



# TOWN OF ERIE

645 Holbrook Street  
Erie, CO 80516

## Meeting Agenda

### Town Council

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Tuesday, December 16, 2025

6:00 PM

Council Chambers

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#### Special Meeting

[Link to Watch or Comment Virtually: https://bit.ly/TC-Special-or-Study-3rdTuesday](https://bit.ly/TC-Special-or-Study-3rdTuesday)

#### I. Call Meeting to Order and Pledge of Allegiance

6:00 p.m.

#### II. Roll Call

#### III. Approval of the Agenda

#### IV. Consent Agenda

6:00-6:05 p.m.

[25-613](#)

A Resolution of the Town Council of the Town of Erie Approving a Construction Contract with Facilities Contracting, LLC for the Erie Community Park Ballfields Maintenance Building Expansion Project

**Attachments:**

[Resolution 25-214](#)

[Contract](#)

[25-614](#)

An Ordinance of the Town Council of the Town of Erie Granting a Utility Easement to Public Service Company of Colorado and Approving the Associated Easement Agreement

**Attachments:**

[Ordinance 038-2025](#)

[Easement Agreement](#)

[25-663](#)

A Resolution of the Town Council of the Town of Erie Approving the Amendment to Extend the Community Development Block Grant Program Home Repair Program Subrecipient Agreement with Weld County and the Colorado State Historic Preservation Office

**Attachments:**

[Resolution 25-217](#)

[#24-4 Erie Home Rehab Subrecipient Agreement](#)

[#24-4 Erie CDBG Amend to Extend Subrecipient Agreement](#)

#### V. Public Comment On Non-Agenda and Consent Items only.

6:05-6:15 p.m.

*(This agenda item provides the public an opportunity to discuss items that are not on the agenda or consent agenda items only. The Town Council is not prepared to decide on matters brought up at this time, but if warranted, will place them on a future agenda.)*

## VI. General Business

### [25-665](#)

PUBLIC HEARING: A Resolution of the Town Council of the Town of Erie Approving a Settlement Agreement with Stratus Redtail Ranch, LLC, to Settle Pending Litigation in Weld County District Court

**Attachments:**

[#1 Resolution 25-216](#)  
[#2 Staff Summary Memo](#)  
[#3 Applicant Presentation](#)  
[#4 Exhibits](#)  
[#5 Redtail Settlement Agmt Package 12.12.25](#)  
[#6 Amended Complaint](#)  
[#7 Environmental Conditions Report - May 2025](#)  
[#8 Pinyon Environmental April 2022](#)  
[#9 CDPHE NO Action Determination December 2020](#)  
[#10 NAD Petition Link](#)  
[#11 ESA 2020 Link](#)

6:15-7:30 p.m.

### [25-659](#)

A Resolution of the Town Council of the Town of Erie Approving a Professional Services Agreement with Alameda Mineral Advisors

**Attachments:**

[Resolution 25-218](#)  
[Alameda Mineral Advisors Agreement for Professional Services and Scope of Work](#)  
[Alameda Mineral Advisors Mineral Valuation Representation Proposal](#)

7:30-8:00 p.m.

### [25-581](#)

An Ordinance of the Town Council of the Town of Erie Adding a New Section 6-11-20 to the Erie Municipal Code to Regulate the Operation of Electric-Assisted Bicycles

**Attachments:**

[Ordinance 037-2025](#)

8:00-8:30 p.m.

### [25-465](#)

An Ordinance of the Town Council of the Town of Erie Restricting Open Burning in the Town

**Attachments:**

[Ordinance 029-2025](#)

8:30-8:45 p.m.



**IX. Executive Session to consider personnel matters, pursuant to C.R.S. § 24-6-402(4)(f) and not involving: any specific employees who have requested discussion of the matter in open session; any member of this body or any elected official; the appointment of any person to fill an office of this body or of an elected official; or personnel policies that do not require the discussion of matters personal to particular employees, and to determine positions relative to matters that may be subject to negotiations, develop a strategy for negotiations, and/or instruct negotiators, pursuant to C.R.S. § 24-6-402(4)(e), concerning the Town Manager's evaluation and contract**

*8:45-9:15 p.m.*

**X. Adjournment**

*9:15 p.m.*

*(The Town Council's Goal is that all meetings be adjourned by 10:30pm. An agenda check will be conducted at or about 10:00 p.m., and no later than at the end of the first item finished after 10:00 p.m. Items not completed prior to adjournment will generally be taken up at the next regular meeting.)*



# TOWN OF ERIE

645 Holbrook Street  
Erie, CO 80516

## Town Council

**Board Meeting Date: 12/16/2025**

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**File #:** 25-613, **Version:** 1

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**SUBJECT:**

A Resolution of the Town Council of the Town of Erie Approving a Construction Contract with Facilities Contracting, LLC for the Erie Community Park Ballfields Maintenance Building Expansion Project

**DEPARTMENT:** Parks & Recreation

**PRESENTER(S):** Luke Bolinger, Director of Parks & Recreation  
Kathy Kron, Development & Neighborhood Services Division Manager

**TIME ESTIMATE:** 0 minutes

**FISCAL SUMMARY:**

Cost as Recommended:	\$295,135.83
Balance Available:	\$297,500
Fund	Conservation Trust Fund
Line Item Number:	220-50-810-605000-100022
New Appropriation Required:	No

**POLICY ISSUES:**

Whether to expend budgeted funds for expansion of storage and maintenance facilities at Erie Community Park.

**STAFF RECOMMENDATION:**

Approve the Resolution.

**SUMMARY/KEY POINTS**

- Town Council approval by Resolution is required for execution of construction contracts over \$100,000.
- This phase of work will expand the existing maintenance building on-site.
- A second phase is planned for 2026 which includes an additional maintenance and storage building on-site.

**BACKGROUND OF SUBJECT MATTER:**

Expansion of the maintenance facilities at the Erie Community Park is long overdue, and the current infrastructure no longer supports operational demands. The existing maintenance building lacks sufficient space required for ballfield maintenance equipment and daily workflows. After the conversion of the LAWSC storage building into offices, the Recreation Division lost dedicated storage and no longer has adequate space for equipment used for special events and sports. As a result, Recreation rents off-site storage, creating unnecessary costs, inefficiencies, and reliance on temporary rental pods to meet basic needs.

The maintenance building expansion project represents the first phase of a two-phase solution designed to correct these deficiencies. Phase one expands the existing maintenance building to address immediate space and operational requirements. Phase two, funded in the 2026 budget, will add a new maintenance and storage building on the site to support long-term growth.

Together, these improvements establish dedicated, right-sized maintenance and storage facilities for both park maintenance and recreation workgroups, eliminating off-site storage expenses and reducing travel time to retrieve essential equipment.

**ATTACHMENT(S):**

1. Resolution
2. Contract

**Town of Erie  
Resolution No. 25-214**

**A Resolution of the Town Council of the Town of Erie Approving a Construction Contract with Facilities Contracting, LLC for the Erie Community Park Ballfields Maintenance Building Expansion Project**

**Whereas**, the Town requires the services of Facilities Contracting, LLC for the Erie Community Park Ballfields Maintenance Building Expansion Project.

**Now Therefore be it Resolved by the Town Council of the Town of Erie, Colorado, that:**

**Section 1.** The Construction Contract with Facilities Contracting, LLC is hereby approved in substantially the form attached hereto, subject to final approval of the Town Attorney. Upon such approval, the Mayor is authorized to execute the Contract on behalf of the Town.

**Adopted this 16<sup>th</sup> day of December, 2025.**

\_\_\_\_\_  
Andrew J. Moore, Mayor

**Attest:**

\_\_\_\_\_  
Debbie Stamp, Town Clerk

**Construction Contract**  
**(Erie Maintenance Storage Facility Expansion – PR-25-17)**

This Construction Contract (the "Contract") is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ (the "Effective Date"), by and between the Town of Erie, 645 Holbrook Street, P.O. Box 750, Erie, CO 80516, a Colorado municipal corporation (the "Town"), and Facilities Contracting, LLC, an independent contractor with a principal place of business at 981 Southpark Drive, Littleton, CO 80120 ("Contractor") (each a "Party" and collectively the "Parties").

Whereas, the Town has selected Contractor to perform the Work, subject to the terms and conditions of the Contract Documents.

For the consideration hereinafter set forth, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Contract Documents. The "Contract Documents" for this Project consist of the following:

- A. This Contract
- B. General Provisions
- C. Special Provisions
- D. Technical Specifications (Gordian)
- E. Construction Drawings (if applicable)
- F. Certificate of Insurance Verification
- G. Notice to Proceed
- H. Payment and Performance Bond
- I. Certificate of Final Payment
- J. Certificate of Final Acceptance Form

Any conflicts or inconsistencies between or among any of the Contract Documents shall be resolved in accordance with the order of precedence specified in Section 8.04 of the General Provisions. In case of any discrepancy between any of the requirements set forth in the Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual, CDOT Specifications, AASHTO Specifications, International Building Code, Uniform Plumbing Code, Uniform Mechanical Code, National Electrical Code, Americans with Disabilities Act, and these Contract Documents, the more stringent requirement shall apply. If any questions arise as to which requirement is more stringent than another, the Project Manager shall be authorized to determine which is more stringent, and the Project Manager's decision shall be final.

2. Scope of Work. Contractor shall perform the following described work ("Work"), in accordance with and reasonably inferable from this Contract and the Contract

Documents, attached hereto and incorporated herein by this reference, as necessary for the successful completion of the Project:

All labor, services, materials, and other work necessary for construction of the Erie Maintenance Storage Facility Expansion Project as shown or called for in the Contract Documents, and as further defined in Job Order No. 25-Erie-0007.00 issued under Sourcewell EZIQC Contract No. CO-R2-GC-022924-FCI (the "Detailed Scope of Work").

3. Bonds. Within 10 days of the Effective Date, Contractor shall provide the payment and performance bond and certificate of insurance required by the Contract Documents. A payment and performance bond is not required for contract amounts under \$50,000 unless indicated differently in the Request for Bids or the Contract Documents.

4. Commencement and Completion of Work. Contractor shall commence the Work identified in the Notice to Proceed within 10 days of date of the Notice to Proceed. Substantial Completion of the entirety of the Work for the Project shall be accomplished by Contractor within 120 days of the Notice to Proceed, unless the time within which Contractor is required to achieve Substantial Completion is subsequently extended in accordance with the Contract Documents. Final Completion and Final Acceptance of the Work shall be accomplished within 30 days of the date of Substantial Completion.

5. Contract Price. The Town agrees to pay Contractor for the successful completion and acceptance of the Work by the Town, subject to all of the terms and conditions of the Contract Documents, in an amount not to exceed \$295,135.83, in accordance with the Bid Items as set forth in the Detailed Scope of Work.

6. Keep Jobs In Colorado Act. Pursuant to the Keep Jobs in Colorado Act, C.R.S. § 8-17-101, *et seq.* (the "Act"), and the rules adopted by the Division of Labor of the Colorado Department of Labor and Employment implementing the Act (the "Rules"), Contractor shall employ Colorado labor to perform at least 80% of the Work under this Contract and shall obtain and maintain the records required by the Act and the Rules. For purposes of this Section, "Colorado labor" means a person who is a resident of the state of Colorado at the time of this Project, without discrimination as to race, color, creed, sex, sexual orientation, gender identity, gender expression, marital status, national origin, ancestry, age, or religion except when sex or age is a *bona fide* occupational qualification. A resident of the state of Colorado is a person with a valid Colorado driver's license, a valid Colorado state-issued photo identification, or documentation that he or she has resided in Colorado for the last 30 days. Contractor represents that it is familiar with the requirements of the Act and the Rules and will fully comply with same. This Section shall not apply to any project for which appropriation or expenditure of moneys may be reasonably expected not to exceed \$500,000 in the aggregate for any fiscal year.

7. Miscellaneous.

a. *Governing Law and Venue.* This Contract shall be governed by the laws of the State of Colorado, and any legal action concerning the provisions hereof shall be brought in District Court in Weld County, Colorado.

b. *No Waiver.* Delays in enforcement or the waiver of any one or more defaults or breaches of this Contract by the Town shall not constitute a waiver of any of the other terms or obligation of this Contract.

c. *Integration.* This Contract, the Contract Documents and any attached exhibits constitute the entire Contract between Contractor and the Town, superseding all prior oral or written communications.

d. *Third Parties.* There are no intended third-party beneficiaries to this Contract.

e. *Notice.* Any notice under this Contract shall be in writing and shall be deemed sufficient when directly presented or sent pre-paid, first class U.S. Mail to the Party at the address set forth on the first page of this Contract.

f. *Severability.* If any provision of this Contract is found by a court of competent jurisdiction to be unlawful or unenforceable for any reason, the remaining provisions hereof shall remain in full force and effect.

g. *Modification.* This Contract may only be modified upon written agreement of the Parties.

h. *Assignment.* Neither this Contract nor any of the rights or obligations of the Parties shall be assigned by either Party without the written consent of the other.

i. *Governmental Immunity.* The Town and its officers, attorneys and employees are relying on, and do not waive or intend to waive by any provision of this Contract, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, *et seq.*, as amended, or otherwise available to the Town and its officers, attorneys or employees.

j. *Rights and Remedies.* The rights and remedies of the Town under this Contract are in addition to any other rights and remedies provided by law. The expiration of this Contract shall in no way limit the Town's legal or equitable remedies, or the period in which such remedies may be asserted, for work negligently or defectively performed.

k. *Subject to Annual Appropriation.* Consistent with Article X, § 20 of the Colorado Constitution, any financial obligation of the Town not performed during the current fiscal year is subject to annual appropriation, shall extend only to monies currently appropriated, and shall not constitute a mandatory charge, requirement or liability beyond the current fiscal year.

I. *Accessibility.* Contractor shall comply with the accessibility standards for an individual with a disability adopted by the State Office of Information Technology pursuant to C.R.S. § 24-85-103, and shall indemnify, hold harmless and assume liability on behalf of the Town and its officers, employees, agents and attorneys for all costs, expenses, claims, damages, liabilities, court awards, attorney fees and related costs, and any other amounts incurred by the Town in relation to Contractor's noncompliance with such accessibility standards.

m. *Electronic Signatures.* The Parties intend that this Agreement be governed by the Uniform Electronic Transactions Act, C.R.S. § 24-71.3-101, *et seq.*

In Witness Whereof, this Construction Contract has been executed by the Parties as of the Effective Date.

# Town of Erie, Colorado

Andrew J. Moore, Mayor

Attest:

Debbie Stamp, Town Clerk

## Contractor

**Signed by:**

Benjamin J Placzek

-8A3076AA17DE420..

State of Colorado )  
 ) ss.  
County of \_\_\_\_\_ )

The foregoing instrument was subscribed, sworn to and acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 2025, by \_\_\_\_\_ as \_\_\_\_\_ of Facilities Contracting, LLC.

My commission expires:

(Seal)

Notary Public



## Certificate of Insurance

State of Colorado )  
 ) ss.  
County of \_\_\_\_\_ )

I, \_\_\_\_\_, being first duly sworn, state and affirm, under penalty of law, that I am familiar with the insurance coverages maintained by the Insured, \_\_\_\_\_, and the coverage requirements set forth in the foregoing Certificate of Insurance, that I have completed or caused to be completed and subsequently reviewed the foregoing Certificate of Insurance and that the information provided contained therein is true and correct to the best of my knowledge. I further understand that the Town of Erie shall rely on the information provided.

This information is provided for the Town of Erie, Work No. \_\_\_\_\_.

By: \_\_\_\_\_

Title: \_\_\_\_\_

Agency: \_\_\_\_\_

State of Colorado )  
 ) ss.  
County of \_\_\_\_\_ )

The foregoing instrument was subscribed, sworn to and acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, by \_\_\_\_\_, as \_\_\_\_\_ of \_\_\_\_\_.

My commission expires:

(Seal)

Notary Public

## **Payment and Performance Bond**

Bond No. \_\_\_\_\_

Know All Men By These Presents: that

(Firm) \_\_\_\_\_

(Address) \_\_\_\_\_

(an Individual), (a Partnership), (a Corporation), hereinafter referred to as "the Principal", and

(Firm) \_\_\_\_\_

(Address) \_\_\_\_\_

hereinafter referred to as "the Surety", are held and firmly bound unto the Town of Erie, Colorado, a municipal corporation, hereinafter referred to as "the Owner", in the penal sum of \$\_\_\_\_\_ in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

The Conditions of this Obligation are such that whereas the Principal entered into a certain Contract with the Owner, dated the \_\_\_\_ day of \_\_\_\_\_, 20\_\_, a copy of which is hereto attached and made a part hereof for the performance of the Work.

Now, Therefore, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without Notice to the Surety and during the life of the guaranty or warranty period, and shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all cost and damages which it may suffer by the Principal's failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, and make payment to all persons, firms, subcontractors and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such Contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, repairs on machinery, equipment and tools, consumed, rented or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor performed in such work, whether by subcontractor or otherwise, then this obligation shall be void; otherwise it shall remain in full force and effect.

Provided, further, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder or the specifications accompanying the same

shall in any way affect its obligation on this Bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the Specifications.

Provided, further, that no final settlement between the Owner and the Principal shall abridge the right of any beneficiary hereunder whose claim may be unsatisfied.

In Witness Whereof, this instrument is executed in 5 counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Attest:	Principal
By: _____	By: _____
Title: _____	Title: _____
	Address: _____
	_____

(Corporate Seal)

	Surety
Attest:	Surety: _____
By: _____	By: _____
Attorney-in-Fact: _____	Title: _____
	Address: _____
	_____

(Surety Seal)

Note: Date of Bond must not be prior to date of Contract and Surety must be authorized to transact business in the State of Colorado and be acceptable to the Town.

## **General Provisions**

### **Part 1. Definitions**

#### **1.01 Contract Documents:**

- A. Construction Contract;
- B. General Provisions;
- C. Special Provisions;
- D. Technical Specifications (Gordian);
- E. Construction Drawings (if applicable);
- F. Certificate of Insurance Verification;
- G. Notice to Proceed;
- H. Payment and Performance Bond;
- I. Certificate of Final Payment;
- J. Final Acceptance Form;

#### **1.02 Change Order:**

A written order issued by the Town after execution of the Contract authorizing a revision to the Work or an adjustment in the Contract Price or the Contract Time.

#### **1.03 Town:**

The Town of Erie, Colorado.

#### **1.04 Contract:**

The entire written agreement covering the performance of the Work described in the Contract Documents.

#### **1.05 Contract Price:**

The amount set forth in Section 5 of the Construction Contract.

#### **1.06 Contract Time:**

The time for completion of the Work as set forth in Section 4 of the Construction Contract.

#### **1.07 Day:**

Calendar day, unless otherwise specified. When the last day for the occurrence of an event falls on a Sunday or legal holiday as recognized by the Town, the time for performance shall be automatically extended to the next business day.

#### **1.08 Final Completion:**

The date as certified by the Project Manager when all of the Work is completed and final payment may be made.

#### **1.09 Project Manager:**

The Town's duly authorized representative in connection with the Work.

**1.10 Subcontractor:**

Any person, firm or corporation with a direct contract with Contractor who acts for or in behalf of Contractor in executing any part of the Contract, excluding one who merely furnishes material.

**1.11 Substantial Completion:**

The date as certified by the Project Manager when the Town occupies or takes possession of all or substantially all of the Work, or when the Town may occupy or take possession of all or substantially all of the Work and put it to beneficial use for its intended purposes.

**1.12 Work:**

All services, labor, materials, and equipment necessary to complete all of the work specified, indicated, shown or contemplated in the Contract Documents, including all alterations, amendments or extensions thereto made by supplemental agreements or written orders of the Project Manager.

**Part 2. Time****2.01 Time of the Essence:**

All times stated in the Contract Documents are of the essence.

**2.02 Final Acceptance:**

Upon Final Completion, the Project Manager will issue Final Acceptance.

**2.03 Changes in the Work:**

A. The Town reserves the right to order changes in the Work, in the nature of additions, deletions or modifications, at any time and without invalidating the Contract, and to make corresponding adjustments in the Contract Price and the Contract Time if warranted and supported by the terms of the Contract Documents.

B. If Contractor believes that any oral or written order or instructions from the Town involve extra or changed work that Contractor should receive extra compensation for, Contractor shall, within 7 days after the Town's order or instruction, submit a written request for an increase in the Contract Price to the Project Manager. If a request is not made within this time period, Contractor shall waive any right to additional compensation related to the extra or changed work.

C. If Contractor believes that any oral or written order or instructions from the Town involve extra or changed work that will affect the critical path schedule of performance of the Work and require Contractor to spend more time on the Project than was earlier anticipated, Contractor shall submit a written request to the Project Manager requesting an extension of the Contract Time within 7 days after the Town's order or instruction; otherwise it shall be waived. Such requests shall be evaluated as set forth in Section 2.05.B.

D. All changes shall be authorized by a written Change Order signed by the Town. The Change Order shall include appropriate changes in the Contract Documents and the Contract Time if warranted and supported by the terms of the Contract Documents. The Work shall be changed and the Contract Price and Contract Time modified only as set forth in the written and executed Change Order. Any adjustment in the Contract Price resulting in a credit or a charge to the Town shall be determined by mutual agreement of the Parties as documented in an executed Change Order before the work set forth in or covered by the Change Order is commenced. If a Change Order results in an increase in the Contract Price, approval of the Erie Town Council shall be required, and such Change Order shall be subject to and shall only become effective upon approval by Town Council. If such approval of Town Council is not obtained, the Town shall have no payment obligation regardless of whether the Work has been performed.

E. Subject to the requirements and limitations of this Section 2.03, any Change Order approved by Town Council, as applicable, and signed by the Town shall be considered a part of the Contract and subject to every term and requirement of the Contract Documents. It is the duty of Contractor to notify the Surety that issued the bonds required by the Contract Documents of any changes affecting the scope of Contractor's Work or change in the Contract Price, and, if requested by the Town, to increase the amount of the bonds accordingly.

#### **2.04 Differing Site Conditions:**

Contractor shall within 7 days of discovery, and before the conditions are disturbed, provide written notice to the Project Manager of any subsurface or latent physical conditions at the Project site that materially differ from those indicated in the Contract Documents, or unknown physical conditions at the Project site of an unusual nature that materially differ from those ordinarily encountered and inherent in work of the character provided for in the Contract Documents and that could not have been determined or anticipated at the required pre-Contract site investigation, in the exercise of reasonable diligence.

Should Contractor wish to request a change to the Contract Price or Contract Time arising from differing site conditions described in this Section 2.04, Contractor shall submit a written claim within 7 days after the conditions first become apparent; otherwise it shall be waived. In such claim, Contractor shall specifically identify the conditions and how they differ from the Contract Documents or those ordinarily encountered and inherent in work of the character provided for in the Contract Documents and Contractor shall identify the amount of the requested adjustments to the Contract Price or Contract Time. Contractor shall have the burden to prove that the actual conditions subsurface or latent conditions materially differ from those shown in the Contract Documents and/or that the differing site conditions could not have been discovered at the required pre-Contract site investigation. The Town

shall evaluate such claims and if the Town approves the claim, the Parties shall negotiate a Change Order pertaining to same.

No request by Contractor for an equitable adjustment to this Contract for differing site conditions shall be allowed if made after final payment under this Contract.

**2.05 Delays:**

A. A suit or other legal action, including administrative agency actions or citations, against the Town that causes a delay in the Work, other than a suit or legal action against Contractor, will entitle Contractor to an equivalent extension of time unless the period of such delay exceeds six (6) months. When such period is exceeded, the Town will, upon a request by Contractor in writing, elect either to terminate this Contract for the Town’s convenience as provided for in Section 4.05 or to grant a further extension of time, in the Town’s sole and absolute discretion.

B. If Contractor is delayed in the critical path progress of the Work by acts of God, fire, wars, epidemics, pandemics other than COVID-19, or other unavoidable casualties beyond Contractor's control or anticipation, then, upon Contractor’s written request to the Town within 7 days of Contractor first becoming aware of the condition causing the delay, then the Contract Time shall be extended for a reasonable period of time equivalent to the delay.

C. If Contractor believes that an extension of the Contract Time should be granted due to critical path delays to the progress of the Work caused by unanticipated adverse weather conditions, it may request a contract extension in writing from the Town within 7 days of Contractor first becoming aware of the unanticipated adverse weather conditions causing the delays. For purpose of this provision "weather" means precipitation, temperature, or wind, and an "adverse weather condition" means weather that on any calendar day varies from the average weather conditions for that day by more than 100% as measured by the National Oceanic and Atmospheric Administration. The term "unanticipated adverse weather conditions" means the number of days in excess of the anticipated adverse weather days per month as set forth below:

Monthly Anticipated Adverse Weather Days											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	4	4	4	6	3	4	2	3	3	2	5

*By reason of example only*, if in March there are 2 days when the snowfall exceeds the average snowfall for that day by 100%, those 2 days will have experienced an adverse weather condition. However, there will have been no unanticipated adverse weather condition in March, because there are four anticipated adverse weather days in March, which should be accounted for in the schedule. If, however, there are 5 days in which the snowfall exceeds the average snowfall by 100%, an unanticipated adverse weather condition will have occurred, and

Contractor shall be entitled to request an extension of time equivalent to the duration of the critical path delay caused by that unanticipated weather condition

D. Any request for extension of the Contract Time shall be made in writing to the Project Manager not more than 7 days after commencement of the delay; otherwise it shall be waived. Any such request shall contain an estimate of the probable effect of such delay on the critical path progress of the Work. Contractor shall use its best efforts to mitigate or minimize the length of any critical path delay to the progress of the Work, and shall have the burden to provide the events which caused the delays and that Contractor timely provided notice of those delays to the Town.

E. Contractor shall not be entitled to any increase in the Contract Price, or to damages, or to additional compensation as a consequence of any such delays.

F. Contractor shall not be entitled to any extension of time caused by events within the control of Contractor, nor for delays which Contractor could have foreseen and avoided, prevented, or significantly mitigated, nor for any delays caused in whole or in part by Contractor or its subcontractors or suppliers or anyone for whom any of them may be liable.

## **2.06 No Damages for Delay:**

In strict accordance with C.R.S. § 24-91-103.5, the Town shall not amend the Contract Price to provide for additional compensation for any delays in performance which are not the result of acts or omissions of the Town or persons acting on behalf of the Town.

## **Part 3. Contractor's Responsibilities**

### **3.01 Completion/Supervision of Work:**

Contractor hereby warrants that it is qualified to assume the responsibilities and render the services described herein and has all requisite corporate authority and licenses in good standing in the jurisdiction where the Project is located. The services performed by Contractor shall be in accordance with generally accepted professional practices and the level of competency presently maintained by others in the same or similar type of work, and in compliance with applicable laws, ordinances, rules and regulations including, without limitation, the Occupational Safety and Health Act ("OSHA"), 29 U.S.C. § 651, et seq. standards. Contractor shall be responsible for completion of all Work in a timely and workmanlike manner in accordance with the terms and specifications of the Contract Documents, including the techniques, sequences, procedures and means. Contractor shall be responsible for the coordination of all Work. Contractor shall supervise and direct the Work and give it all attention necessary for proper supervision and direction. Contractor shall maintain a supervisor or superintendent on site at all times when Contractor or any subcontractor is performing Work. Contractor shall designate the supervisor or superintendent, who shall be authorized to act on behalf of Contractor in all matters related to the Contract and shall notify the Town of the supervisor or superintendent's name and contact information, including mobile phone and email address, with 5 days of execution of the Contract. Contractor shall not remove or replace



the designated supervisor or superintendent from the Project without prior written notice to and written approval by the Town.

### **3.02 Duty to Inspect:**

Contractor shall inspect all Contract Documents, tests and reports, including soil tests and engineering tests, if applicable, and shall conduct a site or field review prior to executing the Contract. Contractor assumes the risk of all conditions which are disclosed, or which are reasonably suggested by any such tests or reports, or which would be disclosed by a field or site review. Contractor shall have the affirmative duty to advise the Town of any concerns which Contractor may have regarding construction conditions prior to executing the Contract.

### **3.03 Furnishing of Labor and Materials:**

A. Contractor shall provide and pay for all labor, materials and equipment, including: tools; construction equipment and machinery; utilities, including water; transportation; and all other facilities and services necessary for the proper completion of the Work as described in or reasonably inferable from the Contract Documents.

B. In all purchases of supplies, materials and provisions to be incorporated or otherwise used by Contractor in the Work, Contractor shall use supplies, materials and provisions produced, manufactured or grown in Colorado if such supplies, materials and provisions are not of inferior quality to those offered by competitors outside of Colorado.

### **3.04 Employees and Safety:**

A. While engaged in the performance of the Work, Contractor shall maintain employment practices that do not violate the provisions of any applicable laws, ordinances, rules or regulations including, but not limited to, the Colorado Antidiscrimination Act of 1957, C.R.S. § 24-34-301, *et seq.*

B. Contractor shall maintain at all times strict discipline of its personnel, employees and other persons carrying out the Work, and Contractor shall not employ or furnish or permit the employment of any person unfit or without sufficient knowledge, skill, training and experience to perform properly the job for which the employee was hired in connection with the Work. The Town may require Contractor to remove from the Project any person the Town deems incompetent, careless or otherwise objectionable, in the Town's sole discretion, and Contractor shall promptly do so without any adjustment to the Contract Price or the Contract Time.

C. Contractor shall be responsible to the Town for the acts, negligence and omissions of all direct and indirect employees, subcontractors and their respective employees, and suppliers and their respective employees. Nothing in the Contract Documents nor the Town's acceptance or lack of objection to a subcontractor or supplier shall be construed as creating any contractual relationship between the

Town and any subcontractor, supplier or other person or entity having a direct contract with Contractor, a subcontractor, or supplier.

D. Contractor shall provide for and oversee all safety orders and precautions necessary for the safe performance of the Work. Contractor shall take reasonable precautions for the safety and reasonable protection, including the provision of all notices and compliance with all applicable laws bearing on the safety of persons or property, to prevent damage, injury or loss to: all personnel, employees, other persons carrying out the Work, and others whom the Work might affect; all materials and equipment in the custody, care or control of Contractor, whether such materials or equipment are stored on or off site, and whether or not incorporated into the Work; all Work performed under this Contract; and all property and improvements on the work site and any adjacent property. Contractor shall repair or replace any damage, injury, or loss to all public or private property caused directly or indirectly, in whole or in part, by Contractor, any subcontractor, any supplier, or any of their respective personnel or employees or anyone for whose acts any one of them may be liable.

### **3.05 Cleanup:**

A. Contractor shall keep the work site and adjoining ways free of waste material and rubbish. Contractor shall remove all waste material and rubbish daily during construction, together with all tools, equipment, machinery and surplus materials. Contractor shall, upon completion of its Work, conduct general cleanup operations on the work site, including the cleaning of all surfaces, paved streets and walks. Contractor shall also conduct such general cleanup operations on adjacent properties disturbed by the Work.

B. If Contractor fails to perform the cleanup required by the Contract Documents, including this Section 3.05, after written notice, the Town may cause the cleanup to be performed at Contractor's expense. Upon receipt of a statement for such cleanup, Contractor shall pay to the Town the costs incurred by the Town for such cleanup, or the Town shall have the right to withhold and offset said amount from any progress or final payment due to Contractor.

### **3.06 Payment of Royalties and License Fees:**

Contractor shall pay all royalties and license fees necessary for the Work and shall include and shall be considered to have included in the Contract Price a sum sufficient to cover all fees, royalties, licenses and claims for any patent rights, copyrights, trademarks or any other intellectual property rights which may be connected with the Work. Contractors shall defend, indemnify and hold harmless the Town and its officers and agents from and against all fees, claims, demands, suits, or actions for or in connection with any infringement or alleged infringement of any intellectual property rights.

### **3.07 Taxes, Licenses and Permits:**

Contractor shall pay all taxes imposed by law in connection with the Work and shall procure all permits and licenses necessary for the prosecution of the Work. Contractor shall obtain a State tax-exempt number for exemption from the sales tax.

### **3.08 Samples and Shop Drawings:**

Contractor shall furnish, upon the request of the Project Manager or as required by the Contract Documents, submittals, samples and shop drawings to the Project Manager, who shall, in collaboration with the Engineer, as applicable, review them for general conformance with the Contract Documents. Approval by the Town and/or the Engineer of any submittals, samples or shop drawings furnished by Contractor shall not relieve Contractor of its obligation to complete the Work in accordance with the Contract Documents.

### **3.09 Compliance with Laws and Regulations:**

Contractor shall at all times comply with all applicable law, including without limitation all current and future federal, state and local statutes, regulations, ordinances and rules in effect or enacted during the course of performance of the Work relating to: the emission, discharge, release or threatened release of a Hazardous Material into the air, surface water, groundwater or land; the manufacturing, processing, use, generation, treatment, storage, disposal, transportation, handling, removal, remediation or investigation of a Hazardous Material; and the protection of human health, safety or the indoor or outdoor environmental, including without limitation the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601, *et seq.* ("CERCLA"); the Hazardous Materials Transportation Act, 49 U.S.C. § 1801, *et seq.*; the Resource Conservation and Recovery Act, 42 U.S.C. § 6901, *et seq.* ("RCRA"); the Toxic Substances Control Act, 15 U.S.C. § 2601, *et seq.*; the Clean Water Act, 33 U.S.C. § 1251, *et seq.*; the Clean Air Act, 42 U.S.C. § 7401, *et seq.*; the Occupational Safety and Health Act, 29 U.S.C. § 651, *et seq.* ("OSHA"); all applicable environmental statutes of the State of Colorado; and all other federal, state or local statutes, laws, ordinances, resolutions, codes, rules, regulations, standards, orders or decrees regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic or dangerous waste, substance or material, as now or at any time hereafter in effect during the course of performance of the Work.

### **3.10 Subcontractors:**

A. Those portions of the Work that Contractor does not customarily perform with its own personnel or does not, for purposes of this Project, intend to perform with its own personnel, shall be performed under written subcontracts or other appropriate written agreements with Contractor. Contractor shall furnish to the Project Manager at the time the Construction Contract is executed a list of names of subcontractors to whom Contractor proposes to award the portions of the Work to be subcontracted by Contractor.

B. Contractor shall not employ a subcontractor to whose employment the Town reasonably objects, nor shall Contractor be required to hire a subcontractor to whose employment Contractor reasonably objects.

C. All contracts between Contractor and subcontractor shall conform to the provisions of the Contract Documents and shall incorporate all relevant provisions of the Contract Documents.

### **3.11 Corrective Work:**

When any Work does not conform to the Contract Documents, Contractor shall promptly and without cost to the Town make the necessary corrections so that the Work will so conform, within the time period approved by the Project Manager including, if necessary, the complete removal and replacement of the non-conforming Work with conforming Work. If Contractor does not correct such non-conforming Work within the time approved by the Project Manager, the Town may, in the Town's discretion, have the non-conforming work corrected by others. All direct or indirect costs of or in connection with such correction, including the additional costs of any professional services, testing or inspection necessary for the full and proper correction of the non-conforming Work, shall be paid by Contractor and, if sufficient amounts remain within the Contract Price, the costs incurred by the Town withheld or offset from any progress or final payment to which Contractor would otherwise be entitled. The Town's failure to reject, review, approval or acceptance of, or payment for any portion of the Work shall not be construed as a waiver of any rights under this Contract or any cause of action arising out of the performance of this Contract.

### **3.12 Other Contracts:**

The Town reserves the right to let other contracts in connection with the Work. Contractor shall cooperate with all other contractors so that their work is not impeded by the Work, and Contractor shall give other contractors engaged by the Town in connection with the Work full and unimpeded access to the work site as necessary to fully and timely perform their respective contracts.

### **3.13 Communication:**

Contractor shall direct all communications to the Town regarding the Work to the attention of the Project Manager. E-mail shall be an acceptable form of communication between Contractor and the Town for all communications other than "notices" as referenced in the Contract Documents which are required to be transmitted per Section 6(e) of the Contract.

## **Part 4. Suspension and Termination**

### **4.01 Suspension for Contractor Default:**

The Town may, in the Town's discretion, order Contractor in writing to suspend the Work or any part of the Work because Contractor has materially breached any terms or conditions of the Contract Documents. If Contractor later resumes work that the Town previously suspended pursuant to this Section 4.01, Contractor shall not be afforded any

extension of the Contract Time and the Town shall not be liable to Contractor for any additional costs caused by the suspension or related to Contractor's resuming the suspended Work.

#### **4.02 Suspension for the Town's Convenience:**

The Town may, at any time and without cause, order Contractor in writing to suspend the Work or any portion thereof for such period of time as the Town may determine, for the Town's convenience and in the Town's sole discretion. If the Town suspends the Work pursuant to this Section 4.02, the Contract Price and the Contract Time shall be equitably adjusted to account for any actual and substantiated critical path delays to the progress of the Work and actual and substantiated increase in costs for the performance of the Work. If the suspension applies to only a part of the Work, an extension of the Contract Time will be authorized based on the Project Manager's estimate of the delay to the entire Project caused by the partial suspension.

#### **4.03 Labor Disputes:**

Notwithstanding any other provision contained in this Contract, in the event of any picket or other form of labor dispute at the construction site, Contractor shall continue to perform the Work without interruption or delay. If Contractor ceases performance of the Work because of such picket or other form of labor dispute, the Town may terminate the services of Contractor after giving 48 hours' written notice of its intent to do so.

#### **4.04 Termination for Contractor Default:**

If Contractor defaults in the timely and proper performance of any of Contractor's obligations under the Contract Documents, without prejudice to any other rights or remedies, the Town may terminate this Contract or reassign all or any portion of the Work upon 30 days' written notice to Contractor. In the event of termination, the Town shall pay Contractor for that portion of the Work previously authorized and satisfactorily completed prior to the date of the notice of termination, subject to any offset or other claim for damages suffered by the Town attributable to Contractor's default.

#### **4.05 Termination for the Town's Convenience:**

A. The Town may, at any time and without cause, terminate the Contract, in whole or in part, for the Town's convenience and without cause if such determination is in the Town's best interest, upon 30 days' written notice to Contractor. If the Town terminates the Contract for convenience, the following shall apply:

1. Contractor is not entitled to any claim for any amount, including lost profits or other special or consequential damages, for or in connection with any portion of the Work yet to be performed.
2. Upon receipt of a termination notice, Contractor shall, unless otherwise directed by the Town, take all of the following actions: (a) cease operations as directed by the Town in the notice; (b) take all actions necessary or that the Town may direct for the protection and preservation

of the Work; and (c) use all reasonable efforts to cancel or divert outstanding commitments and subcontracts for procurement of services, materials or equipment to the extent they relate to the terminated portion of the Work.

3. The Town shall pay Contractor for that portion of the Work properly executed prior to the date of termination and, to the extent approved by the Town, actual cancellation charges or loss incurred by Contractor upon outstanding commitments or subcontracts that Contractor is unable to cancel, provided Contractor has proven reasonable efforts to divert the commitments to other activities.

4. Payment for amounts properly executed by Contractor prior to the termination notice, if any, shall be based on the applicable unit prices for such Work for those portions of the Work actually completed and accepted by the Town, as well as a release of any retainage held by the Town as of that time. Within 60 days of the effective date of the termination, Contractor shall submit a claim to the Town for such amounts, along with all supporting backup documentation and cost records substantiating the amounts claimed. Contractor shall not be entitled to lost profits or any other form of special or consequential damages, or any costs incurred due to Contractor's or any of its suppliers or subcontractors fault or failure to mitigate as a result of any such termination by the Town for convenience.

B. In no event shall the total sums paid to Contractor pursuant to this Section 4.05, if any, exceed the Contract Price.

C. Settlement of and payment for the Work performed and costs of termination as outlined in this Section 4.05 shall not relieve Contractor or its Surety from responsibility or obligations with respect to the Work performed or concerning any claims arising out of the Work performed by Contractor on the Project or Bonds issued in connection with the Project.

## **Part 5. Warranties:**

### **5.01 Warranty of Fitness of Equipment and Materials:**

Contractor represents and warrants to the Town that all equipment and materials used in the Work, and made a part of the Work, or placed permanently in the Work, shall be new unless otherwise specified in the Contract Documents. All equipment and materials used shall be of good quality, free of defects and in conformity with the Contract Documents. All equipment and materials not in conformity with the Contract Documents shall be considered defective.

### **5.02 General Warranty:**

Contractor shall warrant and guarantee all material furnished and Work performed by Contractor for a period of 2 years from the date of Final Acceptance of the Work by the Project Manager. Under this warranty, Contractor agrees to repair or replace, at its own expense and under the direction of the Project Manager, any portion of the Work which

fails or is defective, unsound, unsatisfactory because of materials or workmanship, or which is not in conformity with the provisions of the Contract Documents. Should Contractor fail to perform any such corrective work required by this Section 5.02 within a reasonable period of time after a request by the Town, the Town may withdraw from the Payment and Performance Bond any and all amounts necessary to complete the required corrective work. The expiration of the warranty period shall in no way limit the Town's legal or equitable remedies, or the period in which such remedies may be asserted, for nonconforming Work or for Work negligently or defectively performed.

## **Part 6. Bonds, Insurance and Indemnification**

### **6.01 Indemnification:**

A. Contractor agrees to indemnify and hold harmless the Town and its officers, insurers, volunteers, representatives, agents, employees, heirs and assigns from and against all claims, liability, damages, losses, expenses and demands, including attorney fees, on account of injury, loss, or damage, including, without limitation, claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with this Contract or the Contract Documents, to the extent that such injury, loss or damage is attributable to the act, omission, error, professional error, mistake, negligence or other fault of Contractor, any subcontractor of Contractor, or any officer, employee, representative, or agent of Contractor or of any subcontractor of Contractor, or which arise out of any worker's compensation claim of any employee of Contractor or of any employee of any subcontractor of Contractor.

B. Contractor, to the fullest extent permitted by law, shall defend, investigate, handle, respond and provide defense for and defend against any such liability, claims, damages, losses, expenses or demands at the sole expense of Contractor, or at the option of the Town, Contractor agrees to pay the Town or reimburse the Town for defense costs incurred by the Town in connection with any such liability, claims, damages, losses, expenses or demands. Contractor, to the fullest extent permitted by law, shall defend and bear all other costs and expenses related thereto, including court costs and attorney fees, whether or not such liability, claims or demands alleged are groundless, false or fraudulent.

C. This indemnification provision is intended to comply with C.R.S. § 13-21-111.5(6) and shall be read as broadly as permitted to satisfy that intent. Contractor's liability under this provision shall be to the fullest extent of, but shall not exceed, that amount represented by the degree or percentage of negligence or fault attributable to Contractor, any subcontractor of Contractor, or any officer, employee, representative, or agent of Contractor or of any subcontractor of Contractor. If Contractor is providing architectural, engineering, surveying or other design services under this Contract, the extent of Contractor's obligation to defend, indemnify and hold harmless the Town may be determined only after Contractor's liability or fault has been determined by adjudication, alternative

dispute resolution or otherwise resolved by mutual agreement of the Parties, as provided by C.R.S. § 13-50.5-102(8)(c). However, nothing in this Section 6.01 shall apply to or affect any Bonds issued in connection with the Project, contracts or insurance, or insurance policies that provide for the defense, indemnification or holding harmless of public entities, nor any other obligations, rights or remedies of either of the Parties to this Contract.

## **6.02 Notice of Claim:**

If Contractor receives any claim from any third party, including but not limited to subcontractors, suppliers, personnel, employees, or private property owners, arising from or relating in any way to the performance of the Work, Contractor shall notify the Town in writing of the nature of the claim within 24 hours of receipt of the claim by Contractor. In this notice, Contractor shall provide evidence that Contractor has notified Contractor's insurer of the claim. Contractor shall keep the Town apprised of the disposition of the claim, and Contractor shall take all necessary action to resolve the claim and make restitution, if required, as quickly as possible.

## **6.03 Insurance:**

A. Contractor agrees to procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by Contractor pursuant to this Contract. Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to the Contract Documents, including this Section 6.03, by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types. At a minimum, Contractor shall procure and maintain, and shall cause any subcontractor to procure and maintain, the minimum insurance coverages listed below, unless otherwise specified in the Special Provisions, with forms and insurers acceptable to the Town. By requiring such minimum coverages, the Town shall not be deemed or construed to have assessed the risk that may be applicable to Contractor. Contractor shall assess its own risks relative to the Work to be performed on this Project as required by the Contract Documents and, if Contractor deems it appropriate and/or prudent, maintain higher limits and/or broader coverages than those provided for herein.

1. Worker's Compensation insurance as required by law.
2. Commercial General Liability insurance with minimum combined single limits of \$1,000,000 each occurrence and \$2,000,000 general aggregate. The policy shall be applicable to and provide coverage for all premises and operations, explosions, collapse and underground hazards, and shall include coverage for bodily injury, broad form property damage, personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations.



B. All coverages shall be continuously maintained to cover all liability, claims, demands and other obligations assumed by Contractor pursuant to the Contract Documents for the duration of the applicable statutes of limitation and statute of repose. All of Contractor's policies shall contain a severability of interests provision, and shall, where commercially available, include the Town and the Town's elected and appointed officers or officials, employees, agents, volunteers, and contractors as additional insureds. No additional insured endorsement shall contain any exclusion for bodily injury or property damage arising from completed operations.

C. Such insurance shall be in addition to any other insurance requirements imposed by law. The coverages afforded under the policies shall not be canceled, terminated or materially changed without at least 30 days prior written notice to the Town. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. Any insurance carried by the Town, its officers, its employees, or its contractors shall be excess and not contributory insurance to that provided by Contractor. Contractor shall be solely responsible for any deductible losses under any policy.

D. Contractor shall provide to the Town a certificate of insurance as evidence that the required policies are in full force and effect. The certificate shall identify this Contract.

E. Contractor shall ensure that all of Contractor's and subcontractors' or suppliers' insurers are licensed or approved to do business within the State of Colorado. Unless otherwise specified, all policies must be written on a per occurrence basis.

F. Contractor and its insurers shall waive subrogation in favor of Additional Insured parties.

G. Failure of Contractor to comply with these insurance requirements during the term of the Contract may be considered a material breach and may be cause for immediate termination of the Contract, at the Town's option and in its sole discretion.

#### **6.04 Performance and Payment Bond:**

Contractor shall furnish a Payment and Performance Bond in the full amount of the Contract Price, as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents, including the warranty. This bond shall remain in effect at least until 2 years after the date of Final Acceptance of the Work.

### **Part 7. Payment**

#### **7.01 Progress Payments:**

A. The Town shall make periodic progress payments to Contractor within 30 days following the Project Manager's approval of the Work completed and the applicable payment application. A progress payment shall be made only after

Contractor has submitted an application for a progress payment on a form approved by the Project Manager, along with copies of invoices from subcontractors or suppliers substantiating the amounts billed, partial, conditional lien and claim waivers executed by Contractor and by each subcontractor and supplier covered by the applicable payment application and, beginning with the second application for a progress payment, unconditional lien and claim waivers from Contractor and each subcontractor and supplier for all amounts paid by the Town on prior applications for payment.

B. Except as otherwise provided for in the Contract Documents and this Section 7.01, progress payments shall be in an amount equal to 95% of the Work actually completed. All amounts retained by the Town pursuant to this Section 7.01.B shall be retained by the town until the Work is completed and finally accepted by the Town. Completed Work shall, pursuant to approval and acceptance by the Project Manager, include materials and equipment not incorporated in the Work but delivered to the work site and suitably stored.

C. If Contractor fails to complete any required Work within the time period agreed between Contractor and the Project Manager, or within any time period set forth in the Contract Documents, as modified or extended, the Town is expressly authorized to withhold any progress payment for such Work until such Work is completed.

D. In addition to the 5% retainage provided for in Section 7.01.B and withholding for failure to timely complete the Work as provided for in Section 7.01.C, the Town may retain any disputed line item or portion thereof included in any application by Contractor for a progress payment for any of the following: any unsatisfactory performance of the Work; failure to repair or replace defective, non-conforming or rejected Work as directed by the Town; claims filed or reasonable evidence that claims may be filed against Contractor relating to the performance of the Work; Contractor's failure to make payments to subcontractors or suppliers as required by the Contract Documents; failure to comply with the Contract Documents or applicable law, including employment laws and licensing and permitting requirements; failure to maintain the Work and work site in a clean and orderly manner; failure to remedy damage to Town or private property damaged by Contractor or its subcontractors or suppliers during the performance of the Work; or a set off for amounts due to the Town by Contractor pursuant to the provisions of the Contract Documents, including amounts for liquidated damages. If the reasons for such withholding are cured by Contractor and no longer exist, the Town shall make payment to Contractor for the sums withheld, subject to the 5% retainage on all progress payments as provided for in Section 7.01.B.

E. Contractor warrants that it shall pay each subcontractor and supplier promptly, upon receipt of payment from the Town, the amount to which the subcontractor is entitled no later than 7 days after receipt of payment from the Town. Notwithstanding anything to the contrary, Contractor shall not be required to pay a subcontractor or supplier that has not performed in accordance with its subcontract

or purchase order. Contractor shall, by appropriate agreement with each subcontractor or supplier, require each subcontractor or supplier to make payments to the subcontractor's or supplier's sub-subcontractors or vendors in similar manner. The Town may furnish to each subcontractor or supplier information regarding the percentages of completion or the amounts applied for by Contractor and paid by the Town.

## **7.02 Final Payment:**

Upon final acceptance of the Work, the Town shall make final payment to Contractor pursuant to, and subject to the provisions and limitations of, C.R.S. § 38-26-107.

## **7.03 Liquidated Damages:**

A. Because time is of the essence and delayed performance causes a compensable, yet difficult to precisely ascertain, damage to the Town and its residents, the liquidated damages established in this Section shall be enforced. Such damages are not a penalty. For each day Substantial Completion is delayed after the Substantial Completion date stated in the Construction Contract, as modified through approved change orders, Contractor shall be assessed the following amounts which constitute a reasonable estimate of the actual damages such delay would cause the Town:

<b>Contract Price</b>	<b>Amount per day</b>
\$0-\$50,000	\$350
\$50,000-\$100,000	\$380
\$100,000-\$250,000	\$440
\$250,000-\$500,000	\$520
\$500,000-\$1,000,000	\$640
\$1,000,000-\$2,000,000	\$820
\$2,000,000-\$4,000,000	\$1,080
\$4,000,000-\$8,000,000	\$1,450
\$8,000,000-\$12,000,000	\$1,820
\$12,000,000 or greater	\$2,250

B. If Contractor does not, after Substantial Completion, achieve Final Completion of the Work as required by and within the time specified in the Construction Contract, Contractor shall be assessed the amounts specified in Section 7.03.A for each day thereafter that the Project does not achieve Final Completion, which amounts constitute a reasonable estimate of the actual damages such delay would cause the Town.

C. Allowing Contractor to continue and finish the Work or any part thereof after the Substantial Completion date and Final Completion date, as applicable, shall not operate as a waiver on the part of the Town of any of its rights under the Contract Documents. Any liquidated damages assessed shall not relieve Contractor from liability for any damages or costs of other contractors caused by a failure of Contractor to complete the Work in the Contract Time, nor for any attorneys' fees or costs that are otherwise allowable under the Contract Documents or applicable law. Liquidated damages may be deducted from any payment due Contractor or the retainage held by the Town. If the liquidated damages exceed the amount owed to Contractor, Contractor shall reimburse the Town within 30 days of the Town's written demand for such reimbursement.

#### **7.04 Oral Agreements Prohibited:**

This Contract is expressly subject to the provisions of C.R.S. § 29-1-110(1), and Contractor acknowledges that neither the Town nor any employee or agent thereof is authorized to expend or contract for the expenditure of any monies in excess of those appropriated by the Erie Town Council. The Town acknowledges that sufficient funds have been appropriated to pay the Contract Price, but Contractor shall not rely upon the appropriation of any funds in addition to those already appropriated unless and until the same are lawfully appropriated by the Erie Town Council.

#### **7.05 Items Not Included In Detailed Scope of Work:**

No additional compensation shall be paid for any costs or services listed in the Contract Documents but not specifically listed in the Detailed Scope of Work as a Bid Item.

#### **7.06 Changes in Quantity:**

- A. Except as provided in Section 7.07, the unit price shown in the Detailed Scope of Work shall be used to determine the payment owed Contractor for any changes in quantity.
- B. The actual quantity placed and accepted by the Town, as determined by the Project Manager, shall be used to calculate the payment due to Contractor.
- C. Prior to any Work being performed in excess of any of the Detailed Scope of Work quantities, Contractor shall notify the Town, in writing, of every quantity that will exceed 105% of the quantity listed in the Detailed Scope of Work.
- D. Except as provided in Section 7.08, Contractor shall not be entitled to compensation for any increased expense, loss of expected reimbursement or loss of anticipated profits, directly or indirectly caused by any changes in quantity.

#### **7.07 Unit Price Adjustments:**

- A. When a major item is increased to more than 125% or decreased below 75% of the original quantity stated in the Detailed Scope of Work, the unit price shall be modified by written change order. Payment for major items shall be calculated by multiplying the actual quantity placed by the modified unit price.

B. For purposes of this Section, a major item is any item having a total value, determined by multiplying the original quantity in the Detailed Scope of Work by the unit price, that exceeds 10% of the original Contract Price.

### **7.08 Eliminated Items:**

Should any items contained in the Detailed Scope of Work be found unnecessary for completion of the Work, the items shall be eliminated. The Contract Price shall be modified through written change order, and the amount of the change order shall be the eliminated quantity multiplied by the unit price stated in the Detailed Scope of Work, minus any reasonable costs incurred by Contractor for the eliminated items. Reasonable costs shall be determined by the Project Manager based on information provided by Contractor, and may include mobilization of eliminated materials and equipment mobilization costs, if the sole purpose of the equipment was to place the eliminated material. In no case shall the costs exceed the amount of the eliminated items.

### **7.09 Materials Stored But Not Incorporated:**

Payments may be made to Contractor for materials stored on the work site but not incorporated into the Work as evidenced by invoices or cost analyses of material produced, if the material has been fabricated or processed and is ready for installation into the Work and conforms with the Contract Documents. Payments shall not exceed 85% of the price shown in the Detailed Scope of Work or 100% of the certified invoice cost of the stockpiled material, whichever is less. Payment for stockpiled materials shall not relieve Contractor of responsibility for loss or damage to the material. Payment for living plant materials or perishable materials shall not be made until the living or perishable material is made an integral part of the finished Work.

### **7.10 Cost Records:**

Contractor shall make cost records available to the Town if the Town deems it necessary to determine the validity and amount of any item claimed.

## **Part 8. Miscellaneous**

### **8.01 Publications:**

Any and all publications relating to the Work and authored by Contractor or any of its subcontractors shall be submitted to the Town for its prior written approval of the content of the publication. If the Town disapproves of the content of the publication, the author shall withdraw it from publication. The term "publication" as used herein shall include articles or letters to be published in any newspaper, magazine, trade journal or other periodical.

### **8.02 Confidentiality:**

Any and all reports, information, data, statistics, forms, designs, plans, procedures, systems, studies and any other communication form of knowledge given to or prepared or assembled by Contractor under this Contract shall, to the extent authorized and permitted by law, be kept as confidential and not be made available by Contractor to any individual, company or organization without the prior written consent of the Town.

Notwithstanding the foregoing, Contractor shall not be restricted from releasing information in response to a subpoena, court order, or legal process, but Contractor shall notify the Town in writing before responding.

### **8.03 Independent Contractor:**

Contractor, for all purposes arising out of this Contract, is an independent contractor and not an employee of the Town. It is expressly understood and agreed that Contractor shall not be entitled to any benefits to which the Town's employees are entitled, such as overtime, retirement benefits, worker's compensation, injury leave or other benefits.

### **8.04 Conflicts:**

Should any conflict arise in the Contract Documents, the order of precedence is as follows:

1. Construction Contract.
2. Special Provisions.
3. General Provisions.
4. Technical Specifications (Gordian).
5. Detailed Plans (Calculated dimensions will govern over scaled dimensions).

### **8.05 Dispute Resolution:**

- A. Contractor shall faithfully continue performance under this Contract during the pendency of any dispute or litigation arising under or relating to this Contract and the Work in accordance with the terms and conditions of the Contract Documents. Contractor's failure to faithfully continue performance due to a dispute or litigation shall, in the Town's discretion, be construed as a material breach of this Contract and justify termination for Contractor's default or such other action as the Town, in the Town's discretion, may deem appropriate or warranted.
- B. If the Town is reasonably required to engage an attorney to assist in connection with any claim or dispute with Contractor relating to or arising out of the Contract or the Work including, without limitation, in connection with any litigation proceedings, and the Town prevails in such proceeding, Contractor shall reimburse the Town for its reasonable attorneys' fees, costs, and other expenses incurred by the Town in connection with such proceedings.

## **Special Provisions**

### **1. General.**

A. All labor, services, material, and other work necessary for the construction of Erie Maintenance Storage Facility Expansion Project shall be provided by Contractor. Contractor's responsibilities shall include, but not be limited to: managing the budget; scheduling and coordinating work meetings; conducting field tests and geotechnical studies; preparing exhibits and participating in formal and informal public meetings at locations provided by the Town; and timely processing field orders, change orders and notices of substantial completion.

B. Contractor shall carefully examine all Work, and shall be solely responsible for the character, quality, and quantities of Work, materials, and compliance with the Contract Documents.

C. Contractor shall identify any and all necessary easements for construction and maintenance of the Work.

### **2. Other Regulations.**

A. Contractor shall ensure that the Work is in compliance with the Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual, CDOT Specifications, AASHTO Specifications, International Building Code, Uniform Plumbing Code, Uniform Mechanical Code, National Electrical Code, Americans with Disabilities Act, and other applicable codes and specifications.

B. In case of any discrepancy between any of the requirements set forth in the Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual, CDOT Specifications, AASHTO Specifications, International Building Code, Uniform Plumbing Code, Uniform Mechanical Code, National Electrical Code, Americans with Disabilities Act, and these Contract Documents, the more stringent requirement shall apply. If any questions arise as to which requirement is more stringent than another, the Project Manager shall be authorized to determine which is more stringent, and the Project Manager's decision shall be final.

### **3. Representatives.** Contractor shall have at the work site at all times as its agent, a competent superintendent capable of reading and thoroughly understanding the Contract Documents and being thoroughly experienced in the type of work being performed. The Town shall have a representative on the job site to observe work for conformance with the Contract Documents.

### **4. Work Administration.** The Town shall administer the Work, including the finalization of any change orders, pay estimates and payments of such, acceptance of work, and other matters as stipulated in the Contract Documents.

### **5. Engineer.** The Engineer for this Work shall be the Town Engineer.

6. Inspections and Testing.

A. Contractor shall be responsible for performing materials testing. In addition to the materials testing performed by Contractor, the Town may conduct Quality Assurance testing at its own discretion.

B. Contractor shall coordinate its construction schedule with the testing agency and Town so that key inspection points may be observed. If Contractor fails to provide reasonably adequate notice or proceeds without the required inspection, the subject work shall be re-exposed or redone in its entirety, while the inspector is present. No extra compensation shall be awarded to Contractor for extra work due to Contractor's failure to coordinate inspections with the testing agency or the Town. All costs associated with Contractor's failure to coordinate inspections shall be borne by Contractor.

C. Contractor shall perform construction inspections. Contractor shall attend any pre-construction meeting(s) and be available to provide technical assistance during the course of construction as necessary. Contractor shall provide site visits and reviews upon request from the Town during the construction phase to ensure compliance with the intent of the plans and to resolve any potential conflicts. Contractor shall provide a written summary after each site visit.

D. Contractor shall be responsible for scheduling the final inspection with the Town.

7. Construction Schedule.

A. At the time of the Pre-construction Conference, Contractor shall prepare and submit to the Town for review a critical path method (CPM) construction schedule including: proposed daily construction hours; details of all construction items; start and finish dates; confirmation and dates for coordinating all utility relocation and/or interruptions; and the same information for all subcontractor(s). The schedule shall not be changed without prior notification to and review by the Town. The schedule shall be in the form of a chart of suitable scale to indicate approximately the percentage of Work scheduled for completion at any time. Contractor shall enter on the chart the actual progress at the end of each 2-week interval as directed by the Town and shall deliver to the Town 3 copies thereof on a biweekly basis.

B. Contractor shall also prepare and submit a schedule of the anticipated manpower by title and duty. The manpower proposed shall be adequate for orderly flow of work and completion within the time specified in the Contract Documents.

C. All construction activities shall be coordinated with the Project Manager.

8. Saturday, Sunday, Holiday and Night Work.

A. Work shall normally not be performed on Saturdays, Sundays, observed holidays, or outside of the daytime working hours of 7:00 a.m. to 7:00 p.m., or as



indicated on the construction schedule. Lane closures are restricted to 9:00 a.m. to 4:00 p.m. on arterial and collector streets, except for such work as may be necessary for proper care, maintenance, and protection of Work already completed, or in cases where the Work would be endangered or if hazards to life or property would result.

B. If Contractor believes it necessary to work on Saturdays, Sundays, holidays, or at night, Contractor shall make prior arrangements with the Town and receive written approval at least 48 hours before such time. Such approval may be revoked by the Town if Contractor fails to maintain adequate equipment and lighting at night for the proper control, and inspection of the work. If Work is performed without the Town's prior approval, and as a result the Town had not assigned inspectors to the work, the Town may declare Work performed during this period of time defective.

C. Any Work performed on a Saturday, Sunday, holiday, or night shall be at Contractor's risk in terms of extra costs, extra work, or unforeseen conditions.

9. Progress Reports.

A. Progress reports and progress/manpower schedules shall be updated and submitted to the Project Manager at the end of each 2-week period, or at such other times as the Project Manager may request. Contractor shall also forward to the Project Manager, at the end of each month, an itemized report of the delivery status of major and critical items of purchased equipment and material, including shop drawings and the status of shop and field fabricated work.

B. If the completion of any part of the Work or the delivery of materials is behind the approved schedule, Contractor shall submit a plan acceptable to the Project Manager for bringing the Work up to schedule. The Town shall have the right to withhold progress payments for the work if Contractor fails to update and submit the progress/manpower schedule and reports as specified.

10. Pre-construction Conference.

A. Contractor shall coordinate the Pre-construction Conference. Contractor's designated supervisor(s) assigned to the Work shall attend this meeting.

B. Prior to mobilizing construction equipment, a Pre-construction Conference will be held. Contractor's designated superintendent(s) or supervisor(s) assigned to the Work shall attend this meeting. Contractor shall, at a minimum, provide the following to the Town at the Pre-construction Conference:

- i. The construction schedules;
- ii. A detailed estimate of partial payments for the Work;
- iii. The traffic control plan;
- iv. A detailed plan showing site access and staging areas; and
- v. A subcontractor submittal, including names and contact phone numbers.

11. Fees and Permits.

A. Prior to commencing any Work, Contractor shall secure, at its own expense, all necessary fees and permits required for the performance of the Work, including an Army Corps of Engineers 404 permit, if necessary. The cost of compliance with this Section (including fees) is included in the Contract Price, and no additional compensation shall be provided.

B. All fees for permits issued by the Town shall be waived.

12. Existing Utilities.

A. The Work shall be coordinated with all impacted utility companies, districts, associations, agencies, and residents located in the work site. Contractor shall conduct the meeting and provide summary minutes.

B. Contractor shall determine the actual location of all existing utilities prior to starting any Work. Contractor shall contact utility companies for field locations prior to the start of Construction Work, and shall contact all utilities at least 48 hours prior to beginning excavation and/or grading. If the exact location and depth of existing underground utilities are unknown, Contractor shall perform all necessary exploratory excavation to locate these facilities which may affect the Work prior to beginning construction. Contractor shall obtain required locates and Contractor shall include the information on the plans. Contractor shall resolve any utility discrepancies. Contractor shall be liable for all damage done to existing utilities in the performance of the Work.

C. If Contractor requests that utility companies relocate utilities for Contractor's convenience, such relocation shall be at Contractor's expense.

D. The time of performance under the Contract shall not be extended to account for repair of utilities which are damaged by Contractor.

13. Water and Electricity. Contractor shall provide and maintain, at its own expense, an adequate supply of water and electricity required for the Work. Contractor shall install and maintain supply connections and lines satisfactory to the Project Manager, and prior to Final Completion, Contractor shall remove the supply lines at its expense.

14. Dust Control. Contractor shall use measures to prevent and control dust within the area affected by the Work. No additional compensation shall be paid to Contractor for dust control. Contractor shall clean any soil, dirt, or debris tracked onto any adjacent streets. Within 24 hours of notification by the Town that any adjacent streets require cleaning, Contractor shall clean such streets or the Town may have the streets cleaned and deduct the cost of such cleaning from the Contract Price.

15. Construction Staging Areas. All construction staging areas shall be located within the work site. The boundaries of construction staging areas shall be approved by the Town. Construction staging areas shall be used for material storage, parking

for equipment, and employees' vehicles. A construction trailer shall not be required, but may be used if the location of the trailer is approved by the Town. Upon Final Completion, all staging areas shall be clean and restored to their original condition. No additional compensation shall be provided to Contractor for cleaning of construction staging areas.

16. Sanitary Facilities.

A. Sanitary convenience for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers and in such a manner and at such points as approved by the Town. The contents shall be removed and disposed of in a satisfactory manner.

B. The sanitary conveniences specified above shall be the obligation and responsibility of Contractor. The facilities shall be made available to all other contractors, subcontractors, and inspection personnel in the work site.

C. Contractor shall supply sufficient drinking water from approved sources to all of its employees.

D. Full compensation for compliance with this Section is included in the Contract Price, and no additional compensation shall be provided.

17. Soils Investigations and Foundation Engineering. Contractor shall be responsible for all geotechnical investigations necessary to design and perform the Work.

18. Lines and Grades. Contractor shall lay out the Work and shall be responsible for all measurements in connection therewith. Contractor shall, at its own expense, furnish all stakes, templates, platforms, equipment, and labor, including surveyors, that may be required in setting and cutting or laying out any part of the Work. Contractor shall be responsible for the proper execution of the Work to such lines and grades.

19. Traffic Control.

A. Contractor shall furnish all necessary flagpersons; erect and maintain warning lights, advance warning signs, detour signs, barricades, temporary fence, and sufficient safeguards around all excavations, embankments, obstructions; and perform any other work necessary for the protection of all work being performed, and for the safety of the public and pedestrian traffic, as well as motor vehicles. All signs and barricades shall conform to the current Manual on Uniform Traffic Control Devices.

B. At the Pre-construction Conference, Contractor shall submit a traffic control plan for review by the Town. The plan shall discuss the traffic control measures proposed for the safety of vehicular and pedestrian traffic through the work site.

C. Contractor shall at all times take proper precautions for the protection of and replacement or restoration of landscaping, driveway culverts, street intersection culverts or aprons, irrigation crossings and systems, mailboxes,

driveway approaches, signs, existing utilities, and all other public and private installations that may be encountered during the Work.

D. No driveway or private alley shall be blocked without prior written permission from the resident who would be affected by such blocking, with a copy to the Town.

E. No road shall be closed at any time.

F. Contractor shall advise the Police Department, school districts, trash services, and homeowners of any lane closures, including dates and times.

G. It shall be Contractor's responsibility to: maintain, protect, and control traffic in the vicinity of and in the work site; restrict parking on streets near the work site; and provide necessary parking areas for all employees in suitable locations as approved by the Town.

20. Archaeological and Historical Discoveries.

A. Contractor shall inform the Town of any evidence which might suggest to a layperson that archaeological or historical materials may be present in the work site. Upon making such a discovery, Contractor shall do whatever is necessary to avoid disturbing the work site. This may require that Contractor's activities be redirected or stopped until the Town determines how to proceed.

B. As a result of Contractor's efforts to preserve the potential discovery at the work site, if Contractor's activities are delayed for longer than 8 normal work hours, Contractor shall prepare accounting information to support an adjustment to the Contract Price.

21. Water Control.

A. Contractor shall take such precautions as necessary to construct the Work in a dry condition, and Contractor shall provide for drainage, dewatering, and control of all surface and subsurface water and shall erect any necessary temporary structures or other facilities at its own expense.

B. Contractor, at its own expense, shall furnish all necessary equipment and materials required to control the surface and subsurface water in all the areas from the commencement of Work through Final Completion.

C. Contractor shall be responsible for furnishing, transporting, and installing all materials and equipment, well points, pumping, channelization, diversion, damming, or other means of controlling surface water and ground waters.

22. Disposal Site

A. Contractor shall be responsible for the removal of all excess excavation, debris, deleterious material, muck, asphalt, concrete, trees, stumps, remains from clearing and grubbing, and all other materials not used for the construction of the improvements. Costs of disposal are included in the Contract Price and shall not

entitle Contractor to additional compensation. Contractor shall designate in writing a disposal site located outside the Town limits and acceptable to the Town.

B. Contractor's cost for loading, hauling, daily cleaning of streets, disposal of the earthwork (excavation) materials, together with the construction, maintaining and watering of haul roads, and dump fees and permits are included in the Contract Price and shall not entitle Contractor to additional compensation.

23. Video Prior to Construction. Contractor shall provide the Town with a video of the entire work site prior to beginning construction, including all adjacent areas, at Contractor's own expense. One copy of the video shall be provided to the Town and become the property of the Town prior to the commencement of any Work.

24. Existing Improvements and Restoration.

A. Contractor has field inspected the work site and fully understands that existing landscaping and improvements are present within the work site. Such existing improvements shall be protected. Any damage or disruption in the public right-of-way, drainage easements, Town property, or private property related to the Work shall be restored to pre-existing or better condition.

B. Contractor shall be responsible for replacing all existing improvements, including irrigation systems and landscaping, damaged during Contractor's activities, except as otherwise provided in the Contract Documents.

25. Erosion Control. Contractor shall provide an erosion/sediment control plan for use during construction. The plan shall include site specific details showing the type, location, and quantity of BMP's to be used. The erosion/sediment control plan shall be designed to prevent sediment from leaving the construction area. Special attention shall be given to prevent sediment from entering into any wetland area.

26. Vandalism. Contractor shall take all necessary steps to protect the work site from vandalism. Contractor shall be solely responsible to repair any damage caused by vandalism, including the removal of graffiti, at Contractor's own cost. The Contract Price shall not be increased to reimburse Contractor for such costs.

27. Job Order Contract (JOC) Special Conditions. The following clarifications and modifications apply to the General Provisions and these Special Provisions:

A. All references to "Bid Items" shall be interpreted to mean Work tasks necessary to complete the Work.

B. All references to "change order work," "extra work," "force account work," and any other descriptions to changes to the Detailed Scope of Work shall be interpreted to mean work described in the Detailed Scope of Work of a Supplemental Job Order, if any.

## Certificate Of Completion

Envelope Id: C08E2347-6EAE-46B0-BC2E-4E6312F190E7

Status: Completed

Subject: Complete with Docusign: Construction Contract(Erie Maintenance Storage Facility Expansion)

Source Envelope:

Document Pages: 33

Signatures: 1

Envelope Originator:

Certificate Pages: 5

Initials: 0

P&R Business Business Services

AutoNav: Enabled

645 Holbrook Street

Envelopeld Stamping: Enabled

P.O. Box 750

Time Zone: (UTC-07:00) Mountain Time (US & Canada)

Erie, CO 80516

prbs@erieco.gov

IP Address: 50.206.104.130

## Record Tracking

Status: Original

Holder: P&R Business Business Services

Location: DocuSign

11/19/2025 3:12:26 PM

prbs@erieco.gov

## Signer Events

Benjamin J Placzek

bplaczek@facilitiescontracting.com

Security Level: Email, Account Authentication  
(None)

## Signature

Signed by:  
  
8A3076AA17DE420...

Signature Adoption: Pre-selected Style

Using IP Address: 96.90.177.149

## Timestamp

Sent: 11/19/2025 3:15:26 PM

Resent: 11/24/2025 3:10:06 PM

Viewed: 11/24/2025 3:12:18 PM

Signed: 11/24/2025 3:12:51 PM

## Electronic Record and Signature Disclosure:

Accepted: 11/24/2025 3:12:18 PM

ID: 212ea79c-ab6c-46a9-bcee-53d3cf653ccf

## In Person Signer Events

## Signature

## Timestamp

## Editor Delivery Events

## Status

## Timestamp

## Agent Delivery Events

## Status

## Timestamp

## Intermediary Delivery Events

## Status

## Timestamp

## Certified Delivery Events

## Status

## Timestamp

## Carbon Copy Events

## Status

## Timestamp

Kathy Kron

kkron@erieco.gov

Senior Parks Planner

Town of Erie

Security Level: Email, Account Authentication  
(None)

**COPIED**

Sent: 11/24/2025 3:12:52 PM

Viewed: 11/24/2025 3:13:21 PM

## Electronic Record and Signature Disclosure:

Not Offered via Docusign

Adrian Gee

agee@facilitiescontracting.com

Security Level: Email, Account Authentication  
(None)

**COPIED**

Sent: 11/24/2025 3:12:53 PM

Viewed: 11/24/2025 3:13:14 PM

## Electronic Record and Signature Disclosure:

Accepted: 10/14/2025 3:51:33 PM

ID: ed729c7d-33a2-47cd-acd7-5d51ee157182

## Witness Events

## Signature

## Timestamp

Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	11/19/2025 3:15:26 PM
Certified Delivered	Security Checked	11/24/2025 3:12:18 PM
Signing Complete	Security Checked	11/24/2025 3:12:51 PM
Completed	Security Checked	11/24/2025 3:12:53 PM
Payment Events	Status	Timestamps
Electronic Record and Signature Disclosure		

## **ELECTRONIC RECORD AND SIGNATURE DISCLOSURE**

From time to time, Town of Erie (we, us or Company) may be required by law to provide to you certain written notices or disclosures. Described below are the terms and conditions for providing to you such notices and disclosures electronically through the DocuSign system. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to this Electronic Record and Signature Disclosure (ERSD), please confirm your agreement by selecting the check-box next to 'I agree to use electronic records and signatures' before clicking 'CONTINUE' within the DocuSign system.

### **Getting paper copies**

At any time, you may request from us a paper copy of any record provided or made available electronically to you by us. You will have the ability to download and print documents we send to you through the DocuSign system during and immediately after the signing session and, if you elect to create a DocuSign account, you may access the documents for a limited period of time (usually 30 days) after such documents are first sent to you. After such time, if you wish for us to send you paper copies of any such documents from our office to you, you will be charged a \$0.00 per-page fee. You may request delivery of such paper copies from us by following the procedure described below.

### **Withdrawing your consent**

If you decide to receive notices and disclosures from us electronically, you may at any time change your mind and tell us that thereafter you want to receive required notices and disclosures only in paper format. How you must inform us of your decision to receive future notices and disclosure in paper format and withdraw your consent to receive notices and disclosures electronically is described below.

### **Consequences of changing your mind**

If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. Further, you will no longer be able to use the DocuSign system to receive required notices and consents electronically from us or to sign electronically documents from us.

### **All notices and disclosures will be sent to you electronically**



Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through the DocuSign system all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

### **How to contact Town of Erie:**

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:

To contact us by email send messages to: [docusign@erieco.gov](mailto:docusign@erieco.gov)

### **To advise Town of Erie of your new email address**

To let us know of a change in your email address where we should send notices and disclosures electronically to you, you must send an email message to us at [docusign@erieco.gov](mailto:docusign@erieco.gov) and in the body of such request you must state: your previous email address, your new email address. We do not require any other information from you to change your email address.

If you created a DocuSign account, you may update it with your new email address through your account preferences.

### **To request paper copies from Town of Erie**

To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an email to [townclerk@erieco.gov](mailto:townclerk@erieco.gov) and in the body of such request you must state your email address, full name, mailing address, and telephone number. We will bill you for any fees at that time, if any.

### **To withdraw your consent with Town of Erie**

To inform us that you no longer wish to receive future notices and disclosures in electronic format you may:

- i. decline to sign a document from within your signing session, and on the subsequent page, select the check-box indicating you wish to withdraw your consent, or you may;
- ii. send us an email to [docusign@erieco.gov](mailto:docusign@erieco.gov) and in the body of such request you must state your email, full name, mailing address, and telephone number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

### **Required hardware and software**

The minimum system requirements for using the DocuSign system may change over time. The current system requirements are found here: <https://support.docusign.com/guides/signer-guide-signing-system-requirements>.

### **Acknowledging your access and consent to receive and sign documents electronically**

To confirm to us that you can access this information electronically, which will be similar to other electronic notices and disclosures that we will provide to you, please confirm that you have read this ERSD, and (i) that you are able to print on paper or electronically save this ERSD for your future reference and access; or (ii) that you are able to email this ERSD to an email address where you will be able to print on paper or save it for your future reference and access. Further, if you consent to receiving notices and disclosures exclusively in electronic format as described herein, then select the check-box next to ‘I agree to use electronic records and signatures’ before clicking ‘CONTINUE’ within the DocuSign system.

By selecting the check-box next to ‘I agree to use electronic records and signatures’, you confirm that:

- You can access and read this Electronic Record and Signature Disclosure; and
- You can print on paper this Electronic Record and Signature Disclosure, or save or send this Electronic Record and Disclosure to a location where you can print it, for future reference and access; and
- Until or unless you notify Town of Erie as described above, you consent to receive exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you by Town of Erie during the course of your relationship with Town of Erie.



# TOWN OF ERIE

645 Holbrook Street  
Erie, CO 80516

## Town Council

**Board Meeting Date: 12/16/2025**

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**File #:** 25-614, **Version:** 1

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**SUBJECT:**

An Ordinance of the Town Council of the Town of Erie Granting a Utility Easement to Public Service Company of Colorado and Approving the Associated Easement Agreement

**DEPARTMENT:** Parks & Recreation

**PRESENTER(S):** Luke Bolinger, Director of Parks and Recreation  
Kathy Kron, Development & Neighborhood Services Division Manager

**TIME ESTIMATE:** 0 minutes

**FISCAL SUMMARY:** N/A

**POLICY ISSUES:**

Granting this easement will allow Xcel Energy to install an electrical transformer to serve improvements at Schofield Farm and thus has minimal policy implications.

**STAFF RECOMMENDATION:**

Approve the Ordinance.

**SUMMARY/KEY POINTS**

- Town Council approval is required for land transactions on Town-owned properties.
- Approving the easement will allow Xcel Energy to schedule installation of the transformer, which is required to receive a Certificate of Occupancy for Erie Makerspace.
- The existing transformer at Schofield Farm does not have enough capacity to serve all the improvements at the site.

**BACKGROUND OF SUBJECT MATTER:**

Design and construction at Schofield Farm have advanced to the point where the design team identified the need for an additional electrical transformer to support all planned site improvements. The existing transformer currently serves only the farmhouse, while new electrical demand includes EV chargers, parking lot lighting, the barn, makerspace, site restrooms, accessory structures, site lighting, and irrigation controllers.

Because of drainage and utility conflicts within the right-of-way, the new transformer must be placed on the Schofield Open Space property adjacent to the right-of-way. Xcel Energy requires an easement for any equipment installed outside the public right-of-way, necessitating the proposed easement for the transformer location.

**ATTACHMENT(S):**

1. Ordinance
2. Easement Agreement

**Town of Erie  
Ordinance No. 038-2025**

**An Ordinance of the Town Council of the Town of Erie Granting a  
Utility Easement to Public Service Company of Colorado and  
Approving the Associated Easement Agreement**

**Whereas**, the Town Council finds it in the best interest of the public health, safety and welfare to grant a utility easement to Public Service Company of Colorado; and

**Whereas**, Section 15.01 of the Erie Home Rule Charter requires that the transfer of any interest in real property be approved by ordinance.

**Now Therefore be it Ordained by the Town Council of the Town of Erie, Colorado, as follows:**

**Section 1.** The Town Council hereby grants a utility easement to Public Service Company of Colorado as more particularly described in the attached Easement Agreement, and the Town Council hereby approves such Easement Agreement in substantially the form attached hereto, subject to final approval by the Town Attorney. Upon such approval, the Mayor is authorized to execute the Easement Agreement on behalf of the Town.

**Section 2.** Severability. If any article, section, paragraph, sentence, clause, or phrase of this Ordinance is held to be unconstitutional or invalid for any reason, such decision shall not affect the validity or constitutionality of the remaining portions of this Ordinance. The Town Council hereby declares that it would have passed this Ordinance and each part or parts hereof irrespective of the fact that any one, or part, or parts be declared unconstitutional or invalid.

**Section 3.** Safety. The Town Council finds that the adoption of this Ordinance is necessary for the protection of the public health, safety and welfare.

**Section 4.** Effective Date. This Ordinance shall take effect 10 days after publication following adoption.

**Introduced, Read, Passed and Ordered Published this 16<sup>th</sup> day of  
December, 2025.**

\_\_\_\_\_  
Andrew J. Moore, Mayor

**Attest:**

\_\_\_\_\_  
Debbie Stamp, Town Clerk

<b>S-T-R:</b> SE1/4 Section 27, T1N, R69W	<b>Grantor:</b> Town of Erie	<b>Doc No:</b>
<b>County:</b> Boulder	<b>Address/Intersection:</b> 2203 N. 111 <sup>th</sup> St.	<b>Reception No:</b>
<b>Division-City/Town:</b> Boulder - Erie	<b>Dist/HP Trans:</b> Dist.	<b>Surveyor:</b> John P. Ehrhart
<b>Division Agent:</b> Mayorga	<b>Contract Agent/Co:</b> Lerche/WS-LS	<b>Survey Company:</b> Ehrhart Land Surveying
<b>LAT &amp; LONG GPS:</b> 40° 1'14.77"N / 105° 5'39.84"W		

## PUBLIC SERVICE COMPANY OF COLORADO UTILITY EASEMENT

The undersigned Grantor (whether one or more) hereby acknowledges receipt of good and valuable consideration from PUBLIC SERVICE COMPANY OF COLORADO (Company), in consideration of which Grantor(s) hereby grants unto said Company, its successors and assigns, a non-exclusive easement (“**Easement**”) for utility lines, and all fixtures and devices used or useful in the operation of the same, on, through, over, under, across, and along a course as said lines may be hereafter constructed in that tract of land described in reception 3386594, Boulder County Records, in the **SE1/4** of Section **27**, Township **1 North**, Range **69 West** of the 6th Principal Meridian in the following lands located in County of Boulder, State of Colorado, the easement being described as follows (“**Easement Area**”):

**SEE “EXHIBIT A” ATTACHED HERETO AND INCORPORATED HEREIN BY THIS REFERENCE.**

Together with the right (i) to enter upon said premises, to survey, construct, install, operate, repair, remove, replace, reconstruct, alter, relocate, patrol, inspect, improve, enlarge, remove, maintain and use utility lines and all related facilities, other fixtures, devices, and appurtenances used or useful in connection therewith (collectively the “**Facilities**”), and (ii) to remove objects interfering therewith, including the trimming or felling of trees and bushes, and (iii) to use so much of the adjoining premises of Grantor during surveying, construction, maintenance, repair, removal, or replacement of said Facilities and related fixtures and devices as may be required to permit the operation of standard utility construction or repair machinery.

The Grantor reserves the right to use and occupy the Easement Area for any purpose consistent with the rights and privileges above granted and which will not interfere with or endanger any of the said Company's Facilities therein or use thereof. Such reservations by Grantor shall in no event include the right to erect or cause to be erected any temporary or permanent buildings, structures (including without limitation trailers or mobile homes), signs, or wells on, under, or over the Easement Area. No other objects shall be erected, placed, or permitted to remain on, under, or over the Easement Area, which will or may interfere with the Facilities installed on the Easement Area or interfere with the exercise of any of the rights herein granted. No failure by Company to remove or otherwise raise an objection to any objects or improvements located or installed on the Easement Area by Grantor, shall be deemed to constitute consent on the part of Company to such improvements or objects, nor a waiver of Company's rights regarding removal of any such improvements or objects.

Grantor agrees to contact the Call Before You Dig - Utility Notification Center of Colorado (811 or 1-800-922-1987), or any similar one-call utility line locator system which may replace or supplement it, at least four (4) business days (or such longer time if required by applicable law) prior to the commencement of construction, excavation, or digging of the Easement Area to arrange for field locating of Facilities.

Grantor shall disclose to Company any pre-existing waste materials (“**Pre-Existing Wastes**”), that Grantor knows or reasonably suspects to be present in soils, water (surface or groundwater), vapors or air, whether on, in, above, migrating to or from, or under the Easement Area and any other information that would help Company assess the risks of working in the area. Company shall have the right to

perform environmental sampling in the Easement Area at its discretion. If Company encounters any Pre-Existing Wastes, Company retains the right to stop work and may choose to exercise that right. Grantor shall retain its obligations to comply with all applicable laws and regulations related to such Pre-Existing Wastes. Grantor shall release Company from any claims or responsibilities related to such Pre-Existing Wastes.

The work of installing and maintaining said lines and fixtures shall be done with care; the surface along the easement area and any adjoining premises used by Company shall be restored substantially to its original level and condition following completion of Company activities, taking into account, among other things, the existence of the Facilities and the restrictions stated in this Easement.

The provisions of this Easement shall run with, be binding on and burden the Easement Area and shall bind and benefit the heirs, executors, administrators, personal representatives, successors, and assigns of Grantor and Company. Non-use or a limited use of the Easement Area shall not prevent Grantee from thereafter making use of the Easement Area to the full extent herein authorized.

Grantor warrants and represents that Grantor is the owner of the Easement and has the right to sell, transfer, convey, confirm and grant this Easement and the rights contained herein. This Easement is binding on Grantor, is not conditioned upon obtaining the consent of any third party.

This Easement incorporates all agreements between the parties as to the subject matter of this Easement, and no prior representations or statements, verbal or written, shall modify, supplement or change the terms of this Easement. This Easement consists of the document entitled "Utility Easement", and Exhibit(s) containing a legal description and a sketch depicting the legal description, if referenced above or attached hereto. No other exhibit, addendum, schedule or other attachment (collectively "Addendum") is authorized by Company, and no Addendum shall be effective and binding upon Company unless executed by an authorized representative of Company.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2025

(Type or print name below each signature line with official title if corporation, partnership, etc.):

GRANTOR: **Town of Erie**

BY: \_\_\_\_\_

Andrew J. Moore (print name)

ITS: Mayor

STATE OF \_\_\_\_\_ )  
 )ss  
COUNTY OF \_\_\_\_\_ )

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 2025  
by [Grantor name(s) from above]:

Andrew J. Moore  
\_\_\_\_\_  
\_\_\_\_\_

My commission Expires \_\_\_\_\_  
(Seal) \_\_\_\_\_ Notary Public

**EXHIBIT A**  
PAGE 1 OF 2

**PARCEL DESCRIPTION**

A PARCEL OF LAND LOCATED IN THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, BEING PART OF A PARCEL DESCRIBED IN DEED RECORDED JUNE 20, 2014 AT RECEPTION NO. 3386594, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

**COMMENCING** AT THE EAST QUARTER CORNER OF SAID SECTION 27; THENCE S00°06'36"E ALONG THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 27 A DISTANCE OF 429.62; THENCE S89°53'24"W PERPENDICULAR TO SAID EAST LINE OF THE SOUTHEAST QUARTER A DISTANCE OF 30.00 FEET TO A POINT ON THE WEST RIGHT OF WAY LINE OF 111TH STREET, SAID POINT ALSO BEING THE **POINT OF BEGINNING**; THENCE S00°06'36"E ALONG SAID WEST RIGHT OF WAY LINE A DISTANCE OF 15.00 FEET; THENCE S89°53'24"W A DISTANCE OF 10.00 FEET; THENCE N00°06'36"W A DISTANCE OF 15.00 FEET; THENCE N89°53'24"E A DISTANCE OF 10.00 FEET TO THE **POINT OF BEGINNING**;

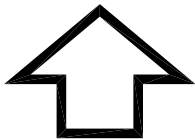
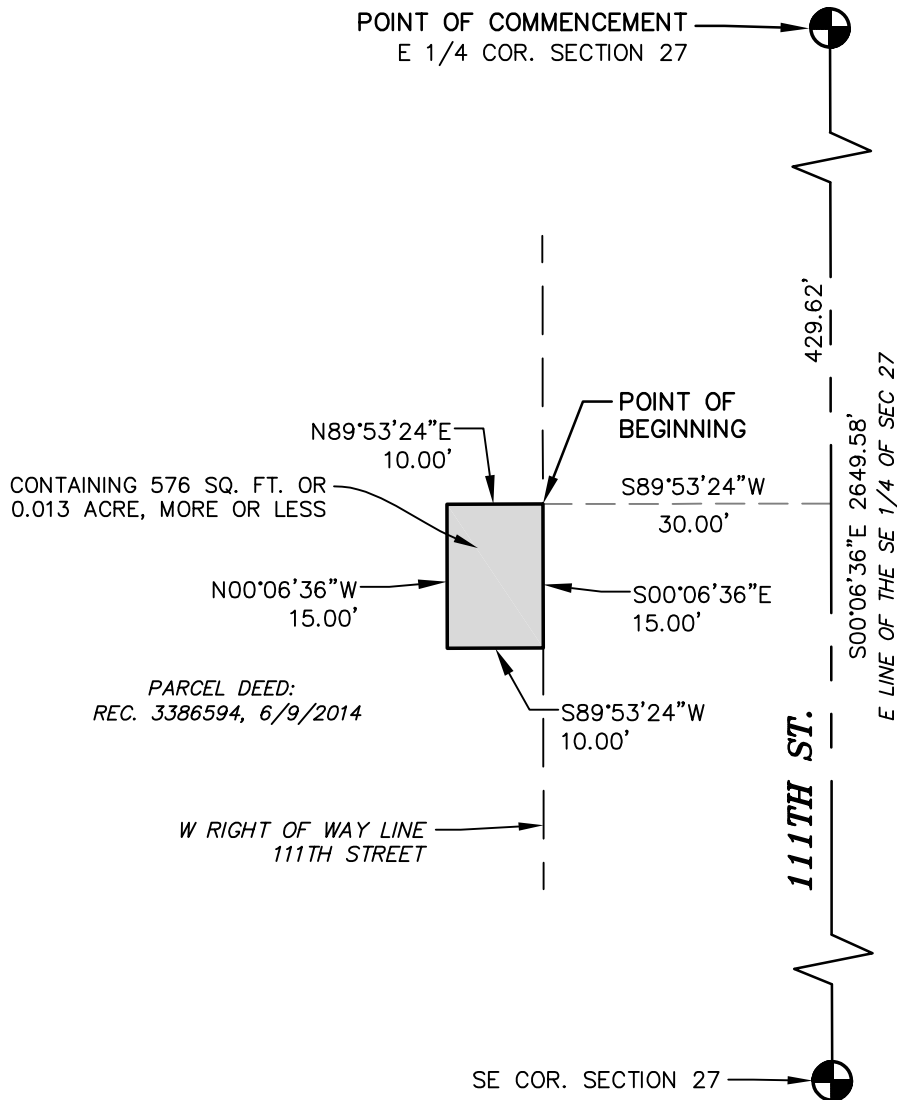
CONTAINING 576 SQUARE FEET OR 0.013 ACRE, MORE OR LESS.





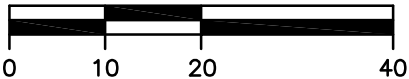
# EXHIBIT A

PAGE 2 OF 2



NORTH

SCALE: 1" = 20'



**EHRHART**  
LAND SURVEYING

P.O. Box 930 • Erie, Colorado 80516  
(303) 828-3340 • www.coloradols.com

PARCEL EXHIBIT  
SITUATED IN THE SE 1/4 OF SEC. 27,  
T1N, R69W OF THE 6TH P.M.  
ERIE, BOULDER COUNTY, COLORADO

DATE:

10/24/25

SCALE

1"=20'

JOB NO.:

S255425

DRAWN:

OLB

CHECKED:

JPE



# TOWN OF ERIE

645 Holbrook Street  
Erie, CO 80516

## Town Council

**Board Meeting Date: 12/16/2025**

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**File #:** 25-663, **Version:** 1

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**SUBJECT:**

A Resolution of the Town Council of the Town of Erie Approving the Amendment to Extend the Community Development Block Grant Program Home Repair Program Subrecipient Agreement with Weld County and the Colorado State Historic Preservation Office

**DEPARTMENT:** Planning & Development

**PRESENTER(S):** Sarah Nurmela, Planning & Development Director  
Melinda Helmer, Business Operations Coordinator

**TIME ESTIMATE:** 0 minutes

*For time estimate: please put 0 for Consent items.*

**FISCAL SUMMARY:**

Cost as Recommended:	N/A
Balance Available:	N/A
Fund	Choose a fund.
Line Item Number:	N/A
New Appropriation Required:	No

**POLICY ISSUES:**

For Town Council to consider an extension to a contract with Weld County to complete home repairs currently underway and planned for the Community Development Block Grant (CDBG)-funded Home Repair Program in Erie. This program focuses on addressing life safety and building code issues for existing manufactured homes in Erie, helping to maintain existing affordable housing stock in the community.

**STAFF RECOMMENDATION:**

Approve the resolution extending the agreement.

**SUMMARY/KEY POINTS**

- The Town of Erie entered into the Subrecipient Agreement with Weld County for the CDBG funds on November 19, 2024.
- Work is underway or planned for seven properties in Old Town Erie, with completion dates

that will extend into 2026.

- Weld County is amenable to extending the Subrecipient Agreement to September 30, 2026, the end of the County's budget year, to accommodate completion of projects.

**BACKGROUND OF SUBJECT MATTER:**

The Town of Erie applied for grant funding under the Weld County Community Development Block Grant (CDBG) Program in 2024 to establish a Housing Rehabilitation Program for low/moderate income owner-occupants of mobile/manufactured homes in Old Town. Weld County awarded the Town with \$167,000 in grant funds to initiate the program. The CDBG Subrecipient Agreement is the contract between the Town of Erie and Weld County for receipt of these funds.

The Erie Housing Repair Program provides up to \$15,000 in funding per home to address health and safety issues, install needed accessibility improvements, and energy efficiency improvements. Erie hired Brothers Redevelopment to run the program. Brothers Redevelopment has experience in evaluating home repair needs, administering housing rehabilitation programs, and facilitating needed improvements.

Staff estimate that the CDBG grant funds will aid 10 homeowners in total with the allocated budget. Currently, seven homeowners are active in the program, with two currently undergoing repairs and five retaining contractor estimates and scheduling repairs. Extending the Subrecipient Agreement into mid 2026 will ensure the intended use of the CDBG funds. An extension of the contract with Brothers Redevelopment is also required to continue administration of the program.

**ATTACHMENT(S):**

Add items in a numbered list OR delete this list and change to N/A.

1. Resolution 25-217
2. Subrecipient Agreement with Weld County
3. Amendment to Extend

**Town of Erie  
Resolution No. 25-217**

**A Resolution of the Town Council of the Town of Erie Approving an  
Amendment to Extend the Community Development Block Grant  
Program Home Repair Program Subrecipient Agreement with  
Weld County and the Colorado State Historic Preservation Office**

**Whereas**, on November 19, 2024, the Town Council approved the Community Development Block Grant Program Home Repair Program Programmatic Agreement with Weld County and the Colorado State Historic Preservation Office;

**Whereas**, the parties wish to amend said Subrecipient Agreement to extend the term of services beyond December 31, 2025;

**Whereas**, the extension will allow the Town and its partners to maintain program continuity, provide essential services to residents, and comply with applicable federal and state requirements; and

**Whereas**, the Town Council finds that it is in the best interest of the Town, and necessary for the public health, safety, and welfare, to approve the Amendment to Extend the Subrecipient Agreement to ensure continued implementation of the Home Repair Program.

**Now, Therefore, Be It Resolved by the Town Council of the Town of Erie, Colorado, that:**

**Section 1.** The Amendment to Extend Subrecipient Program is hereby approved in substantially the form attached hereto, subject to final approval by the Town Attorney. Upon such approval, the Mayor is authorized to execute the Amendment on behalf of the Town.

**Adopted on this 16<sup>th</sup> day of December, 2025.**

\_\_\_\_\_  
Andrew J. Moore, Mayor

**Attest:**

\_\_\_\_\_  
Debbie Stamp, Town Clerk

## **SUBRECIPIENT AGREEMENT**

### **FOR COMMUNITY DEVELOPMENT BLOCK GRANT FUNDS**

THIS AGREEMENT is entered this 12<sup>th</sup> day of February 2025 by and between the Weld County Community Development Block Program (herein called the "Grantee") and Town of Erie, CO (herein called the "Subrecipient").

WHEREAS, the Grantee has applied for and received funds from the United States Government under Title I of the Housing and Community Development Act of 1974, as amended (HCD Act), Public Law 93-383; and

WHEREAS, the Grantee wishes to engage the Subrecipient to assist the Grantee in utilizing such funds;

WHEREAS, the Grantee and Subrecipient have an executed Cooperation Agreement; and

NOW, THEREFORE, it is agreed between the parties hereto that;

#### **I. SCOPE OF SERVICE**

##### **A. Activities**

The Subrecipient will be responsible to provide the following activity(ies): to implement a Single-Family Housing Rehabilitation Program to meet the National Objective of Benefit to Low and Moderate-Income Persons. The Subrecipient will be responsible for administering the Community Development Block Grant funds in a manner satisfactory to the Grantee and consistent with any standards required as a condition of providing these funds.

##### **Program Delivery**

Activity #1 The Subrecipient will be responsible for administering a CDBG-funded single-family housing rehabilitation program consisting of minor home repairs and/or maintenance (not to exceed \$15,000 per household) on single-family, owner-occupied residences of low and moderate-income residents of the Town of Erie. The project will target manufactured homes in three manufactured home parks and on individual lots in Old Town Erie. Repairs that directly address health and safety concerns including weather-sensitive construction will be prioritized and be carried out by appropriately licensed and insured contractors.

##### **General Administration**

The Subrecipient will be responsible for the general administration and monitoring of the work performed to include the following:

Application intake and income qualification based on current HUD AMI limits for Weld County. Subrecipient to collect all required support documentation from the applicant to make a determination of eligibility.

Preparation of a Tier 2 Environmental Review Statutory Checklist for each property considered for assistance. Tier 2 checklists to be submitted to Weld County CDBG Program staff for review and approval prior to the commitment of funds for each property.

Documentation of inspections to determine the adequacy and expected system life of major building components required per household upon approved application. Use of appropriately certified testing agencies to sample for hazardous building materials when required.

Documentation of all program activities in well-organized project files made available to the Weld County CDBG Program for monitoring.

Preparation and submittal of pay requests for reimbursement for program activities. Pay requests to include contractor invoices and any other documentation deemed necessary by the Weld County CDBG Program to determine the eligibility of costs requested for reimbursement.

Preparation and submittal of reports detailing accomplishments, demographic and income data for all program participants.

### **B. National Objectives**

All activities funded with CDBG funds must meet one of the CDBG program's National Objectives: benefit low- and moderate-income persons; aid in the prevention or elimination of slums or blight; or meet community development needs having a particular urgency, as defined in 24 CFR 570.208.

The Subrecipient certifies that the activity(ies) carried out under this Agreement will meet the National Objective of Benefit to Low and Moderate-Income Persons through housing activities benefitting low and moderate-income households (LMH).

### **C. Levels of Accomplishment – Goals and Performance Measures**

The levels of accomplishment may include such measures as units rehabbed, persons or households assisted, or meals served, and should also include time frames for performance.

The Subrecipient agrees to provide the following levels of program services: complete minor rehabilitation projects on 10 qualifying residences within the Town of Erie under this program.

<u>Activity</u>	<u>Total Units</u>
Activity #1	Ten (10)

Units of Service are the number of single-family residences rehabilitated.

### **D. Staffing**

Eric Leveridge, Housing Management Analyst, Town of Erie, will serve of Project Manager and MJ Adams, Affordable Housing Manager, Town of Erie, will serve as Assistant Project Manager.

Any changes in the Key Personnel assigned or their general responsibilities under this project are subject to the prior approval of the Grantee.

### **E. Performance Monitoring**

The Grantee will monitor the performance of the Subrecipient against goals and performance standards as stated above. Substandard performance as determined by the Grantee will constitute noncompliance with this Agreement. If action to correct such substandard performance is not taken by the Subrecipient **30 days** after being notified by the Grantee, contract suspension or termination procedures will be initiated.

## **II. TIME OF PERFORMANCE**

Services of the Subrecipient shall start on the date of the Notice to Proceed and end on the 31 day of December 2025. The term of this Agreement and the provisions herein shall be extended to cover any additional time period during which the Subrecipient remains in control of CDBG funds or other CDBG assets, including program income.

## **III. BUDGET**

<u>Line Item</u>	<u>Amount</u>
Weld County CDBG grant	\$ 167,000
Program Admin	\$ 17,000
Rehab costs-labor & materials	\$ 150,000
 TOTAL	 \$ 167,000

Any indirect costs charged must be consistent with the conditions of Paragraph VIII (C)(2) of this Agreement. In addition, the Grantee may require a more detailed budget breakdown than the one contained herein, and the Subrecipient shall provide such supplementary budget information in a timely fashion in the form and content prescribed by the Grantee. Any amendments to the budget must be approved in writing by both the Grantee and the Subrecipient.

#### **IV. PAYMENT**

It is expressly agreed and understood that the total amount to be paid by the Grantee under this Agreement shall not exceed \$167,000. Drawdowns for the payment of eligible expenses shall be made against the line-item budgets specified in Paragraph III herein and in accordance with performance. Expenses for general administration shall also be paid against the line-item budgets specified in Paragraph III and in accordance with performance.

For construction activities: Draw requests can be submitted no more frequently than at the following points in the work: 25% draw request when work is 35% complete; 50% draw request when work is 60% complete; 75% draw request when work is 85% complete; to reach 90% draw when work is 100% complete; remaining 10% when all lien waivers and completion reports have been submitted as required. Lien waivers are required before the final payment and certified payrolls are required at every stage of the draw schedule, if Davis Bacon requirements are in force.

Payments may be contingent upon certification of the Subrecipient's financial management system in accordance with the standards specified in 2 CFR 200.302.

#### **V. NOTICES**

Notices required by this Agreement shall be in writing and delivered via mail (postage prepaid), commercial courier, or personal delivery or sent by facsimile or other electronic means. Any notice delivered or sent as aforesaid shall be effective on the date of delivery or sending. All notices and other written communications under this Agreement shall be addressed to the individuals in the capacities indicated below, unless otherwise modified by subsequent written notice.

Communication and details concerning this Agreement shall be directed to the following contract representatives:

Grantee	Subrecipient
Elizabeth Relford	Malcolm Fleming
CDBG Manager, Weld County	Town Manager, Town of Erie
1402 N 17 <sup>th</sup> Ave., PO Box 758	645 Holbrook St., PO Box 750
Greeley, CO 80632	Erie, CO 80516
<a href="mailto:erelford@weld.gov">erelford@weld.gov</a>	<a href="mailto:mfleming@erieco.gov">mfleming@erieco.gov</a>
(970) 673-5836	(303) 926-2700

#### **VI. SPECIAL CONDITIONS**

All projects regardless of scope, require an environmental review. Reviews will be completed by the County prior to issuing a notice to proceed.

If the Subrecipient wishes to extend the time given for project completion, they will need to notify the Weld County CDBG Program in writing forty-five (45) days in advance unless due to unforeseen circumstances. Weld County CDBG staff may extend the time of performance of this subrecipient agreement up to 90 days without prior approval from the Weld County Board of Commissioners.

Progress reports will be due quarterly April 30<sup>th</sup>, July 31<sup>st</sup>, October 31<sup>st</sup> and January 31<sup>st</sup> for the preceding quarter. In addition, a progress report must accompany each draw request detailing the progress made/activities completed with the funds being requested for reimbursement.

#### **VII. GENERAL CONDITIONS**

(Note: Links to the Code of Federal Regulations [CFR] may be accessed through links provided in the agreement, provided as a convenience to the Subrecipient. It is, however, the Subrecipient's responsibility to ensure the links are the most current one available)

**Code of Federal Regulations**



**A. General Compliance**

The Subrecipient agrees to comply with the requirements of Title 24 of the Code of Federal Regulations, Part 570 (the U.S. Housing and Urban Development regulations concerning Community Development Block Grants (CDBG)) including subpart K of these regulations, except that (1) the Subrecipient does not assume the recipient's environmental responsibilities described in 24 CFR 570.604 and (2) the Subrecipient does not assume the recipient's responsibility for initiating the review process under the provisions of 24 CFR Part 52. The Subrecipient also agrees to comply with all other applicable Federal, state and local laws, regulations, and policies governing the funds provided under this Agreement. The Subrecipient further agrees to utilize funds available under this Agreement to supplement rather than supplant funds otherwise available.

**B. "Independent Contractor"**

Nothing contained in this Agreement is intended to, or shall be construed in any manner, as creating or establishing the relationship of employer/employee between the parties. The Subrecipient shall at all times remain an "independent contractor" with respect to the services to be performed under this Agreement. The Grantee shall be exempt from payment of all Unemployment Compensation, FICA, retirement, life and/or medical insurance and Workers' Compensation Insurance, as the Subrecipient is an independent contractor.

**C. Hold Harmless**

The Subrecipient shall hold harmless the Grantee from any and all claims, actions, suits, charges and judgments whatsoever that arise out of the Subrecipient's performance or nonperformance of the services or subject matter called for in this Agreement.

**D. Workers' Compensation**

The Subrecipient shall provide Workers' Compensation Insurance coverage for all of its employees involved in the performance of this Agreement.

**E. Insurance & Bonding**

The Subrecipient shall carry sufficient insurance coverage to protect contract assets from loss due to theft, fraud and/or undue physical damage, and as a minimum shall purchase a blanket fidelity bond covering all employees in an amount equal to cash advances from the Grantee.

The Subrecipient shall comply with the bonding and insurance requirements of 2 CFR 200.

**F. Grantee Recognition**

The Subrecipient shall insure recognition of the role of the Grantee in providing services through this Agreement. All activities, facilities and items utilized pursuant to this Agreement shall be prominently labeled as to funding source. In addition, the Subrecipient will include a reference to the support provided herein in all publications made possible with funds made available under this Agreement.

**G. Amendments**

The Grantee or Subrecipient may amend this Agreement at any time provided that such amendments make specific reference to this Agreement, and are executed in writing, signed by a duly authorized representative of each organization, and approved by the Grantee's governing body. Such amendments shall not invalidate this Agreement, nor relieve or release the Grantee or Subrecipient from its obligations under this Agreement.

The Grantee may, in its discretion, amend this Agreement to conform with Federal, state or local governmental guidelines, policies and available funding amounts, or for other reasons. If such amendments result in a change in the funding, the scope of services, or schedule of the activities to be undertaken as part of this Agreement, such modifications will be incorporated only by written amendment signed by both Grantee and Subrecipient.

**H. Suspension or Termination**



In accordance with 2 CFR 200, the Grantee may suspend or terminate this Agreement if the Subrecipient materially fails to comply with any terms of this Agreement, which include (but are not limited to) the following:

1. Failure to comply with any of the rules, regulations or provisions referred to herein, or such statutes, regulations, executive orders, and HUD guidelines, policies or directives as may become applicable at any time;
2. Failure, for any reason, of the Subrecipient to fulfill in a timely and proper manner its obligations under this Agreement;
3. Ineffective or improper use of funds provided under this Agreement; or
4. Submission by the Subrecipient to the Grantee reports that are incorrect or incomplete in any material respect.

In accordance with 2 CFR 200, this Agreement may also be terminated for convenience by either the Grantee or the Subrecipient, in whole or in part, by setting forth the reasons for such termination, the effective date, and, in the case of partial termination, the portion to be terminated. However, if in the case of a partial termination, the Grantee determines that the remaining portion of the award will not accomplish the purpose for which the award was made, the Grantee may terminate the award in its entirety.

## **VIII. ADMINISTRATIVE REQUIREMENTS**

### **A. Financial Management**

#### **1. Accounting Standards**

The Subrecipient agrees to comply with 2 CFR 200 and agrees to adhere to the accounting principles and procedures required therein, utilize adequate internal controls, and maintain necessary source documentation for all costs incurred.

#### **2. Cost Principles**

The Subrecipient shall administer its program in conformance with 2 CFR Part 200 as applicable. These principles shall be applied for all costs incurred whether charged on a direct or indirect basis.

### **B. Documentation and Record Keeping**

#### **1. Records to be Maintained**

The Subrecipient shall maintain all records required by the Federal regulations specified in 24 CFR 570.506, that are pertinent to the activities to be funded under this Agreement. Such records shall include but not be limited to:

- a. Records providing a full description of each activity undertaken;
- b. Records demonstrating that each activity undertaken meets one of the National Objectives of the CDBG program;
- c. Records required to determine the eligibility of activities;
- d. Records required to document the acquisition, improvement, use or disposition of real property acquired or improved with CDBG assistance;
- e. Records documenting compliance with the fair housing and equal opportunity components of the CDBG program;
- f. Financial records as required by 24 CFR 570.502 and 2 CFR.200; and
- g. Other records necessary to document compliance with Subpart K of 24 CFR 570.

#### **2. Retention**

The Subrecipient shall retain all financial records, supporting documents, statistical records, and all other records pertinent to the Agreement for a period of four (4) years. The retention period begins on the date of the submission of the Grantee's annual performance and evaluation report to HUD in which the activities assisted under the Agreement are reported on for the final time. Notwithstanding

the above, if there is litigation, claims, audits, negotiations or other actions that involve any of the records cited and that have started before the expiration of the four-year period, then such records must be retained until completion of the actions and resolution of all issues, or the expiration of the four-year period, whichever occurs later.

### 3. Client Data

The Subrecipient shall maintain client data demonstrating client eligibility for services provided. Such data shall include, but not be limited to, client name, address, income level or other basis for determining eligibility, and description of service provided. Such information shall be made available to Grantee monitors or their designees for review upon request.

### 4. Disclosure

The Subrecipient understands that client information collected under this Agreement is private and the use or disclosure of such information, when not directly connected with the administration of the Grantee's or Subrecipient's responsibilities with respect to services provided under this Agreement, is prohibited unless written consent is obtained from such person receiving service and, in the case of a minor, that of a responsible parent/guardian.

### 5. Close-outs

The Subrecipient's obligation to the Grantee shall not end until all close-out requirements are completed. Activities during this close-out period shall include, but are not limited to: making final payments, disposing of program assets (including the return of all unused materials, equipment, unspent cash advances, program income balances, and accounts receivable to the Grantee), and determining the custodianship of records. Notwithstanding the foregoing, the terms of this Agreement shall remain in effect during any period that the Subrecipient has control over CDBG funds, including program income.

### 6. Audits & Inspections

All Subrecipient records with respect to any matters covered by this Agreement shall be made available to the Grantee, grantor agency, and the Comptroller General of the United States or any of their authorized representatives, at any time during normal business hours, as often as deemed necessary, to audit, examine, and make excerpts or transcripts of all relevant data. Any deficiencies noted in audit reports must be fully cleared by the Subrecipient within 30 days after receipt by the Subrecipient. Failure of the Subrecipient to comply with the above audit requirements will constitute a violation of this Agreement and may result in the withholding of future payments. The Subrecipient hereby agrees to have an annual agency audit conducted in accordance with current Grantee policy concerning subrecipient audits and 2 CFR 200.

## C. Reporting and Payment Procedures

### 1. Program Income

The Subrecipient shall report monthly all program income (as defined at 24 CFR 570.500(a)) generated by activities carried out with CDBG funds made available under this Agreement. The use of program income by the Subrecipient shall comply with the requirements set forth at 24 CFR 570.504. By way of further limitations, the Subrecipient may use such income during the contract period for activities permitted under this Agreement and shall reduce requests for additional funds by the amount of any such program income balances on hand. All unexpended program income shall be returned to the Grantee at the end of the contract period. Any interest earned on cash advances from the U.S. Treasury and from funds held in a revolving fund account is not program income and shall be remitted promptly to the Grantee.

### 2. Indirect Costs

No indirect costs can be charged to this project.

### 3. Payment Procedures

The Grantee will pay to the Subrecipient funds available under this Agreement based on information submitted by the Subrecipient and Grantee policy concerning payments. Payments will be made for eligible expenses actually incurred and paid for by the Subrecipient. Requests for payment by the Subrecipient must include copies of invoices for which reimbursement is being requested, and a copy(ies) of Subrecipient's check for payment of the invoices. Additionally, the Progress/Inspection Report should be submitted with activity progress noted for the period for which reimbursement is being requested. In addition, the Grantee reserves the right to liquidate funds available under this Agreement for costs incurred by the Grantee on behalf of the Subrecipient.

#### 4. Progress Reports

The Subrecipient shall submit regular Progress Reports to the Grantee in the form, content, and frequency as required by the Grantee.

### D. Procurement

#### 1. Compliance

The Subrecipient shall comply with the procedures delineated at 2 CFR 200.317-327 when procuring all materials, property, and/or services (including the purchase of equipment) under this Agreement. It is the Subrecipient's responsibility to be familiar with the procedures for each level of procurement and to request technical assistance. The Subrecipient shall maintain inventory records of all non-expendable personal property as defined by such policy as may be procured with funds provided herein. All program assets (unexpended program income, property, equipment, etc.) shall revert to the Grantee upon termination of this Agreement.

Subrecipient shall, to the greatest extent feasible, reach out through advertising, phone or email notice, or other means, and solicit bids from, Section 3 business concerns, women-owned businesses, and minority-owned businesses.

#### 2. OMB Standards

Unless specified otherwise within this Agreement, the Subrecipient shall procure all materials, property, or services in accordance with the requirements of 2 CFR 200.

#### 3. Travel

The Subrecipient shall obtain written approval from the Grantee for any travel outside the metropolitan area with funds provided under this Agreement.

### E. Use and Reversion of Assets

The use and disposition of real property and equipment under this Agreement shall be in compliance with the requirements of 2 CFR 200 and 24 CFR 570.502, 570.503, and 570.504, as applicable, which include but are not limited to the following:

1. The Subrecipient shall transfer to the Grantee any CDBG funds on hand and any accounts receivable attributable to the use of funds under this Agreement at the time of expiration, cancellation, or termination.
2. Real property under the Subrecipient's control that was acquired or improved, in whole or in part, with funds under this Agreement in excess of \$25,000 shall be used to meet one of the CDBG National Objectives pursuant to 24 CFR 570.208 until five (5) years after expiration of this Agreement [or such longer period of time as the Grantee deems appropriate]. If the Subrecipient fails to use CDBG-assisted real property in a manner that meets a CDBG National Objective for the prescribed period of time, the Subrecipient shall pay the Grantee an amount equal to the current fair market value of the property less any portion of the value attributable to expenditures of non-CDBG funds for acquisition of, or improvement to, the property. Such payment shall constitute program income to the Grantee. The Subrecipient may retain real property acquired or improved under this Agreement after the expiration of the five-year period [or such longer period of time as the Grantee deems appropriate].



3. In all cases in which equipment acquired, in whole or in part, with funds under this Agreement is sold, the proceeds shall be program income (prorated to reflect the extent to which funds received under this Agreement were used to acquire the equipment). Equipment not needed by the Subrecipient for activities under this Agreement shall be (a) transferred to the Grantee for the CDBG program or (b) retained after compensating the Grantee [an amount equal to the current fair market value of the equipment less the percentage of non-CDBG funds used to acquire the equipment].

#### **IX. RELOCATION, REAL PROPERTY ACQUISITION AND ONE-FOR-ONE HOUSING REPLACEMENT**

The Subrecipient agrees to comply with (a) the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (URA), and implementing regulations at 49 CFR 24 and 24 CFR 570.606(b); (b) the requirements of 24 CFR 570.606(c) governing the Residential Anti-displacement and Relocation Assistance Plan under section 104(d) of the HCD Act; and (c) the requirements in 24 CFR 570.606(d) governing optional relocation policies. The Subrecipient shall provide relocation assistance to displaced persons as defined by 24 CFR 570.606(b)(2) that are displaced as a direct result of acquisition, rehabilitation, demolition or conversion for a CDBG-assisted project. The Subrecipient also agrees to comply with applicable Grantee ordinances, resolutions and policies concerning the displacement of persons from their residences.

#### **X. PERSONNEL & PARTICIPANT CONDITIONS**

##### **A. Civil Rights**

###### **1. Compliance**

The Subrecipient agrees to comply with Title VI of the Civil Rights Act of 1964 as amended, Title VIII of the Civil Rights Act of 1968 as amended, Section 104(b) and Section 109 of Title I of the Housing and Community Development Act of 1974 as amended, Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, Executive Order 11063, and Executive Order 11246 as amended by Executive Orders 11375, 11478, 12107 and 12086.

###### **2. Nondiscrimination**

The Subrecipient agrees to comply with the non-discrimination in employment and contracting opportunities laws, regulations, and executive orders referenced in 24 CFR 570.607, as revised by Executive Order 13279. The applicable non-discrimination provisions in Section 109 of the HCDA are still applicable.

###### **3. Land Covenants**

This Agreement is subject to the requirements of Title VI of the Civil Rights Act of 1964 (P. L. 88-352) and 24 CFR 570.601 and 570.602. In regard to the sale, lease, or other transfer of land acquired, cleared or improved with assistance provided under this Agreement, the Subrecipient shall cause or require a covenant running with the land to be inserted in the deed or lease for such transfer, prohibiting discrimination as herein defined, in the sale, lease or rental, or in the use or occupancy of such land, or in any improvements erected or to be erected thereon, providing that the Grantee and the United States are beneficiaries of and entitled to enforce such covenants. The Subrecipient, in undertaking its obligation to carry out the program assisted hereunder, agrees to take such measures as are necessary to enforce such covenant, and will not itself so discriminate.

###### **4. Section 504**

The Subrecipient agrees to comply with all Federal regulations issued pursuant to compliance with Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), which prohibits discrimination against the individuals with disabilities or handicaps in any Federally assisted program. The Grantee shall provide the Subrecipient with any guidelines necessary for compliance with that portion of the regulations in force during the term of this Agreement.

##### **B. Affirmative Action**

###### **1. Approved Plan**

The Subrecipient agrees that it shall be committed to carry out pursuant to the Grantee's specifications an Affirmative Action Program in keeping with the principles as provided in President's Executive Order 11246 of September 24, 1966. The Subrecipient shall follow Grantee's Affirmative Action Policy.

**2. Women- and Minority-Owned Businesses (W/MBE)**

The Subrecipient will use its best efforts to afford small businesses, minority business enterprises, and women's business enterprises the maximum practicable opportunity to participate in the performance of this Agreement. As used in this Agreement, the terms "small business" means a business that meets the criteria set forth in section 3(a) of the Small Business Act, as amended (15 U.S.C. 632), and "minority and women's business enterprise" means a business at least fifty-one (51) percent owned and controlled by minority group members or women. For the purpose of this definition, "minority group members" are Afro- Americans, Spanish-speaking, Spanish surnamed or Spanish-heritage Americans, Asian- Americans, and American Indians. The Subrecipient may rely on written representations by businesses regarding their status as minority and female business enterprises in lieu of an independent investigation.

**3. Access to Records**

The Subrecipient shall furnish and cause each of its own subrecipients or subcontractors to furnish all information and reports required hereunder and will permit access to its books, records and accounts by the Grantee, HUD or its agent, or other authorized Federal officials for purposes of investigation to ascertain compliance with the rules, regulations and provisions stated herein.

**4. Notifications**

The Subrecipient will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or worker's representative of the Subrecipient's commitments hereunder, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

**5. Equal Employment Opportunity and Affirmative Action (EEO/AA) Statement**

The Subrecipient will, in all solicitations or advertisements for employees placed by or on behalf of the Subrecipient, state that it is an Equal Opportunity or Affirmative Action employer.

**6. Subcontract Provisions**

The Subrecipient will include the provisions of Paragraphs X.A, Civil Rights, and B, Affirmative Action, in every subcontract or purchase order, specifically or by reference, so that such provisions will be binding upon each of its own subrecipients or subcontractors.

**C. Employment Restrictions**

**1. Prohibited Activity**

The Subrecipient is prohibited from using funds provided herein or personnel employed in the administration of the program for: political activities; inherently religious activities; lobbying; political patronage; and nepotism activities.

**2. Labor Standards**

The Subrecipient agrees to comply with the requirements of the Secretary of Labor in accordance with the Davis-Bacon Act as amended, the provisions of Contract Work Hours and Safety Standards Act (40 U.S.C. 327 *et seq.*) and all other applicable Federal, state and local laws and regulations pertaining to labor standards insofar as those acts apply to the performance of this Agreement. The Subrecipient agrees to comply with the Copeland Anti-Kick Back Act (18 U.S.C. 874 *et seq.*) and its implementing regulations of the U.S. Department of Labor at 29 CFR 5. The Subrecipient shall maintain documentation that demonstrates compliance with hour and wage

requirements of this part. Such documentation shall be made available to the Grantee for review upon request.

The Subrecipient agrees that, except with respect to the rehabilitation or construction of residential property containing less than eight (8) units, all contractors engaged under contracts in excess of \$2,000.00 for construction, renovation or repair work financed in whole or in part with assistance provided under this Agreement, shall comply with Federal requirements adopted by the Grantee pertaining to such contracts and with the applicable requirements of the regulations of the Department of Labor, under 29 CFR 1, 3, 5 and 7 governing the payment of wages and ratio of apprentices and trainees to journey workers; provided that, if wage rates higher than those required under the regulations are imposed by state or local law, nothing hereunder is intended to relieve the Subrecipient of its obligation, if any, to require payment of the higher wage. The Subrecipient shall cause or require to be inserted in full, in all such contracts subject to such regulations, provisions meeting the requirements of this paragraph.

### 3. "Section 3" Clause

#### a. Compliance

Compliance with the provisions of Section 3 of the HUD Act of 1968, as amended, and as implemented by the regulations set forth in 24 CFR 75, and all applicable rules and orders issued hereunder prior to the execution of this Agreement, shall be a condition of the Federal financial assistance provided under this Agreement and binding upon the Grantee, the Subrecipient and any of the Subrecipient's subrecipients and subcontractors. Failure to fulfill these requirements shall subject the Grantee, the Subrecipient and any of the Subrecipient's subrecipients and subcontractors, their successors and assigns, to those sanctions specified by the Agreement through which Federal assistance is provided. The Subrecipient certifies and agrees that no contractual or other disability exists that would prevent compliance with these requirements.

The Subrecipient further agrees to comply with these "Section 3" requirements and to include the following language in all subcontracts executed under this Agreement:

"The work to be performed under this Agreement is a project assisted under a program providing direct Federal financial assistance from HUD and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended (12 U.S.C. 1701). Section 3 requires that to the greatest extent feasible opportunities for training and employment be given to low- and very low-income residents of the project area, and that contracts for work in connection with the project be awarded to business concerns that provide economic opportunities for low- and very low-income persons residing in the metropolitan area in which the project is located."

The Subrecipient further agrees to ensure that opportunities for training and employment arising in connection with a housing rehabilitation (including reduction and abatement of lead-based paint hazards), housing construction, or other public construction project are given to low- and very low-income persons residing within the metropolitan area in which the CDBG-funded project is located; where feasible, priority should be given to low- and very low-income persons within the service area of the project or the neighborhood in which the project is located, and to low- and very low-income participants in other HUD programs; and award contracts for work undertaken in connection with a housing rehabilitation (including reduction and abatement of lead-based paint hazards), housing construction, or other public construction project to business concerns that provide economic opportunities for low- and very low-income persons residing within the metropolitan area in which the CDBG-funded project is located; where feasible, priority should be given to business concerns that provide economic opportunities to low- and very low-income residents within the service area or the



neighborhood in which the project is located, and to low- and very low-income participants in other HUD programs.

The Subrecipient certifies and agrees that no contractual or other legal incapacity exists that would prevent compliance with these requirements.

**b. Notifications**

The Subrecipient agrees to send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or understanding, if any, a notice advising said labor organization or worker's representative of its commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.

**c. Subcontracts**

The Subrecipient will include this Section 3 clause in every subcontract and will take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the grantor agency. The Subrecipient will not subcontract with any entity where it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR Part 75 and will not let any subcontract unless the entity has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.

**D. Conduct**

**1. Assignability**

The Subrecipient shall not assign or transfer any interest in this Agreement without the prior written consent of the Grantee thereto; provided, however, that claims for money due or to become due to the Subrecipient from the Grantee under this Agreement may be assigned to a bank, trust company, or other financial institution without such approval. Notice of any such assignment or transfer shall be furnished promptly to the Grantee.

**2. Subcontracts**

**a. Approvals**

The Subrecipient shall not enter into any subcontracts with any agency or individual in the performance of this Agreement without the written consent of the Grantee prior to the execution of such agreement.

**b. Monitoring**

The Subrecipient will monitor all subcontracted services on a regular basis to assure contract compliance. Results of monitoring efforts shall be summarized in written reports and supported with documented evidence of follow-up actions taken to correct areas of noncompliance.

**c. Content**

The Subrecipient shall cause all of the provisions of this Agreement in its entirety to be included in and made a part of any subcontract executed in the performance of this Agreement.

**d. Selection Process**

The Subrecipient shall undertake to ensure that all subcontracts let in the performance of this Agreement shall be awarded on a fair and open competition basis in accordance with applicable procurement requirements. Executed copies of all subcontracts shall be forwarded to the Grantee along with documentation concerning the selection process.

**3. Hatch Act**

The Subrecipient agrees that no funds provided, nor personnel employed under this Agreement, shall be in any way or to any extent engaged in the conduct of political activities in violation of Chapter 15 of Title V of the U.S.C.

#### 4. Conflict of Interest

The Subrecipient agrees to abide by the provisions of 2 CFR 200.317-327 and 24 CFR 570.611, which include (but are not limited to) the following:

- a. The Subrecipient shall maintain a written code or standards of conduct that shall govern the performance of its officers, employees or agents engaged in the award and administration of contracts supported by Federal funds.
- b. No employee, officer or agent of the Subrecipient shall participate in the selection, or in the award, or administration of, a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved.
- c. No covered persons who exercise or have exercised any functions or responsibilities with respect to CDBG-assisted activities, or who are in a position to participate in a decision-making process or gain inside information with regard to such activities, may obtain a financial interest in any contract, or have a financial interest in any contract, subcontract, or agreement with respect to the CDBG-assisted activity, or with respect to the proceeds from the CDBG-assisted activity, either for themselves or those with whom they have business or immediate family ties, during their tenure or for a period of one (1) year thereafter. For purposes of this paragraph, a "covered person" includes any person who is an employee, agent, consultant, officer, or elected or appointed official of the Grantee, the Subrecipient, or any designated public agency.

#### 5. Lobbying

The Subrecipient hereby certifies that:

- a. No Federal appropriated funds have been paid or will be paid, by or on behalf of it, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement;
- b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, it will complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions; and
- c. It will require that the language of paragraph (d) of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all Subrecipients shall certify and disclose accordingly:
- d. Lobbying Certification

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S.C. Any person who fails to file the required certification shall be subject



to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

#### 6. Copyright

If this Agreement results in any copyrightable material or inventions, the Grantee and/or grantor agency reserves the right to royalty-free, non-exclusive and irrevocable license to reproduce, publish or otherwise use and to authorize others to use, the work or materials for governmental purposes.

#### 7. Religious Activities

The Subrecipient agrees that funds provided under this Agreement will not be utilized for inherently religious activities prohibited by 24 CFR 570.200(j), such as worship, religious instruction, or proselytization.

### **XI. ENVIRONMENTAL CONDITIONS**

#### A. Air and Water

The Subrecipient agrees to comply with the following requirements insofar as they apply to the performance of this Agreement:

- Clean Air Act, 42 U.S.C., 7401, *et seq.*
- Federal Water Pollution Control Act, as amended, 33 U.S.C., 1251, *et seq.*, as amended, 1318 relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder;
- Environmental Protection Agency (EPA) regulations pursuant to 40 CFR 50, as amended.

#### B. Flood Disaster Protection

In accordance with the requirements of the Flood Disaster Protection Act of 1973 (42 U.S.C. 4001), the Subrecipient shall assure that for activities located in an area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards, flood insurance under the National Flood Insurance Program is obtained and maintained as a condition of financial assistance for acquisition or construction purposes (including rehabilitation).

#### C. Lead-Based Paint

The Subrecipient agrees that any construction or rehabilitation of residential structures with assistance provided under this Agreement shall be subject to HUD Lead-Based Paint Regulations at 24 CFR 570.608, and 24 CFR 35, Subpart B. Such regulations pertain to all CDBG-assisted housing and require that all owners, prospective owners, and tenants of properties constructed prior to 1978 be properly notified that such properties may include lead-based paint. Such notification shall point out the hazards of lead-based paint and explain the symptoms, treatment and precautions that should be taken when dealing with lead-based paint poisoning and the advisability and availability of blood lead level screening for children under seven. The notice should also point out that if lead-based paint is found on the property, abatement measures may be undertaken. The regulations further require that, depending on the amount of Federal funds applied to a property, paint testing, risk assessment, treatment and/or abatement may be conducted.

#### D. Historic Preservation

The Subrecipient agrees to comply with the Historic Preservation requirements set forth in the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470) and the procedures set forth in 36 CFR 800, Advisory Council on Historic Preservation Procedures for Protection of Historic Properties, insofar as they apply to the performance of this Agreement.

In general, this requires concurrence from the State Historic Preservation Officer for all rehabilitation and demolition of historic properties that are fifty years old or older or that are included on a Federal, state, or local historic property list.

**XII. SEVERABILITY**

If any provision of this Agreement is held invalid, the remainder of the Agreement shall not be affected thereby and all other parts of this Agreement shall nevertheless be in full force and effect.

**XIII. SECTION HEADINGS AND SUBHEADINGS**

The section headings and subheadings contained in this Agreement are included for convenience only and shall not limit or otherwise affect the terms of this Agreement.

**XIV. WAIVER**

The Grantee's failure to act with respect to a breach by the Subrecipient does not waive its right to act with respect to subsequent or similar breaches. The failure of the Grantee to exercise or enforce any right or provision shall not constitute a waiver of such right or provision.

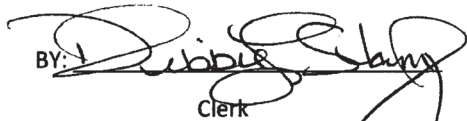
**XV. ENTIRE AGREEMENT**

This Agreement constitutes the entire agreement between the Grantee and the Subrecipient for the use of funds received under this Agreement and it supersedes all prior or contemporaneous communications and proposals, whether electronic, oral, or written between the Grantee and the Subrecipient with respect to this Agreement.

IN WITNESS WHEREOF, County and Municipality have duly executed this Agreement, which shall become effective as of the latest date written below.

ATTEST:

TOWN OF ERIE, COLORADO


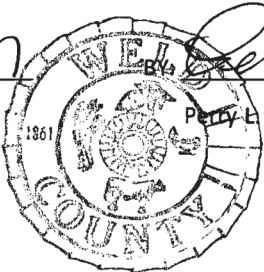
BY:   
Clerk

BY:   
Mayor

ATTEST:   
Weld County Clerk to the Board

BOARD OF COUNTY COMMISSIONERS  
WELD COUNTY, COLORADO

BY:   
Deputy Clerk to the Board

  
Perry L. Beck, Chair  
FEB 12 2025  


AMEND TO EXTEND SUBRECIPIENT AGREEMENT FOR CDBG FUNDS  
BY AND BETWEEN  
THE WELD COUNTY CDBG PROGRAM AND THE TOWN OF ERIE, CO  
DATED FEBUARY 12, 2025

THIS AMENDMENT to the Community Development Block Grant Subrecipient Agreement, dated February 12, 2025 is entered into and made effective as of this \_\_\_\_ of \_\_\_\_, 2025 (the "Effective Date") by and between the Weld County Community development Block Grant Program (herein called the "Grantee") and the Town of Erie (herein called the "Subrecipient") provides for extension of the agreement until September 30, 2026.

WHEREAS the Grantee and the Subrecipient entered into a Community Development Block Grant Subrecipient Agreement on February 12, 2025 (the "Agreement") and;

WHEREAS both parties agree to extend the Subrecipient Agreement for an additional time period; and,

NOW THEREFORE the parties agree to modify the following parts of the agreement:

Section II TIME OF PERFORMANCE as set forth below.

1. Section II of the Agreement with the Subrecipient dated February 12, 2025 which states:

Services of the Subrecipient shall start on the day of the Notice to Proceed and end on the 31<sup>st</sup> day of December, 2025 is hereby amended to read: Services of the Subrecipient shall start on the day of the Notice to Procced and end on the 30<sup>th</sup> day of September, 2026.

2. Except as otherwise provided herein all terms and conditions of the agreement shall remain in full force and effect *nunc pro tunc* December 31, 2025.

APPROVED AND SIGNED THIS \_\_\_\_ of \_\_\_\_, 2025

ATTEST:

TOWN OF ERIE, COLORADO

BY: \_\_\_\_\_  
Debbie Stamp, Town Clerk

BY: \_\_\_\_\_  
Andrew J. Moore , Mayor

ATTEST: \_\_\_\_\_  
Weld County Clerk to the Board

BOARD OF COUNTY COMMISSIONERS  
WELD COUNTY, COLORADO

BY: \_\_\_\_\_  
Deputy Clerk to the Board

\_\_\_\_\_  
Perry L. Buck, Chair



# TOWN OF ERIE

645 Holbrook Street  
Erie, CO 80516

## Town Council

**Board Meeting Date: 12/16/2025**

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**File #:** 25-665, **Version:** 1

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**SUBJECT:**

PUBLIC HEARING: A Resolution of the Town Council of the Town of Erie Approving a Settlement Agreement with Stratus Redtail Ranch, LLC, to Settle Pending Litigation in Weld County District Court

**DEPARTMENT:** Town Manager's Office

**PRESENTER(S):** Malcolm Fleming, Town Manager  
Kendra Carberry, Town Attorney

**TIME ESTIMATE:** 75 minutes

*For time estimate: please put 0 for Consent items.*

**FISCAL SUMMARY:**

NA

**POLICY ISSUES:**

Town Council is the decision maker on this settlement agreement with Stratus Redtail Ranch, LLC. The settlement agreement would approve a Preliminary Plat for the property and allow the applicant to move forward to Final Plat.

**STAFF RECOMMENDATION:**

NA

**SUMMARY/KEY POINTS**

The Redtail Ranch settlement agreement would approve a Preliminary Plat and allow the applicant to move forward to submitting a Final Plat and Site Plan applications for Town review, as required. In this settlement agreement, the applicant proposes changes to their previous Preliminary Plat application that include:

- Plugging and abandoning the SRC Pratt (KPK) oil & gas wells on the interior of the property. Town standards allow a 150-foot setback from plugged and abandoned wells, instead of the 500-foot setback required from active oil and gas wells. This smaller setback also allows the applicant to add residential lots to their Preliminary Plat, increasing the total lot count from 524 as proposed in June 2024, to 569 lots in the current proposal.
- Providing a new internal east-west street connection.
- Contributing \$100,000 to the Town for future offsite traffic improvements and/or traffic

calming projects including roundabout(s).

- Providing additional groundwater monitoring wells

**BACKGROUND OF SUBJECT MATTER:**

- Stratus Redtail Ranch, LLC submitted a Preliminary Plat application in May 2021.
- Planning Commission held the first public hearing for the application on January 17, 2024. After presentations, public comment, and discussion, the Commission voted 7-0 to recommend approval to Town Council.
- Town Council held a public hearing on the application on April 23, 2024. The hearing included presentations, public comment, and discussion. In a split vote of 3-3, Town Council declined to approve a motion of continuance or a motion of approval, which resulted in denial of the application.
- Stratus Redtail Ranch, LLC submitted a Preliminary Plat application in May 2021.
- Planning Commission held the first public hearing for the application on January 17, 2024. After presentations, public comment, and discussion, the Commission voted 7-0 to recommend approval to Town Council.
- Town Council held a public hearing on the application on April 23, 2024. The hearing included presentations, public comment, and discussion. In a split vote of 3-3, Town Council declined to approve a motion of continuance or a motion of approval, which resulted in denial of the application.
- Town Council held a second public hearing on the application on June 25, 2024, to consider new information, and voted again to deny the application based on their findings.
- On July 9, 2024, Town Council adopted a resolution with a summary of their Findings of Fact in their previous evaluations of the application.
- Following Town Council's decision, the applicant initiated legal action against the Town regarding the denial of their application.
- The applicant's legal counsel proposed a settlement agreement that is before Town Council now.

**TOWN COUNCIL PRIORITY(S) ADDRESSED:**

- ☐ Traffic & Road Infrastructure
- ☐ Growth & Development
- ☐ Water Cost & Availability
- ☐ Affordable & Diverse Housing
- ☐ Increased Commercial Development
- ☐ Responsible Oil & Gas Development
- ☐ Preservation of Open Space
- ☐ Recreation & Community Amenities
- ☐ Multi-Modal Focus

**ATTACHMENT(S):**

1. Resolution
2. Staff Summary Memo
3. Applicant Presentation
4. Revised Exhibits A-E
5. Settlement Agreement
6. Amended Complaint
7. Environmental Conditions Report - May 2025
8. Pinyon Environmental, Inc. April 2022 Property Development Environmental Review Update
9. CDPHE No Action Determination Approval December 2020
10. Link to No Action Petition November 2020
11. Link to Geosyntec Consultants August 2020 Phase I Environmental Site Assessment

**Town of Erie  
Resolution No. 25-216**

**A Resolution of the Town Council of the Town of Erie Approving a  
Settlement Agreement with Stratus Redtail Ranch, LLC to Settle  
Pending Litigation in Weld County District Court**

**Whereas**, on August 6, 2024, Stratus Redtail Ranch LLC ("Stratus") filed Case No. 2024CV30673 in Weld County District Court (the "Lawsuit"), asserting two claims against the Town based on the Town Council's denial of an application for approval of a preliminary plat filed by Stratus for the Redtail Ranch development;

Whereas, the Town and Stratus have continuously engaged in settlement negotiations since the Lawsuit was filed, Stratus has updated its proposed preliminary plat and submitted additional supporting information, and Stratus and the Town now desire to settle the Lawsuit as set forth in the attached Settlement Agreement;

Whereas, in the attached settlement agreement (the "Settlement Agreement"), neither the Town nor Stratus admits fault, and neither the Town or Stratus pays the other any damages;

Whereas, the Settlement Agreement approves a modified preliminary plat for the Redtail Ranch development;

Whereas, on December 9, 2025, the Town Council held a public hearing to consider the Settlement Agreement and Stratus's request for approval of the modified preliminary plat attached to the Settlement Agreement and continued that hearing on December 16, 2025; and

Whereas, the Town Council finds it in the best interest of the public health, safety and welfare to settle the Lawsuit by approving the Settlement Agreement.

**Now therefore be it Resolved by the Town Council of the Town of Erie, Colorado, that:**

**Section 1.** The Settlement Agreement is hereby approved in substantially the form attached hereto, subject to final approval of the Town Attorney. Upon such approval, the Mayor is authorized to execute the Settlement Agreement on behalf of the Town.

**Adopted this 16<sup>th</sup> day of December, 2025.**

**Attest:**

\_\_\_\_\_  
Andrew J. Moore, Mayor

\_\_\_\_\_  
Debbie Stamp, Town Clerk

**TOWN OF ERIE  
TOWN COUNCIL AGENDA ITEM  
December 9, 2025**

**STAFF SUMMARY MEMO**

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**SUBJECT:**           **PUBLIC HEARING: Redtail Ranch Settlement Agreement**  
A Resolution of the Town Council of the Town of Erie Approving a Settlement Agreement with Stratus Redtail Ranch, LLC, which Approves a Preliminary Plat

**CODE REVIEW:**   Erie Municipal Code, Title 10

**PURPOSE:**       Consideration of a settlement agreement that would approve a Preliminary Plat with 569 residential lots.

**DEPARTMENT:**   Town Manager's Office

**PRESENTER:**      Malcolm Fleming, Town Manager  
Breena Meng, Town Attorney

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**OVERVIEW:**

The Redtail Ranch settlement agreement would approve a Preliminary Plat and allow the applicant, Stratus Redtail Ranch, LLC, to move forward with submission of a Final Plat for Town review. In this settlement agreement, the applicant proposes changes to their previous Preliminary Plat application that include:

- Plugging and abandoning the SRC Pratt (KPK) oil & gas wells on the interior of the property. Town standards allow a 150-foot setback from plugged and abandoned wells, instead of the 500-foot setback required from active oil and gas wells. This smaller setback also allows the applicant to add residential lots to their Preliminary Plat, increasing the total lot count from 524 as proposed in June 2024, to 569 lots in the current proposal.
- Providing a new internal east-west street connection.
- Contributing \$100,000 to the Town for future offsite traffic improvements and/or traffic calming projects, including roundabout(s).
- Providing additional groundwater monitoring wells.

If Town Council approves this settlement agreement, the applicant will have Preliminary Plat approval and may submit Final Plat and Site Plan applications to the Town for review, as required. These applications will follow the Town's standard development review process.



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## SUMMARY AND BACKGROUND OF SUBJECT MATTER:

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**Applicant:** Stratus Redtail Ranch LLC  
8480 E. Orchard Road Suite 1100  
Greenwood Village, CO 80111

**Zoning:** Low Density Residential (LR)

**Project Size:** 290 Acres

**Existing Use:** Undeveloped

**Future Land Use:** Residential

### Location Maps:

Below is a map which depicts the site (shaded) and surrounding area:



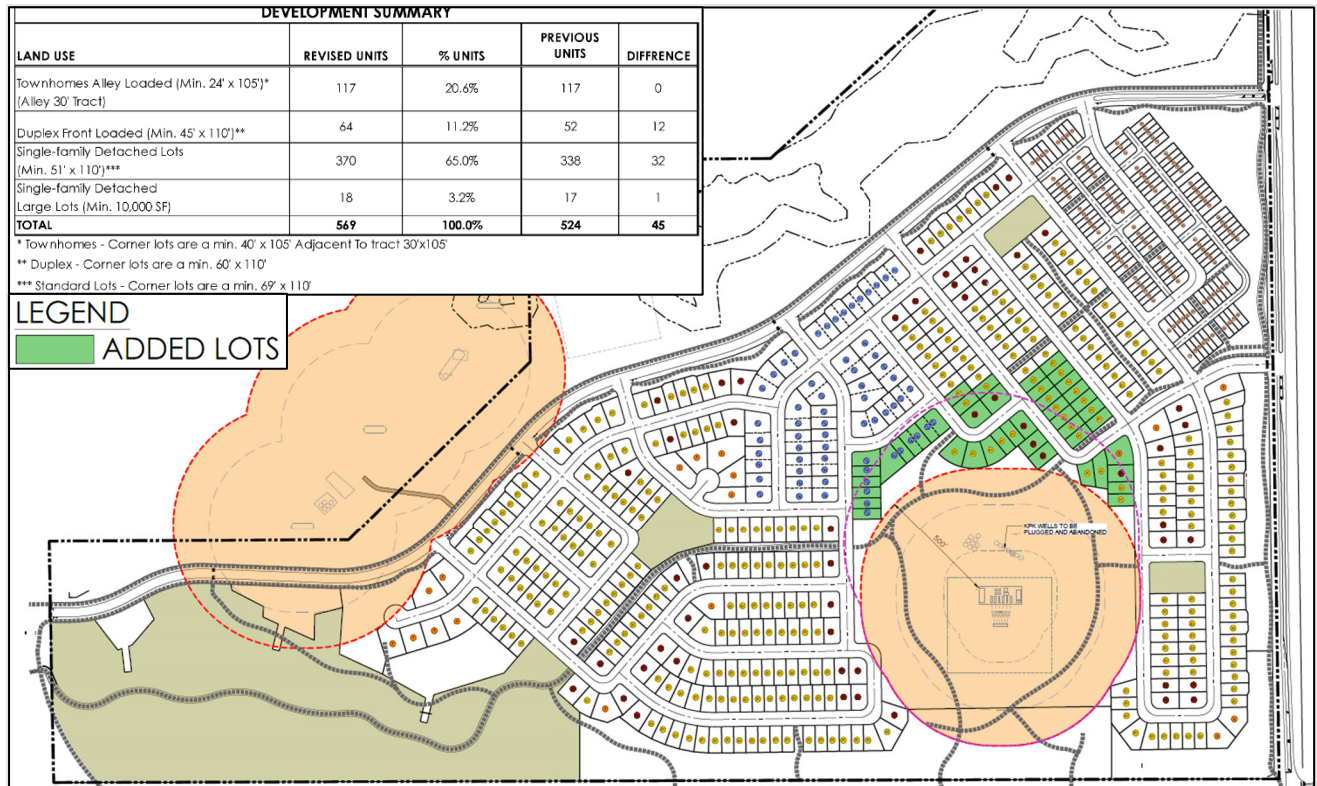
**Site History and Specific Development Information:**

The Town of Erie annexed the subject site in 2007 and zoned it Low Density Residential. The associated annexation agreement limited future development to building no more than 587 total dwelling units. The property is not currently platted.

The list below summarizes key stages from the beginning of the Preliminary Plat application to the settlement agreement that is the subject of tonight's meeting:

- Stratus Redtail Ranch, LLC, submitted a Preliminary Plat application in May 2021.
- The Planning Commission held a public hearing for the application on January 17, 2024. After presentations, public comment, and discussion, the Commission voted 7-0 to recommend approval to Town Council.
- Town Council held a public hearing on the application on April 23, 2024. The hearing included presentations, public comment, and discussion. In split votes of 3-3, Town Council declined to approve a motion of continuance or a motion of approval, which resulted in denial of the application.
- Town Council held a second public hearing on the application on June 25, 2024, to consider new information, and voted again to deny the application based on their findings.
- On July 9, 2024, Town Council adopted a resolution with a summary of their Findings of Fact in their previous evaluations of the application.
- Following Town Council's decision, the applicant initiated legal action against the Town regarding the denial of their application.
- The applicant's legal counsel proposed a settlement agreement that is before Town Council now.

The applicant's settlement agreement proposes a Preliminary Plat with 569 lots for development as well as tracts for open space, drainage, landscaping, and utilities. The Plat calls for single family detached, townhome, and duplex residential units. Vista Ridge Parkway and two access points on Weld County Road 5 provide the major access points to the development.



### Preliminary Plat Development Data:

<b>Preliminary Plat Size</b>	290 acres total
<b>Number of Lots - Proposed</b>	569 lots
<b>Minimum Lot Size Permitted by Zoning</b>	2,500-4,999 SF for SFD 'Medium' 5,000 SF for SFD 'Large' 2,500 SF per DU for Duplex
<b>Gross Density</b>	2 DU/Acre

### Future Required Applications:

The next steps for development of the subject site will include Final Plat(s) and Development Agreement(s). Site Plan(s) are also required for attached single-family residential, such as townhomes. Final Plats and Development Agreements are reviewed by staff with final acceptance by the Town Council. Site Plan(s) are reviewed and approved by staff and/or Planning Commission.





# REDTAIL

## — RANCH —

December 9, 2025

Town Council

Preliminary Plat



- **OWNER:** REDTAIL RANCH LLC
  - RICHARD DEAN
- **CONSULTANT:** LAND PERSPECTIVES LLC
  - ROGER HOLLARD
- **PLANNING/LANDSCAPE ARCHITECT:** TERRACINA DESIGN
  - LAYLA ROSALES
- **ENGINEERING:** CWC CONSULTING GROUP
  - BRETT WOOLARD
- **TRAFFIC ENGINEER:** LSC TRANSPORTATION CONSULTANTS INC
  - CHRISTOPHER MCGRANAHAN
- **ENVIRONMENTAL & NATURAL RESOURCES:** GEOSYNTEC CONSULTANTS
  - LUKE FITZGERALD
- **LAND USE COUNSEL:** FOSTER GRAHAM MILSTEIN & CALISHER
  - DAVID FOSTER
  - LARRY KATZ
- **ENVIRONMENTAL COUNSEL:**
  - JONATHAN STEELER

## DEVELOPMENT TEAM

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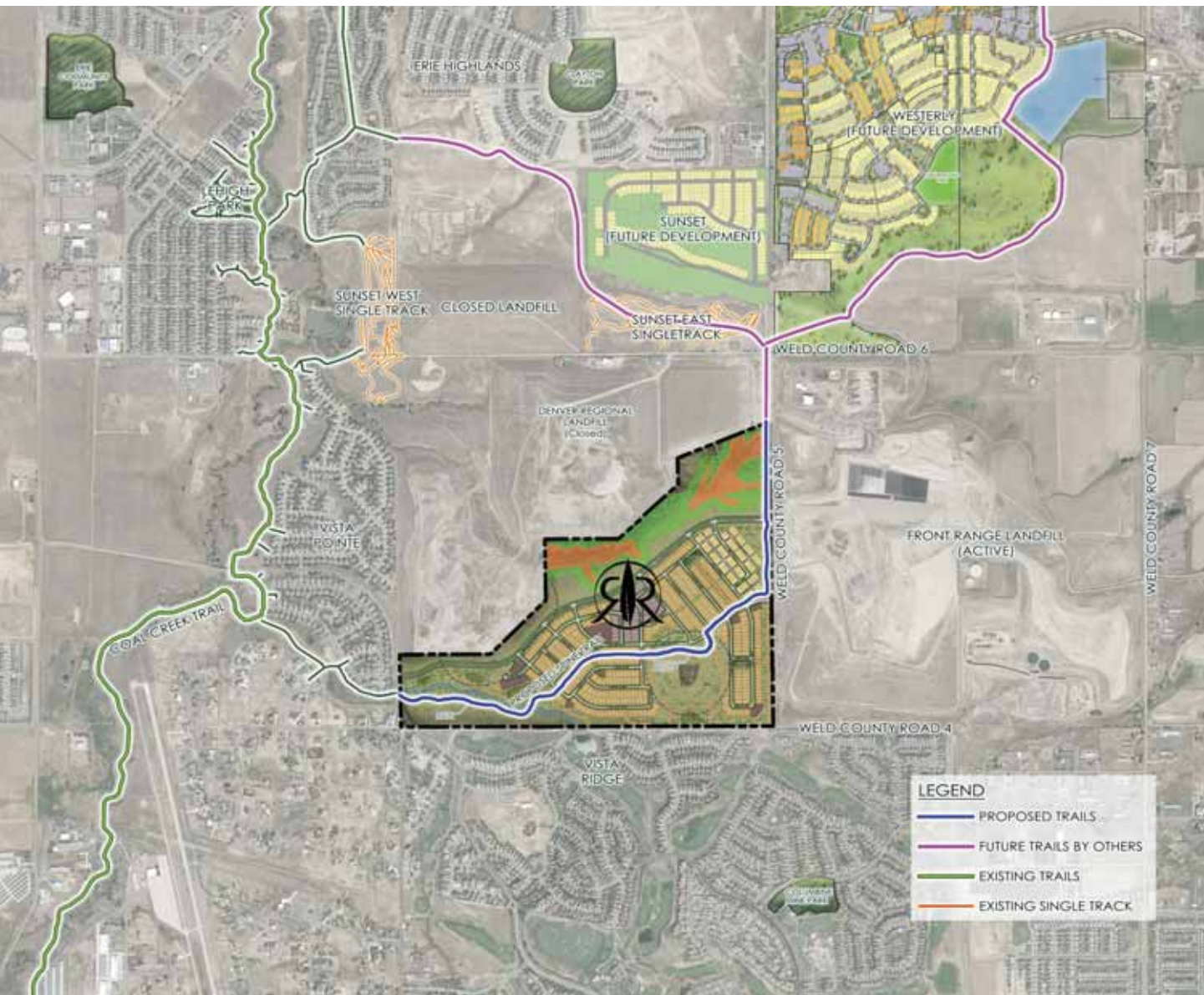




- **2007** the Town of Erie BOT annexed and zoned Redtail. Redtail was zoned low-density residential. Redtail was zoned and annexed to allow 587 residential units.
- **2015** the Town of Erie BOT revised its Comprehensive Plan and chose to redesignate the Redtail Property as Rural Residential with a gross density of 2.0 du/ac.
- **2019** the Town of Erie BOT amended its Comprehensive Plan and again chose to designate the Redtail Property as Rural Residential.
- **April 2021** Redtail submits a complete land use application for a Preliminary Plat; 350' oil/gas setback required at the time of Preliminary Plat submittal
- **January 2024** Erie Town Attorney acknowledges at Planning Commission hearing that Redtail must only meet 350' setback from oil/gas operations
- **January 2024** Town of Erie Planning Commission recommends unanimously Town Council to approve Preliminary Plat
- **April 2024** Redtail voluntarily agrees to increase setback from oil/gas operations to 500'
- **July 2024** Town of Erie Council denies Preliminary Plat

## HISTORY

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## CONTEXT MAP







## SITE PLAN



DEVELOPMENT SUMMARY		
LAND USE	REVISED UNITS	% UNITS
Townhomes Alley Loaded	117	20.4%
Duplex Front Loaded	60	10.5%
Single-Family Detached	378	66.0%
Single-Family Detached Large Lots	18	3.1%
<b>TOTAL</b>	<b>573</b>	<b>100.0%</b>

### Site Data

Proposed Density: 1.98 Dwelling Units / Acre

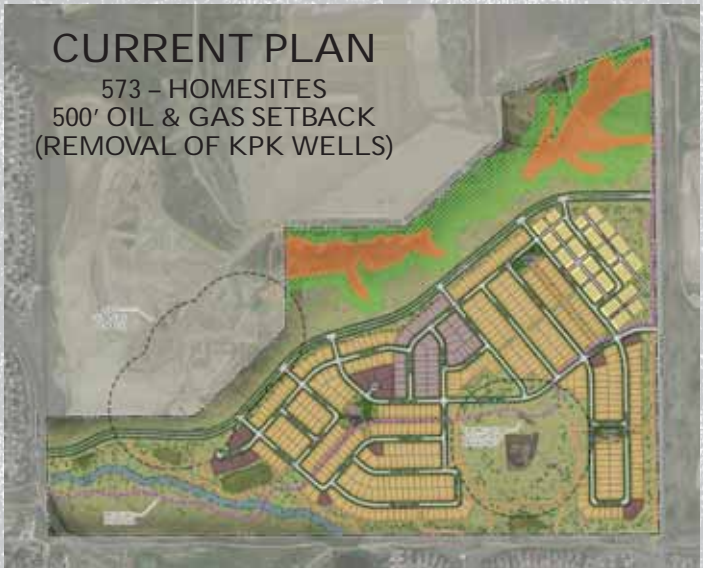
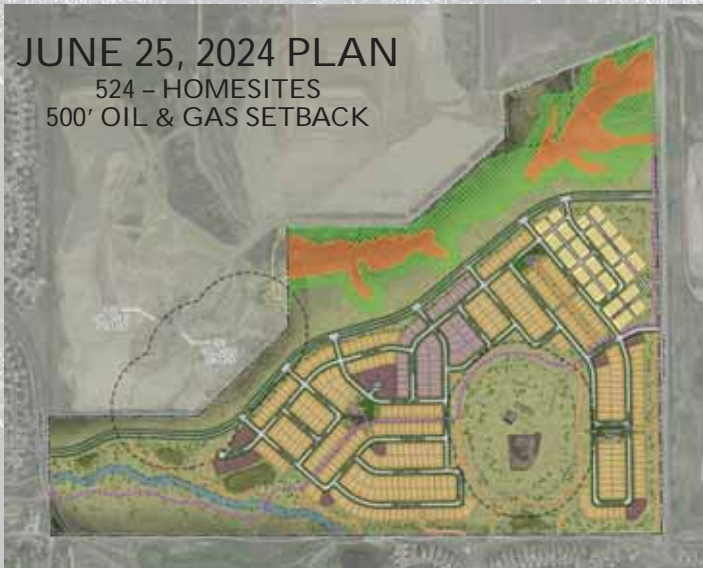
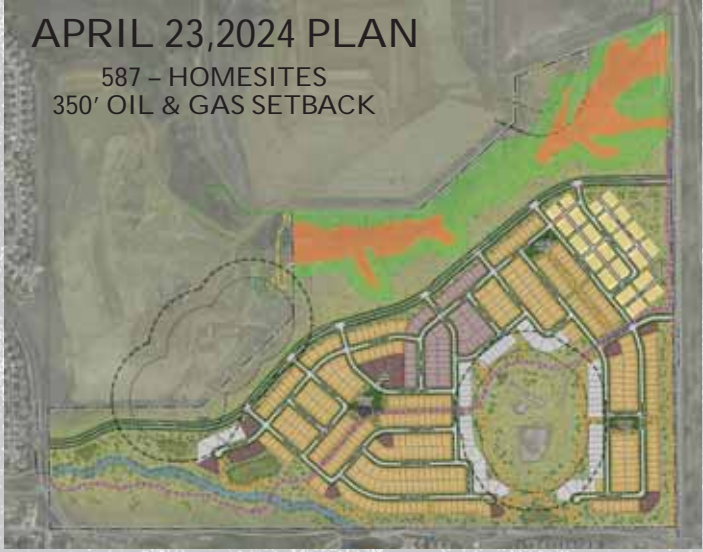
Open Space: 29.4 Acres

Parks: 2.92 Acres

Trails: 5.7 Miles



SITE PLAN COMPARISON





## LANDSCAPE BUFFER





Park and Open Space Dedication Requirements		
Park Type	Required Acres	Provided Acres
Pocket Parks	0.83	2.92
Open Space	28.15	29.43
<b>Sub-Total</b>	<b>28.98</b>	<b>32.35</b>
Neighborhood Parks	4.97	FEE IN LIEU

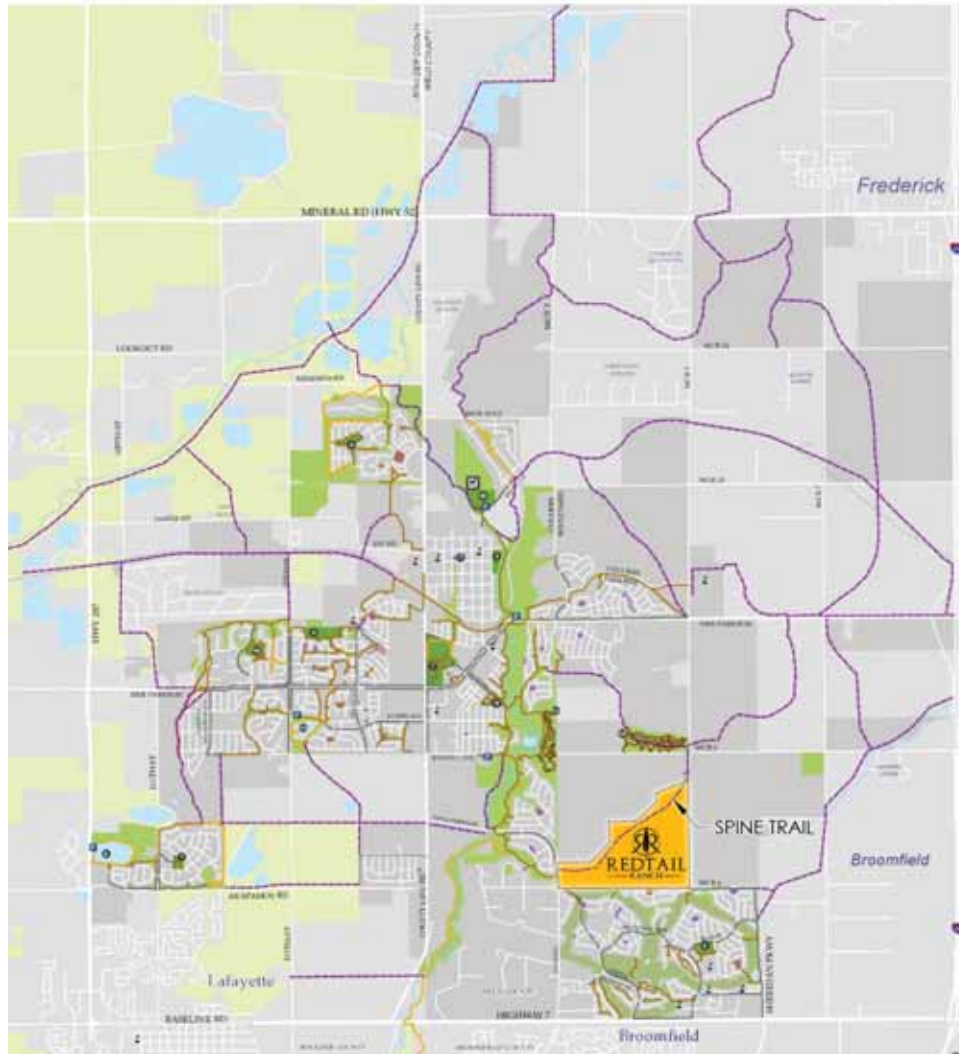
Pocket Park



# OPEN SPACE PLAN



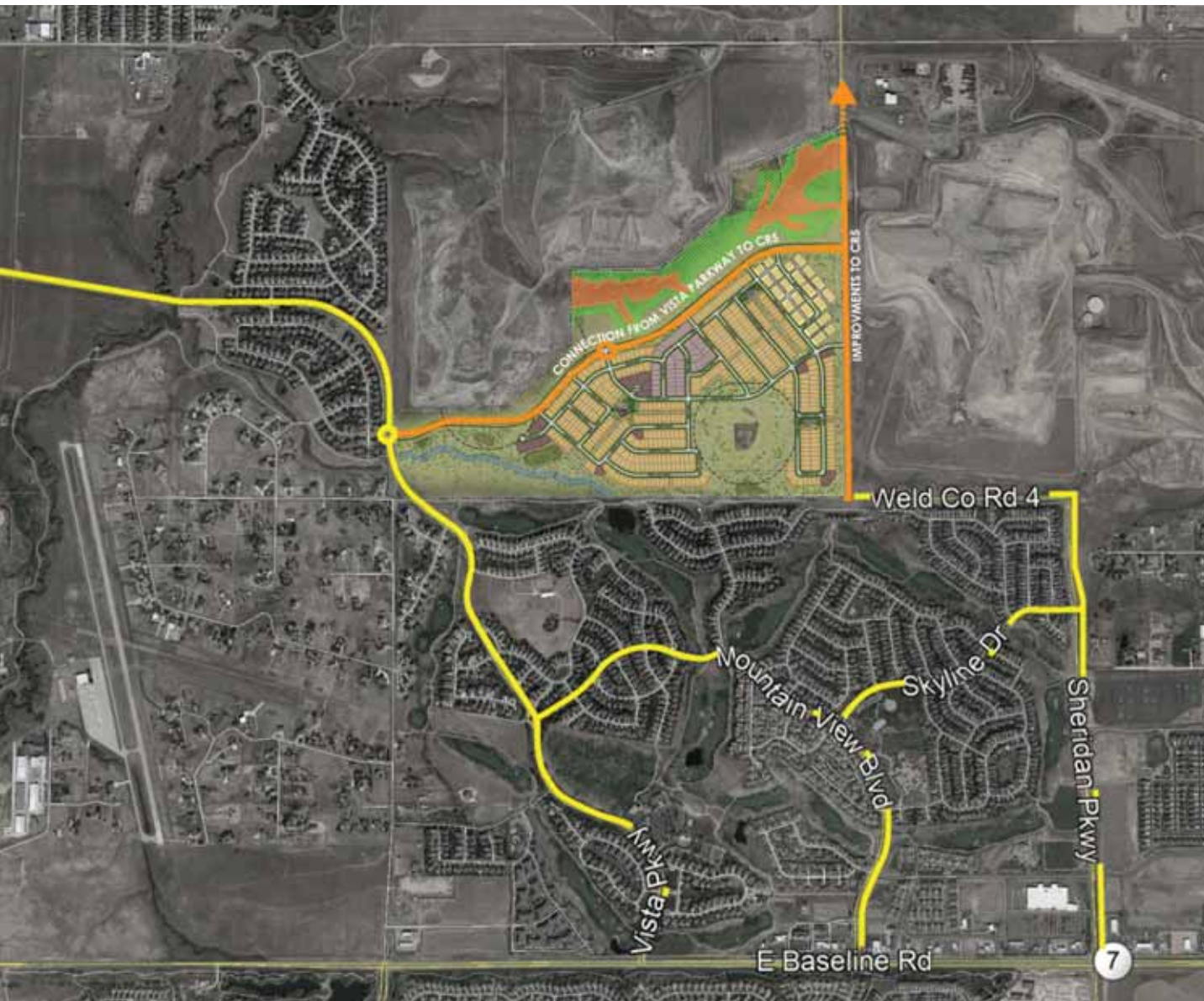
TOWN OF ERIE  
RECREATION TRAIL MAP WTH PROPOSED SPINE TRAILS



ERIE RECREATION  
TRAIL MAP







## TRANSPORTATION CONTEXT

- EAST-WEST CONNECTION FROM WCR-5 TO VISTA PARKWAY





## MAJOR INTERSECTIONS





## KPK WELL REMOVAL

BEFORE



AFTER







## OIL & GAS AREA ENLARGEMENT

VIEW 1



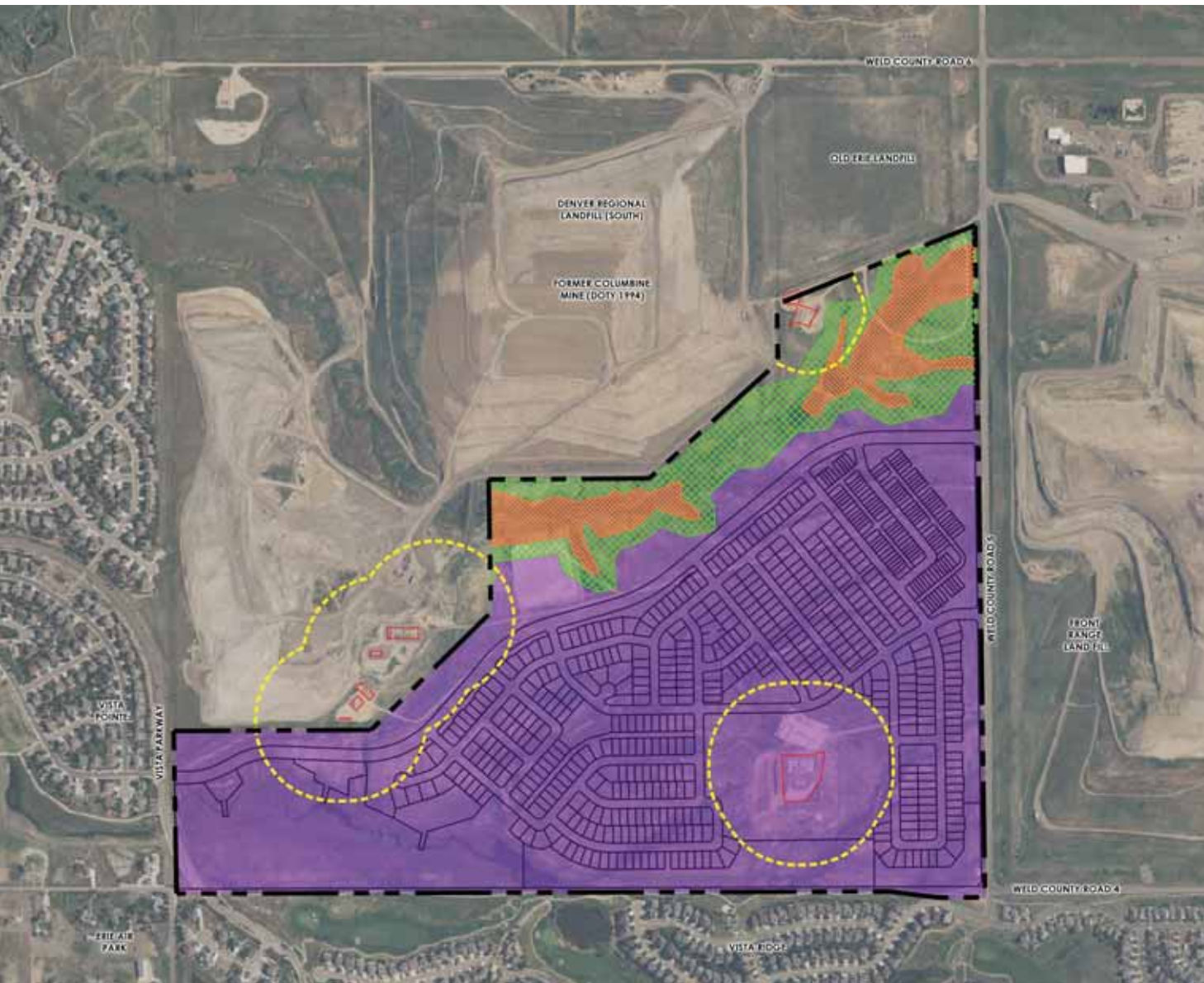
VIEW 2



VIEW 3







## ENVIRONMENTAL CLEANUP

- Solid waste was placed and buried in the draw on the north end of the property in the 1960s.
- Drums and contaminated soil removed in 2018.
- Landfill capped with 30" of clean soil as part of landfill closure in 2024.(Orange)
- A CDPHE- designated buffer (Green) extends 100' beyond the edges of the caps.
- Extensive investigations, including multiple site probes and bores, soils samples and evaluation of historic aerial photos and topography conclude there are no significant deposits of solid waste located in the Residential Area (Purple).
- This property has been investigated more thoroughly than most, if not all, undeveloped properties in the area therefore the potential for environmental impacts due to unknown conditions is likely lower than on other undeveloped properties that have not been subject to the same level of scrutiny.

### LEGEND

	PROPERTY BOUNDARY
	500' OIL & GAS SETBACK
	ENVIRONMENTAL AREA (17.30 ACRES)
	ENVIRONMENTAL AREA SETBACK (28.47 ACRES)
	RESIDENTIAL AREA







## ADDITIONAL SAFEGUARDS

1. Environmental disclosures to be provided to future homeowners following the process in the UDC for Oil and Gas disclosures.
2. Materials Management Plan.
3. Sub-excavation prior to construction to a nominal depth of 3 to 10 feet and backfilled with engineered fill
4. Ongoing monitoring of groundwater and soil vapor.
5. Installation of Radon systems in every home.
6. Install 4 additional groundwater monitoring wells.
7. No trespassing signs placed every 300 feet along fence.

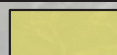
### LEGEND

	EXISTING FENCE
	OPEN RAIL FENCE
	ENVIRONMENTAL SIGN LOCATION
	GROUND WATER MONITORING WELLS
	ENVIRONMENTAL AREA
	ENVIRONMENTAL AREA SETBACK





## LEGEND

 LR ZONING



## ZONING AND LAND USE

### Annexation (2007)

- Zoned Property LR (Low Density Residential)
- Allowed Density: 2 DU/AC
- Allowed Units: 587
- Proposed Units: 573

### Zoning: LR (Low Density Residential)

- To provide areas for residential uses of an urban character.

## STAFF REVIEW AND ANALYSIS

Staff finds the application is consistent with the Preliminary Plat approval criteria in Municipal Code, Section 10.7.7.D.2, as outlined below.

- a. The subdivision is generally consistent with the Town's Comprehensive Master Plan.

**Staff:** The subdivision is generally consistent with the Comprehensive Plan. The proposed lots meet the intent of the Land Use Map.

- b. The subdivision is generally consistent with and implements the intent of the specific zoning district in which it is located.

**Staff:** While the property is zoned Low-density residential (LR) which has an intent of providing areas for residential uses of an urban character, at a gross density no greater than five dwelling units per acre, and no less than three, the Annexation Agreement caps the gross density of the development at two dwelling units per acre. The proposed lots meet all dimensional standards included in LR and will allow for orderly development.

- c. The general layout of lots, streets, driveways, utilities, drainage facilities, and other services within the proposed subdivision is designed to meet the Town's standards related to health and safety and in a way that minimizes the amount of land disturbance, maximizes the amount of open space in the development, preserves existing trees/vegetation and riparian areas, protects critical wildlife habitat, and otherwise accomplishes the purposes and intent of this UDC.

**Staff:** The Preliminary Plat meets the applicable Town standards as well as environmental corrective measures required by CDPHE and EPA. The major open space at the southwest corner of the plat maintains a riparian area. The grading plan will preserve existing vegetation and views from adjacent subdivisions to the maximum extent practicable.

- d. The subdivision complies with all applicable use, development, and design standards set forth in Chapters 3, 5 and 6 of this UDC that have not otherwise been modified or waived pursuant to this Chapter or this UDC. Applicants shall refer to the Development Standards in Chapter 5 of this UDC and shall consider them in the layout of the subdivision in order to avoid creating lots or patterns of lots in the subdivision that will make compliance with such development and design standards difficult or infeasible.

**Staff:** The design of the Preliminary Plat considers applicable use, development, and design standards of Chapters 3, 5, and 6 of the Code. The layout and design of the subdivision is appropriate and consistent with the general provisions of the UDC. Streets and trail connections are appropriate and will benefit future residents and provide continuity to external developments and trails. Utility easements are provided on the Preliminary Plat. Appropriate provisions are in place for storm water, water, and wastewater lines.

## APPROVAL CRITERIA



e. The subdivision complies with all applicable regulations, standards, requirements, or plans of the Federal or State governments and other relevant jurisdictions, including but not limited to wetlands, water quality, erosion control, and wastewater regulations.

Staff: Significant adverse impacts are not anticipated. The site is not impacted by a designated floodplain. Provisions are in place to protect water quality, erosion control, and wastewater. Appropriate studies were reviewed during the review of the Preliminary Plat and no concerns are outstanding. Construction documents as part of the Final Plat process will require Best Management Practices (BMP's) for water quality, stormwater management and erosion control in accordance with the Town of Erie - Standards and Specifications for Design and Construction of Public Improvements.

f. The subdivision will not result in significant adverse impacts on the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated.

Staff: All new developments have impacts on the natural environment. This subdivision is not anticipated to create any significant or unmitigated adverse impacts on the environment. Appropriate studies were reviewed during the review of the Preliminary Plat and no concerns are outstanding.

g. The subdivision shall be integrated and connected, where appropriate, with adjacent development through street connections, sidewalks, trails, and similar features.

Staff: Pedestrian and vehicular access is adequately provided throughout the subdivision. Sidewalk and trail connections are provided at key locations and extend to existing facilities to the west, north, and south of the site.

h. The subdivision will not result in significant adverse impacts on adjacent properties, or such impacts will be substantially mitigated.

Staff: Significant adverse impacts are not anticipated. As part of the Preliminary Plat review, drainage and erosion, traffic impact, environmental, and cultural studies were reviewed. No concerns are outstanding.

i. Adequate and sufficient public safety, transportation, utility facilities and services, recreation facilities, parks, and schools are available to serve the subject property, while maintaining sufficient levels of service to existing development.

Staff: Adequate services and facilities currently exist or will be enhanced by the Preliminary Plat that will provide service to the development, adjacent neighborhoods, and the community at large. The School District anticipates that the impact on schools will be offset by an estimated total fee-in-lieu sum of \$488,067.

j. As applicable, the proposed phasing plan for development of the subdivision is rational in terms of available infrastructure capacity.

Staff: A phasing plan is not contemplated for the Preliminary Plat. A Development Agreement between the applicant and the Town will be reviewed by The Town Council as part of Final Plat approvals which may include a phasing plan.

APPROVAL CRITERIA  
(CONTINUED)

Conditions of Approval:

A. *Oil and gas.*

- a. So long as the Preliminary Plat is effective, prior to approval of the Final Plat for the Property, Redtail Ranch shall enter into an agreement with KP Kauffman to plug and abandon the following existing wells on the Property: SRC Pratt 33-29D; 29PD; 34-29D; 43-29D; 29XD; and 29TD.
- b. Following completion of the plugging and abandoning operations and prior to approval of the Final Plat for the Property, Redtail Ranch shall ensure that the area adjacent to the plugged and abandoned wells has been fully Remediated in compliance with applicable law pursuant to Colorado Energy and Carbon Management Commission Rules, and shall provide documentation to the Town detailing such remediation.

B. *Roundabout.* The Final Plat shall include one roundabout in the location shown on Exhibit C, attached hereto and incorporated herein by this reference, unless the Town requires that the location be modified during the Final Plat process.

C. *Spine Trail.* On the Final Plat, the section of Spine Trail north of Redtail Parkway shall be located within the right-of-way, which will require a modified road section, to keep improvements within the existing right of way and outside the fenceline depicted on Exhibit D, attached hereto and incorporated herein by this reference.

D. *Signage.* Prior to issuance of the first certificate of occupancy for the Property, Redtail Ranch or any successor shall place signs every 300 feet on the Open Rail Fence shown on Exhibit D. The signs shall be 2 feet wide by 1 foot 4 inches high and shall state the following: "No Trespassing, Environmentally Sensitive Area, Keep Out".

E. *Notice.* The Final Plat shall contain the following note: "Tract A is the subject of Compliance Order on Consent No. 18-05-15-01, entered into between Stratus Redtail Ranch, LLC and the Colorado Department of Public Health and Environment ("CDPHE"), a copy of which is available from CDPHE. In accordance with the Consent Order, CDPHE has approved a Corrective Measures Design, which includes, among other things, a Post-Closure Monitoring and Maintenance Plan for Tract A."

F. *Groundwater monitoring.* Prior to issuance of the first building permit for the Property, Redtail Ranch shall install 4 groundwater monitoring wells in compliance with Exhibit E, attached hereto and incorporated herein by this reference.

G. *Development Agreement.* Prior to approval of the Final Plat for the Property, Redtail Ranch shall execute a Development Agreement in the form provided by the Town that is similar to the Development Agreements that the Town typically uses for developments.

H. *Technical corrections.* Redtail Ranch shall make minor technical corrections to the Preliminary Plat and related documents as directed by Town staff.

SETTLEMENT  
AGREEMENT SUMMARY





## EXHIBIT A

# *TITLE DESCRIPTION*

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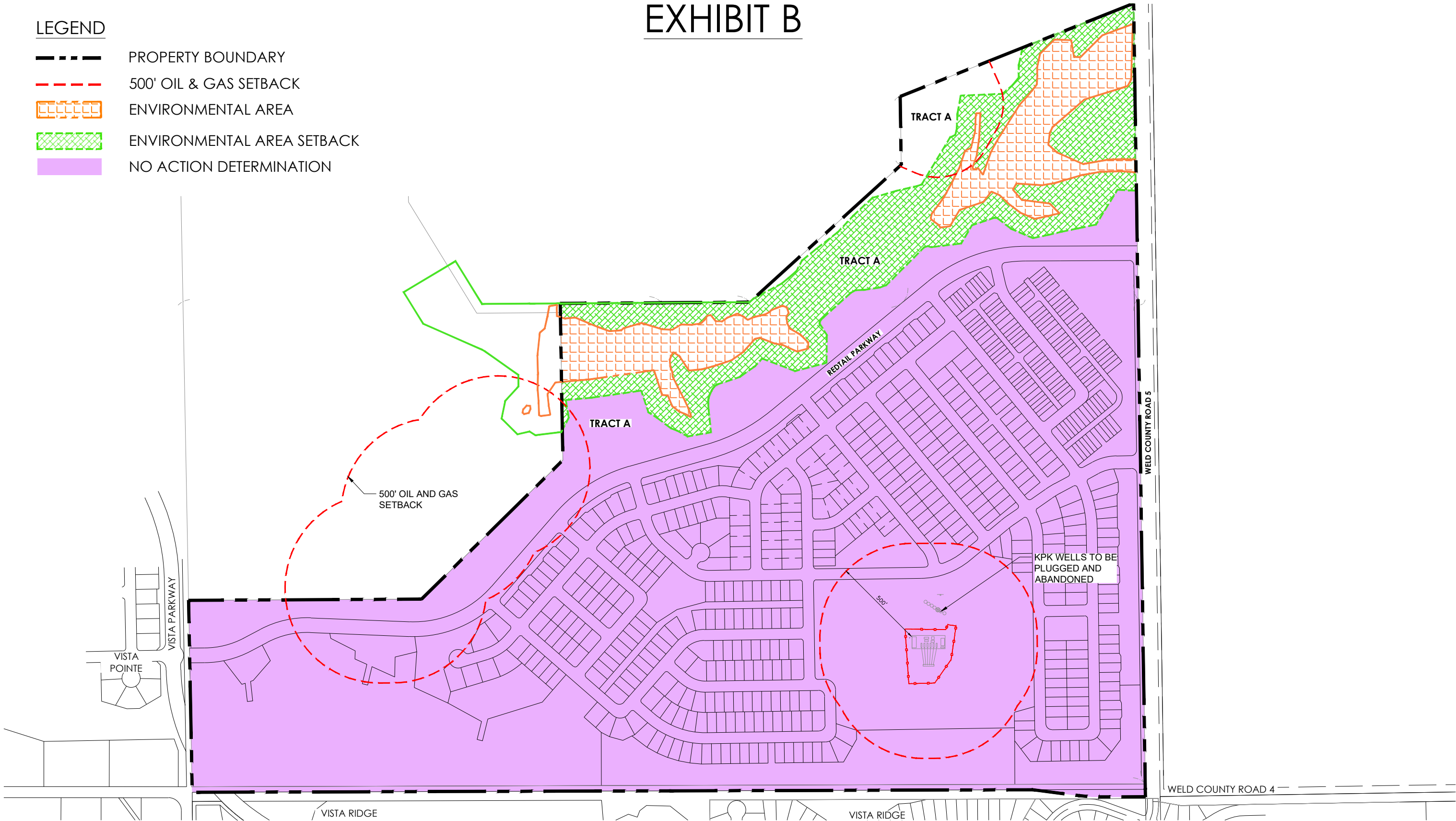
A PARCEL OF LAND LOCATED IN SECTION 29, TOWNSHIP 1 NORTH, RANGE 68 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:  
COMMENCING AT THE E 1/4 CORNER OF SAID SECTION 29' THENCE S 89° 53' 54" W, ALONG THE NORTH LINE OF THE S 1/2 OF SAID SECTION 29, A DISTANCE OF 40.00 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF COUNTY ROAD (80' WIDE ) AS DESCRIBED AT RECEPTION NO. 1973755 IN THE OFFICE OF THE CLERK AND RECORDER OF WELD COUNTY, COLORADO, SAID POINT ALSO BEING THE POINT OF BEGINNING;  
THENCE S 00° 33' 04" E, ALONG SAID WESTERLY RIGHT OF WAY LINE, A DISTANCE OFF 2628.75 FEET TO A POINT ON THE NORTHERLY RIGHT OF WAY LINE OF A 60' WIDE RIGHT OF WAY AS DESCRIBED IN BOOK 86 AT PAGE 273 AS RECORDED IN THE OFFICE OF THE CLERK AND RECORDER OF WELD COUNTY, COLORADO; THENCE N 89° 52' 25" W, ALONG SAID NORTHERLY RIGHT OF WAY LINE, A DISTANCE OF 2582.89 FEET TO A POINT; THENCE CONTINUING ALONG SAID NORTHERLY RIGHT OF WAY LINE, N 89° 51' 56" W, A DISTANCE OF 2592.85 FEET TO A POINT ON THE EASTERLY LINE OF A 60' WIDE RIGHT OF WAY LINE AS DESCRIBED IN BOOK 86 AT PAGE 273; THENCE N 00° 46' 44" W, ALONG SAID EASTERLY RIGHT OF WAY LINE, A DISTANCE OF 1011.94 FEET TO A POINT ON THE SOUTH LINE OF A PARCEL OF LAND AS DESCRIBED AT RECEPTION NO. 2360787, RECORDED IN THE OFFICE OF THE CLERK AND RECORDER OF WELD COUNTY, COLORADO; THENCE TRAVELING ALONG THE SOUTH AND EASTERLY PORTION OF SAID PARCEL OF LAND THE FOLLOWING 3 COURSES: 1) S 89° 59' 07" E, A DISTANCE OF 1264.97 FEET TO A POINT; 2) N 45° 48' 01" E, A DISTANCE OF 1075.96 FEET TO A POINT; 3) N 00° 40' 10" W, A DISTANCE OF 850.48 FEET TO A POINT ON THE NORTH LINE OF THE S 1/2 OF SAID SECTION 29; THENCE N 89° 55' 44" E, ALONG SAID NORTH LINE, A DISTANCE OF 549.46 FEET TO A POINT ON THE W 1/2 OF THE NE 1/4 OF SAID SECTION 29; THENCE CONTINUING ALONG THE NORTH LINE OF THE S 1/2 OF SAID SECTION 29, N 89° 55' 15" E, A DISTANCE OF 479.08 FEET TO A POINT; THENCE N 48° 09' 00" E, A DISTANCE OF 1110.81 FEET TO A POINT ON THE WEST LINE OF THE E 1/2 OF THE NE 1/4 OF SAID SECTION 29; THENCE N 00° 36' 26" W, ALONG SAID WEST LINE OF THE E 1/2 OF THE NE 1/4, A DISTANCE OF 370.76 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY (60' WIDE) AS DESCRIBED IN BOOK 868 AT PAGE 89 AND AT RECEPTION NO. 1667926 AS RECORDED IN WELD COUNTY, COLORADO; THENCE N 68° 34' 00" E, ALONG SAID SOUTHERLY RIGHT OF WAY LINE, A DISTANCE OF 1364.75 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF SAID COUNTY ROAD 5; THENCE S 00° 32' 52" E, ALONG SAID RIGHT OF WAY LINE, A DISTANCE OF 1607.21 FEET TO THE POINT OF BEGINNING.



EXHIBIT B

LEGEND

- PROPERTY BOUNDARY
- 500' OIL & GAS SETBACK
- ENVIRONMENTAL AREA
- ENVIRONMENTAL AREA SETBACK
- NO ACTION DETERMINATION



ENVIRONMENTAL EXHIBIT

REDTAIL RANCH

ERIE, CO

November 13, 2025



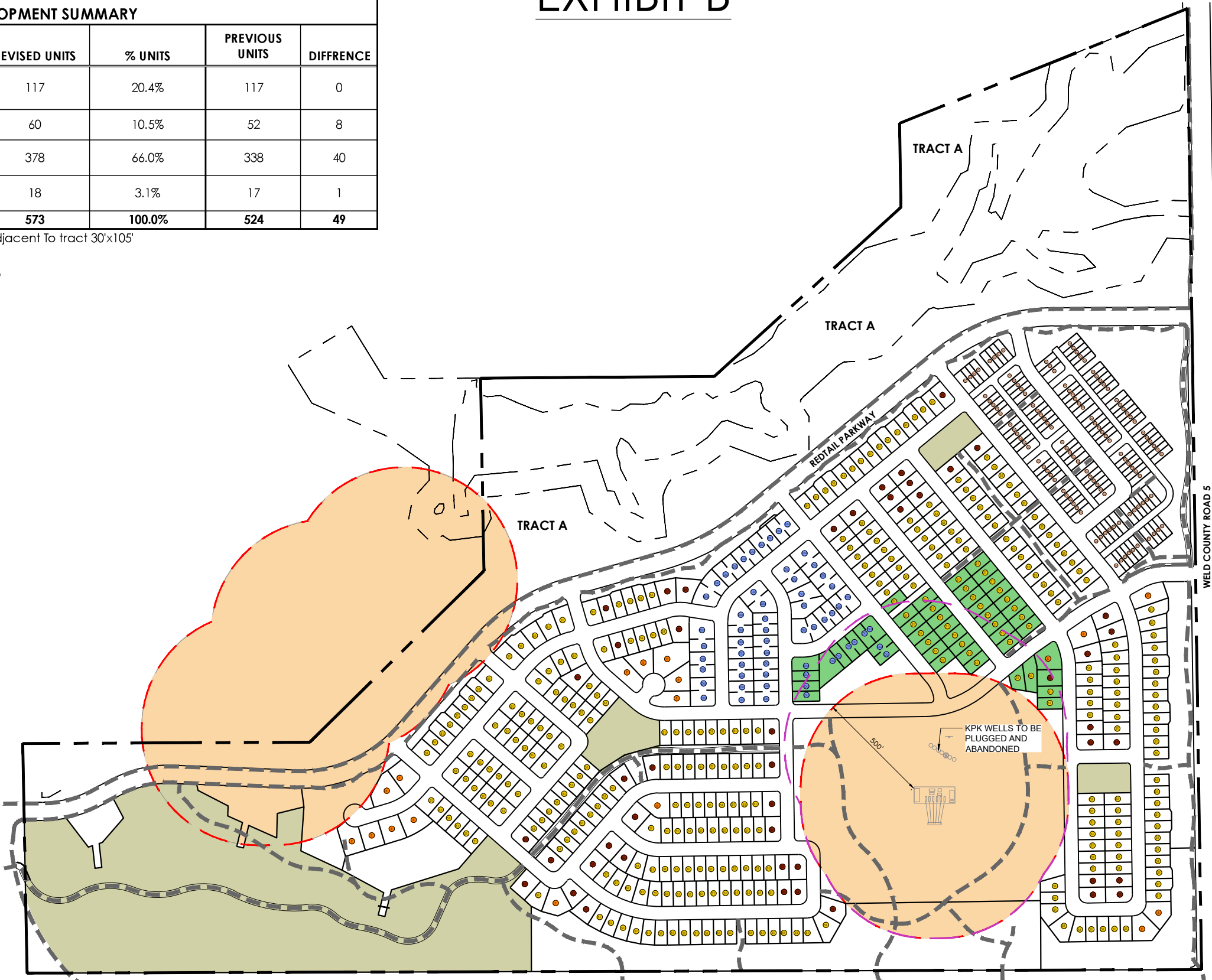
# EXHIBIT B

DEVELOPMENT SUMMARY				
LAND USE	REVISED UNITS	% UNITS	PREVIOUS UNITS	DIFFERENCE
Townhomes Alley Loaded (Min. 24' x 105')* (Alley 30' Tract)	117	20.4%	117	0
Duplex Front Loaded (Min. 45' x 110')**	60	10.5%	52	8
Single-family Detached Lots (Min. 51' x 110')***	378	66.0%	338	40
Single-family Detached Large Lots (Min. 10,000 SF)	18	3.1%	17	1
<b>TOTAL</b>	<b>573</b>	<b>100.0%</b>	<b>524</b>	<b>49</b>

\*Townhomes - Corner lots are a min. 40' x 105' Adjacent To tract 30'x105'

\*\* Duplex - Corner lots are a min. 60' x 110'

\*\*\* Standard Lots - Corner lots are a min. 69' x 110'



LEGEND  
ADDED LOTS



EXHIBIT C



ROUNDAABOUT EXHIBIT

November 13, 2025

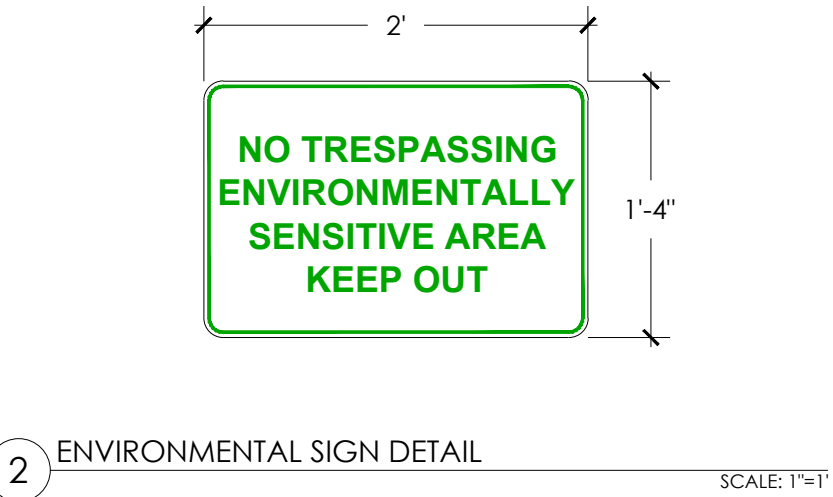
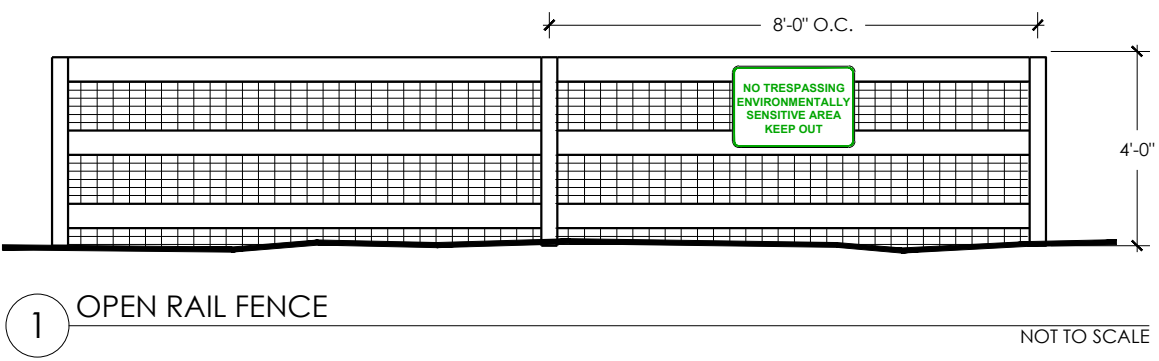
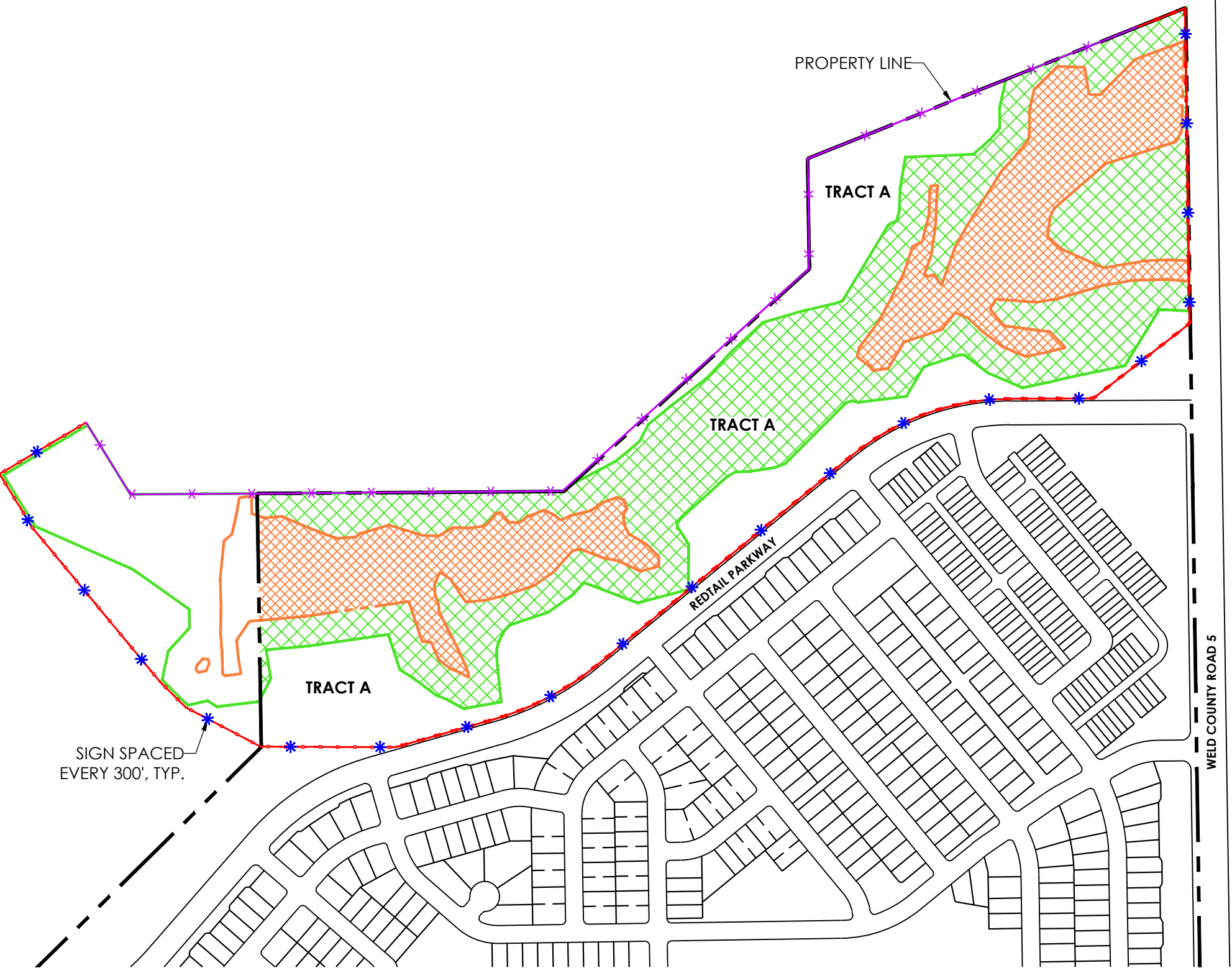
REDTAIL RANCH

ERIE, CO





# EXHIBIT D



- LEGEND**
- EXISTING FENCE
  - OPEN RAIL FENCE
  - ENVIRONMENTAL SIGN LOCATION
  - ENVIRONMENTAL AREA
  - ENVIRONMENTAL AREA SETBACK

ENVIRONMENTAL AREA FENCE EXHIBIT

REDTAIL RANCH  
ERIE, CO

November 13, 2025



## **Memorandum**

**Date:** November 13, 2025  
**To:** Richard Dean, Stratus Companies  
**From:** David Folkes, P.E., Senior Principal  
Luke Fitzgerald, P.E., Project Engineer  
**Subject:** Proposed Additional Monitoring Wells at Redtail Ranch  
**Project #** DE1075

---

This memorandum presents a plan for the installation and monitoring of four additional groundwater monitoring wells at the Redtail Ranch property in Erie, Colorado. This plan was developed in consultation with David Frank, Environmental Services Director, Town of Erie.

Groundwater within the Environmental Area at the Historic Landfill Facility located north of the proposed residential development at Redtail Ranch, including a 100 foot setback (100' Environmental Setback), is currently monitored pursuant to a CDPHE-approved plan associated with closure of the Historic Landfill within the Environmental Area (the Post Closure Monitoring & Maintenance Plan or PCMMP), as shown in the attached Figure 1.

The results of environmental investigations and groundwater monitoring to date indicate that groundwater impacts associated with the Historic Landfill are confined by the natural topography and geologic conditions to the area within the 100' Environmental Setback and not migrating toward the proposed residential area (Geosyntec 2025). Concentrations of volatile organic compounds of concern in groundwater have generally been decreasing over time since remediation and closure of the Historic Landfill and are below Colorado Ground Water Standards in most wells.

The four proposed additional groundwater monitoring wells are intended to serve as sentinel wells, in the unlikely event that compounds of concern migrate south of the Environmental Area Setback in the future. The wells will be located south of the Environmental Area Setback and north of Redtail Parkway at the approximate locations shown in Figure 1. Two wells would be installed south of the east environmental area, and two wells will be installed south of the west environmental area, as depicted on Figure 1.

The four additional groundwater monitoring wells will be installed and monitored in a manner consistent with the requirements of the CDPHE-approved PCMMP in effect at the time of each monitoring event, including monitoring procedures, time period, frequency, analytes, and reporting. Any detections of compounds of concern above Colorado Ground Water Standards would be reported to CDPHE and the town of Erie and addressed as necessary and approved by CDPHE.

**FIGURE 1**  
Groundwater Monitoring Well Locations  
Historic Landfill Facility  
Erie, Colorado



Legend

Proposed Monitoring Well

Existing Monitoring Well

100' Environmental Setback

Environmental Area

Property Boundary Line

0200400

Feet

N

Notes:

1. Locations for Monitoring Wells Installed During Previous Investigaions were obtained from Figure 2-1 titles "Red Tail Ranch Figure 2-1 Well Locations & Test Borings/Pits" developed by Stewart Environmental Consultants (SEC), LLC, dated January 2018. Locations are approximate.

2. Aerial photograph Source: Nearmap, HERE; captured 25 September 2025.

105 Path: (Titusville-01\DATA) \Titusville-01\Data\OGIS\DE0344\_Stratus\_Redtail\MXD\202511\Prop\_locs\_202511.mxd 13 November 2025. Last Edited by: MHensley



## **Settlement Agreement**

This Settlement Agreement (the "Agreement") is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2025, by and between the Town of Erie, a Colorado home rule municipal corporation with an address of 645 Holbrook Street, P.O. Box 750, Erie, CO 80516 (the "Town"), and Stratus Redtail Ranch, LLC, a Colorado limited liability company with a principal office street and mailing address of 8480 East Orchard Road, Suite 3000, Greenwood Village, CO 80111 ("Redtail Ranch") (each a "Party" and collectively the "Parties").

Whereas, Redtail Ranch owns the real property legally described as set forth in **Exhibit A**, attached hereto and incorporated herein by this reference (the "Property");

Whereas, on August 6, 2024, Redtail Ranch filed Case No. 2024CV30673 (the "Lawsuit"), asserting two claims for relief against the Town, based on the Erie Town Council's denial of an application for approval of a preliminary plat filed by Redtail Ranch;

Whereas, the Parties have continuously engaged in settlement negotiations since the Lawsuit was filed; and

Whereas, the Parties desire to compromise and settle the Lawsuit as set forth herein; and

Whereas, on December 9, 2025, the Town Council held a public hearing to consider this Agreement and Redtail Ranch's request for approval of the modified preliminary plat attached hereto as **Exhibit B** and incorporated herein by this reference (the "Preliminary Plat"), which hearing was continued until December 16, 2025.

Now, Therefore, for the consideration hereinafter set forth, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. **Effective Date.** This Agreement shall become effective and a binding contractual obligation of the Parties on January 16, 2026 (the "Effective Date") if no legal action is filed prior to such date challenging this Agreement or any related action by the Town or the Erie Town Council. If any such legal action is filed, this Agreement shall not take effect.
2. **Findings.** The Town Council makes the following findings:
  - a. The Town annexed the Property in 2007 and zoned the Property as Low Density Residential ("LR"), subject to an annexation agreement that imposed a maximum density of 587 dwelling units on the Property, and the Preliminary Plat includes 573 lots, which complies with the annexation agreement;
  - b. The Preliminary Plat complies with Title 10 of the Erie Municipal Code (the "UDC") and other applicable law and is consistent with the Town's Comprehensive Plan;



c. The Preliminary Plat is consistent with and implements the intent of the zone district in which it is located;

d. The Preliminary Plat will not result in significant adverse impacts on the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated;

e. The Preliminary Plat will not result in significant adverse impacts on adjacent properties; and

f. Adequate and sufficient public safety, transportation, utility facilities and services, recreation facilities, parks, and schools are available to serve the Property, while maintaining sufficient levels of service to existing development.

3. Approval of Preliminary Plat. Based on the foregoing findings, the Town Council hereby approves the Preliminary Plat as of the Effective Date, subject to all of the following conditions:

a. Oil and gas.

i. So long as the Preliminary Plat is effective, prior to approval of the Final Plat for the Property, Redtail Ranch shall enter into an agreement with KP Kauffman to plug and abandon the following existing wells on the Property: SRC Pratt 33-29D; 29PD; 34-29D; 43-29D; 29XD; and 29TD.

ii. Following completion of the plugging and abandoning operations and prior to approval of the Final Plat for the Property, Redtail Ranch shall ensure that the area adjacent to the plugged and abandoned wells has been fully Remediated in compliance with applicable law pursuant to Colorado Energy and Carbon Management Commission Rules, and shall provide documentation to the Town detailing such remediation.

b. Roundabout. The Final Plat shall include one roundabout in the location shown on **Exhibit C**, attached hereto and incorporated herein by this reference, unless the Town requires that the location be modified during the Final Plat process.

c. Spine Trail. On the Final Plat, the section of Spine Trail north of Redtail Parkway shall be located within the right-of-way, which will require a modified road section, to keep improvements within the existing right of way and outside the fenceline depicted on **Exhibit D**, attached hereto and incorporated herein by this reference.

d. Signage. Prior to issuance of the first certificate of occupancy for the Property, Redtail Ranch or any successor shall place signs every 300 feet on the Open Rail Fence shown on **Exhibit D**. The signs shall be 2 feet wide by 1 foot 4 inches high and shall state the following: "No Trespassing, Environmentally Sensitive Area, Keep Out".

e. Notice. The Final Plat shall contain the following note: "Tract A is the subject of Compliance Order on Consent No. 18-05-15-01, entered into between Stratus Redtail Ranch, LLC and the Colorado Department of Public Health and Environment ("CDPHE"), a copy of which is available from CDPHE. In accordance with the Consent Order, CDPHE has approved a Corrective Measures Design, which includes, among other things, a Post-Closure Monitoring and Maintenance Plan for Tract A."

f. Groundwater monitoring. Prior to issuance of the first building permit for the Property, Redtail Ranch shall install 4 groundwater monitoring wells in compliance with **Exhibit E**, attached hereto and incorporated herein by this reference.

g. Development Agreement. Prior to approval of the Final Plat for the Property, Redtail Ranch shall execute a Development Agreement in the form provided by the Town that is similar to the Development Agreements that the Town typically uses for developments.

h. Technical corrections. Redtail Ranch shall make minor technical corrections to the Preliminary Plat and related documents as directed by Town staff.

4. Final Plat Process. The Parties acknowledge and agree that, because approval of the Preliminary Plat is occurring as part of the settlement of the Lawsuit, the typical detailed review processes have not occurred. As such, the Town may require additional modifications to the Final Plat that are necessary as a result of traffic control studies or other documentation to be submitted with the Final Plat application, including without limitation a change in the number of allowed lots.

5. Release. On the Effective Date of this Agreement, Redtail Ranch, on behalf of itself, its owners, agents, employees, members, servants, assigns, successors, and attorneys, hereby releases and forever discharges the Town as well as the Town's current and former employees, servants, agents, contractors, elected and appointed officials, assigns, successors, predecessors, attorneys, insurance carriers from any and all claims, actions and demands which exist as of the Effective Date and which were pled or could have been pled in the Lawsuit, including without limitation any claims related to approval of the Preliminary Plat.

6. Indemnification. Should the Town be subject to any legal action as a result of the approval of the Preliminary Plat or this Agreement, Redtail Ranch agrees to indemnify and hold harmless the Town and its officers, insurers, volunteers, representatives, agents, employees, attorneys, heirs and assigns from and against all claims, liability, damages, losses, expenses and demands, including attorney fees, brought in such legal action.

7. Dismissal of Lawsuit. Within 14 days after the Effective Date, the Parties shall file a joint motion to dismiss the Lawsuit with prejudice, with each Party to pay its own costs and fees.

8. Miscellaneous.

a. Entire Agreement. This Agreement, and the Exhibits hereto, contains the entire agreement of the Parties. There are no other agreements, oral or written, between the Parties related to the subject matter herein and this Agreement can be amended only by written agreement signed by the Parties.

b. Agreement Binding. This Agreement, and the terms, covenants, and conditions herein contained, shall inure to the benefit of and be binding upon the heirs, personal representatives, successors, and assigns of the Parties.

c. Governing Law and Venue. This Agreement shall be governed by the laws of the State of Colorado, and any legal action concerning the provisions hereof shall be brought in Weld County, Colorado.

d. No Waiver. Delays in enforcement or the waiver of any one or more defaults or breaches of this Agreement by the Town shall not constitute a waiver of any of the other terms or obligations of this Agreement.

e. Third Parties. There are no intended third-party beneficiaries to this Agreement.

f. Notice. Any notice under this Agreement shall be in writing and shall be deemed sufficient when directly presented, or sent prepaid, first-class United States mail to the Party at the address set forth on the first page of this Agreement.

g. Severability. If any provision of this Agreement is found by a court of competent jurisdiction to be unlawful or unenforceable for any reason, the remaining provisions hereof shall remain in full force and effect. However, because the primary consideration for Redtail is Paragraph 3 and the primary consideration for the Town is Paragraph 5, if either Paragraph 3 or Paragraph 5, or the benefits therein, are found to be unlawful or unenforceable, then this Agreement shall terminate without further action of the Parties.

h. Modification. This Agreement may only be modified upon written agreement of the Parties.

i. Assignment. Neither this Agreement nor any of the rights or obligations of the Parties shall be assigned by either Party without the written consent of the other. However, Redtail Ranch may assign its rights under the Preliminary Plat without the written consent of the Town.

j. Governmental Immunity. The Town and its officers, attorneys and employees are relying on, and do not waive or intend to waive by any provision of this Agreement, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as amended, or otherwise available to the Town and its officers, attorneys or employees.

k. **Rights and Remedies.** The rights and remedies of the Parties under this Agreement are in addition to any other rights and remedies provided by law. The expiration of this Agreement shall in no way limit the Parties' legal or equitable remedies, or the period in which such remedies may be asserted.

l. **Subject to Annual Appropriation.** Consistent with Article X, § 20 of the Colorado Constitution, any financial obligation of the Town not performed during the current fiscal year is subject to annual appropriation, shall extend only to monies currently appropriated and shall not constitute a mandatory charge, requirement, debt or liability beyond the current fiscal year.

m. **No Admission of Liability.** The Parties acknowledge that the Town denied liability or wrongdoing in the Lawsuit and this Agreement is not to be construed as an admission of liability or wrongdoing.

n. **Jointly Drafted.** The Parties have each participated and had an equal opportunity to participate in the drafting of this Agreement. No ambiguity shall be construed against any party based upon a claim that another Party was a drafter.

o. **Accessibility.** Redtail Ranch shall comply with the accessibility standards for an individual with a disability adopted by the State Office of Information Technology pursuant to C.R.S. § 24-85-103, and shall indemnify, hold harmless and assume liability on behalf of the Town and its officers, employees, agents and attorneys for all costs, expenses, claims, damages, liabilities, court awards, attorney fees and related costs, and any other amounts incurred by the Town in relation to Redtail Ranch's noncompliance with such accessibility standards.

p. **Electronic Signatures.** The Parties intend that this Agreement be governed by the Uniform Electronic Transactions Act, C.R.S. § 24-71.3-101, et seq.

In Witness Whereof, the Parties have duly executed this Agreement as of the Effective Date.


**Town of Erie, Colorado**

\_\_\_\_\_  
Andrew J. Moore, Mayor

Attest:

\_\_\_\_\_  
Debbie Stamp, Town Clerk

**Stratus Redtail Ranch, LLC**

\_\_\_\_\_  


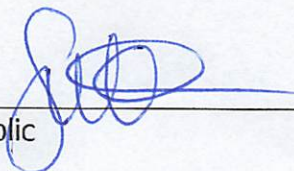
State of Colorado                    )  
  ) ss.  
County of Denver                    )

Subscribed, sworn to and acknowledged before me this 12<sup>th</sup> day of December, 2025, by Richard Dean, as manger of Stratus Redtail Ranch, LLC.

My Commission expires: 11/29/2026

(Seal)

SARAH ELIZABETH VAN HORN  
Notary Public  
State of Colorado  
Notary ID # 20184045897  
My Commission Expires 11/29/2026

\_\_\_\_\_  
Notary Public 

DISTRICT COURT, WELD COUNTY, STATE OF COLORADO 901 9 <sup>th</sup> Avenue, P.O. Box 2038 Greeley, CO 80631		DATE FILED November 26, 2024 2:30 PM FILING ID: F5387AA37FDA6 CASE NUMBER: 2024CV30673
<b>Plaintiff:</b> STRATUS REDTAIL RANCH, LLC  v.  <b>Defendants:</b> TOWN OF ERIE TOWN COUNCIL; TOWN OF ERIE		<b>▲ COURT USE ONLY ▲</b>
<b>Attorneys for Plaintiff:</b> David Wm. Foster, #27283 Larry G. Katz, #32724 Chip G. Schoneberger, #41922 Amelia M. Stefan, #59438 Foster, Graham, Milstein & Calisher, LLP 360 South Garfield, Sixth Floor Denver, CO 80209 Phone: (303) 333-9810 Email: david@fostergraham.com; lkatz@fostergraham.com; cschoneberger@fostergraham.com; astefan@fostergraham.com		Case No. 2024CV30673  Div:                      Ctrm:
<b>AMENDED COMPLAINT</b>		

Plaintiff, Stratus Redtail Ranch, LLC, by and through its undersigned counsel, submits this Amended Complaint, as follows:

### **PARTIES, JURISDICTION, AND VENUE**

1. Plaintiff is a Colorado limited liability company that owns certain real property located in Erie, Colorado, as described below.

2. Defendant, the Town Council of Erie, Colorado (“Town Council” or “Defendant”) is a governmental body responsible for reviewing and approving or denying certain land use applications relating to property within its territorial boundaries, including preliminary plat applications.

3. Defendant Town of Erie is a home rule municipality located in Boulder and Weld Counties.

4. This Court has jurisdiction over this Complaint pursuant to Colorado Constitution, Article VI, Section 9, C.R.C.P. 106, or otherwise.

**EXHIBIT A**

5. Venue is proper pursuant to C.R.C.P. 98(c) because the real property giving rise to this action is located in Weld County, Colorado and the Town of Erie (“Town”) is partially located in Weld County, Colorado.

### **GENERAL ALLEGATIONS**

6. On or before April 7, 2021, Plaintiff submitted a complete land use application seeking a preliminary plat, titled Redtail Ranch Filing No. 1 Preliminary Plat (“Preliminary Plat Application”) affecting approximately 290 acres of land in Erie, Colorado (“Property”).

7. The Town annexed and zoned the Property in 2007 at which time the Property was assigned low-density residential zoning and the terms of the annexation limited the number of residential units allowed on the Property to 587 units.

8. The Preliminary Plat Application originally requested 587 lots on approximately 85 acres of land, including approximately 45 acres of public right of way and sought approval for residential development consistent with the zoning for the Property.

9. Pursuant to the Town of Erie Unified Development Code (“Code”) § 10-7-7(D)(1), in order to subdivide and develop property, an application for preliminary plat must first be heard by the Town’s planning commission (“Planning Commission”) at a public hearing.

10. At the Planning Commission hearing, the Planning Commission considers Town staff’s (“Staff”) recommendations and any comments received from referral agencies, public comments, and based on the approval criteria in Code § 10-7-7(D)(2), the Planning Commission recommends that Town Council either approve, conditionally approve, or deny a preliminary plat application.

11. After recommendation by the Planning Commission, the Town Council will hold a public hearing on the application and make a final decision based on the approval criteria in Code § 10-7-7(D)(2).

12. After Plaintiff submitted the Preliminary Plat Application, between April 7, 2021, and January 17, 2024, Staff worked with the Plaintiff to ensure the Preliminary Plat Application met all legal requirements.

13. Before January 17, 2024, Staff issued its first recommendation to the Planning Commission, recommending that the Planning Commission recommend that Town Council approve the Preliminary Plat Application, with certain conditions.

14. On January 17, 2024, the Planning Commission held a public hearing on the Preliminary Plat Application.

15. At the Planning Commission hearing, the Planning Commission unanimously recommended the Town Council approve the Preliminary Plat Application with the only condition of approval being that “Applicant shall make technical corrections to the Preliminary Plat and documents as directed by Town staff.” Resolution. No. P24-01.



16. Subsequently, a Town Council hearing (“Town Council Hearing”) was scheduled on April 23, 2024, for Town of Erie Resolution No. 24-062 regarding the approval of the Preliminary Plat Application.

17. At the time of the April 23, 2024, Town Council Hearing, Town Council consisted of the following members: Justin Brooks, Mayor; Sara Loflin, Mayor Pro Tem; and the following Councilmembers: Emily Baer, Andrew Sawusch, Brandon Bell, Dan Hoback, and Ari Harrison.

18. Six of the seven Town Council members attended the April 23, 2024, Town Council Hearing. Mayor Justin Brooks was not in attendance.

19. At the April 23, 2024, Town Council Hearing, Staff gave a presentation summarizing the Preliminary Plat Application and reiterating, as the Staff report concluded, that the Preliminary Plat Application met the applicable approval criteria within the Code. This was followed by a presentation by Plaintiff discussing the Preliminary Plat Application.

20. Then, the Town Council heard public comment, followed by Town Council deliberations in which the Town Council provided overall comments regarding the Preliminary Plat Application.

21. The Town Council expressed concern about the Preliminary Plat Application’s distance from oil and gas facilities, traffic calming features, trail locations, landscape maintenance, and environmental disclosures.

22. At the April 23, 2024, Town Council Hearing, the Plaintiff requested that the hearing for the Preliminary Plat Application be continued to a date certain so that the Plaintiff could improve the Preliminary Plat Application in response to the Town Council’s feedback. The motion to continue the hearing failed by a vote of 3-3.

23. On May 14, 2024, the Town Council reconsidered the motion to continue the hearing and voted 4-2 in favor of reconsideration. The Town Council then voted to continue the Town Council Hearing to June 25, 2024.

24. At the June 25, 2024, Town Council Hearing, Staff and Plaintiff gave presentations on the updated Preliminary Plat Application.

25. After the Staff’s and Plaintiff’s presentations, the Town Council heard public comments, followed by Town Council deliberations.

26. The Code requires that the body conducting the hearing shall approve, approve with conditions, or deny the application based on its compliance with the applicable approval criteria. Code § 10-7-2(H)(1). The Code further requires “findings” and that “all decisions shall include a clear statement of approval, approval with conditions, or denial, whichever is appropriate.” Code § 10-7-2(H)(2).

27. At the June 25, 2024 hearing, Town Council was prepared to vote on the Preliminary Plat Application but unprepared to state any findings justifying its vote under the

applicable Code criteria. Town Council thus instructed the Town Attorney to draft findings of fact purportedly based upon the record of its deliberations.

28. Town Council then voted 4-1 in favor of a “motion to deny Resolution 24-062 and request a finding of fact.”

29. On July 9, 2024, the Town Council approved Resolution No. 24-107: A Resolution of the Town Council of the Town of Erie Adopting Findings of Fact Related to the Denial of the Application for Approval of a Preliminary Plat for Redtail Ranch and Ratifying the Denial (“Resolution”).

30. The Resolution includes “Findings of Fact” that include the criteria applicable to the Preliminary Plat Application but embedded amongst other inapplicable criteria.

31. The Code’s approval criteria for preliminary plat applications (“Criteria”) are as follows:

Code § 10-7-7(D).

- a. The subdivision is generally consistent with the town's comprehensive plan.
- b. The subdivision is generally consistent with and implements the intent of the specific zoning district in which it is located.
- c. The general layout of lots, streets, driveways, utilities, drainage facilities, and other services within the proposed subdivision is designed to meet the town's standards related to health and safety and in a way that minimizes the amount of land disturbance, maximizes the amount of open space in the development, preserves existing trees/vegetation and riparian areas, protects critical wildlife habitat, and otherwise accomplishes the purposes and intent of this UDC.
- d. The subdivision complies with all applicable use, development, and design standards set forth in chapters 3, 5 and 6 of this UDC that have not otherwise been modified or waived pursuant to this chapter or this UDC. Applicants shall refer to the development standards in chapter 5 of this UDC and shall consider them in the layout of the subdivision in order to avoid creating lots or patterns of lots in the subdivision that will make compliance with such development and design standards difficult or infeasible.
- e. The subdivision complies with all applicable regulations, standards, requirements, or plans of the federal or state governments and other relevant jurisdictions, including, but not limited to, wetlands, water quality, erosion control, and wastewater regulations.
- f. The subdivision will not result in significant adverse impacts on the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated.
- g. The subdivision shall be integrated and connected, where appropriate, with adjacent development through street connections, sidewalks, trails, and similar features.

h. The subdivision will not result in significant adverse impacts on adjacent properties, or such impacts will be substantially mitigated.

i. Adequate and sufficient public safety, transportation, utility facilities and services, recreation facilities, parks, and schools are available to serve the subject property, while maintaining sufficient levels of service to existing development.

j. As applicable, the proposed phasing plan for development of the subdivision is rational in terms of available infrastructure capacity.

32. Although the Preliminary Plat Application met the applicable Criteria, during the June 25, 2024, Town Council Hearing, Town Councilmembers expressed certain concerns over issues unrelated to the Criteria and unsupported by evidence in the record, including adjacency to oil and gas facilities, their own opinions on needed traffic mitigation measures, and purported contamination of the Property.

#### *OIL AND GAS SETBACKS*

33. Both Mayor Pro Tem Sara Loflin and Councilmember Baer expressed concerns before the vote that future homes built in accordance with the Preliminary Plat Application would be too close to the neighboring oil and gas facilities in the area.

34. However, at the time the Preliminary Plat Application was submitted, the Town's own Code required that all residential development be set back 350 feet from all oil and gas facilities, which is the standard upon which the Preliminary Plat Application was to be reviewed.

35. In response to feedback by the Planning Commission and Town Council at the April 23 Town Council Hearing, the Plaintiff voluntarily increased the distance between the neighboring oil and gas facilities and the residential development to 500 feet to assuage the Town Council's concerns and conform with the current Code setback requirement (although Plaintiff was not legally required to do so).<sup>1</sup> This voluntary increase in the oil and gas setback resulted in the loss of 63 lots.

36. The Preliminary Plat Application requires all future homes to be built far enough away from the oil and gas facilities to meet and exceed the Code requirements applicable to the Preliminary Plat Application for setbacks from oil and gas facilities. Thus, the distance between the future homes and oil and gas facilities in the Preliminary Plat Application met the Code requirements.

37. Despite the Plaintiff's willingness to amend the Preliminary Plat Application to assuage the Town Council's concerns around oil and gas setbacks, the Resolution states that "[t]he site contains active oil and gas operations that have been subject to numerous complaints and releases of toluene, methane and other toxic aerosols (together, the "Environmental Hazards"). Further, the site is directly adjacent to oil and gas operations managed by KPK, an operator that

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<sup>1</sup> During the Planning Commission hearing on January 17, 2024, the City Attorney confirmed that the Preliminary Plat Application was subject to the 350' setback requirement, not the new 500' setback requirement because an imposition of the new 500' setback would be considered a retrospective application of the new requirement.

has been subject to numerous sanctions, fines, and stop work and cleanup orders issued by the State of Colorado.”

38. In addition to this finding not being related to any of the Criteria in Code § 10-7-7(D)(2), the Town Council effectively contradicted and amended its own Code by finding the 500-foot oil and gas setback inadequate, which is a clear abuse of discretion.

#### *TRAFFIC*

39. Additionally, some of the Town Council members who voted to deny the Preliminary Plat Application expressed concerns that additional traffic mitigation measures were needed. As a result, the Resolution states the Preliminary Plat Application, “creates traffic concerns by creating 524 residential lots primarily taking access from County Road 5, which is currently a congested roadway and without sufficient mitigation measures.”

40. No evidence supports the “traffic concerns” finding. The Town’s traffic engineer found that any increase in traffic from the proposed development under the Preliminary Plat Application would not warrant or need any additional traffic mitigation measures.

41. The Staff report detailed during the June 25 Town Council Hearing stated, “[t]raffic signals at Redtail Pkwy and Falcon Ridge Dr are not warranted at this time. Developer will pay fair share contribution to signals when warranted,” and “[t]he plans show two speed feedback signs, bike lanes and 10’ travel lanes to help slow traffic. Further strategies can be explored at Final Plat.”

42. Mayor Pro Tem Sara Loflin called the Erie Police Chief as an “expert witness” to opine on whether the Preliminary Plat Application has sufficient means of entrance to the neighborhood from County Road 5 for emergency services. The Erie Police Chief stated that “the way it’s presented to me, it doesn’t necessarily present an access concern for me when it comes to emergency services.”

43. Traffic is measured through objective standards and there are no engineering reports nor traffic studies that support the finding that additional traffic mitigation measures are needed.

44. The Town Council’s mere speculation does not trump science, overrule objective engineering and traffic regulations, nor negate the findings of technical traffic studies.

#### *ENVIRONMENTAL CONCERNS*

45. A portion of the 290 acre Property located within tract A of the Preliminary Plat Application, but outside of the proposed residential development, had a history of environmental issues.

46. However, as presented at the Planning Commission Hearing and Town Council Hearing, the Plaintiff invested years of time and millions of dollars to clean up areas of the Property.

47. In fact, the Colorado Department of Public Health and Environment (“CDPHE”) issued a No Action Determination that the portion of the Property on which residential development will occur as being safe for residential development. CDPHE staff gave testimony that supported Plaintiff’s application.

48. Despite this, the Town Council made unsupported and irrelevant findings about the environmental condition of the Property.

49. For example, the Resolution states that, “[p]ortions of the site are subject to such stringent mitigation and maintenance requirements that trees cannot be planted in several locations without violating restrictions applicable to landfills.”

50. This is unrelated to the Criteria and irrelevant because no building will occur on any of the portions of the Property that were formerly contaminated.

51. There is no evidence in the record to support that the portions of the Property planning for residential development are contaminated at all.

52. Both Mayor Pro Tem Loflin and Councilmember Baer improperly based their denial on Code § 10-1-3 (the general purpose of the UDC) instead of applying the Criteria to the Preliminary Plat Application.

53. Councilmember Baer stated the Property is “spectacularly contaminated” multiple times, without citing any evidence presented at the Town Council Hearing or otherwise in support of that statement.

54. The Preliminary Plat Application met all requirements of the Code.

55. As a result, the Town Council’s decision and Resolution lack any basis in the Criteria or evidentiary support in the record.

#### *USE OF INAPPLICABLE CRITERIA*

56. The Code provides that, “[t]o be approved, a development application must satisfy all approval criteria required for the applicable development application.” Code § 10-7-2(I)

57. The Code specifically provides at § 10-7-7(D)(2) that a, “preliminary plat may be approved only if the town council finds that all of the [Criteria] have been met.”

58. Code § 10-7-7(D)(2) is the only applicable criteria for the approval of a preliminary plat.

59. The Resolution mischaracterizes Code § 10-7-2(I) when it states “Section 10-7-2 of the UDC requires that development applications must satisfy all applicable approval criteria, and if any criterion is not met, then the applicable decision-maker must deny the application.”



60. The Resolution's paraphrasing of Code § 10-7-2 is misleading and a misrepresentation because the Town Council failed to cite the section of Code § 10-7-2(I) that states "for the applicable development."

61. Despite Code § 10-7-7(D)(2) being the only applicable Criteria for the Preliminary Plat Application, the Resolution cites to multiple inapplicable sections of the Code.

62. Namely, the Resolution cites Code § 10-1-3 (the general intent of the Code), Code § 10-2-2-A (the intent of the Rural Residential Zone District), and Code § 10-7-2 (standard review procedures).

63. These sections are inapplicable to the Preliminary Plat Application. Moreover, the Property is not located in the Rural Residential Zone District.

64. The Town Council denied the Preliminary Plat Application based on inapplicable criteria.

65. The Town Council's denial of the Preliminary Plat Application was not supported by competent evidence in the administrative record showing it fails to meet the approval Criteria.

66. As discussed in the Staff report and during the Staff presentation at the Town Council Hearing, and as determined by the Planning Commission, the Preliminary Plat Application met all applicable approval criteria in the Code.

67. The Town Council's concerns, as expressed above, were unrelated to the Code's Criteria and were primarily focused on other issues such as unnecessary traffic mitigation measures, adjacency to oil and gas facilities, and a self-made determination by Councilmember Baer that the Property is "spectacularly contaminated." These concerns, however, were beyond the Code's requirements and constitute a clear abuse of discretion by the Town Council.

68. The Town Council's vote to deny the motion to approve the Preliminary Plat Application based on unsupported speculation about how far residential development should be sited from oil and gas facilities, needed traffic mitigation, and the environmental state of property within the Preliminary Plat application but not being developed effectively, and illegally, amended the Code to increase the requirements beyond what the Code actually requires.

69. The Town Council does not have the authority to amend the Code during a quasi-judicial hearing.

70. The Town Council exceeded its jurisdiction and abused its discretion by denying the Preliminary Plat Application based on irrelevant Code provisions and absent any competent evidence in the record.

71. Plaintiff is materially and adversely affected by the Town Council's denial of the Preliminary Plat Application, including the use and the enjoyment of its Property.

72. The Property is approximately 290 acres.

73. Prior to 2007, there were landfills on approximately 45 acres in the northern portion of the Property (the North 45 Acres of the Property). However, these landfills are not on the portion of the Property that is being developed. .

74. In the 1960s , the then owner of the Property, had leased the North 45 Acres of the Property to a third party for use as a landfill.

75. In the 1960's the third party allowed IBM to dispose of metal drums containing chemicals on the North 45 Acres of the Property .

76. Prior to 2007, there was oil and gas drilling on and adjacent to the Property.

77. The oil and gas drilling on the Property is located on approximately 25 acres that is not being developed (the Oil and Gas 25 Acres). In fact, the development has been designed to accommodate the oil and gas drilling and comply with or exceed code requirements.

78. Prior to 2007 there were other landfills not anywhere on the Property, but that were adjacent to the Property.

79. Prior to 2007, the Town of Erie knew; (1) that there were landfills adjacent to the Property and (2) there was the oil and gas drilling on and adjacent to the Property. Moreover, upon information and belief, the Town of Erie knew about the landfills and metal drums with chemicals on the North 45 Acres of the Property. The information and belief are based on the following: before 2007, there was (1) a public certificate of designation by Weld County designating the North 45 Acres of the Property as a landfill in the 1960's; (2) after the 1960's, but before 2007, Weld County publicly revoked the certificate of designation; (3) in 1990 CDPHE/EPA conducted a study that clearly identified presence of drums on the property and which study was public; (4) fires at the landfill on the North 45 Acres of the Property with public fire department investigations about the fire at the landfill that was in the newspapers; and (5) public hearings in 2007 during the annexation process. Moreover, by 2015, when the Town revised its comprehensive plan, the Town also knew about the landfill on the North 45 Acres of the Property. In 2015, during the sketch plan hearings, there was testimony about the landfill on the North 45 Acres of the Property.

80. With full knowledge of the landfills adjacent to the Property, the disposal of drums on the Property and oil and gas drilling on the Property, the Town of Erie agreed to annex the Property into the Town of Erie. [

81. In 2007, when the Town of Erie annexed the Property, it zoned the Property low-density residential ("LR").

82. Thus, the Town of Erie, with knowledge of the landfills, the disposal of the drums, and the oil and gas drilling, determined that the Property was suitable for residential development.

83. In 2015, the Town of Erie reconfirmed that the Property was suitable for residential development. In 2015, the Town of Erie revised its comprehensive plan. In the 2015 comprehensive plan, the Town of Erie could have phased out residential on the Property: it did not, and still designated the Property as LR.

84. In 2019, the Town of Erie again amended its comprehensive plan and again the Property retained a residential designation.

85. In 2015 the Plaintiff purchased the Property for \$7.8 million with the intent of developing residential units on the Property.

86. The Plaintiff, in determining to purchase the Property, relied on the zoning of the Property as LR, the Annexation Agreement, and the comprehensive plan, all of which stated that the Plaintiff could develop the property with residential units.

87. Had the Property not been zoned LR, Plaintiff would not have purchased the Property.

88. To date, the Plaintiff has spent approximately \$23 million on the Property, including millions of dollars to purchase the Property, to remediate the environmental issues, and to prepare the Property for development.

89. The remediation occurred on the North 45 Acres of the Property – no environmental remediation was necessary on the areas to be developed.

90. Plaintiff spent the approximate \$23 million solely to develop the property as low density residential.

91. Plaintiff spent the approximate \$23 million on the Property in reliance on the zoning, annexation agreement and revised comprehensive plan.

92. Had the Property not still been zoned LR, Plaintiff would not have spent \$10 million remediating the Property.

93. Plaintiff reasonably expected that it could develop the Property with low density residential units.

94. If Plaintiff were permitted to develop the Property with low density residential units, Plaintiff could not only recover the \$23 million it has spent to date, but it would also have earned millions of dollars in profits.

95. Plaintiff reasonably expected to earn a substantial profit by developing the Property with residential units.

96. CDPHE issued a No Action Determination that the portions of the Property where the preliminary plat contemplated the location of residences as safe for residential development without any remediation whatsoever.

97. Nevertheless, when Plaintiff submitted an application to develop the Property with residential units, the Town denied the application.

98. The Town's rational for denying the application was: (1) the Property is adjacent to landfills; (2) IBM had disposed of the metal drums with chemicals on the North 45 Acres of the

Property (even though this issue was remediated and even though this is not the portion of the Property where residential development will occur); [and (3) there are oil/gas operations on and adjacent to the Property.

99. Thus, the Town, with full knowledge of the adjacent landfills, the disposal of the metal drums, and the oil and gas operations, zoned the Property LR in 2007 as part of the Annexation process, and confirmed that the Property was suitable for residential development in 2015 and 2019 when it amended its comprehensive plan.

100. Then, after the Plaintiff spent \$23 million to purchase the property, remediate any environmental issues, and prepare the Property for development, the Town, while still maintaining the LR zoning, has stated that the Property cannot be developed with residential units because of the adjacent landfills, the disposed of metal drums and the oil/gas operations.

101. There is no way to eliminate: (1) the landfills that are adjacent to, but not on the Property, (2) the fact that IBM disposed of metal drums on the Property, and (3) the oil and gas drilling.

102. Consequently, there is no way to satisfy the Town's concerns about residential development on the Property.

103. As a result, the Town's actions mean that the Property can never be developed with residential units.

104. Moreover, because the Town has chosen to maintain the zoning as LR, the Property cannot be used at all.

105. The Property cannot be used for agricultural, commercial, industrial or any other purpose.

106. The only economically viable use of the Property is with residential development and the only way that Plaintiff can recover the costs it has incurred as well as its investment expectations is to develop the Property with residential units.

**FIRST CLAIM FOR RELIEF**  
**(Judicial Review Pursuant to C.R.C.P. 106(a)(4))**

107. Plaintiff incorporates the preceding paragraphs set forth above.

108. At all times relevant hereto, the Town Council was exercising a quasi-judicial function within the meaning C.R.C.P. 106 with respect to its actions which are subject of this Complaint.

109. The Town Council abused its discretion and exceeded its jurisdiction in denying the Preliminary Plat Application based on inapplicable Code provisions.

110. The Town Council's foregoing actions are contrary to law, contrary to the Code, unsupported by competent evidence in the administrative record and are arbitrary and capricious. Therefore, the Town Council abused its discretion in denying the Preliminary Plat Application.

111. There exists no plain, speedy and adequate remedy otherwise provided by law.

**SECOND CLAIM FOR RELIEF**  
**(Takings in Violation of Article II, Section 15 of the Colorado Constitution)**

112. Plaintiff incorporates and re-alleges the preceding paragraphs of this Amended Complaint as if fully set forth herein.

113. Defendants violated Plaintiff's state constitutional rights by taking and damaging Plaintiff's Property without just compensation.

114. The Town of Erie has the power of eminent domain but chose not to exercise that power. Instead, it took Plaintiff's Property without compensation.

115. Defendants, with full knowledge of the adjacent landfills, the IBM disposal, and the oil and gas operations, zoned the Property as LR.

116. Defendants then used the adjacent landfills, the fact of the IBM disposal, and the oil and gas operations, as justification for denying Plaintiff the right to develop the property with residential units.

117. As a result, the Property cannot be used for any purpose and the value of the Property has been completely destroyed.

118. Defendants' actions were final.

119. Defendants' actions have prohibited all use, including but not limited to, all reasonable use of the Property. Plaintiff cannot use the Property for any purpose.

120. Defendants have prevented all reasonable economically viable use of the Property.

121. Defendants did not justly compensate Plaintiff for the takings.

122. Defendants' actions harmed Plaintiff and caused Plaintiff damages in an amount to be proven at trial, including, but not limited to, causing Plaintiff to lose the \$23 million it has already invested and the loss of profits.

123. Defendants acted willfully, wantonly and with a reckless disregard to Plaintiff's rights.



**WHEREFORE**, Plaintiff respectfully requests that judgment enter in its favor, and against Defendants, as follows:

- a. Declaring that in denying the Preliminary Plat Application, Town Council was performing a quasi-judicial function;
- b. Determining that, in doing so, the Town Council exceeded its jurisdiction and abused its discretion;
- c. Vacating the Town Council's denial and approving the Preliminary Plat Application or alternatively remanding the matter to the Town Council to make a decision on the Preliminary Plat Application based on the Code's preliminary plat approval Criteria and evidence;
- d. Damages in an amount to be proven at trial;
- e. Pre and Post-judgment interest and attorney's fees;
- f. For all such further relief the Court deems appropriate.

**PLAINTIFF DEMANDS A JURY TRIAL**

DATED this 26<sup>th</sup> day of November, 2024.

FOSTER GRAHAM MILSTEIN & CALISHER, LLP

*Original signatures on file at the offices of Foster Graham Milstein & Calisher, LLP pursuant to C.R.C.P. 121 §1-26(7).*

/s/ Larry G. Katz

David Wm. Foster

Larry G. Katz

Chip G. Schoneberger

Amelia M. Stefan

*Attorneys for Plaintiff*

Plaintiff's Address:

8480 E. Orchard Road, Suite 3000  
Greenwood Village, CO 80111

# ENVIRONMENTAL CONDITIONS IN RESIDENTIAL AREA

## Redtail Ranch, Erie, CO

*Prepared for*

**Stratus Redtail Ranch, LLC**

*Prepared by*

Geosyntec Consultants, Inc.  
5670 Greenwood Plaza Blvd, Suite 540  
Greenwood Village, CO 80111

Project Number: DE1075

May 2025

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Figure 1 – Site Location Map

Figure 2 – Site Layout and Surrounding Landfills

Figure 3a – Historical Aerial Photos 1937-1983

Figure 3b – Historical Aerial Photos 1999-2017

Figure 4 – Historical Topographic Maps 1950-2013

Figure 5 – Previous Investigation Locations Map

## **Attachments**

- A. Resume of David J. Folkes, P.E.
- B. Resume of Suzanne V. Gabriele

## 1. INTRODUCTION

This report has been prepared by Geosyntec Consultants, Inc. (Geosyntec) on behalf of Stratus Redtail Ranch, LLC (Stratus) to address certain questions regarding environmental conditions at the Redtail Ranch property in Erie, Weld County, Colorado (Figure 1), where residential development has been proposed, or the “residential area” (see the purple area on Figure 2). We address questions regarding: 1) the potential for unidentified buried waste to be present within the residential area, and 2) the potential for contaminants from the closed Historic Landfill (see the orange areas on Figure 2) to migrate onto the residential area. The qualifications of the principal investigators are provided in Attachments A and B, respectively.

In summary, based on the many investigations that have taken place at and near the property, including investigations and work conducted by Geosyntec and approved by the U.S. Environmental Protection Agency (EPA) and the Colorado Department of Public Health & Environment (CDPHE), we conclude:

- No buried waste is present in the residential area at Redtail Ranch.
- The Historic Landfill associated with the Redtail Ranch property is located on a separate tract from the residential area (the green area on Figure 2) and has been properly closed under CDPHE oversight.
- The closed Historic Landfill includes a buffer area that provides further separation from the residential area.
- No contaminants of concern (COCs) associated with the closed Historic Landfill have migrated to the residential area.
- Additional safeguards, such as 1) implementation of a Materials Management Plan, 2) sub-excavation of soil below the full footprint of all homes, 3) monitoring of groundwater and soil vapors between the Redtail Ranch development and the Historic Landfill to the north, and 4) preemptive installation of radon systems below all future homes, will provide additional protection against any unknown environmental conditions.

In our opinion, the residential area of the Redtail Ranch property has been investigated more thoroughly than most if not all undeveloped properties in the area. Based on the lack of impacts indicated by these investigations, the potential for environmental impacts due to unknown conditions on the property is likely lower than on other undeveloped properties that have not been subject to the same level of scrutiny.

More details and the basis for these conclusions are presented in the remainder of this report.



## **2. IS BURIED WASTE PRESENT WITHIN THE RESIDENTIAL AREA?**

To answer this question, we identified the known locations of buried waste at or near the Redtail Ranch property and evaluated the potential for waste to be buried at unknown locations in the residential area, as discussed below.

### **2.1 Commercial Landfills**

Figure 2 shows the locations of operating and closed landfills located near the Redtail Ranch property, including the:

- Denver Regional Landfill (operating and closed)
- Old Erie Landfill (closed)
- Front Range Landfill (operating)

No portion of these landfills is located on the Redtail Ranch property. The nearest landfill is located 500 feet or more from the residential area. Each is being operated or has been closed with CDPHE oversight. Closure includes the application of engineering and administrative controls to protect the environment around the landfill. CDPHE also requires continued monitoring of environmental conditions at the landfill boundaries (i.e., between the landfills and adjacent properties).

### **2.2 Historic Landfill**

The Historic Landfill is located on a tract of the Redtail Ranch property that is separate from the residential area, and comprises two areas with solid waste (the orange areas on Figure 2) that are now covered by 30 inches or more of clean soil and have been properly closed under CDPHE oversight. The solid waste areas are surrounded by a buffer area (the green area on Figure 2) and, as a result, are more than 100 feet away from the nearest proposed residential properties.

The solid waste in the Historic Landfill was placed and buried during the late 1960s in a small ephemeral stream valley or “draw” that slopes to the west along the north side of the Redtail Ranch property. The extent of solid waste was defined by observations of materials encountered in test pits and soil borings and by geophysical surveys, as part of investigations overseen and approved by the EPA and CDPHE. The solid waste was found to be contained in and consistent with the topography of the draw, i.e., the buried waste pinches out on the sides of the draw.

Drums and adjacent contaminated soils were removed from the Historic Landfill and disposed of at offsite commercial landfills under EPA oversight in 2017 and 2018. Soil remaining in the landfill was treated by injection of oxidants under CDPHE oversight in 2020. The waste remaining in the Historic Landfill, consisting of inert and metal debris, household trash and

commercial trash remaining at two locations in the draw, was capped by at least 30 inches of clean soil (referred to as the east and west caps), as part of landfill closure approved by CDPHE.<sup>1</sup>

A CDPHE-designated buffer area extends at least 100 feet beyond the edges of the east and west caps, as shown by the green area on Figure 2. The combined cap and buffer areas are considered to be Restricted Property and subject to a Notice of Environmental Use Restriction (NEUR), approved and enforceable by CDPHE, which applies use and activity restrictions intended to prevent future contact with the landfill wastes and disturbance to the landfill cover. The residential area is beyond the buffer area and Restricted Property. A road easement south of the buffer area and north of the residential area provides further separation between the residential and the buffer areas.

### **2.3 Potential for Other Buried Waste Deposits**

Several lines of evidence were considered when evaluating the potential for other, unknown buried waste to be present in the residential area (i.e., outside of the Restricted Property discussed above). These lines of evidence included government records, topographic maps, aerial photographs, and investigation reports, as discussed below.

#### **2.3.1 Records Search**

A search of EPA, CDPHE, Colorado Energy & Carbon Management Commission (ECMC, formerly Colorado Oil and Gas Conservation Commission), and Weld County records did not identify spills, releases, solid waste disposal, or other environmental impacts or concerns in the residential area.

#### **2.3.2 Historical Aerial Photos**

Historical aerial photographs from the period before solid waste was placed in the Historic Landfill (1963) to recent times are shown in Figures 3a and 3b. While evidence of landfiling within the draw at the north end of the Redtail Ranch property (the Historic Landfill) can be seen in the late 1960s (i.e., by comparing the 1953 image to the 1969 and later images), none of the photos indicate landfiling activities within the draws or in other locations on the remainder of the Redtail Ranch property (other than pad and other construction activities for the oil and gas operations within the setback areas shown on Figure 2).

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<sup>1</sup> CDPHE approved completion of the soil cap and storm waste controls on February 24, 2025, with the exception of soil revegetation, which is in progress, and fence construction around the east and west caps.

### 2.3.3 Historical Topographic Maps

Historical topographic maps from the time period before solid waste was placed in the Historic Landfill (1950) through recent times (2013) are shown in Figure 4. None of the maps indicate disturbance to ground surface contours that might have resulted from filling of draws or depressions, significant excavations, or mounding within the residential area that might indicate the potential for solid waste placement or burial.

### 2.3.4 Investigation Reports

Various parties have been assessing and investigating the environmental condition of the Redtail Ranch property since 1984.<sup>2</sup> Since then, 56 soil borings, 3 monitoring wells, and 13 soil vapor probes were installed in the residential area (see Figure 5). None of these installations encountered waste materials or contaminated soil.<sup>3</sup> An additional four, 10-point composite soil samples (40 sampled locations) were collected across the residential area (Figure 5). No indication of waste disposal was observed at any of these locations.

Each block of the residential area shown in Figure 5 was investigated at multiple locations, with no indications of solid waste disposal (other than occasional trash on the ground surface).

## 2.4 Conclusions

Based on the evidence summarized above, we conclude that no significant deposits of solid waste, if any, are located in the residential area. Any significant deposits would have been reported, and/or encountered by borings, and/or be visible as disturbances on historic aerial photographs or topographic maps.

## 3. HAVE COCS MIGRATED INTO THE RESIDENTIAL AREA?

To answer this question, we considered the results of assessments and investigations conducted in the residential area by Geosyntec in 2020, which included an evaluation of historic investigations. Based on Geosyntec's findings, CDPHE determined that *"there is no evidence of contamination released into the environment present from the applicant's property, which exceeds applicable promulgated state standards or which poses an unacceptable risk to human health and the environment."*<sup>4</sup>

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<sup>2</sup> U.S. EPA1984, Site Inspection Report. See References, Section 6.

<sup>3</sup> Geosyntec, 2020. No Action Determination Application, Stratus Redtail Ranch Site, 2259 County Road 5, Erie, Colorado, November 24. This report included an assessment of a neighboring property to the northwest of the residential area, which is not discussed in this report. Nevertheless, CDPHE also approved no further action at this other property.

<sup>4</sup> CDPHE, No Action Determination Approval for 2259 County Road 5, Erie, CO, December 11, 2020.

Further, CDPHE determined that no further action was required “*to assure that this property, when used for the purposes in the No Action Petition (Residential), is protective of existing and proposed uses and does not pose an unacceptable risk to human health and the environment at the site.*”<sup>5</sup>

The lines of evidence supporting these determinations by CDPHE are summarized below.

### **3.1 Phase I Environmental Site Assessment**

Geosyntec conducted a Phase I Environmental Site Assessment (Phase I ESA) of the residential area in 2020.<sup>6</sup> The purpose of a Phase I ESA is to identify Recognized Environmental Conditions (RECs) on a property, based on review of available information, including previous investigations, agency records, public documents, and site reconnaissance. RECs indicate the presence of hazardous substances or petroleum products in environmental media (soil, soil vapor, groundwater, surface water, sediment) above regulatory levels that might require further evaluation or other actions.

The findings of the Phase I ESA did not indicate the presence of any RECs within the residential area.<sup>7</sup> A few “*de minimis*” conditions were noted, including some surface debris in drainages.<sup>8</sup> In other words, no hazardous substance or petroleum product impacts were identified within the residential area by the Phase I ESA.

### **3.2 Phase II Site Investigations**

Several Phase II site investigations have been conducted within the residential area at the locations shown in Figure 5, i.e., by Western Environment and Ecology (WEE 2006), Stewart Environmental Consultants (2007, 2011), Tetra Tech (2007), A.G. Wassenaar (2016), and Geosyntec (2018, 2019, 2020).

The results of these investigations indicated no sources of contamination in the residential area and no impacts to soil, groundwater, or soil vapor due to migration of contaminants from sources outside the residential area (e.g., the Historic Landfill).<sup>9</sup> CDPHE agreed with this conclusion

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<sup>5</sup> Ibid.

<sup>6</sup> Geosyntec, 2020. Phase I Environmental Site Assessment, 2259 County Road 5, Erie, Colorado, August 10. The Phase I ESA followed and was in accordance with ASTM Standard Practice E1527-13.

<sup>7</sup> RECs were identified in the Historic Landfill area, which is outside of the proposed residential development.

<sup>8</sup> ASTM defines *de minimis* conditions as those which do not present a threat to human health or the environment or are unlikely to result in enforcement actions if brought to the attention of appropriate governmental agencies. *De minimis* conditions are not considered to be RECs.

<sup>9</sup> Geosyntec, 2020. No Action Determination Application, Stratus Redtail Ranch Site, 2259 County Road 5, Erie, Colorado, November 24.

and determined that no further action was required in the residential area based on this information.<sup>10</sup>

In addition, extensive investigations within the Historic Landfill area over the same time period have confirmed that COCs found in groundwater and soil vapor above levels of concern were confined to the draw and the buffer area.<sup>11</sup>

### **3.3 Physical Characteristics of the Site**

The lack of observed impacts to soil, groundwater and soil vapor in the residential area due to the Historic Landfill is consistent with the local geology, consisting of relatively low permeability clays and silts overlying claystone, siltstone, and fine-grained sandstone of the Laramie formation. Because of the low permeability, shallow groundwater (i.e., in the soil and upper weathered portion of the bedrock) is only found within and tends to follow surface drainage channels at the site.

As a result, shallow groundwater impacted by the Historic Landfill is confined to the draw and flows west away from the residential area, where concentrations decrease below levels of concern due to natural attenuation. Similarly, the low permeability geologic materials impede lateral migration of soil vapors, such as methane, from the Historic Landfill. In most settings, chemical vapors typically dissipate below levels of concern within 100 feet of a source, which was the basis for the minimum 100-foot width of the buffer area.<sup>12</sup>

### **3.4 Conclusions**

Based on the evidence summarized above, we conclude that the residential area has not been impacted by migration of COCs from the Historic Landfill. Even before drum removal, remediation and closure of the Historic Landfill, the impacts of the waste were limited to the draw (within the green area on Figure 2). COCs in groundwater or soil vapor have not migrated from the Historic Landfill into the residential area, despite having being placed in the draw over 50 years ago. Since removal of the drums and contaminated soil from the landfill, injection of oxidants in remaining soils, and construction of the soil caps over the waste, contaminant concentrations and extent in groundwater within the draw have continued to reduce over time.<sup>13</sup>

## **4. ADDITIONAL SAFEGUARDS**

Extensive investigations over the last two decades have indicated that no waste is likely to be buried in the residential area, i.e., no buried waste or contaminated soils are likely to be

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<sup>10</sup> CDPHE, No Action Determination Approval for 2259 County Road 5, Erie, CO, December 11, 2020.

<sup>11</sup> Geosyntec, 2020, Corrective Measures Design Report, Historic Landfill Site, Revision 1, May. Approved by CDPHE on May 12, 2020.

<sup>12</sup> In the absence of elevated soil gas pressures, this is typically true for methane as well.

<sup>13</sup> Based on continued and ongoing groundwater monitoring required by the CDPHE-approved closure plans.



encountered by future excavations in the residential area, whether during construction of the homes or later by homeowner activities. Similarly, these investigations have shown that soil, groundwater, and soil vapor in the residential area have not been impacted by migration of constituents from the Historic Landfill, nor are they likely to in the future.

Nevertheless, additional safeguards are already in place or will be provided during development of the residential area, in the unlikely event that buried waste or impacts are discovered in the future.

#### **4.1 Materials Management Plan**

Although not required by CDPHE through its No Action Determination, excavation contractors and other parties disturbing the ground during residential development will be required to follow a Material Management Plan (MMP), which will include requirements for identifying and properly managing any contaminated materials or waste encountered.

#### **4.2 Sub-Excavation**

All building footprints will be sub-excavated prior to construction to a nominal depth of 3 to 10 feet and backfilled with engineered fill. Sub-excavation is a standard procedure commonly performed in this area to mitigate the potential for swelling soil impacts on building foundations. Sub-excavation will also ensure that no waste is buried below the homes or, if discovered, that it is removed under the MMP and properly disposed.

#### **4.3 Monitoring of Landfill**

The CDPHE-approved plans for closure of the Historic Landfill include requirements for monitoring groundwater and soil vapor within the landfill and buffer area during the post-closure period. While no migration of constituents in groundwater or soil vapor is anticipated, the monitoring programs will allow prompt assessment and addressing of migration if it occurs.

#### **4.4 Installation of Radon Systems**

We understand that all homes in the residential area will be constructed with preemptive radon mitigation systems, which are intended to control naturally occurring radon gas.<sup>14</sup> While no chemical vapors or methane are likely to migrate from the Historic Landfill to the residential area, radon systems can also control these vapors when present below homes.

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<sup>14</sup> Weld County is designated as Zone 1 on the EPA Map of Radon Zones, indicating that the predicted average indoor radon level exceeds the 4 picocuries per liter screening level for mitigation.

## 5. CONCLUSIONS

Based on the many investigations that have taken place at and near the property, including investigations and work conducted by Geosyntec and approved by EPA and CDPHE, we conclude:

- No buried waste is present in the residential area at Redtail Ranch.
- The Historic Landfill associated with the Redtail Ranch property is located on a separate tract from the residential area (the green area on Figure 2) and has been properly closed under CDPHE oversight.
- The closed Historic Landfill includes a buffer area that provides further separation from the residential area.
- No COCs associated with the closed Historic Landfill have migrated to the residential area.
- Additional safeguards, such as 1) implementation of a Materials Management Plan, 2) sub-excavation of soil below the full footprint of all homes, 3) monitoring of groundwater and soil vapors between the Redtail Ranch development and the Historic Landfill to the north, and 4) preemptive installation of radon systems below all future homes, will provide additional protection against any unknown environmental conditions.

In our opinion, the residential area of the Redtail Ranch property has been investigated more thoroughly than most if not all undeveloped properties in the area. Based on the lack of impacts indicated by these investigations, the potential for environmental impacts due to unknown conditions on the property is likely lower than on other undeveloped properties that have not been subject to the same level of scrutiny.

## **6. REFERENCES**

A.G. Wassenaar, 2016. Geotechnical Site Development Study for Retail Ranch, Northwest of Weld County Road 4 and Weld County Road 5, Erie, Colorado, prepared for Stratus Redtail Ranch, LLC, April 28.

Geosyntec, 2018. Phase I Environmental Site Assessment, Subject Site: Weld County Parcel #146729000043 with Certain Exclusions, Erie Colorado, prepared for Stratus Investment Partners, LLC, July 17.

Geosyntec, 2019. Limited Phase II Environmental Site Assessment Report, Stratus Redtail Ranch 2 LLC, Erie, Weld County, Colorado, prepared for Stratus Redtail Ranch 2, LLC, February 19.

Geosyntec, 2020. Corrective Measures Design Report, Historic Landfill Site, Revision 1, prepared for Stratus Redtail Ranch, LLC, May 1.

Stewart Environmental Consultants (SEC), 2007a. Site Investigation – Property South of Old Erie Landfill, Erie, Colorado, prepared for Southwestern Investment Corporation, July 6.

SEC, 2007b. Supplemental Soil Vapor Investigation – Property South of Old Erie Landfill, Erie, Colorado, prepared for Southwestern Investment Corporation, September 14.

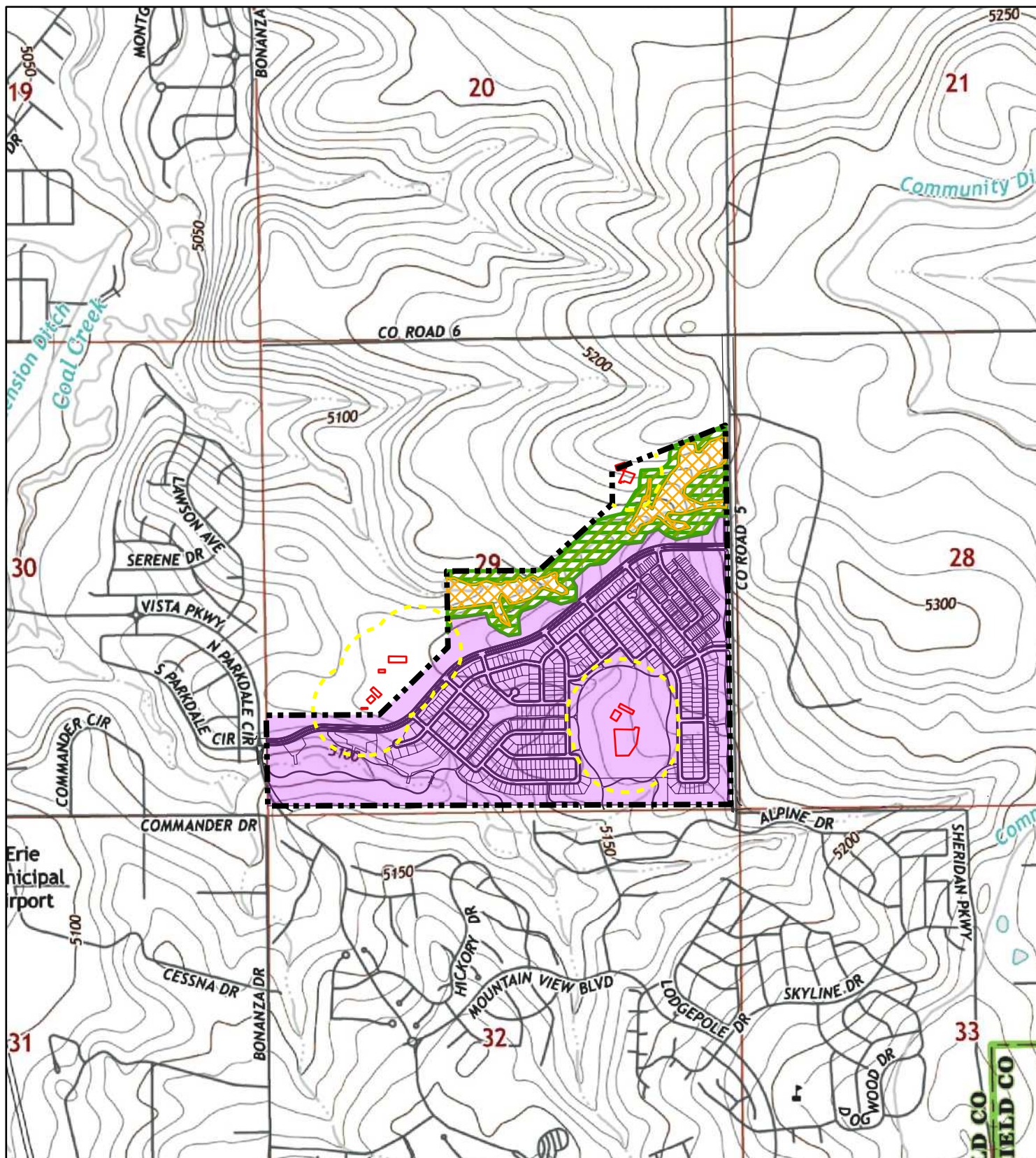
SEC, 2011. Soil Vapor Monitoring – Old Erie Landfill, Erie, Colorado, prepared for Pratt Management Company, LLC, January 28.

Tetra Tech, 2007. Summary Report of Preliminary Site Investigation Activities, Weld County, Colorado, prepared for Southwestern Investment Corporation, February 2.

U.S. EPA, 1984. Site Inspection Report, Columbine Landfill, June 12.

Western Environment and Ecology, Inc., 2014. Mine Subsidence Investigation, Pratt Property, prepared for LAI Design Group, September 19.

## FIGURES



#### Legend

- Active Oil & Gas Location Boundary
- 500 ft Oil & Gas Setback
- Environmental Area (17.30 Acres)
- Planned Development Area
- Environmental Area Setback (28.47 Acres)
- Property Boundary

#### Notes:

1. Site features are proposed and considered approximate.
2. 2013 Topographic aerial image provided by USGS.



0 1,500  
Feet

### Site Location Map

Redtail Ranch Property, Erie, Weld County, CO

**Geosyntec**  
consultants

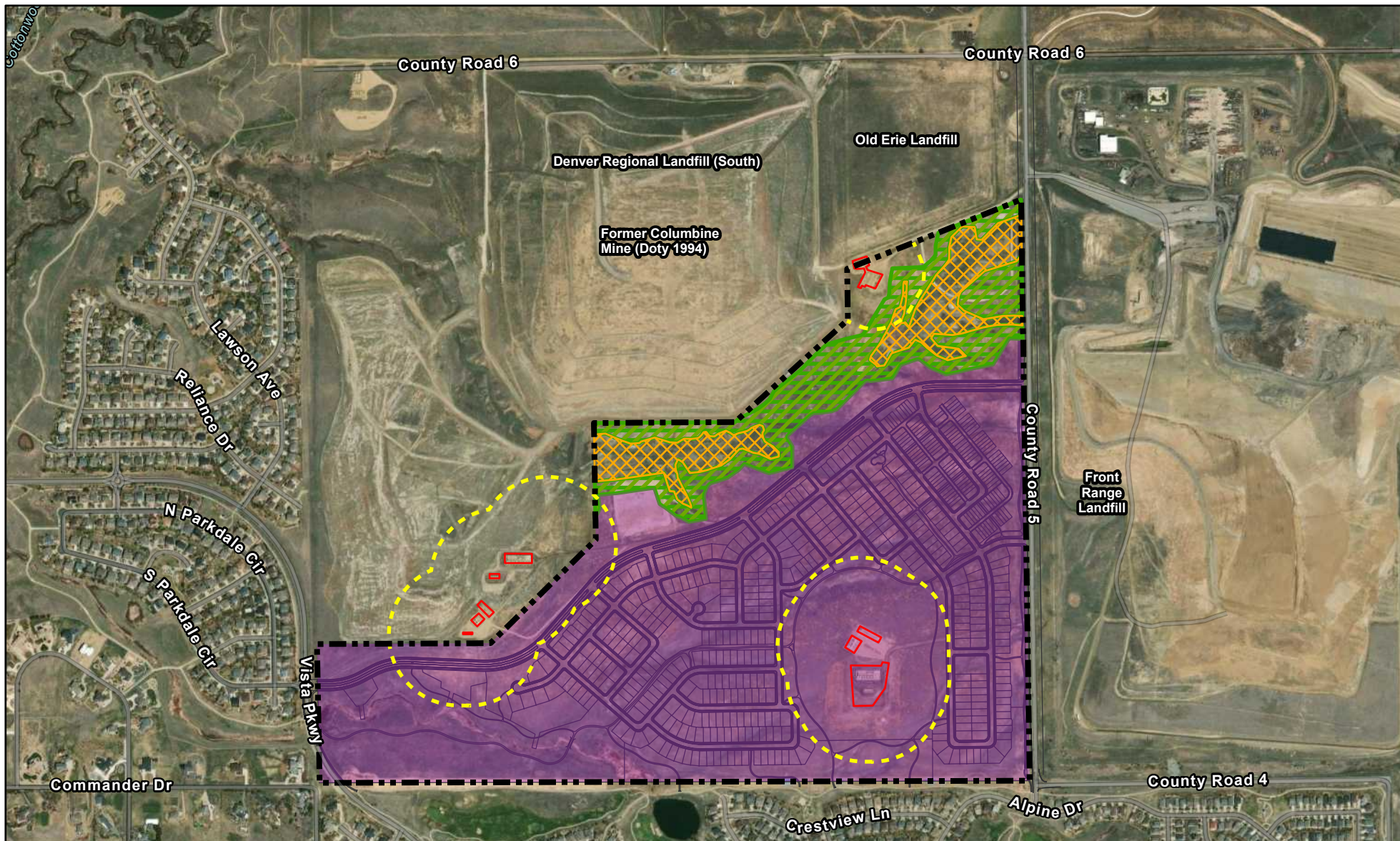
**Figure**

**1**

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May 2025





### Legend

- Active Oil & Gas Location Boundary
- 500 ft Oil & Gas Setback
- Environmental Area (17.30 Acres)
- Planned Development Area
- Environmental Area Setback (28.47 Acres)
- Property Boundary

### Notes:

1. Site features are proposed and considered approximate.
2. 2023 World Imagery: Maxar.



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Feet

## Site Layout and Surrounding Landfills

Redtail Ranch Property, Erie, Weld County, CO

**Geosyntec**  
consultants

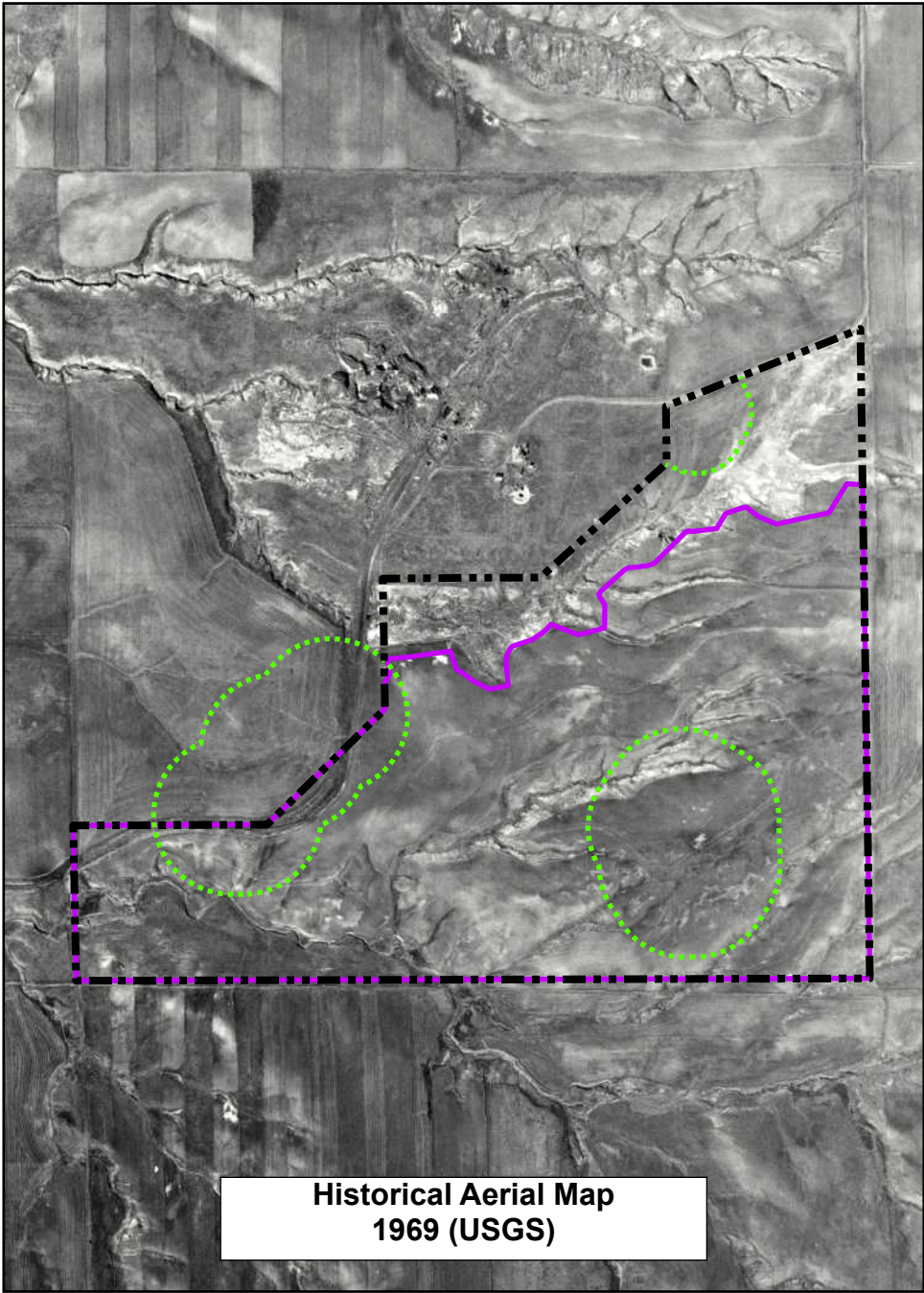
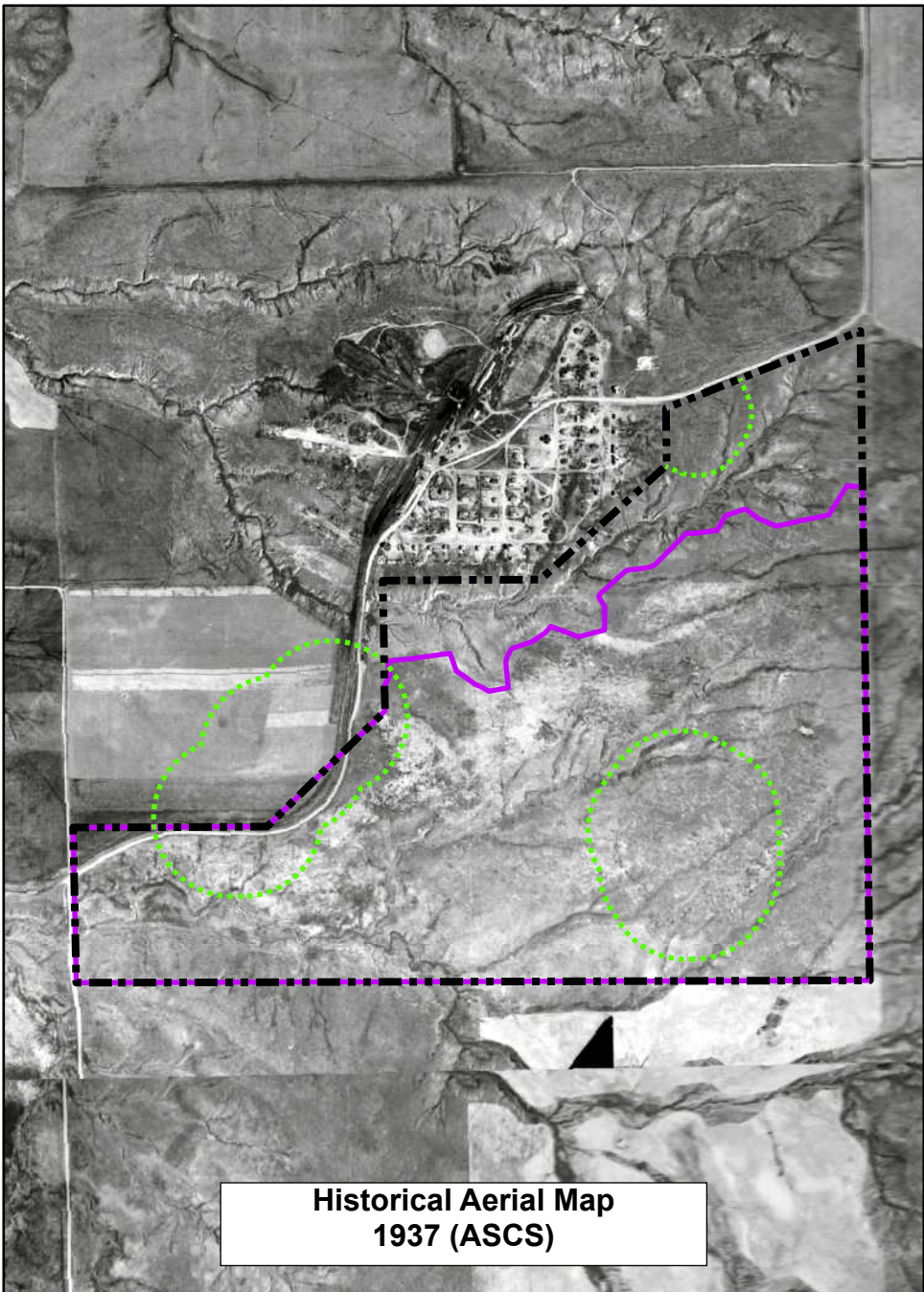
**Figure**

**2**

DE1075

May 2025





**Legend**

- 500 ft Oil & Gas Setback
- Planned Development Area
- Property Boundary

**Notes:**

1. Aerial Image sources are indicated in parenthesis after year. They are considered approximate.

2. Property features are proposed and considered approximate.

USGS = United States Geological Survey

AMS = Army Map Service

ASCS = Agricultural Stabilization and Conservation Service

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0 1,200 Feet

Scale applies to all frames

**Historical Aerial Photos 1937-1983**

Redtail Ranch Property, Erie, Weld County, CO

**Geosyntec**  
consultants

DE1075 May 2025

**Figure**  
**3a**





**Legend**

- 500 ft Oil & Gas Setback
- Planned Development Area
- Property Boundary

**Notes:**

1. Aerial Image sources are indicated in parenthesis after year. They are considered approximate.

2. Property features are proposed and considered approximate.

USGS = United States Geological Survey

USDA = United States Department of Agriculture

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Scale applies to all frames

**Historical Aerial Photos 1999-2017**

Redtail Ranch Property, Erie, Weld County, CO

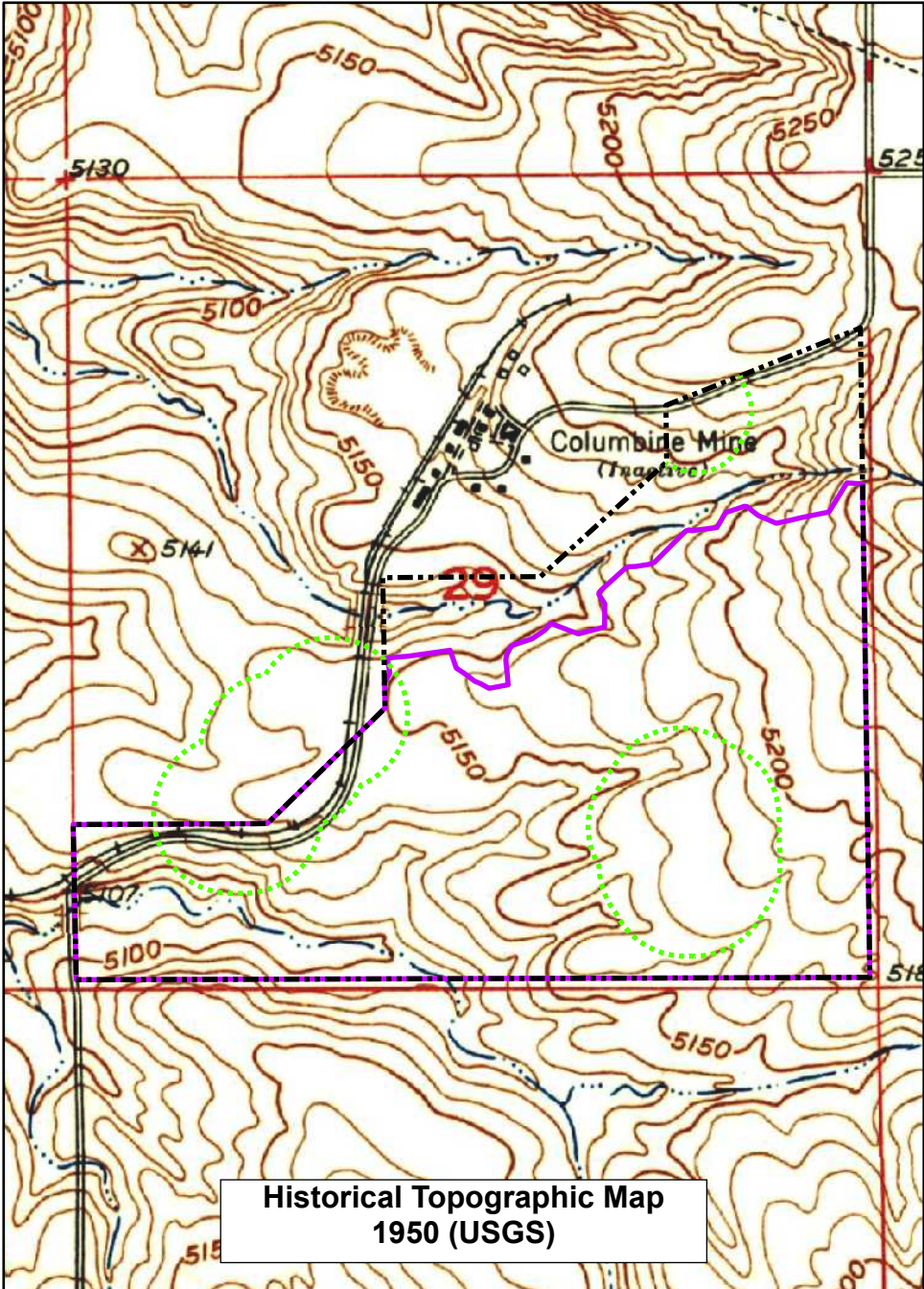
**Geosyntec**  
consultants

DE1075

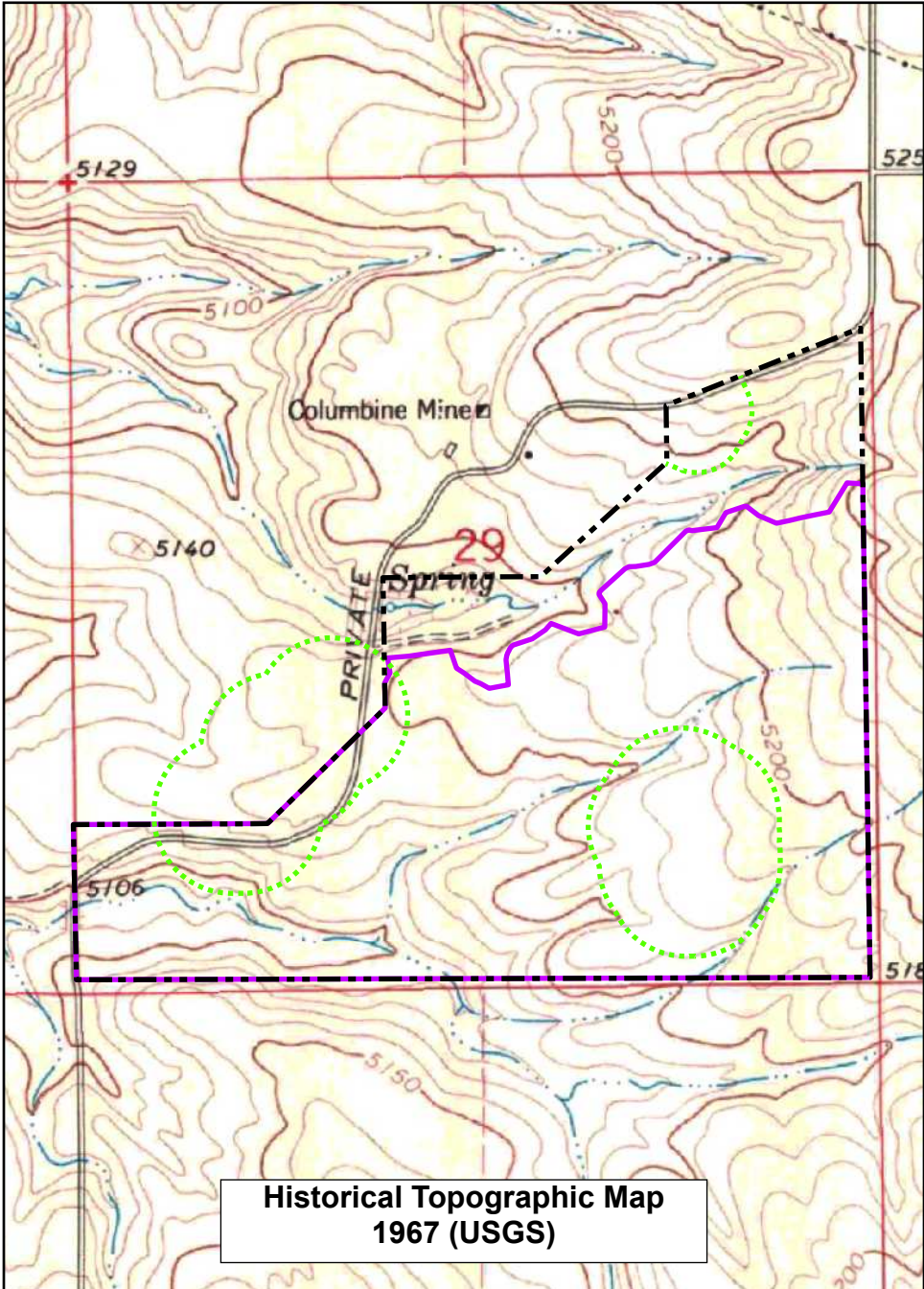
**Figure**  
3b

May 2025

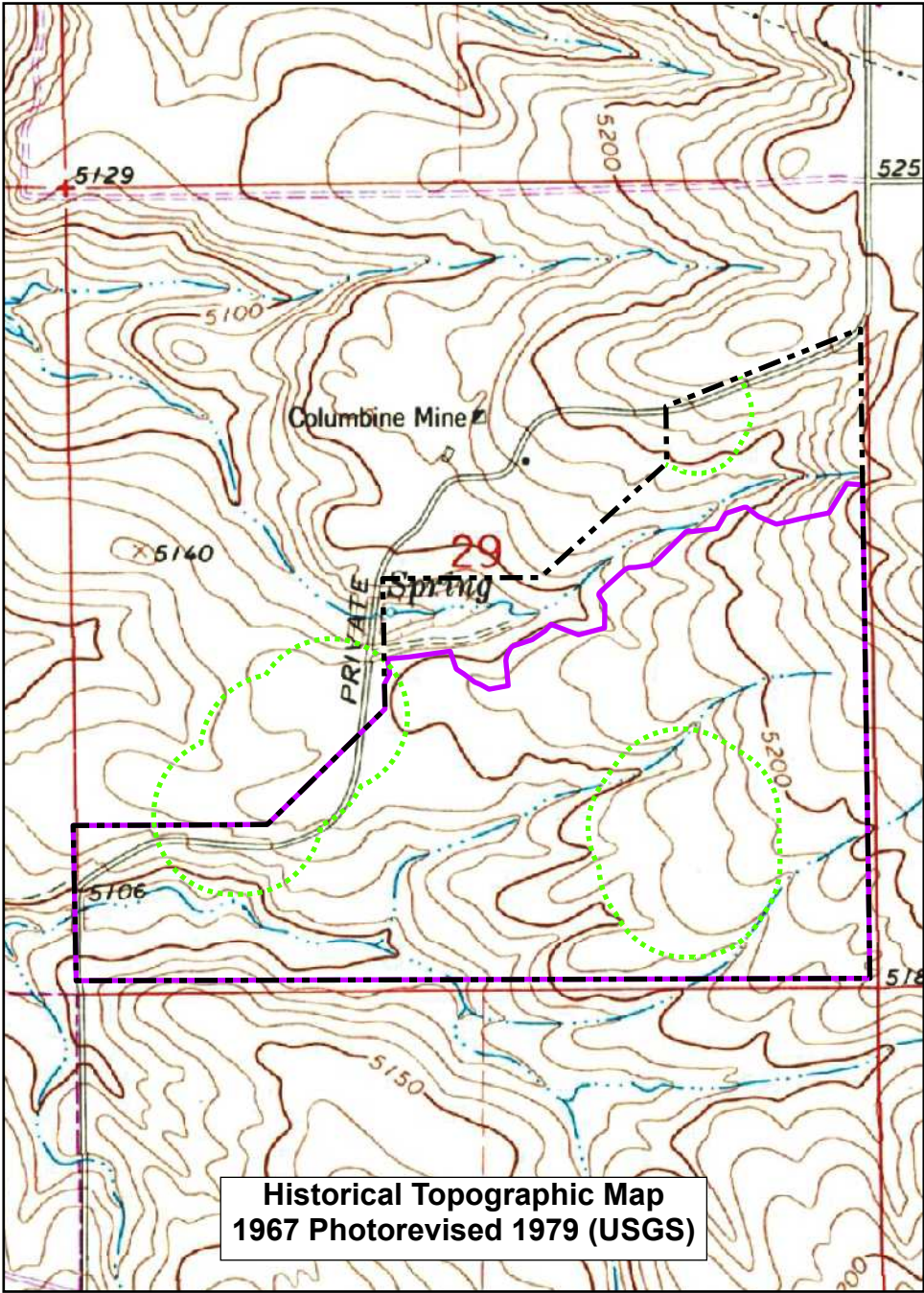




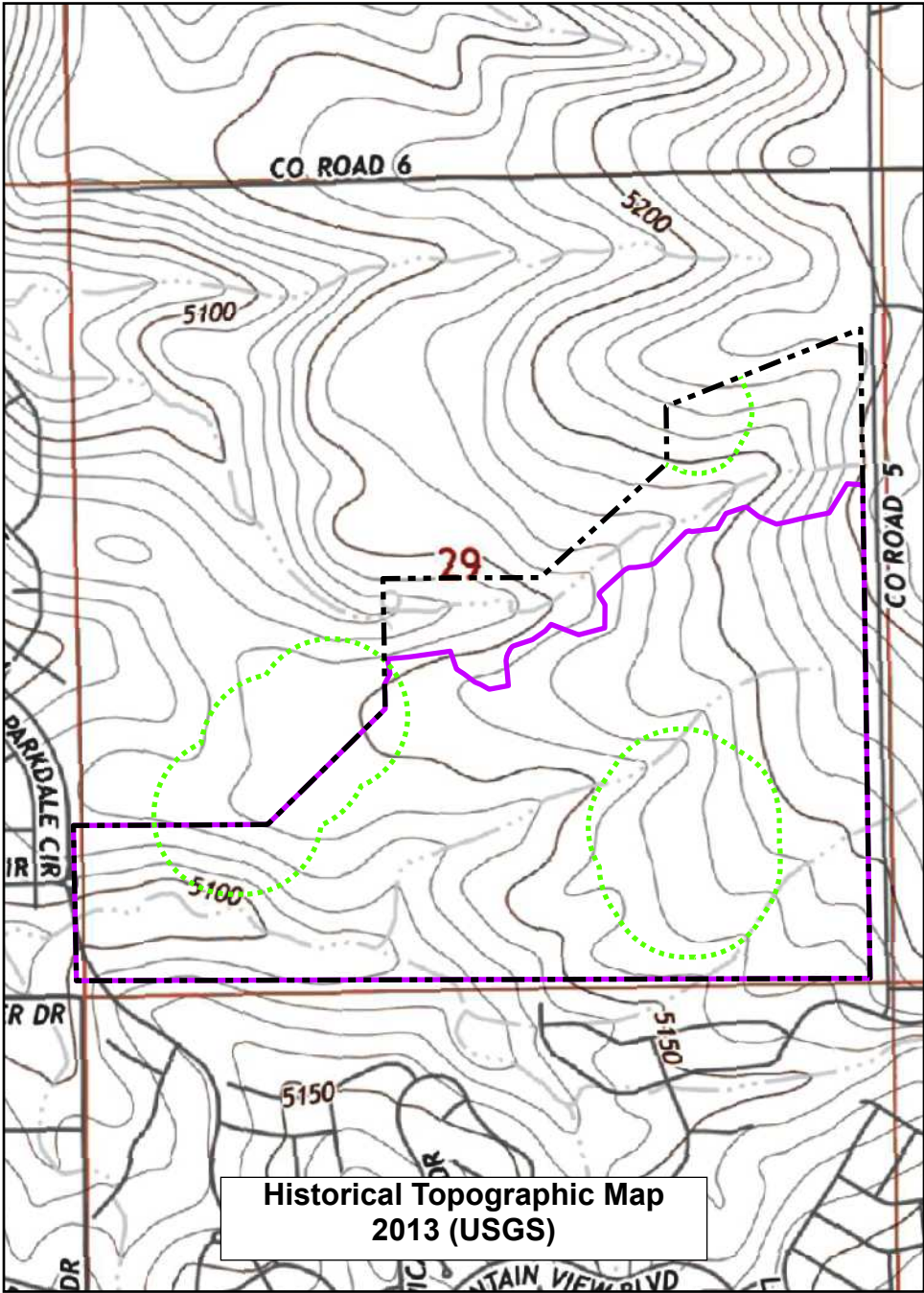
Historical Topographic Map  
1950 (USGS)



Historical Topographic Map  
1967 (USGS)



Historical Topographic Map  
1967 Photorevised 1979 (USGS)



Historical Topographic Map  
2013 (USGS)

**Legend**

- 500 ft Oil & Gas Setback
- Planned Development Area
- Property Boundary

Notes:

- Erie, CO topographic quadrangles are provided by the United States Geographic Survey (USGS).
- The 1979 photorevision is assumed to contain the same topographic lines as the 1967 topographic map.
- Property features are proposed and considered approximate.

0 1,200 Feet

Scale applies to all frames

**Historical Topographic Maps  
1950-2013**

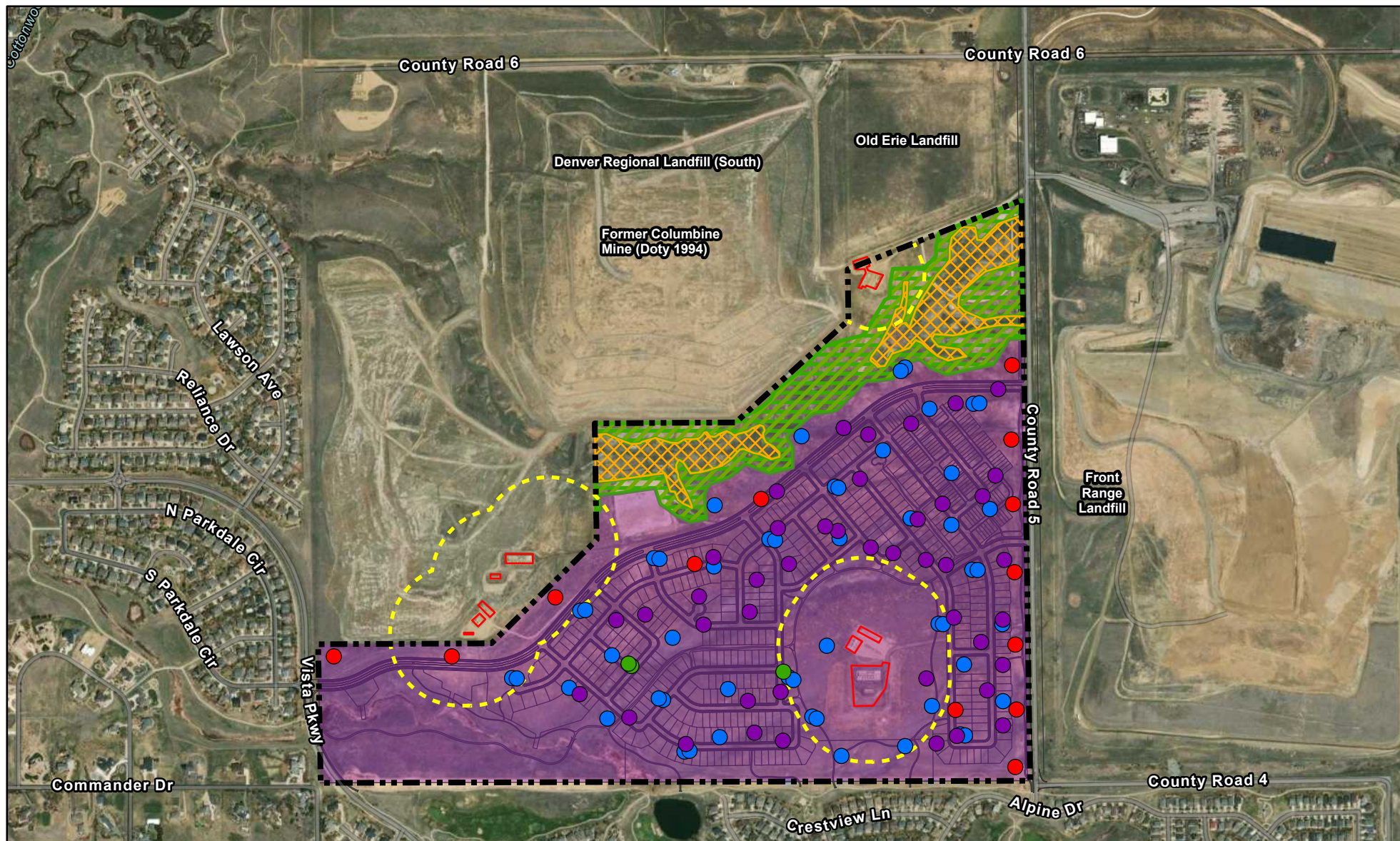
Redtail Ranch Property, Erie, Weld County, CO

**Geosyntec**  
consultants

**Figure**  
4

DE1075 May 2025





#### Legend

- Soil Boring Location
- Composite Soil Sampling Location
- Groundwater Sampling Location
- Soil Vapor Sampling Location
- Active Oil & Gas Location Boundary
- 500 ft Oil & Gas Setback
- Environmental Area (17.30 Acres)
- Environmental Area Setback (28.47 Acres)
- Property Boundary
- Planned Development Area

#### Notes:

1. Site features are proposed and considered approximate.
2. 2023 World Imagery: Maxar.



0 1,000  
Feet

### Previous Investigation Locations Map

Redtail Ranch Property, Erie, Weld County, CO

**Geosyntec**  
consultants

DE1075

May 2025

**Figure**

**5**



ATTACHMENT A  
RESUME OF DAVID J. FOLKES, P.E. (CO)

**DAVID J. FOLKES, P.E.**  
**Senior Principal**

**soil investigation & cleanup**  
**groundwater assessment and remediation**  
**vapor intrusion evaluation and mitigation**  
**waste disposal facility design and remediation**  
**ESA, costing and regulatory support**  
**litigation support**

## **EDUCATION**

M.A.Sc., Civil Engineering, University of Toronto, Canada, 1980

B.A.Sc., Geological Engineering (honors), University of Toronto, Canada, 1977

## **PROFESSIONAL REGISTRATIONS**

Colorado Professional Engineer No. 23229

## **CAREER SUMMARY**

Mr. Folkes has over 40 years of experience addressing contamination of environmental media at a wide variety of sites across North America and overseas, including investigation and cleanup of multi-media impacts at oil and gas, mining, metals processing, industrial, agricultural, waste disposal, and other facilities; and assessment and mitigation of indoor air impacts due to vapor intrusion. He has provided litigation support related to soil and groundwater contamination and vapor intrusion impacts, including expert testimony in state and federal court.

Mr. Folkes has addressed soil and groundwater contamination at numerous sites across the country under RCRA, CERCLA, UST, Brownfields, Voluntary Cleanup and other regulatory programs, including sites impacted by petroleum, chlorinated solvents, metals, brine, nutrients, pesticides, PCBs, nitrate, and other compounds. Groundwater remedies evaluated and/or implemented include hydraulic containment, in-situ bioremediation, in-situ chemical oxidation, soil vapor extraction, multi-phase extraction, air sparging, slurry walls, permeable reactive barriers, and other technologies.

Mr. Folkes has worked on a variety of oil and gas sites, including operating and former oil refineries and gas plants, distribution and blending facilities, exploration and production fields, pipelines, and retail sites. Over the past 24 years he has helped the Wyoming DEQ oversee the investigation and cleanup of several major oil refinery sites, including removal of piping and infrastructure, soil remediation, LNAPL recovery, groundwater remediation, and boundary containment systems to protect adjacent rivers.

Mr. Folkes has helped metals processing and mining companies address metals issues in

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all media including management of remedial investigations, feasibility studies, and remedial action at the Asarco Globe Plant in Denver Colorado, which included cleanup of surface soil at over 1000 residential and commercial properties. He has evaluated the sources, nature and extent, leaching potential, and cleanup options for soils impacted by arsenic, lead, and other metals at former smelter and metals processing facilities across the US.

Mr. Folkes is also an expert in the evaluation and mitigation of vapor intrusion (VI). He has worked on over 240 VI projects across North America and overseas over the past 27 years, including sites in Europe, South America, Australia, and Southeast Asia. Mr. Folkes has been extensively involved with development of VI practice and guidance. Mr. Folkes helped develop the ITRC 2007 VI Guidance, 2014 Petroleum VI Guidance, and VI Mitigation Training Fact Sheets and is currently a member of the recently formed VI Pathway Evaluation and Mitigation team.

Representative projects are presented below related to investigation and cleanup of soils; investigation and remediation of groundwater; waste disposal facility design, investigation, and remediation; environmental site assessment, costing, and regulatory support; assessment and mitigation of vapor intrusion; and litigation support.

### **Soil Investigation and Cleanup Projects**

***Technical Support, Oil Refinery & Gas Plant Cleanup, Wyoming.*** Mr. Folkes has assisted the Wyoming Department of Environmental Quality (WDEQ) with oversight of investigations and cleanup of soil, groundwater, surface water, sediments, and other media at several former and operating refineries and gas plants across Wyoming since 2000. Work typically includes review of investigation work plans and reports, remedy design documents, remedy implementation work plans, monitoring reports, and remedy completion reports; participation in collaborative work groups on various technical issues, and presentations to the public. Soil cleanups at various sites have been to residential, commercial, and/or open space use standards as well as protection of groundwater (leaching potential) for volatile petroleum compounds, polycyclic aromatic hydrocarbons, metals, asbestos, and other compounds.

***Evaluation of Metals in Mining Town Soils, Rico, CO.*** Mr. Folkes assisted the Town of Rico with evaluation of soil investigations, risk assessments, and soil cleanup plans by Atlantic Richfield (AR) for residential yards, streets, and open space impacted by historic lead mining and smelting activities. Soil cleanup of developed properties will occur beginning in 2025 pursuant to a voluntary cleanup plan approved by the Colorado Department of Public Health and Environment (CDPHE). Work has included statistical evaluation of data, estimation of cleanup costs, development of sampling work plans,

collaborative work group meetings with the town and AR, and presentations on the status of the work to the town residents and Board.

***RI/FS/RA at Asarco Globe Plant, Denver, Colorado.*** Mr. Folkes was Project Manager for Remedial Investigations, Feasibility Studies, development of a Statement of Work, and implementation of Remedial Design/Remedial Action for the Asarco Globe Plant, an historic lead smelter, arsenic trioxide refinery, cadmium refinery, and ongoing specialty metals processing plant. Principal metals of concern were lead, arsenic, cadmium, and zinc. Media investigated included groundwater; surface water and sediment of drainage ditches, ponds, and the South Platte River; on and off-site soils impacted by stack and fugitive emissions; and air. Sources evaluated included a tailings pond, wet operations and sumps, and historic processing facilities (now buried). Operable Units include cleanup of surface soils at over 1000 residential and commercial properties in the surrounding community; interception and treatment of groundwater; removal and disposal of contaminated ditch sediments; construction of a slurry wall and RCRA cap to contain a 7 acres pile of calcium sulfate precipitates; stabilization of contaminated sediments; and air emission controls. Some of the community soil cleanup work was conducted for the State of Colorado after the bankruptcy of Asarco in 2005.

***Evaluation of Cadmium and Arsenic Leaching in Soil, Denver, Colorado.*** Mr. Folkes evaluated the potential for vertical migration of cadmium, arsenic, and lead due to leaching of smelter impacted soils. The work included testing to determine partitioning coefficients and other factors controlling migration and modeling of vertical transport. Results showed that concentrations substantially higher than typical soil screening levels could be left in place without risk to groundwater, and that inexpensive methods such as vegetation, sloping, and pH modification could treat soils with high concentrations of metals.

***Metals Leaching Study at Mine and Mill Site, Blackhawk, New Mexico.*** Mr. Folkes was the principal investigator for the evaluation of potential leaching and migration of metals in soils at a mine and mill site. The work included modeling of leaching based on partitioning of metals between soil and water phases.

***Evaluation of the Source of Arsenic in Community Soil, Denver, Colorado.*** Mr. Folkes was the Project Manager and principal investigator for the evaluation of the source of high arsenic and lead concentrations in community soil around a former arsenic trioxide refinery. Work conducted under his direction including geo-statistical modeling and analyses, scanning electron microscope analyses, and review of historic aerial photographs and building construction records. The work showed that stack and fugitive emissions from the historic arsenic refinery site were not responsible for the most of the

high arsenic concentrations observed in off-site soils, particularly in distal communities. The source of high arsenic soil concentrations was application of arsenic and lead bearing herbicides and insecticides during the 1950's and 1960's. EPA and CDPHE ultimately agreed with these findings, issuing a ROD that identified pesticides as the source of the arsenic.

***Evaluation of the Source of Lead in Community Soil, Omaha, Nebraska.*** Mr. Folkes was the Project Manager for the evaluation of the sources of lead contamination of soil currently attributed to historic lead refinery emissions by Asarco. The work included spatial evaluations of lead concentrations compared to wind directions and house age, metals ratios and isotopes, and detailed soil sampling around a home with lead-based paint to evaluate typical inter-yard spatial patterns due to fugitive paint chips. The study indicated that lead paint is the primary cause of elevated lead levels in the Omaha area.

***RI/FS at Former Omaha Grant Lead Smelter, Denver, Colorado.*** Mr. Folkes was Project Manager for a remedial investigation and feasibility study conducted at this former lead smelter site. Principal metals of concern include lead and arsenic. Environmental media evaluated included groundwater, surface water and sediment of the South Platte River, and soils.

***Evaluation of Impact of Historic Air Emissions on Community Soil, Denver, Colorado.*** Mr. Folkes was Project Manager for the evaluation of surface soil impacts due to historic point source and fugitive air emissions of lead and arsenic. Work under his direction included researching historic emission rates and metals contents of feedstocks and by-products, air dispersion and deposition modeling of emissions over the history of the facility, simulation of vertical transport of lead and arsenic in soils, and comparison to measured concentrations in soils. The work demonstrated that airborne impacts were limited to defined areas and that other impacts were due to background anthropogenic sources.

***Evaluation of Smelter Impacts to Community Soils, Various Smelter Sites, US.*** Mr. Folkes was Project Director for the evaluation of impacts to community soils surrounding various smelters in the U.S. for the responsible party, including evaluation of natural and anthropogenic background levels of arsenic, lead, and other metals, and evaluation of the probable extent of impact due to historic point source and fugitive air emissions. The evaluations are based on various lines of evidence, including review of historic operations, statistical evaluation of metals ratios, geostatistical evaluation of spatial patterns, and the results of air dispersion modeling.

***Evaluation of Historic Gold and Lead Mine Impacts, Breckenridge, Colorado.*** Mr. Folkes evaluated the potential impacts of historic mining adits, shafts, waste rock, and



tailings on surface and groundwater quality, and prepared waste rock and tailings management plan to control exposure to soils with elevated lead concentrations and allow residential and commercial site development.

***Smuggler Mountain NPL Site, Aspen, Colorado.*** Mr. Folkes prepared engineering cost estimates for the selected soil remedy for the PRP committee for the Smuggler Mountain NPL site. The work included evaluation of alternative sites for waste disposal.

### **Groundwater Investigation and Remediation Projects**

***Chlorinated Solvent, 1,4-Dioxane, and PFAS Remediation, Broomfield, CO.*** Mr. Folkes is the Project Manager for remediation of a former electronics manufacturing facility with chlorinated solvent, 1,4-dioxane, and PFAS in groundwater. The scope of work includes maintenance of an existing pump and treat boundary control system and development of alternate, passive and in-situ remedies that will ultimately allow closure of the Site under Colorado's Low-Threat Conditional Closure policy.

***Petroleum LNAPL Source Zone Remediation, Miami, OK.*** Mr. Folkes is the Project Director for investigations and remediation of a petroleum NAPL source zone at a former industrial facility in Miami, OK. The work has included additional investigations, including LIF probes, monitoring wells, and aquifer tests to refine the conceptual site model; development of a remedial action plan to guide the remedy development process; pilot scale testing of selected technologies, including enhanced extraction of LNAPL, air sparging, and ISCO; and installation and operation and maintenance of the selected enhanced vacuum extraction and air sparging system.

***Chlorinated Solvent Source Remediation, Oklahoma City, OK.*** Mr. Folkes is the Project Director for remediation of a chlorinated solvent plume source at an industrial site in Oklahoma City. The work included additional investigations to improve the conceptual site model, bench scale testing of ISCO alternatives, pilot scale testing of ISCO injections, and full-scale implementation of an ISCO remedy. Off-site plume risks and management options are currently being evaluated.

***Technical Support, Oil Refinery & Gas Plant Cleanup, Wyoming.*** Mr. Folkes has assisted the Wyoming Department of Environmental Quality (WDEQ) with oversight of investigations and cleanup of groundwater, LNAPL, sediments, and other media at several former and operating refineries and gas plants across Wyoming since 2000. Work typically includes review of investigation work plans and reports, remedy design documents, remedy implementation work plans, monitoring reports, and remedy completion reports; participation in collaborative work groups on various technical issues, and presentations to the public. Issues include NAPL recovery; groundwater containment; groundwater flushing and pump and treat remedies; air sparging, in situ biodegradation, MNA, NSZD, and phytoremediation of groundwater; vapor intrusion

evaluation and mitigation; sediment and soil cleanup.

***PCE Plume Remediation, Casper, WY.*** Mr. Folkes is the Project Director for the investigation and remediation of soil and groundwater associated with historic releases of PCE from a dry cleaner in Casper, WY, which resulted in a dissolved phase plume extending over one mile to the North Platte River. The work is being done for the Wyoming DEQ under the Orphan Sites program. An MiHPT probe was used to evaluate the nature and 3D extent of DNAPL source material in the aquifer and allow targeted injections of emulsified vegetable oil to stimulate anaerobic biodegradation in the source zone. In addition, an SVE system was installed and operated to remediate residual solvents in the vadose zone. The SVE system was recently decommissioned after achieving asymptotic soil vapor levels, and additional investigations including High Volume Sampling (HVS) of soil vapors to evaluate the nature and extent of residual source mass. The downgradient dissolved phase plume is being managed through MNA and institutional controls, with contingencies for more aggressive action if remediation milestones are not met.

***Chlorinated Solvent Plume Remediation, Denver, CO.*** Mr. Folkes was the Project Manager, and subsequently the Project Director for the investigation and remediation of a two mile long chlorinated solvent plume, including evaluation of on-site and off-site remedial alternatives; design and installation of a groundwater hydraulic containment system, including cVOC and 1,4-dioxane treatment; characterization of three separate DNAPL source zones in weathered bedrock and alluvium; ISCO pilot testing; design and installation of in-situ anaerobic and aerobic bioremediation systems; forensic evaluation of the contributions of other sources, and expert and consulting witness roles in class action and insurance cost recovery lawsuits. He now serves as a technical advisor for the current Project Director and Project Manager.

***Evaluation of ISCO Performance, Syracuse, NY.*** Mr. Folkes was the Project Manager for the evaluation of the performance of an In-Situ Chemical Oxidation (ISCO) remedy using potassium permanganate at an industrial facility. Issues addressed included the overall efficacy of the remedy in a weathered bedrock environment, including injection locations and other issues.

***Evaluation of In-Situ Bioremediation Performance, Syracuse, NY.*** Mr. Folkes was the Project Manager for the evaluation of the performance of an in-situ bioremediation remedy using potassium permanganate at an industrial facility. Issues addressed included the overall efficacy of the remedy, as well as injection procedures, the substrate and inoculant used, injection locations and pressures, and other issues.

***Evaluation of Industrial Facility, Denver, CO.*** Mr. Folkes was the Project Director for groundwater, soil vapor, sub-slab vapor, and indoor air investigations. Recent

investigations by another consultant indicated that previously undetected PCE contamination was present in groundwater, potentially jeopardizing an existing No Further Action determination. Our investigations showed impacts were from off-site sources or aged on-site sources requiring no active remediation, and that PCE concentrations detected by others were due to poor well construction. Based on this, CDPHE approved No Further Action.

***Evaluation of Environmental Costs, Multiple States.*** Mr. Folkes was Project Manager and a consulting expert for the Asarco Incorporated bankruptcy creditors committee. The work included evaluation of reasonable costs for addressing remaining environmental issues at various mine, mill, and smelter sites in Colorado, New Mexico, Arizona, Missouri, and other states. Issues included soil and groundwater contamination at mine sites, tailings pile closure and soil contamination at former smelters and metals processing sites.

***Former Chemical Manufacturing Facility, East Rutherford, NJ.*** Mr. Folkes was the Project Director for evaluation and remediation of a chlorinated solvent source zone in peat and estuarine sediments, including O&M of an ozone sparging system installed by others and evaluation of more cost-effective alternatives. Challenges included an immediately adjacent tank farm and building, a shallow water table and seasonal flooding, and truck traffic over the source area.

***Former Dry Cleaner, Arvada, CO.*** Mr. Folkes was the Project Director for investigation and remediation of groundwater impacted by PCE releases. Our conceptual model indicated a vadose zone source that was impacting groundwater through soil gas partitioning, allowing an SVE-only remedy. Concentrations are now below MCLs at the property line and only 20 ppb near the source zone; as a result, an NFA petition was granted by the regulatory agency.

***Former Lead Smelter, Arsenic Refinery, & Cadmium Plant, Denver, CO.*** Mr. Folkes was the Project Manager of remedial investigations, feasibility studies, and remedy design and implementation at a former smelter and metals refinery that operated from 1886 into the early 2000s. Responsibilities included direction of multi-media remedial investigations; multi-media feasibility studies and alternative evaluations; and selected remedy designs for groundwater, soil, surface water, sediment, and air emission issues. Supervised preparation of construction plans and specifications for groundwater interception drain, and implemented several interim remedial actions including pipe repairs, groundwater interception, and temporary capping of tailings material. Project completed in 2005 with the bankruptcy of ASARCO Inc., with some follow-on work through the bankruptcy committee and the State of Colorado.

***Fumigant Impacts to Groundwater, Salina, KS.*** Mr. Folkes was the Project Manager for

the evaluation of chlorinated solvent contamination of groundwater, including identification of sources, fate and transport issues, and evaluation of potential off-site impacts. In the latter stages of the project, before closure, he reviewed periodic reports by others for one of the responsible parties, monitoring the progress of monitored natural attenuation.

***Closed Grain Silo, Johnstown, CO.*** Mr. Folkes was the Project Manager for investigations of soil and groundwater impacts including evaluation of barium impacts to road base materials, pesticides in soil and within the building, and asbestos and lead paint. Work included development and evaluation of remedial alternatives to address TCLP levels of barium in soil.

***Rocky Mountain Arsenal, Colorado.*** Mr. Folkes served as a consulting expert to the Colorado Department of Public Health and Environment (CDPHE) and the Colorado Attorney General's Office, assisting with technical evaluation of contamination and remediation of solvents, metals, and other compounds at the RMA. Services were provided under subcontract to the prime consultant to the state.

#### **Vapor Intrusion Assessment and Mitigation**

***Large Residential Vapor Intrusion Site, Denver, CO.*** Mr. Folkes was the Project Manager/Director (1997-2023) for the investigation and remediation of chlorinated solvent vapors in houses and other buildings resulting from a large, chlorinated solvent groundwater plume. He is now a senior technical advisor to the project team and client. The scope of work has included groundwater contaminant plume delineation, soil and soil vapor testing, indoor air testing of over 700 buildings, design and installation of sub-slab depressurization systems in over 350 homes and apartments, monitoring of ventilation system performance, modeling of vapor migration into construction trenches, design and installation of a ventilation system for a manufacturing building, design and installation of a groundwater containment system, DNAPL source characterization, ISCO injections below the site building in weathered bedrock, and design and installation of an enhanced in-situ bioremediation system.

***VIMS Design for Several New Large Warehouse Buildings, Kansas City, Missouri.*** Mr. Folkes is the Project Director for the design and oversight of installation of VI mitigation systems (VIMS) for several new, large warehouse buildings being constructed at a former federal complex in Missouri. The scope of work included the development of a general VI mitigation approach to meet the requirements of various stakeholders (federal agencies, state regulators, and the developer), which was approved by MDNR. Pre-design investigations are being conducted within the footprint of each building, followed by preparation of VIMS design drawings and specifications for each building, and quality assurance services during construction, startup testing, and inspections and testing of



newly installed mitigation systems. The VIMS for one building is installed and operating; the VIMS has been installed and undergoing startup testing in a second building; and the VIMS designs for three other buildings are in progress as of the spring of 2023.

***Mitigation of Multi-Family Residential Buildings, Brownfield Site, San Juan, Puerto Rico.*** Mr. Folkes was the Project Director for the design of aerated floor mitigation systems for seven new multi-family residential buildings at this site, as well as review of designs by others of traditional gravel and liner mitigation systems for nine other new multi-family residential buildings at the same site, as well as review of traditional system designs for 13 new multi-family buildings at a second Brownfield site in San Juan. The scope of work also included inspection of both the aerated floor and gravel/liner systems during construction, and vacuum/leak testing of the completed systems.

***Conceptual Methane Mitigation Designs, Florida.*** Mr. Folkes assisted Geosyntec's local engineers with conceptual methane mitigation system designs for a proposed new hospital, to be constructed at an old industrial landfill site. The conceptual designs included excavation of wastes below the building footprint, including a buffer zone, and an aerated floor system to vent any methane and other landfill gases that might migrate laterally from the waste to the building foundations. The work also included review of a traditional membrane, gravel and gas-collection pipe design, and evaluation of mitigation alternatives for areas outside of the building.

***Various Oil Refineries, Wyoming.*** Mr. Folkes is providing technical support to the Wyoming DEQ for the investigation and remediation of the various former and operating oil refineries and gas plants across Wyoming, including vapor intrusion concerns due to LNAPL and groundwater plumes. This component of the work has included evaluation of vapor intrusion screening levels and mitigation designs for new commercial buildings on site.

***Wyoming DEQ Voluntary Remediation Program, Wyoming.*** Mr. Folkes assisted the Wyoming DEQ with development of vapor intrusion guidance (published in 2019) for its Voluntary Remediation Program, including screening, evaluation, and mitigation procedures for general and petroleum vapor intrusion sites. Mr. Folkes also led a two-day training program on vapor intrusion for WDEQ personnel.

***Aerated Floor Mitigation System Design & Construction Inspection/Testing, various U.S. states.*** Mr. Folkes has directed and/or assisted with the design, inspection, and testing of aerated floor mitigation systems at a variety of sites across the U.S., including seven multi-family buildings in Puerto Rico; three car dealerships in Georgia; two hotels in Arizona; a residential/commercial building in New York; commercial/restaurant buildings in Oakland, Denver, and Chicago; a YMCA in Pennsylvania; a nurse's college building in Texas; a bank in Colorado; an office building in New Jersey; a school in

Toronto; a child development center in Nevada; a commercial/industrial building in Colorado; and a commercial building in Massachusetts. Compounds addressed by the mitigation systems have included chlorinated solvents, petroleum compounds, methane, and radon.

***Conceptual Mitigation Designs for Multi-family buildings, Stockholm, Sweden.*** Mr. Folkes was technical lead for development of conceptual VI mitigation designs for proposed multi-story residential apartment buildings in Stockholm, Sweden. Chlorinated solvents were present in fractured rock and groundwater below the site, requiring preemptive mitigation VI systems. The buildings included residential units on grade, a below grade kindergarten, and up to four levels of underground parking garages. The conceptual designs considered the potential mitigating effects of the garages and included passive barrier/venting systems and aerated floor alternatives.

***Manufacturing Building Vapor Intrusion Site, Mississippi.*** Mr. Folkes is providing confidential consulting expert services to outside legal counsel for the owner of a manufacturing building with potential vapor intrusion concerns related to historic releases of chlorinated solvents by the prior building owner. Under an indemnity agreement, the prior owner is evaluating vapor intrusion in onsite and offsite buildings. Mr. Folkes is reviewing work plans and reports prepared by consultants for the prior owner on behalf of the current owner and providing mitigation and monitoring recommendations, including the installation of a floor sealant by Geosyntec. Mr. Folkes is also reviewing groundwater investigation reports and cleanup plans, including the results of MiHPT investigations that Mr. Folkes recommended be conducted to identify the source of DNAPL impacts and allow targeting of remedial action.

***Vapor Intrusion Evaluation of Large Industrial Site, Ohio.*** Mr. Folkes was the Project Director for evaluations of vapor intrusion potential for several buildings at a large industrial site, including development of a conceptual site model, evaluation of multiple lines of evidence for each building, and identification of data gaps. Preliminary findings indicated a low potential for vapor intrusion and that most exceedances of screening levels were likely due to background sources.

***Petroleum Vapor Intrusion Evaluation at Pipeline Release Site, Colorado.*** Mr. Folkes was the project manager for evaluations of potential impacts of a petroleum pipeline release on indoor air in two adjacent homes. Indoor air and outdoor air samples were collected and analyzed for BTEX compounds following state-of-the-art TO-15 test methods. A forensic evaluation of the data, included compound ratio analysis, indicated that fuel-containing equipment stored in attached garages were responsible for elevated benzene levels and that the released product had no discernable impact on indoor air quality.

***Mitigation of Storage Facility, Keswick, Australia.*** Mr. Folkes led a technical team responsible for designing and overseeing the installation of a sub-slab depressurization system in a new multi-story storage facility in Keswick, Australia. Innovative designs were required to deal with a close-spaced grid of grade beams, low permeability subgrade materials that had already been placed to grade when Geosyntec was retained, and high TCE concentrations in soil gas. The mitigation system employs a thin, permeable geogrid vent mat immediately below the slab and vapor barrier (to avoid difficult excavation of already placed soils between grade beams), and perforated pipe laterals in gravel trenches that convey vacuum to the multiple isolated cells created in the subgrade by the grade beams. The laterals connect to header pipes on opposite sides of the building, with a separate riser and blower serving each header pipe for redundancy. The system has been installed with periodic inspections by the local engineer under Geosyntec oversight.

***Evaluation of TCE Impacts at USACOE Laboratory, Hanover, NH.*** Mr. Folkes was an invited vapor intrusion subject matter expert for third party review of vapor intrusion investigations and mitigation at a large government laboratory in New Hampshire. Significant historic TCE releases had resulted in high TCE levels in soil gas in several areas around the building and elevated TCE levels throughout the building. Mitigation to date had included retrofitting of a spray-on liner sub-slab depressurization (SSD) system in one wing, and suction points for additional SSD in other parts of the building, but elevated indoor air levels persisted. Mr. Folkes developed a conceptual model of the vapor intrusion source and transport mechanisms and provided additional recommendations for mitigation. To date, additional mitigation measures recommended by Mr. Folkes have reduced indoor air concentrations below screening levels except in isolated areas where indoor sources are suspected and being evaluated.

***Mitigation of CO<sub>2</sub> Impacts to School, Midwest, WY.*** Mr. Folkes was Project Director for the design and installation of a CO<sub>2</sub> and petroleum vapor mitigation system at the public school in Midwest, WY. The CO<sub>2</sub> emissions resulted from surrounding oilfield operations, which have been mitigated by the operator; however, the school board and the oilfield operator agreed that a sub-slab depressurization system should be installed at the school to control vapors resulting from any future releases. The system has been installed and performed as designed. Geosyntec's work also included development of occupational and school indoor air monitoring programs.

***Mitigation of Office Buildings over Petroleum Plume, Fullerton, CA.*** Mr. Folkes was Project Director for the evaluation and design of mitigation systems for two offices located over a shallow LNAPL plume from a neighboring former gas station. Although petroleum vapors are typically biodegraded in the vadose zone, the proximity of the LNAPL to the foundations of the buildings resulted in high BETX and methane concentrations under the slabs, with the potential for vapor intrusion impacts. Geosyntec

conducted diagnostic tests, evaluated venting versus depressurization options, and ultimately designed sub-slab depressurization systems meeting DTSC guidance requirements. The system includes explosion-proof fans and rooftop GAC units for off-gas treatment. The system was installed and was operating successfully when our work was completed.

***Evaluation of Vapor Intrusion at Charter School, Littleton, Colorado.*** Mr. Folkes was the Project Manager for review of vapor intrusion investigations and mitigations for a school overlying contamination soil and groundwater due to releases from an adjacent service station. The role included review of indoor air, sub-slab vapor, and soil vapor data; evaluation of sources of VOCs found in indoor air; evaluation of sub-slab depressurization system performance; and collection of confirmatory indoor air samples.

***Investigation and Mitigation of Warehouse, Denver, CO.*** Mr. Folkes is the Project Manager for the investigation and mitigation of vapor intrusion impacts in an existing warehouse, due to historic releases at a neighboring facility. Indoor air tests conducted prior to a new tenant signing a lease indicated elevated TCE readings within the warehouse. Time was of the essence, because mitigation of the vapor intrusion concern was required before the tenant would enter into a lease, with a planned move in date only three or four months out. Geosyntec conducted rapid sub-slab vapor testing on a grid pattern, using real-time analyses, which indicated that the soil vapor impacts were limited to an approximate 40,000 SF area. Mitigation diagnostic testing was then performed to assess the radius of influence for sub-slab depressurization, leading to fast-track design of a nine suction-point system with one high vacuum low flow blower. The tenant proceeded with signing the lease. The system was installed and has continued to meet target indoor air concentrations after two years of operation. Geosyntec also assisted with the oversight and review of groundwater investigations by the neighboring facility owner, including MiHPT investigations recommended by Mr. Folkes, to determine the source of the groundwater contamination and target remedial actions.

***Review of Aerated Floor Design for Apartment Complex, Italy.*** Mr. Folkes was the Project Manager for review of mitigation conceptual designs and evaluation for a proposed new apartment development over highly contaminated soils, including the use of aerated floor systems and liners, and use of Johnson and Ettinger model to evaluate the potential for passive venting to achieve mitigation goals. The work was conducted through the prime consultant on the project.

***Residential Area Adjacent to Former Chemical Plant, Mt. Holly, NJ.*** Mr. Folkes was the Project Director for vapor intrusion investigations in a neighborhood downgradient of a former chemical facility including soil vapor and indoor air testing. The results of tests and lines of evidence evaluation indicated that indoor air concentrations due to vapor intrusion, if any, were below action levels.



***Multiple Residential & Commercial Buildings, North Penn 12 Superfund Site, PA.*** Mr. Folkes was the Project Director for vapor intrusion investigations in a neighborhood downgradient of the North Penn 12 Superfund site, including development of a vapor intrusion site conceptual model and vapor intrusion investigation work plan, which was approved by EPA Region 3. The results of testing, where access was granted, indicated no vapor intrusion impacts in any buildings tested, confirming the Site Conceptual Model that low permeability soils above bedrock and infilling of fractures in weathered bedrock were inhibiting vapor migration.

***Investigation and Evaluation of Light Industrial Building, East Rutherford, NJ.*** Mr. Folkes was the Project Director for investigation and evaluation of vapor intrusion potential in an active commercial building where chlorinated solvents are present in shallow groundwater (within 2 feet of the building slab) adjacent to and under the building. The evaluation was conducted in a phased manner to limit any unnecessary indoor testing, by comparing groundwater and then sub-slab soil gas data according to NJDEP screening levels. Indoor air testing was ultimately required because concentrations exceeded screening levels, but was limited to compounds not being used by the manufacturing operation, as agreed by DEP. A line of evidence evaluation demonstrated that elevated indoor air concentrations of chloroform, PCE, and TCE were due to municipal water line leaks, ambient sources, and indoor sources, respectively.

***Review of VI Research Proposals and Reports, SERDP/ESTCP Programs.*** Mr. Folkes was retained to review vapor intrusion research proposals and progress reports for the Department of Defense, as subcontractor to HydroGeoLogic. Work included review of proposals and reports related to real time measurement of VOCs in indoor at part per billion levels; development of procedures to screen buildings for vapor intrusion under with low permeability, high moisture content soils; and evaluation of the vapor intrusion pathway at a dedicated research home.

***Former Manufacturing Buildings, Sao Paulo & Rio de Janeiro, Brazil.*** Mr. Folkes was the Project Director for the evaluation of vapor intrusion potential and mitigation alternatives at the sites of former manufacturing facilities. This included site visits and meetings with local environmental agencies, who agreed to a phased approach and lines of evidence evaluation process consistent with the approaches advocated by ITRC 2007 and EPA.

***Residential & Commercial Buildings, Orphan PCE Plumes, Casper & Cheyenne, WY.*** Mr. Folkes was the Project Director for the evaluation of the nature and extent of several PCE orphan plumes in Casper and Cheyenne, Wyoming, for the Wyoming Department of Environmental Quality, including soil vapor testing using mobile lab facilities to evaluate the extent of impacts, indoor air and sub-slab testing in homes above the DEQ soil vapor action level (and adjacent buffer zone homes); and mitigation of residential

and commercial structures.

***Evaluation and Mitigation of Recreational Facility, Long Island City, NY.*** Mr. Folkes was the Project Manager for vapor intrusion investigation and mitigation services at voluntary cleanup site including soil vapor, indoor air, and sub-slab vapor testing; evaluation of vapor intrusion impacts at a YMCA and other commercial buildings; technical support to community relations team; and oversight of the design, installation, and monitoring of vapor intrusion mitigation systems. The work was conducted under subcontract to the prime consultant on this project.

***Vapor Intrusion Evaluation of Kodak Park, Rochester, NY.*** Mr. Folkes was the Project Manager for comprehensive vapor intrusion investigation services at Kodak Park, a major industrial complex with over one hundred commercial and industrial onsite buildings, as well as soil vapor and vapor intrusion investigations in residential and commercial areas around the complex. A tiered approach was developed to screen on-site and off-site areas and buildings based on existing groundwater data, followed by focused testing of worst-case buildings (including use of mobile laboratory for real time decision making). This limited testing to a small number of off-site and on-site buildings. The results of testing in three off-site residential areas led to no further action determinations by the state agencies. The results of on-site testing led to a no mitigation decision by the agency, provided the buildings remained in non-residential with no substantive change to floor or HVAC systems.

***Residential Area Downgradient of Manufacturing Facility, Aarschott, Belgium.*** Mr. Folkes was the Project Manager for oversight of soil vapor investigations and evaluation of vapor intrusion mitigation options for various residential buildings, including review of previous investigation reports, development of a conceptual site model for the vapor intrusion pathway, and preparation of a mitigation decision tool. We provided on-sight supervision of a soil vapor testing pilot program, developed scopes of work for soil vapor testing, indoor air testing, and potential mitigation of residential homes, and evaluated the test results. Mr. Folkes also participated in a meeting with regulators as the team vapor intrusion expert.

***Rocky Mountain Arsenal, Denver, Colorado.*** Mr. Folkes evaluated the results of vapor intrusion (Johnson-Ettinger) modeling for Colorado Department of Public Health and Environment, for prospective new developments at the Rocky Mountain Arsenal site. The modeling was conducted by the US EPA.

#### **Waste Disposal Facility Design, Investigation, and Remediation**

***Drum Removal Action and Landfill Closure, Erie, CO.*** Mr. Folkes is the Project Director for investigations and remediation at a residential development, where over 1000 drums were found buried in an historic landfill discovered on a portion of the site,

containing MEK, toluene, and other hazardous substances. The drums and adjacent contaminated soils were removed under Geosyntec oversight as a time-critical removal action pursuant to a consent order the EPA in late 2017 and early 2018. Geosyntec conducted additional investigations to confirm the extent of the remaining non-drum waste, developed a site conceptual model, and is implementing groundwater remediation and landfill closure pursuant to a consent order with the Colorado Department of Public Health and Environment, to allow future use of the land as open space pursuant to an environmental covenant. Geosyntec provided CQA oversight for the installation of an evapotranspiration soil cover, which is complete except for revegetation.

***Lagoon Leak Evaluation and Permitting, confidential.*** Mr. Folkes provided expert technical support for the evaluation of leaks from three existing, double-lined brine lagoons and two single-lined wastewater treatment lagoons at a food processing facility. The scope of work included preparation of relining plans for two of the brine lagoons and the development of lines of evidence demonstrating that the remaining lagoons were not leaking and met regulatory requirements. This included water balance calculations showing that brine leaking through the upper liner (as detected in the interstitial drainage layer sump system) was not leaking through the lower liner. Mr. Folkes assisted the facility in collaborative discussions with the regulatory agency regarding compliance of the lagoons with solid waste regulations. The relining plans were implemented under CQA oversight by Geosyntec, and the completed work was approved by the agency.

***Engineering Design & Operations Plan, Arvada, CO.*** Mr. Folkes provided expert technical support for the development of an Engineering Design & Operations Plant (EDOP) for contaminated fill materials that were historically stockpiled at the site and now require closure under Solid Waste regulations, including management of TENORM and a demonstration of lack of impact to groundwater and design of a low permeability soil cover.

***Technical Support, Oil Refinery & Gas Plant Cleanup, Wyoming.*** Mr. Folkes is assisting Wyoming Department of Environmental Quality (WDEQ) with oversight of investigations and cleanup by others at several former and operating refineries and gas plants across Wyoming, including the evaluation of existing landfills and design, construction, and closure of new Corrective Action Management Units (CAMUs). This work has included review of final covers for existing solid and industrial waste landfills; liner systems and soil covers for CAMUs, including evapotranspiration (ET) covers;

surface water conveyance and side slope stability; background sources of cover material; leachate and leak detection monitoring, and other issues.

***Remedial Investigation and Evaluation of Remedial Alternatives, Wamsutter, Wyoming.*** Mr. Folkes was the Project Manager for evaluation of soil, groundwater, and vapor impacts at a former landfill, under the Targeted Brownfields Assessment program. Work included groundwater, soil, and vapor investigations, development of a hydrogeological conceptual site model, evaluation of the extent of impacts, and development and evaluation of remedial alternatives.

***Lowry Landfill, Colorado.*** Mr. Folkes provided expert review to one of the settling parties at the Lowry Landfill for several years, including evaluation of cleanup costs and procedures for Coors Brewing Company, a party to the cleanup, on an annual basis. The scope has included evaluation of cap, groundwater containment, groundwater treatment, soil vapor recovery, and thermal technologies.

***Municipal landfill, Sheridan, Wyoming.*** Mr. Folkes was Project Director for the evaluation of groundwater contamination and remedial alternatives at a closed landfill in Sheridan, WY, including nature and extent of solvent, petroleum, metal, and nutrient impacts.

***Leaking Impoundment, Utility Plant, Colorado Springs.*** Mr. Folkes was the Principal Investigator of leaking double-lined (HDPE) impoundments. Investigations included pump test on interstitial drain system and back calculation of permeability of and seepage rates through the upper and lower liners of two impoundments. Successfully repaired by laying bituminous panels over top liner.

***Evaluation of CBM Produced Water Impacts on Reserve Pit Soils, Wyoming.*** Mr. Folkes was the project director for a statistical evaluation of the potential impacts to soils due to produced water from Coal Bed Methane operations at 230 reserve pits in the Powder River Basin, which showed that the potential for impacts and sampling requirements could be based on site and produced water conditions.

***Tailings Cleanup for Commercial Development, Creede, Colorado.*** Mr. Folkes was the Project Director for the evaluation of the impacts of fugitive gold mine and mill tailings on undeveloped land downstream of mining activities. Principal metals of concern were arsenic and lead. The work included soil sampling and preparation of cleanup plans that were implemented under the Colorado Voluntary Cleanup Program.

***Lagoon Leakage Evaluation, Colorado Springs, CO.*** Mr. Folkes investigated the cause and rate of leakage from double-lined (HDPE) surface water impoundments in Colorado Springs. Investigations included a pump test on the interstitial drain system and back



calculation of permeabilities of and seepage rates through the upper and lower liners of two impoundments to allow comparison with permitted rates. The liner system was successfully repaired by laying bituminous panels over top liner.

***Lagoon Liner Evaluations and Repairs, Kodak Colorado Facility, CO.*** Mr. Folkes investigated the cause of slumping side slopes below the HDPE membranes of two wastewater treatment lagoons at the Kodak facility, prepared remedial designs to restore the slopes and liners, and oversaw the implementation of the repairs.

### **Environmental Site Assessments, Costing and Regulatory Support**

***Star Lake Canal Superfund Site, Cost Allocation Support, Port Neches, TX.*** Mr. Folkes was the project director and a principal investigator assisting one of the PRPs at the Star Lake Canal Superfund Site with cost allocation evaluations being conducted by the PRP group. Costs were principally associated with sediments in canals and natural waterways impacted by historic discharges of wastewater and runoff from various chemical, petroleum, and synthetic rubber manufacturing operations, and other sources. The compounds of concern include metals, pesticides, PCBs, VOCs, and PAHs. Potential receptors include benthic invertebrates and upper trophic level receptors. Issues evaluated include the relative contributions of each property and/or operation to COCs in sediments over time, including transport pathways and mechanisms.

***Stratus Redtail Ranch ESA, Erie, CO.*** Mr. Folkes was project director for a Phase I ESA that included 422 acres of undeveloped land adjacent to two existing and one closed landfill, including an historic landfill on the subject property that had impacted soils and groundwater due to releases from hundreds of drums containing hazardous substances (recognized environmental conditions or RECs). Historic RECs included soils impacted by oil and gas operations, that were subsequently removed, and de minimis conditions included ongoing oil and gas operations and historic coal mining below the site. The adjacent landfill operations were considered business environmental risks because the landfills were being monitored and controlled under state oversight. Mr. Folkes oversaw the removal of the drums under an EPA time-critical removal action. The historic landfill and remaining groundwater contamination is being addressed by Geosyntec pursuant to state solid waste regulations. Residential housing is planned for the remaining property.

***Phase I and Phase II Environmental Site Assessments, various locations, Colorado.*** Mr. Folkes was project director for Phase I and Phase II ESAs related to undeveloped and vacant land, former automotive service and manufacturing facilities, a laboratory, and warehouse buildings. Phase II activities, including soil vapor, soil, groundwater sampling were conducted in some cases concurrently with Phase I ESAs to evaluate impacts at facilities with known current or historical releases. No Action Determination (NAD)

applications under the Voluntary Cleanup Program were prepared for several sites and approved by CDPHE.

***Industrial Property ESA and VI Screening, Englewood, CO and Niles, IL.*** Mr. Folkes was the project principal for Phase I ESAs conducted at manufacturing and warehouse properties in Colorado and Illinois. Vapor intrusion screening was also performed pursuant to ASTM E 2600-08.

***Various Due Diligence and ESAs, US.*** Mr. Folkes has overseen a number of Phase I ESAs for a variety of land uses and clients and provided technical support on a number of due diligence investigations and audits at industrial and mining properties across the US. He has also reviewed a number of Phase I ESAs by others to support Voluntary Cleanup applications, Phase II investigations, and other activities.

***Crescent Point Energy U.S. Corp v. III Exploration II LP and Wilmington Trust, N.A., arbitration matter in Utah.*** Mr. Folkes was an expert witness for the plaintiff in this matter, evaluating the nature and extent of environmental impacts at an oil and gas field and potential costs of remediation, to support an environmental defect claim. Issues included soil contamination due to repeated leaks from high-pressure water injection lines and required closure of several mud pits.

***Evaluation of Environmental Costs, Multiple States.*** Mr. Folkes was Project Manager and a consulting expert for the Asarco Incorporated bankruptcy creditors committee. The work included evaluation of reasonable costs for addressing remaining environmental issues at various mine, mill, and smelter sites in Colorado, New Mexico, Arizona, Missouri, Texas and other states. Issues included soil and groundwater contamination at mine sites, tailings pile closure and soil contamination at offsite properties.

***Evaluation of Potential RCRA Issues at a Mine and Mill Site, Alaska.*** Mr. Folkes evaluated the potential for various operations and materials generated at a mine and mill site to be considered hazardous wastes under RCRA, including consideration of the extent to which wastes were Bevill exempt.

***HRS Evaluation of Smelter Site, Arizona.*** Mr. Folkes evaluated the potential Hazard Ranking System score of a copper smelter site under CERCLA, based on observed and potential impacts to soil, groundwater, surface water, and air from smelter operations, including tailings disposal. The work included recommended actions to improve environmental conditions and, at the same time, reduce the potential HRS score, prioritized by cost and benefit.

***HRS Evaluation of Pipeline Facility, US.*** Mr. Folkes provided expert review of hydrogeological issues surrounding the Hazard Ranking System scoring of a pipeline

facility, including client representation at a meeting with EPA. Specific issues included evaluation of the existence of an aquifer discontinuity as defined by the NCP.

### **Litigation Support**

***Adams, et al., Ryan et al., and Shepard et al. v Guardian Automotive Corporation, GA.*** Mr. Folkes provided expert witness services to the defendants in this matter, including evaluation of and opinions regarding the conformance of vapor intrusion mitigation system exhaust stacks with standard practice, the effects of a clean water lens on the extent of vapor intrusion impacts, the contributions of preferential pathways to vapor migration, and other issues. Mr. Folkes was deposed by plaintiffs in March 2023 and gave trial testimony in March 2024. The matter has been settled.

***Lockman v Pioneer Natural Resources, Montana.*** Mr. Folkes provided expert witness services to an oil and gas production company in the US regarding alleged impacts to soil and groundwater due to historic brine and petroleum releases, including evaluation of remedial alternatives and cleanup costs. Mr. Folkes was deposed by plaintiffs in January 2023. The matter has been settled.

***Corbett v City of Kensington, KS, and Cunningham Sandblasting & Painting, KS.*** Mr. Folkes provided expert support to defendants regarding the alleged contamination of plaintiff's property due to the alleged deposition of lead-based paint chips during sandblasting of the City of Kensington's water tower. Work included review of available information, analytical data, and the deposition testimony of plaintiffs, interviewing a representative of Cunningham Sandblasting & Painting, CO., Inc., and preparation of an affidavit. No deposition or trial testimony was required. The court dismissed the case in favor of the defendants in early 2022.

***Appeal of Proposed Effluent Limits, Mining Operation, CO.*** Mr. Folkes is providing consulting expert and potentially testifying support to outside counsel for a mining company that is appealing proposed new effluent limits for point source discharges to a creek in Colorado. The issues being considered include water quality and flow conditions prior to January 2000 (a baseline for assessing impacts), background creek and groundwater concentrations of certain ions and metals, potential impacts of creek water on nearby floodplain domestic water supply wells, and the costs and impacts that would be associated with installation of additional treatment systems. The matter is ongoing.

***Stratus Redtail Ranch, LLC vs. IBM and WWD, LLC, US District Court, District of Colorado.*** Mr. Folkes was an expert witness for the plaintiff, providing opinions regarding the necessity, efficacy, and reasonableness of work required to remove over 1000 drums and contaminated soils from a historic landfill in Erie, Colorado, pursuant to

a time-critical removal action consent order between the U.S. EPA and Stratus Redtail Ranch, LLC. The removal action was successfully completed in 2018, and the cost recovery matters settled in 2022.

***Dennis Taylor, et al vs. Michelin North America, Inc. et al, US District Court, Northern District of Oklahoma.*** Mr. Folkes was an expert witness for the defendants, evaluating historic reports and data and providing opinions regarding the extent of LNAPL and dissolved contamination in groundwater due to historic releases of mineral spirits from underground storage tanks at a former BF Goodrich plant, as well as the efficacy of planned remedial actions and the potential for petroleum vapor intrusion in offsite residential buildings. Mr. Folkes provided deposition testimony in this matter, which has settled.

***Sonrisa Holdings and Ortega vs. Circle K Stores, US District Court, District of Colorado.*** Mr. Folkes was an expert witness for the defendants, evaluating historic reports and data and providing opinions regarding the potential for petroleum vapor intrusion at the site and the need for and efficacy of mitigation systems that were installed below a multi-family building and parking garage on property adjacent to the gas station where the petroleum release occurred. Mr. Folkes provided deposition testimony in this matter, which has been dismissed.

***Crescent Point Energy U.S. Corp v. III Exploration II LP and Wilmington Trust, N.A., arbitration matter in Utah.*** Mr. Folkes was an expert witness for the plaintiff in this matter, evaluating the nature and extent of environmental impacts at an oil and gas field and potential costs of remediation, to support an environmental defect claim. Issues included soil contamination due to repeated leaks from high-pressure water injection lines and required closure of several mud pits.

***Diamond X Ranch LLC vs. Atlantic Richfield Company, US District Court, District of Nevada.*** Mr. Folkes was an expert witness for the defendants in a case related to the alleged impacts of historic mining operations on stream water quality and pastures irrigated by water from the stream. He has provided opinions related to the nature and extent of soil impacts due to historic irrigation, the costs of soil remediation, and the need for irrigation water treatment in the future. Mr. Folkes provided deposition testimony in this matter, which settled.

***Behr Dayton Thermal Products LLC Litigation, US District Court, Southern District of Ohio, Western Division.*** Mr. Folkes is an expert witness for the defendants in a class action lawsuit in Dayton, OH related to vapor intrusion resulting from chlorinated solvents in groundwater. He has evaluated and provided opinions related to the nature and extent of groundwater contamination at the site, the potential for vapor intrusion

including the vapor intrusion pathway and factors that cause indoor air impacts to vary from building to building, the efficacy of vapor intrusion mitigation systems, the potential contributions of background sources to solvents observed in groundwater and indoor air, and on other matters. Mr. Folkes produced expert reports and declarations on the matter but was not deposed by plaintiffs.

***Graham et al, v. BNSF, US District Court, Southern District of Montana, Missoula Division.*** Mr. Folkes was an expert witness for BNSF, the defendant in this multi-party lawsuit related to alleged groundwater contamination and vapor intrusion resulting from historic releases of creosote and petroleum products at a former tie treatment plant site in Somers, MT. He evaluated and provided opinions related to the nature and extent of soil vapor impacts due to groundwater contamination, including dissolved phase and NAPL sources; the vapor intrusion pathway and mechanisms causing the attenuation of volatile petroleum compounds in the vadose zone; the likelihood that petroleum compounds measured in indoor air were due to outdoor air and/or indoor sources; and other matters. Mr. Folkes provided deposition testimony in this matter, which settled.

***Christian et al., v. BP Amoco et al., Montana Second Judicial District Court, Silver Bow County.*** Mr. Folkes was an expert witness for defendants in a multi-party action related to alleged soil and groundwater contamination at properties in and near Opportunity, MT resulting from historic releases from the Anaconda smelter NPL site. He evaluated and provided opinions related to the nature and extent of arsenic and other metals in soil and groundwater due to historic mining and smelter activities, the transport mechanisms and pathways, reasonable abatement issues, the likely costs of remediation, and other matters. Mr. Folkes provided deposition testimony in this matter, which has settled.

***City of San Diego v. Kinder Morgan Energy Partners, L.P., US District Court, Southern District of California.*** Mr. Folkes was an expert witness for the defendants in this cost recovery action related to alleged impacts of petroleum contamination on the feasibility and costs of redeveloping the Qualcomm Stadium property. He evaluated and provided opinions related to the efficacy of vapor intrusion mitigation technologies, including available technologies and typical practices over the time period of concern, and the common use of vapor intrusion mitigation at Brownfield and similar contaminated sites undergoing redevelopment. Mr. Folkes provided deposition testimony in this matter, which was dismissed in favor of defendants.

***La Plata County v. Brown Group Retail, Inc., US District Court, District of Colorado.*** Mr. Folkes was an expert witness for the defendants in this cost recovery case related to the historic releases of chlorinated solvents from lens manufacturing operations and the alleged costs of remediation. He evaluated and provided opinions on the likely sources



of contamination, the likely contributions of County actions during site redevelopment to soil and groundwater contamination, the nature and extent of contamination, the extent to which remediation was necessary, the reasonable cost of remediation, and other matters. Mr. Folkes provided deposition and trial testimony in this matter. The Court found that the County contributed to contamination at the site and agreed with Mr. Folkes' approach to remediation.

***Gloria Ned et al., v. Union Pacific Corporation, PPG Industries, et al., Fourteenth Judicial District Court, Calcasieu Parish, Louisiana.*** Mr. Folkes was an expert witness for defendants in this multi-party case, where a PCE leak from a rail car in 1983 was alleged to be causing ongoing ambient air and vapor intrusion impacts to residents in the surrounding area. He evaluated and provided opinions related to potential concentrations of PCE in ambient air levels due to diffusion through the vadose zone, and other matters. Mr. Folkes provided deposition and hearing (mini-trial) testimony in this matter.

***Cindy King et al., v. Hamilton Sundstrand Corporation, Adams County District Court, Colorado.*** Mr. Folkes was an expert witness for the defendant in a class action lawsuit related to alleged vapor intrusion impacts resulting from chlorinated solvents in groundwater. Mr. Folkes provided opinions on the nature and extent of groundwater contamination from the Hamilton Sundstrand facility, the efficacy of groundwater remediation at the site, the vapor intrusion pathway and factors that cause indoor air impacts to vary from building to building, the extent of vapor intrusion impacts due to the facility, the contributions of background sources to solvents observed in groundwater and indoor air, and other matters. Mr. Folkes provided deposition and class certification hearing testimony. The case settled.

***Antolovich et al., v. Brown Group Retail Inc. et al., Colorado District Court, County of Denver.*** Mr. Folkes was an expert witness for the defendant during class certification for this matter related to alleged vapor intrusion impacts resulting from chlorinated solvents in groundwater. He evaluated and provided opinions on the nature and extent of groundwater contamination and vapor intrusion due to historic releases from the Redfield Rifle Scope site, the likely contributions of other sources to solvents in groundwater and indoor air, the degree to which these conditions varied across the alleged class area, and other matters. He provided deposition and hearing testimony in this matter. The class including the owners of approximately 1000 homes was certified, and Mr. Folkes provided deposition and trial testimony as a fact witness (Mr. Folkes was the project manager for investigation and mitigation work at the site). The jury found Brown Group liable, but only for damages of approximately \$1 million, compared to claimed damages of approximately \$300 million dollars.

***Escamilla et al. v. ASARCO, Inc., Colorado District Court, County of Denver.*** Mr. Folkes was an expert and fact witness for the defendant, ASARCO Inc., in this class action lawsuit concerning alleged contamination of surface soils in the neighborhoods surrounding the Globe Plant, a former lead smelter and (at the time) operating specialty metals refinery. He evaluated and provided opinions related to the cleanup plans and background levels of metals in soils. Mr. Folkes provided deposition and trial testimony. Case was settled.

***Louisiana-Pacific Corporation et al, v. ASARCO INCORPORATED, US District Court, Western District of Washington at Tacoma.*** Mr. Folkes was an expert witness for defendants in this cost recovery case related to alleged impacts of slag used to construct log sort yards on groundwater and surface water. He evaluated and provided opinions on the nature and extent of contamination and reasonable approaches and costs for remediation. Mr. Folkes provided deposition and trial testimony (both liability and damage phases).

## PROFESSIONAL EXPERIENCE

Geosyntec Consultants, Denver, CO, October 2012 - present

EnviroGroup Limited, Denver, CO, July 1991 – September 2012 (acquired by Geosyntec)

TRC Environmental Consultants, Inc., Denver, CO, 1986 - 1991

Hydro-Search, Inc., Denver, CO, 1985 – 1986

Komex Consultants, Inc./Piteau & Associates, Inc., Denver, CO, 1983 – 1985

Komex Consultants Ltd., Calgary, Alberta, Canada, 1980 – 1983

Golder Associates Ltd., Toronto, Ontario, Canada, 1977 - 1980

## ACHIEVEMENTS

W.S. Wilson Award, first place standing in Geological Engineering graduating class, University of Toronto, 1977.

National Research Council of Canada, “young engineer” selected to prepare 5<sup>th</sup> Canadian Geotechnical Colloquium, presented at the 34<sup>th</sup> Canadian Geotechnical Colloquium, Fredericton, New Brunswick, 1981.

Outstanding service award, Interstate Technology & Regulatory Council (ITRC) vapor intrusion team, 2005.

## **AFFILIATIONS**

ITRC Vapor Intrusion Evaluation & Mitigation Team, January 2024 – present  
ITRC Vapor Intrusion Mitigation Training Team member and instructor, 2019 – 2025  
ITRC Petroleum Vapor Intrusion Team member and instructor, 2012 – 2020  
ITRC Vapor Intrusion Team member and instructor, 2004 - 2011  
ASTM Vapor Intrusion Task Group, 2006 – 2010  
EPA ad-hoc expert work group on Vapor Intrusion Guidance, 2000 - 2017  
Wyoming DEQ Voluntary Remediation Program (VRP) Remedy Work Group 2003 - 2004  
Denver Dept. of Environmental Health Residential Arsenic Technical Advisory Group 2001

## **BOOK CHAPTERS & PEER REVIEWED PAPERS**

Folkes, D. and C. Sanpawanitchakit. 2011. *Modeling of Vapor Intrusion Mitigation*, In S. Saponaro, E. Sezenna and L. Bonomo (Eds.), Vapor Emission to Outdoor Air and Enclosed Spaces for Human Health Risk Assessment: Site Characterization, Monitoring and Modeling, Nova Publishers.

Folkes, D.J., Helgen, S.O., and R.A. Litle, 2000. "Impacts of Historic Arsenical Pesticide Use on Residential Soils in Denver, Colorado", 4th International Conference on Arsenic Exposure and Health Effects, San Diego

Folkes, D., W. Wertz, J. Kurtz, and T. Kuehster, 2009. Observed Spatial and Temporal Distributions of CVOCs At Colorado and New York Vapor Intrusion Sites, Groundwater Monitoring and Remediation, 29, No. 1, Winter 2009.

Folkes, D.J., Kuehster, T.E., and R.A. Litle, 2001. "Contributions of Pesticide Use to Urban Background Concentrations of Arsenic in Denver, Colorado", Environmental Forensics, v.2, pp127-139.

Folkes, D.J. and J.H.A. Crooks, 1985. "Effective stress paths and yielding in soft clays below embankments", Canadian Geotechnical Journal, Vol. 22. pp 357-374.

Folkes, D.J., 1981. "Control of contaminant migration by the use of liners: 5th Canadian Geotechnical Colloquium", Canadian Geotechnical Journal, Vol. 19, pp 320-344.

## **GUIDANCE DOCUMENT CONTRIBUTIONS**

Colorado Department of Public Health and Environment, Methane Intrusion Guidance, co-author and project director, 2023.

Colorado Department of Public Health and Environment, Vapor Intrusion Guidance, principal author, 2020.

ITRC Vapor Intrusion Mitigation Training Fact Sheets, Conceptual Site Model work group co-leader, process design fact sheet team member, and contributing author, 2021.

Wyoming Department of Environmental Quality, Vapor Intrusion Fact Sheet, Voluntary Remediation Program, principal author, 2018.

ITRC Petroleum Vapor Intrusion Guidance (2014). Contributing author.

EPA Evaluation of Empirical Data to Support Soil Vapor Intrusion Screening Criteria for Petroleum Hydrocarbon Compounds, Office of Underground Storage Tanks, Washington, D.C., January 2013. Invited external peer reviewer.

New Jersey Department of Environmental Protection (NJDEP), revised Vapor Intrusion Guidance, mitigation and general sections (2012 revisions to guidance). Invited external peer reviewer.

EPA Superfund Vapor Intrusion FAQs document, 2011. Invited external peer reviewer.

California EPA, DTSC Vapor Intrusion Mitigation Advisory, December 2008. Invited external peer reviewer.

Vapor intrusion portions of the ASHRAE Indoor Air Quality Guide: Best Practices for Design, Construction, and Commissioning, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., February 2008 Draft. Invited external peer reviewer.

ASTM E2600-08 Standard Practice for Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions, April 2008, co-leader of vapor intrusion evaluation work group and contributing author.

Minnesota Risk Based Guidance for the Vapor Intrusion Pathway, February 2008 draft, Minnesota Pollution Control Agency Remediation Division. Invited external peer reviewer.

ITRC Vapor Intrusion Pathway: A Practical Guideline, 2007. Contributing author.

Colorado Petroleum Hydrocarbon Vapor Intrusion Guidance Document, published December 11, 2007, Colorado Department of Labor and Employment, Division of Oil and Public Safety, Remediation Section. Invited external peer reviewer.

Draft Revised EPA Spreadsheet for the Implementation of the J&E model, 2006. Invited beta tester and reviewer.

Design and construction of liners for municipal wastewater stabilization ponds, 1983. Guidance author, prepared for Alberta Environment.

## **CONFERENCE & SEMINAR PAPERS & PRESENTATIONS**

Folkes, D., 2024. The Practice of VI Mitigation – Past, Present, & Future, presented at the Midwest States Environmental Consultants Association (MSECA) Virtual Conference, December 12, 2024.

Folkes, D., Hers, I., Johnson, P. and T. McAlary, 2024. Vapor Intrusion: Past, Present, and Future, expert panel moderated by T. McHugh at Battelle 13th Int. Conf. on Remediation of Chlorinated and Recalcitrant Compounds, Denver, June 6.

Folkes, D., McAlary, T., and E. Lovenduski, 2024. The importance of flow and mass removal rates in vapor intrusion mitigation design, poster presentation at Battelle 13<sup>th</sup> Int. Conf. on Remediation of Chlorinated and Recalcitrant Compounds, Denver, June 2-6.

Apostolopoulos, F., Clark, S., Folkes, D., and M. Hashem, 2023. Safe and Successful Development at Methane-Impacted Brownfield Sites, presented at the Colorado Brownfields Conference, June 12, 2023.

Folkes, D., 2023. Long-term Stewardship of Residential Mitigation Systems by Radon Monitoring, US EPA State of Vapor Intrusion Science Workshop, AEHS 32<sup>nd</sup> Annual International Conference of Soil, Water, Energy, and Air, March 21, 2023, San Diego, CA.

Folkes, D., 2022. Engaging Communities in Vapor Intrusion Programs: Redfield Site Case History. Invited presentation at the U.S. EPA “State of VI Science” Workshop 2022, 31<sup>st</sup> Annual International Conference on Soil, Water, Energy, and Air, A Virtual Conference, March 15, 2022.

Folkes, D. and C. Holton, 2019. Subsurface (Vapor) Intrusion in the Hazard Ranking System, presented at the American Bar Association, Section of Environment, Energy, and Resources Law 48<sup>th</sup> Spring Conference, Denver, CO, March 2019.



Egarr, D., Horton, L., Folkes, D., and T. Kuehster, 2017. Assessment of an Aerated Floor System for Mitigating Vapor Intrusion, presentation at 4<sup>th</sup> Int. Symposium on Bioremediation and Sustainable Environmental Technology, Miami FL, May 2017.

Folkes, D., 2017. Vapor Intrusion Mitigation by Passive Venting of Aerated Floors, Presentation at the RemTEC Remediation Technology Summit, Denver, CO, March 2017.

Folkes, D., McAlary, T., Ettinger, R., and H. Dawson, 2016. A Rational Approach to Vapor Intrusion “Preferential Pathway” Definition and Evaluation, Presentation at Battelle Tenth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Palm Springs, CA, May 2016.

Folkes, D. and D. Tripp, 2016. The Value of an Iterative Approach to VI Evaluation and Mitigation: Lessons Learned at the CRREL Facility in Hanover, NH, Presentation at Battelle Tenth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Palm Springs, CA, May 2016.

Fitzgerald, L., Daprato, R., and D. Folkes, 2015. Performance of an Active Aerated Floor Vapor Intrusion Mitigation System in a Large Building. Poster presentation at Battelle 3<sup>rd</sup> International Symposium on Bioremediation and Sustainable Environmental Technologies, Miami, FL, May 2015.

Folkes, D. and R. Ettinger, 2014. Influence of sub-slab permeability and void volume on temporal variability of indoor air concentrations due to vapor intrusion. Poster presentation at Battelle Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA, May 2014.

Folkes, D.J., 2013. Vapor Intrusion Mitigation Using Cupolex Aerated Floors, presented at the Colorado Department of Public Health and Environment, April 10, 2013.

Folkes, D.J., T. Kuehster, and E. Lovenduski, 2012. Performance of Aerated Floor Systems, Passive Venting Mode, presented at AWMA Vapor Intrusion conference, Denver, CO, October 3-4, 2012.

Folkes, D.J., 2012. Performance of Aerated Floor VI Mitigation Systems, presented at AEHS 22<sup>nd</sup> Annual International Conference on Soil, Water, Energy, & Air, San Diego, CA, March 20, 2012.

Folkes, D.J., 2012. Modeling of Vapor Intrusion Mitigation, proc. of International Conference on Sites Contaminated by Volatile Pollutants, at 9<sup>th</sup> International Symposium of Sanitary and Environmental Engineering, Milan, Italy, June 28, 2012.

Folkes, D.J., 2011. Design of Passive and Sustainable Vapor Intrusion Mitigation Systems, presented at the Battelle International Symposium on Bioremediation and Sustainable Environmental Technologies, Reno Nevada, June 27-30, 2011.

Folkes, D.J., 2008. Strategic Approach to Vapor Intrusion Mitigation, presented Air Force Center for Environmental Excellence (AFCEE) Technology Transfer Workshop, San Antonio, March 2008.

Folkes, D.J., J.P. Kurtz, and C. Sanpawanitchakit, 2007. Lateral Extent of Vapor Intrusion Impacts, presented at the AWMA Vapor Intrusion Conference, Providence, RI September 26-28, 2007

Folkes, D.J., E.J. Wannamaker, and J.P. Kurtz, 2006. Vapor Intrusion Attenuation Factors Based on Long Term Indoor Air Data, 22nd International Conference on Soils, Sediments and Water – University of Massachusetts, Amherst, October 19, 2006

Folkes, D.J., 2006. Discerning Background Sources from Vapor Intrusion. Presented at the Minnesota Pollution Control Agency seminar on vapor intrusion, St. Paul, MN, June 2006 (revised from Folkes and Kurtz, 2005).

Folkes, D.J., 2006. Vapor Intrusion: Site Characterization and Screening. Presented at the New England Waste Management Officials' Association (NEWMOA) Workshop on Vapor Intrusion in Chelmsford, MA, April 2006.

Folkes, D.J., 2006. Vapor Intrusion Mitigation Methods and Strategies. Presented to Wyoming DEQ (Cheyenne, March 2006), Colorado DPHE (Denver, March 2006), Minnesota PCA (St. Paul, June 2006).

Folkes, D.J., 2006. Screening and Evaluating Sites for Vapor Intrusion. Presented at the ASTM Vapor Intrusion Task Group meeting in Phoenix, AZ, February 2006.

Folkes, D.J., 2005. Vapor Intrusion: Redfield Site Case History. Presented at Brownfields 2005, Denver, Colorado, Nov 2005 and RTM Brownfields conference, Washington D.C., March 2006.

Folkes, D.J., 2005. Vapor Intrusion: Real World Observations and Lessons Learned. Presentation to the New Jersey Department of Environmental Protection, Trenton, NJ, August 2005.

Folkes, D.J. and J.P. Kurtz, 2005. Discerning Background Sources from Vapor Intrusion. STL Seminar on Vapor Intrusion, Los Angeles, CA, Oakland, CA, and Edison, NJ, 2005.

Kurtz, J.P. and D.J. Folkes, 2005. Discerning Background Sources of VOCs from Vapor Intrusion Sources using Multiple Lines of Evidence. Presented at the Battelle 8<sup>th</sup> International In-Situ and On-Site Bioremediation Symposium, Baltimore, MD, June 2005.

Arell, P.A. and D.J. Folkes, 2004. The Superfund Hazard Ranking System and Mining Sites, accepted for presentation at the SME Conference in Denver, 2004.

Kurtz, J.P., D.J. Folkes, and T.E. Kuehster, 2004. Approaches to Quantification of Background VOCs in Indoor Air. Presented at the Midwestern States Risk Assessment Symposium, Indianapolis, August 2004.

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ATTACHMENT B  
RESUME OF SUZANNE V. GABRIELE





**SUZANNE V. GABRIELE**

**transactional due diligence  
environmental site assessment and remediation  
EHS planning and compliance assurance  
EHS management systems**

## **EDUCATION**

B.S., Industrial Engineering, Lehigh University, Bethlehem, PA, 1988

## **REGISTRATIONS AND CERTIFICATIONS**

Environmental Site Assessments for Commercial Real Estate, ASTM International

ISO 14001:2015 / 45001:2018 Lead Auditor for International Environmental and Occupational Safety and Health Management Systems, QAI – Training for Quality

Equitable Origin EO100™ Standard for Responsible Energy Development Certified Lead Assessor

The Complete Environmental Regulations Workshop, Lion Technology

RCRA Fundamentals and Critical Generator Issues, McCoy and Associates, Inc.

The Essentials of Colorado Environmental Law for Non-lawyers, University of Colorado at Denver

Engineer-in-Training, Pennsylvania

## **CAREER SUMMARY**

Suzanne Gabriele is a Senior Principal Consultant based in Colorado with more than 35 years of experience focused on environmental, health, safety (EHS) management for a variety of industries including manufacturing, mining, oil & gas, food processing, electrical and natural gas utilities, and municipal governments.

Ms. Gabriele directs environmental site assessment, investigation and remediation projects including planning, permitting, sub-contractor management, interaction with business and community representatives, review and evaluation of data, and preparation of reports. She has training and experience in completing Phase I Environmental Site Assessments (ESAs) in accordance with EPA's All Appropriate Inquiry/ASTM E1527 requirements and meets the

qualifications of Environmental Professional. She has also prepared Quality Assurance Project Plans, served as Quality Assurance Manager for complex environmental investigation and remediation projects, established in-house protocols for data validation, and directed data usability review projects.

Ms. Gabriele also has extensive experience helping clients manage risks and recognizing opportunities to improve EHS performance. Examples of Ms. Gabriele's experience include managing numerous policy and management system development, implementation, and improvement projects including systems conforming to and certified under International Organization for Standardization (ISO) standards. Ms. Gabriele also has managed numerous projects where the U.S. Environmental Protection Agency (EPA) compliance-focused environmental management system standard is required. Ms. Gabriele's practice includes advising on operational management plans, and performance and compliance monitoring and auditing programs.

In addition, Ms. Gabriele has extensive knowledge of regulatory programs including those promulgated under the Resource Conservation and Recovery Act (RCRA), Emergency Planning and Community Right to Know Act (EPCRA), Clean Air Act (CAA), Clean Water Act (CWA), and Toxic Substance Control Act (TSCA) and the ways in which their regulations apply in the built world. Ms. Gabriele works with clients to design programs to manage obligation under these laws as well as the Occupational Safety and Health Act, and also other obligations such as those related to environmental, social, and governance (ESG) initiatives. She directs and manages compliance audit programs and supports clients in identifying root cause and corrective actions for noncompliance.

### **Transactional Due Diligence**

***Environmental Site Assessments and Limited Environmental Compliance Review, Confidential Client, Multiple Colorado Locations.*** Ms. Gabriele directed transactional due diligence projects for this client acquiring a health services network that included three medical centers comprised of multiple buildings, seven medical office buildings, and associated parking for guests and staff.

***Environmental Site Assessments, Confidential Client, Multiple Nevada Locations.*** Ms. Gabriele directed transactional due diligence projects for this client acquiring mining and aggregate processing operations.

***Environmental Site Assessments, Confidential Client, Confidential Locations.*** Ms. Gabriele served as senior advisor for Phase I and II environmental site assessments of agricultural properties.

***Environmental Site Assessments, Confidential Client, Multiple US Locations.*** Ms. Gabriele directed transactional due diligence projects for this client acquiring retail companies with facilities across the U.S. Up to 40 facilities were evaluated simultaneously during these portfolio projects for this client.

***Limited Compliance Reviews, Confidential Client, Multiple US Locations.*** Ms. Gabriele served as senior technical advisor during a transactional due diligence project for this construction materials client. Geosyntec's scope of services included limited EHS compliance reviews for 12 of the 75 facilities included in the transaction.

***Limited Compliance Reviews, Confidential Client, Multiple US Locations.*** Ms. Gabriele served as senior technical advisor during a transactional due diligence project for this food and beverage industry client. Geosyntec's scope of services included limited environmental compliance reviews for all of the 23 facilities included in the transaction.

***Environmental Site Assessment, Confidential Client, Confidential Location.*** Ms. Gabriele managed Phase I and Phase II ESAs of a facility with the potential to discharge per- and polyfluoroalkyl substances (PFAS). Soil and groundwater samples were collected for PFAS analysis as part of the Phase II ESA.

***Environmental Site Assessment, Confidential Client, Denver, Colorado.*** Ms. Gabriele managed a Phase I and limited Phase II ESA project in Denver's transitional River North (aka RiNo) neighborhood. The site was historically used for truck leasing and maintenance as indicated by the presence of a hydraulic lift, trench drains, and underground oil/water separator on site. Historic site uses also included a wholesale plumbing sales business, which was a RCRA generator. The client was considering a long-term lease for the vacant industrial building for use a restaurant and was concerned with human health risk to patrons.

***Environmental Site Assessment, Printed Circuit Board Manufacturing Facility, Tempe, Arizona.*** Ms. Gabriele managed a Phase I ESA of a printed circuit board manufacturing facility for the site operators where a limited Phase II ESA conducted by others indicated that measurable concentrations of arsenic were present in the on-site soils in the vicinity of the facility's wastewater treatment system. With the results of the Phase I ESA in-hand, the client was able to sell the operation.

***Environmental Site Assessment, Fitzsimons Army Medical Center, New Century Energies, Denver, Colorado.*** Ms. Gabriele managed a comprehensive Phase I ESA at this former military medical complex for the local electric and gas utility who was considering purchasing the existing utility easements as well as future utility easements as part of Base Realignment and Closure process.

***Environmental Site Assessment, Confidential Client, Multiple Colorado and North Dakota Facilities.*** Ms. Gabriele managed Phase I ESAs of an electrical generator manufacturing plant, a diesel engine rebuild plant, and an O&G field service support operation.

***Environmental Site Assessment, Ferrari, Maserati, Bentley, Lotus of Denver, Highlands, Colorado.*** Ms. Gabriele managed a Phase I ESA at an automobile dealership that included a service and repair shop.

***Environmental Site Assessment, Bachman Drilling and Production Specialties Facility, Fruita, Colorado.*** Ms. Gabriele managed a Phase I and supported on a Phase II ESA at this chemical blending and distribution facility.

***Environmental Site Assessment, Underground Natural Gas Storage Facility, Leyden, Colorado.*** Ms. Gabriele managed a comprehensive Phase I ESA at the only facility in North America storing natural gas in an abandoned coal mine.

#### **Environmental Site Assessment and Remediation**

***Remedial Alternatives Evaluation, Investigation, and Action, Casper PCE Plumes Orphan Site, Casper, Wyoming*** – Ms. Gabriele is managing scope, schedule and budget for remediation of a two-mile long, multi-source chlorinated solvent plume. Remedial alternatives for the groundwater source zone, river protection, and soil vapor control were evaluated and recommended; remedial investigations were completed; and remedial actions are being implemented. Technologies include a soil vapor extraction (SVE) system, enhanced in-situ bioremediation (EISB), and monitored natural attenuation (MNA). In addition, Ms. Gabriele has completed Pollution Prevention (P2) audits of the existing drycleaner operation as part of remedial investigations. The plume spans beneath much of the City and public outreach and community engagement are routine aspects of the project.

***Quality Assurance, Former Redfield Riflescope Site, Denver, Colorado.*** Ms. Gabriele developed and maintained the Quality Assurance Project Plan and acts as Quality Assurance / Quality Control Manager for this multi-million-dollar, multi-phase project. Additionally, she developed the data management procedures for this unprecedented indoor air testing program with rush analytical and reporting requirements.

***Site Investigation and Remedial Actions, Former DuBois Chemical Facility, East Rutherford, New Jersey.*** Ms. Gabriele is directing a multimillion-dollar, multimedia environmental remediation project for the former owner/operator of this operating facility in the Meadowlands in accordance with an administrative consent order with the New Jersey Department of Environmental Protection in connection with an Industrial Site Recovery Act case. Management of this project requires interaction with client, client counsel, site owner/operator, and regulators.

Among other things, the project involves contaminated historic fill materials, chlorinated volatile organic compound (VOC) contaminated groundwater, and monitoring for vapor intrusion, the latter of which is complicated by current site operations.

***Site Investigation and Remedial Actions, Stratus Redtail Ranch, Erie, Colorado.*** Ms. Gabriele was responsible for tracking scope, schedule, and budget, for an emergency drum removal project in northern Colorado. The drum removal was completed under an Order on Consent with U.S. Environmental Protection Agency. Through the course of the project over 1,000 drums were removed.

***Site Characterization and Restoration, Former Phosphate Mine and Processing Plant, Leefe, Wyoming.*** Ms. Gabriele managed a site characterization and restoration effort following a transformer oil release from multiple unlabeled, stockpiled transformers that had been tipped over by vandals trespassing on the closed mine and processing site. Components of this project included characterization of the transformer oil release area, site restoration design, contractor solicitation and evaluation, contractor oversight, and regulatory reporting. Site restoration included not only the area where transformers had been vandalized, but two other remote locations where transformers had been left on site.

***Environmental Site Assessment and Voluntary Cleanup Program Participation, Multiple RiNo Neighborhood Properties, Denver, Colorado.*** Ms. Gabriele advised the owner of properties in Denver's RiNo neighborhood as they transitioned an industrial building into an indoor climbing facility. Earlier components of the project that Ms. Gabriele also managed included a limited Phase II ESA and preparation of a No Action Determination application to the Colorado Department of Public Health and Environment (CDPHE) under its Voluntary Cleanup and Redevelopment Program. The industrial building property was historically occupied by residential homes, a feed store, a coal yard, and a warehouse. Redevelopment of the property involved excavation of contaminated fill materials and short-term exposure to contaminated groundwater.

***Environmental Site Assessment and Remedial Action, Shopping Center, Colorado Springs, Colorado.*** Ms. Gabriele managed a focused Phase II ESA and remediation of a former dry cleaner unit where VOCs were detected in sub-lab soil vapors. Ms. Gabriele met with CDPHE to discuss the Phase II ESA findings and proposed the next steps. Geosyntec designed, installed, and operated an SVE system at the unit. Geosyntec helped the client secure a No Further Action determination from CDPHE once soil vapor treatment was complete.

***Environmental Site Assessment, Shopping Center, Albuquerque, New Mexico.*** Ms. Gabriele designed and managed a limited Phase II ESA of a former drycleaner site for the property owners



where sub-slab vapors and soil vapors were screened for the presence of VOCs prior to sampling. With the results of the cost-effective Phase II ESA in-hand, the client was able to sell the property.

***Site Investigation and Remedial Actions, Former M&P Compounding Facility, Asbury Park, New Jersey.*** On behalf of the responsible party, Cookson Group, plc, Ms. Gabriele managed a multi-million-dollar, multi-media environmental investigation and remediation project under New Jersey's Environmental Cleanup Responsibility Act. The project involved underground storage tank, sump and floor drain closures; soil remediation; evaluation of the vapor intrusion pathway; and monitored natural attenuation of groundwater contamination.

***Environmental Site Assessment, Gates Rubber Company Complex, Denver, Colorado.*** Ms. Gabriele managed comprehensive Phase I ESA, Phase II soil and groundwater investigations, and UST closures and soil remediation efforts at this former automotive tire, belt, and hose manufacturing complex as part of brownfields redevelopment of the facility. The Phase I ESA included evaluations of historic operations, demolished facilities and existing buildings to define potential environmental conditions and recommendations for future site development.

***Underground and Aboveground Storage Tank Closures, Site Characterization, and Corrective Action, multiple sites in Colorado.*** Ms. Gabriele has managed UST and AST projects that included closure, site characterization and corrective action due to historic releases from the tanks.

***Quality Assurance, Asarco Globe Plant Site, Denver, Colorado.*** Ms. Gabriele served as the Quality Assurance Manager during the remedial investigation and design phases of a multimillion-dollar multi-media cleanup program at the Asarco Globe Plant CERCLA site. Ms. Gabriele also served as Construction Quality Assurance Manager during remedy implementation and managed the operations, maintenance and monitoring tasks after remedy implementation. The project included investigation of soil, groundwater, surface water, sediment, and ambient air impacts due to releases of arsenic, cadmium, lead, and zinc and remedial design and implementation of over 600 residential and commercial properties, using excavation and replacement, capping, and deep tilling remedies as appropriate. Other remedial actions included the design of a slurry wall and RCRA cap around a tailings pile; cleanup of a 1,000-foot-long drainage ditch and restoration of wetlands; and controls for wet operations and point source emissions.

***Data Usability Summary Reports, multiple sites in New York.*** Ms. Gabriele has directed multiple projects for multiple clients requiring data usability summary reports (DUSRs) for their environmental data.

### **EHS Management Systems**

***Environmental Management System Support, City and County of Denver, Colorado.*** Ms. Gabriele is directing work under a contract with the City to serve as its on-call EMS consultant. Under this

contract, Geosyntec has evaluated the current EMS scope and context, and obligations related to leadership commitment and made recommendations to the City for improved EMS performance. Geosyntec also conducted an internal audit of the system; revised the process for conducting internal audits; and designed and facilitated a training event on the internal audit process. Recently, Geosyntec evaluated and made recommendations for improvements to the organization's management review process.

***Environmental Management System Development and Implementation, City of Westminster, Colorado.*** Ms. Gabriele directs this project with the City whose objective is to ultimately implement a full-scale EMS across all City-owned and operated buildings (30+) and departments (12). The initial phase was a gap assessment of the City's existing systems and processes to the ISO 14001 Standard. The second phase was the development of an EMS for the entire City with training to the General Services team and three select divisions: water treatment, fleet management, and golf courses. The third phase was implementation of the system for the General Services team and the three select divisions. Currently, Geosyntec is supporting the City with tools it developed for the City to track EMS obligations and manage EMS documents and records.

***Compliance Management System Maintenance and Updates, Arch Resources Coal Mining, Processing and Loading Facilities in the United States.*** Ms. Gabriele works with Arch Resources, Inc. (formerly Arch Coal) to maintain and improve its Environmental Management System (EMS), originally branded as a Compliance Management System (CMS) implemented by Arch in 2009. Project components include EMS strategic planning, document maintenance and management, training materials development, auditing, and corrective action planning to support continual improvement of the system. In addition, Geosyntec is supporting Arch in its pursuit of certifications to the Toward Sustainable Mining (TSM) Standard for a portion of its mines. To this end, Ms. Gabriele directed a water balance project for all of Arch's mine locations and worked with Arch to broaden the scope of CMS to include all environmental aspects covered under the TSM Standard.

***Environmental Management System Training, Corning Incorporated, Painted Post, NY.*** Ms. Gabriele directed this project and served as technical lead where Geosyntec trained Corning personnel to conduct internal EMS audits. Corning's facility is ISO 14001 certified.

***Environmental Management System Development, Greenberg Traurig LLP, Multiple Locations Worldwide.*** Ms. Gabriele developed an EMS Manual for this multi-disciplinary law firm intending to pursue ISO14001 certification.

***Environmental Management System Development, Trident Seafoods Corporation, Washington and Alaska.*** Ms. Gabriele advised this organization on updates to its EMS Manual in response to a

requirement of an Order on Consent with the Alaska Department of Environmental Conservation. The EMS needed to conform to the compliance-focused EMS Standard published by the U.S. EPA.

***Workforce Compliance Assessment, Washington Gas & Light, Washington, DC and surrounding states.*** Ms. Gabriele supported this project as management system subject matter expert. Geosyntec completed an assessment of the utility's environmental department workforce that included document review, interviews with key stakeholders, and a benchmark against peer organizations. Our deliverable included a roadmap for development and implementation of an environmental management system.

***Environmental Management System Development, Confidential Electrical Utility, Multiple U.S. Locations.*** Ms. Gabriele directed this project with an electrical utility provider with over 50 generating stations. The initial phase of this project was a gap assessment of the organization's existing systems and processes to a traditional plan-do-check-act management system. The second phase was the development of a compliance-focused EMS for the organization to adapt.

***Environmental Management System Development, Confidential Healthcare Provider, Multiple U.S. Locations.*** Ms. Gabriele managed this project relative to select U.S. divisions of this multinational organization. The initial phase of this project was a gap assessment of the organization's existing systems and processes to the ISO 14001 Standard. The second phase was development of a compliance-focused EMS for the select U.S. divisions. The final phase was comprehensive training on the system and the environmental compliance programs developed under the system.

***Integrated Management System Alignment, Cheniere Energy, Inc., headquartered in Houston, Texas.*** Ms. Gabriele directed this project with the largest producer of liquefied natural gas (LNG) in the U.S. and the second largest LNG operator in the world whose objective it is to move toward a single management system model across all functions of the organization. Geosyntec was retained to work with the corporate Operational Excellence, Health & Safety (H&S), Environmental, and Engineering & Construction (E&C) teams to advance this initiative. The scope of services was to map the management system elements and key processes across functions, and assess and evaluate each function's needs, gaps, and/or duplications relative to the management system. The Geosyntec team was able to identify several opportunities for improvements to the system.

***Environmental Management System Development, Implementation and Maintenance, Food and Beverage Industry Complex, United States Territory.*** After having completed a gap analysis of existing management system components, Ms. Gabriele advised a confidential client on negotiations toward a Consent Decree with the U.S. EPA and development of a compliance-focused EMS required by the Consent Decree. Ms. Gabriele worked with this client to develop an EMS

including a manual, management system procedures, and associated forms and training materials. She worked with the facility's management team on standard operating procedures, work instructions, forms, and training materials for activities associated with environmental compliance obligations to integrate those into the EMS. Ms. Gabriele continued to advise the client through EMS implementation, internal EMS auditing, third-party EMS auditing, and response to third-party audit findings. The EPA unconditionally accepted the third-party audit report and the client's response. Ms. Gabriele continued to monitor EMS implementation for this facility by participating in goal setting exercises and management review meetings and reviewing system performance data and monitoring reports. She also advised the client's corporate team on the use of commercial management system software and worked with the facility on software integration.

***Sustainable Engineering Services for Water Programs, Los Angeles County Metropolitan Transportation District.*** Ms. Gabriele served as the Quality Assurance Manager for this indefinite delivery / indefinite quantity contract with Metro. Among other things, Geosyntec is working with Metro to systematically implement programs to reduce water use and improve wastewater and stormwater quality.

***EHS and Compliance Management System Training, Confidential Upstream O&G Company, Colorado.*** Ms. Gabriele developed eight hours of training materials to encompass this organization's integrated EHS and compliance management system programs based on the ISO 14001:2015 Environmental management systems -- Requirements with guidance for use; and ISO 45001:2018 Occupational health and safety management system -- Requirements with guidance for use and conducted training for the organization's staff over two 4-hour sessions. Geosyntec provided the training materials for the client after the training for it to use to train new and provide refresher training to existing staff. There was also a module with training materials to use for top leadership, operations teams, and others in an Overview Presentation.

***Environmental Management System Gap Analysis, ENSTOR, East Cheyenne Gas Storage, Peetz, Colorado.*** Ms. Gabriele managed Geosyntec's effort to identify gaps to the ISO 14001 Environmental management systems -- Requirements with guidance for use in ENSTOR's EMS at its East Cheyenne facility. The final product was a spreadsheet for ENSTOR to use as an Action Plan.

***Environmental Health and Safety Management System Development and Implementation Support, Terumo BCT, headquarters in Lakewood, Colorado.*** Ms. Gabriele directed this project with a manufacturer of blood collection and processing equipment and supplies who needed to be ISO 14001 and 45001 certified to maintain a key customer contract. Geosyntec was retained to work with the corporate and Lakewood, Colorado facility teams to ready the organization for ISO certification audits. The scope of services: conducting an EHS management system (MS) gap

assessment; conducting an internal EHS MS audit to the ISO Standards, conducting an evaluation of EHS compliance at the Lakewood facility and assisting in establishing a risk-based schedule for future compliance evaluations; assisting with employee training and internal engagement; preparing for the internal and third-party audits; and attending the internal and third-party audits in support of the team. Ms. Gabriele was able to secure a successful outcome for the client (i.e., ISO certification) in a relatively short (i.e., four month) timeframe.

***Environmental Management System Development, Multiple Coal Mining, Processing and Loading Facilities in the United States.*** Ms. Gabriele advised Southern Coal Corporation (SCC) on negotiations toward a Consent Decree and is advising SCC on development and implementation of a compliance-focused EMS and compliance database that are required by the Consent Decree. Ms. Gabriele worked with SCC to develop an Environmental Policy, EMS Manual, and supporting management system procedures and associated templates. Ms. Gabriele developed and facilitated a webinar series to train SCC managers and support personnel on its EMS and managed the development and population of a compliance database.

***Environmental Management System Development, Multiple Coal Mining, Alpha Natural Resources Coal Processing and Loading Facilities in the United States.*** After having completed a gap analysis of existing management system components across its entire organization of over 100 mine sites, Ms. Gabriele assisted Alpha Natural Resources with development and implementation of a compliance-focused EMS to improve environmental management and environmental performance and to satisfy requirements of a Consent Decree. Ms. Gabriele worked with Alpha to develop its EMS Manual and the supporting management system procedures and associated templates. Ms. Gabriele developed and facilitated a series of webinars to train Alpha managers and support personnel on its EMS.

***Environmental Management System Audits, Musashi Auto Parts, Battle Creek, Michigan.*** Ms. Gabriele managed and currently directs internal audits of this facility's EMS and environmental compliance obligations. Musashi's EMS is ISO 14001 certified.

***Environmental Health & Safety Management System Audit, Ferrara Candy Company, Itasca, Illinois.*** Ms. Gabriele managed an internal audit of this facility's EHS MS. Ferrara's EHS MS is ISO 14001 and 45001 certified.

***Environmental Management System Support, Cripple Creek & Victor Gold Mining Company, Victor, Colorado.*** Ms. Gabriele assisted the Cripple Creek & Victor Gold Mining Company (CC&V) environmental staff in a review and reorganization effort of its EMS documents in 2014 in advance of its EMS audit. CC&V's EMS is ISO 14001 certified.



***EO100™ Audit, Seneca Resources Company, LLC (Seneca Resources), Multiple Upstream Natural Gas Facilities in Pennsylvania.*** Ms. Gabriele led a verification assessment (audit) of this organization's Pennsylvania operations to the EO100™ Standard for Responsible Energy Development (2017) and the EO100™ Standard Addendum for Shale Oil and Gas Operations (2015). The audit team included subject matter experts representing each of the five Principles: Corporate Governance, Transparency & Ethics; Human Rights, Social Impact & Community Development; Indigenous People's Rights; Fair Labor & Working Conditions; and Climate Change, Biodiversity & Environment. The audit entailed review of documentation provided by the organization, interviews with both internal and external stakeholders, and visits to more than 50 of the organization's facilities. In 2023, Ms. Gabriele completed senior review on portions of the surveillance audit.

***MiQ Certification Assessment, Seneca Resources, Multiple Upstream Natural Gas Facilities in Pennsylvania.*** Ms. Gabriele led a certification assessment (audit) of this organization's Pennsylvania operations to the MiQ Standard. The Standard outlines a list of mandatory company practices that an operator must have in place to be eligible for MiQ Certification and requires operators to deploy monitoring technology to detect unintended methane emissions for timely repair or replacement. The audit entailed review of documentation and data provided by the organization, interviews with Seneca personnel, and visits to several of the organization's facilities. Ms. Gabriele has since directed re-certification of the operations to the Standard.

#### **EHS Planning and Compliance Assurance**

***RCRA Compliance Audit, Confidential Client, Colorado.*** Through outside counsel, Geosyntec was retained to conduct a comprehensive RCRA compliance audit of hazardous waste transporter's operations in Colorado. Ms. Gabriele led the audit that included a review of the operation's records, interviews with key personnel, and observations of conditions and activities associated with the operations. The findings will be used to improve the organization's RCRA program.

***Desktop RCRA Compliance Audit, Confidential Client, Confidential Locations.*** Through outside counsel, Ms. Gabriele led a confidential desktop RCRA compliance audit of two of this organization's mining operations. The audit team reviewed the mines' records and interviewed key personnel. The findings were used to improve the organization's RCRA programs.

***Comprehensive EHS Compliance Audit, Confidential Client, Colorado.*** Through outside counsel, Ms. Gabriele led a comprehensive EHS compliance audit of this organization's manufacturing operation in Colorado. The audit team reviewed the operation's records, interviewed key

personnel, and observed conditions and activities at the operation. The findings will be used to improve the organization's EHS programs.

***RCRA Compliance Support, Confidential Client, Colorado.*** Through outside counsel, Geosyntec was retained to conduct a comprehensive RCRA audit of the facility operations. Ms. Gabriele led the audit and efforts to address compliance exceptions identified during a hazardous waste inspection performed by the regulatory authority as well as those identified during Geosyntec's audit. Geosyntec's work included preparing a response to the regulator's comments, recording waste determinations, developing a hazardous waste management program, emergency action plan, and training program, providing the training to facility personnel, and attending a compliance advisory meeting with the client and regulator.

***Solid Waste Compliance Support, Confidential Client, Colorado.*** Through outside counsel, Geosyntec was retained to assess the compliance status of a facility managing solid waste in surface impoundments. Ms. Gabriele managed the project which led to updating the facilities Engineering Design and Operations Plan for the impoundments and relining two of the impoundments. Geosyntec served as construction quality assurance manager and engineer during the relining process.

***Waste Compliance Audit, Confidential Client, Mississippi.*** The legal department for this pharmaceutical company engaged Geosyntec to conduct a comprehensive waste management audit at its facility in Mississippi. Ms. Gabriele and others participated in the three-day audit. Findings from the audit fell into the following categories: waste determination; satellite accumulation; solvent-contaminated wipes; central accumulation area; inspections; universal waste; electronic wastes; used oil; biennial reporting; solid waste management; spill waste management; and other related waste topics.

***Environmental Compliance Audit, Confidential Client, Nebraska, Colorado, and Illinois.*** The legal department of this client engaged Geosyntec to conduct comprehensive environmental compliance audits of hazardous waste transporters it has been using. Ms. Gabriele led the audits which the client will use to manage business risks.

***EHS Compliance Support, Core Natural Resources (formerly Arch Resources) Coal Mining, Processing and Loading Facilities in the United States.*** Ms. Gabriele directs Geosyntec work for Core's Environmental and Safety Departments. The work includes a variety of matters to assure compliance including training of its environmental staff, auditing of Core operations as well as the operations of vendors critical to compliance, and U.S. EPA Toxics Release Inventory (TRI) and Greenhouse Gas (GHG) reporting. In addition, Geosyntec supports Core with upkeep and development of its environmental and ESG information management software platforms, safety data sheets, scope 1, 2, and 3 GHG emissions inventory, and product carbon footprint (PCF).

***EHS Program Development, Charm Industrial, Colorado, California, and Kansas operations.*** Ms. Gabriele directed projects with this biomass processor to develop EHS programs including air permitting and compliance, stormwater management, spill prevention, hazardous materials and waste management, industrial hygiene, and radiation safety. Charm generates bio-oil from biomass that is deep-well injected for carbon sequestration.

***PSM / RMP Compliance Matter, Confidential Client, Confidential U.S. Locations.*** Ms. Gabriele is managing Geosyntec's efforts to build a Process Safety Management and Risk Management Plan program for flammable gas transloading operations across the U.S. Until recently, the organization was unaware of PSM / RMP applicability relative to its operations and had not been maintaining documented process safety information, process hazard assessments, standard operating procedures, safe work practices, pre-startup safety reviews, mechanical integrity programs, management of change programs, or compliance audits. Geosyntec's work involves development of and training on these programs.

***EHS Program Development, MediWaste Disposal, Arizona and Nevada.*** Ms. Gabriele directed this project where Geosyntec advised its client on strategies for citing a medical waste treatment facility using pyrolysis. The client originally intended to establish a facility in Arizona but transitioned its attention to Nevada. Geosyntec worked on air permitting, sustainability permitting, conditional use permitting, and overall compliance support.

***Environmental Feasibility Assessment, Cheyenne Board of Public Utilities, Wyoming.*** Ms. Gabriele directed Geosyntec's work for the client in assessing the feasibility of converting three of its freshwater reservoirs to recycled water reservoirs. The work included an initial assessment of the impacts to human health and environment.

***Air Compliance Support, BlueTriton Brands, Colorado.*** Ms. Gabriele directed Geosyntec's work for the client in preparing the Air Pollutant Emission Notice (APEN) renewals. The work included an assessment of the facility for changes since the last APEN filing.

***RCRA Compliance Matter, Confidential Client, Confidential U.S. Location.*** Ms. Gabriele and others were retained to provide an independent third-party review to the client at it considered investing in a major capital project at one of its U.S. facilities. Of particular interest to the client were federal and state regulations that would delay the startup of the process due to permitting requirements or making the process cost prohibitive due to required controls or regulatory limitations. The client asked Geosyntec to conduct an environmental review and applicability analysis of the process with a particular focus on the federal RCRA regulations.

***RCRA Compliance Audit, Confidential Client, Confidential Location.*** Through outside counsel, Ms. Gabriele led a confidential RCRA audit of this organization's mining operations at a remote

location. The audit team included a review of mine's records, interviews with key personnel, and on-site observations of conditions and activities. The findings were used to improve the organization's RCRA program.

***Environmental Compliance Support, Dragon ESP, Colorado and Wyoming.*** Ms. Gabriele directs projects where Geosyntec supports this trailer manufacturing operation with air emissions, stormwater, and hazardous materials compliance programs.

***Environmental Compliance Support, Hunter Douglas Window Fashions, Colorado.*** Ms. Gabriele directs this project where Geosyntec supports this window fashions manufacturing operation with air emissions, stormwater, and hazardous materials compliance programs.

***Environmental Compliance Support, Mutoh America, Arizona.*** Ms. Gabriele directs this project where Geosyntec supports this printer ink importer with TSCA compliance.

***Environmental Compliance Program Development, Confidential Client, Confidential Location.*** Ms. Gabriele developed program materials for this seafood processor that included RCRA (waste and used oil processing), CAA (operating permits, RICE MACT, and ammonia and butane general duty clause), CWA (individual NPDES permit, multi-sector general industrial stormwater discharge permit, and SPCC rules), EPCRA Tier I and II and TRI reporting, and local pesticide compliance programs.

***Hazardous Waste Compliance Program Development, Confidential Client, Confidential Location.*** Through outside counsel, Ms. Gabriele directed this project where a hemp processing facility needed to improve its hazardous waste compliance program in response to an agency inspection.

***Environmental Compliance Auditing Program, Confidential Client, Multiple U.S. Locations.*** Through outside counsel, Ms. Gabriele was the program manager for Geosyntec's work with this O&G industry client to develop internal audit checklists for dozens of facilities spanning four states. The client intends to use the checklists to implement an internal audit program across its entire operation.

***Multi-media Environmental Compliance Auditing Program, Confidential Client, Multiple North American Locations.*** Through outside counsel, Ms. Gabriele served as program manager for Geosyntec's work with this specialty chemical client to audit environmental compliance at as many as twelve of its facilities per year.

***Multi-media Environmental Compliance Auditing Program, Confidential Client, Multiple U.S. Locations.*** Through outside counsel, Ms. Gabriele directed an audit of this company's operations. It had never considered EPCRA or TSCA applicability and imports and distributes products with

hazardous ingredients. Among other things, the company was required to submit TSCA Chemical Data Reports (CDRs) the current and prior reporting periods and may have been required to EPCRA Tier I and II reports. Ms. Gabriele supported the client with self-disclosure of violations to EPA and with corrective actions including development of an environmental compliance and training program.

***Multi-media Environmental Compliance Audit, Confidential Client, Colorado.*** Ms. Gabriele managed the audit of this home furnishing assembly company's operations. The company is subject to CAA, CWA, RCRA, and EPCRA rules. Audit findings were used to make corrections and improvements to the company's environmental compliance programs.

***Multi-media Environmental Compliance Audit, Confidential Client, Colorado.*** Through outside counsel, Ms. Gabriele managed the audit of this company's hard rock mining operation. The company is subject to CAA, CWA, RCRA, and EPCRA rules. Audit findings were used to make corrections and improvements to the company's environmental compliance programs.

***Multi-media Environmental Compliance Audit, Confidential Client, Confidential Location.*** Ms. Gabriele managed multi-media environmental compliance audits of this food processing facility that included RCRA (waste and used oil processing), CAA (operating permits, RICE MACT, and ammonia and butane general duty clause), CWA (individual NPDES permit, multi-sector general industrial stormwater discharge permit, and SPCC rules), EPCRA Tier I and II and TRI, and local pesticide compliance programs.

***Environmental Program Review Checklists, Confidential Utility Provider, Multiple Facilities.*** Ms. Gabriele managed the preparation of environmental program review checklists for the utility company's Compliance Assurance group to use when evaluating compliance and training staff at its generation stations and customer service centers. Programs included CAA, CWA, SPCC, RCRA, EPCRA, Dam Safety, DOT, and NRC.

***Environmental Compliance Audits, Confidential Client, Multiple Colorado facilities.*** Ms. Gabriele conducted limited environmental compliance audits and prepared Operations and Compliance Memoranda for three facilities in Colorado. The facilities were occupied by an electrical generator manufacturing plant, a diesel engine rebuild plant, and a field service support operation.

***Environmental Compliance Audits, Musashi Auto Parts, Battle Creek, Michigan.*** Ms. Gabriele managed internal audits of this facility's environmental compliance obligations.

***Process Hazard Analysis Study, Vopak Terminal Los Angeles, Inc., California.*** Ms. Gabriele provided senior oversight of Geosyntec's PHA team. The team led the PHA using the what-if analysis method and completed a human factors checklist for modification to accommodate



conversion from fuel oil to jet fuel at its bulk terminal. The PHA resulted in the identification of concerns associated with the modifications and specific recommendations to address the concerns.

***Process Hazard Analysis Review, Food and Beverage Industry Complex, United States Territory.*** Ms. Gabriele provided senior oversight of Geosyntec's PHA team. The team led a review of a PHA completed for an ammonia refrigeration system five years prior. The PHA focused on concerns and recommendations identified during the initial PHA. The PHA used the what-if analysis method. A human factors checklist was also completed. The PHA resulted in the identification of concerns associated with operation and maintenance of the system and specific recommendations to address the concerns.

***Compliance Review, Umicore, North American Operations.*** Ms. Gabriele directed this project where Geosyntec assessed this global materials technology and recycling organization's programs for compliance with the U.S. TSCA rules and Canadian Environmental Protection Act (CEPA) Prohibition of Certain Toxic Substances Regulations.

***Environmental Management Plans, Former Redfield Riflescope Site, Denver, Colorado.*** Ms. Gabriele prepared RCRA Contingency Plans, Hazardous Materials Management Plans, training programs, and Biennial Reports for this multi-million-dollar, multi-phase project. This ongoing project involves extensive groundwater, soil, and indoor air investigations as part of RCRA site characterization activities including over 8,000 indoor air tests, installation and sampling of over 100 monitoring wells, and collection of scores of soil and soil vapor samples.

***RCRA Part B Permit Renewal, Union Pacific Railroad Laramie Tie Plant, Laramie, Wyoming –*** Ms. Gabriele managed Geosyntec's work as technical advisors to Wyoming Department of Environmental Quality as the permittee sought to renew and operate under its permit. Permit renewal coincided with a 20-year long pilot study of phytoremediation as an alternative to a RCRA cap on a corrective action management unit (CAMU).

***RCRA Current Conditions Report, Nammo Defense Systems, Mesa, Arizona.*** Ms. Gabriele is the senior technical advisor on Geosyntec's team to prepare this report for the client's campus. The report is a requirement of an Administrative Order on Consent lodged in 2021 and will provide an update to the most recent inventory of Solid Waste Management Units and Areas of Concern. It is anticipated that almost 100 SWMUs and AOCs will be reported on.

***SARA Toxic Release Inventory (TRI) Reporting, Confidential Client, Alaska.*** Ms. Gabriele managed the evaluation of SARA TRI reporting records for this seafood processor in response to a U.S. EPA Request for Information. Records associated with three facilities were evaluated for the current and prior four years.

***SARA TRI Reporting, Confidential Client, Multiple U.S. Locations.*** Ms. Gabriele managed the evaluation and preparation of SARA TRI Form R reports for this solid waste management company that had never considered TRI applicability. Two of ten facilities evaluated were required to file TRI reports for the current and prior years. Ms. Gabriele supported the client with self-disclosure of violations to EPA and with corrective actions.

***Consent Decree Negotiations, Asarco, Inc., Denver, Colorado.*** Ms. Gabriele assisted Asarco with negotiation of a Consent Decree and Statement of Work to settle a lawsuit filed by the State of Colorado for damages to natural resources under CERCLA.

***Corporate Compliance Evaluation Program, Confidential Client, Multiple Confidential Locations.*** Ms. Gabriele reviewed RCRA Part B permits and provided high-level summary information on compliance obligations to the client's corporate team.

***Corporate Storm Water Compliance Program, approximately 50 facilities throughout the United States.*** Ms. Gabriele managed development and implementation of a corporate program to assist Cookson America, Inc.'s subsidiaries with regulatory compliance associated with storm water discharges from industrial activities.

***Storm Water Management Plan, West Elk Mine, Somerset, Colorado.*** Ms. Gabriele developed a storm water management plan for an underground coal mining operation.

***Storm Water Best Management Practices, Colorado Springs Utilities, multiple Colorado facilities.*** Ms. Gabriele prepared a storm water best management practices manual for the utility's field crews.

***SPCC Plan, Schlage Lock Facility, Colorado Springs, Colorado.*** Ms. Gabriele directed a project to review and update this manufacturing facility's SPCC Plan.

***SARA TRI Reporting, Anzon, Inc., Laredo, Texas.*** Ms. Gabriele managed the preparation of SARA TRI Form R reports for this antimony refining facility.

## **PROFESSIONAL EXPERIENCE**

Geosyntec Consultants, Inc., Greenwood Village, CO, 2012 - present

EnviroGroup Limited, Centennial, CO, 1992 – 2012

Clayton Environmental Consultants, Inc., Edison, NJ, 1989-1992

Phoenix Safety Associates, Ltd, New York, NY, 1988-1989

## **AFFILIATIONS**

Colorado Environmental Management Society; Board President

Rocky Mountain Association of Environmental Professionals

## **REPRESENTATIVE PUBLICATIONS AND SPEAKING ENGAGEMENTS**

Invited speaker: RCRA Regulations: Tips to Minimize Waste and Save Money, Air and Waste Management Association Midwest Section Environmental Technical Conference, May 2024

Invited panelist: Environmental, Social, and Governance: The community's role in effective ESG systems – Putting the "social" in ESG. Environmental, Health and Safety Webinar, Greenberg Traurig, May 2023.

Invited panelist: Toxics Release Inventory: The Basics of Reporting. Business and the Environment Conference, Northwest Environmental Business Council, December 2022.

S. Gabriele and B. McLaughlin, 2022. Greenhouse Gas Inventory Workshop, presented virtually through the Colorado Green Business Network, April 2022.

S. Gabriele and L. A. Sigler, 2000. Community Relations Issues related to Residential Site Investigations and Cleanups, presented Hazardous Waste Research Conference, Denver, May 2000.

May 12, 2020

Mr. Richard Dean  
Stratus Redtail Ranch, LLC  
8480 E. Orchard Road, Suite 1100  
Greenwood Village, CO 80111

RE: **CDPHE Approval of the Corrective Measures Design Report Rev. 1**  
Neuhauser Landfill, Erie, Colorado

SW/WLD/NEU 2.4

Dear Mr. Dean:

The Colorado Department of Public Health and Environment ("CDPHE" or "Department") Hazardous Materials and Waste Management Division ("Division") received the following document on May 1, 2020:

*"Corrective Measures Design Report, Historic Landfill Site, Rev. 1;"* prepared for Stratus Redtail Ranch LLC ("Stratus"); prepared by Geosyntec Consultants ("Geosyntec"); dated May 1, 2020 (referred to herein as the "CMD Rev.1").

Stratus and CDPHE entered into Compliance Order on Consent Number 18-05-15-01 on May 16, 2018 ("Consent Order"). Among other things, the Consent Order requires Stratus to prepare a corrective measures design ("CMD") and a post-closure monitoring and maintenance plan ("PCMMP"). The CMD was originally due on June 5, 2019. Under the Consent Order, the PCMMP is due within sixty calendar days of approval of the CMD. Stratus requested, and the Division approved, Stratus' request to include the PCMMP as an appendix to the CMD. Stratus also requested and the Division approved time extensions for the due date of the CMD. Stratus submitted a draft CMD to the Division on August 27, 2019 for an informal technical review. The Division provided written comments on the draft CMD to Stratus in four separate transmittals between September 10, 2019 and October 7, 2019.

Stratus submitted CMD Rev. 0 to the Division for review on February 7, 2020. The Division advertised a 30-day public comment period starting on February 26, 2020 inviting the public to comment on the CMD Rev. 0. The public comment period ended on March 26, 2020. The Division received no comments from the public. The Division's comments on CMD Rev. 0 were issued to Stratus on April 2, 2020.

The Division has completed its review of the CMD Rev.1. The Division reviewed CMD Rev.1 to determine its compliance with requirements of the Solid Wastes Disposal Sites and Facilities Act, CRS 30-20-100.5 *et. seq.* ("Act"), the Regulations Pertaining to Solid Waste Sites and Facilities, 6 CCR 1007-2, Part 1 ("Regulations"), and the Consent Order. Based on its review, the Division has determined that the Division's comments have been adequately addressed and that the CMD Rev. 1 meets the requirements of the Act,

Regulations, and Consent Order. Therefore, the Division hereby approves the CMD Rev. 1 as submitted.

Please note that this approval letter does not preclude the Town of Erie from taking independent review action.

The Division requests that Stratus submit its closure and post-closure financial assurance cost estimate by August 12, 2020. The cost estimate does not need to include the work to be performed during the summer of 2020.

The Department is authorized to bill for its review of technical submittals at a rate of \$125 per hour pursuant to Section 1.7 of the solid waste regulations. An invoice for the Division's review of the above-referenced document will be transmitted under separate cover.

Should you have questions about this letter please call me at (303) 692-2295 or email me at [curtis.stovall@state.co.us](mailto:curtis.stovall@state.co.us).

Sincerely,

Curt Stovall, P.E.  
Solid Waste Permitting Unit  
Solid Waste and Materials Management Program  
Hazardous Materials and Waste Management Division

ec: Joyce Ackerman - EPA Superfund Technical Assessment and Response Team  
Mark Adams - Waste Connections  
Colleen Brisnehan - CDPHE Site Assessment  
Farrell Buller - Town of Erie Deputy Town Administrator  
Steve Derus - Republic Services  
Lauren Errico - CDPHE Community Involvement  
Malcolm Fleming - Town of Erie Town Administrator  
David Folkes, PE - Geosyntec Consultants  
Ben Frissell - Weld County Department of Public Health and Environment  
David Fronczak - EPA Site Assessment Program  
Jonathan Gillen, PE - Geosyntec Consultants  
Jerry Henderson - CDPHE Solid Waste Permitting Unit Leader  
Doug Ikenberry, PE - CDPHE Solid Waste Compliance Assurance Unit  
Jason King, Esq - Colorado Office of the Attorney General  
Alan Linton - Pratt Management Company, LLC  
Amber Luttrell - Town of Erie Communications & Marketing Manager  
Randy Perila - CDPHE Solid Waste Compliance Assurance Unit  
Ben Pratt, CECD - Town of Erie Director of Economic Development  
Dani Serna, RS/REHS - Weld County Department of Public Health and Environment  
Ed Smith - CDPHE Solid Waste Compliance Assurance Unit Leader  
Fred Starr, AICP - Town of Erie Director of Planning & Development  
Jonathan Steeler, Esq - Senn Visciano Canges P.C.





April 12, 2022

## Property Development Environmental Review Update

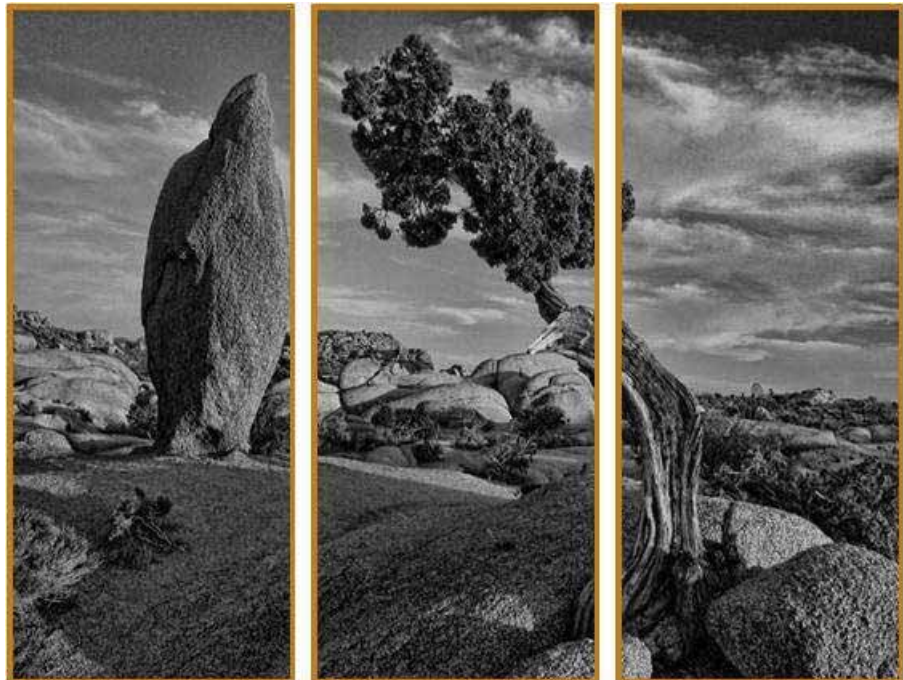
Stratus Redtail Ranch  
Erie, Weld County, Colorado

**Prepared For:**

Town of Erie  
645 Holbrook Street  
Erie, CO 80516

**Pinyon Project No.:**

122069502.SC007



April 12, 2022

## Property Development Environmental Review Update

Redtail Ranch  
Erie, Colorado

**Prepared For:**

Town of Erie  
645 Holbrook Street  
Erie, CO 80516

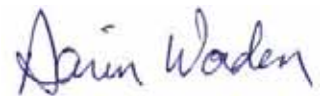
**Pinyon Project No.:**

122069502.SC007

**Prepared by:**

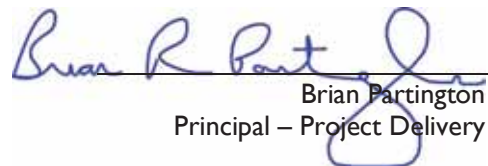


Tim Grenier, P.E.  
Technical Group Manager – Due Diligence/Site Characterization



Darin Worden  
Senior Hydrologist

**Reviewed by:**



Brian Partington  
Principal – Project Delivery

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## List of Acronyms

Acronym	Definition
AOC	Administrative Settlement Agreement and Order on Consent
bgs	below ground surface
CDPHE	Colorado Department of Public Health and Environment
CGS	Colorado Geological Survey
CGWS	Colorado Groundwater Screening Levels
CMD	Corrective Measure Design
CMWP	Corrective Measures Work Plan
COC	Compounds of Concern
COPC	Contaminants of Potential Concern
CR	County Road
CREC	Controlled Recognized Environmental Condition
DCE	Dichloroethylene
DO	Dissolved Oxygen
EISB	Enhanced In-situ Bioremediation
EM	Electromagnetic
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
ET	Evapotranspiration
GPR	Ground Penetrating Radar
IBM	International Business Machines
IDW	Investigation Derived Waste
ISCO	In-situ Chemical Oxidation
LEL	Lower Explosive Limit
MCLs	Maximum Contaminant Levels
MNA	Monitored Natural Attenuation
NGPRS	National Ground Penetrating Radar Services
NAD	No Action Determination
ORP	Oxidation Reduction Potential
PA	Preliminary Assessment
PCE	Tetrachloroethylene
PCMM	Post-Closure Monitoring and Maintenance
PID	Photoionization Detector
POC	Point of Compliance
ppm	parts per million
PVC	Polyvinyl Chloride
REC	Recognized Environmental Conditions
RPA	Revised Preliminary Assessment
SEC	Stewart Environmental Consultants
SVOC	Semi-Volatile Organic Compounds
TCE	Trichloroethene
TOC	Total Organic Carbon

TPH	Total Petroleum Hydrocarbon
TT	Tetra Tech
VOC	Volatile Organic Compounds

## I. Introduction

The subject property consists of two parcels totaling approximately 418 acres. Parcel 1 is the Stratus Redtail Ranch Property (Weld County Parcel Number 146729400002), which is approximately 290-acres; Parcel 2 is the Stratus Redtail Ranch 2 Property (Weld County Parcel Number 146729200046) which is approximately 128-acres and located to the northwest of Parcel 1. Combined, Parcel 1 and Parcel 2 will be referred to as the Site.

The Site includes the majority of Section 29, Township 1 North, Range 68<sup>th</sup> of the 6<sup>th</sup> Principal Meridian (Section 29), and is located to the southwest of Weld County Road (CR) 6 and CR 5. The east-adjacent property is the Front Range Landfill; the south adjacent property is developed with a golf course and residences; the west adjacent properties are residential; and the Denver Regional Landfill and Old Erie Landfill are located adjacent north of the Site (Figure 1). (Note: Pinyon has included figures prepared by others and appended to this report.) Stratus acquired the Site in July 2015 with plans to redevelop the property for residential purposes. Stratus submitted a Corrective Measure Design (CMD) Report to the Colorado Department of Public Health and Environment (CDPHE) in anticipation of development of the property for residential purposes, which CDPHE approved on May 12, 2020. At the request of the Town of Erie (Town), Pinyon reviewed documents available at that time, that were related to the Site. Following the review, Pinyon prepared the *Property Development Environmental Review*, dated March 5, 2020, providing a summary and professional opinions including recommendations on how thorough, complete, and technically sound Stratus' work had been.

Since that time, Stratus has implemented treatment of volatile organic compound (VOC)-impacted groundwater in release source areas through implementation of in-situ chemical oxidation (ISOC). Additionally, Stratus prepared and submitted an application for No Action Determination (NAD) through CDPHE. Several additional documents have been prepared by CDPHE, Geosyntec Consultants (Geosyntec), and the Colorado Geological Survey (CGS).

The Town requested Pinyon complete a second independent third-party analysis of the new/additional environmental documents including work remaining under the CMD to assist the Town's understanding of whether or not the CMD will adequately protect human health and the environment. Additionally, the Town requested that Pinyon's original report, dated November 5, 2020, be updated to include a summary and review of the new/additional documents.

### I.1 Methods

Pinyon reviewed the new documents related to the Site, which were provided by the Town. The new information was incorporated into the original report. Therefore, this updated report has been segregated into the following main categories:

- Site background presented in Sections 2.1 and 2.2.
- Site remediation activities completed through November 5, 2020 (Sections 2.3 and 2.4).
- Site remediation and monitoring plans and reports are presented in Section 3 including:
  - Geosyntec's Corrective Measures Design (CMD) (Sections 3.1 – 3.7).
  - Geosyntec's response to Pinyon's Property Development Environmental Review Report, November 5, 2020 (Section 3.8).

- ISOC Implementation Report (Section 3.9).
  - Stratus filing of the NAD and the subsequent CDPHE approval (Section 3.10).
  - CGS's review of the NAD and multiple other documents including a geotechnical study of the Site and underground coal mine subsidence investigation; and Geosyntec's response to the CGS review (Section 3.11).
- Pinyon's conclusions and recommendations are presented in Section 5.

## 2. Site History

### 2.1 Site Background

The north and northeastern portion of Section 29 (Denver Regional Landfill and Old Erie Landfill) as well as the northern and northeastern portion of the Site (Neuhauser Landfill) were historically used for landfilling activities from approximately the mid-1960's through 1969 (Figure 1). Numerous environmental investigations and site assessments have been completed at the Site starting in 1969 when complaints from neighboring property owners led to Weld County holding a hearing regarding Certificate of Designation status for the Neuhauser Landfill. The landfill Certificate of Designation was revoked, and operations were forced to cease in 1969 (Weld County, 1969).

A Preliminary Assessment (PA) and subsequent Revised Preliminary Assessment (RPA) were completed for the Columbine Landfill in 1984 and 1990, respectively. The Columbine Landfill consists of two parcels; one is the approximately 160-acre parcel currently known as the Denver Regional Landfill (adjacent north of the Site), and the second parcel is a 35-acre parcel currently known as the Old Erie Landfill (adjacent to the north of the northeast portion of the Site) (Figure 1). The reports found that John Neuhauser leased property immediately south of the Denver Regional Landfill and the Old Erie Landfill (the northern portion of the Site), circa 1964. John Neuhauser entered into contract agreements with International Business Machines (IBM) and Sundstrand Aviation to dispose of chemical waste at the Neuhauser Landfill (CDPHE, 1984). The PA noted that up to 1,500 drums containing approximately 84,000 gallons of chemical waste from IBM may have been disposed at the Neuhauser Landfill in the 1960's.

### 2.2 Site Investigations

Numerous environmental investigations have been completed to evaluate impacts stemming from the historical landfill and chemical disposal facility on the northern and northeastern portion of Section 29, including portions of the Site. The following sections focuses on the Site investigation and cleanup activities and does not discuss the history or cleanup activities conducted on the Denver Regional and Old Erie Landfill portions of Section 29.

#### 2.2.1 *Tetra Tech – Summary Report of Preliminary Site Investigation Activities, February 2007 (TT, 2007)*

Three soil vapor monitoring points were installed on January 11, 2007, along the northeastern Site boundary, south of the Old Erie Landfill (Figure 2 [the red labels, SV-1 (TT), SV-2 (TT), and SV-3 (TT)]); soil vapor samples were collected on January 16, 2007 and were analyzed for landfill gas suites and volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method AP-42. In addition to the soil vapor samples, two groundwater samples were collected from existing wells located south of the Old Erie Landfill on January 15, 2007. Groundwater was observed at depths between 18.50 and 54.62 feet below ground surface (bgs). The groundwater samples were analyzed for total petroleum hydrocarbons (TPH) and VOCs.

Various VOCs exceeded the selected Target Shallow Soil Gas Concentration screening levels in each of the three soil vapor samples. Sample SV-3 (TT), which was collected from the northeastern most corner of the Site had the highest concentrations, with numerous exceedances including trichloroethene (TCE), and tetrachloroethylene (PCE) by factors of 20,000 and 2,000, respectively (Figure 2).

TPH and VOCs were not detected above the laboratory detection limits in the two groundwater samples.



### **2.2.2 Stewart Environmental Consultants – Supplemental Soil Vapor Investigation, September 2007 (SEC, 2007)**

Based on the findings of the Tetra Tech soil vapor investigation, Stewart installed an additional 30 soil vapor sampling points throughout the northern and eastern portion of Parcel 1; no vapor points were installed on Parcel 2. The northern points were selected to evaluate soil vapor conditions migrating from the Denver Regional Landfill and Old Erie Landfill properties and the eastern points were used to evaluate potential soil vapor conditions migrating from the east adjacent Front Range Landfill. Most of the points were nested with two screen intervals at five feet, and between 15 to 20 feet bgs. Samples were collected and lab analyzed for VOCs from 16 of the vapor points along the northern portion of Parcel 1 (Figure 2). During this sampling event, TCE was detected above the risk-based screening level at SV-14, SV-16, and SV-22. Samples were not collected for lab analysis at the other vapor point locations; instead, the vapor points were field screened for landfill gases. Those included three locations immediately south of the Old Erie Landfill (SV-10, SV-11, and SV-3(TT)), which indicated methane concentrations above the lower explosive limit (LEL) (Figure 2). Methane was not detected at the other locations.

The investigation concluded that landfill gases were migrating onto the Site from the Denver Regional Landfill and the Old Erie Landfill, but were not migrating onto the Site from the east adjacent Front Range Landfill. The soil vapor impacts were limited to the northern and northeastern portions of the Site, within the Buffer Area. The Buffer Area is an area that is subject to Environmental Use Restrictions to protect future Site users and residents from coming into contact with things that remain at the Site. The Environmental User Restrictions are further discussed in Section 3.2 and shown on Figure 1. Perched groundwater in the northeast corner of the Site was impacted, although the concentrations were not considered an immediate threat to human health.

### **2.2.3 Stewart Environmental Consultants – Soil Vapor Monitoring, January 2011 (SEC, 2011)**

This investigation included screening the existing vapor monitoring wells for landfill gases (e.g., methane, carbon dioxide, oxygen, and LEL). No elevated methane or LEL measurements were recorded. Waste Connections, Inc. (the operators of the Denver Regional Landfill), noted that their methane recovery system was improved. This, along with aging of the landfills, was believed to have had a positive effect on the migration of landfill gases into the Site.

### **2.2.4 Quality Environmental Services and Technologies, Inc. - Phase I Environmental Site Assessment, March 2015 (Quest, 2015)**

This Phase I Environmental Site Assessment (ESA) was completed as part of Stratus' acquisition of the Site. The Phase I ESA identified surficial soil staining associated with the on-site oil and gas operations. The report identified the east-adjacent Front Range Landfill as a recognized environmental condition (REC) and the north adjacent Denver Regional and Old Erie Landfills as controlled recognized environmental conditions (CRECs).

### **2.2.5 Quality Environmental Services and Technologies, Inc. – May 2016 Groundwater Assessment, May 2016 (Quest, 2016)**

Based on the findings of its Phase I ESA, Quality Environmental Services and Technologies, Inc. (Quest), conducted groundwater monitoring at 17 locations, in three phases, at the north/northeast boundary of the Site (Figure 3). Eleven groundwater samples were collected and submitted for lab analysis for VOCs (six of the wells did not produce water). Quest's investigation noted that impacted soils were present along the northeastern portion of the Site. Elevated VOC concentrations exceeding the CDPHE Groundwater Standards

were noted at five locations (GW#3, GW#8, GW#9, GW#13, GW#16, and TB-1), each of which were collected from the northeastern portion of the Site (Figure 3).

#### **2.2.6 Stewart Environmental Consulting Group, LLC – Report on Phase 2 Nature and Extent Investigation, October 2017 (SEC, 2017)**

Stewart Environmental Consulting Group, LLC (SEC) installed six shallow (15 to 30 feet) groundwater monitoring wells at the northeastern portion of Parcel 1 (Figures 4a and 4b). SEC collected samples from the newly installed wells and the wells installed by Quest in 2016. Samples were analyzed for VOCs, semi-volatile organic compounds (SVOCs), total organic carbon (TOC), metals, and select organic and inorganic compounds. Multiple exceedances of the Colorado groundwater standards were noted. Groundwater was found to flow from the east to the west and was found to be impacted by multiple VOCs including TCE, toluene, 1,2-dichloroethylene (DCE), and cis-1,2-DCE.

National Ground Penetrating Radar Services (NGPRS) completed ground penetrating radar (GPR) and electromagnetic (EM) investigations at the Site to identify the locations of the drums identified in the PA and RPA reports completed in 1984 and 1990, respectively, and to identify areas of potential solid waste. Several areas with potential drums were identified during the GPR/EM survey, the locations were confirmed by completing excavations in the discovery areas using a front-end loader. The drum investigation concluded that there were drums buried on the Site; the locations of the drums were mapped; and the total number of drums and their contents were not determined. However, based on sampling of a few drums, some of the drum contents were found to contain hazardous materials.

In conjunction with the drum investigation, SEC also conducted an investigation of buried solid waste at the Site. The investigation methods also included the use of EM techniques and completion of excavated test pits to evaluate anomalies identified during the EM survey. The investigation concluded that there were two solid waste areas at the Site totaling approximately 16-acres (8.5 acres on the east side and 7.5 acres on the west side) (Figure 1). The western solid waste site extends onto the eastern portion of Parcel 2. The solid waste included residential waste, magnetic tape, and drums containing solvents (classified as characteristically hazardous waste).

SEC also completed bedrock mapping during the GPR/EM investigation and found that there is an area of high elevation bedrock on the south side of the Site. It was reported that the bedrock high should prevent shallow groundwater from migrating to the south towards proposed development areas. There was also a bedrock high separating the east and west sides of the Site.

#### **2.2.7 Summary of Site Investigations**

Multiple investigations have been completed at the Site, as detailed above. The following are the general findings:

- 1964-1969: The northern portion of the Site was used as a landfill (Neuhauser Landfill) by Sanitation Engineering, Inc., from 1964 to 1969 (the green boundaries presented in Figure 1). Up to 1,500 drums containing approximately 84,000 gallons of chemical waste from IBM may have been disposed at the Neuhauser Landfill in the 1960's. The Neuhauser Landfill extended along the north/northeastern portions of the Site and extended west onto the adjacent Stratus Redtail Ranch 2 Property.
- 2007: Tetra Tech collected three soil vapor samples from the northeastern portion of the Site and found high levels of VOCs migrated from the Denver Regional and Old Erie Landfills. SEC completed additional

soil vapor sampling and found soil vapor and groundwater impacts that were likely from the north adjacent landfills.

- 2011: SEC completed additional landfill gas screening at the Site and no elevated methane or LEL measurements were recorded. This was attributed to an improved methane recovery system at the Denver Regional Landfill, and potentially related to the further aging of the landfill having less material to breakdown and release gases.
- 2015-2017: Stratus acquired the Site in 2015 and Quest completed a Phase I ESA as part of the acquisition. Quest installed 17 groundwater monitoring wells and was able to collect 11 groundwater samples for lab VOC analysis. Elevated VOC concentrations were noted in five samples collected from the northeastern portion of the Site. SEC completed additional groundwater sampling in 2017 and encountered elevated VOCs at the northeastern portion of the Site.

SEC completed a GPR/EM survey and test trenches to identify the locations of the buried drums and delineated the extent of the solid waste fill areas. They also mapped bedrock and found bedrock highs at the southern portion of the Site and central portion of the Site presumably separating groundwater into an eastern and western regime.

- 2018: CDPHE and Stratus entered into a Compliance Order on Consent (Consent Order) on May 16, 2018, to address remediation and closure of the Neuhauser Landfill site. The following has been completed under the Consent Order:
  - A final report for the drum removal at the Site was submitted to the EPA on August 10, 2018; this is discussed in Section 2.3.
  - Additional Site investigations including test pit excavations to further delineate the extent of solid waste, install shallow groundwater monitoring wells, install a deep groundwater monitoring well, and completed soil borings and sampling of soil from the southern portion of the Site to evaluate suitability to be used for an Evapotranspiration (ET) cover system. Findings of the investigations were included in the Corrective Measures Work Plan (Geosyntec, 2020a) and are detailed in Section 2.4.

## 2.3 Site Drum and Soil Removal Activities

Stratus and the EPA entered into a voluntary Administrative Settlement Agreement and Order on Consent (AOC) Docket Number CERCLA-08-2018-0002 for removal of the buried drums at the Site (Geosyntec, 2018). Stratus contracted ACTenviro to begin drum removal on December 11, 2017, with the final drums excavated on February 22, 2018. A total of 1,145 drums were excavated, 781 were considered empty, 47 drums contained material that were either removed from or fell out of the drum during excavation, and 317 drums contained materials that were further containerized and sent for disposal. The excavation and drum removal areas were completed as follows (Geosyntec, 2018) (Figures 5a and 5b):

- Phase I – Soil excavations occurred between December 2017 and May 2018. Approximately 3,013 cubic yards of soil was excavated from this area. This volume included drums and other wastes, impacted soils, and soils that were deemed suitable for on-site reuse by the EPA based on laboratory analytical results. A total of 1,543.14 tons of soil and materials were transported offsite for disposal; the remaining soil was used as backfill.

- Phase 2A – 444 cubic yards of material was excavated with 144.63 tons found to be impacted and disposed of offsite.
- Phase 2B – 2,643 cubic yards of material was excavated with 1,733.4 tons found to be impacted and disposed of offsite.
- Phase 3 – 1,700 cubic yards of material was excavated with 2,541.04 tons found to be impacted and disposed of offsite.
- An EM survey conducted by NGPRS in December 2017 identified nine additional drums in areas that fell outside of the four area (Phase 1, 2A, 2B, and 3).
- Fourteen drums discovered underneath a road on the Site were excavated; six of the drums contained solid material and the other eight were empty. Soils in the immediate area surrounding these drums did not exhibit contamination based on visual observation and photoionization detector (PID) screening.
- Two full and one partially full 21,000-gallon frac tanks of stormwater, groundwater, and liquids that leaked from drums were characterized and transported offsite for disposal or used for dust suppression when contaminant concentrations were low. The practice of using stormwater and/or groundwater for dust suppression was approved by the EPA and CDPHE.

## 2.4 Corrective Measures Work Plan (Geosyntec, 2019)

Geosyntec Consultants (Geosyntec) completed a Corrective Measures Work Plan (CMWP) investigation for the Site, which was approved by CDPHE on September 28, 2018. The following were the key objectives of the CMWP investigation:

- CDPHE deemed that previous groundwater sampling completed by Tetra Tech and SEC did not include all of the necessary analytes and requested that additional samples be collected and analyzed for SVOCs (EPA Method 8270), pesticides (EPA Method 8081), herbicides (EPA Method 8151), polychlorinated biphenyls (PCBs) (EPA Method 8082), anions (EPA Method 9056A), and metals (EPA Method 6010B).
- Identify the extent of solid waste on the Site.
- Delineate the nature and extent of shallow groundwater contamination.
- Delineate shallow groundwater migration at the western property boundary with the addition of a westerly well (point of compliance).
- Delineate the nature and extent of contamination in deep groundwater.
- Identify and sample soil for appropriate geotechnical and chemical properties to design and implement final soil cover.
- Obtain additional and supplemental information about the Site to support the evaluation of remedy alternatives and to support the design of a selected remedy.

#### **2.4.1 Test Pit Investigation**

A total of 39 test pits were completed from October 3-11, 2018, at the Site; 26 were completed on Parcel 1 and 13 on Parcel 2 (Figures 6a and 6b). Based on the findings of the test pits, Geosyntec was able to map the boundaries of the buried solid waste areas (Figures 6a and 6b). Other anomalies identified during the Site EM survey (Section 2.2.6) were investigated and no additional drums were found. Geosyntec reported that the test pit investigation was successful in delineating the boundaries of the solid waste fill areas and no additional test pits were found to be necessary.

#### **2.4.2 Shallow Groundwater Investigation**

A total of 16 groundwater samples were collected from Parcel 1 and one sample from Parcel 2 in November 2018 and analyzed for VOCs, SVOCs, total metals, general chemistry and the CDPHE Appendix II list. Geosyntec reported that the data indicate that horizontal migration of contaminants of potential concern (COPCs) in shallow groundwater was limited, which is consistent with the relatively low permeability of the soil and weathered bedrock at the Site. The impacts are generally concentrated at the northeastern and northcentral portions of the Site. Significant vertical migration through the competent portions of the claystone and sandstone bedrock layers is also not likely, based on the substantial thickness of low permeability claystone and siltstone encountered below the weathered zone; the lack of observed saturation in both the intermediate depth well (MW-24) and deep well (MW-23D); and photoionization detector (PID) readings of less than two parts per million (ppm) in soil and rock cores over the entire depth interval of MW-23D. Therefore, it was concluded that both horizontal and vertical migration of COPCs has been limited and COPC concentrations appear to attenuate rapidly within relatively short distances, as was indicated by the groundwater sampling results shown on Figures 4a and 4b.

#### **2.4.3 Deep Groundwater Investigation**

Geosyntec completed an investigation of deep (confined) groundwater in Parcel 1 by installing a two-inch diameter schedule 40 polyvinylchloride (PVC) pipe with 0.010-inch slotted screen to a total depth of at least 216 feet bgs. Coal seams were observed at depths of 68, 71, 168, 192, and 216 feet bgs at well location MW-23D, south of the drum removal areas; however, groundwater was not present and a sample was not collected (Figures 4a and 4b).



### **3. Corrective Measures**

#### **3.1 Corrective Measures Design (Geosyntec, 2020a)**

Geosyntec submitted a CMD Report to CDPHE on behalf of Stratus on February 7, 2020, and submitted a revised CMD on May 1, 2020, to address CDPHE comments. CDPHE approved the revised CMD on May 12, 2020. Based on the findings of the previous Site investigations (e.g., shallow groundwater impacts and presence of solid waste) and cleanup activities, the following Site remedies were proposed in the CMD:

- Groundwater remediation via ISCO
- Groundwater remediation via monitored natural attenuation (MNA)
- Solid waste containment via an ET cover system, including stormwater controls
- Post-closure groundwater monitoring
- Post-closure methane gas monitoring
- Long-term monitoring and maintenance of the ET cover and stormwater control features
- Institutional controls

#### **3.2 Groundwater Remediation**

##### **3.2.1 *In-situ Chemical Oxidation***

Geosyntec proposes groundwater remediation via a ISCO system. ISCO is a treatment method usually used to treat soil and groundwater contamination in the source area where contaminants were originally released because the source area may contain contaminants that have yet to dissolve into groundwater. Geosyntec proposes to target the contaminant mass within the weathered bedrock interval below the Phase 2A and 2B excavation area (Figure 7). When oxidants are added to the contaminated soil and groundwater, a chemical reaction occurs that destroys contaminants and produces harmless byproducts (EPA, 2012). ISCO can work relatively quickly to cleanup a source area but the timeline for contaminant cleanup is dependent on how well the oxidants are able to reach the contaminants and how quickly the oxidants are distributed through the groundwater. Oxidants are not harmful to the environment or people and the process poses little risk to the surrounding community. Geosyntec has proposed an enhanced in-situ bioremediation (EISB) system as a contingency to the ISCO; the need of the EISB will be evaluated following the implementation of ISCO.

Based on Pinyon's review of provided documents, a determination for the need of EISB has not yet been reported.

ISCO system performance monitoring will be completed to confirm the effectiveness of the injections and to monitor the contaminant concentrations. Geosyntec has proposed the following performance monitoring program:

- Baseline sampling for Site contaminants of concern (VOCs and 1,4-dioxane)
- Collection of operational data during ISCO injections
- Monitoring of oxidant and the target contaminant concentrations during and for up to 4 weeks (28 days) after injections occur
- Following this, the performance of the groundwater remedy will be evaluated by the post-closure monitoring and maintenance (PCMM) Plan (Section 3.3.6)

ISOC was implemented at the site in October and November 2020. Results are described below in Section 3.9.

### **3.2.2 Monitored Natural Attenuation**

Monitored natural attenuation (MNA) will be used to demonstrate contaminants downgradient of Phases 1 and 3 are attenuating following removal of the drums and impacted soils. It will also be used to confirm contaminants downgradient of Phases 2A and 2B are attenuating, following ISCO. Natural attenuation is a method that relies on natural processes (i.e., biodegradation, sorption, dilution, evaporation, and chemical reactions) to take place to decrease contaminant concentrations. The contaminant concentrations are monitored with regular sampling to evaluate whether the natural processes result in decreases of the contaminant concentrations.

The MNA program would monitor from locations within the groundwater plume near and downgradient from the Phase 2A, 2B, and 3 removal areas, ISCO treatment areas, and at the point of compliance (POC) (Figures 8a and 8b):

- POC well (WCMW-25)
- ISCO performance monitoring wells (MW-16, and MW-21)
- Proximal MNA performance monitoring wells (MW-1, MW-3B, MW-4, MW-5, MW-6, MW-8, MW-11, and MW-12)
- Distal MNA performance monitoring wells (MW-19, MW-22)
- The detection monitoring well (MW-23D)

The MNA sampling locations would be used to evaluate the concentrations of the contaminants over time and will evaluate the geochemical trends to ensure conditions are conducive to successful natural attenuation. The short-term and long-term monitoring plan and frequency are discussed in Section 3.3 and are detailed in the PCMM Plan (Geosyntec, 2020b).

### 3.2.3 Evapotranspiration Cover System

Geosyntec has proposed a remedy for the solid waste at the Site via an ET cover system. The ET cover system would prevent direct exposure to humans and ecological receptors and would reduce stormwater infiltration and groundwater recharge. The proposed ET cover system would work in conjunction with the groundwater remediation and the stormwater controls to reduce the volume of groundwater and concentrations of contaminants at the Site. Geosyntec designed an ET cover system to:

- Provide final cover for all solid waste within the Cap Extent Area East and Cap Extent Area West boundaries (Figures 9a and 9b)
- Minimize surface water infiltration into the source area
- Maintain existing stormwater flow paths within the Buffer Area
- Utilize soil materials from an adjacent borrow source area located south of the capped areas
- Reduce erosion and provide passive remediation and protection using vegetative growth within the capped areas, which will be covered with a permanent seed mix and erosion control blanket
- Provide additional water balance cover protection in areas where potential future improvements, such as a possible local bike trail system or possible expansion of Weld County Road 5 (CR-5), may encroach on capped areas

Because of the previous Site test pit investigations, the extent of the solid waste has been defined and were incorporated into Geosyntec's ET cover system design. Geosyntec used the CDPHE guidance for water balance covers to design their system with the following considerations:

- Existing groundwater monitoring wells will be maintained and extended to keep the well riser above ground surface; this will allow for future evaluation of the ISCO and MNA programs.
- A noxious weed survey will be completed with noxious weed removal, as needed.
- Prairie dogs and burrowing animals will be removed from the Site prior to construction of the ET cover system.
- Excavations within the solid waste areas will not be completed except for a stormwater drainage channel near CR-5.
- Cover material will be sourced from within the Site, south of the capped areas.
- The system has been calculated to achieve the intended slopes and grades and will meet the minimum soil cover thickness of 2.5 feet, recommended in the CDPHE water balance cover guidance document (CDPHE, 2013).
- The ET cover system design and Use Restrictions (Section 3.2) will accommodate current and future improvements to highway CR-5; however, improvements should be limited to the road right of way.

- The ET cover system design may accommodate bike trail concepts according to the requirements for bike trail design and layout set forth by the Town. If the bike trail is accommodated, details for bike trail crossing ET cover system areas will be incorporated into the design drawings.
- Stormwater diversion channels consisting of compacted cover soil materials with riprap reinforcement will be used to convey water across areas of the ET cover system. The stormwater controls will help in preventing erosion, undermining, scouring, and damage to the ET cover system.
- Areas with a final cover, as well as the buffer area, will be subject to use restrictions including restriction of vehicle traffic except for low ground pressure vehicles.
- Areas with a final cover and areas disturbed during construction will be revegetated using seeding and erosion controls. Vegetation will include native grass species that are effective for managing moisture of the water balance cover soils, minimize infiltration, and protect against stormwater erosion. Trees will not be permitted within the capped areas.
- Soil-gas monitoring probes will be installed and screened to monitor for the presence of explosive gas migration during the post-closure period (Figure 10).

The ET system will be inspected per the Post-Closure Monitoring and Maintenance Plan, discussed in Section 3.4 of this report and included as Appendix I of the CMD report.

### 3.3 Use Restrictions

The Cap Extent Area East, Cap Extent Area West, and the Buffer Area (together called the Restricted Property) have been defined in the Notice of Environmental Use Restrictions agreement between CDPHE and Stratus (Geosyntec, 2020a). The Cap Extent areas encompass the areas where solid waste has been mapped, the Buffer Area is a minimum offset distance of 100 feet from the Cap Extent areas, or to the Stratus Property boundary, whichever comes first. Some of the use limitations on the Restricted Property include:

- Restrictions to the use of groundwater.
- Unless approved by CDPHE, ground disturbance activities are prohibited.
- Unless approved by CDPHE, irrigation is prohibited.
- Temporary or permanent improvements, earthwork, structures, or appurtenances that increase the flow of stormwater over, through, or under the Buffer Area is prohibited.
- Construction or maintenance of standing water is prohibited.
- Construction of trails for non-motorized vehicles, including electric bikes, are prohibited in the East and West Cap Extent Areas; however, non-motorized vehicle trails are permitted within the Buffer Area. Hard-surface trails are unlikely to create significant increases to infiltration in these areas, particularly if the surface water control system considers these surfaces in its design; therefore, if a hard surface trail system is desired in the use restriction area, this consideration should be communicated with the design team prior to construction.

- Groundwater and surface water use within the Buffer Area is prohibited, excluding the installation, abandonment, or use of monitoring wells.
- Access to the Buffer Area will be restricted with construction fencing until all vegetation has been established per the post-closure monitoring and maintenance plan.
- Utility installation in the Buffer Area may be permitted; however, CDPHE will consult with the Town of Erie prior to approving utilities in the Buffer Area. Utilities would need to be positioned and designed carefully to avoid creating undesirable preferential conduits for groundwater or vapor flow.
- The property owner is responsible for protecting and maintaining the integrity of the remediation systems.

### 3.4 Proposed Buffer Area

There are many factors that relate to determining a safe setback distance (buffer) for residences at the site. These factors are summarized below and include discussion on possible influences on setback distance.

- The **geologic media** surrounding and underlying the contaminated zones and planned residential development areas at the Site is composed predominantly of 0.5 to 49 feet of unconsolidated clay with sands and silts underlain by approximately 400 ft of consolidated claystone (the Laramie Formation). These unconsolidated and consolidated sediments exhibit relatively low hydraulic conductivity, and consequently, they have restricted the flow of groundwater, transport of dissolved contaminant mass, and migration of contaminant vapor at the Site. This condition tends to favor a reduced setback distance.
- Other conditions, however, can create **secondary permeability** within these sediments that can increase contaminant mass transport. Examples of these conditions include fissures, cracks, fractures, coal seams, and faults; anthropogenic deposits of permeable fill; and utility-lines (e.g., sewer, water, stormwater, communications, and gas) which can act individually, or interconnect, to form preferential flow conduits within the otherwise low-permeability sediments. These conditions tend to favor an increased setback distance.
- Changes in the **distribution of potential energy within the groundwater system** can cause changes in hydraulic gradients, and hence, the direction and/or magnitude of groundwater flow and contaminant mass transfer. While the site documents reviewed show that the potentiometric surface of the shallow groundwater system generally represents favorable groundwater flow gradients—away from the residences and toward the creeks/zones of subsurface contamination—if the water elevation in the creeks increase sufficiently, or the groundwater levels beneath the residences decrease sufficiently, the potentiometric gradients could reverse and cause groundwater, and contaminant mass, to instead flow from the creek/contaminated zones back toward the residences. While this scenario could reduce the concentrations of contaminant mass in the associated significantly increased water flow volume through the creek/drainage, it is also possible that the increased flow volume could mobilize additional contaminant mass. Other activities that could alter groundwater flow patterns at the Site include changes in nearby groundwater well pumping, flood water management practices, area of paved surfaces, ditches and infiltration pond expression, and irrigation practices. The uncertainty of these conditions would tend to favor an increased setback distance.
- Similarly, changes in the distribution of **potential energy within the soil vapor system** can cause contaminant vapor to migrate further or less, and/or in new directions—including through the potential



network of anthropogenic and natural preferential flow conduits described above. Such changes in potential energy in the soil vapor system can be caused by:

- Changes in precipitation, including draught, that influence the movement of wetting fronts through the shallow surface sediments.
- Changes in water table elevations, barometric pressure, ground-surface wind speed, and temperature.
- Chemical reactions that may be occurring in response to ISCO, bioremediation, degradation, interaction, or geochemistry.
- Changes in the distribution of contaminant mass via groundwater advection.

The uncertainty of these conditions would tend to favor an increased setback distance.

- **Capping and Vapor Flow Channeling** can cause vapors that would otherwise migrate upward through the sediments into the atmosphere to instead be trapped beneath clayey surficial soils or an ET cap, for example. These vertically trapped vapors can then migrate laterally below these capping mechanisms, potentially toward residences. Conversely, if the ET cap, along with surface water controls, reduce infiltration and groundwater recharge near/below these areas, groundwater gradients will tend to remain in the favorable direction (away from residences) and the hydraulic potential force (head) available to move contaminant mass down-gradient of the Site will be further diminished. These conditions can favor an increased or reduced setback distance.

Pinyon contacted both Geosyntec and CDPHE to discuss where the 100-foot buffer originated. Pinyon was told that the buffer distance was selected based on guidance provided in the *EPA OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* (EPA, 2015), the lack of landfill gases measured near the proposed development area, and the age of the landfill (approximately 60 years old).

The variable nature of many of these aforementioned conditions attest to a common difficulty in predicting the fate and transport of contaminant mass, particularly in the vapor-phase, at sites with built structures and utilities located near contaminated areas. On the other hand, numerous residential projects around the country have been successfully built directly on top of landfills—with regulatory approval and the confidence of residents in the long-term protection of health and safety—even when high concentrations of explosive methane are involved. Given that mitigation systems can be engineered to effectively address this condition, the 100-foot buffer at the Redtail site appears reasonable—if appropriate mitigation engineering is implemented.

### 3.5 Post-Closure Monitoring and Maintenance Plan (Geosyntec, 2020b)

Geosyntec submitted a Post-Closure Monitoring and Maintenance (PCMM) Plan as part of the CMD report. The purpose of the PCMM Plan is to present requirements for inspections, monitoring, and maintenance that will be necessary to preserve the long-term effectiveness of the groundwater remediation systems (the ISCO and MNA programs) and the ET cover system. Those plans, which have been approved by the CDPHE, are presented in the following sections.

### **3.5.1 Site Security Requirements**

Orange construction fencing will be erected around the ET cover area during construction. During the post-closure period, the existing property fencing, and additional split-rail fencing, will be used to surround the ET cover area. There will be signs stating “Keep Out – Environmentally Sensitive Area” every 300 feet along the fence perimeter. Monitoring wells will be fitted with locks and additional security around the Phase 2B ISCO system is proposed to be implemented. The additional security includes locking covers over all open ends of exposed section of PVC piping and maintaining protective fencing around the exposed risers. Routine inspections would be completed as discussed in Section 3.3.5.

### **3.5.2 Safety Requirements**

The PCMM Plan notes that any contractor, subcontractor, consultant or subconsultant working within the boundaries of the Site must do so under their own approved health and safety plan (HASp) which would be specific for the type of work and location it is being completed.

### **3.5.3 Vector Control Plan**

A vector control plan is a plan to limit or eradicate the presence of pests and vectors such as burrowing animals, which pose a threat to the integrity and effectiveness of the ET cover. Burrows dug into the ET cover present a potential problem by providing a preferential pathway for surface water infiltration and increases the likelihood of contaminated materials being brought to the surface during the burrowing process. Geosyntec proposes to remove prairie dogs and other burrowing animals prior to the construction of the ET cover. A survey to identify animals on the Site would be completed prior to the initiation of construction activities and during the routine Site inspections discussed in Section 3.3.5.

### **3.5.4 Noxious Weed Control**

A noxious weed survey of the East and West Cap Extent Areas and the Buffer Zone will be performed prior to initiating Site construction activities and during the routine post-closure period inspections. Noxious weeds will be removed, as needed, and the area of removal will be revegetated per the specifications detailed in the CMD.

### **3.5.5 Routine Evapotranspiration Cover Inspections**

The guidance provided by CDPHE in the *Final Guidance Document – Water Balance Covers in Colorado* would be followed for ongoing maintenance and monitoring practices (CDPHE, 2013). Per the CDPHE guidance document, inspections of the ET cover would occur semi-annually for the first two years after ET cover installation and annually after the first two years. The routine inspections would include:

- The inspections will look for any sign of erosion, burrowing animals, cracks, or failures in the soil on slopes, condition of the vegetation, and any other signs that might be indicative of the ET cover not functioning as intended.
- The inspection will look for signs of surface subsidence, which could indicate settling of solid waste materials, including ponding of water and the presence of tension cracks, slides, or cover soil slumping.
- The presence of pests, vectors, and noxious weeds will be evaluated.

- Vegetation monitoring within the cap area will occur during the routine ET cover inspection. Additionally, a comprehensive assessment of the vegetation will occur annually for the first two years after final cover installation. Following that, the comprehensive inspection will occur on the fifth year after installation and every five years thereafter. Issues regarding vegetation will be remedied or re-seeded within two weeks of identification.
- Stormwater inspections will inspect for:
  - Erosion, undermining, or sloughing of soils on hill sides and channels
  - Signs of erosion or damage to the diversion channels, riprap, and turf reinforcement mats
  - Ponding of water on the ET cover
  - Sediment accumulation in drop structures, spillways, and in areas of channels or ditches that could inhibit water flow
  - Condition of pooled stormwater located upstream and downstream, or between the ET cover areas

### **3.5.6 Groundwater Monitoring**

Groundwater monitoring would be completed to assess the effectiveness of the ISCO and MNA programs, evaluate concentrations at the down-gradient point of compliance (POC) well (WCMW-25 located on Parcel 2), and the effectiveness of the ET cover. Semi-annual groundwater samples will be collected for at least two years following installation of the ISCO system. The samples will be analyzed for 1,4-dioxane and compounds required by the CDPHE Regulations Pertaining to Solid Waste Site and Facilities from the following locations (CDPHE, 2020a) (Figures 8a and 8b):

- POC well (WCMW-25)
- ISCO performance monitoring wells (MW-16, and MW-21)
- Proximal MNA performance monitoring wells (MW-1, MW-3B, MW-4, MW-5, MW-6, MW-8, MW-11, and MW-12)
- Distal MNA performance monitoring wells (MW-19, MW-22)
- The detection monitoring well (MW-23D)
- Additional sampling will be completed at temporary monitoring locations as part of the ISCO system

After at least two years of semi-annual groundwater sampling, annual sampling will be completed for an additional 28 years, for a total of 30 years of groundwater sampling. The reduction from semi-annual to annual sampling must be approved by CDPHE and will be based on the progress of the groundwater remediation. The

following is the anticipated long-term groundwater monitoring program that will be submitted to CDPHE for approval after semi-annual sampling is completed:

- Sampling of the following wells on an annual basis, until the end of the post-closure period:
  - MNA monitoring wells (MW-19, and MW-22)
  - Detection monitoring well (MW-23D)
  - POC monitoring well (WCMW-25)
- Sampling of the following wells on an annual basis for three years, then once every five years until the end of the post-closure period.
  - The proximal MNA monitoring wells (MW-4, MW-8, and MW-12)
  - ISCO monitoring wells (MW-16, and MW-21)
- Decommissioning of all other groundwater wells not listed above
- The soil gas sampling detailed in Sections 3.4.7 and 4, in conjunction with the groundwater monitoring may provide information on the influence that groundwater levels have on vapor transport

### **3.5.7 Soil Gas Monitoring**

Soil gas monitoring is proposed to occur on a quarterly basis following installation of the ET cover. Samples will be collected from the 11 locations presented on Figure 10. Each location will be screened for landfill gases including methane, carbon dioxide, oxygen, and hydrogen sulfide. Depending on the results of the monitoring, the monitoring frequency may be reduced with written approval from CDPHE.

Geosyntec notes that in the event that methane concentrations exceed 100% of the lower explosive limit (LEL), CDPHE, the Town of Erie, and local emergency response authorities will be notified immediately and necessary steps to ensure protection of human health will be taken.

### **3.5.8 Reporting**

A Post Closure Monitoring and Maintenance Report is planned to be submitted to CDPHE semi-annually by February 28 and August 31 for the first two years following Site closure. After the first two year, the report will be submitted annually by February 28, if a reduction in sampling is warranted and approved by CDPHE.

## **3.6 Stormwater Management**

CWC Consultants, Inc. (CWC), developed a stormwater control system for the Site, which has been integrated into the ET cover system. The purpose of the stormwater control system is to protect the functionality of the ET cover system from being compromised by erosion and damage due to stormwater, and to manage stormwater run-on and runoff. Currently, stormwater flows from east to west through the boundary of the

solid waste area and pools in at least four separate locations. The proposed stormwater controls are as follows (Figures 10a and 10b):

- Permanent stormwater diversion structures to control post-closure run-on and runoff.
- Drainage channels, stormwater ponds, and other system controls will accommodate the current drainage area and anticipated drainage from the proposed southern residential development.
- The new stormwater pond will be designed to control discharge to prevent downstream erosion, sedimentation, or impairment of water quality.
- ET cover system integrity would be controlled from erosion and stormwater damage by:
  - Currently there are two existing culverts under CR-5 discharging to the capped areas. A culvert and stormwater diversion channel would be installed to divert water off the capped areas.
- Stormwater conveyance across the Cap Extent Area East and Cap Extent Area West will be by open channel flow; culverts are prohibited below the ET cover soil.
- To manage stormwater migration from the southern portion of the Site (the proposed residential development area), a stormwater diversion ditch has been designed between the cap area and the southern buffer boundary.

### **3.7 Residential Irrigation Considerations**

Excessive irrigation that might occur in the residential areas likely will tend to increase hydraulic head in these areas and enhance the desired gradient for groundwater flow—away from the residential area and toward the contaminated area — and would potentially dilute groundwater impacts. Additionally, the stormwater diversion ditch designed south of the cap areas would convey surface runoff away from the ET system.

### **3.8 Geosyntec's Response to Pinyon's November 5, 2020 Property Development Environmental Review Report (Geosyntec, 2020c)**

In response to Stratus's review of Pinyon's November 5, 2020 report, they requested Geosyntec obtain additional soil vapor information from existing groundwater wells located within the Historical Landfill Area Buffer Zone, and at several additional locations around the Site. Geosyntec collected additional soil vapor data on November 12, 2020, using handheld portable instruments as percent (%) of the total air stream for methane (CH<sub>4</sub>), carbon dioxide (CO<sub>2</sub>), oxygen (O<sub>2</sub>); as well as photoionization detector readings (PID), which were reported in parts per million (ppm).

These data were collected from 11 different locations. Six locations were within the buffer zone, and five were located in other areas of the development. The sampling locations are presented on Figure 11. The sampling method employed readings at five second or 30 second intervals over a five-minute period. Reported results indicated methane readings between 0% and 0.5% by volume. Average PID readings ranged from 0 ppm to 0.45 ppm, with a maximum of 2.3 ppm.

It should be noted that Geosyntec did not provide information on the type/reading wavelength of lamp used in the PID. The lamp is specific to the kind and type of VOC that the PID can identify within acceptable accuracy



ranges. It is Pinyon's experience that most PIDs contain lamps that are specific to gasoline range hydrocarbons and are not accurate for chlorinated hydrocarbons such as TCE and/or PCE. If the PID used by Geosyntec contained the gasoline range hydrocarbon lamp, it is very probable that the VOC measurements, specifically for TCE, PCE, and their degradation products, were grossly underestimated. Therefore, without clarification of the lamp used in the PID, these data are considered unreliable and potentially inaccurate for measuring chlorinated hydrocarbon vapor.

No other responses to issues or recommendations made in Pinyon's November 5, 2020 report were provided in this document.

### **3.9 Stratus NAD Application (Geosyntec, 2020d) and CDPHE Approval (CDPHE, 2020b)**

The Site area that was proposed as the NAD boundary is depicted on Figure 12. This area is outside of the historic landfill, drum burial, and soil/groundwater remediation areas, and includes the proposed residential development.

#### **3.9.1 NAD Application Summary**

At the time of issuance of the NAD application, the Site was undeveloped land (zoned as a mix of low-density residential and public lands and institutions) except for unpaved access roads and parking area, metal culverts in ditches, and a stormwater settling pond with a containment berm and rip-rap outfall. The southern portion of the Redtail Ranch 2 property was used for stockpiling borrow soils to use as landfill cover and to manage runoff from the neighboring Denver Regional Landfill. The proposed Site use is for residential development to be incorporated into the Town municipality.

Based on environmental assessment work conducted at the Site, VOCs were not observed in shallow groundwater and only one low-level result for 1,4-dioxane exceeded the Colorado Groundwater Screening Levels (CGWS) along the western Site boundary. Several elevated total metals, dissolved selenium, nitrogen as nitrate+nitrite, and sulfate were also reported in groundwater samples above the CGWS and/or EPA Maximum Contaminant Levels (MCLs) for drinking water. Potable water for the residential development would be provided by the Town and these impacts do not pose a direct risk to humans or the environment. No indications of waste materials or impacts to soils were observed in boreholes and soil samples collected across the Site. Additionally, soil vapor monitoring did not show elevated levels of VOCs or methane migrating from adjoining and nearby off-Site landfills.

Stratus requested that CDPHE approve the NAD application with the intended future land use as a residential development.

#### **3.9.2 NAD Application Contents**

The NAD application included the following information:

- General Site information including size, location, and ownership; current land use and zoning; proposed land use and zoning
- Type of contamination

- Site history and adjoining property use
- Basis for the application
- Discussion of the CDPHE's Voluntary Cleanup Roadmap, whereby regulatory oversight and authority of CDPHE's voluntary cleanup program was appropriate for the Site
- A summary of environmental assessments completed at the Site, including:
  - Qualifications of the environmental professionals conducting and overseeing the work
  - Summary and findings from previous environmental reports (all of which have been referenced in previous sections of this document)
  - Physical Site characteristics including topography, geology, and hydrology
- An evaluation of applicable soil, groundwater, and vapor concentration standards
- An evaluation of risks, including potential exposure pathways and mitigation

No remedial action was proposed for the Site. The historic landfill area, which was not part of the NAD application, is undergoing a remedial action effort pursuant to the CMD.

### **3.9.3 CDPHE Approval**

On December 11, 2020, CDPHE issued the No Action Determination Approval for 2259 County Road 5, Erie, CO. The document states that the environmental assessment submitted by the applicant and performed by qualified environmental professionals indicates that there is no evidence of contamination released into the environment present from the applicant's property, which exceeds applicable promulgated state standards, or which poses and unacceptable risk to human health and the environment.

## **3.10 ISOC Implementation Report (Geosyntec, 2021a)**

The report summarizes the ISCO implementation targeting compounds of concern (COC) present in source zone materials and downgradient groundwater in the historic landfilled areas of the Site. The report included objectives, implementation procedures (procurement, drilling, installation, development of performance monitoring points, injections, injection monitoring, and investigation derived waste (IDW)).

### **3.10.1 ISOC Objectives**

ISOC objectives were as follows:

- Target and reduce COC mass in the weathered bedrock
- Reduce the magnitude and distribution of the COC plume over time
- Achieve remediation objectives

The performance of the ISCO remedy in meeting these objectives will be evaluated as part of the post closure monitoring and maintenance reports.

### **3.10.2 Drilling and Installation of Temporary Monitoring Points**

Two temporary monitoring points (PMP-1 and PMP-2) were installed at the downgradient edge of the Phase 2A area, and two additional points (PMP-3 and PMP-4) were installed at the downgradient edge of the Phase 2B area. These monitoring points are shown on Figure 12.

### **3.10.3 ISOC Injections**

Injections were performed October 13 – 16, 2020 (injection #1), and again on November 2 – 5, 2020 (injection #2). Injection solutions included both sodium persulfate and hydrogen peroxide. The chemicals were mixed in separate tanks. Solution concentrations ranged from 97 grams per liter (g/L) to 195 g/L for sodium persulfate; and 12% to 19% for hydrogen peroxide. Solution concentrations were increased due to difficulty in injecting the design amount of injectate.

The injections were made using direct push technology including 2.25-inch Pressure Activated Injection Probes made by Geoprobe Systems®. Injectate surfacing and borehole collapse occurred. Due to an inability to inject the design volume in Phase 2A, injection points were relocated down gradient of the target area. Injection point locations are shown on Figure 12. A total of 10,406 gallons of solution was injected at Phase 2A.

The Phase 2B area used both an injection gallery and direct push injection points. The injection gallery included four two-inch diameter injection wells with bottom screened sections emplaced into a 12-inch thick gravel layer, located at the bottom of the former drum removal/impacted soil excavation area. Injections into the gallery continued until the area became saturated and injectate started surfacing in the southwest corner of the Phase 2B area. Injections in this area were completed, due to the saturation of the injection gallery, into seven direct push points. The injection gallery and direct push point locations are shown on Figure 12. A total of 14,319 gallons of solution was injected into Phase 2B.

### **3.10.4 Injection Monitoring**

Performance monitoring during injections was completed to evaluate:

- Oxidant distribution
- Injection pressures and flow rates
- Heat and gas formation
- Other design or operational parameters that provided indication ISOC reagent distribution

Geochemical parameters were measured in six monitoring wells each day that injections occurred including pre-injection baseline data. The wells included PMP-1 through PMP-4, MW-16, and MW21. Measured parameters included temperature, conductance, pH, dissolved oxygen (DO), and oxidation reduction potential (ORP) using a multi-parameter instrument, and sodium persulfate using a CHEMetrics field test kit. Monitoring frequency was initially at the beginning, middle, and end of each injection day. Monitoring frequency for PMP-1 through MPP-4 was reduced to once per day after positive measures of injection activity were observed.

### **3.10.5 Distribution of Oxidant During Injection Period**

In Phase 2A at the beginning of injections, a significant increase in persulfate, ORP, specific conductance, and DO was observed in PMP-1 and PMP-2, located approximately 10 feet downgradient from the injection area. Additionally, slight increases in persulfate, ORP, and DO were observed in MW-16, located approximately 130 feet from the Phase 2A Area. This large distribution distance suggests that reagent transport was predominantly along discrete fractures within the weathered bedrock and/or more conductive intervals in the weathered bedrock.

In the Phase 2B area, at the beginning of injections into the gallery, a slight increase in ORP and DO was observed in PMP-3 and PMP-4. No increase in persulfate or specific conductance was observed. Because the monitoring points were screened deeper (five to 15 feet bgs) when compared to the injection points (four feet bgs), these data suggest only limited infiltration of injected oxidants into the deeper weathered bedrock occurred. However, after beginning the injections through the direct push points, significant increases in persulfate, ORP, specific conductance, and DO were observed. This suggests that the direct push points were more effective in distributing the reagents into the weathered bedrock.

### **3.10.6 Heat and Gas Formation**

Groundwater temperatures during and immediately following ISCO injections fluctuated approximately 2°C, but no substantial heat or gas generation was observed. This data indicates that the potential for high heat generation due to vigorous reactions is not a concern at this Site.

It is Pinyon's opinion that the lack of heat and gas formation may be a result of only minimal chemical oxidation reactions, i.e., poor treatment and ineffective COC mass reduction. It has been Pinyon's experience that effective ISOC treatments include strong exothermic chemical reactions, generating both off-gassing and heat. Long-term monitoring data review would be required to determine overall COC mass reductions and the overall effectiveness of the ISOC treatment.

## **3.11 CGS Review of NAD and Other Documents (CGS, 2021) with Geosyntec's Response (Geosyntec, 2021b)**

The CGS reviewed the Redtail Ranch – Preliminary Plat PP-001230-2021 and issued a letter report to the Town dated June 25, 2021. This review included eight separate documents and a Site visit conducted on June 24, 2021. Below is a summary of the review findings:

- CGS recommended the following:
  - Delaying development until after the groundwater remediation and two years (at a minimum) of post-remediation groundwater monitoring is complete.
  - Additional long-term monitoring wells (with a long-term monitoring program) between the on-Site landfill sections and the proposed development.
  - The Town require vapor barriers beneath floor slabs and surrounding all below-grade walls to reduce the risk of contaminant infiltration and poor indoor air quality.

- Further evaluate the presence of faults in the Laramie Formation using a comparative analysis because of dry monitoring wells. This analysis would evaluate why some wells contain groundwater and other nearby wells do not, and if faulting is the cause, then the fault(s) could influence contaminated groundwater migration pathways.
- During the Site visit, CGS observed strong rotting garbage odors from one or both of the nearby active landfills, whereby concerns over future odor complaints by residences were raised.
- The relative 100-foot setback distance between the landfilled solid waste and the nearest proposed residential home appeared to be inadequate, considering the residual groundwater impacts.
- The 350-foot setback distance for the on-Site oil and gas activities may not be adequate and should be increased the 500 feet as is required when placing new oil and gas facilities near existing homes. Additionally, a conservative setback from existing pipelines near CR5 was also recommended for the residences in that area.
- Due to the Site being undermined by the Columbine Coal Mine and the risk of associated subsidence, structure and utility design constraints should include limiting allowable foundation length to 115 feet, and utility design to withstand up to 0.17% strain. Lastly, due to the risk of unmapped shafts or other mining-related features existing within the proposed development areas, all grading activities should be carefully observed to identify any unmapped shafts or other mining features.
- Geosyntec's responses included:
  - The basis for the NAD approval is the Voluntary Cleanup Program (VCUP) NAD Application, which was not listed as one of the documents CGS reviewed. Additionally, ISCO injections were completed in October and November 2020 and documented in the In-Situ Chemical Oxidation Implementation Report. Information contained in these reports was the basis for CDPHE approving the NAD application and subsequently issuing the No Action Determination Approval dated December 11, 2020. Based on two phases of investigation by SEC, additional investigations by Geosyntec, four semi-annual monitoring events, and three ISOC performance monitoring events, groundwater contamination is confined to shallow groundwater within the drainage known as the South Draw on the Redtail Ranch property and was not migrating toward the planned residential areas. The removal of drums and contaminated soil, followed by ISOC treatment, has substantially reduced the contaminant mass in the source zone and should reduce both the plume extent and concentrations over time. Groundwater monitoring will continue for the next 30 years. The recommended two years of monitoring after ISOC treatment before development occurs is inconsistent with CDPHE requirements.
  - The intent of the CDPHE-approved CMD is to treat contaminated soils remaining in the drum removal area and not treat the downgradient plume, which is already naturally attenuating prior to treatment of the source zone and is expected to attenuate more rapidly after treatment. ISOC injections were targeted in areas consistent with the CDPHE-approved CMD.
  - Groundwater flow within the weathered bedrock generally follows the bedrock morphology, i.e., it flows toward the west within the draw, which acts as a hydraulic sink for the entire landfill area. As a result, the groundwater plume is located within the area that will be designated as open space and protected by an environmental covenant. This concept is based on several years of investigation under CDPHE oversight. Information related to this investigation is among the documents contained in the NAD Application.



- The risk of vapor intrusion outside of the landfill/open space portion of the site was evaluated as part of the CMD process. Consistent with EPA (2015) and CDPHE (2021) vapor intrusion guidance, and as approved by CDPHE as part of the CMD, a 100-foot buffer zone was established beyond the extent of the landfill and contaminated groundwater to protect against the potential for lateral diffusion of VOCs. Therefore, the potential for vapor intrusion of the residential development is negligible; nevertheless, soil vapor monitoring will be conducted in the buffer zone to confirm this under the CDPHE-approved CMD.
- Of the 23 active monitoring wells at the site, only four were dry in November 2018. The vertical extent of groundwater impacts, the reason for occasional dry wells in some locations, and the potential influence of shallow faults were all matters of concern to CDPHE. The vertical extent and potential for migration of contamination was addressed to the satisfaction of CDPHE, as indicated by its approvals of the CMD, which includes monitoring over the next 30 years to confirm understanding of site conditions.
- Shallow groundwater is not continuous across the Site and is only found in drainages where stormwater collects and saturates the alluvium and shallow weathered bedrock within the drainage. No hydrological or contaminant data indicate that any faults in this setting have enhanced potential for contaminant migration.
- The 100-foot setback or buffer zone is consistent with both EPA and CDPHE guidance. The remaining issues raised pertain to odors for adjacent landfills, setback distances from oil and gas facilities, and unmapped mine shafts or other geotechnical issues, which are beyond the scope of the approved CMD.

## 4. Landfill Development Considerations

As indicated earlier, many residential projects have been built directly on/above historical landfills around the country that involve mitigation engineering that protects against the explosion potential associated with methane, and health effects associated with other contaminant vapors. This mitigation engineering can include a range of flow control and monitoring techniques that are specific to the conditions, construction, and uses planned for the Site. Examples of potential concepts that may be worth considering include:

- Positioning and engineering utility corridors to test for, intercept, ventilate, and impede or reverse flow gradients of contaminant vapor away from the residential areas—in addition to conveying resources and/or wastes. This concept could use the gravel filter that typically surrounds these closed system-lines to provide this effect/benefit.
- Using sub-slab radon type mitigation systems in structures to also serve as a second line of protection for potential contaminant vapors.
- Completing regular testing of the vapor in these systems, and in conjunction with monitoring well sampling, as appropriate to characterize and facilitate control of the system.

Soil vapor sampling, prior to initiating development of the residential structure, would provide insight on soil vapor contaminant of concern (COC) concentrations relative to changes in barometric pressure, windspeed, groundwater table elevations, precipitation events (including timing and intensity), and, when corresponding groundwater sampling is taking place, the potentiometric surface of the shallow groundwater system and the concentrations of dissolved COCs. This information will provide an understanding of baseline conditions that can be compared to conditions associated with construction of the ET cover, surface water controls, foundation/slab emplacement, utility line installation, and structure construction.

The information from this sampling would be used to reduce uncertainty and risk of potential vapor transport and exposure “surprises,” and inform the team of design considerations for monitoring; potential interceptor, control, and/or ventilation systems; and/or combinations thereof that may be able to be synergistically combined to lower costs while enhancing the protection, and confidence, of residents and stakeholders at the Site. Pinyon can work with the State and Developer’s Consultant to flush out the details of this monitoring, while protecting and advancing the Town’s interests.

Soil vapor sampling should also be completed under floor slabs as they are being constructed to monitor for potential slab-effects which can include concentrating soil vapors. This sampling should be continued as the structures are completed above the slabs to measure the effects of the increased upward pressure gradient that is caused by the enclosed structure. This sampling can be completed on a representative basis for each residential area and would likely focus on the residential structures located closest to the creeks.

## 5. Conclusions and Recommendations

Pinyon has reviewed numerous reports summarizing the Site's history, site characterization, cleanup activities, and corrective measure plan, as detailed in the previous sections of this report. The Site has an extensive history of impacts associated with both on and off-site landfill operations. Over 1,100 buried IBM chemical drums and an area of approximately 16 acres of solid waste was buried at the Site. The drums and grossly contaminated soils around the drums have been excavated and removed from the Site. Other solid waste and impacted groundwater and potentially impacted soil gas remain on the Site. Groundwater at the Site generally flows from east to west with bedrock high points on the southern and central portions of the Site that restricts the flow.

Geosyntec has submitted, and CDPHE has approved, a CMD which details the approaches that will be taken to remediate impacted soil and groundwater and prevent the buried solid waste from further negatively impacting human health and the environment (Geosyntec, 2020a). The impact source areas (i.e., the areas where the drums were buried) will be remediated using an ISCO system and MNA, and the solid waste will be capped with an ET cover. Groundwater and soil gas monitoring are proposed to be completed for no less than a 30-year period. The monitoring and inspection requirements were summarized above.

With such an extensive history of environmental issues at the Site, it cannot be guaranteed that mitigation measures will be protective of human health and the environment. However, it is Pinyon's opinion that although the solid waste will remain on Site, if properly implemented, the CMD adequately addresses and mitigates potential concerns associated with future residential development that would occur outside the buffer area. The main source of impacts at the Site were removed during the drum and impacted soil excavations. The proposed ISCO and MNA remediation programs, the capping of the solid waste areas, the proposed buffer area and use restrictions, the stormwater design plan, and the short and long-term soil gas and groundwater monitoring, should address the environmental and human health concerns associated with the former Site uses.

Pinyon recommends the following:

- At least one additional soil gas monitoring point should be installed to the west of the Cap Extent Area West, approximately 350 feet south of WCMW-25.
- Construction activities should be completed with a CDPHE approved Materials Management Plan (MMP) with the oversight of an environmental professional (MMP Supervisor) skilled in the identification and management of solid and/or hazardous wastes. The MMP supervisor should be 40-Hour Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations Trained with and current 8-hour OSHA annual update. Any suspect materials discovered during work should be immediately reported to the CDPHE. Should suspect environmental issues be identified in other areas of the development, it may be necessary to amend the CMD should other impacts be identified during the development of the property.
- Contractors doing work construction supporting development of the property should be educated on the environmental constraints at portions of the Site and be provided instructions to report suspect discoveries that may occur during the work.
- To support mitigation engineering at the Redtail site, Pinyon recommends that soil vapor be sampled at the wells scheduled for post-closure soil gas sampling—beginning early enough to inform the design process. The wells that should be part of this vapor sampling are those located between the creeks and

the planned residential areas, particularly near the areas with remaining contamination (northeast corner of the Site). We assume that these wells have screens that extend above the top of the water table at the time of sampling. Lastly, the soil vapor sampling should include appropriate hand-held instrumentation best suited to accurately measure PCE/TCE and their degradation products in air, or laboratory analysis, such that these data can be relied on to evaluate and understand site conditions.

- Sub-slab radon type ventilation systems are recommended for all structures at the Site. The systems should be designed for coverage below all subgrade walls and floors. The systems can include concealed piping stubs that if landfill gas or vapor intrusion issues arise, the stubs can be accessed and blowers connected to provide appropriate protections for the residences.
- Each proposed residential structure should be constructed with a sub-slab vapor mitigation system to vent potential landfill gases and VOCs. These are often similar (or the same) in construction techniques as a radon venting system. Those systems should be designed to operate both passively, and if concerns are identified later, to be easily retrofitted to operate actively (i.e., with a blower, ideally explosion proof [intrinsically safe]). It may be beneficial to engage an environmental engineer during the structure design to incorporate a venting system, as retrofitting a venting system is more costly than incorporating into the original construction. Further, the environmental engineer should verify proper construction of the systems during and after construction to ensure proper function. Post-construction sampling in the system for the presence of landfill gases and VOCs should be considered, which can be the deciding factor on whether the system should operate passively or actively. This screening can likely be completed with field screening devices such as a PID and a four-gas landfill meter.
- The PCMM Report will be submitted to CDPHE. If the Town desires, it should be requested that copies of the report also be submitted to the Town for review.
- The post-closure soil gas monitoring plan states that if methane concentrations exceeding 100% of the LEL are detected, CDPHE, the Town of Erie, and local emergency response authorities will be notified. It would be recommended that the CDPHE and Town of Erie be notified if 10 of LEL is detected, this way the issues can be addressed before becoming an explosion hazard.
- Pinyon was not provided groundwater or reliable soil gas data for the areas of Parcel 2 that share a boundary with the Denver Regional Landfill; therefore, Pinyon cannot provide recommendations on the Parcel 2 design.
- For the ET cover system, in addition to inspections during the regularly scheduled intervals, the area should be inspected after substantial rain events until vegetation has taken hold. Rules regarding stormwater permits should be followed for this work.
- If underground utilities related to the current and historical oil and gas operations have not been mapped or searched, an investigation should be completed.

## 6. Limitations

This Environmental Site Evaluation was prepared by Pinyon Environmental, Inc., at the request of and for the sole benefit of the Town of Erie, or any entity controlling, controlled by, or under common control with the Town of Erie. The conclusions and recommendations offered in this report are based on the data collected and presented by other consultants. Pinyon cannot warrant the sampling methods, or the quality of the data provided and cannot be held liable for errors, omissions, or negligence (if applicable) for the work of others in any way. Our work is based on the review of the work of others, and we cannot validate their work.

This report is for the exclusive and present use of the Town of Erie, or any entity controlling, controlled by, or under common control with the Town of Erie. Laboratory analysis performed during the previous investigations were completed for specific constituents, as described in the text. This study makes no attempt to assess constituents not searched for in the previous investigations.

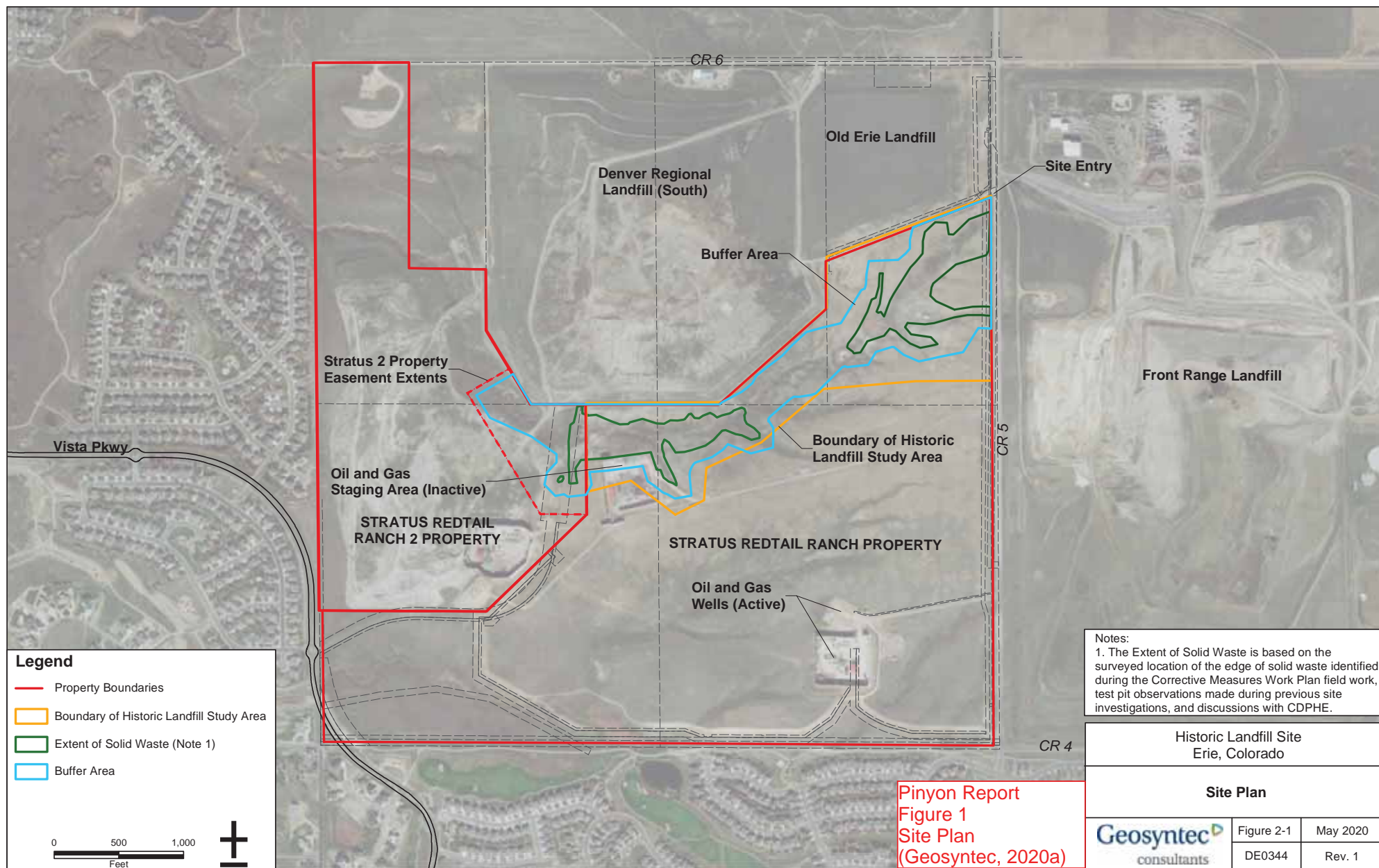


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## Figures







Pinyon Report  
Figure 2  
Soil Vapor Monitoring  
Points  
(SEC, 2011)



Stewart Environmental  
Consultants, Inc.  
consulting engineers and scientists

PROJECT NUMBER  
3710-001

DATE  
August 2007



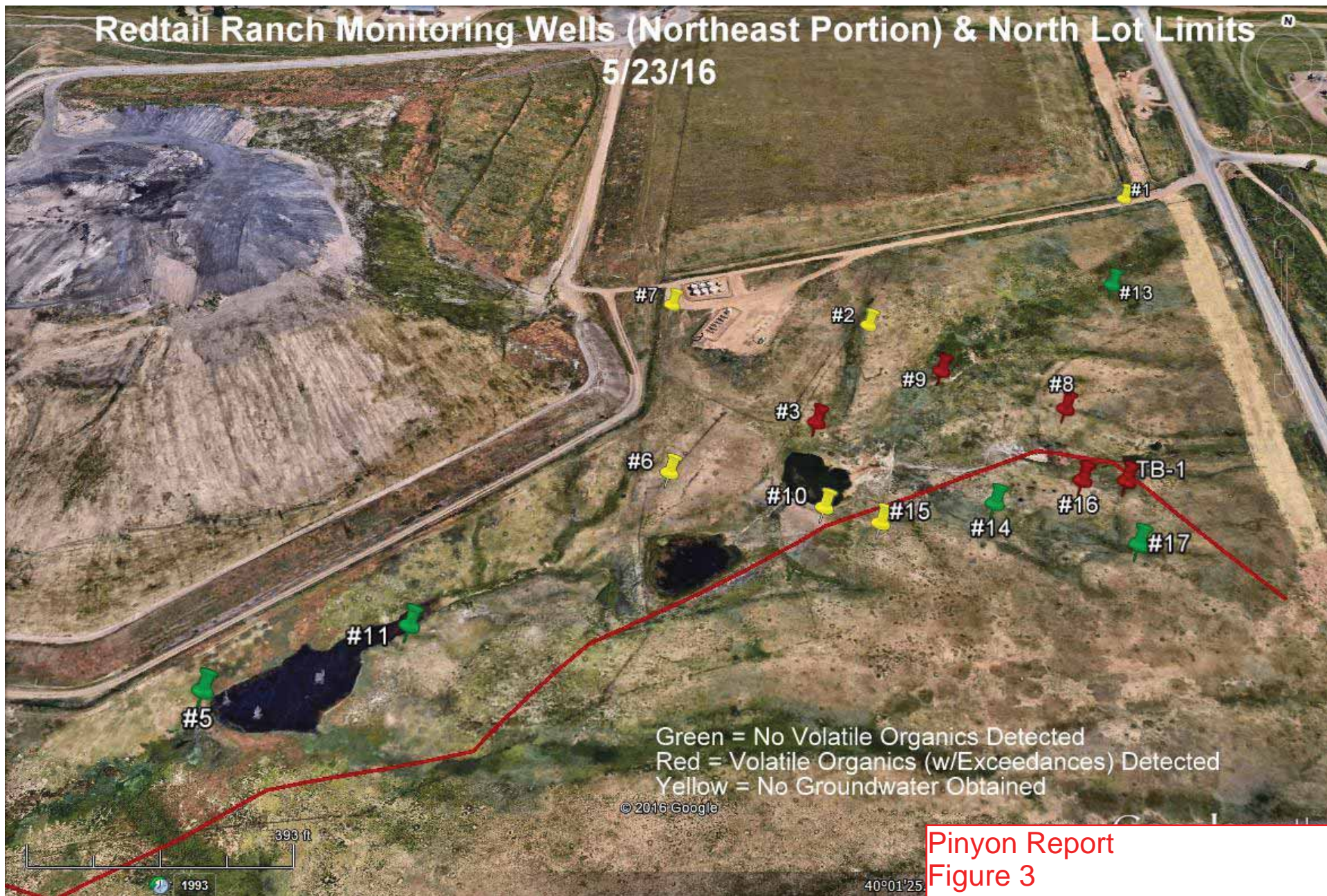
0 200 400 600 800 1,000  
APPROX. SCALE IN FEET

PROJECT

Old Erie Landfill  
Erie, Colorado

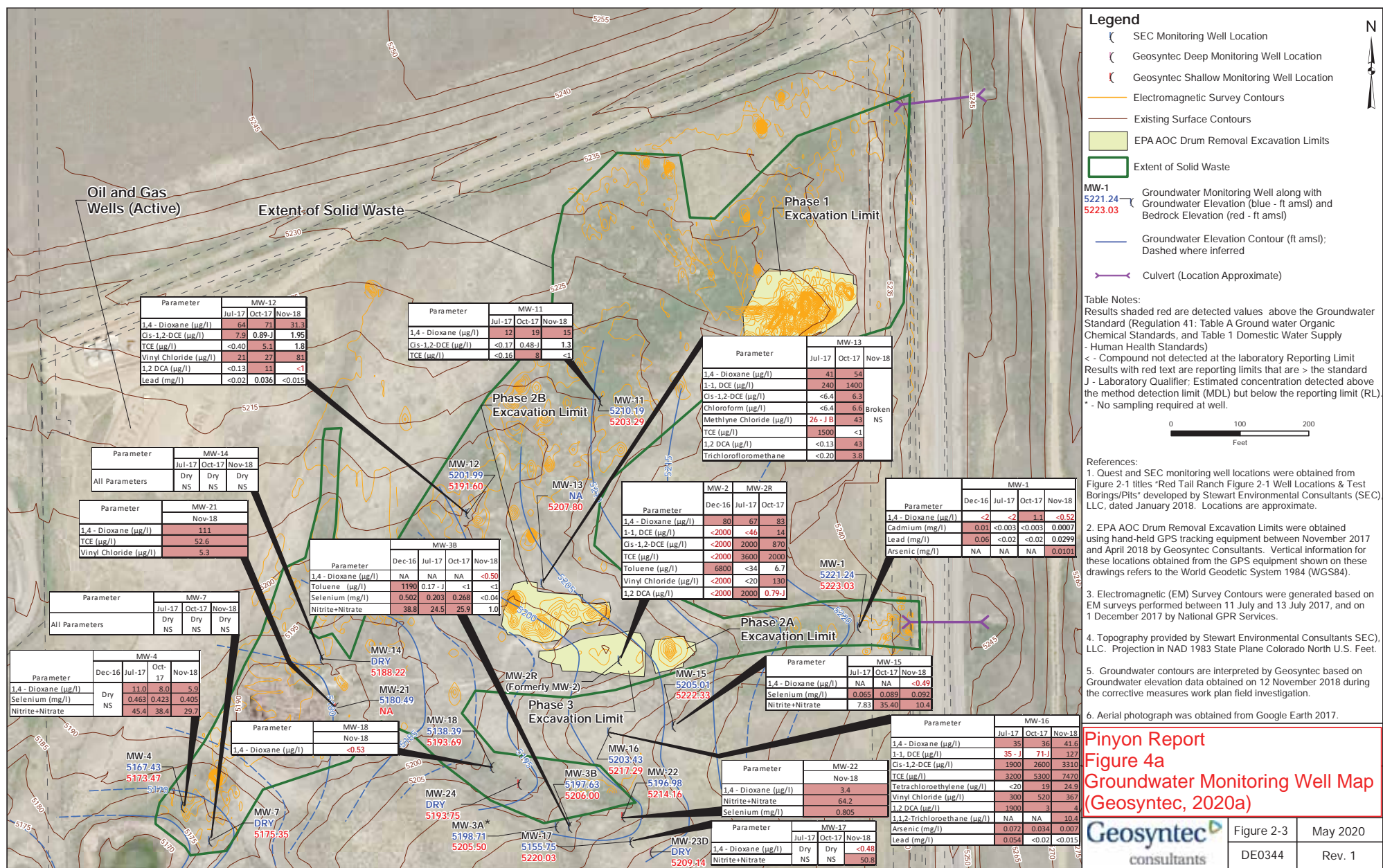
FIGURE 2  
SOIL VAPOR MONITORING  
SUMMARY OF RESULTS



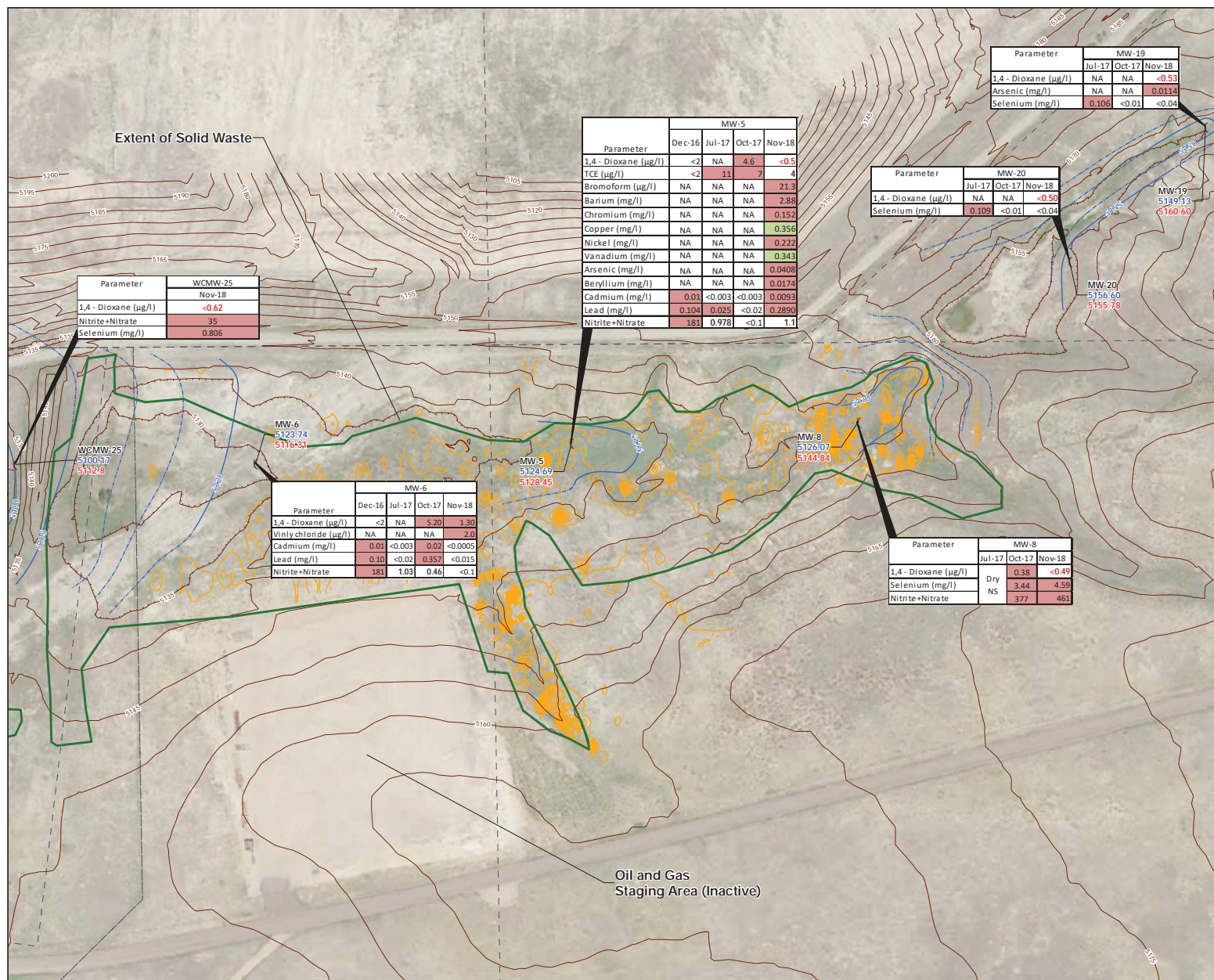


Pinyon Report  
Figure 3  
Quest Groundwater Well Map  
(Quest, 2016)









## Legend

- SEC Monitoring Well Location
- Geosyntec Shallow Monitoring Well Location
- Electromagnetic Survey Contours
- Existing Surface Contours
- Extent of Solid Waste
- MW-19  
5149.13  
5160.60  
Groundwater Monitoring Well along with Groundwater Elevation (blue - ft amsl) and Bedrock Elevation (red - ft amsl)
- Groundwater Elevation Contour (ft amsl); Dashed Where Inferred

**Table Notes:**  
Results shaded red are detected values above the Groundwater Standard (Regulation 41: Table A Ground water Organic Chemical Standards, and Table 1 Domestic Water Supply - Human Health Standards)  
< - Compound not detected at the laboratory Reporting Limit  
Results with red text are reporting limits that are > the standard  
J - Laboratory Qualifier; Estimated concentration detected above the method detection limit (MDL) but below the reporting limit (RL).



- References:**
- Quest and SEC monitoring well locations were obtained from Figure 2-1 titled "Red Tail Ranch Figure 2-1 Well Locations & Test Borings/Pits" developed by Stewart Environmental Consultants (SEC), LLC, dated January 2018. Locations are approximate.
  - Electromagnetic (EM) Survey Contours were generated based on EM surveys performed between 11 July and 13 July 2017, and on 1 December 2017 by National GPR Services.
  - Topography provided by Stewart Environmental Consultants (SEC), LLC. Projection in NAD 1983 State Plane Colorado North U.S. Feet.
  - Groundwater contours are interpreted by Geosyntec based on Groundwater elevation data obtained on 12 November 2018 during the corrective measures work plan field investigation.
  - Aerial photograph was obtained from Google Earth 2017.

## Pinyon Report Figure 4b Groundwater Monitoring Well Map (Geosyntec, 2020a)

Geosyntec consultants	Figure 2-4	May 2020
	DE0344	Rev. 1

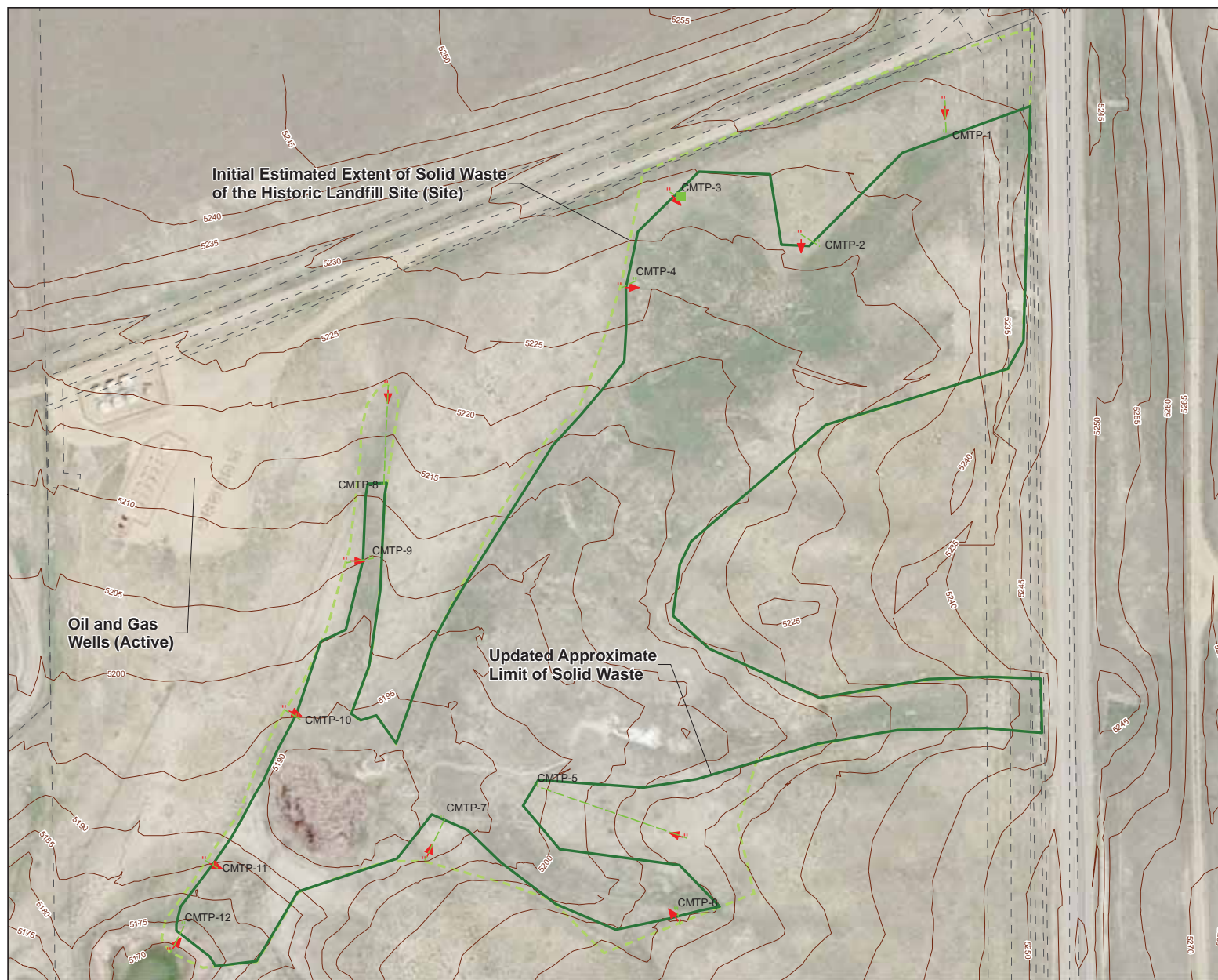






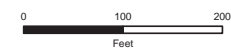
Document Path: C:\DE0302\_Stratus\2018\201807\mxd\fig5\_Final\_Excavation\_Extent\_EM\_contours.mxd





### Legend

- Test Pit with Directional Dig Arrows
- Test Pit and Surveyed Location of Edge of Solid Waste
- Existing Surface Contours
- Initial Estimated Extent of Solid Waste
- Extent of Solid Waste (Note 1)



- Notes:**
1. The Extent of Solid Waste is based on the surveyed location of the edge of solid waste identified during the Corrective Measures Work Plan field work, test pit observations made during previous site investigations, and discussions with CDPHE.
  2. Edge of Solid Waste locations were verified by a GPS survey conducted by CWC Consulting Group on 4 and 5 December 2018.
  3. Topography provided by Stewart Environmental Consultants (SEC), LLC. Projection in NAD 1983 State Plane Colorado North U.S. Feet.
  4. Aerial photograph was obtained from Google Earth 2018.

**Pinyon Report  
Figure 6a  
Test Trench Locations  
(Geosyntec, 2019)**

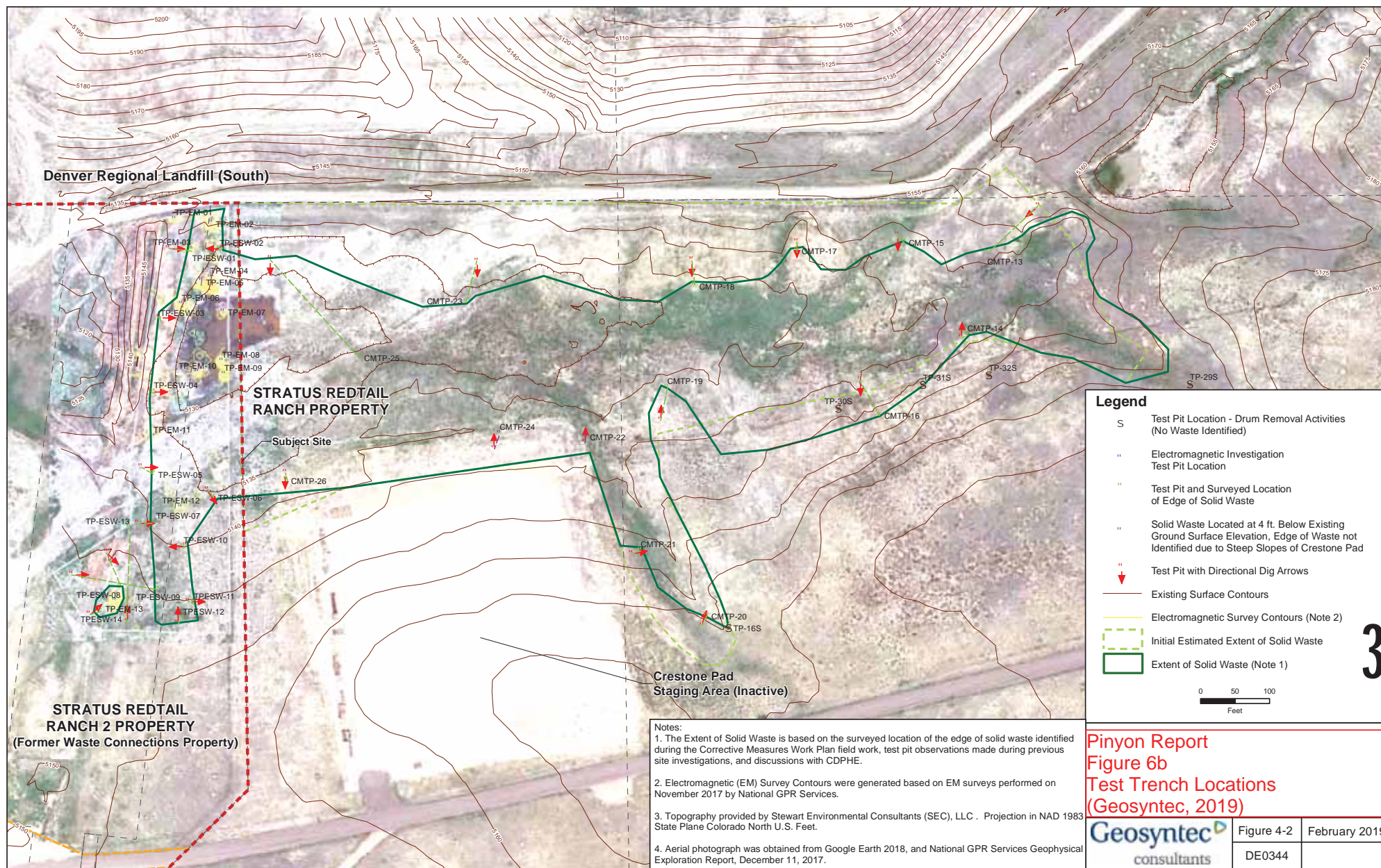
**Test Pit Locations and  
Extents of Solid Waste  
North Work Area**

**Geosyntec**  
consultants

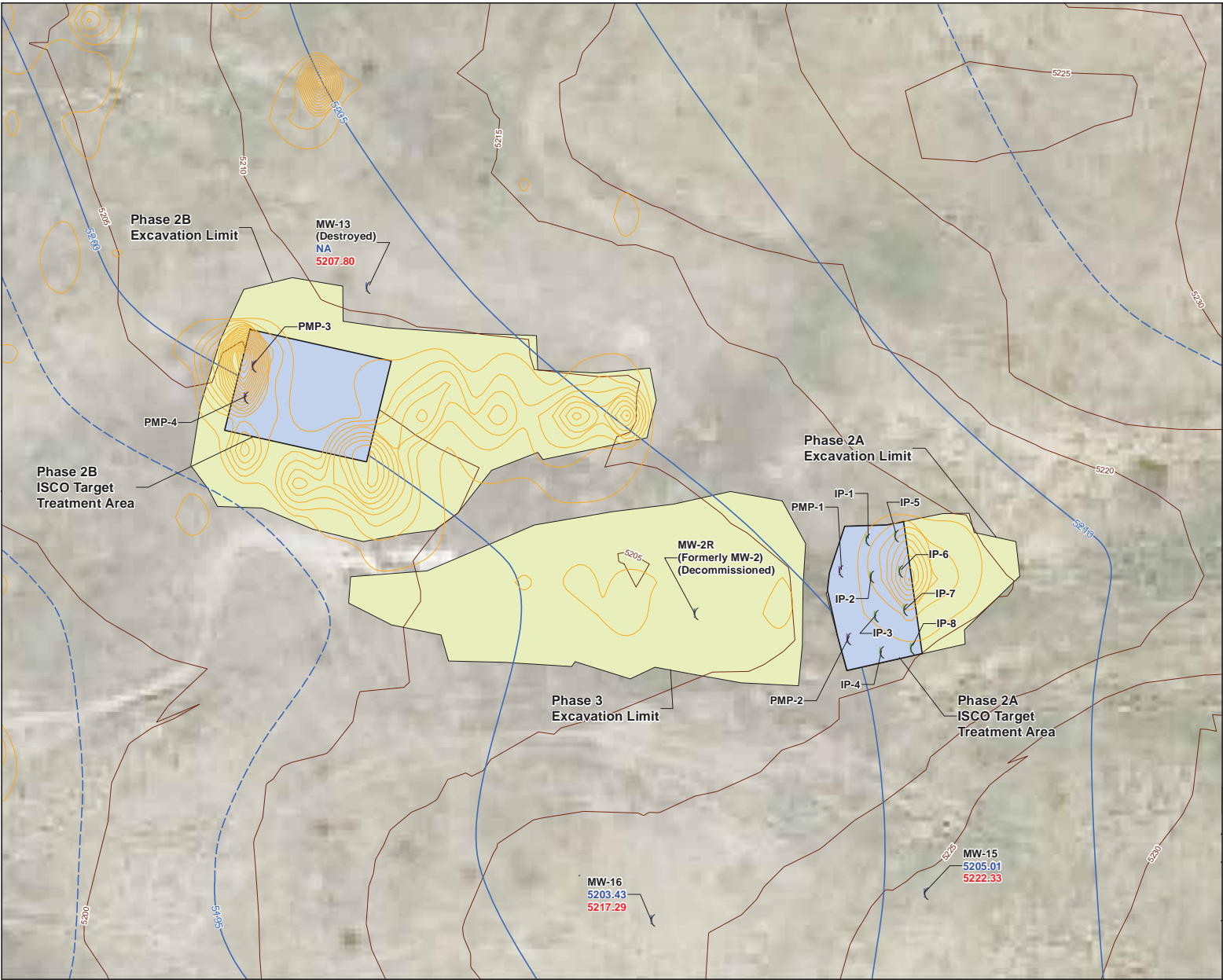
Figure 4-1	February 2019
DE0344	

Document Path: C:\DE0302\_Stratus\2019\201902\CMWP Figures\mxd\Fig4-1-CMWP-1-Test\_Pit\_Locations-North Work Area.mxd



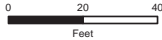


Document Path: C:\DE0302\_Stratus\2019\201902\CMWP Figures\mxd\Fig4-2-Test\_Pit\_Locations-and -Limit\_of\_Solid\_Waste-North Work Area.mxd



**Legend**

- SEC Monitoring Well Location
- Temporary Performance Monitoring Point
- Injection Point
- Electromagnetic Survey Contours
- Existing Surface Contours
- EPA AOC Drum Removal Excavation Limits
- ISCO Target Treatment Area
- MW-16  
5203.43  
5217.29 Groundwater Monitoring Well along with Groundwater Elevation (blue - ft amsl) and Bedrock Elevation (red - ft amsl)
- Groundwater Elevation Contour (ft amsl); Dashed where inferred



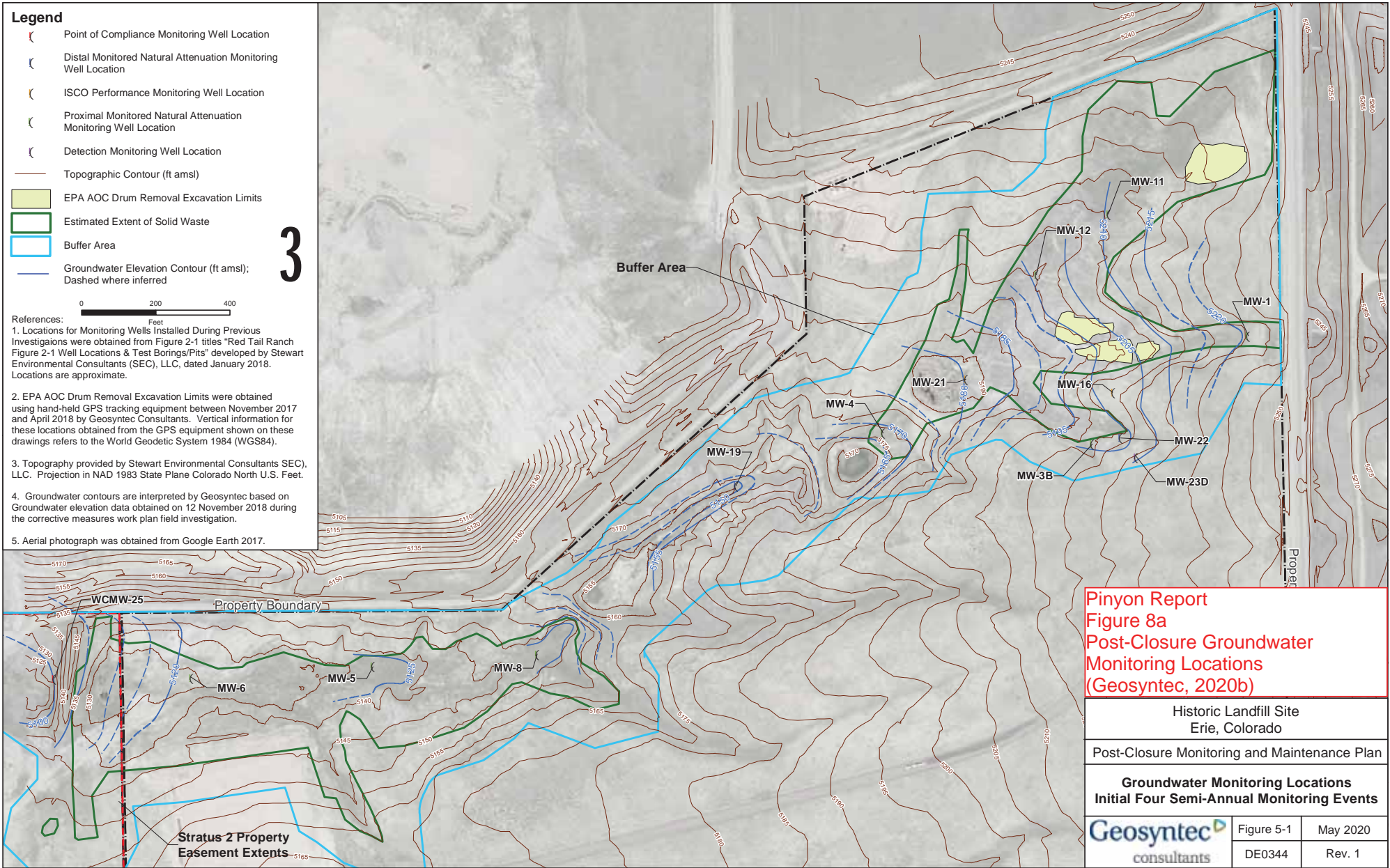
- References:
- Quest and SEC monitoring well locations were obtained from Figure 2-1 titled "Red Tail Ranch Figure 2-1 Well Locations & Test Borings/Pits" developed by Stewart Environmental Consultants (SEC), LLC, dated January 2018. Locations are approximate.
  - EPA AOC Drum Removal Excavation Limits were obtained using hand-held GPS tracking equipment between November 2017 and April 2018 by Geosyntec Consultants. Vertical information for these locations obtained from the GPS equipment shown on these drawings refers to the World Geodetic System 1984 (WGS84).
  - Electromagnetic (EM) Survey Contours were generated based on EM surveys performed between 11 July and 13 July 2017, and on 1 December 2017 by National GPR Services.
  - Topography provided by Stewart Environmental Consultants (SEC), LLC. Projection in NAD 1983 State Plane Colorado North U.S. Feet.
  - Groundwater contours are interpreted by Geosyntec based on Groundwater elevation data obtained on 12 November 2018 during the corrective measures work plan field investigation.

**Pinyon Report  
Figure 7  
ISCO Treatment Areas  
(Geosyntec, 2020a)**

**Target Treatment Areas  
for Groundwater Remediation**

Geosyntec consultants	Figure 5-1	May 2020
	DE0344	Rev. 1

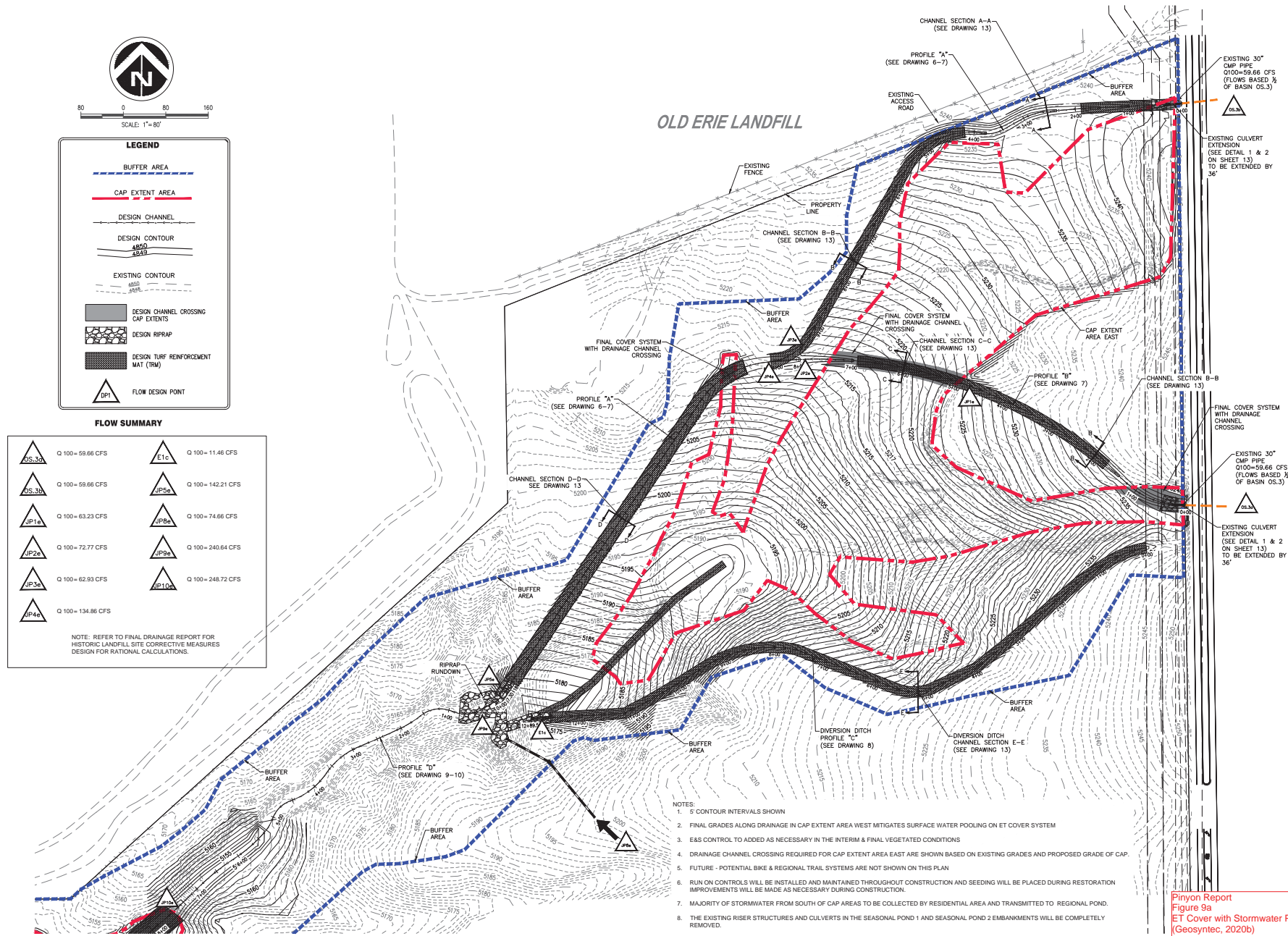




Document Path: P:\Users\DanHeidenreich\DRH\work\GIS\DE0302\_Stratus\2020\202004\PCMM Figures\mxd\Fig5-1\_Proposed GW Mon Location 4-semi-annual Events Map.mxd





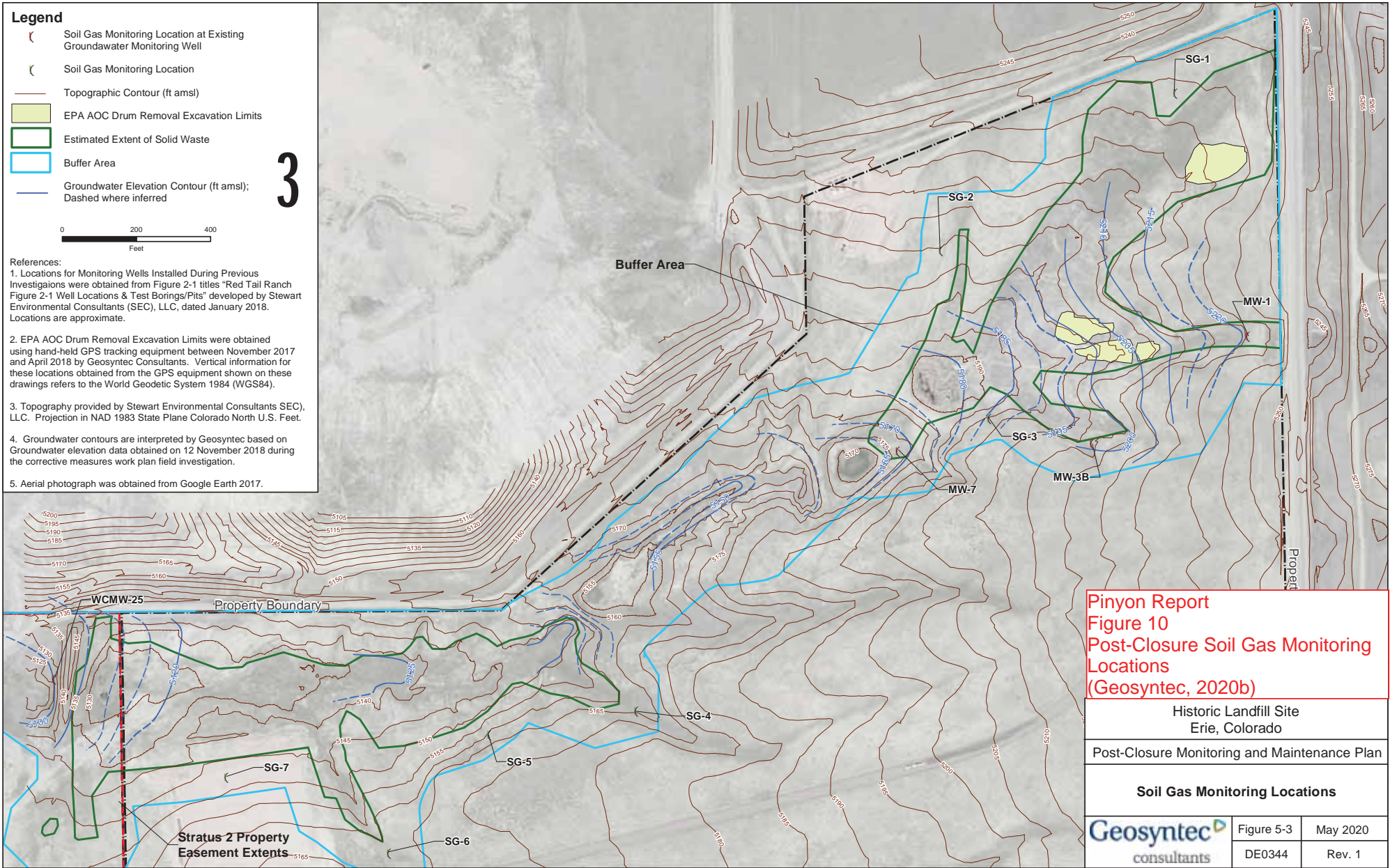


Pinyon Report  
Figure 9a  
ET Cover with Stormwater Plan  
(Geosyntec, 2020b)

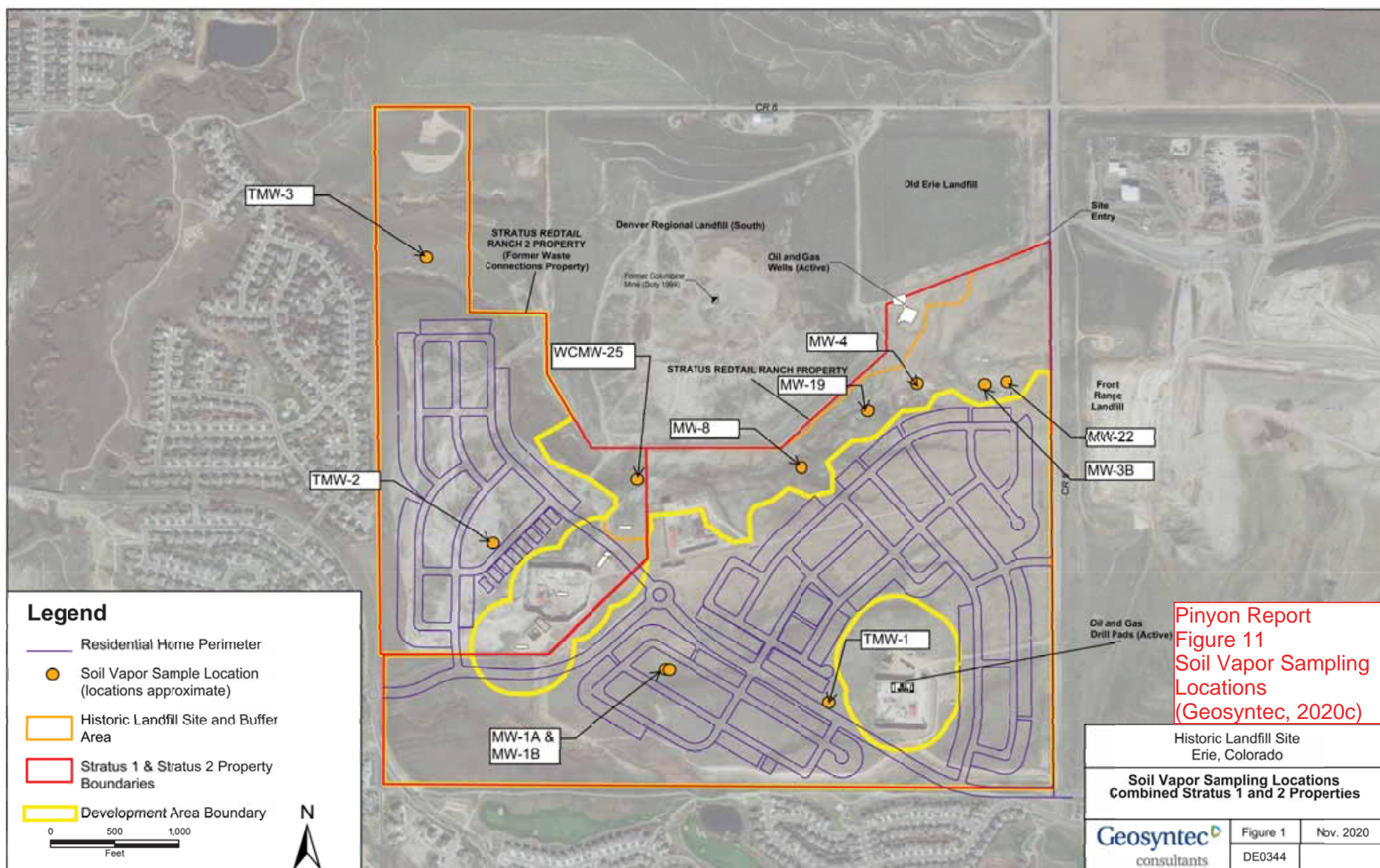
<b>STRATUS RETAIL RANCH, LLC</b> 8480 EAST ORCHARD ROAD SUITE 1100 GREENWICH, CO 80411 PHONE (720) 214-9000 CONTACT: RICHARD DEAN		<b>DOCUMENT AMENDMENTS</b> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td>01/15/2020</td> <td>ISSUE FOR PRELIMINARY COMMENT</td> </tr> <tr> <td>2</td> <td>02/03/2020</td> <td>ISSUE FOR PRELIMINARY COMMENT</td> </tr> <tr> <td>3</td> <td>02/03/2020</td> <td>ISSUE FOR PRELIMINARY COMMENT</td> </tr> <tr> <td>4</td> <td>02/03/2020</td> <td>ISSUE FOR PRELIMINARY COMMENT</td> </tr> </table>	NO.	DATE	DESCRIPTION	1	01/15/2020	ISSUE FOR PRELIMINARY COMMENT	2	02/03/2020	ISSUE FOR PRELIMINARY COMMENT	3	02/03/2020	ISSUE FOR PRELIMINARY COMMENT	4	02/03/2020	ISSUE FOR PRELIMINARY COMMENT
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4	02/03/2020	ISSUE FOR PRELIMINARY COMMENT															
<b>EVAPOTRANSPIRATION COVER AND STORMWATER GRADING PLAN - EAST</b>																	
<b>CWC CONSULTING GROUP</b> CIVIL ENGINEERING, LAND SURVEYING, CONSTRUCTION SERVICES 																	
Project Number: 130-00011 Drawn By: JEC Designed By: JEC Checked By: BAW Drawing Number: 4 of 26																	



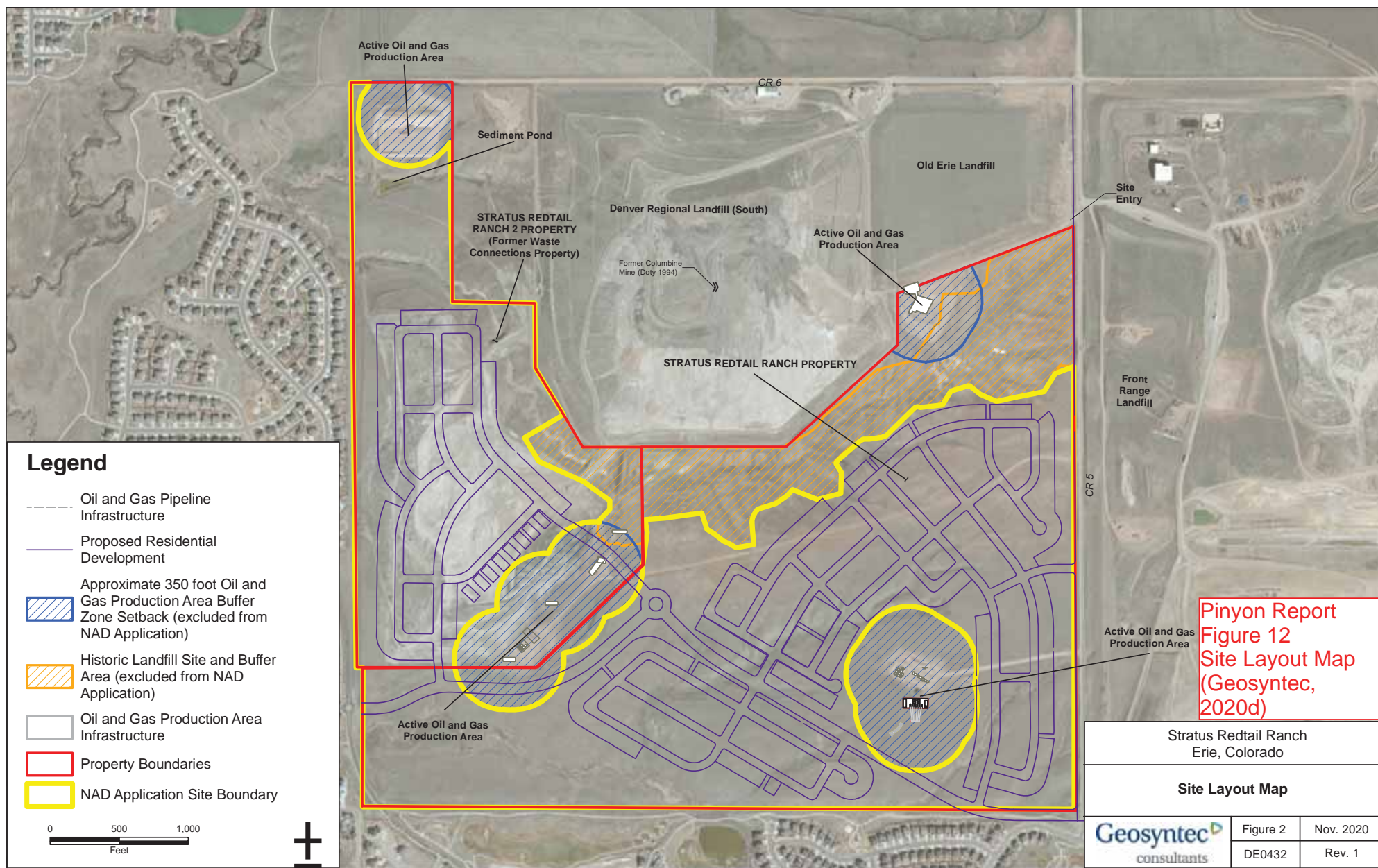




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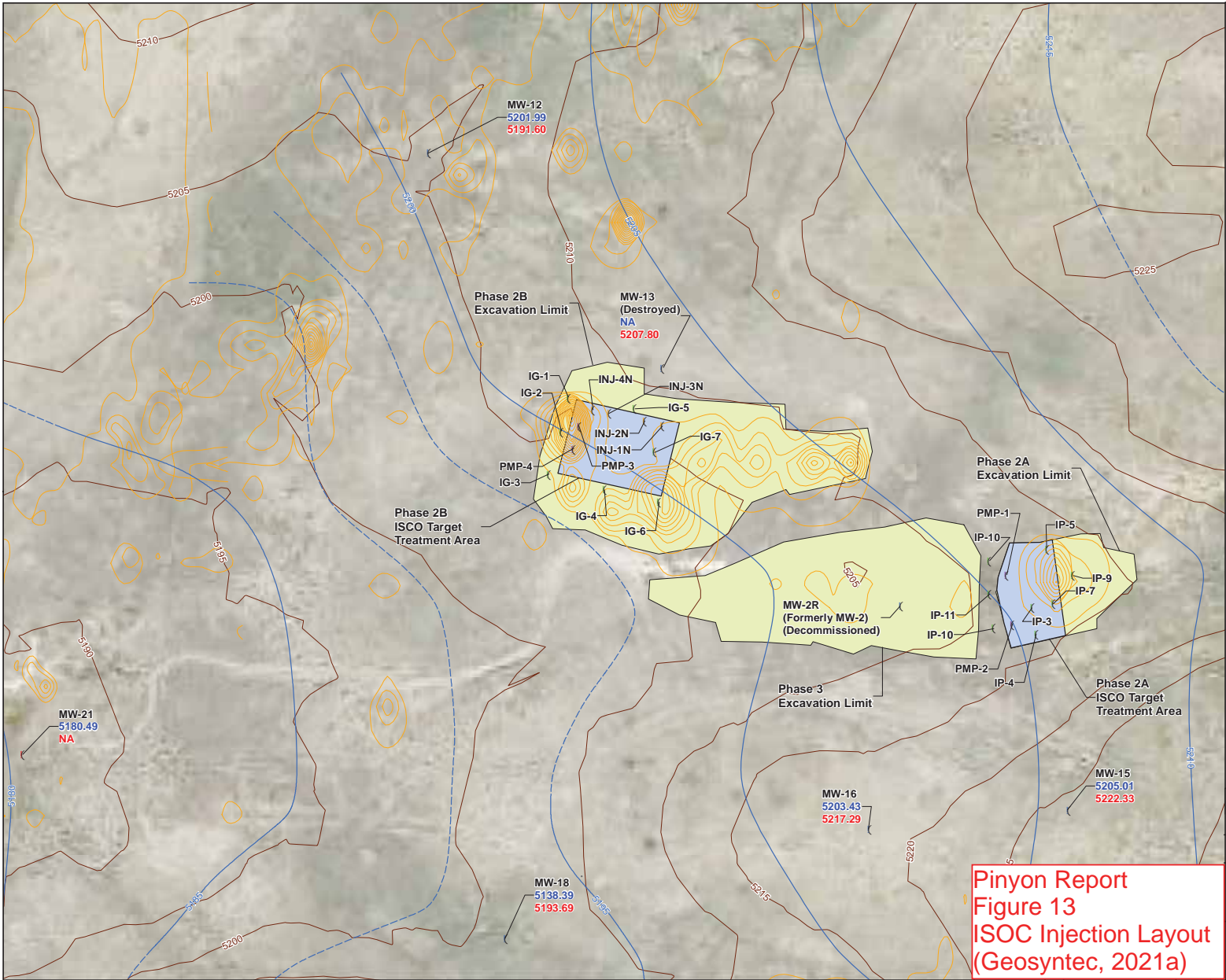






Document Path: P:\\_Project\_Files\DE0432\_Stratus Phase 1 and VCUP\Deliverables\NAD Application\Figures\Stratus Investigations excluding Landfill Study Area\GIS\MXD\Figure 2\_Site Layout Map.mxd





**Legend**

- SEC Monitoring Well Location
- Geosyntec Shallow Monitoring Well Location
- Temporary Performance Monitoring Point
- Direct Push Injection Point
- Injection Gallery Injection Point
- Electromagnetic Survey Contours
- Existing Surface Contours
- EPA AOC Drum Removal Excavation Limits
- ISCO Target Treatment Area

**MW-16**  
5203.43  
5217.29  
Groundwater Monitoring Well along with Groundwater Elevation (blue - ft amsl) and Bedrock Elevation (red - ft amsl)

Groundwater Elevation Contour (ft amsl); Dashed where inferred

0 20 40 Feet

References:

- Quest and SEC monitoring well locations were obtained from Figure 2-1 titled "Red Tail Ranch Figure 2-1 Well Locations & Test Borings/Pits" developed by Stewart Environmental Consultants (SEC), LLC, dated January 2018. Locations are approximate.
- EPA AOC Drum Removal Excavation Limits were obtained using hand-held GPS tracking equipment between November 2017 and April 2018 by Geosyntec Consultants. Vertical information for these locations obtained from the GPS equipment shown on these drawings refers to the World Geodetic System 1984 (WGS84).
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- Aerial photograph was obtained from Google Earth 2017.

Historic Landfill Site Erie, Colorado		
ISCO Implementation Report		
ISCO Injection Layout		
Geosyntec consultants	Figure 2	Feb 2021
	DE0344	Rev. 0

Pinyon Report  
Figure 13  
ISOC Injection Layout  
(Geosyntec, 2021a)



**Threatened & Endangered Species, Habitat & Wetlands Report  
and  
Native & Specimen Tree & Vegetation Survey & Protection Plan**

**Redtail Ranch Filing No. 1  
Erie, Colorado**

November 15, 2019

**Prepared for:**

Stratus Redtail Ranch, LLC  
1842 Montane Drive East  
Golden, CO 80401

**Prepared by:**



1455 Washburn Street  
Erie, Colorado 80516  
(p): 970-812-3267

Project Number: 2019-5-1



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JURISDICTIONAL DETERMINATION

APPENDIX B – USFWS IPAC TRUST RESOURCES REPORT

APPENDIX C – PHOTO LOCATION MAP & SITE PHOTOGRAPHS

APPENDIX D – OFFICE OF ARCHAEOLOGY & HISTORIC PRESERVATION LETTER

APPENDIX E – PROFESSIONAL QUALIFICATIONS

|

## LIST OF ACROYNMS AND ABBREVIATIONS

AMSL	above mean sea level
BGEPA	Bald and Golden Eagle Protection Act
CDA	Colorado Department of Agriculture
CNHP	Colorado Natural Heritage Program
COGCC	Colorado Oil and Gas Conservation Commission
CPW	Colorado Parks and Wildlife
CWA	Clean Water Act
Ecos or ecos	Ecosystem Services, LLC
JD	Jurisdictional Determination under the Clean Water Act
MBTA	Migratory Bird Treaty Act
Non-JD	Non-Jurisdictional Determination under the Clean Water Act
OHW	Ordinary High Water Mark
PMJM	Preble's meadow jumping mouse
Site	Redtail Ranch Filing No. 1
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey



## 1.0 INTRODUCTION

Ecosystem Services, LLC (Ecos or ecos) was retained by Stratus Redtail Ranch, LLC (Stratus) to provide environmental support services for Redtail Ranch Filing No. 1 (Project) (Site). This Threatened & Endangered Species, Habitat & Wetlands Report and Native & Specimen Tree & Vegetation Survey & Protection Plan (Report) has been prepared for the Preliminary Plat review process per Town of Erie (Erie) requirements.

The contact information for the Stratus Redtail Ranch, LLC and ecos representatives for this Report is provided below:

### Client

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Stratus Canyon Creek, LLC  
1842 Montane Drive East  
Golden, CO 80401  
Phone: (720) 214-5000  
[rdean@stratuscompanies.com](mailto:rdean@stratuscompanies.com)

### Agent

Grant E. Gurnée, P.W.S.  
Ecosystem Services, LLC  
1455 Washburn Street  
Erie, Colorado 80516  
Phone: (970) 812-6167  
[grant@ecologicalbenefits.com](mailto:grant@ecologicalbenefits.com)

## 1.1 Purpose

The purpose of this Report is to identify and document the natural resources, ecological characteristics and existing conditions of the Site; identify potential ecological impacts associated with Site development; identify potential archaeological resources; and provide current regulatory guidance related to potential development-related impacts to natural resources. This Report and associated mapping do not represent a formal presence/absence survey for threatened and endangered species and therefore are not suitable for regulatory submission to the United States Fish and Wildlife Service (USFWS). The wetland and waters boundary delineation and report referenced herein is suitable for regulatory submission to the US Army Corps of Engineers (USACE) to support a 404 Permit application, if necessary. The specific resources addressed in this Report are per the Town of Erie Development Design Standards, Chapter 6, Section 10.6.2 Natural and Scenic Resource Protection.

## 1.2 Project Description and Site Location

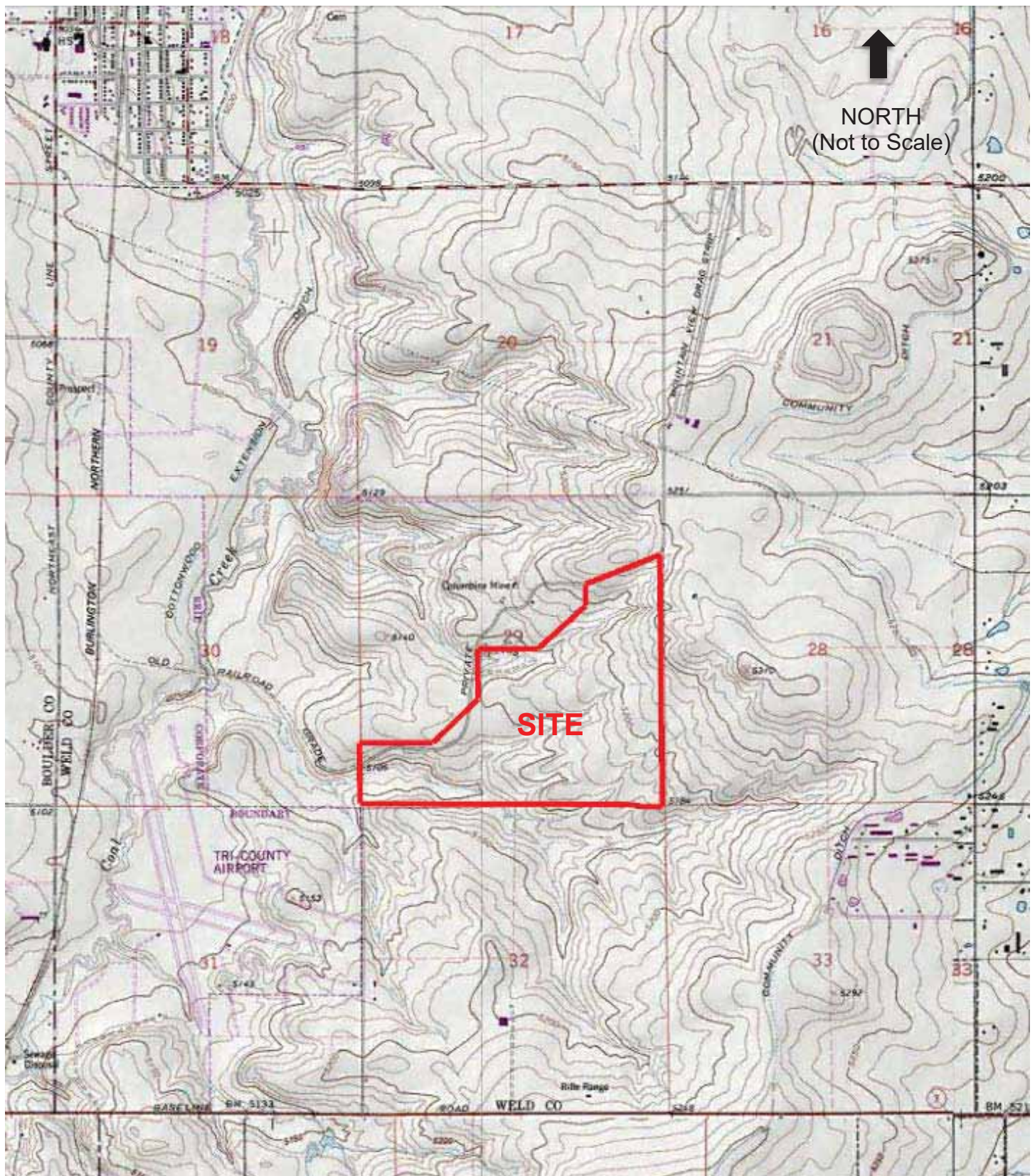
The Applicant proposes to develop the Redtail Ranch Filing No. 1 as a planned residential community with associated infrastructure including roads, trails, stormwater management, and open space. The Project is described and plans are illustrated in greater detail in the development application.

The 295-acre Site is in the Town of Erie, Boulder County, Colorado. The Site is located within Section 29, Township 1 North, Range 68 West. Please refer to Figure 1, USGS Site Location Map and Figure 2, Existing Conditions Aerial Photo for location and general site conditions. The longitude and latitude of the Site at its center are 105.025000° west and 40.019275° north.

The Site is located in the Town of Erie northwest of the intersection of Weld County Roads 4 and 5 (Figure 2). The Site is bordered to the north by the Denver Regional Landfill; the east by Weld County Road 5 and the Front Range Landfill; the south by Vista Ridge neighborhood/Colorado National Golf Club; and the west by the Vista Point neighborhood. Vista Parkway abuts the southwest corner of the Site.

**Figure 1**

USGS SITE LOCATION MAP



USGS 7.5 min. Quad: Erie  
Latitude: 40.019275°N Longitude: -105.025000°W

**Figure 2**

EXISTING CONDITIONS AERIAL PHOTO





SOURCE: Google Earth Aerial Image, 5/31/18



## 2.0 METHODOLOGY

Ecos performed an office assessment in which available databases, resources, literature and field guides on local flora and fauna were reviewed to gather background information on the environmental setting of the Site. We consulted several organizations, previous studies, agencies and their databases, including but not limited to:

- Town of Erie UDC, Chapter 6, Section 10.6.2 Natural and Scenic Resource Protection;
- Town of Erie Planning & Development Department;
- Town of Erie Natural Areas Inventory
- USFWS Information for Planning and Consultation (IPaC);
- Colorado Parks Division of and Wildlife (CPW) wildlife corridors and habitat mapping;
- U.S. Geological Survey (USGS) Topographic Quadrangles;
- Natural Resource Conservation Service (NRCS) soil maps;
- USFWS National Wetland Inventory (NWI) maps;
- Colorado Natural Heritage Program (CNHP) wetland and riparian habitat mapping;
- Colorado Oil and Gas Conservation Commission (COGCC) raptor data;
- USDA PLANTS Database
- Wetland Report prepared by Alpine Ecological Resources, LLC;
- Approved Jurisdictional Determination for Redtail Ranch (USACE File No. NOW-2015-00393-DEN);
- Initial Site Assessment (ISA) Report, Pratt Well Pad Site prepared by Ecosystem Services, LLC
- Google Earth aerial imagery

The above data were used to create a preliminary natural resources map including vegetation communities, trees, prairie dog colonies, known raptor nests, wetlands, drainages, and ditches. The preliminary mapping was printed on aerial photographs and downloaded to a mobile phone GPS application for field proofing.

The Site was visited on October 25, 2019. Field reconnaissance concentrated on identifying major vegetation communities, including species composition and habitat suitability for nesting birds and threatened and endangered species. Open water, drainages, and wetland features were verified in the field utilizing wetland delineation data and mapping prepared previously by Alpine Ecological Resources and a U.S. Army Corps of Engineers (USACE) Approved Jurisdictional Determination of Waters of the United States. Representative photographs were taken throughout the Site to assist in documenting existing conditions.

Per the Town of Erie requirements for “Native and Specimen Tree and Vegetation Protection”, all trees within potential impact areas were assessed to determine the species and condition. An inventory of trees on or immediately adjacent to the Site that could be impacted by site development are described in Section 3.3 below.

### 3.0 EXISTING HABITAT

#### 3.1 Upland Habitat

Historically, short- and mixed-grass prairie were the dominant habitat types on Colorado's eastern plains, and the Town of Erie. Historic uses of the Site (i.e., prior to establishment of the adjacent landfill and current well pads) likely included non-crop land, rangeland for livestock grazing, as well as native wildlife habitat.

The Erie Natural Areas Inventory (Town of Erie 2007) and the NRCS soils data (NRCS 2013) provide a comprehensive list of plant species that have been documented or are likely to be present on the Site or occur within 0.25 miles of the Site:

Common Name	Scientific Name
alyssum	<i>Alyssum spp.</i>
silver sagebrush	<i>Artemisia cana</i>
big sagebrush	<i>Artemisia tridentate</i>
*kochia	<i>Bassia sieversiana (Kochia sieversiana)</i>
buffalograss	<i>Bouteloua dactyloides</i>
blue grama	<i>Bouteloua gracilis (Chondrosum gracile)</i>
*Canada thistle	<i>Breea arvensis (Cirsium arvense)</i>
*cheatgrass	<i>Bromus tectorum</i>
*musk thistle	<i>Carduus nutans</i>
*lambsquarters	<i>Chenopodium album</i>
*goosefoot	<i>Chenopodium rubrum</i>
rabbitbrush	<i>Chrysothamnus nauseosa</i>
*field bindweed	<i>Convolvulus arvensis</i>
needle and thread	<i>Hesperostipa comata</i>
prairie Junegrass	<i>Koeleria macrantha</i>
*prickly lettuce	<i>Lactuca serriola</i>
alfalfa	<i>Medicago sativa</i>
western wheatgrass	<i>Pascopyrum smithii</i>
Plains cottonwood	<i>Populus deltoides</i>
bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>
*curly dock	<i>Rumex crispus</i>
coyote willow	<i>Salix exigua</i>
*Russian thistle (tumbleweed)	<i>Salsola australis</i>
bulrush	<i>Schoenoplectus spp.</i>
tall tumble mustard	<i>Sisymbrium altissimum</i>
common wheat	<i>Triticum aestivum</i>
narrowleaf cattail	<i>Typha angustifolia</i>
broad-leaf cattail	<i>Typha latifolia</i>

Upland vegetation communities/land cover types observed on the Site include:

Bare Ground (BG) = BG consists of roads and oil and gas well pads and work areas covering approximately 10.5 acres out of a total of 295 acres (3.5%). These areas are not vegetated.

Xeric Midgrass Prairie (XMP): XMP is the largest plant community on the Site covering approximately 264.61 acres out of a total of 295 acres (89.7%). XMP has dry (xeric) soil conditions supporting semi-native midgrass prairie species listed below. XMP has been affected by persistent human disturbance and heavy prairie dog use in the northern 2/3<sup>rd</sup>s of the Site and is therefore weedy and in poor condition. XMP quality and cover is fair in non-prairie dog areas in the southern 1/3<sup>rd</sup> of the Site with occasional patches of weeds. Portions of XMP have recently been disturbed and reclaimed following installation of oil and gas pipelines and facilities.

<b>Common Name</b>	<b>Scientific Name</b>
allyssum	<i>Alyssum spp.</i>
oats	<i>Avena sp.</i>
Crested wheatgrass	<i>Agropyron cristatum</i>
*kochia	<i>Bassia sieversiana (Kochia sieversiana)</i>
blue grama	<i>Bouteloua gracilis (Chondrosum gracile)</i>
sideoats grama	<i>Bouteloua curtipendula</i>
*mustard	<i>Brassica spp.</i>
*Canada thistle	<i>Breea arvensis (Cirsium arvense)</i>
smooth brome	<i>Bromus inermis</i>
*cheatgrass	<i>Bromus tectorum</i>
*musk thistle	<i>Carduus nutans</i>
*field bindweed	<i>Convolvulus arvensis</i>
slender wheatgrass	<i>Elymus trachycaulus</i>
common sunflower	<i>Helianthus annuus</i>
*prickly lettuce	<i>Lactuca serriola</i>
sweetclover	<i>Melilotus spp.</i>
Plains pricklypear	<i>Opuntia polycantha</i>
western wheatgrass	<i>Pascopyrum smithii</i>
bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>
*curly dock	<i>Rumex crispus</i>
rye	<i>Secale sp.</i>
*tall tumble mustard	<i>Sisymbrium altissimum</i>
*field pennycress	<i>Thlaspi arvense</i>
yucca	<i>Yucca glauca</i>

Note: \* indicates noxious, invasive and/or common weeds.

Figure 3, Vegetation Map illustrates the major upland vegetation communities listed above.

The recommended upland seed mix for the restoration of open space on the Site is based on the plant species present on the Site, within the region, as well as the NRCS soil data. Erie has recommended native seed mixes in their Standard Specifications for Design and Construction of Public Improvements, Section 1000 - Parks and Recreation Construction (Town of Erie 2013a) that are also applicable. The mixture included below is intended for seeding of open space and roadsides. It is an adaptable mix of short- to mid-grass native and introduced warm and cool season grasses. Agronomic soil testing should be performed in all restoration areas to assess the need for soil amendments prior to seeding. This mixture should be applied as a dormant seeding between October 30th and April 30th:

COMMON NAME	SCIENTIFIC NAME	VARIETY	PLS LBS/ACRE
Western wheatgrass	<i>Pascopyrum smithii</i>	Arriba, Oahe or Rosana	7.0
Crested wheatgrass	<i>Agropyron cristatum</i>	Ephriam	4.0
Streambank wheatgrass	<i>Elymus lanceolatus</i>	Sodar	4.0
Sideoats grama	<i>Bouteloua gracilis</i>	Butte, Niner or El Reno	2.0
Blue grama	<i>Bouteloua gracilis</i>	Lovington, Alma, Native or Hachita	5.0
Buffalograss	<i>Buchloe dactyloides</i>	Native, Bison or Texoka	3.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	Common	1.0
Prairie Junegrass	<i>Loeleria macrantha</i>	Common	3.0
Hard Fescue	<i>Festuca brevipila</i>	'Durar'	3.0
<b>SEEDING RATE POUNDS PLS/ACRE</b>			<b>32.0</b>

### 3.2 Riparian and Wetland Habitat

Riparian habitat typically consists of trees and shrubs and more robust herbaceous vegetation associated with surface and ground water in or adjacent to natural drainages. Within short grass prairie ecosystems, riparian habitat increases the overall diversity of vegetation and provides valuable wildlife habitat and movement corridors for species to navigate the landscape. High bird diversity is correlated with the structural diversity provided by varied sizes of trees and shrubs. Some shrubs species provide berries for birds and mammals. Dead trees provide roosting and nesting sites for raptors and dens for terrestrial mammals such as raccoons.

Riparian vegetation communities/land cover types observed on the Site include:

Mesic Midgrass Prairie (MMP): MMP is the second largest plant community on the Site covering approximately 16.47 AC out of a total of 295 acres (5.6%). MMP along natural channels and ravines closely approximates riparian habitat on this Site but is dominated by grassland versus trees and shrubs, and grassland found along major perennial creeks and rivers.

MMP is characterized by moist (mesic) soil conditions that support semi-native midgrass prairie species (listed above) but is more robust due to greater soil moisture. Like XMP, MMP has been affected by persistent human disturbance and prairie dog use within the northern ephemeral channel. MMP quality and cover is fair to good in non-prairie dog areas along the southern channel and its ephemeral tributaries. MMP contains occasional patches of weeds that are more robust due to greater soil moisture.

Palustrine Emergent Wetland (PEM): PEM occupies approximately 3.57 acres out of a total of 295 acres (1.2%). Out of the total, PEM in remnant stock ponds along the northern ephemeral channel consists of 1.62 acres of poor quality herbaceous wetland plants and 1.95 acres of wetland patches along the southern intermittent channel.

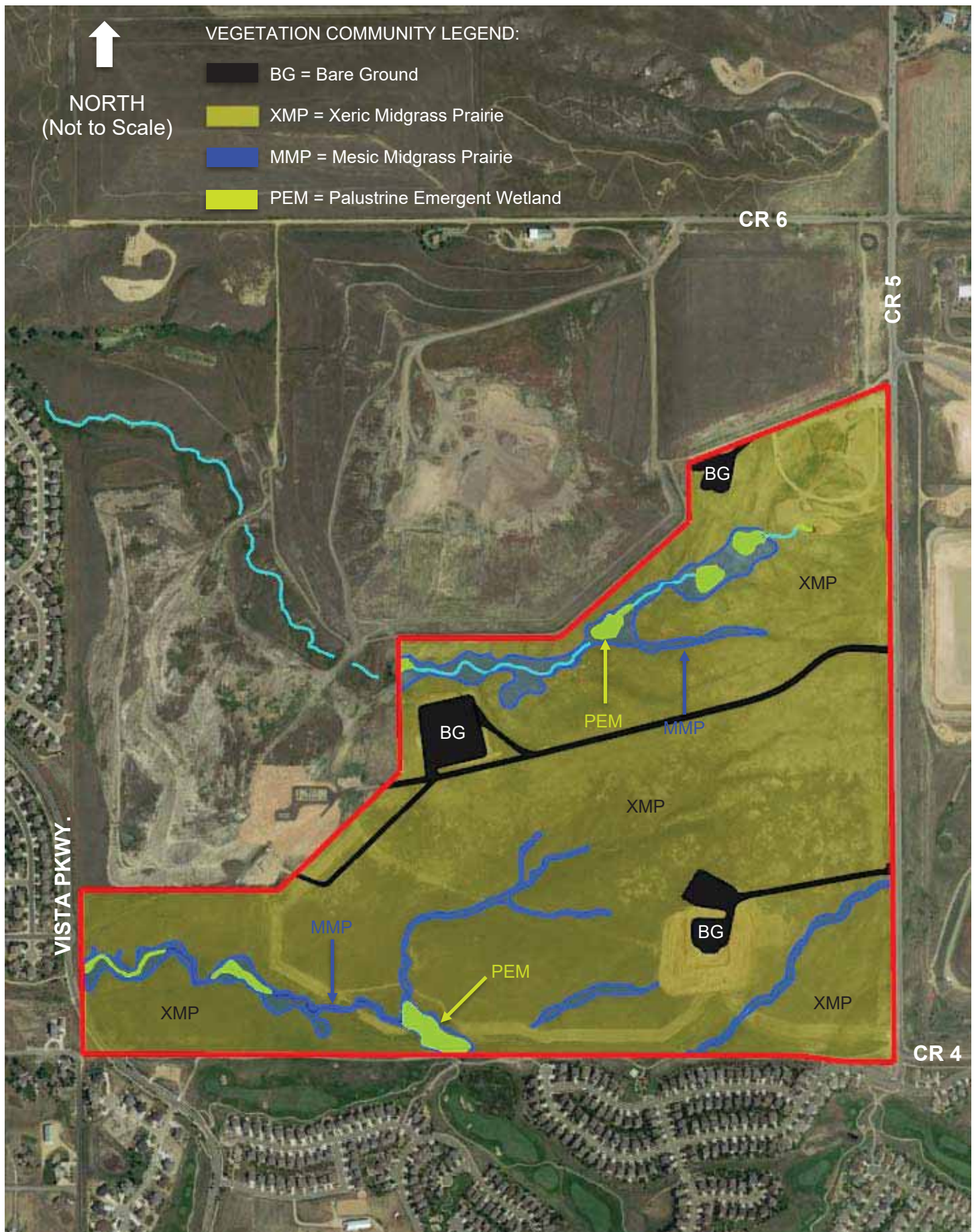
Wetland Vegetation is further described in the Wetland Report prepared by Alpine Ecological Resources, LLC provided in Appendix A.

Figure 3, Vegetation Map illustrates the major riparian and wetland vegetation communities noted above. Representative photos of the Site are provided in Appendix C including a photo location map.



**Figure 3**

VEGETATION MAP



SOURCE: Google Earth Aerial Image, 5/31/18

### 3.2 Native and Specimen Trees

The current Stratus development plan does not propose impacts to any existing trees on the Site. However, if plans change, all native and specimen trees were inventoried as described below, including those that are under 4-inches diameter at breast height (DBH) such that a Native and Specimen Tree Protection Plan may be prepared. Existing trees are illustrated on Figure 4, Native and Specimen Tree Map.

A total of 4 individual riparian trees (single stem and multi-stem) exist immediately off site in the lower reach of the northern ephemeral drainage immediately adjacent to the western Site boundary:

- SAL FRA – *Salix fragilis* (crack willow): 2" Multi-stem
- SAL FRA – *Salix fragilis* (crack willow): 2" Multi-stem
- SAL FRA – *Salix fragilis* (crack willow): 6" Multi-stem
- POP DEL – *Populus deltoides* (plains cottonwood): 9" Multi-stem

Two (2) dead trees exist in the upper reach of the northern ephemeral drainage adjacent to a remnant stock pond. Dead trees are potential habitat for cavity nesting birds. These trees should be checked for cavities and birds prior to removal.

A total of 9 individual riparian trees (single stem and multi-stem) exist adjacent to the southern, intermittent drainage:

- SAL FRA – *Salix fragilis* (crack willow): 6" Multi-stem
- ELA ANG – *Elaeagnus angustifolia* (Russian olive): 2"
- ELA ANG – *Elaeagnus angustifolia* (Russian olive): 2"
- SAL FRA – *Salix fragilis* (crack willow): 6" Multi-stem
- SAL FRA – *Salix fragilis* (crack willow): 4" Multi-stem
- SAL FRA – *Salix fragilis* (crack willow): 4" Multi-stem
- POP DEL – *Populus deltoides* (plains cottonwood): 6" Multi-stem
- SAL FRA – *Salix fragilis* (crack willow): 3" Multi-stem
- FRA PEN – *Fraxinus pennsylvanica* (green ash): 3"
- POP DEL – *Populus deltoides* (plains cottonwood): 9"

A total of 7 individual specimen trees (single stem) exist along the eastern side of Vista Parkway adjacent to the western edge of the Site just south of the Parkdale Circle round-about:

- MAL SN – *Malus Spring Snow*' (spring snow crabapple): 3"
- QUE SPP – *Quercus* species (oak species): 2"
- QUE SPP – *Quercus* species (oak species): 2"
- ALM AME – *Ulmus Americana* (American elm): 3"
- AES GLA – *Aesculus glabra* (Ohio buckeye): 1"
- GLE TRI – *Gleditsia tricanthos* (Honeylocust): 2"
- MAL SN – *Malus Spring Snow*' (spring snow crabapple): 3"

A total of 5 individual specimen trees (single stem) exist along the western side of Vista Parkway within the southwestern corner of the site:

- MAL SN – *Malus Spring Snow*' (spring snow crabapple): 2"

- FRA PEN – *Fraxinus pennsylvanica* (green ash): 3"
- FRA PEN – *Fraxinus pennsylvanica* (green ash): 6"
- FRA PEN – *Fraxinus pennsylvanica* (green ash): 4"
- CAT SPE – *Catalpa speciosa* (Catalpa): 2"

**Figure 4**

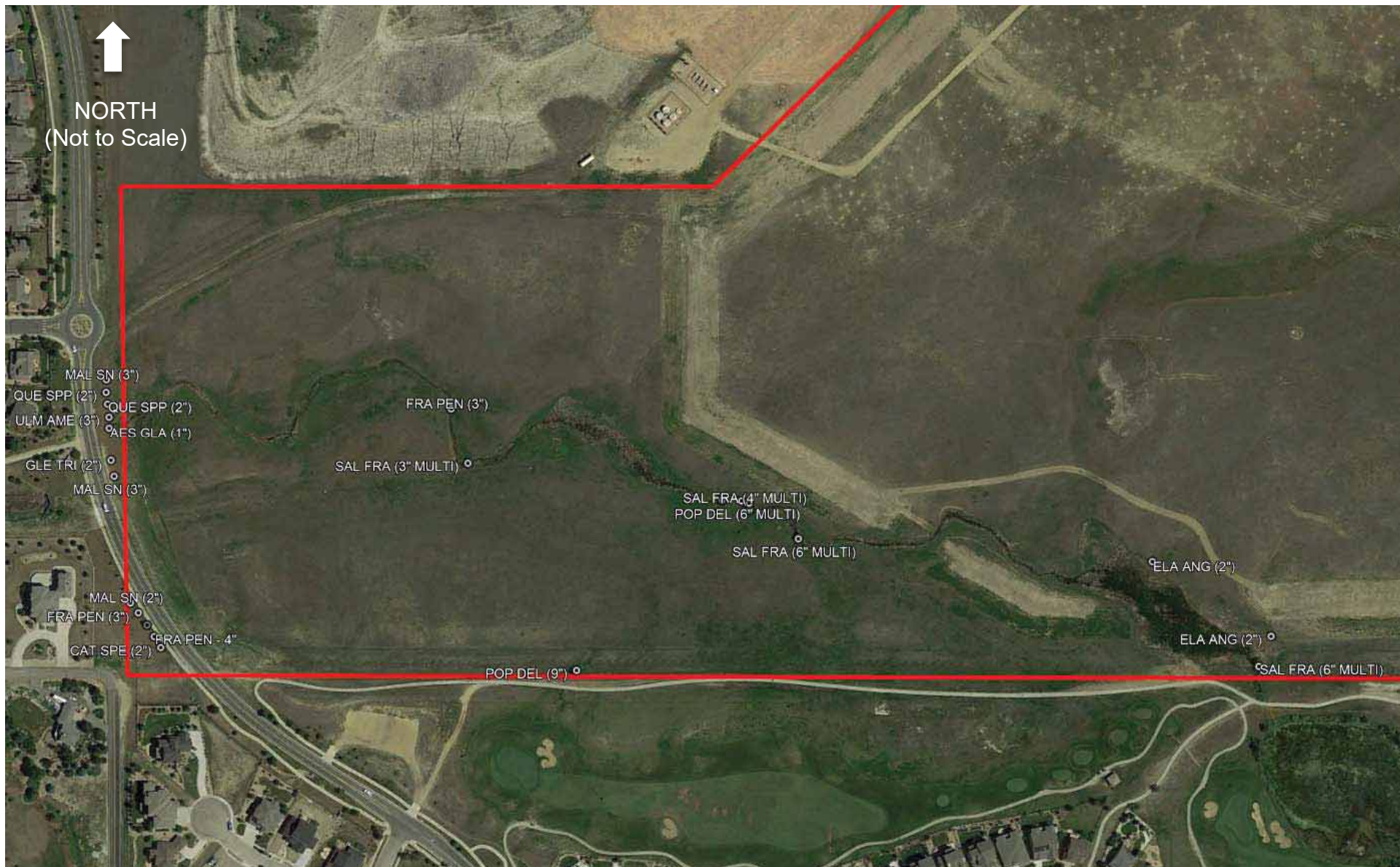
NATIVE & SPECIMEN TREE MAP





SOURCE: Google Earth Aerial Image, 5/31/18





SOURCE: Google Earth Aerial Image, 5/31/18

#### **4.0 FLOODPLAINS, WATERS OF THE US INCLUDING WETLANDS**

An unnamed ephemeral drainage with remnant stock ponds runs east to west along the north edge of the Site, herein referred to as the northern ephemeral drainage. This drainage runs into future Redtail Ranch Filing #2 in a northwesterly direction toward Coal Creek. An intermittent drainage with patches of emergent wetland runs east to west along the southwestern edge of the site beginning in Vista Ridge and exiting under a major culvert under Vista Parkway. This drainage is herein referred to as the southern intermittent drainage. Numerous ephemeral tributaries/upland ravines run into both of these drainages. Please refer to Figure 5, Wetland and Waterbodies Map.

Waters of the United States (WOUS) and wetlands are described in detail in the attached Wetland Report prepared by Alpine Ecological Resources, LLC provided in Appendix A. Ecos agrees with the data provided in this report and therefore it is incorporated herein by reference.

The USACE provided an Approved Jurisdictional Determination for Redtail Ranch (USACE File No. NOW-2015-00393-DEN) on May 11, 2015 whereby the northern ephemeral drainage was deemed non-jurisdictional. The southern intermittent drainage was deemed jurisdictional and subject to regulation under the Clean Water Act (CWA). Please refer to Appendix A. Jurisdictional Determinations (JDs) are legally valid for a period of 5 years. Stratus has requested that the USACE extend the JD for an additional 5 years.

Coal Creek is the only drainage within the vicinity of the Site that includes a FEMA mapped 100-year floodplain. The intermittent and ephemeral drainages on Site are not identified and mapped by FEMA.

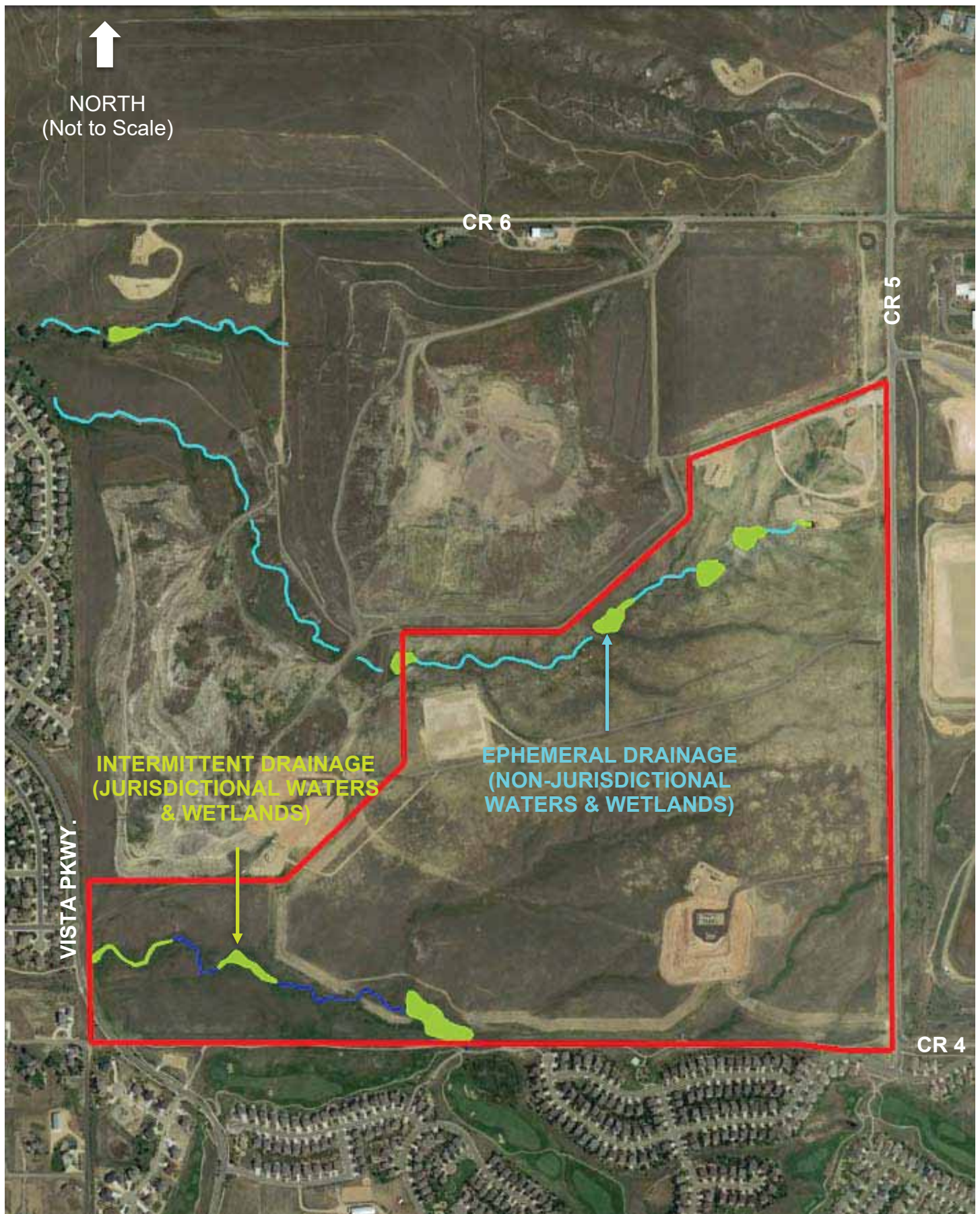
Stratus development plans do not currently propose impacts to any jurisdictional waters or wetlands. If during the course of site design unavoidable impacts are found to be necessary along jurisdictional waters to install roads, trails, or utilities, Stratus will obtain a Section 404 permit.

Stratus will impact non-jurisdictional wetlands and waters in the northern ephemeral drainage to conduct necessary landfill remediation, create stormwater detention/water quality facilities, and enhance open space. This northern ephemeral drainage is of very poor quality, is not jurisdictional, not regulated under the Clean Water Act and therefore no Section 404 permit is required.

**Figure 5**

WETLAND AND WATER BODIES MAP





Source: Alpine Ecological Jurisdictional Delineation, May 2015



## 5.0 STATE AND FEDERAL LISTED SPECIES

A number of species that occur in Weld County are listed as candidate, threatened or endangered by the USFWS (USFWS 2019a) and the CPW (CPW, 2019). Ecos compiled the special status species for the Site in Table 1 below based on the data sources listed above, as well as our onsite assessment. Table 1 includes all species listed by the USFWS Information for Planning on Consultation (IPAC) database provided in Appendix B. The results of the IPAC database search covers all of Weld County. Some species are included which are not expected to occur on the Site. Additional state-listed animal species are included if there is potential for them to be impacted by the Project. Ecos has provided our professional opinion regarding the probability that these species may occur within the Site and their probability of being impacted by the Project.

The likelihood that the Project would impact any federally-listed species is none to very low. Most are not expected occur in the Project area and no downstream impacts to the North Platte, South Platte and Laramie River Basins would occur. There is low to moderate potential for impacts to some State-listed species. However, there are no state-level regulatory protections for these species.

TABLE 1 - STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	Status	Habitat Requirements and Potential Presence	Probability of Impact by Project
<b>FISH</b>			
Pallid sturgeon ( <i>Scaphirhynchus albus</i> )	Federal: Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The Site is not within species range; and the proposed project will not alter or deplete flows to the relevant river basins.
<b>REPTILES AND AMPHIBIANS</b>			

**TABLE 1 - STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT**

Species	Status	Habitat Requirements and Potential Presence	Probability of Impact by Project
Common garter snake ( <i>Thamnophis sirtalis</i> )	State: Special Concern	Occupy most wetland habitats during the summer. Hibernate during the winter in a variety of habitats. Moderate potential to occur along the margins of the unnamed tributary to Coal Creek that flows along the southern edge of the Site.	Moderate. The best summer habitat will not be directly impacted. Lower quality habitat and upland buffer areas will be impacted. Development will increase the residence time of water but could reduce water quality.
<b>BIRDS</b>			
Least tern ( <i>Sternula antillarum</i> )	Federal: Endangered State: Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. Does not occur on Site; and the proposed project will not alter or deplete flows to the relevant river basins.
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	Federal: Threatened State: Threatened	Mature, old-growth forests of white pine, Douglas fir, and ponderosa pine; steep slopes and canyons with rocky cliffs.	None. Suitable, montane habitat is not present on Site.

**TABLE 1 - STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT**

Species	Status	Habitat Requirements and Potential Presence	Probability of Impact by Project
Piping plover ( <i>Charadrius melodus</i> )	Federal: Threatened State: Threatened	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. Does not occur on Site; and the proposed project will not alter or deplete flows to the relevant river basins.
Western burrowing owl ( <i>Athene cunicularia</i> )	State: Threatened	Occurs in grasslands in, or near, prairie dog towns. Typically found farther east in areas with minimal human presence.	Moderate. Numerous prairie dog burrows are present within the Site which provide potential habitat.
Whooping crane ( <i>Grus americana</i> )	Federal: Endangered State: Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. Does not occur on Site; and the proposed project will not alter or deplete flows to the relevant river basins.

**MAMMALS**

**TABLE 1 - STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT**

Species	Status	Habitat Requirements and Potential Presence	Probability of Impact by Project
Black-tailed prairie dog ( <i>Cynomys ludovicianus</i> )	State: Special Concern	Form large colonies or "towns" in shortgrass or mixed prairie. This species occurs on Site.	High. The existing burrows are adjacent to and within the proposed limits of disturbance. Development will eradicate & reduce the options for natural dispersal.
Preble's meadow jumping mouse ( <i>Zapus hudsonius preblei</i> )	Federal: Threatened State: Threatened	Inhabits well-developed riparian habitat with adjacent, relatively undisturbed grassland communities, and a nearby water source. Well-developed riparian habitat includes a dense combination of grasses, forbs and shrubs; a taller shrub and tree canopy may be present. Has been found to regularly use uplands at least as far out as 100 meters beyond the 100-year floodplain.	Very low. The closest potentially occupied habitat is 8 miles southwest of the Site; and the closest USFWS designated critical habitat is 9.5 miles southwest of the Site. Additionally, all USFWS trapping data within a 6-mile radius of the Site indicate "Trapped Not Found", therefore it is not expected to occur.

**TABLE 1 - STATE AND FEDERAL PROTECTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT**

Species	Status	Habitat Requirements and Potential Presence	Probability of Impact by Project
<b>PLANTS</b>			
Colorado butterfly plant ( <i>Oenothera coloradensis</i> )	Federal: Recently Delisted (published 11/5/19 at 84 FR 59570, effective 12/5/19)	Typically occur in flat, sunny areas within the transitional hydrologic zone between wetlands and uplands.	None. Only known from one location in Colorado, therefore not expected to occur on Site. This species was recently delisted under the ESA
Ute ladies'-tresses orchid ( <i>Spiranthes diluvialis</i> )	Federal: Threatened	Primarily occurs along seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels or valleys, and lakeshores. May also occur along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside borrow pits, reservoirs, and other human-modified wetlands. Prefers open habitats with generally low vegetation.	None. Suitable habitat does not occur on Site.
Western prairie fringed orchid ( <i>Platanthera praeclara</i> )	Federal: Threatened	Occurs in tallgrass prairie in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and Oklahoma. Upstream depletions to the Platte River system in Colorado and Wyoming may affect the species in Nebraska. Site is not within species range.	None. Site is not within species range; and the proposed project will not alter or deplete flows to the relevant river basins.



## **6.0 RAPTORS AND MIGRATORY BIRDS**

Raptors and most birds are protected by the Colorado Nongame Wildlife Regulations, as well as by the federal Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). The COGCC GIS database did not show any active raptor nests within one mile of the Site.

Any tree, shrub, patch of shrubs, undisturbed grassland, or prairie dog colony on or adjacent to the site can provide potential nesting habitat for resident or migratory raptors or songbirds. Riparian and wetland habitat along channels and occasional trees therein can provide valuable nesting habitat for resident and migrating songbirds and waterfowl.

Suitable habitat for ground nesting birds is present on Site in undisturbed grassland areas. Prairie dog colonies on Site that cover approximately 152.75 acres of the Site (52%) provide suitable habitat for burrowing owl and abundant prey for transient eagles and raptors. Great horned owl were observed perching in cottonwood trees at the downstream end of the northern drainage. However, no raptor or songbird nests were observed on the Site during the inspection.

The development plan being prepared by Stratus will preserve existing trees and a grassland buffer along the main threads of the northern and southern drainages. In addition, native tree and shrub planting and grassland restoration and management in proposed open space will improve the health of potential habitat for raptors and songbirds. Increased runoff captured and detained in stormwater detention ponds and released downstream will improve the vitality of riparian habitat along the channels on site as well as downstream areas.

Please refer to Figure 4, Native and Specimen Tree Map for locations of trees that may provide potential habitat for raptors and migratory birds.

## **7.0 SIGNIFICANT WILDLIFE HABITAT AND CORRIDORS**

The Town of Erie Development and Design Standards state that applicants should give priority to the preservation of significant natural features including wetlands, natural drainage ways, bodies of water, significant wildlife corridors and habitat, and sites with federally- or state-recognized endangered species.

Weedy and disturbed, midgrass prairie occupied by prairie dog is potential habitat for fox, coyotes, and burrowing owl when they migrate and temporarily reside in Colorado (roughly between May 1st and October 31<sup>st</sup>). Prairie dog colonies are also a source of abundant prey for raptors. Undisturbed grassland habitat provides habitat for ground nesting birds such as meadow lark and ferruginous hawk. The natural ephemeral and intermittent drainages running across the site provide corridors in which numerous mammals such as coyote, fox, rodents, deer and other large mammals can forage and move through the landscape and connect to other corridors such as the Coal Creek corridor to the west that allow animals to connect to the regional landscape. Riparian and wetland habitat provide good habitat for many species of wildlife and provide numerous functions, values and benefits to Erie residents.

The development plan being prepared by Stratus will preserve the lower part of the southern intermittent drainage and adjacent grassland buffer for open space and trail corridors. The northern ephemeral drainage will be improved for stormwater detention and conveyance facilities, open space and trail corridors. Some prairie dog habitat will be preserved in proposed open space adjacent to these corridors, however the majority of it will be eradicated and covered by development.

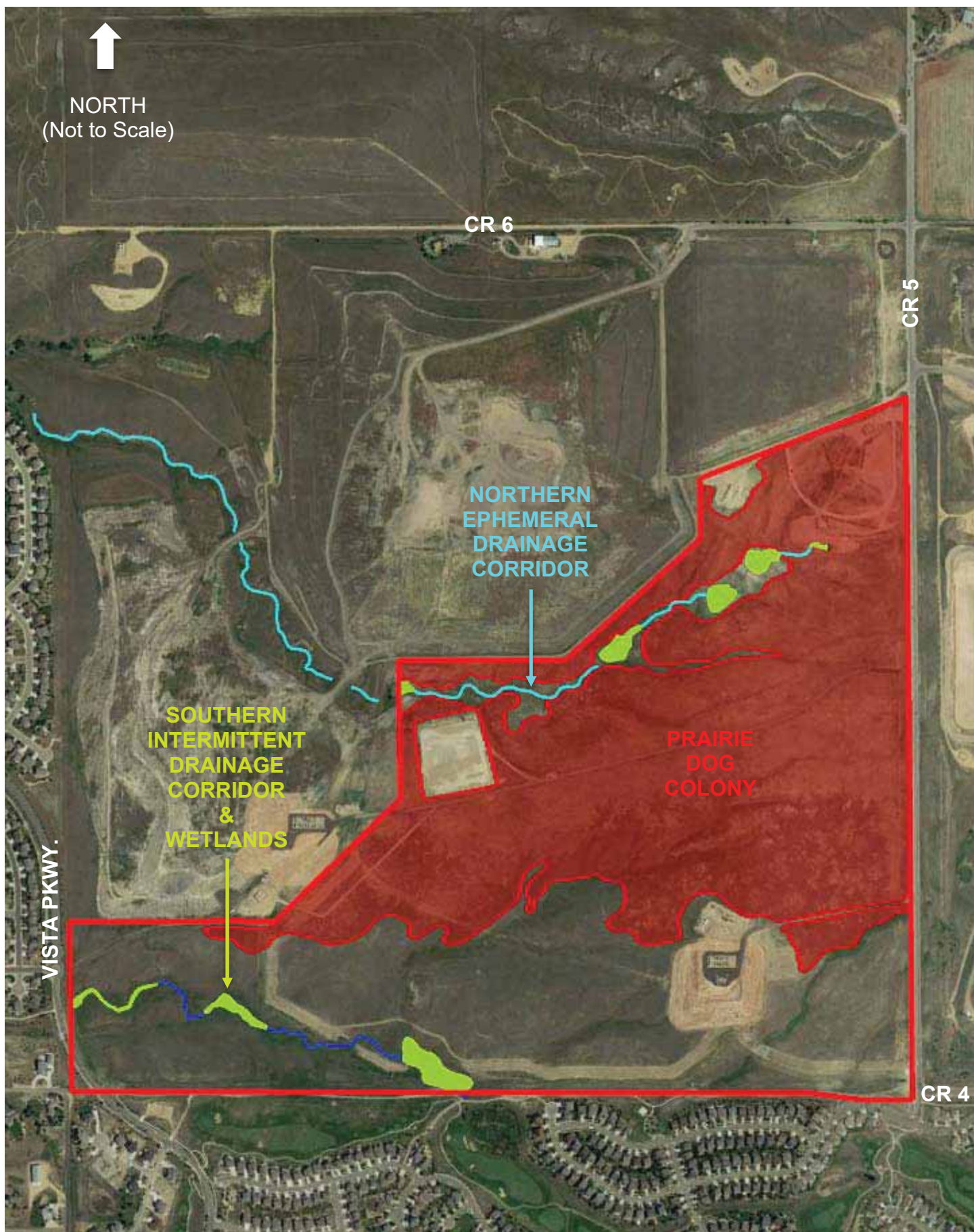
Please refer to Figure 6, Significant Wildlife Habitat and Corridors Map that illustrate the location and extent of prairie dog colonies, wetlands, natural drainage ways, and bodies of water that may be considered significant wildlife habitat and corridors.

## **8.0 ARCHAEOLOGICAL & HISTORICAL & RESOURCES**

Ecos contacted the State of Colorado Office of Archaeology and Historic Preservation (OAHP) to conduct a file search of the Colorado Inventory of Cultural Resources. The OAHP provided a letter stating that 3 sites and 4 surveys were located and performed in Section 29, the section where the Site is located. Refer to Appendix D, Office of Archaeology and Historic Preservation (OAHP) Letter. All sites listed, including a segment of the Burlington Northern Railroad are not officially eligible for preservation. No mapping of any listed sites was provided by the OAHP.

**Figure 6**

SIGNIFICANT WILDLIFE HABITAT & CORRIDORS MAP



SOURCE: Google Earth Aerial Image, 5/31/18



## 9.0 REGULATORY RECOMMENDATIONS

### 9.1 Clean Water Act

Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into jurisdictional waters of the U.S. (including wetland habitat) protected by the Act without a valid permit. The Alpine-Eco Wetland report and Approved Jurisdictional Determination provided by the USACE identified jurisdictional and non-jurisdictional Waters of the US, including wetlands on the Site. If the jurisdictional areas were to be impacted, then a Section 404 permit would be required, and the developer must coordinate with the U.S. Army Corps of Engineers prior to implementation of said impacts.

#### Clarification of Jurisdictional vs. Non-Jurisdictional Waters of the U.S.

In 2008 the USACE and U.S. Environmental Protection Agency (EPA) prepared a guidance memorandum, *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States*. This memorandum provides guidance to EPA regions and USACE districts implementing the Supreme Court's decision in the consolidated Rapanos and Carabell cases which address the jurisdiction over waters of the United States under the Clean Water Act. The key points of the memorandum, which apply to the Jurisdictional Determination made by the USACE are summarized below:

The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and
- Wetlands that directly abut such tributaries.

The agencies generally will not assert jurisdiction over the following features:

- Ephemeral channels, swales or erosional features (e.g., upland ravines, gullies, small washes characterized by low volume, infrequent, or short duration flow); and
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The guidance above was memorialized in 2015 via the Clean Water Rule issued by the Obama Administration. However, the Trump Administration has reviewed the 2015 Clean Water Rule and after December 23, 2019, has decided to implement pre-2015 guidance under a revised Clean Water Rule. The northern ephemeral drainage with man-made stock ponds and man-induced wetlands in the landfill cap area would still be considered non-jurisdictional. The southern, intermittent drainage proposed to be preserved in open space will likely still be jurisdictional and require a 404 permit if any impacts were proposed.

### 9.2 Endangered Species Act

The Site is not located within any officially designated occupied or critical habitat for federally designated threatened or endangered species, including the Preble's meadow jumping mouse; nor are any federally-listed species expected to occur on Site. However, if a Section 404 permit is required then the USACE must comply with the Endangered



Species Act. This would likely be limited to including a written summary of federally-listed species, similar to the information summarized in Table 1 above.

### **9.3 Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act**

There is good habitat for ground nesting birds, several small trees along the north and south drainages that could provide nesting and cavity habitat; and potential for burrowing owls to nest within prairie dog colonies. Impacts to native birds, including their eggs, are prohibited by the MBTA and BGEPA. In Colorado, most species of birds nest between April and August and a 50 to 100-foot buffer is usually sufficient to prevent nest abandonment. Raptors may nest much earlier and have larger CPW recommended buffers to avoid impacting nests. While no raptor nests were observed on the Site, it is possible that they could build nests immediately prior to site construction. Burrowing owl nesting restrictions begin in mid-March and have a CPW recommended buffer zone of 150 feet, as well as a recommended series of three surveys prior to construction, prairie dog eradication, or other disturbance. Please note the owls are protected under the MBTA and as such the CPW recommendations are warranted and should be implemented as necessary. If possible, initial Site clearing and grubbing should be completed between September and January, which is outside of the nesting season for all species except eagles. If construction would occur in any vegetated areas between April and August, vegetation should be mowed beginning in April and kept below six inches in height to keep birds from nesting. Ecos recommends a nesting bird inventory, including a burrowing owl survey 1 to 2 weeks prior to construction to identify any new nests or presence of burrowing owl within the Site or within the CPW recommended buffers of the Site.

## 10.0 REFERENCES

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**Appendix A**  
**Alpine Ecological Resources Wetland Report**  
**&**  
**Approved Jurisdictional Determination**

# Wetland Delineation Report

330-Acre Property  
Weld County, Colorado

*Prepared for: Cardno ATC  
October 23, 2014*



Andy Herb, Ecologist/Owner  
1127 Adams Street  
Denver, CO 80206

# Weld County 330 Acres Wetland Delineation Report

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# Weld County 330 Acres Wetland Delineation Report

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## 1.0 Introduction

### 1.1 Purpose of This Report

The purpose of this report is to formally document the wetlands and other water features present in the study area. The primary reason for this documentation is to assist with project planning and design, which is intended to maximize avoidance of these features wherever practicable. The wetland and other water features described in this report include all those present, not just those that may be considered jurisdictional under Section 404 of the Clean Water Act.

### 1.2 Project Description

The current plan is to develop the property in a way that integrates residential areas within an extensive open space, parks and trails system, and a network of public streets. The proposed uses include single-family detached front-loaded homes of varying lot sizes in addition to single-family attached front-loaded homes. The current plan includes generous open space buffers to the north and east where landfills exist, and an extension of County Road 4 through the site, designed as a collector to improve the road system. The proposed density is 2.2 dwelling units per acre, but they will be clustered to preserve more than a third of the site as open space or developed park land.

# Weld County 330 Acres

## Wetland Delineation Report

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### 2.0 Site Description

The 330-acre study area is in Weld County, approximately 2 miles southeast of the town of Erie, Colorado (**Figure 1**). It is immediately northwest of the intersection of County Road (CR) 4 and CR 5. It can be located on the United States Geological Survey (USGS) 7.5-minute series Erie, Colorado quadrangle and has the following coordinates (datum is NAD 83):

- Township 1 North, Range 68 W, Section 29
- Universal Transversal Mercator (UTM): 13 497789E, 4429915N
- Latitude/Longitude: 40.0194°N, 105.0259°W

The study area is approximately 4,600 feet above mean sea level and is flanked by residential development and a golf course on the south, residential development on the west, and landfills on the north and east. The site consists of rolling hills dominated by disturbed grasslands. The only current land use observed is oil and gas production; several wells are present in and adjacent to the study area. There are two unnamed tributaries to Coal Creek flowing through the site and the hydrologic unit code (HUC) is 10190005 (St. Vrain).

The site is located near the interface of the Front Range Fans and the Flat to Rolling Plains portions of the High Plains Ecoregion (EPA 2014). It is more typical of the Flat to Rolling Plains which is characterized by flat to rolling plains with intermittent streams situated between 3,600 and 5,700 feet above mean sea level. Typical vegetation for this part of the ecoregion is shortgrass prairie with riparian areas dominated by cottonwoods (*Populus* spp.), shrubs, and herbaceous vegetation. Typical land use is mostly dryland and irrigated cropland, grazing, oil and gas production, and some grassland.

The site is also in the Western Great Plains Range and Irrigated Land Resource Region (NRCS 2006). This Land Resource Region is delineated by the western edge of the Great Plains, abutting the foothills of the Rocky Mountains. The primary resource concerns in this region are overgrazing, wind and water erosion, invasive vegetation, and surface water quality.

# Weld County 330 Acres Wetland Delineation Report

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## 3.0 Methods

### 3.1 Literature Review

Prior to conducting the field survey, numerous sources of data were reviewed to gain a general understanding of the ecology of the study area. These sources included National Wetlands Inventory (NWI) maps, aerial photographs, topographic maps, soil survey, local and federal regulatory agency websites, and other relevant data.

### 3.2 Field Data Collection

Andy Herb (senior ecologist) surveyed the entire study area on September 12, 13, and 16, 2014 to identify wetlands and other water features. These features were delineated within the defined study area using procedures outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (Corps 2010). This involved a detailed examination of plants, soils, and hydrologic indicators present.

Generally, the detailed examination of each wetland involves the collection of vegetation, soil, and hydrology data at paired data points. These paired points include one point within the suspected wetland and one point in the adjacent upland. However, if numerous wetlands are in close proximity and surrounded by the same or similar upland plant community, then upland data points of nearby sites are often utilized, rather than creating a new upland data point for each wetland area.

All plants considered dominant in wetlands, as well as other commonly observed species, were identified and are listed in this report. During field examinations, a list of dominant plants was documented for each potential wetland area and was compared to the *National Wetland Plant List* (NWPL) (Corps 2014) to determine the “wetland indicator status” of each species. Generally, if at least 50 percent of those species had an indicator status of facultative (FAC) or wetter, the potential wetland area would satisfy the US Army Corps of Engineers (Corps) criterion for wetland vegetation. The botanical nomenclature presented in this report follows the NWPL. If a species is not listed in the NWPL, then the nomenclature follows the PLANTS Database (NRCS 2014).

Soils were examined at various locations throughout the study area to identify the presence of hydric soil indicators. If indicators were found, multiple pits may have been dug along the gradient to identify the extent of hydric soils.

While recording plant species and identifying soil characteristics, potential wetlands within the study area were assessed for evidence and potential sources of wetland hydrology. This evidence included primary indicators such as the presence of surface water and saturation, and secondary indicators including surface soil cracks and drainage patterns.

Most surrounding uplands were not formally sampled or recorded on data forms, and were generally examined while attempting to identify wetland areas. Those uplands examined in more detail or recorded on data forms typically exhibited evidence of at least one wetland indicator (hydrophytic vegetation, hydric soils, or wetland hydrology). Data collected for all areas investigated and deemed non-wetland are not necessarily included in this report.

# Weld County 330 Acres

## Wetland Delineation Report

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### 3.3 Mapping

After determining the approximate extent of the wetlands based on the presence of hydric soils, hydrophytic vegetation, and wetland hydrology, the wetland boundary was flagged and recorded using survey equipment. This equipment generally provides accuracy to within one or two centimeters.

### 3.4 Wetland Classification

Wetlands in the study area were classified in accordance with the *Hydrogeomorphic Method* (HGM) (Brinson 1993) and the *Classification of Wetlands and Deep Water Habitats of the United States* (Cowardin, et al. 1979).

There are two HGM classifications applicable to the wetlands in the study area, including riverine and depressional. Riverine wetlands are those that are associated with a stream channel, floodplain, or terrace and primarily supported by overbank flows or shallow subsurface flow associated with the channel. Depressional wetlands are those that are situated in topographic depressions that do not contain permanent water deeper than 6.6 feet.

The Cowardin classification scheme includes only one wetland type that applies to wetlands in the study area: palustrine emergent (PEM). PEM wetlands are those dominated by herbaceous vegetation (grasses, grass-like, and forbs).

### 3.5 Wetland Functional Assessment

Wetland functions were generally assessed using the concepts presented in the *Functional Assessment of Colorado Wetlands (FACWet) Method* (Johnson, et al. 2013), although a complete assessment was not conducted. FACWet is a rapid assessment method that provides a reliable and consistent approach to rating the condition of wetlands relative to their natural potential by focusing on the presence of stressors. Stressors are human-caused changes to a wetland or adjacent lands that alter a wetland's ability to perform ecological functions and processes.

### 3.6 Jurisdictional Status

The jurisdictional status of wetlands and other water features is generally based on the *US Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (Corps 2007) and other Corps documents (Corps 2008). In order for an aquatic feature to be considered a "water of the US" and jurisdictional under Section 404 of the Clean Water Act, it must be at least one of the following:

- A traditional navigable water (TNW)
- A wetland adjacent to a TNW
- A relatively permanent water (RPW), including tributaries that typically flow year-round or have a continuous flow at least seasonally, typically three months
- A wetland that directly abuts a RPW
- A wetland adjacent to a RPW, but only if it can be shown that the feature has a "significant nexus" with a TNW

# Weld County 330 Acres

## Wetland Delineation Report

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- A non-RPW or wetland adjacent to a non-RPW, if the feature has a “significant nexus” with a TNW

The significant nexus evaluation includes an assessment of the flow characteristics and functions of the feature to see if it has “more than an insubstantial or speculative effect on the chemical, physical, or biological integrity of TNWs (Corps 2007).” If it does, then it is considered jurisdictional.



# Weld County 330 Acres Wetland Delineation Report

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## 4.0 Wetlands

The study area contains four individual wetland areas encompassing a total of 2.85 acres (Wetlands A through D). All of these wetlands are associated with unnamed tributaries to Coal Creek, which is located approximately 0.5 mile west of the study area. The wetlands are listed in **Table 1**, shown on **Figure 2**, and briefly described in the following sections. Wetland Determination Data Forms for all the wetlands are in **Appendix A** and photos are in **Appendix B**.

Wetland A is expected to be considered jurisdictional under Section 404 of the Clean Water Act as a result of connections to Coal Creek, which is likely considered a RPW. Wetlands B, C, and D appear to be hydrologically isolated, with no connection to or significant nexus with Coal Creek, or other RPWs or TNWs.

**Table 1: Wetlands in the Study Area**

Wetland	Cowardin Classification	HGM Classification	Area (acres)	Notes
<b>South Unnamed Tributary</b>				
Wetland A	PEM	Riverine	2.41	Wetlands in and along a small channel
<b>North Unnamed Tributary</b>				
Wetland B	PEM	Depressional	0.30	Wetland fringe around old pond with non-wetland spring and channel
Wetland C	PEM	Depressional	0.13	Wetland fringe around old pond
Wetland D	PEM	Depressional	<0.01	Small wetland below dam of old pond
		<b>Total</b>	<b>2.85</b>	

### 4.1 General Description

**South Unnamed Tributary Wetlands:** The South Unnamed Tributary contains one wetland (Wetland A). This wetland runs through the southwest portion of the study area and carries water from east to west. It is the largest wetland in the study area and generally consists of PEM fringe along both sides of a narrow and shallow channel (**Photos 1—9 in Appendix B**). In some areas, especially in the upper portion of the tributary, the wetlands fill the entire channel (from bank to bank). In other areas, especially in the middle reach, the fringe is discontinuous and very narrow (1 to 3 feet wide) as a result of channel degradation (down-cutting). The soils along the tributary are generally very thick clay, which was evident in some of the exposed banks.

Adjacent areas are generally very weedy and previously disturbed, presumably by historic agriculture or grazing activities. There is a golf course and dense residential development along the tributary immediately upstream of the study area, including a man-made pond.

# Weld County 330 Acres Wetland Delineation Report

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North Unnamed Tributary Wetlands: The North Unnamed Tributary contains three wetlands (Wetlands B, C and D) and all are associated with man-made ponds (see *Section 5.0 Other Water Features*). The drainage runs through the north portion of the study area and carries water from east to west. There is a spring upstream of the ponds that appears to discharge water seasonally (**Photo 16 in Appendix B**). Wetlands B and C consist of PEM wetland fringes around open water in the ponds, and Wetland D is a very small PEM wetland at the base of the lowest of the three dams (**Photos 10—15 in Appendix B**). There is a fourth old pond at the downstream end of the tributary, but it doesn't contain water at enough frequency or duration to be considered a wetland or other water feature.

Adjacent areas are similar to that of the South Unnamed Tributary and are generally very weedy and previously disturbed, presumably by historic agriculture or grazing activities. This tributary has a landfill both upstream and downstream of the study area, leaving this reach disconnected from the rest of the tributary.

## 4.2 Vegetation

All of the wetlands in the study area are classified as PEM. A list of the most common plant species observed in and near the wetlands is provided in **Table 2**. A brief discussion of the vegetation in the different wetland areas follows the table. More information can be found on the data forms in **Appendix A**.

# Weld County 330 Acres Wetland Delineation Report

**Table 2: Common Plants Found In and Near Wetlands in the Study Area**

Common Name	Scientific Name <sup>1</sup>	Indicator Status <sup>2</sup>
<b>Woody Plants</b>		
Russian olive	<i>Elaeagnus angustifolia</i>	FACU
Rubber rabbitbrush	<i>Ericameria nauseosus</i>	UPL
Green ash	<i>Fraxinus pennsylvanica</i>	FAC
Plains cottonwood	<i>Populus deltoides</i>	FAC
Golden currant	<i>Ribes aureum</i>	FACU
Peachleaf willow	<i>Salix amygdaloides</i>	FACW
Narrowleaf willow	<i>Salix exigua</i>	OBL
Five stamen tamarisk	<i>Tamarix chinensis</i>	FACW
<b>Herbaceous Plants</b>		
Crested wheatgrass	<i>Agropyron cristatum</i>	UPL
Showy milkweed	<i>Asclepias speciosa</i>	FAC
Halberdleaf orache	<i>Atriplex patula</i>	FACW
Mexican fireweed	<i>Bassia scoparia</i>	FACU
Devil's pitchfork	<i>Bidens frondosa</i>	FACW
Smooth brome	<i>Bromus inermis</i>	UPL
Cheatgrass	<i>Bromus tectorum</i>	UPL
Clustered field sedge	<i>Carex praegracilis</i>	FACW
Canadian thistle	<i>Cirsium arvense</i>	FACU
Field bindweed	<i>Convolvulus arvensis</i>	UPL
Canadian horseweed	<i>Conyza canadensis</i>	UPL
Golden tickseed	<i>Coreopsis tinctoria</i>	FAC
Large barnyard grass	<i>Echinochloa crus-galli</i>	FAC
Common spikerush	<i>Eleocharis palustris</i>	OBL
Slender wildrye	<i>Elymus trachycaulus</i>	FACU
Creeping wildrye	<i>Elymus repens</i>	FACU
Fringed willowherb	<i>Epilobium ciliatum</i>	FACW
Velvetweed	<i>Gaura parviflora</i>	UPL
American licorice	<i>Glycyrrhiza lepidota</i>	FACU
Common sunflower	<i>Helianthus annuus</i>	FACU
Foxtail barley	<i>Hordeum jubatum</i>	FACW
Deer root	<i>Iva axillaris</i>	FAC
Baltic rush	<i>Juncus balticus</i>	FACW
Lesser poverty rush	<i>Juncus tenuis</i>	FAC
Prickly lettuce	<i>Lactuca serriola</i>	FAC
Yellow sweetclover	<i>Melilotus officinalis</i>	FACU
Hairy evening primrose	<i>Oenothera villosa</i>	FACU
Common panic grass	<i>Panicum capillare</i>	FAC
Wand panic grass	<i>Panicum virgatum</i>	FAC
Western wheatgrass	<i>Pascopyrum smithii</i>	FACU
Dockleaf smartweed	<i>Persicaria lapathifolia</i>	OBL

# Weld County 330 Acres Wetland Delineation Report

Common Name	Scientific Name <sup>1</sup>	Indicator Status <sup>2</sup>
Reed canarygrass	<i>Phalaris arundinacea</i>	FACW
Great plantain	<i>Plantago major</i>	FAC
Kentucky bluegrass	<i>Poa pratensis</i>	FACU
Yard knotweed	<i>Polygonum aviculare</i>	FACU
Annual rabbitfoot grass	<i>Polypogon monspeliensis</i>	FACW
Curly dock	<i>Rumex crispus</i>	FAC
Saltmarsh club rush	<i>Schoenoplectus maritimus</i>	OBL
Softstem clubrush	<i>Schoenoplectus tabernaemontani</i>	OBL
Cutleaf nightshade	<i>Solanum triflorum</i>	UPL
Tall goldenrod	<i>Solidago altissima</i>	FACU
Spinyleaf sowthistle	<i>Sonchus asper</i>	FAC
White heath American aster	<i>Symphotrichum ericoides</i>	FACU
Common dandelion	<i>Taraxacum officinale</i>	FACU
Field pennycress	<i>Thlaspi arvense</i>	FACU
Narrowleaf cattail	<i>Typha angustifolia</i>	OBL
Broadleaf cattail	<i>Typha latifolia</i>	OBL
Carpet vervain	<i>Verbena bracteata</i>	FACU
Blue water speedwell	<i>Veronica anagallis-aquatica</i>	OBL
Rough cocklebur	<i>Xanthium strumarium</i>	FAC

<sup>1</sup> Nomenclature presented in this table follows the National Wetland Plant List (Corps 2014); if the species is not listed then nomenclature follows the PLANTS database (NRCS 2014).

<sup>2</sup> Indicator status is from the National Wetland Plant List (Corps 2014): OBL = obligate wetland species, >99% probability of occurring in a wetland; FACW = facultative wetland species, 67-99% probability of occurring in a wetland; FAC = facultative species, 34-66% probability of occurring in a wetland; FACU = facultative upland species, <33% probability of occurring in a wetland; and UPL = <1% probability of occurring in a wetland. If the species is not included in the National Wetland Plant List then the indicator status is assumed to be UPL.

**South Unnamed Tributary Wetlands:** By far the most dominant plant in Wetland A is cattail (*Typha* spp.). The other most common herbaceous plants found in the wetlands are softstem clubrush, curly dock, dockleaf smartweed, and common spikerush. There is one large pocket of narrowleaf willow at the downstream end of the tributary but otherwise, woody vegetation is very widely scattered and consists of a few young plains cottonwood and peachleaf willow.

The wetland boundary is very distinct in most areas as a result of abrupt changes in topography. It generally consists of a transition from drier wetland plants like dockleaf smartweed, curly dock, and halberdleaf orache to mesic (but upland) species like Canadian thistle, Kentucky bluegrass, creeping wildrye, yellow sweetclover, and slender wildrye.

**North Unnamed Tributary Wetlands:** Similar to Wetland A, the wetlands in the North Unnamed Tributary are almost exclusively dominated by cattail and the wetland boundary is very distinct in most areas as a result of abrupt changes in topography. The boundary generally consists of a transition from dense cattail to sparse cattail with drier wetland plants like peachleaf willow and plains cottonwood saplings, curly dock, and deer root.

# Weld County 330 Acres

## Wetland Delineation Report

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### 4.3 Hydrology

South Unnamed Tributary Wetlands: The wetland hydrology for Wetland A is provided by surface flows in the tributary and capillary action associated with shallow groundwater. Surface flows have likely increased in recent years as the watershed has become more developed (mainly residential). These flows are likely seasonal or related to precipitation events, and probably not perennial. Flows were high during the field survey as a result of recent rains. Evidence of very high flows were observed, including rafted debris as much as 3 feet above the low flow channel elevation. These flows were likely present in September 2013 when widespread flooding occurred between Denver and Fort Collins.

Wetland hydrology indicators observed in Wetland A include: Surface Water (A1), High Water Table (A2), Saturation (A3), Drift Deposits (B3), and Geomorphic Position (D2). Wetland A is a tributary to Coal Creek, which is a perennial tributary to Boulder Creek and an RPW.

North Unnamed Tributary Wetlands: The wetland hydrology for Wetlands B, C, and D is provided by surface flows in the tributary, including discharge from the seasonal spring at the upper end of Wetland B and capillary action associated with shallow groundwater. Flows in this tributary (and probably the spring) have likely been altered by the presence of the landfill in the upper reaches of the watershed. Flows appear to be seasonal or related to precipitation events, and not perennial. Although no flows were observed during the field visit, each of the ponds associated with the wetlands contained water 0.5 to 2+ feet deep, and standing water was observed in these areas on the 2013 aerial photo.

Wetland hydrology indicators observed in the North Unnamed Tributary Wetlands include: Surface Water (A1), Saturation (A3), Surface Soil Cracks (B6), Salt Crust (B11), Hydrogen Sulfide Odor (C1), Crayfish Burrows (C8), Inundation Visible on Aerial Imagery (C9), and Geomorphic Position (D2). Wetlands B, C, and D appear to be hydrologically isolated as a result of the landfill downstream of the study area.

### 4.4 Soils

According to the Web Soil Survey (NRCS 2014a), the most common mapped soils in the study area are (in descending order): Midway-Shingle Complex, Ulm clay loam, Colombo clay loam, Renohill clay loam, and Wiley-Colby Complex. None of these soils or their minor components are listed as hydric.

South Unnamed Tributary Wetlands: The soils in the vicinity of the South Unnamed Tributary are all mapped as Colombo clay loam (NRCS 2014a). This soil is found on floodplains and terraces, and is derived from stratified calcareous alluvium. It is generally well-drained and has a normal depth to water table of more than 80 inches. The typical profile includes clay loam to 14 inches; stratified loam and clay loam between 14 and 21 inches; and stratified sand, loam, and clay loam between 21 and 60 inches.

Soil pits excavated in and near Wetland A (SP-A1, A2, and A3) generally confirmed the mapped soil type, revealing silty clay to a depth of about 18 inches. The hydric soil indicator observed in the wetland soil pit was Depleted Matrix (F3).



# Weld County 330 Acres

## Wetland Delineation Report

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North Unnamed Tributary Wetlands: The soils in the vicinity of the North Unnamed Tributary are part of the Midway-Shingle Complex (NRCS 2014a). The complex includes 50 percent Midway and similar soils, 35 percent Shingle and similar soils, and 15 percent other minor components. Both Midway and Shingle soils are found on ridges and hills, and are derived from calcareous residuum weathered from shale. Both are well-drained and have a normal depth to water table of more than 80 inches. The typical profile of Midway is clay to a depth of 13 inches and weathered bedrock between 13 and 17 inches. Shingle has a typical profile of loam to 6 inches, clay loam between 6 and 18 inches, and unweathered bedrock from 18 to 22 inches.

Soil pits excavated in and near Wetland B (SP-B1 and B2) generally confirmed the mapped soil type, revealing silty clay to a depth of about 18 inches. The hydric soil indicators observed in the wetland soil pit were Hydrogen Sulfide (A4) and Depleted Matrix (F3).

### **4.5 Wetland Functions**

Based on the concepts presented in the FACWet Method (Johnson, et al. 2013), the primary functions provided by the wetlands in the study area are support of wildlife habitat and sediment retention. These functions are a result of the wetlands generally having a relatively dense vegetation community along a channel, surrounded by relatively undeveloped lands. The most common stressors to the wetlands include presence of development in the watershed; severe alteration of the water source and water distribution associated with nearby development (including the golf course, residential areas, and landfills) and the multiple dams; channel incision/entrenchment; and overall soil disturbances (dams, excavations, etc.).

A complete assessment of the wetlands using FACWet will be required prior to permitting if wetland impacts exceed 0.5 acre or an Individual Section 404 permit is required.

# Weld County 330 Acres Wetland Delineation Report

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## 5.0 Other Water Features

There are five other water features in the study area, including one channel associated with the South Unnamed Tributary, and three ponds and a channel associated with the North Unnamed Tributary. A summary of these features is provided in **Table 3** and they are shown on **Figure 2**.

The only other water feature expected to be jurisdictional under Section 404 of the Clean Water Act is the channel of the South Unnamed Tributary, since it is connected to Coal Creek which is likely a RPW. The other features are hydrologically isolated as a result of the landfill.

**Table 3: Other Water Features in the Study Area**

Feature	Area (acres)	Length (feet)	Notes
South Unnamed Tributary	-	3,066	Main channel
North Unnamed Tributary	-	320	Channel from seasonal spring to Pond B
Pond B	0.16	-	Pond associated with Wetland B
Pond C	0.34	-	Pond associated with Wetland C
Pond D	0.53	-	Pond associated with Wetland D
<b>Total</b>	<b>1.03</b>	<b>3,386</b>	

South Unnamed Tributary Water Features: The only other water feature associated with the South Unnamed Tributary is the channel of the tributary itself (**Photos 2—5, and 9 in Appendix B**). It appears to be intermittent or ephemeral. The channel averages approximately 3 feet wide in most areas and generally has a clay/silt bottom. The upper reach of the channel is relatively flat and shallow, with the channel banks less than 2 feet tall. The middle and lower reaches are generally much more incised, with bank heights from 2 to 4 feet. Wetlands (Wetland A) are present along most of the channel length, except for parts of the middle reach where it is the most incised. The channel enters the study area through a culvert from the golf course, carries flows east to west, and flows out of the study area through large box culverts to its confluence with Coal Creek approximately 0.5 mile to the west.

North Unnamed Tributary Water Features: There are four other water features present in the North Unnamed Tributary, including three ponds and one channel below the seasonal spring (**Photos 10—17 in Appendix B**). All of the ponds (Ponds B, C, and D) are associated with the corresponding wetlands and appear to be hydrologically isolated as a result of the landfill downstream of the study area. They are all man-made and vary in depth. Depth of water during the field visit varied from 6 inches to approximately 3 feet. The ponds appear to be intermittent or ephemeral, and likely only fill with water seasonally or after major precipitation events. Ponds B and C appear to

# Weld County 330 Acres

## Wetland Delineation Report

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be more regularly wet than Pond D. This is likely because they capture the surface flows first and only those flows big enough to spill out of Pond C make it to Pond D.

The channel in this tributary connects the seasonal spring to Pond B and is intermittent or ephemeral. There are substantial salt deposits present at the spring, along the flatter parts of the channel, and in Pond B (**Photos 16 and 17 in Appendix B**), indicating the evaporation of standing water. The channel has a clay bottom and is very narrow, with an average width of around 2 feet. It flows from east to west and terminates in Pond B.

There is a fourth old pond at the downstream end of the North Unnamed Tributary, but it does not hold water at a frequency or duration enough to be considered a water feature and has not been included.

# Weld County 330 Acres

## Wetland Delineation Report

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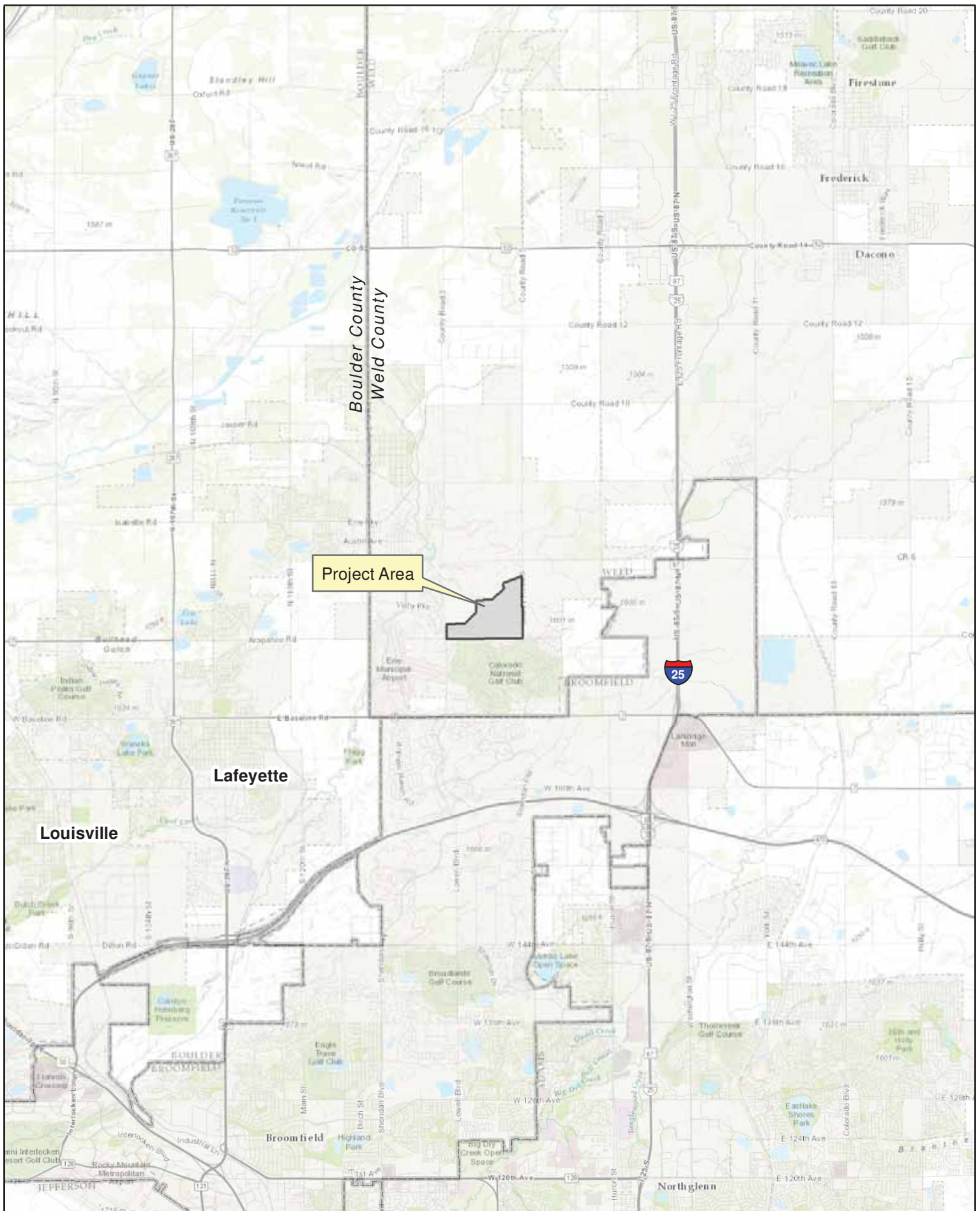
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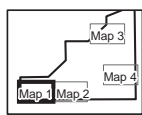
Weld County 330 Acres

Figure 1  
Location Map

10/09/2014







- Legend**
- % Photo Point
  - Sample Point
  - Other Water
  - Wetland

0 50 100 200 300 400 Feet

1 in = 100 ft

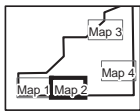


Weld County 330 Acres

Figure 2  
Wetlands  
Map 1 of 4

10/14/2014





- Legend**
- % Photo Point
  - ⊗ Sample Point
  - Other Water
  - Wetland



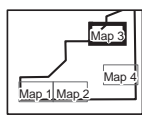
1 in = 100 ft



Weld County 330 Acres

Figure 2  
Wetlands  
Map 2 of 4

10/14/2014



**Legend**  
 % Photo Point  
 ○ Sample Point  
 Blue Other Water  
 Green Wetland

0 50 100 200 300 400 Feet

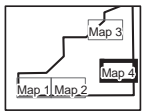
1 in = 100 ft



Weld County 330 Acres

Figure 2  
 Wetlands  
 Map 3 of 4

10/14/2014



- Legend**
- % Photo Point
  - Sample Point
  - Other Water
  - Wetland

0 50 100 200 300 400 Feet

1 in = 100 ft



Weld County 330 Acres

Figure 2  
Wetlands  
Map 4 of 4

10/14/2014



# Appendix A

## Wetland Determination Data Forms

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weld City 330 acres City/County: Erie/Weld Sampling Date: 9/12/14  
 Applicant/Owner: \_\_\_\_\_ State: CO Sampling Point: SP-A1  
 Investigator(s): A. Herb Section, Township, Range: Sec 29, T1N, R68W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): <1  
 Subregion (LRR): W. Great Plains + Brk. Land Lat: 40.016153 Long: -105.033655 Datum: NAD83  
 Soil Map Unit Name: Colombo clay loam NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>Low-lying floodplain area w/ mix of mesic vegetation. Appears to receive overbank flows occasionally. No WL. Currently wet from significant rains.</u>	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>1 x 3 m</u> )				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 <sup>1</sup> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Elymus trachyranthus</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rumex crispus</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Persicaria lapathifolia</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
4. <u>Atriplex patula</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>~0</u>				
Remarks: <u>Edge of WL A - area flooded occasionally; mesic mix</u>				

Sampling Point: SP-A

## HYDROLOGY

## Primary Indicators (minimum of one required; check all that apply)

**Field Observations:**

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

US Army Corps of Engineers

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weld Cty 330 acres City/County: Eric / Weld Sampling Date: 9/12/14  
 Applicant/Owner: \_\_\_\_\_ State: CO Sampling Point: SP-A2  
 Investigator(s): A. Herb Section, Township, Range: Sec 29, T1N, R68W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): <1  
 Subregion (LRR): W. Great Plains + Irig. Land Lat: 40.016178 Long: -105.033679 Datum: NAD83  
 Soil Map Unit Name: Colombo Clay loam NWI classification: PEM  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>PEM Wetland along South Unnamed Tributary - mostly Typha</u>		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
<b>% Bare Ground in Herb Stratum</b> <u>~0</u> _____ = Total Cover				
Remarks: <u>Dense PEM WL dominated by Typha w/ Persicaria understory</u>				

Sampling Point: SP-A2

## HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                           |
| <input checked="" type="checkbox"/> High Water Table (A2)          | <input type="checkbox"/> Aquatic Invertebrates (B13)                |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Dry-Season Water Table (C2)                |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3)                       | <b>(where not tilled)</b>   |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Presence of Reduced Iron (C4)              |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Thin Muck Surface (C7)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                 |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |   |

## Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)
- ✓ Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Surface Water Present? Yes ☒ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☒ No ☐ Depth (inches): 6

Saturation Present? Yes ☒ No ☐ Depth (inches): 0  
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface water (in channel of South Tributary) w/in ~ 5' - source of WL hydrology is tributary - via capillary action + overbanks flows



# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weld Cty 330 acres City/County: Eric/Weld Sampling Date: 9/12/14  
 Applicant/Owner: - State: CO Sampling Point: SP-A3  
 Investigator(s): A. Herb Section, Township, Range: Sec 29, T1N, R68W  
 Landform (hillslope, terrace, etc.): floridplain Local relief (concave, convex, none): concave Slope (%): <1  
 Subregion (LRR): W. Great Plains + Imp. Land Lat: 40.015583 Long: -105.029366 Datum: NAD83  
 Soil Map Unit Name: Colombo clay loam NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: <u>Small UPL island associated w/ South Unnamed Tr. butary.</u> <u>Occasionally Flooded but not Wetland.</u>		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
<b>Herb Stratum (Plot size: <u>1x3m</u>)</b>				
1. <u>Cirsium arvense</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>†</sup> ___ 4 - Morphological Adaptations <sup>†</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>†</sup> (Explain)  <sup>†</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Atriplex patula</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Rumex crispus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u>Typha latifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<b>% Bare Ground in Herb Stratum <u>~5-10</u></b>				
Remarks: <u>Weedy upland island surrounded by mostly Typha dominated WL.</u>				

Sampling Point: SP-A3

SP-A3

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Histosol (A1)                             | <input type="checkbox"/> Sandy Gleyed Matrix (S4)      | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)               |
| <input type="checkbox"/> Histic Epipedon (A2)                      | <input type="checkbox"/> Sandy Redox (S5)              | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Black Histic (A3)                         | <input type="checkbox"/> Stripped Matrix (S6)          | <input type="checkbox"/> Dark Surface (S7) (LRR G)               |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1)      | <input type="checkbox"/> High Plains Depressions (F16)           |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)      | <input type="checkbox"/> (LRR H outside of MLRA 72 & 73)         |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)              | <input type="checkbox"/> Depleted Matrix (F3)          | <input type="checkbox"/> Reduced Vertic (F18)                    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)         | <input type="checkbox"/> Redox Dark Surface (F6)       | <input type="checkbox"/> Red Parent Material (TF2)               |
| <input type="checkbox"/> Thick Dark Surface (A12)                  | <input type="checkbox"/> Depleted Dark Surface (F7)    | <input type="checkbox"/> Very Shallow Dark Surface (TF12)        |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                  | <input type="checkbox"/> Redox Depressions (F8)        | <input type="checkbox"/> Other (Explain in Remarks)              |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) | <sup>3</sup> Indicators of hydrophytic vegetation and            |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)      | <input type="checkbox"/> (MLRA 72 & 73 of LRR H)       | wetland hydrology must be present,                               |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes No ☒

Remarks: No indicators

## Wetland Hydrology Indicators:

Secondary Indicators (minimum of two required)

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                           | <input type="checkbox"/> Surface Soil Cracks (B6)                   |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Invertebrates (B13)                | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)    |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Drainage Patterns (B10)                    |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Dry-Season Water Table (C2)                | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <b>(where tilled)</b>   |
| <input type="checkbox"/> Drift Deposits (B3)                       | <b>(where not tilled)</b>   | <input type="checkbox"/> Crayfish Burrows (C8)                      |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)  |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> Geomorphic Position (D2)                   |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                 | <input type="checkbox"/> FAC-Neutral Test (D5)                      |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |   | <input type="checkbox"/> Frost-Heave Hummocks (D7) <b>(LRR F)</b>   |

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators; island ~ 1-1.5' v above wetland

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weld City 330 acres City/County: Eric/Weld Sampling Date: 9/16/14  
 Applicant/Owner: - State: CO Sampling Point: SP-B1  
 Investigator(s): A. Herb Section, Township, Range: Sec 29, T1N, R68W  
 Landform (hillslope, terrace, etc.): pond/depression Local relief (concave, convex, none): concave Slope (%): <1  
 Subregion (LRR): W. Great Plains + Irrig. Land Lat: 40.023760 Long: -105.021692 Datum: NAD 83  
 Soil Map Unit Name: Midway - Shingle Complex NWI classification: PEM  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: <u>Small pond in Unnamed Tributary (North). Typha filled + seasonally flooded. Receives surface flows, incl. discharge from nearby spring</u>		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
<b>Herb Stratum (Plot size: <u>1 x 3 m</u>)</b> 1. <u>Typha angustifolia</u> <u>80</u> <u>y</u> <u>OBL</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				
<b>% Bare Ground in Herb Stratum <u>~20</u></b> _____ = Total Cover				
<b>Remarks:</b> <u>Typha monotypical stand in pond bottom</u>				

Sampling Point: SP-B1

HYDROLOGY			
<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)	
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>2013 aerial photo - inundated</u>			
Remarks: <u>Uppermost pond in unnamed Trib (North); WL hydrology from ponding surface flows, incl. discharge from seasonal spring</u>			

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Wald Cty 330 acres City/County: Eric/Wald Sampling Date: 9/16/14  
 Applicant/Owner: - State: CO Sampling Point: SP-B2  
 Investigator(s): A. Herb Section, Township, Range: Sec 29, T1N, R68W  
 Landform (hillslope, terrace, etc.): pond/depression Local relief (concave, convex, none): concave Slope (%): <1  
 Subregion (LRR): W Great Plains + Intz. Land Lat: 40.023875 Long: -105.021561 Datum: NAD83  
 Soil Map Unit Name: Midway - Shingle Complex NWI classification: -  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: <u>Edge of pond - occasionally flooded</u>			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
1. _____	_____	_____	_____	OBL species _____ x 1 = _____
2. _____	_____	_____	_____	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species _____ x 3 = _____
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
_____ = Total Cover				Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: <u>1 x 3m</u> )	_____	_____	_____	Prevalence Index = B/A = _____
1. <u>Convolvulus arvensis</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	Hydrophytic Vegetation indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Bassia scoparia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Solanum triflorum</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
4. <u>Rumex crispus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. <u>Verbena bracteata</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	
1. _____	_____	_____	_____	Remarks: <u>Weedy upland edge of pond</u>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>~20-25</u>	_____ = Total Cover			



Sampling Point: SP-B2

## HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

- Secondary Indicators (minimum of two required)

- \_\_\_ Surface Soil Cracks (B6)
- \_\_\_ Sparsely Vegetated Concave Surface (B8)
- \_\_\_ Drainage Patterns (B10)
- \_\_\_ Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- \_\_\_ Crayfish Burrows (C8)
- \_\_\_ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- \_\_\_ FAC-Neutral Test (D5)
- \_\_\_ Frost-Heave Hummocks (D7) **(LRR F)**

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Inundation visible on 2013 aerial (after huge rain events)

Remarks: Occasionally flooded - when pond at its fullest - but no wet hydrology

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Weld City 330 acres City/County: Eric/Weld Sampling Date: 9/16/14  
 Applicant/Owner: - State: CO Sampling Point: SP-41  
 Investigator(s): A. Harb Section, Township, Range: Sec 29, T1N, R68W  
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 1-2  
 Subregion (LRR): W. Great Plains + Irrig. Land Lat: 40.017718 Long: -105.018440 Datum: NAD83  
 Soil Map Unit Name: Ulm clay loam NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: <u>Swale vegetated w/meric mix of species. Occasional surface flows but no we.</u>			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<b>Herb Stratum (Plot size: <u>1x3m</u>)</b>				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. <b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. <u>Rumex crispus</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Helianthus annuus</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Coryza canadensis</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
4. <u>Typha latifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>Hordeum jubatum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
6. <u>Panicum capillare</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover <u>69</u>				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>~30</u>	_____ = Total Cover			

Remarks: Meric mix in bottom of swale; scattered Typha

## SOIL

Sampling Point: SP-U1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/2	100	—	—	—	—	silty clay	- ox rhizos
4-16	10YR 4/2	100	—	—	—	—	silty clay	- no ox rhizos

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Histosol (A1)                             | <input type="checkbox"/> Sandy Gleyed Matrix (S4)      | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)               |
| <input type="checkbox"/> Histic Epipedon (A2)                      | <input type="checkbox"/> Sandy Redox (S5)              | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Black Histic (A3)                         | <input type="checkbox"/> Stripped Matrix (S6)          | <input type="checkbox"/> Dark Surface (S7) (LRR G)               |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1)      | <input type="checkbox"/> High Plains Depressions (F16)           |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)      | <input type="checkbox"/> (LRR H outside of MLRA 72 & 73)         |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)              | <input type="checkbox"/> Depleted Matrix (F3)          | <input type="checkbox"/> Reduced Vertic (F18)                    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)         | <input type="checkbox"/> Redox Dark Surface (F6)       | <input type="checkbox"/> Red Parent Material (TF2)               |
| <input type="checkbox"/> Thick Dark Surface (A12)                  | <input type="checkbox"/> Depleted Dark Surface (F7)    | <input type="checkbox"/> Very Shallow Dark Surface (TF12)        |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                  | <input type="checkbox"/> Redox Depressions (F8)        | <input type="checkbox"/> Other (Explain in Remarks)              |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) | <sup>3</sup> Indicators of hydrophytic vegetation and            |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)      | <input type="checkbox"/> (MLRA 72 & 73 of LRR H)       | wetland hydrology must be present,                               |
|  |  | unless disturbed or problematic.                                 |

Restrictive Layer (if present):

 Type: —  
 Depth (inches): —
Hydric Soil Present? Yes    No ☒Remarks: No hydric soil indicators

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                           |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Invertebrates (B13)                |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Dry-Season Water Table (C2)                |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> (where not tilled)                         |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Presence of Reduced Iron (C4)              |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Thin Muck Surface (C7)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                 |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |   |

Secondary Indicators (minimum of two required)

- |   |
|---|
| <input checked="" type="checkbox"/> Surface Soil Cracks (B6)        |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)    |
| <input type="checkbox"/> Drainage Patterns (B10)                    |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> (where tilled)                             |
| <input type="checkbox"/> Crayfish Burrows (C8)                      |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)  |
| <input checked="" type="checkbox"/> Geomorphic Position (D2)        |
| <input type="checkbox"/> FAC-Neutral Test (D5)                      |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)          |

Field Observations:

Surface Water Present?	Yes <u>  </u> No <input checked="" type="checkbox"/>	Depth (inches): <u>  </u>
Water Table Present?	Yes <u>  </u> No <input checked="" type="checkbox"/>	Depth (inches): <u>  </u>
Saturation Present?	Yes <u>  </u> No <input checked="" type="checkbox"/>	Depth (inches): <u>  </u>

 (includes capillary fringe)
Wetland Hydrology Present? Yes ☒ No   

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Two secondary indicators obs. Receives occasional surface flows from landfill to east

## Appendix B

### Site Photographs





Photo 1: Wetland A, looking northeast from Vista Parkway (upstream)



Photo 2: Wetland A, looking northeast (upstream)





Photo 3: Wetland A, looking north (downstream)



Photo 4 : Wetland A, looking east (upstream)





Photo 5: Wetland A, looking southwest (downstream)



Photo 6: Wetland A, looking north at SP-A1 (double flag in foreground) and SP-A2 (double flag in background)





Photo 7: Wetland A, looking southeast (upstream)



Photo 8: Upland sample point (SP-A3) adjacent to Wetland A, looking southeast





Photo 9: Wetland A, looking north from golf course (downstream)



Photo 10: Wetland and Pond B, looking southwest



Photo 11: Wetland and Pond B, looking southwest at SP-B2 (double flag)



Photo 12: Wetland and Pond C, looking southwest from the Pond B dam





Photo 13: Wetland and Pond B, looking northeast



Photo 14: Pond C, looking southwest from the inlet





Photo 15: Wetland below Pond C, looking northeast



Photo 16: Start of Channel B (at spring; marked by shovel), looking west





Photo 17: Channel B between spring and Pond B, looking southwest



Photo 18: Upland sample point (SP-U1), looking southwest

**Appendix B**  
**USFWS IPaC Trust Resources Report**



## IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

### Location

Weld County, Colorado



### Local office

Colorado Ecological Services Field Office

☎ (303) 236-4773

📠 (303) 236-4005

MAILING ADDRESS

Denver Federal Center

P.O. Box 25486

Denver, CO 80225-0486

PHYSICAL ADDRESS

134 Union Boulevard, Suite 670

Lakewood, CO 80228-1807

<http://www.fws.gov/coloradoES>

<http://www.fws.gov/platteriver>

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Mammals

NAME	STATUS
Preble's Meadow Jumping Mouse <i>Zapus hudsonius preblei</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/4090">https://ecos.fws.gov/ecp/species/4090</a>	Threatened

## Birds

NAME	STATUS
Least Tern <i>Sterna antillarum</i> This species only needs to be considered if the following condition applies: <ul style="list-style-type: none"> <li>• Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.</li> </ul> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8505">https://ecos.fws.gov/ecp/species/8505</a>	Endangered
Mexican Spotted Owl <i>Strix occidentalis lucida</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8196">https://ecos.fws.gov/ecp/species/8196</a>	Threatened
Piping Plover <i>Charadrius melodus</i> This species only needs to be considered if the following condition applies: <ul style="list-style-type: none"> <li>• Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.</li> </ul> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a>	Threatened

## Whooping Crane *Grus americana*

Endangered

This species only needs to be considered if the following condition applies:

- Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/758>

## Fishes

NAME

STATUS

### Pallid Sturgeon *Scaphirhynchus albus*

Endangered

This species only needs to be considered if the following condition applies:

- Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/7162>

## Flowering Plants

NAME

STATUS

### Colorado Butterfly Plant *Gaura neomexicana* var. *coloradensis*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/6110>

### Ute Ladies'-tresses *Spiranthes diluvialis*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2159>

### Western Prairie Fringed Orchid *Platanthera praeclara*

Threatened

This species only needs to be considered if the following condition applies:

- Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1669>

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.

2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date

range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
<b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Oct 15 to Jul 31
<b>Burrowing Owl</b> <i>Athene cunicularia</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9737">https://ecos.fws.gov/ecp/species/9737</a>	Breeds Mar 15 to Aug 31
<b>Golden Eagle</b> <i>Aquila chrysaetos</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a>	Breeds Jan 1 to Aug 31
<b>Lark Bunting</b> <i>Calamospiza melanocorys</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 15
<b>Lesser Yellowlegs</b> <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a>	Breeds elsewhere
<b>Long-billed Curlew</b> <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/5511">https://ecos.fws.gov/ecp/species/5511</a>	Breeds Apr 1 to Jul 31
<b>Mccown's Longspur</b> <i>Calcarius mccownii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9292">https://ecos.fws.gov/ecp/species/9292</a>	Breeds May 1 to Aug 15
<b>Semipalmated Sandpiper</b> <i>Calidris pusilla</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
<b>Willet</b> <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)



Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

#### Breeding Season (🐣)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

#### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

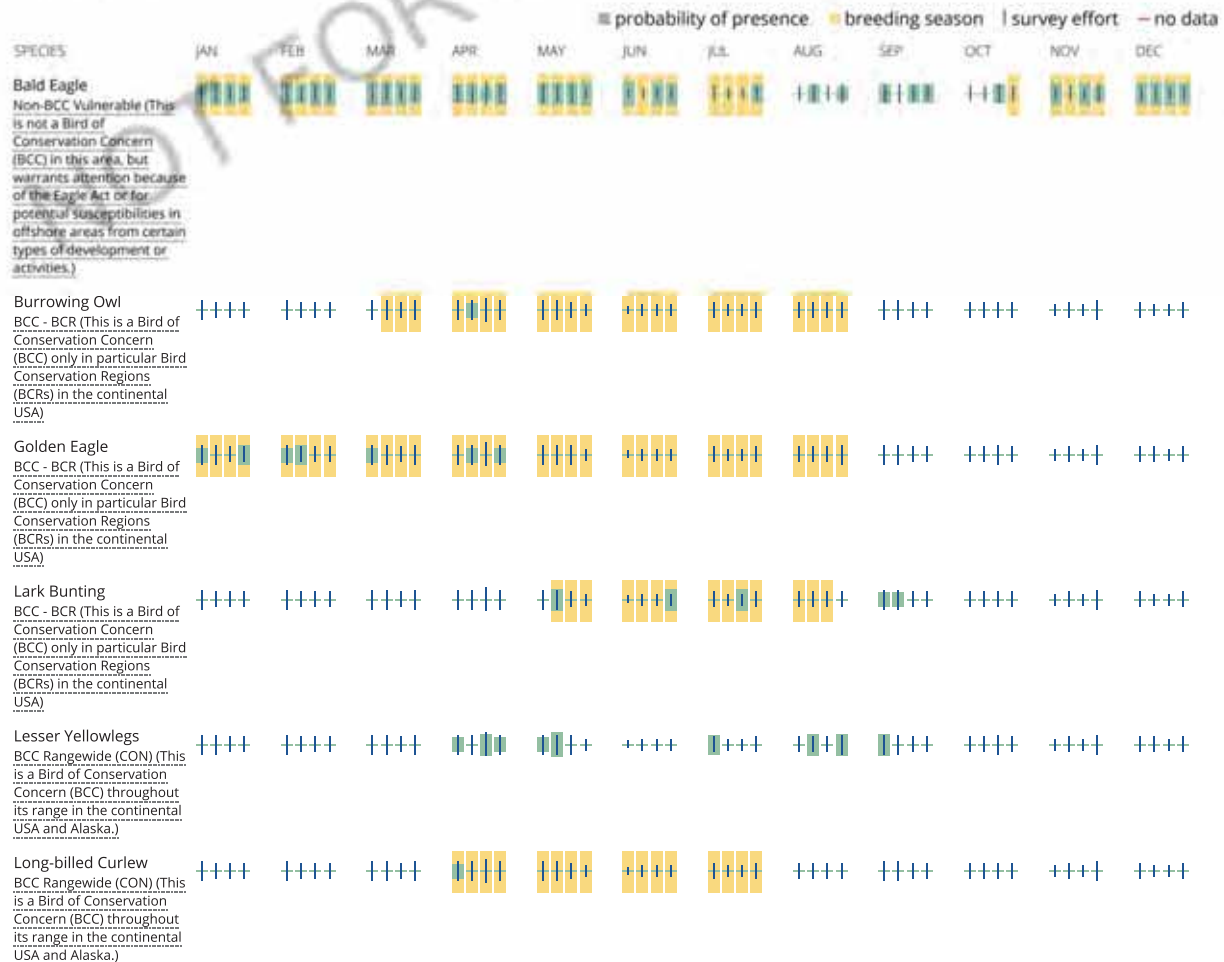
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

#### No Data (—)

A week is marked as having no data if there were no survey events for that week.

#### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Mccown's Longspur BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
Semipalmated Sandpiper BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++
Willet BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

#### What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

#### What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

#### How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

#### What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

#### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

### Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1A](#)

RIVERINE

[R4SBC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal

zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

#### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



**Appendix C**  
**Photo Location Map and Site Photographs**

# Photo Location Map







Photo Point #9: View north of weedy midgrass prairie between landfill borrow soil and Vista Parkway at northwest property corner.



Photo Point #9: View northeast of weedy midgrass prairie between landfill borrow soil and Vista Parkway at northwest property corner.



Photo Point #9: View east along northern property line of weedy midgrass prairie at northwest property corner.



Photo Point #9: View southeast of midgrass prairie slope down to southern drainage at northwest property corner.





Photo Point #9: View south of midgrass prairie and Vista Parkway Right of Way landscaping at northwest property corner.



Photo Point #10: View northeast of southern channel/wetlands and abutting midgrass prairie at Vista Parkway culvert from western property line.



Photo Point #10: View east of southern channel/wetlands and abutting midgrass at Vista Parkway culvert from western property line.



Photo Point #10: View southeast of southern channel/wetlands and abutting midgrass at Vista Parkway culvert from western property line.





Photo Point #11: View west of good quality midgrass prairie, Vista Parkway, and Airpark Neighborhood beyond near southwestern property corner.



Photo Point #11: View northwest of good quality midgrass prairie transition to southern drainage/wetlands near southwestern property corner.



Photo Point #11: View north of good quality midgrass prairie transition to southern drainage/wetlands toward Denver Regional Landfill near southwestern property corner.



Photo Point #11: View northeast of good quality midgrass prairie transition to southern drainage/wetlands toward Front Range Landfill near southwestern property corner.





Photo Point #12: View west of disturbed midgrass prairie and pipeline reclamation corridor from southeastern property corner.



Photo Point #12: View northwest of disturbed midgrass prairie and pipeline reclamation corridor from southeastern property corner.



Photo Point #12: View north of disturbed midgrass prairie and pipeline reclamation corridor from southeastern property corner.



Photo Point #13: View south of disturbed midgrass prairie, pipeline reclamation corridor, and prairie dog colony from eastern property line at existing site entrance on CR5.





Photo Point #13: View southwest of disturbed midgrass prairie, pipeline reclamation corridor, and prairie dog colony from eastern property line at existing site entrance on CR5.



Photo Point #13: View west of disturbed midgrass prairie, pipeline reclamation corridor, prairie dog colony, and Denver Regional Landfill from eastern property line at existing site entrance on CR5.



Photo Point #13: View northwest of disturbed midgrass prairie, pipeline reclamation corridor, prairie dog colony, and Denver Regional Landfill from eastern property line at existing site entrance on CR5.



Photo Point #13: View north of disturbed midgrass prairie, pipeline reclamation corridor, and prairie dog colony, and Front Range Landfill from eastern property line at existing site entrance on CR5.





Photo Point #14: View south of disturbed midgrass prairie and pipeline reclamation corridor from northeastern property corner on CR5.



Photo Point #14: View southwest of disturbed midgrass prairie, pipeline reclamation corridor and Denver Regional Landfill from northeastern property corner on CR5.



Photo Point #15: View east of disturbed midgrass prairie, northern ephemeral drainage, prairie dog colony, and Front Range Landfill from northwestern central property corner.



Photo Point #15: View southeast of disturbed midgrass prairie, northern ephemeral drainage, prairie dog colony, and oil and gas staging pad from northwestern central property corner.





Photo Point #15: View south of disturbed midgrass prairie, northern ephemeral drainage, prairie dog colony, and oil and gas staging pad from northwestern central property corner.



Photo Point #16: View east of disturbed midgrass prairie, northern ephemeral drainage, and Front Range Landfill from off-site stock pond berm.



Photo Point #16: View west of northern ephemeral drainage and view of Front Range from off-site stock pond berm.



Photo Point #17: View north of disturbed midgrass prairie and Denver Regional Landfill from northwest diagonal property corner.





Photo Point #17: View northeast of disturbed midgrass prairie, prairie dog colony and Denver Regional Landfill from northwest diagonal property corner.



Photo Point #17: View east of disturbed midgrass prairie, prairie dog colony and Front Range Landfill from northwest diagonal property corner.



Photo Point #17: View southeast of disturbed midgrass prairie, prairie dog colony and Vista Ridge Neighborhood from northwest diagonal property corner.



Photo Point #17: View south of disturbed midgrass prairie, prairie dog colony and Vista Ridge Neighborhood from northwest diagonal property corner.





Photo Point #17: View southwest of disturbed midgrass prairie, prairie dog colony and Vista Ridge Neighborhood from northwest diagonal property corner.



Photo Point #18: View north of disturbed midgrass prairie and prairie dog colony from northwest diagonal property corner.



Photo Point #18: View east of disturbed midgrass prairie and prairie dog colony from northwest diagonal property corner.



Photo Point #18: View southeast of prairie dog colony, disturbed midgrass prairie leading down to southern drainage from northwest diagonal property corner.





Photo Point #18: View south of prairie dog colony, disturbed midgrass prairie leading down to southern drainage from northwest diagonal property corner.



Photo Point #18: View southwest of prairie dog colony, disturbed midgrass prairie leading down to southern drainage from northwest diagonal property corner.

**Appendix D**  
**Office of Archaeology and Historic Preservation (OAHP) Letter**

**HISTORY COLORADO**  
**Office of Archaeology and Historic Preservation**  
**1200 Broadway, Denver, Colorado 80203**

Grant Gurnee  
Ecosystem Services, LLC  
11712 Montgomery Circle  
Longmont, CO 80504

October 29, 2019

Re: 2019-15-1  
File Search No. 22199

At your request, the Office of Archaeology and Historic Preservation has conducted a search of the Colorado Inventory of Cultural Resources within the area shown in the provided shapefiles, located in the following areas:

PM	T	R	S
6th	1N	68W	29, 32

3 sites and 4 surveys were located in the designated area(s).

If information on any district, site, building, structure, or object in the project area was found, detailed information follows the summary. If no properties were found, but surveys are known to have been conducted in the project area, survey information follows the summary. We do not have complete information on surveys conducted in Colorado, and our site files cannot be considered complete because most of the state has not been surveyed for cultural resources. There is the possibility that as yet unidentified cultural resources exist within the proposed impact area.

Our letter should not be interpreted as formal consultation under Section 106 of the National Historic Preservation Act (36 CFR 800) or the Colorado Register of Historic Places (CRS 24-80.1). In the event that there is federal or state agency involvement, please note that it is the responsibility of the agencies to meet the requirements of these regulations.

We look forward to consulting with you regarding the effect of the proposed project on significant cultural resources in accordance with the Advisory Council on Historic Preservation regulations titled "Protection of Historic Properties" or the Colorado Register of Historic Places, as applicable (<http://www.historycolorado.org/oahp/consultation-guidance>).

If you have any questions, please contact the Office of Archaeology and Historic Preservation at (303) 866-3392. Thank you for your interest in Colorado's cultural heritage.

Steve Turner, AIA  
State Historic Preservation Officer

\*Information regarding significant archaeological resources is excluded from the Freedom of Information Act. Therefore, legal locations of these resources must not be included in documents for public distribution.

22199\_s\_sy

**Appendix E**  
**Professional Qualifications**



Appendix A  
Professional Qualifications



## RESUME

**Jon Dauzvardis, M.L.A, P.W.S.**

*Owner/Managing Partner  
Senior Restoration Ecologist  
Landscape Architect  
Wetland Ecologist*

**AREAS OF EXPERTISE:**

- Vegetation Inventories and Mapping
- Habitat Assessment, Functional Assessment and Wetland Delineation
- Aquatic, Wetland, and Riparian Restoration Ecology, Planning and Design
- Landscape Ecology, Planning and Landscape Architecture
- Conservation and Resource Mitigation Bank Support Services
- Grant Funding Support for Conservation and Restoration Projects
- Open Space and Trail Planning, Design and Habitat Management
- Construction Oversight & Best Management Practices
- AutoCAD, Mapping, Presentation Graphics

**EDUCATION:**

- Master of Landscape Architecture, Texas A&M University, College Station, Texas, 1995
- Bachelor of Science, Environmental Design, University of Missouri, Columbia, 1991
- Architecture Study, Harvard University Graduate School of Design, Cambridge, Massachusetts, 1989

**EMPLOYMENT HISTORY:**

- 2008-Present, Owner/Manager and Senior Restoration Ecologist, Ecosystem Services, LLC, Erie Colorado
- 2000 – 2011, Senior Restoration Ecologist, Walsh Environmental Scientists and Engineers, LLC, Boulder, Colorado
- 1997 – 2000, Restoration Ecologist, Construction Supervisor, Aquatic and Wetland Company, Boulder, Colorado
- 1996-1997, Landscape Architect, Design Studios West, Denver, Colorado
- 1995-1996, Landscape Architect, Wenk Associates, Denver, Colorado
- 1994-1995, Graduate Researcher, ALCOA – Texas A&M University, College Station, Texas
- 1994, Johnson County Parks and Recreation Department, Shawnee Mission, Kansas
- 1992-1994, Grounds Maintenance Superintendent, Brazos County, Texas

**CONTINUING EDUCATION:**

- Stream Functions Pyramid Workshop, Denver, CO - 2014
- Colorado Natural Heritage Program, Wetland Plant Identification - 2014
- Colorado Natural Heritage Program, Ecological Integrity Assessment for Colorado Wetlands - 2013
- FACWet – Functional Assessment of Colorado Wetlands - 2010, 2012 and 2013
- ESRI, ARC View Geographic Information System (GIS) Training, 1996
- Bicycle Planning and Facilities Training, 1994
- AutoCAD Drafting and Design, Self-taught, 1991

**CERTIFICATIONS:**

- Professional Wetland Scientist Certification (# 1699), Society of Wetland Scientists Certification Program, 2004

## EXPERIENCE SUMMARY:

Mr. Dauzvardis is a founder and managing partner of Ecosystem Services, LLC (**ecos**), an ecological planning and design business dedicated to the restoration, enhancement and creation of aquatic, wetland and riparian habitat. Jon is a certified Professional Wetland Scientist with over 25 years of experience working in the fields of landscape architecture and ecological restoration in Colorado, Wyoming, Texas, Kansas and the Intermountain West. Jon's academic and professional work history in housing design and construction, community planning, architecture, landscape architecture, ecological planning and restoration is unique and makes him a valuable and multi-faceted asset to his company, clients and their projects. His diverse knowledge and skills in landscape planning, habitat design, bioengineering, and hands-on experience demonstrate that he can easily negotiate between art and science, man-made and natural systems, generalities and detail, and from concept to construction. Jon takes a practical and realistic approach to problem solving, concentrating on broad scale ecological master planning simultaneously with fine scale design of aquatic, wetland, riparian and terrestrial habitats. As a restoration ecologist, Jon specializes in restoring and enriching habitat structure, stability and health and how to manage landscapes and natural systems so that they function, change, and respond positively over time. Jon's strengths are rooted in his understanding of natural and landscape processes; finding design solutions that integrate the needs of people, wildlife, and visual quality; sustaining ecosystem goods and services; and integration of nature-based recreation and environmental education programs and facilities.

## RELEVANT PROJECT EXPERIENCE:

Mr. Dauzvardis has been an essential team lead and player in hundreds of habitat assessments; permitting efforts; master plans; and aquatic, wetland, and riparian habitat design and mitigation projects. The following is a sampling of select projects and clientele that Jon has successfully completed or is currently involved with:

### Habitat Assessment and Regulatory Compliance

Mr. Dauzvardis routinely performs ecological site and resource impacts assessments, jurisdictional wetland determinations and functional assessments to assist clients in site planning, design, and permitting processes. Assessment methods established by the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and Colorado Department of Transportation among others are used to assess habitat elements and screen sites for threatened and endangered plants and animals, wetlands, migratory birds and other wildlife. Jon stresses habitat impact avoidance and minimization to preserve a site's ecological benefits and to minimize regulatory constraints, timing and permitting costs. Jon has performed a multitude of site assessments, delineations and prepared permits, including but not limited to the following notable projects as well as others listed throughout this resume:

- **Banning Lewis Ranch, Colorado Springs, CO** – ecos was hired by Norwood Homes to perform and ecological assessment of wetlands, Sand Creek, Jimmy Camp Creek and its tributaries; and provide regulatory guidance for the Banning Lewis Ranch (BLR), an 18,000-acre site that will double the size of Colorado Springs. Part of Jon's work on the project included mapping and buffer recommendations on how to best conserve pristine prairie and sandy creeks that are highly susceptible to degradation caused by urbanization.
- **Bellvue Pipeline Project, Larimer County, CO** – ecos was retained by the City of Greeley as Best Management Practices (BMP) Facilitators to provide pre-construction documentation post-construction oversight of pipeline reclamation processes. Essential responsibilities include meeting with landowners prior to construction to facilitate project understanding and post-construction outcomes; to document landowner needs and wants relative to project goals and land use; and to document and monitor pre- and post-construction reclamation and maintenance requirements.
- **Georgetown Lake, Georgetown, CO** –ecos was hired to prepare an office level assessment report of ecological resources to describe the physical/ecological characteristics of the Project area and evaluate the potential effects of the construction of a loop trail project on environmental issues and species of concern to support a GOCO grant application. Items evaluated and documented, include site location/ownership, general site characteristics, current land use, proposed impacts, possible effects on Federal– and State-listed T&E animal and plant species, unique or important wildlife, water quality, water bodies, wetlands, and floodplains, stormwater runoff, sedimentation, soil erosion, and invasive species. The assessment report also included mitigation measures, project benefits, and environmental compliance recommendations under applicable regulatory programs.

- **Appraisal Support Documentation Report for the 1st Bank Parcel, Colorado Springs, CO** - ecos was retained by 1st Bank Holding Company to perform a Preble's meadow jumping mouse (PMJM) habitat assessment, mitigation cost analysis, and conceptual lot layout for the approximate 9.4-acre Parcel located adjacent to the Northgate Open Space along Smith Creek. Jon was responsible for preparing the lot layout, existing habitat aerial photo interpretation/delineation, proposed conceptual mitigation, and quantification of impacts and associated mitigation to ascertain appraisal value of the site if it were to be developed.
- **Encana Oil and Gas (USA), Denver Julesburg Basin, CO** – Encana hired ecos to assess their ecological constraints, recommend means and methods to avoid, minimize and permit impacts; and to mitigate, restore and prepare ecological management plans for their drilling and pipeline operations in the Denver Julesburg basin. Jon's role on the team is to perform site assessments, research background data, and prepare assessment reports and mapping data that can be utilized by Encana's project managers and geographic information systems (GIS) department to proactively track ecological resources before issues arise. In addition to client consultation, Jon is responsible for tracking drill site schedules, constraints, restoration and management efforts in a data base and reporting said information to Encana's project manager on a regular basis.
- **Tollgate Creek Riparian and Wetland Habitat Assessment, Aurora, CO** – Jon performed high level aerial photo interpretation and delineation of riparian and wetland habitat along Toll Gate Creek and East Toll Gate Creek from confluence with Sand Creek upstream to East Hampden Avenue. The delineation was performed in Google Earth and imported into AutoCAD by digitizing riparian and wetland habitat zones. Once complete, the data was turned over to the project engineer to incorporate into a Drainage Master Plan for the Urban Drainage and Flood Control District (UDFCD).
- **Eagle River Meadows Ecological Inventory and Strategic Wetland Action Plan, Edwards, CO** – Mr. Dausvardis delineated, assessed, and provided an analysis of potential adverse effects to wetlands within a complex site adjacent to the Eagle River. Jon also developed a strategic process and decision making tool to determine avoidance, minimization, low impact development (LID), and mitigation measures in support of a County Sketch Plan application for a Multi-use Health Care Community.
- **Mesa County Colorado Riverfront Trail, Grand Junction, CO** – Jon performed wetland delineation, jurisdictional determination, Section 404 Permitting; and prepared wetland mitigation plans to construct approximately two miles of regional trail along the north side of the Colorado River between the James M. Robb and the Colorado River State Park at Corn Lake.
- **ARCO Upper Clark Fork River Basin Superfund Site Functional Wetland Assessment, MT** – Between 2000 and 2008, Jon managed the assessment team and performed extensive wetland delineation, GPS surveying, functional assessments, and impact mapping and analysis covering a 200 square mile Superfund Site affected by historic mining practices. Assessments were done in preparation for soil remediation of heavy metals, capping of tailings ponds, sediment and dam removal, and implementation of compensatory wetland mitigation plans required under a consent decree. Assessment areas included the Anaconda Smelter, Old Works, Opportunity Ponds, and Milltown Reservoir.
- **Jefferson County Highways & Transportation Department Gunbarrel Bridge Replacement, Oxyoke, CO** – Jon consulted with the USACE, USFWS, CDOT, and the FHWA to document regulatory requirements. Produced a CDOT Wetland Finding Report, Biological Assessment, Preble's meadow jumping mouse and wetland mitigation plans, and helped acquire a Section 404 Permit and Biological Opinion.
- **Pole Canyon Wind Farm, Babcock and Brown, Huerfano County, CO** – Assessed and prepared critical issues analysis and County 1041 Permit application for a 125-megawatt wind farm and associated transmission lines located on a 5,800-acre site. The project included detailed site assessments to document the presence or absence of potential development constraints and site-specific ecological conditions as well as preparation of permit maps, plot plans, and environmental analyses, alternatives analysis, and mitigation measures.
- **Dalton Property Wetland Assessment, Longmont, CO** – Provided site assessment, regulatory analyses, and developed a restoration plan for critical riparian and wetland habitat along Left Hand Creek in Boulder County, CO.
- **Colowyo Coal Mine Wetland Delineation, Meeker, CO** – Delineated 1.5 miles of jurisdictional waters and wetlands in preparation for wetland mitigation design along West New Goodspring Creek.
- **Lafarge Northbank Resources Gravel Pit Wetland Assessment, Rifle, CO** – Delineated and acquired a jurisdictional determination from the USACE for complex tailwater and riparian wetlands along the



Colorado River. Prepared gravel pit reclamation plans aimed at providing suitable shallow-water lake edge wetlands to serve as compensatory wetland mitigation.

- **Jefferson County Highways & Transportation Department Highway 73 Expansion, Conifer, CO** – Performed presence/absence study, habitat assessment and documentation of wetlands, Migratory Birds, State Species of Concern, and federally listed T&E Species including Bald eagle, Preble's meadow jumping mouse, the Pawnee montane skipper butterfly and Colorado butterfly plant along a one-mile corridor of highway.
- **Flying Horse Ranch and the Club at Flying Horse Golf Course, Colorado Springs, CO** – Conducted an assessment of wetland habitat, impact avoidance and minimization and Section 404 of the Clean Water Act permitting for a 1500-acre mixed use development and Weiskopf golf course design being implemented by Neiber Golf.
- **C-Lazy-U and Horn Ranch Environmental Assessments, Granby, CO** – Performed site assessment of ecological opportunities and constraints of aquatic, riparian, wetland and threatened and endangered species habitat along the Colorado River for the development and enhancement of fishing/resort ranch amenities.
- **Village at Avon, Avon, CO** – Delineated wetlands and prepared a Section 404 Permit for the town center expansion and low-density ranchette development.
- **Residential Developers and Realtors** – Performed numerous wetland and T&E species habitat ecological assessments, wetland delineations, and prepared Clean Water Act Section 404 Permits and mitigation plans for residential developers and realtors, including: 4 Site Investments, Nor'wood, Proterra Properties, Denver Transit Oriented Development Fund, La Plata Communities, Windsor Ridge Homes, Clearwater Communities, Schuck Corporation, Equinox Land Group, DR Horton, Melody Homes, Standard Pacific Homes, Gateway American Properties, Zephyr Real Estate Company, Lowell Development Partners, and Palmer-McAlister, Classic Communities, Stoll Properties, Karen Bernardi, Colorado Commercial Builders, Terra Visions, Smith Creek Holdings, Picolan, Realty Development Services, Northgate Properties.
- **Commercial and Industrial Developers** - Performed numerous wetland and T&E species habitat ecological assessments, wetland delineations, and prepared Clean Water Act Section 404 Permits and mitigation plans for commercial and industrial developers, including: Atira Group, Leadership Circle, Ridgeway Valley Enterprises, Morley Companies, HF Holdings, Regency Centers, Miller-Weingarten, Gulf Coast Commercial Development, Traer Creek, Mountain Property Associates, Morley Golf, Executive Consulting, Inc.
- **Architectural and Engineering Companies** – Jon has performed numerous wetland and T&E species habitat ecological assessments, wetland delineations, and prepared Clean Water Act Section 404 Permits and mitigation plans for A&E firms, including: William Guman and Associates, JVA, Beyers Group, Engineering Analytics, Classic Consulting Engineers, J3 Engineering, DHM Design, Del-Mont Consultants, JW Nakai and Associates, Nolte and Associates, JR Engineering, Hyrdosphere, Executive Consulting Engineers, Muller Engineering, Farnsworth Group.
- **Counties, Municipalities, Metro Districts and Quasi-Public Institutions** – Mr. Dauzvardis has performed numerous wetland and T&E species habitat ecological assessments, wetland delineations, and prepared Clean Water Act Section 404 Permits and mitigation plans for counties, municipalities, and quasi-public institutions, including: City of Louisville Highway 42 and 96<sup>th</sup> Street realignment, City of Westminster Jim Baker Reservoir and Standley Lake Protection Projects, Jefferson County Highway 73 and 67 Improvement Projects, Todd Creek Village Metro District, Town of Monument/Triview Metro District, Boulder Community Hospital, and City of Fort Collins Regulatory Fact Sheets Preparation Project, Todd Creek Village Metro District on-call consultant, Three-lakes Water and Sanitation District, City of Greeley,
- **Educational Institutions** – Performed numerous wetland and T&E species habitat ecological assessments, wetland delineations, and prepared Clean Water Act Section 404 Permits and mitigation plans for educational institutions, including: Colorado Mountain College - Steamboat Springs, The Classical Academy – Colorado Springs, and Coal Ridge High School – Rifle.
- **Wind Energy Developers** – Performed numerous wetland and T&E species habitat ecological assessments, wetland delineations, and critical issues analyses for wind development projects, including: Cedar Creek Windfarm – Weld County, CO, Wheatland Windfarm – Platte County, WY, Silver Mountain Windfarm – Huerfano County, CO, Pole Canyon Windfarm, Huerfano Count, CO.

- **Mining Companies** – Performed wetland and T&E species habitat ecological assessments, wetland delineations, and critical issues analyses for mining companies, including: Brannan Sand and Gravel Company, Lafarge and Kennecott Coal.

## Ecological Master Planning

- **Jackson Creek Land Company PMJM and Wetland Mitigation, Colorado Springs, CO** – ecos has been performing Preble's meadow jumping mouse (PMJM) habitat biological assessments, conservation, mitigation planning and design throughout its range since 1994. Among numerous other private land developers in the Colorado Springs areas, ecos is currently assisting the Jackson Creek Land Company and Triview Metropolitan District with the implementation of physical habitat conservation and mitigation measures, including shortgrass prairie, upland hibernaculum, and riparian habitat restoration. Jon is responsible for mapping, design assessment and restoration plan preparation.
- **Park Creek Mitigation Bank, Fort Collins, CO** – ecos was retained by Burns and McDonnell to assess, map, and prepare preliminary mitigation design of aquatic, wetland, riparian and terrestrial habitat in support of a mitigation banking prospectus. Upon completion and acceptance of the prospectus by the USACE, ecos has been tasked to manage the baseline assessment of the site, including groundwater testing, topographic surveys, and hydrology; prepare a detailed habitat design for inclusion in mitigation banking instrument; as well as coordinate design-build process with a selected nursery and contractor. Jon has been responsible for the mapping and preparation of design documents and will co-manage construction and long-term monitoring to help our client meet their performance criteria and sell bank credits.
- **Front Range Umbrella Mitigation Bank, CO** – ecos was retained by Restoration Systems, a nationally renowned wetland mitigation banking firm, to help identify and prepare conceptual design plans for mitigation banking sites to establish the Front Range Umbrella Mitigation Bank (Bank). The purpose of the Bank is to provide compensatory mitigation credits for unavoidable, permitted impacts to aquatic, wetland, riparian, upland, wildlife, and threatened and endangered (T&E) species habitat regulated under the Clean Water and Endangered Species Acts; and to restore, enhance and preserve valuable natural resource functions at degraded mitigation sites within multiple watersheds along Colorado's Front Range. Currently, the Bank is developing banks sites that serve the Cache la Poudre, St. Vrain, Upper South Platte, Fountain and Upper Arkansas watersheds. Jon's primary role on the team is to perform functional habitat assessments; prepare mapping and graphics of baseline and future conditions; grading and plant community design based on hydrologic, hydraulic, and geomorphic modelling and engineering; and communicate with landowners and stakeholders regarding the process, technicalities, and outcomes.
- **Sand Creek Channel Improvements Stability Analysis at Indigo Ranch, Colorado Springs, CO** - ecos was retained to perform an analysis of channel stability under proposed development conditions for a 1.17 mile reach of Sand Creek. Ecos utilized existing vegetation composition data, density and height within the Project reach as a basis; and compared the 10-year and 100-year storm event modelling data (specifically flow velocity, flow depth and shear stress) to reference literature to provide a professional opinion regarding the future stability of the channel under developed conditions. The analysis of channel stability for the proposed Project assumes a bioengineering and biotechnical approach that preserves and enhances the existing vegetation, as well as substrate cohesion and stability, within the channel and its streambanks. The Stability Analysis will likely serve as a benchmark study for the City of Colorado Springs to use to preserve other naturally stable channels.
- **Brush Creek Ranch Stewardship Plan, Saratoga, WY** – Brush Creek Ranch Stewardship Plan, Fishery Enhancement and Bank Stabilization, Saratoga, WY – Mr. Dauzvardis managed the organization, generation and graphic design of the Ranch Stewardship Plan. Jon assessed and prepared stewardship goals, objectives, and implementation action items, including ranch-wide master planning of the trail and recreational systems and design of the Brush Creek riparian corridor trail. Trail and recreation planning and design focused on universal access, habitat sensitivity, environmental education, wildlife observation opportunities and unique landscape experiences. Simultaneously with the master plan, Jon developed revegetation plans to support geomorphic stream alterations and bank stabilization to enhance the creek fishery. Jon was responsible for the design and supervised construction of a cold-water pond to be used by novice anglers to learn the art and experience the pleasure of catching trout.
- **Town of Erie, Comprehensive Plan, Parks Recreation Open Space and Trails Master Plan, and Natural Areas Inventory, Erie, CO** - As a former 8-year Member, Chair, and Vice Chair of the Town Erie

Open Space and Trails Advisory Board (OSTAB) and an Erie resident and small business owner, Jon has an intimate knowledge of Erie's political and physical landscape and public processes. During his tenure on OSTAB, Jon actively participated in the writing and development of the Town's guiding documents. Jon authored the Open Space Chapter of the Comprehensive Plan which eventually was codified in the Town's Unified Development Code (UDC). Jon was the key commenter on the content, analysis and synthesis of the of the Open Space and Trail Chapters and Mapping that was adopted with the Town's first Parks Recreation Open Space and Trails Master Plan (PROST). Jon guided the process used in the development of the Erie Natural Areas Inventory (ENAI) to identify and design a habitat condition, quality and restoration rating and ranking system of significant natural areas throughout the Town's 49-square mile planning area.

- **Uncompahgre River Corridor Master Plan, Montrose, CO** – Jon was responsible for the development of an ecological master plan focusing on the Uncompahgre River as a natural asset for eco-tourism and the generation of riverfront economic development. Mr. Dauzvardis was responsible for assessing the character, condition and quality of aquatic, wetland and riparian habitat; and developing a rating, ranking, land acquisition prioritization system, and associated mapping aimed at the preservation and integration of open space and habitat within the City's parks, recreation and trail system.
- **Ruby Pipeline Wetland, Riparian and Waterbody Mitigation and Restoration Plan, WY, UT, NV and OR** – Jon was responsible for assisting with the generation of a Comprehensive Wetland Mitigation Plan outlining Clean Water Act regulatory guidelines, requirements, and processes. Jon developed an eco-region specific restoration plan for a 675-mile natural gas pipeline specifying the basis of design, construction, revegetation, maintenance, performance criteria, and monitoring means and methods for restoring approximately 460 acres of temporarily impacted riparian and wetland habitat.
- **Dry Creek Regional Urbanization Area, Weld County, CO** – Mr. Dauzvardis performed an ecological inventory and prepared the assessment report for a 6,000-acre Regional Urbanization Area (RUA); and a 1000-acre multi-use site development in un-incorporated Weld County. Subsequent phases included establishing ecological policy, goals, and objectives for the study area that will assist the County in the refining their first ever Comprehensive Plan.
- **City of Broomfield I-25 Subarea Environmental Guidelines, Broomfield, CO** – Jon drafted development sensitivity design and ecological sustainability standards.
- **McStain Development Corporation, Mountain Village III Master Plan, Loveland, CO** – Conducted concept planning for recreational and environmental interpretation facilities focusing on lake and wetland habitat features of the community.
- **Estes Park Comprehensive Land Use Plan, Estes Park, Larimer County, CO** – Teamed with town planning staff in producing a county-wide land use plan using GIS as a public involvement/participation tool.
- **San Miguel River Park Corridor Master Plan, Telluride, CO** – Prepared park, trail, wetland and riparian corridor master plan and design for the San Miguel River Park Corridor. Jon prepared illustrative plan graphics that assisted the Town in applying for and winning approximately \$500,000 in Natural Resource Damage Assessment Fund money from the State of Colorado, which was used for final design and implementation.
- **South Platte River Wildlife and Recreation Corridor Plan, Denver, CO** – Designed the Zuni Riverfront Park and planned the wildlife and recreation corridor between I-25 and 8<sup>th</sup> Street near Mile High Stadium. Prepared, steered and presented graphics that the City and County of Denver Mayor's Commission (Wellington Webb) and the Urban Drainage and Flood Control District used to help sell the project to the public and federal funding sources in Washington D.C.
- **Historic Arkansas River Walk, Pueblo, CO** – Coordinated and steered the design and presentation of riparian, aquatic, and palustrine wetlands in the HARP Natural Area. Designed environmental Education Park to include outdoor classroom, access, and multi-thematic interpretive nodes.
- **Pueblo Natural Resources and Environmental Education Council Plan, Pueblo, CO** – Designed the identity and jointly produced strategic natural resource based environmental education plan for Pueblo County (PNREEC). The plan helped build consensus among multiple private and governmental agencies and stakeholders on funding, conservation, restoration, and enhancement priorities throughout the County.
- **Aluminum Company of America (ALCOA) Huisache Cove Master and Design Plan Master of Landscape Architecture Thesis, Port Lavaca, TX** – Served as environmental consultant in researching and generating wildlife habitat restoration plan and multi-functional landfill cap redesign incorporating



coastal prairie, lacustrine, palustrine, estuarine wetlands, passive recreation, bird watching and ecological interpretation facilities on an industrial superfund clean-up site.

#### **Aquatic, Wetland, and Riparian Habitat and Mitigation Design:**

- **Big Thompson River Flood Recovery and Restoration, Loveland, CO** - ecos is currently part of a multi-disciplinary team assisting the Big Thompson Watershed Coalition (BTWC) with assessment, design, and construction of the Big Thompson between Rossum and Wilson Drives which are majority-owned by the City of Loveland and Loveland Ready-mix. As with all the flood recovery projects ecos has worked on, Jon produced 30%, 60% and 100% design plans, construction cost estimates, and specifications guiding soil development/enrichment; upland, riparian, and wetland seeding and planting; and numerous bioengineering techniques aimed at restoring the river and making it more resilient to future flood events. This project is aimed at completion in the summer of 2019.
- **Saint Vrain Creek Reach 3 Flood Recovery and Restoration, Boulder County, CO** - ecos is part of the multi-disciplinary team assisting Boulder County Parks & Open Space (BCPOS) with resilient design for the restoration of Reach 3 of the Saint Vrain Creek (from Highway 36 downstream to Hygiene Road) that was damaged by the 2013 floods. Jon's role in the project includes: 1) desktop and field assessment to inventory and document the characteristics of the stream reach and riparian corridor (e.g. in-stream features, vegetation, wildlife habitat); identify and locate significant habitat features within the areas of proposed construction; identify potential sources of native plant materials for restoration; and identify areas of opportunity within the reach that require native vegetation, wetland, PMJM, leopard frog and fishery habitat restoration; and delineate wetland habitat and waters of the U.S. in all areas of proposed/potential construction-related impact; 2) vegetation community and wildlife habitat restoration design; 3) permitting and compliance under the CWA, ESA and NHPA; and 4) construction oversight of restoration construction activities. This project was completed in the summer of 2018.
- **Bohn Park Flood Recovery and Restoration, Town of Lyons, CO** – ecos is part of the Design Team assisting the Town with the restoration, enhancement and stabilization of Bohn Park which was damaged by the 2013 floods. Ecos role is to assess, design, and prepare design-bid-build specifications for the natural restoration of the vegetation communities and habitat along South St. Vrain Creek that have been incorporated in to the landscape architecture of Bohn Park, the Towns largest and most used recreational asset. This project was completed in the spring of 2018.
- **Fourmile Creek Flood Recovery and Restoration, Boulder County, CO** – ecos was part of the Fourmile Watershed Coalition design-build team tasked with restoring flood-damaged properties that were prioritized in the watershed master plan. Jon generated seeding and planting plans, performance notes, cost estimates, and co-managed construction oversight in collaboration with the executive director of the Watershed Coalition. This project was completed in the summer of 2017.
- **James Creek Post-flood Restoration, Lefthand Watershed Oversight Group (LWOG), Jamestown, CO** – ecos was part of the LWOG Team responsible for preparing the 30-60% design package for James Creek Reach 16 as identified in the Lefthand Creek Watershed Master Plan. ecos performed pre- and post-flood plant community assessment; developed revegetation goals and objectives, the basis of design, monitoring protocols, and revegetation plans according to Colorado Department of Local Affairs, Community Development Block Grant – Disaster Recovery 30% Guidelines. Specific resources and issues of concern addressed by ecos, included federal and state listed candidate, threatened and endangered species, wildlife species of concern (including raptors), fisheries and fish passage, native plant communities, and management of noxious weeds.
- **Saint Vrain Creek Flood Recovery and Restoration, Town of Lyons, CO** – ecos is part of a design-build team tasked with restoring the St. Vrain Creek corridor in the Town of Lyons that was damaged during the September 2013 flood event. The goal of the project is to work with the Town and affected land-owners to create a more resilient floodplain and natural channel condition that will help alleviate future threats to the community, reestablish floodplain connectivity, stabilize banks, and restore aquatic, wetland and riparian habitat that was wiped out during the flood. Mr. Dauzvardis is responsible for developing the plant communities and revegetation strategies needed to restore aquatic and riparian structure and functions within the corridor that support fish, wildlife, recreation, and help the Town regain the ecological benefits and economic value they receive from outdoor enthusiasts. This project was completed in the summer of 2016.



- **Plum Creek Mitigation Bank, Sedalia, CO** – ecos was retained by Restoration Systems to prepare conceptual design plans for the Plum Creek Mitigation Bank Site that is currently under consideration by the Chatfield Reservoir Mitigation Company (CRMC). The purpose of the Site is to provide compensatory mitigation credits for unavoidable, permitted impacts to wetland, PMJM and bird (target resources) habitat regulated under the CWA and ESA; and to restore, enhance and preserve natural resource functions. Jon has guided agency and CRMC staff on tours of the Site; performed plant community mapping, baseline EFU assessment for PMJM, and FACWet assessment of wetlands. Jon was responsible for mapping, interpretation, and quantification of historic and existing habitat on the site. Jon prepared Conceptual Design Plans for resource mitigation including channel geomorphology, PMJM and wetland habitat setting the stage for post-mitigation calculations of EFU's.
- **Bellvue Raw Water Ponds Riverbank Restoration, Bellvue, CO** – The 2013 flood on the Poudre River altered the course of the river and severely eroded a bank nearly causing a breach of the City of Greeley's raw water ponds – their main municipal water supply. The goal of the project was to stabilize the bank to protect the ponds and to create riparian habitat for the Preble's meadow jumping mouse, a federally listed threatened and endangered species. Jon was responsible for preparing bioengineering design plans and specifications that include soil/cobble encapsulated lifts, stream barbs to deflect flows away from the bank, and harder, biotechnical design of soil/riprap and stream bed scour protection measures to prevent erosion and further undermining and sloughing of the bank. Design plans included specification of native plant materials and various techniques to restore cottonwood forest and willow habitat to further stabilize the bank.
- **Poudre River Pipeline Crossing at Kodak, Windsor, CO** – Jon's role on the ecos team was to assess restoration potential, techniques, and prepare design plans and performance specifications to reclaim a pipeline corridor across the lower Poudre River where the City of Greeley had to replace 3 major water supply lines. Flooding on the Poudre River in 2013 and 2014 temporarily suspended construction of the pipeline. Jon will oversee site stabilization and restoration measures once all 3 pipelines have been installed.
- **Lions Park Poudre River Restoration Plan, Laporte, CO** – Jon's role on the ecos team was to assess habitat conditions; gather, compile and analyze field survey data; and to prepare the mapping and mitigation design plans for the Lions Park PMJM habitat and the Poudre River Bank Stabilization Plans. Jon simultaneously designed and executed the technical drawings for the structural components of the habitat, ensuring that the proposed riparian plant community, habitat structures (brush piles), and bioengineered streambank stabilization measures will create the conditions that alleviate the current habitat fragmentation; support the life requisites of the PMJM; and enhance the overall health of the Poudre River fishery.
- **St. Vrain River Riparian Corridor Enhancement, Lyons, CO** – Jon designed, managed and led the construction of the Preble's Meadow Jumping Mouse Habitat (PMJM) enhancement project along the St. Vrain River. Jon worked in coordination with the project sponsor and Director of the Town of Lyons, Parks, Recreation and Cultural Events Department to implement required mitigation within a passive greenway park along the St. Vrain. Jon's role included riparian/PMJM mitigation site identification and habitat assessment; and design; and implementation of riverbank stabilization and riparian habitat enhancement measures.
- **Brush Creek Fishery Enhancement Plan, Saratoga, WY** – Prepared access, staging and design plans, details and performed on-site construction oversight of instream and riparian habitat enhancements and bioengineered bank stabilization along a 3-mile reach of Brush Creek. The purpose of the project is to enhance fish, bird and wildlife habitat and use these resources to facilitate education and improve the recreational experience of Ranch guests. Access routes were planned so that they can be easily converted to trails to avoid repetitive impacts to high quality habitat and productive pastures.
- **St. Vrain River Riparian Corridor Enhancement, Lyons, CO** – Jon is the lead Landscape Architect for the restoration and enhancement of Preble's Meadow Jumping Mouse Habitat (PMJM) along the St. Vrain River. Jon and ecos are working in coordination with the Town of Lyons, Parks, Recreation and Cultural Events team to implement this restoration project within a passive park area along the St. Vrain. Jon's tasks include riparian/PMJM habitat assessment; PMJM site location and habitat design; and implementation of riverbank stabilization and riparian habitat enhancement measures.
- **TZ Ranch, Elk Hollow Creek Fishery Habitat Enhancement Plan, Saratoga, WY** - ecos performed the assessment and design of the Elk Hollow Creek Project, which included instream and riparian habitat

improvements aimed at increasing bank stability, improving aquatic habitat and angling opportunities, and providing long-term stability to the reach. Instream improvements included drop structures, plunge pools, deep pools, riffles and spawning habitat. Bank improvements included seeding and planting plans for native wetland and riparian species. Jon was the lead on the generation of design-build plans and provided construction oversight of instream structure and native plant installation.

- **Brush Creek Ranch Pond Creation Plan, Saratoga, WY** – Prepared below grade pond excavation, grading, drainage and revegetation plan for a 0.30-acre fishing pond, followed by on-site field layout and surveying, wetland sod transplanting, submerged aquatic habitat and construction support of heavy equipment operators. The pond was designed to be a self-sustaining, cold water fishery that supports all components of the aquatic food-chain and incorporates all necessary life requisites for trout; and provide fishing opportunities during high water in Brush Creek.
- **Edwards Eagle River Restoration Project, Edwards, CO** – Assessment, planning, native plant community design and construction oversight of aquatic, wetland, riparian habitat along 1.5 mile reach and 168-acres of floodplain along the Eagle River utilizing indigenous materials and methods that naturally integrate habitat structure in the landscape context. Planning and design included trails, boat launch, boardwalks, overlooks, and interpretive sign systems and thematic content.
- **Boone Property, Boulder Creek Fishery Enhancement Project, Boulder, CO** – Performed site assessment and identified instream and overhead cover habitat to enhance fish habitat along a short reach of Boulder Creek adjacent to City of Boulder, Eldorado Canyon Open Space.
- **C-Lazy-U Ranch Willow Creek Fishery Enhancement Plan, Granby, CO** – Assessed and prepared design plans for 2 miles of instream and overhead cover habitat aimed at enhancing water quality through increased bank stability, improving aquatic habitat and angling opportunities, and providing long-term stability to the reach influenced ongoing ranching activities. Bank-side improvements include detailed seeding and planting plans indicating site-specific plant and seed locations, life zones, and species palettes according to hydrologic, soil, and aspect conditions.
- **Colowyo Coal Mine Wetland Creation Plan, Meeker, CO** – Performed wetland mitigation site feasibility assessment and design of 2.2-acres of created wetland benches along a 1.5-mile reach of the West New Goodspring Creek.
- **Uncompahgre River Wetland Creation and Streambank Stabilization, Montrose, CO** – Mr. Dauzvardis developed a Clean Water Act Individual Section 404, alternatives analysis and mitigation plans that successfully defrayed public descent and offset unavoidable impacts related to the River Landing Retail Development Project. Once approved by the USACE, the project turned a degraded, gravel-mined portion of the floodplain into functional and aesthetic riparian habitat that is now enjoyed by the public via a segment of trail that Mr. Dauzvardis designed. Two acres of riparian and “backwater” wetland habitat were strategically created along the Uncompahgre River to ensure reliable hydrologic connectivity and support of the designed wetland plant community. Nearly 350 lineal feet of severely degraded stream bank was stabilized using a naturalized bio-engineering approach that incorporated soil, native seed, erosion control blanket, shrubs, trees, and strategically located river boulders and logs to restore the riparian habitat, create fish habitat and redirect scouring flows away from the once barren bank.
- **River Point at Sheridan Brownfield Redevelopment, Sheridan, CO** – Designed and oversaw the construction of a “bio-engineered” and “bio-technical” vegetative landfill cap system and water quality swale that drains to the South Platte River. Jon was responsible for integrating the swale in to the River Point at Sheridan commercial redevelopment and the City of Englewood Golf Course renewal – renamed to the Broken Tee Golf Course.
- **Broken Tee Golf Course Flood Protection, City of Englewood, CO** – Oversaw the construction of a biotechnical subsurface stabilization and flood protection system (under-armor) designed to ensure that the woodland golf course tees, fairways and greens in the South Platte River floodplain are not compromised by flood scour. Designed and implemented bioengineered bank stabilization and under-armor on Bear Creek that was essential for protecting tees and greens. Jon was responsible for disproving the jurisdictional status of artificially supported wetlands via a groundwater monitoring system.
- **Lafarge Northbank Resources Gravel Pit Wetland Design, Rifle, CO** – Jon asses DMG requirements and prepared gravel pit reclamation plans aimed at providing suitable shallow-water wetlands and islands within the pit closure area to serve as compensatory mitigation for wetland impacts associated with mine operations adjacent to the Colorado River.

- **Leach Creek Stream Enhancement, Grand Junction, CO** – Designed stream corridor enhancements for a ½-mile section of Leach Creek that was channelized and used as an irrigation canal. Enhancements were designed to restore natural channel form and function, improve the aquatic environment, and provide mitigation for jurisdictional impacts permitted under the Nationwide Permit program. This project is being used as a model and replicated along other reaches of Leach Creek
- **Castro Property Wetlands and Wildlife Ponds, Beulah, CO** – Performed the site assessment, feasibility analysis, water resource and minor dam design, native plant design, landscape architecture, and supported the water rights application needed to create shallow water wetland habitat for amphibians, waterfowl, migrating bird and ungulates, and deep water habitat for trout at a sub-alpine elevation of 9000 feet. Project included development of a spring, creation of a creek and a mechanical water circulation and aeration system to support the aquatic, wetland, and riparian ecosystem. Organized, supervised and participated in a volunteer planting effort.
- **Jefferson County Gunbarrel Bridge Replacement, Oxyoke, CO** – Developed construction plans and specifications and oversaw construction of wetland and Preble's mouse habitat mitigation to enhance weedy and degraded wetland and Preble's mouse habitat along Gunbarrel Creek, a tributary to the upper South Platte River near Deckers, CO.
- **Coal Creek Bank Stabilization, Erie, CO** – Assessed, permitted, designed and performed construction oversight of bio-engineered/bio-technical bank stabilization and wetland creation associated with the Vista Parkway bridge crossing over Coal Creek in Erie, CO. The project involved pulling back vertical banks and restoring native wetland, riparian, and short grass prairie habitat.
- **Spring Creek Wetland Mitigation, Colorado Springs, CO** – Generated wetland and creek creation plans that integrated required mitigation into a high density, "new urban" development. The design emphasized re-utilization of urban storm water to sustain wetlands, use of indigenous plants, construction materials, and natural geomorphic relationships.
- **Sulphur Gulch, Parker, CO** – Developed a naturalized sculpted concrete drop structure design, planting and bio-engineering plans for a highly visible, urbanizing reach of a sandy creek through the center of the Town of Parker.
- **Skylark Creek Restoration Plan, Kremmling, CO** – Designed and performed construction oversight of aquatic, wetland and riparian plant community, and trail system along a historic side channel of the Upper Colorado River on a private fishing ranch.
- **ARCO Opportunity Ponds Wetland Mitigation Design, Anaconda, MT** – Jon generated the design of a 908-acre complex of wetlands and terrestrial habitat required to meet the Consent Decree and the functional assessment criteria established during the wetland assessment process mentioned previously. The design is currently being implemented. Once complete, the grading, drainage, hydrology, and revegetation strategy used to create wetlands from massive soil borrow pits will potentially be the largest inland, freshwater wetland mitigation project in the United States.
- **Northgate Boulevard Realignment, Colorado Springs, CO** – Coordinated and prepared ESA Section 7 and CWA Section 404 consultation documents as required by the USFWS and USACE, including mitigation construction documents, specifications, on-site layout of plant communities and construction supervision aimed at restoring wetland and riparian habitat occupied by Preble's meadow jumping mouse.
- **Northgate PMJM and Wetland Mitigation Plan, Colorado Springs, CO** – Mr. Dauzvardis was an instrumental member of multidisciplinary team responsible for delineating wetlands, preparing ESA Section 7 and CWA Section 404 assessment, impact analysis and consultation documents as required by the USFWS and USACE. As the lead designer, Jon was responsible for the design of over 80 acres of wetland, riparian, and grassland habitat utilized as primary and secondary habitat for Preble's Meadow Jumping Mouse, a Federally-listed threatened species. Jon prepared mitigation construction documents, specifications, onsite layout of plant communities and supervised construction for this precedent setting mitigation plan designed to offset impacts to critical habitat over a 1200-acre site.
- **Martin County Coal Corporation, Inez, KY** – Mr. Dauzvardis bioengineered and performed on-the-ground triage of two stream corridors, consisting of 26 miles, impacted by a coal slurry spill that originated from a mountaintop mine reservoir used to hold liquefied coal dust. Jon identified and documented critically imperiled stream banks and human settlements, and then designed, coordinated, led and supervised local crews during the implementation of specified floodplain, bioengineered bank stabilization, and reforestation efforts.

- **Uncompahgre River Restoration and Park Corridor, Ouray, CO** – Jon designed and performed construction oversight of the restoration and reclamation of one mile of upland, riparian and wetland habitat left barren by historic placer mining. The major challenge presented by this project was a lack of soil, organic matter and nutrients to sustain vegetation. This constraint was addressed by amending the soil with humate and planting and seeding riparian vegetation to initiate natural succession and bioaccumulation of matter, assisted by an irrigation system that injected organic fertilizer and microbes (mycorrhizea) in to the substrate.
- **Burlington Mine Remediation, Jamestown, CO** – Preparation and management of specification package, best management practices (BMPs), and revegetation design for mine waste capping and closure.
- **Powder River Coal Company – Porcupine Creek Restoration, Douglas, WY** – Designed and supervised the construction of this post mine wetland/creek restoration project. Following the pit closure, reclamation specialists reestablished the original location and geomorphic relationships of the creek using historic aerial photography using a trapezoidal channel cross-section design. Jon adapted the design creating grading and wetland planting plans that mimic the landform, natural lateral and longitudinal channel tilt, and plant communities that are indigenous to ephemeral creeks in the shortgrass prairie landscapes of eastern Wyoming.
- **Sand Creek Corridor Habitat Enhancement at Bluff Lake, Denver, CO** – Prepared plant community, bioengineering and bank stabilization design. Prepared visualization graphics to present and receive design approval.
- **Intrawest Resort Development, West Ten Mile Creek, Copper Mountain Village, CO** – Prepared vegetation community and concept design of village base streamside recreational amenities.

#### **Construction and Plant Installation:**

- **St. Vrain River Riparian Corridor Enhancement, Lyons, CO** – Jon managed construction and implementation of the restoration and enhancement of 0.60-acre of riparian Preble's Meadow Jumping Mouse Habitat (PMJM) along the St. Vrain River.
- **Standley Lake Protection Project, Westminster, CO** – Designed and supervised construction of a 0.50-acre created emergent wetland to fulfill final mitigation requirements of the USACE and bring closure to the City's drinking water protection project.
- **Caribou Peat Bog Restoration, Nederland, CO** – Prepared native plant community design, planting cost estimate, and on-the-ground oversight of volunteers to restore a high-altitude peat bog disturbed by an illegal four-wheel drive "mudfest".
- **Department of Energy (DOE) Wetland Mitigation Bank, Westminster, CO** – Construction supervision of grading and planting plans of a 12-acre wetland mitigation bank design for the Department of Energy.
- **ARCO Lower Area One and Butte Reduction Works, Butte, MT** – Performed construction observation and supervision of temporary labor crews to plant a passive treatment wetland designed to absorb heavy metals from groundwater.
- **Colorado Department of Transportation Mitigation Bank, Limon, CO** – Performed in-field planting design and supervised local labor to complete a 10-acre wetland mitigation bank designed by CDOT to offset future wetland impacts in the transportation region.
- **Irvine Ranch Water District – San Joaquin Wetland Treatment System, Irvine, CA** – Planting superintendent of a wetland designed to be used as tertiary wastewater treatment facility and waterfowl refuge.

#### **PRESENTATIONS & INSTRUCTION:**

- Dauzvardis, Jonathan B. 2008. Preserving the Ecological Services of Willow Cuttings. Research presented at the Colorado Riparian Association (CRA) Sustaining Colorado Watersheds Conference. October 2, 2008. Vail, Colorado.
- Dauzvardis, Jonathan B. 2006. Water Pollution and Wetland Plant Tolerance to Various Ph Levels. Classroom instruction with Elementary Students. Flagstaff Academy Charter School. February 2, 2006. Longmont, Colorado.
- Dauzvardis, Jonathan B. 2006. Soil Erosion and Habitat Destruction. Classroom instruction with Elementary Students. Flagstaff Academy Charter School. January 26, 2006. Longmont, Colorado.



Dauzvardis, Jonathan B. 2004. Wetland and Wildlife Habitat Restoration, Opportunity Ponds, Anaconda, Montana. Poster Presentation at Ecological Restoration Conference. October, 2003. Orlando, Florida.

Dauzvardis, Jonathan B. 2003. Application of Landscape Ecology Principles to Mine Remediation and Wetland Creation: An Ecological Restoration Seminar using a Case Study of the Opportunity Ponds Wetlands Plan, Anaconda, Montana. Presented at the University of Colorado, Denver. November, 2003. Denver, Colorado.

Dauzvardis, Jonathan B. 2000. Endangered Species Act Issues: Incorporating the ESA into Mitigation Projects. Presented at the Continuing Legal Education (CLE, International) Colorado Wetlands Conference. September 18, 2000. Denver, Colorado.

#### **AWARDS:**

- Colorado Landscape Contractors Award, Sand Creek Enhancement Project – 2000
- Colorado Landscape Contractors Award, Skylark Creek Restoration Project – 1998
- Colorado American Society of Landscape Architects, Research, and Communications – 1997
- Texas American Society of Landscape Architects Honor Award – 1995
- Texas A&M Landscape Architecture Faculty Award – 1995

#### **PROFESSIONAL ASSOCIATIONS:**

- Town of Erie, Colorado Open Space and Trails Advisory Board (OSTAB) - As a former member and chair of the Town of Erie Open Space and Trails Advisory Board (OSTAB), Mr. Dauzvardis routinely collaborated with Town Administrator, Community Planning, Public Works, and Parks and Recreation Directors and Staff, and advised the Board of Trustees on all matters related to the goals, objectives, prioritization, acquisition, conservation, and the management of open space and trails throughout a 49-square mile planning area. Jon's 8-year experience on the OSTAB translates to an intimate knowledge of public processes.
- Society of Wetland Scientists (SWS)



## RESUME

**Grant E. Gurnée, P.W.S.**

*Owner/Managing Partner  
Senior Restoration Ecologist  
Fisheries and Wildlife Biologist  
Wetland Ecologist*

**AREAS OF EXPERTISE:**

- Project Management for Complex, Environmental Regulatory and Restoration Projects
- Habitat Assessment, Surveys, Planning, Permitting, Restoration Design, Construction Oversight & Monitoring for:
  - Aquatic, Wetland and Riparian Habitat, and Wildlife Habitat
  - Threatened & Endangered Species, Special Status Species, and Species of Concern
  - Nesting Birds & Raptors
  - Natural Areas, Open Space, Trails and Environmental Education Facilities
  - Conservation and Resource Mitigation Banks
- Natural Resources/Environmental Regulatory Compliance
- Construction Oversight & Best Management Practices
- Grant Funding Support for Conservation and Restoration Projects
- Expert Witness Testimony

**EDUCATION:**

- MCRP, Environmental Planning and Law Program, Rutgers University, 1994
- Bachelor of Science, Biology, Richard Stockton College of N.J., 1984

**EMPLOYMENT HISTORY:**

- 2008-Present: Owner, Managing Partner and Senior Restoration Ecologist  
Ecosystem Services, LLC, Erie, Colorado
- 1999-2011: Ecological Restoration Group Manager  
Walsh Environmental Scientists and Engineers, LLC, Boulder, Colorado
- 1994-1999: Vice President and Consulting Division Manager  
Aquatic and Wetland Company, Boulder, Colorado
- 1987-1994: Ecological Assessment Group Manager  
Killam Associates, Millburn, New Jersey
- 1989 – 1994: Owner and Ecologist, Westhill Environmental, Colonia, NJ
- 1986-1987: Project Manager, Connolly Environmental, Denville, New Jersey
- 1985-1986: Biological Technician/Team Lead, EA Engineering Science and Technology, Forked River Field Station, New Jersey

**CONTINUING EDUCATION:**

- Stream Functions Pyramid Workshop, Denver, CO - 2014
- Colorado Natural Heritage Program, Wetland Plant Identification - 2014
- Colorado Natural Heritage Program, Ecological Integrity Assessment for Colorado Wetlands - 2013
- FACWet – Functional Assessment of Colorado Wetlands - 2010, 2012 and 2013
- Natural Treatment System Design and Implementation, Southwest Wetlands, Phoenix, AZ - 1995
- Continuing Education in Coastal and Wetland Ecology, Rutgers University, 1985 – 1994

## **CERTIFICATIONS:**

- Professional Wetland Scientist, Certification (#559), Society of Wetland Scientists Certification Program, 1995
- Certified Wetland Delineator, Army Corps of Engineers Wetland Delineator Certification Program, 1993
- Wetland Mitigation Planning and Design Certification, Environmental Concern, Sparks, MD, 1992
- Certified Ornithologist, Marine Biologist, Aquatic Biologist and Ecologist for the preparation and certification of Environmentally Sensitive Areas Protection Plans, N.J. Dept. of Environmental Protection and Energy, 1988
- Wetland Delineation and Regulatory Certification, National Wetland Science Training Institute, 1988

## **PROTECTED SPECIES SURVEYS AND HABITAT ASSESSMENTS:**

- Ute-ladies' tresses orchid and Colorado butterfly plant
- Preble's meadow jumping mouse
- Nesting birds and raptors, including burrowing owls
- Swift fox and bobcat
- Boreal toad
- Pine Barrens and grey tree frogs
- Freshwater, estuarine and marine surveys for native fish
- Western Tiger Salamander
- Terrestrial and sea turtles

## **EXPERIENCE SUMMARY:**

Mr. Gurnée is a founder and managing partner of Ecosystem Services, LLC (ecos), a design-build, ecological planning and design firm that is the culmination of his life's work and passion for restoring and conserving the natural world. Grant is a certified Professional Wetland Scientist with over 35 years of experience in wetland ecology, restoration ecology, wildlife and fisheries biology, environmental planning, and regulatory compliance. Prior to ecos Grant established the Ecological Restoration Group at Walsh Environmental and was the Vice President in charge of the Consulting & Design Division for Aquatic and Wetland Company, the first design-build-grow firm in Colorado. Mr. Gurnée utilizes his diverse field assessment and hands-on experience to bring a unique and pragmatic, big-picture perspective to projects from conceptual planning through implementation. Grant's environmental planning and law education combined with his regulatory compliance experience make him one of the leading experts in the Intermountain West in Clean Water Act and Endangered Species Act issues. He enjoys teaching and furthering the science and art that comprise the field of restoration ecology. As such, Grant has published and presented papers and technical manuals, and lectured nationally and internationally at educational programs that further the understanding of aquatic, wetland, riparian and T&E species habitat assessment and restoration. Mr. Gurnée has also been called upon to provide expert reports, expert witness testimony and liaison representation in complex regulatory compliance matters.

## **RELEVANT PROJECT EXPERIENCE:**

The following is a sampling of select projects and clientele that Grant has successfully completed or is currently involved in:

### **Habitat Assessment and Regulatory Compliance**

- **Banning Lewis Ranch, Colorado Springs, CO** – ecos was hired by Norwood Homes to perform a Preliminary Habitat Assessment (PHA) for the Banning Lewis Ranch (BLR), an 18,000-acre property within El Paso County, Colorado that will double the size of Colorado Springs once it is developed. The PHA included an assessment and mapping of vegetation, noxious weeds, Federal and State Listed Candidate, Threatened and Endangered (T&E) Species, Wildlife Species of Concern (including Raptors), Waters of the U.S. and Wetland Habitat, Floodplains, and Cultural, Archeological and Paleontological Resources. The PHA Report summarizes ecos' Site assessment findings and includes the mapping of all ecological constraints and cultural resources, a preliminary jurisdictional status determination of all potential wetland habitat and waters of the U.S. (WOUS) under the Clean Water Act (CWA), a summary of ecological opportunities and constraints, and provides regulatory guidance to assist in planning and implementing the future development of the BLR. Norwood and their planning team, in association with ecos, are currently uploading and interpreting all of the ecos Site assessment mapping into their base GIS layers to inform

future site planning and recommend proactive measures to conserve wildlife and wetland habitat, pristine prairie and ephemeral creeks, floodplains, and significant cultural resources.

- **Clean Water Act Jurisdictional Assessment of El Guique Mine in Estaca, New Mexico** – Ecos assisted Espanola Transit Mix, LLC (ETM) in their assessment at the El Guique Mine in Estaca, New Mexico (Site) by determining the potential jurisdictional status of onsite drainages and other waters under the CWA. We reviewed available background information and base mapping to gain a better understanding of the Site and the adjacent offsite area and prepared an overlay of potential WOUS on Google Earth aerial Imagery for mark-up and notation in the field. Ecos then conducted a field assessment to review Site conditions, and potential offsite, downstream connections to WOUS, and particularly the presence of a Significant Nexus to the Rio Grande, a TNW. We drafted a Technical Memorandum summarizing the methodology employed, the results of the field assessment, the rationale under the CWA for all areas deemed to be excluded or non-jurisdictional and illustrated the locations of potential jurisdictional and non-jurisdictional features identified in the field on Google Earth aerial imagery.
- **Bellvue Pipeline Project, BMP Facilitator, Larimer County, CO** – ecos was retained by the City of Greeley as Best Management Practices (BMP) Facilitators to provide pre-construction documentation post-construction oversight of pipeline reclamation processes. Essential responsibilities include meeting with landowners prior to construction to facilitate project understanding and post-construction outcomes; to document landowner needs and wants relative to project goals and land use; to document and monitor pre- and post-construction reclamation and maintenance requirements; and to ensure the contractors maintain compliance with all state and federal laws, county regulations, and Greeley construction and restoration specifications.
- **Encana Oil and Gas (USA), Denver Julesburg Basin, CO** – Encana hired ecos to assess their ecological constraints, recommend means and methods to avoid, minimize and permit unavoidable impacts; and to mitigate, restore and prepare ecological management plans for their drilling and pipeline operations in the Denver Julesburg basin. Grant's role on the team is to perform site assessments, research background data, and prepare assessment reports and mapping data that can be utilized by Encana's project managers to proactively track ecological resources before issues arise. In addition to client consultation, Ecos is responsible for tracking drill site schedules, constraints, restoration and management efforts in a data base and reporting said information to Encana's project manager on a regular basis.
- **Georgetown Lake, Georgetown, CO** –ecos was hired to perform an onsite assessment of ecological resources and prepare a summary report to describe the physical/ecological characteristics of the Project area and evaluate the potential effects of the construction of a loop trail project on environmental issues and species of concern to support a GOCO grant application. Items evaluated and documented, include site location/ownership, general site characteristics, current land use, proposed impacts, possible effects on Federal– and State-listed T&E animal and plant species, unique or important wildlife, water quality, water bodies, wetlands, and floodplains, stormwater runoff, sedimentation, soil erosion, and invasive species. The assessment report also included mitigation measures, project benefits, and environmental compliance recommendations under applicable regulatory programs.
- **Site Assessments for General Vegetation Cover and T&E Species Presence/Absence** – ecos was retained by JADE Consulting, LLC to perform the assessment of two future development sites located in Lafayette and Yuma, Colorado. We performed a desk-top assessment to identify existing site characteristics and screen the potential presence/absence of federally-listed threatened and endangered (T&E) species and followed up with onsite assessments to verify our preliminary findings. Our findings and recommendations were summarized in a Technical Memorandum in which we determined that no further assessment or regulatory compliance actions are required.
- **The Cove Assessment & Regulatory Compliance Report, El Paso County, CO** - ecos was retained by Lake Woodmoor Development, Inc. to perform a natural resource assessment for The Cove development, and to prepare a Natural Features Wetland, Wildfire, Noxious Weeds & Wildlife Report (Report) pursuant to El Paso County environmental review regulations. The purpose of the project was to identify and document the natural resources, ecological characteristics and existing conditions of the Site; identify potential ecological impacts associated with Site development; and provide current regulatory guidance related to potential development-related impacts to natural resources, including: Mineral and Natural Resource Extraction; Vegetation; Wetland Habitat and Waters of the U.S.; Noxious Weeds; Wildfire Hazard; Wildlife; Federal and State Listed Candidate, Threatened and Endangered Species; and Raptors and Migratory Birds.



- **Jurisdictional Determination Request for Banning Lewis Ranch, Villages 1 and 2 Residential Development, El Paso County, CO** - ecos was retained by Oakwood Homes, LLC to review a 2014 Jurisdictional Boundary Delineation and determine if a portion of the wetlands and waters within the site could be deemed non-jurisdictional under the Clean Water Act (CWA) based on their “isolated” status. Following data review, ecos arranged a field assessment with the U.S. Army Corps of Engineers (Corps) to review site conditions, and potential offsite, downstream connections to waters of the U.S. (WOUS), and particularly the presence of a Significant Nexus to Traditional Navigable Waters TNW). Ecos and the Corps agreed that several of the intermittent drainages on the suite are not jurisdictional under the CWA, as they are not: 1) a TNW or wetland adjacent to a TNW; 2) a Relatively Permanent Water (RPW) or a wetland directly abutting an RPW with perennial or seasonal flow; 3) a tributary to a TNW; or 4) a direct tributary to a downstream WOUS as the feature loses its bed and banks. The Corps submitted ecos’ findings to the U.S. Environmental Protection Agency (EPA) and they concurred and issued an Approved Jurisdictional Determination stating that the drainages were indeed “isolated” features exempt from the CWA.
- **Bellvue Pipeline Project, CWA and ESA Regulatory Negotiation, Larimer County, CO** – ecos assisted the City of Greeley from 2011 through 2014 in their negotiations with the Corps to facilitate review and verification of the Project under CWA, Nationwide Permit 12 (NP12) in 2014. Grant aided the City during Corps meetings, field visits and teleconferences; in coordinating with the Corps and the technical experts on the Corps Common Technical Platform (CTP) team; and in utilizing the CTP Poudre watershed data to assess the probability of Project-specific impacts. Grant also provided regulatory and technical support to the City for the CWA, Pre-Construction Notification (PCN) Supplement for the Project from 2014 through the USACE’s 2017 issuance of the “removal of capacity conditions for the Northern and Fort Collins segments” placed on the 2014 NP12. His tasks included performing Impact Avoidance Evaluations, providing historical context and data from the initial work performed for the City on this Project, assisting a Team of multi-disciplinary professionals in the preparation of Impact Assessment Reports, meeting with the City to discuss overall regulatory strategy, assisting with the preparation of the cover letter to transmit the PCN Supplement to the USACE, and assisting with discussions and presentations to the USACE during their review and processing of a Minimal Effects Determination for the Project.  
Mr. Gurnée also assisted Greeley in their negotiations with the FWS to facilitate review and consultation for the Northern Segment of the Project under Section 7 of the ESA. Grant led the field assessment with FWS, identification and prioritization of potential PMJM habitat mitigation sites, development of a conceptual design for the selected PMJM habitat mitigation sites, and preparation of the Biological Assessment Addendum and Habitat Mitigation Plan. Grant also aided the City during agency review and approval of the FWS Biological Opinion by utilizing his relationships with the FWS, and extensive experience of ESA regulations, policies and precedents.
- **Appraisal Support Documentation Report for the 1st Bank Parcel, Colorado Springs, CO** - ecos was retained by 1st Bank Holding Company to perform a Preble’s meadow jumping mouse (PMJM) habitat assessment, mitigation cost analysis and conceptual lot layout for the approximate 9.4-acre 1st Bank Parcel (Site) situated south of the Gleneagle residential development and north of the current Northgate Open Space along Smith Creek in Colorado Springs, Colorado.
- **South Boulder Canon Ditch Maintenance, Clean Water Act (CWA) Exemption Determination, Erie, CO** – ecos assisted the Town of Erie in exempting their proposed ditch maintenance project by performing an assessment of site conditions, submitting the assessment report to the Corps, and verifying that said project is exempt pursuant to Section 404(f) of the CWA.
- **Endangered Species Act (ESA) Compliance Documentation for the Pinon Lake tributary CLOMR Application, Forest Lakes Filing 2B in El Paso County, Colorado** – ecos performed an assessment to document the absence of federally-listed T&E species and their habitat and prepared a report for FEMA that documents that the proposed CLOMR action will not result in a “take” of T&E species.
- **Gleneagle Infill Development Assessment & Regulatory Compliance Report, El Paso County, CO** - ecos was retained by G & S Development, Inc. to perform a natural resource assessment for the proposed Gleneagle Infill Development at the former Gleneagle Golf Course, and to prepare a Natural Features and Wetland Report (Report) pursuant to El Paso County environmental review regulations. The purpose of the project was to identify and document the natural resources, ecological characteristics and existing conditions of the Site; identify potential ecological impacts associated with Site development; and provide current regulatory guidance related to potential development-related impacts to natural resources, including: Mineral and Natural Resource Extraction; Vegetation; Wetland Habitat and Waters of the U.S.;

Weeds; Wildfire Hazard; Wildlife; Federal and State Listed Candidate, Threatened and Endangered Species; and Raptors and Migratory Birds. As part of the Project, ecos obtained an Approved Jurisdictional Determination from the Corps.

- **North Fork at Briargate Habitat Evaluation and ESA Compliance, Colorado Springs, CO** - ecos performed a habitat evaluation on behalf of High Valley Land Co., Inc. and La Plata Communities to support informal consultation with the U.S. Fish and Wildlife Service (FWS) under the ESA for potential effects to the Federally-listed, threatened PMJM from the proposed North Fork development, Filings 3 through 7 at Briargate.
- **C Lazy U Preserves Natural Resource Inventory and Conservation Easement Documentation, Grand County, CO** – ecos is assisting the C Lazy U Preserves in assessing and documenting the conservation values of the 980-acre site known as C Lazy U Preserves near Granby, CO such that the site may be protected under Conservation Easements (CE's) held by The Nature Conservancy. The purpose of the CE's is the long-term preservation of the scenic, open space, agricultural, significant natural habitat, native vegetation, rare plant communities, riparian, and wetland values of the Property. ecos staff completed the Easement Documentation Reports Phase 1 of the CE's in 2006, Phase 2 in 2007, and Phase 3 in 2015.
- **Seaman Water Management Project, Riparian-Wetland Technical Support** - Mr. Gurnée supported Greeley in the NEPA EIS process by reviewing riparian and wetland technical reports prepared by the Corps CTP team, and providing comments to assist the City in their formal review and response to the Corps. He also provided technical and regulatory support for CWA and ESA (PMJM habitat) assessment, consultation, and compensatory mitigation planning and design.
- **City of Louisville, City of Westminster, Jefferson County and Town of Monument** – ecos performed numerous wetland habitat, wildlife, MBTA and T&E species habitat ecological assessments, wetland delineations, and Clean Water Act Section 404 and Endangered Species Act Section 7 Permits and mitigation plans for counties, municipalities and quasi- municipalities, including Highway 42 and 96th Street realignment, Jim Baker Reservoir, Standley Lake Protection Project, Triview Metro District Preble's and wetland habitat mitigation planning.
- **ARCO Clark Fork River Basin Anaconda Smelter Superfund Site, Anaconda, MT** – Grant and his Team performed wetland delineation, functional assessments, and impact analysis over a 200 square mile area affected by historic mining practices and current remedial actions required by an EPA consent decree.
- **ARCO Clark Fork River Basin Milltown Reservoir Superfund Site, Missoula, MT** – Mr. Gurnée and his Team performed wetland delineation, functional assessments, and impact analysis of proposed remedial actions that will remove metal laden sediments from the site prior to dam removal.
- **C-Lazy-U and Horn Ranch Environmental Assessments, Granby, CO** – Mr. Gurnée and his Team performed an assessment of ecological opportunities and constraints in the aquatic, riparian, wetland and threatened and endangered species habitat along the Colorado River for the development and enhancement of fishing/resort ranch amenities.
- **Village at Avon, Avon, CO** – Grant and his Team performed a wetland delineation and prepared CWA Section 404 permitting for the town center expansion and low-density ranchette development.

### Protected Species Surveys and Habitat Assessments

- **Golden Eagle Monitoring at Meadow Park in Lyons, CO** - ecos was retained by the Town of Lyons (Town) to perform the monthly monitoring of the Golden Eagle (*Aquila chrysaetos*) nest sites at Meadow Park, to prepare monthly Monitoring Summary Memorandum following each event, and to prepare and submit annual reporting to the U.S. Fish and Wildlife Service (USFWS) associated with the *Lyons Federal Fish and Wildlife Permit #MB82833B-0, Eagle Take Associated With But Not The Purpose Of An Activity* (Take Permit).
- **Nesting Birds, Raptors and Burrowing Owls** – Grant has completed over 100 pre-construction nesting surveys and numerous monitoring surveys for raptors and burrowing owls. His projects include pipeline rights-of-way, housing and commercial development projects, stream and river restoration projects, wind and solar farm projects, and oil and gas projects along the Front Range of Colorado, as well as projects in the Pine Barrens of southern New Jersey. His avian experience includes golden eagle nest monitoring; barred owl roost and nest monitoring, and call playback inventory; and multi-species raptor surveys.
- **Native Plants** - Grant has completed numerous pre-construction and monitoring surveys for Ute ladies' tresses orchid and Colorado butterfly plant since 1994. His projects include pipeline rights-of way, mined

land reclamation projects, housing and commercial development projects, stream and river restoration projects, wind and solar farm projects, and oil and gas projects along the Front Range of Colorado.

- **Threatened, Endangered and Candidate Species** – Grant trained with the leading expert, Robert Stoecker, PhD, in 1994 and 1995 to gain an understanding of the soon to be listed, Preble's meadow jumping mouse, a threatened species; and since that time, he has completed numerous surveys, habitat assessments, and ESA consultations. He has also performed night-time Swift fox surveys at windfarm sites in southern CO and Boreal toad surveys in northern CO. Prior to relocating to CO Grant performed numerous surveys in N.J., including bobcat surveys to assist in protecting the Pyramid Rock Natural Area; Pine Barrens and gray tree frog surveys, and native Pine Barrens fish surveys with his mentor, Dr. Rudy Arndt; and Eastern box turtle surveys. He also assessed migration routes and alternative mitigation measures for sea turtles that were being impacted by the Garden State Parkway.

### **Wetland Mitigation and Habitat Restoration**

- **Park Creek Mitigation Bank, Fort Collins, CO** – ecos was retained by Burns and McDonnell to assess, map, and prepare preliminary mitigation design of aquatic, wetland, riparian and terrestrial habitat in support of a mitigation banking prospectus. Upon completion and acceptance of the prospectus by the USACE, ecos has been tasked to manage the baseline assessment of the site, including groundwater testing, topographic surveys, and hydrology; prepare a detailed habitat design for inclusion in mitigation banking instrument; as well as coordinate design-build process with a selected nursery and contractor.
- **Front Range Mitigation and Habitat Conservation Bank** – ecos is assisting Restoration Systems, LLC (RS), the Bank Sponsor, with the assessment, planning and design of the Front Range Umbrella Bank for Aquatic Resource Mitigation & Habitat Conservation (Bank). This “umbrella” Bank is intended to provide habitat mitigation for projects along the entire Front Range of Colorado. The **ecos**/RS Team is in the process of securing viable sites in the major watersheds along the Front Range; and recently submitted the Draft Prospectus for the establishment of the Bank to the U.S. Army Corps of Engineers, Albuquerque District, Southern Colorado Regulatory Office and Omaha District, Denver Regulatory Office.
- **Lions Park Poudre River CWA and ESA Mitigation Site** - ecos assisted Greeley in developing and constructing an advance river and wetland mitigation site at Lions Park in LaPorte, Colorado that may be used for future CWA impacts in the Poudre River watershed. We also prepared a conceptual design for Preble's meadow jumping mouse habitat that will be used to support ESA consultation. ecos assessed the site, prepared the designs, and coordinated review with Greeley, Colorado Department of Parks and Wildlife, Larimer County Parks and Open Lands and Larimer County Engineering Department. The mitigation site provides compensatory mitigation for impacts to wetland and waters of the U.S. under the CWA and will also provide compensation for PMJM habitat under the ESA. This mitigation project entails development of mitigation measures including bioengineered streambank stabilization, fishery habitat enhancement, riparian and wetland habitat restoration and PMJM habitat enhancement.
- **Bellvue Transmission Line Project, Preliminary Compensatory Mitigation Plan (PCMP)** - Mr. Gurnée was the Project Manager for the preparation of the Preliminary Compensatory Mitigation Plan (PCMP) for the Bellvue Transmission Line Project. Built upon preferred strategies in the 2008 Corps Compensatory Mitigation Rules, the PCMP leverages a broad strategy to ensure mitigation success and employs a watershed approach to select and prioritize compensatory mitigation (CM) measures that will best mitigate adverse environmental effects. It is intended to support a Corps determination of minimal adverse effect and allow verification of the Northern Segment of the Project under Nationwide Permit 12. Grant led the Team during the watershed assessment of the Poudre River, identification and prioritization of potential CM and preservation sites, development of a Pilot Watershed Plan, and conceptual design of priority CM sites. The PCMP has been submitted to the Corps for review and approval.
- **Flatirons Parcel Riparian and Wetland Habitat Restoration Project** – Grant assisted Greeley in developing a multiple use project at the Flatirons Parcel, a gravel quarry site in Greeley, Colorado. The site is being decommissioned over the next decade and offers great potential to create a system of ponds connected via a naturalized stream that discharges into the Poudre. The concept design incorporates recreation opportunities that are tied into the Poudre River Trail, a passive park, and the development of wetland, riparian and wildlife habitat.
- **Ruby Pipeline Wetland, Riparian and Waterbody Mitigation and Restoration Plan, WY, UT, NV AND OR** - Mr. Gurnée was the lead restoration ecologist and wetland scientist for the 675-mile, Ruby Pipeline; a natural gas pipeline traversing four states. He was the lead for the preparation of Wetland Mitigation,



Riparian and Waterbody Restoration Plans under the CWA, BLM regulations and state equivalent programs. The plans included regulatory guidelines, requirements, and processes; and ecoregion specific restoration plans. The plans detailed specifications for the basis of design, construction, and revegetation; outlined performance criteria, maintenance and monitoring methods for the restoration of approximately 460 acres of temporary wetland impacts.

- **River Point, Sheridan, CO** - Mr. Gurnée was the project manager and lead restoration ecologist for the team that assessed, permitted and designed the natural and aesthetic features of this Brownfields project. The project included a naturalized water quality swale and riverfront improvements which complement the aesthetics and ecology of the South Platte River corridor. The swale was designed to mimic the form and function of a tributary stream, providing passive water treatment with native wetland and riparian vegetation, as well as flood attenuation with instream structures and grade control. The project utilized natural, “bio-engineering” and “bio-technical” techniques to repair and maintain channel and stream bank stability, and native vegetation to enhance and restore habitat. This project also addressed the interface of proposed restaurants, a regional greenway trail, and the river through planning and design of nature trails, interpretive nodes and overlooks/access features that will function to both stabilize banks and help connect people with the river.
- **Caribou Peat Bog Restoration, Nederland, CO** – Grant performed the impact assessment, prepared native plant community design, planting cost estimate, and on-the-ground oversight of restoration volunteers to restore a high-altitude peat bog disturbed by an illegal off-road-vehicle “mudfest”.
- **Opportunity Ponds Operational Unit, Anaconda, MT** - Mr. Gurnée was the project manager and lead restoration ecologist providing technical support to Atlantic Richfield/British Petroleum at a Superfund site in the Upper Clark Fork River basin in Montana between 1995 and 2008. Services included wetland delineation and functional assessment of over 3,000 acres of wetland, stream and pond habitat; design of stream and wetland habitat mitigation projects; and permitting/compliance services. The largest project within the Superfund site was the Opportunity Ponds, a 908-acre wetland, stream and wildlife habitat creation project. The project will result in the largest freshwater mitigation project in the U.S; and is intended to mitigate for historic wetland/waters impacts from Anaconda Mining Company operations and current impacts resulting from remedial actions associated with the Superfund cleanup process.
- **The Club at Flying Horse Golf Course, Colorado Springs, CO** – On behalf of Classic Communities, Grant and his Team assessed wetland habitat, recommended impact avoidance and minimization measures, and prepared the Section 404, CWA permit for a 1500-acre mixed use development and Weiskopf golf course. The project aesthetic and mitigation measures included the design of native prairie roughs, meandering stream channels and native wetland meadows within the golf course. Extra wetland mitigation was created to serve as a private mitigation bank for the client.
- **Maloit Park, Minturn, CO** - Grant was the project manager and restoration ecologist for the Maloit Park Restoration Project, which was necessitated by the accidental release of mine slurry that contaminated the soils and vegetation of critical wetland habitat at the confluence of Cross Creek and the Eagle River. The project included the assessment of the site, the collection of native wetland seed (that was adapted to site conditions); the selection of appropriate replacement soil; the design of the restoration grading and planting plans; and oversight during the soil replacement, grading and planting phases. Mr. Gurnée also provided follow-up monitoring and reporting to ensure the successful establishment of the wetland habitat.
- **Department of Energy, Private Mitigation Bank, Westminster, CO** - Mr. Gurnée provided the project assessment, design, permitting, mitigation banking instrument negotiation with the Corps and EPA, and construction supervision of a 12-acre wetland mitigation bank for the Department of Energy in Westminster, CO. The project provides compensatory mitigation for impacts associated with the Rocky Flats clean-up and remediation project. It should be noted that this was the first private mitigation bank negotiated in Colorado, and as such it assisted in setting the precedent for future negotiations.
- **Saudi Arabia Coastal Wetland Restoration** - Mr. Gurnée assisted in the restoration planning for 67 square kilometers (41 square miles) of high salt marsh (sabhka) impacted by Gulf War oil spills.

#### **Aquatic, Wetland, and Riparian Habitat Design**

- **Big Thompson River Flood Recovery and Restoration, Loveland, CO** - ecos is currently part of a multi-disciplinary team assisting the Big Thompson Watershed Coalition (BTWC) with assessment, design, and construction of the Big Thompson between Rossum and Wilson Drives which are majority-owned by the City of Loveland and Loveland Ready-mix. As with all the flood recovery projects ecos has worked on, we



produced 30%, 60% and 100% design plans, construction cost estimates, and specifications guiding soil development/enrichment; upland, riparian, and wetland seeding and planting; and numerous bioengineering techniques aimed at restoring the river and making it more resilient to future flood events. This project is aimed at completion in the summer of 2019.

- **Saint Vrain Creek Reach 3 Flood Recovery and Restoration, Boulder County, CO** - ecos is part of the Design Team assisting Boulder County Parks & Open Space (BCPOS) with the restoration, repair and enhancement of the reach of the Saint Vrain Creek from Highway 36 downstream to Hygiene Road in rural Boulder County, which was damaged by the 2013 floods. Our role on the project includes: 1) desktop and field assessment to inventory and document the characteristics of the stream reach and riparian corridor (e.g. stream/in-stream features, vegetation, wildlife habitat); identify and locate significant habitat features within the areas of proposed construction; identify potential sources of native plant materials for restoration; and identify areas of opportunity within the breach repair work areas for native vegetation, wetland, PMJM, leopard frog and fishery habitat restoration; and delineate wetland habitat and waters of the U.S. in all areas of proposed/potential construction-related impact; 2) vegetation community and wildlife habitat restoration design and fish passage design parameters; 3) permitting and compliance under the CWA, ESA and NHPA; 4) construction oversight for restoration construction; and 5) monitoring and reporting project success/establishment to BCPOS, stakeholders, the Corps, FWS and the State of Colorado Department of Local Affairs (DOLA) under the (the Grant funding agency under the Community Development Block Grant Disaster Recovery (CDBGDR) Resilience Planning Program grant.
- **Bohn Park Flood Recovery Design, Town of Lyons, CO** – ecos is part of the Design Team assisting the Town with the restoration, repair and enhancement of Bohn Park in Lyons, which was damaged by the 2013 floods. Ecos roles is to assess and design the natural restoration of the vegetation communities and habitat along St. Vrain Creek and riparian corridor; and to support the project design by acquiring permits/approvals and maintaining regulatory compliance under the CWA, ESA and National Historic Preservation Act (NHPA). The final design will address goals and priorities associated with the Parks Flood Recovery Planning Process, FEMA Project Worksheets and Project Scopes, the Lyons Recovery Action Plan (LRAP), associated Program Development Guides (PDG's), existing Town master plans, comprehensive plans and other relevant documentation and studies.
- **James Creek Post-Flood Restoration, Lefthand Watershed Oversight Group (LWOG), Jamestown, CO** – ecos was part of the LWOG and Boulder County Department of Transportation Team responsible for preparing the 30-60% design package for James Creek Reach 16 as identified in the Left Hand Creek Watershed Master Plan. ecos performed pre- and post-flood plant community assessment; developed revegetation goals and objectives, the basis of design, monitoring protocols, and revegetation plans in accordance with Colorado Department of Local Affairs (DOLA), Community Development Block Grant – Disaster Recovery (CDBG-DR) 30% Guidelines. Specific resources and issues of concern addressed by ecos, included federal and state listed candidate, threatened and endangered species, wildlife species of concern (including raptors), fisheries and fish passage, native plant communities, and management of noxious weeds, all in concert with geomorphic, hydrology and hydraulic analysis and design prepared by other team members.
- **Saint Vrain Creek Restoration and Floodplain Resiliency Plan, Lyons, CO** – ecos is part of the design-build team intent on restoring the St. Vrain Creek corridor in the Town of Lyons that was damaged during the September 2013 flood event. The goal of the project is to create a more resilient floodplain and natural channel condition that will alleviate future threats to the community, reestablish floodplain connectivity, stabilize banks, and restore aquatic, wetland and riparian habitat that was wiped out during the flood. Grant is responsible for CWA, ESA, Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act permitting; as well as developing the plant communities and revegetation strategies needed to restore aquatic and riparian structure and functions within the corridor that support fish, wildlife, recreation, and help the town regain the ecological benefits and economic value they receive from outdoor enthusiasts.
- **Bellvue Raw Water Ponds Riverbank Restoration, Bellvue, CO** – The 2013 flood on the Poudre River altered the course of the river and severely eroded a bank nearly causing a breach of the City of Greeley's raw water ponds – their main municipal water supply. The goal of the project was to stabilize the bank to protect the ponds and to create riparian habitat for the Preble's meadow jumping mouse, a federally listed threatened and endangered species. Jon was responsible for preparing bioengineering design plans and specifications that include soil/cobble encapsulated lifts, stream barbs to deflect flows away from the bank, and harder, biotechnical design of soil/riprap and stream bed scour protection measures to prevent erosion

and further undermining and sloughing of the bank. Design plans included specification of native plant materials and various techniques to restore cottonwood forest and willow habitat to further stabilize the bank.

- **Poudre River Pipeline Crossing at Kodak, Windsor, CO** – ecos role on the project was to assess restoration potential, techniques, and prepare design plans and performance specifications to reclaim a pipeline corridor across the lower Poudre River where the City of Greeley had to replace 3 major water supply lines. ecos also provided oversight during the construction of site and riverbank stabilization and restoration measures following installation of the pipelines.
- **Lions Park Poudre River Restoration Plan, Laporte, CO** – ecos role on the project was to assess habitat conditions; gather, compile and analyze field survey data; and to prepare the mapping and mitigation design plans for the Lions Park PMJM habitat and the Poudre River Bank Stabilization Plans. We designed and executed the technical drawings for the structural components of the habitat, ensuring that the proposed riparian plant community, habitat structures (brush piles), and bioengineered streambank stabilization measures will create the conditions that alleviate the current habitat fragmentation; support the life requisites of the PMJM; and enhance the overall health of the Poudre River fishery.
- **C Lazy U Ranch, Willow Creek Fishery Enhancement Plan, Granby, CO** - Mr. Gurnée was the lead fisheries biologist and wetland ecologist for the assessment and design of this project. The project entailed 2 miles of instream and riparian cover habitat aimed at enhancing water quality through increased bank stability, improving aquatic habitat and angling opportunities, and providing long-term stability to the reach given existing land-use constraints, and ongoing ranching activities. Bank-side improvements included wetland mitigation design to support ranch impacts, detailed seeding and planting plans indicating site-specific plant and seed locations, life zones, and species palettes according to hydrologic, soil, and aspect conditions. Grant was the regulatory lead, consulting with the Corps under Section 404 of the CWA.
- **Edwards Eagle River Restoration Project, Edwards, CO** – Grant was the senior wetland ecologist and fisheries biologist for the Edwards Eagle River Restoration Project (Project); which is roughly 1.5 miles long covering an area of 168 acres of floodplain along the Eagle River in the heart of the Edwards community. The project utilized indigenous materials and methods to naturally integrate habitat structure in the landscape context. He provided grant funding support; stream, riparian, wetland and fisheries habitat assessment, planning and design; and construction oversight services to the Eagle River Watershed Council for the Project. He assisted the ERWC in facilitating the public process associated with developing stakeholder support and gaining funding through the Eagle Mine Natural Resources Damage Fund. The Project was awarded over \$2,000,000 in grant funding; \$1,400,000 of which was from the Eagle Mine NRDF. The total project cost is projected at \$4,300,000.
- **Gypsum Creek Fisheries Enhancement, Gypsum, CO** - Mr. Gurnée was the lead fisheries biologist and restoration ecologist for the instream and riparian habitat assessment, design, permitting and implementation of habitat improvements along Gypsum Creek. Project treatments included both instream and bankside treatments. Instream treatments served to improve deep-water habitat, create flow separation or concentration zones, increase low flow sinuosity, provide instream cover, improve adult fish habitat, create nursery areas, and enhance spawning opportunities. Bankside treatments for aquatic habitat improvements included creation or enhancement of overhead cover; provision of protective cover; and enhancing shading, cooling, and nutrient cycling functions. Bank protection treatments served to correct localized bank instabilities and reduce bank erosion and the potential for sediment deposition downstream. The Colorado Division of Wildlife (CDOW) commented that, “The Gypsum Creek project was implemented in such a low impact manner that you cannot tell that construction had occurred in the area.”
- **Cache La Poudre River Removal Action, Fort Collins, CO** - On behalf of the City of Fort Collins, Mr. Gurnée led negotiations between the EPA, stakeholders and the City regarding riverine, riparian and wetland regulatory and restoration design standards during the removal and remediation of a contaminated reach of the Poudre River. He also provided design review and revision, as well as construction oversight to ensure successful implementation of the instream and streambank restoration along the 0.50 mile, highly visible reach of the river near downtown Fort Collins.
- **TZ Ranch, Elk Hollow Creek Fishery Habitat Enhancement Plan, Saratoga, WY** - ecos performed the assessment and design of the Elk Hollow Creek Project, which included instream and riparian habitat improvements aimed at increasing bank stability, improving aquatic habitat and angling opportunities, and providing long-term stability to the reach. Instream improvements included drop structures, plunge pools, deep pools, riffles and spawning habitat. Bank improvements included seeding and planting plans for

native wetland and riparian species. Grant was the regulatory lead, consulting with the Corps under Section 404 of the CWA and the Wyoming Department of Fish and Game. ecos also provided construction oversight and native plant installation services to ensure the successful implementation of the Project.

- **Brush Creek Fishery Enhancement Plans, Saratoga, WY** – Grant assisted in the preparation of access and staging plans, design plans and details, and performed on-site construction oversight of instream and riparian habitat enhancements and bioengineered bank stabilization for a 3-mile reach of Brush Creek. The purpose of the project is to enhance fish, bird and wildlife habitat and use these resources to facilitate education and improve the recreational experience of Ranch guests.
- **Brush Creek Ranch Pond Creation Plans, Saratoga, WY** – ecos provided design-build services including site optimization selection; excavation, grading, drainage and revegetation plans; and construction oversight for a 0.30-acre fishing pond. The pond design included an innovative undercut bank design incorporating a framework of trees supporting transplanted, native sod; which provided excellent fish habitat.
- **Boulder Creek Fishery Enhancement and Pond Creation Project, Boulder, CO** - Grant was the lead fisheries biologist and restoration ecologist for this project along a private reach of South Boulder Creek adjacent to City of Boulder, Eldorado Canyon Open Space. His tasks included instream and riparian habitat assessment, design of instream and pond fishery habitat and riparian enhancement measures and permitting and consultation. Grant was also the regulatory lead, consulting with the FWS regarding PMJM habitat and with the Corps under Section 404 of the CWA.
- **Stream and Floodplain Restoration at A.T. Massey Coal Mining Facility, KY** - Grant was the Project Manager, fisheries biologist and restoration ecologist for the technical team tasked with assessment and restoration of 26 miles of stream corridor following the accidental release of 250 million gallons of coal slurry into two separate drainages in eastern Kentucky. He was the first ecologist to respond after the spill to ensure that fisheries, stream and riparian habitat restoration objectives were incorporated into the selected cleanup measures. As such, Grant devised a “triage” categorization and remediation system for all affected reaches that minimized impacts to sensitive aquatic and riparian habitat based on the site-specific level of cleanup and remediation required. In addition to instream and bank restoration and stabilization, comprehensive riparian corridor restoration was a major component of the project. Grant was the regulatory and permitting lead and coordinated permits and approval with EPA, Corps and State agencies.
- **Roaring Fork Golf and Fishing Club, Basalt, CO** - Mr. Gurnée was the lead fisheries biologist and restoration ecologist for the assessment, design, permitting and construction supervision of a native trout stream (1 mile) with associated wetland complexes (3 acres). The trout stream was created as an amenity and functional fly-fishing challenge for this fishing component of the Roaring Fork Club; and the associated wetland and riparian habitat were created to naturalize the stream and provide compensatory mitigation for impacts associated with the development of the club facilities. Grant was the regulatory and permitting lead and coordinated permits and approval with Corps and CDOW.
- **Spring Creek Wetland Mitigation, Colorado Springs, CO** – Grant and his team generated wetland and creek creation plans that integrated required mitigation into a high density, “new urban” development. The design emphasized re-utilization of urban storm water to sustain wetlands, use of indigenous plants, construction materials, and natural geomorphic relationships.
- **Tobacco Island Project, Kansas City, MO** - Grant was the lead fisheries biologist and restoration ecologist on a multi-disciplinary Team for the Corps, Tobacco Island Project - a portion of the Missouri River Bank Stabilization and Navigation, Fish and Wildlife Mitigation Project. Project tasks included assessment and conceptual design of measures aimed at reconnecting floodplain and riparian habitat to a reach of the Missouri River near Kansas City. He prepared preliminary designs of channel and backwater wetlands; provided regulatory analysis under Section 404 of the CWA; and assisted in the preparation of an Environmental Impact Statement.
- **San Miguel River Corridor Restoration Plan** - Mr. Gurnée was the lead restoration ecologist, planner and designer for phase 1 of the San Miguel River Corridor Restoration Plan, which included a 1-mile reach through Town. He and his team assisted the Town of Telluride in applying for and winning approximately \$500,000 in Natural Resource Damage Assessment Fund money from the State of Colorado. The money, along with other funding, was utilized for final design and construction of the project which included instream habitat, streambank restoration, riparian and wetland restoration, trails and parks. Grant was



responsible for leading all public meetings, regulatory negotiation and permitting; assisted the Town with grant funding; and provided construction oversight services.

- **High Altitude Stream Restoration at Copper Mountain Resort, CO** - Grant was the lead ecologist for the restoration of an alpine stream and enhancement of associated wetland and riparian habitat situated within tundra habitat atop Union Peak at Copper Mountain Resort. Grant performed the assessment, design, permitting, and construction oversight for one of the highest altitude stream restoration and wetland mitigation projects in Colorado (approximately 11,500 feet above sea level). Innovative bioengineering and construction techniques were designed and adapted to this sensitive environment to minimize construction-related impacts and maximize environmental benefits.

### **Threatened & Endangered Species Consultation & Habitat Restoration**

- **Jackson Creek Land Company PMJM and Wetland Mitigation, Colorado Springs, CO** – ecos has been performing PMJM habitat biological assessments, conservation, mitigation planning and design throughout its range since 1994. Among numerous other private land developers in the Colorado Springs areas, ecos is currently assisting the Jackson Creek Land Company and Triview Metropolitan District with the implementation of physical habitat preservation and mitigation measures, including shortgrass prairie, upland hibernaculum, and riparian habitat restoration. We are also assisting the client with construction oversight and maintaining regulatory compliance during the implementation of the phased mitigation plans.
- **The Farm (formerly Allison Valley Ranch), Colorado Springs, CO** – Mr. Gurnée performed the habitat assessment and mapping; and prepared ESA, Section 7 and CWA, Section 404 consultation documents as required by the FWS and Corps, including mitigation construction documents, specifications, on-site layout of plant communities and construction supervision aimed at restoring wetland and riparian habitat occupied by Preble's meadow jumping mouse. Ecos is currently assisting the owner with construction oversight for habitat restoration and native planting.
- **Advance Mitigation for PMJM Habitat** – ecos is assisting a private client in identifying, assessing, prioritizing and designing advance mitigation sites for PMJM habitat in the North Fork and main stem of the Cache la Poudre River.
- **TriView Metropolitan District ESA and CWA Permit Resolution, Monument, CO** - Mr. Gurnée represented the TriView Metropolitan District (TriView) and Phoenix Bell as the lead consultant to resolve outstanding compliance issues related to a joint ESA, Section 7 Consultation and CWA, Section 404 Permit. Grant lead negotiations amongst the various landowners, TriView and the Town to resolve compliance issues related to PMJM and wetland habitat, such that development may proceed in this core area of the town. Upon resolution and agreement of the stakeholders, he led the negotiations with the FWS and Corps to formally amend the Biological Opinion and 404 Permit. Once the approvals were amended, Grant lead the planning and design of PMJM and wetland habitat to meet mitigation requirements under the ESA and CWA.
- **Bernardi Residential Property, Eldorado Canyon, Boulder, CO** – ecos consulted with the Corps and FWS to document and fulfill regulatory requirements for a residential home construction project in PMJM, wetland and riparian habitat. Mr. Gurnée coordinated with the FWS and Corps and obtained approvals under ESA, Section 7 and CWA, Section 404. He prepared all consultation documents, including the Biological Assessment, mitigation plan, and construction documents and specifications. Grant is leading the on-site layout of plant communities and construction supervision, aimed at restoring wetland and riparian habitat occupied by the PMJM.
- **Northgate Boulevard Realignment, Colorado Springs, CO** – Mr. Gurnée performed the habitat assessment and mapping; and coordinated and prepared ESA, Section 7 and CWA, Section 404 consultation documents as required by the FWS and Corps, including mitigation construction documents, specifications, on-site layout of plant communities and construction supervision aimed at restoring wetland and riparian habitat occupied by Preble's meadow jumping mouse.
- **Jefferson County Highways and Transportation Department Gunbarrel Bridge Replacement, Oxyoke, CO** - ecos staff consulted with the Corps, FWS, CDOT, and the FHWA to document regulatory requirements for a bridge replacement project in PMJM, wetland and riparian habitat. He and his Team produced a CDOT Wetland Finding Report, Biological Assessment, acquired a Section 404 Permit and Biological Opinion (Section 7 of the ESA), and then implemented habitat mitigation improvements at the site.



- **Northgate Project, Colorado Springs, CO** - As project manager, Mr. Gurnée led the team in the assessment, permitting and regulatory negotiation (Section 404 of the CWA and Section 7 of the ESA) for the project which included the planning, design and construction supervision of a precedent setting, “joint” mitigation plan for 60 acres of wetland, riparian and PMJM habitat.

### **Ecological Master Planning**

- **Sundance Trail Guest Ranch, Larimer County, CO** – ecos is currently assisting a local guest ranch in the assessment of natural resources and site features, and the development of site plans to balance natural habitat and aesthetic values with the expansion of guest facilities and services.
- **Sand Creek Channel Improvements Stability Analysis at Indigo Ranch, Colorado Springs, CO** - ecos was retained to perform an analysis of channel stability under proposed development conditions for a 1.17-mile reach of Sand Creek. Ecos utilized existing vegetation composition data, density and height within the Project reach as a basis; and compared the 10-year and 100-year storm event modelling data (specifically flow velocity, flow depth and shear stress) to reference literature to provide a professional opinion regarding the future stability of the channel under developed conditions. The analysis of channel stability for the proposed Project assumes a bioengineering and biotechnical approach that preserves and enhances the existing vegetation, as well as substrate cohesion and stability, within the channel and its streambanks. The Stability Analysis will likely serve as a benchmark study for the City of Colorado Springs to use to preserve other naturally stable channels.
- **Uncompahgre River Corridor Master Plan, Montrose, CO** – Grant and his Team assessed the character, condition and quality of aquatic, wetland and riparian habitat along a 10-mile rural and urban corridor of the Uncompahgre River through the City of Montrose. Habitats were then rated, ranked, prioritized and master planned for their preservation potential and integration in to the parks, recreation and trail system. The master plans form the foundation for the City to focus environmental stewardship, tourism and generate riverfront economic development with a focus on the river – the major asset of the Community.
- **Brush Creek Stewardship and Enhancement Plan, Saratoga, WY** – Mr. Gurnée managed the assessment of a 12,000-acre, private ranch near Saratoga, Wyoming and the preparation of the Ranch Stewardship Plan (Plan). The Plan includes land and resource stewardship goals, objectives, and implementation action items; including ranch-wide master planning of the trail and recreational systems, design of the Brush Creek riparian corridor trail, and restoration/fisheries habitat enhancement of Brush Creek. Trail and recreation planning and design focused on universal access, habitat sensitivity, environmental education, and wildlife observation opportunities and unique landscape experiences.

### **Environmental Assessment and Impact Studies**

- **NEPA EA for Eagle County Airport Runway Expansion, Eagle County, CO** - Grant was project manager and senior ecologist for an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for a proposed 1000-foot runway expansion and ILS installation at the Eagle County Airport, west of Vail, Colorado. Critical issues addressed included noise, ecological, and public opinion considerations. Grant conducted the work under FAA guidance requirements for EAs.
- **NEPA EA for the Avon Interstate 70 Interchange** - Mr. Gurnée was project manager and senior ecologist for this NEPA EA. He performed environmental assessment and data compilation work for construction of a new CDOT interchange and associated development on Interstate 70. This included evaluating T&E Species; a wetlands inventory; a cultural/archeological resources survey; noise and air pollution modeling and studies; and reviewing soils, meteorology, geologic hazards, and other impacts.
- **Raritan River Wetland Inundation Impact Study, N.J.** - Grant’s work on the preparation and processing of the first Individual Permit under the New Jersey Freshwater Wetlands Protection Act of 1987 included a precedent setting wetland inundation study. This study shaped the N.J. Department of Environmental Protection’s policy regarding the need to assess hydrologic impacts during wetland permit reviews.

### **Construction Oversight and Plant Installation**

- **St. Vrain Creek Reach 3 Flood Recovery and Restoration, Lyons, CO** – Ecos performed construction lay-out and observation during the implementation of the restoration and enhancement of 0.60-acre of riparian Preble’s Meadow Jumping Mouse Habitat (PMJM) along the St. Vrain River.

- **2013 Flood and 2014 Runoff Events, Damage Restoration, Cache la Poudre River, CO** - ecos performed the construction oversight of 3 flood and runoff damage restoration projects along the Cache la Poudre River for the City of Greeley, including the Bellvue Treatment Plant Raw Water Ponds Restoration, the Kodak Pipeline Crossing Restoration and the Watson Lake Pipeline Crossing Restoration.
- **Lions Park CWA and ESA Mitigation Site** - ecos performed the construction oversight for an advance river and wetland mitigation site at Lions Park in LaPorte, Colorado.
- **TZ Ranch, Elk Hollow Creek Fishery Habitat Enhancement Plan, Saratoga, WY** - ecos performed the construction oversight for the Elk Hollow Creek Project.
- **Brush Creek Ranch Fishery Enhancement Plans, Saratoga, WY** – Mr. Gurnée assisted in the construction oversight for a 3-mile reach of Brush Creek to improve fisheries and outdoor recreation experiences for guests of the Ranch.
- **C Lazy U Ranch, Willow Creek Fishery Enhancement Plan, Granby, CO** - Grant assisted in the construction oversight for this fishery habitat, channel stabilization and streambank restoration project.
- **Standley Lake Protection Project, Westminster, CO** – Mr. Gurnée performed construction oversight of a 12-acre created emergent wetland that he and his Team designed to fulfill CWA mitigation requirements and bring closure to the City's drinking water protection project.
- **Caribou Peat Bog Restoration, Nederland, CO** – Grant prepared native plant community design, planting cost estimate, and on-the-ground oversight of volunteers to restore a high-altitude peat bog disturbed by an illegal four-wheel drive “mudfest”.
- **Department of Energy Wetland Mitigation Bank, Westminster, CO** – Mr. Gurnée provided construction supervision of the grading and planting of a 12-acre wetland mitigation bank that he and his Team designed for the Department of Energy.
- **ARCO Lower Area One and Butte Reduction Works, Butte, MT** – Grant performed construction observation and supervision of temporary labor crews to plant a passive treatment wetland designed to absorb heavy metals from groundwater.

#### **Natural Treatment System Design**

- **Natural Treatment Wetlands, Butte, MT** - Mr. Gurnée and his Team performed the assessment and design of the ARCO Lower Area One and Butte Reduction Works passive treatment wetlands. These natural treatment systems were situated within two units of a reclaimed superfund site to treat heavy metals in surface and groundwater.
- **Natural Treatment Wetlands, Avondale, AZ** – Grant and his Team performed the assessment and design of a constructed wetland system to treat surface water and inject/recharge the municipal well system for the City of Avondale, AZ. This system successfully alleviated a well moratorium necessitated by a contaminated groundwater aquifer.

#### **PUBLICATIONS:**

Giordanengo, John H., Randy Mandel, William Spitz, Matthew Bossler, Michael Blazewicz, Steven Yochum, Katie Yagt, William LaBarre, Grant Gurnée, Robert Humphries and Kelly Uhing. 2016. Living Streambanks, A Manual of Bioengineering Treatments for Colorado Streams. Submitted to the State of Colorado, Colorado Water Conservation Board Denver, Colorado. Submitted by AloTerra Restoration Services, LLC, and Golder Associates, Inc.

Gurnée, Grant E. 1998. Wetland Revegetation Techniques chapter in Native Plant Revegetation Guide for Colorado, Caring for the Land Series, Volume III. A joint publication of the Colorado Natural Areas Program, Colorado State Parks, and Colorado Department of Natural Resources. Denver, Colorado.

Gurnée, Grant E. 1995. Optimizing Water Reclamation, Remediation and Reuse with Constructed Wetlands. Environmental Concern Wetland Journal, Summer 1995 Issue. Environmental Concern, Inc. St. Michaels, Maryland.

#### **PRESENTATIONS & INSTRUCTION:**

Gurnée, Grant E., 2016. Clean Water Act, Section 404 Permits for Flood Recovery Projects. Presented at the Colorado Stream Restoration Network (CSRN) conference in Longmont, CO on March 23, 2016.

Gurnée, Grant E., 2016. Endangered Species Act Consultation for Flood Recovery Projects. Presented at the Colorado Stream Restoration Network (CSRN) conference in Longmont, CO on March 23, 2016

- Gurnée, Grant E., 2010. Stream Corridor/Bioengineering Round Table. Presented at the Colorado Riparian Association (CRA) Sustaining Colorado Watersheds Conference. October 5 - 7, 2010. Vail, Colorado.
- Gurnée, Grant E. and Greg A. Fentchel, 2009. Stream Corridor/Bioengineering Workshop. Presented at the Colorado Riparian Association (CRA) Sustaining Colorado Watersheds Conference. October 7 - 9, 2009. Vail, Colorado.
- Gurnée, Grant E. and Scott J. Franklin, 2008. Section 404 Individual Permits: Negotiating the Application and Follow-up Process. Presented at the CLE International, Colorado Wetlands Conference. May 8 – 9, 2008. Denver, Colorado.
- Gurnée, Grant E. and Julie, E. Ash, P.E., 2007. Edwards Eagle River Restoration Project. Presented at the Colorado Riparian Association (CRA) Sustaining Colorado Watersheds Conference. October 5 - 7, 2009. Breckenridge, Colorado.
- Gurnée, Grant E. 2000. Natural Treatment Alternatives for Surface Discharges, Surface Runoff, and Mined Land Reclamation. Presented at the International Mining Technology Seminar. September 13 – 15, 2000. Belo Horizonte, Minas Gerais, Brazil.
- Gurnée, Grant E. 1999. Wetland Mitigation: Considering Mitigation Requirements in the Project Planning Process. Presented at the Continuing Legal Education (CLE) Wetlands & Mitigation Banking Conference. October 21 & 22, 1999. Denver, Colorado.
- Hoag, Chris, Hollis Allen, Craig Fischenich and Grant Gurnée. Assistant instructor for a Bioengineering Workshop sponsored by the U.S. Army Corps of Engineers Waterways Experiment Station and the U.S. Department of Agriculture – Aberdeen Plant Materials Center. September 1998. Carson City, Nevada.
- Hoag, Chris and Grant Gurnée. 1998 Glancy Riparian Demonstration Project. Assistant instructor for a hands-on bioengineering workshop on the Carson River. September 1998 near Dayton, Nevada.
- Gurnée, Grant E. 1998. Stream and Wetland Restoration Successes and Failures: The Good, the Bad, and the Ugly. Presented at the Colorado Riparian Association (CRA) Restoring the Greenline Conference. October 16, 1998. Salida, Colorado.
- Gurnée, Grant E. 1998. Save Our Streams, Wetland Conservation and Sustainability Workshop. Lead Instructor of wetland assessment and restoration course presented with the Izaak Walton League. April 21 & 22, 1998. Boulder, Colorado.
- Windell, Jay, and Grant Gurnée. 1998. Creation of a Stream, Riparian and Wetland Ecosystem: Tributary to the Roaring Fork River, Basalt, Colorado. Presented at the American Society of Civil Engineers, Wetlands Engineering & River Restoration Conference. March 23 – 27, 1998. Denver, Colorado.
- Gurnée, Grant E. 1998. A Case Study: Department of Energy's Wetland Mitigation Bank at Standley Lake. Presented at the Continuing Legal Education (CLE) International, Colorado Wetlands Conference. January 27 – 29, 1998. Denver, Colorado.
- Gurnée, Grant E. 1997. Wetland Mitigation: Design and Implementation via the Design/Build/Grow Process. Presented at the International Erosion Control Association, Erosion & Sediment Control Workshop. November 19, 1997. Northglenn, Colorado.
- Gurnée, Grant E. and Gary Bentrup. 1996. Wetland and Riparian Protection Strategies. Presented at the Sierra Club, Regional Growth Strategies Conference, "New Perspectives and Strategies to Preserve Mountain Communities." February 16 – 17, 1996. Glenwood Springs, Colorado.
- Gurnée, Grant E. 1994. How to Recognize and Deal with Wetland Regulation Issues. Presented at the Continuing Legal Education (CLE) International, 3rd Annual Western Agricultural and Rural Law Roundup. June 23-25, 1994. Fort Collins, Colorado.

#### **AWARDS:**

- Colorado Landscape Contractors Award, Sand Creek Enhancement Project – 2000

#### **PROFESSIONAL ASSOCIATIONS:**

- Association of State Wetland Managers (ASWM)

- Society of Wetland Scientists (SWS)
- Environmental Concern (EC)





December 11, 2020

Mr. Richard Dean  
Stratus Redtail Ranch, LLC  
1842 Montane Drive East  
Golden Colorado 80401

**RE: No Action Determination Approval for 2259 County Road 5, Erie, CO**

Dear Mr. Dean:

A No Action Petition (the Petition) was submitted on behalf of Stratus Redtail Ranch, LLC (the Applicant) to the Colorado Department of Public Health and Environment (the Department) pursuant to C.R.S. 25-16-307(2) of the Colorado Voluntary Cleanup and Redevelopment Act. The Petition was submitted for the applicant's property identified in the Petition and listed here generally as 2259 County Road 5, in Erie, Colorado ("the property").

The Department conducted a review of the environmental data collected on the above-referenced property. Based on this review and pursuant to C.R.S. 25-16-307(2), the Department approves the applicant's Petition and makes the following determinations:

- The environmental assessment submitted by the applicant and performed by qualified environmental professionals indicates that there is no evidence of contamination released into the environment present from the applicant's property, which exceeds applicable promulgated state standards or which poses an unacceptable risk to human health and the environment.

Based on the information provided by the applicant concerning property identified in the Petition and listed here generally as 2259 County Road 5, in Erie, Colorado, it is the opinion of the Colorado Department of Public Health and Environment that no further action is required to assure that this property, when used for the purposes identified in the No Action Petition (**Residential**), is protective of existing and proposed uses and does not pose an unacceptable risk to human health or the environment at the site.

Mr. Dean  
December 11, 2020  
Page 2

The approval of the applicant's Petition by the Department applies only to conditions on the property and state standards that exist as of the time of submission of the Petition. In addition, this approval applies only for the land use specified in the application, which is **Residential**. This approval shall be considered void if it is determined that materially misleading information has been submitted by the applicant. Nothing in this letter shall be construed to limit the Department's authority to take actions under existing statutes as necessary, should new information come to the attention of the Department.

If you have any questions, please contact me at (303) 692-3411 or [Fonda.Apostolopoulos@state.co.us](mailto:Fonda.Apostolopoulos@state.co.us).

Sincerely,



Fonda Apostolopoulos  
Voluntary Cleanup Program

File: RV201017-1

## **Link to Attachment #10**

### **No Action Determination Application:**

<https://portal.laserfiche.com/Portal/DocView.aspx?id=336312&repo=r-a69d230a>

*Please note: Document is over 6000 pages and will take some time to open.*

**Link to Attachment #11**

**Geosyntec Consultants August 2020 Phase 1  
Environmental Site Assessment:**

<https://portal.laserfiche.com/Portal/DocView.aspx?id=137560&repo=r-a69d230a&searchid=4944ef6e-8477-4a8e-8069-97167bcbb9f1>





# TOWN OF ERIE

645 Holbrook Street  
Erie, CO 80516

## Town Council

**Board Meeting Date: 12/16/2025**

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**File #:** 25-659, **Version:** 1

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**SUBJECT:**

A Resolution of the Town Council of the Town of Erie Approving a Professional Services Agreement with Alameda Mineral Advisors

**DEPARTMENT:** Environmental Services

**PRESENTER(S):** David Frank, Director of Environmental Services

**TIME ESTIMATE:** 30 minutes

*For time estimate: please put 0 for Consent items.*

**FISCAL SUMMARY:**

Approving the Agreement with Alameda Mineral Advisors has no upfront cost to the Town. Alameda is only compensated if the Town Council approves a sale or lease of its mineral estate, with a 7.5% commission of the final transaction value. The Town avoids any financial risk until Council agrees to a transaction, if/when that occurs. Any future revenue will flow to the General Fund or another designated fund as determined by the Town Council.

**POLICY ISSUES:**

This item supports the Town Council's priority for fiscal responsibility. It gives the Town a competitive valuation of its mineral estate, strengthens negotiations, and ensures any future transaction, if any, reflects real market value. Alameda's experience in the DJ Basin improves transparency in the process. Their work includes title verification, market analysis, valuation modeling, and competitive bid management, which provides the public with clear information about potential revenue opportunities. This supports open decision making during future hearings or resolutions involving mineral assets.

**STAFF RECOMMENDATION:**

Approve the Resolution authorizing the Town to enter into a Professional Services Agreement with Alameda Mineral Advisors for the purpose of evaluating the potential value of certain mineral rights owned by the Town of Erie, to solicit bids, and to advise the Town in negotiations involving potential sale, lease, or conveyance of those assets.

**SUMMARY/KEY POINTS**

- The Town of Erie owns extensive mineral rights attached to certain parcels within the Town's

Municipal Boundary.

- The Town needs an independent valuation to understand the true market value of its position.
- Alameda provides ownership verification, market analysis, valuation modeling, and competitive bid management. Their work ensures the Town receives accurate information and multiple offers, not a single-operator proposal.
- Alameda only receives payment if Council approves a sale or lease; a 7.5% commission of the final transaction value, including any non-cash consideration.
- The Town Council retains full authority. Any proposed sale, lease, or conveyance must first be approved by the Town Council in a public meeting or hearing.

### **BACKGROUND OF SUBJECT MATTER:**

If proposed new oil and gas production includes parcels where the Town of Erie is the owner of mineral rights, to fulfil its fiduciary obligation to the residents of Erie the Town Council should determine the maximum value of those mineral rights and seek just compensation for those mineral rights. Alameda Mineral Advisors is uniquely qualified to evaluate, advise, and represent the Town in negotiations regarding potential sale, lease, and/or conveyance of the mineral rights due to their familiarity with operations in the DJ Basin and prior experience in negotiating favorable lease and/or sale terms for other private mineral owners in the region.

Accepting any bids or proposals first requires a Resolution be passed by the Town Council in a public meeting (in the case of a Lease Agreement) or a Public Hearing and adoption of an Ordinance by the Town Council (in the case of a Sale or other Conveyance Agreement). This ensures ample opportunity for communication, engagement, and input from Erie residents should any bid or proposal be considered by the Council. While Alameda Mineral Advisors expects 7.5% of any aggregate value negotiated on behalf of the Town as payment, should no agreement be reached and accepted by the Town Council in public meeting or Public Hearing, the Town will pay nothing for the services rendered.

### **ATTACHMENT(S):**

1. Resolution 25-218
2. Professional Services Agreement with Alameda Mineral Advisors
3. Alameda Mineral Advisors Mineral Valuation Representation Proposal

**Town of Erie  
Resolution No. 25-218**

**A Resolution of the Town Council of the Town of Erie Approving a  
Professional Services Agreement for mineral valuation  
representation services with Alameda Mineral Advisors**

**Whereas**, the Town requires the services of Alameda Mineral Advisors to review, evaluate, and project cash flows and present values of the Town's mineral interests.

**Now Therefore be it Resolved by the Town Council of the Town of Erie, Colorado, that:**

**Section 1.** The Professional Services Agreement with Alameda Mineral Advisors is hereby approved in substantially the form attached hereto, subject to final approval by the Town Attorney. Upon such approval, the Mayor is authorized to execute the Agreement on behalf of the Town.

**Adopted this 16<sup>th</sup> day of December, 2025.**

\_\_\_\_\_  
Andrew Moore, Mayor

**Attest:**

\_\_\_\_\_  
Debbie Stamp, Town Clerk

## **Agreement for Professional Services**

This Agreement for Professional Services (the "Agreement") is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 2025 (the "Effective Date"), by and between the Town of Erie, a Colorado home rule municipality with an address of 645 Holbrook Street, P.O. Box 750, Erie, CO 80516, (the "Town"), and Alameda Mineral Advisors, LLC an independent contractor with a principal place of business at 39 Viking Drive, Englewood, CO 80113 ("Consultant") (each a "Party" and collectively the "Parties").

Whereas, the Town requires professional services; and

Whereas, Consultant has the requisite expertise and experience to perform the required professional services.

Now Therefore, for the consideration hereinafter set forth, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

### **I. Scope of Services**

A. Consultant shall furnish all labor and materials required for the complete and prompt execution and performance of all duties, obligations, and responsibilities which are described or reasonably implied from the Scope of Services set forth in **Exhibit A**, attached hereto and incorporated herein by this reference.

B. A change in the Scope of Services shall not be effective unless authorized as an amendment to this Agreement. If Consultant proceeds without such written authorization, Consultant shall be deemed to have waived any claim for additional compensation, including a claim based on the theory of unjust enrichment, quantum merit or implied contract. Except as expressly provided herein, no agent, employee, or representative of the Town is authorized to modify any term of this Agreement, either directly or implied by a course of action.

### **II. Term and Termination**

A. This Agreement shall commence on the Effective Date, and shall continue until Consultant completes the Scope of Services to the satisfaction of the Town, or until terminated as provided herein.

B. Either Party may terminate this Agreement upon 30 days advance written notice. The Town shall pay Consultant for all work previously authorized and completed prior to the date of termination. If, however, Consultant has substantially or materially breached this Agreement, the Town shall have any remedy or right of set-off available at law and equity.

C. For a period of twelve (12) months after termination of this agreement. If the Town enters into any transactions that would have entitled Consultant to



compensation under the terms of this agreement, Consultant will be entitled to receive such compensation as would have been due to Consultant if Agreement were still in effect.

### **III. Compensation**

In consideration for the completion of the Scope of Services by Consultant, the Town shall pay Consultant a fee set forth in Exhibit B, which, under no circumstance, shall exceed \$4,500,000, unless agreed to by the Town in writing. This amount shall cover all fees, costs and expenses incurred by Consultant, and no additional amounts shall be paid by the Town for such fees, costs and expenses. Consultant may submit invoices for the fee set forth in Exhibit B, which shall be paid by the Town within 30 days of receipt.

### **IV. Professional Responsibility**

A. Consultant hereby warrants that it is qualified to assume the responsibilities and render the services described herein and has all requisite corporate authority and professional licenses in good standing, required by law. The work performed by Consultant shall be in accordance with generally accepted professional practices and the level of competency presently maintained by other practicing professional firms in the same or similar type of work in the applicable community. The work and services to be performed by Consultant hereunder shall be done in compliance with applicable laws, ordinances, rules and regulations.

B. The Town's review, approval or acceptance of, or payment for any services shall not be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

C. Because the Town has hired Consultant for its professional expertise, Consultant agrees not to employ subcontractors to perform any work under this Agreement, except as expressly set forth in the Scope of Services.

D. Consultant shall at all times comply with all applicable law, including all federal, state and local statutes, regulations, ordinances, decrees and rules relating to the emission, discharge, release or threatened release of a hazardous material into the air, surface water, groundwater or land, the manufacturing, processing, use, generation, treatment, storage, disposal, transportation, handling, removal, remediation or investigation of a hazardous material, and the protection of human health and safety, including without limitation the following, as amended: the Comprehensive Environmental Response, Compensation and Liability Act; the Hazardous Materials Transportation Act; the Resource Conservation and Recovery Act; the Toxic Substances Control Act; the Clean Water Act; the Clean Air Act; the Occupational Safety and Health Act; the Solid Waste Disposal Act; the Davis Bacon Act; the Copeland Act; the Contract

Work Hours and Safety Standards Act; the Byrd Anti-Lobbying Amendment; the Housing and Community Development Act; and the Energy Policy and Conservation Act.

E. Consultant shall comply with the accessibility standards for an individual with a disability adopted by the State Office of Information Technology pursuant to C.R.S. § 24-85-103, and shall indemnify, hold harmless and assume liability on behalf of the Town and its officers, employees, agents and attorneys for all costs, expenses, claims, damages, liabilities, court awards, attorney fees and related costs, and any other amounts incurred by the Town in relation to Consultant's noncompliance with such accessibility standards.

## **V. Ownership**

Any materials, items, and work specified in the Scope of Services, and any and all related documentation and materials provided or developed by Consultant shall be exclusively owned by the Town. Consultant expressly acknowledges and agrees that all work performed under the Scope of Services constitutes a "work made for hire." To the extent, if at all, that it does not constitute a "work made for hire," Consultant hereby transfers, sells, and assigns to the Town all of its right, title, and interest in such work. The Town may, with respect to all or any portion of such work, use, publish, display, reproduce, distribute, destroy, alter, retouch, modify, adapt, translate, or change the Work Product without providing notice to or receiving consent from Consultant; provided that Consultant shall have no liability for any work that has been modified by the Town.

## **VI. Independent Consultant**

Consultant is an independent contractor. Notwithstanding any other provision of this Agreement, all personnel assigned by Consultant to perform work under the terms of this Agreement shall be, and remain at all times, employees or agents of Consultant for all purposes. Consultant shall make no representation that it is a Town employee for any purposes.

## **VII. Insurance**

A. Consultant agrees to procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by Consultant pursuant to this Agreement. At a minimum, Consultant shall procure and maintain, and shall cause any subcontractor to procure and maintain, the insurance coverages listed below, with forms and insurers acceptable to the Town.

1. Worker's Compensation insurance as required by law.
2. Commercial General Liability insurance with minimum combined single limits of \$1,000,000 each occurrence and \$2,000,000 general aggregate. The policy shall be applicable to all premises and operations, and shall include coverage for bodily injury,

broad form property damage, personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall contain a severability of interests provision, and shall include the Town and the Town's officers, employees, and contractors as additional insureds. No additional insured endorsement shall contain any exclusion for bodily injury or property damage arising from completed operations.

3. Professional liability insurance with minimum limits of \$1,000,000 each claim and \$2,000,000 general aggregate.

B. Such insurance shall be in addition to any other insurance requirements imposed by law. The coverages afforded under the policies shall not be canceled, terminated or materially changed without at least 30 days prior written notice to the Town. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. Any insurance carried by the Town, its officers, its employees or its contractors shall be excess and not contributory insurance to that provided by Consultant. Consultant shall be solely responsible for any deductible losses under any policy.

C. Consultant shall provide to the Town a certificate of insurance as evidence that the required policies are in full force and effect. The certificate shall identify this Agreement.

#### **VIII. Indemnification**

Consultant agrees to indemnify and hold harmless the Town and its officers, insurers, volunteers, representative, agents, employees, heirs and assigns from and against all claims, liability, damages, losses, expenses and demands, including reasonable attorney fees, on account of injury, loss, or damage, including without limitation claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with this Agreement if such injury, loss, or damage is caused in whole or in part by, the omission, error, professional error, mistake, negligence, or other fault of Consultant, any subcontractor of Consultant, or any officer, employee, representative, or agent of Consultant, or which arise out of a worker's compensation claim of any employee of Consultant or of any employee of any subcontractor of Consultant; provided that Consultant's liability under this indemnification provision shall be to the fullest extent of, but shall not exceed, that amount represented by the degree or percentage of negligence or fault attributable to Consultant, any subcontractor of Consultant, or any officer, employee, representative, or agent of Consultant or of any subcontractor of Consultant.

## **IX. Miscellaneous**

A. *Governing Law and Venue.* This Agreement shall be governed by the laws of the State of Colorado, and any legal action concerning the provisions hereof shall be brought in Boulder County, Colorado.

B. *No Waiver.* Delays in enforcement or the waiver of any one or more defaults or breaches of this Agreement by the Town shall not constitute a waiver of any of the other terms or obligation of this Agreement.

C. *Integration.* This Agreement constitutes the entire agreement between the Parties, superseding all prior oral or written communications.

D. *Third Parties.* There are no intended third-party beneficiaries to this Agreement.

E. *Notice.* Any notice under this Agreement shall be in writing, and shall be deemed sufficient when directly presented or sent pre-paid, first class U.S. Mail to the Party at the address set forth on the first page of this Agreement.

F. *Severability.* If any provision of this Agreement is found by a court of competent jurisdiction to be unlawful or unenforceable for any reason, the remaining provisions hereof shall remain in full force and effect.

G. *Modification.* This Agreement may only be modified upon written agreement of the Parties.

H. *Assignment.* Neither this Agreement nor any of the rights or obligations of the Parties shall be assigned by either Party without the written consent of the other.

I. *Governmental Immunity.* The Town and its officers, attorneys and employees, are relying on, and do not waive or intend to waive by any provision of this Agreement, the monetary limitations or any other rights, immunities or protections provided by the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, *et seq.*, as amended, or otherwise available to the Town and its officers, attorneys or employees.

J. *Rights and Remedies.* The rights and remedies of the Town under this Agreement are in addition to any other rights and remedies provided by law. The expiration of this Agreement shall in no way limit the Town's legal or equitable remedies, or the period in which such remedies may be asserted, for work negligently or defectively performed.

K. *Subject to Annual Appropriation.* Consistent with Article X, § 20 of the Colorado Constitution, any financial obligation of the Town not performed during the current fiscal year is subject to annual appropriation, shall extend only to monies



407

## **Exhibit A**

### **Scope of Services**

#### Consultant's Duties

During the term of this Agreement, Consultant shall provide advisory services for the Town's mineral rights in the proposed Draco Oil and Gas Development Plan area (the "Draco Plan Area"), by performing the following duties:

- Consultant, and any subcontractors necessary, shall review any title documents provided by the town or the Operator of the Draco Plan Area, and will provide its opinion on the mineral ownership, leasehold interests and royalty percentages potentially owned by the Town. This review of title is only applicable for interests the Town may own in the Draco Plan Area. To the extent the Town believes it might own additional interests in the Draco Plan Area, the Town shall provide the relevant parcel information to Consultant to aid in review.
- Consultant shall determine current lease bonuses, royalty rates, and non-monetary terms in the local oil and gas development market.
- Consultant shall project future cash flows and present values under various royalty scenarios for the Town's mineral interests in the Draco Plan Area.
- Consultant shall conduct a competitive bidding process to secure optimal lease proposals, including valuations of monetary and non-monetary terms, for Town-owned mineral rights and property in the Draco Plan Area.
- Consultant shall solicit bids for the sale of Town-owned mineral rights and property within the Draco Plan Area, with comparative analyses of upfront proceeds versus projected cash flows.

## **Exhibit B Compensation**

During the term of this Agreement, Consultant shall receive compensation for services provided under the following terms:

- Consultant shall be entitled to receive compensation for services equivalent to 7.5% of the Aggregate Value received by the Town in conjunction with each and any transactions or agreements that arise as a result of Consultant's services provided under this Agreement. The Aggregate Value shall include all value realized by the Town, including but not limited to the following:
  - Cash received for the sale or lease of mineral rights
  - Real estate received by the Town or that the Town has the right to receive in the future. Real estate value shall be the greater of fair market value from a qualified appraiser, or the value agreed between the Town and Grantor of such real estate
  - Sum of total any future ad-valorem taxes received by the Town as a result of hydrocarbon production occurring on or from the property in the Draco Plan Area that is annexed into the Town, as part of transactions or agreements negotiated by Consultant
  - One-Third (1/3) of the estimated total amount of expenditures to plug, abandon and fully remediate the surface associated with oil and gas wells located in the Town, provided the plugging and abandonment results from Consultant's services on behalf of the Town, and which is not a Condition of Approval of any existing and approved Oil and Gas Development Plans for property in the Town
  - Any other sources of value to the Town that result from the Consultant's negotiations with other parties on behalf of the Town and for which Consultant duly notifies the Town in advance and to which the Town agrees

David Frank  
Director Environmental Services  
Town of Erie

## **RE: Mineral Valuation Representation**

### BACKGROUND

Alameda Mineral Advisors, founded in 2024 by Matthew Owens—former founder of Extraction Oil & Gas and Civitas Resources, two of Colorado's largest historical oil producers—specializes in mineral rights valuation, contract negotiation, and transaction facilitation for owners. In our first 18 months, we have closed over \$150 million in mineral transactions.

### PROPOSAL

We propose to provide comprehensive advisory services for the Town of Erie's mineral rights. Our services include:

**Ownership Verification:** Review title documents to confirm leasehold interests, identify disputes, and ensure accurate operator reporting.

**Market Analysis:** Evaluate current lease bonuses, royalty rates, and non-monetary terms in the local market.

**Valuation Modeling:** Project future cash flows and present values under various royalty scenarios.

**Strategic Enhancements:** Identify additional value opportunities, such as annexation rights, real estate swaps, or overriding royalties.

**Lease Facilitation:** Conduct a competitive bidding process to secure optimal lease proposals, including valuations of monetary and non-monetary terms.

**Divestment Advisory:** Solicit bids for pre-production sale of Codell and Niobrara rights, with comparative analyses of upfront proceeds versus projected cash flows.

### COMPENSATION

Our fee is 7.5% of the aggregate value of any successful sale, lease, or conveyance of assets on which we provide services. Aggregate value includes the fair market value of non-cash considerations. No fees apply absent a successful transaction. We look forward to partnering with the Town of Erie to maximize the value of its mineral assets. Please contact me to discuss next steps.

Sincerely,



Matthew Owens  
Chief Executive Officer  
Alameda Mineral Advisors





# TOWN OF ERIE

645 Holbrook Street  
Erie, CO 80516

## Town Council

**Board Meeting Date: 12/16/2025**

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**File #:** 25-581, **Version:** 1

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**SUBJECT:**

An Ordinance of the Town Council of the Town of Erie Adding a New Section 6-11-20 to the Erie Municipal Code to Regulate the Operation of Electric-Assisted Bicycles

**DEPARTMENT:** Police

**PRESENTER(S):** Breena Meng, Town Attorney and Lee Mathis, Chief of Police

**TIME ESTIMATE:** 10 minutes

**POLICY ISSUES:**

Improve public health, safety and welfare for community members by defining and regulating the operation of electric-assisted bicycles on Town trails, sidewalks and roadways.

**STAFF RECOMMENDATION:**

Approve the ordinance.

**SUMMARY/KEY POINTS**

This ordinance would regulate operation of electric-assisted bicycles by:

- Allowing Class 1 and 2 electric-assisted bicycles to be operated anywhere bicycles are allowed, but may be restricted for use on certain sidewalks, trails, greenbelts, open space, etc.
- Setting a 15 MPH speed limit for Class 1 or 2 electric-assisted bicycles operating on any sidewalk, multi-use path, open space, park or trail that allows electric-assisted bicycles.
- Allowing Class 3 electric-assisted bicycles to be operated on roadways or bicycle lanes, but not on any sidewalk, multi-use path, open space, park or trail, regardless of their designation as allowing electric-assisted bicycles.
- Requiring an operator of a Class 3 electric-assisted bicycle to be at least 16 years of age, in addition to all other requirements of state law.
- Requiring operators of all classes of electric-assisted bicycles on roadways or in bicycle lanes to adhere to posted speed limits.

**BACKGROUND OF SUBJECT MATTER:**

The use of electric-assisted bicycles has grown exponentially and poses risks to the public health, safety and welfare of community members. Currently, there are no regulations or ordinances addressing the operation of electric-assisted bicycles in the Town or on Town trails and sidewalks. This ordinance would establish the allowances and requirements listed above.

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**File #:** 25-581, **Version:** 1

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**ATTACHMENT(S):**

1. Ordinance 037-2025

**Town of Erie  
Ordinance No. 037-2025**

**An Ordinance of the Town Council of the Town of Erie Adding a  
New Section 6-11-20 to Chapter 11 of Title 6 of the Erie  
Municipal Code and Amending Section 7-6-5 of the Erie Municipal  
Code to Regulate the Operation of Electric-Assisted Bicycles**

**Whereas**, the Town Council finds that it is in the best interest of the public health, safety and welfare to regulate the operation of electric-assisted bicycles in the Town.

**Now Therefore be it Ordained by the Town Council of the Town of Erie, Colorado, as follows:**

**Section 1.** Chapter 11 of Title 6 of the Erie Municipal Code is hereby amended by the addition of a new Section 6-11-20 to read as follows:

**6-11-20 – Electric-assisted bicycles.**

A. *Definitions.* For purposes of this Section, the following terms shall have the following meanings:

1. *Electric-assisted bicycle:* A vehicle having two (2) tandem wheels, or two (2) parallel wheels and one (1) forward wheel, fully operable pedals and an electric motor not exceeding seven hundred fifty (750) watts of power.
2. *Class 1 electric-assisted bicycle:* An electric-assisted bicycle equipped with an electric motor that provides assistance only when the operator is pedaling, and that ceases to provide assistance when the bicycle reaches a speed of twenty (20) miles per hour.
3. *Class 2 electric-assisted bicycle:* An electric-assisted bicycle equipped with an electric motor that provides assistance, regardless of whether the operator is pedaling, and that ceases to provide assistance when the bicycle reaches a speed of twenty (20) miles per hour.
4. *Class 3 electric-assisted bicycle:* An electric-assisted bicycle equipped with a motor that provides assistance only when the operator is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of twenty-eight (28) miles per hour.

B. *Operation.*

1. *Location.*
  - a. Class 1 and Class 2 electric-assisted bicycles may be operated in all locations where bicycles are allowed; provided, however, that Class 1 and Class 2 electric-assisted bicycles may be

restricted for use on certain sidewalks, multi-use paths, open space, greenbelts, parks, trails, or other areas of the Town, as determined by the Town.

b. A Class 3 electric-assisted bicycle may be operated on roadways or bicycle lanes, but shall not be operated on any sidewalk, multi-use path, open space, greenbelt, park or trail, regardless of their designation as allowing or disallowing electric-assisted bicycles.

2. *Speed limit.* It is unlawful to operate a Class 1 or Class 2 electric-assisted bicycle at a speed in excess of fifteen (15) miles per hour on any sidewalk, multi-use path, open space, park or trail that allows electric-assisted bicycles. Operators of all classes of electric-assisted bicycles on roadways or in bicycle lanes shall adhere to posted speed limits.

3. *Rights and privileges.*

a. Except as otherwise provided in this Section, an electric-assisted bicycle and the operator of an electric-assisted bicycle have all the rights and privileges, and are subject to all the duties of a bicycle and the operator of a bicycle.

b. An operator of a Class 3 electric-assisted bicycle must be at least sixteen (16) years of age, in addition to all other requirements of state law.

c. This Section shall not apply to law enforcement officials responding to a matter of public health and safety.

C. *Penalty.* A person operating an electric-assisted bicycle in violation of this Section shall be subject to the same penalties as if the person were driving any other vehicle; except that C.R.S. § 42-2-127 shall not apply.

**Section 2.** Section 7-6-5.I of the Erie Municipal Code is hereby amended as follows:

### **7-6-5 – Regulations.**

\* \* \*

I. Operate, drive, or ride upon any motorcycle, snowmobile, auto or other motorized or nonmotorized vehicle in any park except when posted specifically for such use, provided that ~~nonmotorized cycles bicycles, Class 1 electric-assisted bicycles and Class 2 electric-assisted bicycles~~ shall be permitted to use pathways within any park unless such use is specifically prohibited and signs are posted giving notice of such prohibition.

\* \* \*



**Section 3.** Severability. If any article, section, paragraph, sentence, clause, or phrase of this Ordinance is held to be unconstitutional or invalid for any reason, such decision shall not affect the validity or constitutionality of the remaining portions of this Ordinance. The Town Council hereby declares that it would have passed this Ordinance and each part or parts hereof irrespective of the fact that any one, or part, or parts be declared unconstitutional or invalid.

**Section 4.** Safety. The Town Council finds that the adoption of this Ordinance is necessary for the protection of the public health, safety and welfare.

**Section 5.** Effective Date. This Ordinance shall take effect 10 days after publication following adoption.

**Introduced, Read, Passed and Ordered Published this 16<sup>th</sup> day of December, 2025.**

---

Andrew J. Moore, Mayor

**Attest:**

---

Debbie Stamp, Town Clerk



# TOWN OF ERIE

645 Holbrook Street  
Erie, CO 80516

## Town Council

**Board Meeting Date: 12/16/2025**

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**File #:** 25-465, **Version:** 1

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**SUBJECT:**

An Ordinance of the Town Council of the Town of Erie Restricting Open Burning in the Town

**DEPARTMENT:** Police

**PRESENTER(S):** Lee Mathis, Chief  
Breena Meng, Town Attorney

**TIME ESTIMATE:** 0 minutes

*For time estimate: please put 0 for Consent items.*

**FISCAL SUMMARY:**

N/A

**POLICY ISSUES:**

To protect public health, safety, and welfare by establishing restrictions on open burning in home fire pits.

**STAFF RECOMMENDATION:**

Approve the ordinance.

**SUMMARY/KEY POINTS**

- The ordinance would amend Section 6-6-15(C)(4) of the Erie Municipal Code by adding new subsections (a), (b), (c), and (d) (see attached ordinance).

**BACKGROUND OF SUBJECT MATTER:**

In response to public complaints regarding burning, this ordinance will establish restrictions on open burning in home fire pits by including the following provisions:

- Setting limits on container sizes
- Requiring a wire mesh or screens to contain sparks and embers
- Establishing a 15 foot distance from structures and constant attendance
- Prohibit burning garbage (including yard waste)

**ATTACHMENT(S):**

1. Ordinance 029-2025

**Town of Erie  
Ordinance No. 029-2025**

**An Ordinance of the Town Council of the Town of Erie Amending  
the Restrictions on Open Burning in the Town**

**Whereas**, the Town Council finds it in the best interest of the public health, safety and welfare to amend the restrictions on open burning in the Town by addressing open burning in fire pits and similar containers.

**Now Therefore be it Ordained by the Town Council of the Town of Erie, Colorado, as follows:**

**Section 1.** Section 6-6-15(C)(4) of the Erie Municipal Code is hereby repealed in its entirety and reenacted as follows:

**6-6-15 – Fire setting.**

\* \* \*

**C. Exemptions:**

\* \* \*

4. Open burning or open flames conducted outside in a chiminea, outdoor fireplace, fire pit, or similar container, when conducted in accordance with this Code and the International Fire Code, as adopted by the Town, subject to the following:

- a. The container shall be non-combustible, and shall not exceed three (3) feet in diameter or two (2) feet in height.
- b. The container shall have wire mesh or a screen of sufficient size to contain sparks and embers, and the gaps in the wire mesh or screen shall be one-quarter ( $\frac{1}{4}$ ) inches or less.
- c. The fire shall be located at least fifteen (15) feet away from any structure and shall be constantly attended; and
- d. The burning of garbage, including without limitation yard waste, is prohibited.

\* \* \*

**Section 2.** **Severability.** If any article, section, paragraph, sentence, clause, or phrase of this Ordinance is held to be unconstitutional or invalid for any reason, such decision shall not affect the validity or constitutionality of the remaining portions of this Ordinance. The Town Council hereby declares that it would have passed this Ordinance and each part or parts hereof irrespective of the fact that any one, or part, or parts be declared unconstitutional or invalid.



**Section 3.** Safety. The Town Council finds that the adoption of this Ordinance is necessary for the protection of the public health, safety and welfare.

**Section 4.** Effective Date. This Ordinance shall take effect 10 days after publication following adoption.

**Introduced, Read, Passed and Ordered Published this 16<sup>th</sup> day of December, 2025.**

---

Andrew J. Moore, Mayor

**Attest:**

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Debbie Stamp, Town Clerk

**Construction Contract**  
**(Erie Maintenance Storage Facility Expansion – PR-25-17)**

This Construction Contract (the "Contract") is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ (the "Effective Date"), by and between the Town of Erie, 645 Holbrook Street, P.O. Box 750, Erie, CO 80516, a Colorado municipal corporation (the "Town"), and Facilities Contracting, LLC, an independent contractor with a principal place of business at 981 Southpark Drive, Littleton, CO 80120 ("Contractor") (each a "Party" and collectively the "Parties").

Whereas, the Town has selected Contractor to perform the Work, subject to the terms and conditions of the Contract Documents.

For the consideration hereinafter set forth, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Contract Documents. The "Contract Documents" for this Project consist of the following:

- A. This Contract
- B. General Provisions
- C. Special Provisions
- D. Technical Specifications (Gordian)
- E. Construction Drawings (if applicable)
- F. Certificate of Insurance Verification
- G. Notice to Proceed
- H. Payment and Performance Bond
- I. Certificate of Final Payment
- J. Certificate of Final Acceptance Form

Any conflicts or inconsistencies between or among any of the Contract Documents shall be resolved in accordance with the order of precedence specified in Section 8.04 of the General Provisions. In case of any discrepancy between any of the requirements set forth in the Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual, CDOT Specifications, AASHTO Specifications, International Building Code, Uniform Plumbing Code, Uniform Mechanical Code, National Electrical Code, Americans with Disabilities Act, and these Contract Documents, the more stringent requirement shall apply. If any questions arise as to which requirement is more stringent than another, the Project Manager shall be authorized to determine which is more stringent, and the Project Manager's decision shall be final.

2. Scope of Work. Contractor shall perform the following described work ("Work"), in accordance with and reasonably inferable from this Contract and the Contract

Documents, attached hereto and incorporated herein by this reference, as necessary for the successful completion of the Project:

All labor, services, materials, and other work necessary for construction of the Erie Maintenance Storage Facility Expansion Project as shown or called for in the Contract Documents, and as further defined in Job Order No. 25-Erie-0007.00 issued under Sourcewell EZIQC Contract No. CO-R2-GC-022924-FCI (the "Detailed Scope of Work").

3. Bonds. Within 10 days of the Effective Date, Contractor shall provide the payment and performance bond and certificate of insurance required by the Contract Documents. A payment and performance bond is not required for contract amounts under \$50,000 unless indicated differently in the Request for Bids or the Contract Documents.

4. Commencement and Completion of Work. Contractor shall commence the Work identified in the Notice to Proceed within 10 days of date of the Notice to Proceed. Substantial Completion of the entirety of the Work for the Project shall be accomplished by Contractor within 120 days of the Notice to Proceed, unless the time within which Contractor is required to achieve Substantial Completion is subsequently extended in accordance with the Contract Documents. Final Completion and Final Acceptance of the Work shall be accomplished within 30 days of the date of Substantial Completion.

5. Contract Price. The Town agrees to pay Contractor for the successful completion and acceptance of the Work by the Town, subject to all of the terms and conditions of the Contract Documents, in an amount not to exceed \$295,135.83, in accordance with the Bid Items as set forth in the Detailed Scope of Work.

6. Keep Jobs In Colorado Act. Pursuant to the Keep Jobs in Colorado Act, C.R.S. § 8-17-101, *et seq.* (the "Act"), and the rules adopted by the Division of Labor of the Colorado Department of Labor and Employment implementing the Act (the "Rules"), Contractor shall employ Colorado labor to perform at least 80% of the Work under this Contract and shall obtain and maintain the records required by the Act and the Rules. For purposes of this Section, "Colorado labor" means a person who is a resident of the state of Colorado at the time of this Project, without discrimination as to race, color, creed, sex, sexual orientation, gender identity, gender expression, marital status, national origin, ancestry, age, or religion except when sex or age is a *bona fide* occupational qualification. A resident of the state of Colorado is a person with a valid Colorado driver's license, a valid Colorado state-issued photo identification, or documentation that he or she has resided in Colorado for the last 30 days. Contractor represents that it is familiar with the requirements of the Act and the Rules and will fully comply with same. This Section shall not apply to any project for which appropriation or expenditure of moneys may be reasonably expected not to exceed \$500,000 in the aggregate for any fiscal year.

7. Miscellaneous.

a. *Governing Law and Venue.* This Contract shall be governed by the laws of the State of Colorado, and any legal action concerning the provisions hereof shall be brought in District Court in Weld County, Colorado.

b. *No Waiver.* Delays in enforcement or the waiver of any one or more defaults or breaches of this Contract by the Town shall not constitute a waiver of any of the other terms or obligation of this Contract.

c. *Integration.* This Contract, the Contract Documents and any attached exhibits constitute the entire Contract between Contractor and the Town, superseding all prior oral or written communications.

d. *Third Parties.* There are no intended third-party beneficiaries to this Contract.

e. *Notice.* Any notice under this Contract shall be in writing and shall be deemed sufficient when directly presented or sent pre-paid, first class U.S. Mail to the Party at the address set forth on the first page of this Contract.

f. *Severability.* If any provision of this Contract is found by a court of competent jurisdiction to be unlawful or unenforceable for any reason, the remaining provisions hereof shall remain in full force and effect.

g. *Modification.* This Contract may only be modified upon written agreement of the Parties.

h. *Assignment.* Neither this Contract nor any of the rights or obligations of the Parties shall be assigned by either Party without the written consent of the other.

i. *Governmental Immunity.* The Town and its officers, attorneys and employees are relying on, and do not waive or intend to waive by any provision of this Contract, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, *et seq.*, as amended, or otherwise available to the Town and its officers, attorneys or employees.

j. *Rights and Remedies.* The rights and remedies of the Town under this Contract are in addition to any other rights and remedies provided by law. The expiration of this Contract shall in no way limit the Town's legal or equitable remedies, or the period in which such remedies may be asserted, for work negligently or defectively performed.

k. *Subject to Annual Appropriation.* Consistent with Article X, § 20 of the Colorado Constitution, any financial obligation of the Town not performed during the current fiscal year is subject to annual appropriation, shall extend only to monies currently appropriated, and shall not constitute a mandatory charge, requirement or liability beyond the current fiscal year.



I. *Accessibility.* Contractor shall comply with the accessibility standards for an individual with a disability adopted by the State Office of Information Technology pursuant to C.R.S. § 24-85-103, and shall indemnify, hold harmless and assume liability on behalf of the Town and its officers, employees, agents and attorneys for all costs, expenses, claims, damages, liabilities, court awards, attorney fees and related costs, and any other amounts incurred by the Town in relation to Contractor's noncompliance with such accessibility standards.

m. *Electronic Signatures.* The Parties intend that this Agreement be governed by the Uniform Electronic Transactions Act, C.R.S. § 24-71.3-101, *et seq.*

In Witness Whereof, this Construction Contract has been executed by the Parties as of the Effective Date.

# Town of Erie, Colorado

Andrew J. Moore, Mayor

Attest:

Debbie Stamp, Town Clerk

## Contractor

**Signed by:**

Benjamin J Placzek

-8A3076AA17DE420..

State of Colorado )  
 ) ss.  
County of \_\_\_\_\_ )

The foregoing instrument was subscribed, sworn to and acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 2025, by \_\_\_\_\_ as \_\_\_\_\_ of Facilities Contracting, LLC.

My commission expires:

(Seal)

Notary Public

## Certificate of Insurance

State of Colorado )  
 ) ss.  
County of \_\_\_\_\_ )

I, \_\_\_\_\_, being first duly sworn, state and affirm, under penalty of law, that I am familiar with the insurance coverages maintained by the Insured, \_\_\_\_\_, and the coverage requirements set forth in the foregoing Certificate of Insurance, that I have completed or caused to be completed and subsequently reviewed the foregoing Certificate of Insurance and that the information provided contained therein is true and correct to the best of my knowledge. I further understand that the Town of Erie shall rely on the information provided.

This information is provided for the Town of Erie, Work No. \_\_\_\_\_.

By: \_\_\_\_\_

Title: \_\_\_\_\_

Agency: \_\_\_\_\_

State of Colorado )  
 ) ss.  
County of \_\_\_\_\_ )

The foregoing instrument was subscribed, sworn to and acknowledged before me  
this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_, as  
\_\_\_\_\_ of \_\_\_\_\_.

My commission expires:

(Seal)

Notary Public

**Payment and Performance Bond**

Bond No. \_\_\_\_\_

Know All Men By These Presents: that

(Firm) \_\_\_\_\_

(Address) \_\_\_\_\_

(an Individual), (a Partnership), (a Corporation), hereinafter referred to as "the Principal", and

(Firm) \_\_\_\_\_

(Address) \_\_\_\_\_

hereinafter referred to as "the Surety", are held and firmly bound unto the Town of Erie, Colorado, a municipal corporation, hereinafter referred to as "the Owner", in the penal sum of \$\_\_\_\_\_ in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

The Conditions of this Obligation are such that whereas the Principal entered into a certain Contract with the Owner, dated the \_\_\_\_ day of \_\_\_\_\_, 20\_\_, a copy of which is hereto attached and made a part hereof for the performance of the Work.

Now, Therefore, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without Notice to the Surety and during the life of the guaranty or warranty period, and shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all cost and damages which it may suffer by the Principal's failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, and make payment to all persons, firms, subcontractors and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such Contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, repairs on machinery, equipment and tools, consumed, rented or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor performed in such work, whether by subcontractor or otherwise, then this obligation shall be void; otherwise it shall remain in full force and effect.

Provided, further, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder or the specifications accompanying the same

shall in any way affect its obligation on this Bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the Specifications.

Provided, further, that no final settlement between the Owner and the Principal shall abridge the right of any beneficiary hereunder whose claim may be unsatisfied.

In Witness Whereof, this instrument is executed in 5 counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Attest:	Principal
By: _____	By: _____
Title: _____	Title: _____
	Address: _____
	_____

(Corporate Seal)

	Surety
Attest:	Surety: _____
By: _____	By: _____
Attorney-in-Fact: _____	Title: _____
	Address: _____
	_____

(Surety Seal)

Note: Date of Bond must not be prior to date of Contract and Surety must be authorized to transact business in the State of Colorado and be acceptable to the Town.



## **General Provisions**

### **Part 1. Definitions**

#### **1.01 Contract Documents:**

- A. Construction Contract;
- B. General Provisions;
- C. Special Provisions;
- D. Technical Specifications (Gordian);
- E. Construction Drawings (if applicable);
- F. Certificate of Insurance Verification;
- G. Notice to Proceed;
- H. Payment and Performance Bond;
- I. Certificate of Final Payment;
- J. Final Acceptance Form;

#### **1.02 Change Order:**

A written order issued by the Town after execution of the Contract authorizing a revision to the Work or an adjustment in the Contract Price or the Contract Time.

#### **1.03 Town:**

The Town of Erie, Colorado.

#### **1.04 Contract:**

The entire written agreement covering the performance of the Work described in the Contract Documents.

#### **1.05 Contract Price:**

The amount set forth in Section 5 of the Construction Contract.

#### **1.06 Contract Time:**

The time for completion of the Work as set forth in Section 4 of the Construction Contract.

#### **1.07 Day:**

Calendar day, unless otherwise specified. When the last day for the occurrence of an event falls on a Sunday or legal holiday as recognized by the Town, the time for performance shall be automatically extended to the next business day.

#### **1.08 Final Completion:**

The date as certified by the Project Manager when all of the Work is completed and final payment may be made.

#### **1.09 Project Manager:**

The Town's duly authorized representative in connection with the Work.

**1.10 Subcontractor:**

Any person, firm or corporation with a direct contract with Contractor who acts for or in behalf of Contractor in executing any part of the Contract, excluding one who merely furnishes material.

**1.11 Substantial Completion:**

The date as certified by the Project Manager when the Town occupies or takes possession of all or substantially all of the Work, or when the Town may occupy or take possession of all or substantially all of the Work and put it to beneficial use for its intended purposes.

**1.12 Work:**

All services, labor, materials, and equipment necessary to complete all of the work specified, indicated, shown or contemplated in the Contract Documents, including all alterations, amendments or extensions thereto made by supplemental agreements or written orders of the Project Manager.

**Part 2. Time****2.01 Time of the Essence:**

All times stated in the Contract Documents are of the essence.

**2.02 Final Acceptance:**

Upon Final Completion, the Project Manager will issue Final Acceptance.

**2.03 Changes in the Work:**

A. The Town reserves the right to order changes in the Work, in the nature of additions, deletions or modifications, at any time and without invalidating the Contract, and to make corresponding adjustments in the Contract Price and the Contract Time if warranted and supported by the terms of the Contract Documents.

B. If Contractor believes that any oral or written order or instructions from the Town involve extra or changed work that Contractor should receive extra compensation for, Contractor shall, within 7 days after the Town's order or instruction, submit a written request for an increase in the Contract Price to the Project Manager. If a request is not made within this time period, Contractor shall waive any right to additional compensation related to the extra or changed work.

C. If Contractor believes that any oral or written order or instructions from the Town involve extra or changed work that will affect the critical path schedule of performance of the Work and require Contractor to spend more time on the Project than was earlier anticipated, Contractor shall submit a written request to the Project Manager requesting an extension of the Contract Time within 7 days after the Town's order or instruction; otherwise it shall be waived. Such requests shall be evaluated as set forth in Section 2.05.B.

D. All changes shall be authorized by a written Change Order signed by the Town. The Change Order shall include appropriate changes in the Contract Documents and the Contract Time if warranted and supported by the terms of the Contract Documents. The Work shall be changed and the Contract Price and Contract Time modified only as set forth in the written and executed Change Order. Any adjustment in the Contract Price resulting in a credit or a charge to the Town shall be determined by mutual agreement of the Parties as documented in an executed Change Order before the work set forth in or covered by the Change Order is commenced. If a Change Order results in an increase in the Contract Price, approval of the Erie Town Council shall be required, and such Change Order shall be subject to and shall only become effective upon approval by Town Council. If such approval of Town Council is not obtained, the Town shall have no payment obligation regardless of whether the Work has been performed.

E. Subject to the requirements and limitations of this Section 2.03, any Change Order approved by Town Council, as applicable, and signed by the Town shall be considered a part of the Contract and subject to every term and requirement of the Contract Documents. It is the duty of Contractor to notify the Surety that issued the bonds required by the Contract Documents of any changes affecting the scope of Contractor's Work or change in the Contract Price, and, if requested by the Town, to increase the amount of the bonds accordingly.

#### **2.04 Differing Site Conditions:**

Contractor shall within 7 days of discovery, and before the conditions are disturbed, provide written notice to the Project Manager of any subsurface or latent physical conditions at the Project site that materially differ from those indicated in the Contract Documents, or unknown physical conditions at the Project site of an unusual nature that materially differ from those ordinarily encountered and inherent in work of the character provided for in the Contract Documents and that could not have been determined or anticipated at the required pre-Contract site investigation, in the exercise of reasonable diligence.

Should Contractor wish to request a change to the Contract Price or Contract Time arising from differing site conditions described in this Section 2.04, Contractor shall submit a written claim within 7 days after the conditions first become apparent; otherwise it shall be waived. In such claim, Contractor shall specifically identify the conditions and how they differ from the Contract Documents or those ordinarily encountered and inherent in work of the character provided for in the Contract Documents and Contractor shall identify the amount of the requested adjustments to the Contract Price or Contract Time. Contractor shall have the burden to prove that the actual conditions subsurface or latent conditions materially differ from those shown in the Contract Documents and/or that the differing site conditions could not have been discovered at the required pre-Contract site investigation. The Town

shall evaluate such claims and if the Town approves the claim, the Parties shall negotiate a Change Order pertaining to same.

No request by Contractor for an equitable adjustment to this Contract for differing site conditions shall be allowed if made after final payment under this Contract.

**2.05 Delays:**

A. A suit or other legal action, including administrative agency actions or citations, against the Town that causes a delay in the Work, other than a suit or legal action against Contractor, will entitle Contractor to an equivalent extension of time unless the period of such delay exceeds six (6) months. When such period is exceeded, the Town will, upon a request by Contractor in writing, elect either to terminate this Contract for the Town’s convenience as provided for in Section 4.05 or to grant a further extension of time, in the Town’s sole and absolute discretion.

B. If Contractor is delayed in the critical path progress of the Work by acts of God, fire, wars, epidemics, pandemics other than COVID-19, or other unavoidable casualties beyond Contractor's control or anticipation, then, upon Contractor’s written request to the Town within 7 days of Contractor first becoming aware of the condition causing the delay, then the Contract Time shall be extended for a reasonable period of time equivalent to the delay.

C. If Contractor believes that an extension of the Contract Time should be granted due to critical path delays to the progress of the Work caused by unanticipated adverse weather conditions, it may request a contract extension in writing from the Town within 7 days of Contractor first becoming aware of the unanticipated adverse weather conditions causing the delays. For purpose of this provision "weather" means precipitation, temperature, or wind, and an "adverse weather condition" means weather that on any calendar day varies from the average weather conditions for that day by more than 100% as measured by the National Oceanic and Atmospheric Administration. The term "unanticipated adverse weather conditions" means the number of days in excess of the anticipated adverse weather days per month as set forth below:

Monthly Anticipated Adverse Weather Days											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	4	4	4	6	3	4	2	3	3	2	5

*By reason of example only*, if in March there are 2 days when the snowfall exceeds the average snowfall for that day by 100%, those 2 days will have experienced an adverse weather condition. However, there will have been no unanticipated adverse weather condition in March, because there are four anticipated adverse weather days in March, which should be accounted for in the schedule. If, however, there are 5 days in which the snowfall exceeds the average snowfall by 100%, an unanticipated adverse weather condition will have occurred, and



Contractor shall be entitled to request an extension of time equivalent to the duration of the critical path delay caused by that unanticipated weather condition

D. Any request for extension of the Contract Time shall be made in writing to the Project Manager not more than 7 days after commencement of the delay; otherwise it shall be waived. Any such request shall contain an estimate of the probable effect of such delay on the critical path progress of the Work. Contractor shall use its best efforts to mitigate or minimize the length of any critical path delay to the progress of the Work, and shall have the burden to provide the events which caused the delays and that Contractor timely provided notice of those delays to the Town.

E. Contractor shall not be entitled to any increase in the Contract Price, or to damages, or to additional compensation as a consequence of any such delays.

F. Contractor shall not be entitled to any extension of time caused by events within the control of Contractor, nor for delays which Contractor could have foreseen and avoided, prevented, or significantly mitigated, nor for any delays caused in whole or in part by Contractor or its subcontractors or suppliers or anyone for whom any of them may be liable.

## **2.06 No Damages for Delay:**

In strict accordance with C.R.S. § 24-91-103.5, the Town shall not amend the Contract Price to provide for additional compensation for any delays in performance which are not the result of acts or omissions of the Town or persons acting on behalf of the Town.

## **Part 3. Contractor's Responsibilities**

### **3.01 Completion/Supervision of Work:**

Contractor hereby warrants that it is qualified to assume the responsibilities and render the services described herein and has all requisite corporate authority and licenses in good standing in the jurisdiction where the Project is located. The services performed by Contractor shall be in accordance with generally accepted professional practices and the level of competency presently maintained by others in the same or similar type of work, and in compliance with applicable laws, ordinances, rules and regulations including, without limitation, the Occupational Safety and Health Act ("OSHA"), 29 U.S.C. § 651, et seq. standards. Contractor shall be responsible for completion of all Work in a timely and workmanlike manner in accordance with the terms and specifications of the Contract Documents, including the techniques, sequences, procedures and means. Contractor shall be responsible for the coordination of all Work. Contractor shall supervise and direct the Work and give it all attention necessary for proper supervision and direction. Contractor shall maintain a supervisor or superintendent on site at all times when Contractor or any subcontractor is performing Work. Contractor shall designate the supervisor or superintendent, who shall be authorized to act on behalf of Contractor in all matters related to the Contract and shall notify the Town of the supervisor or superintendent's name and contact information, including mobile phone and email address, with 5 days of execution of the Contract. Contractor shall not remove or replace

the designated supervisor or superintendent from the Project without prior written notice to and written approval by the Town.

### **3.02 Duty to Inspect:**

Contractor shall inspect all Contract Documents, tests and reports, including soil tests and engineering tests, if applicable, and shall conduct a site or field review prior to executing the Contract. Contractor assumes the risk of all conditions which are disclosed, or which are reasonably suggested by any such tests or reports, or which would be disclosed by a field or site review. Contractor shall have the affirmative duty to advise the Town of any concerns which Contractor may have regarding construction conditions prior to executing the Contract.

### **3.03 Furnishing of Labor and Materials:**

A. Contractor shall provide and pay for all labor, materials and equipment, including: tools; construction equipment and machinery; utilities, including water; transportation; and all other facilities and services necessary for the proper completion of the Work as described in or reasonably inferable from the Contract Documents.

B. In all purchases of supplies, materials and provisions to be incorporated or otherwise used by Contractor in the Work, Contractor shall use supplies, materials and provisions produced, manufactured or grown in Colorado if such supplies, materials and provisions are not of inferior quality to those offered by competitors outside of Colorado.

### **3.04 Employees and Safety:**

A. While engaged in the performance of the Work, Contractor shall maintain employment practices that do not violate the provisions of any applicable laws, ordinances, rules or regulations including, but not limited to, the Colorado Antidiscrimination Act of 1957, C.R.S. § 24-34-301, *et seq.*

B. Contractor shall maintain at all times strict discipline of its personnel, employees and other persons carrying out the Work, and Contractor shall not employ or furnish or permit the employment of any person unfit or without sufficient knowledge, skill, training and experience to perform properly the job for which the employee was hired in connection with the Work. The Town may require Contractor to remove from the Project any person the Town deems incompetent, careless or otherwise objectionable, in the Town's sole discretion, and Contractor shall promptly do so without any adjustment to the Contract Price or the Contract Time.

C. Contractor shall be responsible to the Town for the acts, negligence and omissions of all direct and indirect employees, subcontractors and their respective employees, and suppliers and their respective employees. Nothing in the Contract Documents nor the Town's acceptance or lack of objection to a subcontractor or supplier shall be construed as creating any contractual relationship between the

Town and any subcontractor, supplier or other person or entity having a direct contract with Contractor, a subcontractor, or supplier.

D. Contractor shall provide for and oversee all safety orders and precautions necessary for the safe performance of the Work. Contractor shall take reasonable precautions for the safety and reasonable protection, including the provision of all notices and compliance with all applicable laws bearing on the safety of persons or property, to prevent damage, injury or loss to: all personnel, employees, other persons carrying out the Work, and others whom the Work might affect; all materials and equipment in the custody, care or control of Contractor, whether such materials or equipment are stored on or off site, and whether or not incorporated into the Work; all Work performed under this Contract; and all property and improvements on the work site and any adjacent property. Contractor shall repair or replace any damage, injury, or loss to all public or private property caused directly or indirectly, in whole or in part, by Contractor, any subcontractor, any supplier, or any of their respective personnel or employees or anyone for whose acts any one of them may be liable.

### **3.05 Cleanup:**

A. Contractor shall keep the work site and adjoining ways free of waste material and rubbish. Contractor shall remove all waste material and rubbish daily during construction, together with all tools, equipment, machinery and surplus materials. Contractor shall, upon completion of its Work, conduct general cleanup operations on the work site, including the cleaning of all surfaces, paved streets and walks. Contractor shall also conduct such general cleanup operations on adjacent properties disturbed by the Work.

B. If Contractor fails to perform the cleanup required by the Contract Documents, including this Section 3.05, after written notice, the Town may cause the cleanup to be performed at Contractor's expense. Upon receipt of a statement for such cleanup, Contractor shall pay to the Town the costs incurred by the Town for such cleanup, or the Town shall have the right to withhold and offset said amount from any progress or final payment due to Contractor.

### **3.06 Payment of Royalties and License Fees:**

Contractor shall pay all royalties and license fees necessary for the Work and shall include and shall be considered to have included in the Contract Price a sum sufficient to cover all fees, royalties, licenses and claims for any patent rights, copyrights, trademarks or any other intellectual property rights which may be connected with the Work. Contractors shall defend, indemnify and hold harmless the Town and its officers and agents from and against all fees, claims, demands, suits, or actions for or in connection with any infringement or alleged infringement of any intellectual property rights.

### **3.07 Taxes, Licenses and Permits:**

Contractor shall pay all taxes imposed by law in connection with the Work and shall procure all permits and licenses necessary for the prosecution of the Work. Contractor shall obtain a State tax-exempt number for exemption from the sales tax.

### **3.08 Samples and Shop Drawings:**

Contractor shall furnish, upon the request of the Project Manager or as required by the Contract Documents, submittals, samples and shop drawings to the Project Manager, who shall, in collaboration with the Engineer, as applicable, review them for general conformance with the Contract Documents. Approval by the Town and/or the Engineer of any submittals, samples or shop drawings furnished by Contractor shall not relieve Contractor of its obligation to complete the Work in accordance with the Contract Documents.

### **3.09 Compliance with Laws and Regulations:**

Contractor shall at all times comply with all applicable law, including without limitation all current and future federal, state and local statutes, regulations, ordinances and rules in effect or enacted during the course of performance of the Work relating to: the emission, discharge, release or threatened release of a Hazardous Material into the air, surface water, groundwater or land; the manufacturing, processing, use, generation, treatment, storage, disposal, transportation, handling, removal, remediation or investigation of a Hazardous Material; and the protection of human health, safety or the indoor or outdoor environmental, including without limitation the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601, *et seq.* ("CERCLA"); the Hazardous Materials Transportation Act, 49 U.S.C. § 1801, *et seq.*; the Resource Conservation and Recovery Act, 42 U.S.C. § 6901, *et seq.* ("RCRA"); the Toxic Substances Control Act, 15 U.S.C. § 2601, *et seq.*; the Clean Water Act, 33 U.S.C. § 1251, *et seq.*; the Clean Air Act, 42 U.S.C. § 7401, *et seq.*; the Occupational Safety and Health Act, 29 U.S.C. § 651, *et seq.* ("OSHA"); all applicable environmental statutes of the State of Colorado; and all other federal, state or local statutes, laws, ordinances, resolutions, codes, rules, regulations, standards, orders or decrees regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic or dangerous waste, substance or material, as now or at any time hereafter in effect during the course of performance of the Work.

### **3.10 Subcontractors:**

A. Those portions of the Work that Contractor does not customarily perform with its own personnel or does not, for purposes of this Project, intend to perform with its own personnel, shall be performed under written subcontracts or other appropriate written agreements with Contractor. Contractor shall furnish to the Project Manager at the time the Construction Contract is executed a list of names of subcontractors to whom Contractor proposes to award the portions of the Work to be subcontracted by Contractor.



B. Contractor shall not employ a subcontractor to whose employment the Town reasonably objects, nor shall Contractor be required to hire a subcontractor to whose employment Contractor reasonably objects.

C. All contracts between Contractor and subcontractor shall conform to the provisions of the Contract Documents and shall incorporate all relevant provisions of the Contract Documents.

### **3.11 Corrective Work:**

When any Work does not conform to the Contract Documents, Contractor shall promptly and without cost to the Town make the necessary corrections so that the Work will so conform, within the time period approved by the Project Manager including, if necessary, the complete removal and replacement of the non-conforming Work with conforming Work. If Contractor does not correct such non-conforming Work within the time approved by the Project Manager, the Town may, in the Town's discretion, have the non-conforming work corrected by others. All direct or indirect costs of or in connection with such correction, including the additional costs of any professional services, testing or inspection necessary for the full and proper correction of the non-conforming Work, shall be paid by Contractor and, if sufficient amounts remain within the Contract Price, the costs incurred by the Town withheld or offset from any progress or final payment to which Contractor would otherwise be entitled. The Town's failure to reject, review, approval or acceptance of, or payment for any portion of the Work shall not be construed as a waiver of any rights under this Contract or any cause of action arising out of the performance of this Contract.

### **3.12 Other Contracts:**

The Town reserves the right to let other contracts in connection with the Work. Contractor shall cooperate with all other contractors so that their work is not impeded by the Work, and Contractor shall give other contractors engaged by the Town in connection with the Work full and unimpeded access to the work site as necessary to fully and timely perform their respective contracts.

### **3.13 Communication:**

Contractor shall direct all communications to the Town regarding the Work to the attention of the Project Manager. E-mail shall be an acceptable form of communication between Contractor and the Town for all communications other than "notices" as referenced in the Contract Documents which are required to be transmitted per Section 6(e) of the Contract.

## **Part 4. Suspension and Termination**

### **4.01 Suspension for Contractor Default:**

The Town may, in the Town's discretion, order Contractor in writing to suspend the Work or any part of the Work because Contractor has materially breached any terms or conditions of the Contract Documents. If Contractor later resumes work that the Town previously suspended pursuant to this Section 4.01, Contractor shall not be afforded any

extension of the Contract Time and the Town shall not be liable to Contractor for any additional costs caused by the suspension or related to Contractor's resuming the suspended Work.

#### **4.02 Suspension for the Town's Convenience:**

The Town may, at any time and without cause, order Contractor in writing to suspend the Work or any portion thereof for such period of time as the Town may determine, for the Town's convenience and in the Town's sole discretion. If the Town suspends the Work pursuant to this Section 4.02, the Contract Price and the Contract Time shall be equitably adjusted to account for any actual and substantiated critical path delays to the progress of the Work and actual and substantiated increase in costs for the performance of the Work. If the suspension applies to only a part of the Work, an extension of the Contract Time will be authorized based on the Project Manager's estimate of the delay to the entire Project caused by the partial suspension.

#### **4.03 Labor Disputes:**

Notwithstanding any other provision contained in this Contract, in the event of any picket or other form of labor dispute at the construction site, Contractor shall continue to perform the Work without interruption or delay. If Contractor ceases performance of the Work because of such picket or other form of labor dispute, the Town may terminate the services of Contractor after giving 48 hours' written notice of its intent to do so.

#### **4.04 Termination for Contractor Default:**

If Contractor defaults in the timely and proper performance of any of Contractor's obligations under the Contract Documents, without prejudice to any other rights or remedies, the Town may terminate this Contract or reassign all or any portion of the Work upon 30 days' written notice to Contractor. In the event of termination, the Town shall pay Contractor for that portion of the Work previously authorized and satisfactorily completed prior to the date of the notice of termination, subject to any offset or other claim for damages suffered by the Town attributable to Contractor's default.

#### **4.05 Termination for the Town's Convenience:**

A. The Town may, at any time and without cause, terminate the Contract, in whole or in part, for the Town's convenience and without cause if such determination is in the Town's best interest, upon 30 days' written notice to Contractor. If the Town terminates the Contract for convenience, the following shall apply:

1. Contractor is not entitled to any claim for any amount, including lost profits or other special or consequential damages, for or in connection with any portion of the Work yet to be performed.
2. Upon receipt of a termination notice, Contractor shall, unless otherwise directed by the Town, take all of the following actions: (a) cease operations as directed by the Town in the notice; (b) take all actions necessary or that the Town may direct for the protection and preservation

of the Work; and (c) use all reasonable efforts to cancel or divert outstanding commitments and subcontracts for procurement of services, materials or equipment to the extent they relate to the terminated portion of the Work.

3. The Town shall pay Contractor for that portion of the Work properly executed prior to the date of termination and, to the extent approved by the Town, actual cancellation charges or loss incurred by Contractor upon outstanding commitments or subcontracts that Contractor is unable to cancel, provided Contractor has proven reasonable efforts to divert the commitments to other activities.

4. Payment for amounts properly executed by Contractor prior to the termination notice, if any, shall be based on the applicable unit prices for such Work for those portions of the Work actually completed and accepted by the Town, as well as a release of any retainage held by the Town as of that time. Within 60 days of the effective date of the termination, Contractor shall submit a claim to the Town for such amounts, along with all supporting backup documentation and cost records substantiating the amounts claimed. Contractor shall not be entitled to lost profits or any other form of special or consequential damages, or any costs incurred due to Contractor's or any of its suppliers or subcontractors fault or failure to mitigate as a result of any such termination by the Town for convenience.

B. In no event shall the total sums paid to Contractor pursuant to this Section 4.05, if any, exceed the Contract Price.

C. Settlement of and payment for the Work performed and costs of termination as outlined in this Section 4.05 shall not relieve Contractor or its Surety from responsibility or obligations with respect to the Work performed or concerning any claims arising out of the Work performed by Contractor on the Project or Bonds issued in connection with the Project.

## **Part 5. Warranties:**

### **5.01 Warranty of Fitness of Equipment and Materials:**

Contractor represents and warrants to the Town that all equipment and materials used in the Work, and made a part of the Work, or placed permanently in the Work, shall be new unless otherwise specified in the Contract Documents. All equipment and materials used shall be of good quality, free of defects and in conformity with the Contract Documents. All equipment and materials not in conformity with the Contract Documents shall be considered defective.

### **5.02 General Warranty:**

Contractor shall warrant and guarantee all material furnished and Work performed by Contractor for a period of 2 years from the date of Final Acceptance of the Work by the Project Manager. Under this warranty, Contractor agrees to repair or replace, at its own expense and under the direction of the Project Manager, any portion of the Work which

fails or is defective, unsound, unsatisfactory because of materials or workmanship, or which is not in conformity with the provisions of the Contract Documents. Should Contractor fail to perform any such corrective work required by this Section 5.02 within a reasonable period of time after a request by the Town, the Town may withdraw from the Payment and Performance Bond any and all amounts necessary to complete the required corrective work. The expiration of the warranty period shall in no way limit the Town's legal or equitable remedies, or the period in which such remedies may be asserted, for nonconforming Work or for Work negligently or defectively performed.

## **Part 6. Bonds, Insurance and Indemnification**

### **6.01 Indemnification:**

A. Contractor agrees to indemnify and hold harmless the Town and its officers, insurers, volunteers, representatives, agents, employees, heirs and assigns from and against all claims, liability, damages, losses, expenses and demands, including attorney fees, on account of injury, loss, or damage, including, without limitation, claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with this Contract or the Contract Documents, to the extent that such injury, loss or damage is attributable to the act, omission, error, professional error, mistake, negligence or other fault of Contractor, any subcontractor of Contractor, or any officer, employee, representative, or agent of Contractor or of any subcontractor of Contractor, or which arise out of any worker's compensation claim of any employee of Contractor or of any employee of any subcontractor of Contractor.

B. Contractor, to the fullest extent permitted by law, shall defend, investigate, handle, respond and provide defense for and defend against any such liability, claims, damages, losses, expenses or demands at the sole expense of Contractor, or at the option of the Town, Contractor agrees to pay the Town or reimburse the Town for defense costs incurred by the Town in connection with any such liability, claims, damages, losses, expenses or demands. Contractor, to the fullest extent permitted by law, shall defend and bear all other costs and expenses related thereto, including court costs and attorney fees, whether or not such liability, claims or demands alleged are groundless, false or fraudulent.

C. This indemnification provision is intended to comply with C.R.S. § 13-21-111.5(6) and shall be read as broadly as permitted to satisfy that intent. Contractor's liability under this provision shall be to the fullest extent of, but shall not exceed, that amount represented by the degree or percentage of negligence or fault attributable to Contractor, any subcontractor of Contractor, or any officer, employee, representative, or agent of Contractor or of any subcontractor of Contractor. If Contractor is providing architectural, engineering, surveying or other design services under this Contract, the extent of Contractor's obligation to defend, indemnify and hold harmless the Town may be determined only after Contractor's liability or fault has been determined by adjudication, alternative



dispute resolution or otherwise resolved by mutual agreement of the Parties, as provided by C.R.S. § 13-50.5-102(8)(c). However, nothing in this Section 6.01 shall apply to or affect any Bonds issued in connection with the Project, contracts or insurance, or insurance policies that provide for the defense, indemnification or holding harmless of public entities, nor any other obligations, rights or remedies of either of the Parties to this Contract.

## **6.02 Notice of Claim:**

If Contractor receives any claim from any third party, including but not limited to subcontractors, suppliers, personnel, employees, or private property owners, arising from or relating in any way to the performance of the Work, Contractor shall notify the Town in writing of the nature of the claim within 24 hours of receipt of the claim by Contractor. In this notice, Contractor shall provide evidence that Contractor has notified Contractor's insurer of the claim. Contractor shall keep the Town apprised of the disposition of the claim, and Contractor shall take all necessary action to resolve the claim and make restitution, if required, as quickly as possible.

## **6.03 Insurance:**

A. Contractor agrees to procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by Contractor pursuant to this Contract. Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to the Contract Documents, including this Section 6.03, by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types. At a minimum, Contractor shall procure and maintain, and shall cause any subcontractor to procure and maintain, the minimum insurance coverages listed below, unless otherwise specified in the Special Provisions, with forms and insurers acceptable to the Town. By requiring such minimum coverages, the Town shall not be deemed or construed to have assessed the risk that may be applicable to Contractor. Contractor shall assess its own risks relative to the Work to be performed on this Project as required by the Contract Documents and, if Contractor deems it appropriate and/or prudent, maintain higher limits and/or broader coverages than those provided for herein.

1. Worker's Compensation insurance as required by law.
2. Commercial General Liability insurance with minimum combined single limits of \$1,000,000 each occurrence and \$2,000,000 general aggregate. The policy shall be applicable to and provide coverage for all premises and operations, explosions, collapse and underground hazards, and shall include coverage for bodily injury, broad form property damage, personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations.

B. All coverages shall be continuously maintained to cover all liability, claims, demands and other obligations assumed by Contractor pursuant to the Contract Documents for the duration of the applicable statutes of limitation and statute of repose. All of Contractor's policies shall contain a severability of interests provision, and shall, where commercially available, include the Town and the Town's elected and appointed officers or officials, employees, agents, volunteers, and contractors as additional insureds. No additional insured endorsement shall contain any exclusion for bodily injury or property damage arising from completed operations.

C. Such insurance shall be in addition to any other insurance requirements imposed by law. The coverages afforded under the policies shall not be canceled, terminated or materially changed without at least 30 days prior written notice to the Town. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. Any insurance carried by the Town, its officers, its employees, or its contractors shall be excess and not contributory insurance to that provided by Contractor. Contractor shall be solely responsible for any deductible losses under any policy.

D. Contractor shall provide to the Town a certificate of insurance as evidence that the required policies are in full force and effect. The certificate shall identify this Contract.

E. Contractor shall ensure that all of Contractor's and subcontractors' or suppliers' insurers are licensed or approved to do business within the State of Colorado. Unless otherwise specified, all policies must be written on a per occurrence basis.

F. Contractor and its insurers shall waive subrogation in favor of Additional Insured parties.

G. Failure of Contractor to comply with these insurance requirements during the term of the Contract may be considered a material breach and may be cause for immediate termination of the Contract, at the Town's option and in its sole discretion.

#### **6.04 Performance and Payment Bond:**

Contractor shall furnish a Payment and Performance Bond in the full amount of the Contract Price, as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents, including the warranty. This bond shall remain in effect at least until 2 years after the date of Final Acceptance of the Work.

### **Part 7. Payment**

#### **7.01 Progress Payments:**

A. The Town shall make periodic progress payments to Contractor within 30 days following the Project Manager's approval of the Work completed and the applicable payment application. A progress payment shall be made only after

Contractor has submitted an application for a progress payment on a form approved by the Project Manager, along with copies of invoices from subcontractors or suppliers substantiating the amounts billed, partial, conditional lien and claim waivers executed by Contractor and by each subcontractor and supplier covered by the applicable payment application and, beginning with the second application for a progress payment, unconditional lien and claim waivers from Contractor and each subcontractor and supplier for all amounts paid by the Town on prior applications for payment.

B. Except as otherwise provided for in the Contract Documents and this Section 7.01, progress payments shall be in an amount equal to 95% of the Work actually completed. All amounts retained by the Town pursuant to this Section 7.01.B shall be retained by the town until the Work is completed and finally accepted by the Town. Completed Work shall, pursuant to approval and acceptance by the Project Manager, include materials and equipment not incorporated in the Work but delivered to the work site and suitably stored.

C. If Contractor fails to complete any required Work within the time period agreed between Contractor and the Project Manager, or within any time period set forth in the Contract Documents, as modified or extended, the Town is expressly authorized to withhold any progress payment for such Work until such Work is completed.

D. In addition to the 5% retainage provided for in Section 7.01.B and withholding for failure to timely complete the Work as provided for in Section 7.01.C, the Town may retain any disputed line item or portion thereof included in any application by Contractor for a progress payment for any of the following: any unsatisfactory performance of the Work; failure to repair or replace defective, non-conforming or rejected Work as directed by the Town; claims filed or reasonable evidence that claims may be filed against Contractor relating to the performance of the Work; Contractor's failure to make payments to subcontractors or suppliers as required by the Contract Documents; failure to comply with the Contract Documents or applicable law, including employment laws and licensing and permitting requirements; failure to maintain the Work and work site in a clean and orderly manner; failure to remedy damage to Town or private property damaged by Contractor or its subcontractors or suppliers during the performance of the Work; or a set off for amounts due to the Town by Contractor pursuant to the provisions of the Contract Documents, including amounts for liquidated damages. If the reasons for such withholding are cured by Contractor and no longer exist, the Town shall make payment to Contractor for the sums withheld, subject to the 5% retainage on all progress payments as provided for in Section 7.01.B.

E. Contractor warrants that it shall pay each subcontractor and supplier promptly, upon receipt of payment from the Town, the amount to which the subcontractor is entitled no later than 7 days after receipt of payment from the Town. Notwithstanding anything to the contrary, Contractor shall not be required to pay a subcontractor or supplier that has not performed in accordance with its subcontract

or purchase order. Contractor shall, by appropriate agreement with each subcontractor or supplier, require each subcontractor or supplier to make payments to the subcontractor's or supplier's sub-subcontractors or vendors in similar manner. The Town may furnish to each subcontractor or supplier information regarding the percentages of completion or the amounts applied for by Contractor and paid by the Town.

## **7.02 Final Payment:**

Upon final acceptance of the Work, the Town shall make final payment to Contractor pursuant to, and subject to the provisions and limitations of, C.R.S. § 38-26-107.

## **7.03 Liquidated Damages:**

A. Because time is of the essence and delayed performance causes a compensable, yet difficult to precisely ascertain, damage to the Town and its residents, the liquidated damages established in this Section shall be enforced. Such damages are not a penalty. For each day Substantial Completion is delayed after the Substantial Completion date stated in the Construction Contract, as modified through approved change orders, Contractor shall be assessed the following amounts which constitute a reasonable estimate of the actual damages such delay would cause the Town:

<b>Contract Price</b>	<b>Amount per day</b>
\$0-\$50,000	\$350
\$50,000-\$100,000	\$380
\$100,000-\$250,000	\$440
\$250,000-\$500,000	\$520
\$500,000-\$1,000,000	\$640
\$1,000,000-\$2,000,000	\$820
\$2,000,000-\$4,000,000	\$1,080
\$4,000,000-\$8,000,000	\$1,450
\$8,000,000-\$12,000,000	\$1,820
\$12,000,000 or greater	\$2,250

B. If Contractor does not, after Substantial Completion, achieve Final Completion of the Work as required by and within the time specified in the Construction Contract, Contractor shall be assessed the amounts specified in Section 7.03.A for each day thereafter that the Project does not achieve Final Completion, which amounts constitute a reasonable estimate of the actual damages such delay would cause the Town.



C. Allowing Contractor to continue and finish the Work or any part thereof after the Substantial Completion date and Final Completion date, as applicable, shall not operate as a waiver on the part of the Town of any of its rights under the Contract Documents. Any liquidated damages assessed shall not relieve Contractor from liability for any damages or costs of other contractors caused by a failure of Contractor to complete the Work in the Contract Time, nor for any attorneys' fees or costs that are otherwise allowable under the Contract Documents or applicable law. Liquidated damages may be deducted from any payment due Contractor or the retainage held by the Town. If the liquidated damages exceed the amount owed to Contractor, Contractor shall reimburse the Town within 30 days of the Town's written demand for such reimbursement.

#### **7.04 Oral Agreements Prohibited:**

This Contract is expressly subject to the provisions of C.R.S. § 29-1-110(1), and Contractor acknowledges that neither the Town nor any employee or agent thereof is authorized to expend or contract for the expenditure of any monies in excess of those appropriated by the Erie Town Council. The Town acknowledges that sufficient funds have been appropriated to pay the Contract Price, but Contractor shall not rely upon the appropriation of any funds in addition to those already appropriated unless and until the same are lawfully appropriated by the Erie Town Council.

#### **7.05 Items Not Included In Detailed Scope of Work:**

No additional compensation shall be paid for any costs or services listed in the Contract Documents but not specifically listed in the Detailed Scope of Work as a Bid Item.

#### **7.06 Changes in Quantity:**

- A. Except as provided in Section 7.07, the unit price shown in the Detailed Scope of Work shall be used to determine the payment owed Contractor for any changes in quantity.
- B. The actual quantity placed and accepted by the Town, as determined by the Project Manager, shall be used to calculate the payment due to Contractor.
- C. Prior to any Work being performed in excess of any of the Detailed Scope of Work quantities, Contractor shall notify the Town, in writing, of every quantity that will exceed 105% of the quantity listed in the Detailed Scope of Work.
- D. Except as provided in Section 7.08, Contractor shall not be entitled to compensation for any increased expense, loss of expected reimbursement or loss of anticipated profits, directly or indirectly caused by any changes in quantity.

#### **7.07 Unit Price Adjustments:**

- A. When a major item is increased to more than 125% or decreased below 75% of the original quantity stated in the Detailed Scope of Work, the unit price shall be modified by written change order. Payment for major items shall be calculated by multiplying the actual quantity placed by the modified unit price.

B. For purposes of this Section, a major item is any item having a total value, determined by multiplying the original quantity in the Detailed Scope of Work by the unit price, that exceeds 10% of the original Contract Price.

### **7.08 Eliminated Items:**

Should any items contained in the Detailed Scope of Work be found unnecessary for completion of the Work, the items shall be eliminated. The Contract Price shall be modified through written change order, and the amount of the change order shall be the eliminated quantity multiplied by the unit price stated in the Detailed Scope of Work, minus any reasonable costs incurred by Contractor for the eliminated items. Reasonable costs shall be determined by the Project Manager based on information provided by Contractor, and may include mobilization of eliminated materials and equipment mobilization costs, if the sole purpose of the equipment was to place the eliminated material. In no case shall the costs exceed the amount of the eliminated items.

### **7.09 Materials Stored But Not Incorporated:**

Payments may be made to Contractor for materials stored on the work site but not incorporated into the Work as evidenced by invoices or cost analyses of material produced, if the material has been fabricated or processed and is ready for installation into the Work and conforms with the Contract Documents. Payments shall not exceed 85% of the price shown in the Detailed Scope of Work or 100% of the certified invoice cost of the stockpiled material, whichever is less. Payment for stockpiled materials shall not relieve Contractor of responsibility for loss or damage to the material. Payment for living plant materials or perishable materials shall not be made until the living or perishable material is made an integral part of the finished Work.

### **7.10 Cost Records:**

Contractor shall make cost records available to the Town if the Town deems it necessary to determine the validity and amount of any item claimed.

## **Part 8. Miscellaneous**

### **8.01 Publications:**

Any and all publications relating to the Work and authored by Contractor or any of its subcontractors shall be submitted to the Town for its prior written approval of the content of the publication. If the Town disapproves of the content of the publication, the author shall withdraw it from publication. The term "publication" as used herein shall include articles or letters to be published in any newspaper, magazine, trade journal or other periodical.

### **8.02 Confidentiality:**

Any and all reports, information, data, statistics, forms, designs, plans, procedures, systems, studies and any other communication form of knowledge given to or prepared or assembled by Contractor under this Contract shall, to the extent authorized and permitted by law, be kept as confidential and not be made available by Contractor to any individual, company or organization without the prior written consent of the Town.

Notwithstanding the foregoing, Contractor shall not be restricted from releasing information in response to a subpoena, court order, or legal process, but Contractor shall notify the Town in writing before responding.

### **8.03 Independent Contractor:**

Contractor, for all purposes arising out of this Contract, is an independent contractor and not an employee of the Town. It is expressly understood and agreed that Contractor shall not be entitled to any benefits to which the Town's employees are entitled, such as overtime, retirement benefits, worker's compensation, injury leave or other benefits.

### **8.04 Conflicts:**

Should any conflict arise in the Contract Documents, the order of precedence is as follows:

1. Construction Contract.
2. Special Provisions.
3. General Provisions.
4. Technical Specifications (Gordian).
5. Detailed Plans (Calculated dimensions will govern over scaled dimensions).

### **8.05 Dispute Resolution:**

- A. Contractor shall faithfully continue performance under this Contract during the pendency of any dispute or litigation arising under or relating to this Contract and the Work in accordance with the terms and conditions of the Contract Documents. Contractor's failure to faithfully continue performance due to a dispute or litigation shall, in the Town's discretion, be construed as a material breach of this Contract and justify termination for Contractor's default or such other action as the Town, in the Town's discretion, may deem appropriate or warranted.
- B. If the Town is reasonably required to engage an attorney to assist in connection with any claim or dispute with Contractor relating to or arising out of the Contract or the Work including, without limitation, in connection with any litigation proceedings, and the Town prevails in such proceeding, Contractor shall reimburse the Town for its reasonable attorneys' fees, costs, and other expenses incurred by the Town in connection with such proceedings.

## **Special Provisions**

### 1. **General.**

A. All labor, services, material, and other work necessary for the construction of Erie Maintenance Storage Facility Expansion Project shall be provided by Contractor. Contractor's responsibilities shall include, but not be limited to: managing the budget; scheduling and coordinating work meetings; conducting field tests and geotechnical studies; preparing exhibits and participating in formal and informal public meetings at locations provided by the Town; and timely processing field orders, change orders and notices of substantial completion.

B. Contractor shall carefully examine all Work, and shall be solely responsible for the character, quality, and quantities of Work, materials, and compliance with the Contract Documents.

C. Contractor shall identify any and all necessary easements for construction and maintenance of the Work.

### 2. **Other Regulations.**

A. Contractor shall ensure that the Work is in compliance with the Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual, CDOT Specifications, AASHTO Specifications, International Building Code, Uniform Plumbing Code, Uniform Mechanical Code, National Electrical Code, Americans with Disabilities Act, and other applicable codes and specifications.

B. In case of any discrepancy between any of the requirements set forth in the Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual, CDOT Specifications, AASHTO Specifications, International Building Code, Uniform Plumbing Code, Uniform Mechanical Code, National Electrical Code, Americans with Disabilities Act, and these Contract Documents, the more stringent requirement shall apply. If any questions arise as to which requirement is more stringent than another, the Project Manager shall be authorized to determine which is more stringent, and the Project Manager's decision shall be final.

### 3. **Representatives.** Contractor shall have at the work site at all times as its agent, a competent superintendent capable of reading and thoroughly understanding the Contract Documents and being thoroughly experienced in the type of work being performed. The Town shall have a representative on the job site to observe work for conformance with the Contract Documents.

### 4. **Work Administration.** The Town shall administer the Work, including the finalization of any change orders, pay estimates and payments of such, acceptance of work, and other matters as stipulated in the Contract Documents.

### 5. **Engineer.** The Engineer for this Work shall be the Town Engineer.



6. Inspections and Testing.

A. Contractor shall be responsible for performing materials testing. In addition to the materials testing performed by Contractor, the Town may conduct Quality Assurance testing at its own discretion.

B. Contractor shall coordinate its construction schedule with the testing agency and Town so that key inspection points may be observed. If Contractor fails to provide reasonably adequate notice or proceeds without the required inspection, the subject work shall be re-exposed or redone in its entirety, while the inspector is present. No extra compensation shall be awarded to Contractor for extra work due to Contractor's failure to coordinate inspections with the testing agency or the Town. All costs associated with Contractor's failure to coordinate inspections shall be borne by Contractor.

C. Contractor shall perform construction inspections. Contractor shall attend any pre-construction meeting(s) and be available to provide technical assistance during the course of construction as necessary. Contractor shall provide site visits and reviews upon request from the Town during the construction phase to ensure compliance with the intent of the plans and to resolve any potential conflicts. Contractor shall provide a written summary after each site visit.

D. Contractor shall be responsible for scheduling the final inspection with the Town.

7. Construction Schedule.

A. At the time of the Pre-construction Conference, Contractor shall prepare and submit to the Town for review a critical path method (CPM) construction schedule including: proposed daily construction hours; details of all construction items; start and finish dates; confirmation and dates for coordinating all utility relocation and/or interruptions; and the same information for all subcontractor(s). The schedule shall not be changed without prior notification to and review by the Town. The schedule shall be in the form of a chart of suitable scale to indicate approximately the percentage of Work scheduled for completion at any time. Contractor shall enter on the chart the actual progress at the end of each 2-week interval as directed by the Town and shall deliver to the Town 3 copies thereof on a biweekly basis.

B. Contractor shall also prepare and submit a schedule of the anticipated manpower by title and duty. The manpower proposed shall be adequate for orderly flow of work and completion within the time specified in the Contract Documents.

C. All construction activities shall be coordinated with the Project Manager.

8. Saturday, Sunday, Holiday and Night Work.

A. Work shall normally not be performed on Saturdays, Sundays, observed holidays, or outside of the daytime working hours of 7:00 a.m. to 7:00 p.m., or as

indicated on the construction schedule. Lane closures are restricted to 9:00 a.m. to 4:00 p.m. on arterial and collector streets, except for such work as may be necessary for proper care, maintenance, and protection of Work already completed, or in cases where the Work would be endangered or if hazards to life or property would result.

B. If Contractor believes it necessary to work on Saturdays, Sundays, holidays, or at night, Contractor shall make prior arrangements with the Town and receive written approval at least 48 hours before such time. Such approval may be revoked by the Town if Contractor fails to maintain adequate equipment and lighting at night for the proper control, and inspection of the work. If Work is performed without the Town's prior approval, and as a result the Town had not assigned inspectors to the work, the Town may declare Work performed during this period of time defective.

C. Any Work performed on a Saturday, Sunday, holiday, or night shall be at Contractor's risk in terms of extra costs, extra work, or unforeseen conditions.

9. Progress Reports.

A. Progress reports and progress/manpower schedules shall be updated and submitted to the Project Manager at the end of each 2-week period, or at such other times as the Project Manager may request. Contractor shall also forward to the Project Manager, at the end of each month, an itemized report of the delivery status of major and critical items of purchased equipment and material, including shop drawings and the status of shop and field fabricated work.

B. If the completion of any part of the Work or the delivery of materials is behind the approved schedule, Contractor shall submit a plan acceptable to the Project Manager for bringing the Work up to schedule. The Town shall have the right to withhold progress payments for the work if Contractor fails to update and submit the progress/manpower schedule and reports as specified.

10. Pre-construction Conference.

A. Contractor shall coordinate the Pre-construction Conference. Contractor's designated supervisor(s) assigned to the Work shall attend this meeting.

B. Prior to mobilizing construction equipment, a Pre-construction Conference will be held. Contractor's designated superintendent(s) or supervisor(s) assigned to the Work shall attend this meeting. Contractor shall, at a minimum, provide the following to the Town at the Pre-construction Conference:

- i. The construction schedules;
- ii. A detailed estimate of partial payments for the Work;
- iii. The traffic control plan;
- iv. A detailed plan showing site access and staging areas; and
- v. A subcontractor submittal, including names and contact phone numbers.

11. Fees and Permits.

A. Prior to commencing any Work, Contractor shall secure, at its own expense, all necessary fees and permits required for the performance of the Work, including an Army Corps of Engineers 404 permit, if necessary. The cost of compliance with this Section (including fees) is included in the Contract Price, and no additional compensation shall be provided.

B. All fees for permits issued by the Town shall be waived.

12. Existing Utilities.

A. The Work shall be coordinated with all impacted utility companies, districts, associations, agencies, and residents located in the work site. Contractor shall conduct the meeting and provide summary minutes.

B. Contractor shall determine the actual location of all existing utilities prior to starting any Work. Contractor shall contact utility companies for field locations prior to the start of Construction Work, and shall contact all utilities at least 48 hours prior to beginning excavation and/or grading. If the exact location and depth of existing underground utilities are unknown, Contractor shall perform all necessary exploratory excavation to locate these facilities which may affect the Work prior to beginning construction. Contractor shall obtain required locates and Contractor shall include the information on the plans. Contractor shall resolve any utility discrepancies. Contractor shall be liable for all damage done to existing utilities in the performance of the Work.

C. If Contractor requests that utility companies relocate utilities for Contractor's convenience, such relocation shall be at Contractor's expense.

D. The time of performance under the Contract shall not be extended to account for repair of utilities which are damaged by Contractor.

13. Water and Electricity. Contractor shall provide and maintain, at its own expense, an adequate supply of water and electricity required for the Work. Contractor shall install and maintain supply connections and lines satisfactory to the Project Manager, and prior to Final Completion, Contractor shall remove the supply lines at its expense.

14. Dust Control. Contractor shall use measures to prevent and control dust within the area affected by the Work. No additional compensation shall be paid to Contractor for dust control. Contractor shall clean any soil, dirt, or debris tracked onto any adjacent streets. Within 24 hours of notification by the Town that any adjacent streets require cleaning, Contractor shall clean such streets or the Town may have the streets cleaned and deduct the cost of such cleaning from the Contract Price.

15. Construction Staging Areas. All construction staging areas shall be located within the work site. The boundaries of construction staging areas shall be approved by the Town. Construction staging areas shall be used for material storage, parking

for equipment, and employees' vehicles. A construction trailer shall not be required, but may be used if the location of the trailer is approved by the Town. Upon Final Completion, all staging areas shall be clean and restored to their original condition. No additional compensation shall be provided to Contractor for cleaning of construction staging areas.

16. Sanitary Facilities.

A. Sanitary convenience for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers and in such a manner and at such points as approved by the Town. The contents shall be removed and disposed of in a satisfactory manner.

B. The sanitary conveniences specified above shall be the obligation and responsibility of Contractor. The facilities shall be made available to all other contractors, subcontractors, and inspection personnel in the work site.

C. Contractor shall supply sufficient drinking water from approved sources to all of its employees.

D. Full compensation for compliance with this Section is included in the Contract Price, and no additional compensation shall be provided.

17. Soils Investigations and Foundation Engineering. Contractor shall be responsible for all geotechnical investigations necessary to design and perform the Work.

18. Lines and Grades. Contractor shall lay out the Work and shall be responsible for all measurements in connection therewith. Contractor shall, at its own expense, furnish all stakes, templates, platforms, equipment, and labor, including surveyors, that may be required in setting and cutting or laying out any part of the Work. Contractor shall be responsible for the proper execution of the Work to such lines and grades.

19. Traffic Control.

A. Contractor shall furnish all necessary flagpersons; erect and maintain warning lights, advance warning signs, detour signs, barricades, temporary fence, and sufficient safeguards around all excavations, embankments, obstructions; and perform any other work necessary for the protection of all work being performed, and for the safety of the public and pedestrian traffic, as well as motor vehicles. All signs and barricades shall conform to the current Manual on Uniform Traffic Control Devices.

B. At the Pre-construction Conference, Contractor shall submit a traffic control plan for review by the Town. The plan shall discuss the traffic control measures proposed for the safety of vehicular and pedestrian traffic through the work site.

C. Contractor shall at all times take proper precautions for the protection of and replacement or restoration of landscaping, driveway culverts, street intersection culverts or aprons, irrigation crossings and systems, mailboxes,



driveway approaches, signs, existing utilities, and all other public and private installations that may be encountered during the Work.

D. No driveway or private alley shall be blocked without prior written permission from the resident who would be affected by such blocking, with a copy to the Town.

E. No road shall be closed at any time.

F. Contractor shall advise the Police Department, school districts, trash services, and homeowners of any lane closures, including dates and times.

G. It shall be Contractor's responsibility to: maintain, protect, and control traffic in the vicinity of and in the work site; restrict parking on streets near the work site; and provide necessary parking areas for all employees in suitable locations as approved by the Town.

20. Archaeological and Historical Discoveries.

A. Contractor shall inform the Town of any evidence which might suggest to a layperson that archaeological or historical materials may be present in the work site. Upon making such a discovery, Contractor shall do whatever is necessary to avoid disturbing the work site. This may require that Contractor's activities be redirected or stopped until the Town determines how to proceed.

B. As a result of Contractor's efforts to preserve the potential discovery at the work site, if Contractor's activities are delayed for longer than 8 normal work hours, Contractor shall prepare accounting information to support an adjustment to the Contract Price.

21. Water Control.

A. Contractor shall take such precautions as necessary to construct the Work in a dry condition, and Contractor shall provide for drainage, dewatering, and control of all surface and subsurface water and shall erect any necessary temporary structures or other facilities at its own expense.

B. Contractor, at its own expense, shall furnish all necessary equipment and materials required to control the surface and subsurface water in all the areas from the commencement of Work through Final Completion.

C. Contractor shall be responsible for furnishing, transporting, and installing all materials and equipment, well points, pumping, channelization, diversion, damming, or other means of controlling surface water and ground waters.

22. Disposal Site

A. Contractor shall be responsible for the removal of all excess excavation, debris, deleterious material, muck, asphalt, concrete, trees, stumps, remains from clearing and grubbing, and all other materials not used for the construction of the improvements. Costs of disposal are included in the Contract Price and shall not

entitle Contractor to additional compensation. Contractor shall designate in writing a disposal site located outside the Town limits and acceptable to the Town.

B. Contractor's cost for loading, hauling, daily cleaning of streets, disposal of the earthwork (excavation) materials, together with the construction, maintaining and watering of haul roads, and dump fees and permits are included in the Contract Price and shall not entitle Contractor to additional compensation.

23. Video Prior to Construction. Contractor shall provide the Town with a video of the entire work site prior to beginning construction, including all adjacent areas, at Contractor's own expense. One copy of the video shall be provided to the Town and become the property of the Town prior to the commencement of any Work.

24. Existing Improvements and Restoration.

A. Contractor has field inspected the work site and fully understands that existing landscaping and improvements are present within the work site. Such existing improvements shall be protected. Any damage or disruption in the public right-of-way, drainage easements, Town property, or private property related to the Work shall be restored to pre-existing or better condition.

B. Contractor shall be responsible for replacing all existing improvements, including irrigation systems and landscaping, damaged during Contractor's activities, except as otherwise provided in the Contract Documents.

25. Erosion Control. Contractor shall provide an erosion/sediment control plan for use during construction. The plan shall include site specific details showing the type, location, and quantity of BMP's to be used. The erosion/sediment control plan shall be designed to prevent sediment from leaving the construction area. Special attention shall be given to prevent sediment from entering into any wetland area.

26. Vandalism. Contractor shall take all necessary steps to protect the work site from vandalism. Contractor shall be solely responsible to repair any damage caused by vandalism, including the removal of graffiti, at Contractor's own cost. The Contract Price shall not be increased to reimburse Contractor for such costs.

27. Job Order Contract (JOC) Special Conditions. The following clarifications and modifications apply to the General Provisions and these Special Provisions:

A. All references to "Bid Items" shall be interpreted to mean Work tasks necessary to complete the Work.

B. All references to "change order work," "extra work," "force account work," and any other descriptions to changes to the Detailed Scope of Work shall be interpreted to mean work described in the Detailed Scope of Work of a Supplemental Job Order, if any.

## Certificate Of Completion

Envelope Id: C08E2347-6EAE-46B0-BC2E-4E6312F190E7

Status: Completed

Subject: Complete with Docusign: Construction Contract(Erie Maintenance Storage Facility Expansion)

Source Envelope:

Document Pages: 33

Signatures: 1

Envelope Originator:

Certificate Pages: 5

Initials: 0

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## Signer Events

Benjamin J Placzek

bplaczek@facilitiescontracting.com

Security Level: Email, Account Authentication  
(None)

## Signature

Signed by:  
  
8A3076AA17DE420...

Signature Adoption: Pre-selected Style

Using IP Address: 96.90.177.149

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Sent: 11/19/2025 3:15:26 PM

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Viewed: 11/24/2025 3:12:18 PM

Signed: 11/24/2025 3:12:51 PM

## Electronic Record and Signature Disclosure:

Accepted: 11/24/2025 3:12:18 PM

ID: 212ea79c-ab6c-46a9-bcee-53d3cf653ccf

## In Person Signer Events

## Signature

## Timestamp

## Editor Delivery Events

## Status

## Timestamp

## Agent Delivery Events

## Status

## Timestamp

## Intermediary Delivery Events

## Status

## Timestamp

## Certified Delivery Events

## Status

## Timestamp

## Carbon Copy Events

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Kathy Kron

kkron@erieco.gov

Senior Parks Planner

Town of Erie

Security Level: Email, Account Authentication  
(None)

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Adrian Gee

agee@facilitiescontracting.com

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(None)

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## Electronic Record and Signature Disclosure:

Accepted: 10/14/2025 3:51:33 PM

ID: ed729c7d-33a2-47cd-acd7-5d51ee157182

## Witness Events

## Signature

## Timestamp

Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	11/19/2025 3:15:26 PM
Certified Delivered	Security Checked	11/24/2025 3:12:18 PM
Signing Complete	Security Checked	11/24/2025 3:12:51 PM
Completed	Security Checked	11/24/2025 3:12:53 PM
Payment Events	Status	Timestamps
Electronic Record and Signature Disclosure		

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### **Consequences of changing your mind**

If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. Further, you will no longer be able to use the DocuSign system to receive required notices and consents electronically from us or to sign electronically documents from us.

### **All notices and disclosures will be sent to you electronically**



Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through the DocuSign system all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

### **How to contact Town of Erie:**

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:

To contact us by email send messages to: [docusign@erieco.gov](mailto:docusign@erieco.gov)

### **To advise Town of Erie of your new email address**

To let us know of a change in your email address where we should send notices and disclosures electronically to you, you must send an email message to us at [docusign@erieco.gov](mailto:docusign@erieco.gov) and in the body of such request you must state: your previous email address, your new email address. We do not require any other information from you to change your email address.

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### **To request paper copies from Town of Erie**

To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an email to [townclerk@erieco.gov](mailto:townclerk@erieco.gov) and in the body of such request you must state your email address, full name, mailing address, and telephone number. We will bill you for any fees at that time, if any.

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To inform us that you no longer wish to receive future notices and disclosures in electronic format you may:

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- ii. send us an email to [docusign@erieco.gov](mailto:docusign@erieco.gov) and in the body of such request you must state your email, full name, mailing address, and telephone number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

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- You can print on paper this Electronic Record and Signature Disclosure, or save or send this Electronic Record and Disclosure to a location where you can print it, for future reference and access; and
- Until or unless you notify Town of Erie as described above, you consent to receive exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you by Town of Erie during the course of your relationship with Town of Erie.