Development Review Staff Report

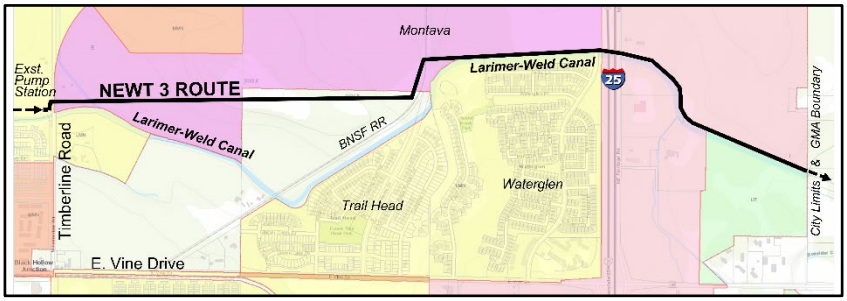
Agenda Item 4

Planning and Zoning Commission Hearing: April 21, 2022
NEWT 3 Pipeline, Site Plan Advisory Review SPA220001

Summary of Request

This is a request for a Site Plan Advisory Review (SPAR) of a proposed corridor alignment for a water pipeline project to be shared by two water districts. The NEWT 3 name of the project refers to North Weld County and East Larimer County Water Districts Transmission Pipeline Project, phase 3.

Zoning Map



The route traverses agricultural and vacant lands zoned Employment (purple) and Industrial (pink) as well as an unincorporated parcel, which happens to be owned by the City for regional stormwater purposes.

Next Steps

If the Commission approves the proposal, the water districts can proceed with final plans for permitting and construction.

If the Commission disapproves the proposal, the reasons will be forwarded to the governing boards of the two water districts, who may vote to overrule the Commission with 2/3 majority votes by the two boards.

The applicants could then proceed to the same work on final plans for permitting and construction.

Site Location

The pipeline is proposed in a two-mile-long corridor along a power line and large canal through agricultural land a half-mile north of E Vine Dr., from Timberline Rd. to City Limits east of I-25.

Zoning

Employment and Industrial zone districts.

Property Owner

North Weld County Water District / East Larimer County Water District
3285 CR 39 / 232 South Link Lane
Lucerne / Fort Collins, CO 80646 / 80524

Applicant/Representative

Daniel Rice
Providence Infrastructure Consultants
300 Plaza Drive
Highlands Ranch, CO 80129

Staff

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Staff Recommendation

Staff recommends disapproval of the proposed NEWT 3 corridor under the SPAR criteria.

1. Project Introduction

A. PROJECT DESCRIPTION

This proposed NEWT 3 pipeline corridor segment is the conceptual alignment of an approximately 150-foot wide corridor within which the specific location and design of a 40-foot permanent easement and a 42-inch pipeline will be determined. Extensive further planning and design work is required that will influence the exact location, such as surveying, coordination with streets and other utility infrastructure, engineering design, easement negotiations, permitting requirements, and related work.

It is a continuation of previously built NEWT 1 (2010) and NEWT 2 (2015) segments. The project will provide the Districts with a needed increase in capacity to meet increasing demands and to provide redundancy to existing aging transmission systems as part of managing risks associated with critical infrastructure.

The NEWT 3 segment is 5.35 miles long, of which a 2-mile portion is within City Limits. The Site Plan Advisory Review (SPAR) only applies to infrastructure located within the City.

The City portion runs from west to east beginning at an existing pump station on the west side of Timberline Road ½ mile north of Vine Drive, and ends ½ mile east of I-25 at the City Limit. The segment then continues to the south and east in Larimer County.

The corridor runs along existing corridors for a power transmission line and the large Larimer and Weld Canal.

The applicants' proposal is Attachment 1. It is a 178-page corridor routing study report containing:

- A system overview and explanation of the need for the project.
- Analysis of five alternative corridor routes.
- More-detailed descriptions of the chosen corridor.
- Evaluation of the chosen corridor for consistency with the Comprehensive Plan including City Plan, the Mountain Vista Subarea Plan, the I-25 Subarea Plan, Transportation Master Plan, the Parks and Recreation Master Plan, and Nature in the City; and also the Montava PUD Master Plan.
- A conceptual pipeline profile within the routes and conceptual construction details for the pipeline.
- An Ecological Characterization Study (ECS) of the preferred corridor generally describing potential resources affected by the corridor and recommending mitigation that would be required for impacts that might be required depending on the exact pipeline location.

Pages numbered 5-8 in the report summarize the study and chosen corridor.

B. OVERVIEW OF MAIN CONSIDERATIONS IN STAFF REVIEW

Staff's essential finding to recommend disapproval of the corridor study report is:

- The corridor route does not conflict with the Comprehensive Plan.
- Potential impacts are noted at a general level along with acknowledgement of further work needed to mitigate potential impacts in final plans.
- **However,** it is not possible for staff to evaluate the level of impacts or whether impacts of the pipeline facility construction have been mitigated to the extent reasonably feasible, without having a site development plan as required by SPAR criteria.

Staff does not find any problems with or reasons to disapprove the chosen corridor alternative.

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Simply, staff finds that the SPAR is premature because the location and extent of the level of impacts, and mitigation of impacts to the extent reasonably feasible, will depend on more detailed plans for a specific location and pipeline design within the corridor. In other words, while the corridor routing study is thorough and complete, actual pipeline plans would be needed to satisfy SPAR criteria.

Staff acknowledges communications with the applicant about the fact that construction plans will be done in collaboration with the City in any case regardless of this SPAR, and impacts will be identified and addressed in detail. The City will be involved in coordination and permitting, similar to involvement in NEWT 1 and 2 and other pipelines.

C. BASIS FOR STAFF REVIEW AS NOTED ABOVE

City review of the pipeline as a public facility is governed by State statute. SPAR projects are not evaluated for compliance with Land Use Code standards per se, as in other types of development. The criteria for review are more general than the Land Use Code standards for other types of projects, and a degree of interpretation is necessary in a given project.

SPAR is often referred to as "Location, Character, and Extent" review, under the requirements shown below:

1. Statutory Requirements for City Review

Colorado Revised Statutes, as amended (C.R.S.), govern the City's review of development plans, in two specific Sections. These supersede the City's typical processes for development plan review.

- Section 31-23-209, C.R.S. generally governs all public facilities with the following pertinent provision:

"…no …public…structure, or publicly or privately owned public utility shall be constructed or authorized in the municipality…until the **location, character, and extent** thereof has been submitted for approval by the commission." (Emphasis added.)

"In case of disapproval…the planning commission's disapproval may be overruled by [the two water districts] by a vote of not less than two-thirds of its membership."

"The failure of the commission to act within sixty days from and after the date of official submission to it shall be deemed approval."

2. Land Use Code Requirements

The Land Use Code incorporates the statutory requirements into Sections 2.1.3(E) and 2.16(H) under the Site Plan Advisory Review Process ("SPAR"). Following is the pertinent text:

"2.1.3(E)(1). The Site Plan Advisory Review process requires the submittal and approval of **a site development plan** that describes the location, character and extent of improvements to parcels owned or operated by public entities. (Emphasis added.)

"2.16.2 Site Plan Advisory Review Procedures

(H) Standards: LUC standards are not applicable, and in substitution thereof, an application for a Site Plan Advisory Review must comply with the following criteria:

(1) The site location for the proposed use shall be consistent with the land use designation described by the City Structure Plan Map, which is an element of the City's Comprehensive Plan.

(2) The site development plan shall conform to architectural, landscape and other design standards and guidelines adopted by the applicant's governing body. Absent adopted design standards and

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guidelines, the design character of the site development plan shall be consistent with the stated purpose of the respective land use designation as set forth in the City's Comprehensive Plan.

(3) **The site development plan shall identify the level of functional and visual impacts to public rights-of-way, facilities and abutting private land caused by the development, including, but not limited to,** streets, sidewalks, utilities, lighting, screening and noise, **and shall mitigate such impacts to the extent reasonably feasible."** (Emphasis added.)

D. SITE CHARACTERISTICS

1. Current Conditions – Agricultural Land Use

The corridor runs through agricultural land, including the south edge of a farm home site located on the east I-25 frontage road abutting the Larimer and Weld Canal.

2. Zoning

The corridor runs along the south edge of land zoned Employment (E) on the west side of I-25 in the Mountain Vista area, at the southern edge of the Montava PUD Master Plan. This edge of Montava is mostly designated for stormwater, with a portion designated for future Poudre School District facilities.

A ½-mile stretch of the corridor immediately south of Montava crosses a land parcel within an unincorporated enclave. The parcel is owned by the City for regional stormwater purposes.

The corridor then continues through land zoned Industrial on the east side of I-25, along the north side of the Larimer-Weld Canal.

2. Public Outreach

A. NEIGHBORHOOD MEETING

A virtual neighborhood meeting was held on December 1, 2020. The meeting was lightly attended with only a few basic questions asked and answered. 244 addresses were mailed. Notes are attached.

B. PUBLIC COMMENT

No other public comment has been received. Any communication received between the public notice and the hearing will be provided to the Board for the hearing.

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3. Procedural Requirements – Land Use Code Article 2

A. SITE PLAN ADVISORY REVIEW PROCEDURAL OVERVIEW

1. Conceptual Review

A conceptual review meeting was held on January 16, 2020.

2. Neighborhood Meeting

Held on December 1, 2021 and satisfies the applicable requirement of Section *2.16.2 – Site Plan Advisory Review Procedures.*

3. Submittal

The project development plans were submitted on February 24, 2022 and deemed complete on February 25, and subsequently routed to all reviewing departments.

Notice (Posted, Written and Published)

Posted notice: November 16, 2021, Sign #653
Written notice: April 7, 2022. 244 letters sent.
Published notice: April 10, 2022 in the Coloradoan.

4. Staff Evaluation

A. LOCATION

The first criterion for the review of the application is “location.” This criterion requires that the site location for the proposed public facility be consistent with the land use designation described by the City Structure Plan Map, which is an element of the City’s Comprehensive Plan. Incidentally, the Structure Plan assigns place types of ‘Mixed Use Neighborhoods’ and ‘Industrial’ to the land affected.

Because the pipeline will be underground, the main considerations regarding location would be the ability for any future development to fit with adopted City plans, and short-term or long-term conflicts with existing utilities or utility access to potential future development.

The location and alignment of the conceptual corridor follows existing powerline and ditch corridors, near the edges of properties, thus consolidating and minimizing impacts to current agricultural use of the land, and to potential future employment and industrial development, to the extent reasonably feasible.

Therefore, staff finds no notable issues related to the City’s Structure Plan Map.

B. CHARACTER

The second criterion for review is “character” which requires the site development plan to conform to architectural, landscape and other design standards and guidelines adopted by the applicant’s governing bodies – the two water districts in this case.

The “character” criterion refers to design character and consistency with land use designation, which are relevant to building developments or other above-ground public facilities, but not a factor in staff review of the underground pipeline.

Therefore, staff finds no problem with the proposal in terms of character.

Furthermore, to the extent that design character might involve any District standards and guidelines, staff finds that because the proposed pipeline segment is a third phase continuation of two previously built phases, the proposal can reasonably be assumed to conform to any such standards and guidelines.

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C. EXTENT

The third criterion for review is "extent" which requires the development plan to identify the level of functional and visual impacts to public rights-of-way, facilities and abutting private land caused by the development, including, but not limited to, streets, sidewalks, utilities, lighting, screening and noise; and to mitigate such impacts to the extent reasonably feasible.

Staff finds that it is not possible to review the level of impacts of the pipeline with the conceptual corridor routing study information, nor whether the impacts are mitigated to the extent reasonably feasible, as required by SPAR criteria in the Land Use Code. As explained previously in the overview of staff's review, a pipeline site development plan, as required in 2.1.3(E)(1), would be needed to find that the level of impacts is identified and the impacts are mitigated in the plans.

Examples of potential impacts include effects upon other utilities, existing and planned streets, natural resources noted in the study, a City-owned land parcel in the corridor, and any unforeseen impacts.

5. Staff Conclusions and Recommendation

Staff recommends that the Planning and Zoning Commission send a concise letter to the governing bodies of the two water districts with the reason for disapproval explained in this staff report.

Staff's recommendation does not reflect lack of support for the conceptual *corridor* described in the report; rather, staff is unable to recommend approval of the pipeline facility without having a site-specific development plan as required in Section 2.1.3(E)(1).

Staff offers the following sample motion for the Commission to consider based on the recommendation.

> The Fort Collins Planning and Zoning Commission finds that the Site Plan Advisory Review Report for the NEWT 3 pipeline, dated February 23, 2022, is a thorough description of the conceptual corridor which is consistent with the City's Comprehensive Plan; however, the Commission recommends disapproval of the NEWT 3 pipeline #SPA220001 as described in the SPAR report, because a more detailed site development plan for the pipeline is needed showing its location within the corridor, identifying impacts, and mitigating impacts.

Staff understands and acknowledges that the City and applicant will continue to collaborate on construction plans to resolve issues that must be addressed in Fort Collins' permitting processes.

6. Attachments

1. SPAR Report
2. Neighborhood Meeting Notes
3. Timeline
4. Staff Presentation

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City of Fort Collins

NEWT PIPELINE, PHASE 3

Site Plan Advisory Review (SPAR) Report

NORTH WELD COUNTY WATER DISTRICT
ESTABLISHED 1952

EAST LARIMER COUNTY ELCO WATER DISTRICT

DRAFT FOR REVIEW
FEBRUARY 23, 2022

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1 SUBMITTAL CHECKLIST ITEMS

Table 1-1 below lists all items from the Submittal Checklist and where the item is addressed within the SPAR Report. The completed checklist is included in the Appendix A.

Table 1-1: Submittal Checklist Responses or Report Section

Checklist Item	Description	Response or Report Reference Section
Paper Copies	Completed Checklist	Appendix A
Paper Copies	Development Application Form	Appendix A
Paper Copies	Transportation Development Review Application	NA
Paper Copies	Check	No Fee for SPAR
1	Conceptual Review Comments Letter	Appendix F
1	Project Information and Design Narrative	See Section 2
2	Planning Submittal Package (Conceptual Plan & Profile, and Appurtenance Drawings)	Appendix C for 11x17 Site Location Map & Profile and Appurtenance Details
3	Subdivision Plat	NA
4	Civil Construction Plans	NA
5	Preliminary Drainage and Erosion Control Report	NA
6	Planning Services a) Perspective Views on Building Exterior	See Section 2.6.1 and Appendix C
6	Planning Services b) Building Material Sample Board	NA
6	Planning Services c) Neighborhood Context Plan	Section 2.6.1
6	Planning Services d) Land Use Code Modification	NA; no changes to land use code
6	Planning Services e) Parking Alternative Compliance Studies	NA; see Section 2.6.2
6	Development Review Engineering	NA
6	Traffic Operations	NA
6	Environmental Planning a) Ecological Characterization Study	See Section 2.8.1
6	Environmental Planning b) Phase 1 Environmental Site Assessment	See Section 2.8.2
6	City Forestry a) Existing Tree Inventory	See Section 2.9; no trees along corridor
6	City Forestry b) Existing Tree Removal Feasibility Request	NA; no trees removed
6	City Forestry c) Existing Tree Mitigation Plan	NA; no trees along corridor
6	Other Information and Data – Hazardous Materials Impact Analysis	Section 2.10
6	Other Information and Data – Special wildlife, wetland, natural habitats and features, ecological or environmental study or mapping pursuant to Section 3.3 and 3.4 of the Land Use Code.	Section 2.8.1

2 PROJECT INFORMATION AND DESIGN NARRATIVE

This report supports a request by the North Weld County Water District (NWCWD) and the East Larimer County Water District (ELCO) (Districts) for a review of Phase 3 of the NEWT Pipeline Project under the provisions of the City of Fort Collins (City) Site Plan Advisory Review (SPAR) process. This report describes the proposed Phase 3 corridor, addresses key items included on the City's SPAR Submittal Checklist and demonstrates how the proposed project aligns with a variety of City plans. For the SPAR review, the Districts were able to make sure the project aligns with the following:

- Fort Collins City Plan – April 16, 2019
- The Mountain Vista Subarea Plan – September 15, 2009
- The I-25 Subarea Plan – August 19, 2003
- The Montava Planned Unit Development (PUD) – Winter 2020
- SPAR Review Comments – January 17, 2020

It should be noted that Phase 3 of the NEWT 3 Pipeline Project is located within both the City of Fort Collins and unincorporated Larimer County. Approximately 43% of the project will be located within City jurisdiction.

2.2 Past Meeting Dates

Table 2-1 provides a list of all past meetings including dates and notes.

Table 2-1: City of Fort Collins Meetings

Meeting Name	Date	Notes
Conceptual Review Meeting	1/16/2020	See responses in Appendix F
SPAR Application and Report Submittal Coordination Meeting	2/12/2020	Meeting was held to better define submittal expectations / requirements
Forestry Department Tree Inventory Meeting	2/12/2020	The City did not identify any trees along corridor, see Section 2.9
Project Planning Break due to Covid-19 Pandemic		
SPAR Re-Engagement Meeting with City Planning Staff	5/27/2021	Meeting was held to restart the SPAR process after the Covid-19 break in project activities
SPAR Open House Preparation Meeting with City Planning Staff	8/23/2021	Meeting was held to better understand the City's processes and protocols associated with Open-House Meetings
City Council Meeting	10/19/2021	City Council Meeting where adoption of 1041 Regulations took place.
SPAR Neighborhood Meeting	12/1/2021	See responses in Section 3.2

2.3 Owners and General Information

The acronym NEWT refers to the multi-year, multi-phase **N**orth Weld County and **E**ast Larimer County Water Districts **W**ater **T**ransmission Pipeline Project (Project). The NEWT Pipeline is jointly owned by NWCWD and ELCO. Phase 3 of the NEWT Project is needed to connect the previously constructed Phase 1 (2010) and Phase 2 (2015) pipelines to the Districts' water distribution systems. Once complete, the Phase 3 project will provide the Districts with a much-needed increase in transmission capacity to convey treated water from the Soldier Canyon Filter Plant (SCFP) to the Districts' distribution systems. In addition, a fully operational NEWT Pipeline

will provide the Districts' with additional redundancy that will help mitigate risks associated with operating their existing and aging transmission lines.

2.4 System Overview and Project Need

As shown in Figure 2-1, the Districts currently rely on several treated water transmission pipelines located within the City and Larimer County conveying existing water rights owned by the NWCWD and ELCO. NWCWD currently relies on two transmission systems (North and South) to supply potable water to their service area. In association with ELCO, NWCWD relies on the existing 42-inch NEWT Phase 1 and 2 Pipelines as well as the shared 24-inch Mountain Vista Pipeline that was constructed in the 1993 and the Summit View Pump Station (SVPS) that was constructed in 2001. These transmission pipelines and the SVPS are referred to as NWCWD's North System and convey water from the SCFP to NWCWD's distribution system. Under most cases the North System conveys flow by gravity unless higher customer demands require flows to be boosted by use of the SVPS. NWCWD's South System is comprised of an existing 24-inch transmission line that conveys flow from the SCFP to Zone 1 of the NWCWD's distribution system and includes Pump Station 1 (PS1) located on Mulberry Street (S.H. 14) east of Interstate 25. The installation of the existing 24-inch transmission line was completed in 1963. Pump Station 1 was originally constructed in 1984 with additional pumps added in 2000 to increase its capacity. The South System generally flows by gravity during lower demand seasons and then relies on PS1 to boost flows to meet higher demands between late spring and early fall.

Like NWCWD, ELCO also relies on the existing 42-inch NEWT Phase 1 and 2 Pipelines, the 24-inch Mountain Vista Pipeline, and the use of the SVPS to meet customer water demands. In addition to these shared facilities, ELCO also relies on a 24-inch transmission line located between SCFP and North Timberline Road. ELCO's existing 24-inch transmission line generally operates parallel to the shared NEWT Phase 1 and 2 Pipelines and provides transmission capacity to the center of their distribution system.

In the mid-2000s, prior to the construction of Phases 1 and 2 of the Project, the Districts identified the future need for Phase 3 to provide additional capacity east of Timberline Road which could not be accomplished by Phases 1 and 2, the 24-inch Mountain Vista Pipelines, and their independently owned and operated 24-inch transmission lines. Over the last several years, demands in both Districts have steadily increased and, during recent summer demand seasons, the Districts have had difficulty maintaining appropriate water levels within their respective water storage tanks. In addition to the need to increase transmission capacity, the Districts are in need of adding additional redundancy to their transmission systems. The shared Mountain Vista Pipeline is 25 years old, NWCWD's 24-inch transmission line is 55 years old, and ELCO's 24-inch transmission line is 40 years old. With the age of these critical pipelines, the completion of Phase 3 will help the Districts properly manage the risks associated with the continued operation of their older transmission system components.

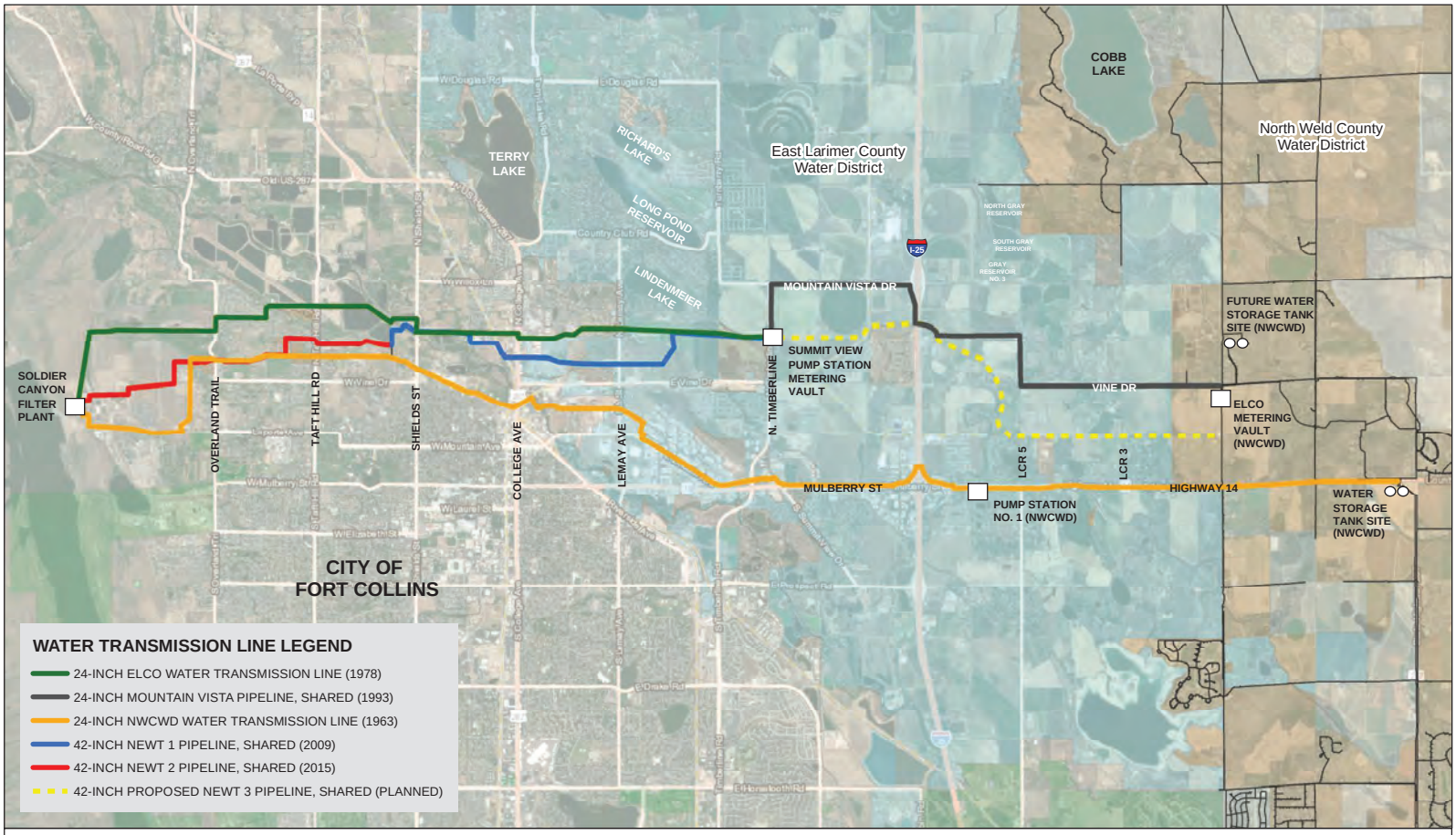

FIGURE 2-1: EXISTING TRANSMISSION SYSTEM

2.5 Corridor Routing Study and Chosen Corridor

Prior to initiating formal permitting activities on the Project's Phase 3, the Districts requested that Providence Infrastructure Consultants (PIC) evaluate potential pipeline corridors. As part of this evaluation, PIC was tasked with evaluating five different corridors (C-1 thru C-5) to support the Districts with selecting a preferred pipeline corridor that best achieves the project's primary goals, which are listed below:

- Engineering, Operation, and Maintenance – Appurtenant Pipeline Facilities, Tunnels, Roadway Crossings, working within existing Right-of Ways, etc.
- Potential Environmental Impacts – Clean Water Act, Endangered Species, Migratory Species, etc.
- Property, Right-of-Way, and Access Considerations
- Cost – Identify a project corridor that can be completed using projected District funding.
- Schedule – Complete construction so the Districts can begin conveying flow in 2024.
- Hydraulics – Increase the Districts' gravity flow transmission capacity.
- Flexibility – Allow the Districts to have redundant transmission capacity.

After careful review of all available information and lengthy discussions with NWCWD and ELCO, the Districts chose Corridor C-5 for Phase 3 of the Project. The selection was based on Corridor C-5 having the highest potential to meet the Districts goals which include properly managing cost, reducing public impacts, avoiding or mitigating impacts to natural and cultural resources, and the ability to implement Phase 3 on a schedule that allows the Districts to meet their water supply obligations. The complete corridor evaluation report is included in Appendix B.

2.5.1 Project Corridor

A conceptual plan and profile for Corridor C-5 is provided in Appendix C. This conceptual drawing is to be used for reference purposes. While not as detailed as design drawings, conceptual drawings provide visual context for understanding the location, variables, opportunities, and challenges of the selected corridor.

For the first 2 miles, the Corridor (C-5) parallels an overhead electric transmission line, then crosses a Burlington Northern and Santa Fe railroad track, parallels the Larimer & Weld Canal, crosses Interstate 25, and passes through the Einarsen Farm property. After exiting the Einarsen Farm property, C-5 continues southeast paralleling the Larimer & Weld Canal for one mile to E. Vine Drive. At E. Vine Drive, C-5 crosses E. Vine Drive, and continues to parallel the Larimer & Weld Canal for approximately 3,000 feet to a point approximately 600 feet west of LCR 5. At this point C-5 turns east for approximately 2 miles to its connection with an existing 36-inch NWCWD waterline located in WCR 13. Along the 2-mile stretch located within the jurisdiction of the City of Fort Collins, C-5 crosses primarily agricultural and open land. Table 2-2 provides a list of the properties that will be encountered within the City of Fort Collins jurisdictional boundaries.

Table 2-2: City of Fort Collins Properties

Property	Parcel No.	Current Zoned Land Use	Notes
K&M Company	8705300015	Agricultural	Property where Phase 3 connects to Phase 1
K&M Company	8705000001	Agricultural	Corridor parallels existing overhead electric line
Anheuser-Busch Foundation	8704000002	Agricultural	Corridor approaches BNSF RR crossing
Anheuser-Busch Foundation	8704000001	Agricultural	Corridor is between BNSF and Interstate 25
Harold D Einarsen Trust	8703000005	Agricultural	Corridor is between I-25 and City jurisdictional limit

2.5.2 Property and Right-of-Way

Within the jurisdictional limits of the City of Fort Collins, the Project corridor is primarily located within private agricultural property (+ 95% of total length). The crossing of private land will require obtaining utility easements which the Districts are actively securing. For Phase 3 of the Project, the Districts consider the use of private easements favorable as: 1) costs associated with pipe installation and traffic control can be better managed, 2) the Districts will have better control in preventing outside influences from affecting the long-term location of the pipeline and its easements, 3) the Districts will have safer and more unencumbered access to the pipeline during its operating life, and 4) public impacts during construction will be reduced.

The Project corridor will require the crossing and being within road rights-of-way in certain locations. The rights-of-way that will be crossed within the City of Fort Collins are listed in Table 2-3.

Table 2-3: Roadway / Rail Right-of-Way Owners

Roads	Notes
N. Timberline Road	Crossing at the start of Phase 3, will require construction ingress/egress
BNSF RR	Tunneled Crossing, No Impacts
Interstate 25 Frontage Road	Tunneled Crossing, No Impacts
Interstate 25	Tunneled Crossing, No Impacts
Interstate Frontage Road	Tunneled Crossing, No Impacts, will require construction ingress/egress

2.6 Planning Services

2.6.1 Above Ground Appurtenances

The Phase 3 pipeline will be a fully buried pipeline. Once constructed, the pipeline will not interfere with views, or adversely impact the City's land use vision or goals, or any neighborhood context plans. Furthermore, the proposed pipeline corridor was selected to follow existing facilities such as existing utilities and canals. By paralleling existing utilities and encumbrances, the Districts are reducing impacts to properties.

While the pipeline will be fully buried, the pipeline will require a minimal number of small above-ground equipment appurtenances at various locations along the corridor. These equipment appurtenances will include simple vent pipes extending from buried manholes or vaults, pipeline markers, and cathodic protection test posts. All the pipeline's small above-ground appurtenances are customary to buried utilities. In order to reduce the impacts associated with these appurtenances, PIC will work with the City to identify workable solutions that best meet the City's goals. Appendix C contains typical details associated with these small facilities.

2.6.2 Parking

The only parking associated with the project will be temporary during construction. Temporary parking will be restricted to specific locations along the pipeline corridor called staging areas. The locations of the staging areas are not known at this time but will be specified during the design phase in coordination with private property owners. PIC will work with private property owners and the City during design to identify and specify staging areas that are compatible with the City's goals and private property needs. The temporary parking areas will be fully restored before the completion of the project and will have no permanent impacts.

2.7 Historic and Cultural Review and Preservation

To assist with the Project's corridor evaluation and potential consultation obligations under Section 106 of the National Historic Preservation Act (NHPA) and/or the State Register Act, a Class I cultural resource evaluation for the areas along the proposed corridors[1] was conducted as part of developing a Natural and Cultural Resources Assessment[2]. The study determined that historical structure resources are in several areas within the study area. However, these resources are visible and will be avoided. The resources assessment also determined that the potential to discover buried resources that have not already been identified is unlikely due to ongoing cultivation, residential development, and highway construction[3]. As with Phases 1 and 2 of the Project, the Districts' construction contractor will be contractually obligated to stop work should any historical or cultural resources be encountered. If such an encounter takes place, the Districts will immediately contact the State Historic Preservation Office (SHPO) as well as the Districts environmental consultant, ERO Resources. To assist with the City's review of historical and cultural resources, ERO's assessment report is included in Appendix D.

2.8 Environmental Planning

2.8.1 Ecological Characterization Study (ECS)

Per the requirements of the City's SPAR review process, an Ecological Characterization Study[4] was completed for the Project's corridor. The ECS documents the assessments associated with identifying potential wetlands, potentially federally listed threatened and endangered species, migratory birds and active nests, and other wildlife along the Project corridor. The ECS provides mitigation guidance regarding current federal regulations and City of Fort Collins Land Use Code requirements. The subsections below summarize the findings of the ECS. The complete ECS report is included in Appendix E.

2.8.1.1 Wetlands, Natural Habitats and Waters of the U.S.

One of the Districts' goals is to avoid or minimize impacts to regulated 'wetlands and waters of the U.S.' Per the recently prepared ECS, there are several potential regulated wetlands and waters with the City's jurisdictional limits including:

- The Larimer & Weld (L&W) Canal
- The Number 8 Outlet Ditch (connected to the L&W Canal)
- Wetland fringes associated with the Larimer & Weld Canal and the Number 8 Outlet Ditch.

Per the corridor selected, the Project will not cross the L&W Canal or wetland fringes along the canal. The Project is anticipated to cross the Number 8 Outlet Ditch. Per the ECS, a Section 404 permit will likely be required to allow construction to cross the Number 8 Outlet Ditch. With this crossing, the area will be fully restored to its natural or built condition in accordance with Section 404 Permit requirements and the City of Fort Collins Land Use Code and Natural Areas Department Guide on Native Plants.

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[1] *Included a file search with the Office of Archaeology and Historic Preservation.*
[2] *Natural and Cultural Resources Assessment, NEWT 3 Pipeline Routing Study, ERO Resources, August 20, 2018.*
[3] *Reference Page 20 of the attached Natural and Cultural Resources Report.*
[4] *Ecological Characterization Study, NEWT 3 Pipeline – Fort Collins Reach, ERO Resources, February 14, 2022*

2.8.1.2 Threatened and Endangered Species

Per the Project's ECS, the Project corridor does not appear to contain suitable habitat for any federally listed threatened species. However, the project area does fall within survey guidelines for Preble's meadow jumping mouse (Preble's). In completing the ECS, it was determined that a Preble's population likely does not exist as the Project corridor lacks suitable riparian habitat and is fragmented and continuously disturbed by human activity. Though the habitat does not appear suitable, the Districts will submit a habitat assessment per the to the U.S. Fish and Wildlife Services to gain confirmation that the Project corridor lacks the suitable Preble's habitat, and a presence/absence survey is not required.

2.8.1.3 Migratory Birds Treaty Act (MBTA)

Migratory birds, including raptors and their active nests are protected under the Migratory Bird Treaty Act (MBTA). Several potential raptor nests are located along the Project corridor. Depending on the species of raptor nest and whether its active, a construction buffer of 1/3 to 1/4 of a mile may need to be maintained between February and the end of July. Because of the variability in nesting times and species, the Districts will conduct nest surveys, as recommended by the ECS, prior to construction. Furthermore, the Districts will look to see if it is feasible for ground-clearing activities to take place between the middle of September and the end of March which is outside of the migratory bird breeding season.

2.8.1.4 Other Species of Concern

The vicinity of the Project's crossing of Boxelder Creek, the ECS noted that a variety of wildlife could find suitable habitat at this location. This wildlife includes black bear, mountain lion, mule deer, white-tailed deer, white-tailed jackrabbit, coyote, fox, racoon and a variety of other smaller animals and birds. However, because the Project area has a significant amount of agricultural activity and is adjacent to Interstate 25, Mountain Vista Drive, Timberline Road, East Vine Drive, and the Larimer & Weld Canal access road, it is unlikely that the project area provides significant habitat for wildlife. Furthermore, any wildlife using the Project area have adapted to human activity.

2.8.2 Phase 1 Environmental Site Assessment

Typically, on buried utility projects, an environmental site assessment is not performed. However, it is customary to perform proper due diligence to determine the need for a Phase 1 Environmental Site Assessment (ESA). For the Phase 3 Project, a variety of environmental regulatory databases were consulted to determine the potential for environmental challenges to be encountered. Table 2-4 provides a list of the regulatory databases that were reviewed. Based on the information reviewed, a Phase 1 ESA is not expected to be necessary.

Table 2-4: Regulatory Database Review

Database	Agency	Applicable Database Addresses	Notes
Oil or Gas Spills	Colorado Division of Oil and Public Safety	https://ops.colorado.gov/petroleum/petroleum-guidance/release-response/site-characterization https://climatewest.maps.arcgis.com/apps/MapJournal/index.html?appid=2bdcc11be9ac4daeb5a8010952a06ec7	Project Area is clear

Database	Agency	Applicable Database Addresses	Notes
Volunteer Cleanup and Redevelopment (VCUP) Program	Colorado Department of Health and Environment	https://cdphe.colorado.gov/voluntary-cleanup https://www.arcgis.com/home/webmap/viewer.html?webmap=02fd7ca98f3843448d68cca128ebc1ff&extent=-109.6294,37.1309,-101.5159,40.6818	Project Area is clear
Leaking Underground Storage Tank (LUST) Program	Environmental Protection Agency	https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=c220c67462e14763a8e0c4df75550278	Two closed LUST sites are located north and south of Project Corridor. (1400'+)
Resource Conservation and Recovery (RCRA) Sites	Environmental Protection Agency	https://ordspub.epa.gov/ords/cimc/f?p=cimc:map::::71	Project Area is clear
Superfund Sites	Environmental Protection Agency	https://www.epa.gov/superfund/national-priorities-list-npl-sites-state#CO	Project Area is clear

2.9 City Forestry

On February 12, 2020, PIC staff met with the City Forestry Department and drove the corridor to develop a tree inventory. The Phase 3 project is proposed to be constructed in open land and the City agreed that the corridor contains no existing trees. Therefore, the Existing Tree Removal Feasibility Request and Existing Tree Mitigation Plan were deemed unnecessary.

2.10 Hazardous Materials Impact Analysis

Because the project will not involve hazardous materials other than fuel necessary to operate equipment, a Hazard Materials Impact Analysis is not needed. For the equipment that needs fueling during construction, a contract fuel supplier will visit each piece of equipment and provide fuel within the construction corridor. This type of fueling is customary to utility construction and is a low-risk activity.

2.11 Project Schedule

As with any long-distance water transmission pipeline project, the Phase 3 Project has a schedule that involves multiple concurrent stages to be accomplished over several years. The project will be implemented using a Construction Manager at Risk (CMAR) delivery method which will allow design and construction to take place in concurrent phases. This will allow the project to be completed faster as the construction contractor will be able to construct certain phases while other phases in design. The project's implementation is anticipated to follow the schedule below:

- Complete Project Planning and Permitting: 2022
- Design: 2022 - 2023
- Construction: 2023 - 2024

2.12 List of Affected Property Owners

As described in Subsection 2.5.1 and 2.5.2, the Project is anticipated to cross five private property parcels located within the jurisdictional limits City of Fort Collins. Furthermore, the Project is anticipated to cross several roads within the City including Timberline Road and Interstate 25 and its frontage roads.

3 RESPONSES TO MEETING COMMENTS

The following subsections address comments received at the meetings listed below:

- SPAR Review Comments – January 17, 2020
- Neighborhood Meeting – December 1, 2021

3.1 SPAR Conceptual Review Comments Responses

PIC attended a Pre-submittal meeting with City of Fort Collins staff on January 16, 2020 and received a response letter with conceptual review comments from staff. The comments letter requested that all responses be addressed in the original letter using a different colored font. PIC has reviewed and responded to all conceptual review comments and, in accordance with the City's request, all responses are shown in red text. The responses are included in Appendix F.

3.2 Responses to Neighborhood Meeting Comments

The neighborhood meeting took place in December of 2021 and was lightly attended. No comments were received during or after the meeting. Should the City receive any comments in the future, the Districts will be available and willing to provide necessary responses.

4 CITY AND SUBAREA POLICY REVIEWS

The following subsections demonstrate how the NEWT 3 Pipeline project complies with City and Subarea principles and policies. For the SPAR review, the Districts made sure the project aligns with the following:

- Fort Collins City Plan – April 16, 2019
- The Mountain Vista Subarea Plan – September 15, 2009
- The I-25 Subarea Plan – August 19, 2003
- The Montava Planned Unit Development (PUD) – Winter 2020

4.1 City Plan, Principles & Policies Evaluation

An updated Fort Collins City Plan (*City Plan*) was adopted in April 2019. The *City Plan* contains a comprehensive set of principles and policies intended, in part, to guide the development, management, and conservation of land within the Growth Management Area. Many of the *City Plan's* principles and policies are directed at residential development, transportation or other areas that are not directly related to utility projects. For this reason, the following discussion addresses specific principles and policies that relate most directly to the proposed NEWT 3 Pipeline Project. As demonstrated in the remainder of this section, the NEWT 3 Pipeline Project is consistent with the principles and policies of the *City Plan*. Table 4-1 below lists applicable City Plan principals and policies and how the NEWT 3 Pipeline Project is consistent with these objectives.

Table 4-1: Fort Collins *City Plan* - Principals and Policies Compliance Summary

Principal / Policy	Policy	NEWT 3 Narrative
LIV 1: Maintain a compact pattern of growth that is well served by public facilities and encourages the efficient use of land	LIV 1.3 – Community Edges - Collaborate with Larimer County and adjacent communities to plan the edges of the Fort Collins GMA. Provide joint guidance on factors including, but not limited to, future land use, development referrals, infrastructure planning, development standards, Transfer of Development Rights (TDR) programs, fees, community separators and the preservation of open lands. LIV 1.5 – Capital Improvement Policies - Operate under the following Capital Improvement Policies: • Develop a multiyear plan for capital improvements and update it annually. • Use a variety of different sources to fund capital projects with an emphasis on the "pay – as – you - go" philosophy. • Identify funding for operating and maintenance costs for approved capital projects at the time projects are approved.	The NEWT 3 Pipeline, along with its earlier NEWT 1 and NEWT 2 Project phases, is the collaboration of the East Larimer County Water District and the North Weld County Water District in collaborating on infrastructure planning to most cost-effectively share resources and limit impacts to land and environmental resources by building a joint project as opposed to independent projects. Furthermore, once completed the overall project will help support activities with the City and it's GMA. The NEWT 3 Pipeline will be designed and construction entirely using District funds and, therefore, will not pose any financial burden to the citizens of Fort Collins.
LIV 10: Recognize, protect and enhance historic resources.	LIV 10.1 – Identify Historic Resources - Determine through survey techniques what historic resources exist within the GMA; how significant these resources are; the nature and degree of threat to their preservation; and methods for their protection.	As part of the NEWT 3 Pipeline's corridor study, the Districts performed a Natural and Cultural Resources Assessment. As part of the study, a variety of existing and potential cultural resources were identified. During the project's preliminary design phase and prior to constructing the pipeline, the Districts in consultation with the State Historic Preservation Office (SHPO), will perform a detailed field survey to evaluate the project site for historical and cultural resources. If resources are discovered, the project will be designed to avoid or mitigate effects to resources.

Principal / Policy	Policy	NEWT 3 Narrative
	LIV 10.2 – Preserve Historic Resources - Preserve historically significant buildings, sites and structures throughout Downtown and the community. Ensure that new construction respects the existing architectural character of the surrounding historic resources without artificially duplicating historic elements.	As part of the NEWT 3 Pipeline's corridor study, the Districts performed a Natural and Cultural Resources Assessment. As part of the study, a variety of existing and potential cultural resources were identified, and the pipeline was routed to avoid known resources. During the project's preliminary design phase and prior to constructing the pipeline, the Districts in consultation with the State Historic Preservation Office (SHPO), will perform a detailed field survey to further evaluate the project site for historical and cultural resources. If additional resources are discovered, the project will be designed to avoid or mitigate effects to these resources.
CR 2: Provide a variety of high-quality outdoor and indoor recreational opportunities that are accessible to all residents.	CR 2.1 – Recreation Opportunities Maintain and facilitate the development of a well-balanced system of parks, trails, natural areas and recreation facilities that provide residents and visitors of all races / ethnicities, incomes, ages, abilities and backgrounds with a variety of recreational opportunities.	The selected corridor of NEWT 3 Pipeline avoids City and County owned open lands and natural areas.
	CR 2.2 – Interconnected System - Support an interconnected regional and local system of parks, trails and open lands that balances recreation needs with the need to protect wildlife habitat and other environmentally sensitive areas. Where appropriate, place trails along irrigation ditches and storm drainageways to connect to destinations such as schools, open lands and neighborhood centers.	The selected corridor of NEWT 3 Pipeline avoids City and County owned open lands and natural areas. Furthermore, the selected corridor will not impact the City's ability to connect regional and local parks, trails, and open lands. In addition, the selected corridor will not have long-term permanent impacts to wildlife habitat or other environmentally sensitive areas.

Principal / Policy	Policy	NEWT 3 Narrative
EH 2: Support entrepreneurship and innovation.	EH 2.4 – Northern Colorado Innovation Hub - Work with regional partners to collectively market Northern Colorado as a center for innovation and highlight the range of strengths that can bring investment and employers to the region. Identify ways the City can serve as a platform for testing of new Smart Cities research and idea development.	The NEWT 3 Pipeline has the potential to provide future businesses with the ELCO water service area and within the City and it's GMA with water supply.
EH 4: Ensure that an adequate and competitive supply of space and/or land is available to support the needs of businesses and employers of all sizes.	EH 4.3 – Essential Infrastructure / Capital Facilities - Prioritize investment in infrastructure that supports economic health activities within the constraints of City financial resources and that satisfies the triple- bottom-line objectives of the community.	The NEWT 3 Pipeline has the potential to support economic health with the City and it's GMA without using any City financial resources.
EH 5: Engage and help shape regional economic development efforts.	EH 5.4 – Regional Infrastructure - Actively participate in conversations with other municipalities, organizations and regional leaders to collaborate on upgrading transportation and other regional infrastructure to fulfill Fort Collins' goals. These discussions shall focus on the benefits that may be created for Fort Collins and consider the goals in this plan with respect to economic, environmental and human objectives.	The NEWT 3 Pipeline will be a regional piece of infrastructure that could provide benefits to areas within the City and it's GMA.
ENV 1: Conserve, create and enhance ecosystems and natural spaces within Fort Collins, the GMA and the region.	ENV 1.1 - Publicly Controlled Open Lands - Maintain a system of publicly controlled natural areas to maintain the integrity of wildlife habitat and conservation sites, protect corridors between natural areas, conserve outstanding examples of Fort Collins' diverse natural heritage, and provide a broad range of opportunities for educational, interpretive and recreational programs to meet community needs.	The NEWT 3 Pipeline will not adversely impact the City's ability to maintain or expand its system of publicly controlled natural areas. Furthermore, the pipeline project will not prevent corridors between natural areas from being maintained or established.

Principal / Policy	Policy	NEWT 3 Narrative
	ENV 1.2 - Land Conservation and Stewardship - Continue to acquire, manage, maintain and enhance public open lands and natural areas in accordance with the City's Natural Areas Master Plan to ensure the protection of plants and animals in need of conservation and their associated ecosystems; support biodiversity; control the invasion and spread of non-native plants; improve aesthetics; and provide opportunities for appropriate public use. Avoid disruption and minimize impacts to natural areas caused by energy production, electrification and communication systems. ENV 1.6 – Wildlife Corridors - Conserve and enhance wildlife movement corridors through a network of public open lands and natural habitat buffers along natural features such as streams and drainageways.	The NEWT 3 Pipeline is not located within the boundaries of any City natural area. Also, the project will not adversely impact the City's ability to acquire, manage, maintain, or enhance public open lands and natural areas. Furthermore, project restoration will require that disturbed areas are restored in such a manner to have no impact on plants and animals and their ecosystems. Furthermore, project restoration requirements will prevent the spread of non-native plants. The NEWT 3 Pipeline will not impact wildlife movement corridors with the City or it's GMA. The project involves buried infrastructure and will not be an obstacle to the free movement of wildlife.
ENV 4: Protect human health and the environment by continually improving air quality.	ENV 4.2 – Air Pollution Sources - Implement a full spectrum of options—including engagement, incentives and regulation—that focus on prevention of air pollution at the source.	The NEWT 3 Pipeline will not be a long-term source of air pollution. During construction, dust generation will be mitigated per project requirements with the use of sprayed water that will introduce moisture to the construction corridor.
ENV 5: Create a Zero Waste system.	ENV 5.1 – Reduce, Reuse, Refuse - Provide education and promote the City's goals for reducing all types of waste at the source. Encourage the use of durable and reusable goods to avoid low-quality, high-polluting products such as single-use disposables and items with a short usable life span. Find the highest and best use for waste materials.	The NEWT 3 Pipeline will not be a source of waste.

Principal / Policy	Policy	NEWT 3 Narrative
ENV 6: Manage water resources in a manner that enhances and protects water quality, supply and reliability.	ENV 6.1 – Water Resource Planning Partner and collaborate with water service providers to ensure adequate, safe and reliable water supplies in accordance with the Water Supply and Demand Management Policy. To the extent feasible, coordinate on supply and storage development and demand modeling. ENV 6.3 – Droughts and Vulnerability - Develop drought and vulnerability planning that takes into consideration the future impacts of climate change; potential demand changes from increased Urban and multifamily developments; and other hazards and vulnerabilities, such as disruption of supplies due to wildfires. Partner and collaborate with water service providers in the GMA. ENV 6.4 – Development Along Waterways - Use development regulations, such as setbacks from natural features and performance standards, to conserve and protect natural resources along the Poudre River, Spring Creek, Fossil Creek, Boxelder Creek and other waterways. Redevelopment in areas with natural resource values or potential natural values will consider the creation or enhancement of those values with an emphasis on natural attributes.	While not a direct partner with the City on the NEWT Pipeline Project, the East Larimer County Water District and North Weld County Water District are Northern Colorado regional partners that are partnering to share resources to ensure an adequate, safe and reliable water supply is available to regional customers including those located within the City and it's GMA. As a regional water supply partner with the City, the East Larimer County Water District and North Weld County Water District will be providing additional water supply redundancy to areas within the northeast parts of the City and it's GMA with the completion of the NEWT 3 Pipeline. The NEWT 3 Pipeline will result in no long-term impactful development along the City's waterways. Construction of the pipeline will be parallel to the Larimer-Weld Canal and will cross Boxelder Creek, but restoration will ensure no loss of natural resources.
ENV 8: Create and maintain a safe, healthy and resilient urban forest.	ENV 8.3 – Growing Assets Ensure protection of existing trees when new or redevelopment takes place through collaboration with other City departments and on-site landscape contractors. Trees appreciate in value as they age and provide aesthetic, economic, social and environmental benefits to the entire community and nearby people and development.	The NEWT 3 Pipeline as it is installed across the City and its GMA will not encounter any existing mature trees. Within the City and it's GMA, the construction corridor will be in generally open, undeveloped land.

Principal / Policy	Policy	NEWT 3 Narrative
SC 3: Minimize risks to life, infrastructure and property from natural hazards or exposure to hazardous materials.	SC 3.2 – Floodplain Development - Discourage new development in the 100-year floodplain, balancing the need to protect public safety and allow natural hydraulic and hydrologic processes to occur, with economic and social objectives. Require structures and facilities that already exist in, or unavoidably must be located in, the floodplain to be designed to be consistent with the intent of the standards and criteria of the City of Fort Collins and the National Flood Insurance Program.	The NEWT 3 Pipeline will cross the Boxelder Creek Floodplain near the City limit with unincorporated Larimer County. The crossing of the floodplain will be at a location that is generally halfway between Mountain Vista Drive and East Vine Drive. As with the NEWT 1 and NEWT 2 pipelines, the project will require all pre-construction surfaces to be restored to the same elevation after construction. As such no change in ground surface elevations will take place in the floodplain and no change in the 100-year floodplain will result. During the final design phases of the project, the Districts will obtain a floodplain development permit.
HI 1: Be a model for equitable, effective and transparent local governance.	HI 1.7 – Regional Collaboration - Actively collaborate with other jurisdictions in Northern Colorado, school districts and institutions of higher learning, special districts, the NFRMPO, and other regional and state partners to develop cooperative solutions to regional issues and planning challenges.	The NEWT 3 Pipeline, along with its earlier NEWT 1 and NEWT 2 Project phases, is the collaboration of the East Larimer County Water District and the North Weld County Water District in collaborating on infrastructure planning to most cost-effectively share resources and limit impacts to land and environmental resources by building a joint project as opposed to independent projects. Furthermore, once completed the overall project will help support activities with the City and it's GMA.

4.2 Mountain Vista Subarea Plan, Principals & Policies Evaluation

The Districts understand the Mountain Vista Subarea Plan, which is an element of the City Plan, was originally adopted in 1999 and an update to the plan was adopted in 2009. Because of the large size of the area that is encompassed by the subarea plan, it is understood that the 2009 update was a response to a variety of ideas and concerns of area stakeholders that had developed since the plan's original adoption. Chapter 5 of the 2009 update contains a comprehensive set of principles and policies intended, in part, to guide the decisions associated with development (land use), transportation, community appearance, housing the environment, and natural areas. As with the overall City Plan, many of the subarea principles and policies are directed at residential development, transportation or other areas that are not directly related to utility projects. For this reason, the following discussion addresses specific principles and policies that relate most directly to the proposed NEWT 3 Pipeline Project. As demonstrated in the remainder of this section, the NEWT 3 Pipeline Project is consistent with the principles and policies of the *Mountain Vista Subarea Plan*. Table 4-2 below lists applicable subarea principals and policies and how the NEWT 3 Pipeline Project is consistent with these objectives.

Table 4-2: Mountain Vista Subarea Plan - Principals and Policies Compliance Summary

Principal / Policy	Policy	NEWT 3 Narrative
MV-LU-1: The Mountain Vista subarea will have a balance of residential, employment, commercial, civic, and open lands use.	MV-LU-1.1 - The Mountain Vista subarea will provide approximately equal amounts of residential and non-residential land uses. This subarea's northeast portion will include an Industrial and Employment business center adjacent to the existing Anheuser-Bush InBev brewery. A centrally - located Community Commercial District (CCD) will serve the surrounding mixed-use neighborhoods and business center. Primary civic uses are expected to include a community park, schools, a potential police substation, and a branch library. The remaining balance of this subarea contains residential uses.	The NEWT 3 Pipeline corridor has been located generally parallel to the Existing Platte River Power Authority overhead electric transmission lines and the Larimer-Weld Canal. This location has been selected to follow facilities that are now bisecting the subarea. As such, the NEWT 3 Pipeline will not adversely affect the subarea plan's land use vision and goals.
MV-ECON-1: Mountain Vista's business center will accommodate the long-term Employment and Industrial land use growth demands of Fort Collins, providing a variety of business and industry types and sizes, compatible with surrounding land uses.	MV-ECON-1.3 - Additional Industrial land uses will be provided to allow for the future expansion needs of Anheuser-Bush InBev, but also for potential new industries. Industrial uses will be adjacent to the existing brewery and have access to rail facilities.	The NEWT 3 Pipeline will cross the railroad that leads to the Anheuser-Busch facility. The pipeline will generally parallel the railroad tracks for a few hundred feet and then cross the tracks northwest of the existing Waterglenn neighborhood. With the NEWT 3 Pipeline's proximity to the railroad, the Districts will coordinate with the City to minimize impacts to the ability for future industrial users to access the rail corridor.

Principal / Policy	Policy	NEWT 3 Narrative
MV-T-1 - Consistent with the Land Use Code, the transportation system within this subarea will have: 1) Arterial corridors providing safe and efficient multi-modal access to and through the subarea, including major features such as railroad under / overpasses (where necessary), and significant landscape mitigation features; 2) Multi-modal connections to and across the arterial corridors, including pedestrian and bicycle connections, providing convenient access to and from the local networks that serve individual developments and buildings; and 3) Integrated local networks with direct, convenient interconnections between developments and surrounding areas.	MV-T-1.2 - The extension of realigned Vine Drive will be designated as part of the Mountain Vista / North College Enhanced Travel Corridor rather than Conifer Street. The ETC will be designed for high frequency transit service, with enhanced bicycle and pedestrian facilities. The ETC will serve as a link between downtown Fort Collins, the Timberline Road / Power Trail ETC, this subarea's Community Commercial District, Employment District, Community Park, school site, and a future park-n-ride at I-25.	The NEWT 3 Pipeline, being parallel to the Platte River Power Authority powerlines and the Larimer-Weld Canal, will not impact the ability for the City to implement the various ETCs and connector streets as envisioned.
MV-CAD-3 The preservation of existing historic resources, such as homes and the Plummer School will be encouraged.	MV-CAD-3.1 - The historic Plummer School will be preserved and protected. The grade-separated crossing at Timberline Road will not impact the Plummer School property.	The NEWT 3 Pipeline alignment has been selected to avoid historical, cultural, and environmental resources as much as possible. The project alignment is not located near the Plummer School property.
MV-NOL-1 - This subarea will provide a balanced system of recreation facilities, parks, trails, natural areas, and open lands.	MV-NOL-1.3 - A network of open lands including parks, trails and natural areas will be connected by existing ditch and canal facilities, and other existing and proposed rights-of-ways. Buffer setbacks will be created for new development in accordance with existing City's Natural Areas Program Standards & Guidelines. MV-NOL-1.5 - Storm drainage facilities and regional detention ponds will be developed in compliance with the Storm Drainage Master Plan for Boxelder and Upper Cooper Slough Drainage Basins, and wherever appropriate, should be designed to create permanent natural habitat areas incorporating native vegetation.	The NEWT 3 Pipeline will not adversely impact the City's ability to develop the envisioned system of parks, trails, and natural areas. Should regional detention be developed as on the 2009 Framework Plan, the Districts will coordinate with the City on an acceptable location between the Platte River Power Authority easement, the existing pond on Fort Collins property, and the future ponds located north and northwest of the Larimer-Weld Canal. (Ref Capital Improvement Projects Map)

4.3 I-25 Subarea Plan

The *City Plan,* originally adopted in 1997, identified the need for additional planning along the I-25 corridor and adopted the I-25 Subarea Plan in 2003. Chapter 7 contains a comprehensive set of principles and policies intended, in part, to guide the decisions associated with development (land use), transportation, community appearance, housing, the environment, and natural areas along the I-25 corridor. As demonstrated in the remainder of this section, the NEWT 3 Pipeline Project is consistent with the principles and policies of the *I-25 Subarea Plan*. Table 4-3 below lists the subarea principals and policies and how the NEWT 3 Pipeline Project is consistent with these objectives.

Table 4-3: I-25 Subarea Plan - Principals and Policies Compliance Summary

Policy/Policy	Policy	NEWT 3 Narrative
I-25-LU-1 – This subarea will have a balance of residential, commercial, employment, and civic land uses and facilities	I-25-LU-1.1 – Subarea land use will focus on several activity centers surrounded by residential neighborhoods. Activity centers should be designed enabling new development to support efficient alternative modes of transportation. Activity centers should provide a mix of urban uses, including employment, commercial, and residential.	The NEWT 3 Pipeline corridor has been located generally parallel to the Existing Platte River Power Authority overhead electric transmission lines and the Larimer-Weld Canal. This location has been selected to follow facilities that are now bisecting the subarea such as utility corridors and canals. As such, the NEWT 3 Pipeline will not adversely affect the subarea plan's land use vision and goals.
I-25-LU-2 – Subarea employment and industrial districts will have a variety of business types and sizes, and will be compatible with surrounding land uses	I-25-LU-2.2 – Agricultural-related business uses, such as livestock auctions and stockyard activities, located west of I-25 and north of East Mulberry Street, will be allowed to continue as part of the industrial land use designation and zoning. I-25-LU-2.1 – Subarea employment and industrial districts will provide sufficient areas to accommodate long-term employment growth and will establish appropriate transitions between employment uses and adjacent residential areas. I-25-LU-2.2 – Subarea employment and industrial districts, located east of I-25, should be located within ½ mile of I-15.	The NEWT 3 Pipeline is a below grade pipeline and, once constructed, will not have no negative impacts. The NEWT 3 Pipeline has the potential to provide future businesses within the ELCO water service area and within the City and it's GMA with water supply.

Policy/Policy	Policy	NEWT 3 Narrative
I-25-LU-3 – Consistent with the City Plan and the regional plan, the subarea's residential development will be located and designed to minimize noise and other related impacts from I-25.	I-25-LU-3.1 – Detached single-family residential uses should be set back a minimum of ¼ mile from the I-25 ROW to minimize noise and other environmental impacts on residents. Detached single family uses, located between ¼ and ½ mile from the I-25 ROW, shall utilize a clustering technique to concentrate densities away from the I-25 ROW, maximizing views, preserving landscape features, or open space, and providing a buffer to any adjacent industrial uses. I-25-LU-3.2 – Areas within ½ mile north and south of East Mulberry Street should be included within the Low Density Mixed-use Neighborhood category classification, while other areas planned for residential development should be placed in the Urban Estate Neighborhood classification, including 80 acres located southwest of the Mulberry Street/ County Road 5 intersection that are within ½ mile of Mulberry Street.	The NEWT 3 Pipeline will not be a long-term source of noise or any type of pollution. During construction, work hours will be specified during typical workday hours, and dust generation will be mitigated per project requirements with the use of sprayed water that will introduce moisture to the construction corridor. Furthermore, once constructed, the buried pipeline will be out of sight and will not negatively impact views or landscape features. The NEWT 3 Pipeline corridor is not in this area and will have no negative impacts on development.
I-25-T-1 – Consistent with *City Plan* and the regional plan, the subarea's transportation system will include a network of local roadways appropriate to support the findings and recommendations of the *North Front Range Transportation Alternatives Feasibility Study*.	I-25-T-1.1– The subarea's transportation system will support the development of interconnected regional and local transit, bicycle connections, and an integrated pedestrian system. I-25-T-1.2 – The Subarea's roadway system will include (where applicable and feasible) a network of roadways parallel to I-25 designed for local trips, as needed to support the subarea land use activities, discouraging dependency on I-25 for local trips.	The NEWT 3 Pipeline, being parallel to the Platte River Power Authority powerlines and the Larimer-Weld Canal, will not impact the ability for the City to implement the various ETCs and connector streets as envisioned.
I-25-CAD-1 – The Subarea's community entryways via I-25 should be designed to create a sense of place and a positive experience	I-25-CAD-1.1 – Development in the subarea will provide for attractive gateways to Fort Collins from its I-25 interchanges and overpasses at Harmony Road, Prospect Road, Mulberry Street, Vine Drive, Mountain Vista Drive, and Carpenter Road, and their arterial corridors leading in the I-25.	The NEWT 3 Pipeline corridor crosses I-25 just north of the Waterglenn neighborhood. Construction will include tunneling under I-25 to minimize construction impacts. Once constructed, the buried pipeline will be out of sight and will not negatively impact views or landscape features.

Policy/Policy	Policy	NEWT 3 Narrative
I-25-CAD-2 – Important view corridors for vistas of the mountains should be preserved and emphasized by the arrangement and design of development.	I-25-CAD-2.1 – Developers and project designers involved in the I-25 subarea development will be encouraged to arrange buildings, outdoor spaces, and parking lots to protect important view corridors including limiting building heights, where such arrangements are effective in emphasizing mountain vistas. The City shall develop and adopt design standards that will apply to this subarea's development to achieve these objectives.	Once constructed, the buried pipeline will be out of sight and will not negatively impact important vistas or landscape features.
I-25-HSG-1 – This subarea will include a mix of new neighborhoods at different densities, to allow for transitions between urban and rural development areas, and to provide housing opportunities for a variety of income levels.	I-25-HSG-1.1 This subarea will include residential neighborhoods at less than urban densities in appropriate locations, providing for a transition between unincorporated rural areas and existing and future urban areas I-25-HSG-1.2 – This subarea will provide for the development of affordable housing in activity centers and low-density mixed-use neighborhoods while attempting to maintain the characteristics of the lower density residential neighborhoods outside of these areas	The NEWT 3 Pipeline has the potential to provide future businesses within the ELCO water service area and within the City and it's GMA with water supply. The NEWT 3 Pipeline will not adversely affect the subarea plan's land use vision and goals.
I-25-NOL-1 – The subarea will provide a balanced system of recreation facilities, parks, trails, natural areas, and open lands	I-25-NOL-1.1 – Within this subarea, a primary off-street "green way" will be located along the Boxelder Creek establishing an important connection between neighborhoods, employment areas, and activity centers, and other areas within the subarea. This trail facility will be designed and located in accordance with both the *City's Parks and Recreation Policy Plan* and *Natural Areas Policy Plan*.	The NEWT 3 Pipeline corridor crosses the Boxelder Creek. Construction documents will require use of Best Management Practices to minimize any impacts to the area. Once constructed, the buried pipeline will not adversely impact the City's ability to develop the envisioned system of parks, trails, and natural areas.

4.4 Montava PUD Plan

The Montava PUD is proposed to be located within the Mountain Vista Subarea. PIC reviewed the *Staff Report to the Planning and Zoning Board* dated August 15, 2019. Section 2 of this document defines the applicable plans and policies intended to guide the development decisions for this PUD. This area is contained within other subarea plans and the narratives demonstrating how the NEWT 3 Pipeline Project is consistent with

those guiding principles have been stated in previous sections. As demonstrated in Table 4-4 below, the NEWT 3 Pipeline Project is consistent with the guiding principles and policies of Montava PUD Plan.

Table 4-4: Montava PUD Plan - Principals and Policies Compliance Summary

Plan	NEWT 3 Narrative
City Plan	See Section 4.1 above
Mountain Vista Subarea Plan	See Section 4.2 above
Transportation Master Plan	Incorporated into the *City Plan*, see Section 4.1 above for applicable policies
Parks and Recreation Policy Plan • Ensure Fort Collins' parks, trails, and recreation legacy for future generations • Provide a wide variety of high-quality recreation services and opportunities for all residents • Create an interconnected regional and local trail system • Develop parks and recreation facilities and programs that promote community in the City • Focus on enhanced sustainability and green practices	The buried NEWT 3 Pipeline will be out of sight and will not adversely impact the City's ability to develop the envisioned system of parks, trails, and natural areas.
Nature in the City • Easy Access to Nature • High Quality Natural Spaces • Land Stewardship	The buried NEWT 3 Pipeline will be out of sight and will not adversely impact the City's ability to develop the envisioned system of parks, trails, and natural areas.

APPENDIX A – COMPLETED SUBMITTAL CHECKLIST AND APPLICATION FORM

Development Application
Complete Submittal Checklist

Submittal Instructions

- A City Development Review Coordinator will be assigned to all projects. Your Development Review Coordinator is available to assist you with the review process. If you do not have a review coordinator assigned to your project, please contact us at 970-221-6689 or DRCoord@fcgov.com for assistance.

- Appointments are required for all submittals or resubmittals – A completed paper copy of this checklist, all submittal materials and fee payments are due at the time of project submittal. Please contact your Development Review Coordinator at 970-221-6689 to schedule a submittal appointment.

- Only complete submittals are accepted. The submittal may be returned to the applicant if any required materials or application fees are missing or insufficient. Submittals received Monday morning through Wednesday noon will be routed for review the same week and submittals received after Wednesday noon will be held and routed the following week.

- This checklist shall be used in tandem with the Submittal Requirements Document. The applicant must complete this checklist and acknowledgement of the Submittal Requirements Document.

- The applicant shall be the designated contact person who will receive correspondence from city staff and referral agencies.

Additional Resources

- Development Review Guide and Flowchart:
  https://www.fcgov.com/drg/

- Development Review Applications and Submittal Requirements Main Page:
  https://www.fcgov.com/developmentreview/applications.php

- City Land Use Code:
  https://library.municode.com/co/fort_collins/codes/land_use

- City Utilities:
  Development Forms, Guidelines & Regulations

- City Engineering main page:
  https://www.fcgov.com/engineering/

- The City's Comprehensive Plans:
  City Plan and Transportation Master Plan

- Online City Map Resources:
  https://www.fcgov.com/gis/maps.php

Project Development Plan (PDP) Complete Submittal Checklist

Project Name: NEWT Pipeline, Phase 3

Applicant Name: Daniel Rice

Office Use Only: Project Type: SPA Project Number (if assigned): _____

(●) New Submittal ( ) Revision -- Review Round _____ Submittal Date: _____

Staff Review Meeting Date:_____

Staff Coordinator: Tenae Beane

In addition to PDP reviews, this checklist may be used for the pre-hearing review of the following review types: Major Amendments (MJA) to approved PDP's, APU and SPAR. Refer to the Submittal Requirements Document for a description of these review types. **All checklist items are required unless city staff indicates an item is: (W)aived, (D)eferred, (N/A)Not Applicable or already (R)eceived. If the staff code is blank (grey or blue), then the item is required.** This checklist must be reviewed, completed and accepted by staff prior to project routing. Additional information may be requested from the applicant during the review process if necessary to address specific issues that arise. Please note that all application materials, once submitted, become a matter of public record.

Paper Copies*

Comments on checklist items in purple below

Staff Code	Applicant Validation	Item Description	Submittal Requirement Resources
	☑	One paper copy of this checklist, checked and acknowledged as complete by the applicant	Development Review Coordination staff 970-221-6689 DRCoord@fcgov.com
	☑	One signed paper copy of Development Application Form and Fee Application Form.pdf	
	☐	One signed paper copy of Transportation Development Review (TDR) Application and Fee TDR Fees and Application.pdf N/A for pipeline project	
	☐	Check for the above application forms payable to *the "City of Fort Collins"* (fees may be consolidated into one check) No fee per application form	

* Paper copies of plans and reports are not required during development review. See Submittal Requirements, Section D for drawing format guidelines. All plan elements shall be clearly drawn and labelled. A scale bar must be provided on all scaled drawings. Paper copies of plan sheets may be requested in order to complete a timely review, including instances when the drawing scale is not accurately depicted.

Electronic Copies

All copies must be provided per City file naming standards and submitted on a flash drive or CD

See: Submittal Requirements Section M – File Naming Standards

1) General Information:

Staff Code	Applicant Validation	Item Description	Submittal Requirement Resources
	☑	A comment response letter from the project's Conceptual Review or Preliminary Development Review staff meeting; or for resubmittals include a comment response letter from the prior round of review. To recieve a final copy of the staff comment letter, contact your Development Review Coordinator See Appendix A of SPAR Report	See Submittal Requirements Section C for more information on comment respose letters and the project design narrative. Development Review Coordination (DRC) staff 970-221-6689 DRCoord@fcgov.com
	☑	Project Information and Design Narrative (see Submittal Requirements, Section C) See Section 1 of SPAR Report	

2) Planning Submittal Package:

Staff Code	Applicant Validation	Item Description	Submittal Requirement Resources
	☐	Title Block information on all plan sheets	Section D
	☐	Cover Page, including:	Section D
	☐	a) Title Block	Section D
	☐	b) Land Use Table	Section E
	☐	c) Sheet Index	Section D
	☐	d) Signature Blocks	Section D
	☐	e) Site Plan Notes	Standard Notes (also available in Word format at the Submittal Requirements web page)
	☑	Site Location Map	Section D
	☐	Legal Description	Section D
	☐	Site Plan Sheet(s) (and related hardscape design detail sheets, See Section I for Requirements)	Section F
	☑	Architectural Elevation Sheet(s), Materials and other Detail Sheets (color elevations recommended)	Section G

Not all items listed in Section 2 available at this time. A complete design package incorporating all applicable City standards will be submitted during Final Plan Review. See Appendix C for Preliminary Plan and Profile & Appurtenance Details.

	☐	Landscape Plan Sheet(s), standard city landscape notes, and related planting detail sheets (See Section I for planting detail requirements)	Section H and I; Standard Notes (also available in Word format at the Submittal Requirements web page)
N/A	☐	Lighting Plan, Photometric Plan and Lighting Detail Sheets	Section L
N/A	☐	Trash and Recycling Enclosure Details (include these details with the site plan sheets or elevation sheets)	Section I
	☐	Confirmation that all Sheets provided incorporate City drafting standards	Section D

3) Subdivision Plat:

Staff Code	Applicant Validation	Item Description	Submittal Requirement Resources
N/A	☐	A subdivision plat of the site at an appropriate scale on one or more sheets, with outer dimensions printable at 24" x 36" and appurtenant documents prepared according to the requirements described in the submittal requirements. The plat must conform to the subdivision requirements of the City, except as waived by the approved project development plan for the development. Final Plan review and subdivision plat approval, and complete execution, together with all necessary certifications, shall be required before filing of the subdivision plat or issuance of building permits.	Submittal Requirements Section J LUC Division 3.3 – Engineering Standards

4) Civil Construction Plans (Utility Plans):

Staff Code	Applicant Validation	Item Description		Submittal Requirement Resources
	☐	Existing Conditions and/or Demolition Plan (if applicable)		Utility Plans Checklist.pdf City Contact: Engineering Development Review 970-221-6605 EngDevRev@fcgov.com
N/A	☐	Overall Grading Plan	Not all items listed in Section 4 available at this time. A complete design package incorporating all applicable City standards will be submitted during Final Plan Review. See Appendix C for Preliminary Plan and Profile & Appurtenance Details.	
	☐	Overall Utility Plan		
N/A	☐	Drainage Plan		
N/A	☐	Street Plan, including horizontal alignment and centerline profiles for public streets		

5) Preliminary Drainage and Erosion Control Report:

Staff Code	Applicant Validation	Item Description	Submittal Requirement Resources
	☐	**Preliminary Drainage and Erosion Control Report may include the following:** a) Detention Requirements and Calculations b) Offsite Flows (if applicable) c) Floodplain Zone (if applicable) -- Contact Floodplain Administration staff at 970-416-2632 for questions d) Hydraulic Calculations e) Detention Basin Calculations f) Standard Water Quality and LID Calculations g) Include Drainage Plan or Exhibit in the report Note: Items shown above are components that may be necessary with a drainage report analysis. Not all components may be necessary. The drainage report analysis must be prepared by a professonal engineer. Erosion Control Plans and Details, including report will be prepared as part of Project's Final Design Phase.	Stormwater Criteria Manual Resource Page Stormwater Criteria Manual Appendices: A. Required Submittal Content B. Stormwater Facilities Landscape Standards C. LID Implementation D. Erosion Control Guidance E. Erosion Control Construction Measures Fact Sheets F. Erosion Control Construction Measures Standard Notes City Utilities: Development Forms, Guidelines & Regulations For Stormwater or Floodplain questions, contact: waterutilitieseng@fcgov.com or 970-221-6689 Erosion Control Information: www.fcgov.com/erosion

6) Reports and Supporting Documents:

Staff Code	Applicant Validation	Item Description	Submittal Requirement Resources
	☑	**Planning Services:** a) Perspective views of the Building Exterior (incorporated into the building elevation sheets) See Section 1.6.1 of SPAR Report	Submittal Requirements Section G
N/A	☐	b) Building Material Sample Board	Submittal Requirements Section G
	☑	c) Neighborhood Context Plan (Overall site plan diagram indicating surrounding neighborhood features, to be incorporated into Site Plan sheets or cover page) See Section 1.6.1 of SPAR Report	Submittal Requirements Section C

N/A	☐	d) Land Use Code Modification and Alternative Compliance Requests (if required; staff review and recommendation of approval required prior to scheduling hearing)	LUC Division 2.8 City Contact: Planning Services 970-416-4311
N/A	☐	e) Parking Alternative Compliance Studies – Guidelines for these studies are held by the Director (if required) Parking Impact Study Guidelines See Section 1.6.2 of SPAR Report	LUC Section 3.2.2(K) City Contact: Planning Services 970-416-4311
	☐	**Development Review Engineering:** a) Soils Report – in conformance with the Larimer County Urban Area Street Standards Geotechnical exploration will be performed and a report will be developed during the Project's design phase.	Larimer County Urban Area Street Standards
N/A	☐	b) Subsurface Hydrologic Study	
N/A	☐	c) Signed letters of intent (required before scheduling hearing) from impacted off-site property owner(s) indicating generating agreement and that all required off-site easement and off-site rights-of-way can be finalized in conjunction with the final development plan submittal	City Contact: Engineering Development Review 970-221-6605
N/A	☐	d) Draft legal descriptions for accompanying deeds of dedication by separate document	Easement and Right-of-Way Dedication Process
N/A	☐	e) Draft legal descriptions for accompanying easement vacation request by separate document	Vacation of Easements Process
N/A	☐	f) Engineering or Utility Variance Requests (City review and approval required prior to scheduling hearing)	Larimer County Urban Area Street Standards
N/A	☐	**Traffic Operations:** Transportation Impact Study (TIS) or waiver indicated from Traffic Operations staff (waiver indication to be provided with initial submittal)	Traffic Operations Resource Page City Contact: Traffic Operations 970-221-6630

	☑	**Environmental Planning:** a) Ecological Characterization Study (ECS). If an ECS is required, this must be submitted at least ten days prior to the development review application. A copy shall also be submitted at the time of the application with this checklist. See Section 2.8.1 and Appendix E of SPAR Report	Submittal Requirements: Section J, Section H LUC Section 3.4.1 City Contact: Environmental Planning Staff at 970-416-4311
	☑	b) Phase 1 Environmental Site Assessment See Section 2.8.2 of SPAR Report	To be provided by qualified third-party consultant
	☑	**City Forestry:** a) Existing Tree Inventory Plan -- Prior to the review submittal, the applicant must schedule an on-site meeting with City Forestry to obtain tree inventory information for all existing trees within the development area. The meeting is also intended to discuss any proposed tree removal. PLEASE NOTE THAT EXISTING TREES SHOULD NOT BE REMOVED OR DAMAGED PRIOR TO SUBMITTAL, REVIEW AND APPROVAL OF THE PROPOSED DEVELOPMENT. See Section 2.9 of SPAR Report	See Submittal Requirements Sections H and L for more information regarding documentation of existing and proposed trees on landscape plans Contact Information: City Forestry forestry@fcgov.com 970.221.6660 City Forestry Resources: www.fcgov.com/forestry Land Use Code Section: *3.2.1(F) Tree Protection and Replacement*
N/A	☐	b) Existing Tree Removal Feasibility Request -- provide a letter to City Forestry outlining the justification for the removal of any existing trees, if proposed. See Section 2.9 of SPAR Report	
N/A	☐	c) Existing Tree Mitigation Plan (if applicable). At your site meeting, City Forestry will determine the characteristics and mitigation requirements for all existing trees within the project's proposed Limits of Disturbance. See Section 2.9 of SPAR Report	
		(PLEASE NOTE: THIS ITEM IS NOT REQUIRED WITH THIS CHECKLIST, AND IS PROVIDED HERE FOR INFORMATION. THIS MEETING IS REQUIRED FOR COMMERCIAL PROJECTS PRIOR TO FINAL PLAN SUBMITTAL) **Building Services Presubmittal Meeting:** Confirmation of completed Pre-Submittal Code Feasibility Meeting with Building Services is included with the Final Plan (FDP) Checklist, but not with this checklist. New Commercial Projects require a pre-submittal meeting for building code feasibility. This typically takes place when drawings are 50% complete and in the early/mid phases of the Development Review Process, and prior to Building Permit Submittal. Applicants are encouraged to review building requirements as early as possible in the process. For questions or to schedule this meeting call: 970-416-2748.	Please Note: Building Permits will not be reviewed until Development Plan review process is completed Building Codes and Standards Building Permit Fees

	☑	**Other information and data as required for the full and complete consideration of the development (to be completed by City staff):** ☑ Hazardous Materials Impact Analysis (if required); See Section 2.10 of SPAR Report ☑ Any special wildlife, wetland, natural habitats and features, ecological or environmental study or mapping pursuant to Section 3.3 and 3.4 of the Land Use Code as requested by the Director; See Section 2.8.1 of SPAR Report Other items required:	City Contact: Development Review Coordination 970-221-6689 DRCoord@fcgov.com

Applicant Acknowledgement:

I have reviewed the Development Application Submittal Requirements, Sections A – M. All documents submitted are complete and the Development Application Submittal Requirements have been incorporated into the plans (See Development Application Submittal Requirements for detailed description of requirements). All documents submitted have been compared and consistent design information is shown on all plan sheets and reports. I understand that submittal requirements not sufficiently addressed or deferred may result in added review time.

Daniel Rice ☑

Applicant Name **Check box to confirm acknowledgement**

(See Development Application Submittal Requirements for detailed description of requirements)

City of Fort Collins

Outside Agencies to be Routed by the City of Fort Collins*

(to be completed by staff):

☑ Comcast Cable	☑ Century Link	☑ Xcel Energy
☑ East Larimer County Water District	☐ Fort Collins-Loveland Water District	☐ South Fort Collins Sanitation District
☑ Platte River Power Authority	☐ Poudre Valley REA	☑ Boxelder Sanitation District
☐ Cherry Hills Sanitation	☑ Colorado Department of Transportation	☐ Greeley Water Line
☑ Railroad: BNSF/GWRR	☑ Ditch Company: Larimer/Weld Canal	☐ Larimer County Planning
☐ Poudre School District	☐ Thompson School District	☑ Other: Larimer County Planning
☑ Other: City of Timnath	☑ Other: Real Estate Services	☐ Other:

* Notice: The City of Fort Collins routes the project application materials to the specified outside agencies and requests a review of the materials and comments to the project's applicant by the specified comment due date, but cannot guarantee that the agencies will provide comments by the date requested or certify acceptance of the routed project.

City of Fort Collins

DEVELOPMENT REVIEW:
APPLICATION FORM

For Office Use Only

Date Submitted _____ Current Planning File #_____ Planner_____

Project Information

Project Name: NEWT Pipeline, Phase 3

Project Description *(Choose type of request from the list on the back):*

Site Plan Advisory Review for Phase 3 of the NEWT Pipeline and consists of a 42-inch pipeline extending approximately 5.4 miles from the NEWT Pipeline's existing Phase 1 & Phase 2 from North Timberline Road east to Weld County Road 13.

Location Description/Project Address: The Phase 3 Pipeline starts where the Larimer & Weld Canal crosses North Timberline Road and runs east generally parallel to an overhead transmission easement and the Larimer & Weld Canal to approximately Cordhaven Drive then due east through open land to WCR 13.

Major Cross Streets: N/A

Zone District: Agricultural

Parcel Number: 8705300015, 8705000001, 8704000002, 8704000001, 8703000005

Building/Unit Information

Residential: N/A _____ Square Feet

Commercial: N/A _____ Square Feet

Industrial: N/A _____ Square Feet

Building Floor Area Ratio: N/A

Platted Area: N/A

Number of Units:

Single Family Attached: N/A **Single Family Detached:** N/A

Two Family: N/A **Multi-Family:** N/A

Total Number of Bedrooms Rented Separately: N/A

Dates:

Conceptual Review Meeting Date January 16,2020

Neighborhood Meeting Date December 1, 2021

Hearing Type Planning and Zoning Board Hearing

Site/Area Information

Residential Area: N/A _____ **Sq. Ft.** _____ **Acres**

Commercial Area: N/A _____ **Sq. Ft.** _____ **Acres**

Industrial Area: N/A _____ **Sq. Ft.** _____ **Acres**

Mixed Use Area: N/A _____ **Sq. Ft.** _____ **Acres**

Right of Way Area: N/A **Sq. Ft.** _____ **Acres**

Parking and Drive Area: N/A **Sq. Ft.** _____ **Acres**

Stormwater Detention Area: N/A **Sq. Ft.** _____ **Acres**

Landscape Area: N/A **Sq. Ft.** _____ **Acres**

Open/Other Areas: N/A **Sq. Ft.** _____ **Acres**

Gross Area: N/A **Sq. Ft.** _____ **Acres**

Floor Area Ratio: N/A

Gross Density: N/A **Net Density** N/A

Owner Information

Name: North Weld County Water District / East Larimer County Water District

Address: 32825 County Road 39 / 232 South Link Lane

City: Lucerne / Fort Collins **State:** CO **Zip:** 80646 / 80524

Phone: 970-356-3020 / 970-493-5244 **Email:** WATER@NWCWD.org / ELCO@ELCOWater.org

Applicant Information

Name: Daniel Rice

Organization Name: Providence Infrastructure Consultants

Contact: Daniel Rice

Address: 300 Plaza Drive

City Highlands Ranch **State:** CO **Zip:** 80129

Phone: 303-997-5035 **Email:** drice@providenceic.com

Preferred Method of Contact: email

CERTIFICATION

I certify the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application, I am acting with the knowledge, consent, and authority of the owners of the real property, as those terms are defined in Section 1-2 of the City Code (including common areas legally connected to or associated with the property which is the subject of this application) without whose consent and authority the requested action could not lawfully be accomplished. Pursuant to said authority, I hereby permit City officials to enter upon the property for the purpose of inspection, and if necessary, for posting of public notice on the property.

Name (Please PRINT): Daniel Rice

Address: 300 Plaza Drive, Highlands Ranch, CO 80129

Telephone: 303-997-5035

Signature: (and title showing authority to sign, if applicable) Daniel Rice

Digitally signed by Daniel Rice
DN: C=US, E=drice@providenceic.com, O=Providence Infrastructure Consultants, OU=Vice President, CN=Daniel Rice
Date: 2022.02.23 10:52:00-07'00'

Vice President, Providence Infrastructure Consultants

⇨ CERTIFICATION MUST BE SIGNED. ⇦

Type of Request

Please indicate the type of application submitted by checking the box preceding the appropriate request(s). Additional handouts are available explaining the submittal requirements for each of the following review processes.

- ❑ **Annexation Petition with Initial Zoning** REQUESTED ZONE: _____
  Fee $1,188.00 + $50.00 sign posting fee + $.75 for each APO label

- ❑ **Rezoning Petition** REQUESTED ZONE: _____
  Fee $977.00 + $50.00 sign posting fee

- ❑ **Overall Development Plan (ODP)**
  Fee: $1,599.00 + $50.00 sign posting fee + $.75 for each APO label + Poudre Fire Authority Review Fee

- ❑ **Project Development Plan (PDP) without Subdivision Plat (also Wireless Tele-communication Facilities)**
  Fee: $3,887.00 + $50.00 sign posting fee + $.75 for each APO label + Poudre Fire Authority Review Fee

- ❑ **Project Development Plan (PDP) with Subdivision Plat**
  Fee: $5,879.00 + $50.00 sign posting fee + $.75 for each APO label + Poudre Fire Authority Review Fee

- ❑ **Final Plan without Subdivision Plat**
  Fee: $1,000.00

- ❑ **Final Plan with Subdivision Plat**
  Fee: $1,000.00

- ❑ **Modification of Standards/Text and Map Amendment**
  Fee: $200.00+ ($50.00 sign posting fee + $.75 for each APO label for Modification of Standards only)

- ❑ **Basic Development Review**
  Fee: $200.00 + Poudre Fire Authority Review Fee

- ❑ **Major Amendment**
  Fee: $3,206.00 + $50.00 sign posting fee + $.75 for each APO label + Poudre Fire Authority Review Fee

- ❑ **Non-Conforming Use Review**
  Fee: $1,389.00 + Poudre Fire Authority Review Fee

- ❑ **Vacation of ROW or Easement**
  Fee: $5.00 per sheet of filing document

- ❑ **Small Project Fees**
  Fee: Varies-Check with the Current Planning Department + Poudre Fire Authority Review Fee

- ❑ **Street Name Change**
  Fee: $5.00

- ❑ **Extension of Final Approval**
  Fee: $566.00

- ❑ **Site Plan Advisory Review**
  NO FEE

- ❑ **Addition of Permitted Use**
  Fee: $500.00 + $50.00 sign posting fee + $.75 for each APO label + Poudre Fire Authority Review Fee

APPENDIX B – NEWT 3 CORRIDOR EVLUATION AND SECTION STUDY REPORT

NEWT 3 PIPELINE

Corridor Evaluation and Selection Report

FINAL
JULY 24, 2019

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 PURPOSE, OVERVIEW, AND GOALS

1.1 Purpose

At the request of the North Weld County Water District (NWCWD) and the East Larimer County Water District (ELCO) (Districts), Providence Infrastructure Consultants (PIC) evaluated potential corridors for the planned NEWT 3 Pipeline. The acronym NEWT refers to the multi-year, multi-phase **N**orth Weld County and **E**ast Larimer County Water Districts **W**ater **T**ransmission Pipeline Project. The NEWT 3 Pipeline is needed to connect the previously constructed NEWT 1 (2010) and NEWT 2 (2015) Pipelines to the Districts' water distribution systems. Once complete, the NEWT 3 Pipeline Project will provide the Districts with a much-needed increase in transmission capacity to convey additional treated water from the Soldier Canyon Filter Plant (SCFP) to the Districts' distribution systems. In addition, the fully-operational NEWT Pipeline Project will provide the Districts' with additional redundancy that will help mitigate risks associated with operating their existing and aging transmission lines. This report documents the corridor evaluations that were performed for the NEWT 3 Pipeline and provides the Districts with information needed to select a pipeline corridor for subsequent project permitting and design activities.

1.2 System Overview and Project Need

As shown in Figure 1-1, the Districts' currently rely on several transmission pipelines. NWCWD currently relies on two transmission systems (North and South) to supply potable water to their service area. In associated with ELCO, NWCWD relies on the existing 42-inch NEWT 1 and NEWT 2 Pipelines as well as the shared 24-inch Mountain Vista Pipeline that was constructed in the 1993 and the Summit View Pump Station (SVPS) that was constructed in 2001. These transmission pipelines and the SVPS are referred to as NWCWD's North System and convey water from the SCFP to NWCWD's distribution system. Under most cases the North System conveys flow by gravity unless higher customer demands require flows to be boosted by use of the SVPS. NWCWD's South System is comprised of an existing 24-inch transmission line that conveys flow from the SCFP to Zone 1 of the District's distribution system and includes Pump Station 1 (PS1) located on Mulberry Street (S.H. 14) east of Interstate 25. The installation of the existing 24-inch transmission line was completed in 1963. Pump Station 1 was originally constructed in 1984 with additional pumps added in 2000 to increase its capacity. The South System generally flows by gravity during lower demands seasons and then relies on PS1 to boost flows to meet higher demands between late spring and early fall.

Like NWCWD, ELCO also relies on the NEWT 1 and NEWT 2 Pipelines, the 24-inch Mountain Vista Pipeline, and the use of the SVPS to meet customer water demands. In addition to these shared facilities, ELCO also relies on a 24-inch transmission line located between SCFP and North Timberline Road. ELCO's existing 24-inch transmission line generally operates parallel to the shared NEWT 1 and NEWT 2 Pipelines and provides transmission capacity to the center of their distribution system.

Prior to the construction of the NEWT 1 and 2 Pipelines, the Districts identified the future need for the NEWT 3 Pipeline to provide additional capacity above that which would be provided by the NEWT 1, NEWT 2, and 24-inch Mountain Vista Pipelines and their independently owned and operated 24-inch transmission lines. Over the last several years, demands in both Districts have steadily increased and during recent summer demand seasons, the Districts have had difficulty maintaining appropriate water levels within their respective water storage tanks. In addition to the need to increase transmission capacity, the Districts are in need off adding additional redundancy to their transmission systems. The shared Mountain Vista Pipeline 25 years old, NWCWD's 24-inch transmission line is 55 years old, and ELCO's 24-inch transmission line is 40 years old. With the age of these critical pipelines, the completion of the NEWT Pipeline Project will help the District's properly manage the risks associated with the continued operation of their older transmission system components.

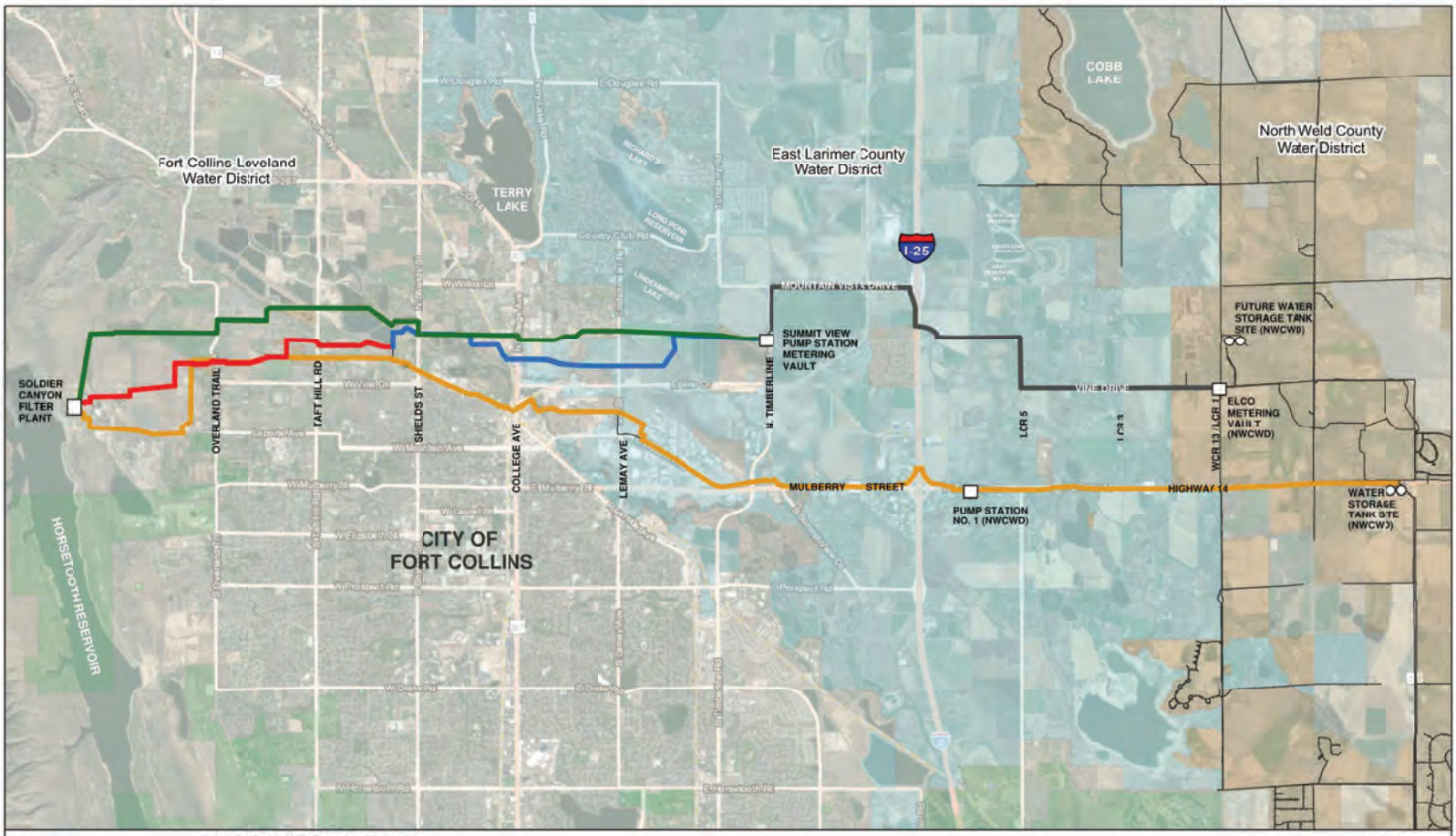


FIGURE 1-1: EXISTING TRANSMISSION SYSTEMS

1.3 Goals

As part of this evaluation, PIC was tasked with evaluating several corridors to support the Districts' staff and management with selecting a preferred corridor for the NEWT 3 Pipeline that best achieves the project's primary goals, which are listed below:

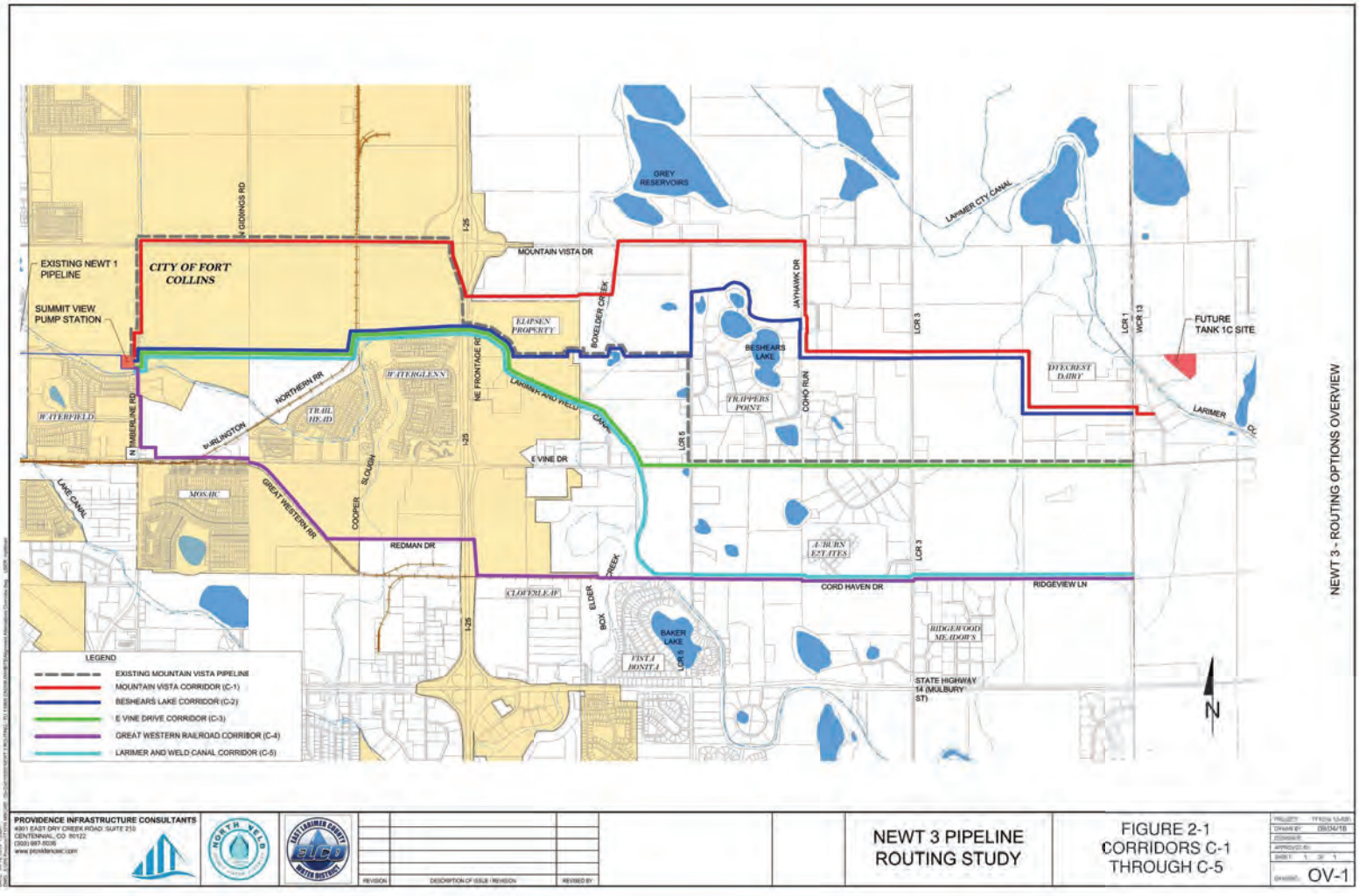
- Cost – Identify a project corridor that can be completed using projected District funding.
- Schedule – Complete construction so the Districts can begin conveying flow in 2021.
- Hydraulics – Increase the Districts' gravity flow transmission capacity.
- Flexibility – Allow the Districts to have redundant transmission capacity.

2 CORRIDOR ALTERNATIVES

As part of the evaluation, PIC identified five feasible corridors as shown in Figure 2-1. The Mountain Vista (C-1) and Beshears Lake (C-2) corridors are located along a northerly route and run from the SVPS to Zone 1 of NWCWD's distribution system. The East Vine Drive (C-3) and Great Western Railroad (C-4) corridors are located along more southerly routes. The Larimer and Weld Canal Corridor (C-5) follows Corridor C-3 west of Larimer County Road 5 and follows Corridor C-4 east of Larimer County Road 5. All five of the NEWT 3 corridors terminate with a connection to existing NWCWD pipelines located in or east of WCR 13. As shown below, the corridors share a variety common corridor reaches. In addition, all corridors cross the center of ELCO's service area. Each corridor is discussed in more detail in the following sections.

2.1 Mountain Vista Corridor (C-1)

The Mountain Vista Corridor, C-1, is approximately 6.4 miles in length and was the most northerly corridor evaluated. C-1 runs north from the SVPS for approximately 600 feet, turns east, and crosses N. Timberline Road and an irrigation ditch. C-1 continues north on the east side of N. Timberline Road to Mountain Vista Drive. At this point, C-1 turns east towards Interstate 25. For the first 1.5 miles along Mountain Vista Drive, C-1 parallels the existing 24-inch Mountain Vista Pipeline shared by the Districts. West of the Interstate 25, C-1 and the Mountain Vista Pipeline diverge with C-1 crossing Interstate 25. West of Interstate 25, C-1 continues 3,300 feet across agricultural land to a crossing of Boxelder Creek. One past the creek, C1 turns north to Mountain Vista Drive. At Mountain Vista Drive, C1 turns east and parallels the south side of the road for approximately 4200 feet to Jay Hawk Drive. Along this stretch, C-1 crosses Larimer County Road No. 5 (LCR 5). At Jayhawk Drive, C-1 turns and runs south for approximately ½ mile before entering the northeast side of the Trappers Point neighborhood at the north end of Coho Run. After entering Trappers Point, the corridor turns and runs east for approximately 1 mile through agricultural and open land to the east side of the Dyecrest Dairy. Within this reach, the corridor crosses a petroleum pipeline, Larimer County Road No. 3 (LCR 3) and an irrigation ditch. At the Dyecrest Dairy, C-1 turns south for approximately 1,300 feet and then east for approximately 2,500 feet to a crossing of Weld County Road No. 13 (WCR 13). After crossing WCR 13, C-1 follows a secondary gravel access lane in the Pheasant Crest Estates neighborhood to a connection to an existing NWCWD pipeline located along Pheasant Crest Drive.



NEWT 3 - ROUTING OPTIONS OVERVIEW

PROVIDENCE INFRASTRUCTURE CONSULTANTS
4301 EAST DRY CREEK ROAD SUITE 210
CENTENNIAL, CO 80122
(303) 987-5036
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NEWT 3 PIPELINE ROUTING STUDY

FIGURE 2-1
CORRIDORS C-1 THROUGH C-5

OV-1

2.2 Beshears Lake Corridor (C-2)

The Beshears Lake Corridor (C-2) is one of the shortest corridors evaluated with a length of approximately 5.7 miles. C-2 runs east from the SVPS crossing N. Timberline Road. On the east side of N. Timberline Road, C-2 runs east paralleling an overhead electric transmission line for approximately 1 mile to the Burlington Northern Santa Fe Railroad (BNSFRR). Along this stretch, C-2 crosses an irrigation ditch and agricultural / open land. At the BNSFRR, C-2 turns north for approximately 500 feet and then turns east with a crossing of the BNSFRR tracks. After crossing the railroad tracks, C-2 runs parallel to the Larimer and Weld Canal for approximately 0.7 miles. While paralleling the Larimer and Weld Canal, C-2 crosses Interstate 25 and runs through the Einarsen Farm property which has potential historical resource value. After crossing the Einarsen Farm property, C-2 turns east and runs approximately 1 mile across agricultural and open land to point approximately 500 feet west of Larimer County Road No. 5 (LCR 5). Along this stretch of corridor, C-2 crosses Boxelder Creek and parallels the existing 24-inch Mountain Vista Pipeline. West of LCR 5, turns north and west for approximately 1,800 feet to a crossing of LCR. After crossing LCR 5, C-2 follows the Trappers Point neighborhood boundary north and east to Jayhawk Drive where C-2 meets C-1. From this point, C-1 follows the same corridor as C-2 and terminates with a connection to an existing NWCWD waterline located along Pheasant Crest Drive. As with C-1, C-2 crosses a petroleum pipeline, Larimer County Road No. 3 (LCR 3) and an irrigation ditch between the Trappers Point neighborhood and WCR 13.

2.3 East Vine Drive Corridor (C-3)

For the first 2 miles, The East Vine Drive Corridor (C-3) follows the Beshears Lake Corridor (C-2) and the Larimer and Weld Canal Corridor (C-5). Along this stretch of corridor, C-2 parallels an overhead electric transmission line, crosses the BNSFRR tracks, parallels the Larimer & Weld Canal, crosses Interstate 25, and passes through the Einarsen Farm property. After exiting the Einarsen Farm property, C-3 diverges from the C-2 corridor and continues southeast for one mile paralleling the Larimer and Weld Canal to E. Vine Drive. At E. Vine Drive, C-3 turns due east and runs approximately 2.25 miles generally following E. Vine Drive to its termination at NWCWD's existing 36-inch waterline in WCR 13. Along E. Vine Drive, C-2 contends with a variety of existing utilities including the shared 24-inch Mountain Vista Pipeline, a gas transmission line, smaller-diameter ELCO water lines, and a variety of communication, gas, and electric utilities. In addition, C-3 crosses LCR 3, LCR 5, a petroleum pipeline, an irrigation canal, and numerous residential driveways.

2.4 Great Western Railroad Corridor (C-4)

The Great Western Railroad Corridor (C-4) starts with a crossing of the Larimer and Weld Canal immediately south of the SVPS. After the canal crossing, C-4 parallels the west side of N. Timberline Road for approximately 1200 feet. Nearly 1000 feet north of E. Vine Drive, C-4 crosses N. Timberline Road and continues east and south around a residential property located on the northeast corner of N. Timberline Road and E. Vine Drive. After passing the residential property, C-4 turns east along the north side of E. Vine Drive for approximately 2,400 feet. Along the north side of E. Vine Drive, C-4 crosses the BNSF Railway tracks. After reaching the eastern boundary of the Trail Head neighborhood, C-4 turns south, crosses of E. Vine Drive, and then parallels the Great Western Railroad (GWRR) to the southeast for approximately 2,500 feet. After this reach, C-4 turns east for approximately 3,200 feet to a crossing of Interstate 25. Along this stretch of corridor, C-4 crosses agricultural and open land, crosses Cooper Slough, and parallels Redman Drive. After crossing Interstate 25, C-4 turns south for approximately 900 feet to the north side of the GWRR tracks. From this point, C-4 turns east and runs approximately 3 miles to its connection with the NWCWD's existing 36-inch waterline located in WCR 13. Along this 3-mile stretch, C-4 crosses agricultural and open land, Boxelder Creek, the Larimer and Weld Canal, LCR 5, a petroleum pipeline, and LCR 3.

2.5 Larimer and Weld Canal Corridor (C-5)

For the first 2 miles, the Larimer and Weld Canal Corridor (C-5) follows the Beshears Lake Corridor (C-2). Along this stretch of corridor, C-2 parallels an overhead electric transmission line, crosses the BNSFRR tracks, parallels the Larimer & Weld Canal, crosses Interstate 25, and passes through the Einarsen Farm property. After exiting the Einarsen Farm property, C-5 continues southeast paralleling the E. Vine Drive Corridor (C-3) for one mile to E. Vine Drive. At E. Vine Drive, C-5 diverges from the C-5 corridor, crosses E. Vine Drive, and continues to paralleling the Larimer and Weld Canal for approximately 3,000 miles to a point approximately 600 feet west of LCR 5. At this point C-5 turns east and parallels the Great Western Railroad Corridor (C-4) for approximately 2 miles to its connection with the NWCWD's existing 36-inch waterline located in WCR 13. Along this 2-mile stretch, C-5 crosses agricultural and open land, LCR 5, a petroleum pipeline, and LCR 3.

3 CORRIDOR EVALUATION CONSIDERATIONS

A variety of factors were evaluated to compare potential corridors for the NEWT 3 Pipeline. These factors included: engineering and design considerations, environmental impacts, operations and maintenance efforts, property and right-of-way impacts, required easements, constructability, schedule, and costs. To effectively evaluate the corridor alternatives considered, an alternative comparison and selection matrix was developed. The selection matrix was developed to objectively weigh, rank, and score a variety of important corridor characteristics and allow the Districts to make an informed corridor selection.

3.1 Engineering, Operation, and Maintenance

The NEWT 3 Pipeline corridors evaluated range between 5.7 and 6.3 miles in length. Numerous engineering, operation, and maintenance considerations were evaluated. Several important considerations are the number of appurtenant pipeline facilities required for project operations and the number, location, and length of a variety of road, railroad, and creek crossings. The sections below provide comparative information for each corridor.

3.1.1 Appurtenant Pipeline Facilities

Because of its relatively long length, the NEWT 3 Pipeline will require a significant number of operational facilities including air and vacuum valves, blow-off (drain) facilities, and isolation valves. Table 3-1 provides a summary comparing the number of facilities along each corridor. Corridor maps showing these facilities are in Appendix C.

Table 3-1: Appurtenant Pipeline Facilities Summary

Facility Type	Corridor				
	C-1	C-2	C-3	C-4	C-5
Air & Vacuum Valves[1]	10	9	9	9	8
Blow-off Facilities	8	8	7	6	8
Isolation Valves[2]	6	5	4	5	5

[1] The number of ARVVs is preliminary and may be able to be reduced during detailed design.
[2] At the conceptual corridor identification phase, it is assumed that an isolation valves will be placed near road crossings for easy access.

3.1.2 Tunnel Construction

A key consideration for the NEWT 3 pipeline is where tunnels will likely be required[3]. Because the work involves dewatering, shaft construction, excavation, pipe jacking, backfilling, and restoration; the extent of tunnel construction has significant schedule, risk, and cost implications. Table 3-2 provides a summary of potential tunnel installations along the alternative corridors. It should be noted that the listed tunnels are considered 'potential' locations for tunneling based on conceptual evaluations. The final number of tunnels required, and the tunnel lengths may change based on additional field-level environmental resource evaluations and discussions with the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service.

Table 3-2: Potential Tunnel Installations

Description	Corridor				
	C-1	C-2	C-3	C-4	C-5
Number of Tunnels (Shafts)	3 (6)	3 (6)	3 (6)	3 (6)	3 (6)
Total Tunnel Footage (ft), (Longest)	650 (400)	600 (400)	900 (400)	900 (400)	700 (400)
Road Tunnels[4]	2	2	5	3	2
Railroad Tunnels	1	1	1	1	1

3.1.3 Open-Cut Roadway Crossings

Along each of the evaluated corridors, several roads will need to be crossed with open-cut construction methods. Open-cut pipe installation is preferred because it saves time and costs and lowers project risks however there are risks and the potential to impact the traveling public. Table 3-3 provides a preliminary summary of roadways that are anticipated to be crossed by open-cut pipe installation.

Table 3-3: Open-Cut Road Crossing Summary

Description	Corridor				
	C-1	C-2	C-3	C-4	
# of Crossings	4	4	5	3	3
Road Crossings (Open-Cut)	LCR 5 Jayhawk Drive LCR 3 WCR 13	LCR 5 Jayhawk Drive LCR 3 WCR 13	LCR 5 Linden View Dr Glenn Ridge Dr LCR 3 Helena Court	LCR 5 LCR 3 Ridgeview Lane	LCR 5 LCR 3 Ridgeview Lane

3.1.4 Work within Road Right-of-Ways

Along both corridors, there are locations where pipe installation will likely be within the road right-of-way. Work in road right-of-way slows productivity, increases costs, reduces worker safety, and can impact the traveling public. Table 3-4 provides a summary of roadways that will influence construction.

[3] As with the NEWT 1 and 2 Pipelines, it is assumed the NEWT 3 Pipeline will be permitted to cross jurisdictional wetlands/water using open cut installation techniques in accordance requirements of a U.S. Army Corps of Engineer Nationwide Permit No. 12, Utility Line Activities.
[4] Timberline Road (C-1 – C-5), Interstate 25 (C-1 – C-5), and E. Vine Drive (C-4, C-5).

Table 3-4: Summary of Work Within or Adjacent to Roadways

Description	Corridor				
	C-1	C-2	C-3	C-4	C-5
Roadways	N. Timberline Rd Interstate 25 LCR 5 Jayhawk Drive Coho Run LCR 3 WCR 13 Pheasant Crest Dr.	N. Timberline Rd Interstate 25 LCR 5 Jayhawk Drive Coho Run LCR 3 WCR 13 Pheasant Crest Dr.	N. Timberline Rd Interstate 25 Vine Drive LCR 5 Linden View Dr Glenn Ridge Dr LCR 3 Helena Ct.	N. Timberline Rd Interstate 25 Vine Drive LCR 5 LCR 3 Ridgeview Lane	N. Timberline Rd Interstate 25 Vine Drive LCR 5 LCR 3 Ridgeview Lane
Length within / adjacent roadways (feet)	1,400	1,700	10,800	3,600	1,200

3.2 Potential Environmental Impacts

Along the evaluated corridors, there are a variety of environmental resources that could be impacted. These resources include wetlands that could be determined to be jurisdictional by the U.S. Army Corps of Engineers, Threatened and Endangered (T&E) Species Habitat (critical or potential) as determined by the U.S. Fish and Wildlife Service, and potential nesting sites for migratory birds. As part of this study, PIC retained ERO to perform an environmental evaluation of the corridors. The evaluation included using internet-based resources and tools relevant to the project areas. Table 3-5 provides an environmental resource summary. The complete natural and cultural resources assessment is included in the Appendix D.

Table 3-5: Environmental Resource Summary

Resource Impacts	Corridor				
	C-1	C-2	C-3	C-4	C-5
Number of Crossings within Potential Jurisdictional Wetlands[5]	3	4	4	4	4
Cumulative Length of Potential Jurisdictional Wetland Crossings (ft)	250	200	200	500	200
T&E Species – Potential for impacts to Critical PMJM Habitat[6]	Low				
T&E Species – Potential for impacts to Critical CBP Habitat [7]	Low				
T&E Species – Potential for impacts to ULTO Habitat [8]	No	Yes	Yes	Yes	Yes
T&E Species – Potential for impacts to T&E Species in Nebraska[9]	Yes				
Potential Impacts to Prairie Dog Colonies	No	No	No	Yes	No
Construction within ½ mile of Potential MBTA[10] Nest Boundaries	Yes				

[5] If area is determined to be jurisdictional by the Army Corps of Engineers, construction in these areas will require a Section 404 permit.
[6] PMJM – Preble's Meadow Jumping Mouse. Reference: Natural and Cultural Resources Assessment, NEWT 3 Pipeline Routing Study, Larimer and Weld Counties, ERO, August 20, 2018, Page 12.
[7] CBP – Colorado Butterfly Plant. Reference: Natural and Cultural Resources Assessment, NEWT 3 Pipeline Routing Study, Larimer and Weld Counties, ERO, August 20, 2018, Page 12.
[8] ULTO – Ute Ladies Tresses Orchid. A ULTO survey should be performed along Boxelder Creek and/or Cooper Slough prior to design and construction. Reference: Natural and Cultural Resources Assessment, NEWT 3 Pipeline Routing Study, Larimer and Weld Counties, ERO, August 20, 2018.
[9] Impacting T&ES in Nebraska would be due to potential depletions in the South Platte River Basin.
[10] MTBA – Migratory Bird Treaty Act.

The sections that follow provide a comparative discussion related to potential environmental resource impacts. It should be noted that a formal permitting plan for the NEWT3 pipeline will be developed as part of the project's pre-design activities. As part of the formal permitting plan, the Districts will be provided with additional information that will allow educated and informed decisions to be made as to how best to permit the project. Below are a variety of strategies that could be adopted by the District as part of the formal permitting process.

- Avoid major impacts to jurisdictional wetlands or Waters of the U.S. by incorporating tunneling to avoid the need for an Individual Permit under Section 404 regulations.
- Permit and restore minor impacts to jurisdictional wetlands of Waters of the U.S. under the guidance and requirements of a Section 404 Nationwide Permit.
- Avoid impacts to any Threatened and Endangered Species to avoid a federal action that would lead to extensive consultation with the U.S. Fish & Wildlife Service, the development of a Habitat Conservation Plan, the NEPA process, and a public comment period.

3.2.2 Clean Water Act, Section 404 Impacts

The goal of the United States Clean Water Act (CWA) is to protect the quality of 'waters of the U.S'. The U.S. Army Corps of Engineers (USACE) oversees and administers a regulatory program that enforces Section 404 of the CWA. Under Section 404, a permit is required prior to the discharge of dredged or fill material into classified wetlands and other waters of the U.S. also known as 'jurisdictional waters'. The USACE defines waters of the U.S. as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters.

Along all five corridors, there are potential locations where Section 404 impacts could be realized including the crossings of Boxelder Creek, Cooper Slough, the Larimer and Weld Canal, and several unnamed ditches and drainages. At this point in the development of the NEWT 3 Pipeline Project, it is assumed that 'waters of the U.S.' will be crossed, temporarily impacted, and restored under the conditions and requirements of a Nationwide Permit No. 12 unless the jurisdictional boundaries coincide with habitat of threatened or endangered species. In locations where wetland and critical threatened and endangered species habitat coincide, impacts to these areas may need to be avoided by tunneling.

3.2.3 Endangered Species Act

The evaluated pipeline corridors have the potential to contain suitable habitat for PMJM, ULTO, CBP along Boxelder Creek, Cooper Slough, and the Larimer and Weld Canal. As part of completing the project's preliminary design, the Districts will need to complete a field habitat assessment where the selected corridor crosses these locations. Furthermore, U.S. Fish and Wildlife Service may feel the project has the possibility of impacting threatened and endangered species in Nebraska due to potential depletions within the South Platte River Basin. As such, after a corridor is selected the Districts should consult with the USFWS on impacts associated with potential depletions.

3.2.4 Migratory Birds Treaty Act (MBTA)

Within the study area, all five evaluated corridors cross migratory bird buffers. Corridors C-1 and C-2 cross within the 1/2-mile buffer of mapped osprey nests. Corridors C-3, C-4, and C-5 cross within the 1/3-mile buffer of mapped raptor nests. Corridor C-2 crosses both the osprey and raptor nest boundaries. Migratory birds, as well as their eggs and nests, are protected under the MBTA. While impacts to a migratory bird nest by itself are not illegal under the MBTA, impacts that result in the unpermitted take of migratory birds or their eggs is considered illegal by the U.S. Fish and Wildlife Service. Under the MBTA, the U.S. Fish and Wildlife can issue a Federal

Migratory Bird Depredation Permit that allows an active nest to be removed. However, very few depredation permits are issued as they typically involve the need to remove a nest under unusual circumstances involving human health and safety, the protection of private property or the protection of livestock or agriculture. Since work involved with NEWT 3 would likely not result in the ability to obtain a depredation permit, the work should be in accordance with recommendations of the Colorado Parks and Wildlife (CPW). The most salient of these recommendations as it relates to the NEWT 3 Pipeline is to maintain the 1/3 to 1/2-mile buffer around nests during the active season. Both the Denver Field Office of the CPW and the Colorado Department of Transportation have identified the primary nesting season for migratory birds in eastern Colorado as occurring between April and mid-August. However, some birds may occupy nests as early as December.

The Western Burrowing Owl is slightly different from other migratory birds. Theses owls are typically associated with prairie dog colonies with a breeding season that runs from March through October. CPW recommends conducting clearance surveys in prairie dog colonies to determine if active owl burrows are present and that construction activities be restricted within 150-feet of nests until the owls have migrated. It should be noted that Corridor C-4 has the potential to cross a prairie dog colony, and thus potential owl habitat, near its crossing of Boxelder Creek.

As part of the pre-design activities for the NEWT 3 Pipeline, a more detailed environmental survey will need to be performed to identify any existing or potential nest sites along the selected corridor.

3.2.5 Other Species of Concern

Black-Tailed Prairie Dogs are a Colorado species of special concern (CPW, 2018) because their activities provide food and shelter for many other grassland species. Corridor C-4 may contain Black-Tailed Prairie Dog colonies near its crossing of Boxelder Creek. Colorado Parks and Wildlife (CPW) recommends humane removal of prairie dogs prior to starting any earthwork. Larimer County follows the CPW guidelines. The City of Fort Collins has an ordinance protecting prairie dog colonies larger than 1 acre in size.

3.2.6 Historical and Cultural Resources

To assist with project planning and potential consultation obligations under Section 106 of the National Historic Preservation Act (NHPA) and/or the State Register Act, a Class I cultural resource evaluation for the areas along the proposed corridors[11] was conducted. The study determined that historical structural resources are common throughout the study area. However, these resources are visible from the surface and should be easy to avoid. The study also determined that the potential to discover buried resources that have not already been identified is unlikely due to the ongoing cultivation and residential development, and highway construction. Table 3-6 shows eligible historical and cultural resources that have the potential to be encountered along the corridors.

[11] *Included a file search with the Office of Archaeology and Historic Preservation.*

Table 3-6: Eligible Historical and Cultural Resources Summary

Corridor				
C-1	**C-2**	**C-3**	**C-4**	**C-5**
C&SRR[12]	C&SRR	C&SRR	Larimer & Weld Canal	C&SRR
	Einarsen Farm Site (NE of I-25/Larimer & Weld Canal)	Einarsen Farm Site (NE of I-25/Larimer & Weld Canal)	C&SRR, CCRR[13], BNSFRR[14]	Einarsen Farm Site (NE of I-25/Larimer & Weld Canal)
			Larimer & Weld Canal	

3.3 Hydraulics

A hydraulic evaluation was performed to determine if certain corridors had hydraulic advantages (higher flows and higher pressures) and to determine the maximum pressure to be expected in each corridor. The results are discussed in the following sections. Since NWCWD's service area is located to the east beyond the service area of ELCO, corridor hydraulics as it relates to NWCWD operations was the basis for the hydraulic evaluation.

3.3.1 Zone 1 Hydraulics

A hydraulic evaluation of the corridors was performed using the NWCWD's existing transmission model with modifications representing the future conditions presented in *Task Order 6 Technical Memorandum – Treatment and Transmission Capacity Verification*[15]. The assumptions representing future conditions are listed below:

- Year 2060 demands including wholesale customers is estimated at 38 MGD
- NEWT 3 Pipeline sized at 42-inch
- NWCWD's existing 24-inch Southern System pipeline has been upsized to 48-inch
- NWCWD's Future Tank C1 has been constructed
- Gravity flow through both NWCWD's Northern and Southern Systems.
- Soldier Canyon Filter Plant minimum HGL is 5,222 feet

Each NEWT 3 corridor has slightly different hydraulics with variable lengths and different connection locations within Pressure Zone 1. The purpose of this evaluation was to determine if the hydraulics favored one corridor over another. The results of the evaluation show differences in HGLs at NWCWD's Zone 1 tanks to be negligible. As such, the minor variations in hydraulics should not influence the Districts selection of a pipeline corridor.

3.3.2 Pressure

Table 3-7 provides a preliminary summary of the maximum hydraulic pressures that could result on each corridor provided surge (transient) pressures are properly controlled. The pressures range from 112 psi to 129 psi and are not considered high for the pipe materials under consideration.

[12] *Colorado & Southern Railroad*
[13] *Colorado Central Railroad*
[14] *Burlington Northern & Santa Fe Railroad*
[15] *Providence Infrastructure Consultants, February 2018.*

Table 3-7: Preliminary Hydraulic Pressure Summary

Corridor	Starting HGL[16]	Lowest Pipeline Elevation (Feet)[17]	Modeled Maximum Static Pressure (Feet)	Modeled Maximum Static Pressure (psi)
C-1	5,236	4,977	259	112
C-2		4,974	262	113
C-3		4,965	271	117
C-4		4,939	297	129
		4,965	271	117

3.4 Property, Right-of-Way, and Access Considerations

As with any comparative evaluation of a long distance, cross country water transmission pipeline, it is important to understand the various types of properties that have the potential to be crossed. Whether it be public or private land, rights-of-way, or commercial/business properties, it is prudent to understand how these various property types might influence the NEWT 3 pipeline installation in the near term and the operation and maintenance of the pipeline over its operating life. Corridor location can significantly affect project costs and schedule. Table 3-8 provides a preliminary property impact summary for the evaluated corridors.

Table 3-8: Preliminary Property Impact Summary

Description	Corridor				
	C-1	C-2	C-3	C-4	C-5
Parcels Crossed[18]	24	22	26	18	20
Private Property Owners	15	16	20	14	13
Road Right-of-Way Crossings[19]	6	6	9	5	5
Railroad Crossings	1	1	1	1	1
Length within Private Property (ft)	32,400	29,100	26,000	26,400	27,600
Length within Road Right-of-Way (ft)	1,000	1,000	1,000	1,700	600
Length within RR Right-of-Way (ft)	100	100	100	300	100
% of Corridor in Private Property	97	96	96	93	98

3.4.1 Private Property

From a percentage standpoint, the corridors are primarily located within private property (+ 90% of total length). There are advantages and disadvantages associated with the use of private property. The primary disadvantage involves potential schedule implications associated with acquiring easements on private property. The primary advantage associated with private easements is that they can be tailored to provide additional protections related to the future operation and maintenance of the pipeline that are not afforded with the use of public property. Furthermore, the cost to construct within road right-of-way is higher due to more difficult and slower construction and right-of-way construction generally results in greater public impacts. For the NEWT 3 Pipeline, the use of private easements is considered an advantage because: 1) costs associated with pipe installation and traffic control would be less, 2) the Districts would have more control in preventing outside influences from affecting the

[16] Conservatively set as the Soldier Canyon Filter Plant (SCFP) overflow weir elevation stated on Stantec Hydraulic Profile, Sheet G-13, dated February 5, 2018.
[17] The lowest point along each Corridor.
[18] Includes Road Right of Ways
[19] Includes neighborhood access points

long-term location of the pipeline and its easements, 3) the Districts would have safer and more unencumbered access to the pipeline during its operating life, and 4) public impacts during construction would be reduced.

3.4.2 Road Right-of-Ways

All evaluated corridors, at certain locations, have the need to cross and be within road rights-of-way owned by City of Fort Collins, Larimer County, the Colorado Department of Transportation and several residential subdivisions. Several of the potentially impacted roads are gravel roads while several roads are paved. All evaluated corridors are assumed to cross Interstate 25 by trenchless (tunneled) construction.

Table 3-9: Road Right-of-Way Owners

Roads	Owner
N. Timberline Road, Larimer County Road 5, Larimer County Road 3	Larimer County
Interstate 25	Colorado Department of Transportation
Jayhawk Drive	Dakota Heights Subdivision
Coho Run, Trappers Point	Trappers Point Subdivision
Glenn Ridge Drive	Glenn Ridge Estates
Larimer County Road 3	Larimer County
E. Vine Drive	Fort Collins (East), Larimer County (West)
Larimer County Road 1 / Weld County Road 13	Larimer County / Weld County

Along Corridor C-3, where a significant amount of construction would occur in or adjacent to E. Vine Drive, it is assumed that construction would encounter a significant amount of existing utilities resulting in slow contractor productivity, longer periods of public impacts, and increased costs. The right-of-way cross section along E. Vine Drive is limited and contains a variety of utilities which increases the potential that the pipeline may need to be placed within the pavement section in certain locations resulting in 1) pavement replacement, 2) potential placement of imported backfill, and 3) the need for extensive traffic control to safely route traffic around the construction. Furthermore, there are a significant number of residential neighborhoods that rely on the use of E. Vine Drive and these neighborhoods would be temporarily affected by construction. Construction activities would need to make sure that continuous access to individual residences and neighborhoods are coordinated and maintained.

In comparison, Corridors C-1, C-2, C-4, and C-5 have the potential to impact road right-of-way to a much lesser degree. As such, these corridors are more favorable from the standpoint of minimizing impacts to the public and allowing the Districts to better control project costs and risks.

3.4.3 Railroad Right-of-Way

The crossing of right-of-way owned by Burlington Northern Santa Fe Railway (BNSF) will be required for all evaluated corridors. It should be assumed that the crossing of the BNSF right-of-way will be by trenchless (tunneled) means.

3.5 Constructability, Community Impacts, Schedule, and Cost

Considerations involving constructability, community impacts, project schedule, and cost are very important to the Districts, its contractors, and the local communities and neighborhoods along the NEWT 3 pipeline. Brief discussions involving these corridor considerations are presented in the following sections.

3.5.1 Developed versus Undeveloped Construction

When construction contractors evaluate a construction corridor, one of the first observations involves whether construction will take place along a developed corridor versus an undeveloped corridor. Typically, a developed corridor is one that is located within or adjacent to a road right-of-way where existing utilities are present, traffic control is likely to be required, expensive restoration will be needed, coordination with residential, commercial or industrial lands will be required, and construction productivity will be adversely affected. An undeveloped corridor is considered a corridor that is rural in nature where few existing utilities are present and construction productivity rates can be expected to be high.

3.5.2 Community Impacts

Community impacts are typically considered impacts to the normal flow of traffic, noise generation, dust nuisance, and impeding the free and clear access to schools, businesses, or residences. In comparing the corridors, the potential for community impacts are significantly higher along C-3 as nearly half the corridor is located within or adjacent to the E. Vine Drive right-of-way. East of Interstate 25, a variety of neighborhoods between LCR 5 and LCR 3 rely heavily on E. Vine Drive. It should be noted that Corridors C-1 and C-2 would have community impacts but these would less than Corridor C-3. Corridors C-1 and C-2 would have temporary impacts to portions of the Trappers Point and Dakota Heights Subdivision. Along Corridor C-4 and C-5, there would be minimal community impacts as the residential subdivisions of Vista Bonita, Auburn Estates, and Ridgewood Meadows would only be temporarily impacted as construction crosses LCR 3 and LCR 5.

3.5.3 Schedule

As mentioned previously, construction schedules are heavily influenced based on whether construction will take place in developed versus undeveloped corridors. It could be expected that construction along Corridor C-3, with a significant portion of its construction taking place in or adjacent to E. Vine Drive, would take significantly longer than construction along the other corridors. Because of a lesser amount of construction in developed areas, it could be expected that Corridor C-5 would involve the shortest construction schedule.

3.5.4 Costs

As with construction schedules, construction productivity rates heavily influence overall project costs. In comparing the evaluated corridors, it is likely that productivity rates will be lower for Corridor C-3 as the corridor has significantly more construction in developed or narrow areas along E. Vine Drive. Corridor C-4 involves construction along N. Timberline Road and E. Vine Drive and work in these areas will be slow and expensive. Corridors C-1 and C-2 will be heavily influenced by construction through and around the Trappers Point and Dakota Heights Subdivisions. Corridor C-5 would likely result in higher contactor productivity rates. Table 3-10 provides a summary comparing the evaluated corridors as it relates to anticipated constructability, community impacts, schedule, and project costs.

Table 3-10: Anticipated Constructability, Impacts, Schedule, and Costs

Description	Corridors				
	C-1	C-2	C-3	C-4	C-5
Developed Construction [20] (%)	3%	4%	23%	7%	2%
Undeveloped Construction[21] (%)	97%	96%	77%	93%	98%
Estimated Weeks of Construction[22]	48	46	53	42	39
Rough Order of Magnitude (ROM) Cost	$17.4M	$16.1M	$16.7M	$16.1M	$15.2M

4 CORRIDOR RANKING AND SCORING

Appendix A provides an overview of the various corridor attributes evaluated and the rankings, weights and scores of each corridor. Each corridor attribute was ranked as 1 through 5 with a rank of 5 indicating which corridor has a more favorable condition. In addition, each attribute was provided a weighting factor of 1 to 5 with higher weighting factors indicating attributes that have a higher potential to influence the success of the project. Based on the scoring process, the higher the total score, the more preferred the alternative is considered. Table 4-1 provides discussion associated with the higher weighting factors (4 and 5).

Table 4-1: Weighted Scoring Insight

Evaluation Attribute	Weighting Factor	Insight
Pipeline Length	4	Longer length results in greater potential for higher costs, a longer schedule, longer public impacts, and greater environmental impacts.
Air-Release and Vacuum Vaults	4	Air-Release and Vacuum Vaults increase capital costs as well as long-term operations and maintenance costs. In addition, it is not desirable to locate facilities of this nature on private property if it can be avoided.
Blow-off Manhole Assemblies	4	Blow-off Manhole Assemblies increase capital costs as well as long-term operations and maintenance costs. In addition, it is not desirable to locate facilities of this nature on private property if it can be avoided.
Isolation Valves	4	Isolation Valves increase capital costs as well as long-term operations and maintenance costs. In addition, it is not desirable to locate facilities of this nature on private property if it can be avoided.
Longest Tunnel Length	4	Longer tunnels result in more complicated construction and the risks associated with schedule delays, worker safety, environmental impacts, and costs are higher. In addition, there are fewer tunneling techniques and equipment available for the construction of long tunnels which increases schedule and cost risks.
Total Length of Tunneling	4	Tunnel construction has the potential to increase costs, increase the schedule due to permit lead times, and increase work site hazards while decreasing worker safety.
Number of Tunnel Shafts	4	The construction of tunnel shafts is complicated involving dewatering, slow construction, deep depths, and increased worker safety hazards. Based on safety, costs, and schedule delay risks, it is favorable to limit the number of shafts needed.
Construction within MBTA Nest Boundaries	4	Requirements that constructing within MBTA boundaries cannot occur during the prime nesting season of April 1 to mid-August has the potential to delay project completion beyond the targeted deadline. In addition, MBTA limitations can impact

[20] Includes construction that takes place in or adjacent to road right-of-way, in railroad right-of-way, and in narrow / constricted areas.
[21] Includes construction that takes place outside of road and railroad rights-of-way and in areas that are not constructed.
[22] Construction Productivity Assumption: Construction in Developed Areas – 50 L.F. / Day, Construction in Undeveloped Areas – 150 L.F./Day

Evaluation Attribute	Weighting Factor	Insight
		contractor flexibility related to when pipe can be installed, thus potentially resulting in additional crew and equipment mobilizations.
Historical and Cultural Site Crossings	4	Cultural and historical resources typically need to be avoided or have impacts mitigated. The cost and schedule implications of avoidance or mitigation can be significant.
Railroad Crossings	5	Construction within railroad right-of-way elevates the potential that a variety of project goals will not be achievable such as properly managing costs and completing the project on schedule.
Approximate Length within Road Right-of-Way	5	Construction within or adjacent to road right-of-way elevates the potential that a variety of project goals will not be achievable such as properly managing costs, completing the project on schedule, and reducing impacts to the community.
Developed Construction	5	Construction within developed locations increases the potential that project goals related to costs, schedule, and reducing community impacts will not be met.
Schedule	5	Based on increasing District water demands and the need for additional transmission capacity, the District needs to complete the project in a timely manner to ensure customer water supply obligations are met.
Costs	5	Based on District responsibilities to properly manage project costs on behalf of its rate payers and its responsibility to properly manage its overall budget, project cost is very important.

5 SELECTED CORRIDOR

The information presented within this report was reviewed and discussed with the District staff at Corridor Evaluation Workshops held on February 27, 2019 and June 26, 2019. After careful review and lengthy discussions, the Districts selected the Larimer and Weld Canal Corridor (C-5) to carry forward into the project's planning, permitting, design, and construction phases. The District's selection was based on Corridor C-5 having the highest potential to meet the District goals which include properly managing cost, reducing public impacts, avoiding or mitigating impacts to natural and cultural resources, and the ability to implement the project on a schedule that allows the Districts to meet their future water supply obligations.

6 OPINION OF CORRIDOR COSTS

Appendix B includes conceptual level cost opinions for the corridors evaluated. These costs were based on recently compiled construction costs for similar projects, as well as historical costs associated with the construction of the Districts' NEWT 1 Pipeline. Historical costs associated with the NEWT 1 Pipeline were escalated based on increases in construction costs and the construction market in general. It should be noted that a 25% contingency was applied to the cost opinions. A 25% contingency is in line with an American Association of Cost Engineers (AACE) Class 3[23] cost estimate with an expected accuracy of -20% to +30%. A Class 3 cost estimate is a preliminary estimate based on a project with a definition level of between 10% and 40%. A Class 3 cost estimate is generally used for budget definition and authorization.

[23] *Cost Estimate Classification System, AACE International Recommended Practice No. 17R-97*

7 CORRIDOR DRAWINGS

Appendix C includes conceptual plan and profile drawings for the evaluated corridors. These conceptual drawings are to be used for reference purposes. While not as detailed as design drawings, these conceptual drawings provide visual context for understanding the location, variables, opportunities, and challenges associated with the alternative corridors evaluated.

APPENDIX A – CORRIDOR RANKING AND SCORING

Corridor Attributes	Mountain Vista Corridor	Beshears Lake Corridor	E Vine Drive Corridor	Great Western RR Corridor	Larimer & Weld Canal Corridor	Weighting Factor (1-5)	Rank					Score				
	C-1	C-2	C-3	C-4	C-5		C-1	C-2	C-3	C-4	C-5	C-1	C-2	C-3	C-4	C-5
Engineering, Design, Operation, and Maintenance																
Approximate Pipeline Length (LF)	33,500	30,200	27,100	28,400	28,300	4	1	2	5	3	4	4	8	20	12	16
Air Release/Vacuum Valve Vaults	10	9	9	9	8	4	3	4	4	4	5	12	16	16	16	20
Blow Off Manhole Assemblies	8	8	7	6	8	4	3	3	4	5	3	12	12	16	20	12
Isolation Valves	6	5	4	5	5	4	2	3	4	3	3	8	12	16	12	12
Protected Creek/Canal Crossings	2	3	3	4	3	2	5	4	4	3	4	10	8	8	6	8
Open-Cut Perpendicular Roadway Crossings	4	4	5	3	3	3	4	4	4	5	5	12	12	12	15	15
Longest Tunnel Length	400	400	400	400	400	4	5	5	5	5	5	20	20	20	20	20
Total Length of Tunneling	650	600	900	900	700	4	4	5	2	2	3	16	20	8	8	12
Number of Tunnel Shafts	6	6	12	8	6	4	5	5	3	4	5	20	20	12	16	20
Potential Environmental Impacts [e]																
Construction Locations within Potential MBTA Nest Boundaries	2	3	1	1	2	4	4	3	5	5	4	16	12	20	20	16
Length of Potential Jurisdictional Wetland Restoration per NWP	250	200	200	500	200	1	4	5	5	3	5	4	5	5	3	5
Historical and Cultural Site Crossings	1	2	2	3	2	4	5	4	4	3	4	20	16	16	12	16
Protected Drainage/Creek Crossings (Open-Cut)	2	2	2	3	3	1	5	5	5	4	4	5	5	5	4	4
Property, Right-of-Way, and Access Considerations																
Parcels Crossed (Includes Road Right-of-Ways)	24	22	26	18	20	2	2	3	1	5	4	4	6	2	10	8
Private Property Owners	15	16	20	14	13	3	3	2	1	4	5	9	6	3	12	15
Road Right-of-Way Crossings (includes neighborhood accesses)	6	6	9	5	5	3	4	4	3	5	5	12	12	9	15	15
Railroads Crossings	1	1	1	1	1	5	5	5	5	5	5	25	25	25	25	25
Approximate Length within Road Right-of-Way	1000	1000	1000	1,700	600	5	4	4	4	3	5	20	20	20	15	25
Length within Railroad ROW	100	100	100	300	100	1	5	5	5	4	5	5	5	5	4	5
Constructability, Community Impacts, Schedule, and Cost																
Developed Construction (LF)[a]	1,100	1,100	6,200	2,000	700											
Developed Construction (%)	3%	4%	23%	7%	2%	5	4	4	2	3	5	20	20	10	15	25
Schedule - Estimated Length of Construction (Weeks)[c]	50	46	53	42	39	5	2	3	1	4	5	10	15	5	20	25
Rough Order of Magnitude (ROM) Cost	$17,400,000	16,100,000	$16,700,000	$16,100,000	$15,200,000	5	2	4	3	4	5	10	20	15	20	25
Total Weighted Score												274	295	268	300	344
Ranking												4	3	5	2	1

a Includes construction in the public ROW, crossings, and narrow corridors

b Includes construction outside the public ROW, crossings, and tight corridors

c Based on an assumed installation productivity rate of 50 L.F./day through developed areas and 150 L.F./day through undeveloped areas.

APPENDIX B – CORRIDOR COST OPINIONS

Rough Order of Magnitude Estimate (ROM)
North Weld County Water District - NEWT 3 Waterline
Mountain Vista Corridor (C-1)
July 9, 2019

Item No	Description	Quantity	Unit	Unit Cost	Extension
	Cost of Work				***$ 12,175,851***
1	* Mobilization / General Conditions	1.00	LS	$ 192,034.14	$ 192,034
2	42" DIP Pipeline - Undeveloped Installation	32,500	LS	$ 237.36	$ 7,714,200
3	42" DIP Pipeline - Developed Installation	1,000	LF	$ 415.38	$ 415,380
4	Dewatering (15% of Alignment)	5,025	LF	$ 51.49	$ 258,726
5	Cathodic Protection	33,500	LF	$ 6.75	$ 226,125
6	Testing/Disinfection	33,500	LF	$ 1.35	$ 45,225
7	* Strip/Stockpile Topsoil/Clear & Grub	428,056	SY	$ 1.77	$ 757,658
8	42" BFV w/ Vault (Isolation)	6	EA	$ 73,010.28	$ 438,062
9	Blow-off Assembly	8	EA	$ 11,868.00	$ 94,944
10	CAV Assembly	10	EA	$ 11,953.56	$ 119,536
11	Protected Canal/Creek Crossings	2	EA	$ 19,320.00	$ 38,640
12	Tunneling (6 shafts, 650 LF)	650	LF	$ 2,132.10	$ 1,385,865
13	R&R Gravel Road Crossings & Driveways	3	EA	$ 3,250.00	$ 9,750
14	R&R Asphalt Road Crossings including drives	30	LF	$ 459.54	$ 13,786
15	Seeding/Mulch	88.44	AC	$ 1,547.00	$ 136,819
16	Silt Fence	53,600	LF	$ 1.70	$ 91,120
17	Construction / Cattle Fence	13,400	LF	$ 2.85	$ 38,190
18	Vehicle Tracking Pad	4	EA	$ 3,840.00	$ 15,360
19	Erosion Blanket (25% of Disturbance)	10,701	SY	$ 1.90	$ 20,333
20	Erosion Control Maintainence	0.50	LS	$ 22,500.00	$ 11,250
21	FC, LC, and WC Permit Fees (Allowance)	1.00	LS	$ 15,000.00	$ 15,000
22	Materials/Compaction Testing	1.00	LS	$ 42,800.98	$ 42,801
23	Survey/Layout	1.00	LS	$ 45,270.27	$ 45,270
24	Traffic Control	1.00	LS	$ 24,692.87	$ 24,693
25	Misc. Fence & Other Repairs	1.00	LS	$ 6,584.77	$ 6,585
26	Pothole Existing Utilities	50.00	EA	$ 370.00	$ 18,500
	Performance and Payment Bond			0.80%	$ 97,407
	Contingency			25%	$ 3,043,963
	Contractor Markup			8%	$ 974,068
	Permitting, Engineering, and CM			6%	$ 730,551
				Total ROM Construction Cost	**$ 17,030,000**
PE	Permanent Easement (40') - 50% Value	30.8	AC	$ 7,500.00	$ 230,716
TCE	Temporary Easement (75') - 10% Value	57.7	AC	$ 1,500.00	$ 86,519
				Total ROM Easement Cost	**$ 320,000**
				Total ROM Budget Cost	**$ 17,400,000**

Rough Order of Magnitude Estimate (ROM)
North Weld County Water District - NEWT 3 Waterline
Beshears Lake Corridor (C-2)
July 9, 2019

Item No	Description	Quantity	Unit	Unit Cost	Extension
	Cost of Work				***$ 11,242,758***
1	* Mobilization / General Conditions	1.00	LS	$ 192,034.14	$ 192,034
2	42" DIP Pipeline - Undeveloped Installation	28,200	LS	$ 237.36	$ 6,693,552
3	42" DIP Pipeline - Developed Installation	2,000	LF	$ 415.38	$ 830,760
4	Dewatering (15% of Alignment)	4,530	LF	$ 51.49	$ 233,240
5	Cathodic Protection	30,200	LF	$ 6.75	$ 203,850
6	Testing/Disinfection	30,200	LF	$ 1.35	$ 40,770
7	* Strip/Stockpile Topsoil/Clear & Grub	385,889	SY	$ 1.77	$ 683,023
8	42" BFV w/ Vault (Isolation)	5	EA	$ 73,010.28	$ 365,051
9	Blow-off Assembly	8	EA	$ 11,868.00	$ 94,944
10	CAV Assembly	9	EA	$ 11,953.56	$ 107,582
11	Protected Canal/Creek Crossings	3	EA	$ 19,320.00	$ 57,960
12	Tunneling (6 shafts, 60 LF)	600	LF	$ 2,132.10	$ 1,279,260
13	R&R Gravel Road Crossings & Driveways	3	EA	$ 3,250.00	$ 9,750
14	R&R Asphalt Road Crossings including drives	30	LF	$ 459.54	$ 13,786
15	Seeding/Mulch	79.73	AC	$ 1,547.00	$ 123,341
16	Silt Fence	48,320	LF	$ 1.70	$ 82,144
17	Construction / Cattle Fence	12,080	LF	$ 2.85	$ 34,428
18	Vehicle Tracking Pad	4	EA	$ 3,840.00	$ 15,360
19	Erosion Blanket (25% of Disturbance)	9,647	SY	$ 1.90	$ 18,330
20	Erosion Control Maintainence	1.00	LS	$ 22,500.00	$ 22,500
21	FC, LC, and WC Permit Fees (Allowance)	1.00	LS	$ 15,000.00	$ 15,000
22	Materials/Compaction Testing	1.00	LS	$ 38,584.77	$ 38,585
23	Survey/Layout	1.00	LS	$ 40,810.81	$ 40,811
24	Traffic Control	1.00	LS	$ 22,260.44	$ 22,260
25	Misc. Fence & Other Repairs	1.00	LS	$ 5,936.12	$ 5,936
26	Pothole Existing Utilities	50.00	EA	$ 370.00	$ 18,500
	Performance and Payment Bond			0.80%	$ 89,942
	Contingency			25%	$ 2,810,689
	Contractor Markup			8%	$ 899,421
	Permitting, Engineering, and CM			6%	$ 674,565
				Total ROM Construction Cost	**$ 15,720,000**
PE	Permanent Easement (40') - 50% Value	27.7	AC	$ 7,500.00	$ 207,989
TCE	Temporary Easement (75') - 10% Value	52.0	AC	$ 1,500.00	$ 77,996
				Total ROM Easement Cost	**$ 290,000**
				Total ROM Budget Cost	**$ 16,100,000**

Rough Order of Magnitude Estimate (ROM)
North Weld County Water District - NEWT 3 Waterline
East Vine Drive Corridor (C-3)
July 9, 2019

Item No	Description	Quantity	Unit	Unit Cost	Extension
	Cost of Work				***$ 11,711,056***
1	* Mobilization / General Conditions	1.00	LS	$ 192,034.14	$ 192,034
2	42" DIP Pipeline - Undeveloped Installation	20,900	LS	$ 237.36	$ 4,960,824
3	42" DIP Pipeline - Developed Installation	6,200	LF	$ 415.38	$ 2,575,356
4	Dewatering (15% of Alignment)	4,065	LF	$ 51.49	$ 209,298
5	Cathodic Protection	27,100	LF	$ 6.75	$ 182,925
6	Testing/Disinfection	27,100	LF	$ 1.35	$ 36,585
7	* Strip/Stockpile Topsoil/Clear & Grub	346,278	SY	$ 1.77	$ 612,912
8	42" BFV w/ Vault (Isolation)	4	EA	$ 73,010.28	$ 292,041
9	Blow-off Assembly	7	EA	$ 11,868.00	$ 83,076
10	CAV Assembly	9	EA	$ 11,953.56	$ 107,582
11	Protected Canal/Creek Crossings	3	EA	$ 19,320.00	$ 57,960
12	Tunneling (6, 12 shafts)	900	LF	$ 2,132.10	$ 1,918,890
13	R&R Gravel Road Crossings & Driveways	4	EA	$ 3,250.00	$ 13,000
14	R&R Asphalt Road Crossings including drives	150	LF	$ 459.54	$ 68,931
15	Seeding/Mulch	71.54	AC	$ 1,547.00	$ 110,680
16	Silt Fence	43,360	LF	$ 1.70	$ 73,712
17	Construction / Cattle Fence	10,840	LF	$ 2.85	$ 30,894
18	Vehicle Tracking Pad	4	EA	$ 3,840.00	$ 15,360
19	Erosion Blanket (25% of Disturbance)	8,657	SY	$ 1.90	$ 16,448
20	Erosion Control Maintainence	1.00	LS	$ 22,500.00	$ 22,500
21	FC, LC, and WC Permit Fees (Allowance)	1.00	LS	$ 15,000.00	$ 15,000
22	Materials/Compaction Testing	1.00	LS	$ 34,624.08	$ 34,624
23	Survey/Layout	1.00	LS	$ 36,621.62	$ 36,622
24	Traffic Control	1.00	LS	$ 19,975.43	$ 19,975
25	Misc. Fence & Other Repairs	1.00	LS	$ 5,326.78	$ 5,327
26	Pothole Existing Utilities	50.00	EA	$ 370.00	$ 18,500
	Performance and Payment Bond			0.80%	$ 93,688
	Contingency			25%	$ 2,927,764
	Contractor Markup			8%	$ 936,884
	Permitting, Engineering, and CM			6%	$ 702,663
				Total ROM Construction Cost	**$ 16,380,000**
PE	Permanent Easement (40') - 50% Value	24.9	AC	$ 7,500.00	$ 186,639
TCE	Temporary Easement (75') - 10% Value	46.7	AC	$ 1,500.00	$ 69,990
				Total ROM Easement Cost	**$ 260,000**
				Total ROM Budget Cost	**$ 16,700,000**

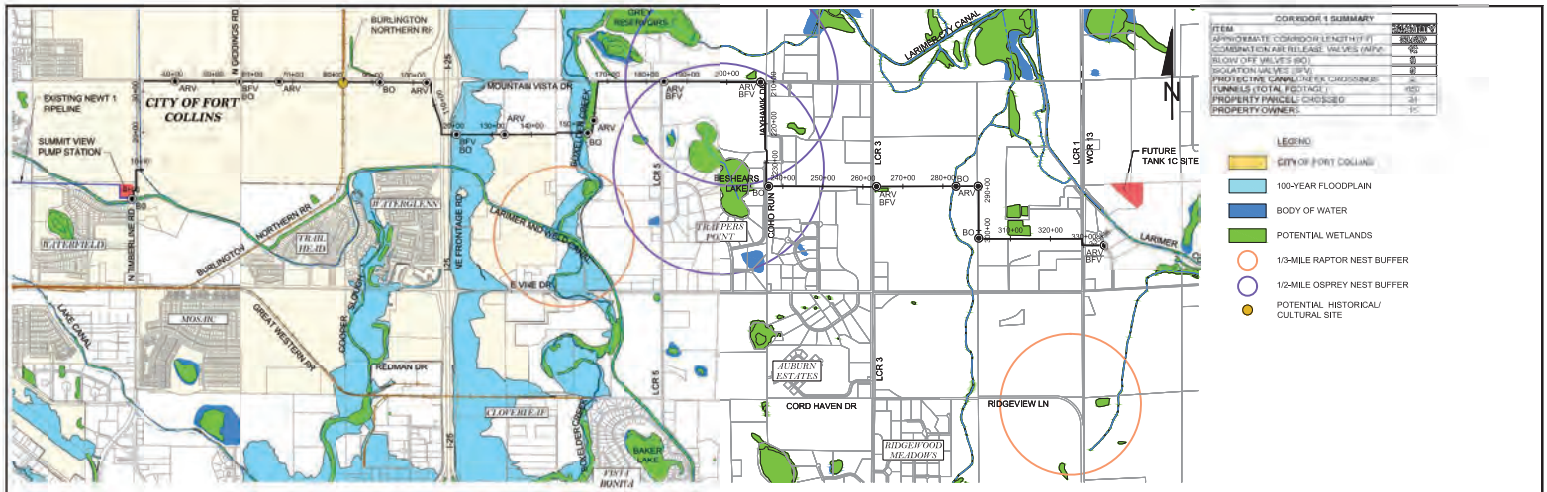
Rough Order of Magnitude Estimate (ROM)
North Weld County Water District - NEWT 3 Waterline
Great Western Railroad Corridor (C-4)
July 9, 2019

Item No	Description	Quantity	Unit	Unit Cost	Extension
	Cost of Work				***$ 11,289,285***
1	* Mobilization / General Conditions	1.00	LS	$ 192,034.14	$ 192,034
2	42" DIP Pipeline - Undeveloped Installation	26,700	LS	$ 237.36	$ 6,337,512
3	42" DIP Pipeline - Developed Installation	1,700	LF	$ 415.38	$ 706,146
4	Dewatering (15% of Alignment)	4,260	LF	$ 51.49	$ 219,338
5	Cathodic Protection	28,400	LF	$ 6.75	$ 191,700
6	Testing/Disinfection	28,400	LF	$ 1.35	$ 38,340
7	* Strip/Stockpile Topsoil/Clear & Grub	362,889	SY	$ 1.77	$ 642,313
8	42" BFV w/ Vault (Isolation)	5	EA	$ 73,010.28	$ 365,051
9	Blow-off Assembly	6	EA	$ 11,868.00	$ 71,208
10	CAV Assembly	9	EA	$ 11,953.56	$ 107,582
11	Protected Canal/Creek Crossings	4	EA	$ 19,320.00	$ 77,280
12	Tunneling (4, 8 shafts)	900	LF	$ 2,132.10	$ 1,918,890
13	R&R Gravel Road Crossings & Driveways	2	EA	$ 3,250.00	$ 6,500
14	R&R Asphalt Road Crossings	0	LF	$ 459.54	$ -
15	Seeding/Mulch	74.98	AC	$ 1,547.00	$ 115,989
16	Silt Fence	45,440	LF	$ 1.70	$ 77,248
17	Construction / Cattle Fence	11,360	LF	$ 2.85	$ 32,376
18	Vehicle Tracking Pad	4	EA	$ 3,840.00	$ 15,360
19	Erosion Blanket (25% of Disturbance)	9,072	SY	$ 1.90	$ 17,237
20	Erosion Control Maintainence	1.00	LS	$ 22,500.00	$ 22,500
21	FC, LC, and WC Permit Fees (Allowance)	1.00	LS	$ 15,000.00	$ 15,000
22	Materials/Compaction Testing	1.00	LS	$ 36,285.01	$ 36,285
23	Survey/Layout	1.00	LS	$ 38,378.38	$ 38,378
24	Traffic Control	1.00	LS	$ 20,933.66	$ 20,934
25	Misc. Fence & Other Repairs	1.00	LS	$ 5,582.31	$ 5,582
26	Pothole Existing Utilities	50.00	EA	$ 370.00	$ 18,500
	Performance and Payment Bond			0.80%	$ 90,314
	Contingency			25%	$ 2,822,321
	Contractor Markup			8%	$ 903,143
	Permitting, Engineering, and CM			6%	$ 677,357
				Total ROM Construction Cost	**$ 15,790,000**
PE	Permanent Easement (40') - 50% Value	26.1	AC	$ 7,500.00	$ 195,592
TCE	Temporary Easement (75') - 10% Value	48.9	AC	$ 1,500.00	$ 73,347
				Total ROM Easement Cost	**$ 270,000**
				Total ROM Budget Cost	**$ 16,100,000**

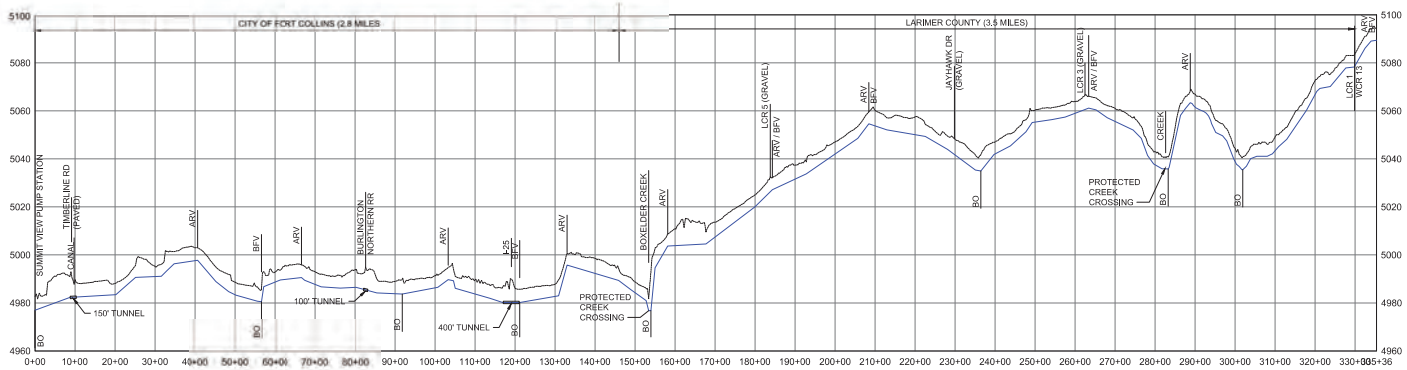
Rough Order of Magnitude Estimate (ROM)
North Weld County Water District - NEWT 3 Waterline
Larimer & Weld Canal Corridor (C-5)
July 9, 2019

Item No	Description	Quantity	Unit	Unit Cost	Extension
	Cost of Work				***$ 10,630,714***
1	* Mobilization / General Conditions	1.00	LS	$ 192,034.14	$ 192,034
2	42" DIP Pipeline - Undeveloped Installation	27,700	LS	$ 237.36	$ 6,574,872
3	42" DIP Pipeline - Developed Installation	600	LF	$ 415.38	$ 249,228
4	Dewatering (15% of Alignment)	4,245	LF	$ 51.49	$ 218,566
5	Cathodic Protection	28,300	LF	$ 6.75	$ 191,025
6	Testing/Disinfection	28,300	LF	$ 1.35	$ 38,205
7	* Strip/Stockpile Topsoil/Clear & Grub	361,611	SY	$ 1.77	$ 640,052
8	42" BFV w/ Vault (Isolation)	5	EA	$ 73,010.28	$ 365,051
9	Blow-off Assembly	8	EA	$ 11,868.00	$ 94,944
10	CAV Assembly	8	EA	$ 11,953.56	$ 95,628
11	Protected Canal/Creek Crossings	3	EA	$ 19,320.00	$ 57,960
12	Tunneling (4, 8 shafts)	700	LF	$ 2,132.10	$ 1,492,470
13	R&R Gravel Road Crossings & Driveways	2	EA	$ 3,250.00	$ 6,500
14	R&R Asphalt Road Crossings	0	LF	$ 459.54	$ -
15	Seeding/Mulch	74.71	AC	$ 1,547.00	$ 115,581
16	Silt Fence	45,280	LF	$ 1.70	$ 76,976
17	Construction / Cattle Fence	11,320	LF	$ 2.85	$ 32,262
18	Vehicle Tracking Pad	4	EA	$ 3,840.00	$ 15,360
19	Erosion Blanket (25% of Disturbance)	9,040	SY	$ 1.90	$ 17,177
20	Erosion Control Maintainence	1.00	LS	$ 22,500.00	$ 22,500
21	FC, LC, and WC Permit Fees (Allowance)	1.00	LS	$ 15,000.00	$ 15,000
22	Materials/Compaction Testing	1.00	LS	$ 36,157.25	$ 36,157
23	Survey/Layout	1.00	LS	$ 38,243.24	$ 38,243
24	Traffic Control	1.00	LS	$ 20,859.95	$ 20,860
25	Misc. Fence & Other Repairs	1.00	LS	$ 5,562.65	$ 5,563
26	Pothole Existing Utilities	50.00	EA	$ 370.00	$ 18,500
	Performance and Payment Bond			0.80%	$ 85,046
	Contingency			25%	$ 2,657,679
	Contractor Markup			8%	$ 850,457
	Permitting, Engineering, and CM			6%	$ 637,843
				Total ROM Construction Cost	**$ 14,870,000**
PE	Permanent Easement (40') - 50% Value	26.0	AC	$ 7,500.00	$ 194,904
TCE	Temporary Easement (75') - 10% Value	48.7	AC	$ 1,500.00	$ 73,089
				Total ROM Easement Cost	**$ 270,000**
				Total ROM Budget Cost	**$ 15,200,000**

APPENDIX C – CONCEPTUAL PLAN AND PROFILE DRAWINGS



CORRIDOR 1 PLAN
SCALE: 1"=1200'



CORRIDOR 1 PROFILE
SCALE: 1"=1200' H; 1"=20' V

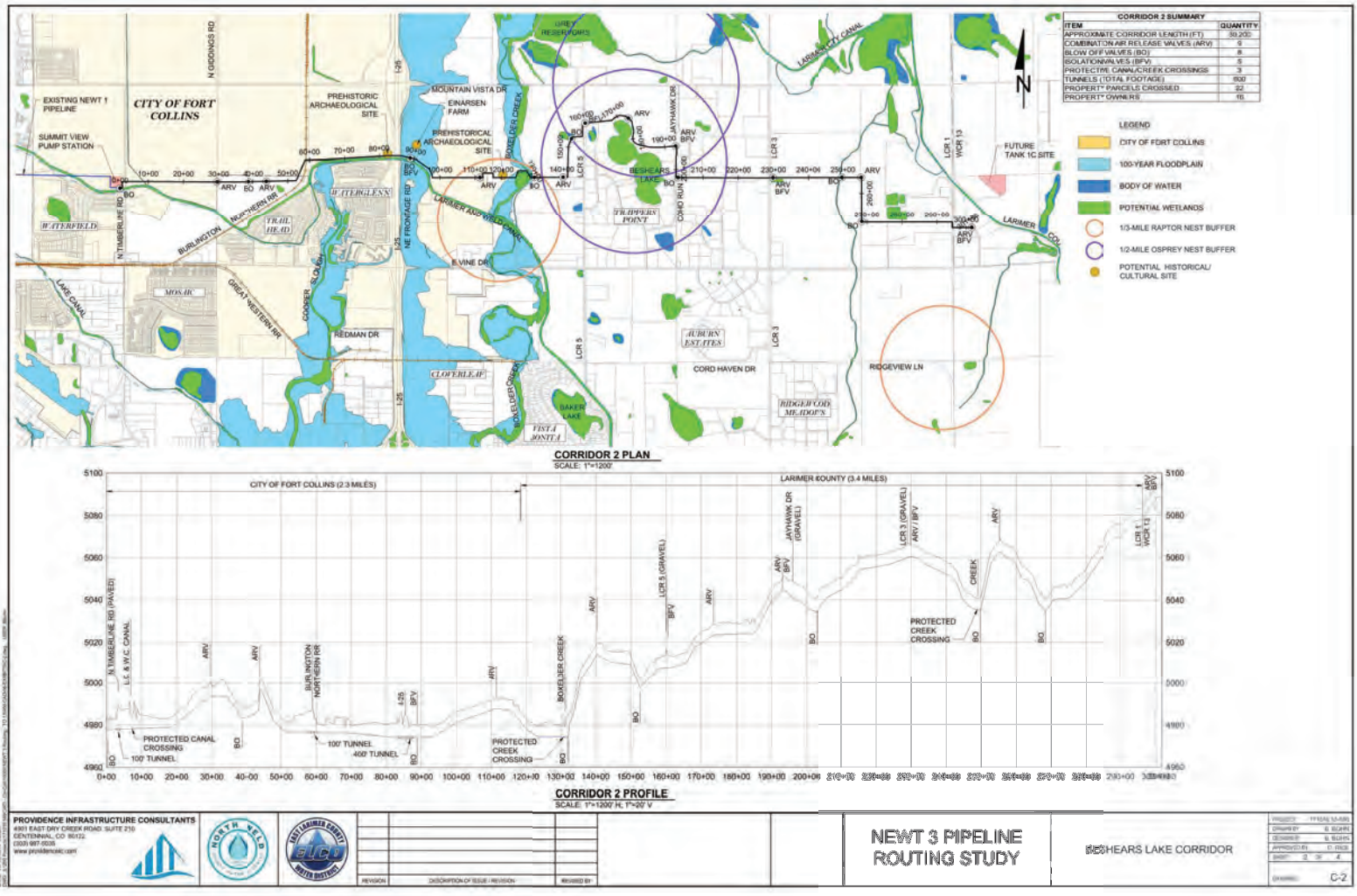
PROVIDENCE INFRASTRUCTURE CONSULTANTS
4901 EAST DRY CREEK ROAD, SUITE 210
CENTENNIAL, CO 80122
(303) 997-5035
www.providenceic.com

REVISION	DESCRIPTION OF ISSUE / REVISION	REVISED BY

NEWT 3 PIPELINE ROUTING STUDY

MOUNTAIN VISTA CORRIDOR

PROJECT:	17101IL13-006
DRAWN BY:	B. BOHN
DESIGNER:	B. BOHN
APPROVED BY:	D. RICE
SHEET:	1 OF 4
DRAWING:	C-1


CORRIDOR 2 SUMMARY
ITEM | QUANTITY
APPROXIMATE CORRIDOR LENGTH (FT) | 33,200
COMBINATION AIR RELEASE VALVES (ARV) | 9
BLOW OFF VALVES (BO) | 8
ISOLATION VALVES (BFV) | 5
PROTECTIVE CANAL/CREEK CROSSINGS | 3
TUNNELS (TOTAL FOOTAGE) | 500
PROPERTY PARCELS CROSSED | 22
PROPERTY OWNERS | 15
LEGEND
CITY OF FORT COLLINS
100-YEAR FLOODPLAIN
BODY OF WATER
POTENTIAL WETLANDS
1/3-MILE RAPTOR NEST BUFFER
1/2-MILE OSPREY NEST BUFFER
POTENTIAL HISTORICAL/ CULTURAL SITE
CITY OF FORT COLLINS
EXISTING NEWT 1 PIPELINE
SUMMIT VIEW PUMP STATION
PREHISTORIC ARCHAEOLOGICAL SITE
EINARSEN FARM
MOUNTAIN VISTA DR
BOXELDER CREEK
LARIMER AND WELD CANAL
LARIMER COUNTY CANAL
BESHEARS LAKE
TULIPPERS POINT
FUTURE TANK 1C SITE
WATERFIELD
WATERGLENN
TRAIL HEAD
NORTHERN INT
BURLINGTON
N TIMBERLINE RD
NE FRONTAGE RD
I-25
E VINE DR
REDMAN DR
GREAT WESTERN RR
COOPER SLOUGH
LAKE CANAL
MOSAIC
CLOVERLEAF
AUBURN ESTATES
CORD HAVEN DR
RIDGEVIEW LN
RIDGEBLOOD MEADOWS
BAKER LAKE
VISTA JOINT
LCR 1
LCR 3
LCR 5
LCR 13
WCR 13
N
CORRIDOR 2 PLAN
SCALE: 1"=1200'
CITY OF FORT COLLINS (2.3 MILES)
LARIMER COUNTY (3.4 MILES)
N TIMBERLINE RD (PAVED)
L.S. & W.C. CANAL
BURLINGTON NORTHERN RR
I-25
BOXELDER CREEK
LCR 5 (GRAVEL)
JAYHAWK DR (GRAVEL)
LCR 3 (GRAVEL)
LCR 1
WCR 13
CREEK
PROTECTED CANAL CROSSING
100' TUNNEL
400' TUNNEL
PROTECTED CREEK CROSSING
PROTECTED CREEK CROSSING
ARV
BFV
BO
CORRIDOR 2 PROFILE
SCALE: 1"=1200' H, 1"=20' V
PROVIDENCE INFRASTRUCTURE CONSULTANTS
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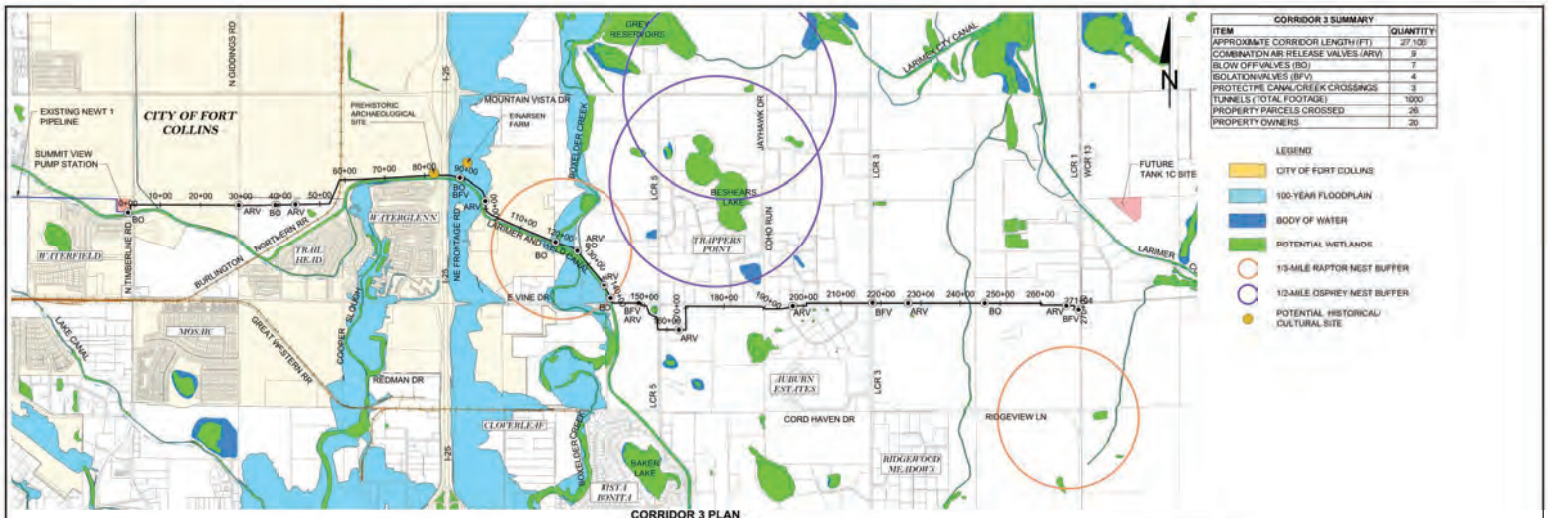
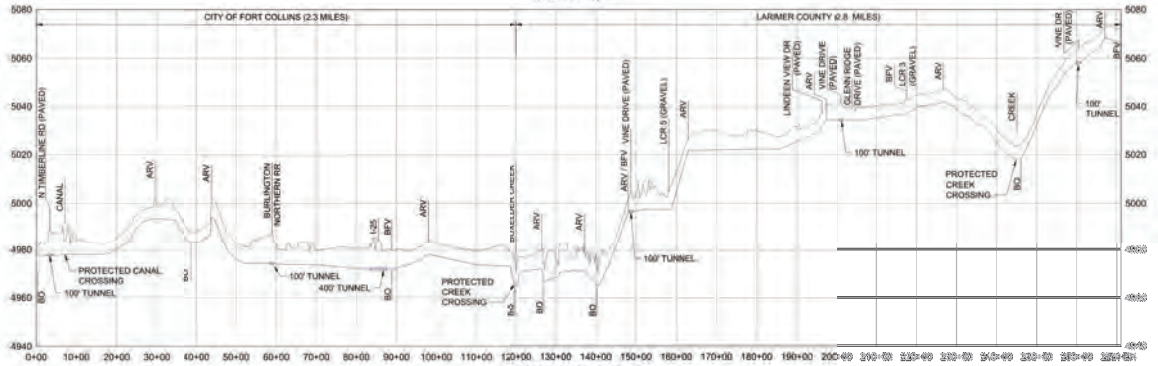
CENTENNIAL, CO 80122
(303) 987-0035
www.providenceic.com
NORTH WELD
EAST LARIMER COUNTY
ELCO WATER DISTRICT
NEWT 3 PIPELINE ROUTING STUDY
BESHEARS LAKE CORRIDOR
C-2



CORRIDOR 3 PLAN
SCALE: 1"=1200'



CORRIDOR 3 PROFILE
SCALE: 1"=1200' H; 1"=20' V

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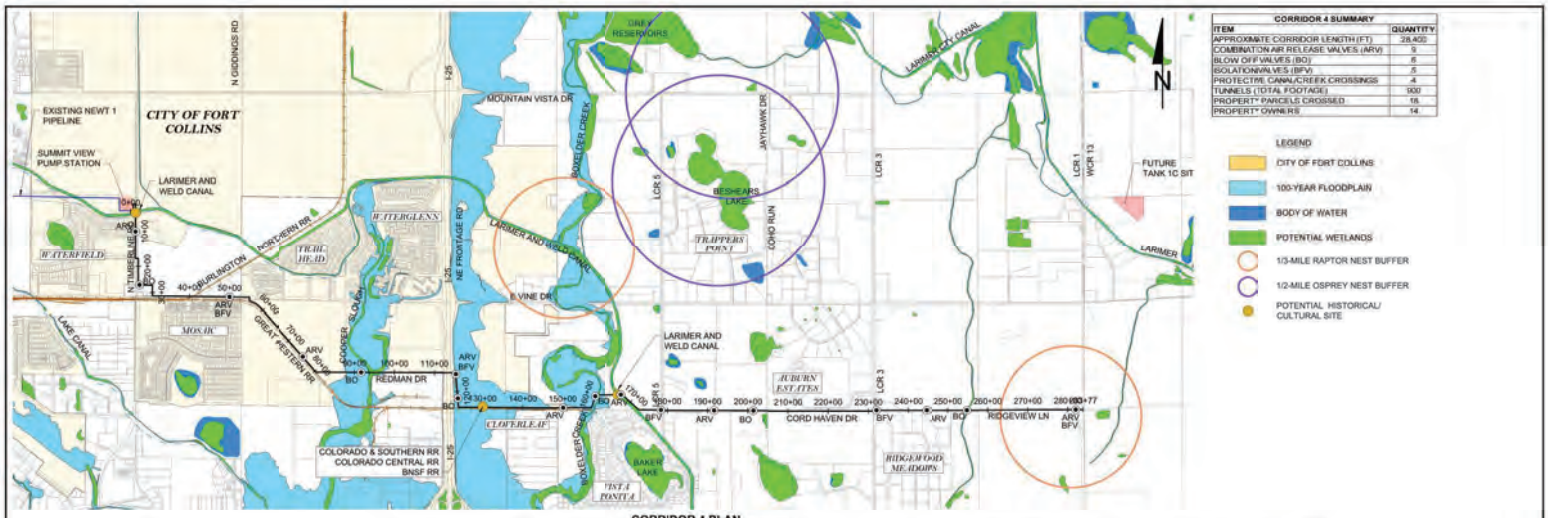
NEWT 3 PIPELINE ROUTING STUDY

E VINE DR CORRIDOR

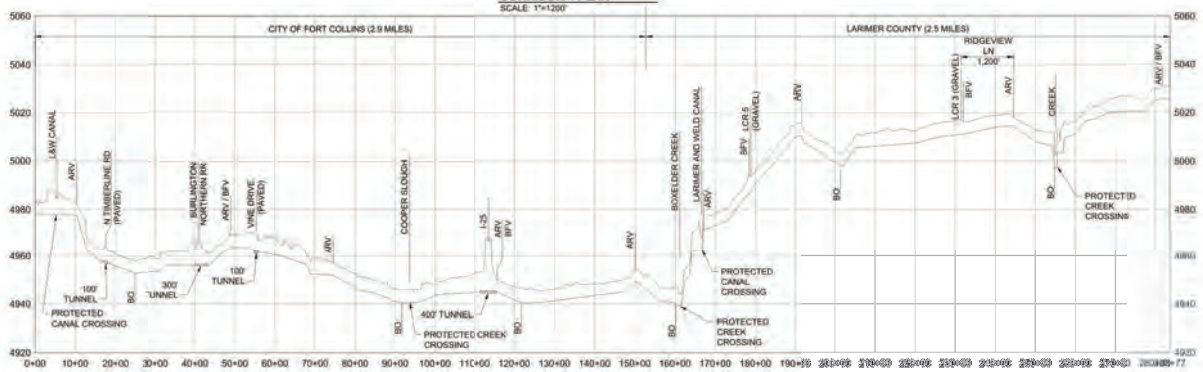
C-3



CORRIDOR 4 SUMMARY	
ITEM	QUANTITY
APPROXIMATE CORRIDOR LENGTH (FT)	28,400
COMBINATION AIR RELEASE VALVES (ARV)	9
BLOW OFF VALVES (BO)	6
ISOLATION VALVES (BFV)	5
PROTECTIVE CANAL/CREEK CROSSINGS	4
TUNNELS (TOTAL FOOTAGE)	900
PROPERTY PARCELS CROSSED	18
PROPERTY OWNERS	14

LEGEND
- CITY OF FORT COLLINS
- 100-YEAR FLOODPLAIN
- BODY OF WATER
- POTENTIAL WETLANDS
- 1/3-MILE RAPTOR NEST BUFFER
- 1/2-MILE OSPREY NEST BUFFER
- POTENTIAL HISTORICAL/ CULTURAL SITE

CORRIDOR 4 PLAN
SCALE: 1"=1200'



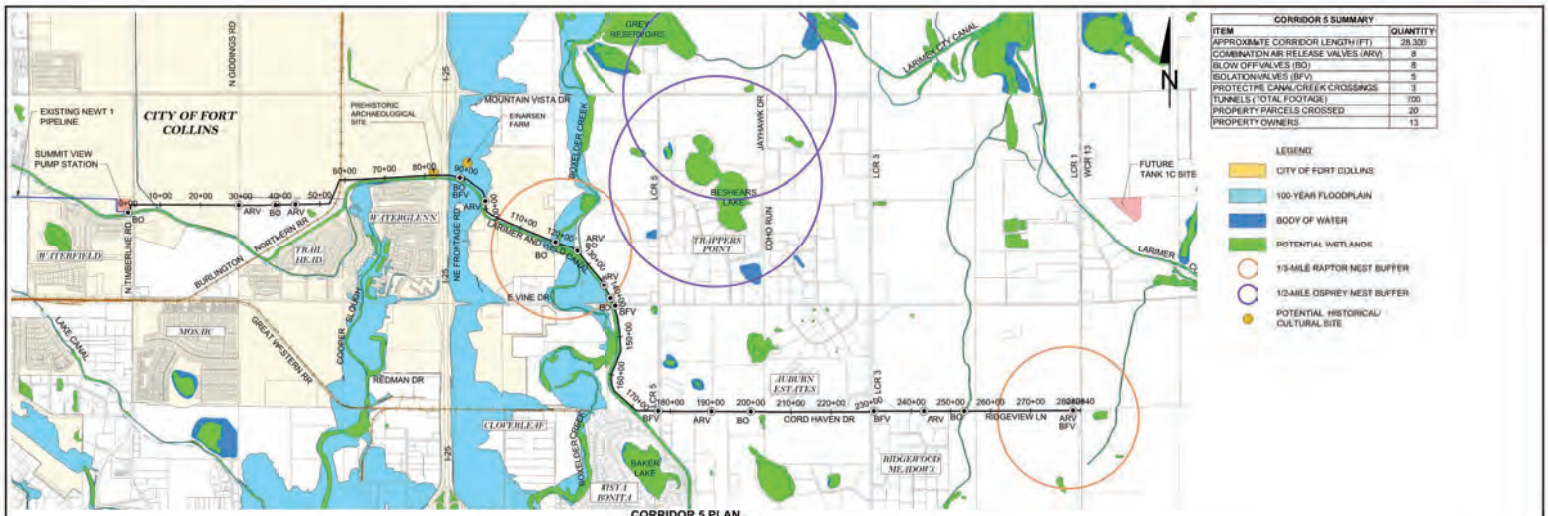
CORRIDOR 4 PROFILE
SCALE: 1"=1200' H; 1"=20' V

PROVIDENCE INFRASTRUCTURE CONSULTANTS
4901 EAST DRY CREEK ROAD, SUITE 210
CENTENNIAL, CO 80122
(303) 997-0035
www.providencellc.com

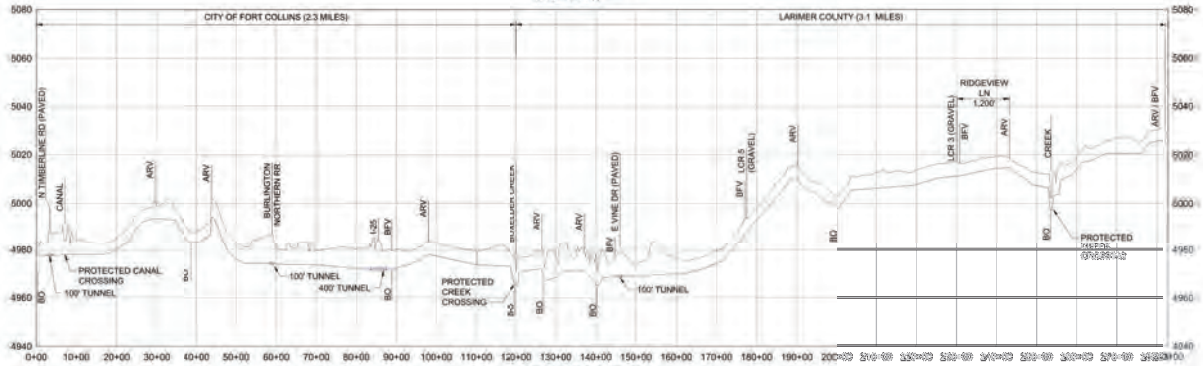
NEWT 3 PIPELINE ROUTING STUDY

GREAT WESTERN RAILROAD CORRIDOR

D-4



CORRIDOR 5 PLAN
SCALE: 1"=1200'



CORRIDOR 5 PROFILE
SCALE: 1"=1200' H; 1"=20' V

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NEWT 3 PIPELINE ROUTING STUDY

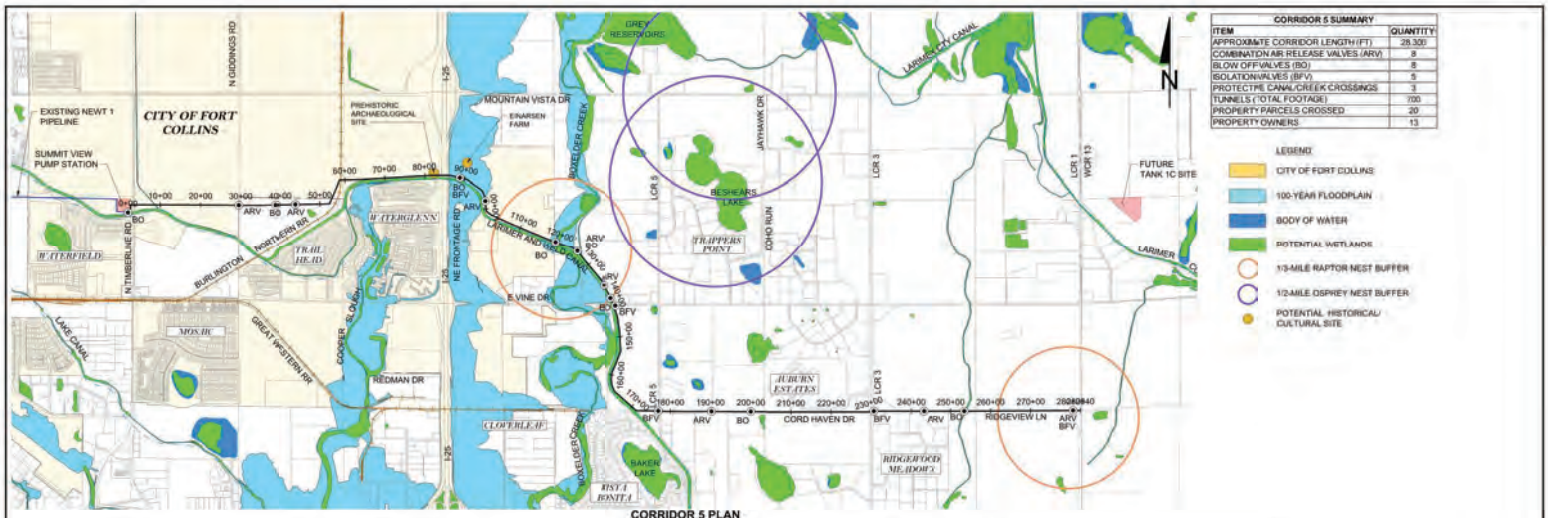
LARIMER AND WELD CANAL CORRIDOR

E-5

North Weld County Water District
32825 WCR 39
Lucerne, Colorado 80646

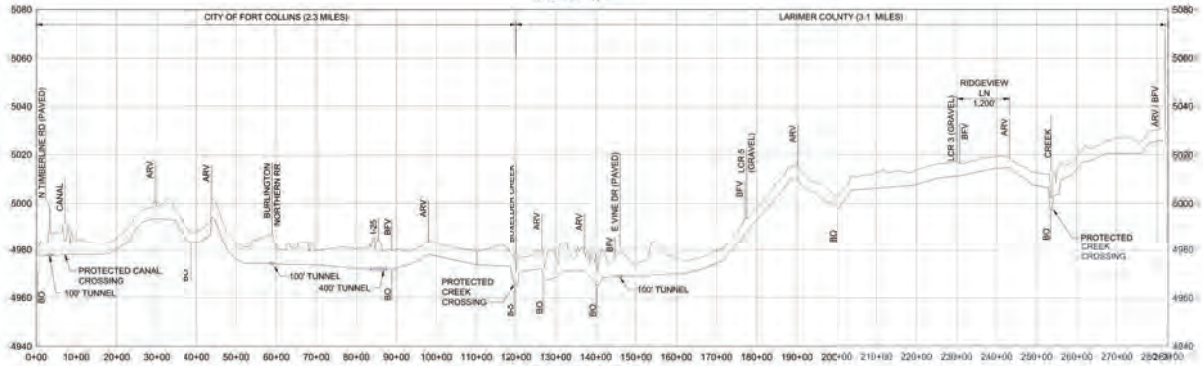
East Larimer County Water District
232 South Link Lane,
Fort Collins, Colorado 80524

APPENDIX C – CONCEPTUAL PLAN AND PROFILE AND APPURTENANCE DRAWINGS



CORRIDOR 5 SUMMARY	
ITEM	QUANTITY
APPROXIMATE CORRIDOR LENGTH (FT)	28,300
COMBINATION AIR RELEASE VALVES (ARV)	9
BLOW OFF VALVES (BO)	8
ISOLATION VALVES (BFV)	5
PROTECTED CANAL/CREEK CROSSINGS	3
TUNNELS (TOTAL FOOTAGE)	700
PROPERTY PARCELS CROSSED	20
PROPERTY OWNERS	13

CORRIDOR 5 PLAN
SCALE: 1"=1200'



CORRIDOR 5 PROFILE
SCALE: 1"=1200' H; 1"=20' V

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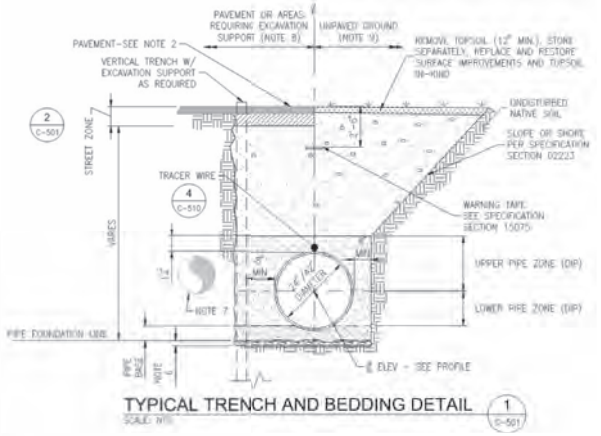
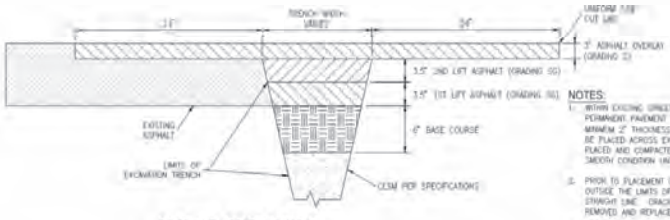
NEWT PIPELINE PHASE 3

CONCEPTUAL PLAN AND PROFILE



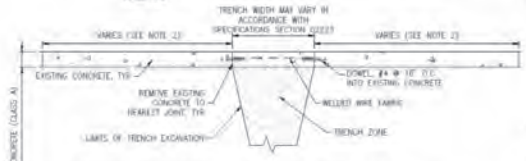
TYPICAL TRENCH AND BEDDING DETAIL 1 C-501

SCALE: NTS



STREET CROSSINGS

SCALE: NTS



CITY OF FORT COLLINS BIKE PATH CROSSINGS

PAVEMENT REPLACEMENT DETAIL 2 C-501

SCALE: NTS

NOTES:

1. WITHIN EXISTING STREETS, PARKING LOTS, AND DRIVEWAYS, UNTIL PERMANENT PAVEMENT IS REPLACED OVER A BACKFILLED TRENCH, A MINIMUM 2" THICKNESS OF TEMPORARY ASPHALT CONCRETE PAVING SHALL BE PLACED ACROSS EXCAVATED AREA. THE TEMPORARY PAVING SHALL BE PLACED AND COMPACTED IN SUCH A MANNER AS TO PROVIDE A SAFE AND SMOOTH CONDITION UNTIL PERMANENT PAVING IS IN PLACE.
2. PRIOR TO PLACEMENT OF PERMANENT PAVING, SAW CUT EXISTING PAVEMENT OUTSIDE THE LIMITS OF CONTRACTOR DISTURBED PAVEMENT TO A NEAT STRAIGHT LINE. CRACKED PAVEMENT ADJACENT TO THE TRENCH SHALL BE REMOVED AND REPLACED.
3. ALL EDGES OF EXISTING PAVEMENT BEING JOINED SHALL RECEIVE A TACK COAT OF ASPHALT EMULSION.
4. WHERE THE EDGE LINE OF THE PAVEMENT REMOVED FOR THE PIPELINE TRENCH EXCAVATION COMES WITHIN THREE(3) FEET OF THE OUTER EDGE OF THE PAVEMENT AGAINST THE GUTTER OR CURB FACE, THE EXISTING PAVING SHALL BE REMOVED TO THE GUTTER LINE OR CURB FACE AND THE PERMANENT PAVEMENT LAID TO THE GUTTER LINE OR CURB FACE.
5. WHERE THE EDGE LINE OF THE PAVEMENT REMOVED FOR THE PIPELINE TRENCH EXCAVATION IS MORE THAN THREE (3) FEET FROM THE GUTTER OR CURB FACE, SAW CUT EXISTING PAVING AT LEAST EIGHTEEN (18) INCHES BACK FROM THE EDGE OF THE TRENCH AND REMOVE THAT EXISTING PAVEMENT BEFORE PLACEMENT OF PERMANENT PAVING.
6. ROCK REFILL FOR OVER EXCAVATION IN POOR SOILS OR WHEN REQUIRED BY THE SPECIFICATIONS, SECTION 02223.
7. PROTECT EXISTING UTILITIES. LOCATION AND DEPTH VARIES. SEE PLANS FOR LOCATION AND DEPTH.
8. MATCH EXISTING PAVEMENT SURFACE, SLOPE TO DRAIN AWAY FROM TRENCH.
9. SLOPE FINISH GRADE AWAY FROM PIPELINE CENTERLINE.
10. SEE SECTION 02223 FOR MATERIALS IN TRENCH.
11. RELATIVE COMPACTION PER SPECIFICATIONS, SECTION 02223.
12. PATCH ROAD PAVEMENT AS SOON AS PIPELINE INSTALLATION IS COMPLETE. IF PERFORMED DURING WINTER MONTHS, REPLACE WITH TEMPORARY COLD PATCH AND THEN REPLACE WITH HOT ASPHALT IN THE SPRING.
13. HIGH-EARLY STRENGTH CONCRETE CAN BE USED FOR THE ENCASEMENT ACROSS THE CACHE LA POUDRE RIVER.

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4901 EAST DRY CREEK ROAD, SUITE 210
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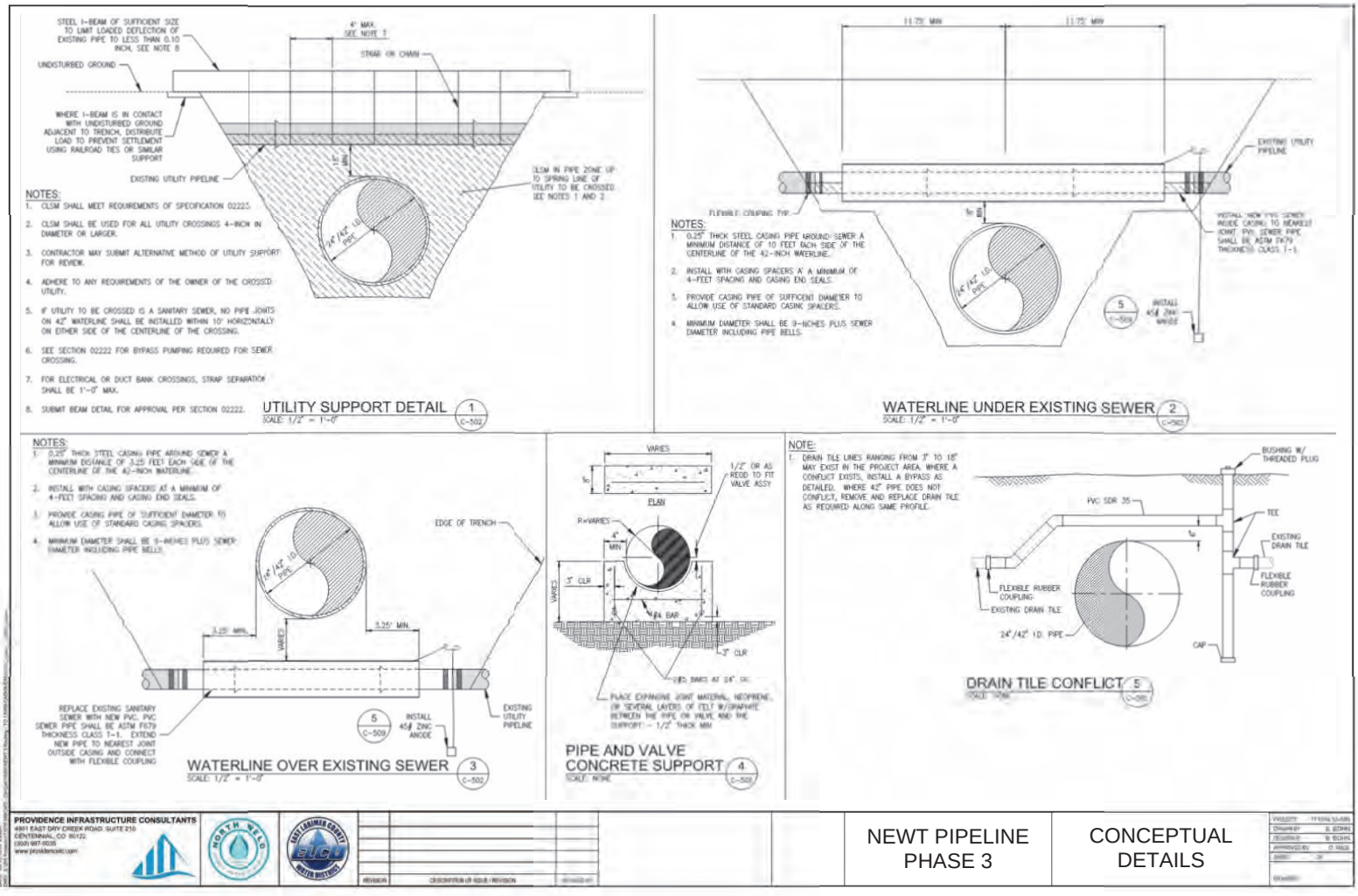
NEWT PIPELINE PHASE 3

CONCEPTUAL DETAILS



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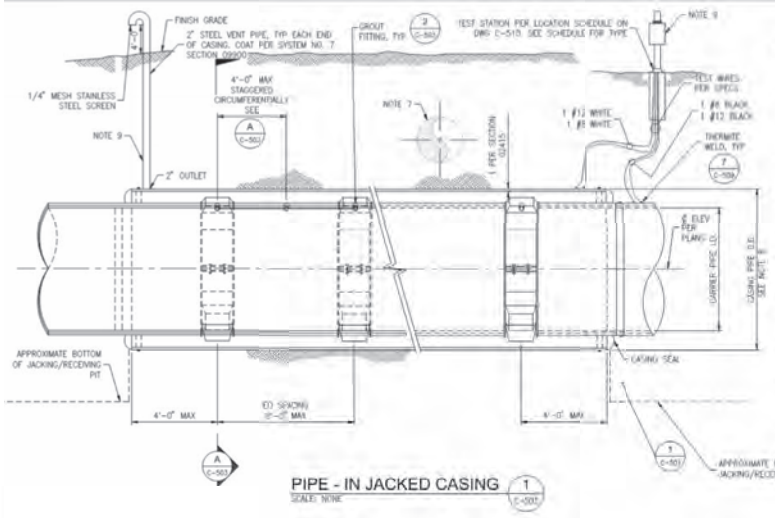
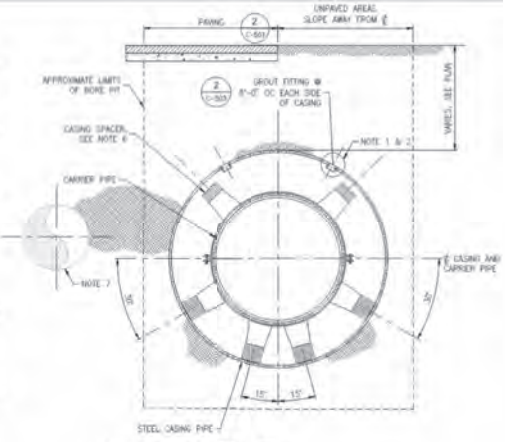
NEWT PIPELINE PHASE 3

CONCEPTUAL DETAILS

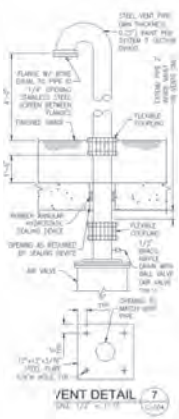


PIPE - IN JACKED CASING (1)
SCALE: NONE

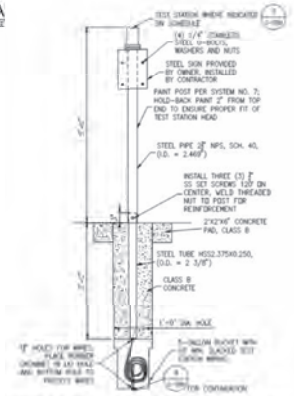
NOTES:
1. USE BENTONITE AS REQ'D TO REDUCE JACKING FORCE.
2. BLOCK INSIDE OF CASING AFTER INSTALLATION AND GROUT ALL VOIDS OUTSIDE OF CASING. MAXIMUM GROUT PRESSURE = 20 PSI. SEE SPECIFICATION SECTION 02415 FOR GROUTING DETAILS.
3. DIMENSIONS ARE IN INCHES, UNLESS OTHERWISE NOTED.
4. RESTRAIN DIP PRIOR TO PLACEMENT OF PIPE IN CASING.
5. FOR LOCATIONS OF PIPE IN JACKED STEEL CASING, SEE PLANS.
6. TYPE, NUMBER, AND SPACING OF CASING RUNNERS, PER CASING SPACER MANUFACTURER (MAY VARY FROM ILLUSTRATION).
7. PROTECT EXISTING BURIED UTILITIES IN PLACE. SIZE, DEPTH, AND LOCATION MAY VARY.
8. USE 60" CASING PIPE PER SPECIFICATION 02415.
9. VENT AND TEST STATION TO BE LOCATED OUT OF ROADWAY AT COLLEGE AVE CROSSING AND R/E R/W AT UPRR CROSSING
10. PERFORM GROUTING IMMEDIATELY UPON COMPLETION OF JACKING INSTALLATION



CA
SCALE



VENT DETAIL (7)



TEST STATION, ABOVE GROUND (AG) (3)
SCALE: NONE

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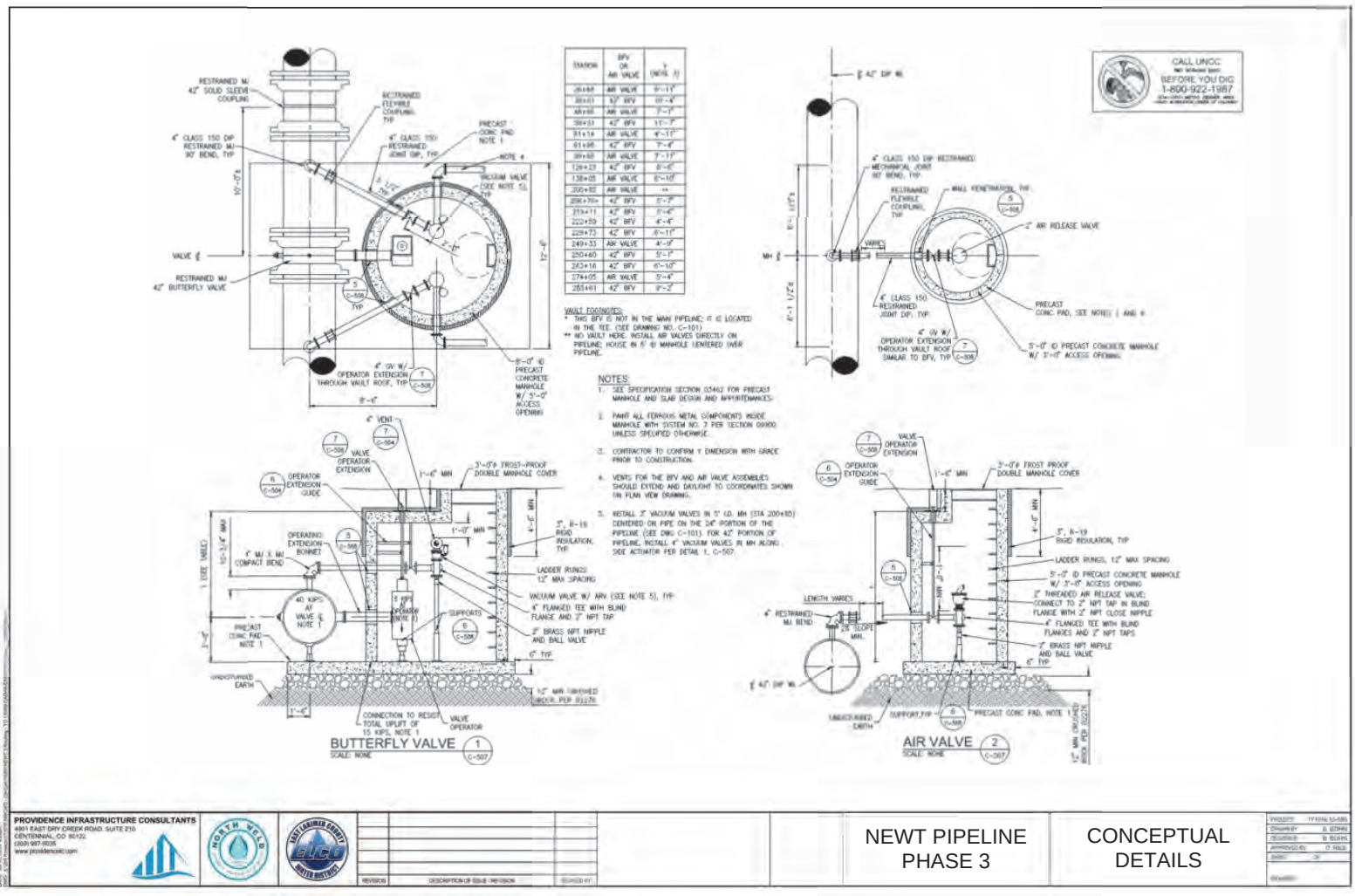
REVISION	DESCRIPTION OF ISSUE / REVISION	ISSUED BY

NEWT PIPELINE PHASE 3

CONCEPTUAL DETAILS



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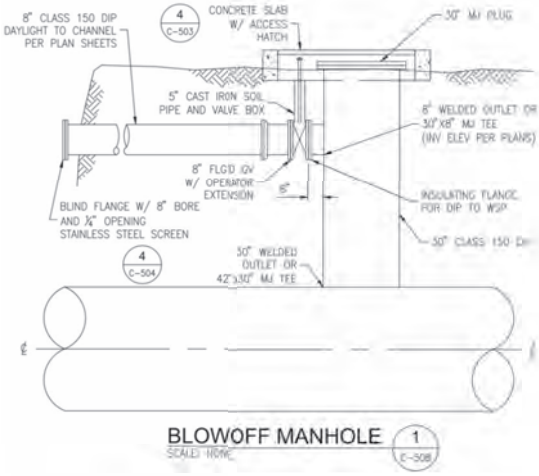
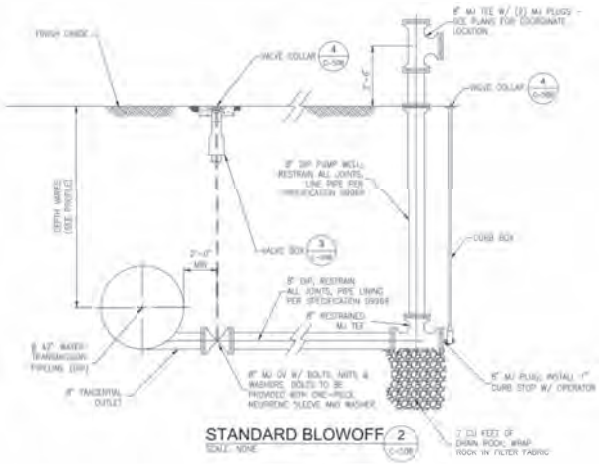
NEWT PIPELINE PHASE 3

CONCEPTUAL DETAILS





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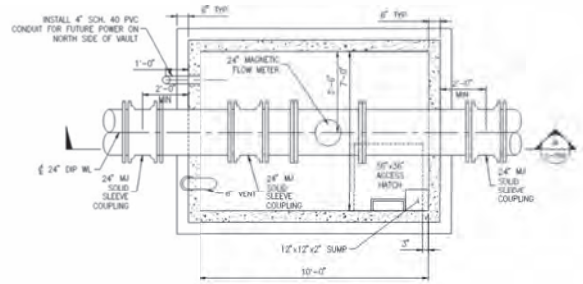
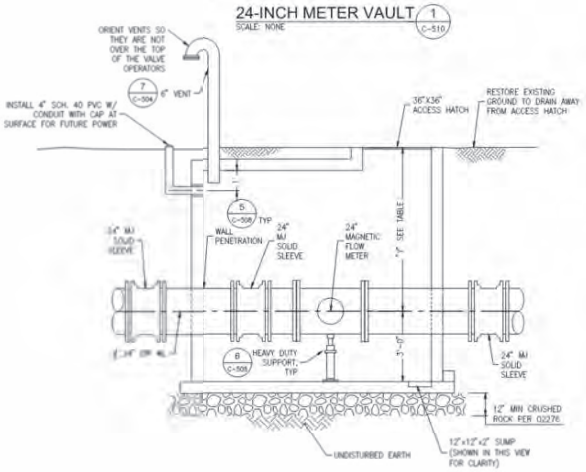
NEWT PIPELINE PHASE 3

CONCEPTUAL DETAILS



24-INCH METER VAULT (1 / C-510)
SCALE: NONE



SECTION (A / C-510)
SCALE: NONE

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NEWT PIPELINE PHASE 3

CONCEPTUAL DETAILS

APPENDIX D – NATURAL AND CULTURAL RESOURCES ASSESSMENT REPORT

ERO

Consultants in Natural Resources and the Environment

Natural and Cultural Resources Assessment
NEWT 3 Pipeline Routing Study
Larimer and Weld Counties, Colorado

Prepared for—

Providence Infrastructure Consultants
4901 East Dry Creek Road, Suite 210
Centennial, Colorado 80122

Prepared by—

ERO Resources Corporation
1842 Clarkson Street
Denver, Colorado 80218
(303) 830-1188
ERO Project #10291

March 5, 2020 (Revised from 2018 Study)

Contents

Tables

Figures

Appendices

Executive Summary

Providence Infrastructure Consultants (Providence) retained ERO Resources Corporation (ERO) to provide a natural resources assessment for five proposed alignments (Corridor 1, Corridor 2, Corridor 3, Corridor 4, and Corridor 5) for the NEWT 3 pipeline located in Larimer and Weld Counties, Colorado (study area). ERO preformed a desktop assessment of the alignments for wetlands and waters of the U.S., potential federally listed threatened and endangered species habitat, and other natural resources that might affect construction of the project, as well as a Class 1 cultural resource evaluation. Below is a summary of the resources found in the five alignments and recommendations or future actions necessary based on the current site conditions and regulations.

The natural resources and associated regulations described in this report are valid as of the date of this report and may be relied on for the specific use for which it was prepared by ERO under contract to Providence. Because of their dynamic natures, site conditions and regulations should be reconfirmed by a qualified consultant before relying on this report for a use other than that for which it was specifically prepared. A summary of potential effects from the pipeline corridors on natural resources is found in Table 1.

Wetlands and Other Waters of the U.S. — The study area contains potential wetlands or other potential waters of the U.S. Boxelder Creek, a perennial stream; Cooper Slough, an intermittent stream; one unnamed intermittent drainage (Drainage 1); Trappers Lake; two unnamed ponds (Unnamed Pond 1 and Unnamed Pond 2); the Larimer and Weld Canal; the Larimer County Canal; and an unnamed ditch with input into the Larimer and Weld Canal all occur within the study area and may be jurisdictional waters of the U.S. Impacts on these areas will require authorization under a Section 404 permit from the U.S. Army Corps of Engineers if any of the areas are determined jurisdictional. The project would likely be authorized under a Nationwide Permit for utility lines. ***If work is planned within these areas (such as constructing a trench), ERO recommends completing a wetland delineation.*** If no work is planned in these areas (i.e., the pipelines would be bored under these features), no action is necessary.

Threatened and Endangered Species — The study area may contain suitable habitat for the federally threatened Preble's meadow jumping mouse (Preble's) along Boxelder Creek, Cooper Slough, and the Larimer and Weld Canal, and suitable habitat for the federally threatened Ute ladies'-tresses orchid (ULTO) may occur along Boxelder Creek and Cooper Slough. Additionally, the project may have the potential to affect several federally listed threatened and endangered species in Nebraska due to potential depletions in the South Platte River Basin, including the interior least turn, piping plover, whooping crane, pallid sturgeon, and Western prairie fringed orchid. ***Further evaluation of habitat potential is needed and consultation with U.S. Fish and Wildlife Service (Service) may be necessary regarding threatened and endangered species if there is a federal nexus.***

Prairie Dogs – The study area may contain black-tailed prairie dog colonies, but the presence of prairie dog colonies could not be confirmed during the desktop assessment. ***Ground assessment for prairie dog colonies is recommended. If prairie dog removal becomes necessary, Colorado Parks and Wildlife (CPW) recommends removing them in a humane manner before any earthwork or construction takes place***.

Burrowing Owls — Burrowing owls could be impacted by the project if work would occur within the CPW-recommended 150-foot buffer of any prairie dog burrows (Colorado Division of Wildlife 2008). ***If work would occur within the recommended buffer of any burrow during the breeding season (March through October), a burrowing owl survey should be conducted.*** If owls are present in the study area,

activities should be restricted within 150 feet of nest burrows until the owls have migrated from the site, which can be determined through monitoring.

Migratory Birds —During the 2020 desktop assessment, ERO noted several raptor nests mapped within ½ mile of the study area including nests previously occupied by osprey and Swainson's hawk. Additionally, trees suitable for nesting raptors occur in the study area, and the uplands in the study area provide suitable nesting habitat for ground-nesting migratory bird species. Both the Denver Field Office of the Service (2009) and Colorado Department of Transportation (2011) have identified the primary nesting season for migratory birds in eastern Colorado as occurring between April 1 and mid to late August. However, some birds, such as bald eagles, red-tailed hawks, and great horned owls, can occupy nests as early as December. Because of variability in the breeding seasons of various bird species, ***ERO recommends, at a minimum, a nest survey be conducted within one week prior to construction*** to determine if any active nests are present in the study area so they can be avoided. If active nests are found, any work that would destroy the nests could not be conducted until the birds have vacated the nests.

Other Wildlife — The study area falls within CPW mapped overall range for black bear, bull snake, mountain lion, mule deer, western rattlesnake, and white-tailed deer (CPW 2019). As with any human development, wildlife species sensitive to human disturbance are likely to decline in abundance or abandon the area, while other wildlife species adapted to development are likely to increase in abundance.

Cultural Resources – Previously conducted cultural resource surveys overlap about 30 percent of the overall study area, and 24 previously documented cultural resources are in the study area, including several National Register of Historic Places (NRHP)-eligible irrigation ditches and a railroad. A review of public records and historical maps also demonstrates numerous historical agricultural and residential properties and irrigation structures within the study area have not been previously evaluated. ERO's Class I cultural resource review demonstrates that historical structural resources are common throughout the study area and that there is low potential for pre-contact archaeological sites to be present in the study area due to ongoing cultivation and residential and highway construction. ERO recommends aligning the proposed pipeline within areas of modern disturbance and existing rights-of-way to avoid impacts on any archaeological resources or historical structure. In the event a federal or state agency becomes involved in the project, the agency may require consultation with the State Historic Preservation Officer on potential project effects on resources eligible or listed in the NRHP.

Table 1. Summary of natural resources potentially affected by each alignment.

Natural Resource	Corridor 1	Corridor 2	Corridor 3	Corridor 4	Corridor 5
Boxelder Creek - Number of Crossings/Areas Affected	1	1	1	1	1
Cooper Slough - Number of Crossings/Areas Affected	0	0	0	1	0
Drainage 1 - Number of Crossings/Areas Affected	1	1	1	1	1
Larimer and Weld Canal - Number of Crossings/Areas Affected	0	0	0	2	0
Unnamed Ditch - Number of Crossings/Areas Affected	1	1	1	1	1
Larimer County Canal - Number of Crossings/Areas Affected	1	1	0	0	0

Natural Resource	Corridor 1	Corridor 2	Corridor 3	Corridor 4	Corridor 5
Trappers Lake - Number of Crossings/Areas Affected	0	1	0	0	0
Unnamed Pond 1 - Number of Crossings/Areas Affected	0	1	0	0	0
Unnamed Pond 2 - Number of Crossings/Areas Affected	0	0	0	1	Yes
Potential Preble's Habitat	Yes	Yes	Yes	Yes	Yes
Potential ULTO Habitat	No	Yes	Yes	Yes	Yes
Potential to Affect Depletion Species	Yes	Yes	Yes	Yes	Yes
Black-Tailed Prairie Dog Colony Present	Possible	Possible	Possible	Possible	Possible
Potential Raptor Nests Present	Yes, within ½-mile buffer zone	Yes, within ½-mile buffer zone	Yes, within ½-mile buffer zone	Yes, within ½-mile buffer zone	Yes, within ½-mile buffer zone

Natural and Cultural Resources Assessment
NEWT 3 Pipeline Routing Study
Larimer and Weld Counties, Colorado

March 5, 2020

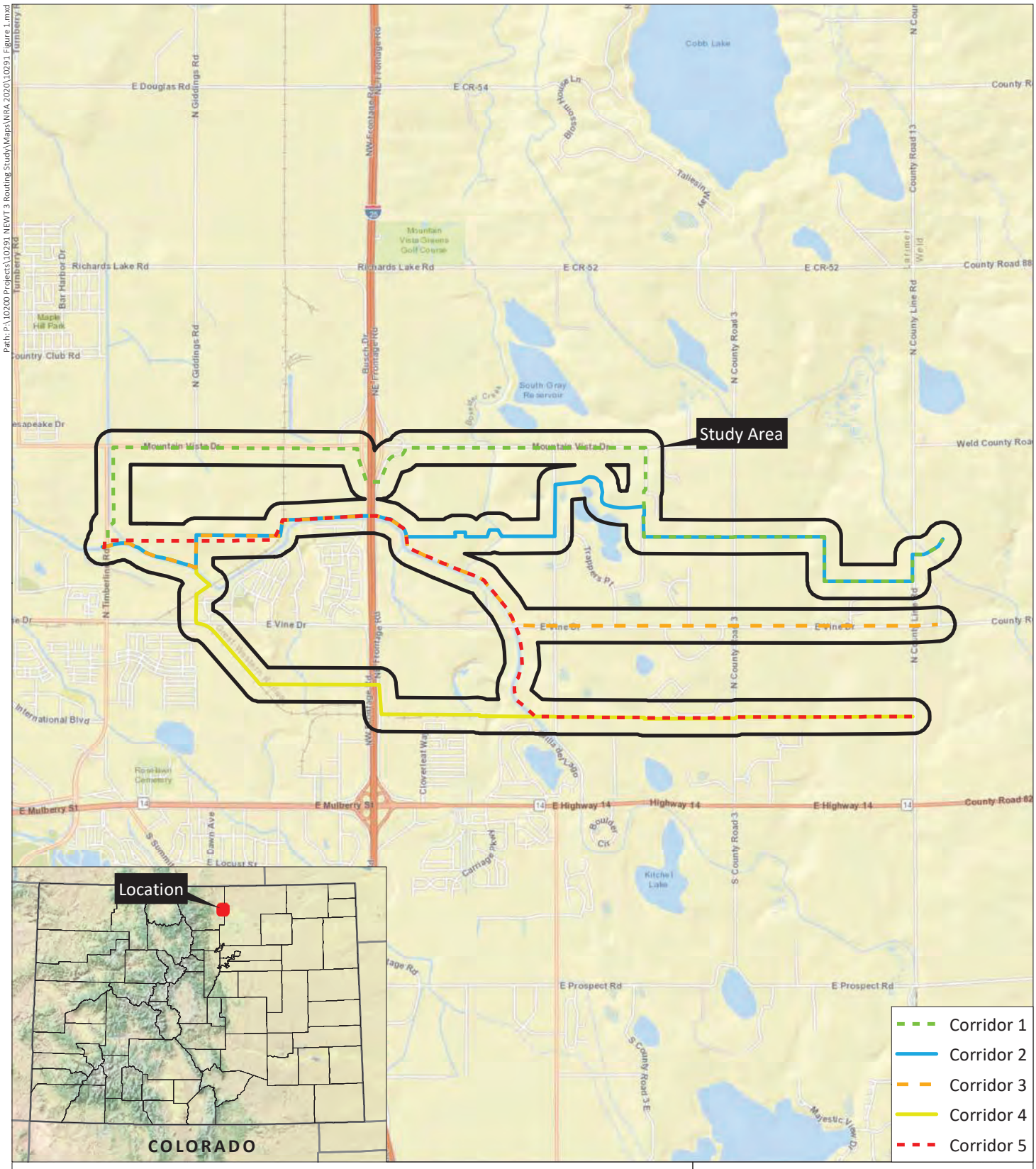
Introduction

Providence Infrastructure Consultants retained ERO Resources Corporation (ERO) to provide a desktop natural and cultural resources assessment for five proposed pipeline corridor alternatives located adjacent to Interstate 25 northeast of Fort Collins in Larimer and Weld Counties, Colorado (study area). On March 2, 2020, Heidi Gerstung with ERO evaluated the study area to review potential natural resources (2020 desktop assessment). During this assessment, activities included evaluation of potential wetlands and waters, identification of potential federally listed threatened and endangered species habitat, and identification of other natural resources that might affect development of the study area. ERO also completed a cultural resources Class I inventory of the study area. This report provides information on existing site conditions and resources, as well as current regulatory requirements related to those resources. ERO assumes the landowner or project proponent is responsible for obtaining all federal, state, and local permits for construction of the project.

Study Area Description

The study area is in Sections 32-35, Township 8 North, Range 68 West; Sections 1-12, Township 7 North, Range 68 West; and Sections 6 and 7, Township 7 North, Range 67 West of the 6th Principal Meridian in Larimer and Weld Counties, Colorado (Figure 1). The UTM coordinates of the approximate center of the study area are NAD 83 501210mE, 4494319mN, Zone 13 North. The longitude/latitude of the study area is 104.985696°W/40.599678°N. The elevation of the study area is approximately 5,000 feet above sea level.

The study area for wetlands and cultural resources consists of a 500-foot-wide corridor centered on each of five proposed pipeline routes (Corridor 1, Corridor 2, Corridor 3, Corridor 4, and Corridor 5) that run from just west of North Timberline Drive in Larimer County east through the surrounding agricultural and residential areas to just east of County Line Road in Weld County. The study area for threatened and endangered species habitat and raptor nests consists of areas within ½ mile of the proposed corridors.



NEWT 3 Pipeline Routing Study

Sections 32-35, T8N, R68W; Sections 1-12, T7N, R68W; Sections 6-7, T7N, R67W; 6th PM
UTM NAD 83: Zone 13N; 501210mE, 4494319mN
Longitude 104.985696°W, Latitude 40.599678°N
USGS Fort Collins and Timnath, CO Quadrangles
Larimer and Weld Counties, Colorado

0 2,000 4,000 Feet

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Figure 1
Vicinity Map

Prepared for: Providence Infrastructure Consultants
File: 10291 Figure 1.mxd (WH)
March 5, 2020

ERO Resources Corp.

The five pipeline corridors all begin just west of North Timberline Drive on the north side of the Larimer and Weld Canal in Larimer County. From its western end, Corridor 1 heads north on the east side of North Timberline Drive. Corridor 1 then turns east along Mountain Vista Drive (County Road 50) to cross Interstate 25 and Box Elder Creek. Corridor 1 then heads south at Jayhawk Drive for ½ mile, east across North County Road 3, Drainage 1, and around a cattle operation to end just east of County Line Road and the Larimer County Canal. Corridors 2, 3, and 5 all head east from the western end of the study area along the north side of the Larimer and Weld Canal. Corridors 2, 3, and 5 then head north and east to cross the railroad tracks and Interstate 25. East of Interstate 25, Corridor 2 heads east around a power transformer and Unnamed Pond 1, and then turns north just after crossing County Road 5. Corridor 2 then continues east and south to go around Trappers Lake. At Jayhawk Drive/Coho Run, Corridor 2 follows the same path as Corridor 1 to end just east of County Line Road after crossing Drainage 1 and the Larimer County Canal. East of Interstate 25, Corridor 3 and Corridor 5 continue southeast along the Larimer and Weld Canal. Corridor 3 then turns east along East Vine Drive and ends just west of County Line Road. Corridor 5 continues south along the Larimer and Weld Canal before turning east to follow the same route as the eastern portions of Corridor 4. From the western origin of all five routes, Corridor 4 heads southeast to cross the Larimer and Weld Canal before the railroad tracks northwest of Wagon Trail Road and East Vine Drive, and then heads south-southeast along the railroad tracks before turning east to cross Coopers Slough and parallel Redman Drive. Corridor 4 then heads east across Interstate 25, Boxelder Creek, and the Larimer and Weld Canal. Just east of the Larimer and Weld Canal, the Corridor 4 and Corridor 5 routes follow the same route east across County Road 5, Unnamed Pond 2, County Road 3, and Drainage 1 to end at County Line Road.

Corridor 1 is approximately 6.4 miles long, Corridor 2 is approximately 6.1 miles long, and Corridors 3, 4, and 5 are each about 5.2 miles long. All five pipeline corridors cross undeveloped upland lots, agricultural fields, canals, paved roads, and Interstate 25. Boxelder Creek occurs in the center of the study area with all five corridors crossing the creek. One unnamed drainage occurs in the eastern portion of the study area (Drainage 1) and Cooper Slough is in the western portion of the study area. The Larimer and Weld Canal occurs at the western end of all five corridors, and throughout much of the study area, and the Larimer County Canal occurs in the study area at the eastern end of Corridors 1 and 2. Several mapped raptor nests occur in the study area and trees suitable for nesting raptors occur throughout.

Wetlands and Waters of the U.S.

Background

The Clean Water Act (CWA) protects the physical, biological, and chemical quality of waters of the U.S. The U.S. Army Corps of Engineers' (Corps) Regulatory Program administers and enforces Section 404 of the CWA. Under Section 404, a Corps permit is required for the discharge of dredged or fill material into wetlands and other waters of the U.S. The Corps defines waters of the U.S. as "all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters."

On May 31, 2016, the U.S. Supreme Court concluded that approved jurisdictional determinations are judicially reviewable under the Administrative Procedure Act and, therefore, can be appealed in court. The Corps has recommended that requests for both approved and preliminary jurisdictional determinations be done using guidance outlined in Regulatory Guidance Letter (RGL) 16-01 and that the form in Appendix 1 of the RGL be completed (Corps 2016). The Corps has indicated that jurisdictional determinations associated with a Section 404 CWA permit request will preside over stand-alone jurisdictional determination requests. While ERO may provide its opinion on the likely jurisdictional status of wetlands and waters, the Corps makes the final determination.

Study Area Conditions

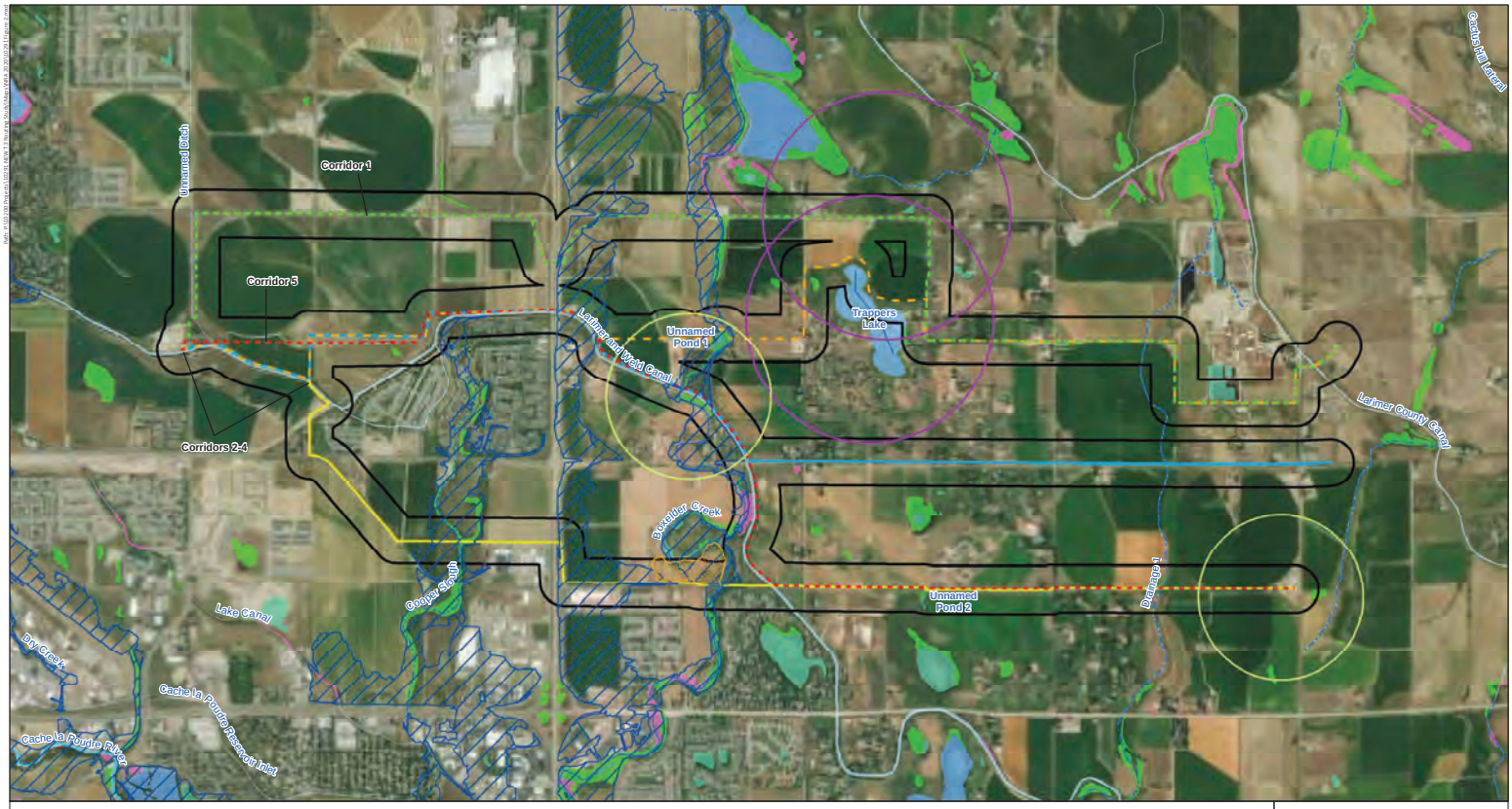
ERO performed a desktop assessment of the study area for isolated wetlands, jurisdictional wetlands, and other waters of the U.S. Below are descriptions of the potential waters of the U.S. found in the study area.

Boxelder Creek

Boxelder Creek is a perennial stream flowing north to south through the center of the study area (Figure 2). Boxelder Creek flows into the Cache la Poudre River, which has a connection to the South Platte River, a known water of the U.S. Due to its connection to a water of the U.S., Boxelder Creek will be considered a jurisdictional water of the U.S. by the Corps. All five corridor alignments cross Boxelder Creek, but Corridor 1 crosses Mountain Vista Drive in an area that has previously been disturbed. Based on a review of the aerial imagery, potential wetlands could be present adjacent to Boxelder Creek at several locations in the study area including near the proposed crossing of Corridors 2, 3, 4, and 5.

Cooper Slough

Cooper Slough is an intermittent stream originating within the study area that flows north to south in the southwestern portion of the study area (Figure 2). Only the Corridor 4 alignment crosses Cooper Slough. Cooper Slough flows into Lake Canal and the Cache la Poudre Reservoir Inlet, which flow into Timnath Reservoir. Timnath Reservoir has several ditch and canal outlets that feed into other ditches and reservoirs. Many irrigation ditches have surface return flows to jurisdictional waters of the U.S. In these cases, the ditches are jurisdictional because they convey flows from one jurisdictional water to another. Ditches with water originating from Cooper Slough may have return flows to a jurisdictional water of the U.S. and, therefore, may be jurisdictional; further investigation is necessary to determine its jurisdictional status. Based on a review of the aerial imagery and National Wetland Inventory (NWI) data, a freshwater emergent wetland is present in the study area at the proposed crossing of Cooper Slough by Corridor 4.



NEWT 3 Pipeline Routing Study

- Corridor 1
- Corridor 2
- Corridor 3
- Corridor 4
- Corridor 5
- Stream/River
- Stream/River: Intermittent
- Stream/River: Perennial
- 100-Year Floodplain

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- 1/3-Mile Raptor Nest Buffer
- 1/2-Mile Osprey Nest Buffer (CPW 2019)
- Potential Prairie Dog Colony
- Study Area/Area of Potential Effect

Image Source: USDA-FS-AFPO NAIP 8/3/2019

0 1,000 2,000 feet

N

Figure 2
Existing Conditions

Prepared for: Providence Infrastructure Consultants
File: 10291 Figure 2.mxd (WH)
March 5, 2020

ERO Resources Corp.

Drainage 1

An unnamed intermittent drainage is shown by the National Hydrography Dataset (NHD) to occur in the east end of the study area (Drainage 1) (Figure 2). All five proposed alignments cross Drainage 1. In the NHD, Drainage 1 is shown as originating from lands adjacent to the Larimer County Canal and the cattle operation northwest of East Vine Drive and County Line Road, then flows south through agricultural lands and connects to the Larimer and Weld Canal south of Corridor 4 (Figure 2). The aerial imagery shows Drainage 1 does not appear to have characteristics of a water of the U.S. at its northern extent and may not have a surface connection to the Larimer and Weld Canal, which has a surface connection to the South Platte River, a known water of the U.S. Further investigation is necessary to determine the jurisdictional status of Drainage 1.

Larimer and Weld Canal

The Larimer and Weld Canal is located within a major portion of the study area and the five proposed pipeline corridor alternatives begin their western extent at the Larimer and Weld Canal, just west of North Timberline Road. The Larimer and Weld Canal originates from the Cache la Poudre River, approximately 4 miles west of the study area and flows through the study area and then southeast into Windsor Reservoir where it becomes Eaton Ditch. Eaton Ditch continues east with many inlets and outflows along its path toward Owl Creek, which flows into Lone Tree Creek, and eventually the South Platte River, a known water of the U.S. Due to its connection to the South Platte River, the Larimer and Weld Canal would likely be considered a jurisdictional water of the U.S. by the Corps.

Unnamed Ditch

An unnamed ditch with input into the Larimer and Weld Canal is located near the western end of the corridor alignments. All five proposed alignments cross the Unnamed Ditch. Due to its connection with the Larimer and Weld Canal, which has a connection to the South Platte River, the Unnamed Ditch would likely be considered a jurisdictional water of the U.S. by the Corps.

Larimer County Canal

The Larimer County Canal is in the northeastern most portion of the study area. Corridors 1 and 2 cross the Larimer County Canal at their eastern extents. The Larimer County Canal originates from the Cache la Poudre River, approximately 9 miles northwest of the study area, near Laporte, Colorado. From its origin, the Larimer County Canal flows northeast toward Wellington and crosses Interstate 25, where it flows toward the eastern extent of the study area near East Vine Drive and County Line Road. After leaving the study area, the Larimer County Canal flows east to become the Pierce Lateral. Ditches originating from the Larimer County Canal may have return flows to a jurisdictional water of the U.S. and, therefore, may be jurisdictional; further investigation is necessary to determine its jurisdictional status.

Trappers Lake

Trappers Lake is located in the center of the study area, southeast of Mountain Vista Drive and North County Road 5. Corridor 2 is located near this lake and its associated potential wetlands. The NWI data

show a freshwater emergent wetland near this lake. After reviewing the NHD, it does not appear that Trappers Lake has a surface connection to a known water of the U.S., and the lake and associated wetlands may not be considered jurisdictional by the Corps, but further investigation is necessary to determine its jurisdictional status.

Unnamed Pond 1

An unnamed pond with associated wetlands is located west of North County Road 5, near the Corridor 2 crossing of Boxelder Creek, just north of where the creek crosses the Larimer and Weld Canal. Only Corridor 2 crosses near Unnamed Pond 1. This feature is shown on the NWI as a freshwater pond and freshwater emergent wetland. Due to its adjacency and likely connection to Boxelder Creek, this pond and the associated wetlands would likely be considered a jurisdictional water of the U.S. by the Corps.

Unnamed Pond 2

An unnamed pond with associated wetlands is located northeast of the Boulder Avenue and East Mulberry Street junction. Only Corridors 4 and 5 cross near Unnamed Pond 2. This feature is shown on the NWI as a freshwater pond and freshwater emergent wetland but is not shown on the NHD. The aerial imagery shows this pond does not appear to have a surface connection to a jurisdictional water of the U.S., but further investigation is necessary to determine its jurisdictional status.

Potential Effects

Corridor 1

Near the western end of the proposed route, Corridor 1 begins at the Larimer and Weld Canal and crosses the Unnamed Ditch with input into the Larimer and Weld Canal east of North Timberline Road. Corridor 1 also crosses Boxelder Creek east of Interstate 25 along Mountain Vista Drive, but at the existing Mountain Vista Drive culvert and associated structures. Corridor 1 crosses Drainage 1 north of East Vine Drive in agricultural fields; however, from a review of the aerial imagery, there does not appear to be wetlands or other characteristics of a water of the U.S. in this location. Further investigation is necessary to confirm whether the drainage contains characteristics of a water of the U.S. within the study area. Corridor 1 crosses the Larimer County Canal near the eastern end of the proposed route.

Corridor 2

From its western start at the Larimer and Weld Canal, Corridor 2 crosses the Unnamed Ditch and continues east along the north side of the Larimer and Weld Canal for approximately ½ mile. East of Interstate 25, Corridor 2 diverts around the Unnamed Pond 1 and then crosses Boxelder Creek. Further investigation is necessary to confirm if the proposed project could impact these features. Corridor 2 continues east and north to go around Trappers Lake, which may not be considered jurisdictional. Corridor 2 also crosses Drainage 1 and the Larimer County Canal in the same locations as Corridor 1.

Corridor 3

Near its western start at the Larimer and Weld Canal, Corridor 3 crosses the Unnamed Ditch and continues east along the same path as Corridor 2. East of Interstate 25, Corridor 3 continues southeast along the Larimer and Weld Canal where it crosses Boxelder Creek at its input to the canal. Corridor 3 crosses Drainage 1 along East Vine Drive. From a review of the aerial imagery where Corridor 3 crosses Drainage 1, potential characteristics of a water of the U.S. may occur, but further evaluation is necessary.

Corridor 4

Near its western end, Corridor 4 crosses the Unnamed Ditch and continues east along the north side of the Larimer and Weld Canal for approximately ½ mile before turning south to cross the canal. East of Interstate 25, Corridor 4 crosses Cooper Slough and the Larimer and Weld Canal. Corridor 4 also runs near Unnamed Pond 2 and Drainage 1, but further evaluation is needed to determine the jurisdictional status of these areas and if impacts would occur from the project.

Corridor 5

Near its western end, Corridor 5 crosses the Unnamed Ditch and continues east north of the Larimer and Weld Canal across Interstate 25. East of Interstate 25, Corridor 5 continues southeast along the Larimer and Weld Canal where it crosses Boxelder Creek at its input to the canal. Corridor 5 continues south and then east to run near Unnamed Pond 2 and cross Drainage 1; further evaluation is needed to determine the jurisdictional status of these areas and if impacts would occur from the project.

Recommendations

Boxelder Creek is a tributary to the Cache la Poudre River and is jurisdictional. Cooper Slough, Drainage 1, the Larimer and Weld Canal, the Unnamed Ditch, the Larimer County Canal, and Unnamed Pond 1 are potential waters of the U.S. because of their known or potential surface flow connection to waters within the South Platte River system. Trappers Lake and Unnamed Pond 2 may not be considered jurisdictional by the Corps. If any work is planned within these areas, a jurisdictional determination should be requested from the Corps. If these areas are considered jurisdictional, a wetland delineation should be conducted, and Section 404 authorization would be required for the placement of fill or dredged material within wetlands or below the ordinary high water mark. If impacts on wetlands or other waters of the U.S. would be less than 0.5 acre, the project could likely be authorized under a Nationwide Permit. If any of the features are determined nonjurisdictional, or if no work is planned within these areas, no action would be necessary for crossings of these waters.

Threatened, Endangered, and Candidate Species

During the 2020 desktop assessment, ERO reviewed the study area for potential habitat for threatened, endangered, and candidate species under the Endangered Species Act (ESA). Federally threatened and endangered species are protected under the ESA. Adverse effects on a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 or 10 of the

ESA. The Service lists several threatened and endangered species with potential habitat in Larimer and Weld Counties, or that would be potentially affected by projects in Larimer and Weld Counties (Table 2).

Table 2. Federally threatened, endangered, and candidate species potentially found in Larimer and Weld Counties or potentially affected by projects in Larimer and Weld Counties.

Common Name	Scientific Name	Status*	Habitat	Habitat Present or Potential to Affect?
Mammals				
Canada lynx	*Lynx canadensis*	T	Moist boreal forests that have cold, snowy winters	No habitat
North American wolverine	*Gulo luscus*	PT	Cold conditions with deep persistent snow cover	No habitat
Preble's meadow jumping mouse (Preble's)	*Zapus hudsonius preblei*	T	Shrub riparian/wet meadows	Potential habitat may be present
Birds				
Interior least tern**	*Sterna antillarum athalassos*	E	Sandy/pebble beaches on lakes, reservoirs, and rivers	Potential to affect due to anticipated depletions
Mexican spotted owl	*Strix occidentalis*	T	Closed-canopy forest in steep canyons	No habitat
Piping plover**	*Charadrius melodus*	T	Sandy lakeshore beaches and river sandbars	Potential to affect due to anticipated depletions
Whooping crane**	*Grus americana*	E	Mudflats around reservoirs and in agricultural areas	Potential to affect due to anticipated depletions
Fish				
Greenback cutthroat trout**	*Oncorhynchus clarkii stomias*	T	Cold, clear, gravel headwater streams and mountain lakes	No habitat
Pallid sturgeon**	*Scaphirhynchus albus*	E	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	Potential to affect due to anticipated depletions
Insects				
Arapahoe snowfly	*Arsapnia arapahoe*	C	Cold, clean, well-oxygenated rivers	No habitat
Plants				
Ute ladies'-tresses orchid (ULTO)	*Spiranthes diluvialis*	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 7,800 feet in elevation	Potential habitat may be present
Western prairie fringed orchid**	*Platanthera praeclara*	T	Mesic and wet prairies, sedge meadows	Potential to affect due to anticipated depletions

*T = Federally Threatened Species; E = Federally Endangered Species; PT = Proposed Federally Threatened Species; C = Candidate Species.
**Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.
Source: Service 2020.

Possible Effects

The proposed project would not affect the Canada lynx, North American wolverine, Mexican spotted owl, greenback cutthroat trout, or Arapahoe snowfly because of the lack of potentially suitable habitat in the study area. Suitable habitat for Preble's and ULTO may be present in the study area as the study area contains drainages, ditches, and wetland/riparian habitat required for Preble's and ULTO. The interior least tern, piping plover, whooping crane, pallid sturgeon, and western prairie fringed orchid are species that are affected by continued or ongoing depletions within the Platte River Basin. Based on ERO's knowledge of the project, depletions to the South Platte River system may occur. If project activities include water depletions in the South Platte River system, such as diverting water from a stream or developing new water supplies, these species could be affected by the project and consultation with the Service may be required if there is a federal nexus. These species are also discussed in more detail below.

Platte River Species

Species Background

Least tern (*Sterna antillarum*), piping plover (*Charadrius melodus*), whooping crane (*Grus americana*), pallid sturgeon (*Scaphirhynchus albus*), and western prairie fringed orchid (*Platanthera praeclara*) are species that rely heavily on habitat provided by the Platte River system. The least tern, piping plover, and whooping crane may migrate through Colorado or may occasionally nest on wide sandy shores of reservoirs, typically in eastern Colorado. The study area consists primarily of road and canal rights-of-way and agricultural fields with habitat unsuitable for these species. The pallid sturgeon is a fish found in the Missouri and Middle Mississippi Rivers. The western prairie fringed orchid is a plant species found in tallgrass prairie ecosystem habitats west of the Mississippi River.

Potential Habitat and Possible Effects

Suitable habitat for least tern, piping plover, whooping crane, pallid sturgeon, and western prairie fringed orchid is not found in the study area. The water conveyed by the proposed pipeline could be considered a depletion to the South Platte River system that could adversely affect these species. Consultation between the lead federal agency and the Service on these species would be necessary if the project has a federal nexus, such as a CWA Section 404 permit. If there is no federal nexus for the project, consultation on these species would not be required.

Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*)

Species Background, Habitat Requirements, and Distribution

Preble's was listed as a threatened species on May 13, 1998 under the ESA (see Federal Register Vol. 63, No 232:66777-66784, December 3, 1998). Under existing regulations, either a habitat assessment or a full presence/absence survey for Preble's is required for any habitat-disturbing activity within areas determined to be potential Preble's habitat (generally stream and riparian habitats along the Colorado Front Range and southeastern Wyoming). Typically, Preble's occurs below 7,600 feet in elevation, generally in lowlands with medium to high moisture along permanent or intermittent streams and

canals (Meaney et al. 1997). Preble's occurs in low undergrowth consisting of grasses and forbs, in open wet meadows, riparian corridors near forests, or where tall shrubs and low trees provide adequate cover (Service 1999; Meaney et al. 1997).

Potential Habitat, Possible Effects, and Recommendations

No critical habitat for Preble's is located in the study area, but the study area falls within the survey guidelines for Preble's because Boxelder Creek, Cooper Slough, and the Larimer and Weld Canal are in Larimer County below 7,600 feet in elevation and within 100-year floodplains. Several trapping surveys for Preble's have been conducted along Boxelder Creek in the vicinity of the study area, but no Preble's were found during these efforts (Wildland Consultants 1999; Colorado Urban Wild 2000). The closest trapping survey that found Preble's is located approximately 7.8 miles northwest of the study area near Bellvue, Colorado (Shenk, T./CDOW 1998). Because of potential habitat, a more detailed analysis of the study area is needed to determine the habitat suitability. If habitat is present along Boxelder Creek, Cooper Slough, the Larimer and Weld Canal, Corridors 1, 2, 3, 4, and 5, which cross these drainages, may have impacts on Preble's and consultation with the Service may be necessary. Since all corridors cross these areas, regardless of the alignment selected, ERO recommends completing a habitat assessment to determine if habitat is present in the study area.

Ute Ladies'-Tresses Orchid

Species Background

ULTO is federally listed as threatened, but critical habitat has not been designated for ULTO. ULTO occurs at elevations below 7,800 feet in moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes where the soil is seasonally saturated within 18 inches of the surface. Generally, the species occurs where the vegetative cover is relatively open and not overly dense or overgrazed. Once thought to be fairly common in low-elevation riparian areas in the interior western United States, ULTO is now rare (Service 1992a).

In Colorado, the Service requires surveys in areas of suitable habitat on the 100-year floodplain of the South Platte River, Fountain Creek, and Yampa River, and their perennial tributaries; or in any area with suitable habitat in Boulder and Jefferson Counties (Service 1992a). ULTO does not bloom until late July to early September (depending on the year) and the timing of surveys must be synchronized with blooming (Service 1992b).

Potential Habitat, Possible Effects, and Recommendations

Boxelder Creek falls within the survey guidelines for ULTO because it is a perennial tributary in Larimer County. Because of potential habitat, a more detailed analysis of the study area at the Boxelder Creek crossings are needed to determine the habitat suitability. The remaining potential wetlands in the study area do not fall within survey guidelines for ULTO because they occur along intermittent drainages in Larimer and Weld Counties. If habitat is present along Boxelder Creek, the Corridor 2, 3, 4, and 5 alignments may have impacts on ULTO, and consultation with the Service may be necessary. ERO

recommends completing a habitat assessment to determine if habitat is present at these locations in the study area.

Other Species of Concern

Black-Tailed Prairie Dog

Species Background

The black-tailed prairie dog is a Colorado species of special concern (Colorado Parks and Wildlife (CPW) 2018). Black-tailed prairie dogs are important components of the short and mesic grasslands systems. Threats to this species include habitat loss and degradation, habitat fragmentation, disease (sylvatic plague), and lethal control activities. Typically, areas occupied by prairie dogs have greater cover and abundance of perennial grasses and annual forbs compared with nonoccupied sites (Whicker and Detling 1988; Witmer et al. 2002).

Black-tailed prairie dogs are commonly considered a "keystone" species because their activities (burrowing and intense grazing) provide food and shelter for many other grassland species and have a large effect on community structure and ecosystem function (Power et al. 1996). Prairie dogs can contribute to overall landscape heterogeneity, affect nutrient cycling, and provide nest sites and shelter for wildlife (Whicker and Detling 1988). Species such as black-footed ferret, burrowing owl, prairie rattlesnake, and mountain plover are closely linked to prairie dog burrow systems for food and/or cover. Prairie dogs also provide an important prey resource for numerous predators including American badger, coyote, red fox, bald eagle, golden eagle, ferruginous hawk, and other raptors. Prairie dogs also can denude the surface by clipping aboveground vegetation and contributing to exposed bare ground by digging up roots (Kuford 1958).

Potential Habitat and Possible Effects

The aerial imagery shows a potential black-tailed prairie dog colony in the southern portion of the study area, near Corridor 4 and Corridor 5, but this could not be confirmed during the 2020 desktop assessment (Figure 2). CPW recommends attempting to remove or exterminate prairie dogs prior to bulldozing an active prairie dog town for humane reasons. CPW requires permits to move prairie dogs. Private companies can be hired to relocate prairie dogs, although relocation sites are difficult to secure. If extermination of prairie dogs is the only option, several independent companies provide treatments for prairie dog control. The city of Fort Collins has an ordinance protecting prairie dog colonies that are 1 acre or larger. Larimer County follows CPW guidelines, and if a protected species is found, a mitigation plan is required. Weld County's Comprehensive Plan has natural resource policies to conserve significant wildlife habitat, including habitats sufficient to support a species, but does not have a specific prairie dog policy.

Recommendations

ERO recommends ground surveys for prairie dog colonies prior to any ground-disturbing activities since the colonies are dynamic and can be missed in a desktop assessment. If prairie dog removal becomes

necessary, CPW recommends removing them in a humane manner before any earthwork or construction takes place. Prior to any work that would disturb a colony between March 15 and October 31, colonies should be surveyed for burrowing owls.

Western Burrowing Owl

Species Background

The western burrowing owl (burrowing owl) is a small migrant owl listed by the state of Colorado as a threatened species (CPW 2018) and is federally protected under the Migratory Bird Treaty Act (MBTA). Primary threats to the burrowing owl include habitat loss and fragmentation, anthropogenic sources of mortality (e.g., vehicular collisions), and loss of wintering grounds, largely in Mexico.

In general, burrowing owls are found in grasslands with vegetation less than 4 inches high and a relatively large proportion of bare ground. In Colorado, burrowing owls are usually associated with black-tailed prairie dog colonies (Kingery 1998; Andrews and Righter 1992). More than 70 percent of sightings reported by Colorado Breeding Bird Atlas were in prairie dog colonies (Kingery 1998).

Burrowing owls usually arrive on their breeding grounds about mid-March to early April and remain until September. Burrowing owls are present in Colorado between March 15 and October 31, with breeding from mid-April to early/mid-August (Andrews and Righter 1992; Kingery 1998). CPW suggests conducting burrowing owl clearance surveys in prairie dog towns that are subject to poisoning and/or construction projects during the period from March 15 through October 31 (Colorado Division of Wildlife (CDOW) 2008).

Potential Habitat and Possible Effects

The potential prairie dog burrows in the study area can provide potential burrowing owl habitat. Inadvertent killing of burrowing owls could occur during prairie dog poisoning, construction, or earthmoving projects if owls are present in the study area. CPW has a recommended buffer of 150 feet surrounding active burrowing owl nests (CDOW 2008). Since prairie dog burrows may be present in the study area, burrowing owls could be directly affected by project activities.

Recommendations

CPW recommends conducting burrowing owl clearance surveys in prairie dog colonies that are subject to poisoning and/or construction projects from March 15 through October 31 (CDOW 2008). Construction occurring between November 1 and March 14 would not require clearance surveys. If burrowing owls are found within the construction footprint, individual nest burrows and a 150-foot buffer around the burrow should be left undisturbed until the owls have moved or migrated from the site, which can be determined through monitoring.

Raptors and Migratory Birds

Background

Migratory birds, as well as their eggs and nests, are protected under the MBTA. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal (Service 2003). The regulatory definition of a take means to pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (50 Code of Federal Regulations (CFR) 10.12).

Under the MBTA, the Service may issue nest depredation permits, which allow a permittee to remove an active nest. The Service, however, issues few permits and only under specific circumstances, usually related to human health and safety. Obtaining a nest depredation permit is unlikely and involves a process that may take a significant amount of time. In addition, CPW has recommended buffers for nesting raptors, depending on the species (generally ⅓ or ¼ mile) (CDOW 2008). The best way to comply with the MBTA is to remove vegetation outside of the active breeding season, which typically falls between March and August, depending on the species. Public awareness of the MBTA has grown in recent years, and most MBTA enforcement actions are the result of a concerned member of the community reporting noncompliance.

Potential Habitat and Possible Effects

The breeding season for most birds in Colorado is March through August, with the exception of a few species that begin breeding in February, such as great horned owls. During the 2020 desktop assessment, several mapped raptor nests were located within ½ mile of the study area near Boxelder Creek, Trappers Lake, and the eastern extent of Corridor 4 (Figure 2). Additionally, large trees within the study area provide habitat for raptors and other migratory birds, and the grasslands within the study area provide nesting habitat for ground-nesting songbirds.

Recommendations

ERO recommends vegetation removal outside of the breeding season (typically September through February). Both the Denver Field Office of the Service (2009) and the Colorado Department of Transportation (2011) have identified the primary nesting season for migratory birds in eastern Colorado as occurring between April 1 and mid to late August. However, a few species, such as bald eagles, great horned owls, and red-tailed hawks, can nest as early as December (eagles) or late February (owls and red-tailed hawks). Because of variability in the breeding seasons of various bird species, ERO recommends, at a minimum, that a nest survey be conducted within one week prior to construction to determine if any active nests are present in the study area so they can be avoided. Additional nest surveys during the nesting season may also be warranted to identify active nesting species that may present additional development timing restrictions (e.g., eagles or red-tailed hawks).

Nest removal (not including bald eagle nests) may occur during the nonbreeding season to discourage future nesting and avoid violations of the MBTA. No permit or approval is necessary for removing nests during the nonbreeding season; however, nests must be destroyed and may not be collected under

MBTA regulations. If the construction schedule does not allow vegetation removal outside of the breeding season, a nest survey should be conducted within one week prior to vegetation removal to determine if the nest is active and by which species. If active nests are found, any work that would destroy the nests could not be conducted until the birds have vacated the nests.

Other Wildlife

As with any human development, wildlife species sensitive to human disturbance are likely to decline in abundance or abandon the area, while other wildlife species adapted to development are likely to increase in abundance. Species likely to decline include prairie dogs, some raptors, and possibly coyotes. Species likely to increase include red fox, raccoon, and house mouse. Overall, surrounding and continuing development contributes to a decline in the number and diversity of wildlife species nearby and to a change in species composition to favor species that adapt better to human disturbance. During the 2020 desktop assessment, the study area was found to be located within overall range for black bear, bull snake, mountain lion, mule deer, western rattlesnake, and white-tailed deer.

Cultural Resources

To assist with project planning and potential consultation obligations under Section 106 of the National Historic Preservation Act (NHPA) (36 CFR 800) and/or the State Register Act, Colorado Revised Statutes (CRS) 34-80.1-104, an ERO archaeologist conducted a Class I cultural resource evaluation for the five proposed pipeline alignments. ERO reviewed the previous cultural resource surveys and resource documentation completed in the study area by conducting a file search with the Office of Archaeology and Historic Preservation (OAHP) and identified undocumented cultural resources by reviewing historic maps and aerial photographs. The OAHP provided the cultural file search results to ERO for four of the alignments on August 3, 2018 (File Search No. 21300), and ERO conducted an updated review for the fifth alignment on February 24, 2020 using the OAHP's online Compass database.

The OAHP provided the cultural file search results to ERO on August 3, 2018 (File Search No. 21300). The OAHP identified 18 previously conducted cultural resource surveys intersecting the study area (Table 3; Appendix A). The previous surveys were conducted on behalf of the Corps, Colorado Department of Transportation (CDOT), Western Area Power Administration, and the Corps. The previous surveys overlap roughly 30 percent of the study area.

Table 3. Previously conducted cultural resource surveys within the study area.

Survey Number	Report Title (date)	Corridor
LR.AE.R15*	Class III Cultural Resource Survey of the Proposed East Side Detention Facility, Larimer County, Colorado (2018)	1
LR.CH.NR11	Archaeological Survey of Three Pits for the Prospect Interchange Larimer County, Colorado (2004)	2, 3, 4, 5
LR.CH.R1	Archaeological Clearance of the County Road 50 Corridor of the Fort Collins Expressway (Project FC 287-3-(22)), Larimer County, Colorado (2004)	1
LR.CH.R32	Cultural Resource Report for Historical Resources Project FC 287-3(22) Fort Collins Expressway-East, Larimer County, Colorado (2004)	1, 2, 3, 4, 5

Survey Number	Report Title (date)	Corridor
LR.CH.R42*	Archaeological Survey of the North of Vine to South of Vine Route, Vine Drive Corridor of the Fort Collins Expressway (FC 287-3(22)), Larimer County, Colorado (2008)	4
LR.E.R3	Platte River Power Authority Timberline Substation and Richards Lake Substation to Rawhide Generation Plant Segments of the Western Area Power Administration Flatiron-Poudre Transmission Line Class III Cultural Resource Inventory Larimer County, Colorado (2002)	1, 2, 3, 4, 5
LR.E.R4	Class III Cultural Resource Inventory of Four Western Area Power Administration Fiber Optics Study areas in Larimer County, Colorado (2004)	2, 3
LR.E.R6	A Class III Cultural Resource Inventory of the Proposed Western Area Power Administration Laporte Tap to Dixon Creek and Richard Lake Tap to Timnath Substation 115/230kv Transmission Line Upgrade, Larimer County, Colorado (2005)	2, 3
LR.LG.R13*	Agriculture in the Fort Collins Urban Growth Area, 1862-1994 (CLG Project 08-93-80042.7), Larimer County, Colorado (2004)	1, 2, 3, 4, 5
LR.LG.R17*	An Historical and Archaeological Survey of the Overland/Cherokee Trails Through the Fort Collins Urban Growth Area, Larimer County, Colorado (2014)	2, 3 ,4
MC.CH.NR1*	Highway Dept Cr Neg Repts Jan To Dec 84 (1984)	4
MC.CH.NR78*	Paleontological Technical Report: Interstate 25 North Corridor Environmental Impact Statement, Adams, Boulder, Larimer, And Weld Counties, Colorado (2009)	1, 2 ,3, 4, 5
MC.CH.R184	A Class III Archaeological Inventory of Corridor Alternatives and Miscellaneous Facilities Associated with the North I-25 Front Range Corridor Environmental Impact Statement, Adams, Boulder, Broomfield, Larimer, And Weld Counties (2010)	1, 2, 3, 4, 5
MC.CH.R96*	A Cultural Resource Survey of Interstates 25, 70, 225, And 270, U.S. Highways 34 and 160, and State Highways 13 And 470, for the Proposed Adesta Communications Fiber Optic System, Colorado (C SW00-102) (2008)	2, 3, 4, 5
MC.DA.R24	A Class III Intensive Level Pedestrian Cultural Resource Inventory Of 35 United States Army Reserve Properties in Colorado, Montana, North Dakota, South Dakota, and Utah for the 96th Regional Readiness Command (2009)	2, 3
MC.E.R73	A Class III Inventory of the Proposed Timnath to Black Hollow Transmission Line Rebuild in Larimer and Weld Counties, Colorado (2010)	1, 2
MC.FC.NR6*	Paleontological Review and Survey of Selected Sections Along the I-25 Right of Way for Adesta/CDOT I-25 Fiber Optic Project from Pueblo, Colorado to The Wyoming State Line, Pueblo, El Paso, Douglas, Adams, Larimer And Weld Counties, Colorado (2008)	4
WL.PA.R5*	A Survey of the Cultural Resources of the Fort Collins-Ault 230kv Transmission Line (1974)	2, 3 , 4

*These surveys are not depicted in Appendix A because the OAHP did not provide GIS information.

The OAHP identified 24 previously documented cultural resources in the study area (Table 4; Appendix A). Of these, 10 historical structural resources are eligible or support the eligibility of the entire resource for listing in the National Register of Historic Places (NRHP): the Larimer Weld Canal/Easton Ditch/Eaton Canal (5LR863 and 5WL844); the Larimer and Weld Canal (segments 5LR863.2 and 5LR863.3); the Colorado and Southern Railroad/Burlington and Santa Fe Railroad (segments 5LR1731.2, 5LR1731.5, and 5LR1731.14); the Larimer County Canal/Ditch (segments 5LR8932.5 and 5WL5592.1); and the Einarsen Farm (5LR11396). Previously documented cultural resource types that are not eligible or not previously evaluated in the study area include precontact archaeological sites and historical archaeological sites and structures.

Table 4. Previously documented cultural resources within the study area.

Smithsonian #	Resource Name/Type	NRHP Eligibility (Date)	Corridor
5LR863	Larimer-Weld Canal/Eaton Ditch/Eaton Canal	Officially eligible (1999)	1, 2, 3, 4, 5
5LR863.2	Larimer and Weld Canal	Officially eligible (2007)	2, 3, 5
5LR863.3	Larimer-Weld Canal	Officially eligible (2004)	2, 3, 5
5LR1027	Prehistoric Archaeological Site	Field not eligible (1985)	1
5LR1731.2	Colorado Central Railroad/Colorado Southern Railroad / Burlington Northern and Santa Fe Railroad	Officially eligible (2007)	4
5LR1731.5	Colorado & Southern Railway	Officially eligible (2003)	2, 3
5LR1731.14	Colorado and Southern Railway	Supports eligibility of entire resource (2010)	1
5LR2160*	Boxelder Ditch	Officially eligible (1999)	1, 2, 3 ,4
5LR8932.5	Larimer County Canal/Ditch	Officially eligible (2003)	1
5LR9457	Poudre To Richards Lake Transmission line	Field not eligible (1998)	1, 2, 3, 4
5LR9458	Cheyenne To Richards Lake Transmission Line	Officially not eligible (2008)	1, 2, 5
5LR9458.1	Cheyenne To Richards Lake Transmission Line	Officially not eligible (2008)	1, 2
5LR9493	Bridge/B-16-Ea	Officially not eligible (2002)	2, 3
5LR9495	Culvert/B-16-Fa	Officially not eligible (2002)	1
5LR9496	Culvert/B-16-Fb	Officially not eligible (2002)	1
5LR9944	Historical Archaeological Site	Field not eligible (2000)	1, 2, 3, 4
5LR11396	Einarsen Farm	Officially eligible (2016)	2, 3, 5
5LR11422	Prehistoric Archaeological Site	Field not eligible (2000)	2, 3, 5
5LR11423	Prehistoric Archaeological Site	Field not eligible (2000)	2, 3
5LR11859	Prehistoric Archaeological Site	No assessment given (2000)	2
5WL844	Larimer-Weld Canal/Eaton Ditch/Eaton Canal	Officially eligible (2013)	2, 3, 4
5WL3167	Cheyenne To Richards Lake Transmission Line	Officially not eligible (2010)	1, 2
5WL3167.1	Cheyenne To Richards Lake Transmission Line	Officially not eligible (2008)	1, 2
5WL5592.1	Larimer County Canal/Ditch in Weld County	Officially eligible (2008)	1, 2

*This resource is not depicted on Appendix A figures because the OAHP did not provide GIS information.

In addition to the OAHP file search, ERO reviewed historical maps, aerial photographs, and public records to determine whether there is potential for archaeological deposits in the study area and to identify historical structures located within the study area (Larimer County Assessor 2018; Nationwide Environmental Title Research, LLC 2018; U.S. Geological Survey 1978; Weld County Assessor 2018). The literature review identified multiple historical structures and buildings within and adjacent to the study area; these resources are listed in Table 5 from east to west by corridor. The assessor records and historic and modern aerial photographs indicate the land surrounding the study area has been in continual use for agriculture throughout the historic period. There is low potential for intact archaeological deposits in the study area as the result of continual cultivation, rural residential development, and repeated construction and expansion of Interstate 25 and Colorado Routes 48 and 50.

Table 5. Literature review results.

Resource Name or Type	Location	Approximate Construction Date	Corridor
Colorado and Southern/BNSF Railroad (undesignated segments)	S4 and 5, T7N, R68W, and S33, T8N, R68W; 6th PM	Before 1908	1, 2, 3, 4
K and M Company (Agricultural Complex)	1217 N Timberline Road Fort Collins, CO 80524	1905	1, 2, 3 ,4
Voice of Truth Tabernacle (Structure)	1108 N Timberline Road Fort Collins, CO 80524	1900	1, 2 ,3, 4
Ryk Property (Residence)	1000 N Timberline Road Fort Collins, CO 80524	1951	1, 2, 3, 4
Gordon Property (Agricultural Complex)	4405 E County Road 50 Fort Collins, CO 80524	1900	1
Lanham Property (Agricultural Complex	1113 N County Road 3 Fort Collins, CO 80524	1890	1, 2
Weatherford Property (Agricultural Complex)	840 Helena CT Fort Collins, CO 80524	1910	1, 2
Buderus Property (Residence)	3012 E Vine Drive Fort Collins, CO 80524	1900	2, 3
Einarsen Property (Agricultural Complex)	1312 NE Frontage Road Fort Collins, CO 80524	1890	2, 3
Peters Property (Residence)	1208 N County Road 5 Fort Collins, CO 80524	1910	2
Trappers Lake (Structure)	Trappers Point Road Fort Collins, CO 80524	Before 1962	2
Barrington Property (Residence)	5024 E County Road 48 Fort Collins, CO 80524	1895	3
Johnson Property (Residence)	628 N County Road 5 Fort Collins, CO 80524	1895	3
Bates Property (Residence)	6116 E County Road 48 Fort Collins, CO 80524a	1963	3
Waag Property (Residence)	622 N County Road 3 Fort Collins, CO 80524	1918	3
Waag Property (Agricultural Complex)	6229 E County Road 48 Fort Collins, CO 80524	1910	3
Dyecrest Dairy LLC (Agricultural Complex)	6809 E County Road 48 Fort Collins, CO 80524	1900	3
Allen Property (Residence)	6932 E County Road 48 Fort Collins, CO 80524	1912	3
H & M Enterprises LLC Property (Residence)	41132 County Road 13 Fort Collins, CO 80524	1909	3
Tuttle Property (Residence)	108 N County Road 5 Fort Collins, CO 80524	1930	4
Crawford Property (Residence)	100 N County Road 5 Fort Collins, CO 80524	1928	4
DFI Holdings LLLP (Agricultural Complex)	105 N County Road 5 Fort Collins, CO 80524	1918	4

Study Area Conditions and Recommendations

ERO's Class I cultural resource review demonstrates that historical structural resources are common throughout the study area. The results also indicate there is low potential for precontact archaeological sites to be present in the study area due to ongoing cultivation and residential and highway construction. Considering the 500-foot-wide width of the current study area, ERO anticipates that the

project team will be able to plan the preferred pipeline alignment to avoid buildings and structures associated with rural and agricultural properties. ERO recommends aligning the proposed pipeline within areas of modern disturbance and existing rights-of-way to avoid impacts on any archaeological resources or historical structures.

Pursuant to Section 106 of the NHPA and the Colorado State Register Act (CRS 34-80.1-104), any state or federal agency involvement in the project may require consultation with the State Historic Preservation Office (SHPO) on potential project effects on cultural resources eligible or supporting eligibility for listing in the NRHP prior to construction. The agency and/or SHPO may require additional work such as pedestrian survey of undisturbed areas to identify unknown cultural resources as well as evaluations or reevaluations of the NRHP eligibility of all resources within the preferred alignment.

Project Recommendations

Once a preferred alignment is chosen, ERO recommends completing field site visits to delineate any potential waters of the U.S. within the preferred alignment as well as conduct habitat evaluations for Preble's, ULTO, and other wildlife that may affect project construction. Reconnaissance-level surveys for these species can happen at any time of year. Following the field site visit, ERO recommends preparing habitat assessment letters to the Service for consultation, if habitat is not present. If impacts to potential waters of the U.S. are proposed, ERO also recommends preparing and submitting jurisdictional determination requests if necessary and/or submitting a preconstruction notification to the Corps for CWA Section 404 Permit authorization. If impacts are proposed to jurisdictional waters of the U.S., consultation with the SHPO on potential project effects on cultural resources eligible or supporting eligibility for listing in the NRHP may be necessary.

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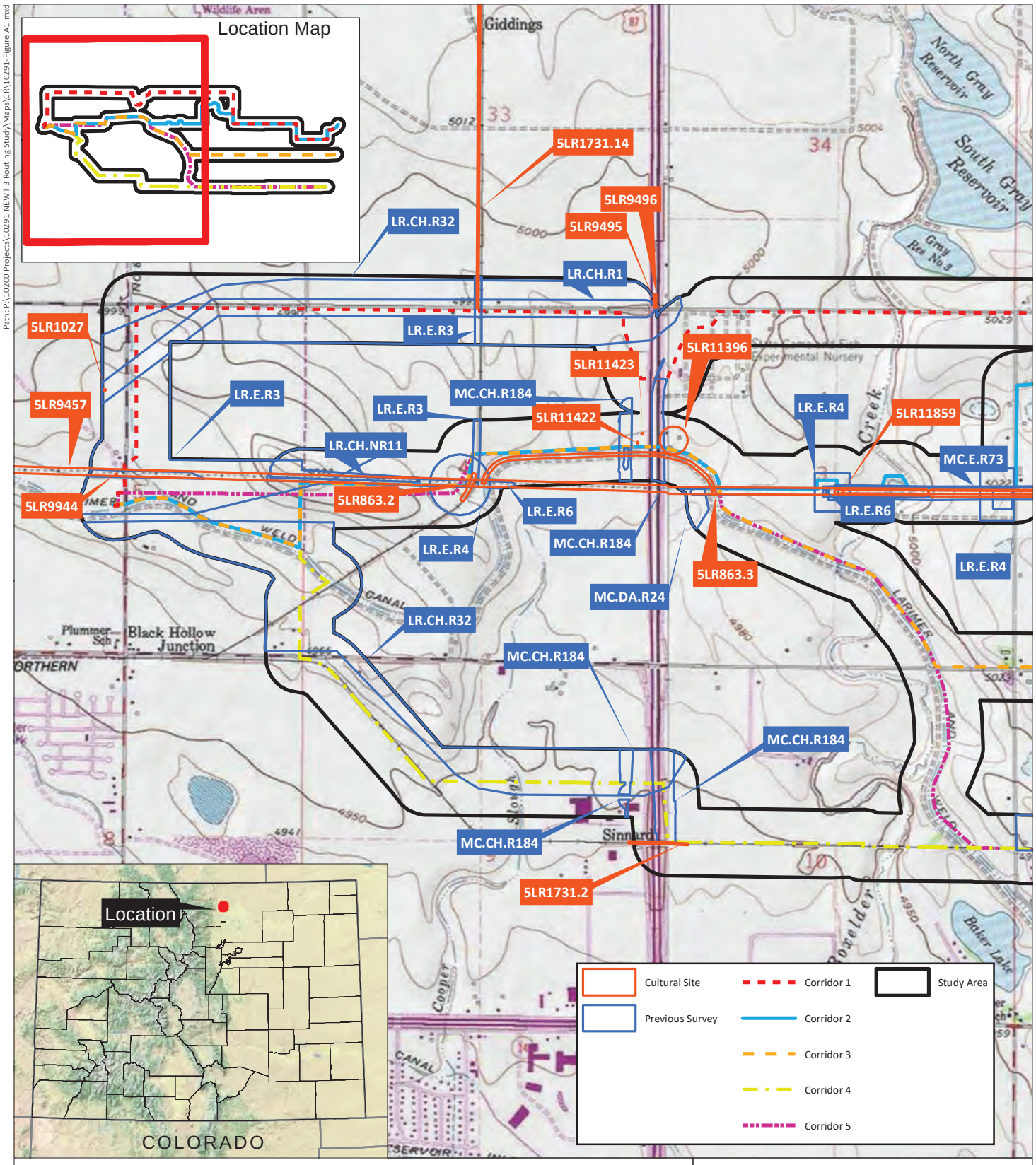
Appendix A Cultural Resource File Search Results Maps
For Official Use Only: Disclosure of Site Locations Prohibited (43 CFR 7.18)



NEWT 3 Pipeline Routing Study

For Official Use Only:
Disclosure of Site Locations Prohibited (43 CFR 7.18)

Sections 6 and 7, T7N, R67W,
Sections 1 to 12, T7N, R68W,
Sections 32 to 35, T8N, R68W; 6th PM
USGS Fort Collins, CO Quadrangle (1:24,000, 1985)
USGS Timnath, CO Quadrangle (1:24,000, 1972)

0 1,000 2,000 Feet
1:24,000

N

Figure A1
File Search Results

Prepared for: Providence Infrastructure Consultants
File: 10291-Figure A1.mxd (MH)
March 5, 2020

ERO Resources Corp.

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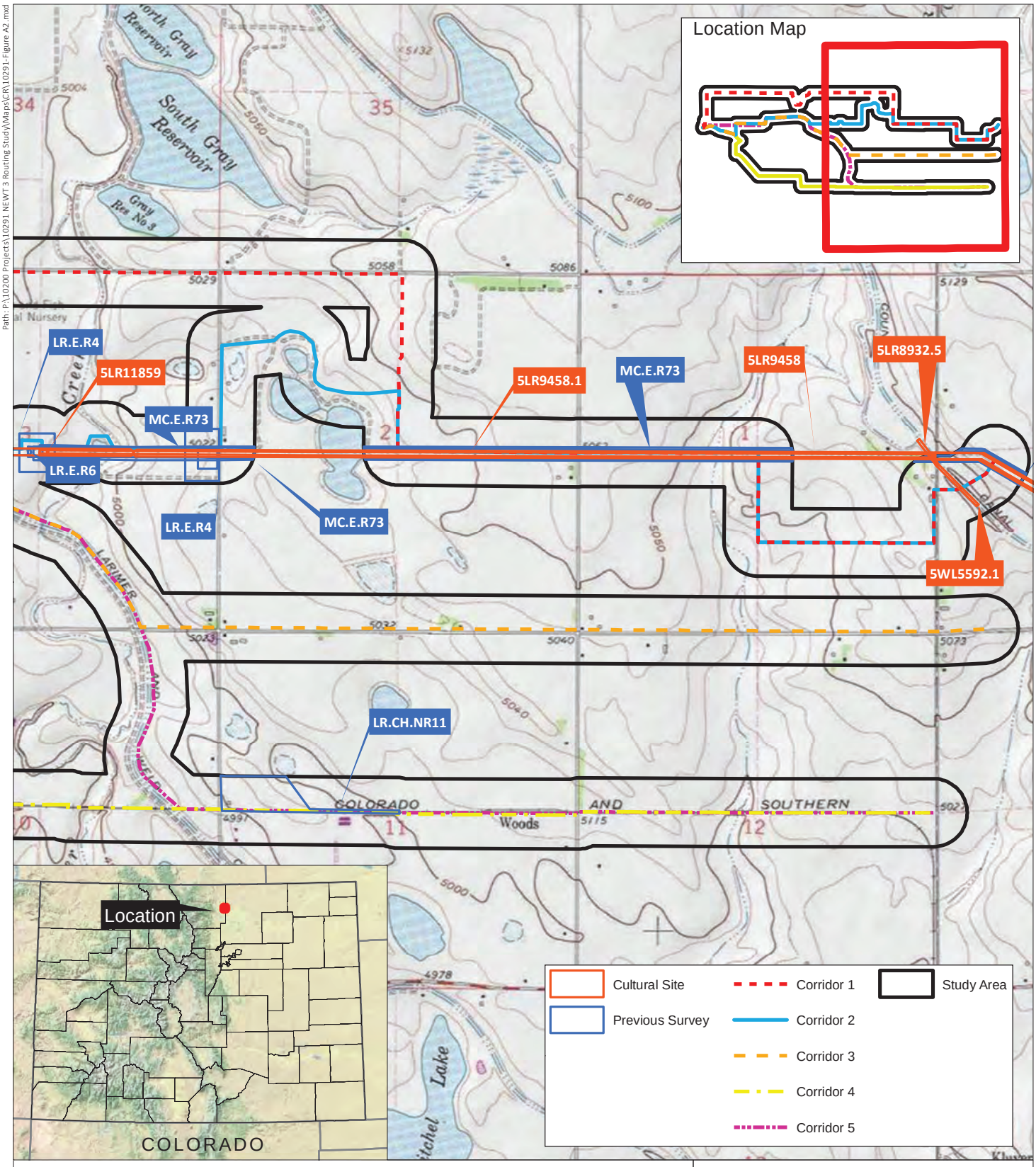

NEWT 3 Pipeline Routing Study

For Official Use Only:
Disclosure of Site Locations Prohibited (43 CFR 7.18)

Sections 6 and 7, T7N, R67W,
Sections 1 to 12, T7N, R68W,
Sections 32 to 35, T8N, R68W; 6th PM
USGS Fort Collins, CO Quadrangle (1:24,000, 1985)
USGS Timnath, CO Quadrangle (1:24,000, 1972)

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1:24,000

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Figure A2
File Search Results

Prepared for: Providence Infrastructure Consultants
File: 10291-Figure A2.mxd (MH)
March 5, 2020

ERO Resources Corp.

APPENDIX E – ENVIRONMENTAL CHARACTERIZATION STUDY REPORT

ERO

Consultants in Natural Resources and the Environment

Ecological Characterization Study
NEWT 3 Pipeline – Fort Collins Reach
Larimer County, Colorado

Prepared for—

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300 Plaza Drive, Suite 320
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ERO Project #10291

February 14, 2022

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Executive Summary

Providence Infrastructure Consultants (Providence) retained ERO Resources Corporation (ERO) to provide an Ecological Characterization Study for portions of the preferred Corridor 5 of the proposed NEWT 3 water pipeline project in Larimer County, Colorado (project area). ERO assessed the Fort Collins Reach of the project area for potential wetlands and waters of the U.S., potential federally listed threatened and endangered species habitat, migratory birds and active nests, and other wildlife. Below is a summary of the resources found at the project area and recommendations or future actions necessary based on the current site conditions and regulations.

The natural resources and associated regulations described in this report are valid as of the date of this report and may be relied upon for the specific use for which it was prepared by ERO under contract to Providence. Because of their dynamic natures, site conditions and regulations should be reconfirmed by a qualified consultant before relying on this report for a use other than that for which it was specifically prepared.

Wetlands and Other Waters of the U.S. – The Larimer and Weld Canal (Canal), Number 8 Outlet Ditch (Ditch), and associated wetland fringes occur in the project area. The Ditch was previously determined jurisdictional by the U.S. Army Corps of Engineers (Corps) in 2018 (Corps File No. NWO-2018-01605-DEN) (Appendix C). The Ditch flows into the Canal, which has an eventual downstream connection to Lone Tree Creek, a tributary to the South Platte River, a known traditionally navigable water. ***If work is planned within the Canal or Ditch in the project area, a Section 404 permit would be required from the Corps for the placement of dredged or fill material below the ordinary high water mark.*** If no work is planned in these areas, no Corps action is necessary.

Threatened and Endangered Species – The project area does not contain suitable habitat for any federally listed threatened species; however, the project area does fall within survey guidelines for Preble's meadow jumping mouse (Preble's), a federally listed threatened species. Within the project area, a viable population of Preble's is unlikely to exist because the project area lacks riparian shrub habitat and is extremely fragmented and continuously disturbed by human activity. ***ERO recommends submitting a habitat assessment to the U.S. Fish and Wildlife Service requesting confirmation that the project area lacks habitat for Preble's and a presence/absence survey for this species would not be required***.

Prairie Dogs – The project area is located within the Colorado Parks and Wildlife (CPW) recommended 660-foot buffer of black-tailed prairie dog colonies (CPW 2021b). The potentially active prairie dog colony is adjacent to the Canal on the eastern project area boundary. If prairie dogs move into the project area and removal becomes necessary, ***CPW recommends removing them in a humane manner before any earthwork or construction takes place***. Currently, the city of Fort Collins has regulations in their land use code pertaining to the protection, relocation, or humane management of prairie dog colonies, and Larimer County follows the guidelines set by CPW. ***If prairie dogs move into the project area and management becomes necessary, ERO recommends preparing a prairie dog management plan for submittal to the city of Fort Collins prior to commencing any management activities.***

Burrowing Owls – Burrowing owls could be impacted by the project if work would occur within the CPW-recommended 660-foot buffer of any prairie dog burrows (CPW 2021b). ***If work would occur within the recommended buffer of any burrow during the breeding season (March 15 through October***

31), a burrowing owl survey should be conducted. If owls are present in the project area, activities should be restricted within 660 feet of nest burrows until the owls have migrated from the site, which can be determined through monitoring.

Migratory Birds – Migratory birds, including raptors, and any active nests are protected under the Migratory Bird Treaty Act. ERO observed several potential raptor nests in the vicinity of project area during the 2021 site visit. The raptor nests could be impacted by the project if there would be human encroachment activities, or a physical object or structure is proposed within the CPW-recommended raptor buffers. Depending on the species, CPW recommends a ⅓- or ¼-mile buffer from active raptor nests from February through July for human encroachment activities or installation of a permanent or long-standing physical object or structure (CPW 2020a).

CPW has identified the primary nesting season for migratory birds in Colorado as occurring from April 1 through September 15 (CPW 2020a). However, some birds, such as the red-tailed hawk and great horned owl, can nest as early as February or March. Because of variability in the breeding seasons of various bird species, ***ERO recommends a nest survey be conducted within one week prior to construction*** to determine if any active nests are present in the project area so they can be avoided. If possible, ground-clearing activities should occur outside of the April 1 through September 15 migratory bird breeding season. For ground-clearing activities and construction activities occurring from February through April 1 or during the primary migratory bird breeding season, a nest survey should be conducted immediately prior to these activities. Additional nest surveys during the nesting season may also be warranted to identify active nesting species that may present additional development timing restrictions (e.g., great horned owls or red-tailed hawks). If active nests are found, any work that would destroy the nests should not be conducted until the birds have vacated the nests.

Other Wildlife –The project area occurs within black bear, mountain lion, mule deer, olive-backed pocket mouse, ring-necked pheasant, sagebrush vole, white-tailed deer, and white-tailed jackrabbit overall range (Natural Diversity Information Source (NDIS) 2021). The project area also occurs within bald eagle winter range, Canada goose foraging area and winter range, great blue heron foraging area, mountain lion human conflict area, mule deer summer and winter range, and white-tailed deer winter range (NDIS 2021). No other sensitive species occur in the project area that would be significantly adversely affected by the proposed project. Additionally, ERO reviewed data from CPW map databases and determined that one High Priority Habitat (HPH) area, Aquatic Native Species Conservation Waters HPHC for Boxelder Creek, overlaps the project area (CPW 2021a).

The project area also provides marginally suitable habitat for a variety of wildlife including coyote, fox, and raccoon. Naturalized areas along Box Elder Creek, directly east of the proposed pipeline corridor, provide suitable wildlife habitats and wildlife may occasionally forage in the project area due to the proximity of these natural habitat features. The prairie dog colony adjacent to the project area provides prey for raptors and other wildlife, and it is likely raptors forage in these areas. However, because the project area is adjacent to Interstate 25 (I-25), Mountain Vista Drive, Timberline Road, East Vine Drive, and the Larimer and Weld County Canal Access Road, and due to the high level of agricultural disturbance in the project area, it is unlikely the project area provides significant habitat for wildlife. Any wildlife using the project area have likely become adapted to human disturbance due to the proximity of extensive human development and I-25. Overall, surrounding and continuing development contributes to a decline in the number and diversity of wildlife species nearby and to a change in species composition.

Views – The area surrounding the project area is largely agricultural and residentially developed, with several residences and a commercial development occurring in the project area. The project area is visible from surrounding roads and residential areas including the Waterfield, Trailhead, and Waterglen subdivisions west of I-25. The mountains to the west can be easily seen from many vantage points in the project area, and the Budweiser Brewery is visible from locations in the western portion of the project area. I-25 occurs in the project area and is visible from locations immediately adjacent to it in the project area.

Impacts and Recommendations – Section 3.4.1 of the Fort Collins Land Use Code calls for buffers of various widths around natural habitats and special features. The project area is within 500 feet of Boxelder Creek and is located adjacent to a potentially active prairie dog colony larger than 1 acre, which would be considered a special habitat feature. However, the project area is surrounded by development and agricultural and contains little vegetative structure. Additionally, the pipeline would be buried and, therefore, impacts on vegetation would be temporary.

Ecological Characterization Study
NEWT 3 Pipeline – Fort Collins Reach
Larimer County, Colorado

February 14, 2022

Introduction

Providence Infrastructure Consultants (Providence) retained ERO Resources Corporation (ERO) to provide an Ecological Characterization Study (ECS) for portions of the preferred Corridor 5 for the Fort Collins Reach of the proposed NEWT 3 water pipeline project in Larimer County, Colorado (project area). On December 17, 2021, Anna Wistrom with ERO visited the project area to review potential natural resources (2021 site visit). During this assessment, activities included a formal jurisdictional wetland delineation, identification of potential federally listed threatened and endangered species habitat, and identification of other natural resources that might affect development of the project area. This ECS provides information on existing site conditions and resources, as well as current regulatory requirements related to those resources. ERO assumes the landowner or project proponent is responsible for obtaining all federal, state, and local permits for construction of the project.

Section 3.4.1 of the Fort Collins Land Use Code requires an ECS for development sites that contain, or are located within 500 feet of, an area or feature identified as a natural habitat or feature of the City of Fort Collins Natural Habitats and Features Inventory Map or that are discovered during site evaluations associated with the development review process. Several natural habitat features were previously mapped or were encountered within 500 feet of the project area including aquatic, wetland, riparian forest, native upland, and plains shrubland habitats (City of Fort Collins 2018). As required under Article 3, this ECS describes the following:

(a) the wildlife use of the area showing the species of wildlife using the area, the times or seasons that the area is used by those species, and the "value" (meaning feeding, watering, cover, nesting, roosting, and perching) that the area provides for such wildlife species;

(b) the boundary of wetlands in the area and a description of the ecological functions and characteristics provided by those wetlands;

(c) any prominent views from or across the site;

(d) the pattern, species, and location of any significant native trees and other native site vegetation;

(e) the pattern, species, and location of all non-native trees and vegetation that contribute to the site's ecological, shade, canopy, aesthetic and cooling value;

(f) the bank, shoreline, and high water mark of any perennial stream or body of water on the site;

(g) areas inhabited by or frequently used by Sensitive and Specially Valued Species;

(h) special habitat features;

(i) wildlife movement corridors;

(j) the general ecological functions provided by the site and its features;

(k) any issues regarding the timing of development-related activities stemming from the ecological character of the area; and

(l) any measures needed to mitigate the projected adverse impacts of the development on natural habitats and features.

Project Area Location

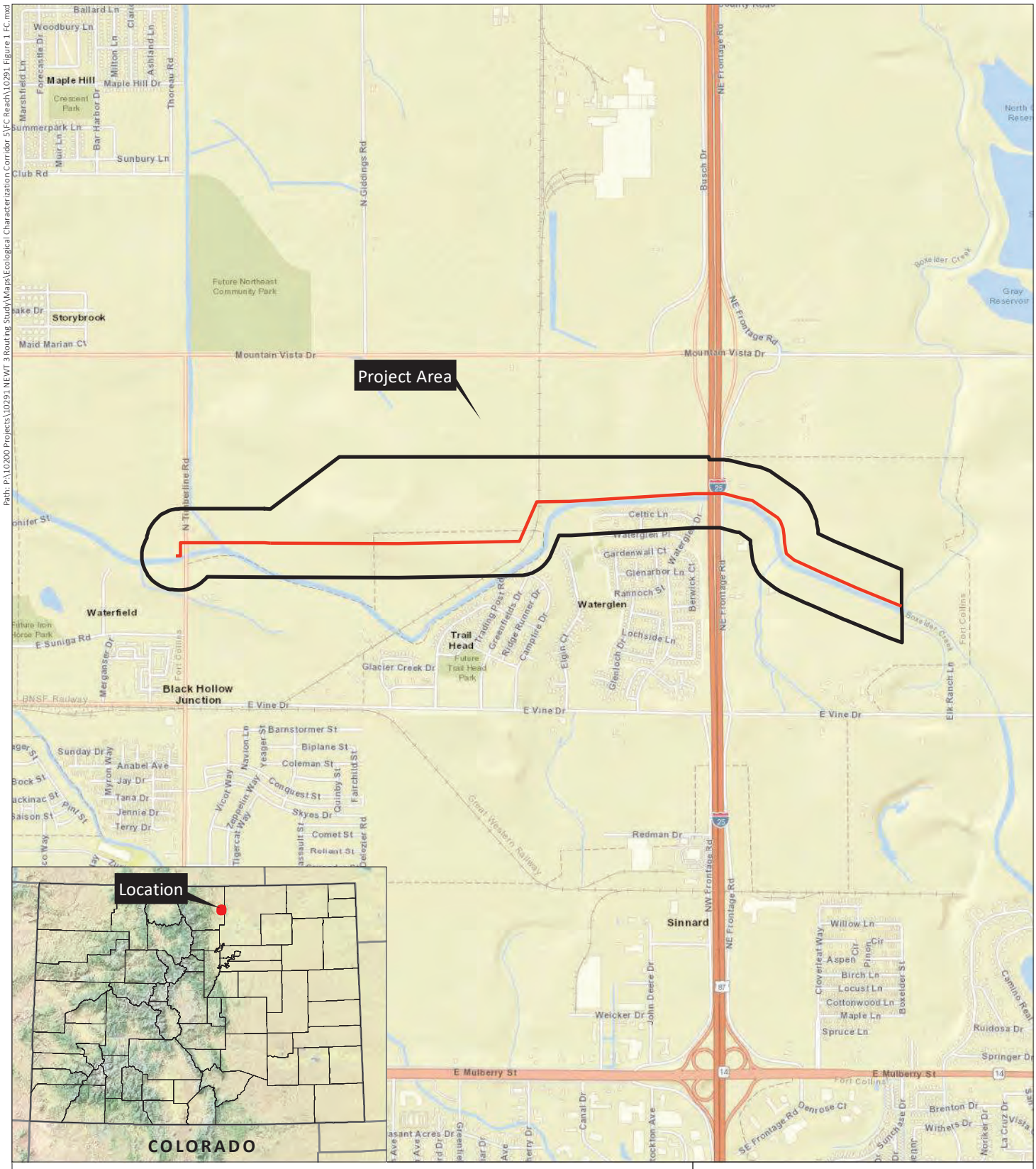
The project area is in Sections 3-5, Township 7 North, Range 68 West of the 6th Principal Meridian in Larimer County, Colorado (Figure 1). The UTM coordinates of the approximate center of the project area are 499022mE, 4494727mN, Zone 13 North. The longitude/latitude of the project area is 105.011562°W/40.603356°N. The elevation of the project area ranges from approximately 4,990 feet above sea level to 5,010 feet above sea level. Photos are included in Appendix A, and photo points are shown on Figure 2a through Figure 2h.

Project Area Description

The project area is roughly bounded by North Timberline Road on the west and Boxelder Creek on the east (Figure 2). The project area crosses North Timberline Road/North Summitview Drive, Burlington Northern Railroad, Interstate 25 (I-25), and I-25 Frontage Road. The project area largely consists of agricultural lands adjacent to residential developments and rural single-family homes, with disturbed upland vegetation including mixed upland grassland occurring in areas where not developed, disturbed, or actively cultivated. One potentially active black-tailed prairie dog colony was mapped adjacent to the eastern project area boundary (Figure 2). Additionally, one great horned owl (*Bubo virginianus*) and seven potential raptors nests were mapped within ½ mile of the project area during the 2021 site visit (Figure 2).

Summary of Ecological Setting

The U.S. Department of Agriculture (USDA) maps the project area within the southern part of the Central High Plains Major Land Resource Areas (MLRA), which is characterized by a flat to gently rolling landscape formed by glacial drift material and sediment deposition from the Rocky Mountains (U.S. Department of Agriculture and Natural Resource Conservation Service 2006). This MLRA is part of the Colorado Piedmont section of the Great Plains physiographic province and ranges in elevation from 3,000 to 7,800 feet. The climate of the area is typical of mid-continental semiarid temperate zones, but the strong rain shadow effect of the Southern Rocky Mountains makes the area somewhat drier. The average annual precipitation is 12 to 18 inches, most of which occurs from April through September. The mean annual temperature is between 45°F and 55°F with the number of frost-free days ranging from 135 to 190.



Path: P:\10200 Projects\10291 NEWT 3 Routing Study\Maps\Ecological Characterization Corridor S\FC Reach\10291 Figure 1 FC.mxd

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

Sections 3-5, T7N, R68W; 6th PM

UTM NAD 83: Zone 13N; 499022mE, 4494727mN

Longitude 105.011562°W, Latitude 40.603356°N

USGS Fort Collins and Timnath, CO Quadrangles

Larimer County, Colorado

0 1,000 2,000 Feet

N

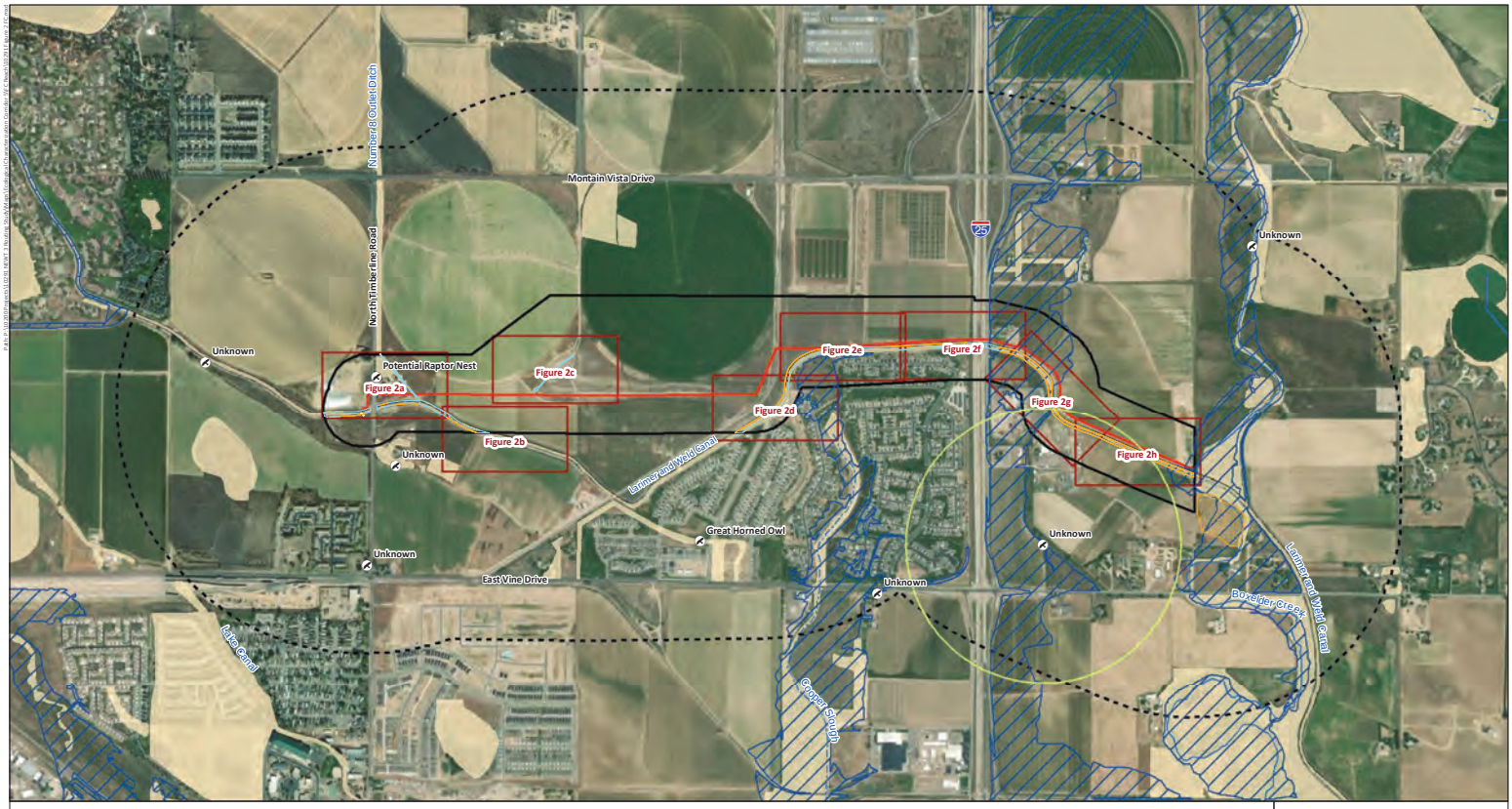
Figure 1
Vicinity Map

Prepared for: Providence Infrastructure Consultants

File: 10291 Figure 1 FC.mxd (WH)

October 7, 2021

ERO Resources Corp.



NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

- Raptor Nest/Potential Raptor Nest
- Stream/River
- Stream/River: Intermittent
- Stream/River: Perennial
- Ordinary High Water Mark (10.39 ac)
- Wetland (0.52 ac)
- 100-Year Floodplain
- 1/3-Mile Raptor Nest Buffer
- Active Prairie Dog Colony
- City of Fort Collins Natural Habitat
- Corridor 5
- Project Area/Area of Potential Effect
- 1/2-Mile Buffer of Project Area
- Map Grid/Matchline

Image Source: Maxar Technologies© June 26, 2020

0 600 1,200 feet

N

Figure 2
Map Index

Prepared for: Providence Infrastructure Consultants
File: 10291 Figure 2 FC.mxd (WH)
February 14, 2022

ERO Resources Corp.

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

- Culvert
- Data Point
- Photo Point
- Raptor Nest/Potential Raptor Nest
- Ordinary High Water Mark (10.39 ac)
- Wetland (0.52 ac)
- Corridor 5
- Project Area/Area of Potential Effect
- Map Grid/Matchline

Image Source: Maxar Technologies© June 26, 2020

0 50 100 feet

N

Figure 2a
Existing Conditions

Prepared for: Providence Infrastructure Consultants
File: 10291 Figures 2a-h.mxd (WH)
February 14, 2022

ERO Resources Corp.

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

- Culvert
- Data Point
- Photo Point
- Raptor Nest/Potential Raptor Nest
- Ordinary High Water Mark (10.39 ac)
- Wetland (0.52 ac)
- Corridor 5
- Project Area/Area of Potential Effect
- Map Grid/Matchline

Image Source: Maxar Technologies© June 26, 2020

0 50 100 feet

N

Figure 2b
Existing Conditions

Prepared for: Providence Infrastructure Consultants
File: 10291 Figures 2a-h.mxd (WH)
February 14, 2022

ERO Resources Corp.

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

- Culvert
- Data Point
- Photo Point
- Raptor Nest/Potential Raptor Nest
- Ordinary High Water Mark (10.39 ac)
- Wetland (0.52 ac)
- Corridor 5
- Project Area/Area of Potential Effect
- Map Grid/Matchline

Image Source: Maxar Technologies© June 26, 2020

0 50 100 feet

N

Figure 2c
Existing Conditions

Prepared for: Providence Infrastructure Consultants
File: 10291 Figures 2a-h.mxd (WH)
February 14, 2022

ERO Resources Corp.

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

- Culvert
- Data Point
- Photo Point
- Raptor Nest/Potential Raptor Nest
- Ordinary High Water Mark (10.39 ac)
- Wetland (0.52 ac)
- Corridor 5
- Project Area/Area of Potential Effect
- Map Grid/Matchline

Image Source: Maxar Technologies© June 26, 2020

0 50 100 feet

N

Figure 2d
Existing Conditions

Prepared for: Providence Infrastructure Consultants
File: 10291 Figures 2a-h.mxd (WH)
February 14, 2022

ERO Resources Corp.

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

- Culvert
- Data Point
- Photo Point
- Raptor Nest/Potential Raptor Nest
- Ordinary High Water Mark (10.39 ac)
- Wetland (0.52 ac)
- Corridor 5
- Project Area/Area of Potential Effect
- Map Grid/Matchline

Image Source: Maxar Technologies© June 26, 2020

0 50 100 feet

N

Figure 2e
Existing Conditions

Prepared for: Providence Infrastructure Consultants
File: 10291 Figures 2a-h.mxd (WH)
February 14, 2022

ERO Resources Corp.

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

- Culvert
- Data Point
- Photo Point
- Raptor Nest/Potential Raptor Nest
- Ordinary High Water Mark (10.39 ac)
- Wetland (0.52 ac)
- Corridor 5
- Project Area/Area of Potential Effect
- Map Grid/Matchline

Image Source: Maxar Technologies© June 26, 2020

0 50 100 feet

N

Figure 2f
Existing Conditions

Prepared for: Providence Infrastructure Consultants
File: 10291 Figures 2a-h.mxd (WH)
February 14, 2022

ERO Resources Corp.

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

- Culvert
- Data Point
- Photo Point
- Raptor Nest/Potential Raptor Nest
- Ordinary High Water Mark (10.39 ac)
- Wetland (0.52 ac)
- Corridor 5
- Project Area/Area of Potential Effect
- Map Grid/Matchline

Image Source: Maxar Technologies© June 26, 2020

0 50 100 feet

Figure 2g
Existing Conditions

Prepared for: Providence Infrastructure Consultants
File: 10291 Figures 2a-h.mxd (WH)
February 14, 2022

ERO Resources Corp.

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

- Culvert
- Data Point
- Photo Point
- Raptor Nest/Potential Raptor Nest
- Ordinary High Water Mark (10.39 ac)
- Wetland (0.52 ac)
- Corridor 5
- Project Area/Area of Potential Effect
- Map Grid/Matchline

Image Source: Maxar Technologies© June 26, 2020

0 50 100 feet

N

Figure 2h
Existing Conditions

Prepared for: Providence Infrastructure Consultants
File: 10291 Figures 2a-h.mxd (WH)
February 14, 2022

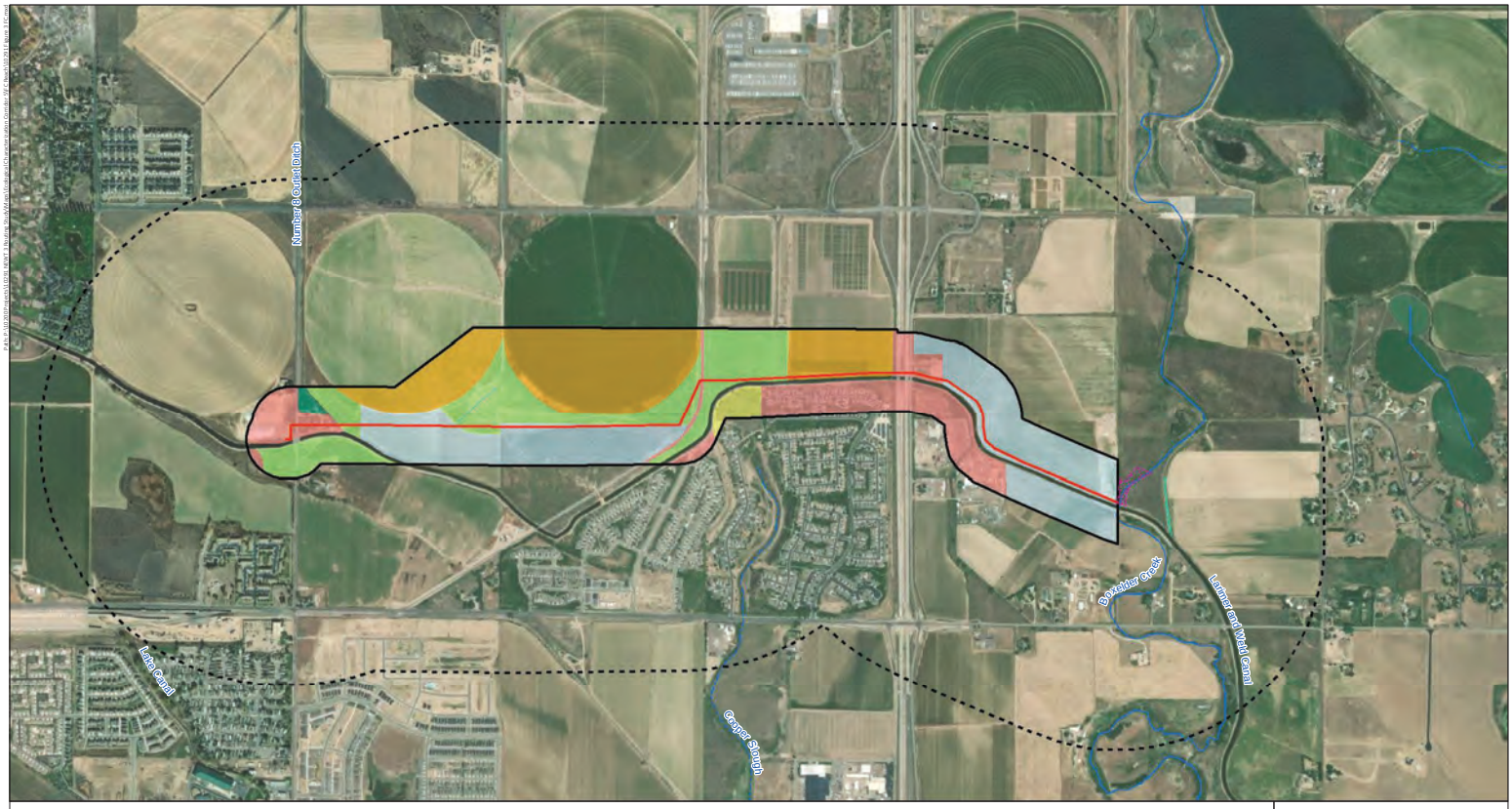
ERO Resources Corp.

The project area is further divided into the Front Range Fans ecoregion of Colorado (Chapman et al. 2006). The geology of the Front Range Fans ecoregion generally consists of outwash gravels with soils formed from materials weathered from arkosic sedimentary rock, gravelly alluvium, and redbed shales and sandstone. Located within the South Platte River watershed of central Colorado, streams flow from west to east, out of the Front Range Mountains and foothills or from southeast to northwest off the Palmer Divide, and into the South Platte River. The South Platte River converges with the North Platte River just west of Ogallala, Nebraska to form the Platte River. The Platte River is tributary to the Missouri River, which eventually flows into the Mississippi River. Most of the tributaries that flow into the South Platte River watershed contain riparian corridors dominated by deciduous woodlands and transitional shrubs and grasslands.

The majority of the ecoregion primarily consists of plains, with a high percentage of cropland. Most of the land use has or is currently undergoing a shift from cropland and rangeland to urban development. The development has resulted in a shift from native habitat to urban areas that contain a high number of manmade lakes and gravel pits.

Vegetation Communities

The project area is generally surrounded by agricultural lands, with a large residential development and industrial properties to the south, and several rural residential properties north of the project area (Figure 2). Multiple vegetation communities exist in the project area. The primary vegetation communities in the project area consist of agricultural land, disturbed uplands, and mixed upland grassland communities (Figure 3; Photos 1 through 3). The upland vegetation is a mixture of smooth brome (*Bromus inermis*), cheatgrass (*Bromus tectorum*), common sunflower (*Helianthus annuus*), crested wheatgrass (*Agropyron cristatum*), slender wheatgrass (*Elymus trachycaulus*), wheat (*Triticum* sp.), field bindweed (*Convolvulus arvensis*), sweet clover (*Melilotus* sp.), curly dock (*Rumex crispus*), and western wheatgrass (*Pascopyrum smithii*). A few tree groves are also located in the project area on the rural residential properties, and are dominated by elm (*Ulmus* sp.), Russian olive (*Elaeagnus angustifolia*), cottonwood (*Populus* sp.), and other ornamental trees. These tree groves are fairly small and do not provide significant habitat in the project area. The Larimer and Weld Canal (Canal) abuts much of the project area to the south and the Number 8 Outlet Ditch (Ditch) crosses the western portion of the project area (Figure 2). During the 2021 site visit, the Canal contained 1- to 2-foot-wide wetland fringes dominated by Emory's sedge (*Carex emoryi*) and reed canarygrass (*Phalaris arundinacea*) throughout most of the project area (Figures 2a and 2b and Figures 2d through 2h; Photos 4 through 7). Intermittent fringes also dominated by Emory's sedge and reed canarygrass occur along the Ditch (Figure 2a; Photo 8). Additionally, an unnamed irrigation ditch containing an ordinary high water (OHWM) mark occurs in the central portion of the project area (Figure 2c; Photo 9).



NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

Corridor 5
Project Area/Area of Potential Effect
1/2-Mile Buffer

Vegetation Community
Agricultural, Cultivated Crops
Agricultural, Field, Pasture/Hay/Grass
Disturbed/Developed
Mixed Upland Grassland
Parkland
Riparian Woodland/Shrubland
Woodland
Potential Wetland
Potential Wetland/Open Water
Stream/River
Stream/River: Intermittent
Stream/River: Perennial

0 600 1,200 feet

N

Image Source: Maxar Technologies© June 26, 2020

Figure 3
Vegetation Communities

Prepared for: Providence Infrastructure Consultants
File: 10291 Figure 3 FC.mxd (WH)
February 4, 2022

ERO Resources Corp.

Wetlands and Waters of the U.S.

Background

The Clean Water Act (CWA) protects the chemical, physical, and biological quality of waters of the U.S. (WOTUS). The U.S. Army Corps of Engineers' (Corps) Regulatory Program administers and enforces Section 404 of the CWA. Under Section 404, a Corps permit is required for the discharge of dredged or fill material into wetlands and other WOTUS (streams, ponds, and other waterbodies). On June 22, 2020, the Environmental Protection Agency (EPA) and Corps' Navigable Waters Protection Rule (NWPR) to define "waters of the United States" became effective in 49 states and in all U.S. territories. A preliminary injunction was granted for Colorado (U.S. Environmental Protection Agency 2020). On March 2, 2021, the United States Court of Appeals for the 10th Circuit vacated the stay on the NWPR in Colorado, thereby ruling the NWPR effective in Colorado. After April 23, 2021, jurisdiction of wetlands and other potential WOTUS in Colorado was to be determined using the NWPR. However, on August 30, 2021 the Arizona District Court remanded and vacated the NWPR. In response, the EPA and Corps have halted implementation of the NWPR and, until further notice, are interpreting WOTUS consistent with the pre-2015 regulatory regime (also referred to as the "Rapanos" guidelines). As such, the identification of WOTUS in this report follows the Rapanos guidelines. Potential rulings and guidance in the future could change the results of this report regarding the jurisdictional status of waters and wetlands in the project area. While ERO may provide its opinion on the likely jurisdictional status of wetlands and waters, the Corps will make the final determination of jurisdiction based on the current rulings.

Under the Rapanos guidelines, the Corps considers traditionally navigable waters (TNWs), wetlands adjacent to a TNW, and tributaries to TNWs that are relatively permanent waters (RPWs) and their abutting wetlands jurisdictional waters. Other wetlands and waters that are not TNWs or RPWs will require a significant nexus evaluation to determine their jurisdiction. A significant nexus evaluation assesses the flow characteristics and functions of a tributary and its adjacent wetlands to determine if they significantly affect the chemical, physical, or biological integrity of downstream TNWs.

On May 31, 2016, the U.S. Supreme Court concluded that approved jurisdictional determinations are judicially reviewable under the Administrative Procedure Act and, therefore, can be appealed in court. The Corps has recommended that requests for both approved and preliminary jurisdictional determinations be done using new guidance outlined in Regulatory Guidance Letter (RGL) 16-01 and that the form in Appendix 1 of the RGL be completed (U.S. Army Corps of Engineers 2016). The Corps has indicated that jurisdictional determinations associated with a Section 404 CWA Permit request will preside over standalone jurisdictional determination requests. While ERO may provide its opinion on the likely jurisdictional status of wetlands and waters, the Corps makes the final determination.

Methods

ERO conducted the wetland delineation following the methods for routine on-site wetland determinations in areas of less than 5 acres as described in the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and used methods in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0) (U.S. Army Corps of Engineers 2010) to record data on vegetation, soils, and hydrology on routine determination forms (Appendix B). Although the project area is more than 5 acres, it was determined the routine method was appropriate and the transect method was not necessary. This is based on the determination that, using ERO's previous desktop mapping, the area of wetlands in the project area is less than 1 acre.

The Corps defines wetlands as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 Code of Federal Regulations (CFR) 328.2(c)). Wetland boundaries were determined by a visible change in vegetation community, soils, topographic changes, and other visible distinctions between wetlands and uplands.

The wetland indicator status of plant species was identified using the *National Wetland Plant List* (U.S. Army Corps of Engineers 2020), and nomenclature was determined using the *PLANTS Database* (U.S. Department of Agriculture, Natural Resources Conservation Service 2022a). If present, hydric soils were identified using field observation for hydric soil indicators accepted by the Corps. Soil data were not always collected if hydrophytic vegetation and hydrology was present and did not appear altered (Environmental Laboratory 1987). In addition, soil data were not collected in conditions where there was a clear lack of hydrology and hydrophytic vegetation indicators. Where soil data were collected, a Munsell soil color chart was used to determine soil color.

Intermittent, ephemeral, and perennial drainages with characteristics of a defined streambed, streambank, OHWM, and other erosional features also were identified. The OHWM identifies the lateral jurisdictional limits of non-wetland WOTUS. Federal jurisdiction over non-wetland WOTUS extends to the OHWM, defined in 33 CFR 328.3 as "the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." The Corps defines stream bed as "the substrate of the stream channel between the OHWMs. The substrate may be bedrock or inorganic particles that range in size from clay to boulders."

The boundaries of identified wetlands and other characteristics of a potential WOTUS were mapped using a Trimble Global Positioning System (GPS) unit. Data were differentially corrected using the CompassCom base station. All differential correction was completed using Trimble Pathfinder Office 5.9 software. GPS data were incorporated using ESRI® ArcGIS Desktop software. Additionally, where appropriate, wetlands were drawn on geo-rectified aerials and then digitized.

Project Area Conditions

Streams and Open Water

Prior to the 2021 site visit, ERO reviewed U.S. Geological Survey (USGS) quadrangle topographic maps, the National Hydrography Dataset (NHD), and aerial photography to identify mapped streams and areas of open water that could indicate wetlands or WOTUS. The USGS Fort Collins, Colorado and USGS Timnath, Colorado topographic quadrangles and NHD show several features in the project area including the Canal and Ditch. During the 2021 site visit, ERO mapped a total of 10.39 acres of OHWM in the project area (Table 1). Within the project area, the Canal is approximately 40 to 50 feet wide with 1- to 2-foot wetland fringes on either side (Figure 2c and Figure 2d; Photos 4 through 7). The Ditch connects to the Canal (Photo 10), which connects to the Eaton Ditch. Ultimately, the Eaton Ditch flows to Owl Creek, which subsequently flows to Lone Tree Creek. Lone Tree Creek is a tributary to the South Platte River, a TNW. Water was observed flowing in the Ditch and Canal during the 2021 site visit (Figures 2a and 2b and Figures 2d through 2h).

In addition to the Canal and Ditch, one unnamed irrigation ditch occurs in the central portion of the project area (Figure 2c). No flowing or open water and no wetlands were identified in or along the unnamed irrigation ditch during the 2021 site visit (Photo 9).

Wetlands

During the 2021 site visit, ERO surveyed the project area for potential isolated wetlands, jurisdictional wetlands, and other WOTUS. ERO assessed the project area for wetlands and other WOTUS as described below. Data were collected from various locations in the project area to document the characteristics of uplands and wetlands, and the transition areas between them. Each data point (DP) was given a label that corresponds to a location shown on Figure 2a through Figure 2h and routine wetland determination forms in Appendix B. The following sections contain information on potential surface water connections of wetlands and other waters within the project area. Table 1 provides a summary of the mapped areas, including Cowardin classification and hydrogeomorphic (HGM) classification for each wetland (Cowardin et al. 1979; Brinson 1993). Approximately 0.52 acre of wetlands occur in the project area (Figures 2a and 2b and Figures 2d through 2h).

Table 1. Wetland and open water features identified in the project area.

Water/Wetland ID	Longitude	Latitude	Feature Size (Acre)	Cowardin Classification	HGM
Potential Jurisdictional Features					
Larimer and Weld Canal (OHWM)	-105.007908	40.6026677	10.07	NA	NA
Number 8 Outlet Ditch (OHWM)	-105.028212	40.6032381	0.21	NA	NA
Potential Nonjurisdictional Features					
Larimer and Weld Canal (Wetlands)	-105.007222	40.6027849	0.52	Riverine	Riverine
Number 8 Outlet Ditch (Wetlands)	-105.028764	40.6037329	0.004	Riverine	Riverine
Unnamed Irrigation Ditch (OHWM)	-105.021325	40.6031511	0.11	NA	NA

Larimer and Weld Canal and Associated Wetlands

The Canal traverses the center of the project area and contains 1- to 2-foot-wide wetland fringes along both banks (Figure 2). The wetland fringes along the Canal appear to be supported by surface water flows. The Canal and associated wetlands have an eventual downstream connection to Lone Tree Creek, a tributary of the South Platte River. The Canal and associated wetlands are described in more detail below. The Canal would likely be considered a jurisdictional WOTUS because of its downstream connection to a known WOTUS; however, the wetlands abutting the Canal might be considered nonjurisdictional because they are supported by irrigation flows and would likely dry up if irrigation ceased.

Vegetation

Riverine wetland fringes were delineated along the banks of the Canal throughout the majority of the project area. The wetland fringes along the Canal are dominated by Emory's sedge and reed canarygrass. At DP1, the vegetation met the dominance test for hydrophytic vegetation. DP2 consisted primarily of upland species and did not meet the dominance test for hydrophytic vegetation.

Soils

The NRCS mapped the soils in this area as Fort Collins loam, 1 to 3 percent slopes (U.S. Department of Agriculture, Natural Resources Conservation Service 2022b). The soils at DP1 were assumed hydric due to the dominance of hydrophytic vegetation; however, no soil samples were taken due to the presence of riprap along the banks. No hydric soil indicators were observed at DP2. See Appendix B for additional details on soils for each DP.

Hydrology

Primary hydrologic indicators, including water marks and saturation visible on aerial imagery, were observed at DP1. Secondary hydrologic indicators at DP1 included geomorphic position. No hydrology indicators were observed at DP2.

Number 8 Outlet Ditch and Associated Wetlands

The Ditch and its associated wetland fringes occur in the western portion of the project area, north of the Canal (Figure 2). The wetland fringes appear to be supported by surface water flows. The Ditch has a downstream surface connection to the Canal, which has an eventual downstream connection to a tributary of the South Platte River, a known WOTUS. Additionally, the Ditch has previously been determined a jurisdictional WOTUS by the Corps in 2018 (Corps File No. NWO-2018-01605-DEN; Appendix C). The wetland fringes along the Ditch consist primarily of small fringe wetlands located intermittently along the ditch channel and are dominated by Emory's sedge and reed canarygrass. Due to the similarity in vegetation community as DP1 and the steepness of the ditch banks, no soil pits were dug, and no DPs were taken along the ditch.

Wetland Functions

During the 2021 site visit, ERO identified ecological stressors in the wetlands. An understanding of the ecological functions of the stream and adjacent wetland and riparian areas can assist in the analysis and mitigation of potential impacts. Studies have recognized that riverine and palustrine systems provide particular functions to the environment. These functions are the chemical, physical, and biological processes or attributes vital to the integrity of riparian systems. Researchers recognize a variety of wetland and riparian functions that typically are related to water quality, biodiversity, and hydrological and ecological processes.

The wetlands in the project area are low functioning due to their locations along the Canal and Ditch. The majority of the wetlands in the project area are dominated by Emory's sedge and reed canarygrass and do not contain a high diversity of species or a variety of structure. Additionally, the wetlands appear to be supported by agricultural and stormwater runoff, not natural surface water or groundwater flows. Most of the wetlands are immediately adjacent to upland areas that appear to receive nutrient runoff from nearby agricultural areas. However, the wetlands likely provide habitat for wildlife or migratory birds and could potentially serve as a wildlife corridor through the project area. Overall, the wetlands in the project area are low functioning.

Recommendations

On September 28, 2018, the Corps issued a jurisdictional determination for the wetland and water features on the property directly north of the project area (Corps File No. NWO-2018-01605-DEN; Appendix C). The Corps determined that the Ditch is a WOTUS. Additionally, the Canal has an eventual downstream connection to a tributary of the South Platte River, a known TNW. If work is planned in these areas, a Section 404 permit would be required for the placement of dredged or fill material below the OHWM. The wetlands abutting the Canal and Ditch, as well as the unnamed irrigation ditch in the central portion of the project area, are likely nonjurisdictional. If work is planned in these areas, ERO recommends submitting a formal jurisdictional determination request to the Corps. If no work is planned in these areas, no further action is necessary.

Threatened, Endangered, and Candidate Species

During the 2021 site visit, ERO assessed the project area for potential habitat for threatened, endangered, and candidate species listed under the Endangered Species Act (ESA) of 1973, as amended (16 United States Code (U.S.C.) 1531 et seq.). Federally threatened and endangered species are protected under the ESA. Adverse effects on a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 or 10 of the ESA. The Service lists several threatened and endangered species with potential habitat in the project area, or that would be potentially affected by projects in the project area (Table 2).

Table 2. Federally threatened, endangered, and candidate species potentially found in the project area or potentially affected by projects in the project area.

Common Name	Scientific Name	Status*	Habitat	Habitat Present or Potential to Affect?
Mammals				
Canada lynx	*Lynx canadensis*	T	Moist boreal forests that have cold, snowy winters	No habitat
Preble's meadow jumping mouse (Preble's)	*Zapus hudsonius preblei*	T	Shrub riparian/wet meadows	Potential habitat present
Birds				
Eastern black rail	*Laterallus jamaicensis* ssp. *jamaicensis*	T	Marshes with standing water and dense or thick emergent vegetation	No habitat
Piping plover**	*Charadrius melodus*	T	Sandy lakeshore beaches and river sandbars	No habitat and no depletions anticipated
Whooping crane**	*Grus americana*	E	Mudflats around reservoirs and in agricultural areas	No habitat and no depletions anticipated
Fish				
Greenback cutthroat trout	*Oncorhynchus clarkii stomias*	T	Cold, clear, gravel headwater streams and mountain lakes	No habitat
Pallid sturgeon**	*Scaphirhynchus albus*	E	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	No habitat and no depletions anticipated
Insects				
Monarch butterfly	*Danaus plexippus*	C	Dependent on milkweeds (*Asclepiadoideae*) as host plants and forage on blooming flowers; a summer resident	No
Plants				
Ute ladies'-tresses orchid (ULTO)	*Spiranthes diluvialis*	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 7,800 feet in elevation	No
Western prairie fringed orchid**	*Platanthera praeclara*	T	Mesic and wet prairies, sedge meadows	No habitat and no depletions anticipated

*T = Federally Threatened Species; E = Federally Endangered Species; C = Candidate Species.
**Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.
Source: (U.S. Fish and Wildlife Service 2022).

Potential Habitat and Possible Effects

The proposed project would not affect the Canada lynx, eastern black rail, greenback cutthroat trout, or monarch butterfly because of the lack of potentially suitable habitat in the project area. The project area does not contain suitable habitat for ULTO because the wetland vegetation found in the project

area is dominated by reed canarygrass, a species not usually associated with ULTO. In addition, there is an abrupt transition from wetlands to uplands in the project area, and the project area lacks the mesic vegetation communities typically associated with ULTO. The remaining species listed in Table 2 have potential habitat in the project area or could be affected by the project and therefore are discussed in more detail below.

Platte River Species

Species Background

The piping plover (*Charadrius melodus*), whooping crane (*Grus americana*), pallid sturgeon (*Scaphirhynchus albus*), and western prairie fringed orchid (*Platanthera praeclara*) are species that rely heavily on habitat provided by the Platte River system. The piping plover and whooping crane may migrate through Colorado or may occasionally nest on wide sandy shores of reservoirs, typically in eastern Colorado. The project area consists primarily of road and canal rights-of-way and agricultural fields with habitat unsuitable for these species. The pallid sturgeon is a fish found in the Missouri and Middle Mississippi Rivers. The western prairie fringed orchid is a plant species found in tallgrass prairie ecosystem habitats west of the Mississippi River.

Potential Habitat and Possible Effects

Suitable habitat for the piping plover, whooping crane, pallid sturgeon, and western prairie fringed orchid is not found in the project area. The water conveyed by the proposed pipeline could be considered a depletion to the South Platte River system that could adversely affect these species. Consultation between the lead federal agency and the Service on these species may be necessary if the project has a federal nexus, such as a CWA Section 404 permit; however, pipeline projects are usually not required to consult on effects on depletion species if the intake of the water is not part of the CWA Section 404 permit. If there is no federal nexus for the project, or if the intake along a perennial stream is not included in the project, consultation on these species would not likely be required.

Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*)

Species Background, Habitat Requirements, and Distribution

Preble's was listed as a threatened species on May 13, 1998, under the ESA (see Federal Register Vol. 63, No. 232:66777-66784, December 3, 1998). Under existing regulations, either a habitat assessment or a full presence/absence survey for Preble's is required for any habitat-disturbing activity in areas determined to be potential Preble's habitat (generally stream and riparian habitats along the Colorado Front Range and in southeastern Wyoming). Typically, Preble's occurs below 7,600 feet in elevation, generally in lowlands with medium to high moisture along permanent or intermittent streams and canals (Meaney et al. 1997). Preble's occurs in low undergrowth consisting of grasses and forbs, in open wet meadows, in riparian corridors near forests, or where tall shrubs and low trees provide adequate cover (Meaney et al. 1997).

Potential Habitat, Possible Effects, and Recommendations

No critical habitat for Preble's is located in the project area, but portions of the project area fall within the general survey guidelines for Preble's because the Ditch, Canal, and the 100-year floodplain of Boxelder Creek are in the project area and fit within survey guidelines for potential Preble's habitat.

During the 2021 site visit, ERO assessed the project area for potential Preble's habitat. A majority of the project area was determined to not be appropriate Preble's habitat or has a very low potential to be Preble's habitat. The majority of the project area is agricultural cropland or disturbed uplands. The Canal and Ditch have no habitat present, with only fringe wetlands along the toe of slopes and steep banks that contain riparian overstory. Just east of the eastern project area boundary, potential low-quality Preble's habitat was identified along Boxelder Creek in the riparian woodland/shrubland vegetation communities in this area (Photo 11); however, several trapping surveys for Preble's have been conducted along Boxelder Creek in the vicinity of the project area, with no Preble's found during these efforts (Wildland Consultants 1999a and 1999b; Colorado Urban Wild 1998 and 2000). The closest trapping survey that found Preble's is approximately 7.8 miles northwest of the project area along the Cache la Poudre River in Larimer County, Colorado (Shenk, T 1998). Because of the low-quality of the potential habitat identified adjacent to the project area, the nearby negative results from trapping efforts, and the distance to the nearest known occupied habitat, it is ERO's professional opinion that the project area is unlikely to support a population of Preble's. ERO recommends submitting a habitat assessment to the Service requesting concurrence that the proposed project would not adversely affect the continued existence of Preble's and that a trapping survey for Preble's is not required.

Other Species and Habitats of Concern

Black-Tailed Prairie Dog

Species Background

The black-tailed prairie dog is a Colorado species of special concern (Colorado Parks and Wildlife 2020b). Black-tailed prairie dogs are important components of the short and mesic grasslands systems. Threats to this species include habitat loss and degradation, habitat fragmentation, disease (sylvatic plague), and lethal control activities. Typically, areas occupied by prairie dogs have greater cover and abundance of perennial grasses and annual forbs compared with nonoccupied sites (Whicker and Detling 1988); Witmer et al. 2000).

Black-tailed prairie dogs are commonly considered a "keystone" species because their activities (burrowing and intense grazing) provide food and shelter for many other grassland species and have a large effect on community structure and ecosystem function (Power et al. 1996). Prairie dogs can contribute to overall landscape heterogeneity, affect nutrient cycling, and provide nest sites and shelter for wildlife (Whicker and Detling 1988). Species such as black-footed ferret, burrowing owl, prairie rattlesnake, and mountain plover are closely linked to prairie dog burrow systems for food and/or cover. Prairie dogs also provide an important prey resource for numerous predators including American badger, coyote, red fox, bald eagle, golden eagle, ferruginous hawk, and other raptors. Prairie dogs also

can denude the surface by clipping aboveground vegetation and contributing to exposed bare ground by digging up roots (Kuford 1958).

Potential Habitat and Possible Effects

No prairie dog colonies were identified in the project area; however, an active prairie dog colony is located outside of the eastern project area boundary adjacent to the Canal (Figure 2). It is unlikely these prairie dogs will relocate from this colony into the project area since they occur on the south side of the Canal. In the event prairie dogs occupy the project area prior to construction, CPW recommends attempting to remove or exterminate prairie dogs prior to bulldozing an active prairie dog town for humane reasons. CPW requires permits to move prairie dogs. Private companies can be hired to relocate prairie dogs, although relocation sites are difficult to secure. If extermination of prairie dogs is the only option, several independent companies provide treatments for prairie dog control. The city of Fort Collins has regulations in their municipal land use code protecting prairie dog colonies that are 1 acre or larger and requires relocation or humane eradication methods. Larimer County follows CPW guidelines, and if a protected species such as the western burrowing owl is found, a mitigation plan is required.

Recommendations

If prairie dogs migrate into the project area and management becomes necessary, ERO recommends preparing a prairie dog management plan consistent with city of Fort Collins and CPW regulations for humane removal before any earthwork or construction takes place. Prior to any work that would disturb a colony between March 15 and October 31, colonies should be surveyed for burrowing owls.

Western Burrowing Owl

Species Background

The western burrowing owl (burrowing owl) is a small migrant owl listed by the state of Colorado as a threatened species and is federally protected under the Migratory Bird Treaty Act (MBTA). Primary threats to the burrowing owl include habitat loss and fragmentation, anthropogenic sources of mortality such as vehicular collisions, and loss of wintering grounds, largely in Mexico (McDonald, Korfanta, and Lantz 2004).

In general, burrowing owls are found in grasslands with vegetation less than 4 inches high and a relatively large proportion of bare ground (Gillihan and Hutchings 2000). In Colorado, burrowing owls are usually associated with black-tailed prairie dog colonies (Colorado Bird Atlas Partnership 2016; Andrews and Righter 1992). More than 70 percent of sightings reported in Colorado Breeding Bird Atlases were in prairie dog colonies (Colorado Bird Atlas Partnership 2016).

Burrowing owls usually arrive on their breeding grounds around mid-March to early April and remain until September (Haug and Oliphant 1990). Burrowing owls are typically present in Colorado from March 15 through October 31, with breeding from mid-April through early/mid-August (Andrews and Righter 1992; Colorado Bird Atlas Partnership 2016). CPW suggests conducting burrowing owl clearance

surveys in prairie dog towns that are subject to poisoning or construction projects during the period from March 15 through October 31 (CPW 2021b).

Potential Habitat and Possible Effects

The prairie dog burrows adjacent to the project area are potential habitat for burrowing owls. Inadvertent killing of burrowing owls could occur during prairie dog poisoning, construction, or earthmoving projects during the breeding period, as well as up to a month before egg laying and several months after young have fledged. CPW has a recommended buffer of ⅛ mile (660 feet) surrounding active burrowing owl nests during the nesting season (March 15 through August 31) (Colorado Parks and Wildlife 2021b). Burrowing owls could be impacted by the project if work would occur within CPW's recommended 660-foot buffer of any burrows.

Recommendations

A burrowing owl survey should be conducted if work would occur within the recommended buffer of any burrow from March 15 through October 31. Additionally, CPW recommends conducting burrowing owl clearance surveys in prairie dog towns that are subject to poisoning and/or construction projects during this period (March 15 through October 31) (CPW 2021b). If owls are present within 660 feet of the project area, activities should be restricted until the owls have migrated from the site, which can be determined through monitoring. Construction occurring from November 1 through March 14 would not require clearance surveys.

Raptors and Migratory Birds

Background

Migratory birds, as well as their eggs and nests, are protected under the MBTA. The MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal and fully prosecutable under the MBTA (U.S. Fish and Wildlife Service 2003). The regulatory definition of a take means to pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (50 CFR 10.12).

Under the MBTA, the Service may issue nest depredation permits, which allow a permittee to remove an active nest. The Service, however, issues few permits and only under specific circumstances, usually related to human health and safety. Obtaining a nest depredation permit is unlikely and involves a process that takes, at a minimum, 8 to 12 weeks. The best way to avoid a violation of the MBTA is to remove vegetation outside of the active breeding season, which typically falls between March and August, depending on the species. MBTA enforcement actions are typically the result of a concerned member of the community reporting a violation.

CPW maintains a leadership role with respect to raptor management in Colorado; however, the primary authority for the regulation of take and the ultimate jurisdiction for most of these species rests with Service under the MBTA and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c).

Potential Habitat and Possible Effects

ERO surveyed the project area for nests during the 2021 site visit. ERO observed seven potential raptor nests within the 0.5-mile buffer of the project area (Figure 2). In addition, an active great horned owl nest was previously mapped within the 0.5-mile buffer of the project area by ERO in 2020; however, the nest was not active at the time of the 2021 site visit (ERO 2022). Because the 2021 site visit was conducted in December, when birds are not nesting, it is unknown if the nests are active during the breeding season or which species uses the nests. The size and shape of the nests and their positions in trees suggests they are raptor nests. Raptors such as red-tailed hawks and Swainson's hawks could potentially use the observed nests. Additionally, ground-nesting bird nests are difficult to detect and may also be present in the uplands in the project area. Depending on the species, CPW recommends a ⅓- or ¼-mile buffer from active raptor nests from February through July for human encroachment activities or installation of a permanent or long-standing physical object or structure (CPW 2020a). The breeding season for most birds in Colorado is March through September, with the exception of a few species that begin breeding in February, such as great-horned owls.

Recommendations

To avoid destruction of potential migratory bird nests, vegetation removal should be conducted outside of the April 1 through August 31 breeding season. CPW has identified the primary nesting season for migratory birds in Colorado as occurring from April 1 through September 15 (CPW 2020a). However, a few species such as bald eagles, great horned owls, and red-tailed hawks can nest as early as December (eagles) or late February (owls and red-tailed hawks). Because of variability in the breeding seasons, ERO recommends that a nest survey be conducted within one week prior to construction to determine if any of the seven potential raptor nests, the great horned owl nest, or any other active nests are present in the project area so that they can be avoided. Additional nest surveys during the nesting season may also be warranted to identify active nesting species that may present additional development timing restrictions (e.g., eagles or red-tailed hawks).

If active nests are identified in or near the project area, activities that would directly affect the nests should be restricted. Habitat-disturbing activities (e.g., tree removal, grading, scraping, and grubbing) should be conducted during the nonbreeding season to avoid disturbing active nests, or to avoid a "take" of the migratory bird nests in the project area. Nests can be removed during the September 1 through March 31 nonbreeding season to preclude future nesting and avoid violations of the MBTA. There is no process for removing nests during the nonbreeding season; however, nests may not be collected under MBTA regulations. If the construction schedule does not allow vegetation removal outside of the breeding season, a nest survey should be conducted immediately prior to vegetation removal to determine if the nests are active and by which species. If active nests are found, any work

that would destroy the nests or cause the birds to abandon young in the nest should not be conducted until the birds have vacated the nests.

CPW has recommended buffer zones of ⅓ mile for active red-tailed hawk nests and ¼ mile for active Swainson's hawk nests. Activities that would directly impact an active nest, or that would encroach close enough to cause adult birds to abandon the nest during the breeding season, should be restricted. Construction activities that could potentially be within a red-tailed hawk or other raptor buffer zone should commence outside of the February 15 to August 31 breeding season. Consultation with CPW or the Service may be required if construction is proposed within a buffer zone of an active raptor nest. Although there is no CPW buffer designated for great horned owls, any active nest should be left undisturbed until the birds have left the nest. CPW recommends consultation with local CPW staff early in the planning phase of project proposals to assess and develop site-specific recommendations based on preexisting conditions (e.g., existing development, topography, vegetation, and line-of-sight to nest).

High Priority Habitat and Big Game

In 2021, CPW released a High Priority Habitat (HPH) table that identifies species and habitats, as well as recommendations to avoid and minimize impacts on wildlife from land use development (Colorado Parks and Wildlife 2021a). ERO reviewed data from CPW map databases and determined that one HPH area, Aquatic Native Species Conservation Waters HPHC for Boxelder Creek, overlaps the project area (CPW 2021a). The Aquatic Native Species Conservation Waters HPH consists of all streams and/or lakes categorized as a Native Species Conservation Water, and CPW recommends no surface occupancy and no ground disturbance year-round within 500 feet of the OHWM of the stream (CPW 2021a).

Other Wildlife

The project area occurs within black bear (*Ursus americanus*), mountain lion (*Puma concolor*), mule deer (*Odocoileus hemionus*), olive-backed pocket mouse (*Perognathus fasciatus*), ring-necked pheasant (*Phasianus colchicus*), sagebrush vole (*Lemmiscus curtatus*), white-tailed deer (*Odocoileus virginianus*), and white-tailed jackrabbit (*Lepus townsendii*) overall range (NDIS 2021). The project area also occurs within bald eagle (*Haliaeetus leucocephalus*) winter range, Canada goose (*Branta canadensis*) foraging area and winter range, great blue heron (*Ardea herodias*) foraging area, mountain lion human conflict area, mule deer summer and winter range, and white-tailed deer winter range (NDIS 2021). Additionally, Boxelder Creek is directly east of the project area, and wildlife may occasionally forage in the project area due to the proximity of this natural habitat feature. The prairie dog colony adjacent to the project area provides prey for raptors and other wildlife, and it is likely raptors forage in this area due to the proximity to Boxelder Creek. However, because the project area is surrounded by I-25, North Timberline Road, Mountain Vista Drive, East Vine Road, and the Northeast Frontage Road, and due to the lack of vegetation structure in the project area, it is unlikely the project area provides significant wildlife habitat. Any wildlife using the project area have likely become adapted to human disturbance.

Views

The area surrounding the project area is largely agricultural and residentially developed, with several subdivisions and rural residences occurring in the project area. The project area is visible from surrounding roads and adjacent residential areas including the Waterfield, Trailhead, and Waterglen subdivisions west of I-25. The mountains to the west can be easily seen from many vantage points in the project area, and the Budweiser Brewery is visible from locations in the western portion of the project area. I-25 occurs in the project area and is visible from locations immediately adjacent to it in the project area. Rabbit Brush Park, located south of the project area in the Waterglen subdivision, is not visible from most locations in the project area due to topographic relief and vegetation screen. Trappers Lake, located west of the project area, is also not visible from the project area due to visual screening by residences, topographic relief, and vegetation. Boxelder Creek, located just east of the project area, is visible from the eastern portions of the project area.

Impacts and Recommendations

Providence proposes to construct a water pipeline in the project area. The pipeline would be buried and, therefore, impacts on vegetation would be temporary. Section 3.4.1 of the Fort Collins Land Use Code calls for buffers of various widths around natural habitats and special features. The project area is within 500 feet of Boxelder Creek and is adjacent to a potentially active prairie dog colony larger than 1 acre, which would be considered a special habitat feature. However, the project area provides little ecological function due to being surrounded by I-25, North Timberline Road, Mountain Vista Drive, East Vine Road, and the Northeast Frontage Road and little vegetation structure in the project area. Due to the nature of the project, ERO does not recommend constructing any visual screen of any type along the eastern portions of the project area.

If vegetation- or land-clearing activities would occur during the nesting season for migratory birds, migratory birds or their nests or eggs could potentially be disturbed. ERO recommends that vegetation removal occur outside of the active breeding season, which is typically between March and August, depending on the species. If vegetation removal must occur during the nesting season, the project area should be surveyed for active nests by a qualified and experienced biologist.

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Appendix A Photo Log

PHOTO LOG
ECOLOGICAL CHARACTERIZATION STUDY
NEWT 3 PIPELINE – FORT COLLINS REACH
LARIMER COUNTY, COLORADO
DECEMBER 17, 2021

Photo 1 - Overview of agricultural uplands in the western portion of the project area. View is to the east.

Photo 2 - Overview of uplands adjacent to the Larimer and Weld Canal in the western portion of the project area. View is to the southeast.

PHOTO LOG
ECOLOGICAL CHARACTERIZATION STUDY
NEWT 3 PIPELINE – FORT COLLINS REACH
LARIMER COUNTY, COLORADO
DECEMBER 17, 2021

Photo 3 - Overview of uplands in the central portion of the project area. View is to the south.

Photo 4 - Overview of the Larimer and Weld Canal and associated wetland fringes in the western portion of the project area. View is to the northeast.

PHOTO LOG
ECOLOGICAL CHARACTERIZATION STUDY
NEWT 3 PIPELINE – FORT COLLINS REACH
LARIMER COUNTY, COLORADO
DECEMBER 17, 2021

Photo 5 - Overview of the Larimer and Weld Canal and associated wetland fringes in the central portion of the project area. View is to the southwest.

Photo 6 - Overview of the Larimer and Weld Canal and associated wetland fringes in the eastern portion of the project area. View is to the east.

Photo Log
Ecological Characterization Study
NEWT 3 Pipeline – Fort Collins Reach
Larimer County, Colorado
December 17, 2021

Photo 7 - Overview of the Larimer and Weld Canal and associated wetland fringes in the eastern portion of the project area. View is to the northwest.

Photo 8 - Overview of the Number 8 Outlet Ditch in the western portion of the project area. View is to the south.

Photo Log
Ecological Characterization Study
NEWT 3 Pipeline – Fort Collins Reach
Larimer County, Colorado
December 17, 2021

Photo 9 - Overview of unnamed irrigation ditch in the western central portion of the project area. View is to the southwest.

Photo 10 - Overview of Number 8 Outlet Ditch connection to the Larimer and Weld Canal in the western portion of the project area. View is to the northwest.

Photo Log
Ecological Characterization Study
NEWT 3 Pipeline – Fort Collins Reach
Larimer County, Colorado
December 17, 2021

Photo 11 - Overview of potential Preble's habitat along Boxelder Creek adjacent to the eastern project area boundary. View is to the southeast.

Appendix B Routine Wetland Determination Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: NEWT 3 Pipeline - Fort Collins Reach City/County: Larimer County Sampling Date: 12/17/21

Applicant/Owner: Providence Infrastructure Consultants State: CO Sampling Point: DP1

Investigator(s): A. Wistrom Section, Township, Range: Section 5, T7N, R68W

Landform (hillslope, terrace, etc.): bankslope Local relief (concave, convex, none): none Slope (%): 10-15

Subregion (LRR): G Lat: 40.60189607°N Long: -105.0298776°W Datum:

Soil Map Unit Name: Fort Collins loam, 1 to 3 percent slopes NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [x] No [ ] (If no, explain in Remarks.)

Are Vegetation ____, Soil Y____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes [ ] No [x]

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 [x] No [ ]	**Is the Sampled Area within a Wetland?** Yes [x] No [ ]
Hydric Soil Present?	Yes [x] No [ ]	
Wetland Hydrology Present?	Yes [x] No [ ]	

Remarks:

Fringe wetland along Larimer and Weld Canal. Bank slope covered in rip rap

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Carex emoryi	40	Y	OBL
2. Phalaris arundinacea	30	Y	FACW
3. Bromus inermis	5	N	UPL
4. Bassia scoparia	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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 = ____

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks:

SOIL

Sampling Point: DP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rip rap

Depth (inches): 0"

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils assumed hydric based on wetland vegetation and hydrology. Could not dig due to rip rap along banks of Canal

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☒ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

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**)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches):

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: NEWT 3 Pipeline - Fort Collins Reach City/County: Larimer County Sampling Date: 12/17/21

Applicant/Owner: Providence Infrastructure Consultants State: CO Sampling Point: DP2

Investigator(s): A. Wistrom Section, Township, Range: Section 5, T7N, R68W

Landform (hillslope, terrace, etc.): top of bankslope Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): G Lat: 40.60187115°N Long: -105.0298765°W Datum:

Soil Map Unit Name: Fort Collins loam, 1 to 3 percent slopes NWI classification: n/a

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 ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soil Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks:

Upland point adjacent to fringe wetland along Larimer and Weld Canal

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Bassia scoparia	40	Y	FACU
2. Elymus trachycaulus	20	Y	FACU
3. Bromus inermis	10	N	UPL
4. Bromus tectorum	10	N	UPL
5.			
6.			
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

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 = ____

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

SOIL

Sampling Point: DP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Did not dig due to dominance of upland vegetation and lack of hydrologic indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

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**)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix C Corps File No. NWO-2018-01605-DEN

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 SOUTH WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-6901

September 28, 2018

Max Moss
HF2M
430 North College Avenue, Suite 410
Fort Collins, Colorado 80524

RE: Approved Jurisdictional Determination for Isolated Irrigation Ditches and Wetlands, Larimer County, Colorado
Corps File No. NWO-2018-01605-DEN

Dear Mr. Moss:

Reference is made to the above-mentioned project located in Sections 32 and 33, Township 8 North, Range 68 West, in Larimer County, Colorado. This project has been reviewed in accordance with Section 404 of the Clean Water Act under which the U.S. Army Corps of Engineers regulates the discharge of dredged and fill material, and any excavation activity associated with a dredge and fill project in waters of the United States.

An approved jurisdictional determination (JD) has been completed for this project. The JD is attached to this letter. If you are not in agreement with the JD decision, you may request an administrative appeal under regulation 33 CFR 331, by using the attached Appeal Form and Administrative Appeal Process form. The request for appeal must be received within 60 days from the date of this letter. If you would like more information on the jurisdictional appeal process, contact this office. It is not necessary to submit a Request for Appeal if you do not object to the JD.

Number 8 Outlet Ditch, Wetland 3, and Wetland 4 were determined to be waters of the U.S. Those aquatic resources that were determined to be jurisdictional are known as "Waters of the United States" and are regulated under Section 404 of the Clean Water Act. Any placement of fill material into these aquatic resources would require a Department of the Army permit prior to impacts. Mitigation requirements would be determined during the Department of the Army permitting review.

Regarding Wetlands 1 and 2, and Irrigation Ditches 1, 2, 3, 4, and 5, the November 13, 1986 Federal Register, Part 328 (a) states: The Corps of Engineers generally does not consider non-tidal drainage and irrigation ditches constructed on dry land as waters of the U.S., except on a case-by-case basis. In this case, the Wetlands 1 and 2, and Irrigation Ditches 1, 2, 3, 4, and 5 are not jurisdictional.

Based on the information provided, a Department of the Army (DA) Permit will not be required for work in Wetlands 1 and 2, and Irrigation Ditches 1, 2, 3, 4, and 5. Although a DA Permit will not be required, this does not eliminate the requirement that other applicable federal, state, and local permits be obtained as needed.

This JD is valid for a period of five years from the date of this letter, unless new information warrants revisions of the JDs before the expiration date, or unless the Corps has identified, after a possible public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.

If there are any questions please contact Brooke Davis of my office by phone at (303) 979-4120, or email at brooke.a.davis@usace.army.mil and reference **Corps File No. NWO-2018-01605-DEN**.

Sincerely,

for Kiel Downing
Chief, Denver Regulatory Office

APPENDIX F – RESPONSES TO CONCEPTUAL REVIEW COMMENTS

Community Development and Neighborhood Services
281 North College Avenue
PO Box 580
Fort Collins, CO 80522
970.221.6689
970.224.6134 – fax
fcgov.com

January 17, 2020

Mark Scott via Email

Re: NEWT 3 Pipeline

Description of project: This is a request to build 28,300 feet (5.35 miles) of new potable water pipeline called the North Weld County and East Larimer County Water Districts Water Transmission Pipeline Project (NEWT 3). The project runs approximately east-west beginning at N. Timberline Road and E. Suniga Road and ending in Larimer County at Ridgeview Lane and West County Road 13. The proposal is within the Low Density
Mixed-Use Neighborhood (L-M-N), Employment (E), and Industrial (I) zone districts. This project is subject to a Site Plan Advisory Review (SPAR) and a Planning & Zoning Board hearing.

Please see the following summary of comments regarding NEWT 3 Pipeline. The comments offered informally by staff during the Conceptual Review will assist you in preparing the detailed components of the project application. Modifications and additions to these comments may be made at the time of formal review of this project. If you have any questions regarding these comments or the next steps in the review process, please contact your Development Review Coordinator, Tenae Beane via phone at 970-224-6119 or via email at
tbeane@fcgov.com.

Comment Summary

Development Review Coordinator
Contact: Tenae Beane, 970-224-6119, tbeane@fcgov.com

1. I will be your primary point of contact throughout the development review and permitting process. If you have any questions, need additional meetings with the project reviewers, or need assistance throughout the process, please let me know and I can assist you and your team. Please include me in all email correspondence with other reviewers and keep me informed of any phone conversations. Thank you!

2. The proposed development project is subject to a Site Plan Advisory Review (SPAR). The Planning & Zoning Board will make a recommendation for the decision- maker at a public hearing. For the hearing, we will formally notify surrounding property owners within 800 feet (excluding public right-of-way and publicly owned open space). A neighborhood meeting is required at least 10 days prior to formal submittal of a development review application. For the neighborhood meeting, we will formally invite

surrounding neighbors to attend the meeting. Neighborhood meetings offer an informal way to get feedback from surrounding neighbors, identify any potential concerns prior to the formal hearing, and are an opportunity for you to share your development proposal. The assigned Planner and the City's Development Review Liaison will help facilitate the meeting. Please contact me, your Development Review Coordinator, to assist you in setting a date, time, and location.
Acknowledged. A neighborhood meeting took place on December 1, 2021. The meeting was lightly attended, and no comments were received.

3. I will provide you a roadmap specific to your development review project, helping to identify each step of the process. For more detailed process information, see the Development Review Guide at www.fcgov.com/drg . This online guide features a color-coded flowchart with comprehensive, easy to read information on each step in the process. This guide includes links to just about every resource you need during development review.
Received

4. I will provide a Project Submittal Checklist to assist in your submittal preparation. Please use the checklist in conjunction with the Submittal Requirements located at: http://www.fcgov.com/developmentreview/applications.php. The checklist provided is specific to this Conceptual project; if there are any significant changes to this project, please let me know so we can adjust the checklist accordingly. I can send an updated copy of the Submittal Checklist to ensure you are submitting the correct materials.
Received

5. As part of your submittal you will respond to the comments provided in this letter. This letter is provided to you in Microsoft Word format. Please use this document to insert responses to each comment for your submittal, using a different font color. When replying to the comment letter please be detailed in your responses, as all comments should be thoroughly addressed. Provide reference to specific project plans or explanations of why comments have not been addressed, when applicable.
Acknowledged

6. The request will be subject to the Development Review Fee Schedule: https://www.fcgov.com/developmentreview/fees.php I will provide estimated fees, which are due at time of project submittal for formal review. This is an estimate of the initial fees to begin the development review process based on your Conceptual Review Application. As noted in the comments, there are additional fees required by other departments, and additional fees at the time of building permit. The City of Fort Collins fee schedule is subject to change - please confirm these estimates before submitting. If you have any questions about fees, please reach out to me.
Acknowledged. The Districts kindly request the City provide a breakdown of fees for payment.

7. Submittals are accepted any day of the week, with Wednesday at noon being the cut-off for routing the same week. Upon initial submittal, your project will be subject to a completeness review. Staff has until noon that Friday to determine if the project contains all required checklist items and is sufficient for a round of review. If complete, a formal Letter of Acceptance will be emailed to you and the project would be officially routed with a three-week round of review, followed by a formal meeting.
Acknowledged

8. When you are ready to submit your formal plans, please make an appointment with me at least 24 hours in advance. Applications and plans are submitted electronically in person with initial fees. Pre-submittal meetings can be beneficial to ensure you have everything for a complete submittal. Please reach out and I will assist in those arrangements.
Acknowledged

Planning Services
Contact: Sylvia Tatman-Burruss, (970) 224-6076, statman-burruss@fcgov.com

1. A typical development would need to mitigate for visual impacts of mechanical equipment or noise per 3.5.1(I) of the Land Use Code. Will there be any above-ground, identifiable, mechanical, or other equipment for the pipeline? If so, can you provide illustrations of this equipment and where those will be located along the pipeline?
The pipeline will include air release, isolation, and drain valve vaults or manholes along the route. These facilities will have minor above ground appurtenances in the form vents, marker posts, and protective bollards. PIC will properly coordinate with the City and private property owners on how to address the visibility of this minor appurtenances. From a visual impact, the facilities are minor and will not have visual impacts. Once constructed, the pipeline will not generate any noise.

2. Will the pipe be mostly trenched or bored? It is not clear from the Conceptual Review application.
The pipeline will be primarily trenched. However, at major roadways and railroad crossings, trenchless construction techniques will be employed to minimize the impacts to the traveling community.

3. Who is the ultimate decision-maker on this project (governing body, state water board, etc.)?
Decision making is shared by East Larimer County Water District and North Weld County Water District.

4. In looking at the plats on the submitted route, I don't see any easements. Are you still in negotiations with landowners for easements? Is the route set?
The pipeline route is set and has been approved by both District. For further information about the route selection, please refer to the attached report. The pipeline will be constructed in easements. The easement acquisition phase has started and all property owners have been engaged by the Districts. Yes, the route (corridor) has been chosen. The process of selecting the preferred Corridor is summarized in the attached report.

5. The proposed development project is subject to a Type 2 (Planning and Zoning Board) review and public hearing. The applicant for this development request is required to hold a neighborhood information meeting prior to formal submittal of the proposal. Neighborhood meetings offer an informal way to get feedback from your surrounding neighbors and discover any potential hiccups prior to the formal hearing. Please contact your Development Review Coordinator to assist you in setting a date, time, and location. City staff will be present to facilitate the meeting. You should be prepared to answer questions about traffic disruption (if any), proposed timeline, installation methods, ditch company coordination and environmental restoration/impact mitigation plans. Please also be prepared to answer questions about the need for this pipeline, the intent of the pipeline and any existing water rights in place for this installation.
Acknowledged. The Project's neighborhood meeting took place on December 1, 2021. The meeting was lightly attended and no comments were received.

6. Right of way disruption mitigation? A traffic mitigation and other documents may be required, as specified by city stormwater and engineering staff. This will be true for work at Timberline and Vine.

Acknowledged. Once detailed design plans are finalized. The Districts, the project's engineer, and the construction contractor will meet with the City to coordinate to minimize disruptions.

7. The project plans submitted with the SPAR submittal (including the project narrative) shall identify the level of functional and visual impacts to public rights-of-way, facilities and abutting private land caused by the proposed pipeline, including, but not limited to, streets, sidewalks, utilities, screening and noise, and shall mitigate such impacts to the extent reasonably feasible.
Acknowledged, The Phase 3 Project will be a buried pipeline that, once constructed, will be completely out of sight and will not interfere with views or adversely impact the City's land use vision or goals. Furthermore, the proposed corridor was selected to follow existing facilities (utility corridors and canals) to minimize additional impacts to properties. The only visible indicators of the pipeline will be a minimal amount of above ground equipment at various locations along the corridor. This equipment will likely include vent pipes and marker posts. The vent pipes can be painted to blend with the surroundings or hidden from view with landscaping. PIC will work with the City and private property owners to address concerns with these minor appurtenance features.

8. The sections of the pipeline within City limits are located within Low-Density Mixed Use Neighborhood, Industrial and Employment districts.
In reviewing Larimer County's property portal, it appears the properties located within the jurisdiction of the City are classified as 'agricultural' land use. Below is a specific list of the Fort Collins' properties to be crossed by the Project.

Property	Parcel No.	Current Zoned Land Use	Notes
K&M Company	8705300015	Agricultural	Property where Phase 3 connects to Phase 1
K&M Company	8705000001	Agricultural	Corridor parallels existing overhead electric line
Anheuser-Busch Foundation	8704000002	Agricultural	Corridor approaches BNSF RR crossing
Anheuser-Busch Foundation	8704000001	Agricultural	Corridor is between BNSF and Interstate 25
Harold D Einarsen Trust	8703000005	Agricultural	Corridor is between I-25 and City jurisdictional limit

9. This development proposal will be subject to all applicable standards of the Fort Collins Land Use Code (LUC), including Article 3 General Development Standards. The entire LUC is available for your review on the web at http://www.colocode.com/ftcollins/landuse/begin.htm.
Acknowledged, PIC will make sure the Project's design and construction comply with applicable portions of the LUC.

10. If this proposal is unable to satisfy any of the requirements set forth in the LUC, a Modification of Standard Request will need to be submitted with your formal development proposal. Please see Section 2.8.2 of the LUC for more information on criteria to apply for a Modification of Standard.
Acknowledged

Department: Historic Preservation
Contact: Maren Bzdek, 970-221-6206, mbzdek@fcgov.com

1. SECTION 106 REQUIREMENT: Based on the map you've provided that identifies several cultural resource sites, and the discussion in our 1/16 meeting, it appears you will need to complete Section 106 compliance through the State Historic Preservation Office (History Colorado) because you will have 404 permitting. The area of potential effect (APE) defined in that process is the geographic area within which an undertaking may cause changes in the character or use of historic resources and require documentation forms and potential mitigation of any determined

adverse effects. Your preliminary environmental analysis has already identified a few known cultural sites on the pipeline route within the likely APE.

While this requirement is separate from our local historic review, we are a consulting party for that process and we will use that process and resulting report to identify any historic resources that might trigger our comments at the local level. As a presubmittal requirement from our division, I will need to see the consultants full report (by email) at your earliest convenience so that we can provide timely comments as a consulting party and understand plans for mitigating any identified adverse effects. If you would like to submit the details of your preliminary assessment of cultural resources to me now, that will give me a head start on what we will see from the Section 106 consultation report.

As part of the NEWT 3 Pipeline's corridor study, the Districts performed a Natural and Cultural Resources Assessment. As part of the study, a variety of existing and potential cultural resources were identified, and the pipeline was routed to avoid known resources. During the project's preliminary design phase and prior to constructing the pipeline, the Districts, in consultation with the State Historic Preservation Office (SHPO), will perform a detailed field survey to further evaluate the project site for historical and cultural resources. If additional resources are discovered, the project will be designed to avoid or mitigate effects to these resources. The Project's Natural and Cultural Resource Assessment is attached.

2. MITIGATION/PLAN OF PROTECTION: Based on the information provided in the above report, we would be looking for appropriate mitigation and a plan of protection that documents how the development activity will prevent short-term and long-term material damage and avoidable impact to identified resources on the development site and within the area of potential effect (APE).

Acknowledged. The field survey will provide the information necessary to determine if mitigation and protection are necessary.

Department: Engineering Development Review
Contact: Marc Virata, 970-221-6567, mvirata@fcgov.com

1. The crossing of existing City right-of-way (such as Timberline Road) will require an excavation permit for the work in right-of-way. This would be submitted to Engineering Inspection and the application is available here:
https://www.fcgov.com/engineering/pdf/ExcavationPermit082019.pdf?
Note that the permit also requires notification of additional departments, including Traffic for a Traffic Control Plan. Contact Jason Martin (Email: jmartin@fcgov.com and Office: 970-416-2779) to discuss specific excavation permit requirements (bore vs. open cut, etc.)

Acknowledged. As part of the construction requirements, the construction contractor will be required to submit for an right-of-way excavation permit including the development of a traffic control plan.

2. The City has a proposed an update to the City's Master Street Plan which classifies existing and identifies future major roadways. This update is scheduled to go to City Council in February and shows a roadway extending east of Timberline running parallel and south of Mountain Vista to Giddings that is new to the network and in the same general location as the proposed water line. We'll want to understand what the implications might be on how both the future roadway and the water line can co-exist/be integrated. Note that a collector roadway is specified for this section and cross sections for collectors (with and without parking) can be found here: https://www.larimer.org/sites/default/files/fig_701_713_fc_2016.pdf

Acknowledged. Based on information provided in the Montava PUD Subarea, the proposed roadway appears to run parallel to the proposed NEWT 3 pipeline corridor. PIC will coordinate with the City to determine the final corridor. Furthermore, the District has initiated coordination activities with Montava's engineer.

Department: Traffic Operations
Contact: Steve Gilchrist, 970-224-6175, sgilchrist@fcgov.com

1. TRAFFIC IMPACT STUDY: No traffic impact study is needed for the installation of underground utilities. TIS waived.
Acknowledged

2. FOR INFORMATION ONLY: Will need to coordinate prior to construction on any work that is planned to be completed within the right of way of any City of Fort Collins streets, for appropriate work area traffic control.
Acknowledged

Department: Erosion Control
Contact: Chandler Arellano, carellano@fcgov.com

1. Information Only: The site disturbs more than 10,000 sq. ft. and/or meets the criteria for a need for Erosion and Sediment Control Materials to be submitted. The erosion control requirements are located in the Stormwater Design Criteria in Chapter 2 Section 6.0 a copy of the requirements can be found at www.fcgov.com/erosion These Erosion Control Materials should be submitted at about 80% final construction plans and should allow about a month lead time to submit the materials get an adequate review of the materials, of note these reviews can take one or two iterations to ensure that the Erosion Control Materials on this project meet the City Criteria. To prevent delays please plan accordingly as projects are not allowed to go to construction until erosion control materials meet the City Criteria. For Final: Please submit an Erosion Control Plans to meet City Criteria. For Final: Please submit an Erosion Control Report to meet City Criteria. Information only: Based upon the area of disturbance, State permits for stormwater will be required since the site is over an acre and should be pulled before Construction Activities begin.
Acknowledged. As part of the final design of the Project an erosion and sediment control plan and details will be developed so that the construction contractor can submit and receive the appropriate permits/approvals from the City and CDPHE.

Department: Floodplain
Contact: Claudia Quezada, (970)416-2494, cquezada@fcgov.com

1. INFORMATION ONLY: A portion of this property is currently located in the FEMA-regulated, 100-year Boxelder Creek floodplain and must comply with the safety regulations of Chapter 10 of City Municipal Code. A FEMA Flood Risk map is attached. Please note that the Boxelder floodplain linework shown in the conceptual review submittal is not the most current linework. Please update the floodplain/floodway boundaries for future submittals.
Acknowledged, the Districts will incorporate the most current linework on the design / construction drawings. Furthermore, the construction contractor will be required to perform pre- and post-construction survey within floodplain limits to demonstrate a "no-rise" condition.

2. INFORMATION ONLY: Any construction activities in the floodplain (e.g. structure, sidewalk or curb & gutter installation/replacement, utility work, landscaping, etc.) must be preceded by an

approved floodplain use permit, the appropriate permit application fees, and approved plans.
Acknowledged. Once the final design/construction plans are complete the Districts will submit to obtain a floodplain use permit that will be provided to the construction contractor.

3. FOR HEARING: Development review checklists for floodplain requirements can be obtained at https://www.fcgov.com/utilities/img/site_specific/uploads/fp-checklist100-2018-update.pdf?1522697905. Please utilize these documents when preparing your plans for submittal.
Acknowledged, all checklists will be used for the development of the final design/construction drawings and reports.

4. INFORMATION ONLY: Please show the boundaries of the floodplain and floodway on site drawings as applicable. Contact Beck Anderson of Stormwater Master Planning at banderson@fcgov.com for floodplain CAD line work.
Acknowledged, floodway and floodplain limits will be incorporated in the Project's final design/construction drawings.

5. INFORMATION ONLY: Please contact Claudia Quezada with any questions about these comments or to schedule a meeting to discuss any of the requirements for work in the floodplain. cquezada@fcgov.com or 970.416.2494.
Acknowledged. The District will coordinate with the City during the development of the construction specifications and drawings.

Department: Stormwater Engineering
Contact: Wes Lamarque, 970-416-2418, wlamarque@fcgov.com

1. No site improvements (site specific comment): If there are no site improvements that require grading or an increase in impervious area, there are no Stormwater requirements. Please contact Water Utilities Engineering if site improvements are anticipated.
Acknowledged. The Project will not increase impervious areas and post-construction grades will be returned to pre-construction grades.

2. Master plan and criteria compliance (site specific comment): The design of this site must conform to the drainage basin design of the City's Master Drainage Plans. This includes coordinating improvements with any of the City's planned drainage improvements.
Acknowledged. During the project's design phase, the City's Master Drainage Plans will be consulted.

3. Erosion control requirements (standard comment): The erosion control report requirements are in Chapter 2, Section 6 of the Fort Collins Stormwater Criteria Manual (December 2018, www.fcgov.com/erosion). If you need clarification concerning this section, please contact the Erosion Control Inspector, Jesse Schlam at 224-6015 or jschlam@fcgov.com.
Acknowledged. As part of the final design of the Project an erosion and sediment control plan and details will be developed so that the construction contractor can submit and receive the appropriate permits/approvals from the City and CDPHE.

4. Fees (standard comment): The 2020 city wide Stormwater development fee (PIF) is $9,447/acre of new impervious area over 350 square feet and there is a $1,045/acre of site review fee. No fee is charged for existing impervious area. These fees are to be paid at the time each building permit is issued. Information on fees can be found at:
http://www.fcgov.com/utilities/business/builders-and-developers/plant-investment-develo

pment-fees or contact our Utility Fee and Rate Specialists at (970) 416-4252 for questions on fees. There is also an erosion control escrow required before the Development Construction permit is issued. The amount of the escrow is determined by the design engineer, and is based on the site disturbance area, cost of the measures, or a minimum amount in accordance with the Fort Collins Stormwater Manual.

Acknowledged. The Project will not result in impervious area. Furthermore, the District will coordinate with the City on calculated fees as the project progresses.

Department: Water-Wastewater Engineering
Contact: Wes Lamarque, 970-416-2418, wlamarque@fcgov.com

1. Water and Sewer Infrastructure Separation (standard comment): Separation requirements will apply from the new water main to any City infrastructure. For your reference, minimum water and sewer separations are: > 10-ft min. between water and sewer mains.

Acknowledged. Once all existing utilities are located and potholed, the final design alignment will be determined so that it meets the required separations.

Department: Electric Engineering
Contact: Rob Irish, 970-224-6167, rirish@fcgov.com

1. INFORMATION ONLY: Light & Power has an existing duct bank running along the West side of and adjacent to the Burlington Northern RR. This will be crossed at the location the pipeline crosses the RR. The duct bank will need to be field located and potholed before crossing. Also, the duct bank may need to be suspended in place during construction.

Acknowledged. Once all existing utilities are located and potholed, the final design alignment will be determined so that it meets City requirements. Furthermore, the Districts' design engineer will coordinate with the City to gain approval for any utility support details needed.

2. INFORMATION ONLY: Light & Power has an existing duct line running North & South adjacent to the NE Frontage Rd. This will be crossed at the location the pipeline crosses I-25 and the Frontage Rd. The duct line will need to be field located and potholed before crossing. Also, the duct line may need to be suspended in place during construction.

Acknowledged. Once all existing utilities are located and potholed, the final design alignment will be determined so that it meets City requirements. Furthermore, it is anticipated that all utilities along the I-25 frontage roads will be crossed under by the tunnel installation under I-25.

3. Please contact Rob Irish @ 970-224-6167 prior to crossing these electric facilities or for any questions/comments/concerns.

Acknowledged, we will coordinate with the City during construction.

Department: Environmental Planning
Contact: Stephanie Blochowiak, 970-416-4290, sblochowiak@fcgov.com

1. An Ecological Characterization Study (ECS) is required by City of Fort Collins Land Use Code (LUC) Section 3.4.1 as the site is within 500 feet of LUC defined natural habitats and features (wetlands, wet meadows, Boxelder Creek, Cooper Slough, raptor nests). Please note the buffer zone standards range from 50-300ft for these features, or temporary 450ft buffers during active nesting season. The ECS should address all items (a)-(l) of LUC 3.4.1(D)(1) available for view online. In addition, ensure that the study identifies feature(s) size, the "top of bank" of any stream or ditch, the edge(s) of wetlands, and whether jurisdictional wetlands may be impacted by the proposed project. If prairie dogs are onsite or within 500ft, the ECS should specifically

address the presence of active prairie dogs including estimate of number of individuals and entire size of the colony within the project area. The ECS should address all items (a) (l) of LUC 3.4.1(D)(1) available for view online and include prairie dog mitigation options. Online LUC link: https://library.municode.com/co/fort_collins/codes/land_use The ECS is due a minimum of 10 working days prior to PDP submittal. Please contact me to discuss the scope and requirements of the ECS further and/or to schedule an onsite meeting. Online LUC link: https://library.municode.com/co/fort_collins/codes/land_use

Acknowledged. PIC contracted with ERO to prepare the required Ecological Characterization Report. This report has been provided to the City in advance of the Project's SPAR submittal.

2. Prior to Hearing, provide a copy to City Environmental Planner of request sent to Army Corps of Engineers for jurisdictional determination and permitting. Current site layout appears to impact wetlands under federal regulation thus a jurisdictional letter from the United States Army Corps of Engineers (USACE) needs to be submitted.

Prior to Final Plan Approval a copy of the USACE jurisdictional determination letter must be submitted to the City Environmental Planner. Refer to LUC 3.4.1(O)(1) Proof of Compliance: If a proposed development will disturb an existing wetland, the developer shall provide to the city a written statement from the U.S. Army Corps of Engineers that the development plan fully complies with all applicable federal wetland regulations established in the federal Clean Water Act.

Acknowledged. The Districts' engineer has contracted with ERO to provide all environmental and ecological services for the Project. It is in ERO's scope of services to work with the Corps to obtain a jurisdictional wetlands determination as part of the project's preliminary design which will take in the Spring/Summer of 2022. Once the formal jurisdictional determination is made, the document will be provided to the City.

3. Restoration will be needed. Please ensure the ECS discusses existing vegetation that will be disturbed and identifies restoration options. If existing vegetation is determined to be insufficient, then restoration and mitigation measures may be required. The restoration information can be included in the Erosion Control technical documents submitted.
See City of Fort Collins Natural Areas Department Guide on Native Plants:
https://www.fcgov.com/naturalareas/pdf/nativeplants2013.pdf For re-seeding see Natural Areas Department recommended seed mixes:
https://www.fcgov.com/developmentreview/pdf/seed-mixes.pdf There is also: Western Native Seed Company: High Plains Foothills Meadow Mix or Shortgrass Prairie Meadow Mix Pawnee Buttes Seed Company: Foothills Native Mix or Native Prairie Mix species.

Acknowledged. The Project ECS has been provided to the City prior to the SPAR submittal. A detailed restoration plan and specifications will be developed, in consultation with ERO and the City, during the project's design stage. The restoration plan will involve developing the appropriate seed mixes for restoring the various vegetation classes along the Project's corridor.

4. Please contact City Parks and Recreation and/or Utilities staff to see if the City has water rights to ditches that may be impacted. Work with the assigned Development Review Coordinator for this proposed development project.

Acknowledged. The Project will not impact water rights to ditches. All waters will be properly bypassed so that no impact to conveyances take place.

5. A Restoration Plan will be needed. Native plants and wildlife-friendly (ex: pollinators,

butterflies, songbirds) landscaping and maintenance are also encouraged. Please refer to the Fort Collins Native Plants document available online and published by the City of Fort Collins Natural Areas Department for guidance on native plants is: http://www.fcgov.com/naturalareas/pdf/nativeplants2013.pdf. Also see the City of Fort Collins Plant List : https://www.fcgov.com/forestry/plant_list.pdf. This can be included in the Erosion Control technical documents submitted.

Acknowledged. The Project ECS has been provided to the City prior to the SPAR submittal. A detailed restoration plan and specifications will be developed, in consultation with ERO and the City, during the project's design stage. The restoration plan will involve developing the appropriate seed mixes for restoring the various vegetation classes along the Project's corridor.

6. Contact the assigned Development Review Coordinator (DRC) prior to PDP submittal for the project if trees may be impacted. A review of trees shall be conducted by City Forestry staff to determine the status of existing trees and any mitigation requirements that could result from the proposed development. LUC Section 3.2.1(C) requires developments to submit a landscape and tree protection plan, and if receiving water service from the City, an irrigation plan, that: "...(4) protects significant trees, natural systems, and habitat, and (5) enhances the pedestrian environment. " A significant tree is defined as one having DBH (Diameter at Breast Height) of six inches or more. Please contact assigned Development Review Coordinator directly at 970-221-6689 or email DRCoord@fcgov.com to schedule a tree inventory site visit. Please plan for at least two weeks to get an onsite meeting scheduled, especially during April - October.

Acknowledged. A site tour with City Forestry on February 12, 2020. Per the site tour the Phase 3 corridor will not impact any trees.

7. If tree removal is necessary, please include the following note on the tree mitigation plan and landscape plan, as appropriate: "NO TREES SHALL BE REMOVED DURING THE SONGBIRD NESTING SEASON (FEBRUARY 1 TO JULY 31) WITHOUT FIRST HAVING A PROFESSIONAL ECOLOGIST OR WILDLIFE BIOLOGIST COMPLETE A NESTING SURVEY TO IDENTIFY ANY ACTIVE NESTS EXISTING ON THE PROJECT SITE. THE SURVEY SHALL BE SENT TO THE CITY ENVIRONMENTAL PLANNER. IF ACTIVE NESTS ARE FOUND, THE CITY WILL COORDINATE WITH RELEVANT STATE AND FEDERAL REPRESENTATIVES TO DETERMINE WHETHER ADDITIONAL RESTRICTIONS ON TREE REMOVAL AND CONSTRUCTION APPLY."

Not applicable, no trees were identified during field survey with City staff. See No. 7 above.

8. Policy LU6 in the Nature in the City Strategic Plan specifies that the multiple values of the City's ditch system, including wildlife habitat and ecological functions, should be supported, and protected. This includes keeping ditches daylighted when appropriate, removing barriers to wildlife movement along ditches, enhancing habitat, and improving connectivity for people and wildlife where appropriate. In some cases, re-alignment of ditches to achieve the goals outlined in this policy and the specific site development goals can be considered when the ecological value on the site can either be protected or enhanced. As such, the City Environmental Planning recommends leaving the ditch open. See the Nature in the City Executive Summary for reference. https://www.fcgov.com/natureinthecity/pdf/nature-in-the-city-executive-summary.pdf

Acknowledged. The Project will only have temporary impacts related to crossing Ditch No. 8 which leads to the Larimer-Weld Canal. PIC is sensitive to City's goal of protecting wildlife habitat and we do not anticipate the need to re-align ditches. Construction of the pipeline will be parallel to the Larimer-Weld Canal and at the crossing of Boxelder Creek and restoration will ensure no loss of natural resources. The Phase 3 Pipeline will not adversely impact the City's ability to maintain or expand its system of publicly controlled natural areas. Furthermore, the pipeline

project will not prevent corridors between natural areas from being maintained or established.

9. In Fort Collins, prairie dog colonies one (1) acre or greater in size are considered special habitat features (see LUC 5.1 Definitions). In addition, the Land Use Code requires that any prairie dogs inhabiting a site must be relocated or humanely eradicated prior to development activities [LUC 3.4.1(N)(6)]. Mitigation options are based from onsite assessment and include but are not limited to: trap and donate; active relocation; passive relocation; payment-in-lieu.
Acknowledged. Per the ECS, prairie dog colonies may be encountered on the east side of the project. If encountered, ERO has recommended the Districts follow Colorado Parks & Wildlife recommendations related to humane relocation prior to earth disturbing activities.

10. LUC 3.4.1(N)(1) Standards for Protection During Construction. For every development subject to this Division, the applicant shall propose, and the Director shall establish, measures to be implemented during the actual construction phase of the project to ensure protection of natural habitats and features and their associated buffer zones, as follows. The applicant shall propose, and the Director shall establish on the project development plan, a "limits of development" ("LOD") line(s) to establish the boundary of the project outside of which no land disturbance activities will occur during the construction of the project. The purpose of the LOD lines shall be to protect natural habitats and features and their associated buffer zones from inadvertent damage during site construction activities. The location of the LOD shall be designed to preserve significant ecological characteristics of the affected natural habitat or feature that could not reasonably be restored if disturbed by construction activities associated with the project. The LOD shall also be designed to accommodate the practical needs of approved construction activity in terms of ingress and egress to the developed project and necessary staging and operational areas.
Acknowledged. The Districts' construction drawings and specifications will require that the project's easement limits be delineated prior to start of construction. Furthermore, the construction contractor will be required to install either silt fence, orange safety fence, or T-marker post/wire fence to ensure not activities take place outside of approved areas. Th Project's will be shown on the construction drawings as "Limits-of-Construction" or LOC.

11. LUC 3.4.1(N)(4) Construction Timing. Construction shall be organized and timed to minimize the disturbance of Sensitive or Specially Valued Species occupying or using on-site and adjacent natural habitats or features.
Acknowledged. The ECS has provided guidance on seasonal protections of sensitive species.

12. 3.4.1(N)(5) Red-tailed and Swainson's Hawk Nest Sites. (a) No tree with an active nest shall be removed unless a permit for such removal has been obtained by the developer from the United States Fish and Wildlife Service.(b) To the extent reasonably feasible, trees that are known to have served as nest sites shall not be removed within five (5) years of the last known nesting period. If the tree is removed, it shall be mitigated in accordance with Section 3.2.1, Landscaping and Tree Protection Standards.(c) A temporary LOD of a four-hundred-fifty-foot radius shall be established for Red-tailed and Swainson's hawk active nest sites during the period from February 15 through July 15 of the first year of a multi-year development construction project.
Acknowledged. The Project's ECS has identified the potential location of hawk nests, recommended nest surveys, and the seasonal restrictions that must be followed along the Project corridor.

13. 3.4.1(N)(6) Prairie Dog Removal. Before the commencement of grading or other construction on

the development site, any prairie dogs inhabiting portions of the site within the LOD shall be relocated or eradicated by the developer. Prairie dog relocation shall be accomplished using methods reviewed and approved by the Colorado Parks and Wildlife Division. Following relocation or eradication activities, a report shall be provided to the City that documents when prairie dog removal occurred, the method(s) that were used to remove prairie dogs, measures taken to ensure that prairie dogs will not re-inhabit the site, and confirmation that no threatened or endangered species were harmed by removal activities.
Acknowledged. Per the ECS, prairie dog colonies may be encountered on the east side of the project. If encountered, ERO has recommended the Districts follow Colorado Parks & Wildlife recommendations related to humane relocation prior to earth disturbing activities.

14. Follow all Colorado Parks and Wildlife Division recommendations for construction timing related to osprey nests. Specifically: No surface occupancy (beyond that which historically occurred in the area) within ¼ mile radius of active nests. Seasonal restriction to human encroachment within one-fourth (1/4) mile radius of active nests from April 1 through August 31.
Acknowledged. The Project's ECS has identified the potential location of nests, recommended nest surveys, and the seasonal restrictions that must be followed along the Project corridor.

15. Please note that my last day with the City of Fort Collins is Thursday, January 16, 2020. Contact Kelly Smith, Senior Environmental Planner, at ksmith@fcgov.com or 970-224-6189 and/or Tenae Beane, Development Review Coordinator, at tbeane@fcgov.com or 970-224-6119 for future environmental planning questions.
Noted.

Department: Forestry
Contact: Nils Saha, nsaha@fcgov.com

1. 1-9-2020: INFORMATION ONLY FOR SPAR What is the proposed path/placement of the pipeline (i.e. street, parkway etc.). What impact will this have on existing trees and future tree plantings in the parkway?
The pipeline will be constructed in private easement. Within the City and its GMA, the construction corridor will be in generally open, undeveloped land.

2. 1-9-2020: INFORMATION ONLY FOR SPAR What tree/utility separation will be required? Installation of the pipeline should not prohibit future planting of street trees.
The pipeline will be constructed in easement within a corridor that currently does not have trees. To protect the pipeline, the utility easements secured for the Project will prohibit trees from being planted close to the pipeline. If planted to close, the trees could comprise the operations of the pipeline leading to property damage.

3. 1-9-2020: PRE-SUBMITTAL: Forestry Tree Inventory There are existing trees along the proposed area, including parkway trees. Please schedule an on-site meeting with City Forestry to obtain tree inventory and mitigation information. Existing significant trees should be retained to the extent reasonably feasible. This meeting should occur prior to first round of SPAR submittal.
Acknowledged. PIC conducted a tree field inspection with the City's Forestry Department on February 12, 2020. The inspection determined that the corridor is in open, undeveloped land with no trees.

4. 1-9-2020: INFORMATION ONLY FOR SPAR Please provide a landscape plan that meets the Land

Use Code 3.2.1 requirements. This should include the existing tree inventory, any proposed tree removals with theirlocations clearly noted and any proposed tree plantings (including species, size, quantity, and method of transplant). The plans should also include the following City of Fort Collins notes:

General Landscape Notes
Tree Protection Notes
Street Tree Permit Note, when applicable.
These notes are available from the city planner or Nils Saha (nsaha@fcgov.com)

Required tree sizes and method of transplant:
Canopy Shade Tree: 2.0" caliper balled and burlapped
Evergreen tree: 6.0' height balled and burlapped
Ornamental tree: 1.5" caliper balled and burlapped

Required mitigation tree sizes:
Canopy Shade Tree: 2.0" caliper balled and burlapped
Evergreen tree: 8.0' height balled and burlapped
Ornamental tree: 2.0" caliper balled and burlapped

Acknowledged, no trees were identified during the Tree Inventory meeting with the City, see No. 3 above. A detailed restoration plan will be developed during the project's design stage.

5. 1-9-2020: INFORMATION ONLY FOR SPAR. Please include locations of utilities on the landscape plan including but not limited to water service/mains, sewer service/mains, gas, electric, streetlights and stop signs. Please adjust tree locations to provide for proper tree/utility separation.10' between trees and public water, sanitary, and storm sewer main lines6' between trees and water or sewer service lines. 4' between trees and gas lines. 10' between trees and electric vaults. 40' between canopy shade trees and streetlights. 15' between ornamental trees and streetlights

Acknowledged. During the design phase, all existing utilities and features will be survey located to allow the design to be completed and comply with City requirements and industry accepted design standards.

6. 1-9-2020: INFORMATION ONLY FOR SPAR - If applicable, please provide an "Existing Tree Removal Feasibility Letter" for City Forestry staff to review. Proposals to remove significant existing trees must provide a justification letter detailing the reason for tree removal. This is required for all development projects proposing significant tree removal regardless of the scale of the project. The purpose of this letter is to provide a document of record with the project's approval and for the City to maintain a record of all proposed significant tree removals and justifications. Existing significant trees within the project's Limits of Disturbance (LOD) and within natural area buffer zones shall be preserved to the extent reasonably feasible. Streets, buildings, and lot layouts shall be designed to minimize the disturbance to significant existing trees. (Extent reasonably feasible shall mean that, under the circumstances, reasonable efforts have been undertaken to comply with the regulation, that the costs of compliance clearly outweigh the potential benefits to the public or would unreasonably burden the proposed project, and reasonable steps have been undertaken to minimize any potential harm or adverse impacts resulting from noncompliance with the regulation.) Where it is not feasible to protect and retain significant existing tree(s) or to transplant them to another on-site location, the

applicant shall replace such tree(s) according to City mitigation requirements.
Not applicable, PIC conducted a tree field inspection with the City's Forestry Department on February 12, 2020, and determined that the corridor is in open, undeveloped land with no existing trees. See Comment No. 3 above

Department: Fire Authority
Contact: Jim Lynxwiler, 970-416-2869, jlynxwiler@poudre-fire.org

1. FIRE HYDRANTS - As part of a transmission system, I'm not sure if it's possible but PFA would like to work with the project team to explore available options for adding critical infrastructure to areas currently devoid of fire hydrants. Does such an option exist?
Because this pipeline is a "transmission main" and not a part of either District's distribution system, the ability to install hydrants does not exist. However, East Larimer County Water District's (ELCO) distribution system will be expanded outside the transmission corridor and will likely provide the option for hydrants in the future.

2. FIRE ACCESS - PFA requires advance notification of full road closures which would affect emergency response. Such closures may be coordinated with our dispatch center at least two weeks in advance.
Acknowledged. The PFA advanced notice requirements will be placed in the construction contract requirements.

Department: Building Code Review
Contact: Russell Hovland, 970-416-2341, rhovland@fcgov.com

1. No comments from Building Code.

Department: Technical Services
Contact: Jeff County, 970-221-6588, jcounty@fcgov.com

1. As of January 1, 2015, all development plans are required to be on the NAVD88 vertical datum. Please make your consultants aware of this, prior to any surveying and/or design work. Please contact our office for up-to-date Benchmark Statement format and City Vertical Control Network information.
Acknowledged. The Project's survey work is being performed by King Surveyors. King is familiar with City requirements and all survey work will be tied to the NAV88 vertical datum.

North Weld County Water District
32825 WCR 39
Lucerne, Colorado 80646

East Larimer County Water District
232 South Link Lane,
Fort Collins, Colorado 80524

NEWT 3 Pipeline
Site Plan advisory Review
Neighborhood Meeting Summary

Meeting Date: December 1, 2021
Location: Virtual Zoom Meeting

Staff Attendees:

JC Ward – Neighborhood Services liaison, jcward@fcgov.com
Sylvia Tatman - Burrus – City Planner, statmanburruss@fcgov.com, 970.221.6225

Applicant Team: Mark Scott and Daniel Rice, Providence Infrastructure Consultants; Randy Siddens, East Larimer County Water District (ELCO); Eric R., North Weld County Water District

Summary

- **Meeting Topic:** The NEWT 3 pipeline is a shared water transmission pipeline serving two water districts: East Larimer County, and North Weld County. NEWT 1 and 2 are previously built sections that will be continued in the NEWT 3 project.
- There were few attendees and few questions at the brief meeting. The meeting was recorded and is available on OurCity for viewing and comment. https://ourcity.fcgov.com/devreview/widgets/18709/videos/3272

Staff Presentation

- Sylvia presented an overview of the pipeline and the Site Plan Advisory Review (SPAR) process for reviewing public facilities. The process is established by State statute, and the City has limited jurisdiction and review ability.
- The project will go to the Planning and Zoning Commission for approval or disapproval.
- If the Commission disapproves, their reasons would be forwarded to the governing boards of the two districts, which could overrule the disapproval and proceed with the project.
- So the City's role is advisory, a little different than typical development plans.
- The City Land Use Code does not apply.
- Criteria for review under the statute are "Location, Character, and Extent" to be reviewed for consistency with the Comprehensive Plan, *City Plan*.

Applicant Presentation

- Daniel showed a map of the pipeline corridor.
- It will deliver treated water from the Soldier Canyon Treatment Plant. It is needed to serve growth and provide redundancy to mitigate risks associated with line breaks. It's a 42-inch pipeline.
- 2.3 miles of the NEWT 3 pipeline are within Fort Collins.
- We're calling it a corridor. We still need to do detailed survey and data collection to get an exact placement location.

- The corridor was chosen to follow a powerline and the canal to limit impacts on adjacent streets. We have been successful engaging with owners and will continue to coordinate.
- The previous segment was a 40-foot easement. If more is needed for temporary construction access we will do that.
- Photos of work on the previous segment were shown – excavation, pipe bedding, pipe installation, silt fences, erosion control.
- Topsoil is saved for re-seeding. Soil is ripped to loosen it after compaction by equipment.
- One thing people usually ask about is that there can be a period between construction and restoration depending on timing. Restoration really needs to be in fall, so say we finish construction in July, you might not see restoration right away.

Q&A

- Q: Is any part of this presentation going to be about the County part?
- R: No, this meeting is for the City section. We will engage that part in coming weeks. If anyone has any questions just go ahead and reach out to the district. We trying to facilitate 1:! Meetings..
- Q: If it gets disapproved by the City, will it go to both boards?
- A: Yes.
- Q: Where it follows the canal, do you know where it would be along the canal?
- A: We work with the canal company to see how close we can get. We try to hug that as close as possible to minimize encumbering property.
- Q: What are the black symbols on the map?
- A: Those are places where bird nests have been observed. They have halos around them on the map showing areas that could limit the timing of contruction.
- Q: Do you know the timing?
- A: We are aiming for design in 2022 and construction in 2023. We need to move as fast as possible to meet pressing needs.

Wrap Up

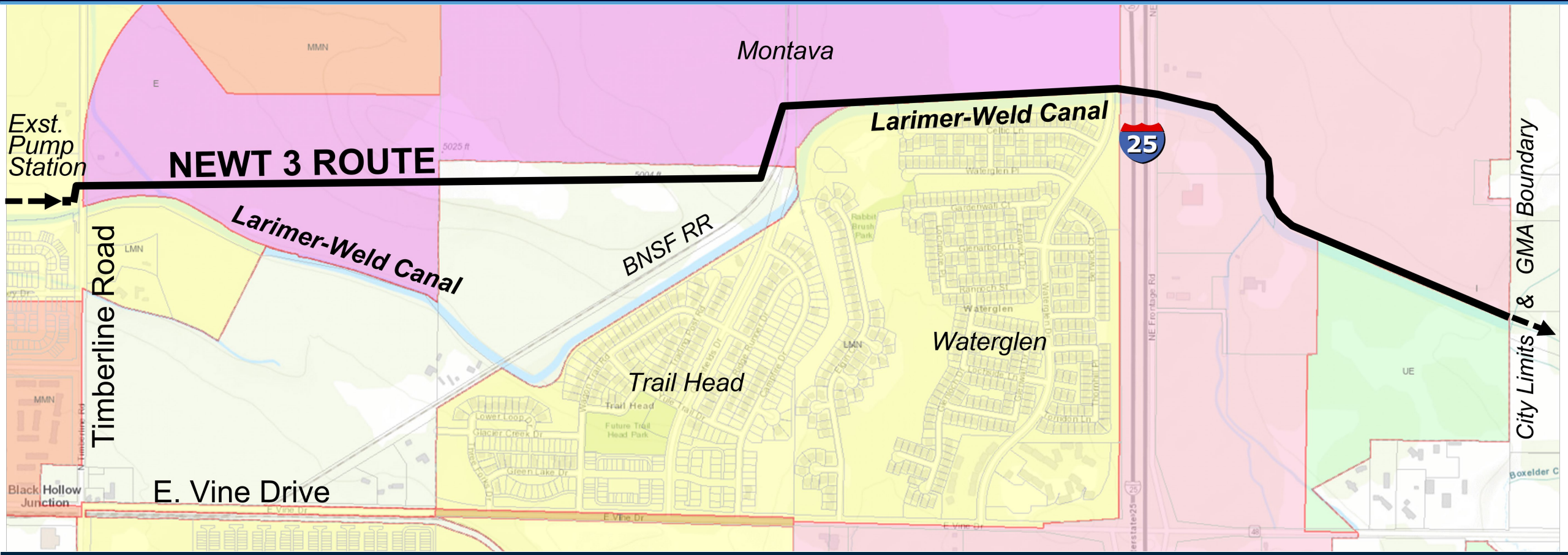
There were no further questions or comments. JC mentioned the next step – a P&Z hearing. There will be a mailing for that to the same area.

NEWT PHASE 1 and 2 TIMELINE	
Task	**Completion**
Project Hydraulic and Pipe Sizing Evaluations	2004
NEWT 1 – Routing Study	2006
NEWT 1 – Larimer County Location and Extent Permit	2006
NEWT 1 – Fort Collins Location, Character, and Extent Permit	2006
NEWT 1 – Permitting / Design	2009
NEWT 1 – Construction	2010
NEWT 2 – Routing Study	2007
NEWT 2 – Larimer County Location and Extent Permit	2008
NEWT 2 – Permitting / Design	2014
NEWT 2 – Construction	2016
NEWT PHASE 3 TIMELINE	
Task	**Completion**
Natural and Cultural Resources Assessment	08/20/2018
Routing Study	07/24/2019
Project Notification and Exploratory Meeting w/ City of Fort Collins	8/27/2019
Fort Collins Conceptual Review Application	12/13/2019
Fort Collins Conceptual Review Meeting	01/16/2020
Fort Collins Site Plan Advisory Review (SPAR) Checklists / Guidance Provided by City	01/17/2020
Draft SPAR Report Developed by engineering consultants	02/02/2020
SPAR Application + Report Submittal Coordination Meeting w/ Fort Collins	02/12/2020
Site Meeting with Fort Collins Forestry Department	02/12/2020
COVID-19 Pandemic / Internal District Coordination – Project Hold	
District Request for SPAR Re-engagement	5/17/2021
SPAR Re-engagement Meeting with City Staff (Virtual)	5/27/2021
District Property Owner Coordination Prior to SPAR Open House	8/20/2021
SPAR Open House Preparation Meeting with City staff (Virtual)	8/23/2021
Fort Collins Hearings Notification of Adoption of HB-1041 Regulations	9/08/2021
SPAR Neighborhood Meeting (Virtual)	12/1/2021
Complete City Requested Ecological Characterization Study (ECS)	2/14/2022
SPAR Application + Report Submittal	2/23/2022
SPAR Letter of Acceptance (via Email)	2/25/2022
SPAR Report Review Meeting	3/30/2022
Staff "Non-Approval" Recommendation Notification	4/3/2022
Final SPAR Report Comments	4/4/2022
SPAR Planning and Zoning Hearing	4/21/2022

City of Fort Collins

NEWT 3 Pipeline Site Plan Advisory Review

Planning & Zoning Commission Hearing – April 21, 2022


Montava
Exst. Pump Station
NEWT 3 ROUTE
Larimer-Weld Canal
Larimer-Weld Canal
BNSF RR
Timberline Road
Trail Head
Waterglen
E. Vine Drive
25
City Limits & GMA Boundary

Proposed corridor alignment for a water pipeline

North Weld County and

East Larimer County **W**ater Districts

Transmission Pipeline Project, Phase **3**

Project Overview – Existing Water Transmission Lines

State Requirements:

- State statutes govern City review of proposed public facilities.
- Statutes supersede the City's typical processes for other kinds of development plans.
- Section 31-23-209, C.R.S. governs review:
  - "When the Commission has adopted the master plan of the municipality…no…publicly or privately owned public utility shall be constructed or authorized in the municipality…until the **location, character, and extent** thereof has been submitted for approval by the commission."
  - "In case of disapproval, the commission shall communicate its reasons to the municipality's governing body, which has the power to overrule such disapproval by a recorded vote of not less than two-thirds of its entire membership."
  - "The failure of the commission to act within sixty days from and after the date of official submission to it shall be deemed approval."

Types of Development Applications – *Site Plan Advisory Review*

The Land Use Code incorporates the statute requirements into two Sections

2.1.3(E)(1). The Site Plan Advisory Review process requires the submittal and approval of **a site development plan** that describes the location, character and extent of improvements to **parcels owned or operated by public entities**.

2.1.3(E)(2). A Site Plan Advisory Review shall be applied to **any public building or structure.**

…shall be reviewed and approved or disapproved by the Planning and Zoning Board within sixty (60) days following receipt of a complete application.

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…such applications shall be reviewed and approved or disapproved by the Planning and Zoning Board within sixty (60) days following receipt of a complete application.

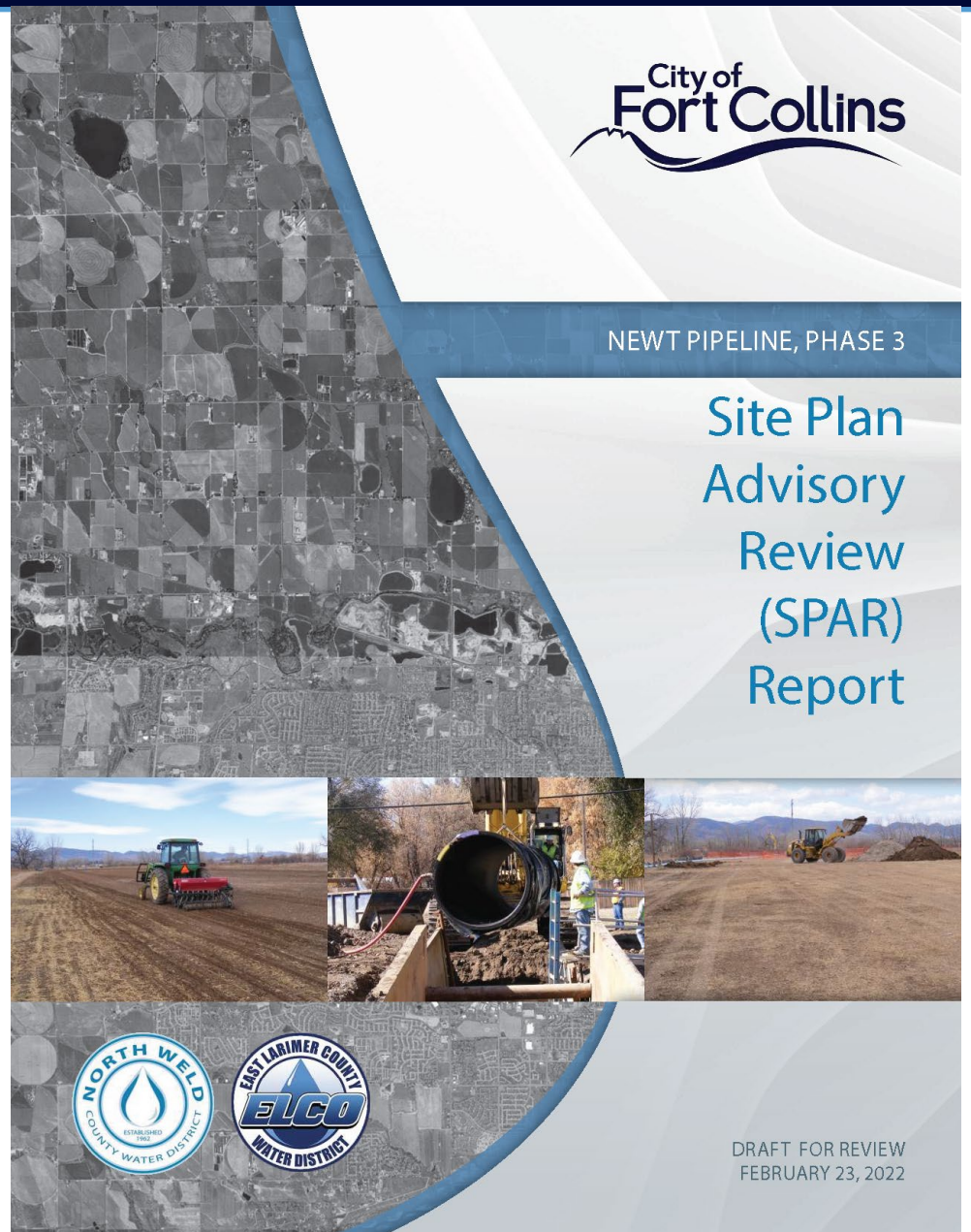
Site Plan Advisory Review Procedures

(H) Standards: LUC standards are not applicable, and in substitution thereof, an application must comply with the following criteria:

(1) …location shall be consistent with the land use designation described by the City Structure Plan Map.

(2) The site development plan shall conform to architectural, landscape and other design standards and guidelines adopted by the applicant's governing body. Absent adopted design standards and guidelines, the design character of the site development plan shall be consistent with the stated purpose of the respective land use designation as set forth in the City's Comprehensive Plan.

(3) **The site development plan shall identify the level of functional and visual impacts to public rights-of-way, facilities and abutting private land caused by the development,** including, but not limited to, streets, sidewalks, utilities, lighting, screening and noise, **and shall mitigate such impacts to the extent reasonably feasible.**


City of Fort Collins
NEWT PIPELINE, PHASE 3
Site Plan Advisory Review (SPAR) Report
NORTH WELD COUNTY WATER DISTRICT
EAST LARIMER COUNTY ELCO WATER DISTRICT
DRAFT FOR REVIEW
FEBRUARY 23, 2022

Premise of the submittal:

- Planning level review under City Plan
- Provides a “site development plan” with the conceptual corridor plan and profile and conceptual pipeline construction details
- Identifies “the level of impacts” and describes how final plans will “mitigate the impacts to the extent reasonably feasible”
- Construction coordination, plans, and permits to then follow as in previous projects

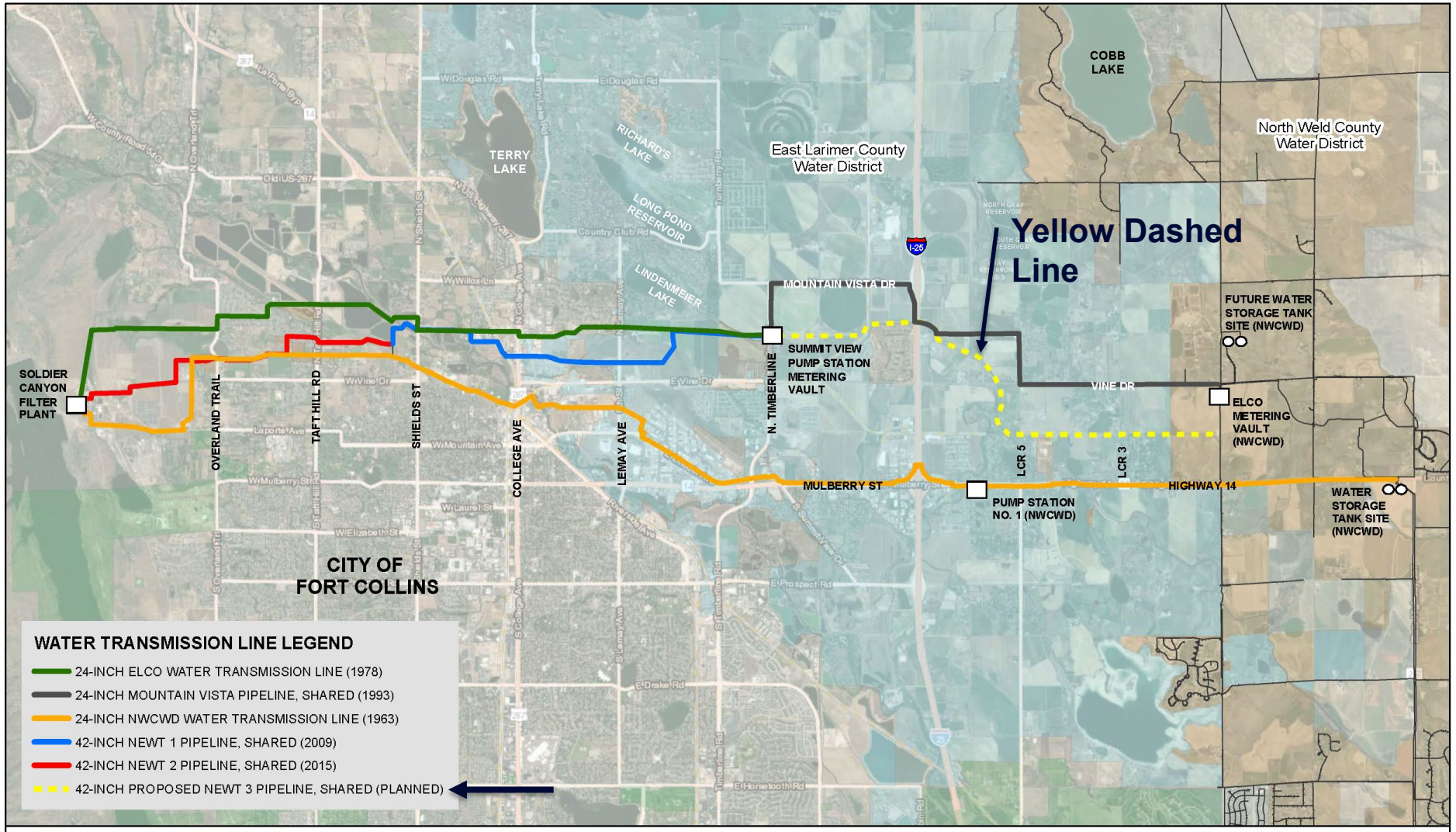
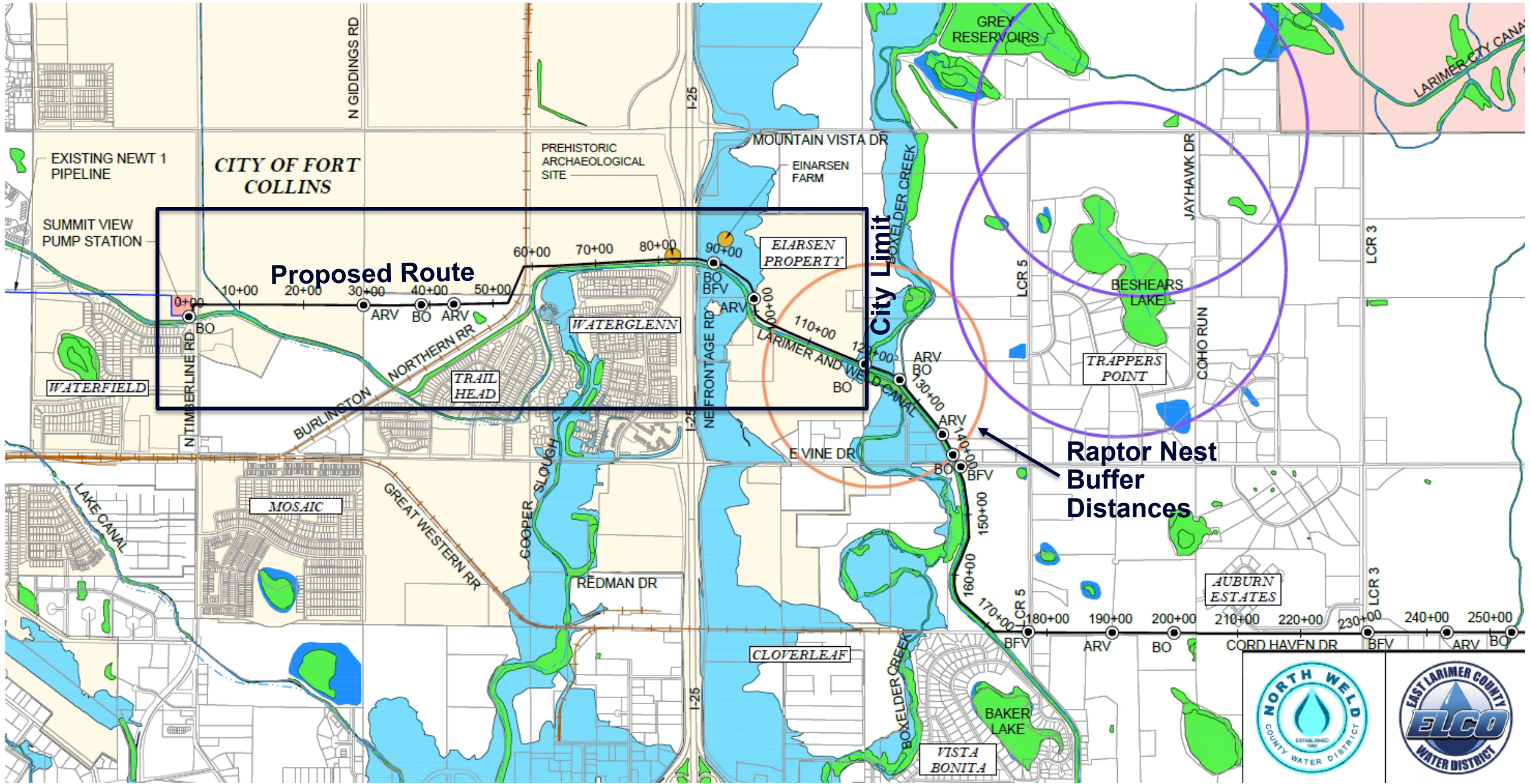


FIGURE 2-1: EXISTING TRANSMISSION SYSTEM


EXISTING NEWT 1 PIPELINE
SUMMIT VIEW PUMP STATION
CITY OF FORT COLLINS
PREHISTORIC ARCHAEOLOGICAL SITE
EINARSEN FARM
MOUNTAIN VISTA DR
GREY RESERVOIRS
LARIMER-CITY CANAL
N GIDDINGS RD
I-25
BOXELDER CREEK
JAYHAWK DR
LCR 5
LCR 3
BESHEARS LAKE
COHO RUN
TRAPPERS POINT
Proposed Route
City Limit
0+00
10+00
20+00
30+00
40+00
50+00
60+00
70+00
80+00
90+00
100+00
110+00
120+00
130+00
140+00
150+00
160+00
170+00
180+00
190+00
200+00
210+00
220+00
230+00
240+00
250+00
BO
ARV
BFV
ELARSEN PROPERTY
WATERGLENN
TRAIL HEAD
NORTHERN RR
BURLINGTON
NTIMBERLINE RD
NE FRONTAGE RD
LARIMER AND WELD CANAL
WATERFIELD
E VINE DR
Raptor Nest Buffer Distances
MOSAIC
LAKE CANAL
GREAT WESTERN RR
COOPER SLOUGH
REDMAN DR
CLOVERLEAF
AUBURN ESTATES
CORD HAVEN DR
BAKER LAKE
VISTA BONITA
NORTH WELD COUNTY WATER DISTRICT
EAST LARIMER COUNTY ELCO WATER DISTRICT


Montava
Exst. Pump Station
NEWT 3 ROUTE
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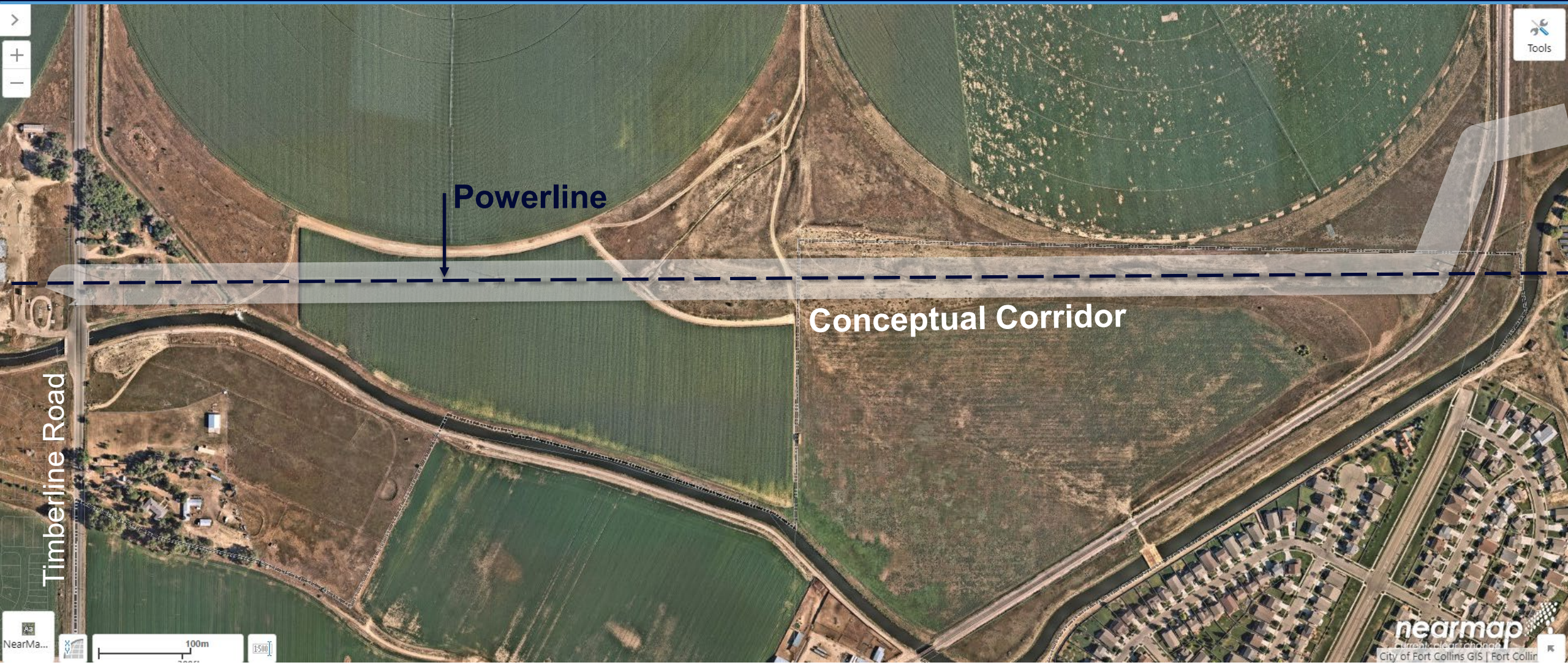
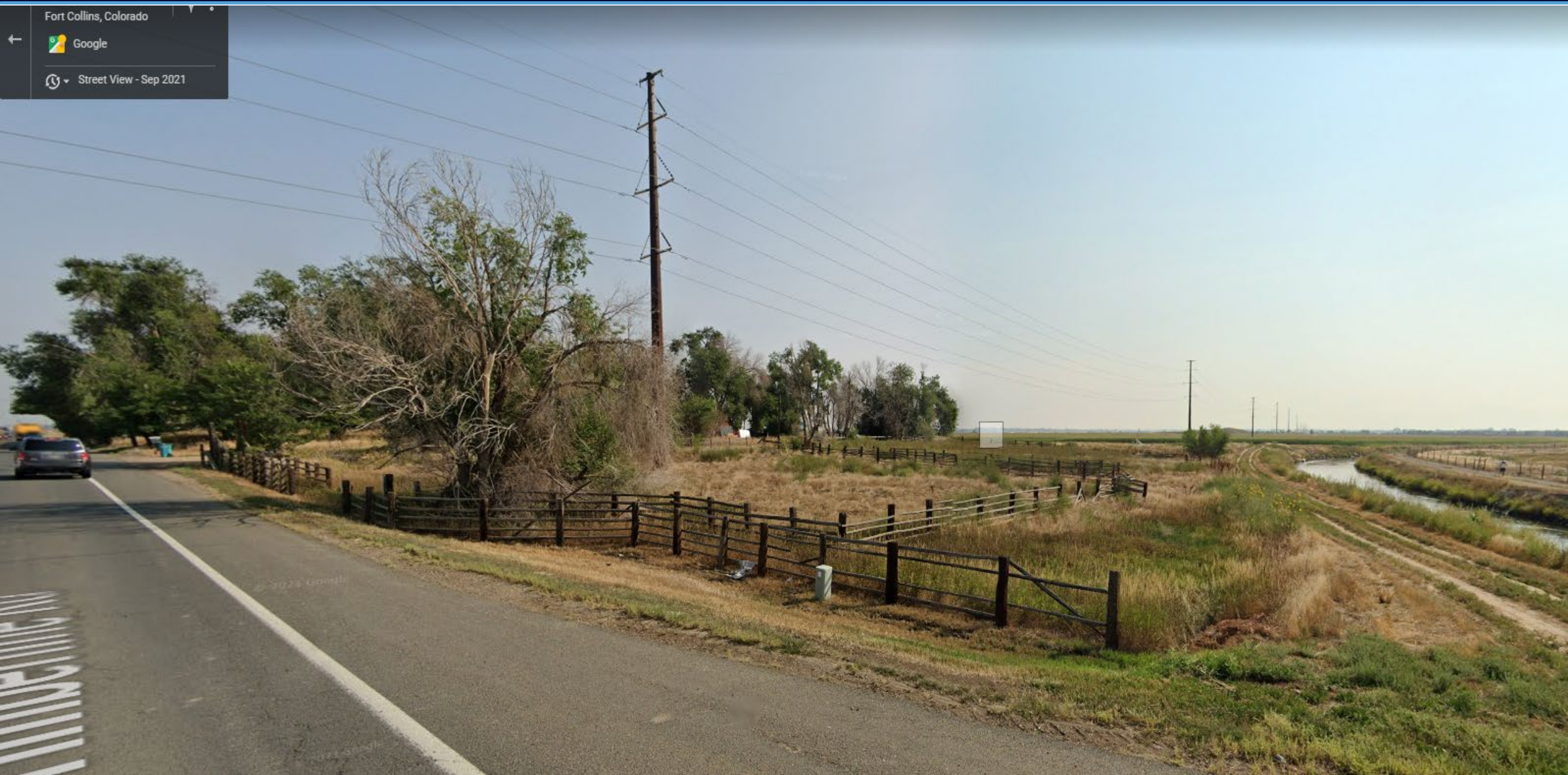
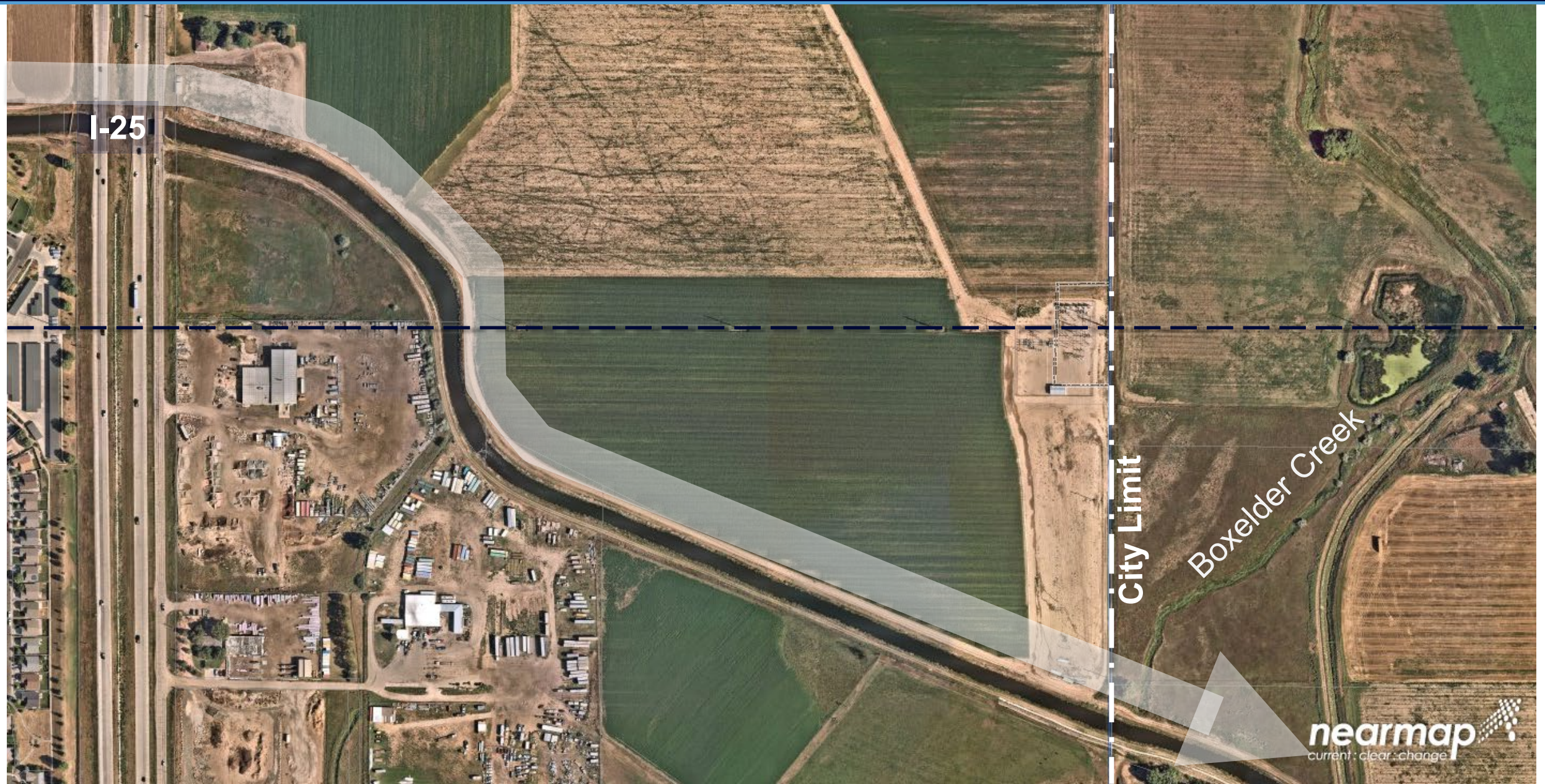
City Limits &
E. Vine Drive

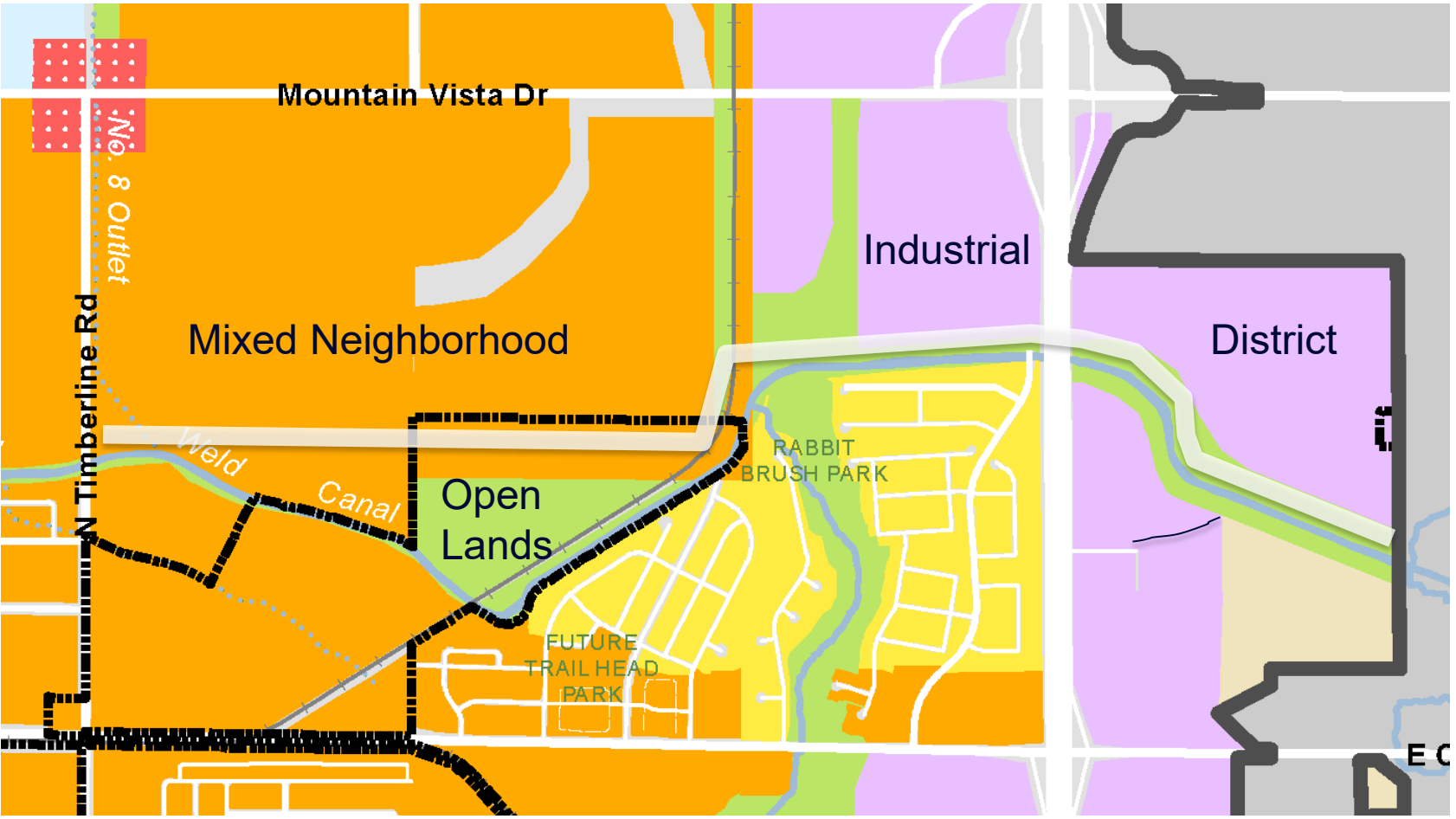

I-25
E. Vine Dr.
Conceptual Corridor
Timberline Road


Powerline
Conceptual Corridor
Timberline Road
Tools
100m
nearmap
City of Fort Collins GIS | Fort Collin


Fort Collins, Colorado
Google
Street View - Sep 2021


Larimer and Weld Canal
I-25
Tools
Still working. Loading FCMaps map data...
nearmap


I-25
City Limit
Boxelder Creek
nearmap
current : clear : change



“Location” Criterion:

(1) The site location for the proposed use shall be consistent with the land use designation described by the City Structure Plan Map, which is an element of the City's Comprehensive Plan.

“Character” Criterion:

(2) The site development plan shall conform to architectural, landscape and other design standards and guidelines adopted by the applicant's governing body. Absent adopted design standards and guidelines, the design character of the site development plan shall be consistent with the stated purpose of the respective land use designation as set forth in the City's Comprehensive Plan.

“Extent” Criterion:

(3) The site development plan shall identify the level of functional and visual impacts to public rights-of-way, facilities and abutting private land caused by the development, including, but not limited to, streets, sidewalks, utilities, lighting, screening and noise, and shall mitigate such impacts to the extent reasonably feasible.”

Fundamental Staff Determination – SPAR report vs "site development plan" :

- SPAR Report is sufficient as a site development plan
- Impacts and mitigation described, but to be determined in final plans
- Not possible to review the level of impacts of the pipeline nor whether the impacts are mitigated to the extent reasonably feasible, per SPAR criteria.
- A pipeline site development plan, as required in 2.1.3(E)(1), would be needed for staff findings.
- Examples of potential impacts to be confirmed and mitigated: disturbance to other utilities, existing and planned streets, natural resources noted in the study, land use on properties, and any unforeseen impacts.
- Staff acknowledges the evolving approach from past SPAR projects

Simply, staff finds that this review is premature because the specific location is not established within the corridor described in the report.

The extent of the level of impacts, and mitigation of impacts, will depend on final plans for the pipeline facility in its specific location within the corridor.

In other words, while the corridor routing study is thorough and complete, actual pipeline plans would be needed to satisfy SPAR criteria.

Staff acknowledges that detailed coordination will occur as construction plans are developed regardless of the SPAR.

Sample motion for the Commission to consider:

The Fort Collins Planning and Zoning Commission finds that the Site Plan Advisory Review Report for the NEWT 3 pipeline, dated February 23, 2022, is a thorough description of the conceptual corridor which is consistent with the City's Comprehensive Plan;

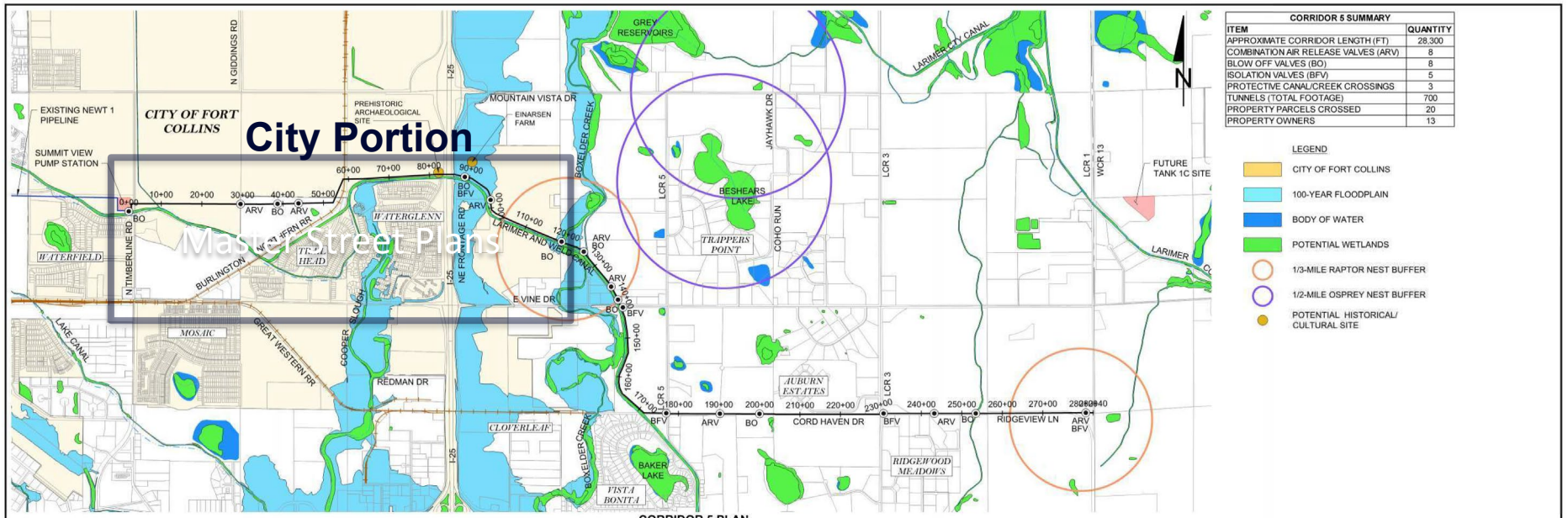
however,

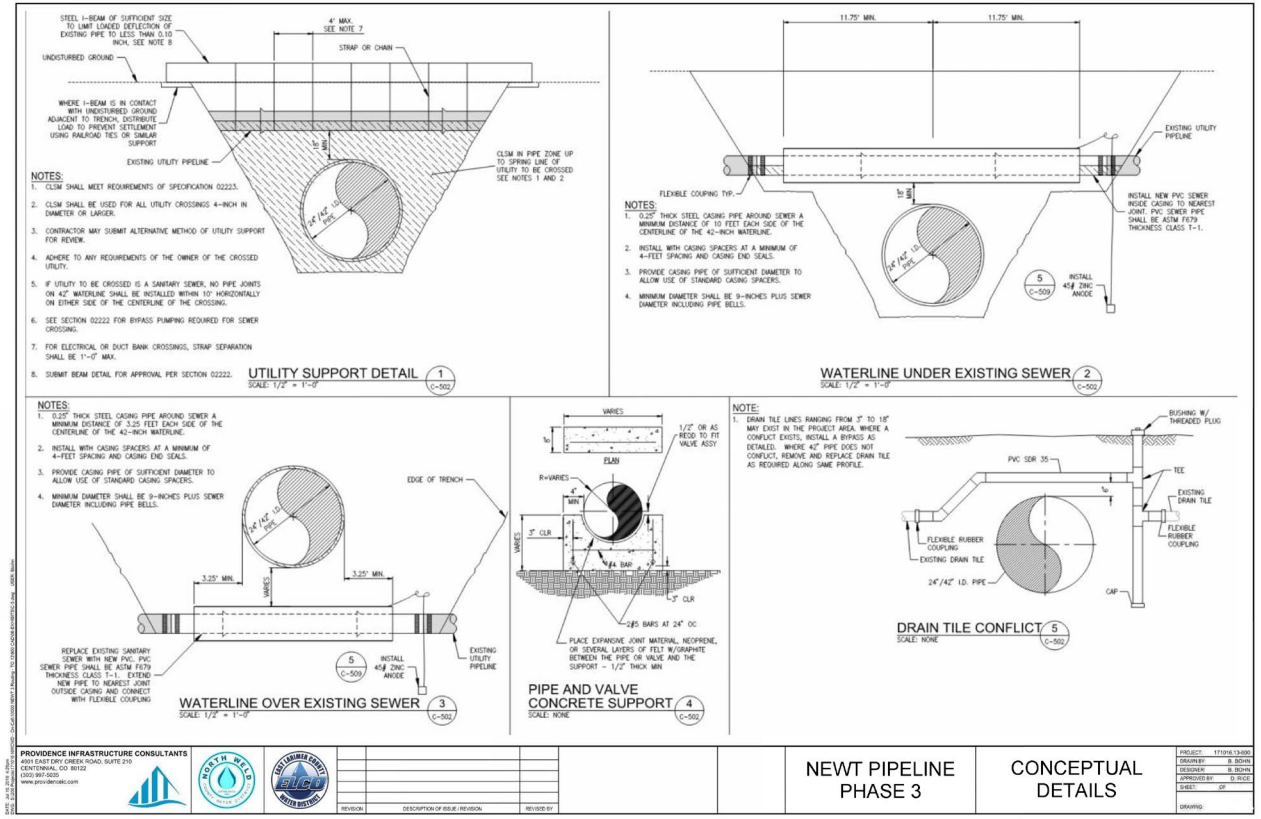
the Commission recommends disapproval of the NEWT 3 pipeline #SPA220001 as described in the SPAR report, because a more detailed site development plan for the pipeline is needed showing its location within the corridor, identifying impacts, and mitigating impacts.

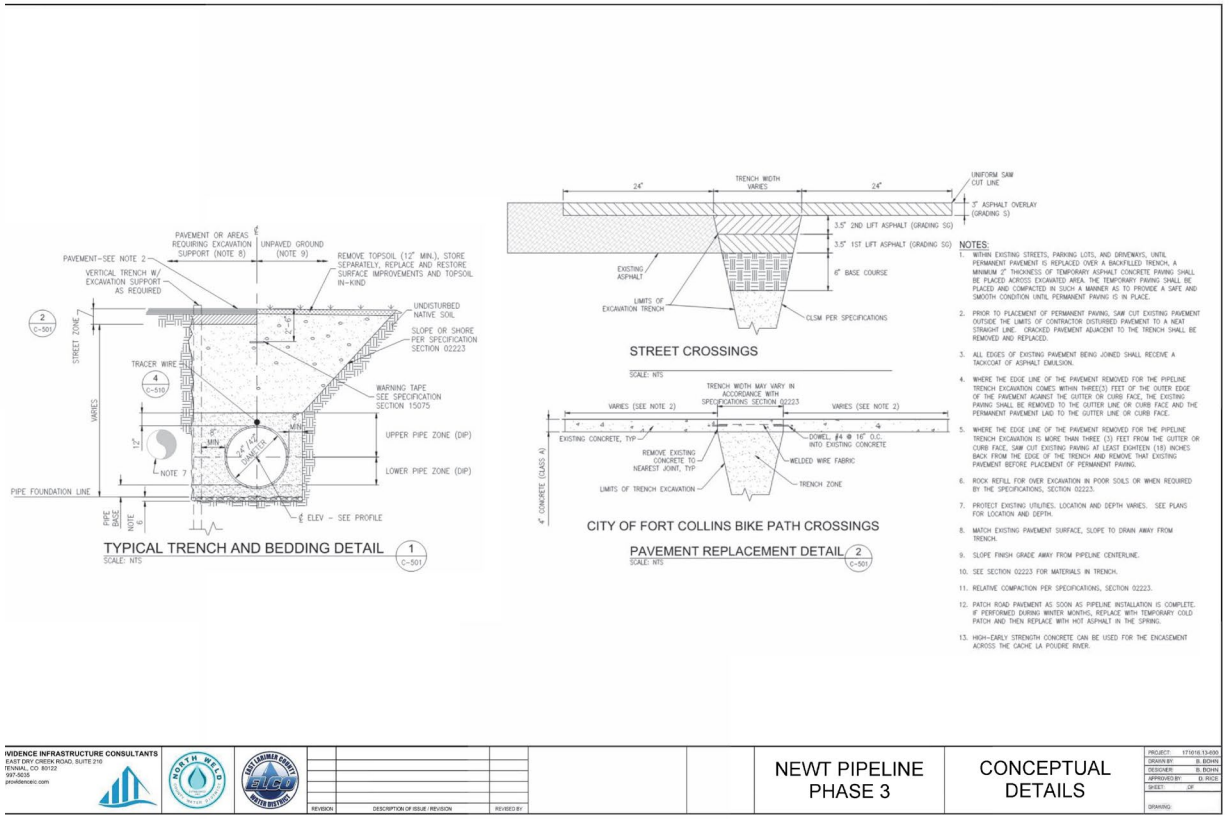
Impacts and Mitigation

Conceptual Corridor Plan Map

Conceptual Profile




UTILITY SUPPORT DETAIL
WATERLINE UNDER EXISTING SEWER
WATERLINE OVER EXISTING SEWER
PIPE AND VALVE CONCRETE SUPPORT
DRAIN TILE CONFLICT
NEWT PIPELINE PHASE 3
CONCEPTUAL DETAILS

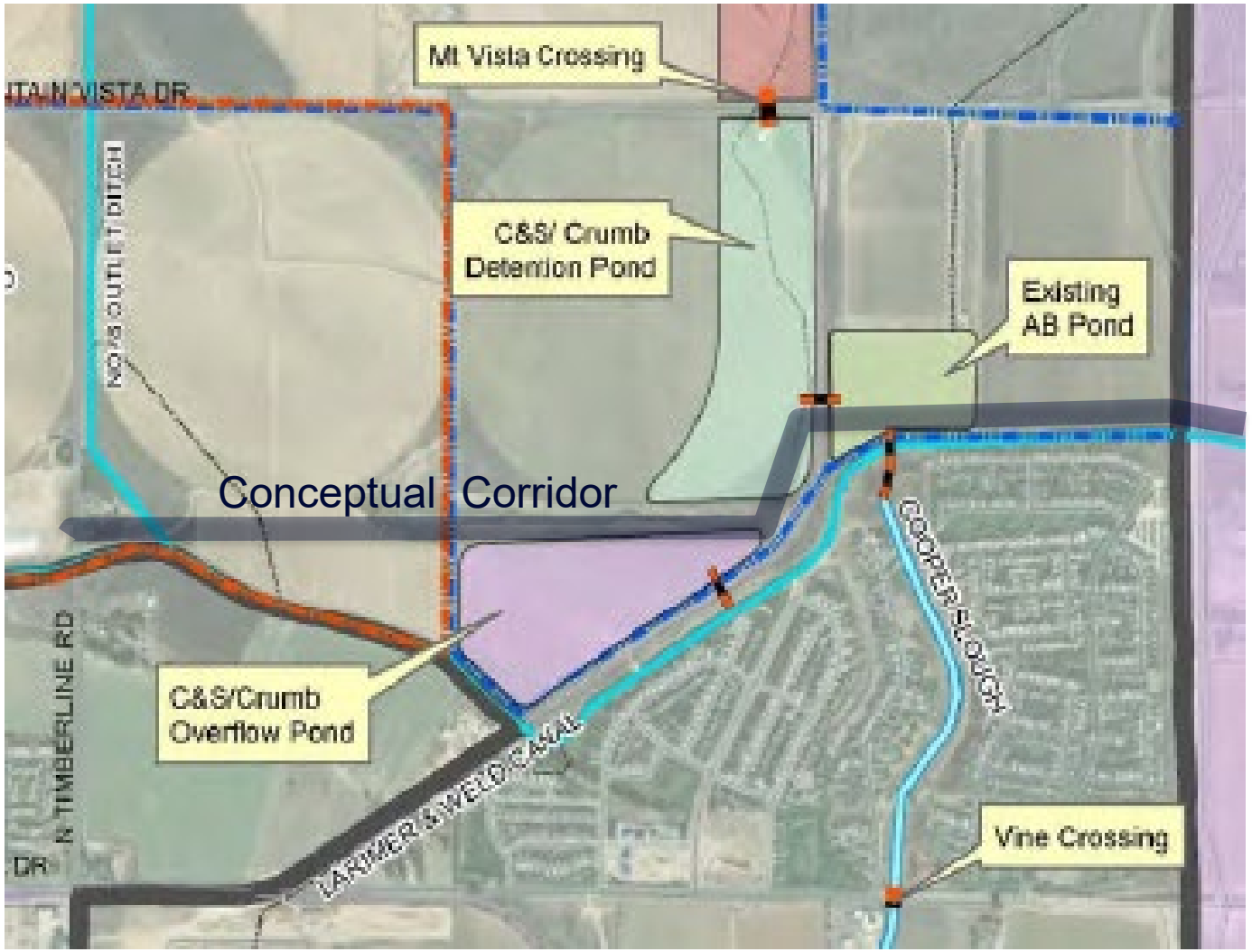

TYPICAL TRENCH AND BEDDING DETAIL
STREET CROSSINGS
CITY OF FORT COLLINS BIKE PATH CROSSINGS
PAVEMENT REPLACEMENT DETAIL
NEWT PIPELINE PHASE 3
CONCEPTUAL DETAILS

Examples

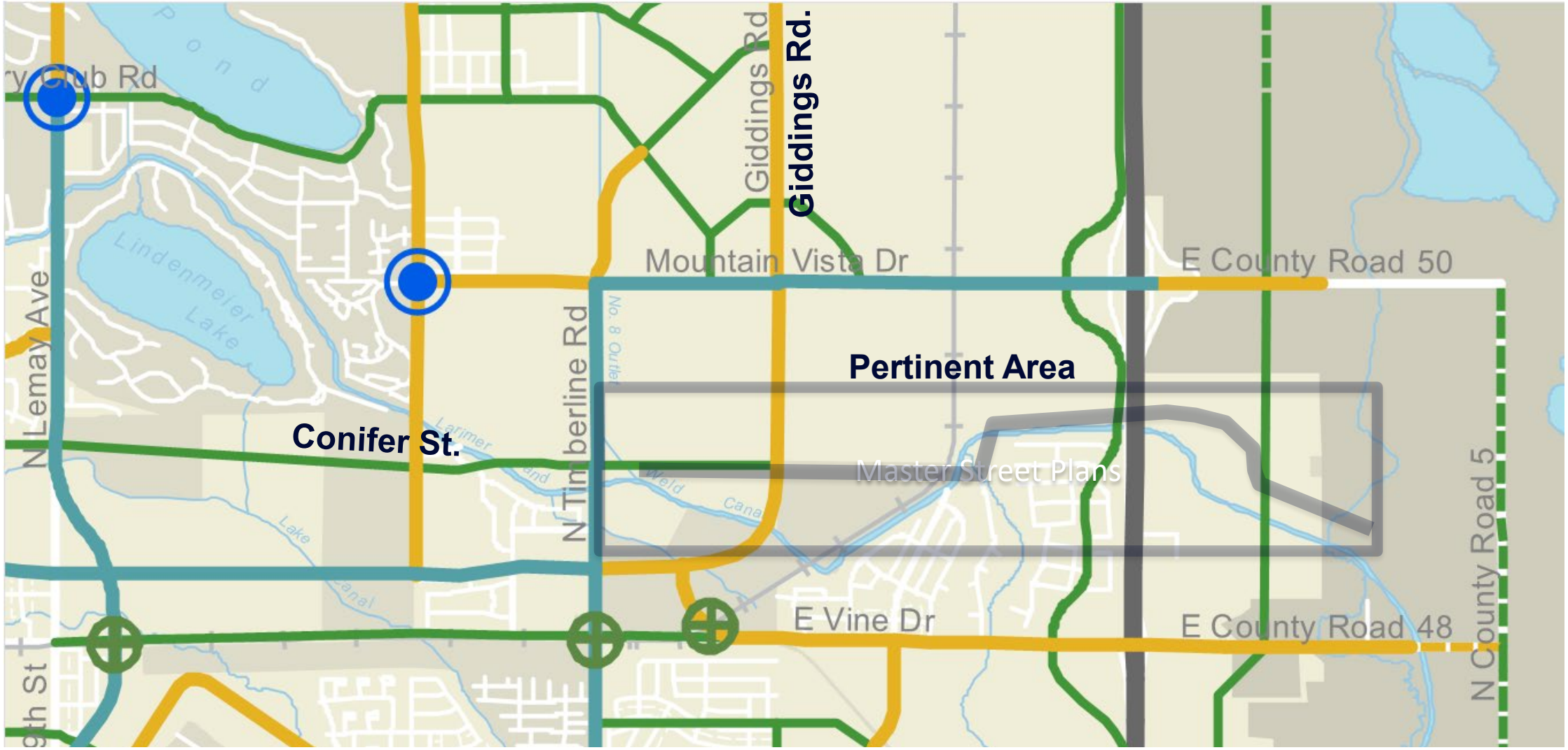
Level of impacts identified in the report and in other communications during the review process:

- **Timberline Road:** crossing and construction access/egress to comply with permitting requirements
- **Fort Collins' Anheuser Busch Water Line:** locates and avoidance will follow law and meet City requirements

City-owned property for future stormwater detention improvements and possible future electric substation:
Easements to be negotiated with all property owners including the City

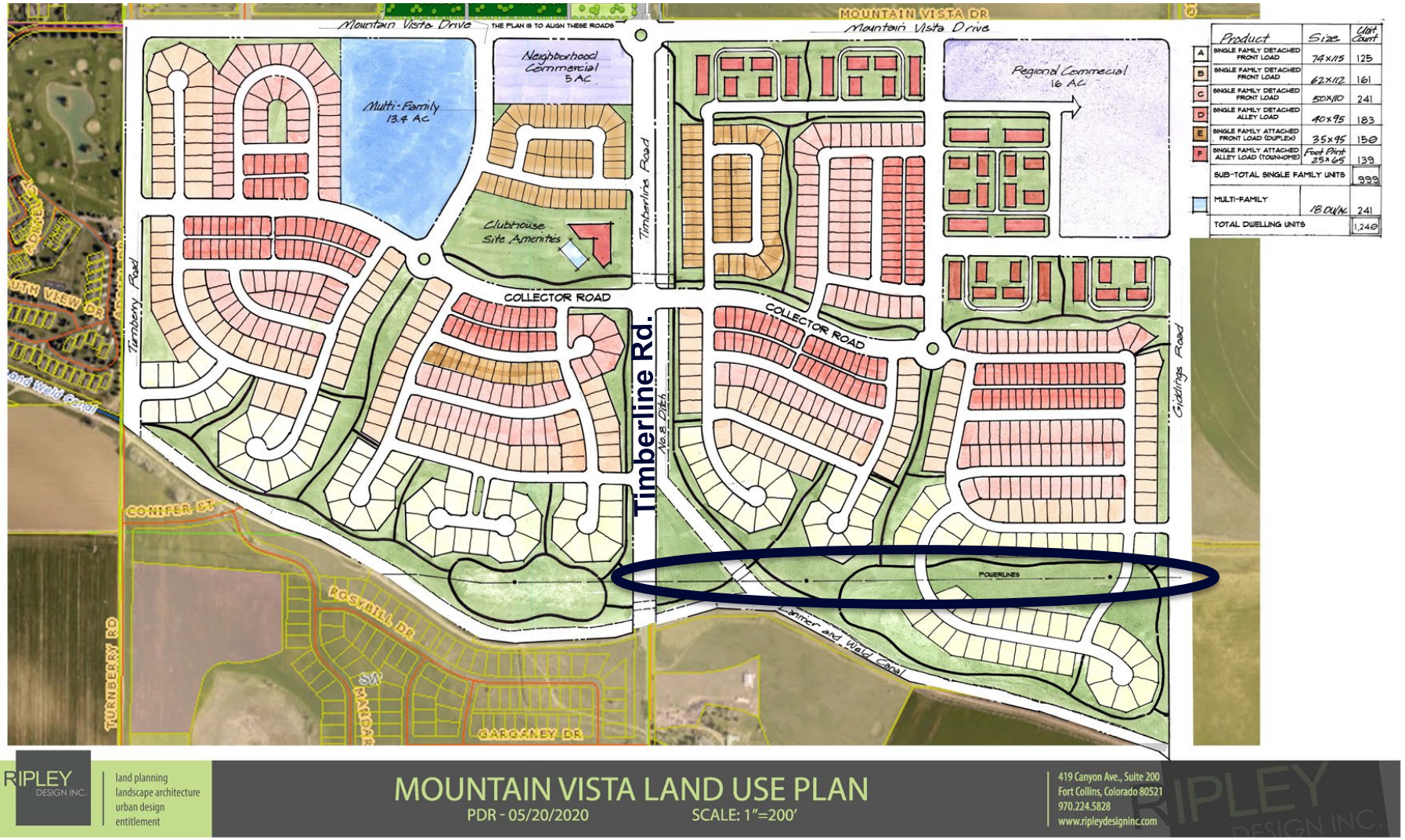


Master Street Plan – Conceptual Alignment of Future Conifer Street and Giddings Road:
Coordination will be the same as with NEWT 1 with Suniga Road and NECCO storm sewer projects



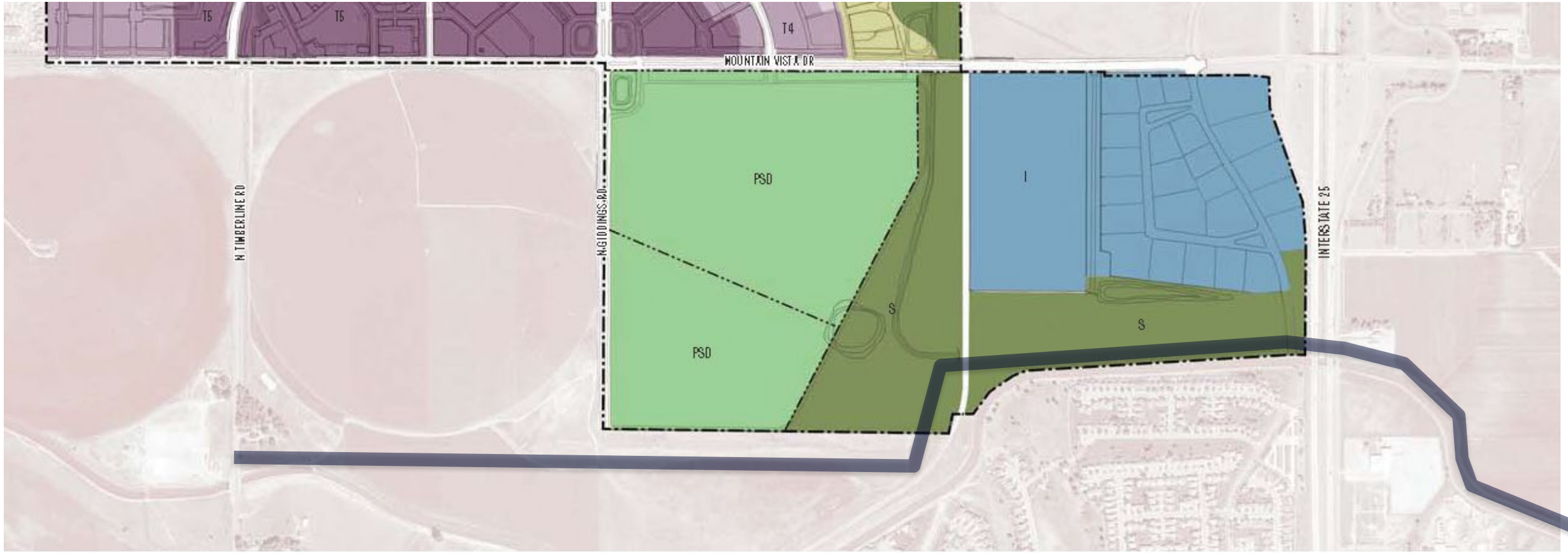
Mt. Vista Concept:

The powerline alignment is intended to avoid or minimize impacts to properties



Montava PUD Master Plan Conceptual Stormwater Facilities:

The Districts are in coordination with Montava development team to coordinate with future stormwater facilities.

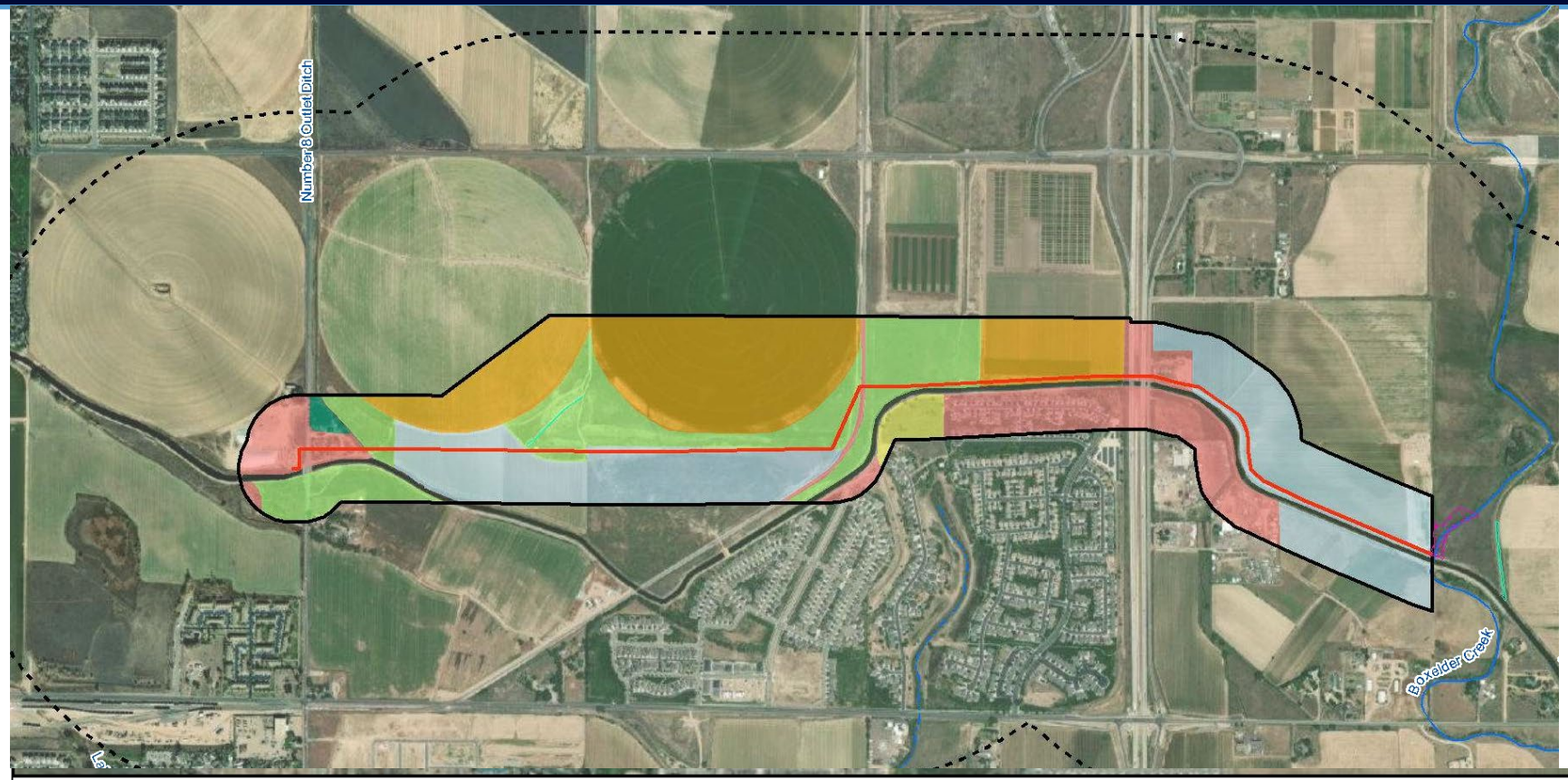


Wetlands along ditches:
ECS explains delineation -- fringes of canal and ditch -- low functioning.

ECS recommendations for mitigation involve Army Corps of Engineers permitting if needed.

Photo 7 - Overview of the Larimer and Weld Canal and associated wetland fringes in the eastern portion of the project area. View is to the northwest.

Photo 8 - Overview of the Number 8 Outlet Ditch in the western portion of the project area. View is to the south.



Restoration:
Typical final plan and construction measures for specific sites, using local specificaions if available.

- Agricultural, upland grasses, and potentially wetland grasses.
- Silt fences
- Topsoil
- Tilling
- Seed mixes – often City specs
- Critical timing

NEWT 3 Pipeline Ecological Characterization Study – Fort Collins Reach

Corridor 5
Project Area/Area of Potential Effect
1/2-Mile Buffer

Vegetation Community
Agricultural, Cultivated Crops
Agricultural, Field, Pasture/Hay/Grass
Disturbed/Developed
Mixed Upland Grassland
Parkland
Riparian Woodland/Shrubland
Woodland
Potential Wetland
Potential Wetland/Open Water

Image Source: Maxar Technologies© June 26, 2020

Raptor Nests:

ECS identifies potentially 7 within .5 miles

ECS notes surveys to confirm use when construction is imminent

ECS notes construction timing per CPW and USFWS as with all waterline projects that cross or are adjacent to environmental