1RF - 443

McCloy Werst Recycling Facility Application

NGL

June 14, 2019

C-147 Registration Package

Prepared for

NGL Water Solutions Permian, LLC
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Denver, CO 80209
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Developed by

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TABLE OF CONTENTS

1. INTRODUCTION

Applicant	NGL Water Solutions Permian, LLC
Project Name	McCloy West Recycling Facility
Project Type	Recycling Containment Registration
Legal Location	Section 15, Township 24S, Range 32E, Lea County, New Mexico
Surface Owner	NGL Water Solutions Permian, LLC

In accordance with NMAC 19.15.34, NGL Water Solutions Permian, LLC (NGL) requests the registration of the proposed Recycling Containment through the approval of this C-147 registration package. The facility and containments will be used to treat and recycle produced water for re-use.

This package contains the C-147 form and associated documents for registration of the McCloy West Recycling Facility.

2. VARIANCE EXPLANATION

The requested variances provide equal or better protection of fresh water, public health, and the environment.

C-147 #5 Fencing

19.15.34.12.D(1) NMAC states "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."

NGL would like to request permission from the OCD for a variance regarding fencing at the McCloy West Recycling Facility. NGL proposes to utilize a six-foot galvanized chain link fence with 3 strands of barb wire on the top of the chain link fencing. The 3 strands of barb wire will be mounted on a galvanized barb bracket with a 45-degree angle pointing towards the outside of the location. Each post will be drilled via auger to ensure a consistent and accurate depth and will be set in concrete. Where surface waterlines enter the facility 24" x 24" swinging gates will be installed at ground level for surface waterlines to pass through. The gates will remain closed to ensure no wildlife can access the containment when surface waterlines are not present.

Recycling Containment (Liner)

19.15.34.12.A(4) NMAC states "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 LLPDE 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 x 10-9 cm/sec. Liner compatibility shall meet the EPA SW-846 method 9090A or subsequent relevant publications.

NGL would like to request permission from the OCD for variance regarding the primary and secondary liner for the McCloy West Recycling Facility. NGL proposes to utilize 60-mil HDPE for the primary liner as well as 60-mil HDPE for the secondary liner. Below is an explanation from a liner company in the Permian Basin explaining why NGL's proposed liner provides equal or better protection of fresh water, public health, and the environment.

"For the comparison between a skrim reinforced 45 Mil LLPE and a 60 Mil HDPE my opinion is that 60 HDPE is better product, for a couple of reasons. First being material width. 45 mil skrim reinforced as a roll good which is what we use to fuse in the field is 12' wide as compared to 22.5 on the 60 HDPE. You can buy wider 45 mil skrim that has been converted in a facility but since the installer did not make those conversion seams it is hard to trust that the seam fusion is up to the appropriate standard and the facility's do not provide tensiometer testing documentation for their weld seams. This means that there will be almost 2 times the field seams done and twice the testing, increasing the risk for a potential leak and nearly doubling installation time. In the area for this proposed site our biggest enemy for installation is wind. We have to install between windows of high winds, so speed is a definite factor. These seams also have to be air channel tested. The weld seam will be inflated to 30psi and has to hold for up to 2-5 minutes depending on the proctor. With LLPE (Linear Low Polyethylene) the product has much more elastic properties and you can have very inconsistent testing results due to elongation as compared to the much more rigid 60 HDPE product. Another concern is the wicking effect skrim reinforced products have. While they have great tear strength the material is actually a laminated product that has two layers of liner laminated above and below the polyester skrim, when there is a tear or puncture (which is inevitable with field hands laying pipe and wildlife) the polyester will wick the produced water and distribute contaminates throughout the skrim causing a potential for the material to swell and delaminate. When polyethylene is exposed to some oil-based material over time it will swell, when this occurs with a skrim product the material is essentially trapped by the netting of the skrim because of this expansion the material will bubble between the skrim nets and eventually have the potential to delaminate. For this reason, we do not recommend, nor will we warranty a produced water installation with this type of material. For the secondary layer the reason 60 HDPE is better simply because it exceeds the required spec. The standard allows a lesser liner for the secondary layer and we are simply proposing to use a higher spec material than is required." - Cody Smithson, President, Patriot Environmental LLC.

Variance Request for Bird Deterrent

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.

NGL proposes to utilize the Bird-X Mega Blaster Pro, creating intermittent distress calls to create a "danger zone" that frightens native and/or migrating birds and wildlife from the water recycling facility. Two units would be installed, each containing 2 built-in high output amplifiers and houses 20 speakers, capable of producing up to 125 decibels and a frequency range from 2,000 - 10,000 Hz.

Mega Blaster Pro-Specs:

- Coverage: Up to 30 acres from single unit
- Box dimensions:
    - Box 1: 23" x 18" x 16" (23 lbs., unit & speakers)
    - Box 2: 32" x 24" x 5" (17 lbs., solar panel)
- Power Input: 12vDC (3 amps) via solar panel and battery
- Sound Pressure: up to 125 decibels
- Frequency: 2,000 - 10,000 Hz
- Library of predator calls
- Full customizable to the species of bird in our area of operations
- Compliance: UL & CE listed
- EPA Est. 075310-OR-0001
- Included: 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.
- The unit is typically mounted with a tripod pole setup. The tripod would be a typical sturdy tripod that would be used to support a larger PA speaker. The pole that would fit into the top of the tripod that the speaker tower, control box and solar panel would mount to should be 3/4" diameter and be 6-12 feet tall. The taller the pole the greater the distance the sound will travel.
- The effective range of the Mega Blaster Pro is 30 acres, in a circular coverage pattern around the 20-speaker tower with a radius of about 660 feet. The 20-speaker tower features 5 speakers pointed in each direction to create the even dispersal.

3. SITING CRITERIA

3.1. Distance to Groundwater

A test well was drilled on the proposed McCloy West Recycling Facility on 04/30/2019 per the attached Drilling Log. The McCloy West location has an elevation of 3600' and a well was drilled to a depth of 75' with no groundwater discovered. The iWaters Report attached from the New Mexico State Engineer's Office indicates the average depth to groundwater in the T24S, R32E is 380'. Therefore, the groundwater depth is greater than 50 feet below the bottom of the recycling containment.

3.2. Distance to Surface Water

There are not continuously flowing watercourses within 300', nor any other significant watercourse and lakebed or playa lake within 200' of the recycling containment as shown on the Aerial or Topo maps provided.

3.3. Distance to Structures

There are no permanent residence, school, hospital, institution or church at the time of initial registration within 1,000' of the recycling containment as shown on the Aerial and Topo maps provided.

3.4. Distance to Non-Public Water Supply

There are no springs or freshwater wells used for domestic or stock water purposes within 500' in existence at the time of initial registration as shown on the Aerial and Topo maps provided.

3.5. Distance to Municipal Boundaries and Defined Fresh Water Fields

The recycling facility is not within any incorporated municipal boundaries within a defined municipal fresh water well field covered by a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978, as amended.

3.6. Distance to Subsurface Mines

The recycling containment is not located in an "unstable" area. The location is not over a mine and is not on the side of a hill. The location of the excavated surface material will not be located within 100 feet of a continuously flowing or significant watercourse. According to the NM EMNRD Mining and Mineral Divisions database there are no subsurface mines in Section 15, Township 24S, Range 32E of Lea County.

3.7 Distance to 100-Year Floodplain

The McCloy Recycling Containment is not located within a 100-year floodplain as demonstrated on the FEMA Map.

4. DESIGN AND CONSTRUCTION PLAN

In accordance with Rule 19.15.34 the following information describes the design and construction of the recycling containment on NGL's location.

The NGL Design and Construction Plan assists NGL personnel in ensuring compliance with the minimum design and construction requirements for recycling containments as defined by the NMOCD outlined in 19.15.34.12 NMAC. The plan applies to any NGL Employee(s) and subcontractor(s) whose job requires them to assist with the design and construction of the recycling containment. The plan is designed to ensure compliance with the minimum design and construction requirements for recycling containments as defined by the NMOCD outlined in 19.15.34.12 NMAC.

NGL shall design and construct a recycling containment in accordance with the following specifications.

4.1. Foundation Construction

Approximately 6" of topsoil will be stripped and stockpiled for final cover at the time of closure. The topsoil will be stored on the permitted facility, adjacent to the permitted facility, or on a neighboring property owned by NGL, as room allows.

The recycling 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. The containment will ensure confinement of produced water, to prevent releases and to prevent overtopping due to wave action or rainfall. A geotextile under the liner will be used, if needed, to reduce the localized stress-strain or protuberances that otherwise may compromise the liner's integrity. The final sub grade shall be scarified to a minimum depth of 12 inches, moisture conditioned to near Optimum Moisture and compacted to 95% of maximum dry density as determined by a Standard Proctor (ASTM 698).

Positive draining should be provided during construction and maintained throughout the life of the proposed project to prevent surface runoff from entering the pond. Protective slopes should be provided with a minimum grade of approximately 5 percent for at least 10 feet from the structures. Backfill against footings, exterior walls, and in utility trenches should be well compacted and free of all construction debris to reduce the possibility of moisture infiltration.

The pond inside levey grade will be constructed no steeper than 3H:1V grade and the pond outside levey grade will be constructed no steeper than 5H:1V grade.

4.2. Liner Construction

NGL's recycling containment shall incorporate, a primary (upper) liner and a secondary (lower) liner with a leak detection system. The primary (upper) liner will be a 60-mil HDPE liner resistant to UV light, petroleum hydrocarbons, salt and acidic/alkaline solutions with a single sided texture to increase traction for emergency escape from the pit and shall cover the bottom and sides of the pit including the minimum three (3) feet of freeboard per NMOCD 19.15.17.11.G.9. The secondary liner will be a 60-mil HDPE liner for

initial leak detection and shall cover the bottom and sides of the pit including the minimum three (3) feet of freeboard per NMOCD 19.15.17.11.G.9.

A secondary leak detection system will be installed at the designated center of each pit. The pit bottom will be sloped to the detection system that will be comprised of 2" HDPE or PVC solid and perforated pipe with 1-1/2" Type F coarse drain rock bedding.

NGL shall ensure the subcontractor installing the recycling containment minimized liner seams and orient them up and down, not across, a slope of the levee. NGL shall ensure that factory welded seams shall be used where possible. NGL shall ensure the subcontractor installing the recycling containment ensures field seams in the geosynthetic material are thermally seamed and that prior to any field seaming, the installer overlaps the liners four to six inches. The subcontractor installing the liner shall minimize the number of field seams and corners and irregularly shaped areas. NGL will only hire qualified personnel to perform field welding and testing.

The liner system shall be anchored as designed in a 2 FT x 2.5 FT anchor trench and topped with 6 inches of road base.

At the point of discharge into or suction from the recycling containment, NGL will ensure that the liner is protected from excessive hydrostatic force and potential mechanical damage. External discharge and/or suction lines will not penetrate the liner.

4.3. Leak Detection System

NGL shall place a leak detection system between the upper and lower geomembrane liners that shall consist of a 200-mil genet 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. A 4-foot deep depression will be constructed to allow for collection of any leaking liquid. A 4-inch PVC pipe will be installed in between the primary and secondary liners from the top of the pit to the depression to allow for detection and removal of liquid that may collect between the primary and secondary liners.

4.4. Signage

NGL will sign the containment with an upright sign no less than 12" by 24" with lettering not less than 2" in height in a conspicuous place near the containment. NGL will provide the operator's name, location of the containment by quarter-quarter or unit letter, Section, Township, Range and emergency telephone numbers.

4.5. Entrance Protection

NGL will surround the containment with a six-foot chain-link fence. All gates leading in and out of the containment will be closed and locked when personnel are not on-site. The fencing will be kept in good repair and shall be inspected as part of the weekly inspection performed at the containment facility.

4.6. Wildlife Protection

NGL will install a bird deterrent system pursuant to the attached *Migratory Bird Mitigation Plan.* The containment will be inspected weekly for dead migratory birds and will be reported accordingly.

5. MAINTENANCE AND OPERATING PLAN

In accordance with Rule 19.15.34 the following information describes the operation and maintenance of recycling containments on NGL's location.

5.1. Inspection Timing

NGL shall inspect the recycling containment and associated leak detection systems weekly while it contains fluids. A current log of inspections will be maintained, and the log will be made available for review upon division request. If fluids are found in the sump, the fluids will be sampled and then pumped out. In addition to human monitoring the pond fluid level will be determined via two (2) hydrostatic pressure gauges and a float gauge. At a fluid height of 22', an automated valve will close and prevent any more fluid from entering the containment.

5.2. Maintenance

NGL shall maintain and operate the recycling containment as follows:

A. Removing any visible layer of oil from the surface of the containment.
B. Maintaining at least 3' of freeboard at each containment
C. 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 and pipes
D. If the containment's primary liner is compromised above the fluid's surface, NGL will repair the damage or initiate replacement of the primary liner within 48 hours of discovery or seek an extension from the division district office.
E. If the primary liner is compromised below the fluid's surface, NGL will remove all fluid above the damage or leak within 48 hours of discovery, notify the divisions district office and repair the damage or replace the primary liner.
F. The containment will be operated to prevent the collection of surface water run-on with containment walls of 9.5' height.
G. NGL will install, or maintain on site, an oil absorbent boom or other device to contain an unanticipated release.
H. NGL will not store or discharge any hazardous waste at the facility or within the containment.

5.3. Cessation of Operations

NGL will report the cessation of operations or if less than 20% of the total fluid capacity is used every six months following the first withdrawal of produced water for use to the appropriate division district office. If additional time is needed for closure, NGL will request an extension from the appropriate division district office prior to the expiration of the initial six-month time period.

6. CLOSURE PLAN

In accordance with Rule 19.15.34 the following information describes the closure requirements of recycling containments on NGL's location.

All closure activities will include proper documentation and be available for review upon request and will be submitted to the OCD within 60 days of closure. Closure report will be filed on C-147 and incorporate the following:

- Details on capping and covering, where applicable
- Inspection Reports
- Sampling Results

Once NGL has ceased operations, all fluids will be removed within 60 days and the containment shall be closed within six months.

6.1 Closure Cost Estimate

The enclosed closure cost estimate was provided by Terracon on behalf of NGL Water Solutions Permian, LLC. The closure cost estimate is based off on information provided to the engineering company as well as the construction company that will be constructing this recycling facility and containment.

June 6, 2019

Trammco Environmental Solutions, LLC PO
Box 16478
Fernandina Beach, FL 32035-3125

Attn: Matt Trammell, President

RE: 2019 Closure Cost Estimate for
NGL Water Solutions Permian, LLC - McCloy West Recycling Facility Eddy County, New Mexico

Dear Mr. Trammell:

Terracon Consultants, Inc (Terracon) has prepared the attached estimation of probable cost at your request for the NGL Water Solution Permian, LLC (NGL) proposed McCloy West Recycling Facility (Facility). The attached estimate has been prepared based on information provided in the Facility Construction Plan, prepared by Topographic and sealed by Courtney C. Coates, P.E. on May 2, 2019. Specifically, the attached estimate represents probable construction costs for the complete closure of the Facility in accordance with requirements of NMAC 19.15.34.14. In summary, Terracon estimates closure of this facility will cost approximately $329,200.00 in 2019 dollars.

If you have questions or comments directly related to the generation of this estimate, please do not hesitate to contact either of the undersigned at any time.

Sincerely,
Terracon Consultants, Inc.

Michael Bradford, P.E. (NM 19240)
Solid Waste Engineering Manager

David McCormick, P.E.
Authorized Project Reviewer

Terracon Consultants, Inc. 25809 1-30 South Bryant, Arkansas 72022
P [501] 847 9292 F (501) 847 9210 terracon.com

NGL WATER SOLUTIONS PERMIAN, LLC
MCCLOY WEST RECYCLYING FACILITY

ESTIMATE OF PROBABLE CLOSURE COSTS - 2019 dollars

ITEM	DESCRIPTION	UNIT QUANTITY	UNIT	UNIT COST	ITEM TOTAL
1	Mobilization Demobilization	1.00	LS	$25,000.00	$ 25,000.00
2	Temporary Construction Stormwater, Sediment, and Erosions Controls	1.00	LS	$ 5,000.00	$ 5,000.00
3	North Pond Drain and Disposal of Residual liquids (Assume Full At Closure)	259,286	BBLS	$ 0.10	$ 25,928.57
4	South Pond Drain (Assume Full At Closure, manage onsite drainage)	1	LS	$ 1,500.00	$ 1,500.00
5	Remove and Dispose Bird Net	66	CY	$ 35.00	$ 2,309.08
6	Remove and Dispose of 60 Mil HDPE liner	114	CY	$ 35.00	$ 4,005.71
7	Remove and Dispose of 200 Mil Geonet	357	CY	$ 35.00	$ 12,50 7.27
8	Remove and Dispose of 40 Mil HDPE	71	CY	$ 35.00	$ 2,501.45
9	Remove and Dispose Leak Detection Drainage Rock	128	CY	$ 35.00	$ 4,480.00
10	Remove and Dispose of 10 oz/sy Geotextile	179	CY	$ 35.00	$ 6,253 .64
11	Remove and Dispose of Piping and Culverts	64	CY	$ 35.00	$ 2,227.79
12	Pond Backfill and Final Grading	81,100	CY	$ 2.00	$ 162,200 .00
13	Sampling and Laboratory Analysis for Clean Closure (Two rounds of 10 samples)	10	EACH	$ 400.00	$ 4,000.00
14	Vegetative Soil (Topsoil), On-site (excavate, transpo rt, place 0.5-ft)	12,020	CU. YD .	$ 2.00	$ 24,040.00
15	Seeding and mulching	14.9	ACRE	$ 2,500.00	$ 37,250.00
16	Closure Report and Reclamation Notice	1	LS	$10,000.00	$ 10,000.00
				TOTAL	$ **329,203.51**

6.2 Fluid Removal

The containment will be closed by first removing all fluids, contents and synthetic liners and disposed of in a division-approved facility, or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves.

6.3 Soil Sampling

NGL will 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:

Components	Test Method	51' - 100' GW Depth Limit (mg/kg)	>100' GW Depth Limit (mg/kg)
Chloride	EPA 300.0	10,000	20,000
TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500	2,500
GRO + DRO	EPA SW-846 Method 8015M	1,000	1,000
BTEX	EPA SW-846 Method 8021B or 8260B	50	50
Benzene	EPA SW-846 Method 8021B or 8260B	10	10

Table I. Constituent Testing Levels

a. If any containment concentration is higher than the parameters listed in Table I, NGL will receive approval before proceeding with closures as the division may require additional delineation upon review of the results.
b. If all contaminant concentrations are less than or equal to the parameters listed in Table I then NGL will proceed to backfill with non-waste containing, uncontaminated, earthen material.

6.4 Reclamation

The topsoil and subsoil will 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.
NGL will reclaim and reseed the recycling containment area pursuant to the requirements listed in 19.15.34.14. Once NGL has closed the recycling containment, they will reclaim the containment's location to a safe and stable condition that blends with the surrounding undisturbed area and matches the existing grade. Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to prevent ponding and erosion. The disturbed area shall then be reseeded in the first favorable growing season following closure of a recycling containment. NGL will restore the impacted surface area to the condition that existed prior to the construction of the recycling containment.

Reclamation of all disturbed areas no longer in use shall be considered completed 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.

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. NGL will notify the OCD district office when reclamation and revegetation have been completed.

7. iWATERS REPORT & WATER WELL DATA

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01932		C	ED		3	1	12	24S	32E	628633	3567188*	492		
C 02350		CUB	ED		4	3	10	24S	32E	625826	3566333*	60		
C 03527 POD1		C	LE	1	2	3	03	24S	32E	625770	3568487	500		
C 03528 POD1		C	LE	1	1	2	15	24S	32E	626040	3566129	541		
C 03530 POD1		C	LE	3	4	3	07	24S	32E	620886	3566156	550		
C 03555 POD1		C	LE	2	2	1	05	24S	32E	622709	3569231	600	380	220

Average Depth to Water: **380 feet**

Minimum Depth: **380 feet**

Maximum Depth: **380 feet**

Record Count: 6

PLSS Search:

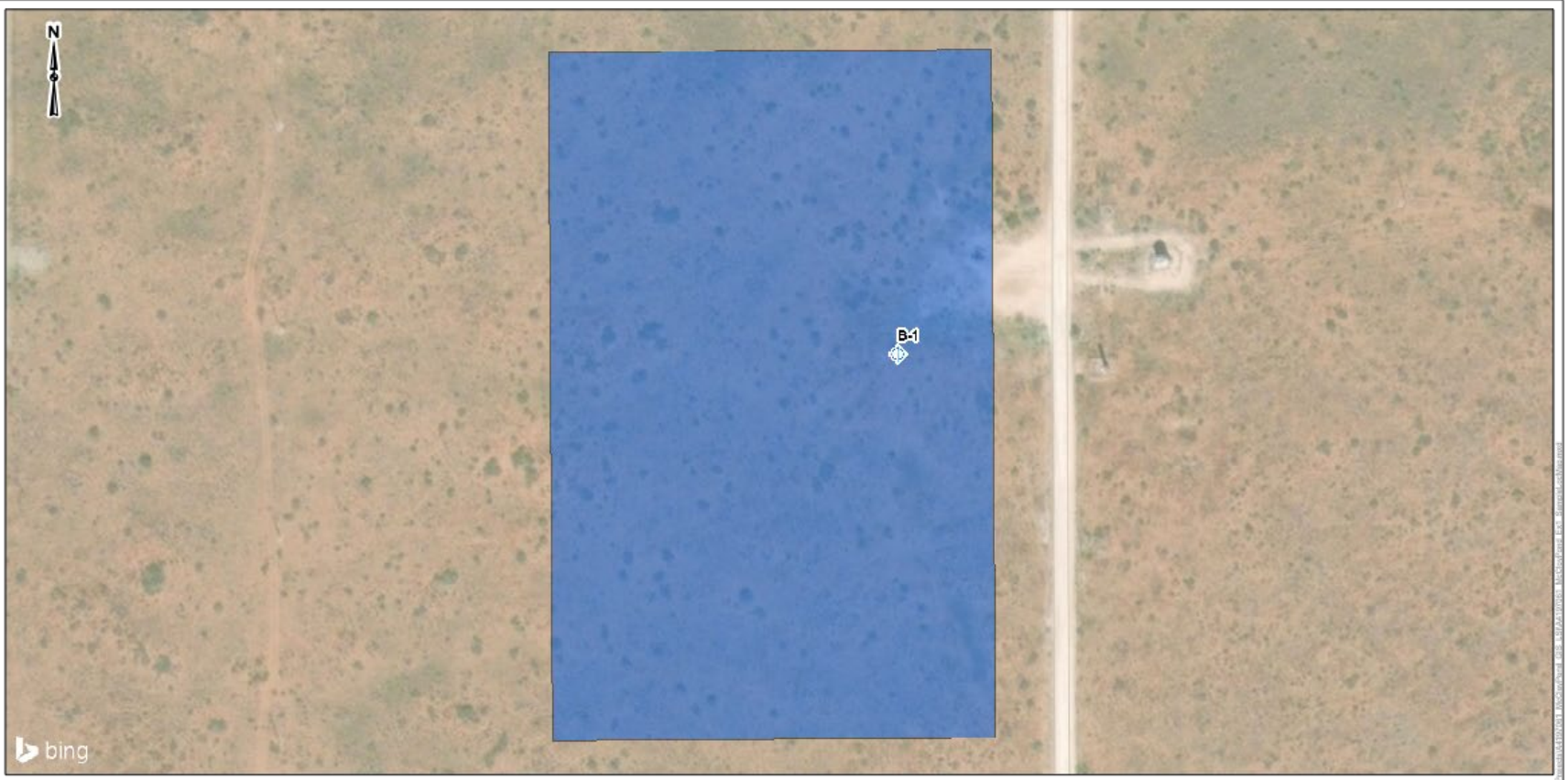
Township: 24S **Range:** 32E

***UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

4/30/19 9:57 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



Limited Site Investigation

Soil Boring (B)

McCloy Producted Water Pond

Notes:
-Exhibit is for general location only, is not indended for construction purposes, and should not be used separately from original report.

0 125 250 500 Feet

Fractional Scale: 1:1,702

DATA SOURCES:
Bing Maps - Aerial Imagery, World Street Map

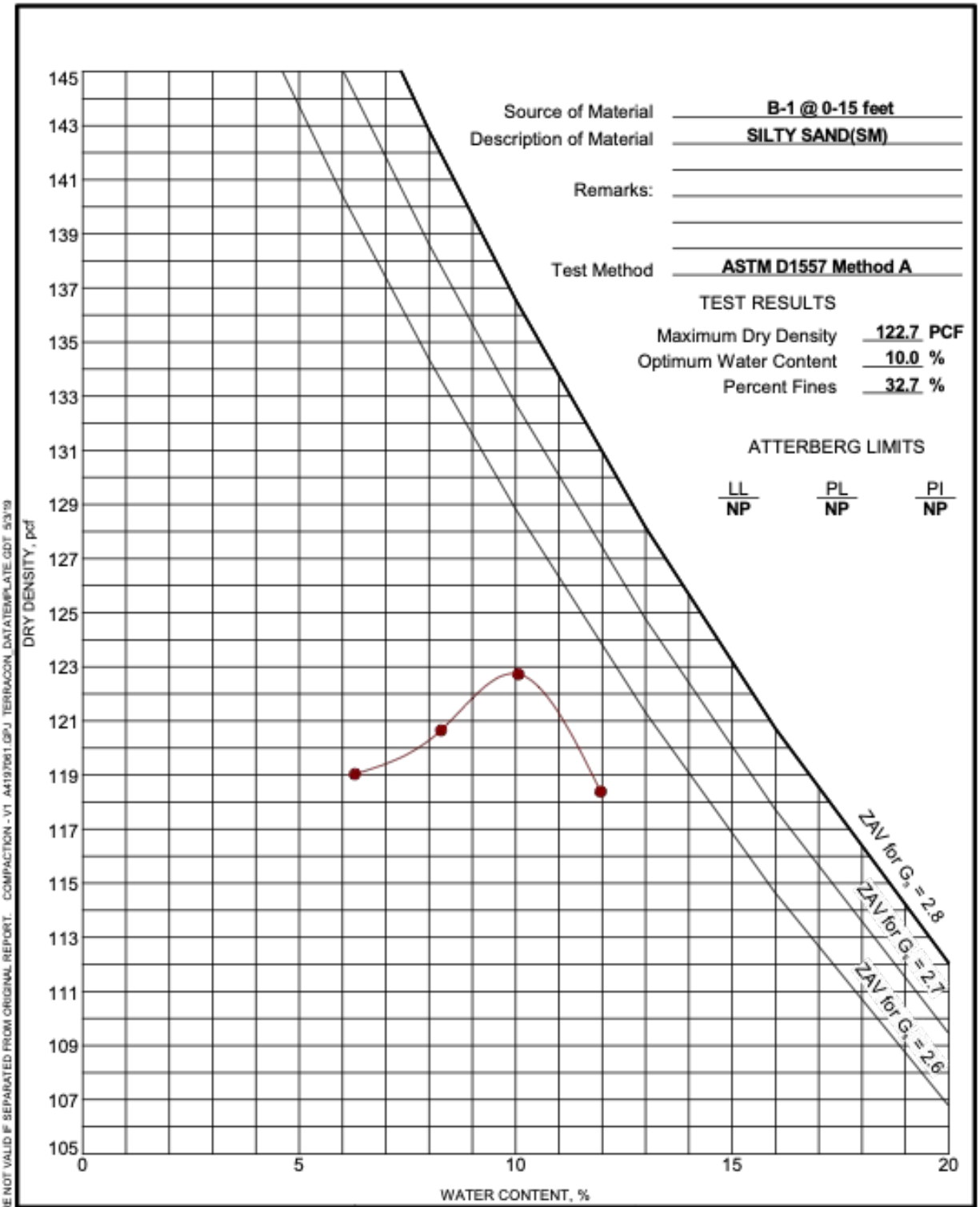
Project No.:	A4197061
Date:	May 2019
Drawn By:	SW
Reviewed By:	KA

10400 Highway 191 Midland, TX 79707
PH. (432) 684-9600 terracon.com

Sample Location Map	Exhibit
McCloy Produced Water Pond Trammco Environmental Services Project Address Lea County, New Mexico GPS: 32.2119242°, -103.6607054°	1

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: B-1 @ 0-15 feet

Description of Material: SILTY SAND(SM)

Remarks:

Test Method: ASTM D1557 Method A

TEST RESULTS

Maximum Dry Density	122.7 PCF
Optimum Water Content	10.0 %
Percent Fines	32.7 %

ATTERBERG LIMITS

LL	PL	PI
NP	NP	NP

PROJECT: McCloy Produced Water Pond		PROJECT NUMBER: A4197061
SITE: Lea County Jal, New Mexico		CLIENT: Trammco Environmental Solutions, LLC Fernandina Beach, FL
		EXHIBIT: B-1

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. COMPACTION - V1 A4197061.GPJ TERRACON_DATATEMPLATE.GDT 5/3/19

BORING LOG NO. B-1

Page 1 of 2

PROJECT: McCloy Produced Water Pond

CLIENT: Trammco Environmental Solutions, LLC
Fernandina Beach, FL

SITE: Lea County
Jal, New Mexico

LOCATION See Exhibit A-2

Latitude: 32.2119° Longitude: -103.6607°

GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
DEPTH							
POORLY GRADED SAND (SP), fine to medium grained, reddish brown				3-3-3 N=6	6	NP	33
				4-8-8 N=16			
	5			4-6-8 N=14			
				4-3-3 N=6			
8.0							
SILTY SAND (SM), with calcareous nodules, fine grained, light brown, moderate cementation,				15-17-18 N=35			
	10						
	15			20-34-56/6"			
Switched to air rotary at 19 feet				50/1"			
Interbeded with sandstone from 20 - 30 feet	20						
25.0				50/1"			
POORLY GRADED SAND (SP), fine to medium grained, light brown to orangish brown	25						
				18-22-24 N=46			
	30						
				18-24-40 N=64			
	35						
				18-37-37 N=74			
	40						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:

Abandonment Method:
Boring backfilled with bentonite grout upon completion

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Boring Started: 04-29-2019 | Boring Completed: 04-29-2019

Drill Rig: Mobile B-59 | Driller: Chris

Project No.: A4197061 | Exhibit: B-1

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL A4197061.GPJ MODELLAYER.GPJ 5/3/19

BORING LOG NO. B-1

PROJECT: McCloy Produced Water Pond

CLIENT: Trammco Environmental Solutions, LLC
Fernandina Beach, FL

SITE: Lea County
Jal, New Mexico

LOCATION See Exhibit A-2

Latitude: 32.2119° Longitude: -103.6607°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), fine to medium grained, light brown to orangish brown *(continued)*	45			19-40-35 N=75			
		50						
		55			26-27-21 N=48			
		60						
		65			28-21-31 N=52			
		70						
	75.0	75			18-32-31 N=63			
	Boring Terminated at 75 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:

Abandonment Method:
Boring backfilled with bentonite grout upon completion

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Boring Started: 04-29-2019 | Boring Completed: 04-29-2019

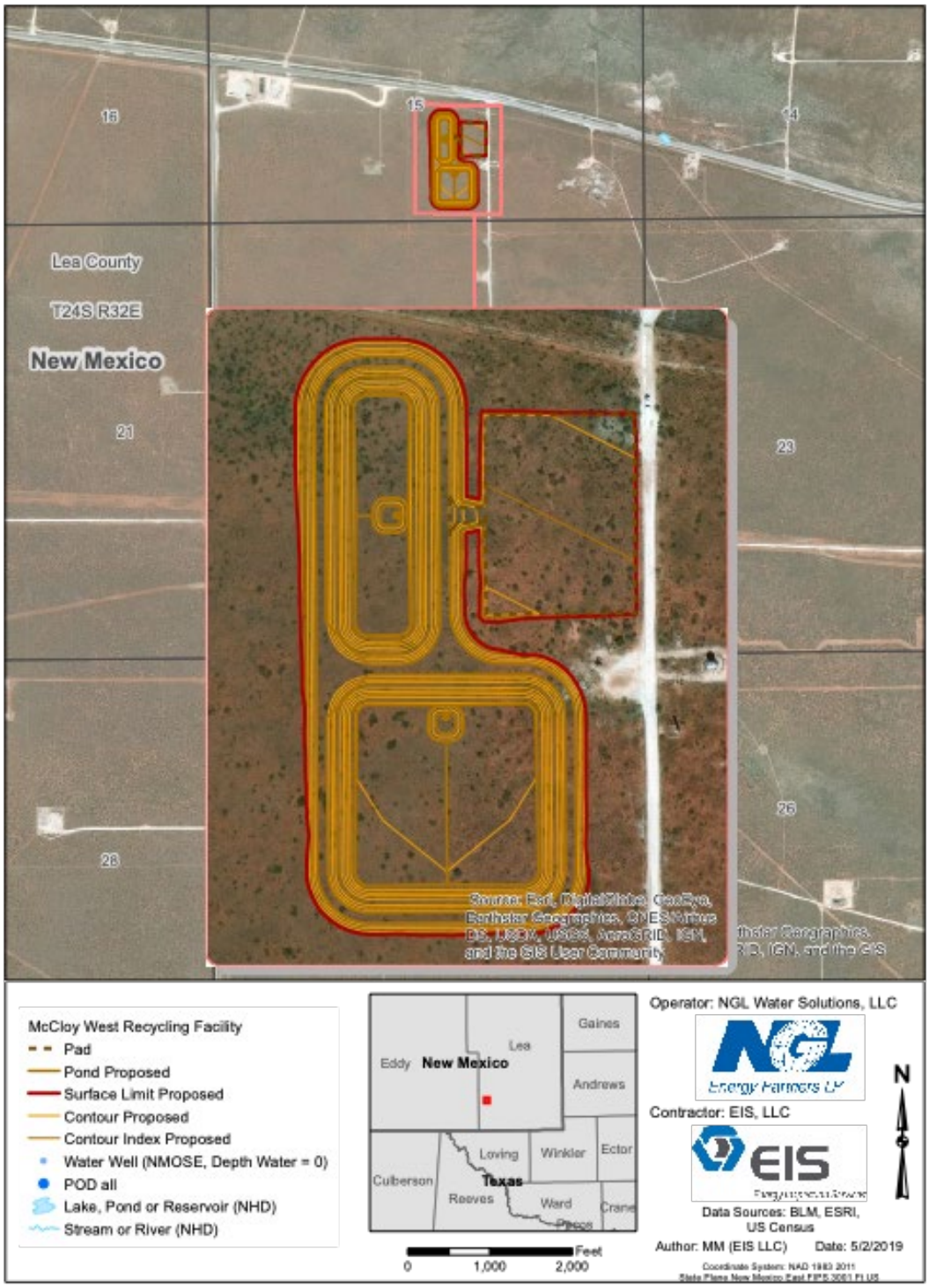
Drill Rig: Mobile B-59 | Driller: Chris

Project No.: A4197061 | Exhibit: B-1

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL A4197061.GPJ MODELLAYER.GPJ 9/3/19

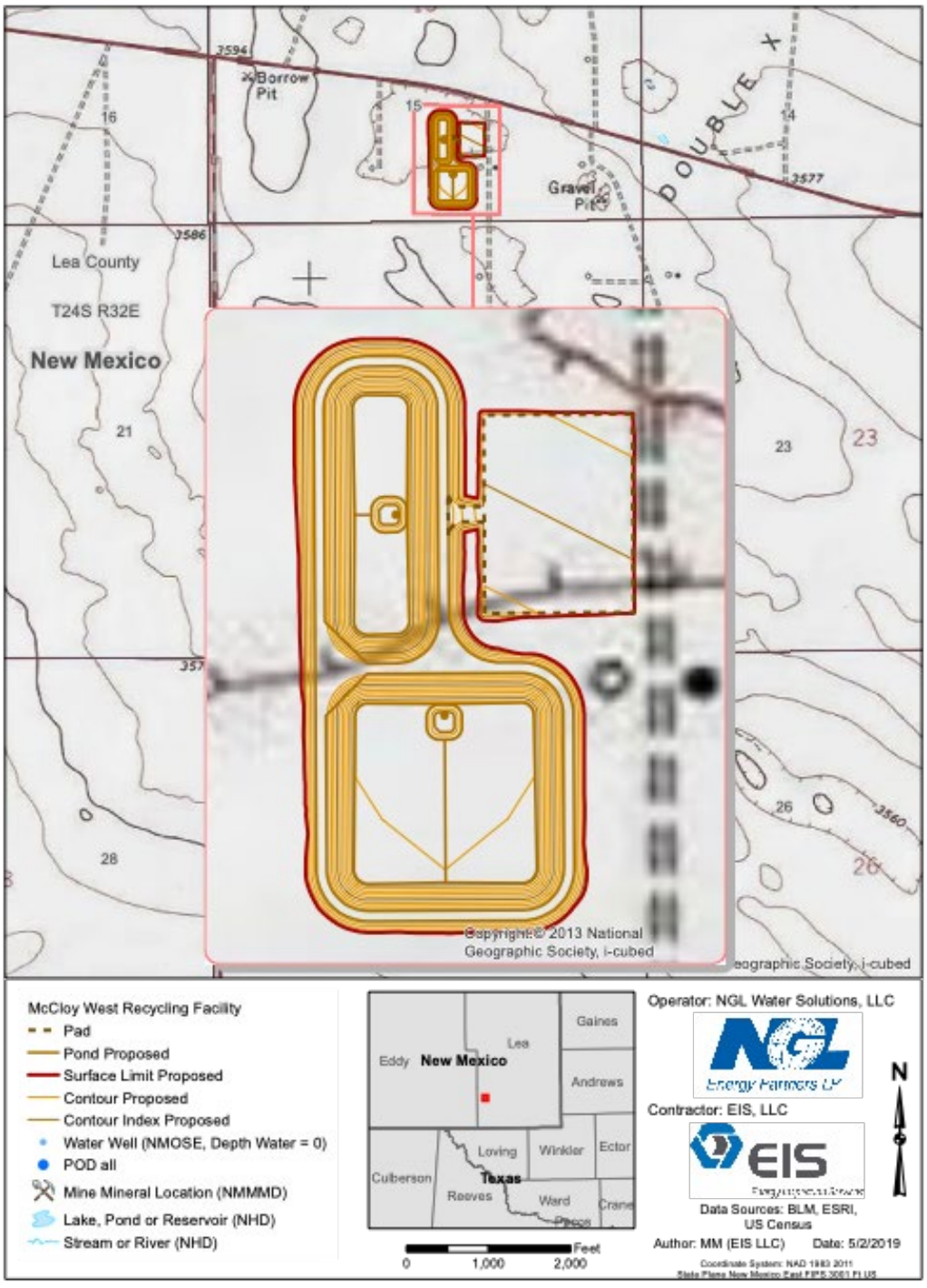
8. AERIAL MAP

NGL Water Solutions, LLC, McCloy West Recycling Facility, Aerial



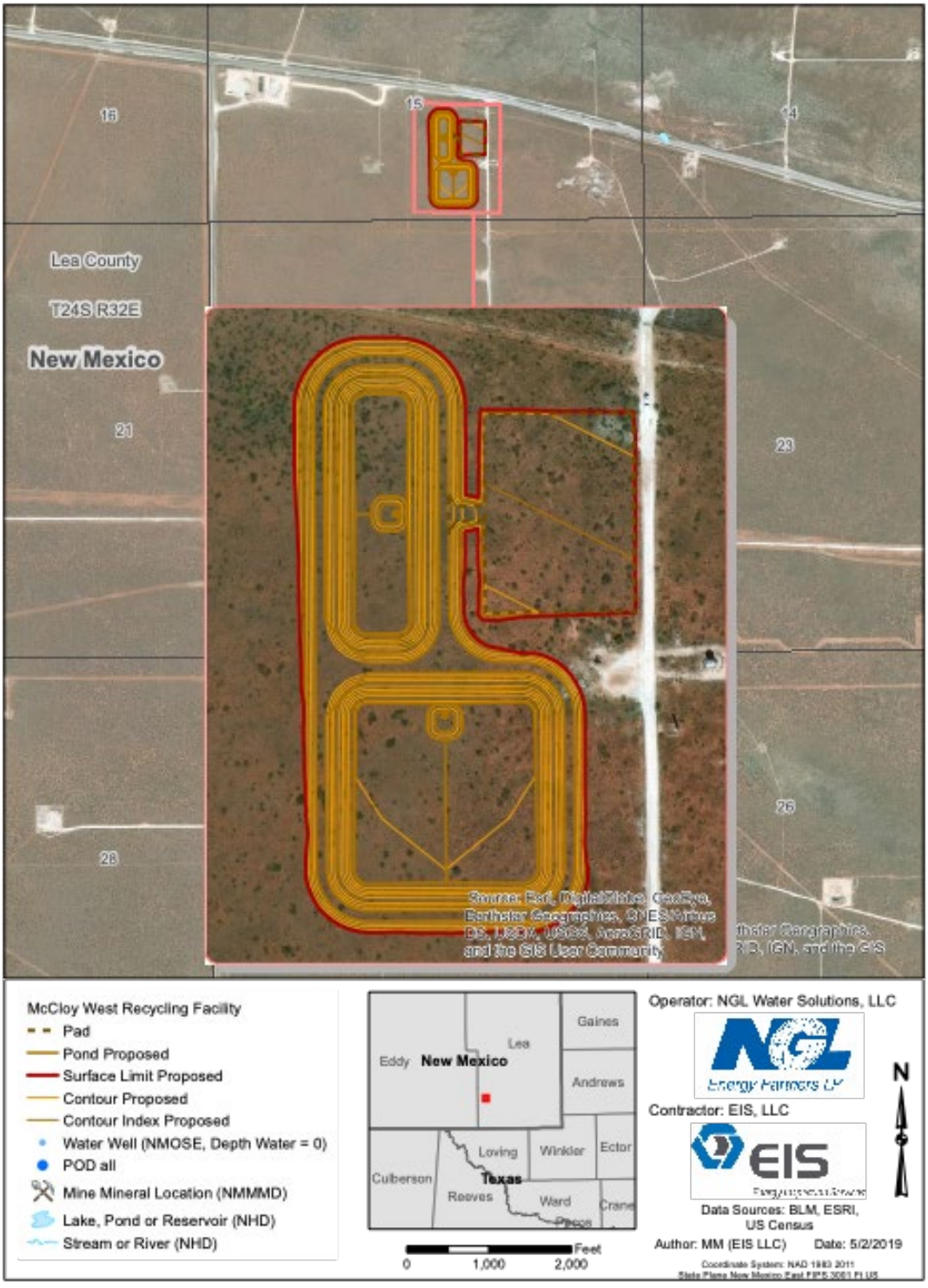
9. TOPO MAP

NGL Water Solutions, LLC, McCloy West Recycling Facility, Topo



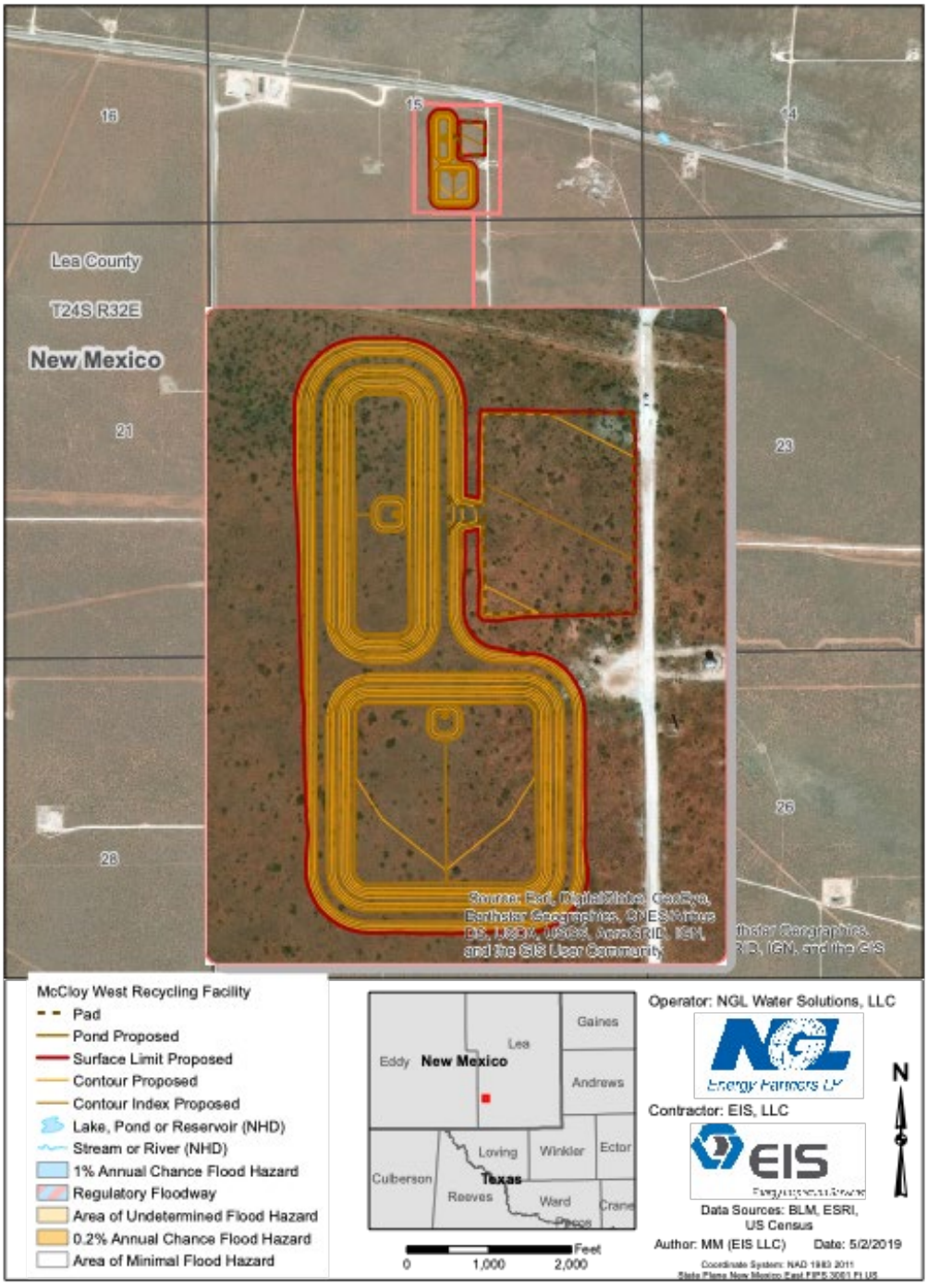
10. MINES MILLS MAP

NGL Water Solutions, LLC, McCloy West Recycling Facility, Mines



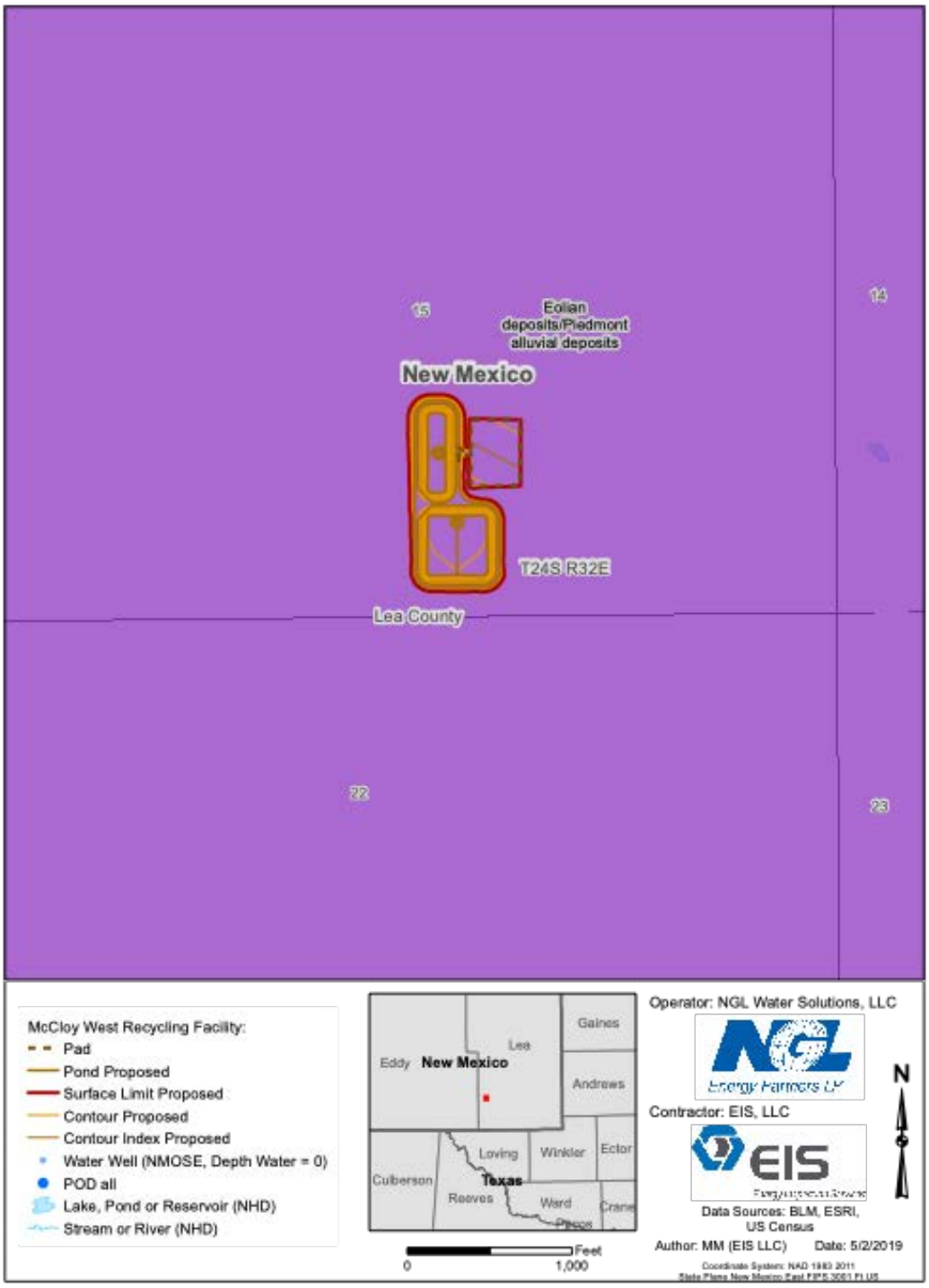
11. FEMA FLOOD MAP

NGL Water Solutions, LLC, McCloy West Recycling Facility, FEMA

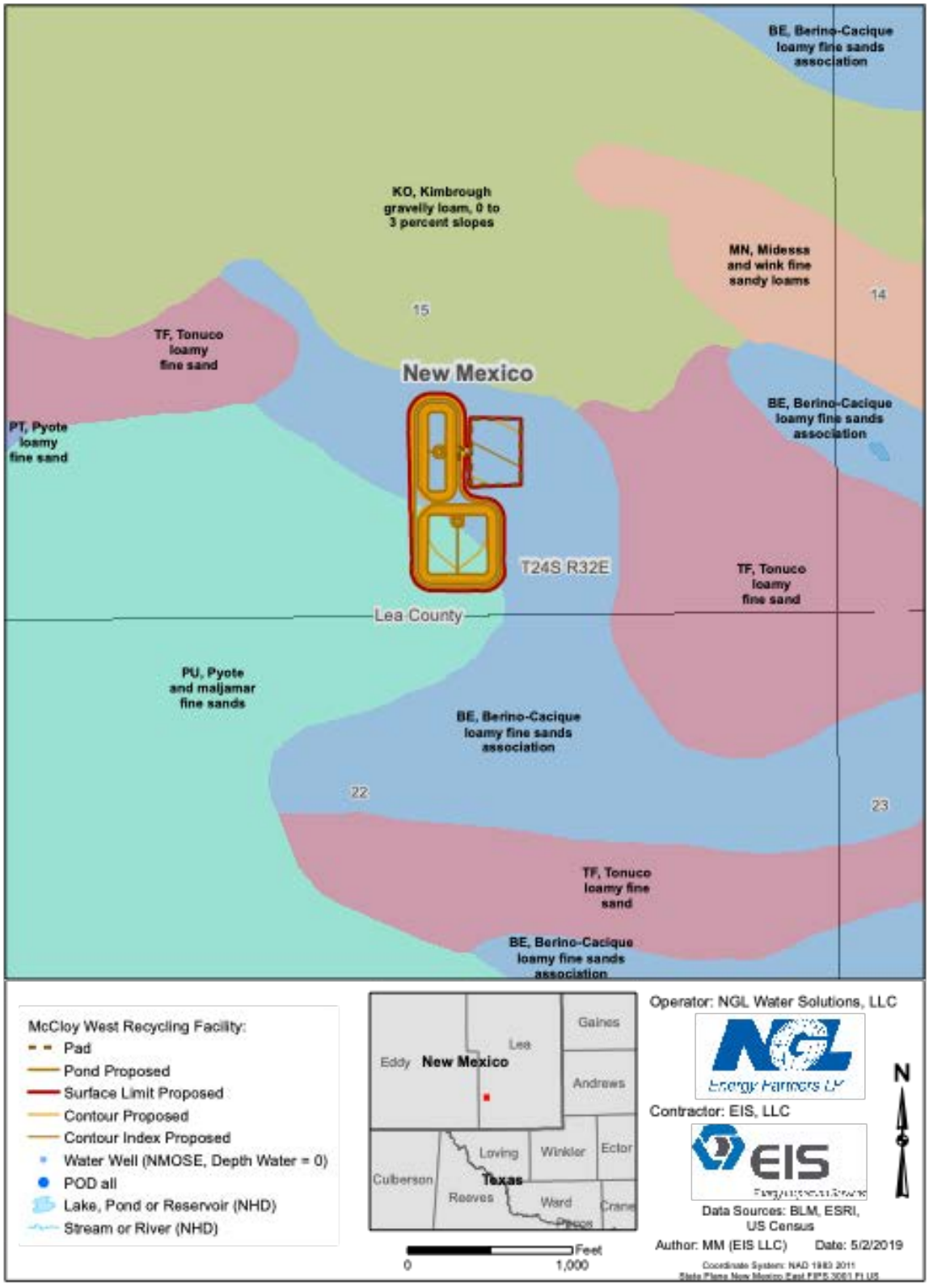


12. HYDROLOGY REPORT

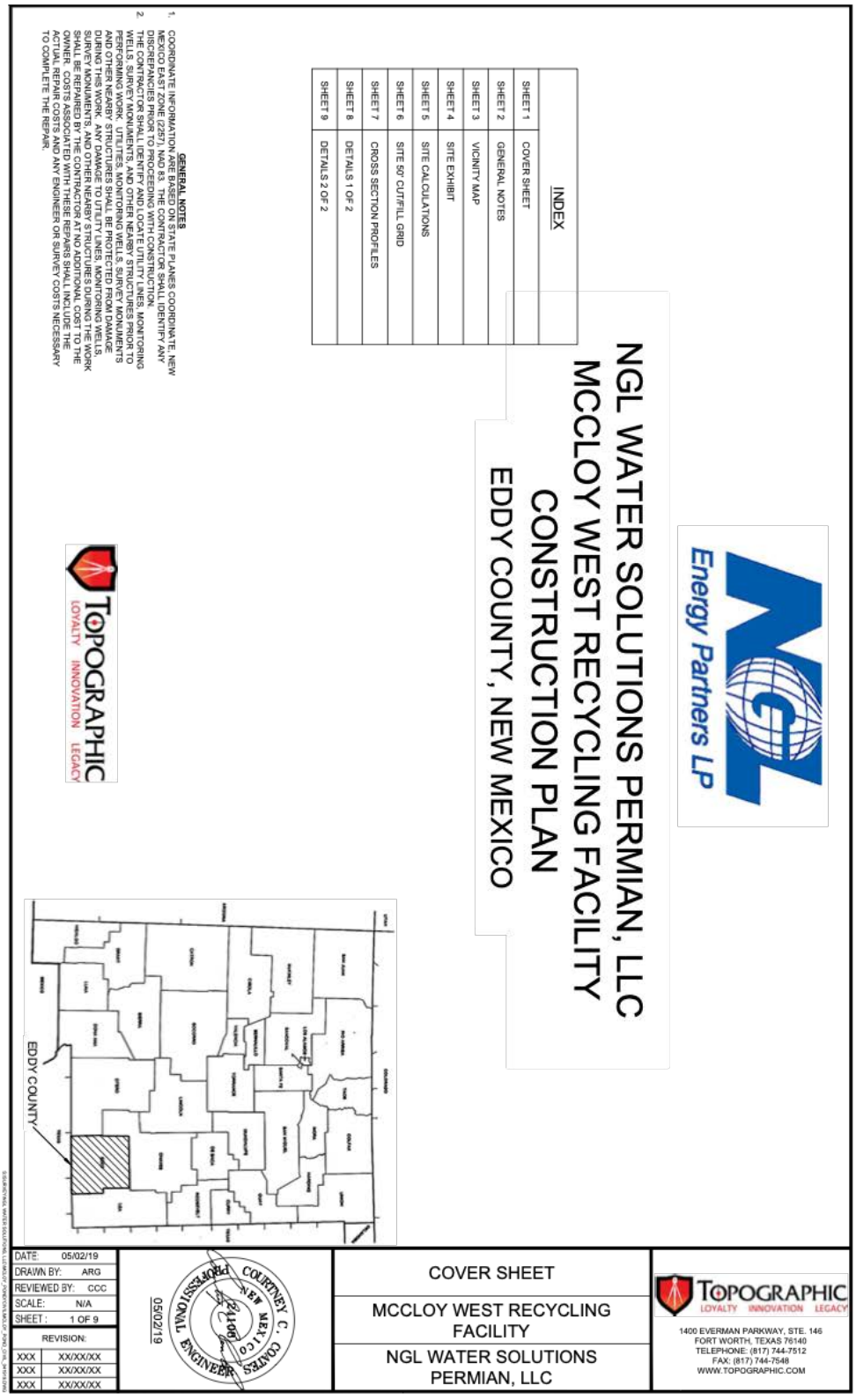
NGL Water Solutions, LLC, McCloy West Recycling Facility, Geology



NGL Water Solutions, LLC, McCloy West Recycling Facility, Soils



ATTACHMENT A - CONTAINMENT CONSTRUCTION PLANS



GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT CONSTRUCTION PLANS OF THE REGISTRATION/PERMIT. NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION LATEST EDITION SHALL APPLY TO THIS PROJECT.
2. ALL DATA SHOWN HEREIN CONCERNING EXISTING PRIVATE AND/OR PUBLIC OWNED UTILITIES HAVE BEEN OBTAINED FROM THE OWNERS AND/OR FIELD OBSERVATIONS. THESE MAY OR MAY NOT BE ACCURATE. THE CONTRACTOR IS CAUTIONED THAT HE IS RESPONSIBLE FOR THE EXACT LOCATION AND PROTECTION OF ALL LINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING, IN ADVANCE OF HIS/HER CONSTRUCTION OPERATIONS, IF OVERHEAD UTILITY LINES, SUPPORT STRUCTURES, POLES, GUYS, ETC. ARE AN OBSTRUCTION TO CONSTRUCTION OPERATIONS. IF ANY OBSTRUCTION IS EVIDENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY OWNER TO REMOVE OR SUPPORT THE UTILITY OBSTRUCTION. ANY COST ASSOCIATED WITH THIS EFFORT IS INCIDENTAL TO THE PROJECT.
3. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE AND SUPPLY WATER FOR THE PROJECT.
4. THE BOTTOM OF PIT SHALL BE SLOPED AT A MINIMUM 0.50% AS SHOWN.
5. THE PERIMETER OF THE SITE SHALL BE ENCLOSED WITH CHAINLINK FENCE AS PRESCRIBED BY DESIGN/CONSTRUCTION PLAN IN REGISTRATION/PERMIT APPLICATION.
6. STRIP AND STOCKPILE TOP SOIL FOR FUTURE CLOSURE USE AND ENSURE EXCESS MATERIAL IS SEGREGATED FROM TOPSOIL MATERIAL. NEW MEXICO ADMINISTRATIVE CODE 19.15.34 AND (DESIGN AND CONSTRUCTION SPECIFICATIONS FOR A RECYCLING CONTAINMENT IN REGISTRATION/PERMIT) SHALL APPLY TO THIS PROJECT.
7. THE 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 AND OVER THE LINER WHEN NEEDED TO REDUCE LOCALIZED STRESS-STRAIN OR PROTUBERANCES THAT OTHERWISE MAY COMPROMISE THE LINER'S INTEGRITY.
8. AS DESCRIBED IN THE DESIGN/CONSTRUCTION PLANS OF THE REGISTRATION/PERMIT, 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 60-MIL HDPE LINERS. SECONDARY LINERS SHALL BE 60-MIL HDPE. LINER COMPATIBILITY SHALL MEET OR EXCEED THE EPA SW-846 METHOD 9090A OR SUBSEQUENT RELEVANT PUBLICATIONS.
9. LINER SEAMS SHALL BE MINIMIZED AND ORIENTED UP AND DOWN, NOT ACROSS THE SLOPE.
10. EXPANSION WRINKLE SHALL BE INSTALLED IF NECESSARY INSIDE POND FOR THERMAL EXPANSION / CONTRACTION.
11. UNLESS DIFFERENTLY STATED IN THE CONSTRUCTION PLAN OF THE REGISTRATION PERMIT,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. 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 HAVING MORE THAN 1,000,000 SQ.FT. EXPERIENCE SHALL PERFORM FIELD WELDING AND TESTING. DOCUMENTATION OF LINER WELDERS EXPERIENCE IS REQUIRED TO BE PRESENT.
12. AT POINTS 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.
13. 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.
14. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT NEW MEXICO 811 (FORMERLY NEW MEXICO ONE CALL) A MINIMUM OF 48 HOURS BEFORE EXCAVATION. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL DESIGNATED UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
15. DURING CONSTRUCTION OF THE CONTAINMENT, THE CONTRACTOR WILL REPORT AND RESPOND TO ANY SPILLS OF HAZARDOUS MATERIALS SUCH AS GASOLINE, DIESEL, MOTOR OILS, SOLVENTS, CHEMICALS. TOXIC OR CORROSIVE SUBSTANCES, ETC. A SPILL IS DEFINED AS ANY RELEASE OF A CORROSIVE, HAZARDOUS, TOXIC OR RADIOACTIVE SUBSTANCE THAT MAY BE A THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT. REPORTS OF SPILLS WILL BE MADE IMMEDIATELY TO BOTH THE NEW MEXICO ENVIRONMENT DEPARTMENT EMERGENCY RESPONSE TEAM (505-827-9329 OR 866-428-6535). THE CONTRACTOR WILL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF ANY SPILL ASSOCIATED WITH PROJECT CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPORTING ANY DISCOVERIES OF PAST SPILLS OR CURRENT SPILLS NOT ASSOCIATED WITH CONSTRUCTION.
16. CONTRACTOR MUST OBTAIN CLIENT PERMISSION BEFORE SALVAGING ANY ITEMS SPECIFIED FOR REMOVAL AND DISPOSAL AFTER COMPLETION OF CONSTRUCTION OF THE CONTAINMENT.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING DISPOSAL SITES THAT ARE ENVIRONMENTALLY SUITABLE FOR DISPOSAL OF ITEMS NOT SPECIFIED TO BE SALVAGED. THE CONTRACTOR IS EXPECTED TO ABIDE BY ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS IN OBTAINING THE NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES AND/OR PRIVATE PROPERTY OWNERS. ALL COSTS ASSOCIATED WITH OBTAINING THESE PERMITS SHALL BE INCIDENTAL TO THE COMPLETION OF THE PROJECT AND NO DIRECT MEASUREMENT OR PAYMENT SHALL BE MADE THEREFORE. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH COPIES OF ALL PERTINENT INFORMATION, AGREEMENTS, AND PERMITS RELATED TO DISPOSAL SITES UTILIZED. BORROW MATERIAL, ROCK WASTE, AND VEGETATIVE DEBRIS SHALL NOT BE PLACED IN WETLANDS, ARROYOS, OR AREAS THAT MAY IMPACT THREATENED OR ENDANGERED SPECIES. ARCHEOLOGICAL AND ENVIRONMENTAL CLEARANCES MUST BE OBTAINED BEFORE DISPOSAL.
18. ALL MATERIALS SHALL BE APPROVED BY NGL CONSTRUCTION REPRESENTATIVES PRIOR TO PURCHASING AND SHALL BE DISCLOSED IN BID.
19. LINER INSTALLATION SHALL BE PERFORMED PER INDUSTRY BEST PRACTICES, STANDARDS AND NGL PROVIDED GUIDELINES.
20. RUB SHEETS TO BE INSTALLED WELDED TO THE PRIMARY LINER EXTENDING OUTWARDS 5.00' FROM TOP EDGE OF SUMP COVERING 100% OF THE SUMP BOTTOM AS SHOWN IN THE RUB SHEET GENERAL LAYOUT. THE MATERIAL DESIGNATION FOR RUB SHEETS SHALL BE 60MIL HDPE TEXTURED ONE SIDE.

DATE:	05/02/19
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	N/A
SHEET:	2 OF 9
REVISION:	
XXX	XX/XX/XX
XXX	XX/XX/XX
XXX	XX/XX/XX

COURTNEY C. COATES
NEW MEXICO
24106
PROFESSIONAL ENGINEER
05/02/19

GENERAL NOTES

MCCLOY WEST RECYCLING FACILITY

NGL WATER SOLUTIONS PERMIAN, LLC

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, STE. 146
FORT WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512
FAX: (817) 744-7548
WWW.TOPOGRAPHIC.COM

DATE:	05/02/19
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	1" = 1,000'
SHEET:	3 OF 9

REVISION:	
XXX	XX/XX/XX
XXX	XX/XX/XX
XXX	XX/XX/XX

COURTNEY C. COATES — NEW MEXICO — 19012 — PROFESSIONAL ENGINEER — 05/02/19

VICINITY MAP

MCCLOY WEST RECYCLING FACILITY

NGL WATER SOLUTIONS PERMIAN, LLC

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, STE. 146
FORT WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512
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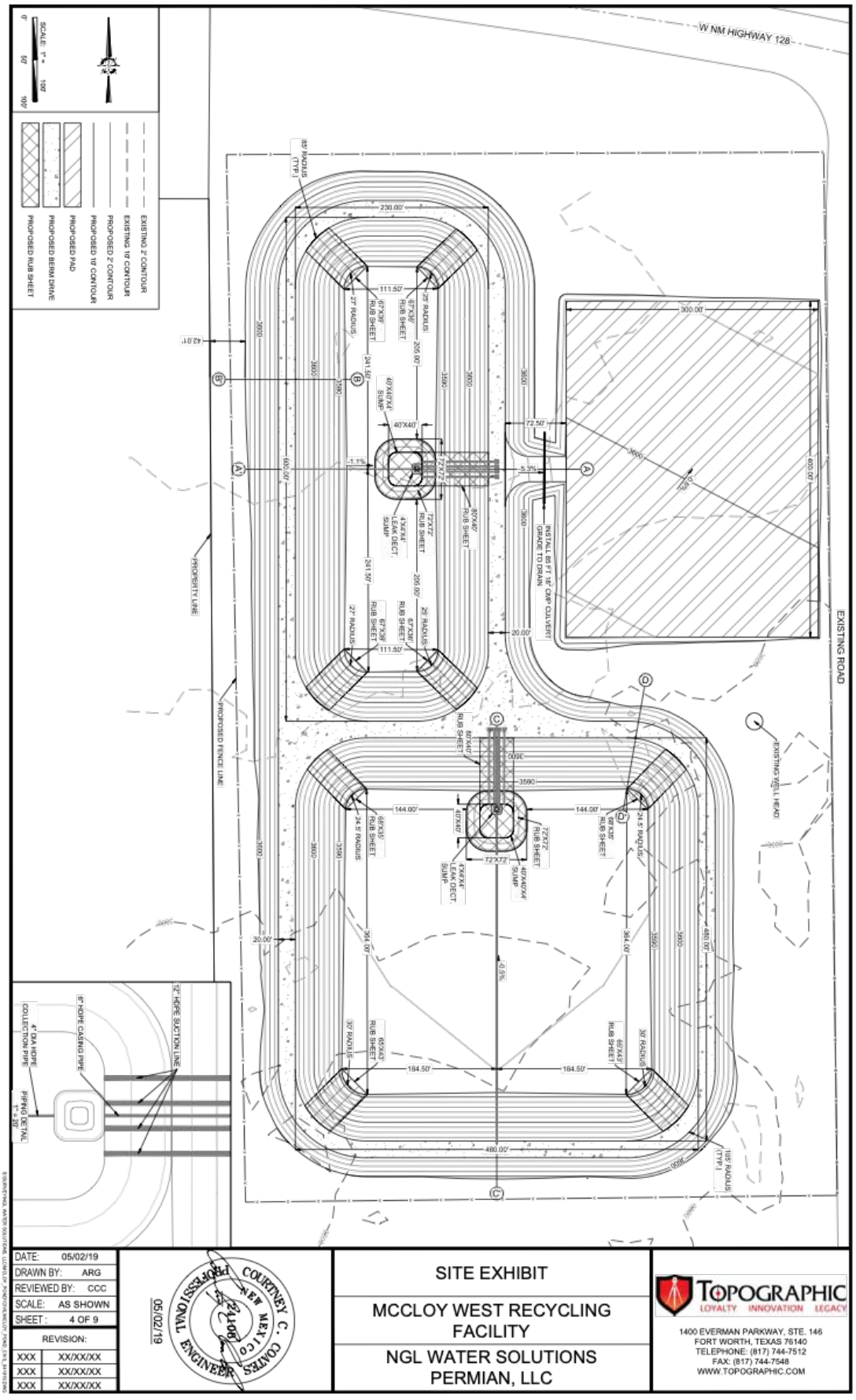
W NM HIGHWAY 128
EXISTING ROAD
PROPERTY LINE
PROPOSED FENCE LINE
EXISTING WELL HEAD
INSTALL 85 FT 18" CMP CULVERT GRADE TO DRAIN
SCALE: 1" = 100'
EXISTING 2' CONTOUR
EXISTING 10' CONTOUR
PROPOSED 2' CONTOUR
PROPOSED 10' CONTOUR
PROPOSED PAD
PROPOSED BERM DRIVE
PROPOSED RUB SHEET
12" HDPE SUCTION LINE
6" HDPE CASING PIPE
4" DIA HDPE COLLECTION PIPE
PIPING DETAIL 1" = 20'
DATE: 05/02/19
DRAWN BY: ARG
REVIEWED BY: CCC
SCALE: AS SHOWN
SHEET: 4 OF 9
REVISION:
XXX XX/XX/XX
XXX XX/XX/XX
XXX XX/XX/XX
COURTNEY C. COATES
NEW MEXICO
PROFESSIONAL ENGINEER
21006
05/02/19
SITE EXHIBIT
MCCLOY WEST RECYCLING FACILITY
NGL WATER SOLUTIONS PERMIAN, LLC
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, STE. 146
FORT WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512
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WWW.TOPOGRAPHIC.COM

	Description	Unit Quantity	Unit
Liner Areas			
	Cut-Slope Area	137,635	SQ. FT
	Pond Area	388,645	SQ. FT
	Rub Sheet	35,650	SQ. FT
Roads			
	Berm Drive (6" Gravel)	72,340	SQ. FT
Culverts			
	18" CMP	85	LIN. FT.
Fence			
	6' Chainlink Fence	3,910	LIN. FT.
Mass Grading			
	Clearing and Grubbing	14.90	ACRE
	Grading	93,115.00	CU. YD.

EARTHWORK QUANTITIES:

CUT:	93,115 CY
FILL:	80,820 CY
TOPSOIL (6"):	12,020 CY
NET (EXCESS):	275 CY
GRADING AREA:	14.90 ACRES
FILL FACTOR:	1.15

NORTH POND QUANTITIES:

MAX VOLUME:	326,176.72 BBLS
MAX AREA:	3.02 ACRES
MAX ELEVATION:	3,607.40 FT
3' FREEBOARD:	3,604.40 FT
VOLUME @ FREEBOARD:	259,272.53 BBLS

SOUTH POND QUANTITIES:

MAX VOLUME:	621,336.18 BBLS
MAX AREA:	5.14 ACRES
MAX ELEVATION:	3,607.40 FT
3' FREEBOARD:	3,604.40 FT
VOLUME @ FREEBOARD:	505,848.77 BBLS

NORTH POND STAGE-STORAGE				
ELEV.	DEPTH (FT)	AREA (ACRES)	VOLUME (BBLS)	VOLUME (ACRE-FT)	VOLUME (CY)
3,582.40	0.00	0.01	73.38	0.01	15.26
3,583.40	1.00	0.05	336.61	0.04	70.00
3,584.40	2.00	0.07	770.74	0.10	160.27
3,585.40	3.00	0.09	1,348.55	0.17	280.43
3,586.40	4.00	0.12	2,110.12	0.27	438.79
3,587.40	5.00	0.86	5,693.93	0.73	1,184.04
3,588.40	6.00	1.27	14,598.50	1.88	3,035.72
3,589.40	7.00	1.35	24,764.25	3.19	5,149.67
3,590.40	8.00	1.44	35,581.96	4.59	7,399.19
3,591.40	9.00	1.52	47,051.16	6.06	9,784.18
3,592.40	10.00	1.61	59,178.23	7.63	12,305.98
3,593.40	11.00	1.69	71,965.18	9.28	14,965.00
3,594.00	11.60	1.75	79,957.18	10.31	16,626.92
3,594.40	12.00	1.78	85,420.06	11.01	17,762.91
3,595.40	13.00	1.87	99,555.00	12.83	20,701.61
3,596.40	14.00	1.96	114,370.95	14.74	23,785.18
3,597.40	15.00	2.06	129,889.22	16.74	27,010.59
3,598.40	16.00	2.15	146,119.97	18.83	30,385.32
3,599.40	17.00	2.25	163,064.31	21.02	33,908.86
3,600.40	18.00	2.34	180,736.46	23.30	37,583.74
3,601.40	19.00	2.45	199,168.97	25.67	41,413.29
3,602.40	20.00	2.56	218,367.56	28.15	45,409.04
3,603.40	21.00	2.68	238,398.05	30.73	49,574.34
3,604.40	22.00	2.79	259,272.53	33.42	53,915.14
3,605.40	23.00	2.90	280,905.80	36.21	58,413.73
3,606.40	24.00	3.01	303,399.50	39.11	63,091.25
3,607.40	25.00	3.02	326,176.72	42.04	67,827.72

SOUTH POND STAGE-STORAGE					
ELEV.	DEPTH (FT)	AREA (ACRES)	VOLUME (BBLS)	VOLUME (ACRE-FT)	VOLUME (CY)
3,582.40	0.00	0.01	59.28	0.01	12.33
3,583.40	1.00	0.05	344.83	0.04	71.71
3,584.40	2.00	0.06	772.48	0.10	160.63
3,585.40	3.00	0.10	1,350.14	0.17	280.76
3,586.40	4.00	0.15	2,139.04	0.28	444.81
3,587.40	5.00	1.26	6,783.89	0.87	1,410.69
3,588.40	6.00	2.70	22,110.36	2.85	4,597.80
3,589.40	7.00	3.15	45,454.61	5.86	9,452.18
3,590.40	8.00	3.26	70,237.04	9.05	14,605.63
3,591.40	9.00	3.37	95,849.43	12.35	19,931.67
3,592.40	10.00	3.47	122,276.60	15.76	25,427.15
3,593.40	11.00	3.57	149,503.30	19.27	31,088.88
3,594.40	12.00	3.68	177,538.09	22.88	36,918.65
3,595.40	13.00	3.79	206,395.83	26.60	42,919.55
3,596.40	14.00	3.91	236,092.40	30.43	49,094.93
3,596.90	14.50	3.97	251,258.03	32.39	52,244.55
3,597.40	15.00	4.02	266,628.07	34.37	55,444.71
3,598.40	16.00	4.13	298,009.15	38.41	61,970.34
3,599.40	17.00	4.25	330,262.44	42.57	68,677.34
3,600.40	18.00	4.37	363,392.16	46.84	75,566.59
3,601.40	19.00	4.50	397,431.52	51.23	82,665.00
3,602.40	20.00	4.65	432,419.28	55.74	89,930.44
3,603.40	21.00	4.82	468,436.46	60.38	97,410.31
3,604.40	22.00	5.06	505,846.77	65.20	105,189.71
3,605.40	23.00	5.10	544,148.07	70.14	113,154.37
3,606.40	24.00	5.13	582,691.84	75.11	121,169.47
3,607.40	25.00	5.14	621,336.18	80.09	129,205.47

BREACH VOLUME
179,315.35 BBLS - 23.11 ACRE FT
SHOWN GRAPHICALLY LEFT

SUB-GRADE VOLUME
79,957.18 BBLS - 10.31 ACRE FT
SHOWN GRAPHICALLY LEFT

BREACH VOLUME
254,588.74 BBLS - 32.81 ACRE FT
SHOWN GRAPHICALLY LEFT

SUB-GRADE VOLUME
251,258.03 BBLS - 32.39 ACRE FT
SHOWN GRAPHICALLY LEFT

DATE: 05/02/19
DRAWN BY: ARG
REVIEWED BY: CCC
SCALE: 1" = 200'
SHEET: 5 OF 9

REVISION:

XXX	XX/XX/XX
XXX	XX/XX/XX
XXX	XX/XX/XX

COURTNEY C. COATES
NEW MEXICO
PROFESSIONAL ENGINEER
05/02/19

SITE CALCULATIONS

MCCLOY WEST RECYCLING FACILITY

NGL WATER SOLUTIONS PERMIAN, LLC

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, STE. 146
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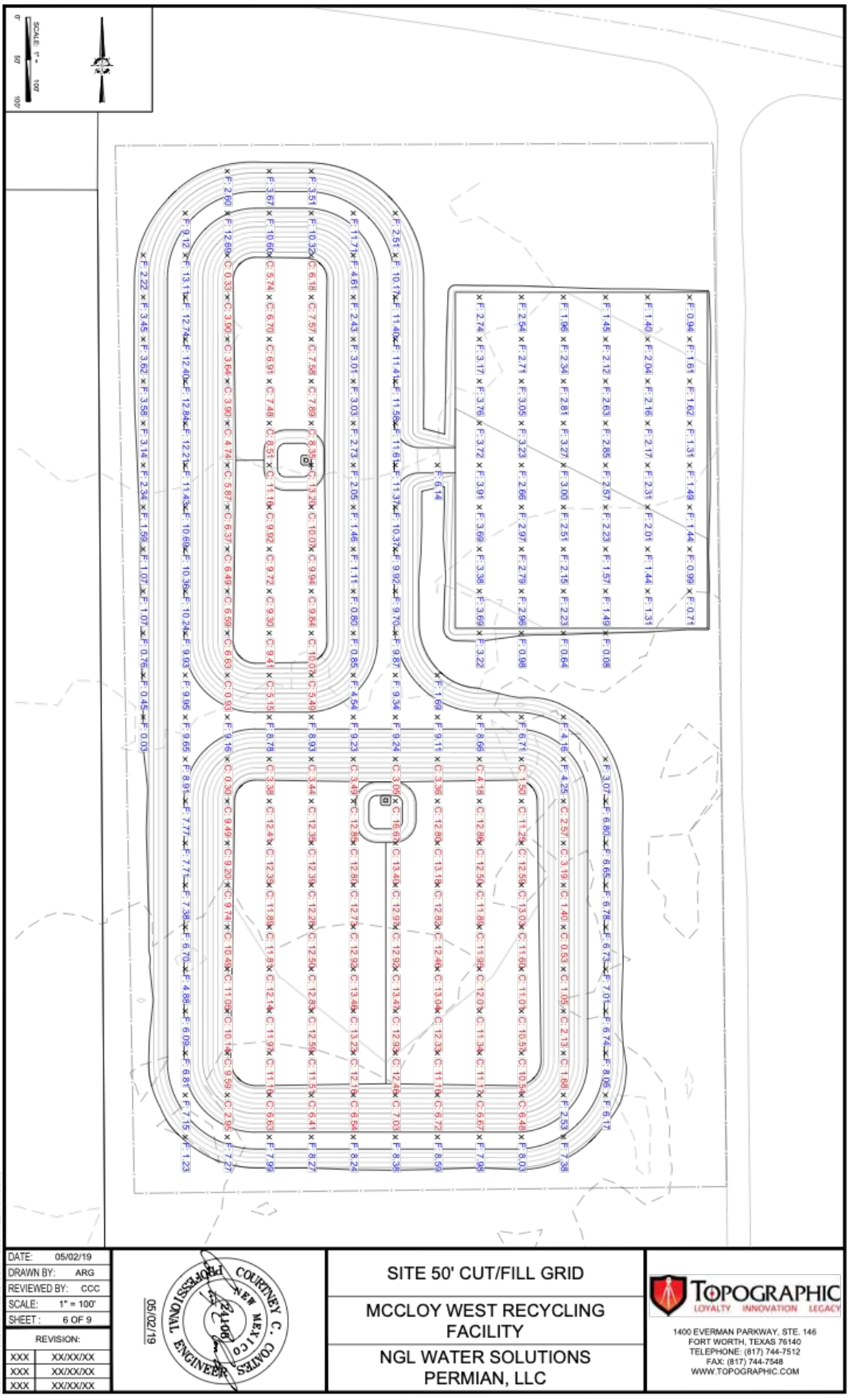
SCALE: 1" = 100'
DATE: 05/02/19
DRAWN BY: ARG
REVIEWED BY: CCC
SCALE: 1" = 100'
SHEET: 6 OF 9
REVISION:
XXX XX/XX/XX
XXX XX/XX/XX
XXX XX/XX/XX
COURTNEY C. COATES
NEW MEXICO
PROFESSIONAL ENGINEER
05/02/19
SITE 50' CUT/FILL GRID
MCCLOY WEST RECYCLING FACILITY
NGL WATER SOLUTIONS PERMIAN, LLC
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, STE. 146
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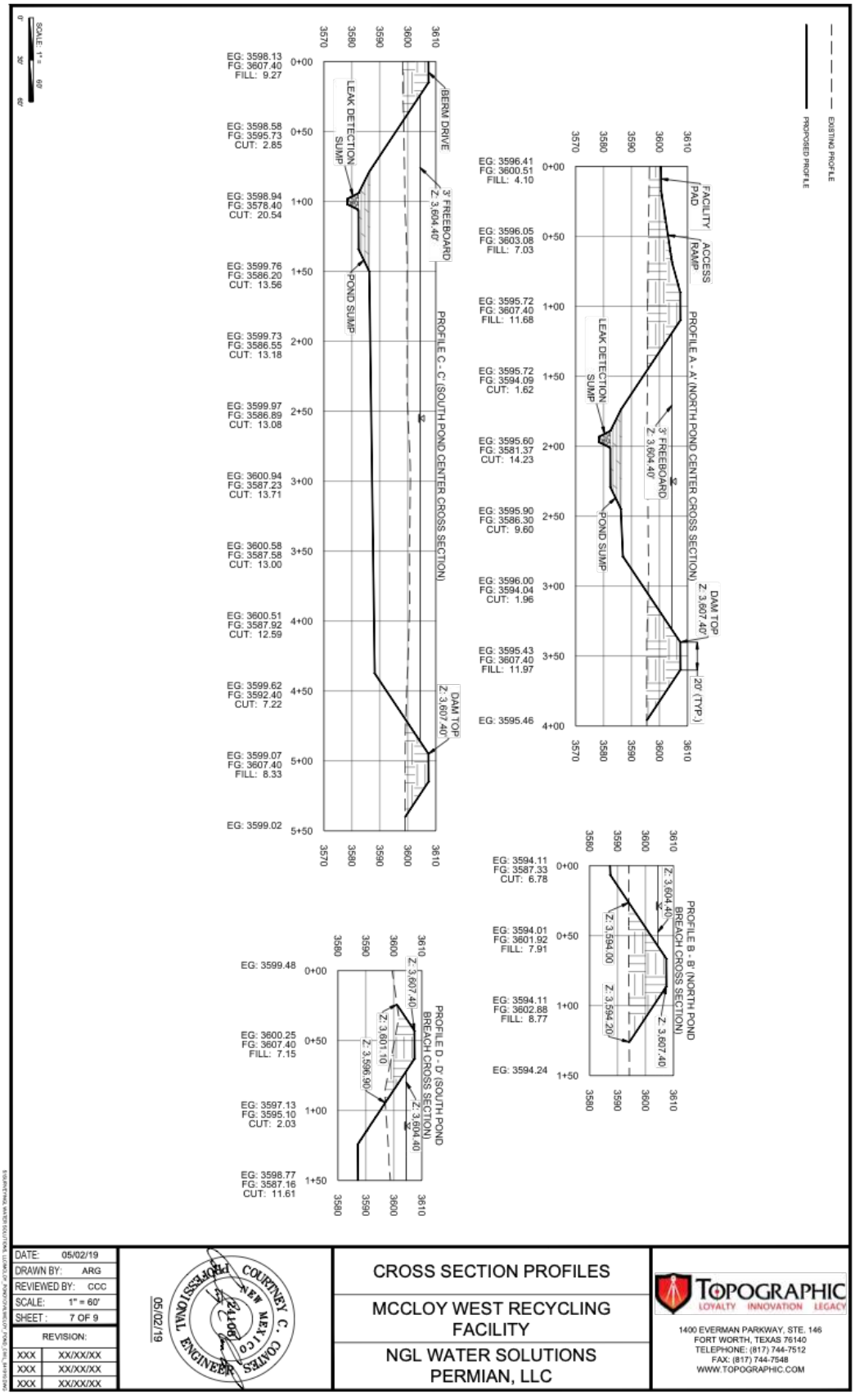
EXISTING PROFILE
PROPOSED PROFILE
SCALE: 1" = 60'
PROFILE C - C' (SOUTH POND CENTER CROSS SECTION)
BERM DRIVE
3' FREEBOARD
Z: 3,604.40'
LEAK DETECTION SUMP
POND SUMP
DAM TOP
Z: 3,607.40'
EG: 3598.13 FG: 3607.40 FILL: 9.27
EG: 3598.58 FG: 3595.73 CUT: 2.85
EG: 3598.94 FG: 3578.40 CUT: 20.54
EG: 3599.76 FG: 3586.20 CUT: 13.56
EG: 3599.73 FG: 3586.55 CUT: 13.18
EG: 3599.97 FG: 3586.89 CUT: 13.08
EG: 3600.94 FG: 3587.23 CUT: 13.71
EG: 3600.58 FG: 3587.58 CUT: 13.00
EG: 3600.51 FG: 3587.92 CUT: 12.59
EG: 3599.62 FG: 3592.40 CUT: 7.22
EG: 3599.07 FG: 3607.40 FILL: 8.33
EG: 3599.02
PROFILE A - A' (NORTH POND CENTER CROSS SECTION)
FACILITY PAD
ACCESS RAMP
LEAK DETECTION SUMP
POND SUMP
20' (TYP.)
EG: 3596.41 FG: 3600.51 FILL: 4.10
EG: 3596.05 FG: 3603.08 FILL: 7.03
EG: 3595.72 FG: 3607.40 FILL: 11.68
EG: 3595.72 FG: 3594.09 CUT: 1.62
EG: 3595.60 FG: 3581.37 CUT: 14.23
EG: 3595.90 FG: 3586.30 CUT: 9.60
EG: 3596.00 FG: 3594.04 CUT: 1.96
EG: 3595.43 FG: 3607.40 FILL: 11.97
EG: 3595.46
PROFILE B - B' (NORTH POND BREACH CROSS SECTION)
Z: 3,604.40'
Z: 3,594.00'
Z: 3,594.20'
Z: 3,607.40'
EG: 3594.11 FG: 3587.33 CUT: 6.78
EG: 3594.01 FG: 3601.92 FILL: 7.91
EG: 3594.11 FG: 3602.88 FILL: 8.77
EG: 3594.24
PROFILE D - D' (SOUTH POND BREACH CROSS SECTION)
Z: 3,607.40'
Z: 3,601.10'
Z: 3,596.90'
Z: 3,604.40'
EG: 3599.48 FG: 3607.40 FILL: 7.15
EG: 3600.25 FG: 3595.10 CUT: 2.03
EG: 3597.13 FG: 3587.16 CUT: 11.61
EG: 3598.77
DATE: 05/02/19
DRAWN BY: ARG
REVIEWED BY: CCC
SCALE: 1" = 60'
SHEET: 7 OF 9
REVISION:
XXX XX/XX/XX
XXX XX/XX/XX
XXX XX/XX/XX
COURTNEY C. CONTES
NEW MEXICO
24017
PROFESSIONAL ENGINEER
05/02/19
CROSS SECTION PROFILES
MCCLOY WEST RECYCLING FACILITY
NGL WATER SOLUTIONS PERMIAN, LLC
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, STE. 146
FORT WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512
FAX: (817) 744-7548
WWW.TOPOGRAPHIC.COM

DATE:	05/02/19
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	N/A
SHEET :	8 OF 9

REVISION:	
XXX	XX/XX/XX
XXX	XX/XX/XX
XXX	XX/XX/XX

COURTNEY C. CANTES 140178 PROFESSIONAL ENGINEER

05/02/19

DETAILS 1 OF 2

MCCLOY WEST RECYCLING FACILITY

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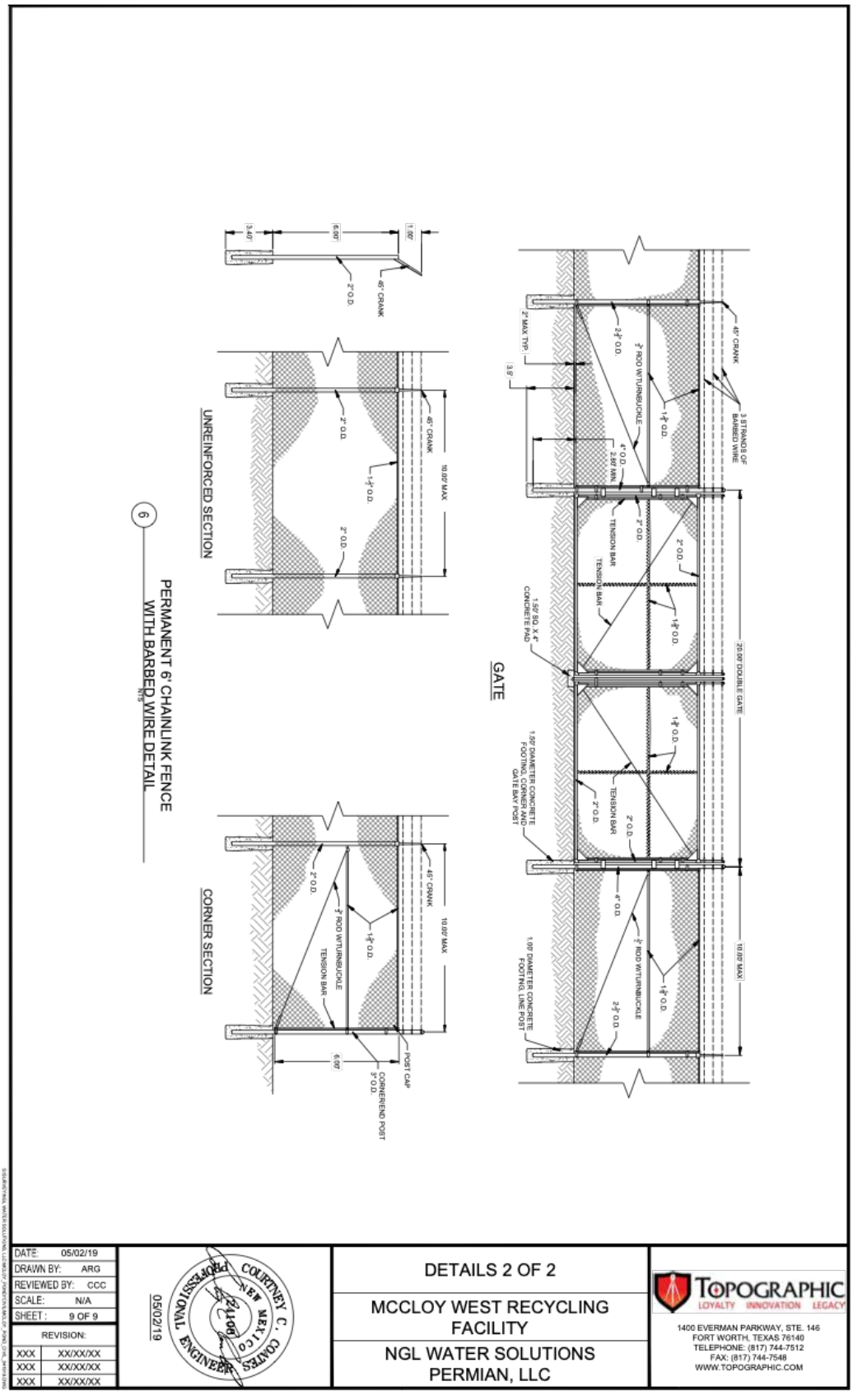

6 PERMANENT 6' CHAINLINK FENCE WITH BARBED WIRE DETAIL
NTS

DATE:	05/02/19
DRAWN BY:	ARG
REVIEWED BY:	CCC
SCALE:	N/A
SHEET :	9 OF 9

REVISION:	
XXX	XX/XX/XX
XXX	XX/XX/XX
XXX	XX/XX/XX

COURTNEY C. CARTER — NEW MEXICO — 21011 — PROFESSIONAL ENGINEER

05/02/19

DETAILS 2 OF 2

MCCLOY WEST RECYCLING FACILITY

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