

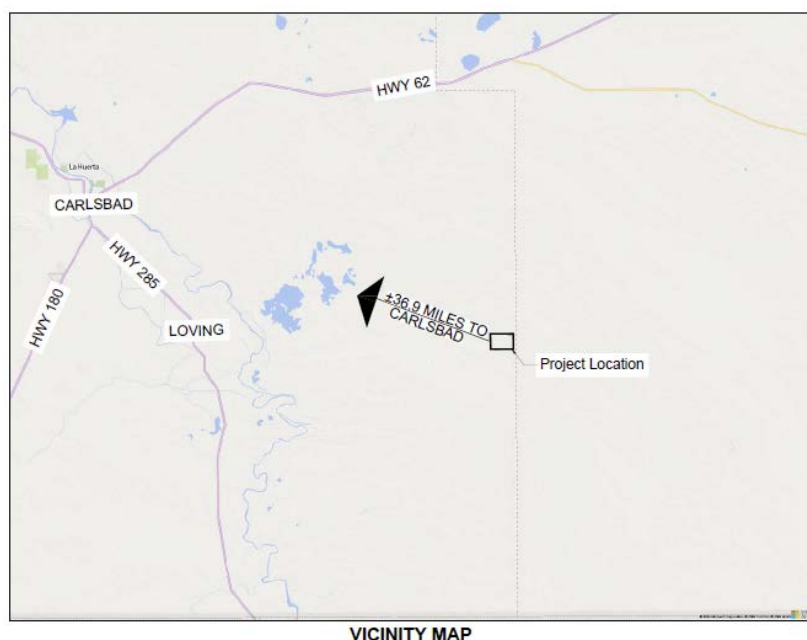
February 2025

## Rule 34 Registration: Volume 2

### Calmon RF & Containments

#### Section 26, T23S, R31E, Eddy County

- *C-147 Form*
- *Closure Estimate*
- *Stamped Design Drawings, Avian Hazing System & Liner Equivalency Demonstration*
- *Recently Approved Plans for Design/Construction, O&M, & Closure*



*Project Scope: existing fresh water frac pond scheduled for conversion to Rule 34 containment.*

**Prepared for:**  
**Hydrosorce Logistics Waste Management, LLC**  
**Midland, Texas**

**Prepared by:**  
**R.T. Hicks Consultants, Ltd.**  
**901 Rio Grande NW F-142**  
**Albuquerque, New Mexico**

**Cascade Services, LLC**  
**Midland, Texas**

State of New Mexico  
Energy Minerals and Natural Resources  
Department Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505  
<https://www.emnrd.nm.gov/ocd/ocd-e-permitting/>

Form C-147  
Revised October 11, 2022

## Recycling Facility and/or Recycling Containment

**Type of Facility:** ☒ Recycling Facility ☒ Recycling Containment\*  
**Type of action:** ☐ Permit ☒ Registration  
☐ Modification ☐ Extension  
☐ Closure ☐ Other (explain) \_\_\_\_\_

**\* At the time C-147 is submitted to the division for a Recycling Containment, a copy shall be provided to the surface owner.**

Be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.  
 Operator: Hydrosources Logistics Waste Management, LLC (For multiple operators attach page with information) OGRID #: 322820  
 Address: 600 N. Marienfeld, Suite 800, Midland, TX 79701  
 Facility or well name (include API# if associated with a well): Calmon Recycling Facility & Containments  
 OCD Permit Number: 2RF-221 (For new facilities the permit number will be assigned by the district office)  
 U/L or Qtr/Qtr G, L Section 26 Township 23S Range R 31E County: Eddy  
 Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

2.  
☒ **Recycling Facility:**  
 Location of recycling facility (if applicable): Latitude 32.274606 Longitude -103.747410 NAD83  
 Proposed Use: ☒ Drilling\* ☒ Completion\* ☒ Production\* ☒ Plugging\*  
*\*The re-use of produced water may NOT be used until fresh water zones are cased and cemented*  
☐ Other, *requires permit for other uses. Describe use, process, testing, volume of produced water and ensure there will be no adverse impact on groundwater or surface water.*  
☒ Fluid Storage  
☒ Above ground tanks ☒ Recycling containment ☐ Activity permitted under 19.15.17 NMAC explain type \_\_\_\_\_  
☐ Activity permitted under 19.15.36 NMAC explain type: \_\_\_\_\_ ☐ Other explain \_\_\_\_\_  
☐ For multiple or additional recycling containments, attach design and location information of each containment  
☐ **Closure Report (required within 60 days of closure completion):** ☐ Recycling Facility Closure Completion Date: \_\_\_\_\_

3.  
☒ **Recycling Containment:**  
☐ Annual Extension after initial 5 years (attach summary of monthly leak detection inspections for previous year)  
 Center of Recycling Containment (if applicable): Latitude 32.274606 Longitude -103.747410 NAD83  
☐ For multiple or additional recycling containments, attach design and location information of each containment  
☒ Lined ☐ Liner type: Thickness 60&40 mil ☐ LLDPE ☒ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☐ String-Reinforced  
 Liner Seams: ☒ Welded ☐ Factory ☐ Other \_\_\_\_\_ Volume: 685,558 bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_  
☐ Recycling Containment Closure Completion Date: \_\_\_\_\_ **See Attached Engineer Drawings**

4.

**Bonding:**

- ☐ Covered under bonding pursuant to 19.15.8 NMAC per 19.15.34.15(A)(2) NMAC (These containments are limited to only the wells owned or operated by the owners of the containment.)
- ☒ Bonding in accordance with 19.15.34.15(A)(1). Amount of bond \$ see attached estimate (work on these facilities cannot commence until bonding amounts are approved)
- ☒ Attach closure cost estimate and documentation on how the closure cost was calculated.

5.

**Fencing:**

- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☒ Alternate. Please specify Game Fence per design - 8 FT

6.

**Signs:**

- ☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☐ Signed in compliance with 19.15.16.8 NMAC

7.

**Variances:**

Justifications and/or demonstrations that the proposed variance will afford reasonable protection against contamination of fresh water, human health, and the environment.

***Check the below box only if a variance is requested:***

- ☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. If a Variance is requested, include the variance information on a separate page and attach it to the C-147 as part of the application.

**If a Variance is requested, it must be approved prior to implementation.**

8.

**Siting Criteria for Recycling Containment**

**Instructions:** The applicant must provide attachments that demonstrate compliance for each siting criteria below as part of the application. Potential examples of the siting attachment source material are provided below under each criteria.

**General siting** See Plates 1-9 Volume 1**Ground water is less than 50 feet below the bottom of the Recycling Containment.**

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☒ No  
☐ NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

☐ Yes ☒ No  
☐ NA

- Written confirmation or verification from the municipality; written approval obtained from the municipality

Within the area overlying a subsurface mine.

☐ Yes ☒ No

- Written confirmation or verification or map from the NM EMNRD-Mining and Minerals Division

Within an unstable area.

☐ Yes ☒ No

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; topographic map

Within a 100-year floodplain. FEMA map

☐ Yes ☒ No

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

☐ Yes ☒ No

- Topographic map; visual inspection (certification) of the proposed site

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

☐ Yes ☒ No

- Visual inspection (certification) of the proposed site; aerial photo; satellite image

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

☐ Yes ☒ No

- NM Office of the State Engineer - iWATERS database search; visual inspection (certification) of the proposed site

Within 500 feet of a wetland.

☐ Yes ☒ No

- US Fish and Wildlife Wetland Identification map; topographic map; visual inspection (certification) of the proposed site

9.

**Recycling Facility and/or Containment Checklist:**

Instructions: Each of the following items must be attached to the application. Indicate, by a check mark in the box, that the documents are attached.

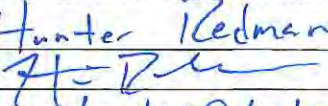
- ☒ Design Plan - based upon the appropriate requirements.
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements.
- ☒ Closure Plan - based upon the appropriate requirements.
- ☒ Site Specific Groundwater Data -
- ☒ Siting Criteria Compliance Demonstrations -
- ☒ Certify that notice of the C-147 (only) has been sent to the surface owner(s)

10.

**Operator Application Certification:**

I hereby certify that the information and attachments submitted with this application are true, accurate and complete to the best of my knowledge and belief.

Name (Print): Hunter Kedman Title: Manager

Signature:  Date: 02/21/2025

e-mail address: hunter@hydrospacelogistics.com Telephone: 432 - 238 - 3588

11.

OCD Representative Signature: Victoria Venegas Approval Date: 04/11/2025

Title: Environmental Specialist OCD Permit Number: 2RF-221

- ☒ OCD Conditions
- ☒ Additional OCD Conditions on Attachment



CLOSURE ESTIMATE

RECYCLING CONTAINMENT DESIGN DRAWINGS

AVIAN DETERRENT SYSTEM

LINER EQUIVALENCY DEMONSTRATION

Cascade Services, LLC

3403B E County Road 44  
Midland, TX 79705  
www.cascadeservicesllc.com



Closure Estimate

ADDRESS	SHIP TO	ESTIMATE	1795
Hunter Redman	Hunter Redman	DATE	10/29/2024
Hydrosurface Logistics, LLC	Hydrosurface Logistics, LLC		
600 N. Marienfield St. Ste 800	600 N. Marienfield St. Ste 800		
Midland, TX 79701	Midland, TX 79701		
CUSTOMER PROJECT NAME	PROJECT LOCATION COORDINATES		
Calmon Pits closure	32.2746068726, -103.747410827		

DESCRIPTION	QTY	UNIT	RATE	AMOUNT
Remove and dispose of all four layers. Textile, 40 mil, net, and 60 mil in both pits	1,716,000		0.15	257,400.00
Fence removal and disposal Fence estimated at 3,510 ft This includes removal of all posts, braces, wire, fabric, gates, and hardware.	3,510		4.00	14,040.00
This is pricing a package to reclaim the Dual 500k bbl pond cell Mobilize equipment to site. Dirt reclaim of pond consist of- Bury all material (Caliche, Gypsum, Sand, ect.) below ground level, backfill pond area with uncontaminated soil from pond walls. Pond area will be reclaimed to natural elevations and water flow patterns. All stockpiled strippings will be put down last to ensure ground has been completely returned to native design.	1		346,135.00	346,135.00
Environmental soil sampling This will include digging 6 sample locations for each containment. One composite sample from 0-4 feet below surface and one discrete sample from each location at 4.25 feet Cost include trip, labor, materials, and laboratory testing	1		1,725.00	1,725.00
Environmental Soil testing Before earthwork can begin the soil must be tested for contamination in case of liner leakage.	1		2,700.00	2,700.00

Cost include trip, labor, materials, and  
laboratory testing  
of 18 tests.

Broadcast seeding of pond area Seed will be a native mix for Lea County NM Includes purchase of seed mix and placement	1	3,000.00	3,000.00
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Preferred payment method: ACH/Wire  
Email AR@cascadeservicesllc.com for ACH/Wire details.

Remit Checks To:  
Cascade Services LLC  
PO Box 200954  
Dallas, TX 75320-0954

\*\*THIS ESTIMATE IS SUBJECT TO THE TERMS & CONDITIONS ATTACHED.

\*\*If pumping is needed due to weather conditions, a \$350 daily fee will be  
charged on final invoice.

\*\*Materials will be invoiced upon receipt of customer purchase order or job  
approval.

\*\*This estimate may not include tax and may be added on invoice unless  
customer provides a valid tax exemption document.

Questions? Email AR@Cascadeservicesllc.com

SUBTOTAL	625,000.00
TAX	0.00
TOTAL	<b>\$625,000.00</b>

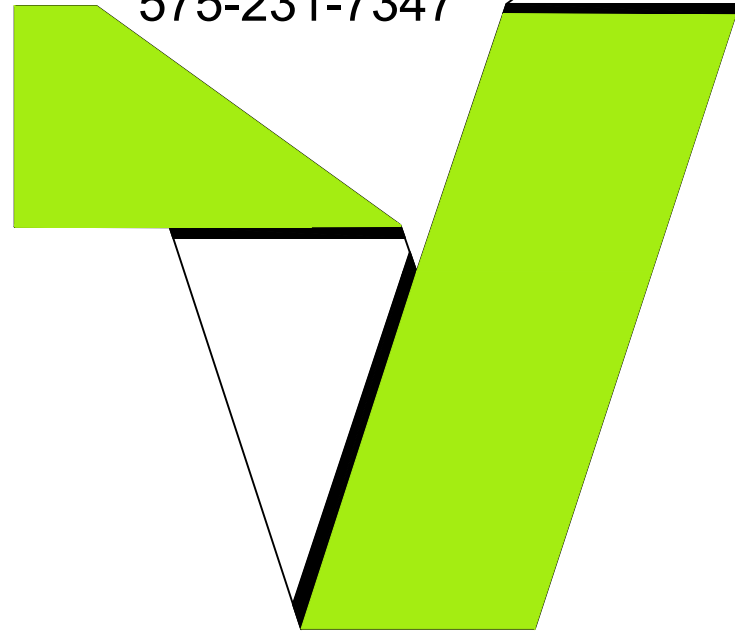
Accepted By

Accepted Date



Engineering | Surveying  
Materials Testing

7921 N. World Dr.  
Hobbs, NM 88242  
Squarerootservices.net  
575-231-7347



# CIVIL PLANS

## HYDRO SOURCE

# CALMON

CITY OF CARLSBAD  
SECTION 26, TOWNSHIP 23 SOUTH, RANGE 31 EAST  
N.M.P.M., EDDY COUNTY, NEW MEXICO



VICINITY MAP  
N.T.S.

INDEX OF SHEETS		
SHEET	NAME	DESCRIPTION
1	C-100	COVER SHEET
2	CS-101	TOPOGRAPHIC SURVEY
3	C-101	GENERAL NOTES
4	CS-101	CIVIL SITE PLAN
5	CS-102	NORTH-SOUTH & EAST-WEST CONTAINMENT PROFILES
6	CS-501	LEAK DETECTION
7	CS-502	LINAR DETAILS
8	CS-503	FENCE DETAILS

### EDDY COUNTY NEW MEXICO



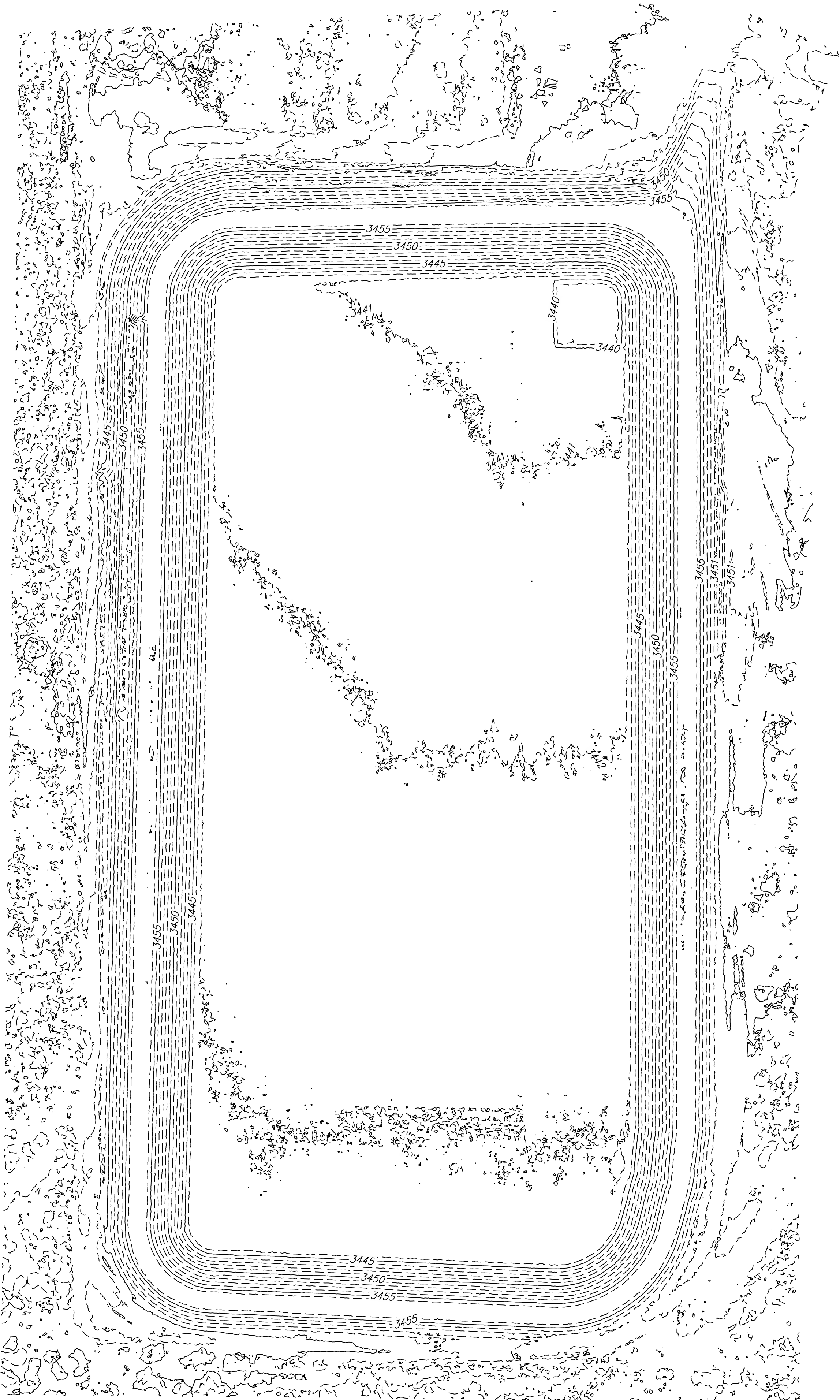
(505)-254-7310

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.





TOPOGRAPHIC SURVEY



TOPOGRAPHIC NOTE

THE TOPOGRAPHY SHOWN HEREIN IS A COMBINATION OF UAV DATA AND CONVENTIONAL/GPS DATA. THE UAV DATA WAS GENERATED USING INDUSTRY STANDARD QUALITY CHECKS AND IS WITHIN THE INDUSTRY RECOGNIZED GROUND SAMPLING DISTANCE (GSD) STANDARD OF BELOW 2.5 CM (1 IN / 0.08 FT). THE ABSOLUTE ACCURACY LEVEL IN STANDARD UAV DATA IS EQUAL TO 3 X GSD (3 X 0.08 FT = 0.24 FT). UAV DATA WAS USED FOR MEASUREMENTS ON NATURAL GROUND AND SUPPLEMENTAL FEATURES.

BASIS OF BEARING

BEARINGS SHOWN HEREON ARE FROM GPS/GNSS OBSERVATIONS AND CONFORM TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM 'NEW MEXICO EAST ZONE' NORTH AMERICAN DATUM OF 1983. TRUE NORTH CAN BE OBTAINED BY APPLYING A CONVERGENCE ANGLE OF 00°05'39.90" AT A CITY OF HOBBS CONTROL POINT #100 LOCATED AT N 521,404.17, E 595,654.39. DISTANCES SHOWN HEREON ARE IN GROUND AND WERE OBTAINED BY APPLYING A COMBINED GRID TO GROUND SCALE FACTOR OF 1.00023221143907 AT N 0.00, E 0.00. THE VERTICAL DATUM IS BASED ON GEOID18 (CONUS) AND IT PROVIDES ORTHOMETRIC HEIGHTS CONSISTENT WITH THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

I, JEREMY BAKER, NEW MEXICO PROFESSIONAL SURVEYOR NO. 25773, DO HEREBY CERTIFY THAT THIS TOPOGRAPHIC SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT AND THAT THIS INSTRUMENT IS A TOPOGRAPHIC SURVEY PLAT OF AN EXISTING TRACT OR TRACTS.

Jeremy Baker  
Jeremy Baker, N.M. P.S. 25773

12/17/2024  
Date



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Materials Testing

7921 N World Dr.  
Hobbs, NM 88242-9032  
Squarerootservices.net  
575-231-7347

ENGINEERING SHEET:

TOPOGRAPHIC  
SURVEY  
OF

PROJECT NAME:

CALMON

CLIENT:

FOR

HYDRO SOURCE

PROJECT NUMBER:

24256

PROJECT ENGINEER:

JEREMY BAKER, PE

DRAWN BY:

C. JIMENEZ



GRAPHIC SCALE



LEGEND

- MAJOR CONTOUR LINE 5FT INTERVAL
- MINOR CONTOUR LINE 1FT INTERVAL

REVISIONS

No.	DATE	DESCRIPTION



SHEET:  
2 of 8  
CS-101



GENERAL NOTES

- NEW MEXICO ADMINISTRATIVE CODE TITLE 19, CHAPTER 15, PART 34, DESIGN CRITERIA FOR RECYCLING CONTAINMENTS SHALL APPLY TO THIS PROJECT.
- ALL BOUNDARY, TOPOGRAPHIC AND UTILITY INFORMATION SHOWN ARE BASED ON SURVEY INFORMATION FURNISHED BY TOPOGRAPHIC.
- THE CONTRACTOR SHALL IDENTIFY AND LOCATE UTILITY LINES, MONITORING WELLS, SURVEY MONUMENTS, AND OTHER NEARBY STRUCTURES PRIOR TO PERFORMING WORK.
- COORDINATE INFORMATION IS BASED ON STATE PLANE COORDINATES, NEW MEXICO EAST, NAD 83.
- THE CONTRACTOR SHALL IDENTIFY ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION AND CONTACT THE ENGINEER IN WRITING.
- THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN BEST MANAGEMENT PRACTICES (BMPS) TO MINIMIZE EROSION AND CONTROL SEDIMENT TO PROTECT SURFACE WATER QUALITY DURING STORM EVENTS.

EARTHWORK NOTES

- THE CONTRACTOR SHALL USE WATER FOR COMPACTION AT ALL TIMES. THE CONTRACTOR SHALL ENSURE THEIR BID INCLUDES CONSTRUCTION WATER. NO EARTHWORK OPERATIONS SHALL TAKE PLACE IF CONSTRUCTION WATER IS NOT AVAILABLE ONSITE.
- THE CONTRACTOR SHALL BUILD THE LEVEES USING COMPACTED LAYERS. UNCONTROLLED AND INCONSISTENT PUSHING AND PILING OF MATERIAL FOR LEVEE CONSTRUCTION IS NOT ACCEPTABLE. THE CONTRACTOR SHALL DEVELOP A SUCCESSFUL COMPACTION PATTERN EARLY IN THE PROCESS, VERIFIED THROUGH NUCLEAR DENSITY OR SAND CONE TESTING, AND SHALL MAINTAIN CONSISTENCY IN THE COMPACTIVE EFFORT AS LONG AS THE MATERIALS ENCOUNTERED REMAINS CONSISTENT. IF ONSITE SOILS ENCOUNTERED CHANGE, THE CONTRACTOR SHALL DEVELOP A NEW COMPACTION PATTERN.
- FILL FOR LEVEES SHALL BE PLACED AND COMPACTED IN HORIZONTAL LIFTS WITH MAXIMUM LOOSE LIFT THICKNESS OF 10 INCHES, OR AS DIRECTED BY ENGINEER. CONSTRUCT EACH LAYER CONTINUOUSLY AND APPROXIMATELY HORIZONTAL FOR THE WIDTH AND LENGTH OF THE LEVEE. FILL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY DETERMINED BY THE ASTM D698 AND AT MOISTURE CONTENT WITHIN +2% TO -2% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY A STANDARD PROCTOR SOILS TEST ON SAMPLES FROM THE SOURCE AREA.
- FILL SHALL NOT BE PLACED AND COMPACTED WHEN THE MATERIALS ARE TOO WET TO PROPERLY COMPACT. MATERIAL WHICH IS TOO WET SHALL BE SPREAD ON THE FILL AREA AND PERMITTED TO DRY, ASSISTED BY HARROWING IF NECESSARY, UNTIL THE MOISTURE CONTENT IS REDUCED TO ALLOWABLE LIMITS. IF THE ENGINEER DETERMINED THAT ADDED MOISTURE IS REQUIRED, WATER SHALL BE APPLIED UNIFORMLY OVER THE AREA TO BE TREATED, AND GIVE COMPLETE AND ACCURATE CONTROL OF THE AMOUNT OF WATER TO BE USED. IF TOO MUCH WATER IS ADDED, THAT AREA SHALL BE PERMITTED TO DRY BEFORE COMPACTION IS CONTINUED.
- PERFORM ONE NUCLEAR DENSITY GAGE TEST PER 2500 CY MINIMUM OR AS DIRECTED BY THE ENGINEER.
- EARTHWORK CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF THE FINISHED COMPACTED POND BOTTOM AND SIDE SLOPES BEFORE HDPE LINER INSTALLATION, REMOVING ALL DEBRIS, SHARP OBJECTS AND GRAVEL LARGER THAN 3/4 INCH.
- EARTHWORK CONTRACTOR SHALL ROLL SURFACE WITH A SMOOTH ROLLER TO ELIMINATE RUTS.

LINER NOTES

- LINER CONTRACTOR SHALL INSPECT GRADED SURFACE FOR DEBRIS, ROCKS OR OTHER MATERIAL THAT MAY DAMAGE THE LINER AND COORDINATE WITH OWNER IF ADDITIONAL SUBGRADE RESURFACING IS NEEDED PRIOR TO PERFORMING WORK.
- LINER CONTRACTOR TO PROVIDE SUBMITTAL OF LINER PANEL LAYOUT.
- LINER CONTRACTOR TO SIGN SUBGRADE ACCEPTANCE FORM (PROVIDED BY OWNER REPRESENTATIVE) DAILY PRIOR TO INSTALLATION.
- LINER TO BE INSTALLED PER GRI SPECIFICATIONS, GUIDES AND PRACTICES.
- CONTRACTOR SHALL PLACE SANDBAGS ON LINER DURING INSTALLATION AS REQUIRED TO PREVENT WIND UPLIFT UNTIL POND IS FILLED TO A DEPTH OF 3 FEET.
- CONTRACTOR SHALL USE BLACK 60 MIL HDPE SMOOTH GEOMEMBRANE AS THE PRIMARY LINER AND BLACK 40 MIL HDPE SMOOTH GEOMEMBRANE AS THE SECONDARY LINER.
- A 3' DIAMETER MINIMUM PIECE OF 40MIL LINER SHALL BE EXTRUDED WELDED WHERE THE PIE SHAPED CORNER SECTIONS MEET FOR SEAM REINFORCEMENT.
- INSTALL A FULL DOUBLE WIDTH SECTION OF BLACK OR WHITE 60 MIL TEXTURED HDPE GEOMEMBRANE RUB SHEET. EXTRUDE WELD TO LINER. WELDS SHALL BE 2" LONG AND SPACED EVERY 12" ALONG BOTH SIDES OF THE SHEET. DO NOT WELD END EDGES. SECTION SHALL EXTEND FROM SUMP AND INSTALLED INTO LINER ANCHOR TRENCH AS SHOWN.
- LINER SHALL BE PROTECTED WITH A 8 OZ. NONWOVEN GEOTEXTILE IF ROCK OR OTHER ANGULAR MATERIALS WITH A DIMENSION GREATER THAN 3/4 INCH ARE PRESENT.
- SUMPS SHALL BE BACKFILLED WITH NON-ANGULAR MAXIMUM 3/8 INCH SIZED PEA GRAVEL.
- ALL SEAMS MUST BE WELDED WITH A 6" MINIMUM OVERLAP.
- CONTRACTOR SHALL NON-DESTRUCTIVELY TEST ALL SEAMS THEIR FULL LENGTH USING AN AIR PRESSURE OR VACUUM TEST, THE PURPOSE OF THIS TEST IS TO CHECK THE CONTINUITY OF THE SEAM.
- FOR AIR PRESSURE TESTING (ASTM 5820), THE FOLLOWING PROCEDURES ARE APPLICABLE TO THE SEAMS WELD WITH DOUBLE SEAM FUSION WELDER.
  - THE EQUIPMENT USED SHALL CONSIST OF AN AIR TANK OR PUMP CAPABLE OF PRODUCING A MINIMUM 35 PSI AND A SHARP NEEDLE WITH A PRESSURE GAUGE ATTACHED TO INSERT INTO THE AIR CHAMBER.
  - SEAL BOTH ENDS OF THE SEAM BY HEATING AND SQUEEZING THEM TOGETHER. INSERT THE NEEDLE WITH THE GAUGE INTO THE AIR CHANNEL. PRESSURIZE THE AIR CHANNEL TO A MINIMUM OF 35 PSI. NOTE TIME STARTS AND WAIT A MINIMUM OF 5 MINUTES TO CHECK. IF PRESSURE AFTER 5 MINUTES HAD DROPPED LESS THAN 2 PSI THE TEST IS SUCCESSFUL (THICKNESS OF MATERIAL MAY CAUSE VARIANCE).
  - CUT OPPOSITE SEAM END AND LISTEN FOR PRESSURE RELEASE TO VERIFY FULL SEAM HAS BEEN TESTED.
  - IF THE TEST FAILS, FOLLOW THESE PROCEDURES.
    - WHILE CHANNEL IS UNDER PRESSURE WALK THE LENGTH OF THE SEAM LISTENING FOR A LEAK.
    - WHILE CHANNEL IS UNDER PRESSURE APPLY A SOAPY SOLUTION TO THE SEAM EDGE AND LOOK FOR BUBBLES FORMED BY AIR ESCAPING.
    - RE-TEST THE SEAM IN SMALLER INCREMENTS UNTIL THE LEAK IS FOUND.
  - ONCE LEAK IS FOUND USING ONE OF THE PROCEDURES ABOVE, CUT OUT THE AREA AND RETEST THE PORTIONS OF THE PORTIONS OF THE SEAMS BETWEEN THE LEAK AREAS PER 6A AND 6B ABOVE. CONTINUE THIS PROCEDURE UNTIL ALL SECTIONS OF THE SEAM PASS THE PRESSURE TEST.
  - REPAIR THE LEAK WITH A PATCH AND VACUUM TEST.
- ALL NON-DESTRUCTIVE TESTS WILL BE NOTED IN THE NON-DESTRUCTIVE LOGS.
- LINER GAS VENTS SHALL BE SPACED ALONG THE INSIDE SLOPE AT APPROXIMATELY 100 FEET ON CENTER OR MINIMUM 2 VENTS PER SIDE.
- WHEN ANY PIPING EQUIPMENT, INLET, OR OUTLET IS IN DIRECT CONTACT WITH THE LINER, AN APRON CONSISTING OF 60 MIL HDPE MATERIAL SHALL BE INSTALLED BENEATH THE EQUIPMENT OR STRUCTURE TO PROTECT THE PRIMARY LINER.
- LAY BOTH LINERS IN ANCHOR TRENCH. BACKFILL ANCHOR TRENCH IN 2 LIFTS AND COMPACT.

SUGGESTED CONSTRUCTION SEQUENCE

- CLEAR EXISTING VEGETATION.
- STRIP AND STOCKPILE TOPSOIL AT THE LOCATION DESIGNATED ON THESE PLANS.
- PERFORM EARTHWORK OPERATIONS:
  - CONSTRUCT STORMWATER DIVERSION CHANNEL.
  - PERFORM RIPPING/EXCAVATING OPERATIONS.
  - REPLACE EXCAVATED MATERIAL IN COMPACTED LAYERS ON THE LEVEE/PAD IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS.
  - FINISH SLOPES USING A SMOOTH ROLLER.
  - DIG ANCHOR TRENCH.
- INSTALL NEW GAME FENCE AND GATES.
- INSTALL GEOMEMBRANES:
  - INSTALL GEOTEXTILE AS NEEDED, SECONDARY LINER, GEONET, LEAK DETECTION SYSTEM AND PRIMARY LINER.
  - INSTALL RUB SHEETS AND WATER LEVEL GAGE/LADDER.
  - BACKFILL AND COMPACT ANCHOR TRENCH.



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Materials Testing

7921 N World Dr.  
Hobbs, NM 88242-9032  
Squarerootservices.net  
575-231-7347

ENGINEERING SHEET:

GENERAL NOTES

PROJECT NAME: OF

CALMON

CLIENT: FOR  
HYDRO SOURCE

PROJECT NUMBER:

24256

PROJECT ENGINEER:

JEREMY BAKER, PE

DRAWN BY:

C. JIMENEZ

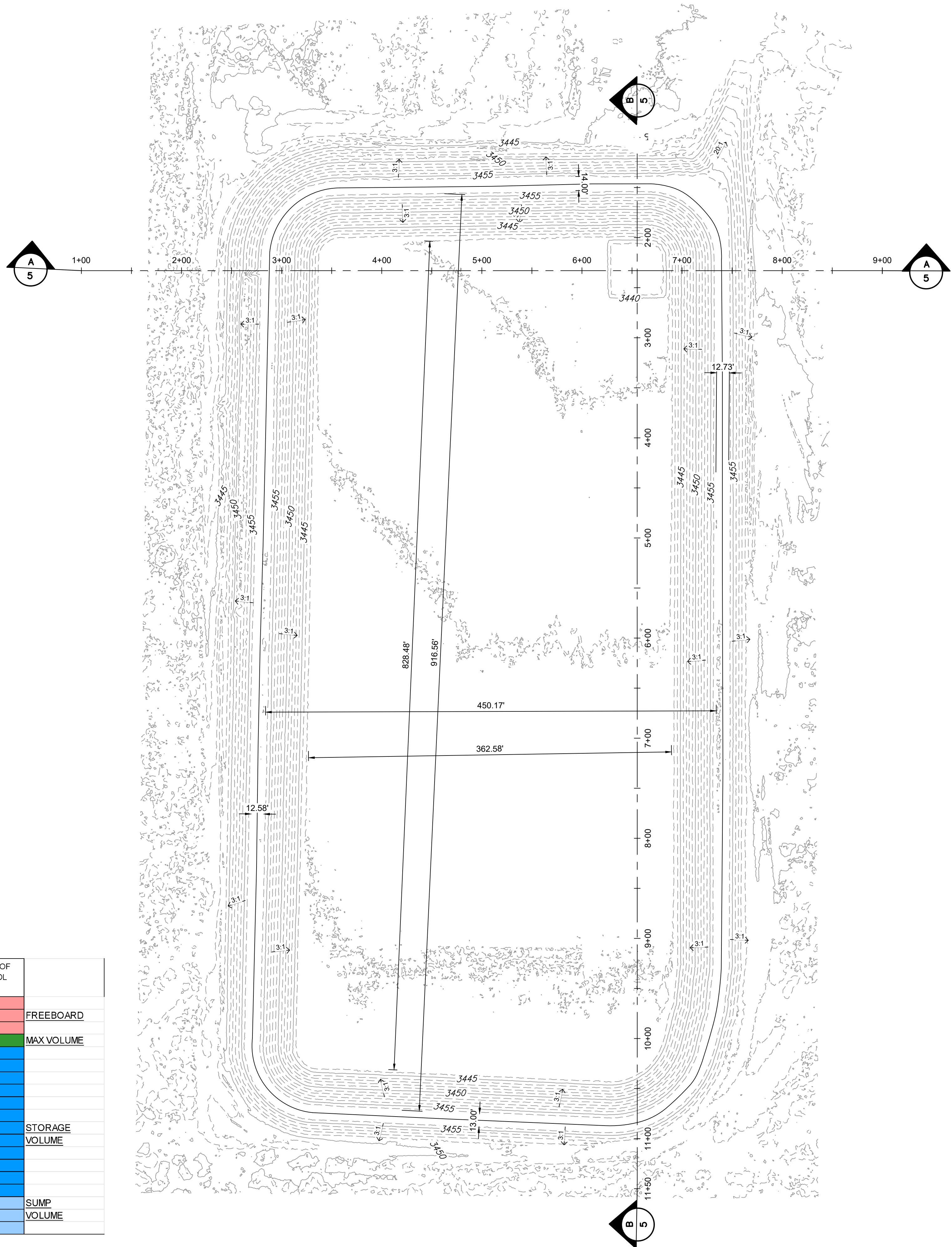
REVISIONS

No.	DATE	DESCRIPTION



SHEET:  
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C-101





ELEVATION (FT)	CONTAINMENT DEPTH (FT)	REMAINING STORAGE (FT)	REMAINING STORAGE VOL (FT3)	REMAINING STORAGE VOL (GAL)	REMAINING STORAGE VOL (BBL)	PERCENT OF TOTAL VOL (%)	VOL IN CONTAINMENT (FT3)	VOL IN CONTAINMENT (GAL)	VOL IN CONTAINMENT (BBL)	VOL IN CONTAINMENT (AC-FT)	PERCENT OF TOTAL VOL (%)	
3,456.40	0	18	0	-	-	0%	5,030,488	37,633,079	895,902	115.48	100%	FREEBOARD
3,455.40	1	17	401,478	3,003,458	71,501	8%	4,629,010	34,629,621	824,401	106.27	92%	
3,454.40	2	16	795,099	5,948,133	141,603	16%	4,235,389	31,684,945	754,299	97.23	84%	
3,453.40	3	15	1,181,079	8,835,651	210,344	23%	3,849,409	28,797,428	685,558	88.37	77%	MAX VOLUME
3,452.40	4	14	1,559,403	11,665,897	277,721	31%	3,471,084	25,967,182	618,181	79.69	69%	
3,451.40	5	13	1,930,200	14,439,824	343,758	38%	3,100,288	23,193,254	552,144	71.17	62%	
3,450.40	6	12	2,293,609	17,158,489	408,479	46%	2,736,879	20,474,590	487,423	62.83	54%	STORAGE VOLUME
3,449.40	7	11	2,649,584	19,821,540	471,876	53%	2,380,903	17,811,539	424,026	54.66	47%	
3,448.40	8	10	2,998,259	22,429,976	533,973	60%	2,032,229	15,203,103	361,929	46.65	40%	
3,447.40	9	9	3,339,565	24,983,285	594,758	66%	1,690,923	12,649,793	301,144	38.82	34%	
3,446.40	10	8	3,673,703	27,482,973	654,286	73%	1,356,785	10,150,105	241,636	31.15	27%	
3,445.40	11	7	4,000,621	29,928,644	712,488	80%	1,029,867	7,704,435	183,414	23.64	20%	
3,444.40	12	6	4,320,411	32,320,998	769,441	86%	710,076	5,312,080	126,461	16.30	14%	
3,443.40	13	5	4,632,934	34,658,980	825,100	92%	397,554	2,974,099	70,802	9.13	8%	
3,442.40	14	4	4,883,770	36,535,485	869,772	97%	146,717	1,097,593	26,130	3.37	3%	
3,441.40	15	3	5,001,708	37,417,779	890,776	99%	28,780	215,300	5,125	0.66	1%	
3,440.40	16	2	5,025,333	37,594,517	894,984	100%	5,155	38,561	918	0.12	0%	SUMP VOLUME
3,439.40	17	1	5,028,563	37,618,677	895,559	100%	1,925	14,402	343	0.04	0%	
3,438.40	18	0	5,030,488	37,633,079	895,902	100%	0	0	0	0.00	0%	



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ENGINEERING SHEET:

CIVIL SITE PLAN

PROJECT NAME: OF

CALMON

CLIENT: FOR  
HYDRO SOURCE

PROJECT NUMBER:

24256

PROJECT ENGINEER:

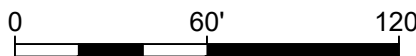
JEREMY BAKER, PE

DRAWN BY:

C. JIMENEZ



GRAPHIC SCALE



SCALE: 1" = 60'  
(IN FEET)

REVISIONS

No.	DATE	DESCRIPTION

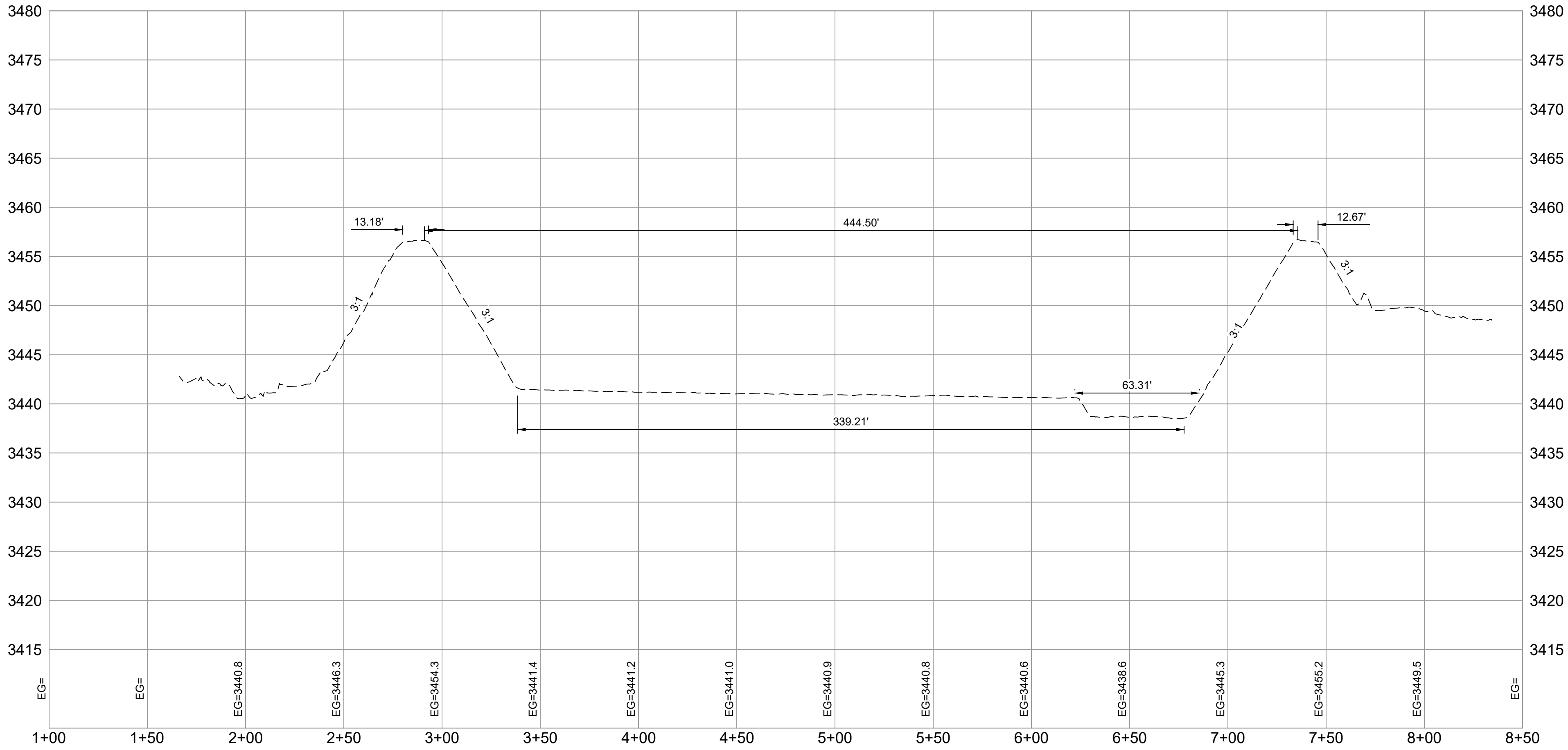


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4 of 8

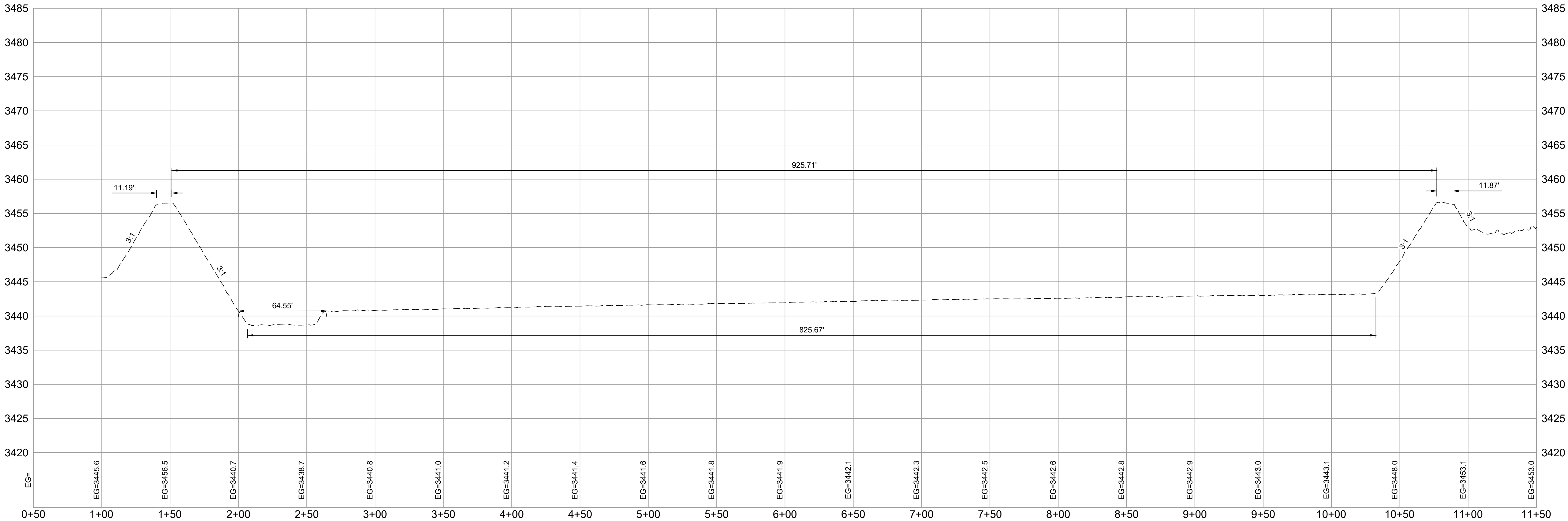
CS-101



A EAST-WEST PROFILE



B SOUTH-NORTH PROFILE



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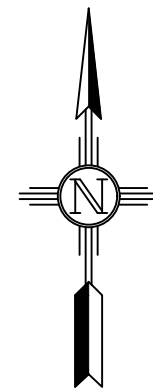
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NORTH-SOUTH & EAST-WEST  
CONTAINMENT PROFILES

OF  
PROJECT NAME:  
CALMON

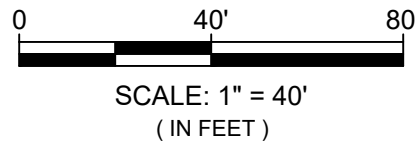
FOR  
CLIENT:  
HYDRO SOURCE

PROJECT NUMBER:  
24256

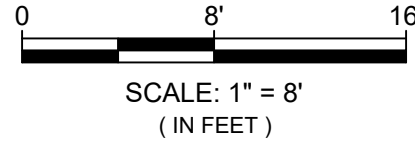
PROJECT ENGINEER:  
JEREMY BAKER, PE  
DRAWN BY:  
C. JIMENEZ



GRAPHIC SCALE  
HORIZONTAL



GRAPHIC SCALE  
VERTICAL

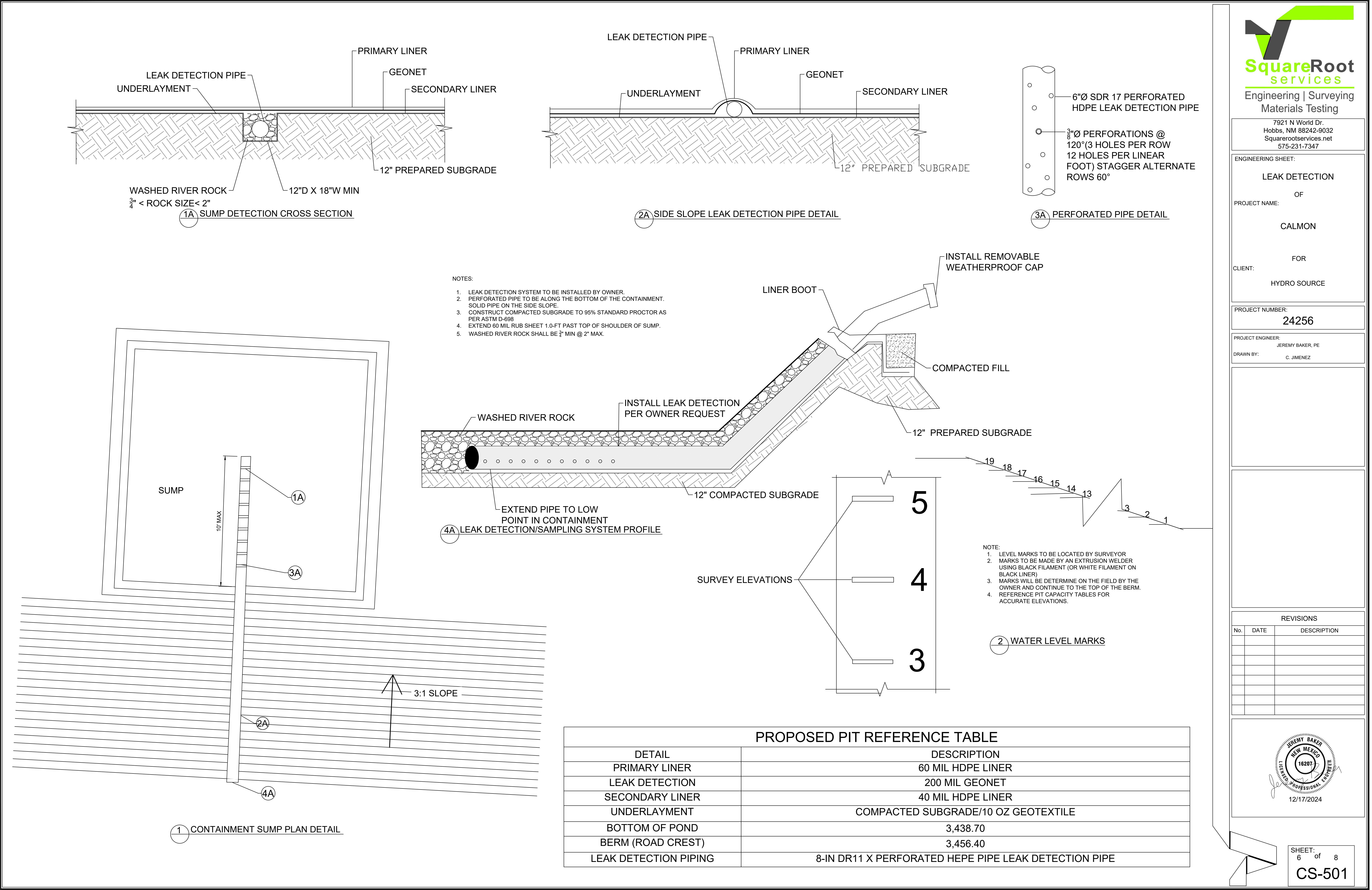


REVISIONS

No.	DATE	DESCRIPTION



SHEET:  
5 of 8  
CS-101



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Materials Testing

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ENGINEERING SHEET:

LEAK DETECTION

OF  
PROJECT NAME:

CALMON

FOR  
CLIENT:

HYDRO SOURCE

PROJECT NUMBER:

24256

PROJECT ENGINEER:

JEREMY BAKER, PE

DRAWN BY:

C. JIMENEZ

REVISIONS

No.	DATE	DESCRIPTION

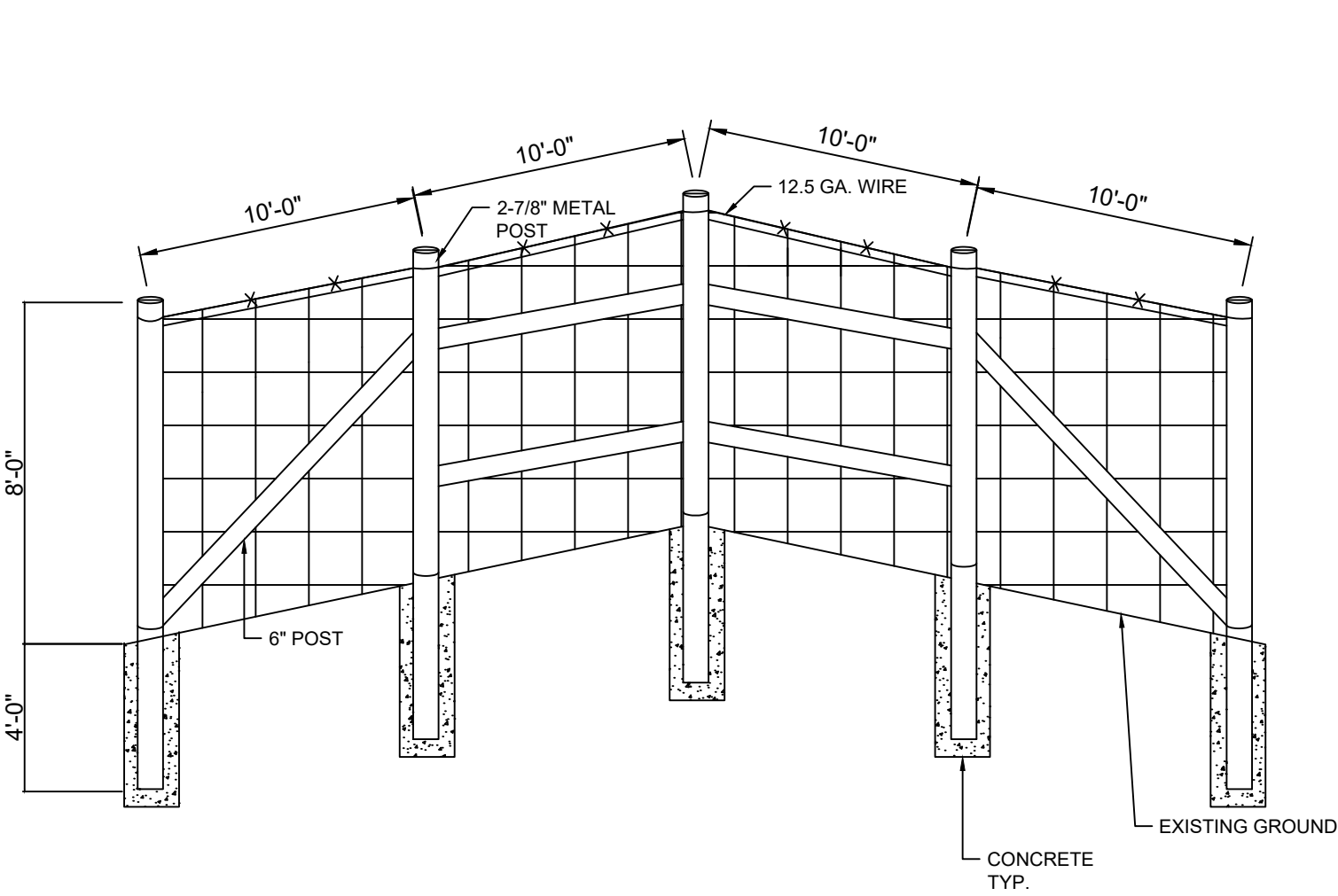


SHEET:  
6 of 8

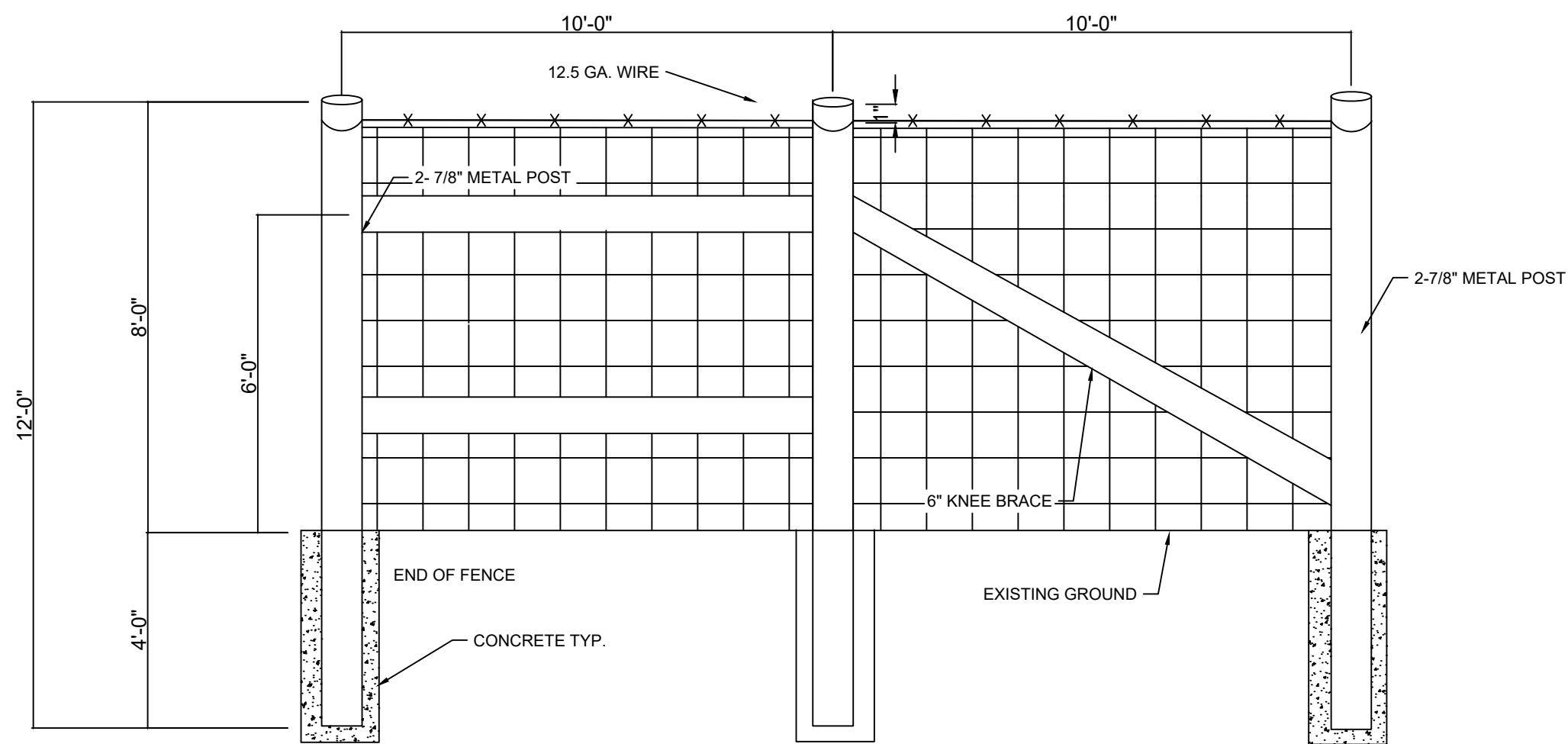
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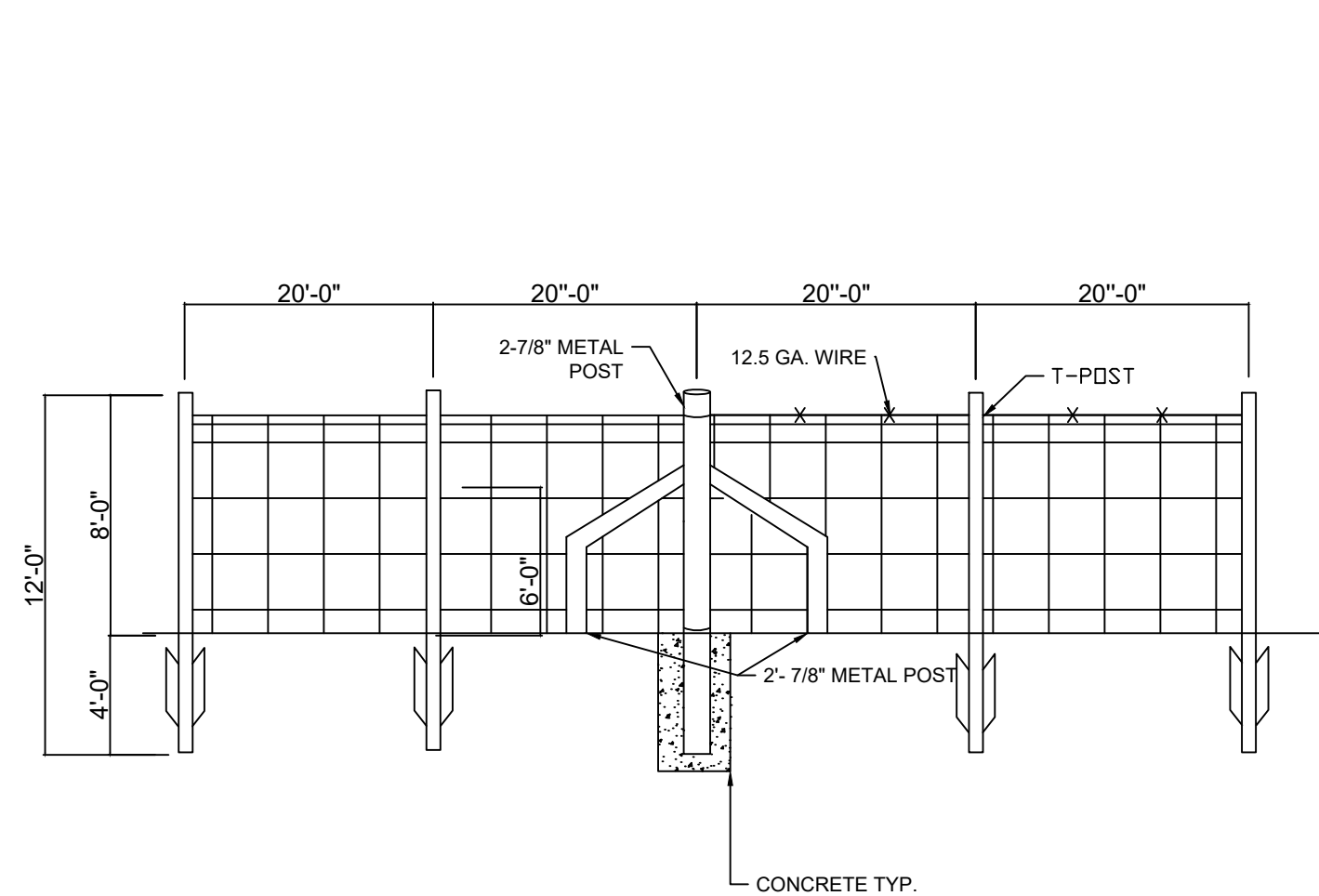




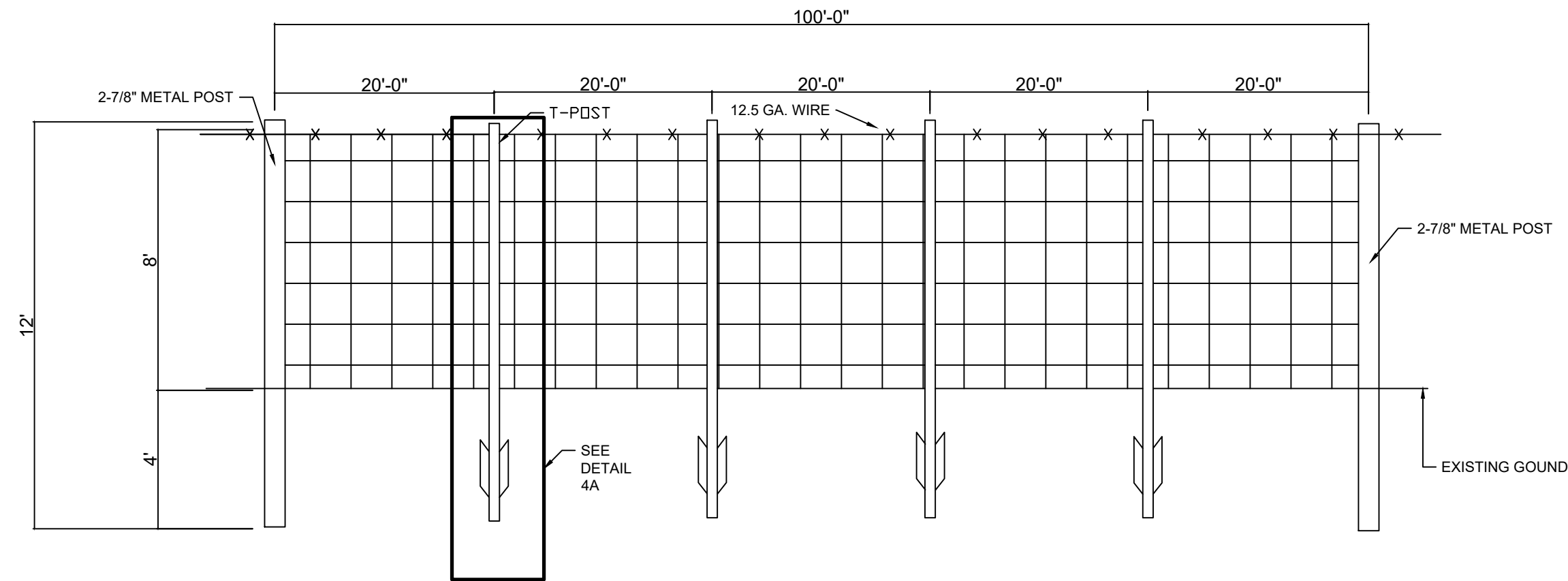
1 CORNER POST



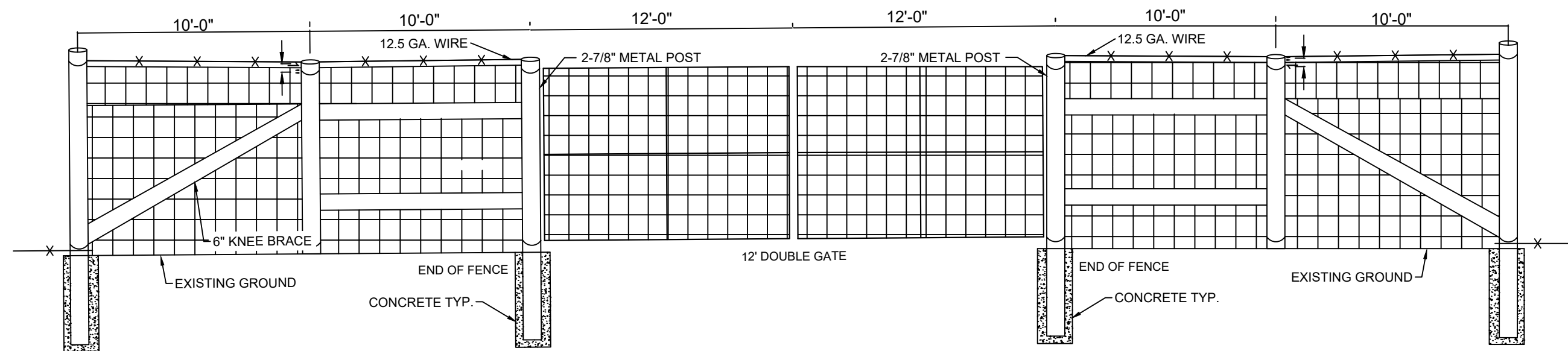
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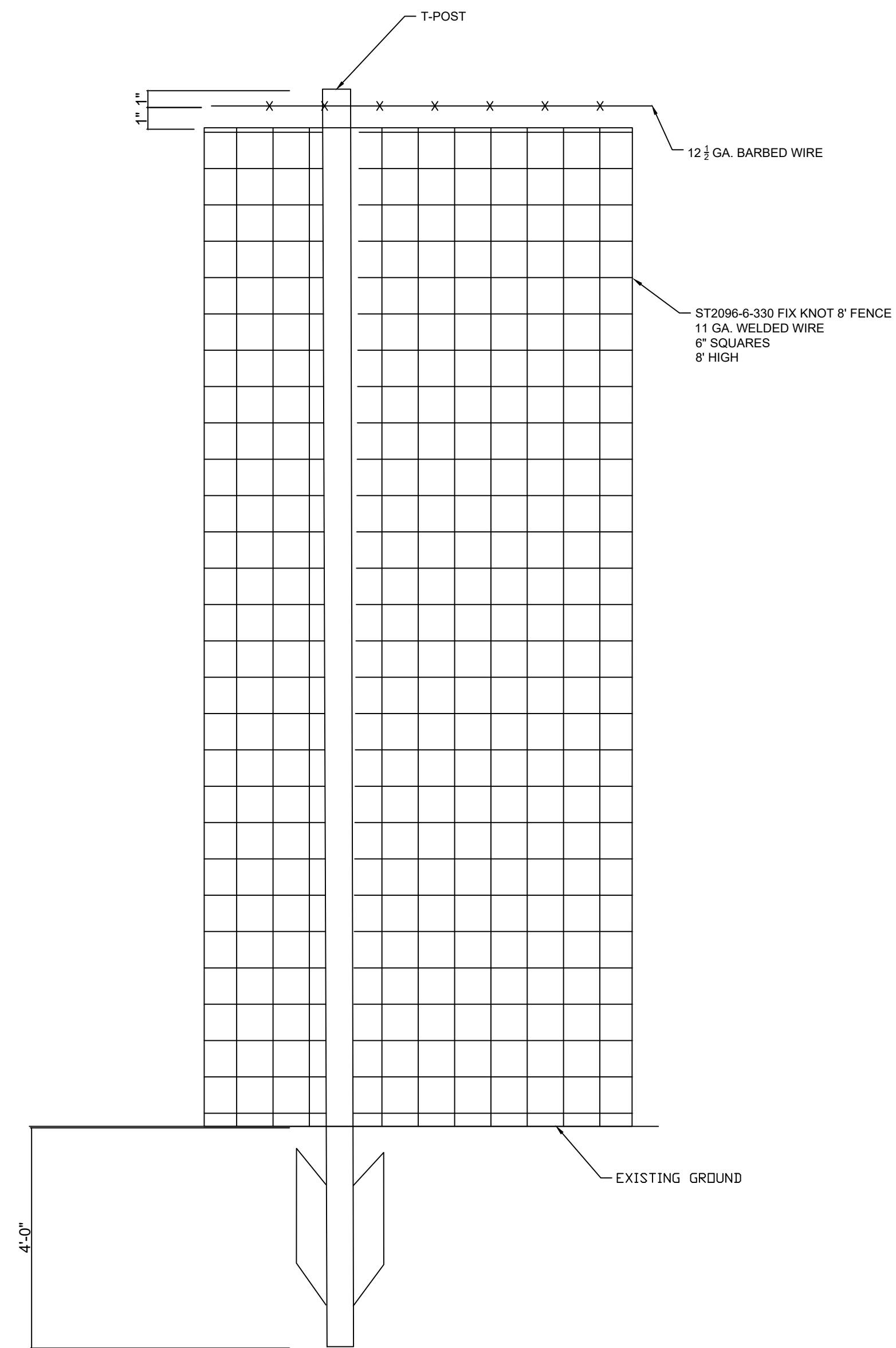
3 LINE BRACE POST



4 LINE POST



5 GATE POSTS



4A METAL POST



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Materials Testing

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ENGINEERING SHEET:

FENCE DETAILS

PROJECT NAME:

OF

CALMON

CLIENT:

FOR

HYDRO SOURCE

PROJECT NUMBER:

24256

PROJECT ENGINEER:

JEREMY BAKER, PE

DRAWN BY:

C. JIMENEZ

REVISIONS

No.	DATE	DESCRIPTION



SHEET:  
8 of 8  
CS-503



# EFFECTIVE WIDE-AREA BIRD CONTROL!

## Mega Blaster PRO sonic bird repeller covers 30 acres!



Mega Blaster PRO uses intermittent distress calls to create a "danger zone" that frightens infesting birds away for good.

PREDATOR cries help scare all the birds.



- NEMA Rated Case
- Crystal-Clear Digital Sounds

- Laughing Gull
- Ring-Billed Gull
- Herring Gull
- California Gull
- Black-Headed Gull
- Glaucous-Winged Gull
- Double Crested Cormorant
- Marsh Hawk

**Perfect for Landfills, Airfields, Fish Farms,  
Farm Fields or any multi-acre facility.**

Our most powerful system features two high-output amplifiers that drive our specially-designed 20 speaker tower. The intense sound output covers up to 30 acres (12 hectares).

It features solid-state electronics mounted inside a NEMA-type control box, suitable for most any application.

The generating unit mounts easily to a post or pole using the included hardware. The unit comes pre-recorded in four different configurations for the most common bird infestations.

Choose any or all of the 8 sounds, including predators to give the birds even more of a sense of danger. Customize by choosing volume and silent time between sounds.

### Mega Blaster PRO

Complete system includes the generating unit with two built-in high-output amplifiers, 20-speaker tower with audio cables, 40 watt solar panel, battery clips and all mounting hardware.

#### CONFIGURATIONS AVAILABLE:

- Agricultural  
# MEGA-AG
- Crow / Raven  
# MEGA-CROW
- Woodpecker  
# MEGA-WP
- Marine / Gull  
# MEGA-MAR



*The Bird Control 'X'-Perts*

**NOTE:** This unit is capable of sound output up to 125 decibels. **HEARING PROTECTION IS RECOMMENDED.**



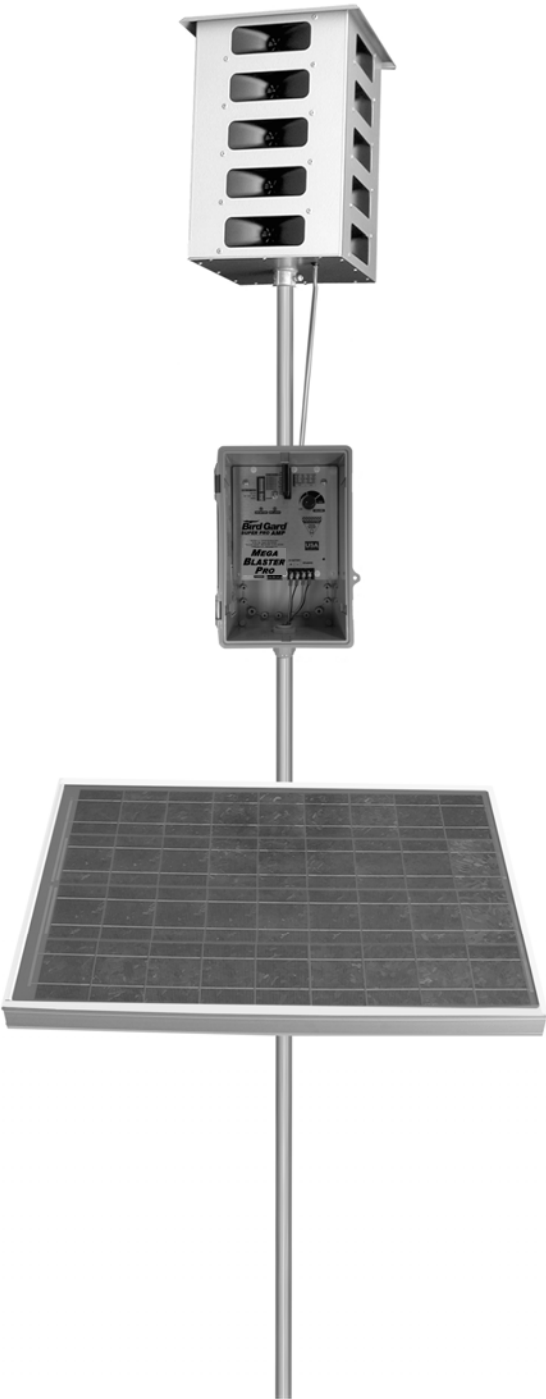


# MEGA BLASTER PRO



## User's Manual

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# Overview

The Bird-X Mega Blaster Pro utilizes the innate power of the natural survival instincts of birds to effectively repel them. Digital recordings of distressed and alarmed birds, along with the sounds made by their natural predators are broadcast through high fidelity weather-resistant speakers over the top of areas. This action triggers a primal fear and flee response. Pest birds soon relocate to where they can feed without feeling threatened.

Your Bird-X Mega Blaster Pro system consists of:

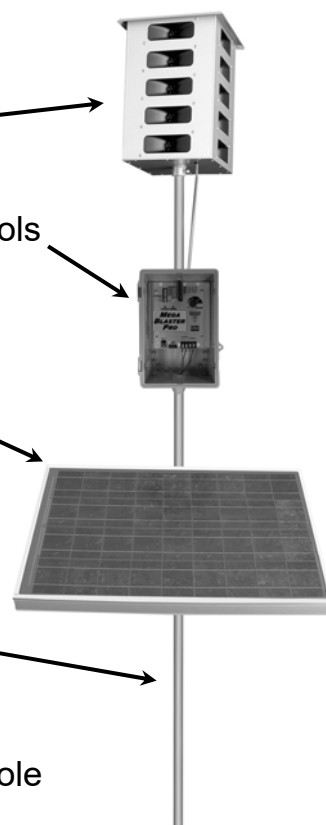
**20-Speaker Tower** broadcasts the bird sounds

**Control Unit** produces the bird sounds and contains all operational controls

**Solar Panel** recharges the 12-volt deep cycle battery

Items needed but not included:

- (1) **Mounting Pole or Mast** tall enough to raise the 20-Speaker Tower at least 5 feet above the top of the areas, trees or other obstructions
- (1) **12-volt Deep Cycle Battery** (RV/Marine) Group 27 or larger wet cell
- (1) **T-Post** or similar (Optional) may be needed to support the mounting pole
- (1) **Bailing Wire or zip-tie** (Optional) to secure the Mounting Pole to the T-Post



***CAUTION: THE MEGA BLASTER PRO IS CAPABLE OF PRODUCING SOUNDS UP TO 125 DECIBELS. PROPER HEARING PROTECTION MUST BE WORN ANYTIME THE UNIT IS TURNED ON.***



# Bird Control Management Guidelines

**An active bird control management program is a key to successfully repelling pest birds. Bird feeding patterns may take several days or weeks to break. Follow all suggestions for maximum effectiveness. Read all instructions prior to installation.**

## **For best results:**

- **It is extremely important to fully protect your entire area from birds.** Any areas not fully protected will allow birds to begin feeding at the fringes of the sound coverage. They will soon become bolder and learn the sounds are nothing to fear. This will cause the effectiveness to diminish. Complete Bird-X product coverage forces birds to leave the area entirely.
- Install the Mega Blaster Pro unit at least two weeks before birds are attracted to your area. It is much easier to keep birds away before they have found a food source than it is to repel them once they have developed a feeding pattern.
- Most birds begin feeding from the perimeter of an area. Place Mega Blaster Pro units so the sound protection covers past the edges of the area.
- Birds will often use tall trees for roosting and observation. If birds are in bordering trees it is necessary to position the units so the sound protection covers the trees as well.
- Mount the 20-Speaker Tower at least five feet above trees, areas and structures for maximum coverage. The higher the better. Sound will disperse or reflect off structures or foliage. Mount control unit out of direct sun, if possible.
- When first installed, run Mega Blaster Pro units at FULL volume and on SHORT time off periods. This ensures maximum "bird stress" and creates a hostile environment.
- Watch for changes in bird activity and adjust the location of your Mega Blaster Pro unit if needed.
- **Check the battery and unit settings often to insure continuous bird control. Be certain that the system is not turned down or has a dead battery. Field hands or harvesters may turn down the volume.**
- Changing settings and switches often helps to prevent bird habituation. Periodically change the switch settings of the eight sounds (turning them ON or OFF). NEVER turn OFF the distress calls of the target birds you are trying to repel and always keep at least one predator bird sound turned ON.
- If different bird species enter the protected area and begin causing damage contact us immediately for an updated Sound Recording Card designed to repel the new invading birds.
- Remember that the Mega Blaster Pro system is a management tool, and should be used as part of your overall bird control strategy, sometimes in conjunction with other bird control techniques and devices.

**Be aware that under extreme drought or other adverse conditions, birds will disregard all deterrents and risks in order to survive**

**R.K. FROBEL & ASSOCIATES**  
*Consulting Engineers*

**Technical Memorandum: 40-mil HDPE as Alternative Secondary Liner System for In Ground Recycling Containment Facilities**  
**NMAC 19.15.34.12 A**

I have investigated the suitability of application for 40 mil HDPE geomembrane as an equivalent secondary liner to 30 mil scrim reinforced LLDPE (LLDPEr) in the application for In Ground Recycling Containment facilities. *In summary, it is my professional opinion that the specified 40 mil HDPE geomembrane will provide a secondary liner system that is equal to or better than 30 mil scrim reinforced LLDPEr and will provide the requisite protection of fresh water, public health and the environment for many years when engineering design provides requisite site/soil/slope preparation and when used in concert with requisite primary liners and drainage layers.*

It is understood that the lining system under discussion is composed of a 60 mil HDPE Primary liner, geonet drainage layer and a 40 mil HDPE Secondary liner. *In consideration of the secondary lining system application, size of impoundment and depth, design details as well as the chemical nature of typical processed water, it is my professional opinion that the 40 mil HDPE geomembrane will provide the requisite barrier against processed water loss and will function effectively as a secondary liner.*

The following are discussion points that hopefully will exhibit the equivalency of a 40 mil HDPE secondary liner to that of a 30 mil LLDPEr.

The nature and formulation of the 40 mil HDPE resin is the same as the Primary 60 mil HDPE. The major difference is that the 40 mil HDPE is lower in thickness (more flexible and less puncture resistant). However, in covered conditions, HDPE will resist aging and degradation and remain intact for many decades. In fact, a secondary liner of 40 mil HDPE will outlast an exposed 60 mil HDPE liner. According to the Geosynthetic Research Institute (GRI) study on lifetime prediction (GRI Paper No. 6), the half life of HDPE (GRI GM 13) exposed is > 36 years and the half-life of HDPE covered or buried is greater than 100 years. It is understood that in order to ensure compliance of materials, the primary 60 mil HDPE to be used must meet or exceed GRI GM 13 Standards. Likewise, the secondary liner that is not exposed to the same environmental and chemical conditions must meet or exceed GRI GM 13 for non-reinforced HDPE. Adhering to the minimum requirements of the GRI Specifications, 40 mil HDPE when used as a secondary liner will be equally as protective as the primary 60 mil HDPE liner (reference: [www.geosynthetic-institute.org/grispecs](http://www.geosynthetic-institute.org/grispecs)) and equally as protective as a 30 mil scrim reinforced LLDPEr liner.

Durability of Geomembranes is directly affected by exposure conditions. Buried or covered geomembranes are not affected by the same degradation mechanisms (UV, Ozone, Chemical, Stress, Temperature, etc) as are fully exposed geomembranes. In this regard, the secondary liner material and thickness can be much less robust than the fully exposed primary liner which in this case is 60 mil HDPE. This is also the case for

**R.K. FROBEL & ASSOCIATES**  
**Consulting Engineers**

landfill lining systems where the secondary geomembrane in a bottom landfill cell may be 40 mil HDPE.

Thermal Fusion Seaming Requirements. Thermal seaming and QC seam test requirements for geomembranes are product specific and usually prescribed by the sheet manufacturer. Dual wedge thermal fusion welding is commonly used on HDPE and QC testing by air channel (ASTM D 5820) is fully acceptable and recognized as an industry standard. In this regard, there should be no exception requirement for seaming and QC testing as both the Primary and Secondary geomembranes are HDPE. This is fully covered in comprehensive specifications for both the Primary and Secondary geomembranes (Reference: [www.ASTM.org/Standards](http://www.ASTM.org/Standards)).

Potential for Leakage through the Primary and Secondary Liners. Leakage through geomembrane liners is directly a function of the height of liquid head above any hole or imperfection. The geonet drainage media provides immediate drainage to a low point or sump and thus no hydrostatic head or driving gradient is available to push leakage water through a hole in the secondary liner. In this regard, secondary geomembrane materials can be (and usually are) much less in thickness and also polymer type. Hydraulic Conductivity through the 40 mil HDPE liner material is extremely low due to the polymer type, structure and crystallinity and exceeds requirements of EPA SW-846 Method 9090A.

Chemical Attack. Chemical attack to polymeric geomembranes is directly a function of type of chemical, temperature and exposure time. Again, the HDPE Primary provides the chemically resistant liner and is QC tested to reduce potential defects or holes. If there is a small hole, the geonet drain takes any leakage water immediately to the sump for extraction. Thus, exposure time is very limited on a secondary liner in addition to low temperature, little volume and virtually no head pressure. In this regard, a chemically resistant geomembrane material such as 40 mil HDPE can be specified for the secondary and is a fully acceptable alternate to 30 mil scrim reinforced LLDPEr.

Mechanical Properties Characteristics. Geomembranes of different polymer and/or structure (i.e., reinforced vs non-reinforced) cannot be readily compared using such characteristics as tensile stress/strain, tear, puncture and polymer requirements. For a 40 mil HDPE liner material to function as a Secondary liner it should meet or exceed the manufacturers minimum requirements for Density, Tensile Properties, Tear, Puncture as well as other properties such as UV resistance. The sheet material must also meet or exceed GRI GM 13 minimum requirements. *In this regard, a 40 mil HDPE will be equivalent to a 30 mil LLDPEr as a secondary liner for the conditions listed below:*

- *The subgrade or compacted earth foundation will be smooth, free of debris or loose rocks, dry, unyielding and will support the lining system.*
- *The side slopes for the containment shall be equal to or less than 3H:1V.*
- *The physical properties and condition of the subgrade or liner foundation*



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Consulting Engineers

- (i.e., density, slope, moisture) will be inspected and certified by a Professional Engineer that it meets or exceeds specification requirements.
- Immediately prior to installation, the installation contractor shall inspect and sign off on the subgrade conditions that they meet or exceed the HDPE manufacturer and installers requirements.
  - A protective geotextile will be placed on the finished and accepted subgrade between subgrade and the 40 mil HDPE Secondary liner.
  - A 200 mil geonet will be placed over the 40 mil HDPE Secondary Liner.
  - A 60 mil HDPE Primary liner will be placed over the 200 mil geonet drainage layer.

If you have any questions on the above technical memorandum or require further information, give me a call at 720-289-0300 or email [geosynthetics@msn.com](mailto:geosynthetics@msn.com)

Sincerely Yours,

*RK Frobel*

Ronald K. Frobel, MSCE, PE



References:

NMAC 19.15.34.12 A DESIGN AND CONSTRUCTION SPECIFICATIONS FOR A RECYCLING CONTAINMENT

Geosynthetic Research Institute (GRI) Published Standards and Papers 2017  
[www.geosynthetic-institute.org](http://www.geosynthetic-institute.org)

ASTM Geosynthetics Standards 2017  
[www.ASTM.org/Standards](http://www.ASTM.org/Standards)



## DESIGN/CONSTRUCTION PLAN

## Design and Construction Plan In Ground Containments

This plan addresses construction of the earthen containments.

Magrym Engineers is providing the design of the containment and their plans are presented in this submission.

### *Dike Protection and Structural Integrity*

The design and operation provide for the confinement of produced water, prevention of releases and prevention of overtopping due to wave action or rainfall. Additionally, the design prevents run-on of surface water as the containment is surrounded by an above-grade levee (a berm) and/or diversion ditch (between the levee and the soil stockpile) to prevent run-on of surface water.

### *Stockpile Topsoil*

Where topsoil is present, prior to constructing containment, the operator will strip and stockpile the topsoil for use as the final cover or fill at the time of closure.

### *Signage*

The operator will place an upright sign no less than 12 inches by 24 inches with lettering not less than two inches in height in a conspicuous place on the fence surrounding the containment. The sign is posted in a manner and location such that a person can easily read the legend. The sign will provide the following information:

- the operator's name,
- the location of the site by quarter-quarter or unit letter, section, township and range, and
- emergency telephone numbers

### *Fencing*

The operator will provide for a fence to enclose the recycling containment in a manner that deters unauthorized wildlife and human access. As specified in the design drawings, the operator will employ a chain-link or game fence. If required by the District Office, the operator will add four-strands of barbed wire to comply with the text of the Rule. Because feral pigs, javelina and deer are present in the area, a chain link or game fence is required in order to comply with Section 19.15.34.12 D.1 of the Rule because pigs will move beneath the lower strand of a 4-strand, 4-foot high barbed wire fence and deer will jump over. However, 19.15.34.12 D.2 requires "a four-foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level". Therefore, a barbed wire specification will be added to the game fence to avoid a variance if required by the OCD District Office.

19.15.34.12 A Design and Construction Specifications

(1). The operator shall design and construct a recycling containment to ensure the confinement of produced water, to prevent releases and to prevent overtopping due to wave action or rainfall.  
(8). The operator of a recycling containment shall design the containment to prevent run-on of surface water. The containment shall be surrounded by a berm, ditch or other diversion to prevent run-on of surface water

19.15.34.12 B. Prior to constructing containment, the operator shall strip and stockpile the topsoil for use as the final cover or fill at the time of closure

19.15.34.12 C. Signs.

The operator shall post an upright sign no less than 12 inches by 24 inches with lettering not less than two inches in height in a conspicuous place on the fence surrounding the containment. The operator shall post the sign in a manner and location such that a person can easily read the legend. The sign shall provide the following information: the operator's name, the location of the site by quarter-quarter or unit letter, section, township and range, and emergency telephone numbers

19.15.34.12 D. Fencing

(1) The operator shall fence or enclose a recycling containment in a manner that deters unauthorized wildlife and human access and shall maintain the fences in good repair. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.  
(2) Recycling containments shall be fenced with a four-foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level.

## Design and Construction Plan In Ground Containments

As stated in the O&M plan, the operator will ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.

### *Netting and Protection of Wildlife*

The perimeter game/chain-link fence will be effective in excluding stock and most terrestrial wildlife. If requested by the surface owner, the game fence can include a fine mesh from the base to 1 foot above the ground to exclude the small reptiles (e.g. dune sagebrush lizard).

The recycling containment will be protective of wildlife, including migratory birds through the implementation of an Avian Protection Plan, routine inspections and the perimeter fence.

The avian protection plan includes the use of a Bird-X Mega Blaster Pro<sup>1</sup> as a primary hazing program for avian species. The device will be equipped with sounds suitable for the Permian Basin environment. In addition to this sonic device, staff will routinely inspect the containment for the presence of avian species and, if detected, will use a blank cartridge or shell in a handgun, starter pistol or shotgun as additional hazing. Decoys of birds of prey may be placed on the game fence and other roosts around the open water to provide additional hazing.

The O&M plan calls for the operator to inspect for and, within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

### *Earthwork*

The containment will have a properly constructed foundation and interior slopes consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear. Geotextile is required under the liner when needed to reduce localized stress-strain or protuberances that otherwise may compromise the liner's integrity.

This volume provides the stamped drawings for the containment with the following design/construction specifications:

- a) levee has inside grade no steeper than two horizontal feet to one vertical foot (2H: 1V).

#### 19.15.34.12 E Netting.

The operator shall ensure that a recycling containment is screened, netted or otherwise protective of wildlife, including migratory birds. The operator shall on a monthly basis inspect for and, within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

#### 19.15.34.12 A

(2) A recycling containment shall have a properly constructed foundation and interior slopes consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear. Geotextile is required under the liner when needed to reduce localized stress-strain or protuberances that otherwise may compromise the liner's integrity...

## Design and Construction Plan In Ground Containments

- b) levee outside grade is no steeper than three horizontal feet to one vertical foot (3H: 1V)
- c) top of the levee is wide enough to install an anchor trench and provide adequate room for inspection and maintenance.
- d) The containment floor design calls for a slope toward the sump in the corner(s).

### *Liner and Drainage Geotextile Installation*

The containment has a primary (upper) liner and a secondary (lower) liner with a leak detection system appropriate to the site's conditions.

The primary (upper) liner is a geomembrane liner composed of an impervious, synthetic material that is resistant to ultraviolet light, petroleum hydrocarbons, salts and acidic and alkaline solutions. It is 60-mil HDPE. The secondary liner is specified in the design drawings and is 40-mil HDPE or thicker and is equivalent to 30-mil LLDPE (in accordance with a previously approved variance) Liner compatibility meets or exceeds a subsequent relevant publication to EPA SW-846 method 9090A.

The recycling containment design has a leak detection system between the upper and lower geomembrane liners of 200-mil geonet to facilitate drainage. The leak detection system consists of a properly designed drainage and collection and removal system placed above the lower geomembrane liner in depressions and sloped to facilitate the earliest possible leak detection. The containment floor design calls for a slope toward the sump in the corner(s) of the containment, as shown in the design drawings. This slope combined with the highly transmissive geonet drainage layer provide for rapid leak detection.

The liners and drainage material will be installed consistent with the Manufacturer's specifications. In addition to any specifications of the Manufacturer, protocols for liner installation include measures to:

- i. minimizing liner seams and orient them up and down, not across, a slope of the levee.
- ii. use factory-welded seams where possible.
- iii. use field seams in geosynthetic material that are thermally seamed and prior to field seaming, overlap liners four to six inches.
- iv. minimize the number of field seams and comers and irregularly shaped areas.
- v. provide for no horizontal seams within five feet of the

19.15.34.12 A

(2) ...The operator shall construct the containment in a levee with an inside grade no steeper than two horizontal feet to one vertical foot (2H:1V). The levee shall have an outside grade no steeper than three horizontal feet to one vertical foot (3H:1V). The top of the levee shall be wide enough to install an anchor trench and provide adequate room for inspection and maintenance.

19.15.34.12 A

(3) Each recycling containment shall incorporate, at a minimum, a primary (upper) liner and a secondary (lower) liner with a leak detection system appropriate to the site's conditions.

19.15.34.12 A

(4) All primary (upper) liners in a recycling containment shall be geomembrane liners composed of an impervious, synthetic material that is resistant to ultraviolet light, petroleum hydrocarbons, salts and acidic and alkaline solutions. All primary liners shall be 30-mil flexible PVC, 45-mil LLDPE string reinforced or 60-mil HDPE liners. Secondary liners shall be 30-mil LLDPE string reinforced or equivalent with a hydraulic conductivity no greater than  $1 \times 10^{-9}$  cm/sec. Liner compatibility shall meet or exceed the EPA SW-846 method 9090A or subsequent relevant publications.

19.15.34.12 A

(7) The operator of a recycling containment shall place a leak detection system between the upper and lower geomembrane liners that shall consist of 200-mil geonet or two feet of compacted soil with a saturated hydraulic conductivity of  $1 \times 10^{-5}$  cm/sec or greater to facilitate drainage. The leak detection system shall consist of a properly designed drainage and collection and removal system placed above the lower geomembrane liner in depressions and sloped to facilitate the earliest possible leak detection.

19.15.34.12 A

(5) The operator of a recycling containment shall minimize liner seams and orient them up and down, not across, a slope of the levee. Factory welded seams shall be used where possible. The operator shall ensure field seams in geosynthetic material are thermally seamed. Prior to field seaming, the operator shall overlap liners four to six inches...

## Design and Construction Plan In Ground Containments

- slope's toe.
- vi. use qualified personnel to perform field welding and testing.
- vii. avoid excessive stress-strain on the liner
- viii. The edges of all liners are anchored in the bottom of a compacted earth-filled trench that is at least 18 inches deep

At points of discharge into the lined earthen containment the pipe configuration effectively protects the liner from excessive hydrostatic force or mechanical damage during filling.

The design shows that at any point of discharge into or suction from the recycling containment, the liner is protected from excessive hydrostatic force or mechanical damage. External discharge or suction lines do not penetrate the liner.

Pumping from the containment to hydraulic fracturing operations is the responsibility of stimulation contractors. Typically, lines are permanently placed in the containment with floats attached to prevent damage to the liner system. The containment may be equipped with permanent HDPE stinger (supported by a sacrificial liner or geotextile) for withdrawal of fluid if the owner deems necessary during operations.

### *Leak Detection and Fluid Removal System Installation*

The leak detection system, contains the following design elements

- a. The 200-mil HyperNet Geonet drainage material between the primary and secondary liner that is sufficiently permeable to allow the transport of fluids to the observation ports (Appendix A).
- b. The containment floor is sloped towards the monitoring riser pipe to facilitate the earliest possible leak detection of the containment bottom. A pump may be placed in the observation port to provide for fluid removal.
- c. Piping will withstand chemical attack from any seepage, structural loading from stresses and disturbances from overlying water, cover materials, equipment operation or expansion or contraction (see Appendix A).

19.15.34.12 A

(5) ...The operator shall minimize the number of field seams and corners and irregularly shaped areas. There shall be no horizontal seams within five feet of the slope's toe. Qualified personnel shall perform field welding and testing.

19.15.34.12 A

(3) The edges of all liners shall be anchored in the bottom of a compacted earth-filled trench. The anchor trench shall be at least 18 inches deep.

19.15.34.12 A

(6) At a point of discharge into or suction from the recycling containment, the operator shall insure that the liner is protected from excessive hydrostatic force or mechanical damage. External discharge or suction lines shall not penetrate the liner.

## OPERATIONS AND MAINTENANCE PLAN

## CLOSURE PLAN



## Operation and Maintenance Plan In Ground Containments

### Overview

The operator will operate and maintain the lined earthen containment to contain liquids and solids (blow sand and minimal precipitates from the produced water) and maintain the integrity of the liner system in a manner that prevents contamination of fresh water and protects public health and the environment as described below. The purpose of the lined earthen containment is to facilitate recycling, reuse and reclamation of produced water derived from oil and gas wells. During periods when water for E&P operations is not needed, produced water will discharge to injection wells or to a pipeline for transfer to another recycling facility. The containment will not be used for the disposal of produced water or other oilfield waste.

The operation of the containment is summarized below.

- A. Produced water generated from nearby oil and gas wells is delivered to a treatment system located as indicated in the C-147.
- B. Unless specified in the transmittal letter, after treatment, the produced water discharges into the containment.
- C. When required, produced water is removed from the containment for E&P operations. At this time, produced water will be used for drilling beneath the freshwater zones (beneath surface casing), for well stimulation (e.g. hydraulic fracturing) and other E&P uses as approved by OCD.
- D. Whenever the maximum fluid capacity of the containment is reached, treatment and discharge to the containment ceases (see Freeboard and Overtopping Plan, below).
- E. The operator will keep accurate records and shall report monthly to the division the total volume of water received for recycling, with the amount of fresh water received listed separately, and the total volume of water leaving the facility for disposition by use on form C-148 (see attached example).
- F. The operator will maintain accurate records that identify the sources and disposition of all recycled water that shall be made available for review by the division upon request.

19.15.34.10 D

Recycling containments may not be used for the disposal of produced water or other oilfield wastes.

19.15.34.9 E

The operator of a recycling facility shall keep accurate records and shall report monthly to the division the total volume of water received for recycling, with the amount of fresh water received listed separately, and the total volume of water leaving the facility for disposition by use on form C-148.

19.15.34.9 F

The operator of a recycling facility shall maintain accurate records that identify the sources and disposition of all recycled water that shall be made available for review by the division upon request.

## Operation and Maintenance Plan In Ground Containments

- G. The containment shall be deemed to have ceased operations if less than 20% of the total fluid capacity is used every six months following the first withdrawal of produced water for use. The operator will report cessation of operations to the appropriate division district office. The appropriate division district office may grant an extension to this determination of cessation of operations not to exceed six months.

The operation of the lined earthen containment will follow the mandates listed below:

1. The operator will not discharge into or store any hazardous waste (as defined by 40 CFR 261 and NMAC 19.15.2.7.H.3) in the containments.
2. If the containment's primary liner is compromised above the fluid's surface, the operator will repair the damage or initiate replacement of the primary liner within 48 hours of discovery or seek an extension of time from the division district office.
3. If the primary liner is compromised below the fluid's surface, the operator will remove all fluid above the damage or leak within 48 hours of discovery, notify the division district office and repair the damage or replace the primary liner.
4. If any penetration of the containment liner is confirmed by sampling of fluid in the leak detection system (see Monitoring, Inspection, and Reporting Plan; below), the operator will:
  - a. Begin and maintain fluid removal from the leak detection/pump-back system,
  - b. Notify the district office within 48 hours (phone or email) of the discovery,
  - c. Identify the location of the leak, and
  - d. Repair the damage or, if necessary, replace the containment liner.
5. The operator will install, or maintain on site, an oil absorbent boom or other device to contain an unanticipated release and the operator will remove any visible layer of oil from the surface of the recycling containment.
6. The operator will report releases of fluid in a manner consistent with NMAC 19.15.29
7. The containment will be operated to prevent the collection of surface water run-on.

### 19.15.34.13 C

A recycling containment shall be deemed to have ceased operations if less than 20% of the total fluid capacity is used every six months following the first withdrawal of produced water for use. The operator must report cessation of operations to the appropriate division district office. The appropriate division district office may grant an extension to this determination of cessation of operations not to exceed six months.

### 19.15.34.13 B

(4) If the containment's primary liner is compromised above the fluid's surface, the operator shall repair the damage or initiate replacement of the primary liner within 48 hours of discovery or seek an extension of time from the division district office.

(5) If the primary liner is compromised below the fluid's surface, the operator shall remove all fluid above the damage or leak within 48 hours of discovery, notify the division district office and repair the damage or replace the primary liner.

### 19.15.34.13 B

(7) The operator shall install, or maintain on site, an oil absorbent boom or other device to contain an unanticipated release.

(1) The operator shall remove any visible layer of oil from the surface of the recycling containment.

### 19.15.34.8 A

(6) All releases from the recycling and re-use of produced water shall be handled in accordance with 19.15.29 NMAC.

## Operation and Maintenance Plan In Ground Containments

8. The operator will maintain the containment free of miscellaneous solid waste or debris.
9. The operator will maintain at least three feet of freeboard for the containment and will use a free-standing staff gauge to allow easy determination of the required 3-foot of freeboard.
10. As described in the design/construction plan, the injection or withdrawal of fluids from the containment is accomplished through hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes.
11. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.
12. The operator will maintain the fences in good repair.

### *Monitoring, Inspection, and Reporting Plan*

The operator will inspect the recycling containment and associated leak detection systems weekly while it contains fluids. The operator shall maintain a current log of such inspections and make the log available for review by the division upon request.

Weekly inspections consist of:

- reading and recording the fluid height of staff gauges,
- recording any evidence that the pond surface shows visible oil,
- visually inspecting the containment's exposed liners
- checking the leak detection system for any evidence of a loss of integrity of the primary liner.
- inspect diversion ditches and berms around the containment to check for erosion and collection of surface water run-on.
- inspect the leak detection system for evidence of damage or malfunction and monitor for leakage.

As stated above, if a liner's integrity is compromised, or if any penetration of the liner occurs, then the operator will take appropriate action within 48 hours, based on if above or below water surface, as noted above.

19.15.34.13

(6) The containment shall be operated to prevent the collection of surface water run-on.

19.15.34.13 B

(2) The operator shall maintain at least three feet of freeboard at each containment.

19.15.34.13 B

(3) The injection or withdrawal of fluids from the containment shall be accomplished through a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes.

19.15.34.12 D

(1) The operator shall fence or enclose a recycling containment in a manner that deters unauthorized wildlife and human access and shall maintain the fences in good repair. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.

19.15.34.13 A

The operator shall inspect the recycling containment and associated leak detection systems weekly while it contains fluids. The operator shall maintain a current log of such inspections and make the log available for review by the division upon request.

## Operation and Maintenance Plan In Ground Containments

Monthly, the operator will:

- A. Inspect the containment for dead migratory birds and other wildlife. Within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.
- B. Report to the division the total volume of water received for recycling, with the amount of fresh water received listed separately, and the total volume of water leaving the facility for disposition by use on form C-148.
- C. Record sources and disposition of all recycled water.

The operator will maintain a log of all inspections and make the log available for the appropriate Division district office's review upon request. An example of the log is attached to this section of the permit application.

### *Freeboard and Overtopping Prevention Plan*

The method of operation of the containment allows for maintaining freeboard with very few potential problems. When the capacity of the containment is reached (3-feet of freeboard), the discharge of produced water ceases and the produced water generated by nearby oil and gas wells is managed by an injection well(s).

If rising water levels suggest that 3-feet of freeboard will not be maintained, the operator will implement one or more of the following options:

- I. Cease discharging produced water to the containment.
- II. Accelerate re-use of the produced water for purposes approved by the Division.
- III. Transfer produced water from the containment to injection wells.

The reading of the staff gauge typically occurs daily when treatment operations are ongoing and weekly when discharge to the containment is not occurring.

19.15.34.12 E

The operator shall on a monthly basis inspect for and, within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

19.15.34.9 E

The operator of a recycling facility shall keep accurate records and shall report monthly to the division the total volume of water received for recycling, with the amount of fresh water received listed separately, and the total volume of water leaving the facility for disposition by use on form C-148.

19.15.34.9 F

The operator of a recycling facility shall maintain accurate records that identify the sources and disposition of all recycled water that shall be made available for review by the division upon request.

## Operation and Maintenance Plan In Ground Containments

### *Protocol for Leak Detection Monitoring, Fluid Removal and Reporting*

As shown in Appendix A, the leak detection system includes a monitoring system. Any fluid released from the primary liner will flow to the collection sump, where fluid level monitoring is possible at the monitoring riser pipe associated with the leak detection system.

Staff may employ a portable electronic water level meter to determine if fluid exists in the monitoring riser pipe. Obtaining accurate readings of water levels in a sloped pipe beneath a containment can be a challenge. An electrician's wire snake may be required to push the probe to the bottom of the port and the probe may be fixed in a 2-inch pipe "dry housing" to avoid false readings due to water condensation on the pipe. There are many techniques to determine the existence of water in the sumps – including low flow pumps and a simple small bailer affixed to an electrician's snake. The operator will use the method that works best for this containment.

If seepage from the containment into the leak detection system is suspected by a positive fluid level measurement, the operator will:

1. Re-measure fluid levels in the monitoring riser pipe on a daily basis for one week to determine the rate of seepage.
2. Collect a water sample from the monitoring riser pipe to confirm the seepage is produced water from the containment via electrical conductivity and chloride measurements.
3. Notify NMOCD of a confirmed positive detection in the system within 48 hours of sampling (initial notification).
4. Install a pump into the monitoring riser pipe sump to continually (manually on a daily basis or via automatic timers) remove fluids from the leak detection system into the containment until the liner is repaired or replaced.
5. Dispatch a liner professional to inspect the portion of the containment suspected of leakage during a "low water" monitoring event.
6. Provide NMOCD a second report describing the inspection and/or repair within 20 days of the initial notification.

## Operation and Maintenance Plan In Ground Containments

If the point of release is obvious from a low water inspection, the liner professional will repair the loss of integrity. If the point of release cannot be determined by the inspection, the liner professional will develop a more robust plan to identify the point(s) of release. The inspection plan and schedule will be submitted to OCD with the second report. The operator will implement the plan upon OCD approval.



## Closure Plan In Ground Containments

### Overview

After operations cease, the operator will remove all fluids within 60 days and close the containment within six months from the date the operator ceases operations from the containment for use.

The operator shall substantially restore the impacted surface area to

- a. the condition that existed prior to the construction of the recycling containment or
- b. to a condition imposed by federal, state trust land or tribal agencies on lands managed by those agencies as these provisions govern the obligations of any operator subject to those provisions,

The surface owner will impose a closure design that conforms to their needs for the site. The operator understands that a variance will be submitted to OCD to allow for any alternative closure protocol.

### Excavation and Removal Closure Plan – Protocols and Procedures

The containment is expected to hold a small volume of solids, the majority of which will be windblown sand and dust with some mineral precipitates from the water

1. The operator will remove all liquids from the containment and either:
  - a. Dispose of the liquids in a division-approved facility, or
  - b. Recycle, reuse or reclaim the water for reuse in drilling and stimulation.
2. The operator will close the recycling containment by first removing all fluids, contents and synthetic liners and transferring these materials to a division approved facility.
3. After the removal of the containment contents and liners, soils beneath the containment will be tested by collection of a five-point (minimum) composite sample which includes stained or wet soils, if any, and that sample shall be analyzed for the constituents listed in Table I of 19.15.34.14.
4. After review of the laboratory results:
  - a. If any contaminant concentration is higher than the parameters listed in Table I, additional delineation may be required, and the operator must receive approval before proceeding with closure.

19.15.34.14 A

Once the operator has ceased operations, the operator shall remove all fluids within 60 days and close the containment within six months from the date the operator ceases operations from the containment for use.

19.15.34.14 E

The operator shall substantially restore the impacted surface area to the condition that existed prior to the construction of the recycling containment.

19.15.34.14 G

The re-vegetation and reclamation obligations imposed by federal, state trust land or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of any operator subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.

19.15.34.14 B

The operator shall close a recycling containment by first removing all fluids, contents and synthetic liners and transferring these materials to a division approved facility.

19.15.34.14 C

The operator shall test the soils beneath the containment for contamination with a five-point composite sample which includes stained or wet soils, if any, and that sample shall be analyzed for the constituents listed in Table I below.

19.15.34.14 C

(1) If any contaminant concentration is higher than the parameters listed in Table I, the division may require additional delineation upon review of the results and the operator must receive approval before proceeding with closure.

## Closure Plan In Ground Containments

- b. If all contaminant concentrations are less than or equal to the parameters listed in Table I, then the operator will proceed to
  - i. backfill with non-waste containing, uncontaminated, earthen material - Or
  - ii. undertake an alternative closure process pursuant to a variance request after approval by OCD.

19.15.34.14 C

(2) If all contaminant concentrations are less than or equal to the parameters listed in Table I, then the operator can proceed to backfill with non-waste containing, uncontaminated, earthen material.

### Reclamation and Re-vegetation

- a. The operator will reclaim the containment's location to a safe and stable condition that blends with the surrounding undisturbed area.
- b. Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.
- c. The disturbed area shall then be reseeded in the first favorable growing season following closure of a recycling containment.

19.15.34.14 E

Once the operator has closed the recycling containment, the operator shall reclaim the containment's location to a safe and stable condition that blends with the surrounding undisturbed area. Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area shall then be reseeded in the first favorable growing season following closure of a recycling containment.

### Closure Documentation

Within 60 days of closure completion, the operator shall submit a closure report on form C-147, including required attachments, to document all closure activities including sampling results and the details on any backfilling, capping or covering, where applicable. The closure report shall certify that all information in the report and attachments is correct and that the operator has complied with all applicable closure requirements and conditions specified in division rules or directives.

19.15.34.14 D

Within 60 days of closure completion, the operator shall submit a closure report on form C-147, including required attachments, to document all closure activities including sampling results and the details on any backfilling, capping or covering, where applicable. The closure report shall certify that all information in the report and attachments is correct and that the operator has complied with all applicable closure requirements and conditions specified in division rules or directives.

The operator shall notify the division when reclamation and re-vegetation are complete. Specifically the notice will document that all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

19.15.34.14 H

The operator shall notify the division when reclamation and re-vegetation are complete.

19.15.34.14 F

Reclamation of all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

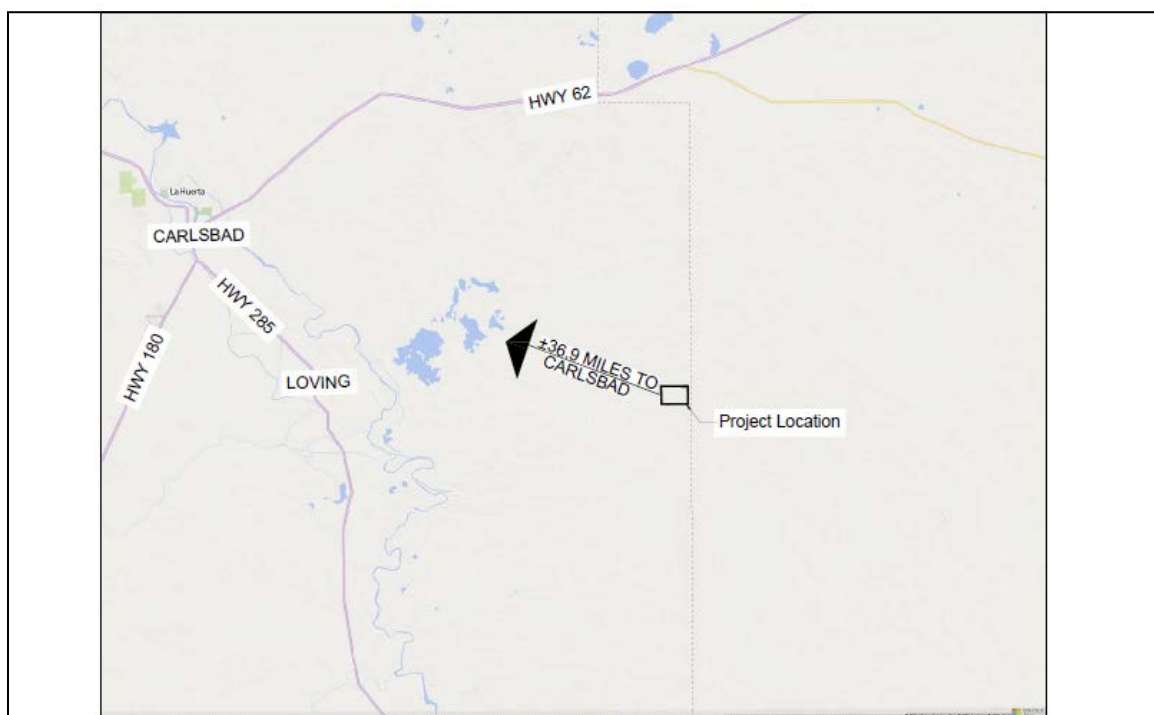
February 2025

# Rule 34 Registration: Volume 1

## Calmon RF & Containment

### Section 26, T23S, R31E, Eddy County

- *Transmittal Letter*
- *Siting Criteria Demonstration with Plates & Appendices*



VICINITY MAP

*Project Scope: existing fresh water frac pond scheduled for conversion to Rule 34 containment.*

**Prepared for:**  
**Hydrosorce Logistics Waste Management, LLC**  
**Midland, Texas**

**Prepared by:**  
**R.T. Hicks Consultants, Ltd.**  
**Albuquerque, New Mexico**

**Cascade Services**  
**Midland, Texas**

# R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Since 1996

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February 21, 2025

Ms. Leigh Barr  
EMNRD - Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505  
Via E-Mail

Ms. Victoria Venegas  
NMOCD - District 2  
811 S. First St.  
Artesia, NM 88210  
Via E-Mail

RE: Hydrosorce Logistics Waste Management, LLC, Calmon RF & Containment  
Section 26, T23S, R31E, Unit Letters G and J, Eddy County

Dear Ms. Barr and Ms. Venegas:

On behalf Hydrosorce Logistics Waste Management, LLC, R.T. Hicks Consultants prepared a C-147 *registration* for the above-referenced project converting an existing fresh water pond to a recycling facility. Hydrosorce anticipates that construction will be complete shortly.

Volume 1 of the package contains:

- This letter
- Siting criteria demonstration for the containments

Volume 2 includes:

- C-147 Form to register the in-ground containment
- Closure cost estimate for the in-ground containment
- Stamped Design Drawings
- Recently Approved Plans for Design/Construction, O&M, Closure

Closure cost for the pad is included in the estimate for containments North and South. However, please note on Plate 8 that the existing condition of the site is a fresh water frac pond and a working pad. Thus, the cost estimates do not include reclamation of this private property to conditions that existed prior to the construction of the fresh water pond and working pad. Responsibilities to reclaim the fresh water pond and working pad lies within a private agreement between the surface owner and Hydrosorce Logistics.

February 21, 2025

Page 2

This submission refers to the following elements that some OCD reviewers have considered variances for in-ground containments:

1. OCD has previously approved an equivalency demonstration written by experts for 40-mil HDPE secondary liner. We maintain that the language of the Rule is clear, and a variance is not required.
2. OCD has approved the proposed Avian Protection Plan (Bird-X Mega Blaster Pro) for other containments. Thus, the plan meets the requirement of the rule that the “otherwise protective of wildlife, including migratory birds” and a variance is not required.
3. Using the proposed game fence in lieu of a 4-strand barbed wire fence is not a variance. Because feral pigs, javelina and deer are present in the area, a tall game fence is required to comply with Section 19.15.34.12 D.1 of the Rule. The specification for fencing provided in 19.15.34.12 D.2 contradicts D.1 because pigs will move beneath the lower strand of a 4-foot high barbed wire fence and deer will jump over. Thus, compliance with D.2 results in a violation of D.1. We maintain that compliance with D.1 is the critical component of the Rule and operators need not be required to submit a variance request to follow Best Management Practices and comply with the Rule. Nevertheless, Spur will attach 4 strands of barbed wire to the game fence if required by OCD.

Hydrosorce Logistics will transmit the registration package to OCD via the OCD.Online portal. In compliance with 19.15.34.10 of the Rule, Hydrosorce provided this package to the entity that owns the land upon which the RF and containments lie. If you have any questions or concerns regarding this permit or the attached C-147, please contact me. As always, we appreciate your work ethic and diligence.

Sincerely,  
R.T. Hicks Consultants

A handwritten signature in black ink, appearing to read "Randall T. Hicks".

Randall T. Hicks PG  
Principal

Copy: Cascade Services

## SITING CRITERIA DEMONSTRATION



SITING CRITERIA (19.15.34.11 NMAC)  
HYDROSOURCE LOGISTICS – CALMON RF & CONTAINMENTS

## Distance to Groundwater

Plates 1 & 2 and the discussion below demonstrates that groundwater (fresh water as defined by NMOCD Rules) at the location is greater than 100 feet beneath the lowest liner of the recycling containment.

Plate 1 is a recent air photograph that shows:

1. The Calmon containment within the blue striped rectangle. This area includes a fresh water frac pond that will be converted to Rule 34 Containment and an area to the north that will allow for future expansion of the facility without the need of creating an additional Volume 1 of a C-147 submission.
2. Three water wells/permits in the OSE database plot north, southwest, and southeast of the proposed containment. OSE wells are often miss-located in the WATERS database as older wells are plotted in the center of the quarter, quarter, quarter, of the Section-Township-Range. OSE wells showing no depth to water and no date are typically permits issued for wells that may or not be in existence at the time of writing this submission. These two locations (3 wells) appear accurate.
3. One water well from the USGS database that plots south of the proposed containment area.
4. One well in the MISC database exists near the proposed recycling project area and Hicks Consultants measured depth to water in this well in 2021. As shown in Appendix Site Photos, two wells exist within a fenced area that corresponds to this location. A former windmill well exists at the location shown in Plate 1.

We are confident that:

- USGS-9203 data are from the windmill.
- MISC-161 data in 2021 is from the south well, which had an obstruction in 2024.
- OSE C-2348 is the north well within the fenced area shown in the appendix. The driller's log for C-2348 (11/3/2013) indicates casing is 10-inch PVC. The north well surface casing was closed thus no 10-inch casing was visible.

Google Earth images of 3/2/2012 show the windmill but no other well. Google earth images of 2/12/2014 show the north well and the south well. Data from USGS-9203 begin about 1960 and end in 2013, before drilling the north well discussed above.

Plate 2 is a topographic and geologic map that shows:

- A. The Calmon Containment area identified by the blue striped rectangle with a label listing the surface elevation of 3445.
- B. Water wells measured by the USGS, the date of the measurement and the calculated elevation of the groundwater elevation surface. Plate 2 shows only post 2000 data.
- C. MISC water wells measured by professionals and documented in published reports or by staff of Hicks Consultants (after year 2000 only)
- D. Permian Rustler Formation cropping out in the northwest corner of the map.

**SITING CRITERIA (19.15.34.11 NMAC)**  
**HYDROSOURCE LOGISTICS – CALMON RF & CONTAINMENTS**

### **Hydrogeology**

A veneer of eolian and pediment deposits (Qe/Qp) covers all bedrock in the area nearest the proposed recycling facility. Older alluvial sediments (Quaternary Piedmont/Qp) is present on the western margin of the map. Permian Rustler Formation crops out in the northwest corner of Plate 2. Seventeen miles east/southeast of the project area and off the area of Plate 2, the Chinle crops out in the area of Paduca Breaks. We believe the Chinle is removed by erosion in the area of the Calmon project. 5

The USGS data well database provides information about groundwater-bearing units. The data are in *Appendix USGS Data* and are discussed clockwise from west to southeast:

- USGS-9203 is a 360-foot well completed in the Permian Quartermaster Formation (formally known as the Dewey Lake Redbeds) according to the USGS database. Based on our knowledge, this makes sense.
- USGS-8847 is completed in the Rustler Formation according to the USGS. .
- USGS-8899 is a shallow well drawing perched groundwater from a closed topographic basin. Like many other areas of perched groundwater, the aquifer is localized.
- USGS 9122 is a 350-foot deep well completed in the Rustler Formation, according to the USGS database. We agree.
- USGS 14211 is a 630 foot well completed in the basal unit of the Chinle Formation, the Santa Rosa Sandstone. Many wells east of the Eddy/Lea County line draw water from the Santa Rosa.
- USGS-14445 is a 700-foot deep well that draws water from the Santa Rosa Sandstone.
- USGS-14194 is a 60-foot well deep completed within a closed topographic basin. This is an alluvial well in a hydrogeologic environment similar to USGS-8899 that lies over localized perched groundwater.

The first two driller's logs in Appendix Well Logs and USGS Data are from borings 350 feet south of the proposed containment and 440 feet north. The south well (C-2348), which was drilled with air rotary, describes:

- 0-15 feet Quaternary alluvial/eolian deposits
- 15-125 feet is probably the unsaturated Santa Rosa Sandstone
- 125-315 feet is red shale, is probably the upper Quartermaster and perhaps some overlying claystone of the Chinle
- 315-700 is a red sandstone that is not typical of the Permian Rustler but is in the correct stratigraphic position, based upon the typical thickness of the Quartermaster (150-300 feet). The water-bearing unit of this well is probably the Rustler

The driller's log for C-2258 is excellent and shows:

- 0-15 feet is alluvium
- 15-155 feet is red shale/clay that is typical of the Chinle
- 155-165 is dry blue sandrock that is probably the Santa Rosa Sandstone
- 165-565 is Quartermaster and upper Rustler Formations
- 565-590 is red shale with anhydrite, which is typical of the Rustler.
- 590-662 is Rustler Formation,

**SITING CRITERIA (19.15.34.11 NMAC)**  
**HYDROSOURCE LOGISTICS – CALMON RF & CONTAINMENTS**

From these data we conclude:

1. The windmill south and west of the Calmon containment probably draws water from the Santa Rosa Sandstone and/or thin sandstone units of the Chinle. Drilling of two wells nearby suggest that the 360-foot deep windmill was victim to limited water or a dropping water table.
2. The uppermost water-bearing unit beneath the Calmon containment is probably sandstone units within the Rustler at depths exceeding 400 feet.
3. Closed depressions, such as the area mapped around USGS-14194, can exhibit adequate groundwater perched on the underlying red beds of the Chinle.
4. The Chinle Formation/Santa Rosa Sandstone is the uppermost groundwater zone east of the Calmon containment.
5. The Rustler Formation yields water to wells north, south, and west of the Calmon containment area.

### **Groundwater Data**

The data permit the following conclusions:

- Outside of closed depressions where localized water-table aquifers may exist, the uppermost groundwater zone in Plate 2 is the Rustler Formation in Eddy County and the Chinle/Santa Rosa in Lea County.
- The closest well to the Calmon RF and Containment is MISC-161 which was measured by Hicks Consultants in 2021 (248.8 depth to water) and, after we constructed Plate 2, in 2024, depth to groundwater was 249.92 feet. These data demonstrate that depth to the groundwater surface exceeds 200 feet.
- Water bearing units in the Rustler within the area near the project site are typically confined.
- There is no doubt that depth to the groundwater surface is more than 50 feet beneath the bottom liner of the proposed containment.

### **Distance to Municipal Boundaries and Fresh Water Fields**

Plate 3 demonstrates that the Calmon containment is not within incorporated municipal boundaries or within defined municipal fresh water well fields covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- The closest municipality is Malaga, NM approximately 21 miles west of the Calmon Containment.
- The closest public water system is associated with WIPP, about 9 miles north.

### **Distance to Subsurface Mines**

Plate 4 and our general reconnaissance of the Calmon containment demonstrate that the nearest mines are caliche pits. This location is not within an area overlying a subsurface mine.

- The closest caliche pit is about 2 miles south.
- The closest subsurface mine is represented by the potash mine tunnels located about 7 miles northwest.

**SITING CRITERIA (19.15.34.11 NMAC)**  
**HYDROSOURCE LOGISTICS – CALMON RF & CONTAINMENTS**

### **Distance to High or Critical Karst Areas**

Plate 5 shows the Calmon site is not within a mapped zone of high or critical with respect to BLM Karst areas.

- The proposed containment is located within a “low” potential karst area.
- The nearest “high” or “critical” potential karst area is located approximately 7.5 miles west-northwest of the proposed containment.
- We observed no evidence of solution voids or unstable ground near the site during the field inspection.

### **Distance to 100-Year Floodplain**

Plate 6 demonstrate that the Calmon containment is within Zone D as designated by the Federal Emergency Management Agency with respect to the Flood Insurance Rate 100-Year Floodplain.

- FEMA describes the location as an area with possible but undetermined flood hazards. No flood hazard analysis has been conducted.
- Our field inspection and examination of the topography permits a conclusion that the location is not within any floodplain and has low risk for flooding.
- The closest FEMA-mapped flood zone is Poker Tank, about 7 miles southwest.

### **Distance to Surface Water**

Plate 7 shows that the containment is not within 300 feet of a surface water body or a significant watercourse.

- Plate 7 depicts one mapped watercourse more than 3 miles southwest.
- Our site visit documented that there are no next order tributaries to these mapped features that lie within the 300 foot setback distance.
- The nearest surface water lake/pond is about 1 ½ miles south.

### **Distance to Permanent Residence or Structures**

Plate 8 and the site visit demonstrates that the location is not within 1000 feet of an occupied permanent residence, school, hospital, institution, church, or other structure in existence at the time of initial application.

- The nearest structures are lease roads, several working pads immediately to the south and west, and the caliche on the eastern side of the project area.
- No residences or other structures are in the area.

### **Distance to Non-Public Water Supply**

Plates 1 and 7 demonstrates that the Calmon containment site is not within 500 horizontal feet of a spring or fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

- Plate 1 shows the locations of the nearest water wells, active or plugged.
- There are no domestic water wells located within 1,000 feet of the area of interest.
- No springs were identified within the mapping area (see Plate 8).

SITING CRITERIA (19.15.34.11 NMAC)  
HYDROSOURCE LOGISTICS – CALMON RF & CONTAINMENTS

## Distance to Wetlands

Plate 9 demonstrates the Calmon location is not within 500 feet of any mapped wetlands identified in the USA Wetlands database.

- The nearest mapped wetland coincides with a lined fresh water frac pond, about 1 mile southeast.
- The errant mapping of this wetland is typical of the USA Wetlands database in New Mexico. The US Fish and Wildlife Service who conducts the wetlands inventory employs areal imagery and ground surveys are not routine.
- In the FAQ section of the inventory is this:

**Why is there a difference between mapped wetlands and ground conditions?**

It is likely the base imagery date is different than the date of the imagery used for photointerpretation, and interim changes in the landscape since the wetland was mapped may result in mismatch when comparing newer imagery with ground conditions. The wetlands mapper defaults to ESRI base imagery. More information can be found on ESRI's imagery metadata webpage.

Imagery can also be viewed in the ESRI map viewer to determine image dates for specific areas of interest.

In addition, not all wetlands are wet throughout the year. Some wetlands may appear dry during certain times of the year while still supporting hydric soils and wetland plants characteristic of wetland areas.

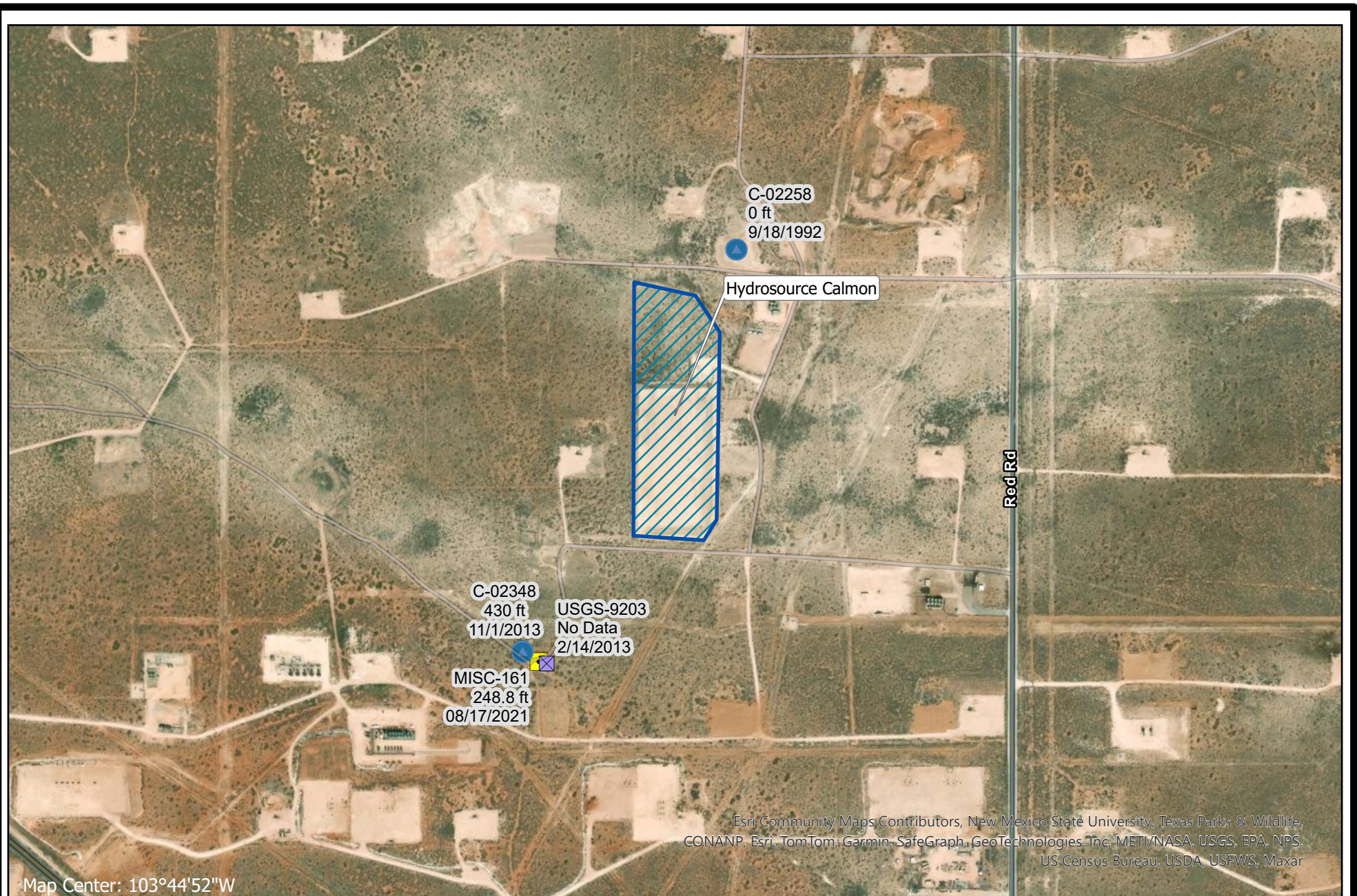
- Like many wetlands in New Mexico mapped by the USFW Service database do not meet the NM OCD definition of a wetland. The Hicks Consultants team has more than 100 years of combined field experience in Eddy, Lea, and Chaves Counties and have rarely seen a mapped wetland with vegetation adapted for saturated soil conditions. .

“Wetlands” means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions in New Mexico. This definition does not include constructed wetlands used for wastewater treatment purposes.

## PLATES



P:\Cascade-Hydrosources\_Calmon\Hydrosources-Calmon.aprx



Map Center: 103°44'52"W

Esri Community Maps Contributors, New Mexico State University, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, Maxar



0 1,450  
Feet

Scale: 1:12,000

**R.T. Hicks Consultants, Ltd**  
901 Rio Grande Blvd NW Suite F-142  
Albuquerque, NM 87104  
Ph: 505.266.5004

Nearby Wells and Borings with Depth to Water

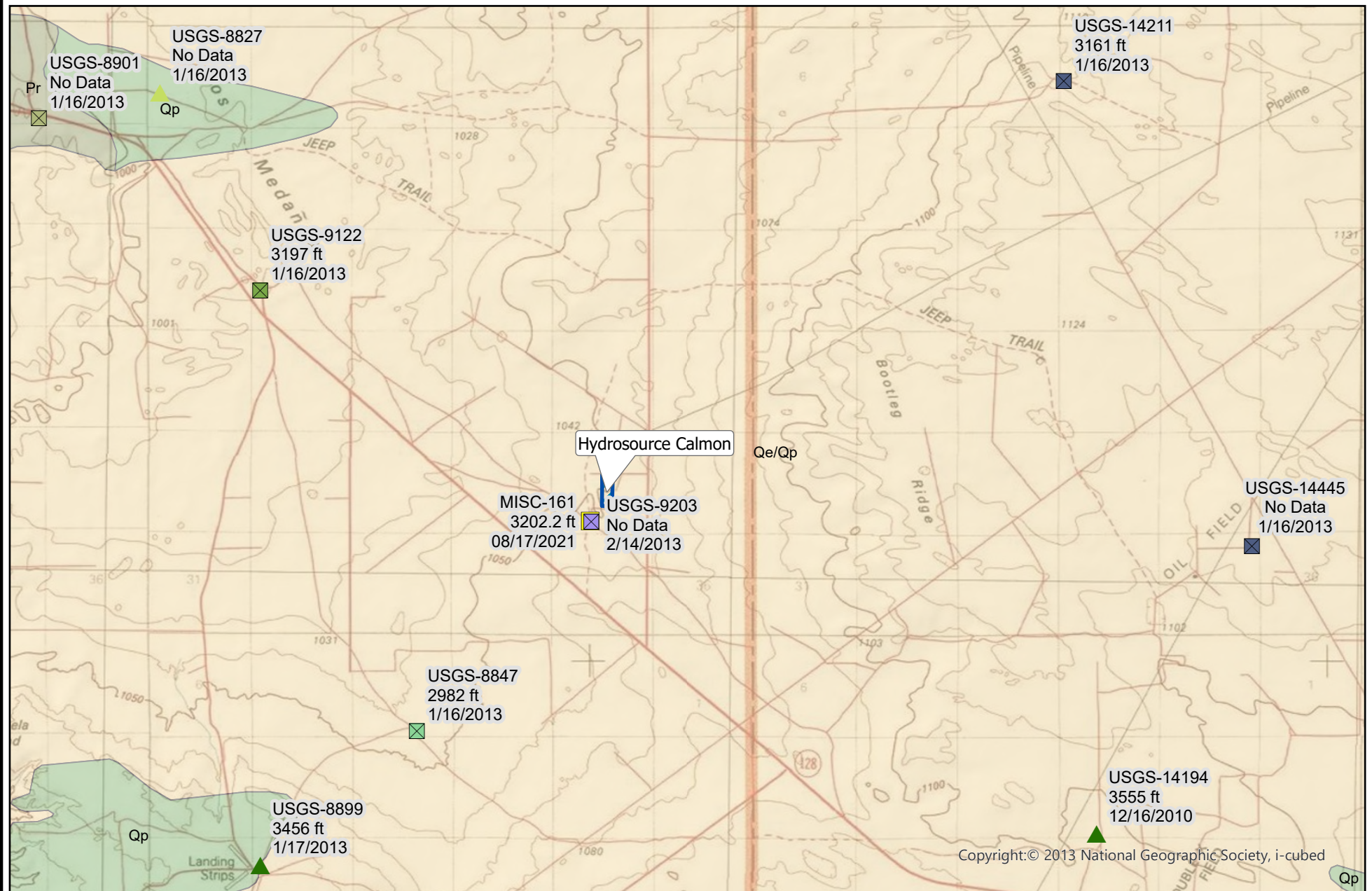
Plate 1

Hydrosources Logistics Calmon

November 2024



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0 10,000  
US Feet  
Scale: 1:100,000

R.T. Hicks Consultants, Ltd  
901 Rio Grande Blvd NW Suite F-142  
Albuquerque, NM 87104  
Ph: 505.266.5004

Geology and Post 2000 Groundwater Elevation Data

Plate 2






Hydrosources Logistics - Calmon Containment

November 2024

P:\Cascade-Hydrosources Calmon\Hydrosources-Calmon.aprx






## OSE Water Wells (DTW/Date)

## Well Depth (ft)

-  ≤150
-  151-350
-  351-500
-  501-1000
-  <1000




## Misc. Water Wells (GW Elev, Date)

## Well Depth (ft)

-  No Data
-  ≤ 150
-  151 - 350
-  351 - 500
-  > 500

## NM\_Geology

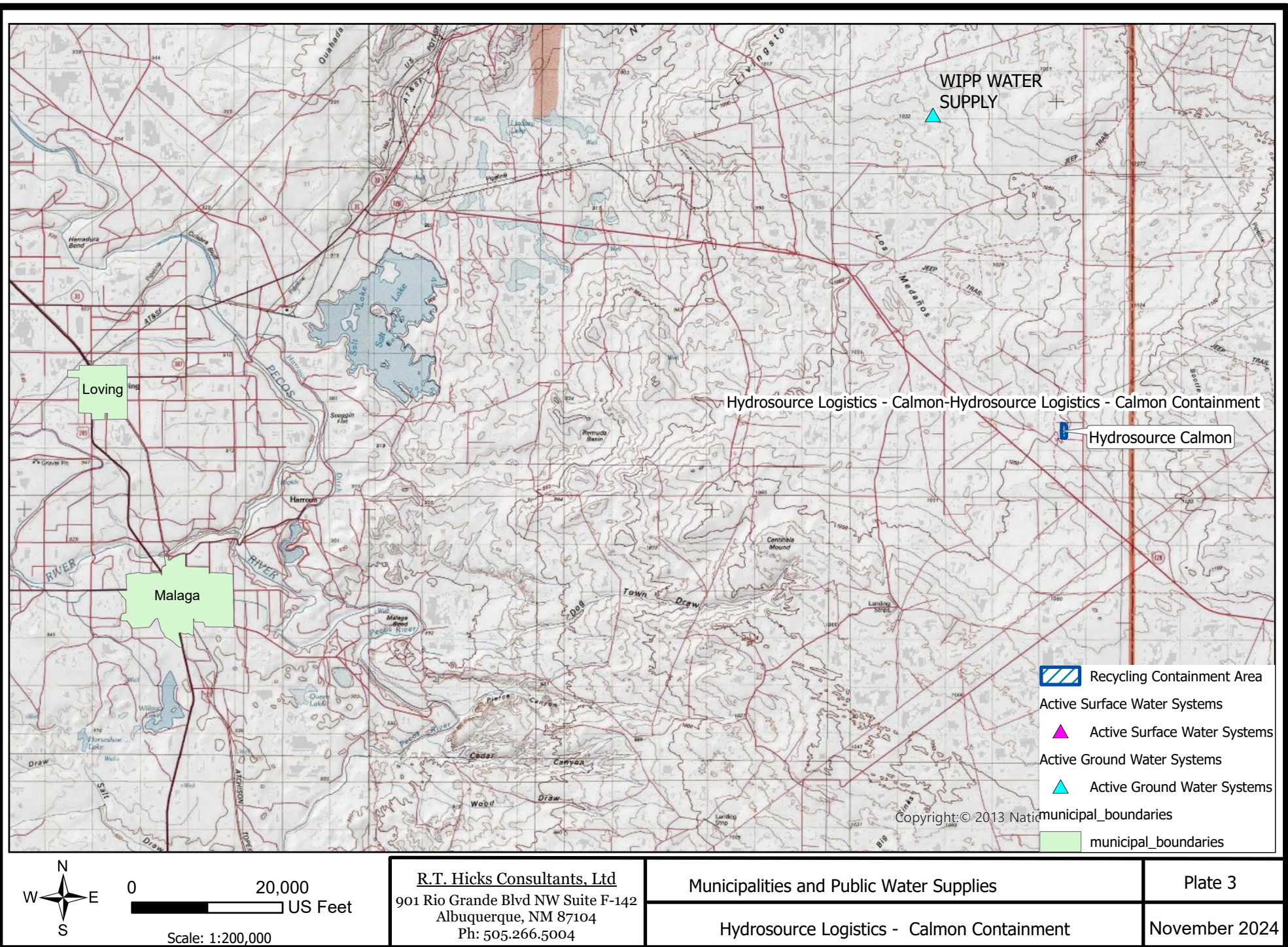
## Map Unit,Description

-  Pr, Paleozoic-Ruster Formation; siltstone, gypsum, sandstone, and dolomite; Upper Permian
-  Qe/Qp, Quaternary-Eolian Piedmont Deposits
-  Qp, Quaternary-Piedmont Alluvial Deposits, Qp, Quaternary-Piedmont Alluvial Deposits

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Plates 1 & 2 Legend	
		November 2024

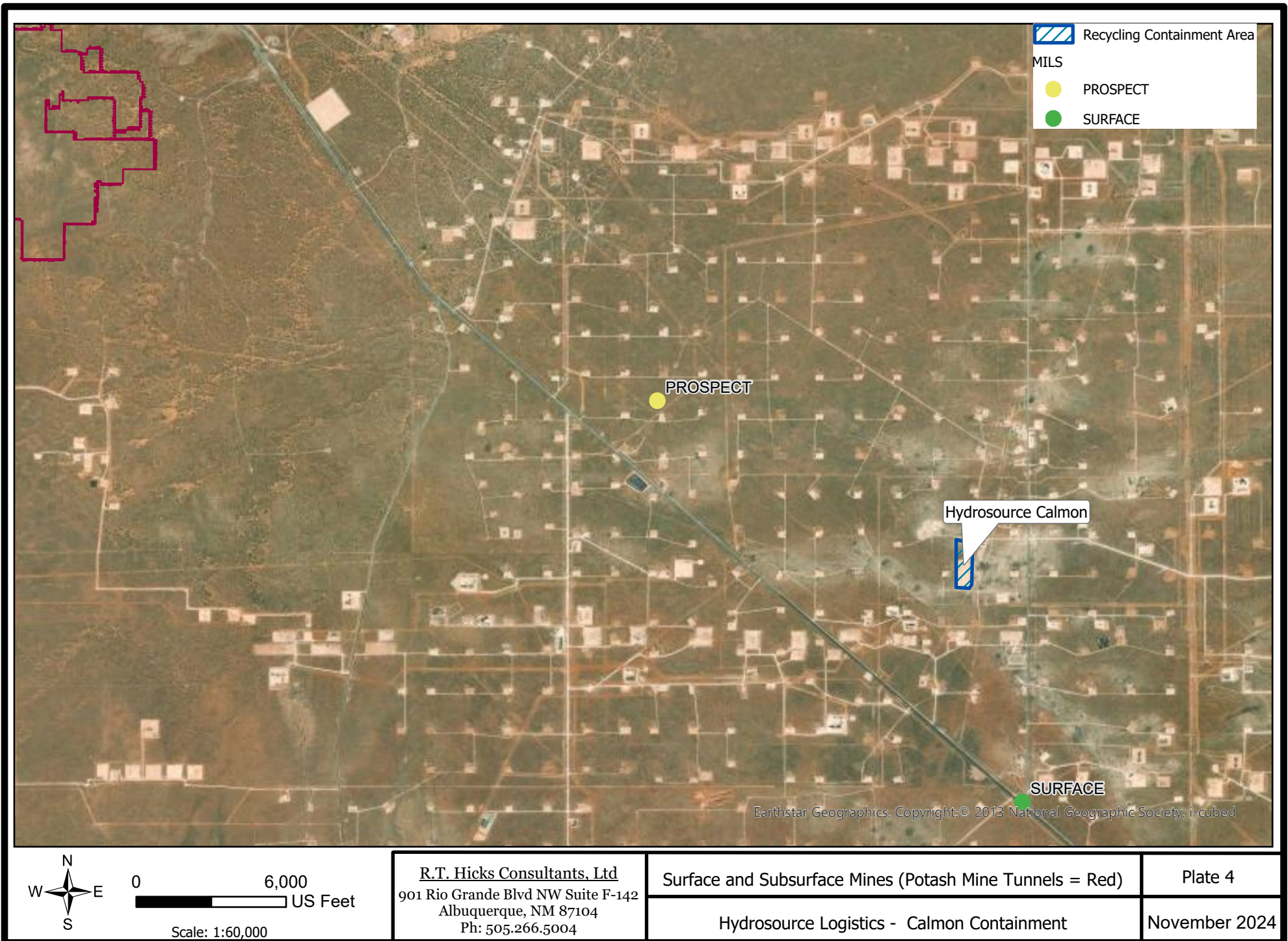


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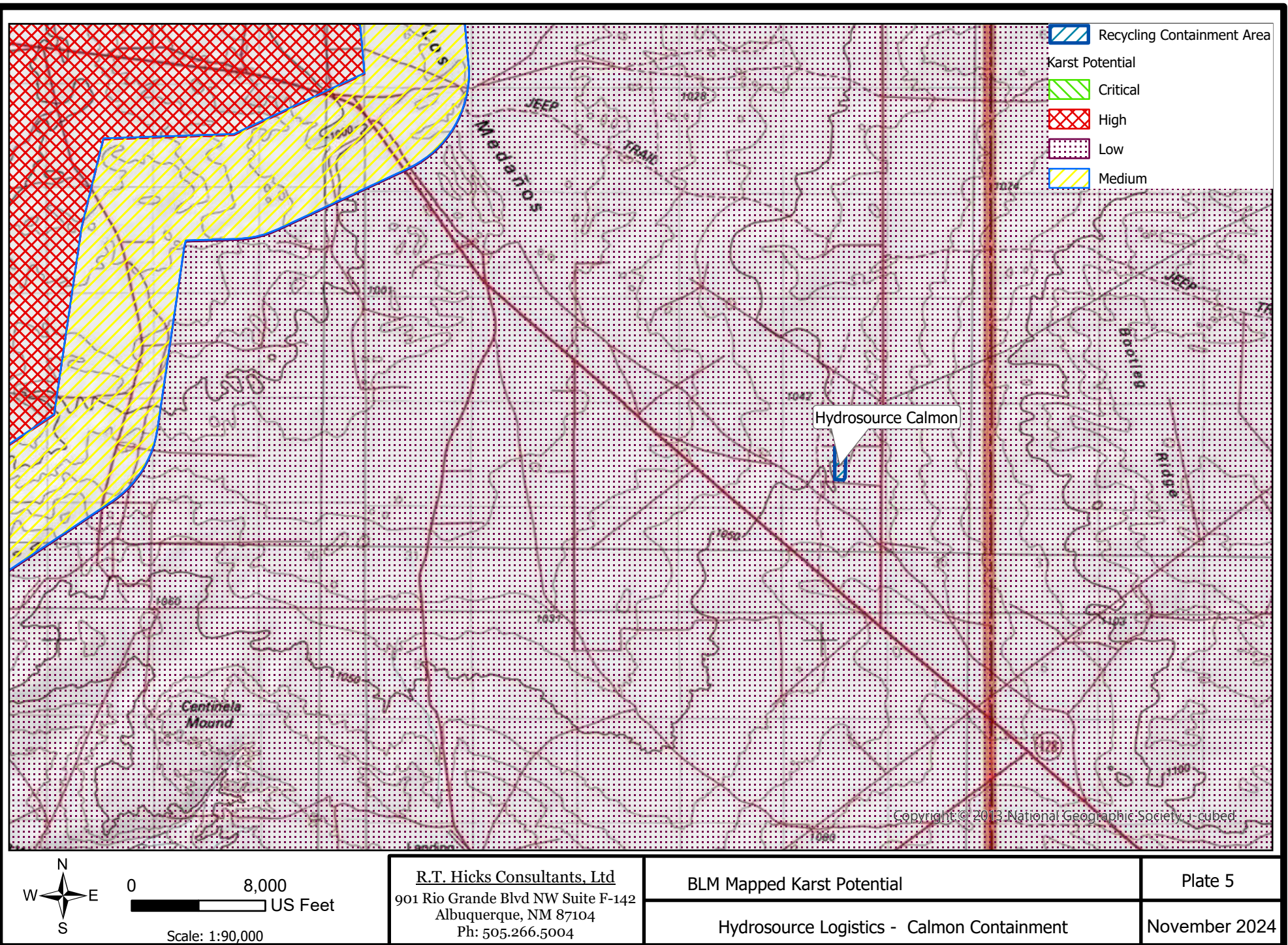


P:\Cascade-Hydrosources\_Calmon\Hydrosources-Calmon.aprx



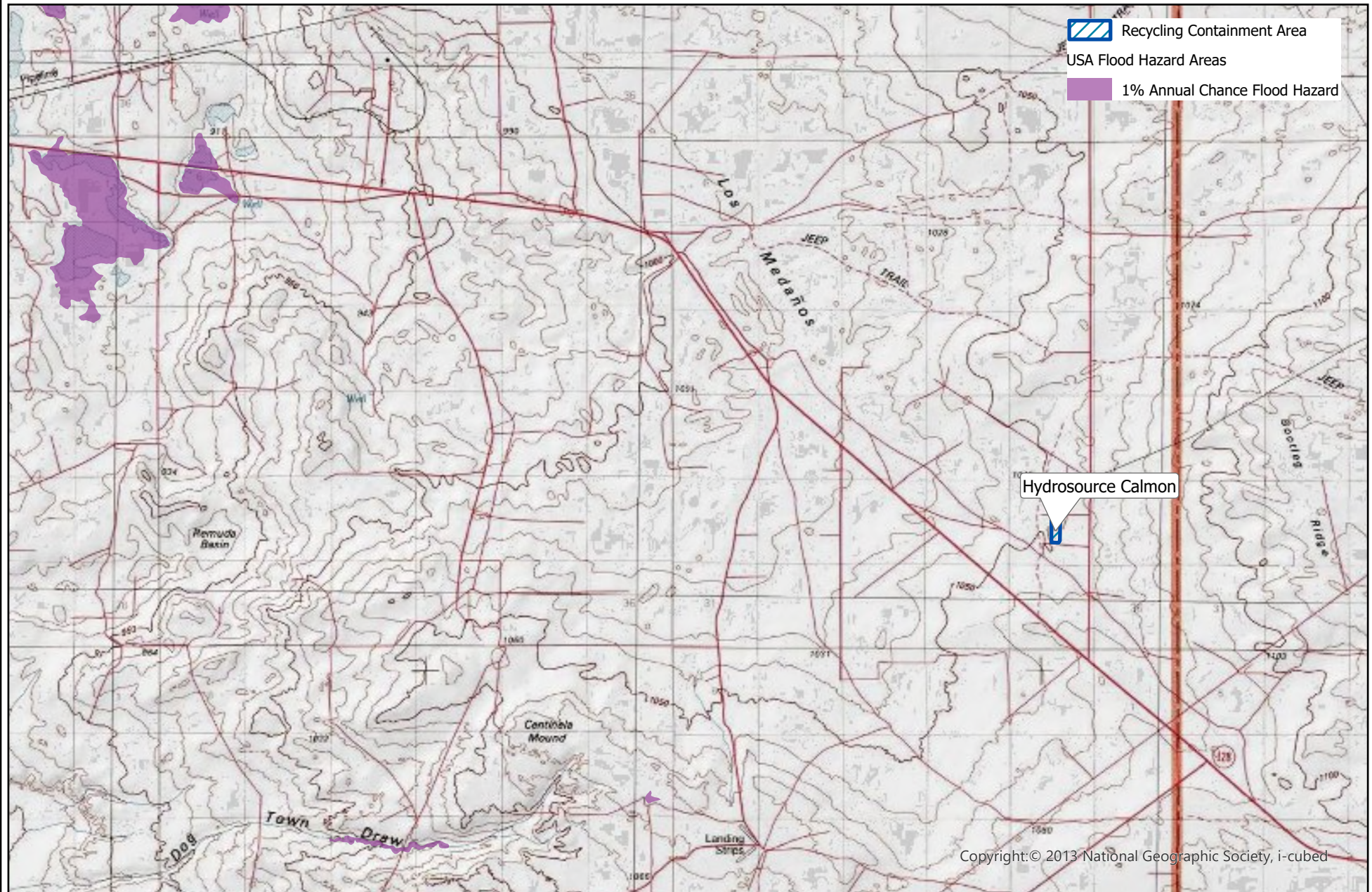


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P:\Cascade-Hydrosources\_Calmon\Hydrosources-Calmon.aprx



0 12,000  
US Feet

Scale: 1:120,000

R.T. Hicks Consultants, Ltd  
901 Rio Grande Blvd NW Suite F-142  
Albuquerque, NM 87104  
Ph: 505.266.5004

FEMA Mapped Flood Hazard

Plate 6

Hydrosource Logistics - Calmon Containment

November 2024



[illegible]

0 4,000 US Feet

Scale: 1:48,000

**R.T. Hicks Consultants, Ltd**  
901 Rio Grande Blvd NW Suite F-142  
Albuquerque, NM 87104  
Ph: 505.266.5004

Mapped Surface Water

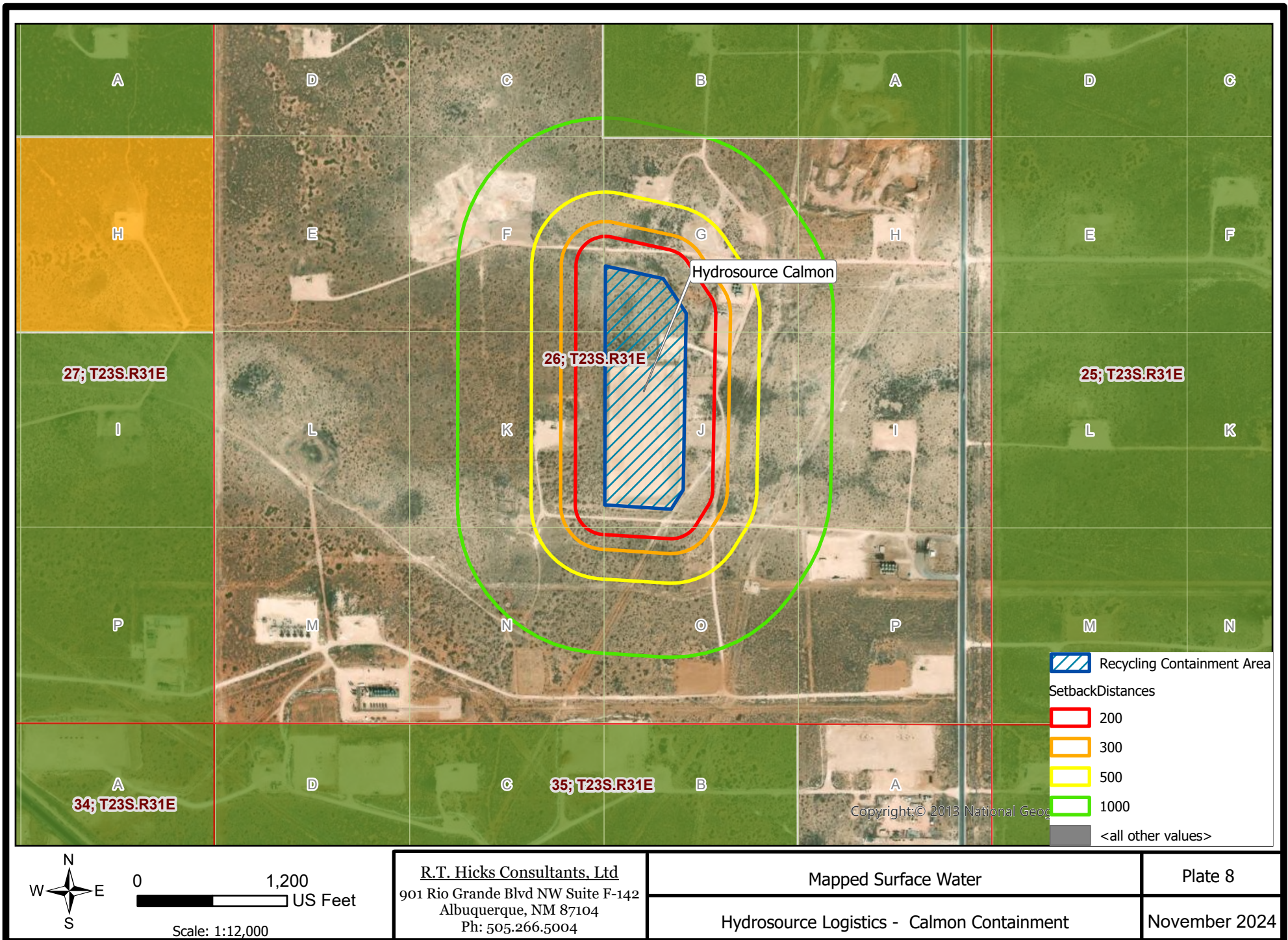
Hydrosource Logistics - Calmon Containment

Plate 7

November 2024



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## WELL LOGS AND USGS DATA

350 feet south

## USGS 321609103445901 23S.31E.26.34411 AKA USGS-9203

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°16'11.9", Longitude 103°45'01.2"

NAD83

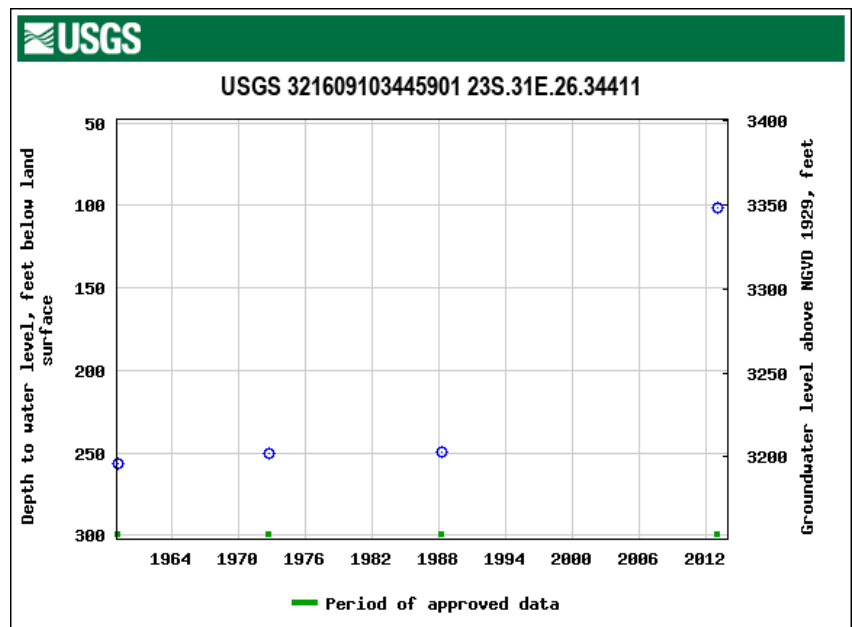
Land-surface elevation 3,451.00 feet above NGVD29

The depth of the well is 365 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Dewey Lake Redbeds (312DYLK) local aquifer.

This is the windmill at this location.



Southwest

## USGS 321421103464901 24S.31E.04.433422

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°14'23.7", Longitude 103°46'47.8"

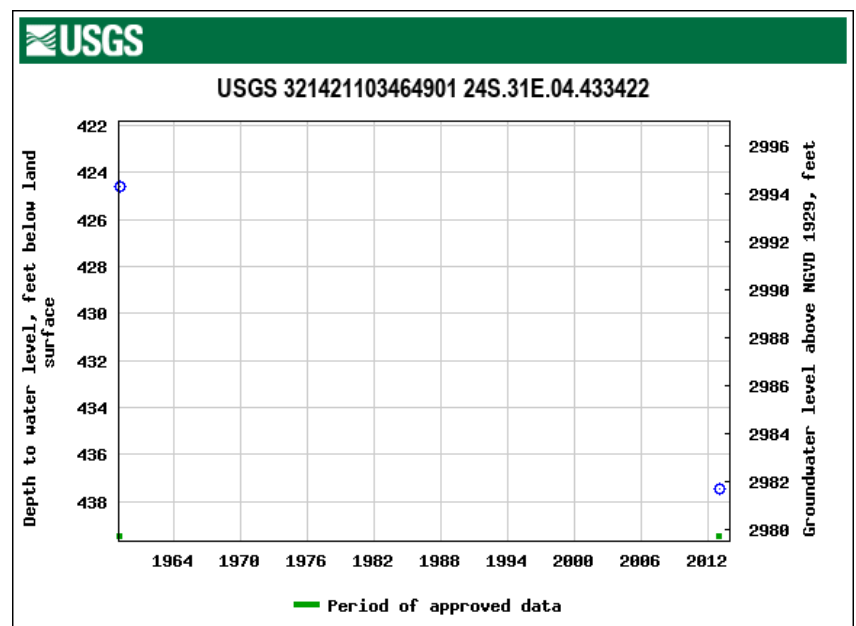
NAD83

Land-surface elevation 3,419.00 feet above NGVD29

The depth of the well is 627 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Rustler Formation (312RSLR) local aquifer.





**USGS 321310103482101 24S.31E.17.13120 AKA USGS-8899**

Eddy County, New Mexico

Hydrologic Unit Code 13060011

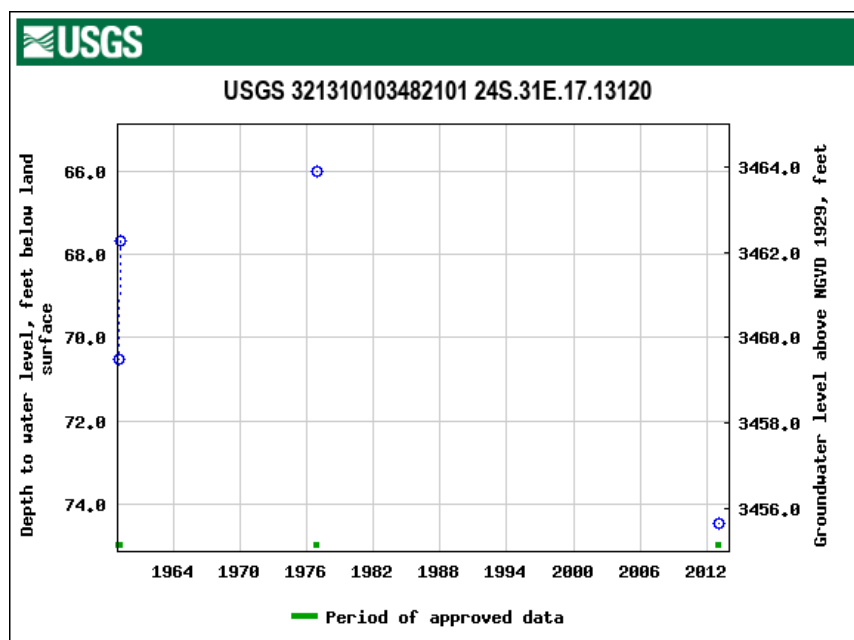
Latitude 32°13'14.1", Longitude 103°48'23.4"

NAD83

Land-surface elevation 3,530.00 feet above NGVD29

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.



Northwest

**USGS 321809103481801 23S.31E.17.31141 AKA USGS-9122**

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°18'11.3",

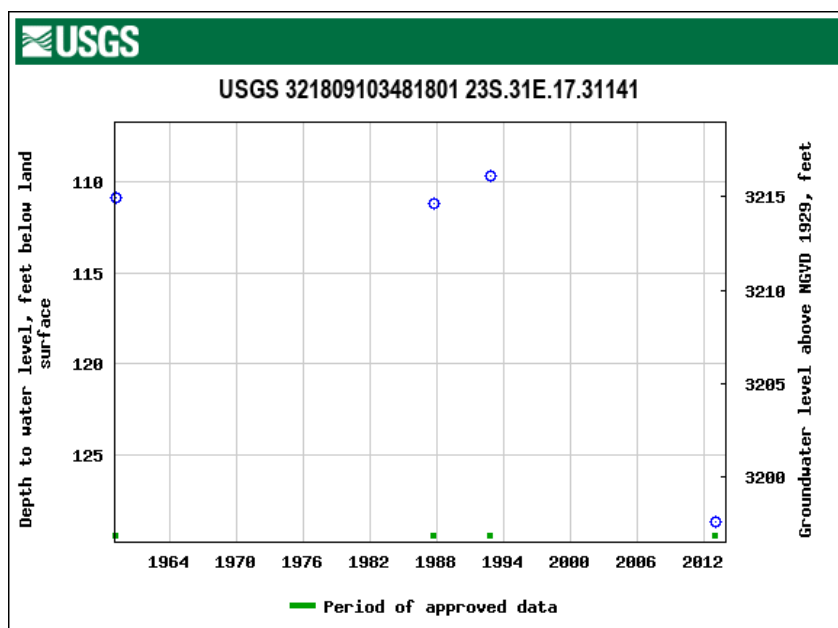
Longitude 103°48'23.4" NAD83

Land-surface elevation 3,326.00 feet above NGVD29

The depth of the well is 354 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Rustler Formation (312RSLR) local aquifer.



## Northeast

### USGS 321952103400801 23S.32E.03.311114 AKA USGS-14211

Lea County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°19'59.2", Longitude 103°40'12.6"

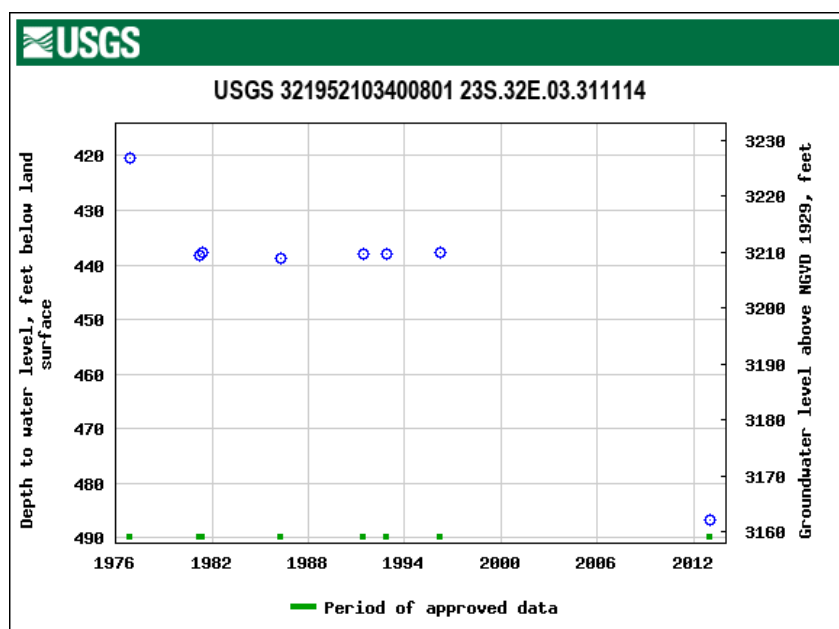
NAD83

Land-surface elevation 3,648.00 feet above NGVD29

The depth of the well is 630 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.



## East

### USGS 321555103381501 23S.32E.35.224111 AKA USGS-14445

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°15'59.0", Longitude 103°38'17.6"

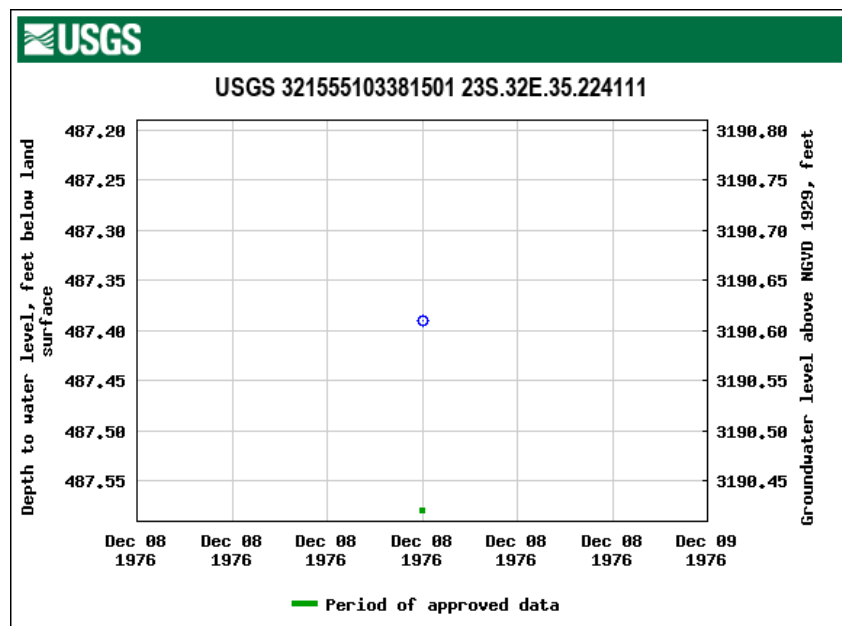
NAD83

Land-surface elevation 3,678.00 feet above NGVD29

The depth of the well is 700 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.





## Southeast

### USGS 321312103395601 24S.32E.10.344333 AKA USGS-14194

Hydrologic Unit Code 13070007

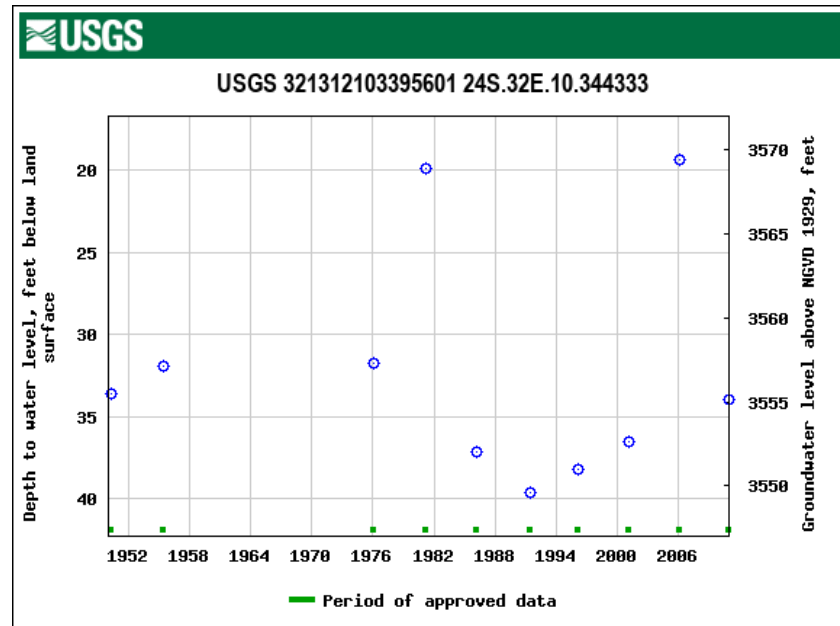
Latitude 32°13'30.4", Longitude 103°39'52.7"  
NAD83

Land-surface elevation 3,589.00 feet above  
NGVD29

The depth of the well is 60 feet below land surface.

This well is completed in the Other aquifers  
(N9999OTHER) national aquifer.

This well is completed in the Alluvium, Bolson  
Deposits and Other Surface Deposits (110AVMB)  
local aquifer





# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

STATE ENGINEER OFFICE  
ROSWELL, NM

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER) <b>C-2348-</b>				OSE FILE NUMBER(S) <b>113 NOV - 71A II. 11</b> <b>C-2348</b>																															
	WELL OWNER NAME(S) <b>MARK McCloy - McCloy Ranches</b>				PHONE (OPTIONAL) <b>432-940-4459</b>																															
	WELL OWNER MAILING ADDRESS <b>P.O. Box 1076 254 Diamond Rd</b>				CITY <b>Tal</b> STATE <b>NM</b> ZIP <b>88252</b>																															
	WELL LOCATION (FROM GPS)				<table border="1"> <tr> <th colspan="3">DEGREES</th> <th colspan="3">MINUTES</th> <th colspan="3">SECONDS</th> </tr> <tr> <td>LATITUDE</td> <td><b>32</b></td> <td><b>16</b></td> <td><b>12.91</b></td> <td colspan="3"></td> <td colspan="3">N</td> </tr> <tr> <td>LONGITUDE</td> <td><b>103</b></td> <td><b>45</b></td> <td><b>03.61</b></td> <td colspan="3"></td> <td colspan="3">W</td> </tr> </table>				DEGREES			MINUTES			SECONDS			LATITUDE	<b>32</b>	<b>16</b>	<b>12.91</b>				N			LONGITUDE	<b>103</b>	<b>45</b>	<b>03.61</b>				W	
DEGREES			MINUTES			SECONDS																														
LATITUDE	<b>32</b>	<b>16</b>	<b>12.91</b>				N																													
LONGITUDE	<b>103</b>	<b>45</b>	<b>03.61</b>				W																													
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE <b>Hwy 128 to 18 mm 1 mile N 1 mile west on Red Road</b>																																				
2. DRILLING & CASING INFORMATION	LICENSE NUMBER <b>1654</b>		NAME OF LICENSED DRILLER <b>John Sireman</b>			NAME OF WELL DRILLING COMPANY <b>Sireman Drilling + Const. LLC</b>																														
	DRILLING STARTED <b>10/31/13</b>		DRILLING ENDED <b>11/1/13</b>		DEPTH OF COMPLETED WELL (FT) <b>700'-0</b>		BORE HOLE DEPTH (FT) <b>700'-0</b>																													
					DEPTH WATER FIRST ENCOUNTERED (FT) <b>575'-600</b>																															
	COMPLETED WELL IS:		<input type="checkbox"/> ARTESIAN		<input type="checkbox"/> DRY HOLE		<input checked="" type="checkbox"/> SHALLOW (UNCONFINED)																													
	DRILLING FLUID:		<input checked="" type="checkbox"/> AIR		<input type="checkbox"/> MUD		<input type="checkbox"/> ADDITIVES - SPECIFY:																													
	DRILLING METHOD:		<input checked="" type="checkbox"/> ROTARY		<input checked="" type="checkbox"/> HAMMER		<input type="checkbox"/> CABLE TOOL																													
							<input type="checkbox"/> OTHER - SPECIFY:																													
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)		CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)		CASING CONNECTION TYPE																													
	FROM	TO																																		
	0	560	10	PVC	Certa-lok	6	DR-17	Blank																												
560	620	10	PVC	Certa Lok	6	DR-17	1032 screen																													
620	680	10	PVC	Certa Lok	6	DR-17	Blank																													
680	700	10	PVC	Certa Lok	6	DR-17	1032 screen																													
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)		LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL		AMOUNT (cubic feet)																													
	FROM	TO																																		
	0	20	10		3/8 bentonite hole plug	6 bags	gravity																													
	67	700	10		3/8 pea gravel	5 yds	gravity																													

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER <b>C-2348</b>	POD NUMBER <b>1</b>	TRN NUMBER <b>491413</b>
LOCATION <b>C</b>	<b>235.31E.26.3-4-1</b>	<b>Livestock</b>

Released to Imaging: 4/11/2025 10:01:28 AM

STATE ENGINEER OFFICE  
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Devon Energy Corporation  
Street or Post Office Address 20 North Broadway Suite 1500  
City and State Oklahoma City, Oklahoma 73102

469242  
92 OCT 30 PM 1 52  
STATE ENGINEER OFFICE  
SANTA FE NEW MEXICO  
Owner's Well No. \_\_\_\_\_

Well was drilled under Permit No. C-2258 and is located in the:

a. 1/4 1/4 SW 1/4 NE 1/4 of Section 26 Township 23-S Range 31-E N.M.P.M.  
b. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_  
c. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the \_\_\_\_\_  
Subdivision, recorded in \_\_\_\_\_ County.  
d. X= \_\_\_\_\_ feet, Y= \_\_\_\_\_ feet, N.M. Coordinate System \_\_\_\_\_ Zone in  
the \_\_\_\_\_ Grant.

(B) Drilling Contractor Glenn's Water Well Service License No. WD 421  
Address P.O. Box 692 Tatum, New Mexico 88267  
Drilling Began 9/18/92 Completed 9/18/92 Type tools Rotary Size of hole 7 7/8 in.  
Elevation of land surface or \_\_\_\_\_ at well is \_\_\_\_\_ ft. Total depth of well 662 ft.  
Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well \_\_\_\_\_ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
			No Water	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor \_\_\_\_\_  
Address \_\_\_\_\_  
Plugging Method back filled with mud & jel  
Date Well Plugged \_\_\_\_\_  
Plugging approved by: \_\_\_\_\_  
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Received 09-25-92 Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_\_  
C-2258 Use OWD Location No. 23S.31E.26.23344

[illegible]

## Section 7. REMARKS AND ADDITIONAL INFORMATION

STATE ENGINEER OFFICE  
ROSWELL NEW MEXICO

'92 SEP 25 AM 11 32

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Corby Sam  
Driller

**INSTRUCTIONS:** This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.



## SITE PHOTOGRAHS

## R.T. HICKS CONSULTANTS, LTD.

The photographs were taken from numbered locations depicted on the aerial photo (12/20/2023) below during a site visit on November 11, 2024, by R.T. Hicks Consultants. Area of Interest (AOI), marked as a yellow polygon, includes an existing containment pond (no liner or water).



**Figure 1:** View north from southwest corner of pond fence, depicting representative scrub vegetation.





**R.T. HICKS CONSULTANTS, LTD.**



**Figure 2:** View north from southeast corner of pond fence, showing outside berms of empty pond.



**Figure 3:** From access road approx. 240 ft east of eastern fence of pond. View northwest toward northeast corner of pond.



**R.T. HICKS CONSULTANTS, LTD.**

**Figure 4:** View west from northeastern berm of dry pond; Surface and cover shown top right is representative of the area surrounding the existing containment.



**Figure 5:** View west from center of AOI north of existing pond/containment, depicting typical surface and surrounds.



**R.T. HICKS CONSULTANTS, LTD.**

**Figure 6:** View south from northwestern corner of AOI; existing containment is visible in background.



**Figure 7:** Near northeastern edge of AOI, view southeast along drainage route



**R.T. HICKS CONSULTANTS, LTD.**



**Figure 8 – Image of former windmill USGS-9203.**

**Figure 9 – Measuring depth to groundwater in south well (MISC-161) in 2021**



**Venegas, Victoria, EMNRD**

---

**From:** Venegas, Victoria, EMNRD  
**Sent:** Friday, April 11, 2025 9:46 AM  
**To:** Galan Kelley; Bobbi Jo Crain; Andrea Cagle Villegas  
**Subject:** 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235]  
**Attachments:** C-147 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235].pdf

**2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235]**

Good morning Mr. Kelly,  
 NMOCD has reviewed the recycling containment permit application and related documents, submitted by [332820] Hydrosorce Logistics Waste Management, LLC on 04/08/2025, Application ID 449904, for 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] in J-26-23S-31E, Eddy County, New Mexico. The form C-147 and related documents for 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] are approved with the following conditions of approval:

- The purpose of this permit is for oil and gas activities regulated under the NMAC 19.15.34.3 STATUTORY AUTHORITY: 19.15.34 NMAC is adopted pursuant to the Oil and Gas Act, Paragraph (15) of Section 70-2-12(B) NMSA 1978, which authorizes the division to regulate the disposition of water produced or used in connection with the drilling for or producing of oil and gas or both and Paragraph (21) of Section 70-2-12(B) NMSA 1978 which authorizes the regulation of the disposition of nondomestic wastes from the exploration, development, production or storage of crude oil or natural gas.
- 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] is approved for five years of operations from the date of permit application of 04/08/2025. 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] permit expires on 04/08/2030. If [332820] Hydrosorce Logistics Waste Management, LLC wishes to extend operations past five years, an annual extension request must be submitted using on form C-147 Long through OCD Permitting by 03/08/2030.
- 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] consists of one (1) inground containment with a fluid capacity of 685,558.00 barrels.
- The total closure cost estimated of 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] in the amount of \$625,000.00 meets the requirements of NMAC 19.15.34.15.A. The financial assurance should be mailed to: **EMNRD - Oil Conservation Division, Administration & Compliance Bureau Attn: Bond Administrator 1220 S. St. Francis Drive | Santa Fe, NM 87505.**
- [332820] Hydrosorce Logistics Waste Management, LLC shall construct, operate, maintain, close, and reclaim 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] in compliance with NMAC 19.15.34 NMAC.
- [332820] Hydrosorce Logistics Waste Management, LLC shall notify OCD, through OCD Permitting, when construction of 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] commences.
- [332820] Hydrosorce Logistics Waste Management, LLC shall notify NMOCD through OCD Permitting when recycling operations commence and cease at 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235].
- A minimum of 3-feet freeboard must be maintained at 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] at all times during operations.
- If less than 20% of the total fluid capacity is utilized every six months, beginning from the first withdrawal, operations of the 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] are considered ceased and a notification of cessation of operations should be sent electronically to OCD Permitting. A request to extend the cessation of operations, not to exceed six months, may be submitted



using a C-147 form through OCD Permitting. If after that 6-month extension period, the 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] is not utilized at a minimum of 20% fluid capacity, no additional extensions would be granted, and the operator would be directed to remove all fluids and proceed with the closure requirements.

- [332820] Hydrosourc Logistics Waste Management, LLC shall submit monthly reports of recycling and reuse of produced water, drilling fluids, and liquid oil field waste on OCD form C-148 via OCD Permitting even if there is zero activity.
- [332820] Hydrosourc Logistics Waste Management, LLC shall inspect the recycling containment and associated leak detection systems weekly while it contains fluids. The operator shall maintain a current log of such inspections and make the logs available for review by the division upon request according to 19.15.34.13.A.
- [332820] Hydrosourc Logistics Waste Management, LLC shall comply with 19.15.29 NMAC Releases in the event of any release of produced water or other oil field waste at 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235].

Please reference number 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] in all future communications.

Regards,

**Victoria Venegas** • Environmental Specialist Advanced  
EMNRD - Oil Conservation Division  
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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 449904

**CONDITIONS**

Operator: Hydrosorce Logistics Waste Management, LLC 600 N. Marienfeld Midland, TX 79701	OGRID: 332820
	Action Number: 449904
	Action Type: [C-147] Water Recycle Long (C-147L)

**CONDITIONS**

Created By	Condition	Condition Date
vvenegas	. 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] permit expires on 04/08/2030. If [332820] Hydrosorce Logistics Waste Management, LLC wishes to extend operations past five years, an annual extension request must be submitted using on form C-147 Long through OCD Permitting by 03/08/2030. • [332820] Hydrosorce Logistics Waste Management, LLC shall construct, operate, maintain, close, and reclaim 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235] in compliance with NMAC 19.15.34 NMAC. • [332820] Hydrosorce Logistics Waste Management, LLC shall comply with 19.15.29 NMAC Releases in the event of any release of produced water or other oil field waste at 2RF-221 - CALMON RECYCLING FACILITY & CONTAINMENTS [fVV2510050235].	4/11/2025