indian River County has standardized on a particular brand and model variable frequency drive, (Yaskawa Model iQ1000) for many years. This standard was followed in recent capital projects to include: Roseland Elevated Storage Tank and Pump Station (Bid No: 2019-068), Central Wastewater Treatment Facility RAS/WAS Pump Replacements (Bid No: 2021-022), and 11 in-house projects over the last 3-5 years (IRC PO references available upon request). Specification 26 29 23, section 1.5 calls out a very different Brand and Model VFD. Please clarify if the Yaskawa Model iQ1000 VFDs are to be maintained as the standard for this project.

Response: VFD Specification section for this project is 16681, not 26 29 23. Oslo operations staff desires to standardize what is at this specific facility, which is Eaton. Specification stands as written.

Question #3: "Under the specification section 15100 Piping and Valves, 2.4 D states “Restrained joint pipe shall be ductile iron Class 53, American Cast Iron Pipe Co., “Flex Ring”, “Lok Ring” or mechanical joint coupled by American Cast Iron Pipe Company,” Will TR Flex by US Pipe be an approved equal?"

Response: Confirmed. TR Flex is an approved equivalent.

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Question #4: Bulk Caustic containment area drawings states that floor, walls and supports have to be coated with a secondary containment system but there is no system included in the Specifications for this application. Please determine which (CRC-1, CRC-2 or CRC-3) and desired thickness.

Response: **Sheet C-16** has been revised to call for coating of the new tank pedestal supports, only. The floor topping and coating system for floors and walls has been removed from the scope of work. Utilize coating system described under 09900-2.5 B.3 for tank pedestal supports.

Question #5: Please confirm if coatings are required, or not, inside the trenches after concrete repairs

Response: Confirmed. Per **sheet S-1**, all trenches in the NF process building shall be pressure cleaned and coated per specifications. This trench repair and coating work shall be coordinated with the proposed phased improvements to the trench process piping.

Question #6: Please explain what concrete ceiling system means. Is this system required to be applied at the slab in the mezzanine?

Response: This specification section applies to the underside of the new floating slabs to be constructed over the process trench within the nanofiltration process area.

Question #7: Sheet E-10 Bulk Caustic Tank: I do not see the size of the bare grounding conductor

Response: The size of the bare stranded conductor is 1/0 copper. Refer to updated **sheet E-10** included in this addendum response.

Question #8: There is no ground grid shown for the proposed HS Pump 4 & 5 area and at three proposed CO 2 tank. Are they required?

Response: Electrical plans have been revised to call for the grounding/lightning protection of these areas. These will be submitted as part of an addendum. Specification Section 16110 lists three (3) areas to add grounding/lightning protection, replace item 3 for HSP 4 and 5 pump area as shown on revised drawing.

Question #9: The existing conduits in the RO building is Aluminum. Plans call for SCH. 80 PVC. Just checking.

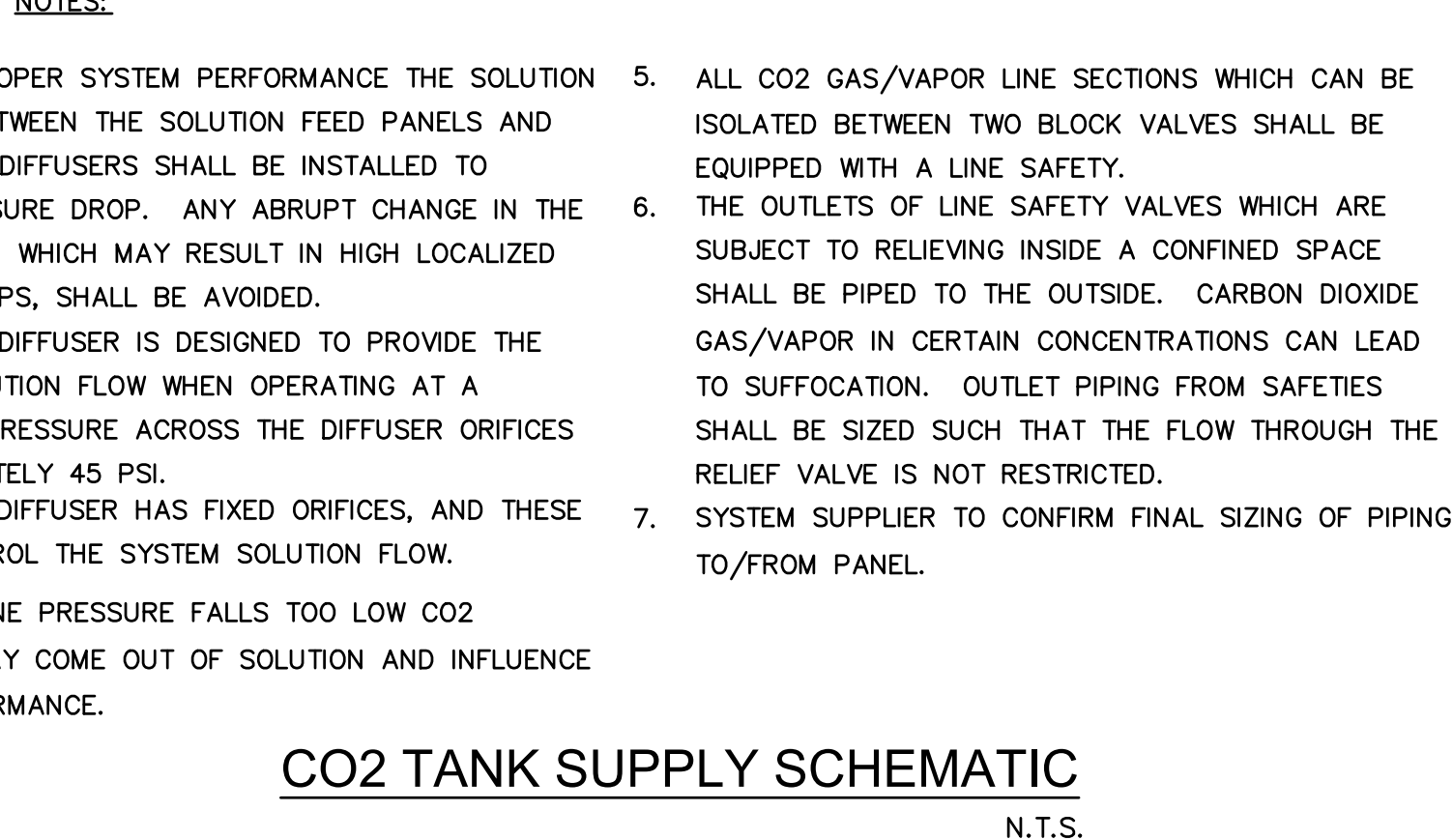
Response: The design calls for PVC conduits in the process area. Aluminum in the airconditioned rooms, like control room areas, and electric room. A revised plan **sheet E-1** with the material schedule is included in this addendum response.

The image contains three technical drawings related to a CO2 tank supply system:

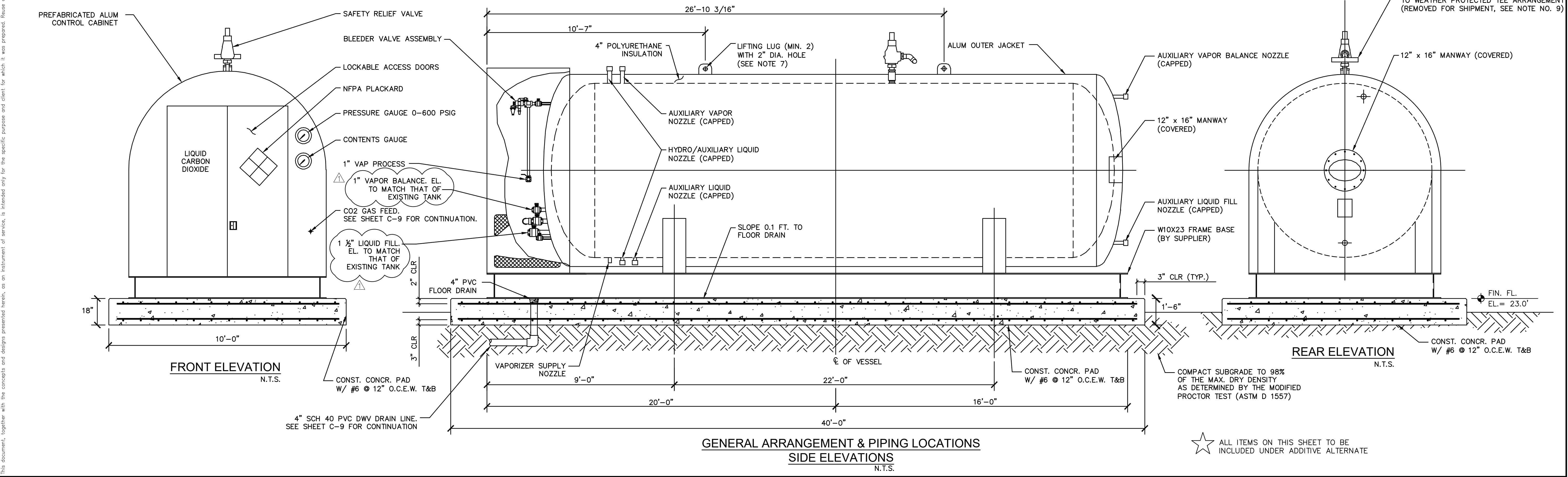
- COMPONENT ARRANGEMENT INSIDE STORAGE TANK / EQUIPMENT ENCLOSURE (N.T.S.):** A detailed cross-sectional view of the storage tank interior. It shows the arrangement of various components including a refrigeration unit, vapor heater, and various valves. Labels include: BLEEDER VALVE ASSEMBLY, REFRIGERATION ELEC. PANEL, VAPORIZER ELEC. PANEL (LOCATED BEHIND LOCKABLE ACCESS DOORS), 1" VAPOR BALANCE, EL. TO MATCH THAT OF EXIST. TANK, 2" VAPORIZER RETURN ISOLATION VALVE, PRESSURE BUILD VAPORIZER, 1" VAPORIZER PURGE VALVE, 1 1/2" INSTRUMENT ISOLATION VALVE LOW PRESSURE, VAPOR HEATER ELEC. PANEL, 1" VAPOR PROCESS TO VAPOR HEATER, VAPOR HEATER SAFETY SWITCH, REFRIGERATION UNIT, 1 1/2" ISOLATION VALVE W/ CGA FITTING FOR TANK LIQUID FILL, EL. TO MATCH THAT OF EXISTING TANK, 1/2" INSTRUMENT ISOLATION VALVE HIGH PRESSURE, 3/8" CHAMFER (TYP.), and CONST. CONCR. PAD W/ #6 @ 12" O.C.E.W. T&B.
- RIGHT SIDE VIEW (N.T.S.):** A side profile view of the storage tank showing the internal vapor heater and the external vapor heater.
- CO2 TANK SUPPLY SCHEMATIC (N.T.S.):** A schematic diagram showing the flow of CO2 from the storage tank through various components to the vaporizer. It includes a CO2 VAPOR HEATER, CUT-IN 1" SST BALL VALVE ON EXIST. GAS FEED, 1" FROM EXIST. TANK, 1" TYPE 304 SST CONNECT TO EXIST., ELEC. PRESSURE BLDG VAPORIZER, and a LIT (Liquid Inlet Temperature) sensor. A note indicates: PARTIAL CO2 STORAGE TANK/VAPORIZER PIPING/EQUIP.

NOTES:

- TO ENSURE PROPER SYSTEM PERFORMANCE THE SOLUTION FEED LINES BETWEEN THE SOLUTION FEED PANELS AND THE SOLUTION DIFFUSERS SHALL BE INSTALLED TO MINIMIZE PRESSURE DROP. ANY ABRUPT CHANGE IN THE PIPING SYSTEM, WHICH MAY RESULT IN HIGH LOCALIZED PRESSURE DROPS, SHALL BE AVOIDED.
- THE SOLUTION DIFFUSER IS DESIGNED TO PROVIDE THE SPECIFIED SOLUTION FLOW WHEN OPERATING AT A DIFFERENTIAL PRESSURE ACROSS THE DIFFUSER ORIFICES OF APPROXIMATELY 45 PSI.
- THE SOLUTION DIFFUSER HAS FIXED ORIFICES, AND THESE ORIFICES CONTROL THE SYSTEM SOLUTION FLOW.
- IF SOLUTION LINE PRESSURE FALLS TOO LOW CO2 GAS/VAPOR MAY COME OUT OF SOLUTION AND INFLUENCE SYSTEM PERFORMANCE.
- ALL CO2 GAS/VAPOR LINE SECTIONS WHICH CAN BE ISOLATED BETWEEN TWO BLOCK VALVES SHALL BE EQUIPPED WITH A LINE SAFETY.
- THE OUTLETS OF LINE SAFETY VALVES WHICH ARE SUBJECT TO RELIEVING INSIDE A CONFINED SPACE SHALL BE PIPED TO THE OUTSIDE. CARBON DIOXIDE GAS/VAPOR IN CERTAIN CONCENTRATIONS CAN LEAD TO SUFFOCATION. OUTLET PIPING FROM SAFETIES SHALL BE SIZED SUCH THAT THE FLOW THROUGH THE RELIEF VALVE IS NOT RESTRICTED.
- SYSTEM SUPPLIER TO CONFIRM FINAL SIZING OF PIPING TO/FROM PANEL.



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7. SYSTEM SUPPLIER TO CONFIRM FINAL SIZING OF PIPING TO/FROM PANEL.

[illegible]

Plotted By: King, Bertrand Sheet Set: SOUTH OSLO ROAD WTP IMPROVEMENTS Layout: CO2 AND CTF PHOTOS April 29, 2021 08:31:41pm K:\WPB_Civil\044572100 - South OSLO WTP Design\CAD\PlanSheets\CO2 AND CTF PHOTOS.dwg
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CUT-IN 1" SST BALL VALVE AND TEE AND CONNECT TO PROPOSED TANK SUPPLY PIPING. PROVIDE 1" ISOLATION VALVE FOR PROPOSED TANK AT CONNECTION

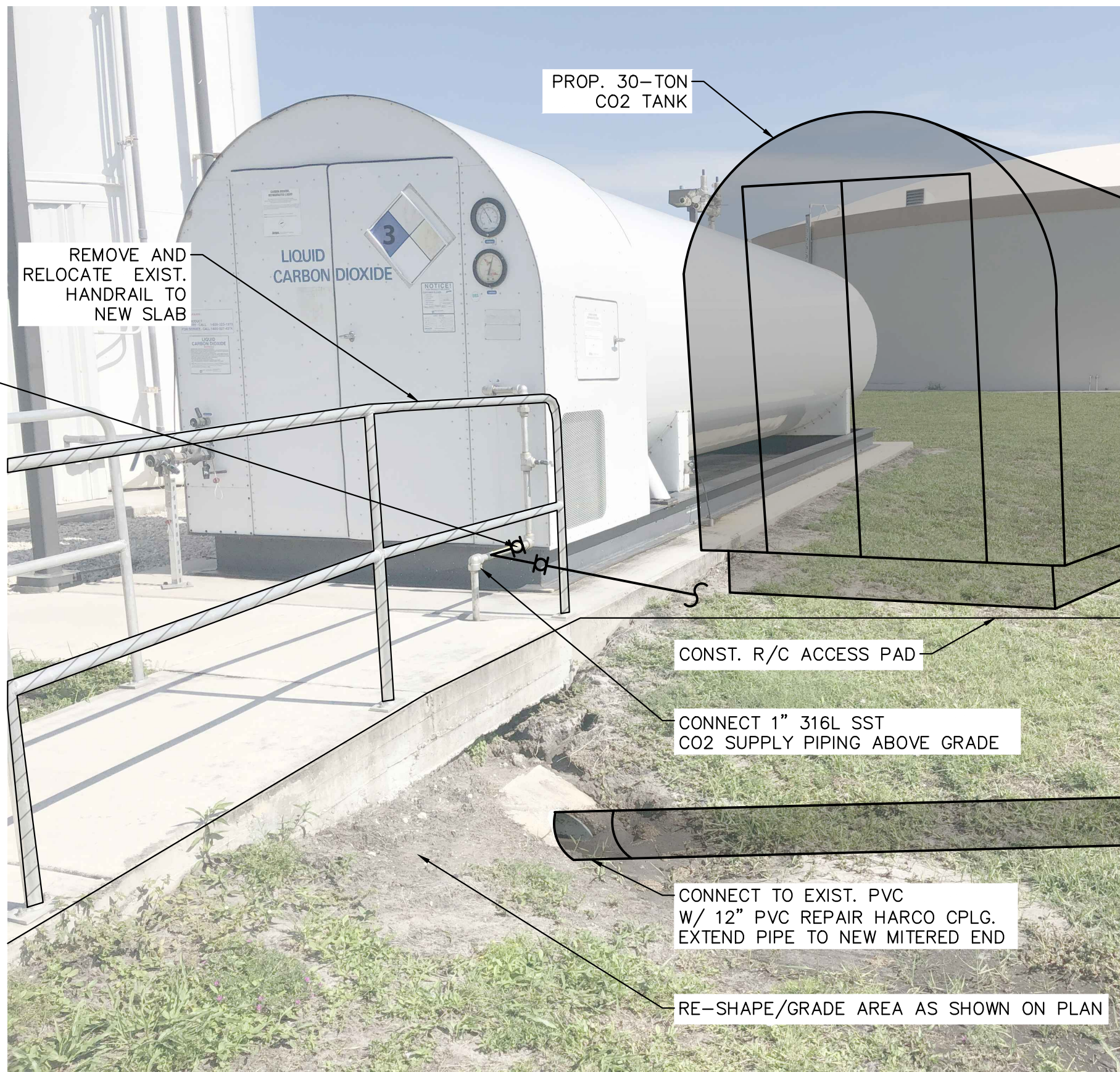


PHOTO 1 - EXIST. CO2 TANK AND MITERED END DRAIN PIPE N.T.S. ★

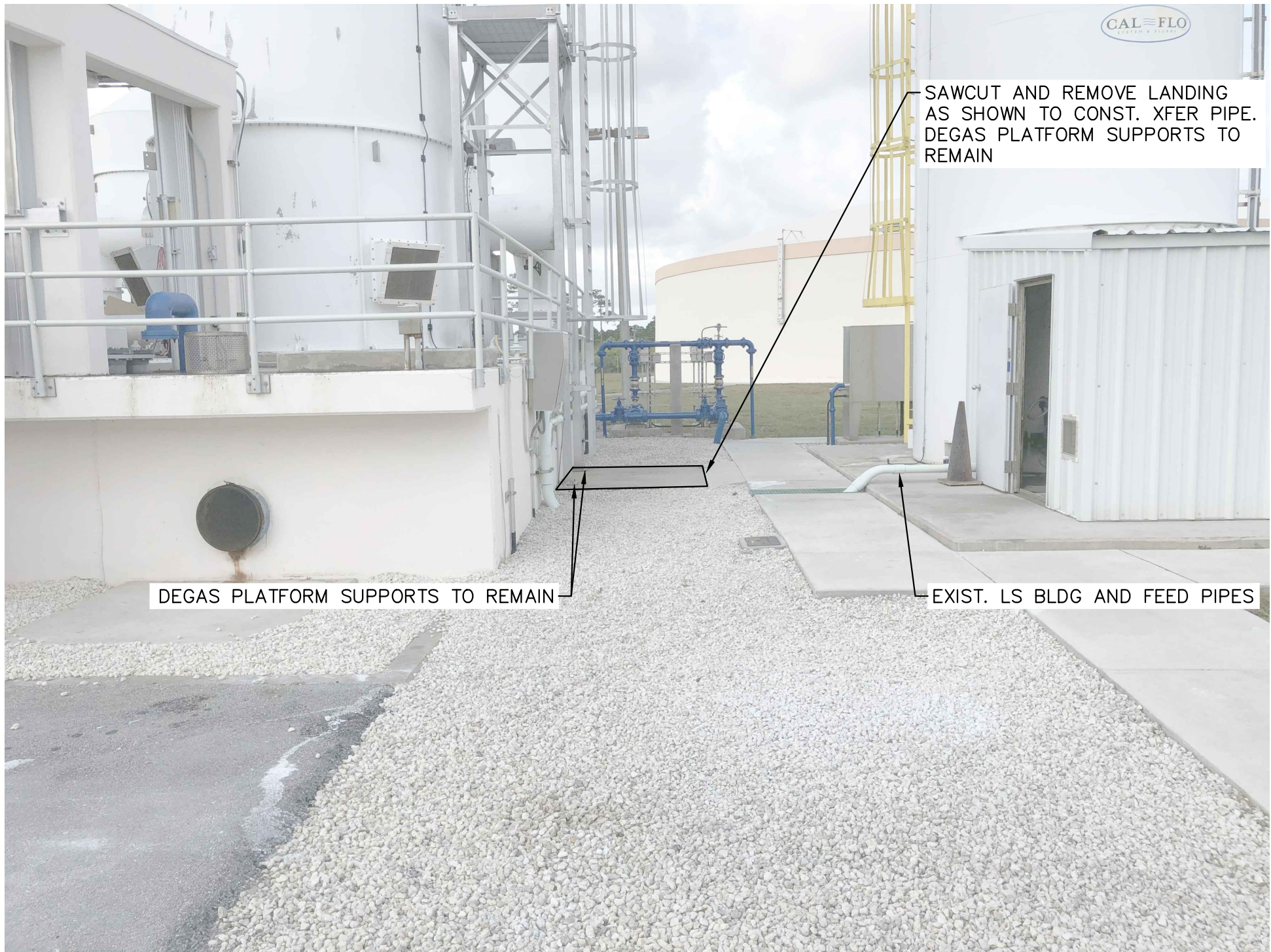
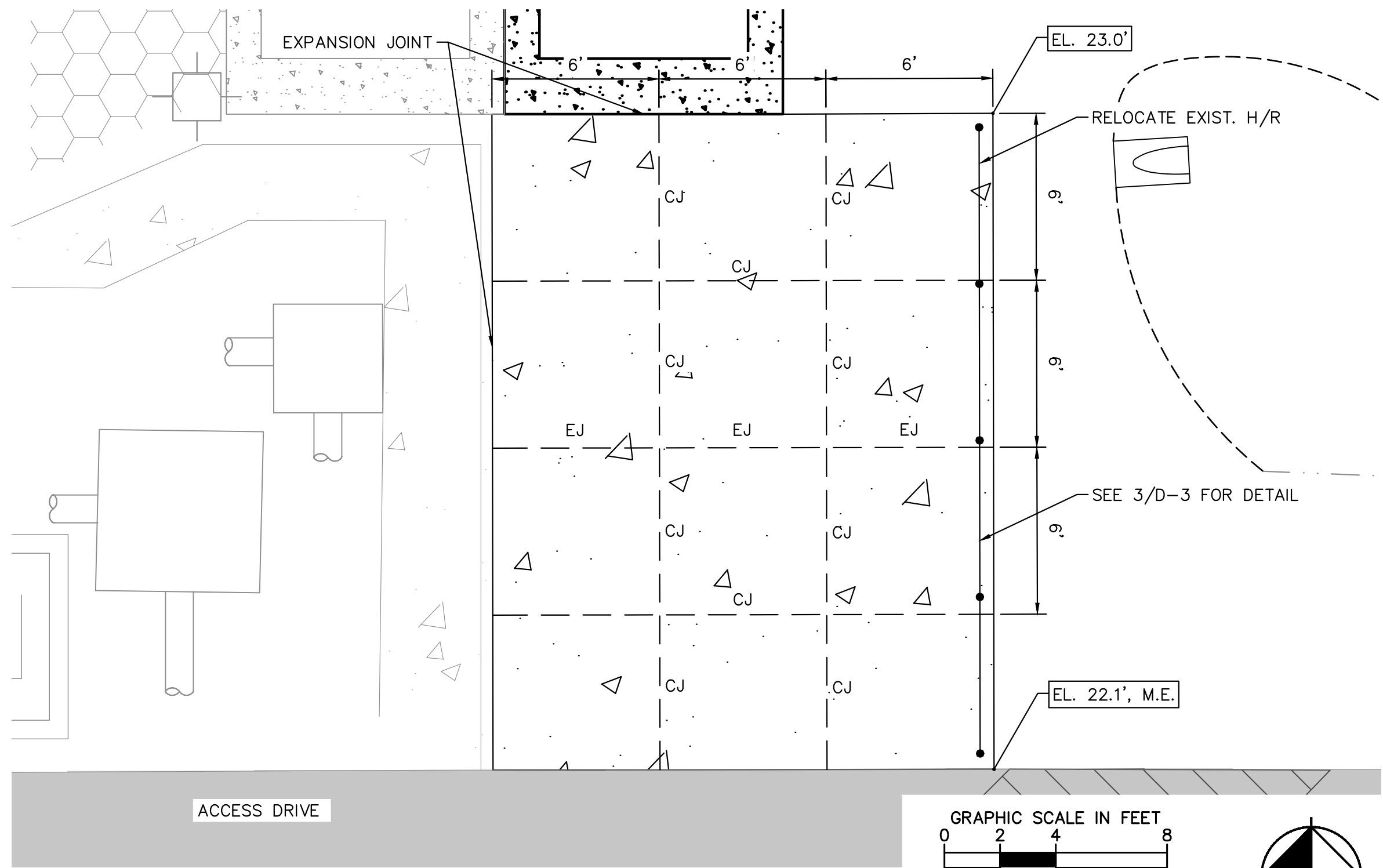
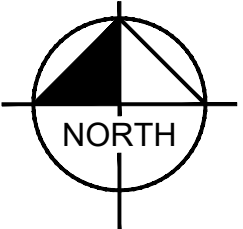
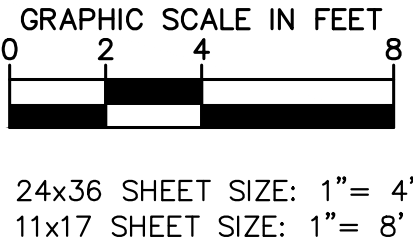


PHOTO 2 - EXIST. DEGASIFIER LADDER AND LANDING N.T.S. ★



R/C SLAB DETAIL ★
AS NOTED



★ ALL ITEMS ON THIS SHEET TO BE INCLUDED UNDER ADDITIVE ALTERNATE

ADDENDUM #2 REVISIONS	04/26/21	NPOB	
No.	REVISIONS	DATE	BY

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KHA PROJECT
044572100
DATE
MAR 2021
SCALE AS SHOWN
DESIGNED BY NPOB
DRAWN BY JTV
CHECKED BY MDM

SOUTH OSLO ROAD WTP IMPROVEMENTS
PREPARED FOR
**INDIAN RIVER COUNTY UTILITIES
DEPARTMENT**
INDIAN RIVER
COUNTY,
FLORIDA

LICENSED PROFESSIONAL

NICHOLAS P.O. BLACK

FLORIDA LICENSE NUMBER
84908
DATE: _____

CO2 AND CTF PHOTOS

SHEET NUMBER

C-12

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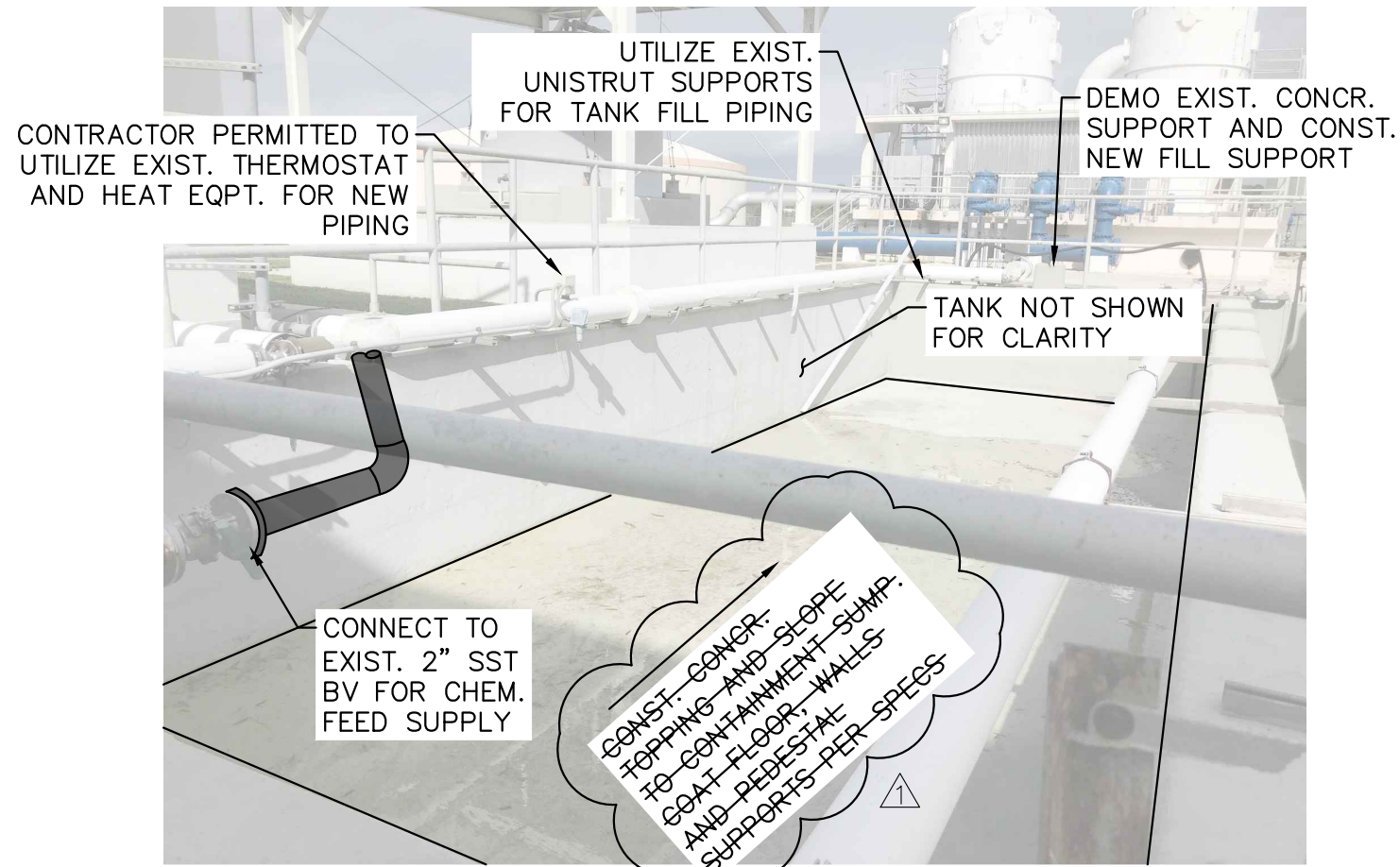
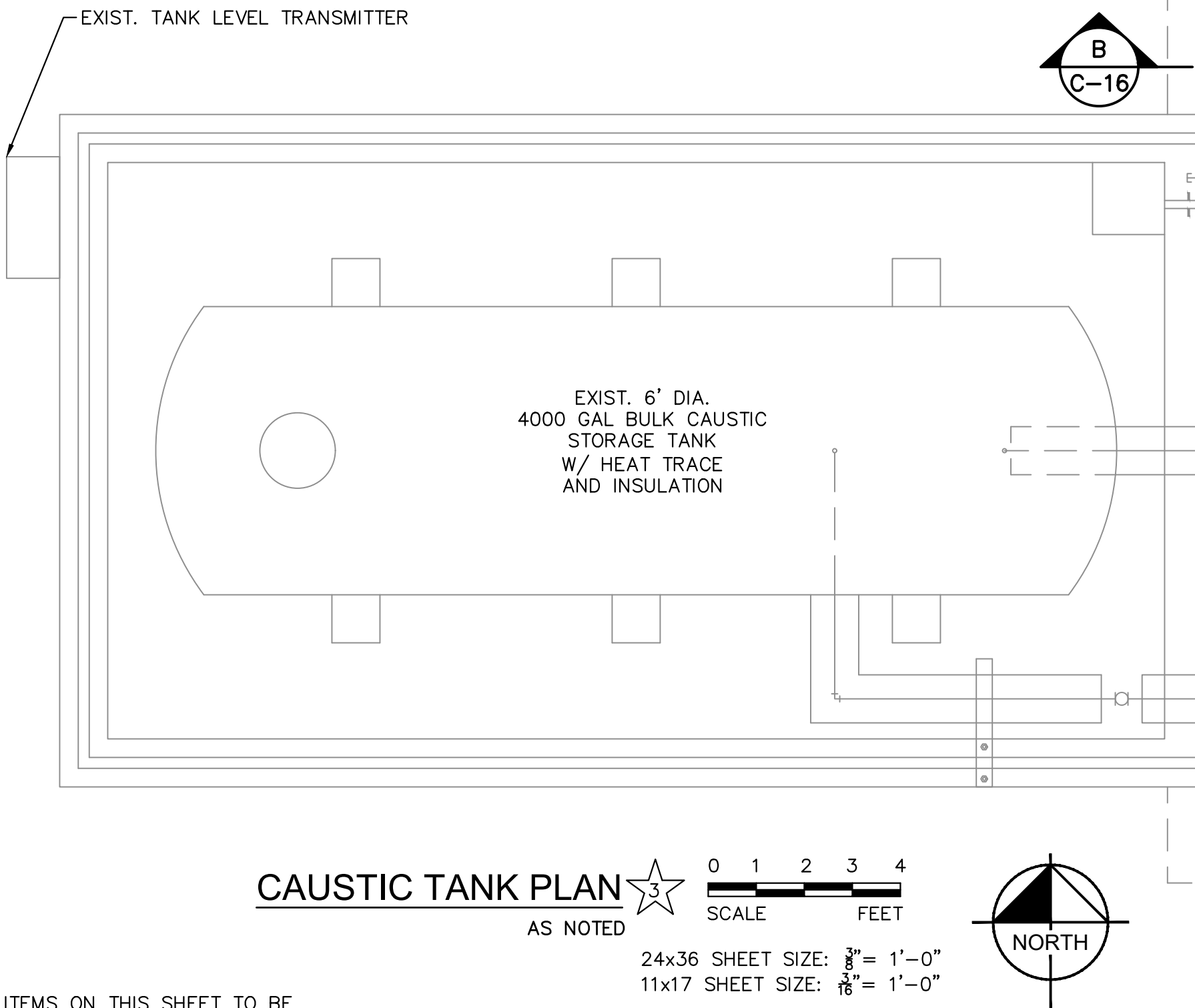


PHOTO #1
NTS

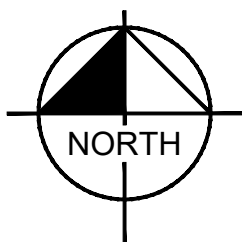
4,000 GAL HORIZONTAL STEEL 50% CAUSTIC STORAGE TANK - FITTING SCHEDULE						
	TANK FITTING	QUANTITY	SIZE	PIPE MATERIAL	LOCATION	NOTES
1	TANK FILL	1	2"	SCH. 80 CPVC	TOP OF SHELL	BLOCK AND BLEED FILL ASSEMBLY
2	LEVEL TRANSMITTER	1	4"	N/A	TOP OF SHELL	316 SST BOLT MATERIAL, EPDM GASKETS FOR LEVEL TRANSMITTER
3	LIQUID LEVEL SIGHT GLASS	2	1"	SCH. 80 CPVC	T&B OF DISHED END	SIGHT INDICATOR W/ ISOLATION VALVES (2) FOR T&B TANK CONNECTIONS
4	VENT	1	2"	SCH. 80 CPVC	TOP OF SHELL	PIPING MIN. 6" ABOVE OVERFLOW, VSF W/ MESH SCREEN AND FILLER FL
5	OVERFLOW	1	3"	SCH. 80 CPVC	TOP OF SHELL	316 SST BOLT MATERIAL, EPDM GASKETS. 2-INCH SCH. 80 CPVC DROP PIPING INSIDE TANK
6	MANWAY COVER	1	24"	N/A	TOP OF SHELL	BF WITH 316 SST BOLT MATERIAL AND EPDM GASKETS
7	FEED PUMP SUPPLY	1	2"	SCH. 80 CPVC	BOT. OF SHELL	316 SST BOLT MATERIAL, EPDM GASKETS, SCH. 80 CPVC DIAPHRAGM



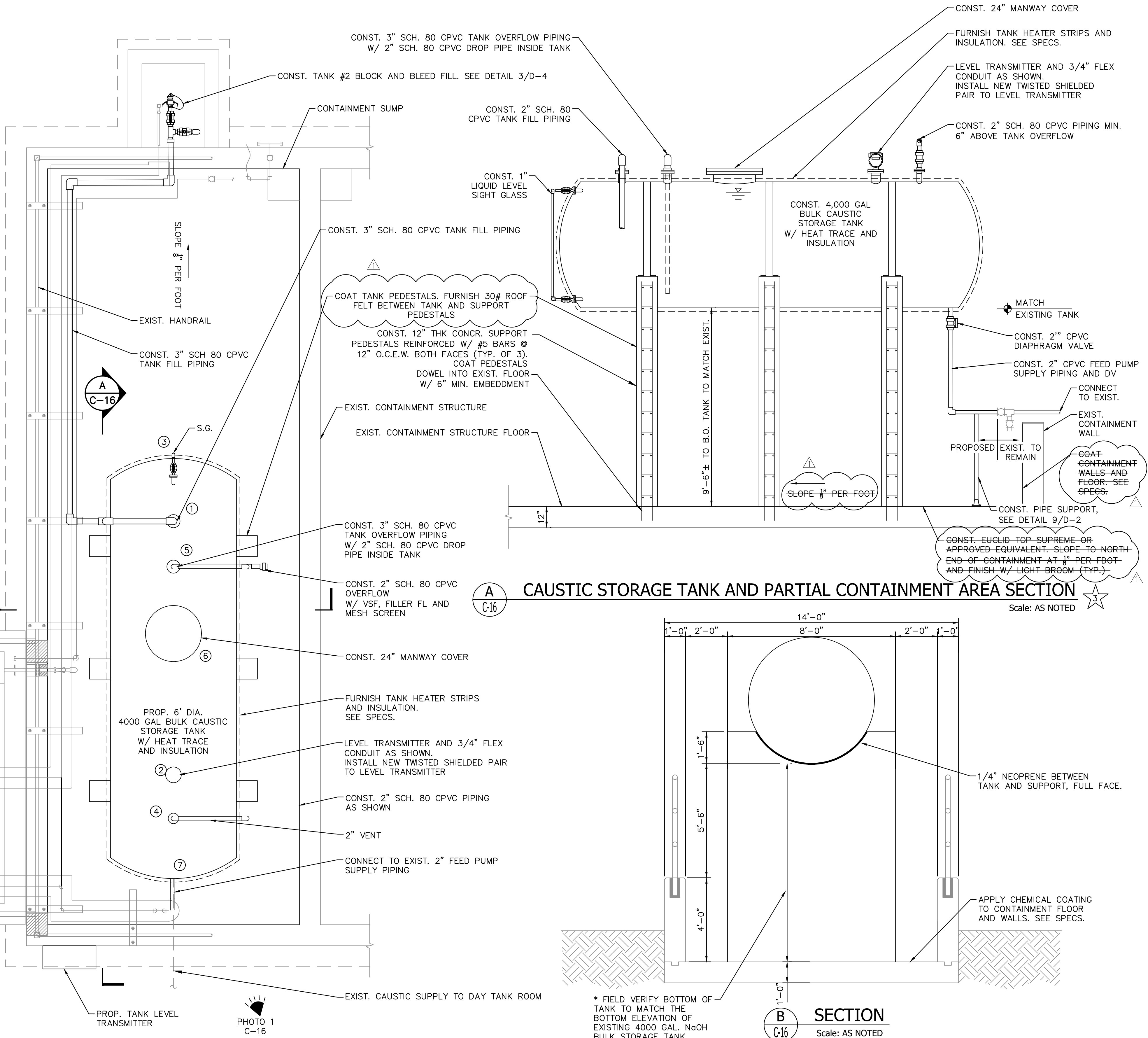
CAUSTIC TANK PLAN
AS NOTED

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SCALE FEET

24x36 SHEET SIZE: 3/8" = 1'-0"
11x17 SHEET SIZE: 1/16" = 1'-0"

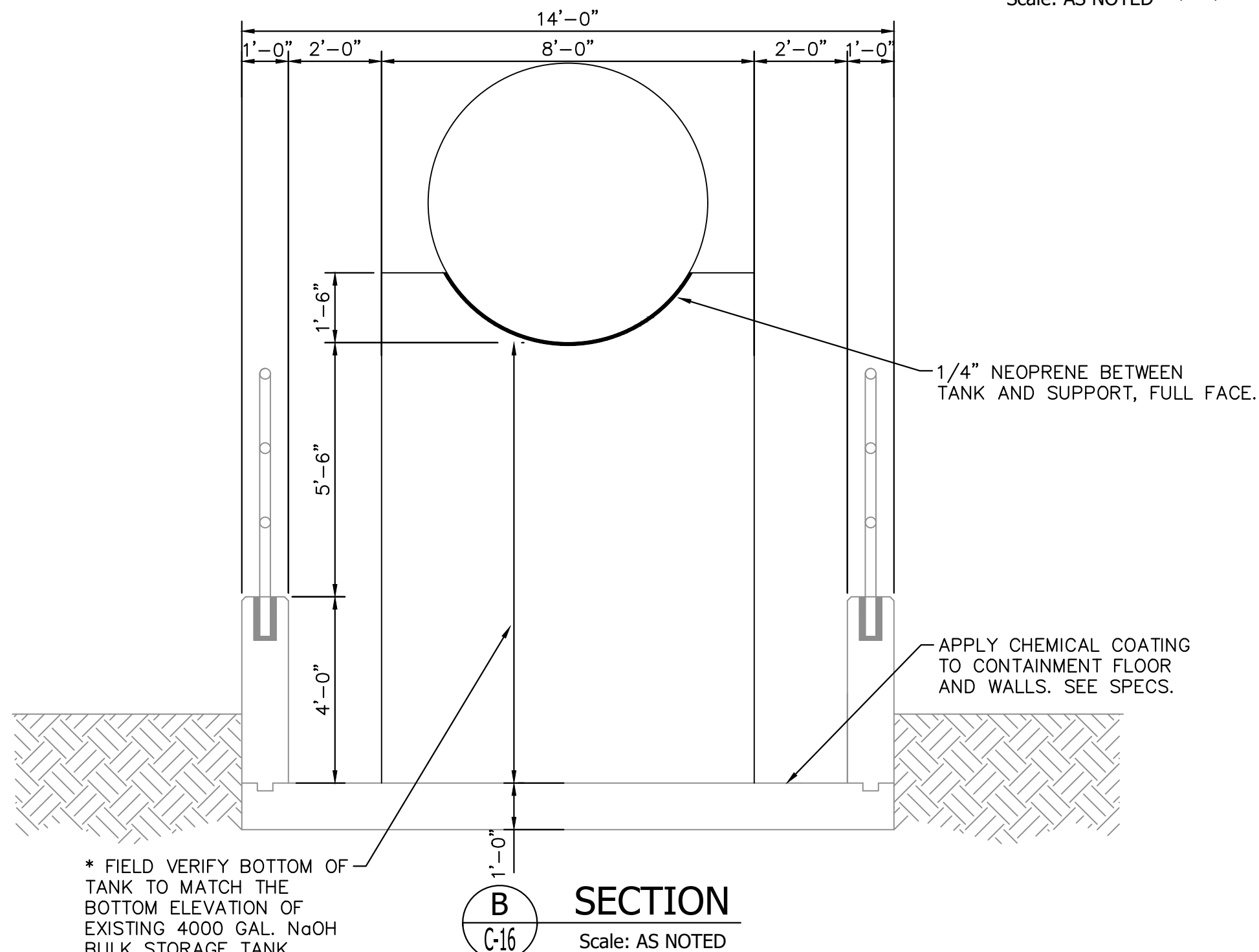


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CAUSTIC STORAGE TANK AND PARTIAL CONTAINMENT AREA SECTION

Scale: AS NOTED



SECTION

Scale: AS NOTED

No.	REVISIONS	DATE	BY
1	ADDENDUM #2 REVISIONS	04/26/21	NPOB

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KHA PROJECT
044572100
DATE
MAR 2021
SCALE AS SHOWN
DESIGNED BY NPOB
DRAWN BY SS
CHECKED BY MDM

SOUTH OSLO ROAD WTP IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY UTILITIES DEPARTMENT

INDIAN RIVER COUNTY,

FLORIDA

LICENSED PROFESSIONAL

NICHOLAS P.O. BLACK

FLORIDA LICENSE NUMBER
84908

DATE: _____

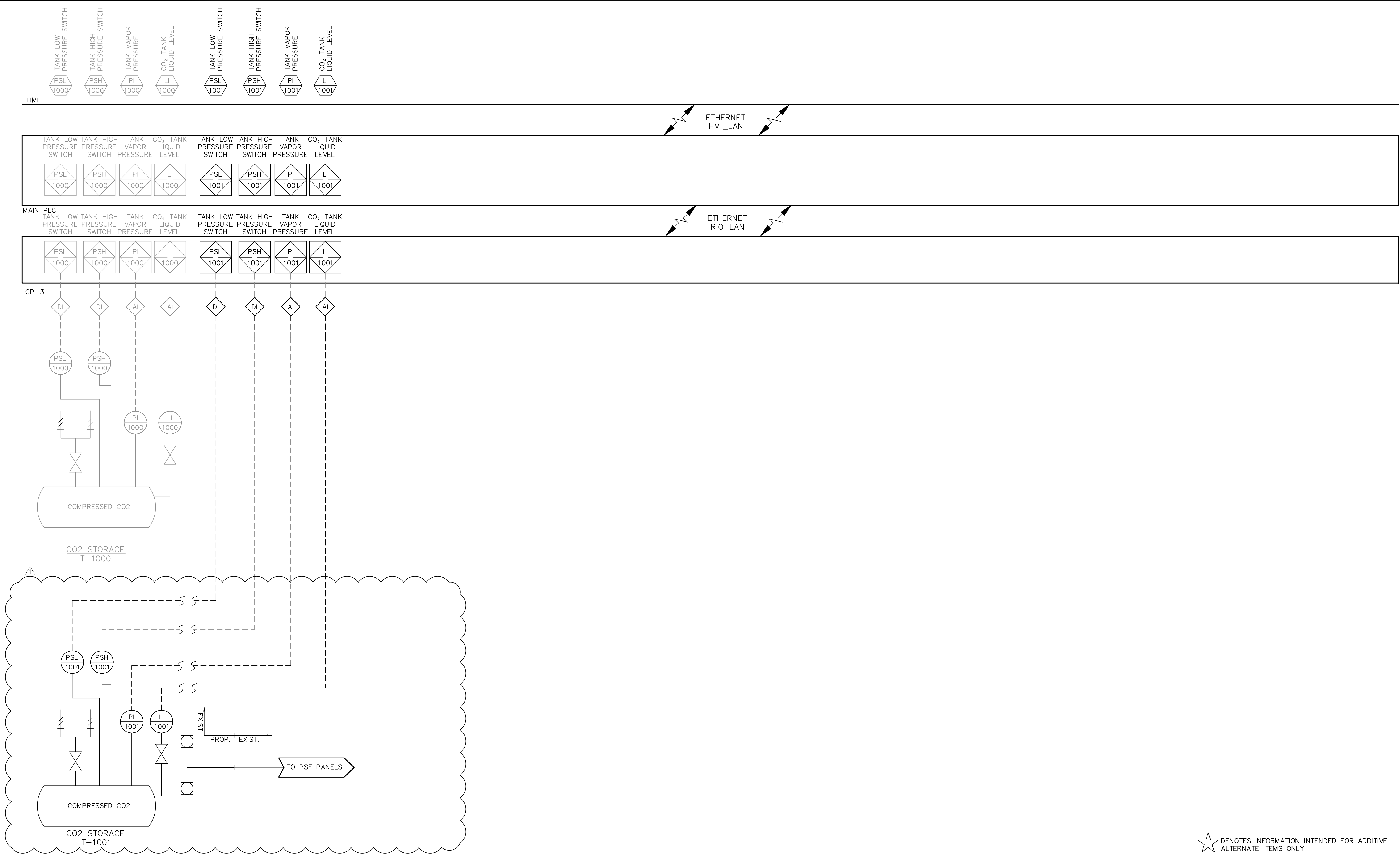
BULK CAUSTIC STORAGE TANK AND CONTAINMENT

SHEET NUMBER

C-16

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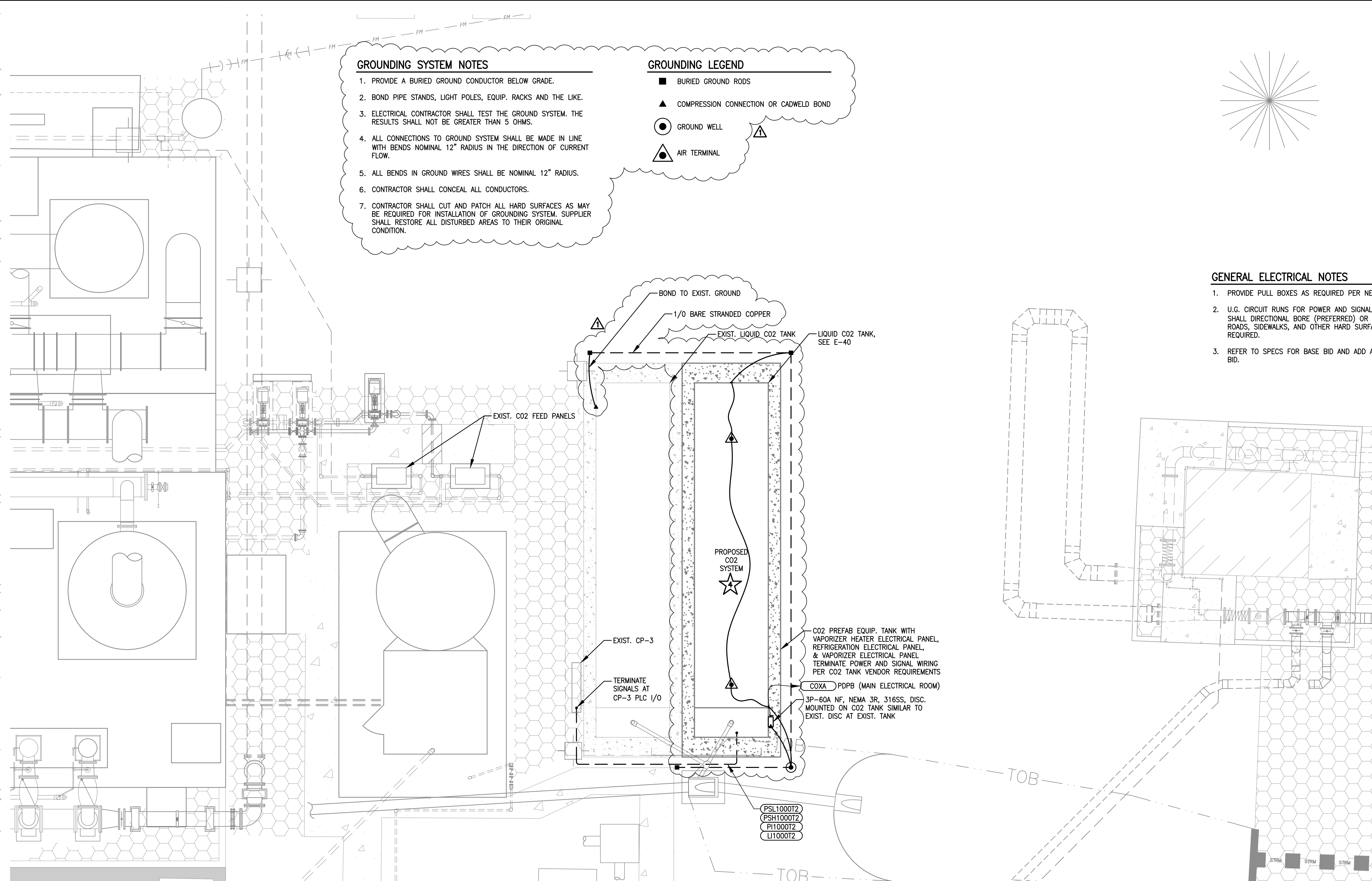
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 <p>© 2020 KIMLEY-HORN AND ASSOCIATES, INC. 1920 WEKIVA WAY SUITE 200, WEST PALM BEACH, FL 33411 PHONE: 561-845-0665 FAX: 561-863-8175 WWW.KIMLEY-HORN.COM CA 00000696</p>	KHA PROJECT 044572100	SOUTH OSLO ROAD WTP IMPROVEMENTS PREPARED FOR INDIAN RIVER COUNTY UTILITIES DEPARTMENT INDIAN RIVER COUNTY, FLORIDA	LICENSED PROFESSIONAL <hr/> MICHAEL A. GUIDA FLORIDA LICENSE NUMBER 60755	HIGH SERVICE PUMP STATION ELECTRICAL PLAN	SHEET NUMBER E-8 94 OF 132
	DATE MAR 2021				
	SCALE AS SHOWN				
	DESIGNED BY JLR				
	DRAWN BY AOD				
CHECKED BY MAG			DATE: ____		

Plotted By: Andres Denorchi, Sheet: SOUTH OSLO ROAD WTP IMPROVEMENTS, Layout: BOOSTER, April 29, 2021, 10:38:52am, \\101.10.26\c\w\Dropbox\JOBS\66-KH\66428_SOUTH OSLO RD WTP EVALUATION IMPROVEMENTS CONTROLS PLC UPGRADE DRAWINGS\WTP IMPROVEMENTS\01 Electrical Site Plans
This document, together with the concepts and designs presented herein, is an instrument of service, as an instrument of service, and shall be without liability to Kimley-Horn and Associates, Inc. should be without liability to Kimley-Horn and Associates, Inc.



GROUNDING SYSTEM NOTES

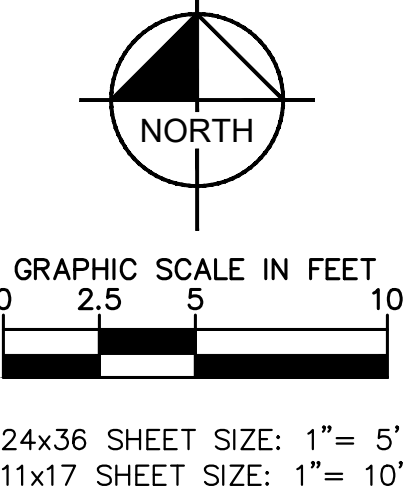
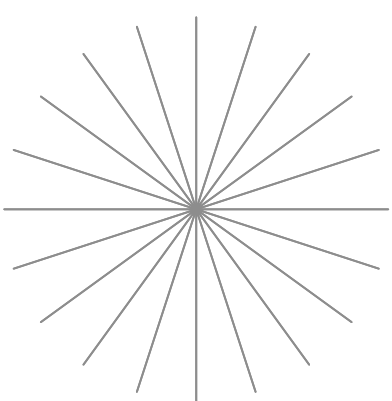
1. PROVIDE A BURIED GROUND CONDUCTOR BELOW GRADE.
2. BOND PIPE STANDS, LIGHT POLES, EQUIP. RACKS AND THE LIKE.
3. ELECTRICAL CONTRACTOR SHALL TEST THE GROUND SYSTEM. THE RESULTS SHALL NOT BE GREATER THAN 5 OHMS.
4. ALL CONNECTIONS TO GROUND SYSTEM SHALL BE MADE IN LINE WITH BENDS NOMINAL 12" RADIUS IN THE DIRECTION OF CURRENT FLOW.
5. ALL BENDS IN GROUND WIRES SHALL BE NOMINAL 12" RADIUS.
6. CONTRACTOR SHALL CONCEAL ALL CONDUCTORS.
7. CONTRACTOR SHALL CUT AND PATCH ALL HARD SURFACES AS MAY BE REQUIRED FOR INSTALLATION OF GROUNDING SYSTEM. SUPPLIER SHALL RESTORE ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION.

GROUNDING LEGEND

- BURIED GROUND RODS
- ▲ COMPRESSION CONNECTION OR CADWELD BOND
- GROUND WELL
- ▲ AIR TERMINAL

GENERAL ELECTRICAL NOTES

1. PROVIDE PULL BOXES AS REQUIRED PER NEC.
2. U.G. CIRCUIT RUNS FOR POWER AND SIGNAL RACEWAYS SHALL DIRECTIONAL BORE (PREFERRED) OR CUT & PATCH ROADS, SIDEWALKS, AND OTHER HARD SURFACES AS REQUIRED.
3. REFER TO SPECS FOR BASE BID AND ADD ALTERNATE BID.



24x36 SHEET SIZE: 1"= 5'
11x17 SHEET SIZE: 1"= 10'

ADDENDUM #2 REVISIONS			
No.	REVISIONS	DATE	BY
		4/27/21	MAG

Kimley»Horn

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1920 WEKIVA WAY SUITE 200, WEST PALM BEACH, FL 33411
PHONE: 561-845-0665 FAX: 561-863-8175
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT 044572100
DATE MAR 2021
SCALE AS SHOWN
DESIGNED BY JLR
DRAWN BY AOD
CHECKED BY MAG

SOUTH OSLO ROAD WTP IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY UTILITIES
DEPARTMENT

INDIAN RIVER COUNTY,

FLORIDA

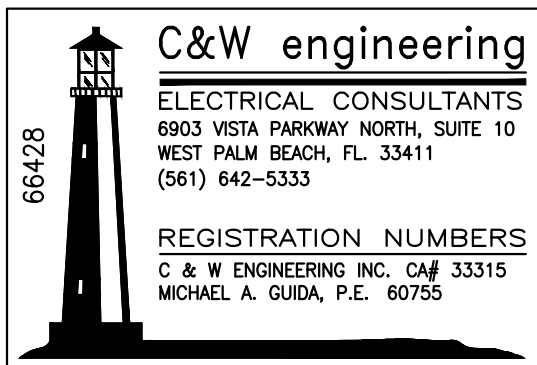
LICENSED PROFESSIONAL
MICHAEL A. GUIDA
FLORIDA LICENSE NUMBER 60755

CO2 BOOSTER PUMP AND
CONCENTRATE TREATMENT
FACILITY PLAN

SHEET NUMBER

E-9

95 OF 132

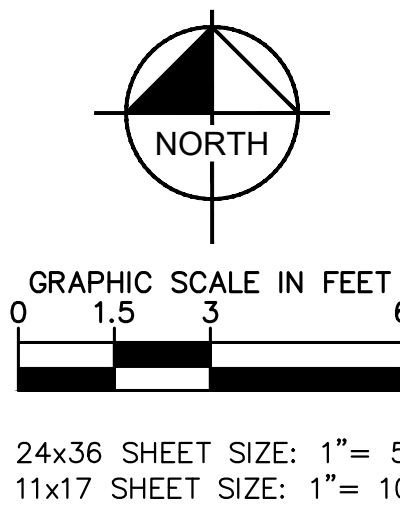
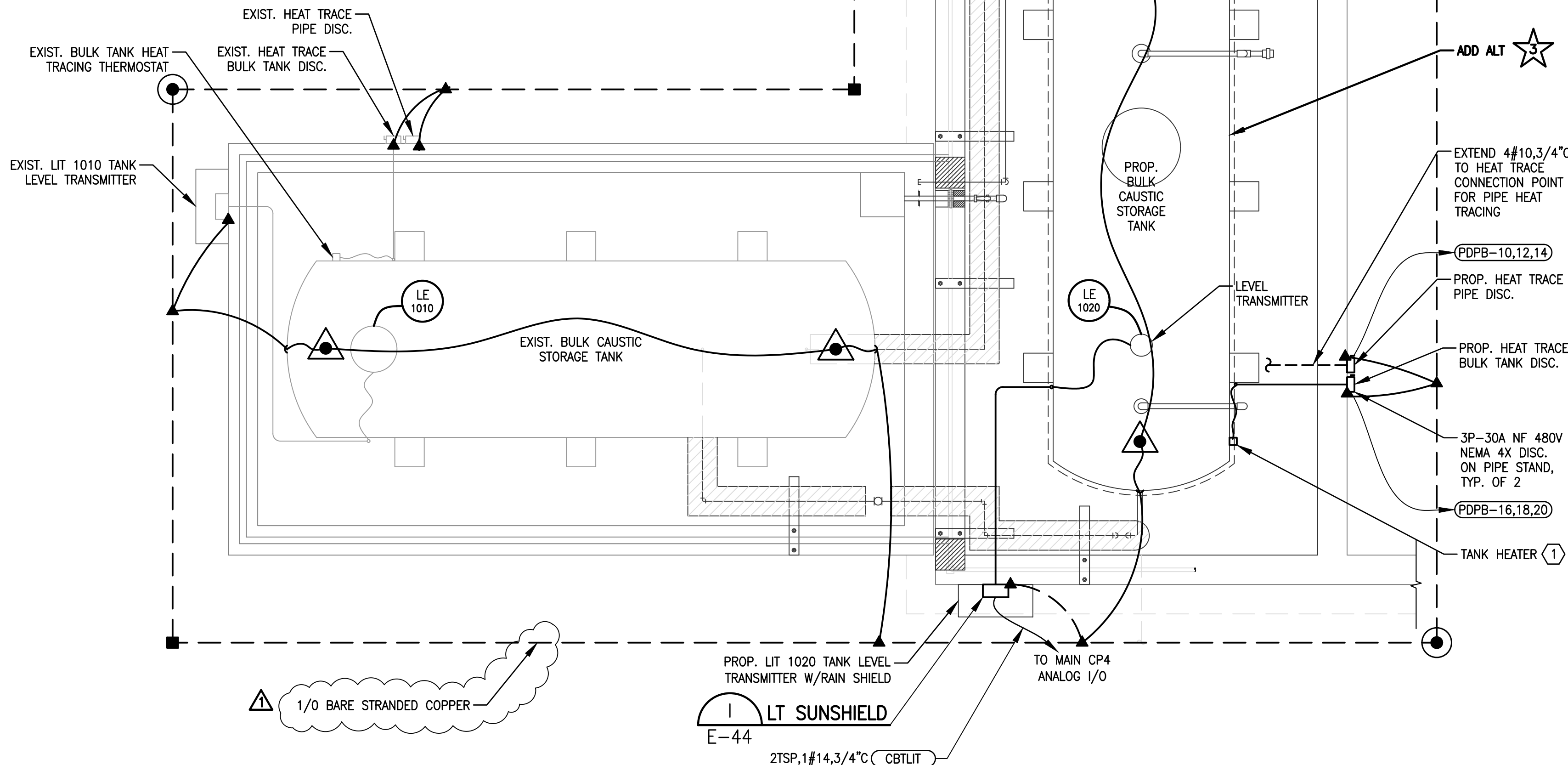




1. PROVIDE A BURIED GROUND CONDUCTOR BELOW GRADE.
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GROUNDING LEGEND

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3. REFER TO SPECS FOR BASE BID AND ADD ALTERNATE BID.

SPECIFIC ELECTRICAL NOTES

- 1 PROVIDE A THERMOSTAT CONTROLLER FOR BULK TANK
HEAT TRACING, RAYCHEM OR APPROVED EQUAL.

Prepared By: Checked By: Drawn By: Date:			
	ADDENDUM #2 REVISIONS	4/27/21	MAG
No.	REVISIONS	DATE	BY

<h1>Kimley»Horn</h1> <p>© 2020 KIMLEY-HORN AND ASSOCIATES, INC. 1920 WEKIVA WAY SUITE 200, WEST PALM BEACH, FL 33411 PHONE: 561-845-0665 FAX: 561-863-8175 WWW.KIMLEY-HORN.COM CA 00000696</p>	KHA PROJECT 044572100
	DATE MAR 2021
	SCALE AS SHOWN
	DESIGNED BY JLR
	DRAWN BY AOD
CHECKED BY MAG	

SOUTH OSLO ROAD WTP IMPROVEMENTS
PREPARED FOR
INDIAN RIVER COUNTY UTILITIES
DEPARTMENT

INDIAN RIVER COUNTY, FLORIDA

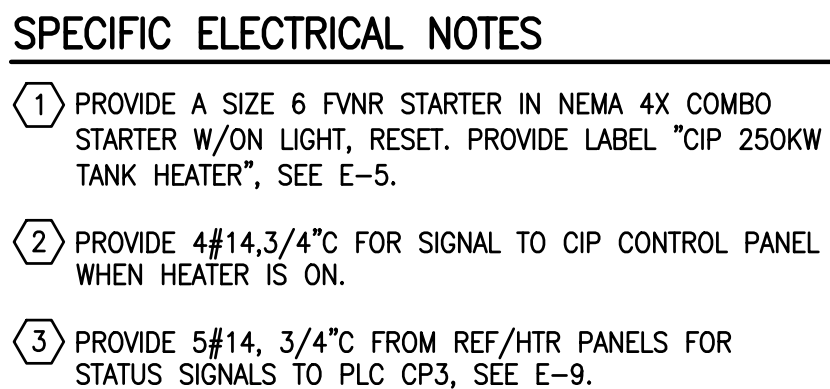
LICENSED PROFESSIONAL

MICHAEL A. GUIDA

FLORIDA LICENSE NUMBER
60755

DATE: _____


BULK CAUSTIC STORAGE TANK ELECTRICAL PLAN



480V 3Ø PDPB LOAD CALC	
DESCRIPTION	AMPS
FWP 1 VFD X 125%	225A
HSP 4 VFD	180A
HSP 5 VFD	180A
CO2 TANK HTR/REF/VAP	20A
250KW CIP TANK HTR	25A
30KVA TX/PNLBD PMOV	15A
CAUSTIC TANK HTR	21A
CAUSTIC PIPE HTR	10A
TOTAL	676A

SERVICE PROVIDED 1000A FROM 2000A SWBD

An advertisement for C&W engineering. On the left is a black silhouette of a lighthouse. To its right, the text "C&W engineering" is written in a large, bold, serif font. Below this, "ELECTRICAL CONSULTANTS" is written in a smaller, all-caps, sans-serif font. The address "6903 VISTA PARKWAY NORTH, SUITE 10" and "WEST PALM BEACH, FL. 33411" are listed, followed by the phone number "(561) 642-5333". A horizontal line separates this from the "REGISTRATION NUMBERS" section, which lists "C & W ENGINEERING INC. CA# 33315" and "MICHAEL A. GUIDA, P.E. 60755". The number "66428" is printed vertically on the left side of the lighthouse.

	ADDENDUM #2 REVISIONS	4/27/21	MAG
No.	REVISIONS	DATE	BY

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INDIAN RIVER COUNTY, FLORIDA

LICENSED PROFESSIONAL

MICHAEL A. GUIDA

FLORIDA LICENSE NUMBER
60755

DATE: _____

PDP-B POWER ONELINE DIAGRAM

SHEET NUMBER

E-18

104 OF 132