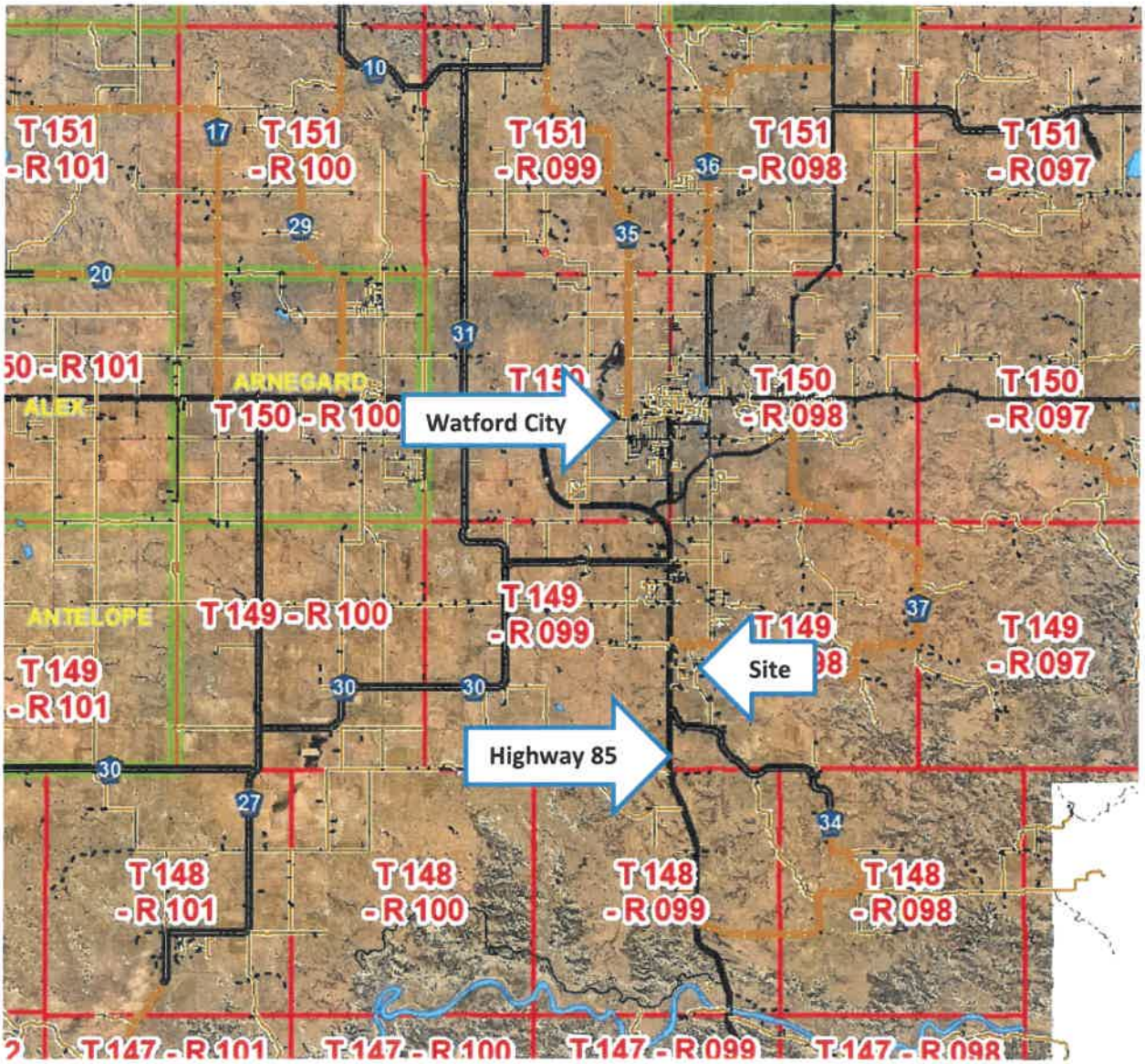
McKENZIE COUNTY

Vicinity Map Jesse Bennett ZC



McKenzie County

Planning and Zoning Commission

001-19 ZC Jesse Bennett

Reason for Request	Applicant is requesting to change the zoning of each parcel from AG to residential. Due to the topography of each parcel the applicant feels like the parcels will be better utilized as residential property.
Hearing Date:	April 15, 2019
Location	IT #2589 PT of SW1/4NE1/4 of Section 19, T149-N, R98-W 2.65 acres Parcel number #630009456 IT #2590 PT of SW1/4NE1/4 of Section 19, T149-N, R98-W 2.61 acres Parcel #630009457
Owner(s)/Applicant:	Jesse A Bennett

Existing:		**Proposed:**	
CP Land Use:	Transition Area	**CP Land Use:**	Transition Area (No Change)
Zoning:	Agricultural	**Zoning:**	Residential
Setbacks:	Twenty-five (25) feet setback from all property lines.	**Setbacks:**	Front Yard-thirty (30) feet Side Yard-ten (10) feet Back Yard-twenty-five (25) feet
Lot Area:	Parcel # 630009456 is 2.65 acres Parcel # 630009457 is 2.61 acres	**Lot Area:**	2.65 acres and 2.61 acres.

MCKENZIE
COUNTY

Finding of Fact:

1. All requirements for public notifications have been satisfied.

2. Staff has not received any phone or written comments on the proposal.

3. Building permits would be required for any buildings added to the sites.

Growth Management Plan Consistency

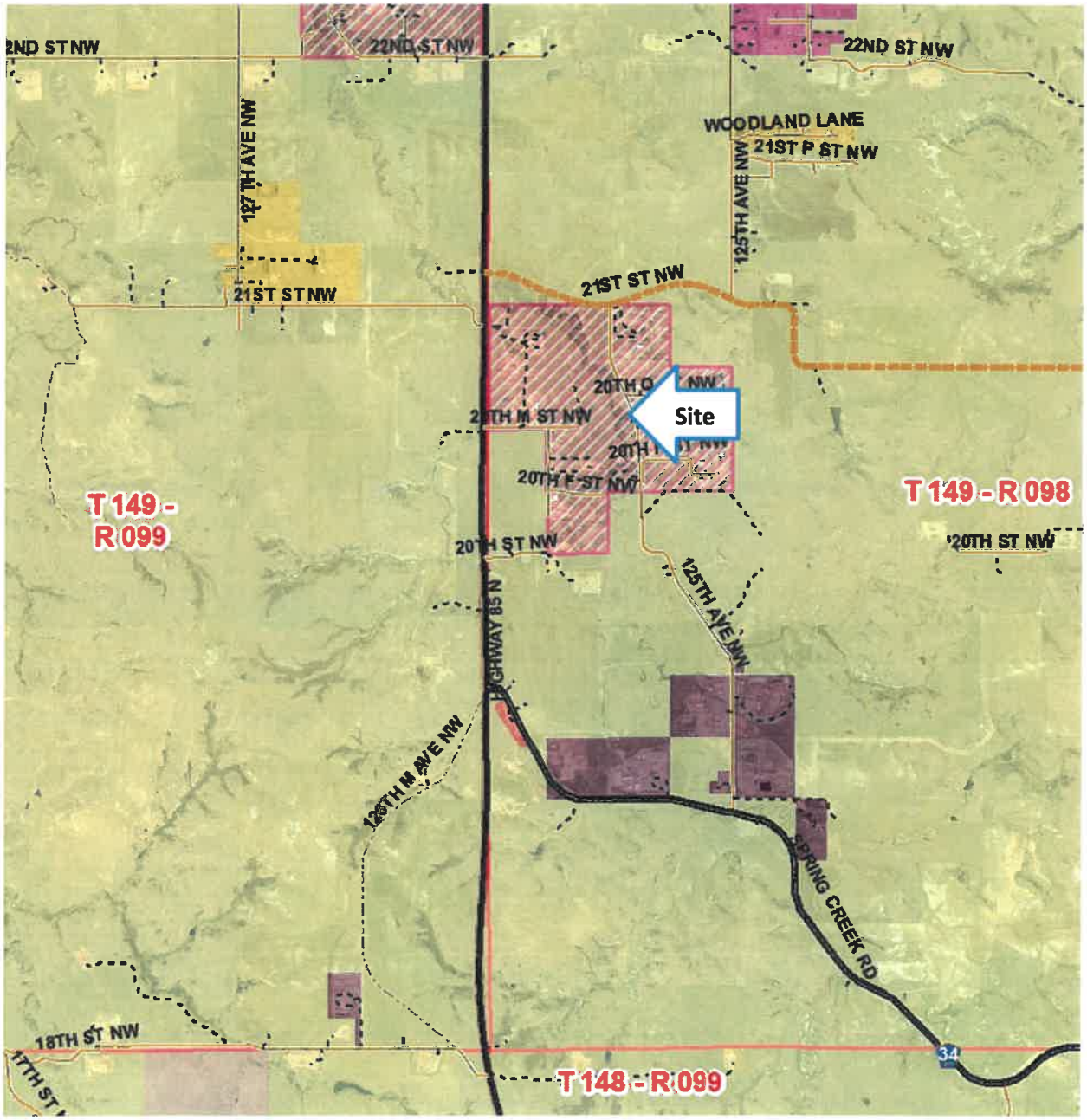
The subject land area is designated in the land use plan as a Transition Area.

Suggested Motion:

Recommend approval of Zone Change 001-19, Jesse Bennett, to the County Commission to change the zoning from Agricultural to Residential. Adopt the findings as provided in the staff report.

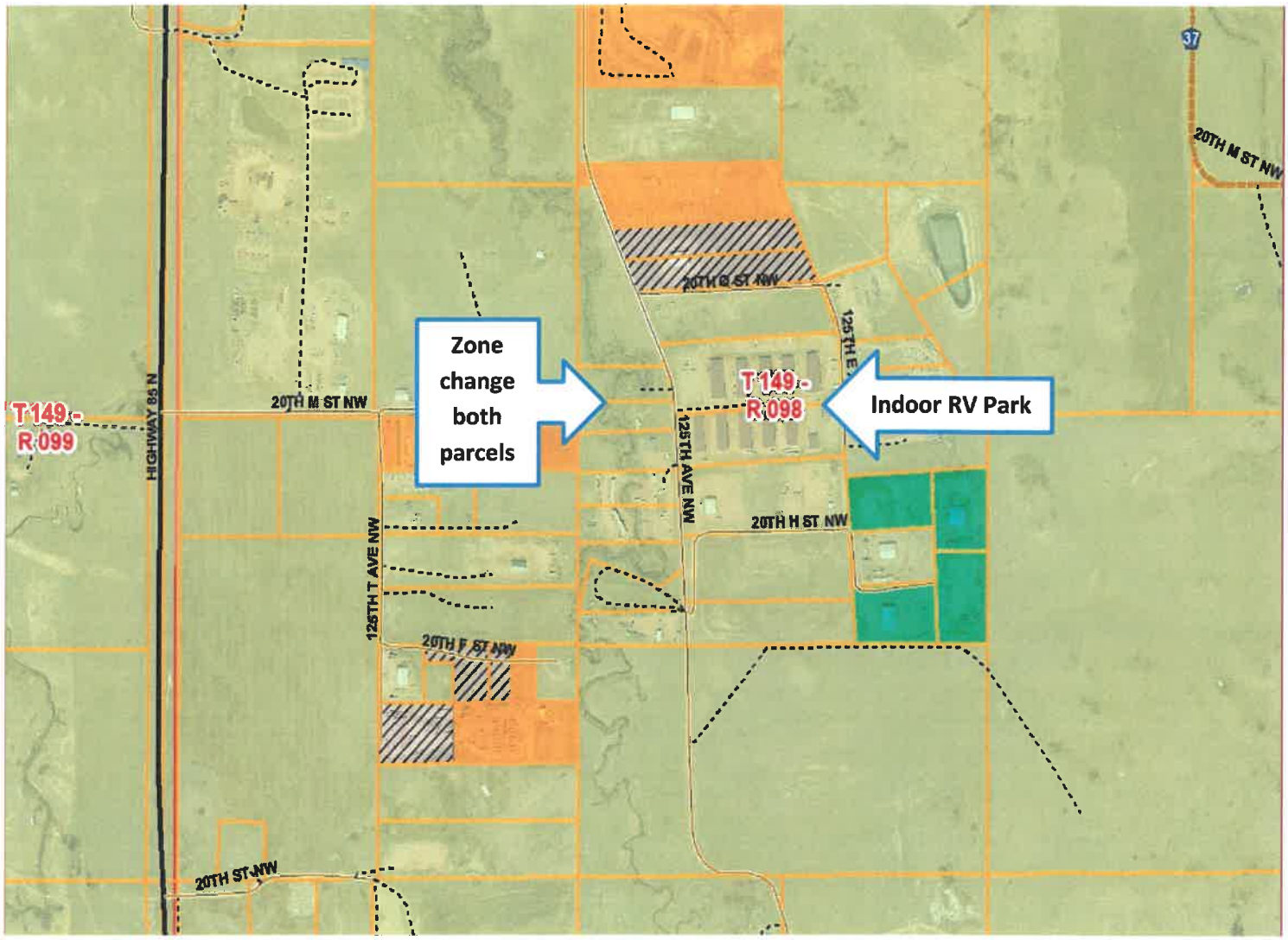
MCKENZIE COUNTY

Comp Plan is Transition Area



MCKENZIE COUNTY

Zoned Agricultural



Brady Bertram

From: Bonnie Foster <bfoster@co.mckenzie.nd.us>
Sent: Thursday, March 14, 2019 8:43 AM
To: Brady Bertram
Subject: RE: Zoning Permit - Jesse Bennett

Hi Brady,

Yes, the structure on parcel 63-00-09457 has the address of 2047 125th AVE NW. Parcel 63-00-09456 has an inactive address of 2049 125th AVE NW because nothing is currently on that parcel. Both addresses are based on the location of the existing driveway approach.

One of the reasons for a site plan is to make sure each residential unit is addressed in the 911 System. Emergency response mentally thinks about the address "123 Main St #5" differently than the address "123 Main St". I would prefer to provide an address verification document during the building permit application process.

Please let me know if you have any questions or concerns. Thank you and have a great day ☺

Bonnie Foster
McKenzie County GIS Coordinator
201 5th Street NW
Watford City, ND 58854
701-444-7417
bfoster@co.mckenzie.nd.us

From: Brady Bertram <bradyb@broszengineering.com>
Sent: Tuesday, March 12, 2019 9:12 AM
To: address <address@co.mckenzie.nd.us>
Subject: Zoning Permit - Jesse Bennett

Good morning,

I am working with a client on a zone change on two parcels on 125th Avenue NW. Both parcels are currently zoned commercial; the applicant is requesting a change to residential. As part of McKenzie County's zoning permit application, I have been asked to get approval from local agencies on the plan. Attached is the zone change application and a small plan set showing the location of the parcels.

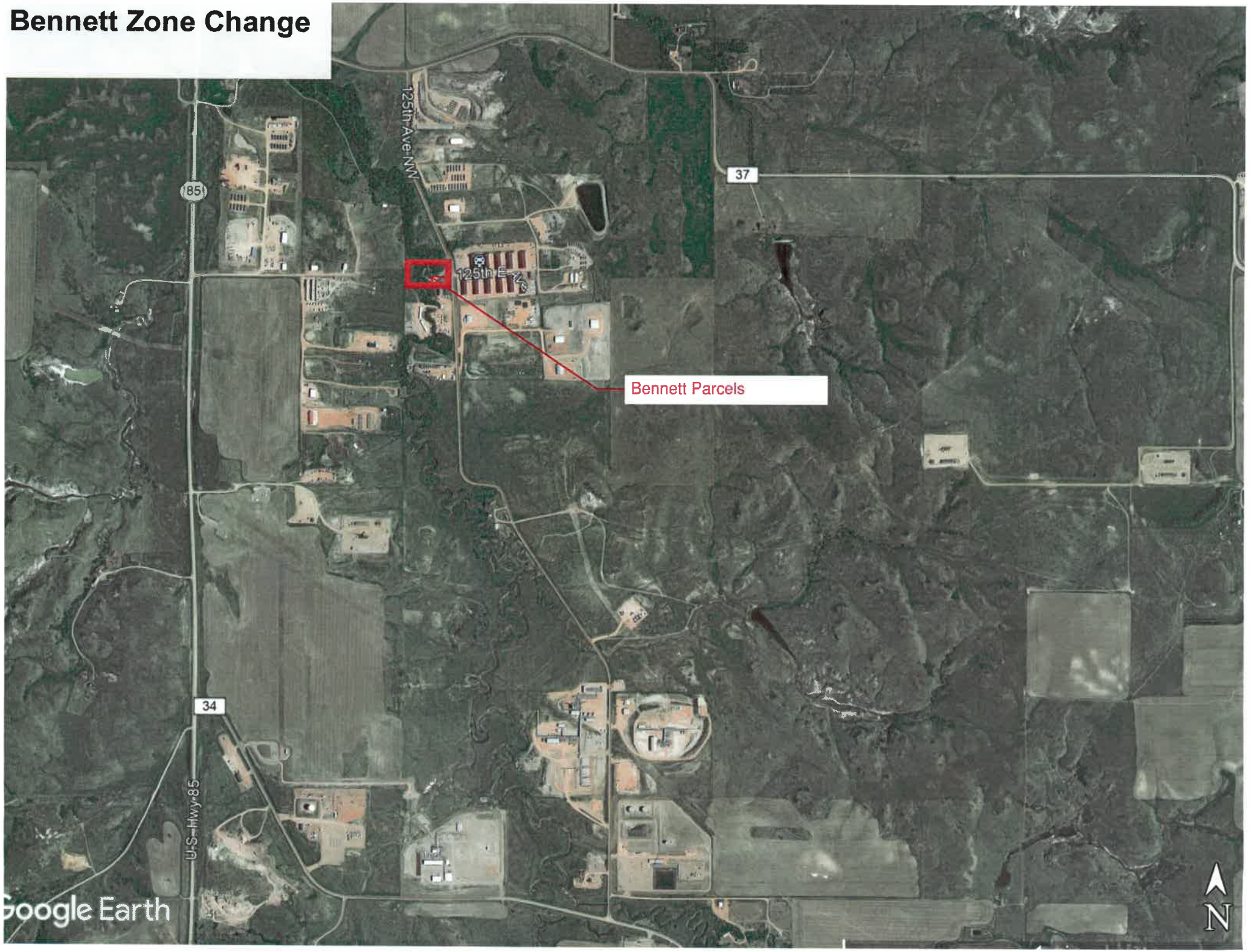
The applicant has no immediate plans to construct anything, so no site plan information is available. However, that will be provided during the site development phase and building permit application.

I believe that parcel #630009457 already has a physical address (2047 125th Ave NW) but the applicant will need a physical address for parcel #630009456.

Please review as soon as possible. Let me know if you need any additional information.

Thanks,

Bennett Zone Change



Brady Bertram

From: Brady Bertram
Sent: Tuesday, March 12, 2019 10:15 AM
To: 'Lloyd Clock'
Subject: RE: Zoning Permit - Jesse Bennett

Thank you Lloyd!

BRADY **BERTRAM, PE**
BROSZ ENGINEERING

O (701) 842-3526
W www.broszeng.com

From: Lloyd Clock <lclock@co.mckenzie.nd.us>
Sent: Tuesday, March 12, 2019 9:46 AM
To: Brady Bertram <bradyb@broszengineering.com>
Subject: RE: Zoning Permit - Jesse Bennett

I see no issues with this change as far as Law Enforcement or Dispatch is concerned.

Lloyd

From: Brady Bertram [mailto:bradyb@broszengineering.com]
Sent: Tuesday, March 12, 2019 09:08
To: Lloyd Clock
Subject: Zoning Permit - Jesse Bennett

Good morning,

I am working with a client on a zone change on two parcels on 125th Avenue NW. Both parcels are currently zoned commercial; the applicant is requesting a change to residential. As part of McKenzie County's zoning permit application, I have been asked to get approval from local agencies on the plan. Attached is the zone change application and a small plan set showing the location of the parcels.

The applicant has no immediate plans to construct anything, so no site plan information is available. However, that will be provided during the site development phase and building permit application.

Please review as soon as possible. Let me know if you need any additional information.

Thanks,

BRADY **BERTRAM, PE**
OFFICE MANAGER
504 12th Street NE
Watford City, ND 58854
O (701) 842-3526
W www.broszeng.com

FOR OVER 35 YEARS, PROVIDING QUALITY **ENGINEERING, SURVEYING & ARCHITECTURAL SERVICES**

McKenzie County
Weed Management Plan

Purpose: **This is a simplified weed management template that is specifically designed for small properties/areas.** It is designed to assist in controlling noxious weeds by documenting areas at risk whether it be currently infested or could possibly become infected in the future. This weed management template is also to assist in coordinating efforts between McKenzie County Weed Control and landowners/operators/developers to accomplish noxious weed control goals in McKenzie County. A copy of this weed management plan will be kept on file with McKenzie County Weed Control as well as with all parties involved in the ownership and/or management of the property.

Date 3/12/2018 **Circle One:** **PRIVATE** **COMMERCIAL**

Name of Landowner Jesse Bennett

Name of Party Responsible for Weed Control if Different than Landowner

Jesse Bennett

Address of Responsible Party

2047 125th Ave NW, Watford City, ND 58854

Phone Number 701-580-9829

E-Mail jesse_01_98684@yahoo.com

Approximate Size of Property 5-acres

Legal Description of Property IT #2589 PT of SW1/4 NE1/4 of Section 19, T149N, R98W 2.65 acres Parcel #630009456
IT #2590 PT of SW1/4 NE1/4 of Section 19, T149N, R98W 2.61 acres Parcel #630009457

Purpose of Property
The use of the properties will be residential. The existing use of the land is transitional.

Surface Movement for Commercial Construction Purposes: Circle or highlight one

Scoria **Manure** **Dirt** **Sand** **Gravel** **Construction** **Other**_____

1.0 Management Goals: Management goals describe the purpose/use of the property and what you are trying to achieve. Having clear management goals is key to developing a weed management plan. (The minimum amount required by North Dakota and McKenzie County Weed Law is to mow noxious weeds to prevent them from going to seed. Another management goal may be to restore an area with native vegetation. Management goals might also include preventing contamination and/or spread of noxious weeds due to mining or storage of construction materials by a yearly or bi-yearly application of herbicide.)

Please list your management goals as they apply to this property:

The landscaped areas around the residential structures will be seeded with a lawn grass mixture; the grass mixture will be recommended by the McKenzie County Soil Conservation. Any other areas of disturbance will be seeded with a native grass mixture, NDDOT Class II. After seeding, it is anticipated that the noxious weeds will need to be controlled with a bi-yearly application of herbicide until the grass is established.

2.0 Weed Control Objectives:

Knowing which weed species occur on your property and where they are located is very important in developing control priorities. Weed species vary considerably in the threat that they pose to the resource values of the property. In addition, weed species vary greatly in their susceptibility to control measures. Thus, weed species that pose the greatest threat to achieving the management goals for the property and which can be most easily controlled are the highest priority for management. To create weed control objectives for your weed management plan, first search your property for weeds (if you have not already done so).

3.0 Weed Control Objectives – 3 year plan

1st Year Weed Control Objective:

Plant residential lawn seed mixture on landscaped areas and native grass mixture in other areas of disturbance. Control noxious weeds with herbicide applications.

2nd Year Weed Control Objective:

Apply a herbicide bi-yearly.

3rd Year Weed Control Objective:

Apply a herbicide bi-yearly.

4.0 Evaluating Weed Control: After you have created weed control objectives and have began to control the priority weed species on your property, you should evaluate the results of your control methods. This requires follow-up visits to the areas where weeds were controlled and a re-assessment of the size and density of an infestation. (For example, compare the size of the infestation after a growing season has elapsed to the size before control actions were initiated.) In most cases, the elimination of an infestation will take several years with multiple treatments per year to kill the plants and eliminate the bank of weed seeds in the soil.

ND Law 4.1-47-02. Control of noxious weeds.

Each Person shall do all things necessary and proper to control the spread of noxious weeds.

In signing this document I understand that I will be responsible for noxious weed control on the property listed above.

Responsible Party _____ Date 3/15/2019

McKenzie County
Weed Board Chairperson _____ Date 3-18-19
per Amber Higgins

Please allow 48 hours for review of this plan prior to receiving confirmation of approval.

Brady Bertram

From: wcfire@restel.com
Sent: Thursday, March 14, 2019 2:52 PM
To: Brady Bertram
Subject: RE: Zoning Permit - Jesse Bennett

Brady,

I don't see any issues with rezoning these parcels. As long as there is a good access road, the fire department should be able to get in if ever needed.

Thanks
Dave WCFD Chief

From: Dave Uhlich <daveu@rtc.email>
Sent: Tuesday, March 12, 2019 9:18 AM
To: wcfire@ruggedwest.com
Subject: FW: Zoning Permit - Jesse Bennett

Dave Uhlich
Combination Tech Coordinator
email: daveu@rtc.email
direct: 701.862.5332
cell: 701.570.9248
web: www.rtc.coop

This institution is an equal opportunity employer and provider. The information in this e-mail and subsequent attachments may contain confidential information that is intended solely for the attention and use of the named addressee(s). This message or any part thereof must not be disclosed, copied, distributed or retained by any person without authorization from the addressee. If you think you have received this message in error, please advise the sender by return e-mail at the address specified in the message header and delete this message. Thank you.

From: Brady Bertram <bradyb@broszengineering.com>
Sent: Tuesday, March 12, 2019 9:10 AM
To: daveu@rtc.coop
Subject: Zoning Permit - Jesse Bennett

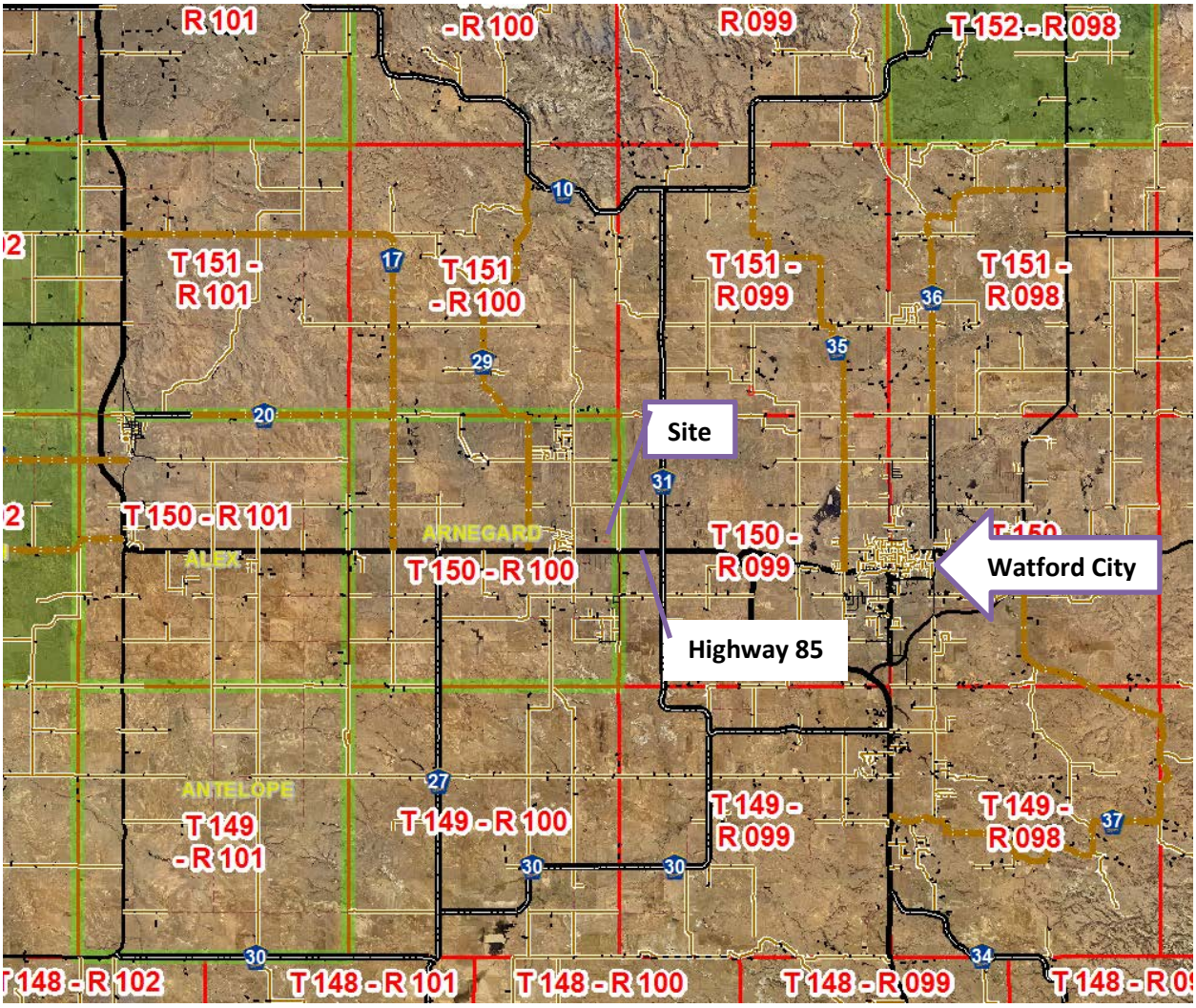
Good morning,

I am working with a client on a zone change on two parcels on 125th Avenue NW. Both parcels are currently zoned commercial; the applicant is requesting a change to residential. As part of McKenzie County's zoning permit application, I have been asked to get approval from local agencies on the plan. Attached is the zone change application and a small plan set showing the location of the parcels.

The applicant has no immediate plans to construct anything, so no site plan information is available. However, that will be provided during the site development phase and building permit application.

McKENZIE COUNTY

Vicinity Map Stenehjem Holdings LLC



McKENZIE COUNTY

Planning and Zoning Commission

006-19 CUP Stenehjem Holdings, LLC

Application:	Conditional Use Permit
Hearing Date:	April 15, 2019
Description:	SE1/2SE1/4 in Section 13, Township 150-N, Range 100-W (Parcel #030005300)
Owner(s)/Applicant:	Stenehjem Holdings LLC
Reason for Request:	Applicant is proposing to construct a freshwater containment pond, not exceeding 50 acre-ft capacity.

Comprehensive Plan Land Use: Agricultural
Zoning: Agricultural

Findings of Fact:

1. All requirements for public notification have been satisfied.

2. Project is in Arnegard Township.

3. Arnegard Township approves of this Conditional Use Permit with the location of the pond being on the west side of the saltwater disposal site.

4. Staff did receive an email from Bryan Bjornstad, President Wilmington Cemetery Corp. asking of the proximity of this pond to the cemetery. Staff forwarded the site plan to Mr. Bjornstad.

Conditional Use Permit Criteria:

No conditional use permit shall be recommended by the Planning Commission or approved by the County Commission unless the applicant shall have met all the following criteria:

a. The establishment, maintenance, or operation of the conditional use shall not be detrimental to or endanger the public health, safety, comfort or general welfare.

The establishment, maintenance or operation of the conditional use permit shall not be detrimental to or endanger the public health, comfort or general welfare.

b. The proposed conditional use shall not substantially impair or diminish the value and enjoyment of other property in the area.

The use should not impair nor enhance the value and enjoyment of the surrounding properties.

c. The proposed conditional use shall not impede the normal orderly development of the surrounding property.

The proposed conditional use shall not impede the normal orderly development of the surrounding property, it will co-located next to an existing saltwater disposal on the parcel.

d. Adequate utilities, access roads, drainage or other necessary site improvements have been or are being provided to accommodate the proposed conditional use.

The applicant will access the site on a private access thru the saltwater disposal site that currently exists just east of the proposed site.

e. Adequate measures will be taken to provide ingress and egress to the property without adverse effects on the adjoining properties and traffic congestion in the public street.

The site will be by lay flat only so there should not be any traffic congestion in the public street.

f. The proposed conditional use shall conform to all applicable regulations of the district within which it is located.

The proposed use is conditionally allowed in the agricultural district.

Comprehensive Plan Consistency:

The subject land area is designated in the land use plan as Agricultural .

Staff Recommendation:

Staff recommends **Approval** of this Conditional Use Permit.

Suggested motion: "Recommend approval of Conditional Use Permit 006-19, Stenehjem Holdings LLC, to the County Commission to allow the proposed construction of the freshwater containment pond. Adopt the findings and conditions as provided in the staff report. "

Conditions:

1. The applicant shall mark the site with address/project identification (4'X8' sign) visible from the road, this must be completed within thirty (30) days from County Commission approval.

2. The applicant shall adhere to the noxious weed containment plan as submitted to the County Weed Control Officer.

3. The applicants shall allow the local fire departments access to water in case of emergencies.

4. The applicant shall adhere to all Federal, State and local laws, regulations and conditions for the operation of the proposed facility.

5. The applicant shall provide the County Planning Department with all Federal, State and local approvals or denials, along with any violations relating to the project.

6. The applicants shall fence around the holding pond with a six (6) ft chain link fence to be completed prior to the pond being filled.

7. This site through this Conditional Use Permit shall not be used as a truck depot.

8. The applicant shall maintain a site free of garbage, from with the site and from outside sources, during and after construction.

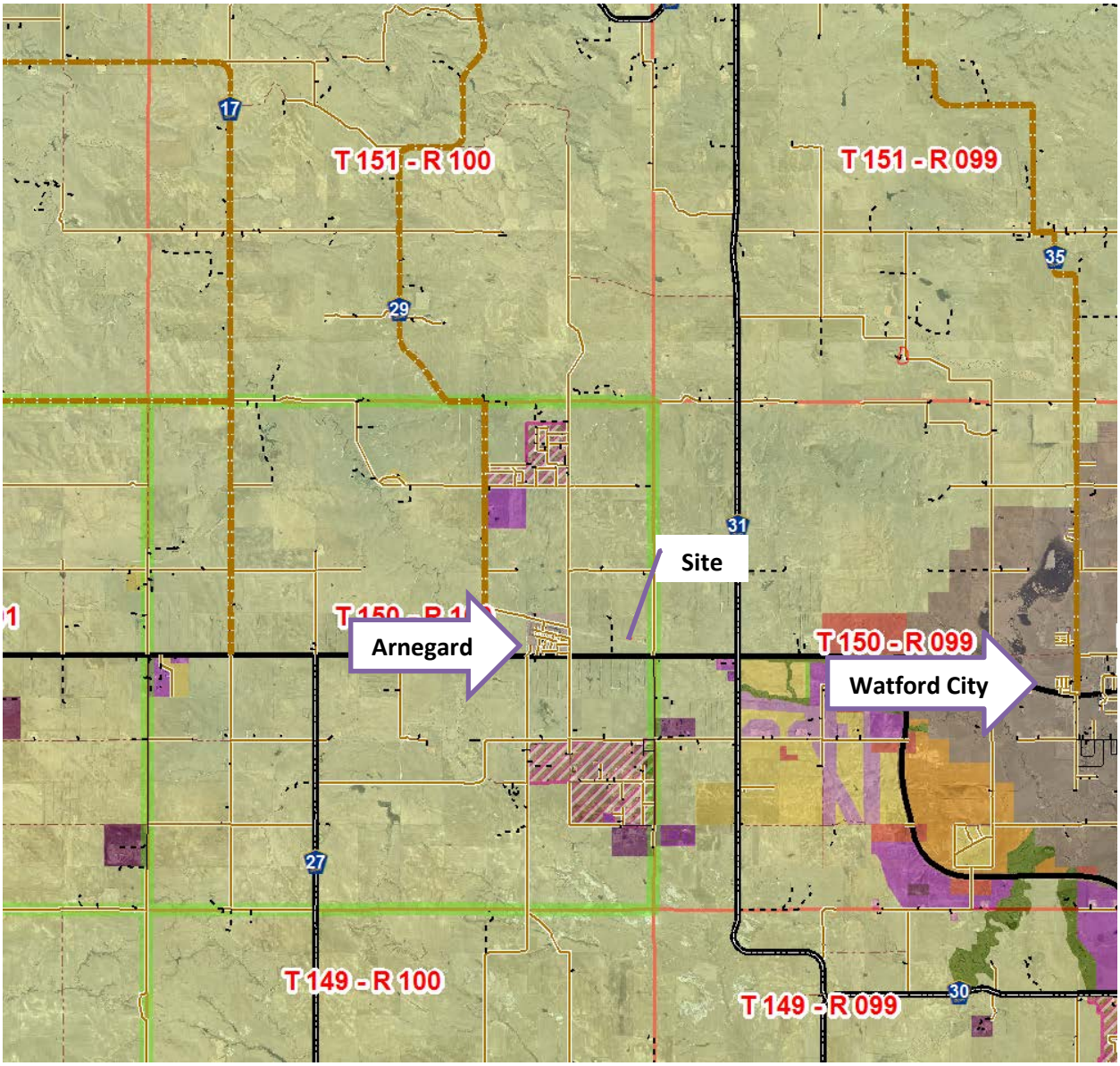
9. The applicant shall submit a bond equaling 150% of an engineer's estimate to remediate/reclaim the site when the development is not planned to be utilized any further or after six months of abandonment. The bond shall be in to McKenzie County Panning & Zoning Department within thirty (30) days of approval date.

10. All lay-flat pipes coming from the pond will need a separate Temp Waterline permit filed with McKenzie County Planning & Zoning.

11. Any changes in area or volume will require an amendment to the existing Conditional Use Permit per Section 5.8.5 of the McKenzie County Zoning Ordinance.

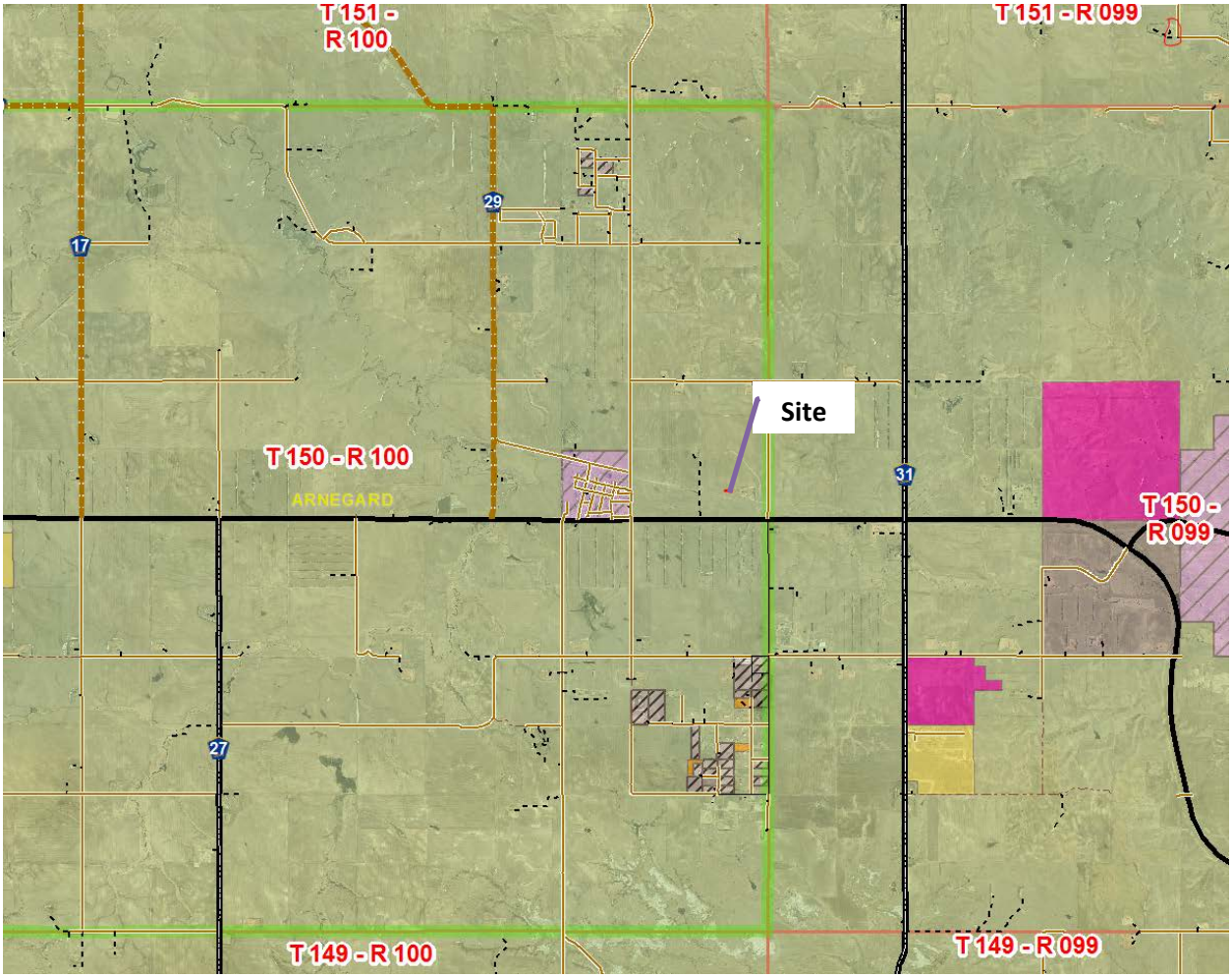
McKENZIE COUNTY

Comp Plan is Agricultural



McKENZIE COUNTY

Zoned Agricultural



504 12th St. NE • Box 551
Watford City, ND 58854
Ph: 701.842.3526

Brosz ENGINEERING, INC.
ARCHITECTURE ENGINEERING SURVEYING

March 29, 2019

McKenzie County Planning & Zoning
201 5th Street NW
Watford City, ND 58854

Re: Stenehjem Holdings LLC CUP Application
Fresh Water Containment Pond Project Description

To Whom It May Concern,

Included in this packet is a Conditional Use Permit application for a freshwater containment pond.

The pond will be located approximately 1 mile east of Arnegard on property owned by Stenehjem Holdings LLC in Section 13, Township 150N, Range 100W; a request has been submitted for a physical address for this property if one is not currently assigned.

The pond will be constructed and operated by Elkan, Inc.

This pond will be supplied with permitted water from various sources. Once constructed, the pond will be fed by lay-flat water line. Elkan will apply for a temporary water line permit when the conditional use permit is approved.

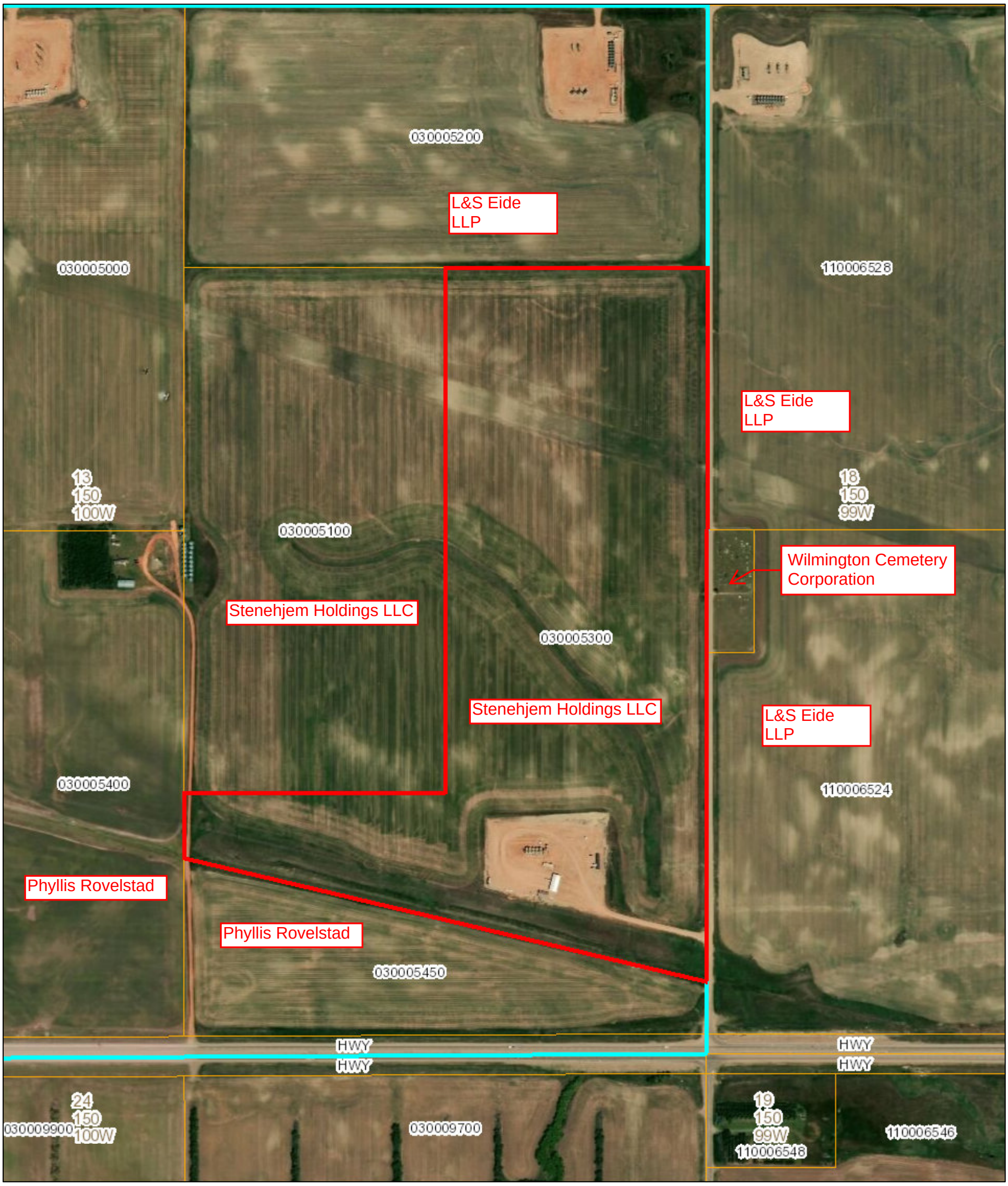
The applicant has agreed to allow emergency management services to draw water from these ponds if required in an emergency.

The application to obtain coverage for stormwater discharges has been completed and will be mailed to the North Dakota Department of Health, along with the erosion control plan for each site.

Thank your time on this matter.

Brady Bertram, P.E.
Brosz Engineering, Inc.
Watford City, ND 58854

gWorks



March 25, 2019

Parcels

Sections

DISCLAIMER: This map is not intended for conveyances, nor is it a legal survey. The information is presented on a best-efforts basis, and should not be relied upon for making financial, survey, legal or other commitments.

1:9,028

0 0.1 0.2 0.4 mi

0 0.15 0.3 0.6 km

McKenzie County
gWorks.

This document is preliminary and not for construction or implementation purposes.

PRELIMINARY

DESIGNED BY: BJB
DRAWN BY: TJC
DATE PRINTED: 04/08/19

	REVISION	DATE
1		xx/xx/xx
2		
3		
4		

SHEET DESCRIPTION: Stenehjem Pond Vicinity Map
PROJECT NAME: Elkan Water Containment Ponds
PROJECT NO.: N19-W1022

504 12th ST. NE, Box 551
Watford City, ND 58854
PH: 701.842.3526
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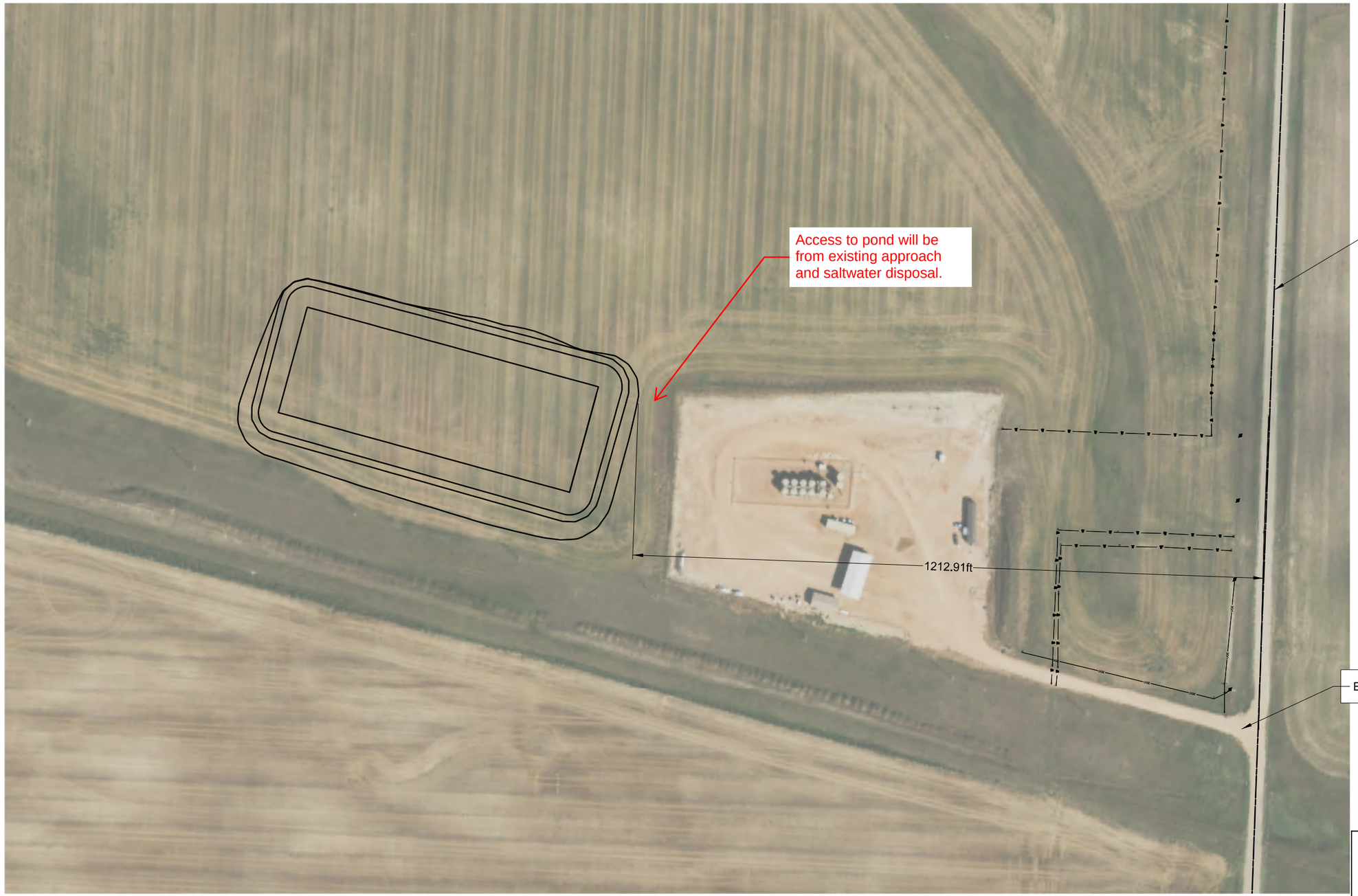

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PRELIMINARY

REVISION	DATE
1	xx/xx/xx
2	
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4	

DESIGNED BY: BJB

DRAWN BY: TJC

DATE PRINTED: 04/08/19

SHEET DESCRIPTION: Stenehjem Pond Location Map

PROJECT NAME: Elkan Water Containment Ponds

PROJECT NO.: N19-W1022

504 12th ST. NE - Box 551
Watford City, ND 58854
PH: 701.842.3526

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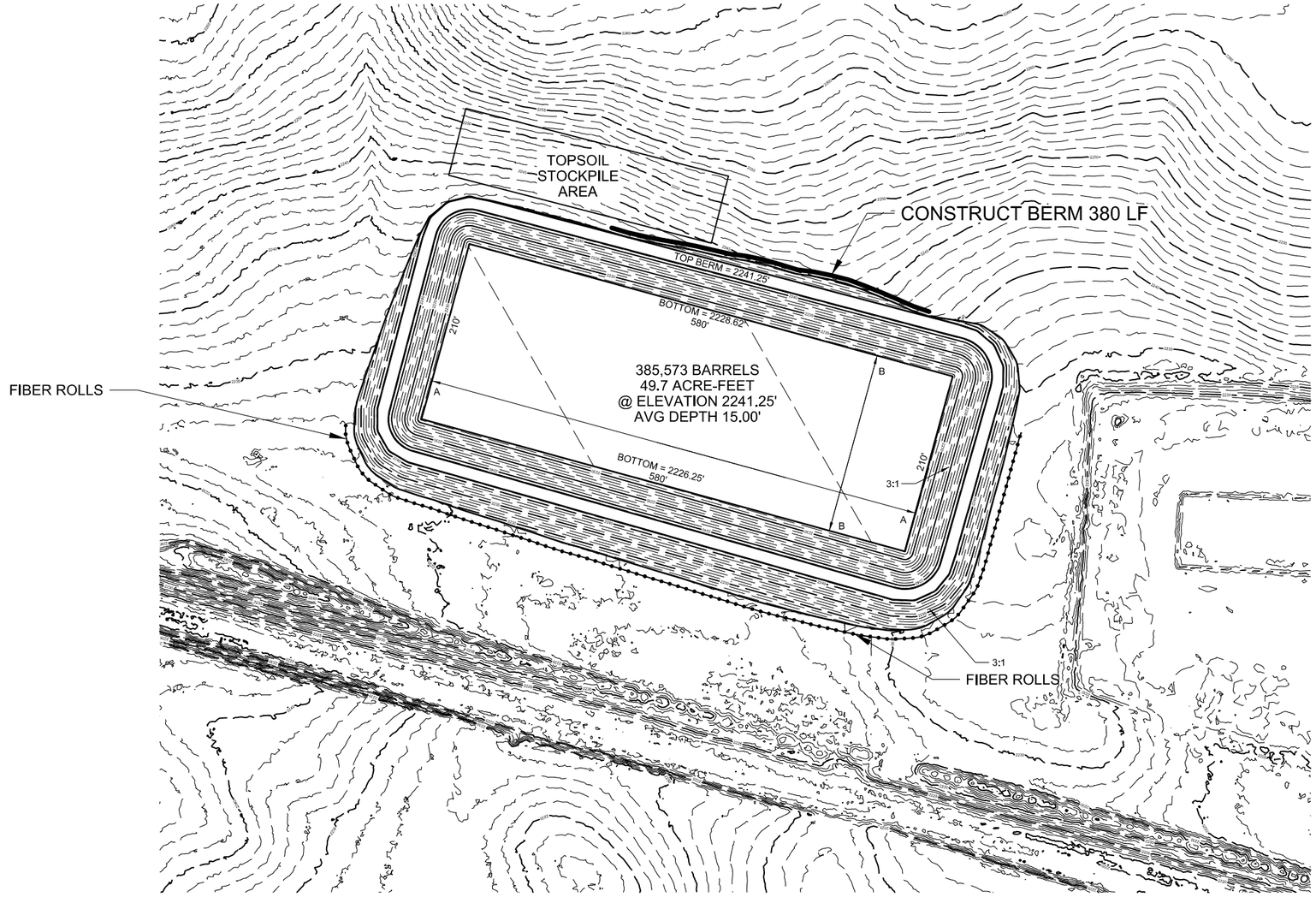
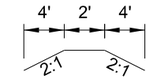
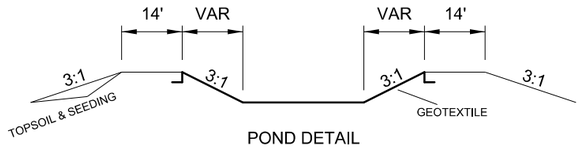


318,854 BARRELS
41.1 ACRE-FEET
@ ELEVATION 2239.25'
AVG DEPTH 13.00'



2' HIGH BERM DETAIL



POND DETAIL

FIBER ROLLS = 1015 LF
CONSTRUCT 2' HIGH BERM = 380 LF
FINISHED BERM TOP GRADE ELEVATION = 2241.25'
FINISHED POND BOTTOM = 2228.62' TO 2226.25'
SEEDING = 1.0 ACRES
AREA OF CONTAINMENT + 10' = 212,213 SQ FT

WATER CONTAINMENT	
TOPSOIL STRIP :	4,858 CY
TOPSOIL PLACE :	791 CY
TOPSOIL WASTE :	4,067 CY
EXCAVATION :	28,646 CY
EMBANKMENT :	26,743 CY

Note: 25 percent additional volume included is included for shrinkage in earth embankment

SCALE 1" = 150'

= FIBER ROLLS

This document is preliminary and not for construction or implementation purposes.

PRELIMINARY

DESIGNED BY: BJB
DRAWN BY: TJC
DATE PRINTED: 04/08/19

REVISION	DATE
1	xx/xx/xx
2	
3	
4	

SHEET DESCRIPTION: Stenehjem Pond 2 Construction Layout
PROJECT NAME: Elkan Water Containment Ponds
PROJECT NO.: N19-W1022

504 12th ST. NE - Box 551
Watford City, ND 58854
PH: 701.842.3526
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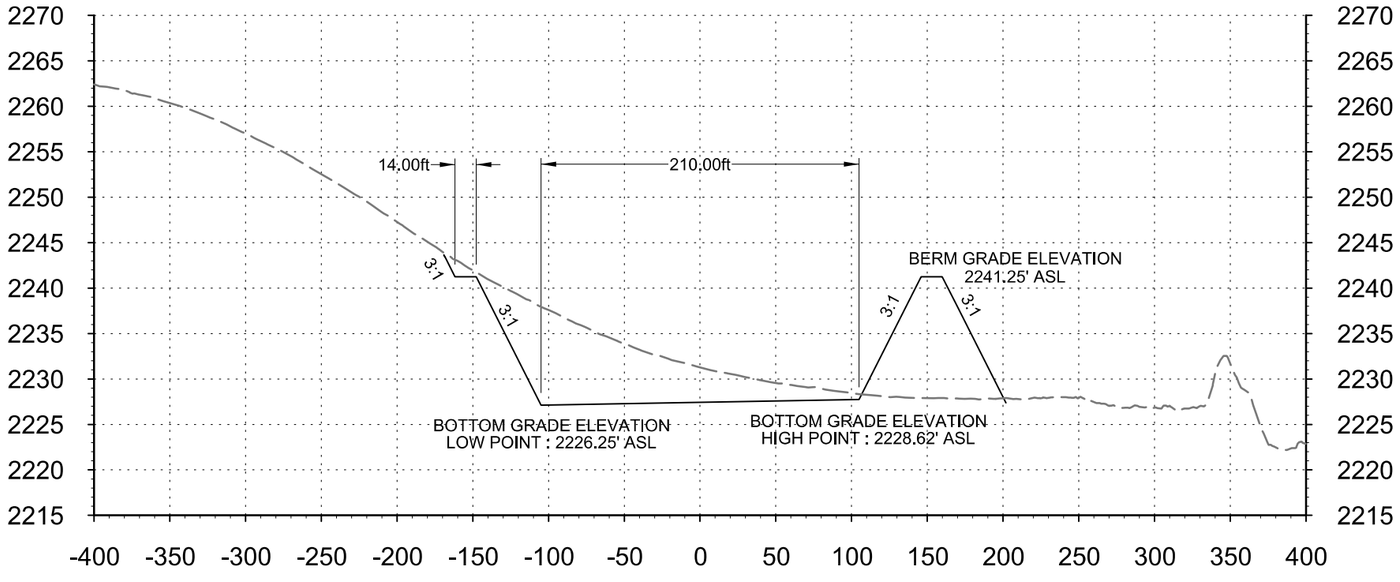
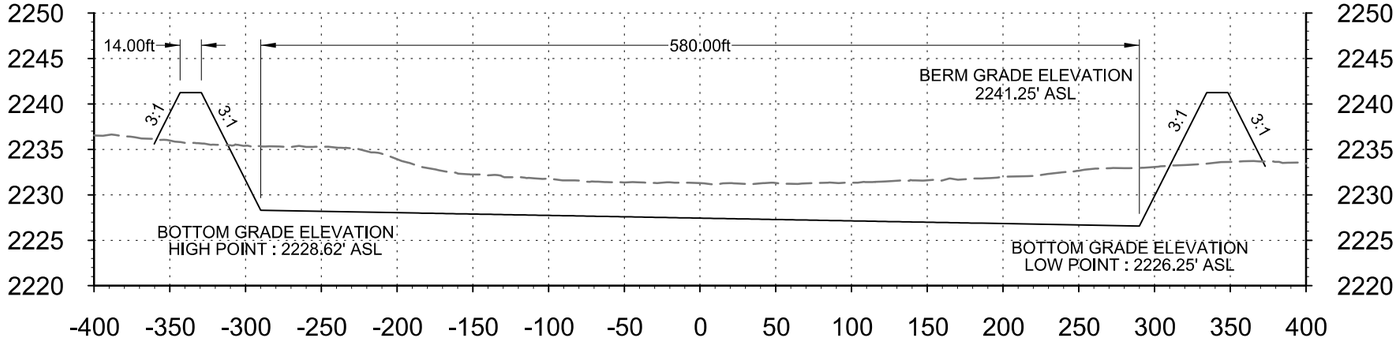
ARCHITECTURE ENGINEERING SURVEYING



B-B



A-A

This document is preliminary and not for construction or implementation purposes.

PRELIMINARY

4 OF 5

DESIGNED BY: BJB
DRAWN BY: TJC
DATE PRINTED: 04/08/19

REVISION	DATE
1	xx/xx/xx
2	
3	
4	

SHEET DESCRIPTION: Stenehjem Pond Cross Sections
PROJECT NAME: Elkan Water Containment Ponds
PROJECT NO.: N19-W1022

504 12th ST. NE - Box 551
Watford City, ND 58854
PH: 701.842.3526
BROSZ ENGINEERING, INC.
ARCHITECTURE ENGINEERING SURVEYING

NOTES

SPECIFICATIONS

Governing Specifications shall be the North Dakota Department of Transportation Standard Specifications for Road and Bridge Construction, 2014 Edition, supplemental specifications, special provisions and the following modifications.

The work on this project shall consist of excavation, embankment, topsoil, seeding, mulching, geo-liner, grading and incidentals. The work shall include all materials and all labor, equipment and fuel to complete the listed items.

GENERAL

It shall be the Contractor's responsibility to contact and to coordinate their work schedule with the Owner and any utility companies. The Contractor is responsible for completing a one-call and contacting all utilities prior to construction as they may not all be shown in the plans and specifications.

The Contractor shall be required to coordinate the adjustments of any utilities with the utility owners. The Owner shall be responsible for the cost of any adjustments in utilities, except in cases of negligence by the Contractor.

SECTION 203 – EXCAVATION AND EMBANKMENT

203.04 CONSTRUCTION REQUIREMENTS

203.03.E. Embankment Construction
Place fill materials (embankment) to the specified lines and grades. Place fill in uniform layers not exceeding 8 inches in loose thickness. Once placed, moisten or aerate, mix, and compact each layer to 95% of maximum laboratory density as determined by AASHTO T99 or ASTM D698. Do not place fill on wet or frozen areas. Maintain the moisture content of fill soils within +3 or -2 percent of optimum moisture.

SECTION 710 – GEO-LINER

710.01 DESCRIPTION

The work consists of install a geomembrane liner to the specified lines and grades as shown in the plan sheets.

710.02 MATERIALS

A. GEOMEMBRANE LINER.
The liner shall be textured, have a minimum 5-year warranty, and be made from flexible geomembrane with the following properties:

1. Minimum thickness of 40 mils. (ASTM D 5199)
2. Minimum tensile strength at break 85 lb/in. (ASTM D 6693)
3. Minimum trapezoidal tear 30 lbs. (ASTM D 751)
4. Minimum UV Resistance, strength retained of 90% (ASTM D 4329 @ 30,000 hrs)
5. Seam Properties shall meet a shear and peel strength requirements conforming to GRI Test Method Gm 19 per ASTM D 6392.

B. Prior to the bid opening, the Contractor shall submit geomembrane supplier and install specifications and qualifications to the Owner for approval.

710.03 CONSTRUCTION REQUIRMENTS

710.03.1 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

A. The Contractor will submit shop drawings, product data, and samples for all equipment and materials as set forth in the specifications.

B. Shop drawings will be submitted in sufficient detail to show the type, size, arrangement and function of all components.

C Product data will clearly show the pertinent product, model number, size, performance characteristics, connections, anchorages and other data necessary to evaluate compliance with project requirements.

710.03.2 INSTALLATION OF LINER

A. Installation of the liner shall be per the manufacturer's specification. A manufacturer certified installer, who has installed a minimum of 225,000 square yards of geomembrane liner, shall be in control of the work and on-site at all times during the installation of the Geo-Liner.

B Quality Control

1. All personnel performing seaming operation must be qualified by experience or by successfully passing seaming tests. All seaming work performed shall be performed under the daily supervision of a master seamer.

2. Certification of product testing shall be provided to the Owner of all materials by the Manufacturer. The installer must provide and operate all field testing equipment with certification of calibrations.

3. Before seaming begins, trial welds shall be taken, tested for film tearing bond and peel strength meeting the requirements of the manufacturer. If a trial weld fails, the seamer shall make another complete trail seam. If this additional test fails, the seaming apparatus or seamer shall not be accepted until the deficiencies are corrected and two consecutive passing trial seams are made. Continuity (non-destructive) testing shall be performed using a vacuum box unit, or air pressure testing over the entire length of each seam. Any leaks shall be noted, repaired, and retested. This testing should follow along the seaming process, not at the completion of all seaming.

4. Destructive test samples must be taken at the minimum frequency of one test per every 800 feet of seam length. These samples should be taken on daily basis and sent to an independent laboratory other than the one specified for field testing. The Contractor shall sample per ASTM D 6392 and submit the samples to the independent testing laboratory per ASTM D 4437 and the cost shall be paid by the Contractor totally, not by the testing allowance. The locations of these tests must be recorded and included on the record panel placement drawing.

The independent testing laboratory shall test the samples for shear strength and peal adhesion as per ASTM D6392 meeting the requirements of Section 02111, Part 2.1, A.5.

5. All results shall be given to the Engineer within 5 days of testing.

710.04 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

A. GEO-LINER

1. Geo-Liner shall be paid for at the number of square feet, as specified in the contract documents. Geo-Liner shall be computed using the plan lines and grades with no compensation for waste and overlapping which includes around an under any concrete structures or pipe. Payment is made under: Geo-Liner – Per Square Foot.

DESIGNED BY: BJB
DRAWN BY: TJC
DATE PRINTED: 04/08/19

REVISION	DATE
1	xx/xx/xx
2	
3	
4	

SHEET DESCRIPTION: Stenehjem Pond Plan Notes
PROJECT NAME: Elkan Water Containment Ponds
PROJECT NO.: N19-W1022

This document is preliminary and not for construction or implementation purposes.

PRELIMINARY

504 12th ST. NE - Box 551
Watford City, ND 58854
PH: 701.842.3626
BOSZ ENGINEERING, INC.
ARCHITECTURE ENGINEERING SURVEYING

State of North Dakota
Office of the State Engineer
Regulatory Division
900 EAST BOULEVARD AVE. • BISMARCK, ND 58505-0850
Regulatory Division (701) 328-2752 • FAX (701) 328-3696 • http://swc.nd.gov

March 27, 2019

Stephen Stenehjem
Stenehjem Holdings, LLC
PO Box 607
Watford City, ND 58854

RE: Application to Construct a Pond – Construction Permit Not Required

Dear Mr. Stenehjem:

The Office of the State Engineer (OSE) received the Application to Construct or Modify a Pond (Application) from Brosz Engineering, Inc. on March 25, 2019. The Application is for proposed construction of a fresh water containment pond, known as Stenehjem Pond, that will be operated by Elkan, Inc. The pond will be located in the E ½ of Section 13, Township 150 North, Range 100 West, Arnegard Township, McKenzie County.

North Dakota Century Code (N.D.C.C.) § 61-16.1-38 states:

> "No dikes, dams, or other devices for water conservation, flood control regulation, watershed improvement, or storage of water which are capable of retaining, obstructing, or diverting more than fifty acre-feet of water or twenty-five acre-feet of water for a medium-hazard or high-hazard dam, may be constructed within any district except in accordance with the provisions of this chapter."

The OSE has determined that construction of the proposed pond will result in a structure that will have a total reservoir capacity to the top of the structure of approximately 49.9 acre-feet (less than 50 acre-feet); therefore, a Permit to Construct or Modify a Pond is not required.

While a construction permit is not required from the OSE, other Local, State, or Federal permits may be required for this project.

Please feel free to contact me at 701-328-4898, or jworoniecki@nd.gov if you have any questions.

Sincerely,

Jordan Woroniecki, P.E.
Water Resource Engineer

JW:ph/1289
Enclosure

cc: McKenzie County Water Resource District Manager – Jeff Shaffer (Electronic)
Brosz Engineering, Inc. – Brady Bertram, P.E. (Electronic)
OSE Water Appropriations Division – Bryce Klasen (Electronic)
ND Department of Health – Peter Wax (Electronic)
USACE – ND Regulatory Office (Electronic)

Sir/Madame,
After review of your noxious weed containment plan, I have found that it meets all North Dakota And McKenzie County Weed Law requirements.

PLEASE PRINT AND ATTACH THIS EMAIL TO YOUR C.U.P. TO SHOW YOU HAVE COMPLIED WITH STATE AND COUNTY WEED LAW FOR ERADICATION AND CONTAINMENT OF McKenzie COUNTY NOXIOUS WEEDS.

Also, remember that your property will be periodically and randomly inspected for compliance with your proposed form of weed control – so please be diligent in your efforts to help us with this problem.

Thank you for helping in our continuing efforts to keep McKenzie County noxious weed free.

Sincerely,

Amber Higgins

McKenzie County Weed Officer
Office 701-842-4131
Fax 701-842-4731

Brady Bertram

From: Tyler Cox
Sent: Thursday, March 28, 2019 8:23 AM
To: Karolin Jappe
Cc: Brady Bertram
Subject: FW: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond
Attachments: Stenehjem Pond - Combined.pdf; CUP App - Sec13,T150,R100W Stenehjem Pond.pdf

Good Morning,

Just following up to see if you had a chance to review the attached CUP application.

Thank you,

TYLER **COX**
BROSZ ENGINEERING

O (701) 842-3526
W www.broszeng.com

From: Tyler Cox
Sent: Monday, March 25, 2019 4:36 PM
To: Karolin Jappe <kjappe@co.mckenzie.nd.us>
Cc: Brady Bertram <bradyb@broszengineering.com>
Subject: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

Good afternoon Karolin,

I am working with a client to construct a fresh water containment ponds. As part of McKenzie County's conditional use permit application, I have been asked to get approval from local agencies on the plan. Attached are the CUP applications and a small plan set showing the location some details for each pond.

The Owner has agreed to allow emergency management personal use water from this containment pond in case of an emergency.

Please review as soon as possible. Let me know if I need to provide any additional information.

Thanks,

TYLER **COX**

504 12th Street NE
Watford City, ND 58854
O (701) 842-3526
W www.broszeng.com

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Brady Bertram

From: Tim Pickering <tpickering@co.mckenzie.nd.us>
Sent: Thursday, March 28, 2019 1:55 PM
To: Brady Bertram
Cc: Tyler Cox
Subject: RE: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

If you wouldn't mind, Please put a stake alongside the approach.

Thank you,
Tim

From: Brady Bertram <bradyb@broszengineering.com>
Sent: Thursday, March 28, 2019 1:29 PM
To: Tim Pickering <tpickering@co.mckenzie.nd.us>
Cc: Tyler Cox <tylerc@broszengineering.onmicrosoft.com>
Subject: RE: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

10-4. Do you want me to go out and stake it? Or with it being an existing approach, with that get you to the right spot?

BRADY **BERTRAM, PE**
BROSZ ENGINEERING

O (701) 842-3526
W www.broszeng.com

From: Tim Pickering <tpickering@co.mckenzie.nd.us>
Sent: Thursday, March 28, 2019 1:09 PM
To: Brady Bertram <bradyb@broszengineering.com>
Cc: Tyler Cox <tylerc@broszengineering.onmicrosoft.com>
Subject: RE: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

Just need to find time to go out and do the inspection.

Tim

From: Brady Bertram <bradyb@broszengineering.com>
Sent: Thursday, March 28, 2019 9:50 AM
To: Tim Pickering <tpickering@co.mckenzie.nd.us>
Cc: Tyler Cox <tylerc@broszengineering.onmicrosoft.com>
Subject: RE: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

Morning Tim,

Do you need anything else from us for this permit?

BRADY **BERTRAM, PE**
BROSZ ENGINEERING

O (701) 842-3526
W www.broszeng.com

From: Tim Pickering <tpickering@co.mckenzie.nd.us>
Sent: Wednesday, March 27, 2019 8:11 AM
To: Brady Bertram <bradyb@broszengineering.com>
Cc: Tyler Cox <tylerc@broszengineering.onmicrosoft.com>
Subject: RE: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

There will be a requirement for dust control for 132nd Ave NW. Will the traffic be coming from US85?

Tim

From: Brady Bertram <bradyb@broszengineering.com>
Sent: Wednesday, March 27, 2019 8:03 AM
To: Tim Pickering <tpickering@co.mckenzie.nd.us>
Cc: Tyler Cox <tylerc@broszengineering.onmicrosoft.com>
Subject: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

Good morning Tim,

I understand that you're sick...hope you get to feeling better soon.

Please see the attached approach permit for a freshwater containment pond just east of Arnegard. Elkan (Kyle Hartel) will be constructing the pond but Stenehjem Holdings will be the owner. There is an existing approach in place for field access; let me know if you still want us to stake it.

Let me know when you get back in and I'll swing by and pay for the permit.

Thanks!

BRADY **BERTRAM, PE**
OFFICE MANAGER
504 12th Street NE
Watford City, ND 58854
O (701) 842-3526
W www.broszeng.com

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Brady Bertram

From: Bonnie Foster <bfoster@co.mckenzie.nd.us>
Sent: Friday, March 29, 2019 11:51 AM
To: Tyler Cox
Cc: Brady Bertram
Subject: RE: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

The submitted site plans contain enough information to assign a 911 address. Please let me know if /when this CUP application is approved and I will move forward with adding this into the emergency 911 system.

Thank you and have a great day ☺

Bonnie Foster
McKenzie County GIS Coordinator
201 5th Street NW
Watford City, ND 58854
701-444-7417
bfoster@co.mckenzie.nd.us

From: Tyler Cox <tylerc@broszengineering.onmicrosoft.com>
Sent: Monday, March 25, 2019 4:39 PM
To: address <address@co.mckenzie.nd.us>
Cc: Brady Bertram <bradyb@broszengineering.com>
Subject: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

Good afternoon,

I am working with a client to construct a fresh water containment ponds. As part of McKenzie County's conditional use permit application, I have been asked to get approval from local agencies on the plan. Attached are the CUP applications and a small plan set showing the location and some details for each pond.

The Owner has agreed to allow emergency management personal use water from this containment pond in case of an emergency.

Please review as soon as possible. Let me know if I need to provide any additional information.

Thanks,

Brosz Engineering Inc.
TYLER **COX**
504 12th Street NE
Watford City, ND 58854
O (701) 842-3526
W www.broszeng.com

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Brady Bertram

From: Rick Schreiber <rschreiber@co.mckenzie.nd.us>
Sent: Wednesday, March 27, 2019 5:47 AM
To: Brady Bertram
Cc: Tyler Cox
Subject: RE: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

Assuming all Federal, State and Local rules and regulations will be met now and in the future the Arnegard Rural Fire District sees no issues with this project. Receipt of this message signifies our approval of said CUP.

Regards,

Richard W. (Rick) Schreiber
FIRE/MED Chief
Dist. Board President
Arnegard Rural Fire Dist.
1.701.570.1097

From: Brady Bertram [mailto:bradyb@broszengineering.com]
Sent: Monday, March 25, 2019 4:03 PM
To: Rick Schreiber
Cc: Tyler Cox
Subject: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

Good afternoon,

I am working with a client to construct a fresh water containment ponds. As part of McKenzie County's conditional use permit application, I have been asked to get approval from local agencies on the plan. Attached are the CUP applications and a small plan set showing the location some details for each pond.

The Owner has agreed to allow emergency management personal use water from this containment pond in case of an emergency.

Please review as soon as possible. Let me know if I need to provide any additional information.

Thanks,

BRADY **BERTRAM, PE**
OFFICE MANAGER
504 12th Street NE
Watford City, ND 58854
O (701) 842-3526
W www.broszeng.com

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Brady Bertram

From: Tyler Cox
Sent: Thursday, March 28, 2019 10:39 AM
To: Brady Bertram
Subject: FW: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

TYLER **COX**
BROSZ ENGINEERING

O (701) 842-3526
W www.broszeng.com

From: Lloyd Clock <lclock@co.mckenzie.nd.us>
Sent: Thursday, March 28, 2019 10:38 AM
To: Tyler Cox <tylerc@broszengineering.onmicrosoft.com>
Subject: RE: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

I do not see any issues with this project as far as Law Enforcement or Dispatch is concerned.

Lloyd

From: Tyler Cox [mailto:tylerc@broszengineering.onmicrosoft.com]
Sent: Thursday, March 28, 2019 08:22
To: Lloyd Clock
Cc: Brady Bertram
Subject: FW: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

Good Morning,

Just following up to see if you had a chance to review the attached CUP application.

Thank you,

TYLER **COX**
BROSZ ENGINEERING

O (701) 842-3526
W www.broszeng.com

From: Tyler Cox
Sent: Monday, March 25, 2019 4:37 PM
To: 'Lloyd Clock' <lclock@co.mckenzie.nd.us>
Cc: Brady Bertram <bradyb@broszengineering.com>
Subject: McKenzie County CUP Application - Stenehjem Freshwater Containment Pond

Good afternoon,

I am working with a client to construct a fresh water containment ponds. As part of McKenzie County's conditional use permit application, I have been asked to get approval from local agencies on the plan. Attached are the CUP applications and a small plan set showing the location and some details for each pond.

The Owner has agreed to allow emergency management personal use water from this containment pond in case of an emergency.

Please review as soon as possible. Let me know if I need to provide any additional information.

Thanks,

Brosz ENGINEERING, INC.

TYLER **COX**

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Watford City, ND 58854
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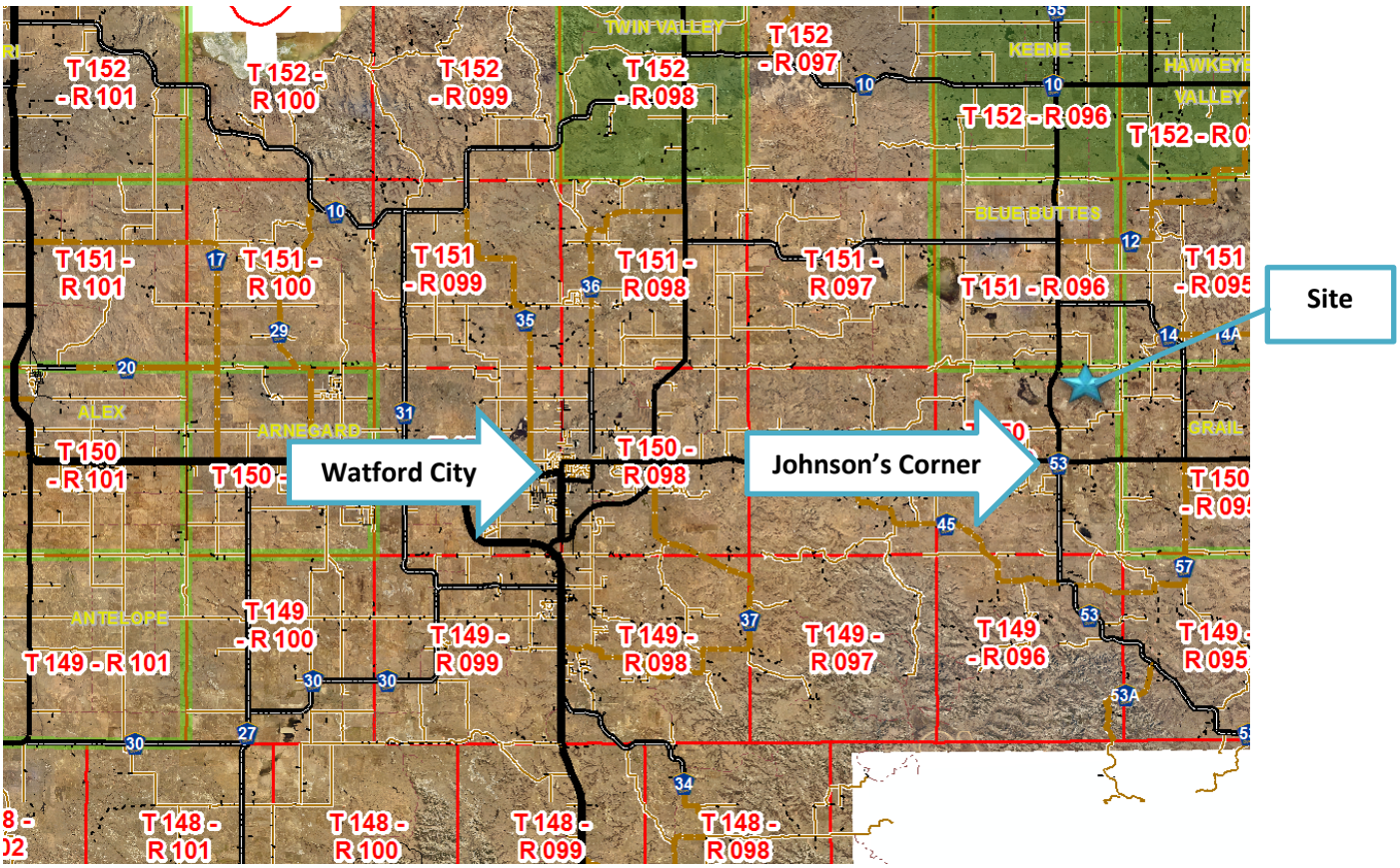
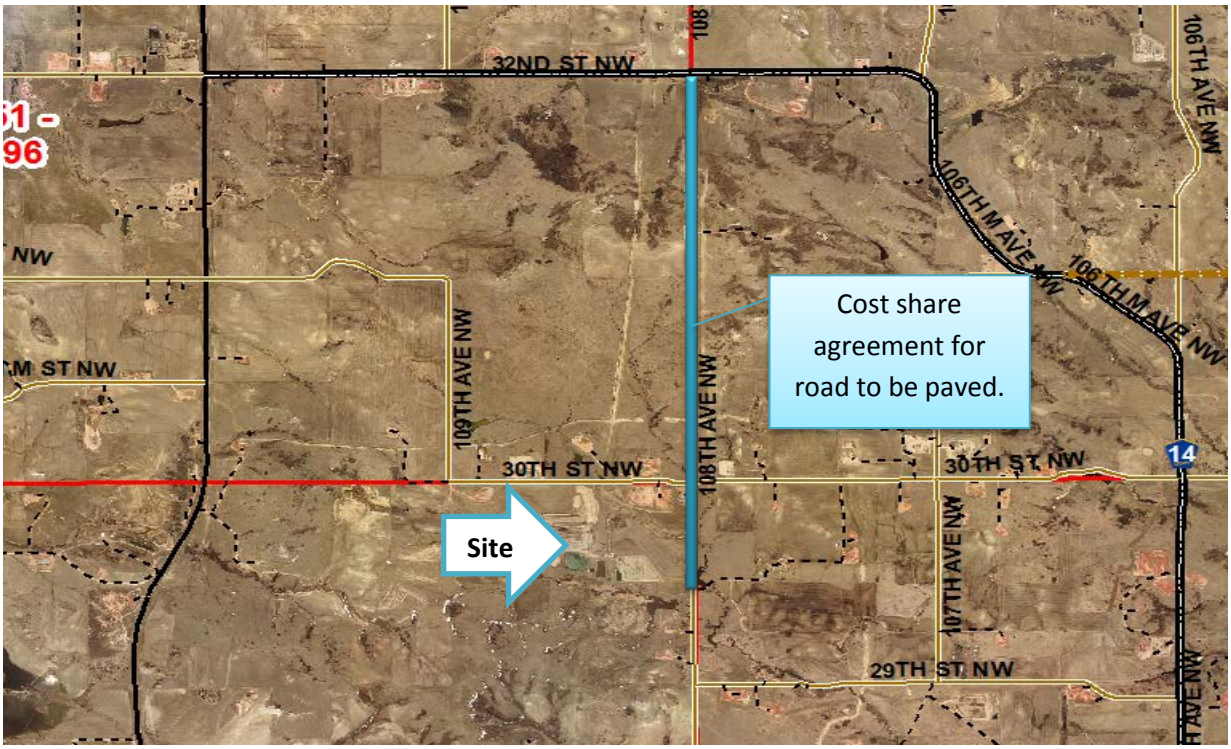
McKENZIE COUNTY

Vicinity Map Republic EES, LLC





MCKENZIE COUNTY

Planning and Zoning Commission

0001-13 CUP Amendment Republic EES, LLC

Application:	Conditional Use Permit Amendment
Hearing Date:	April 15, 2019
Description:	Approximately 131 Acres IT # 2342 PT N1/2 Section 1, Township 150-N, Range 96-W.
Owner(s)/Applicant:	Tervita LLC/Republic EES, LLC
Reason for Request:	Increase vertical height of landfill, change final cover and modify the base grade design.

Comprehensive Plan Land Use: Heavy Industrial
Zoning: Agricultural

Findings of Fact:

1. All requirements for public notifications have been satisfied.

2. Project is not in an organized township.

3. Staff has received letters from neighbors with concerns, please see attached letters.

4. Most of the day to day operations will remain the same on site, same intake of materials.

5. There will be an increase in the height of the landfill, it will increase the volume from approximately 4.98 million cubic yards to 7.05 million cubic yards.

6. Final cover will go from three feet (3') compacted clay cap to a five feet (5') evapotranspiration cap. The cap design will be thicker and they will modify the base grade design from a continuous 2-percent slope to a herringbone configuration.

7. Carlson McCain has taken soil and water samples from neighboring properties testing whether materials are leaving the site.(See attached report)

8. Weaver Consultants Group has done Environmental monitoring to test the integrity of the liner. (See attached report)

Conditional Use Permit Criteria:

No conditional use permit shall be recommended by the Planning Commission or approved by the County Commission unless the applicant shall have met all the following criteria:

a. The establishment, maintenance, or operation of the conditional use shall not be detrimental to or endanger the public health, safety, comfort or general welfare.

There have been public complaints about the smells and the dust. Questions have been raised about the long term affects of such a facility on health.

b. The proposed conditional use shall not substantially impair or diminish the value and enjoyment of other property in the area.

The proposed Amended CUP would not substantially impair or diminish the value and enjoyment of other property in the area any further. The proposed paving of 108th Ave NW may help to increase the value and enjoyment.

c. The proposed conditional use shall not impede the normal orderly development of the surrounding property.

The proposed Amended CUP would not impede the normal development of the surrounding property. The use already exists and the improvements to 108th Ave NW would help with some of the dust problems.

d. Adequate utilities, access roads, drainage or other necessary site improvements have been or are being provided to accommodate the proposed conditional use.

The proposed Amended CUP does not change utilities to the site, drainage of the site, the internal access roads at the site. A proposal to help pave 108th has been submitted to P&Z to improve external access roads.

e. Adequate measures will be taken to provide ingress and egress to the property without adverse effects on the adjoining properties and traffic congestion in the public street.

With the proposed Amended CUP adequate measures will be taken to provide ingress and egress to the property, there is an emergency exit on the north side of the property that will be gated when weather permits. Applicants are working with the McKenzie County Engineer's department on the proposed paving of 108th Ave NW.

f. The proposed conditional use shall conform to all applicable regulations of the district within which it is located.

The proposed amended use is conditionally allowed in the Agricultural District.

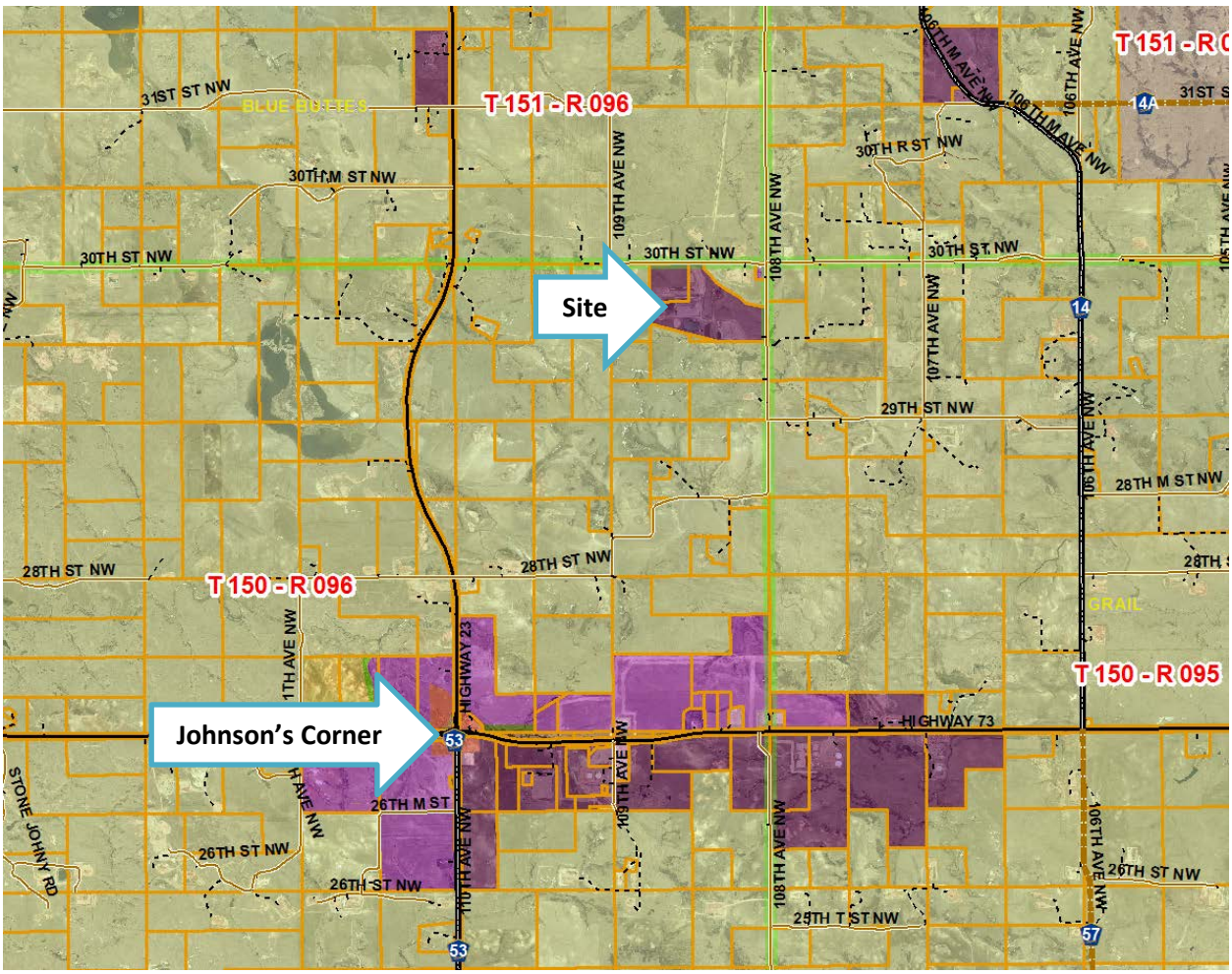
Comprehensive Plan Consistency:
The subject land area is designated in the land use plan as Heavy Industrial .

Staff Recommendation:
Staff recommends **Approval** for this Amendment to an existing Conditional Use Permit based on the applicant meeting all requirements for the amended application. Suggested motion: "Recommend approval of the Amended Conditional Use Permit 0001-13, Republic EES, LLC previously known as Tervita, LLC, to the County Commission to allow the changes proposed including the increase in vertical height of the landfill, changes to the final cover and modification of the base grade design. Adopt the findings and conditions as provided in the staff report."

Conditions:
1. The applicant shall obtain a building permit for any additional structures with the development. 2. The applicant shall adhere to all Federal, State and local laws, regulations and conditions for the operation of the facility. 3. The applicant shall share all final approvals and continuing approvals/reviews with all County/State/Federal agencies as they are obtained or altered, along with any violations and as it relates to this conditional use approval for the County permit file. 4. The applicant shall adhere to noxious weed containment plan as submitted to the County Weed Control Officer. 5. All lighting on site shall be downward facing and shall not glare on adjacent properties or the public travel ways. 6. This Conditional Use Permit shall be reviewed atleast annually for conformance with the conditions of approval, if conditions are not adhered to then the permit can be placed on the County Commission agenda for revocation. 7. All traffic to and from site shall use 108th Ave NW. 8. All uncovered loads shall be rejected. 9. Any loads leaving site shall be covered. 10. The applicants are entering into an agreement with the McKenzie County Engineer's department to pay for half of the design and development of 108th Ave NW from County Road 14 to the southern border of their property. The County will present costs and the applicant shall pay 50%. 11. The application shall not be presented to the County Commissioners until the road agreement has been signed. 12. Republic shall reapply for an amended CUP if they make application with the State for an increase in TENORM from the current 5 picocuries. 13. Any off site signs may require a sign permit from the McKenzie County Planning and Zoning department.

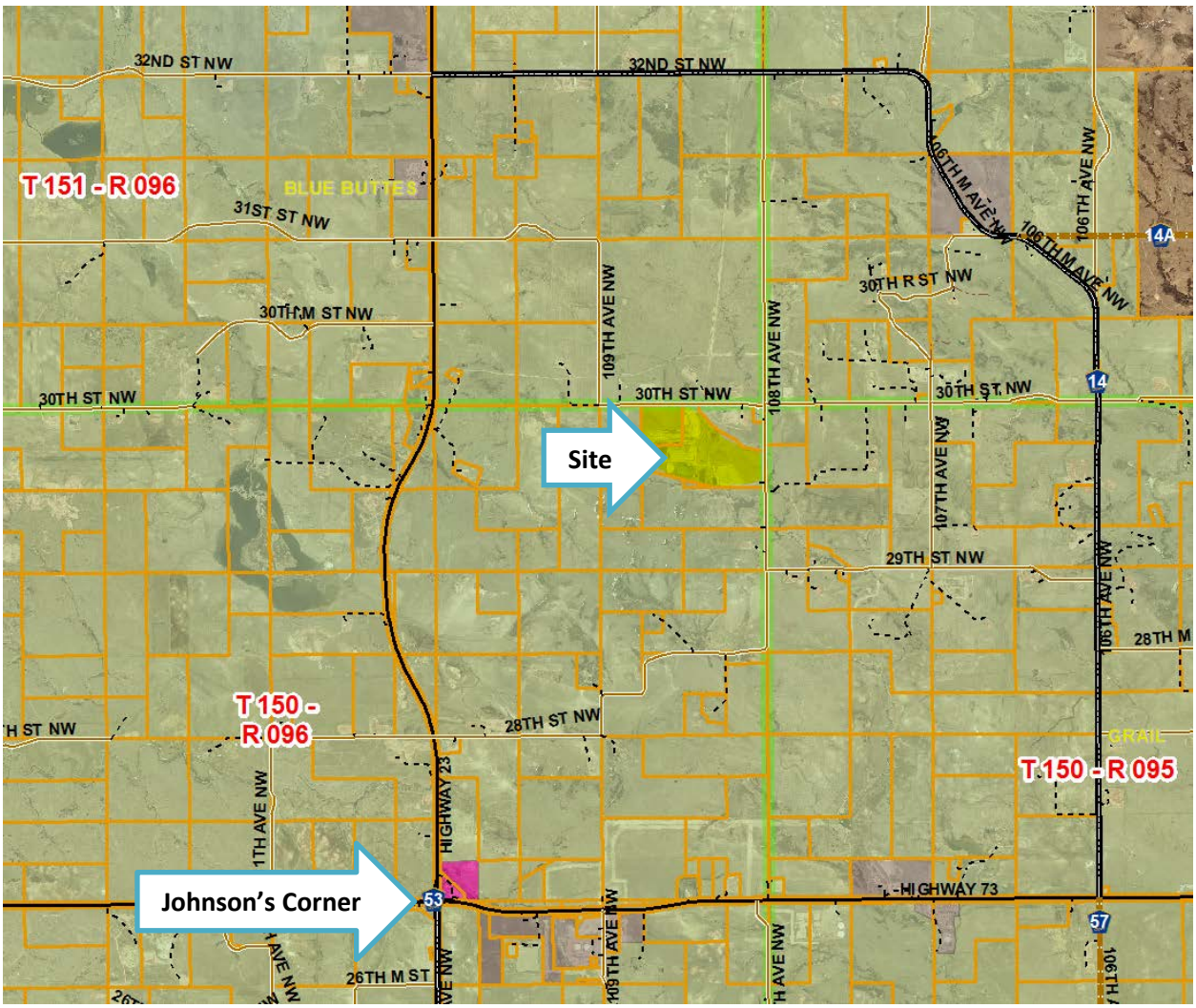
McKENZIE COUNTY

Comp Plan is Heavy Industrial



McKENZIE COUNTY

Zoned Agricultural



P:\Projects\4653-07 Blue Buttes Permit Mod\2015 Permit Expansion\Drawings\SHT-02 Existing Conditions.dwg, 11/15/2017 10:27:20 AM, _AutoCAD PDF (High Quality Print).pc3

MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8

ORIGINAL WASTE LIMIT
RANDOM FILL STOCKPILE
CELLS 3-4
CELL 5A
CELLS 1-2
WASTE GRADES 7/15/15
BORROW SOURCE
LIGNITE STOCKPILE/ BORROW SOURCE
EXISTING 36" CULVERT
SCALE/SCALE HOUSE
NDIC PERMITTED TRD PAD TRANSFER TO SOLID WASTE PERMIT FOR USE AS PARKING, STAGING, STOCKPILING, AND BORROW AREA
EXISTING 30" CULVERT
LEACHATE DRAIN LINES
STORAGE /STAGING AREA
PARKING
STOCKPILE AREA
SITE ENTRANCE
SUBSOIL STOCKPILE
TOPSOIL STOCKPILE
LEACHATE POND
BORROW AREA
STORMWATER POND

LEGEND

- EXISTING CONTOUR IDX (2400)
- EXISTING CONTOUR INT
- MODIFIED WASTE LIMIT (WL)
- ORIGINAL WASTE LIMIT (WL)
- PERMIT/PROPERTY BOUNDARY (PB)
- EXISTING CELL BOUNDARIES (CB)
- FENCE (X)
- OIL/GAS PIPELINE (GAS)
- MONITORING WELL
- ABANDONED MONITORING WELL

N

0 50 100 150 300
SCALE IN FEET

Carlson McCain • environmental • engineering • surveying

600 S. 2nd Street #105
Bismarck, ND 58504
Phone: (701) 255-1475
www.carlsonmccain.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota

Print Name: Dan Wilke
Signature: Dan Wilke
Date: 11/17/17 License #: PE-10813

Drawn: DJW
Designed: DJW
Date: 11/17/17

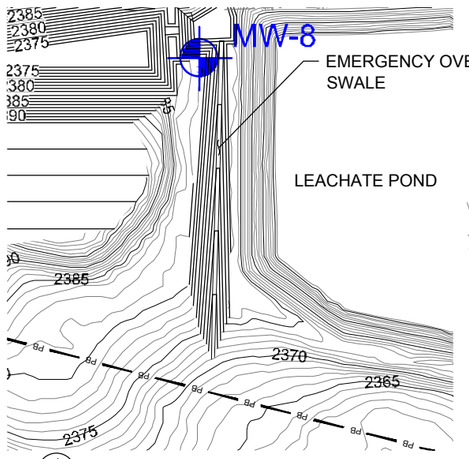
REV	DATE	BY	DESCRIPTION
0	11/17/17	DJW	SUBMITTED FOR PERMIT MODIFICATION

TERVITA, LLC
10613 W SAM HOUSTON PARKWAY NORTH, SUITE 300
HOUSTON, TX 77064

BLUE BUTTES FACILITY
MCKENZIE COUNTY, ND

EXISTING CONDITIONS
PERMIT MODIFICATION DRAWINGS

NOTES:
1. EXISTING LINER GRADES FOR CELLS 1-5A ARE SHOWN.
2. PROPOSED/MODIFIED GRADES SHOWN FOR CELLS 5B-10B
3. MW-5 WAS PLUGGED AND ABANDONED PRIOR TO THE 2015 CONSTRUCTION OF CELLS 3-5A.
4. THE LIGNITE STOCKPILE WILL BE USED AS FILL FOR THE OUTER STRUCTURAL BERMS. LIGNITE IS TO BE MIXED WITH SOIL AND COMPACTED AS STRUCTURAL FILL. THE AREA WILL BE RECLAIMED AS SHOWN. FUTURE STOCKPILES WILL BE PLACED ON THE RECLAIMED AREA.



1/3 PLAN: EMERGENCY OVERFLOW SWALE

SCALE IN FEET

LEGEND

- EXISTING CONTOUR IDX
- EXISTING CONTOUR INT
- LINER TOP-OF-CLAY IDX
- LINER TOP-OF-CLAY INT
- LEACHATE COLLECTION PIPE
- LEACHATE CLEANOUT PIPE
- MODIFIED WASTE LIMIT
- PERMIT/PROPERTY BOUNDARY
- CELL BOUNDARIES
- OIL/GAS PIPELINE
- MONITORING WELL
- ABANDONED MONITORING WELL

SCALE IN FEET

MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-8

CELL 10B CELL 10A CELL 9B CELL 9A CELL 8B CELL 8A CELL 7B CELL 7A CELL 6B CELL 6A CELL 5B

CELLS 1-5A EXISTING

PIPE TERMINATION UNDER CONTAINMENT BERM SEE, 2/9

EMERGENCY OVERFLOW SWALE SEE, 1/3

LEACHATE POND

STORMWATER POND

Carlson McCain • environmental • engineering • surveying
600 S. 2nd Street #105
Bismarck, ND 58504
Phone: (701) 255-1475
www.carlsonmccain.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota

Print Name: Dan Wilke
Signature: Dan Wilke
Date: 11/17/17 License #: PE-10813

Drawn: DJW
Designed: DJW
Date: 11/17/17

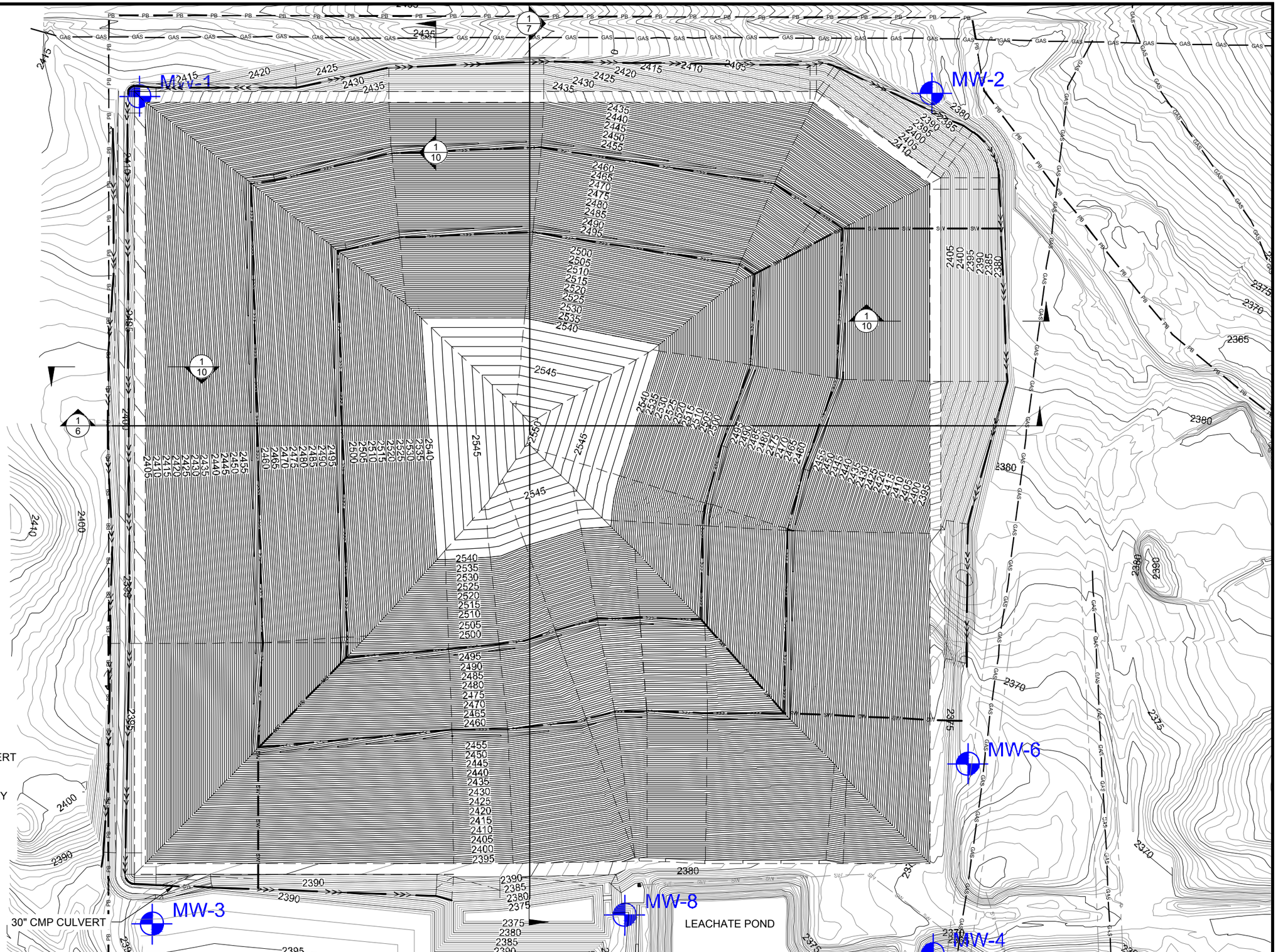
REV	DATE	BY	DESCRIPTION
0	11/17/17	DJW	ISSUED FOR PERMIT MODIFICATION

TERVITA, LLC
10613 W SAM HOUSTON PARKWAY NORTH, SUITE 300
HOUSTON, TX 77064

BLUE BUTTES FACILITY
MCKENZIE COUNTY, ND

LINER GRADING PLAN
PERMIT MODIFICATION DRAWINGS

P:\Projects\4653-07 Blue Buttes Permit Mod\2015 Permit Expansion\Drawings\SHT-03 Liner Grading Plan.dwg, 11/15/2017 10:27:28 AM, _AutoCAD PDF (High Quality Print).pc3



LEGEND

- 2400 — EXISTING CONTOUR IDX
- EXISTING CONTOUR INT
- 2400 — FINAL COVER IDX
- FINAL COVER INT
- >>> — DITCH FLOW LINE
- SW — SW — PROPOSED DROP PIPE/CULVERT
- WL — WL — MODIFIED WASTE LIMIT
- PB — PB — PERMIT/PROPERTY BOUNDARY
- SW — SW — EXISTING CULVERT
- GAS — GAS — OIL/GAS PIPELINE
- MONITORING WELL

N

0 50 100 200
SCALE IN FEET

Carlson McCain • environmental • engineering • surveying

600 S. 2nd Street #105
Bismarck, ND 58504
Phone: (701) 255-1475
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota

Print Name: Dan Wilke
Signature: Dan Wilke
Date: 11/17/17 License #: PE-10813

Drawn: DJW
Designed: DJW
Date: 11/17/17

REV	DATE	BY	DESCRIPTION
0	11/17/17	DJW	SUBMITTED FOR PERMIT MODIFICATION

TERVITA, LLC
10613 W SAM HOUSTON PARKWAY NORTH, SUITE 300
HOUSTON, TX 77064

BLUE BUTTES FACILITY
MCKENZIE COUNTY, ND

FINAL COVER GRADING PLAN
PERMIT MODIFICATION DRAWINGS

4 of 10

P:\Projects\4653-07 Blue Buttes Permit Mod\2015 Permit Expansion\Drawings\SHT-04 Final Cover Grading Plan.dwg, 11/15/2017 10:27:38 AM, _AutoCAD PDF (High Quality Print).pc3

Carlson McCain

ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

April 10, 2019

Mr. Tim Robinson
Senior Manager Projects – Energy Services
Republic Services, Inc.
10613 West Sam Houston Parkway North, Suite 300
Houston, Texas 77064

Re: Soil & Surface Water Sampling Report
Blue Buttes Disposal Facility
Keene, North Dakota
Carlson McCain Project No. 4653-16

Dear Tim:

Carlson McCain, Inc. is pleased to present this Soil and Surface Water Sampling Report for the Blue Buttes Disposal Facility (also referred to as the Site or Landfill) located in Keene, North Dakota (Figure 1). Sampling was conducted in response to a request from McKenzie County, to determine whether off-site soils or surface water were being impacted by Site operations.

Summary of Results

Soil sample results for areas outside of the designated Disposal Area indicate there were no impacts from disposal activities (either on or off-site). Furthermore, concentrations for contaminants of concern in all three off-site surface water samples were below laboratory detection limits or well below applicable Screening Limits. Field work, laboratory analysis and a discussion of analytical results associated with sampling are included in the remainder of this Report.

Field Work

A total of eight soil samples and three surface water samples were collected on March 21-22, 2019 and locations are shown on Figure 1. Five of the soil samples were collected on-site (from Inside the Pit/ Disposal Area, Outside the Pit, the West & East Mounds and the Timmons Drainage Area) and three were collected from off-site locations (Brown Property, Timmons Dam & State Land). All three surface water samples were collected from off-site locations (Timmons Pond, Lovaas Pond and a State Land Drainage). Prior to mobilization, staff from Republic worked with neighboring Property owners to obtain access onto their land. Carlson McCain personnel conducted all sampling activities.

Soil Sampling

Each composite soil sample consisted of five sub samples, all of which were collected from the ground surface at the locations shown on Figure 1. Each sub sample was placed into a stainless steel bowl and mixed thoroughly using a stainless steel spoon until the sample was homogenized. The sampling surface was kept as clean as practical to minimize the potential for contamination of samples. A clean and dry sheet

of relatively inert plastic was placed on the working surface. If materials used in the sampling process were set down, they were placed on a clean portion of the plastic sheet. A clean pair of nitrile gloves was used at the onset of sampling activities at each new sampling point. Furthermore, sampling personnel took care not to touch the inside of sampling containers or lids. Care was also taken to minimize the potential for airborne contamination of samples during collection. Upon completion of sampling at each location, the stainless steel bowl and spoon were decontaminated using an Alconox® wash, followed by a rinse using deionized (DI) water.

Surface Water Sampling

As depths were sufficient, surface water samples were collected by direct filling sample containers from the water's edge, with care taken so as to minimize disturbance of sediment. Measures to minimize aeration when filling samples containers were also taken by introducing the containers at a shallow angle and filling them slowly. It should also be noted, there was no visible sheen observed at any of the surface water sampling locations.

Sample Handling Procedures

Sample handling procedures for both soil and surface water were conducted, as discussed below.

As each sample was collected, an adhesive label was affixed to each sampling container. Each sample container was uniquely numbered and labeled using indelible ink. At a minimum, the information on the label included the analytical parameter(s), preservative(s), sampling personnel, date and time of sample collection, sample type and the project name. After samples had been labeled, they were placed on ice and maintained at a temperature of 6°C or colder.

A chain of custody (COC) accompanied each cooler containing samples that were to be submitted to the laboratory for chemical analysis. The COC was filled out progressively, as samples from each sampling point were collected. The completed COC was then placed into a sealed polyethylene bag. Field personnel were then required to sign, time and date the COC prior to shipping the samples. One copy of the COC was retained by field personnel and the remaining copies were submitted to the laboratory. Until the samples had been relinquished to the laboratory, custody was the responsibility of the field sampler.

Prior to being placed in a cooler, all glass containers were protected using bubble wrap. In addition, absorbent material was placed in the bottom of each cooler to minimize breakage. Wet ice was used to cool the samples. The COC was then placed on top of the samples and ice. If necessary, care was also taken so as to tape the drainage hole at the bottom of the cooler, in order to prevent leakage of melt water.

Upon receipt of each cooler at the laboratory, the time of arrival was noted and the COC was signed by the person accepting the shipment. The laboratory sample custodian then checked the cooler temperature using the temperature blank, inventoried the samples and checked them against the COC. The COC was then signed by the sample custodian and samples became the responsibility of the laboratory.

Laboratory Analysis

A total of eight soil samples and three surface water samples were submitted for chemical analysis to Pace Analytical Services (Pace) of Billings, Montana, a certified laboratory in the State of North Dakota. Both soil and surface water samples were analyzed for diesel range organics (DRO), gasoline range organics (GRO) and benzene, toluene, ethylbenzene and xylenes (BTEX). Analyses were conducted in accordance with United States Environmental Protection Agency (EPA) methods and procedures.

A temperature blank was also included in each cooler to ensure samples had been thermally preserved (i.e. 6°C or colder). As a quality assurance/quality control (QA/QC) measure, laboratory samples were analyzed in order to evaluate procedures being used. Laboratory QA/QC included method blanks, surrogate spikes or matrix spikes/matrix spike duplicates (MS/MSD). After the data were received from the laboratory, each report was reviewed for accuracy and completeness to make sure that specific data quality objectives had been met.

Discussion of Analytical Results

Soil

A total of eight soil samples were collected and submitted to Pace for chemical analysis of DRO, GRO & BTEX and a copy of the analytical report is included in Attachment A. Analytical results for soil are discussed below:

- As expected, most parameters were detected in the sample of petroleum-contaminated waste collected from Inside the Pit. DRO was detected at a concentration of 32,200 milligrams per kilogram (mg/kg), GRO at a concentration of 469 mg/kg; benzene was below the laboratory detection limit; toluene at a concentration of 1.21 mg/kg; ethylbenzene at a concentration of 1.23 mg/kg; and total xylenes at a concentration of 9.85 mg/kg.
- Concentrations of DRO, GRO and BTEX in all seven of the remaining samples (both on and off-site) were below their respective laboratory reporting limits.

Surface Water

A total of three surface water samples were collected and submitted to Pace for chemical analysis of DRO, GRO & BTEX and a copy of the analytical report is included in Attachment A. Analytical results for surface water are discussed below:

- GRO & BTEX concentrations were below laboratory detection limits in all three off-site surface water samples. DRO concentrations were below laboratory detection limits in the Lovaas Pond & State Land Drainage and a low-level concentration of 0.85 milligrams per liter (mg/L) was detected in the Timmons Pond. However, this concentration was several orders of magnitude below the Benchmark Value of 15 mg/L, as referenced in the General Permit for Stormwater Discharges from Industrial Activities, included in the North Dakota Pollutant Discharge Elimination System (NDPDES) Permit for the Site.

As Timmons Pond appears to be a reflection of the water table and because the Landfill is located hydraulically up-gradient of the Pond, it's reasonable to look at the most recent groundwater data for comparative purposes. Based on the June 8, 2018 monitoring event, DRO was detected in monitoring wells MW-4, MW-7 & MW-8, noting that concentrations were *lower* than those observed in Timmons Pond. It is also important to note that DRO was detected in the up-gradient wells for the Landfill (MW-1 & MW-2), indicating low-level DRO is present in groundwater in the surrounding area. Upon further review, it was determined that low-level DRO had been detected in some wells during baseline sampling, which was conducted *prior* to the start of Landfill operations. It was also determined that lignite (coal) was present in the vicinity of a number of wells, in which DRO detections are common (i.e. detections may be naturally occurring).

It is also worth noting the detection of DRO in Timmons Pond could be attributed to collection of surface water from the drainage (which enters from the west and doesn't even cross the Site).

Closing

If you have any questions or comments, please feel free to give us a call or send us an e-mail. Dan can be reached at (952) 346-3864 or dwilke@carlsonmccain.com and Jim can be reached at (763) 489-7907 or jcrowl@carlsonmccain.com. Thank you for your time and consideration.

Sincerely,

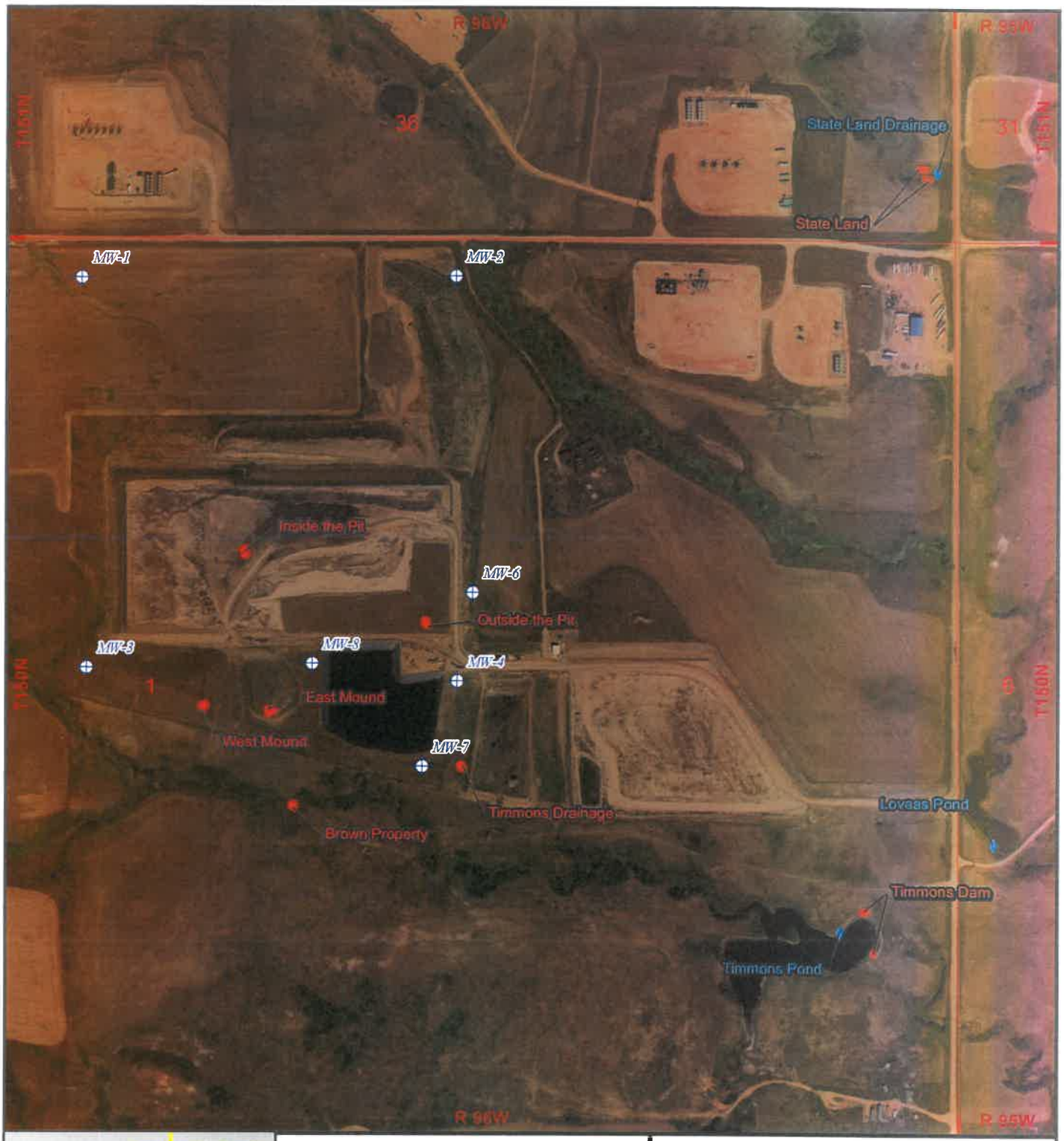
Carlson McCain, Inc.

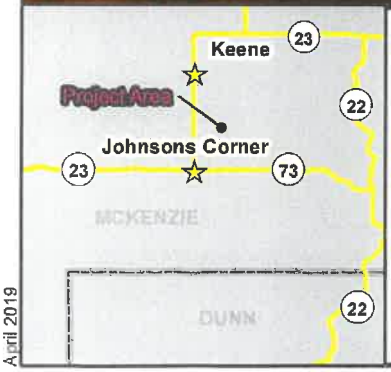
Dan Wilke, P.E.
Project Engineer

James B. Crowl III, P.G.
Senior Hydrogeologist

Figure and Attachment: As noted

Figures





Legend

- Approximate Monitoring Well Location
- Soil Sampling Point
- Surface Water Sampling Point
- Section Line

Figure 1
Sampling Locations
Blue Buttes Disposal Facility
Keene, North Dakota

0 300 600 Feet

1:7,200

Carlson McCain

Basemap: Orthophotos\NAIP_2016\NAIP McKenzie nd053

April 2019

Attachment A

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

March 28, 2019

James B. Crowl
Carlson McCain
3890 Pheasant Ridge Dr NE
Suite 100
Minneapolis, MN 55449

RE: Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Dear James Crowl:
Enclosed are the analytical results for sample(s) received by the laboratory on March 23, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Beverly Faraday
beverly.faraday@pacelabs.com
(406) 384-0559
Project Manager

Enclosures

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Montana Certification IDs

150 N. 9th Street, Billings, MT 59101
A2LA Certification: # 3590.01
EPA Region 8 Certification #: 8TMS-L
Idaho Certification #: MT00012
Minnesota Dept of Health Certification #: 030-999-442
Montana Certification #: MT CERT0040
North Dakota Dept. Of Health #: R-209
Washington Department of Ecology #: C993
Nevada Certificate # : MT00012

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Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10468062001	Inside the Pit	Solid	03/22/19 10:25	03/23/19 10:00
10468062002	Outside the Pit	Solid	03/21/19 18:21	03/23/19 10:00
10468062003	West Mound	Solid	03/22/19 09:54	03/23/19 10:00
10468062004	East Mound	Solid	03/22/19 09:25	03/23/19 10:00
10468062005	Timmons Drainage	Solid	03/21/19 17:46	03/23/19 10:00
10468062006	Brown Property	Solid	03/21/19 16:58	03/23/19 10:00
10468062007	Timmons Dam	Solid	03/21/19 14:29	03/23/19 10:00
10468062008	State Land	Solid	03/21/19 16:05	03/23/19 10:00

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10468062001	Inside the Pit	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
		ASTM D2974	NH1	1	PASI-MT
10468062002	Outside the Pit	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
		ASTM D2974	NH1	1	PASI-MT
10468062003	West Mound	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
		ASTM D2974	NH1	1	PASI-MT
10468062004	East Mound	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
		ASTM D2974	NH1	1	PASI-MT
10468062005	Timmons Drainage	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
		ASTM D2974	NH1	1	PASI-MT
10468062006	Brown Property	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
		ASTM D2974	NH1	1	PASI-MT
10468062007	Timmons Dam	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
		ASTM D2974	NH1	1	PASI-MT
10468062008	State Land	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
		ASTM D2974	NH1	1	PASI-MT

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Sample: Inside the Pit **Lab ID: 10468062001** Collected: 03/22/19 10:25 Received: 03/23/19 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3550C Sonication							
Diesel Range Organics	**32200**	mg/kg	1690	20	03/26/19 09:04	03/27/19 03:18		M1
Surrogates								
n-Pentacosane (S)	0	%.	30-150	20	03/26/19 09:04	03/27/19 03:18	629-99-2	S4
8015 GCV TPHGAS	Analytical Method: EPA 8015B Preparation Method: EPA 5030 MT							
Gasoline Range Organics	**469**	mg/kg	73.8	5	03/25/19 10:23	03/25/19 23:27		
Surrogates								
a,a,a-Trifluorotoluene (S)	92	%.	67-125	5	03/25/19 10:23	03/25/19 23:27	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	ug/kg	366	5	03/25/19 09:55	03/25/19 13:09	71-43-2	
Ethylbenzene	**1230**	ug/kg	366	5	03/25/19 09:55	03/25/19 13:09	100-41-4	
Toluene	**1210**	ug/kg	366	5	03/25/19 09:55	03/25/19 13:09	108-88-3	
Xylene (Total)	**9850**	ug/kg	1100	5	03/25/19 09:55	03/25/19 13:09	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	90	%.	30-150	5	03/25/19 09:55	03/25/19 13:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	86	%.	48-150	5	03/25/19 09:55	03/25/19 13:09	17060-07-0	
Toluene-d8 (S)	105	%.	53-150	5	03/25/19 09:55	03/25/19 13:09	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	30-150	5	03/25/19 09:55	03/25/19 13:09	460-00-4	
Dry Weight, MT	Analytical Method: ASTM D2974							
Percent Moisture	**30.4**	%	0.10	1		03/26/19 11:48		AL,N2

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Sample: Outside the Pit **Lab ID: 10468062002** Collected: 03/21/19 18:21 Received: 03/23/19 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3550C Sonication							
Diesel Range Organics	ND	mg/kg	23.8	1	03/26/19 09:04	03/27/19 04:24		
Surrogates								
n-Pentacosane (S)	77	%.	30-150	1	03/26/19 09:04	03/27/19 04:24	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B Preparation Method: EPA 5030 MT							
Gasoline Range Organics	ND	mg/kg	12.4	1	03/25/19 10:23	03/25/19 23:55		
Surrogates								
a,a,a-Trifluorotoluene (S)	87	%.	67-125	1	03/25/19 10:23	03/25/19 23:55	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	ug/kg	57.7	1	03/25/19 09:55	03/25/19 13:52	71-43-2	
Ethylbenzene	ND	ug/kg	57.7	1	03/25/19 09:55	03/25/19 13:52	100-41-4	
Toluene	ND	ug/kg	57.7	1	03/25/19 09:55	03/25/19 13:52	108-88-3	
Xylene (Total)	ND	ug/kg	173	1	03/25/19 09:55	03/25/19 13:52	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97	%.	30-150	1	03/25/19 09:55	03/25/19 13:52	1868-53-7	
1,2-Dichloroethane-d4 (S)	90	%.	48-150	1	03/25/19 09:55	03/25/19 13:52	17060-07-0	
Toluene-d8 (S)	101	%.	53-150	1	03/25/19 09:55	03/25/19 13:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	30-150	1	03/25/19 09:55	03/25/19 13:52	460-00-4	
Dry Weight, MT	Analytical Method: ASTM D2974							
Percent Moisture	**17.0**	%	0.10	1		03/26/19 11:48		AL, N2

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Sample: West Mound **Lab ID: 10468062003** Collected: 03/22/19 09:54 Received: 03/23/19 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3550C Sonication							
Diesel Range Organics	ND	mg/kg	25.7	1	03/26/19 09:04	03/27/19 04:56		
Surrogates								
n-Pentacosane (S)	85	%.	30-150	1	03/26/19 09:04	03/27/19 04:56	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B Preparation Method: EPA 5030 MT							
Gasoline Range Organics	ND	mg/kg	17.4	1	03/25/19 10:23	03/26/19 00:22		
Surrogates								
a,a,a-Trifluorotoluene (S)	86	%.	67-125	1	03/25/19 10:23	03/26/19 00:22	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	ug/kg	61.0	1	03/25/19 09:55	03/25/19 14:13	71-43-2	
Ethylbenzene	ND	ug/kg	61.0	1	03/25/19 09:55	03/25/19 14:13	100-41-4	
Toluene	ND	ug/kg	61.0	1	03/25/19 09:55	03/25/19 14:13	108-88-3	
Xylene (Total)	ND	ug/kg	183	1	03/25/19 09:55	03/25/19 14:13	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100	%.	30-150	1	03/25/19 09:55	03/25/19 14:13	1868-53-7	
1,2-Dichloroethane-d4 (S)	89	%.	48-150	1	03/25/19 09:55	03/25/19 14:13	17060-07-0	
Toluene-d8 (S)	102	%.	53-150	1	03/25/19 09:55	03/25/19 14:13	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	30-150	1	03/25/19 09:55	03/25/19 14:13	460-00-4	
Dry Weight, MT	Analytical Method: ASTM D2974							
Percent Moisture	**23.4**	%	0.10	1		03/26/19 11:48		AL,N2

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ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Sample: East Mound **Lab ID: 10468062004** Collected: 03/22/19 09:25 Received: 03/23/19 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3550C Sonication							
Diesel Range Organics	ND	mg/kg	25.6	1	03/26/19 09:04	03/27/19 05:29		
Surrogates								
n-Pentacosane (S)	86	%.	30-150	1	03/26/19 09:04	03/27/19 05:29	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B Preparation Method: EPA 5030 MT							
Gasoline Range Organics	ND	mg/kg	12.3	1	03/25/19 10:23	03/26/19 00:49		
Surrogates								
a,a,a-Trifluorotoluene (S)	86	%.	67-125	1	03/25/19 10:23	03/26/19 00:49	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	ug/kg	70.4	1	03/25/19 09:55	03/25/19 14:35	71-43-2	
Ethylbenzene	ND	ug/kg	70.4	1	03/25/19 09:55	03/25/19 14:35	100-41-4	
Toluene	ND	ug/kg	70.4	1	03/25/19 09:55	03/25/19 14:35	108-88-3	
Xylene (Total)	ND	ug/kg	211	1	03/25/19 09:55	03/25/19 14:35	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%.	30-150	1	03/25/19 09:55	03/25/19 14:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	88	%.	48-150	1	03/25/19 09:55	03/25/19 14:35	17060-07-0	
Toluene-d8 (S)	102	%.	53-150	1	03/25/19 09:55	03/25/19 14:35	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	30-150	1	03/25/19 09:55	03/25/19 14:35	460-00-4	
Dry Weight, MT	Analytical Method: ASTM D2974							
Percent Moisture	**22.1**	%	0.10	1		03/26/19 11:48		AL,N2

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ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Sample: Timmons Drainage **Lab ID: 10468062005** Collected: 03/21/19 17:46 Received: 03/23/19 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3550C Sonication							
Diesel Range Organics	ND	mg/kg	24.9	1	03/26/19 09:04	03/27/19 06:01		
Surrogates								
n-Pentacosane (S)	81	%.	30-150	1	03/26/19 09:04	03/27/19 06:01	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B Preparation Method: EPA 5030 MT							
Gasoline Range Organics	ND	mg/kg	17.0	1	03/25/19 10:23	03/26/19 01:17		
Surrogates								
a,a,a-Trifluorotoluene (S)	88	%.	67-125	1	03/25/19 10:23	03/26/19 01:17	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	ug/kg	68.2	1	03/25/19 09:55	03/25/19 14:56	71-43-2	
Ethylbenzene	ND	ug/kg	68.2	1	03/25/19 09:55	03/25/19 14:56	100-41-4	
Toluene	ND	ug/kg	68.2	1	03/25/19 09:55	03/25/19 14:56	108-88-3	
Xylene (Total)	ND	ug/kg	205	1	03/25/19 09:55	03/25/19 14:56	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98	%.	30-150	1	03/25/19 09:55	03/25/19 14:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%.	48-150	1	03/25/19 09:55	03/25/19 14:56	17060-07-0	
Toluene-d8 (S)	103	%.	53-150	1	03/25/19 09:55	03/25/19 14:56	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	30-150	1	03/25/19 09:55	03/25/19 14:56	460-00-4	
Dry Weight, MT	Analytical Method: ASTM D2974							
Percent Moisture	**20.7**	%	0.10	1		03/26/19 11:48		AL, N2

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ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Sample: Brown Property **Lab ID: 10468062006** Collected: 03/21/19 16:58 Received: 03/23/19 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3550C Sonication							
Diesel Range Organics	ND	mg/kg	24.1	1	03/26/19 09:04	03/27/19 06:34		
Surrogates								
n-Pentacosane (S)	85	%.	30-150	1	03/26/19 09:04	03/27/19 06:34	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B Preparation Method: EPA 5030 MT							
Gasoline Range Organics	ND	mg/kg	15.9	1	03/25/19 10:23	03/26/19 01:44		
Surrogates								
a,a,a-Trifluorotoluene (S)	86	%.	67-125	1	03/25/19 10:23	03/26/19 01:44	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	ug/kg	74.6	1	03/25/19 09:55	03/25/19 15:18	71-43-2	
Ethylbenzene	ND	ug/kg	74.6	1	03/25/19 09:55	03/25/19 15:18	100-41-4	
Toluene	ND	ug/kg	74.6	1	03/25/19 09:55	03/25/19 15:18	108-88-3	
Xylene (Total)	ND	ug/kg	224	1	03/25/19 09:55	03/25/19 15:18	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98	%.	30-150	1	03/25/19 09:55	03/25/19 15:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	90	%.	48-150	1	03/25/19 09:55	03/25/19 15:18	17060-07-0	
Toluene-d8 (S)	103	%.	53-150	1	03/25/19 09:55	03/25/19 15:18	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	30-150	1	03/25/19 09:55	03/25/19 15:18	460-00-4	
Dry Weight, MT	Analytical Method: ASTM D2974							
Percent Moisture	**18.1**	%	0.10	1		03/26/19 11:48		AL,N2

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ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Sample: Timmons Dam **Lab ID: 10468062007** Collected: 03/21/19 14:29 Received: 03/23/19 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3550C Sonication							
Diesel Range Organics	ND	mg/kg	23.9	1	03/26/19 09:04	03/27/19 07:07		
Surrogates								
n-Pentacosane (S)	90	%.	30-150	1	03/26/19 09:04	03/27/19 07:07	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B Preparation Method: EPA 5030 MT							
Gasoline Range Organics	ND	mg/kg	13.1	1	03/25/19 10:23	03/26/19 02:11		
Surrogates								
a,a,a-Trifluorotoluene (S)	87	%.	67-125	1	03/25/19 10:23	03/26/19 02:11	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	ug/kg	51.4	1	03/25/19 09:55	03/25/19 15:40	71-43-2	
Ethylbenzene	ND	ug/kg	51.4	1	03/25/19 09:55	03/25/19 15:40	100-41-4	
Toluene	ND	ug/kg	51.4	1	03/25/19 09:55	03/25/19 15:40	108-88-3	
Xylene (Total)	ND	ug/kg	154	1	03/25/19 09:55	03/25/19 15:40	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	94	%.	30-150	1	03/25/19 09:55	03/25/19 15:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	90	%.	48-150	1	03/25/19 09:55	03/25/19 15:40	17060-07-0	
Toluene-d8 (S)	100	%.	53-150	1	03/25/19 09:55	03/25/19 15:40	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	30-150	1	03/25/19 09:55	03/25/19 15:40	460-00-4	
Dry Weight, MT	Analytical Method: ASTM D2974							
Percent Moisture	**16.8**	%	0.10	1		03/26/19 11:48		AL,N2

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ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Sample: State Land **Lab ID: 10468062008** Collected: 03/21/19 16:05 Received: 03/23/19 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3550C Sonication							
Diesel Range Organics	ND	mg/kg	26.4	1	03/26/19 09:04	03/27/19 07:40		
Surrogates								
n-Pentacosane (S)	80	%.	30-150	1	03/26/19 09:04	03/27/19 07:40	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B Preparation Method: EPA 5030 MT							
Gasoline Range Organics	ND	mg/kg	16.6	1	03/25/19 10:23	03/26/19 02:39		
Surrogates								
a,a,a-Trifluorotoluene (S)	88	%.	67-125	1	03/25/19 10:23	03/26/19 02:39	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
Benzene	ND	ug/kg	61.8	1	03/25/19 09:55	03/25/19 16:01	71-43-2	
Ethylbenzene	ND	ug/kg	61.8	1	03/25/19 09:55	03/25/19 16:01	100-41-4	
Toluene	ND	ug/kg	61.8	1	03/25/19 09:55	03/25/19 16:01	108-88-3	
Xylene (Total)	ND	ug/kg	185	1	03/25/19 09:55	03/25/19 16:01	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99	%.	30-150	1	03/25/19 09:55	03/25/19 16:01	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%.	48-150	1	03/25/19 09:55	03/25/19 16:01	17060-07-0	
Toluene-d8 (S)	101	%.	53-150	1	03/25/19 09:55	03/25/19 16:01	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	30-150	1	03/25/19 09:55	03/25/19 16:01	460-00-4	
Dry Weight, MT	Analytical Method: ASTM D2974							
Percent Moisture	**24.4**	%	0.10	1		03/26/19 11:48		AL,N2

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QUALITY CONTROL DATA

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

QC Batch: 595770 Analysis Method: EPA 8015B
QC Batch Method: EPA 5030 MT Analysis Description: 8015/ Solid MT
Associated Lab Samples: 10468062001, 10468062002, 10468062003, 10468062004, 10468062005, 10468062006, 10468062007, 10468062008

METHOD BLANK: 3220830 Matrix: Solid
Associated Lab Samples: 10468062001, 10468062002, 10468062003, 10468062004, 10468062005, 10468062006, 10468062007, 10468062008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	9.1	03/25/19 21:11	
a,a,a-Trifluorotoluene (S)	%.	88	67-125	03/25/19 21:11	

LABORATORY CONTROL SAMPLE: 3220831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	47.1	41.1	87	70-125	
a,a,a-Trifluorotoluene (S)	%.			98	67-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3220833 3220834

Parameter	Units	10468062002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Gasoline Range Organics	mg/kg	ND	58.3	58.3	64.8	62.0	111	106	30-150	4	20	
a,a,a-Trifluorotoluene (S)	%.						99	99	67-125			

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QUALITY CONTROL DATA

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

QC Batch: 595484 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV UST
Associated Lab Samples: 10468062001, 10468062002, 10468062003, 10468062004, 10468062005, 10468062006, 10468062007, 10468062008

METHOD BLANK: 3219559 Matrix: Solid
Associated Lab Samples: 10468062001, 10468062002, 10468062003, 10468062004, 10468062005, 10468062006, 10468062007, 10468062008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	45.6	03/25/19 11:19	
Ethylbenzene	ug/kg	ND	45.6	03/25/19 11:19	
Toluene	ug/kg	ND	45.6	03/25/19 11:19	
Xylene (Total)	ug/kg	ND	137	03/25/19 11:19	
1,2-Dichloroethane-d4 (S)	%.	100	48-150	03/25/19 11:19	
4-Bromofluorobenzene (S)	%.	100	30-150	03/25/19 11:19	
Dibromofluoromethane (S)	%.	108	30-150	03/25/19 11:19	
Toluene-d8 (S)	%.	99	53-150	03/25/19 11:19	

LABORATORY CONTROL SAMPLE: 3219560

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	970	732	76	75-125	
Ethylbenzene	ug/kg	970	833	86	75-125	
Toluene	ug/kg	970	854	88	75-125	
Xylene (Total)	ug/kg	2910	2650	91	75-125	
1,2-Dichloroethane-d4 (S)	%.			86	48-150	
4-Bromofluorobenzene (S)	%.			99	30-150	
Dibromofluoromethane (S)	%.			90	30-150	
Toluene-d8 (S)	%.			100	53-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3219561 3219562

Parameter	Units	10467444001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	457	1080	1130	1370	1360	84	80	30-150	1	30	
Ethylbenzene	ug/kg	3460	1080	1130	4770	5310	121	164	30-150	11	30	M1
Toluene	ug/kg	4870	1080	1130	5680	6540	75	148	30-150	14	30	
Xylene (Total)	ug/kg	10600	3240	3380	14500	16300	122	169	30-150	11	30	MS
1,2-Dichloroethane-d4 (S)	%.						86	87	48-150			
4-Bromofluorobenzene (S)	%.						102	108	30-150			
Dibromofluoromethane (S)	%.						93	92	30-150			
Toluene-d8 (S)	%.						101	101	53-150			

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QUALITY CONTROL DATA

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

QC Batch: 595722 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 10468062001, 10468062002, 10468062003, 10468062004, 10468062005, 10468062006, 10468062007, 10468062008

SAMPLE DUPLICATE: 3220475

Parameter	Units	10467854002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	17.3	16.9	2	30	AL,N2

SAMPLE DUPLICATE: 3220476

Parameter	Units	10468062007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	16.8	17.8	6	30	AL,N2

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QUALITY CONTROL DATA

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

QC Batch: 595713 Analysis Method: EPA 8015B
QC Batch Method: EPA 3550C Sonication Analysis Description: 8015 Solid GCSV
Associated Lab Samples: 10468062001, 10468062002, 10468062003, 10468062004, 10468062005, 10468062006, 10468062007, 10468062008

METHOD BLANK: 3220442 Matrix: Solid
Associated Lab Samples: 10468062001, 10468062002, 10468062003, 10468062004, 10468062005, 10468062006, 10468062007, 10468062008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	ND	10	03/26/19 22:20	
n-Pentacosane (S)	%.	106	30-150	03/26/19 22:20	

LABORATORY CONTROL SAMPLE & LCSD: 3220443 3220444

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Range Organics	mg/kg	36.6	42.0	34.5	115	94	61-125	20	20	
n-Pentacosane (S)	%.				90	75	30-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3220445 3220446

Parameter	Units	10468062001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Range Organics	mg/kg	32200	158	157	31500	34500	-443	1480	30-150	9	20	E,M1
n-Pentacosane (S)	%.						0	0	30-150			S0

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QUALIFIERS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-MT Pace Analytical Services - Montana

ANALYTE QUALIFIERS

AL	The lab does not hold A2LA accreditation for this parameter.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
S0	Surrogate recovery outside laboratory control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 4653-16 Blue Buttes
Pace Project No.: 10468062

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10468062001	Inside the Pit	EPA 3550C Sonication	595713	EPA 8015B	595860
10468062002	Outside the Pit	EPA 3550C Sonication	595713	EPA 8015B	595860
10468062003	West Mound	EPA 3550C Sonication	595713	EPA 8015B	595860
10468062004	East Mound	EPA 3550C Sonication	595713	EPA 8015B	595860
10468062005	Timmons Drainage	EPA 3550C Sonication	595713	EPA 8015B	595860
10468062006	Brown Property	EPA 3550C Sonication	595713	EPA 8015B	595860
10468062007	Timmons Dam	EPA 3550C Sonication	595713	EPA 8015B	595860
10468062008	State Land	EPA 3550C Sonication	595713	EPA 8015B	595860
10468062001	Inside the Pit	EPA 5030 MT	595770	EPA 8015B	595771
10468062002	Outside the Pit	EPA 5030 MT	595770	EPA 8015B	595771
10468062003	West Mound	EPA 5030 MT	595770	EPA 8015B	595771
10468062004	East Mound	EPA 5030 MT	595770	EPA 8015B	595771
10468062005	Timmons Drainage	EPA 5030 MT	595770	EPA 8015B	595771
10468062006	Brown Property	EPA 5030 MT	595770	EPA 8015B	595771
10468062007	Timmons Dam	EPA 5030 MT	595770	EPA 8015B	595771
10468062008	State Land	EPA 5030 MT	595770	EPA 8015B	595771
10468062001	Inside the Pit	EPA 5035/5030B	595484	EPA 8260B	595505
10468062002	Outside the Pit	EPA 5035/5030B	595484	EPA 8260B	595505
10468062003	West Mound	EPA 5035/5030B	595484	EPA 8260B	595505
10468062004	East Mound	EPA 5035/5030B	595484	EPA 8260B	595505
10468062005	Timmons Drainage	EPA 5035/5030B	595484	EPA 8260B	595505
10468062006	Brown Property	EPA 5035/5030B	595484	EPA 8260B	595505
10468062007	Timmons Dam	EPA 5035/5030B	595484	EPA 8260B	595505
10468062008	State Land	EPA 5035/5030B	595484	EPA 8260B	595505
10468062001	Inside the Pit	ASTM D2974	595722		
10468062002	Outside the Pit	ASTM D2974	595722		
10468062003	West Mound	ASTM D2974	595722		
10468062004	East Mound	ASTM D2974	595722		
10468062005	Timmons Drainage	ASTM D2974	595722		
10468062006	Brown Property	ASTM D2974	595722		
10468062007	Timmons Dam	ASTM D2974	595722		
10468062008	State Land	ASTM D2974	595722		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/ Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company: Carlson McCain	Billing Information:
Address: 3890 Pheasant Ridge Dr. Suite 100 Blaine, MN 55449	
Report To: Jim Crowl	Email To: jcrowl@carlsonmccain.com
Copy To:	Site Collection Info/Address: Blue Buttes
Customer Project Name/Number: 4653 - 16	State: / County/City: Time Zone Collected: [ ]PT [ ]MT [ ]CT [ ]ET
Phone: Email:	Site/Facility ID#: Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): Mike Fettes	Purchase Order #: Quote #: DW PWSID#: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [✓] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: X [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [✓] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: 8015 DRO	8015 GRO	8260 BTEX	Lab Profile/Line: Lab Sample # / Comments:
Inside the Pit	SL	Comp	3/22/2019	1015	3/22/2019	1025			✓	✓	✓	10468062 001
Outside the Pit	SL	Comp	3/21/2019	1810	3/21/2019	1821			✓	✓	✓	002
West Mound	SL	Comp	3/22/2019	945	3/22/2019	954			✓	✓	✓	003
East Mound	SL	Comp	3/22/2019	910	3/22/2019	925			✓	✓	✓	004
Timmons Drainage	SL	Comp	3/21/2019	1730	3/21/2019	1746			✓	✓	✓	005
Brown Property	SL	Comp	3/21/2019	1640	3/21/2019	1658			✓	✓	✓	006
Timmons Dam	SL	Comp	3/21/2019	1410	3/21/2019	1429			✓	✓	✓	007
State land	SL	Comp	3/21/2019	1550	3/21/2019	1605			✓	✓	✓	008

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips:	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:

Temp Blank Received: (Y) N NA

Therm ID#:

Cooler 1 Temp Upon Receipt: ___oC

Cooler 1 Therm Corr. Factor: ___oC

Cooler 1 Corrected Temp: ___oC

Comments:

Relinquished by/ Company: (Signature)	Date/ Time:	Received by/ Company: (Signature)	Date/ Time:	MTJL LAB USE ONLY Table #:
Relinquished by/ Company: (Signature) Fed Ex	Date/ Time:	Received by/ Company: (Signature) M Walter - Pace	Date/ Time: 3/23/19 1000	Acctnum: Template: Prelogin: PM: PB:
Relinquished by/ Company: (Signature)	Date/ Time:	Received by/ Company: (Signature)	Date/ Time:	

Trip Blank Received: Y N NA HCL MeOH TSP Other

Non Conformance(s): YES / NO Page: ___ of: ___

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Oct2018
	Document No.: F-MT-C-184-Rev.14	Page 1 of 1
		Issuing Authority: Pace Montana Quality Office

Sample Condition Upon Receipt

Client Name: Carlson McCain

Project #: WO#: 10468062

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7861 9668 1335

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 160285052 ☐ 140279186 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read: 2.1

Cooler Temp Corrected: 2.1

Date and Initials of Person Examining Contents: MW 3/23/19

Biological Tissue Frozen? ☐ Yes ☒ No

USDA Regulated Soil ☐ Yes ☒ No

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA? Check maps & Circle State

Did samples originate from a foreign source (international, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes	☒ No MW 3/23/19	☐ N/A	7. 4 day
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests? Note if sediment is visible in the dissolved container.	☐ Yes	☐ No	☒ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: Soil	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl ☐ NaOH+ZnAce
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☐ Yes	☒ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased): NA				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 3/25/19

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
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March 28, 2019

James B. Crowl
Carlson McCain
3890 Pheasant Ridge Dr NE
Suite 100
Minneapolis, MN 55449

RE: Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

Dear James Crowl:
Enclosed are the analytical results for sample(s) received by the laboratory on March 23, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Beverly Faraday
beverly.faraday@pacelabs.com
(406) 384-0559
Project Manager

Enclosures

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CERTIFICATIONS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

Montana Certification IDs

150 N. 9th Street, Billings, MT 59101
A2LA Certification: # 3590.01
EPA Region 8 Certification #: 8TMS-L
Idaho Certification #: MT00012
Minnesota Dept of Health Certification #: 030-999-442
Montana Certification #: MT CERT0040
North Dakota Dept. Of Health #: R-209
Washington Department of Ecology #: C993
Nevada Certificate # : MT00012

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SAMPLE SUMMARY

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10468065001	State Land Drainage	Water	03/21/19 12:38	03/23/19 10:00
10468065002	Timmons Pond	Water	03/21/19 13:32	03/23/19 10:00
10468065003	Lovaas Pond	Water	03/21/19 13:09	03/23/19 10:00

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SAMPLE ANALYTE COUNT

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10468065001	**State Land Drainage**	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
10468065002	**Timmons Pond**	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT
10468065003	**Lovaas Pond**	EPA 8015B	EJS	2	PASI-MT
		EPA 8015B	NH1	2	PASI-MT
		EPA 8260B	MAM	8	PASI-MT

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ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

Sample: State Land Drainage **Lab ID: 10468065001** Collected: 03/21/19 12:38 Received: 03/23/19 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA Mod. 3510C							
Diesel Range Organics	ND	mg/L	0.48	1	03/25/19 10:28	03/26/19 18:58		
Surrogates								
n-Pentacosane (S)	77	%.	56-125	1	03/25/19 10:28	03/26/19 18:58	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B							
Gasoline Range Organics	ND	ug/L	250	1		03/25/19 17:59		
Surrogates								
a,a,a-Trifluorotoluene (S)	90	%.	73-126	1		03/25/19 17:59	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/26/19 11:44	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/26/19 11:44	100-41-4	
Toluene	ND	ug/L	0.50	1		03/26/19 11:44	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		03/26/19 11:44	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98	%.	66-125	1		03/26/19 11:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	91	%.	61-125	1		03/26/19 11:44	17060-07-0	
Toluene-d8 (S)	101	%.	75-125	1		03/26/19 11:44	2037-26-5	
4-Bromofluorobenzene (S)	108	%.	75-125	1		03/26/19 11:44	460-00-4	

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ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

Sample: Timmons Pond **Lab ID: 10468065002** Collected: 03/21/19 13:32 Received: 03/23/19 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA Mod. 3510C							
Diesel Range Organics	**0.85**	mg/L	0.48	1	03/25/19 10:29	03/26/19 20:06		
Surrogates								
n-Pentacosane (S)	82	%.	56-125	1	03/25/19 10:29	03/26/19 20:06	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B							
Gasoline Range Organics	ND	ug/L	250	1		03/25/19 18:26		
Surrogates								
a,a,a-Trifluorotoluene (S)	86	%.	73-126	1		03/25/19 18:26	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/26/19 12:06	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/26/19 12:06	100-41-4	
Toluene	ND	ug/L	0.50	1		03/26/19 12:06	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		03/26/19 12:06	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99	%.	66-125	1		03/26/19 12:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	93	%.	61-125	1		03/26/19 12:06	17060-07-0	
Toluene-d8 (S)	105	%.	75-125	1		03/26/19 12:06	2037-26-5	
4-Bromofluorobenzene (S)	113	%.	75-125	1		03/26/19 12:06	460-00-4	

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ANALYTICAL RESULTS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

Sample: Lovaas Pond **Lab ID: 10468065003** Collected: 03/21/19 13:09 Received: 03/23/19 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA Mod. 3510C							
Diesel Range Organics	ND	mg/L	0.48	1	03/25/19 10:30	03/26/19 21:13		
Surrogates								
n-Pentacosane (S)	70	%.	56-125	1	03/25/19 10:30	03/26/19 21:13	629-99-2	
8015 GCV TPHGAS	Analytical Method: EPA 8015B							
Gasoline Range Organics	ND	ug/L	250	1		03/25/19 19:21		
Surrogates								
a,a,a-Trifluorotoluene (S)	84	%.	73-126	1		03/25/19 19:21	98-08-8	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/26/19 12:27	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/26/19 12:27	100-41-4	
Toluene	ND	ug/L	0.50	1		03/26/19 12:27	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		03/26/19 12:27	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%.	66-125	1		03/26/19 12:27	1868-53-7	
1,2-Dichloroethane-d4 (S)	91	%.	61-125	1		03/26/19 12:27	17060-07-0	
Toluene-d8 (S)	102	%.	75-125	1		03/26/19 12:27	2037-26-5	
4-Bromofluorobenzene (S)	111	%.	75-125	1		03/26/19 12:27	460-00-4	

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QUALITY CONTROL DATA

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

QC Batch: 595575 Analysis Method: EPA 8015B
QC Batch Method: EPA 8015B Analysis Description: 8015 GAS MT
Associated Lab Samples: 10468065001, 10468065002, 10468065003

METHOD BLANK: 3219935 Matrix: Water
Associated Lab Samples: 10468065001, 10468065002, 10468065003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	ND	250	03/25/19 17:31	
a,a,a-Trifluorotoluene (S)	%.	89	73-126	03/25/19 17:31	

LABORATORY CONTROL SAMPLE: 3219936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	1000	1040	104	75-125	
a,a,a-Trifluorotoluene (S)	%.			101	73-126	

MATRIX SPIKE SAMPLE: 3219938

Parameter	Units	10468065001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	ND	1000	1080	108	68-128	
a,a,a-Trifluorotoluene (S)	%.				98	73-126	

SAMPLE DUPLICATE: 3219939

Parameter	Units	10468065002 Result	Dup Result	RPD	Max RPD	Qualifiers
Gasoline Range Organics	ug/L	ND	ND		20	
a,a,a-Trifluorotoluene (S)	%.	86	86			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

QC Batch: 595688 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 10468065001, 10468065002, 10468065003

METHOD BLANK: 3220376 Matrix: Water
Associated Lab Samples: 10468065001, 10468065002, 10468065003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	0.50	03/26/19 09:32	
Ethylbenzene	ug/L	ND	0.50	03/26/19 09:32	
Toluene	ug/L	ND	0.50	03/26/19 09:32	
Xylene (Total)	ug/L	ND	1.5	03/26/19 09:32	
1,2-Dichloroethane-d4 (S)	%.	84	61-125	03/26/19 09:32	
4-Bromofluorobenzene (S)	%.	83	75-125	03/26/19 09:32	
Dibromofluoromethane (S)	%.	81	66-125	03/26/19 09:32	
Toluene-d8 (S)	%.	105	75-125	03/26/19 09:32	

LABORATORY CONTROL SAMPLE: 3220377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.1	96	75-125	
Ethylbenzene	ug/L	20	20.7	104	75-125	
Toluene	ug/L	20	21.0	105	75-125	
Xylene (Total)	ug/L	60	67.9	113	75-125	
1,2-Dichloroethane-d4 (S)	%.			96	61-125	
4-Bromofluorobenzene (S)	%.			108	75-125	
Dibromofluoromethane (S)	%.			94	66-125	
Toluene-d8 (S)	%.			105	75-125	

MATRIX SPIKE SAMPLE: 3220378

Parameter	Units	10467823020 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	17.2	86	75-125	
Ethylbenzene	ug/L	ND	20	18.7	94	75-125	
Toluene	ug/L	ND	20	19.0	95	75-127	
Xylene (Total)	ug/L	ND	60	59.0	98	75-125	
1,2-Dichloroethane-d4 (S)	%.				94	61-125	
4-Bromofluorobenzene (S)	%.				105	75-125	
Dibromofluoromethane (S)	%.				96	66-125	
Toluene-d8 (S)	%.				99	75-125	

SAMPLE DUPLICATE: 3220379

Parameter	Units	10467823021 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	.46J		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

SAMPLE DUPLICATE: 3220379

Parameter	Units	10467823021 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethylbenzene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	95	96			
4-Bromofluorobenzene (S)	%.	113	109			
Dibromofluoromethane (S)	%.	102	99			
Toluene-d8 (S)	%.	104	101			

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

QC Batch: 595489 Analysis Method: EPA 8015B
QC Batch Method: EPA Mod. 3510C Analysis Description: 8015 GCS MT
Associated Lab Samples: 10468065001, 10468065002, 10468065003

METHOD BLANK: 3219602 Matrix: Water
Associated Lab Samples: 10468065001, 10468065002, 10468065003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/L	ND	0.50	03/26/19 17:18	
n-Pentacosane (S)	%.	107	56-125	03/26/19 17:18	

LABORATORY CONTROL SAMPLE & LCSD: 3219603 3219604

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Range Organics	mg/L	1.1	1.3	1.3	118	119	48-125	1	20	
n-Pentacosane (S)	%.				90	88	56-125			

MATRIX SPIKE SAMPLE: 3219605

Parameter	Units	10468065001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Diesel Range Organics	mg/L	ND	1.1	1.4	90	43-125	
n-Pentacosane (S)	%.				69	56-125	

SAMPLE DUPLICATE: 3219606

Parameter	Units	10468065001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Range Organics	mg/L	ND	1.1		20	
n-Pentacosane (S)	%.	77	75			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-MT Pace Analytical Services - Montana

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 4653-16 Blue Buttes
Pace Project No.: 10468065

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10468065001	**State Land Drainage**	EPA Mod. 3510C	595489	EPA 8015B	595579
10468065002	**Timmons Pond**	EPA Mod. 3510C	595489	EPA 8015B	595579
10468065003	**Lovaas Pond**	EPA Mod. 3510C	595489	EPA 8015B	595579
10468065001	**State Land Drainage**	EPA 8015B	595575		
10468065002	**Timmons Pond**	EPA 8015B	595575		
10468065003	**Lovaas Pond**	EPA 8015B	595575		
10468065001	**State Land Drainage**	EPA 8260B	595688		
10468065002	**Timmons Pond**	EPA 8260B	595688		
10468065003	**Lovaas Pond**	EPA 8260B	595688		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/ Login Label Here or List Pace Workorder Number or MTJ Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company: Carlson McCain	Billing Information:
Address: 3890 Pheasant Ridge Dr. Suite 100 Blaine, MN 55449	
Report To: Jim Crowl	Email To: jcrowl@carlsonmccain.com
Copy To:	Site Collection Info/Address: Blue Buttes
Customer Project Name/ Number: 4653-16	State: County/ City: Time Zone Collected: [ ]PT [ ]MT [ ]CT [ ]ET
Phone: / Email:	Site/ Facility ID #: / Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): Mike Fettes	Purchase Order #: / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature): Mike Fettes	Turnaround Date Required: 3-29-2019 / Immediately Packed on Ice: [✓] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: X [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [✓] 4 Day [ ] 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/ Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8015 DRO	8015 GRO	8260 BTEX	Lab Sample # / Comments
State Land Drainage	WT	G	3/21/2019	1238					✓	✓	✓	10468065 001
Timmons Pond	WT	G	3/21/2019	1332					✓	✓	✓	002
Lovaas Pond	WT	G	3/21/2019	1309					✓	✓	✓	003

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Container Preservative Type **

Lab Project Manager:

Analyses

Lab Profile/ Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:

Temp Blank Received: Y N NA

Therm ID#: _____

Cooler 1 Temp Upon Receipt: ___oC

Cooler 1 Therm Corr. Factor: ___oC

Cooler 1 Corrected Temp: ___oC

Comments:

Relinquished by/ Company: (Signature)	Date/ Time: 6-22 1430	Received by/ Company: (Signature)	Date/ Time:	MTJ LAB USE ONLY Table #:
Relinquished by/ Company: (Signature) Seal Ex	Date/ Time:	Received by/ Company: (Signature) M Walters-Pace	Date/ Time: 3/23/19 1000	Acctnum: Template: Prelogin: PM: PB:
Relinquished by/ Company: (Signature)	Date/ Time:	Received by/ Company: (Signature)	Date/ Time:	

Trip Blank Received: Y N NA

HCL MeOH TSP Other

Non Conformance(s): YES / NO Page: _____ of: _____

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Oct2018 Page 1 of 1
	Document No.: F-MT-C-184-Rev.14	Issuing Authority: Pace Montana Quality Office

Sample Condition Upon Receipt

Client Name: Carlson McCain

Project #: WO# : 10468065

10468065

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7861 9668 1346

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☑ Yes ☐ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other: Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 160285052 ☐ 140279186 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read: 4.5

Cooler Temp Corrected: 4.3

Date and Initials of Person Examining Contents: MW 3/23/19

Biological Tissue Frozen? ☐ Yes ☑ No

USDA Regulated Soil ☐ Yes ☒ No

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA? Check maps & Circle State

Did samples originate from a foreign source (other than Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes	☐ No	☐ N/A	7. 4 day
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests? Note if sediment is visible in the dissolved container.	☐ Yes	☐ No	☑ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: H_2O	☑ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl ☐ NaOH+ZnAc
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☒ Yes	☐ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased): NA				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 3/25/19

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR certification office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

REPUBLIC EES BLUE BUTTES FACILITY
MCKENZIE COUNTY, NORTH DAKOTA
NDDOH PERMIT NO. 0368

ENVIRONMENTAL MONITORING SUMMARY

Prepared for

Republic EES, LLC

April 2019

Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 0120-707-14-12

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1	**SUMMARY**	**1**
2	**ENVIRONMENTAL MONITORING**	**2**
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	2.5 2014 Environmental Monitoring	
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	2.7 2016 Environmental Monitoring	
	2.8 2017 Environmental Monitoring	
	2.9 2018 Environmental Monitoring	

1 SUMMARY

Environmental monitoring, which includes groundwater, perimeter subdrain, leachate, two surface water ponds, and seven offsite stock ponds, began at the site in December 2012 before the facility began receiving oil field wastes in 2014. Recently, Weaver Consultants Group (WCG) completed environmental monitoring and reporting for the calendar years 2015 through 2018; inclusive. At the request of Republic, WCG prepared this document to summarize all monitoring results from before the facility began accepting waste through 2018.

In general:

- There are no results that indicate any release from the landfill.
- The water quality in the sampled locations, other than the landfill leachate where waste constituents would be expected to be detected, causes no regulatory or compliance concerns.

Additionally, sampling results from before the facility began accepting waste detected several constituents such as diesel range organics (TPH-DRO), nitrates, sulfates, arsenic, barium, cobalt, copper, iron, manganese, and selenium. Since these are the result of either past events or are naturally occurring, their continued detections were expected.

2 ENVIRONMENTAL MONITORING

2.1 Introduction

The purpose of environmental monitoring is to determine if a release has occurred from the landfill. Environmental monitoring is required by the North Dakota Department of Health (NDDOH) at the Blue Buttes Special Waste Landfill in Keene, North Dakota. In November 2012, the facility submitted an Environmental Monitoring Network Work Plan for the landfill that parallels the NDDOH requirements for a landfill that receives oil field exploration and production (E&P) wastes. This plan, which was approved by NDDOH, specifies the methods to be used at Blue Buttes for field sample collection, laboratory analyses, statistical analyses, and annual reporting. Environmental monitoring events are completed at the facility in June and October of each year. NDDOH reviews each annual environmental monitoring report submitted to the department by the Blue Buttes facility. To date, one clarification requested and no corrective action directives have been received from NDDOH.

2.2 Background

The Environmental Monitoring Network Work Plan presently requires groundwater sample collection from 7 existing groundwater monitor wells. The monitoring plan also requires sampling and analyses of the landfill's leachate and underdrain samples. Sampling of the Treatment, Recovery, and Disposal (TRD) and National Pollution Discharge Elimination System (NPDES) surface water detention ponds is also required. In addition, the monitoring plan also requires sampling of 7 nearby off-site surface water stock ponds. The surface water sampling and analyses are only completed during the June sampling event.

Environmental monitoring began at the site in December 2012. The facility began receiving oil field wastes in 2014 following NDDOH's issuance of Permit No. 0368 which authorized Blue Buttes to begin operations. Recently, WCG completed environmental monitoring and reporting for the calendar years 2015 through 2018; inclusive.

2.3 2012 Environmental Monitoring

MWH completed one groundwater sampling event in 4 monitor wells (MW-1 through MW-4) in 2012. This event was completed prior to the initial placement of waste in 2014 and was the first groundwater monitoring event at the facility. The results included detections of nitrates, sulfates, arsenic, barium, cobalt, copper, iron, manganese, and selenium groundwater constituents. All of these groundwater constituents are naturally occurring and they predate the placement of wastes in the landfill.

2.4 2013 Environmental Monitoring

AECOM (consultant) completed two groundwater sampling events in 8 monitor wells (MW-1 through MW-8) and the perimeter subdrain in 2013. The stormwater pond and the off-site stock ponds were also sampled. These events were completed prior to the initial placement of waste in 2014. Total petroleum hydrocarbons – diesel range organics (TPH-DRO) were detected in MW-2, MW-6, MW-7, MW-8 and the subdrain at concentrations below one part per million. NDDOH has no MCL for DRO at this time. Other states use one part per million as a residential clean up requirement. Other constituents were detected at constituents considered background conditions.

2.5 2014 Environmental Monitoring

CH2MHILL completed semi-annual groundwater monitoring and annual surface water and stormwater monitoring events in June and October 2014. TPH-DRO was not detected in any monitoring well. Other constituents were detected at constituents considered background conditions.

2.6 2015 Environmental Monitoring

WCG completed semi-annual groundwater monitoring and annual surface water and stormwater monitoring events in June and October 2015. TPH-DRO was detected in all monitoring wells during the June 2015 sampling event at concentrations less than 0.34 mg/L. Other states use 1.0 mg/L as a residential clean up requirement. It is noted that TPH-DRO has been detected in the subdrain since the initial 2012 sampling event, which was prior to the 2014 placement of waste in the landfill. Other constituents were detected at constituents considered background conditions.

2.7 2016 Environmental Monitoring

WCG completed semi-annual groundwater monitoring and annual surface water and stormwater monitoring events in June and October 2016. Monitoring wells MW-1 through MW-4 and MW-6 through MW-8, leachate, perimeter subdrain, surface water and stormwater locations at the BBF were sampled. Based on the data, there was no indication of a release from the landfill at that time.

2.8 2017 Environmental Monitoring

WCG completed semi-annual groundwater monitoring and annual surface water and stormwater monitoring events in June and October 2017. Monitoring wells MW-1 through MW-4 and MW-6 through MW-8, leachate, perimeter subdrain, surface water and stormwater locations at the BBF were sampled. The chloride concentrations in monitor well MW-4 showed statistically significantly increases (SSIs) in both events. There were no other statistically significant concentration increases in the June or October data. TPH-DRO was detected in all monitoring wells, 4 off-site stock ponds, and the subdrain during the June 2017 sampling event at concentrations minimally over the reporting limit of 0.026 mg/L. As TPH-DRO is present in the up gradient groundwater monitor wells MW-1 and MW-2, the TPH-DRO appears to be naturally occurring.

2.9 2018 Environmental Monitoring

WCG completed semi-annual groundwater monitoring and annual surface water and stormwater monitoring events in June and October 2018. Monitoring wells MW-1 through MW-4 and MW-6 through MW-8, leachate, perimeter subdrain, surface water and stormwater locations at the BBF were sampled. TPH-DRO was detected in all monitoring well, subdrain, and surface water samples during the June 2018 sampling event at concentrations minimally over the reporting limit of 0.026 mg/L. As TPH-DRO is present in the up gradient groundwater monitor wells MW-1 and MW-2, the TPH-DRO appears to be naturally occurring.

The chloride concentration in monitor well MW-4 showed a statistically significantly increase in the June event. However, the MW-4 chloride concentration in the October event was a significant reduction to 66.4 mg/L, which is well below the statistical limit. These chloride results were submitted to the NDDOH in a WCG letter dated February 7, 2019.

Dan Wilke

From: dkbrown@rtc.coop
Sent: Monday, November 12, 2018 6:12 PM
To: Dan Wilke
Subject: RE: Blue Buttes Special Waste Landfill CUP Amendment

I am not in favor of continuing with this facility any more than what current permit allows.

On 2018-11-09 14:48, Dan Wilke wrote:ir
> Dean,
> They asked me to contact you, then I provide them with your comments.
> So responding to me will be fine and I'll include those with my
> submittal to them.
> Thanks,
>
> Dan Wilke, P.E.
> Project Engineer
>
> Carlson McCain, Inc.
> 15650 36th Ave N, Suite 110 | Plymouth, MN 55446 Direct 952-346-3864
> | Cell 651-226-2935 | Main Tel 952-346-3900 | Fax 952-346-3901
> www.carlsonmccain.com
>
> -----Original Message-----
> From: dkbrown@rtc.coop [mailto:dkbrown@rtc.coop]
> Sent: Friday, November 09, 2018 3:46 PM
> To: Dan Wilke <dwilke@carlsonmccain.com>
> Subject: RE: Blue Buttes Special Waste Landfill CUP Amendment
>
> Dan
>
> Are you asking for me to comment to you on this amendment proposal or
> comment to local county planning and zoning dept? Usually, Mckenzie
> County Zoning/Planning contacts me and other Township board members
> for input.
>
> Dean Brown
>
> On 2018-11-05 09:56, Dan Wilke wrote:
>> Hi, will you be providing any comments for previously mentioned CUP?
>>
>> Thanks,
>>
>> Dan Wilke, P.E.
>> Project Engineer
>>
>> Carlson McCain, Inc.
>> 15650 36TH AVE N, SUITE 110 | Plymouth, MN 55446 DIRECT
>> 952-346-3864

>> | CELL 651-226-2935 | MAIN TEL 952-346-3900 | FAX
>> 952-346-3901
>>
>> FROM: Dan Wilke
>> SENT: Thursday, October 25, 2018 1:42 PM
>> TO: 'dkbrown@rtc.coop' <dkbrown@rtc.coop>
>> SUBJECT: RE: Blue Buttes Special Waste Landfill CUP Amendment
>> IMPORTANCE: High
>>
>> Hi, will you be providing any comments for the above CUP?
>>
>> Thanks,
>>
>> Dan Wilke, P.E.
>> Project Engineer
>>
>> Carlson McCain, Inc.
>> 15650 36th Ave N, Suite 110 | Plymouth, MN 55446 Direct
>> 952-346-3864
>> | Cell 651-226-2935 | Main Tel 952-346-3900 | Fax
>> 952-346-3901
>>
>> FROM: Dan Wilke
>> SENT: Thursday, October 18, 2018 9:47 AM
>> TO: 'dkbrown@rtc.coop' <dkbrown@rtc.coop [1]>
>> SUBJECT: Blue Buttes Special Waste Landfill CUP Amendment
>>
>> You are receiving this email and attachment, for your comments, as
>> requested by the McKenzie County Planning and Zoning Board. The
>> attached documents are pertaining to a CUP amendment for the Blue
>> Buttes Special Waste Landfill site. The amendment is being applied
>> for due to a proposed expansion of the existing landfill. Further
>> details are contained in the attachment.
>>
>> Thanks,
>>
>> Dan Wilke, P.E.
>> Project Engineer
>>
>> Carlson McCain, Inc.
>> 15650 36th Ave N, Suite 110 | Plymouth, MN 55446 Direct
>> 952-346-3864
>> | Cell 651-226-2935 | Main Tel 952-346-3900 | Fax
>> 952-346-3901
>>
>>
>>
>> Links:
>> ------
>> [1] mailto:dkbrown@rtc.coop

Dan Wilke

From: Tim Pickering <tpickering@co.mckenzie.nd.us>
Sent: Friday, September 28, 2018 8:57 AM
To: Dan Wilke
Subject: RE: Blue Buttes Special Waste Landfill CUP Amendment

Hello Dan, our concern will be the continued traffic generated by the facility and its impact on the roads and safety in the area. Road & Bridge will support the directives of McKenzie County Planning and Zoning, one of which will require a significant cost share for the improvement of 108th Ave NW.

Please let me know if you have any questions or concerns.

Regards,

Tim Pickering

From: Dan Wilke <dwilke@carlsonmccain.com>
Sent: Tuesday, September 25, 2018 5:25 PM
To: Dan Wilke <dwilke@carlsonmccain.com>
Subject: Blue Buttes Special Waste Landfill CUP Amendment

You are receiving this email and attachment, for your comments, as requested by the McKenzie County Planning and Zoning Board. The attached documents are pertaining to a CUP amendment for the Blue Buttes Special Waste Landfill site. The amendment is being applied for due to a proposed expansion of the existing landfill. Further details are contained in the attachment.
Thanks,

Dan Wilke, P.E.
Project Engineer

Carlson McCain, Inc.
15650 36th Ave N, Suite 110 | Plymouth, MN 55446
Direct 952-346-3864 | Cell 651-226-2935 | Main Tel 952-346-3900 | Fax 952-346-3901
www.carlsonmccain.com

Dan Wilke

From: Dan Wilke
Sent: Wednesday, October 31, 2018 4:45 PM
To: 'Karolin Jappe'
Subject: RE: Blue Buttes Special Waste Landfill CUP Amendment

Karolin,
Thanks for the comment. I understand that in certain conditions the odor from the landfill can migrate offsite for a short time. The proposed modifications concern stormwater management, a thickening of the final cover, and an increase in the ultimate height of the landfill. While the proposed changes will increase the ultimate volume and height of waste that will be disposed, there are no proposed changes to the active filling area. There are also no proposals for a lateral expansion of the landfill. These two factors contribute most to emanating odors. Increasing the height of the landfill will not affect the distance it takes for odors to disperse.

The landfill has reached a point now where it is possible to place intermediate and final cover. Some intermediate cover was placed this year. Construction of these cover materials greatly assist in odor control. Cover materials will be placed as the landfill increases in height which will mitigate odor issues related to the increase in height.

Please let me know if you have any more questions.

Thanks,

Dan Wilke, P.E.
Project Engineer

Carlson McCain, Inc.
15650 36th Ave N, Suite 110 | Plymouth, MN 55446
Direct 952-346-3864 | Cell 651-226-2935 | Main Tel 952-346-3900 | Fax 952-346-3901
www.carlsonmccain.com

From: Karolin Jappe [mailto:kjappe@co.mckenzie.nd.us]
Sent: Wednesday, October 31, 2018 3:36 PM
To: Dan Wilke <dwilke@carlsonmccain.com>
Subject: RE: Blue Buttes Special Waste Landfill CUP Amendment

Dan:

The only comment I have or question, is, will it have a higher aroma of gases going off location. And I ask that because at certain times, I have had different people call and are concerned about the smells coming from the landfill. It doesn't happen all the time, but when it does, I do get the calls.

Thank you,

Karolin Jappe
McKenzie County
Emergency Manager
Alexander VFD
701.444.7483

701.580.6936 cell
www.facebook.com/McKenzieCountyDES

From: Dan Wilke [mailto:dwilke@carlsonmccain.com]
Sent: Wednesday, October 31, 2018 3:26 PM
To: Karolin Jappe
Subject: RE: Blue Buttes Special Waste Landfill CUP Amendment

Karolin,
Do you have any comments for this CUP yet. We are trying to get on docket and just need yours and the fire departments comments.
Thanks,

Dan Wilke, P.E.
Project Engineer

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www.carlsonmccain.com

From: Dan Wilke
Sent: Friday, October 12, 2018 10:30 AM
To: 'kjappe@co.mckenzie.nd.us' <kjappe@co.mckenzie.nd.us>
Subject: FW: Blue Buttes Special Waste Landfill CUP Amendment

Hi Karolin,
I am just wondering if you had any comments on this CUP Amendment?
Thanks,

Dan Wilke, P.E.
Project Engineer

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From: Dan Wilke
Sent: Tuesday, September 25, 2018 5:24 PM
To: Dan Wilke <dwilke@carlsonmccain.com>
Subject: Blue Buttes Special Waste Landfill CUP Amendment

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www.carlsonmccain.com

Dan Wilke

From: Lloyd Clock <lclock@co.mckenzie.nd.us>
Sent: Monday, October 01, 2018 10:35 AM
To: Dan Wilke
Subject: RE: Blue Buttes Special Waste Landfill CUP Amendment

I do not see any issues with this CUP as far as Law Enforcement or Dispatch is concerned

Lloyd

Lloyd Clock
McKenzie County Sheriff's Office
1201 12th ST SE, Ste B
Watford City, ND 58854
Office: (701) 842-6010 ext 7797
Fax: (701)842-6455
Direct 701-444-7504
lclock@co.mckenzie.nd.us

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From: Dan Wilke [mailto:dwilke@carlsonmccain.com]
Sent: Tuesday, September 25, 2018 5:25 PM
To: Dan Wilke
Subject: Blue Buttes Special Waste Landfill CUP Amendment

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Dan Wilke

From: Dan Wilke
Sent: Tuesday, September 25, 2018 5:24 PM
To: Dan Wilke
Subject: Blue Buttes Special Waste Landfill CUP Amendment
Attachments: Blue Buttes CUP Submittal for Comment.pdf

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Dan Wilke

From: Dan Wilke
Sent: Friday, October 12, 2018 10:31 AM
To: 'johnrolfsrud@gmail.com'
Subject: FW: Blue Buttes Special Waste Landfill CUP Amendment
Attachments: Blue Buttes CUP Submittal for Comment.pdf

Hi John,
I'm just wondering if you had any comment on this CUP Amendment?
Thanks,

Dan Wilke, P.E.
Project Engineer

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Dan Wilke

From: Dan Wilke
Sent: Thursday, October 18, 2018 9:59 AM
To: 'johnrolfsrud@gmail.com'
Subject: Blue Buttes Special Waste Landfill CUP Amendment
Attachments: Blue Buttes CUP Submittal for Comment.pdf

Hi John,
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Thanks,

Dan Wilke, P.E.
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Dan Wilke

From: John Rolfsrud <johnrolfsrud@gmail.com>
Sent: Thursday, October 25, 2018 2:15 PM
To: Dan Wilke
Subject: Re: Blue Buttes Special Waste Landfill CUP Amendment

Evidently the land fill is across the line from blue buttes township

On Thu, Oct 25, 2018, 1:58 PM Dan Wilke <dwilke@carlsonmccain.com> wrote:

> Ok, thanks for the update John.
>
> **Dan Wilke, P.E.**
> **Project Engineer**
>
> **Carlson McCain, Inc.**
> **15650 36th Ave N, Suite 110 | Plymouth, MN 55446**
> **Direct 952-346-3864 | Cell 651-226-2935 | Main Tel 952-346-3900 | Fax 952-346-3901**
> **www.carlsonmccain.com**
>
> **From:** John Rolfsrud [mailto:johnrolfsrud@gmail.com]
> **Sent:** Thursday, October 25, 2018 1:57 PM
> **To:** Dan Wilke <dwilke@carlsonmccain.com>
> **Subject:** Re: Blue Buttes Special Waste Landfill CUP Amendment
>
> Forwarded to the township supervisors and have not heard from them yet
>
> On Thu, Oct 25, 2018, 1:39 PM Dan Wilke <dwilke@carlsonmccain.com> wrote:
>
> > Hi John,
> >
> > Any updates on those comments? We are trying to finalize this CUP amendment as soon as possible, but we need those comments. The modifications to the existing site that are being proposed are a thickening of the landfill cap, an increase in the final height, and some minor perimeter grading provisions. Nothing that should change anything from a fire safety standpoint.
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Project Engineer

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From: John Rolfsrud [mailto:johnrolfsrud@gmail.com]
Sent: Thursday, October 18, 2018 10:51 AM
To: Dan Wilke <dwilke@carlsonmccain.com>
Subject: Re: Blue Buttes Special Waste Landfill CUP Amendment

Forwarded to the supervisors

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Dan Wilke

From: Dan Wilke
Sent: Wednesday, October 31, 2018 3:28 PM
To: 'John Rolfsrud'
Subject: RE: Blue Buttes Special Waste Landfill CUP Amendment

John,
Does this mean that there won't be any comments? If there will still be comments, can you give me the supervisors contact info so I can contact them.
Thanks,

Dan Wilke, P.E.
Project Engineer

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www.carlsonmccain.com

January 9, 2018

McKenzie County Planning and Zoning Board

201 5th ST NW

Watford City, ND 58854

Dear Board Members,

This letter is being written to express my opposition to the proposed Republic Services expansion to increase the vertical height of the landfill increasing the waste capacity 2.07 million cubic yard to 7.05 million cubic yards – three times as tall as it is now.

I have rented that land for four years with plans to purchase it and to build my home. The stink from the site makes it impossible to make long term plans. When the temperature is 70 degrees and above, you cannot breathe because of the horrible smell.. The odor combines the smell of diesel and rancid eggs ... the air smells like s####t!

My property is located on the south side of the Republic Landfill woven wire fence. On this property is a dam that has watered cattle for 60 years. Four years ago we boated in the dam and used the boat to dive into the middle of dam. No one could touch the bottom when they dove and tried. Last summer, I could walk across the dam, the silt build up. I am taking water samples to be tested because the silt is coming from the landfill berm. This dam is the primary water source for my cattle year round.

The wind carries the dust from the landfill in whatever direction the wind is blowing. My cattle suffer from pinkeye and breathing issues including pneumonia. And yes, I worry about my health and the health of all my neighbors. The dust particles from the landfill and from the road the trucks travel fills the air because Republic Services has not always maintained a strict dust control policy as required by the previous CUP.

My pasture and corrals was always the home for over 50 pheasants (some years probably closer to 100). Great hunting draw! Only a few pheasants can be found in the draws and around the corrals. They used to eat on the road entering the landfill and the landfill berm. I would recommend no one eat a pheasant from our area ... not sure it would be healthy because the diesel shavings from the trucks they eat after the trucks unloading and fall on the road as they exit. I understand they grade the road to remove but pretty sure particles remain.

The woven wire fence is usually down every year, it needs maintenance so I try to fix it the best I can. But I should not have to! I do it because I do not want my cattle to enter their property and eat or drink contaminated chemicals from the shavings and other chemicals. The containment (Leachate) pond is nearly full and last summer was green and yellow and smelled terrible as well. How or where does that liquid go? Does it evaporate into the air?

All the surrounding farms as far away as two or more miles are negatively impacted because of the terrible smell of the air. It gives you a headache, makes you puke or just plain kills your sense of smell

after a while. I do not think anyone who was on the downside of the wind in any direction would want to build a home or raise a family. I am concerned for my health as well as the health of my neighbors.

The dust is killing the trees, grass along the roads entering the landfill as well as near my dam. So again I ask "What is it doing to my health, the cattle, wildlife and birds?"

The trucks leaving the landfill rarely stop at the stop sign sometime someone could get killed.

I do not have to use a flashlight when I check my cows during calving in the draw near the facility The lights from the landfill are bright. I guess I kinda like that!

This is a heavy industry business located in the heart of ag land surrounded by many families within two miles. When the wind blows the odor travels and the landfill shares the cancer causing particles (benzene) with every human and animal who breathes, drinks, and eats the particles. These particles leave the landfill via wind, water, trucks/equipment and human skin and boots/clothing.

Please deny this application because of the concerns listed above.

Sincerely,

Caleb Timmons

Caleb Timmons

1/11/2019

Mckenzie County Planning and Zoning Board

201 5th ST NW

Watford City ND 58854

Dear board members

This letter is being written to express our opposition to the proposed Republic Services expansion to increase the vertical height of the land fill increasing the waste capacity 2.07 million yards 7.05 Million cubic yards which will increase the height of the land fill dramatically.

My wife and I live NW of Republic Services on the corner of 31th ST NW and Highway 23 and there are numerous times that we have had Smell from Republic {which is very distinct From other smells} When there is a east or south east wind, especially at night or Anytime the air is heavy {times up to 24 hrs per day I have drove around the Republic location on the county roads and traced it back to Republic. { a Job duty I had when I worked in the Oil Field for 34 years],I have also have checked at other times and wind directions when odor is coming from Republic and it has the same bad odor.

There is many different chemicals used in fracing and and drilling cuttings and types of waste {quote earthworks web site,high levels of Benezne ,radioactive,plus many others)long term Exposure to Benezene can cause leukemia, OSHA has limits of exposure , But there are times we have 24 exposure to this contamination my wife & I are very sensitive to these odors which affects our health and life And puts us and anyone else that is smelling these odors /dust /water /pollution/ to possible cancer And other problems ,such as asthma ,copd and many other and to young children who are more susceptible.

We don't need contamination in ND that can show up in the future [20,30,100 years} which has happened in other places.{like the Love Channel]

In the High Country news web site ,It is stated that all well cuttings are radioactivte Do we want that here.

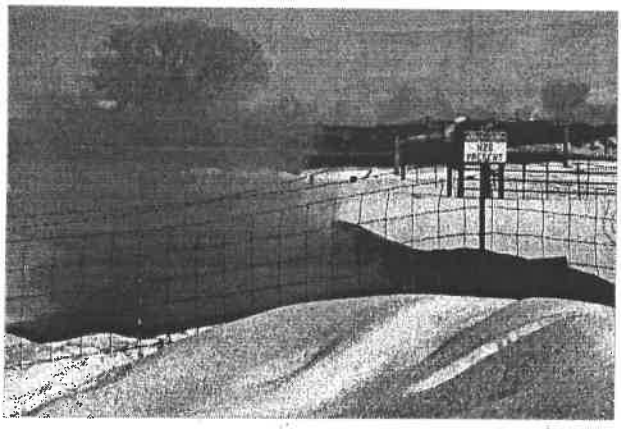
We need to check what the Radioactive material that is now there already and have it documented by some witness from our community ,also need to see the records that they should have on each load And passed on to the public. The trucks come in with out tarps and leave with out tarps which means we have radioactive material on our county roads and in the air already.

WE as a County also need to stop anybody or group that is trying to raise the radioactive allowance In North Dakota, We need to start Some Where.

Thank You, Ronald And Marvel Ritzke Ronald Ritzke

Enclosed Copies from high country web site and earthworks website

Earth Works
Waste Management



When wells are drilled and fracked, it's not only oil and gas that are brought to the surface from deep underground—but also large volumes of waste. Estimates show that up to 1,200 gallons of wastewater can be created per day of production at shale gas wells, as well as at least 600 tons of solid waste per hole drilled.

Storing, treating, and disposing of so much waste requires a variety of equipment and facilities, all of which can pose risks to the environment, health, and property. Waste management practices include:

- Pits and impoundments
- Underground wastewater injection wells
- Landfills
- Surface spreading
- Wastewater treatment plants

Operators and state regulators need to do much more to reduce the impacts of oil and gas waste.

Disasters from Pennsylvania to Texas to North Dakota to California, demonstrate the problems posed by oil and gas waste, including:

Toxic pollution

Even when EPA exempted oil and gas waste from hazardous waste regulations in 1988, the agency concluded that it contains toxic substances that would qualify the waste as hazardous, and which pose a risk to health and the environment, such as benzene, lead, arsenic, barium, and uranium.

Studies have identified health-harming toxic chemicals in oil and gas wastewater disposed of in injection wells and discharged into rivers and streams, solid waste created during drilling, and fracturing fluids recovered at well sites. In addition, high saline levels in some oil and gas waste can contaminate soil and harm aquatic life.

Radioactivity

Shale and other rock formations contain radioactive material. Levels of radioactivity vary across formations depending on depth and concentration. Oil and gas development brings radioactive material to the surface and can also create radioactive deposits on pipes and equipment. The radioactive content in wastes can pose health risks and is challenging to remove.

Google hazards of benzene Sign in

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About 2,560,000 results (0.61 seconds)

The International Agency for Research on Cancer (IARC) and the EPA have determined that **benzene** is carcinogenic to humans. Breathing **benzene** can cause drowsiness, dizziness, and even lead to unconsciousness. ... **Benzene** causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia.

The Hazards of Benzene Exposure
https://content.statefundca.com/safety/News/2014Issue1/Benzene.asp

About this result Feedback

People also ask

What makes benzene hazardous?

Some industries use **benzene** to **make** other chemicals which are used to **make** plastics, resins, and nylon and synthetic fibers. **Benzene** is also used to **make** some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. ... **Benzene** is also a natural part of crude oil, gasoline, and cigarette smoke.

ATSDR - Toxic Substances - Benzene
https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=14

Search for: What makes benzene hazardous?

Is benzene a carcinogen?

Is Benzene Banned?

What is the permissible exposure limit for benzene?

Airborne: The maximum time-weighted average (TWA) exposure limit is 1 part of benzene vapor per million parts of air (**1 ppm**) for an 8-hour workday and the maximum short-term exposure limit (STEL) is **5 ppm** for any 15-minute period.

1910.1028 App A - Substance safety data sheet, Benzene - OSHA
https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1028AppA

Search for: What is the permissible exposure limit for benzene?

How Does benzene cause cancer?

Is benzene harmful to humans?

What happens when you inhale benzene?

What are the hazards of benzene?

How long does benzene stay in your blood?

Feedback

Benzene : OSH Answers
https://www.ccohs.ca/oshanswers/chemicals/chem_profiles/benzene.html
Symptoms may include headache, nausea, dizziness, drowsiness and confusion. A severe exposure can cause unconsciousness. Skin Contact: SKIN IRRITANT. Causes moderate to severe irritation.

The Hazards of Benzene Exposure
https://content.statefundca.com/safety/News/2014Issue1/Benzene.asp
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Did You Know?

The Hazards of Benzene Exposure

Widely used across many industries. Benzene is a highly flammable and colorless liquid with a sweet odor, which evaporates into the air very quickly and dissolves slightly in water.

Some industries use benzene as a chemical intermediary to make other chemicals such as phenol, cyclohexane, and styrene, which are used to make plastics, resins, and nylon and other synthetic fibers. Benzene is a component in commercial grades of toluene, xylene, and a significant component in various hydrocarbon mixtures such as aromatic petroleum napthas whose boiling point encompasses that of benzene.

Benzene is also used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from volcanoes and forest fires. Benzene is also a natural component of crude oil, gasoline, and cigarette smoke.

The Department of Health and Human Services (DHHS) has determined that benzene is a known carcinogen and should be handled with the utmost precautions. The International Agency for Research on Cancer (IARC) and the EPA have determined that benzene is carcinogenic to humans.

Breathing benzene can cause drowsiness, dizziness, and even lead to unconsciousness. Breathing high levels of benzene can cause the previously mentioned symptoms and also rapid heart rate, headaches, tremors, confusion. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and sometimes death.

The major effect of benzene from long-term exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. Other long-term exposure can cause excessive bleeding and can affect the immune system, increasing the chance for infection. The immune system can also be damaged by changing blood levels of antibodies and causing the loss of white blood cells.

Long-term exposure to high levels of benzene in the air can cause leukemia, particularly acute myelogenous leukemia — a cancer of the bloodforming organs often referred to as AML.

The Occupational Safety and Health Administration (OSHA) has set limits of 1 part benzene per million parts of workplace air (1 ppm) for 8 hour shifts and 40 hour work weeks, and a 5 ppm short term 15 minute exposure limit. Maintaining such low levels of exposure would normally require a closed system, or careful containment in conjunction with local exhaust ventilation.

If benzene is used in the workplace, Cal/OSHA title 8, section 5218 specifies requirements for exposure monitoring, engineering controls and supplemental respiratory protection, establishment of regulated areas that exceed the PEL, employee information and training, and medical surveillance. Learn how to protect yourself, and what to do if you are exposed by visiting the Center's for Disease Control and Prevention's section on Emergency Preparedness and Response; Facts About Benzene.

This article is intended for informational purposes only. It should not be used as a basis for medical diagnosis or treatment.

Vince Moretto, M.S., State Fund Industrial Hygienist, is a NIOSH certified specialist in the practice of occupational safety and health.

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Types of Waste

Produced water (also called "brine" and "formation water") is brought up from underground during drilling and production. Produced water continues to flow over the lifetime of a well and contains high levels of salt, heavy metals, oil and grease, and radiological material.

Flowback is the mix of water and fracturing fluids that return to the surface once fracturing is completed. Samples of flowback from the Marcellus Shale have shown high levels of sodium, chloride, strontium, barium, and bromide, as well as toxic substances from the fractured formations.

Drill cuttings are the ground up rock pulled up from the formation during drilling. Regulators often define cuttings to be natural material (e.g., rock and dirt), but cuttings contain radioactive material and can also be coated with fluids and chemicals used in drilling.

Drilling muds are used to control pressure in the wellbore, cool and lubricate the drill bit, and help bring drill cuttings to the surface. Muds can be water-based, oil-based, synthetic, or made of air and foam—but they all contain chemical additives. One study found very high levels of chlorides and benzene in drilling muds.

Fracturing sand helps keep open fractures created in formations so that oil and gas can flow out. Large amounts of frac sand return to the surface as a waste product. No studies have analyzed the contents of this waste, but it likely contains the chemicals used to treat it before use.

For More Information

- **Earthworks** report on oil and gas waste problems and oversight in the Marcellus and Utica Shale states.
- **Environmental Integrity Project** and other organizations legal petition to EPA from on the need to develop federal regulations for oil and gas waste.
- **Downstream Strategies** report on water use and wastewater production in Marcellus Shale development.
- **Physicians, Scientists, and Engineers for Healthy Energy** database of peer-reviewed studies on oil and gas waste.
- **Earthworks** fact sheet on wastewater disposal and earthquakes.

January 13, 2018

Dear Planning & Zoning Board,

We are opposed to Republic Services CUP amendment for the Blue Butler Facility.

The air quality has deteriorated to the point that local families living in the area are concerned for their health. The stench can be smelled as far away as our home almost 2 miles away.

The air from this landfill carries cancer causing carcinogen from the pile of solidified fluids recovered from oil drilling, reclamation pits and solids excavated during spill clean ups.

Please do NOT approve the Republic application.

Sincerely,

x Jack Skarda

Jack Skarda

x Joanne Skarda

Joanne Skarda

Peyman Kadir

From: Kathy Skarda
Sent: Sunday, January 13, 2019 12:01 PM
To: Jim Talbert
Subject: Republic

Although it's not "in my backyard", I am familiar with the facility. It's obvious to me that they can't handle the environmental hazard they have currently so expansion shouldn't even be considered. I'm a bit confused as to why they're still in business at all. I suspect the odor is only the most apparent indication of multiple issues. Perhaps it could be revisited if they show a willingness to improve the situation as it stands.
I've worked in the oilpatch since I was in high school and my father before me so I am in no way opposed to the business itself. However, we all need to be held accountable, from the oil companies to the welder driving down the road.
Cindy Gilstad Rhodes
Alex Township, McKenzie County, ND

Sent from my iPhone

Peyman Kadir

From: Kathy Skarda
Sent: Saturday, January 12, 2019 6:34 PM
To: Jim Talbert
Subject: Republic

January 12, 2019
I am definitely in opposition to this proposal. Please express my opinion.
Kathy James
Alexander North Dakota

Sent from my iPhone

Peyman Kadir

From: Kathy Skarda
Sent: Saturday, January 12, 2019 6:31 PM
To: Jim Talbert
Subject: Republic

I've heard about it I am also totally against it. not sure if I can make it .
Doug Olson
11262 35th ST NW
Keene ND

Sent from my iPhone

Peyman Kadir

From: Kathy Skarda
Sent: Saturday, January 12, 2019 6:28 PM
To: Jim Talbert
Subject: Republic

We, Ross and Michelle Schoenwald do not want more oilfield waste in our backyard. We live near the existing site and it's disgusting. We do not want this waste contaminating our air, soil and water sources, there has been more than enough damage done already. Please please do not allow more damage.
Ross and Michelle Schoenwald
2988 Highway 23
Watford City ND 58854

Sent from my iPhone

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SENT VIA EMAIL ONLY – pkadir@co.mckenzie.nd.us

February 8, 2019

McKenzie County Planning & Zoning Dept.
Attn: Peyman Kadir, Planner
201 5th St. NW, Suite 699
Watford City, ND 58854

Re: Republic EES, LLC - Request for Amendment to Conditional Use Permit
Blue Buttes Special Waste Facility

Dear Mr. Kadir:

Please be advised I represent Tommie S. Tank with respect to her surface and mineral interests. I am in receipt of your January 23, 2019 *Public Notice* regarding the February 11, 2019 hearing for the above referenced matter. Please accept this as formal notification that Ms. Tank objects to and opposes the amendment of the Conditional Use Permit.

After reviewing the Staff Report for this CUP, it appears none of the criteria required to approve the conditional use permit were thoroughly investigated, reviewed, nor applied to the expanded scale of the proposed facility. Furthermore, the Staff Report is without reasoning behind the responses to items a through f. For example, simple stating, "The proposed Amended CUP would not be detrimental to or endanger the public health, safety, comfort or general welfare" does not make it a fact.

We would request to appear by telephone for this hearing in order to further discuss the matter. Please advise as to the appropriate number my client and I should contact.

Thank you in advance for your time and consideration. Should you have any questions, please contact my office.

Sincerely,

LARSON LAW FIRM, P.C.

Shelby Larson
Attorney at Law

SKL:sj:mckenzie co01
pc: Tommie Tank (via email)

\\SERVER4\Data\wpdocs\Tank\Tommie\Asset Management\Drafts\mckenzie co01 re rep & objections.wpd