

From: [Combs, Robert](#)
To: [Chavez, Carl J, EMNRD](#)
Cc: [Holder, Mike](#); [Denton, Scott](#)
Subject: [EXT] GW-028 Permit Mod Request - Water Sales
Date: Thursday, February 27, 2020 2:22:32 PM
Attachments: [2020-02-27 GW-028 Permit Mod Pkg - Water Sales.zip](#)

Carl,

Please see the attached zip file containing the permit modification request documents. These are being submitted to USPS today and sent by certified mail.

If you have any comments or questions, please advise.

Thanks,
Robert

Robert Combs

Environmental Specialist
HollyFrontier Navajo Refining LLC
Office: 575-746-5382
Cell: 575-308-2718
Email: Robert.Combs@HollyFrontier.com

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February 27, 2020

Mr. Carl Chavez
Oil Conservation Division
New Mexico Energy, Minerals & Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Certified Mail
7018 0040 0000 9065 6626

RE: Modification Request: Reuse Water Sales by HollyFrontier Navajo Refining LLC
Artesia Refinery Discharge Permit GW-028: Reuse Water
Discharge Permits UICI-8-1 and UICI-8-4 (WDW-1 and WDW-4 respectively):
Custody Transfer Locations

Dear Mr. Chavez:

HollyFrontier Navajo Refining LLC (HFNR) hereby submits a modification request (request) to the New Mexico Oil Conservation Division (OCD) pursuant to Water Quality Control Commission ("WQCC") Regulation 20.6.2.3107 C. New Mexico Administrative Code ("NMAC"). HFNR is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the water quality or volume of the discharge. However, based on the request, OCD concluded that administrative changes to Discharge Permit GW-028 are in order.

HFNR is proposing to make changes to the piping near the WDW-1 and WDW-4 wellheads to install custody transfer locations to divert treated refinery effluent (also referred to as oilfield non-hazardous non-exempt "Reuse Water") for sale and reuse as product by third parties solely for oil and gas exploration and production-related uses. HFNR is currently in the process of marketing the Reuse Water to multiple potential customers. The purpose of this request is to support the State of New Mexico's goal to conserve scarce fresh groundwater resources by facilitating reuse/recycling of the treated effluent, thereby reducing the demand for freshwater in the oil and gas sector.

Pursuant to GW-028 (Permit Condition 1.G), UICI-8-1, and UICI-8-4, HFNR is required to notify the OCD of any facility expansion, production increase, or process modification that would result in any significant modification in the quality of the discharge. Although this planned modification request will not change the quality or increase the quantity of the treated effluent above permitted levels, HFNR is hereby notifying OCD. Based on HFNR communications with the OCD, OCD has indicated it may handle the changes herein administratively as a request in order to document the equipment changes and associated

custody transfer of the Reuse Water for reuse/recycling in the oilfield.

HFNR has been in communication with OCD about the sale and reuse/recycling of the Reuse Water since August of 2018.

On August 22, 2019 and through various phone calls, HFNR received comments on the draft modification from OCD, and developed the following attached documents to address those comments:

- Attachment A - Explanation of the regulatory jurisdiction(s) and rationale for the sale of refinery Reuse Water for reuse/recycling in the oilfield;
- Attachment B - Simplified block flow diagram (B-1), Mechanical Flow Sheets for WDW-1 and WDW-4 (B-2) and example secondary containment specification sheet (B-3) for the custody transfer locations¹;
- Attachment C - Figures showing the location of wells WDW-1 and WDW-4 and associated custody transfer locations²;
- Attachment D – Refinery Reuse Water Release Contingency Plan in the event of a release at the transfer locations and/or within the Refinery boundary;
- Attachment E – Fluids Management Plan to ensure Reuse Water is not characteristically hazardous and does not contain listed hazardous waste subject to RCRA Subtitle “C”; and
- Attachment F – Updated Secondary Reverse Osmosis (SRO) Unit figure exhibiting the RO fluids contribution to the treated effluent injected or sold (as Reuse Water) at the custody transfer locations at WDW-1 and WDW-4.

No modifications will be made to the wastewater treatment facility at the Refinery. Additional piping will be added to the existing pigging station near the WDW-1 and WDW-4 wellheads. The piping equipment will include totalizing flow meters and pressure controls to protect the pipeline. The HFNR meters will serve as the point of custody transfer of ownership of and responsibility for the Reuse Water to initial purchasers. Specifically, once the product has passed the HFNR meter, it is the property and sole responsibility of the purchaser (Attachments B-1 and B-2). Secondary containment will be installed at the custody

¹ OCD should note that the Mechanical Flow Sheets for WDW-1 and WDW-4 specifically relate to the operation of the wells rather than the Reuse Water sales project. However, as requested by OCD, these have been annotated to provide additional information on specific components related to the Reuse Water sales. The construction notes were removed since the wells have already been installed.

² GPS coordinates of the transfer locations are indicated on Attachment C, Figures 2 and 3.

transfer locations to prevent releases of Reuse Water during piping hook-up and removal and will be anchored to the ground with straps. Attachment B-2 shows the approximate locations and configurations of the proposed secondary containment areas at custody transfer locations. Attachment B-3 shows an example specification sheet for secondary containment equipment. The custody transfer locations and associated secondary containment areas will be protected from accumulation of rainwater via a covered shelter. A back-pressure relief system will be installed to protect and prevent releases from occurring in the fiberglass effluent pipeline at the custody transfer locations. If an alarm sounds indicating a possible leak, HFNR will immediately mobilize to inspect and pump out the secondary containment to prevent overflows, in addition to implementing the pipeline shutdown procedure. Additional piping equipment will also be installed downstream of the new pressure controls but will not be owned or installed by HFNR. This additional piping will allow transfer of the Reuse Water by the initial purchaser(s) to its oil and gas exploration and production customers. The purchase agreement will require buyers to obtain all applicable permits and approvals from the OCD, be the responsible party for releases/disposal downstream from the custody transfer points of WDW-1 and WDW-4, and to operate in accordance with all applicable laws and regulations.

Only the piping associated with WDW-1 and WDW-4 will be modified. The operation of WDW-1, WDW-2, WDW-3 and WDW-4 will continue unchanged (except anticipated reduction of injection volumes due to the sale of Reuse Water to buyers) to meet the requirements of the UIC permits. No change in constituents or quality is expected because of the proposed changes.

Historical refinery wastewater effluent sampling and monitoring shows that the two primary constituents of concern that could cause the Reuse Water to exhibit a hazardous characteristic are benzene and selenium. HFNR has implemented, and will continue to implement, benzene and selenium operational monitoring under the UIC Permits as well as additional controls to ensure that the Reuse Water does not meet the definition of a RCRA Subtitle "C" Hazardous Waste. The benzene monitoring includes sampling to verify that the benzene concentration in the Reuse Water to be sold is below 0.5 mg/L and therefore non-hazardous. Similarly, the selenium monitoring includes sampling to verify that Reuse Water has less than 1.0 mg/L of selenium and is non-hazardous. In addition, the Refinery will continue to follow the monitoring requirements contained in Section 2.A. of the UICI-8-1 and UICI-8-4 Permits. No listed hazardous wastes are introduced to the Refinery's wastewater treatment system; thus, the Reuse Water is not a listed hazardous waste.

HFNR appreciates the continued cooperation of the OCD. Should you have questions, please contact me at (575) 746-5487 or E-mail: scott.denton@hollyfrontier.com. Thank you for your consideration in this matter.

Mr. Carl Chavez
February 27, 2020
Page 4

Sincerely,



Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC

CC: Mike Holder, HFC

Attachments:

- Attachment A - Regulatory Rationale for Modification Request
- Attachment B - Simplified block flow diagram (B-1), Mechanical Flow Sheets (B-2) and Example Secondary Containment Specification at custody transfer locations (B-3)
- Attachment C - Figures showing the location of UIC Disposal Wells and associated new custody transfer locations
- Attachment D – Refinery Reuse Water Release Contingency Plan
- Attachment E – Fluids Management Plan
- Attachment F – Updated Secondary Reverse Osmosis (SRO) unit figure.

Attachment A

Permit Modification Request

HollyFrontier Navajo Refining LLC

Artesia Refinery Discharge Permit GW-028
Discharge Permits UICI-8-1 and UICI-8-4
(WDW-1 and WDW-4 respectively)

Pursuant to the Water Quality Act, New Mexico Statutes Annotated (“NMSA”) 1978, Sections 74-6-1 et seq. and the Ground and Surface Water Protection regulations, 20.6.2 New Mexico Administrative Code (“NMAC”), HollyFrontier Navajo Refining LLC (“HFNR”) provides notice to the Oil Conservation Division of the Energy, Minerals and Natural Resources Department of its proposal to alter the location of an existing water contaminant discharge from its Artesia Refinery (“Refinery”), which is regulated under Discharge Permit GW-028 and 20.6.2.1201(A) NMAC. HFNR is proposing to make changes to the piping near the WDW-1 and WDW-4 wellheads (Attachment C) to allow the Refinery to make the necessary equipment changes to divert some of its treated effluent from the injection wells to customers through custody transfer locations. The customer will reuse the treated effluent as product (“Reuse Water”) solely for oil and gas exploration and production purposes in lieu of fresh water or other water products.

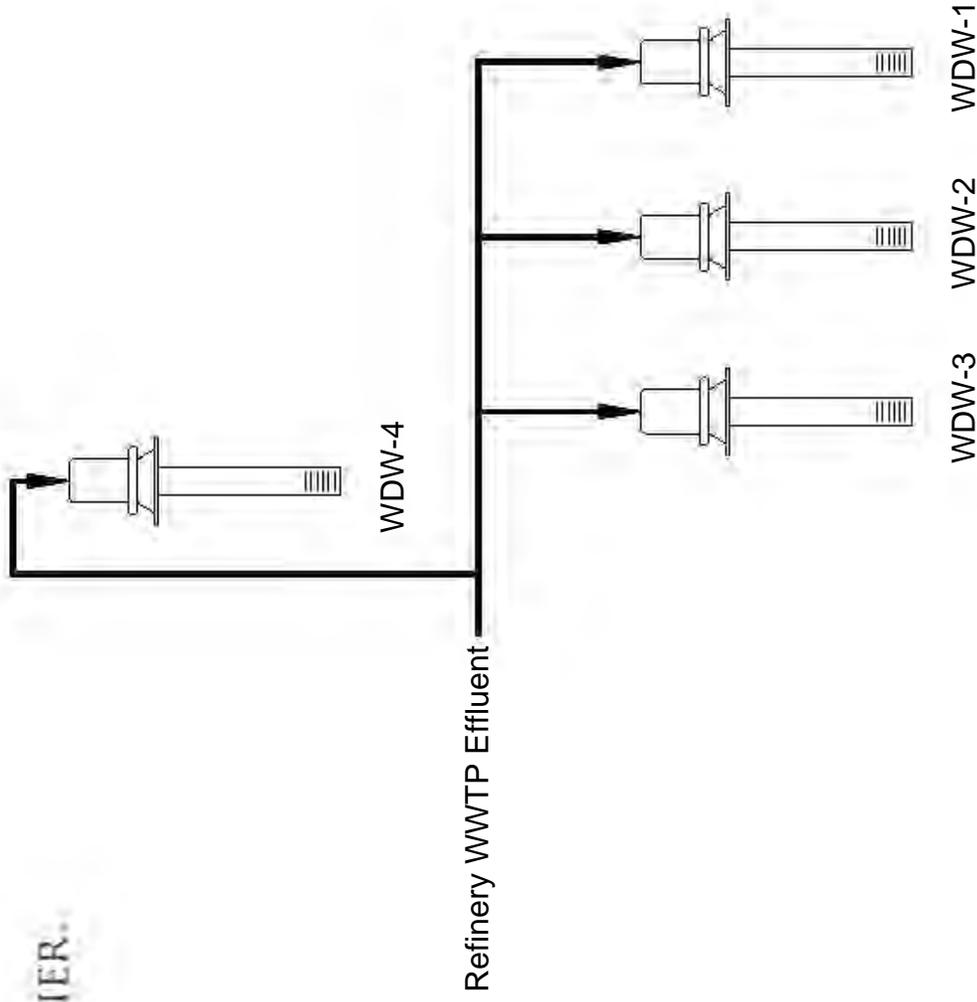
No modifications will be made to the wastewater treatment facility at the Refinery. As discussed in the cover letter, additional piping will be added to the existing pigging station near the WDW-1 and WDW-4 wellheads (Attachments B-1 and B-2). The piping equipment will include totalizing flow meters and pressure controls to protect the pipeline. The HFNR meters will serve as the location of transfer of ownership of the Reuse Water. Specifically, Reuse Water that has passed through HFNR meters becomes the property and sole responsibility of the purchaser. Secondary containment will be installed at the transfer locations to catch potential releases of Reuse Water during piping hook-up and removal (Attachment B-3). The containment(s) will be anchored to the ground with straps and protected from rainfall with a shelter. Additional piping equipment will also be installed downstream of the new pressure controls but will not be owned or installed by HFNR. This additional piping will allow transfer of the Reuse Water by the purchasers to its third-party oil and gas exploration and production customers.

HFNR has a Release Contingency Plan (Attachment D) and a Fluids Management Plan (Attachment E) in place to manage the sales of Reuse Water from the Refinery. The Contingency Plan provides for alarms, immediate response, proper reporting, remediation, and maintenance follow-up if a release occurs. Unauthorized personnel will not have access to the custody transfer equipment. The equipment that will monitor and control the transfer of Reuse Water to initial purchasers will be totally enclosed inside a fenced area, equipped with secondary containment, and protected from rainfall. Only Refinery personnel will have the ability to enter. Entry will be

controlled by general Refinery security and thus, unauthorized releases or transfers are not likely to occur. Releases prior to the custody transfer locations (i.e., the HFNR meters) and/or on HFNR property are the responsibility of HFNR to be handled under the WDW-1 and/or WDW-4 UIC WQCC Permits. Releases downstream from the custody transfer locations are the responsibility of the initial purchaser and/or the third-party customer. The Fluids Management Plan ensures the proper oversight of fluids with hazardous constituents (even though constituent levels are well below hazardous standards).

Only the piping associated with WDW-1 and WDW-4 will be modified. The operation of WDW-1, WDW-2, WDW-3 and WDW-4 will continue to meet the requirements of the UIC permits, including the submittal of quarterly environmental analytical laboratory monitoring data results and notification to OCD in the event the Reuse Water is determined to be subject to RCRA Subtitle C Hazardous Waste rules. No change in effluent constituents or quality is expected due to the proposed change request.

Modification of GW-028 (without public notice) is permissible by OCD under Section 20.6.2.3109 G. NMAC and Condition 1.G of the Discharge Permit because Reuse Water product sales do not trigger the requirements of a formal Modification under the WQCC Regulations. HFNR has provided appropriate notice to OCD in accordance with the terms of GW-028 and the UIC Permits, and the OCD has the authority under the regulation cited above to apply modifications that are requested by the discharger or to modify GW-028 or the UIC Permits as required by the Director.



Attachment B-1
Figure 1: Existing Wells Configuration

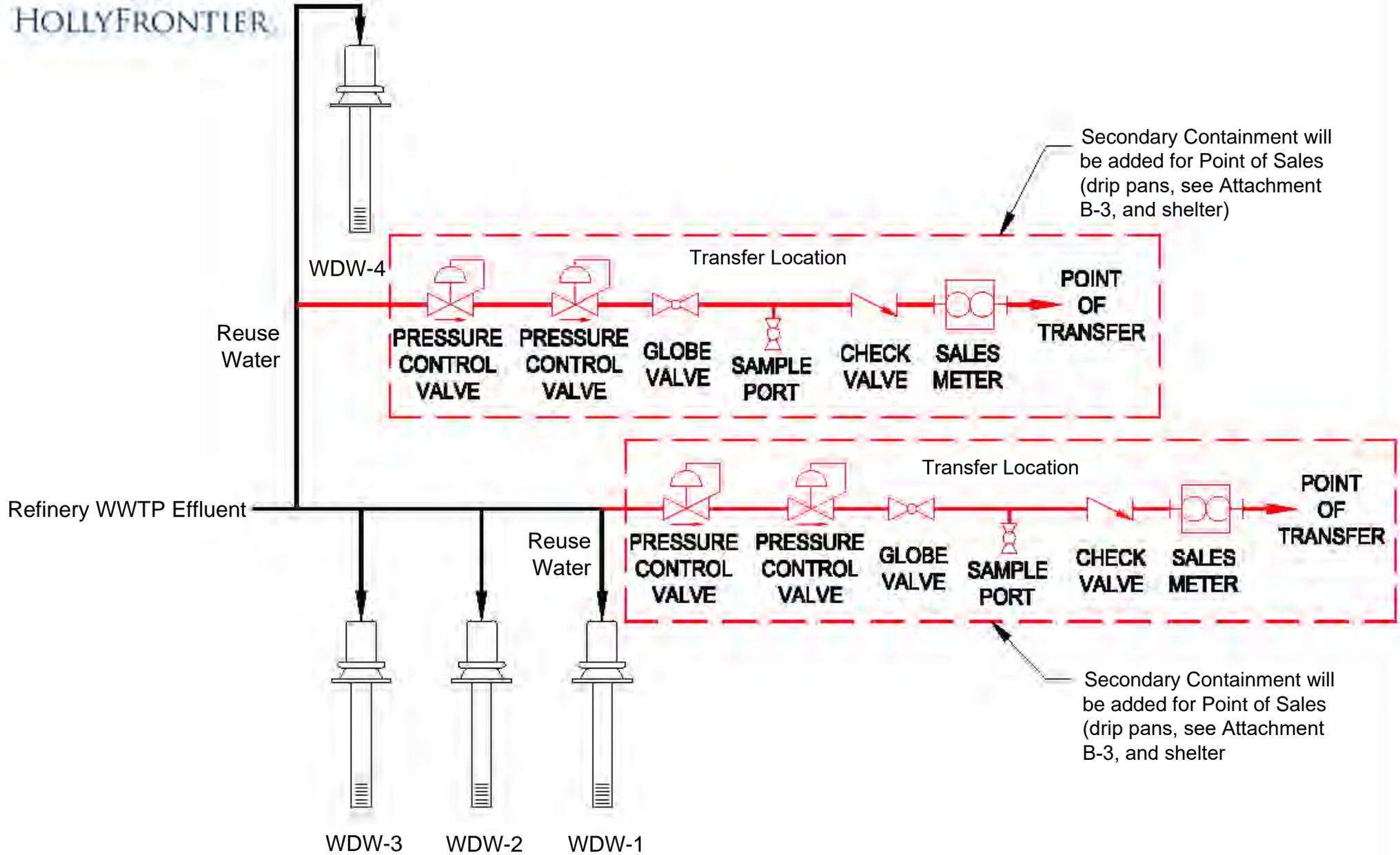


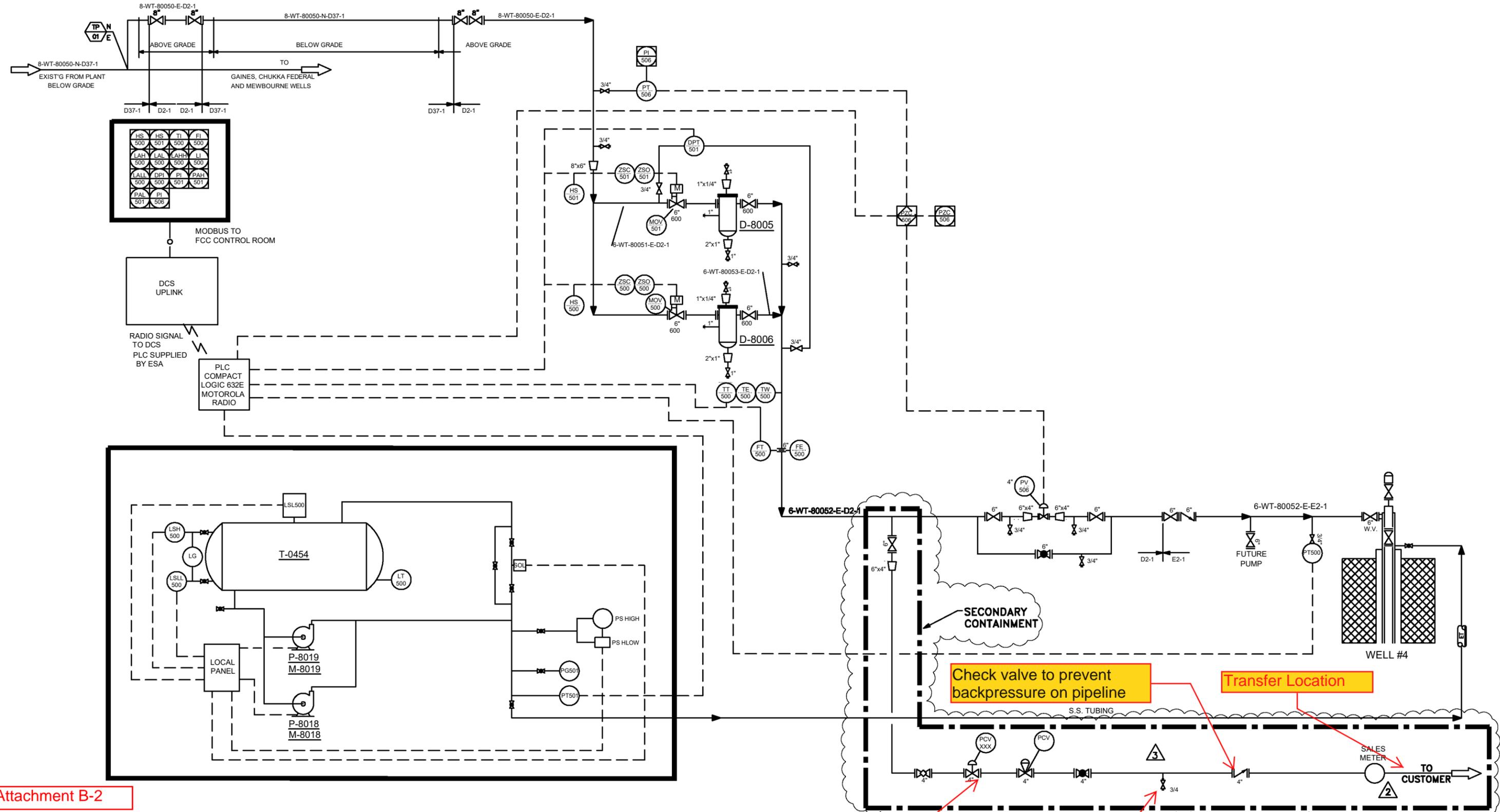
Figure 2: Modified Wells Configuration (Modifications shown in red)

**T-0454
WELL MONITOR TANK**
 SIZE: _____
 VOLUME: _____ gallons
 DESIGN: _____ psig @ _____" F
 OPER: _____ psig @ _____" F
 MATERIAL: _____
 CODE: _____
 NAT'L. BD: _____

**P-8018/M-8018
WELL MONITOR PUMP**
 MFR: _____ MODEL/SIZE: _____
 MAT'L: _____ CASE: _____ IMPELLER: _____
 OPER. FLOW: _____ gpm @ _____" F
 NPSHR: _____ FT. NPSHA: _____ FT.
 SG: _____ DIFF: _____ FT. paig
 MOTOR DATA: _____ HP _____ RPM _____ SF
 SEALS: _____ DEAD HEAD: _____ FT.

**D-8005/D-8006
FILTERS**
 SIZE: _____
 VOLUME: _____ gallons
 DESIGN: _____ psig @ _____" F
 OPER: _____ psig @ _____" F
 MATERIAL: CARBON STEEL
 CODE: ASME CODE DES. & U STAMP
 NAT'L. BD: _____
 CORR ALLOW .032"
 TEST PRESS 1872 PSIG

**P-8019/M-8019
INJECTION WELL #4 PUMP**
 MFR: _____ MODEL/SIZE: _____
 MAT'L: _____ CASE: _____ IMPELLER: _____
 OPER. FLOW: _____ gpm @ _____" F
 NPSHR: _____ FT. NPSHA: _____ FT.
 SG: _____ DIFF: _____ FT. paig
 MOTOR DATA: _____ HP _____ RPM _____ SF
 SEALS: _____ DEAD HEAD: _____ FT.



Attachment B-2

NOTES
 1.) UNLESS OTHERWISE NOTED, BULL PLUGS ARE REQUIRED FOR ALL 3/4" & 1/2" DRAIN, VENT & BLEEDER VALVES PER NRC POLICY AND ARE NOT SHOWN.

REFERENCE DRAWINGS
 DOCUMENT UNCONTROLLED IF PRINTED

NO.	REVISIONS	BY	CHK	DATE	APPR
3	REVISED TO ADD PCV AND VALVES	DJB		11/28/18	
2	REVISED PER DRF #19-084 (REB) COMMENTS	RRK		9/5/19	
1	REVISED PER DRF #19-013 (GKD)	RRK		1/28/19	
0	DRF #18-083 FOR L.F.C. (GKD)	WDC		9/24/18	JM

NO.	REVISIONS	BY	CHK	DATE	APPR
3	REVISED TO ADD PCV AND VALVES	DJB		11/28/18	
2	REVISED PER DRF #19-084 (REB) COMMENTS	RRK		9/5/19	
1	REVISED PER DRF #19-013 (GKD)	RRK		1/28/19	
0	DRF #18-083 FOR L.F.C. (GKD)	WDC		9/24/18	JM

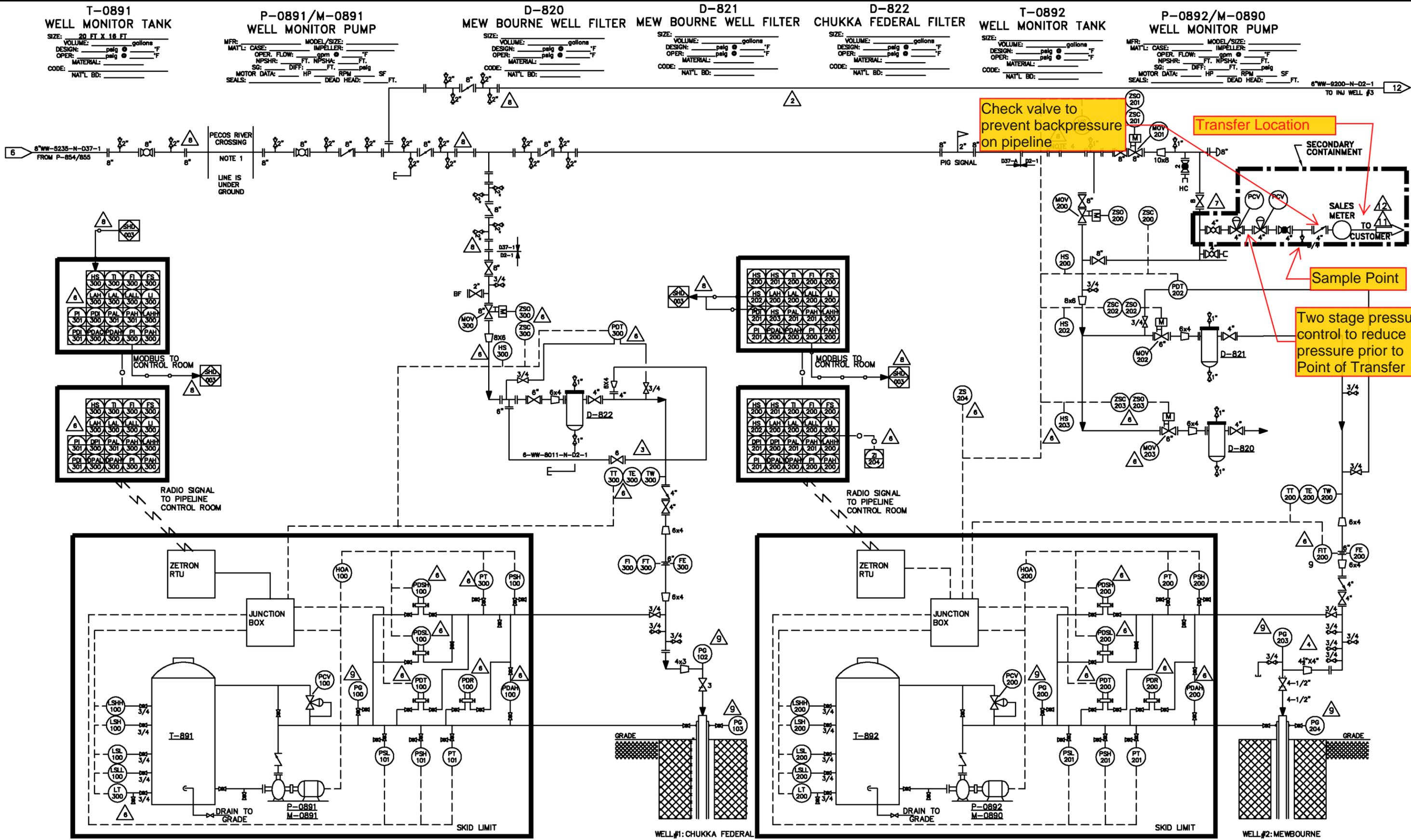
DRAWING TITLE
**MECHANICAL FLOW SHEET
 WASTEWATER TREATMENT
 INJ. WELL #4
 UNIT 80**

NAVAJO REFINING CO.
 ENGINEERING DEPARTMENT
 P.O. DRAWER 159
 ARTESIA, NEW MEXICO

DRAWN BY: DGJ
 CHECKED BY: NONE
 SCALE: NONE
 DATE: 9/13/17
 APPR: WDC
 DRAWING NUMBER: 80-V-02-D-14
 REV: 3

Two stage pressure control to reduce pressure prior to Point of Transfer

Sample Point



Attachment B-2

NOTES

- RIVER AT REFERENCE 27,250', ELEVATION 3268'.
- GAINES BANCH REFERENCE 64,458', ELEVATION 3606'.
- CHUKKA BRANCH REFERENCE 66,424', ELEVATION 3612'.
- MEWBOURNE REFERENCE 78,440', ELEVATION 3680'.
- SHD003 WILL ONLY ALARM WHEN PIPELINE SHUTDOWN CONDITIONS ARE MET. WHEN THE SHUTDOWN ALARMS PUMPS P-857/856/854/849 ARE TO BE SHUTDOWN.
- NOTE, UNLESS OTHERWISE NOTED, BULL PLUGS ARE REQUIRED FOR ALL 3/4" AND 1/2" DRAIN, VENT AND BLEEDER VALVES PER NRC POLICY AND ARE NOT SHOWN.

REFERENCE DRAWINGS

DOCUMENT UNCONTROLLED IF PRINTED

NO.	REVISIONS	BY	CHK.	DATE	APPR.	NO.	REVISIONS	BY	CHK.	DATE	APPR.
8	AS-BUILT PER M2011807-001 (JDE)	JNB	JDE	02/01	JDE	8	AS-BUILT PER M2011807-001 (JDE)	JNB	JDE	02/01	JDE
7	AS-BUILT PER M2011578-001	YSF		01/01		7	AS-BUILT PER M2011578-001	YSF		01/01	
6	REVISED PER MSW RED LINES	JNB		02/11		6	REVISED PER MSW RED LINES	JNB		02/11	
5	AS-BUILT PER M2010457-001	YSF		01/11		5	AS-BUILT PER M2010457-001	YSF		01/11	
4	M2010335-001 AS-BUILT PER JDE	DGJ		11/10		4	M2010335-001 AS-BUILT PER JDE	DGJ		11/10	
3	REVISED PER MOC M2009089-001	DGJ		05/09		3	REVISED PER MOC M2009089-001	DGJ		05/09	
2	REVISED PER RFC 26180 INJ WELL #3	RDJ		11/06		2	REVISED PER RFC 26180 INJ WELL #3	RDJ		11/06	
1	UPDATED PER JLN	DGJ		05/04		1	UPDATED PER JLN	DGJ		05/04	
0	ISSUED FOR REVIEW AND COMMENTS	JLM		05/09		0	ISSUED FOR REVIEW AND COMMENTS	JLM		05/09	

DRAWING TITLE

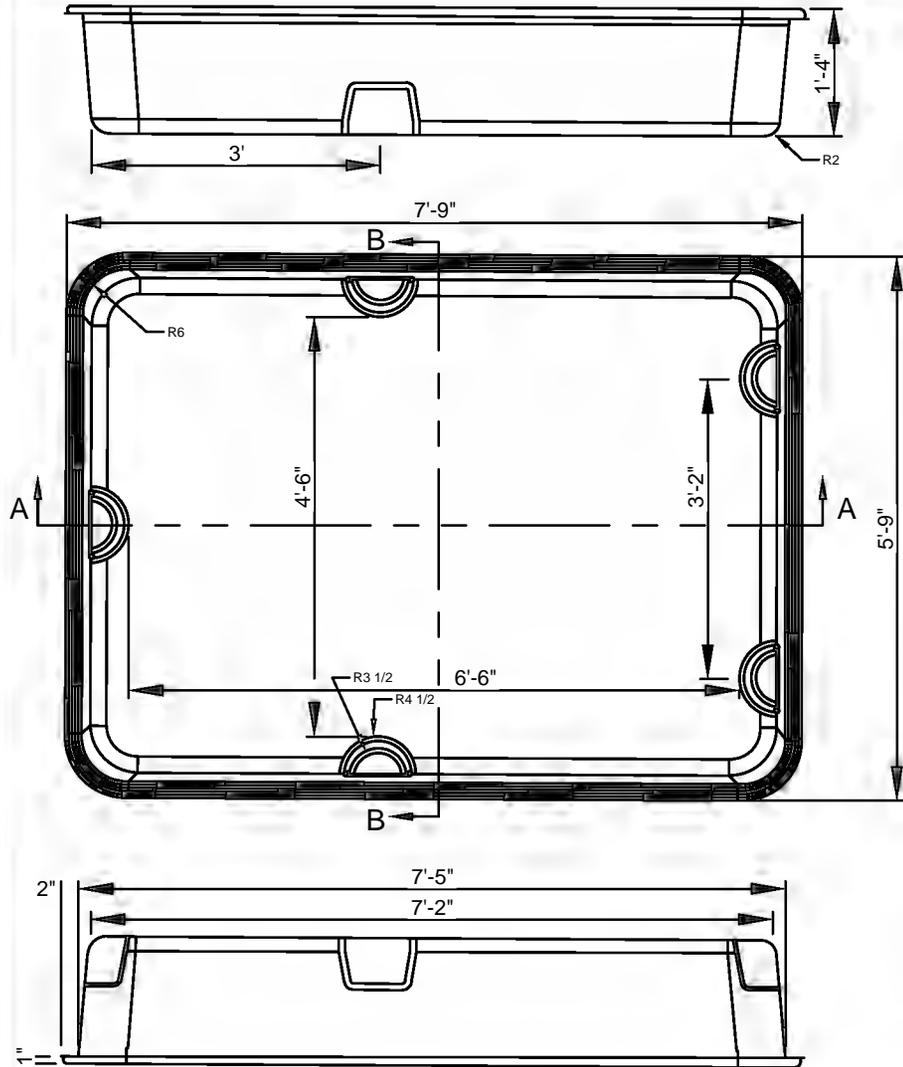
MECHANICAL FLOW SHEET
WASTEWATER TREATMENT

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

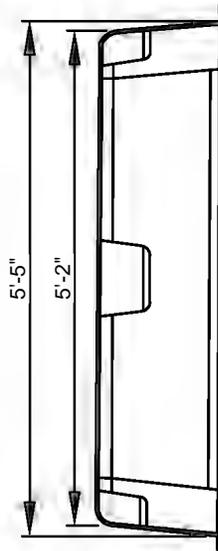
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DATE: 5/23/99 **APPV BY:** **DRAWING NUMBER:** 80-V-02-D-08 **REV:** 12

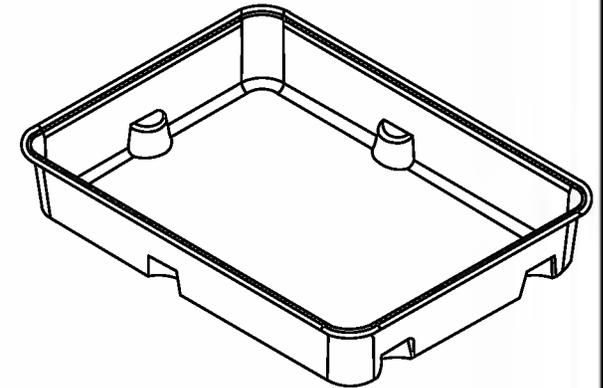
12/16/2019 10:21



SECTION A-A
SCALE 1:2'



SECTION B-B
SCALE 1:2'



123 N College
 Suite 206
 Fort Collins, CO 80524
 Phone: 970.484.3263

PROJECT:

HOLLYFRONTIER NAVAJO REFINING LLC

TITLE:

360 GALLON SECONDARY CONTAINMENT BASIN

DRAWN BY: R. COLLINS

CHECKED BY: C. SMITH

APPROVED BY: C. SMITH

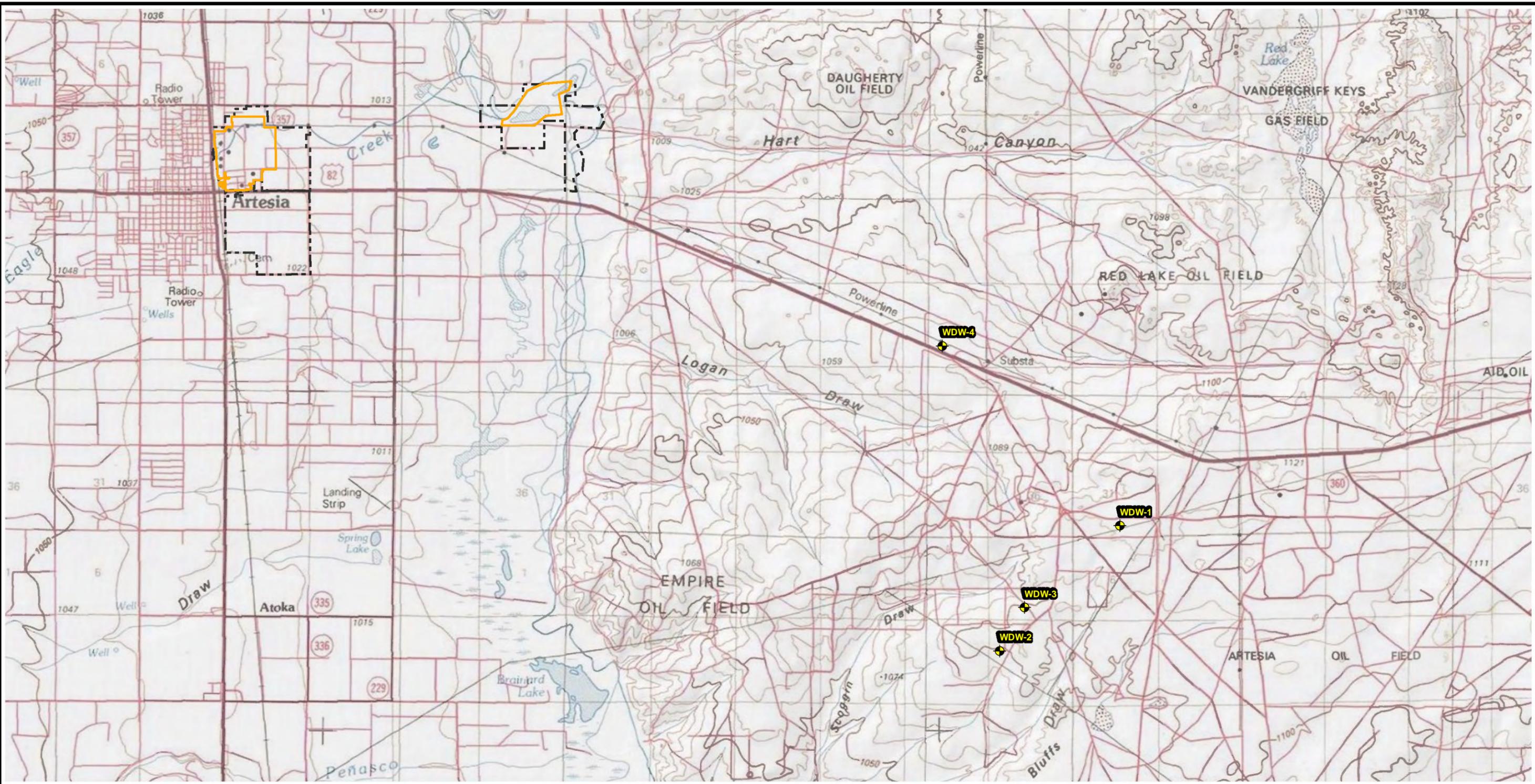
DATE: October 2019

PROJ. NO.: 349393.0000.0000

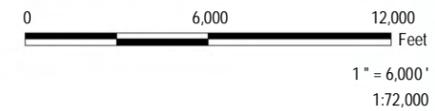
FILE: HFNR-Containment_Basin.dwg

ATTACHMENT B-3

Plot Date: 12/10/2019 12:52:11 PM by M.HORN -- LAYOUT: ANSI B(11"x17")
 Path: \\mhb\iss\gis\PROJECTS\HOLLY ENERGY PARTNERS\Artesia\349393_GW-2a\Map\349393.mxd
 Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 FT US (Foot US)
 TRC - GIS

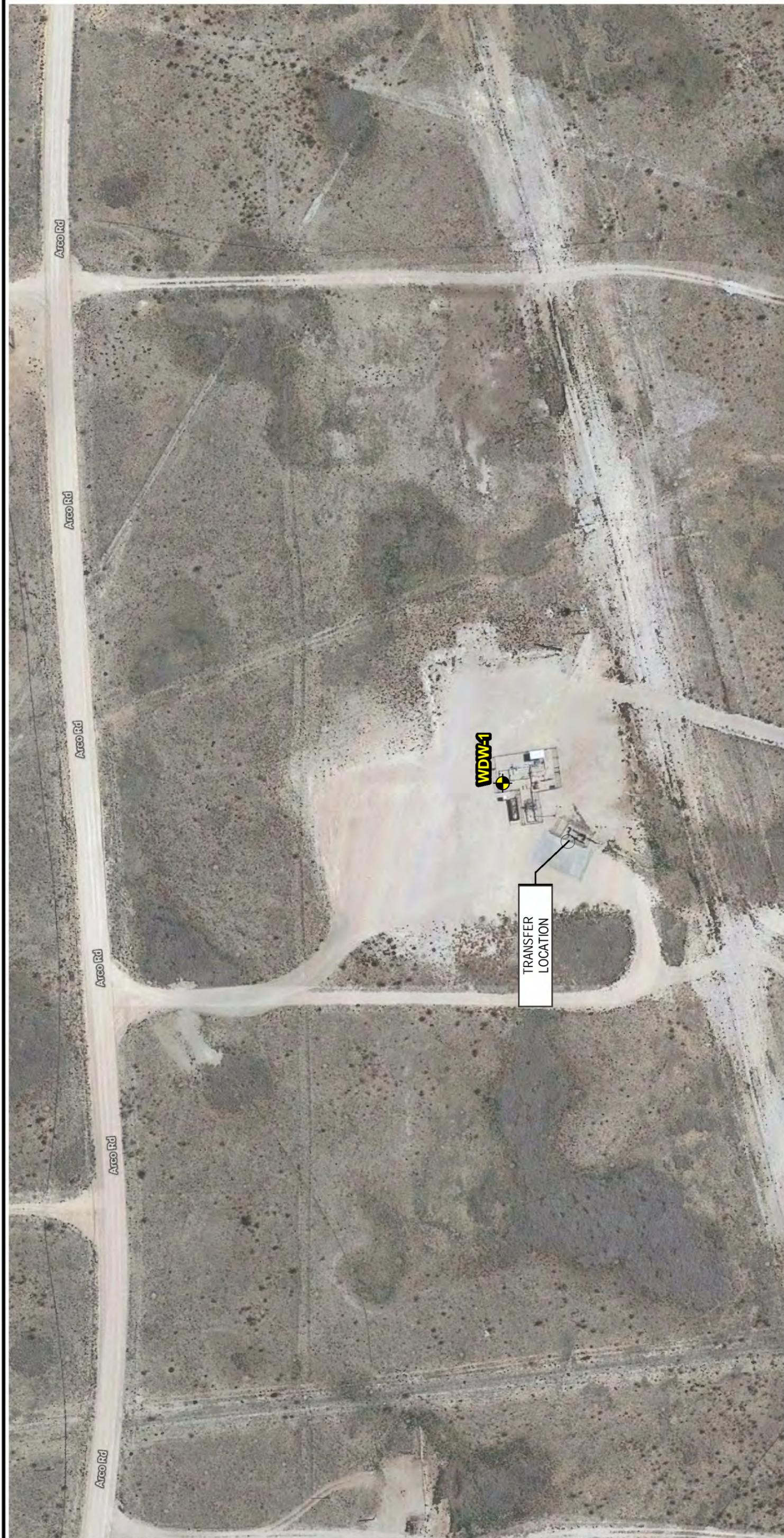


- LEGEND**
-  UIC WELLS
 -  REFINERY FENCELINE
 -  FACILITY PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)



SOURCE: USGS TOPO QUADS (SPRING LAKE, NM; RED LAKE, NM; ILLINOIS CAMP, NM; DAYTON, NM; LAKE MCMILLAN N, NM).

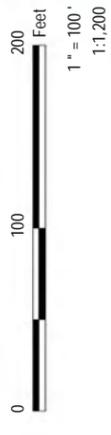
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TITLE:		UIC WELLS	
DRAWN BY:	M. HORN	PROJ. NO.:	349393
CHECKED BY:	C. SMITH	FIGURE 1	
APPROVED BY:	C. SMITH		
DATE:	DECEMBER 2019		
		505 East Huntland Drive Suite #250 Austin, TX 78752 Phone: 512.329.6080	
FILE NO.:	349393_1.mxd		



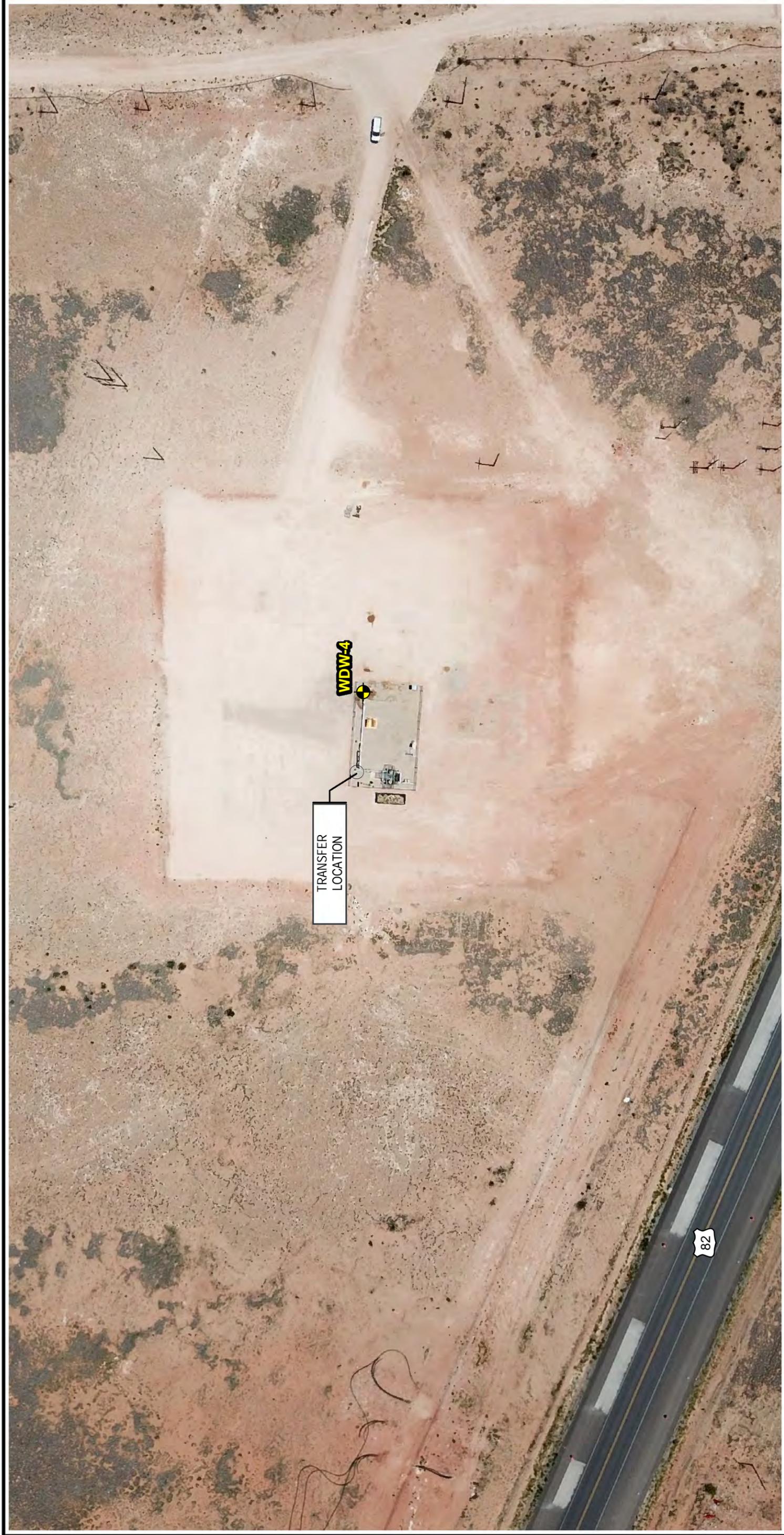
LEGEND

- TRANSFER LOCATION
- WDW-1

TRANSFER LOCATION: -104.214149, 32.785043 WDW-1:
 -104.213953, 32.785228



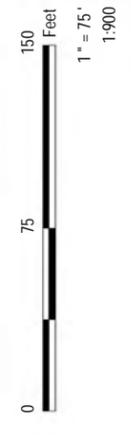
PROJECT:		HOLLYFRONTIER NAVAJO REFINERY LLC ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO	
TITLE:		WDW-1 METER LOCATION	
DRAWN BY:	M. HORN	PROJ. NO.:	34933
CHECKED BY:	C. SMITH		
APPROVED BY:	C. SMITH		
DATE:	DECEMBER 2019	FIGURE 2	
			
		505 East Huntland Drive Suite #250 Austin, TX 78752 Phone: 512.329.6080 FILE NO.: 34933_2.mxd	



LEGEND

- TRANSFER LOCATION
- WDW-4

TRANSFER LOCATION: -104.25017, 32.816042 WDW-4:
 -104.249967, 32.816029



PROJECT:		HOLLYFRONTIER NAVAJO REFINERY LLC ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO	
TITLE:		WDW-4 METER LOCATION	
DRAWN BY:	M. HORN	PROJ. NO.:	34933
CHECKED BY:	C. SMITH		
APPROVED BY:	C. SMITH		
DATE:	DECEMBER 2019	FIGURE 3	
		 505 East Huntland Drive Suite #250 Austin, TX 78752 Phone: 512.329.6080 FILE NO.: 34933_3.mxd	

HollyFrontier Navajo Refining LLC

Refinery Reuse Water Release

Contingency Plan

In the event of a pipeline release of refinery Reuse Water, the following steps are followed. These steps are generally sequential, following the OCD C-141 Form process, but can overlap, as needed.

1. If an alarm sounds indicating an increase in pipeline effluent flow or for low pipeline pressure, utilize the Refinery's pipeline shutdown procedure.
2. Close motor operated valves (MOVs) located along the pipeline in order to isolate the pipeline and decrease the volume of Reuse Water released.
3. Immediately notify HFNR Maintenance Department and Environmental Department for prompt mobilization to inspect, identify potential causes and location(s), and mitigate releases at pipeline and custody transfer station.
 - a. HFNR Maintenance Department shall inspect and identify cause(s) of any release, identify needed repairs of HFNR pipeline and equipment, and initiate immediate response and repairs as soon as practicable.
 - b. HFNR Environmental Department shall inspect and determine: (i) release reporting, including verbal notifications and OCD Form C-141 (as applicable); (ii) immediate measures, as appropriate, to control and/or contain released fluids; and (iii) steps to investigate and remediate impacted soils as described below.
4. Action Based Upon Release Location.
 - a. At Custody Transfer Location. If the release is at the custody transfer location, HFNR will mobilize to pump out the secondary containment to prevent overflows.
 - b. Before Custody Transfer Location. If the release is along the pipeline (prior to the custody transfer location), HFNR will follow its standard procedures for release reporting and mitigation (including use of the C-141 Form).
 - c. After Custody Transfer Location On HFNR Property. Releases occurring past the point of custody transfer and on HFNR property are the contractual responsibility of the Reuse Water initial purchaser. However, HFNR will notify the OCD of the discovery of any such releases to the extent required per Condition 2.C of the Refinery's Groundwater Discharge Permit (GW-28) and 20.6.2.1203 NMAC through submission of a "Discovery" Form C-141 (Initial Release Notification). HFNR will work with the OCD and the responsible party to ensure that the release is reported, addressed through immediate measures, as appropriate, to control and/or contain released fluids, and impacted soils investigated and remediated.
 - d. After Custody Transfer Location Off HFNR Property. Releases occurring past the point of custody transfer and not on HFNR property are the contractual responsibility of the Reuse Water initial purchaser. In the event, HFNR has first-hand knowledge of such

releases, HFNR will notify the OCD of the discovery of any such releases to the extent required under 20.6.2.1203 NMAC and provide contact information for the responsible party through submission of a "Discovery" Form C-141 (Initial Release Notification).

5. Permitting:
 - a. Notify One-call to initiate excavation for pipeline repairs.
 - b. Identify excavation permitting and Safe Work Permitting (confined space, as applicable).
6. Promptly secure area of release and commence and complete equipment repairs safely and expeditiously.
7. Following repairs, conduct Pre-startup Safety Review.
8. Following Pre-startup Safety Review, start up the Reuse Water pipeline using the startup procedure to place the line back in service.
9. Address surface impacts as applicable in conjunction with OCD via the C-141 process in accordance with this Contingency Plan.
10. Submit the final C-141 Form with remediation details to OCD for review in accordance with this Contingency Plan.

HollyFrontier Navajo Refinery LLC

Fluids Management Plan (FMP)

HollyFrontier Navajo Refinery LLC (HFNR) has two constituents of concern in the refinery wastewater effluent and Reuse Water – selenium and benzene.

Selenium:

- Managed by a primary process, the Selenium Removal Technology unit (SeRT). High selenium water streams are routed through this filtration unit to remove selenium.
- This unit treats water prior to introduction to the wastewater treatment plant (WWTP).
- Ferric chloride injection is a secondary treatment or backup for any operational issues with the SeRT. This is a simple chemical addition (small chemical pump) that is located upstream of the secondary clarifier unit in the WWTP.
- From quarterly monitoring of the wastewater effluent data [Se], the wastewater effluent selenium concentration is generally 10% of the hazardous toxicity characteristic value (1.0 mg/L). On-going selenium monitoring includes sampling to verify that the effluent/Reuse Water has less than 1.0 mg/L of selenium and is non-hazardous.
- Saturation of the SeRT media occurs very slowly and is monitored to ensure continued selenium removal. The use of the SeRT, in conjunction with the ferric chloride injection, process knowledge based on a large body of historical data, and the current permit-required monitoring program is sufficient to prevent the release of selenium hazardous wastewater/Reuse Water.

Benzene:

- HFNR is currently batch treating wastewater in two aggressive biological treatment units (ABTs).
- Wastewater is tested in the ABTs during treatment and is retained and treated until the effluent benzene concentration is below the hazardous toxicity characteristic value (0.5 mg/L). A large body of historical data also supports the use of process knowledge in determining if operation of the WWTP and SABTs is sufficient to meet discharge levels. HFNR also utilizes carbon filtration post-ABT for additional benzene removal on an as needed basis.

Refinery wastewater is sampled regularly under Section 2.A of the UICI-8-1 (WDW-1) and UICI-8-4 (WDW-4) WQCC Discharge Permits to ensure oilfield non-hazardous and non-exempt wastewater either injected into an injection well or sold as Reuse Water to an initial purchaser(s) or third-party purchaser(s) is NOT characteristically hazardous. No listed wastes are introduced to the Refinery's wastewater treatment system; thus, the Reuse Water is not a listed hazardous waste. In addition, HFNR has a large amount of historical data from permit-required sampling that confirms the non-hazardous designation for the Reuse Water and supports the use of process knowledge for its continued characterization in conjunction with the required sampling.

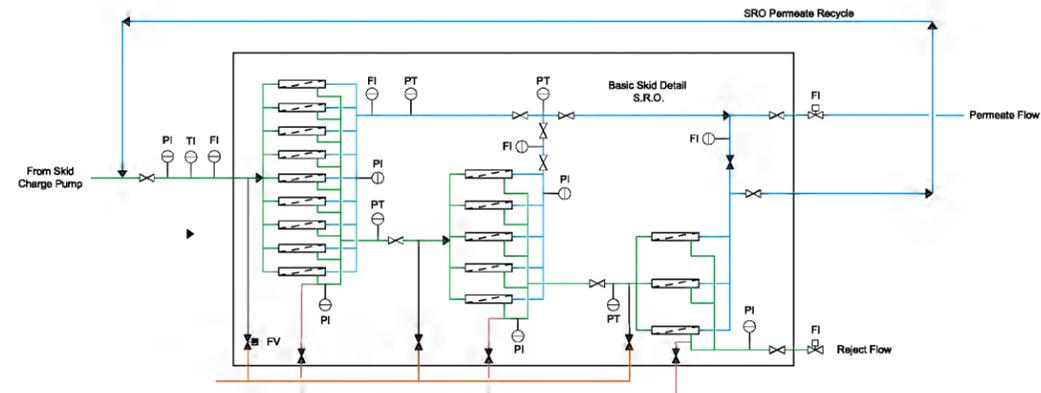
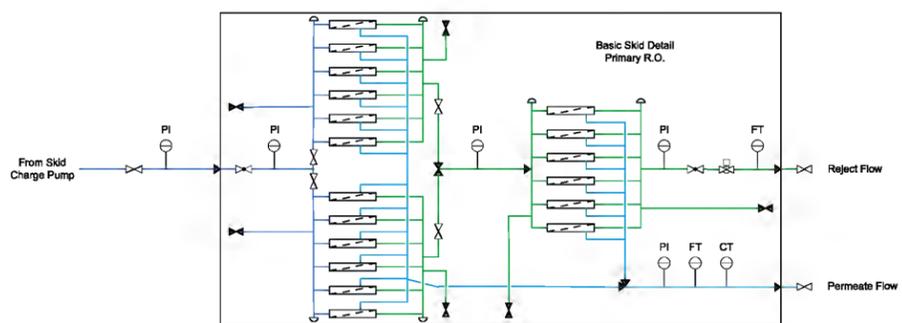
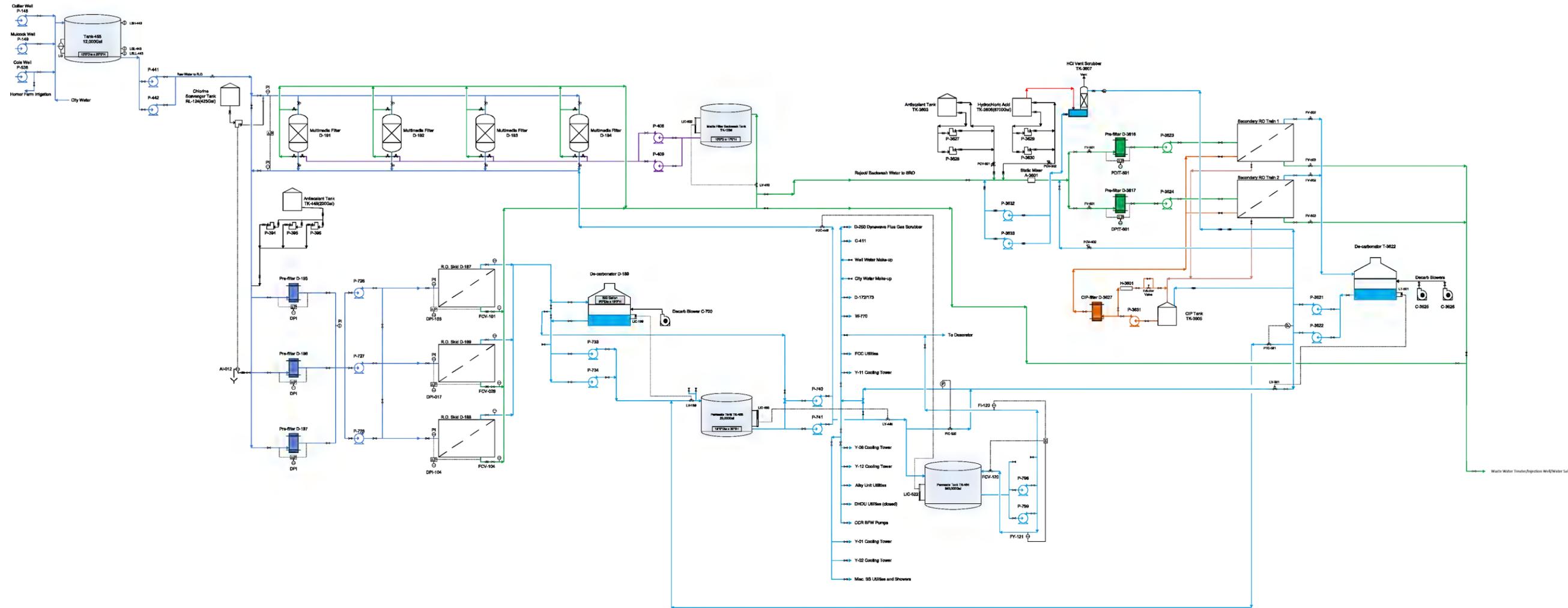
In accordance with Section 2.C of the GW-28 Discharge Permit, HFNR will notify OCD, NMED, and the Buyer immediately or within 24 hours if sample test results determine that the effluent or Reuse Water is characteristically hazardous under RCRA Subtitle "C". The injection well discharge permits shall dictate the terms of injection when effluent or Reuse Water is discovered to be characteristically hazardous at the transfer locations. Flow through the custody transfer location shall cease immediately upon discovery of characteristically hazardous constituent levels in the Reuse Water (e.g., through notification by Buyer or determination by HFNR) and shall not resume until the Reuse Water is verified to the OCD as non-hazardous. The Reuse Water will be sampled immediately upon notification/discovery at the sample

point located at the transfer location. The C-141 Form shall be used to document discoveries similar to those required for a release. HFNR (the seller) shall notify the purchaser(s) immediately, upon having knowledge and/or upon receipt of test results that the Reuse Water contains constituents at a characteristically hazardous level. The parties shall immediately comply with RCRA Subtitle "C" regulations for treatment, storage, and/or disposal of hazardous waste fluids.



Refining Company

Artesia Refinery Unit 36 Reverse Osmosis



LEGEND		Plant: HollyFrontier Corporation Unit 36 Reverse Osmosis		
Raw Water		Rev 0	JWT	Date: 09/17
Permeate		Rev 1	JWT	10/18
Reject Water				
Backwash Water				
Acid Gas Vent				
CIP Solution to Skid				
CIP Solution Return				

Equipment		Instrumentation		Process Unit/Stream		Notes/Chemical/Other	
Acronym	Description	Acronym	Description	Acronym	Description	Acronym	Description
A	Mixer	AI	Analyzer Indicator	BFW	Boiler Feed Water	CIP	Clean in Place
C	Compressor	ΔP	Delta P (Differential Pressure)	CCR	Continuous Catalytic Reformer (Process Unit)	HCl	Hydrochloric Acid
CT	Cooling Tower	DPI	Differential Pressure Indicator	DHDU	Diesel Hydrodesulfurization Unit (Process Unit)	RL	RL-124 - Chlorine Scavenger Chemical
D	Drum	DPIIT	Differential Pressure Indicator Transmitter	FCC	Fluidized Catalytic Cracker (Process Unit)	TK	TK-448 - Antiscalant Chemical
D	Diameter	FDC	Flow Differential Controller	RO	Reverse Osmosis		
Gal	Gallon	FI	Flow Indicator	SRO	Secondary Reverse Osmosis		
H	Height	FT	Flow Transmitter	SS	South Side (South Plant)		
P	Pump	FV	Flow Valve (Control Valve)				
T	Tank	FY	Flow Valve (Control Valve)				
TK	Tank (used interchangeably with T)	LG	Level Gauge (Local Indication)				
W	Tower	LIC	Level Indicator Controller				
Y	Cooling Tower	LSH	Level Switch High				
		LSL	Level Switch Low				
		LSLL	Level Switch Low Low				
		LT	Level Transmitter				
		LV	Level Valve (Control Valve)				
		P	Pressure Transmitter (error- should be PT)				
		PDIT	Pressure Differential Indicator Transmitter				
		PI	Pressure Indicator				
		PIC	Pressure Indicator Controller				
		PT	Pressure Transmitter				
		PTC	Pressure Transmitter Controller				
		Σ	Totalizer				
		TCV	Temperature Control Valve				