

Section 4 Site Inventory Maps

This section addresses *Larimer County Procedural Guide for 1041 Permits*, Item 4.

4.a The applicant must identify all resources and environmental conditions potentially impacted by the proposed development. The inventory must include the following features on the site and within one half mile of the boundaries of the project perimeter (1,000 feet for linear facilities). If access to adjacent land is not possible the inventory may be completed by using map resources available in the Planning Department. The inventory may include a narrative explanation and/or maps depicting the location of the features. The site inventory may be integrated with the Project Description to give a complete picture of the proposal. The title of the project must appear on each map sheet. If an aerial photo is being used, indicate the date of the photography.

Site inventory maps identify resources and environmental conditions potentially impacted by the TWP. As discussed during the Pre-Application Conference with Larimer County Planning staff on May 26, 2016, a site inventory is not required beyond the corridor. However, Thornton included an additional study buffer at most locations that includes a 500-foot buffer from the centerline of the Alternative 3 (Option C) Corridor.

The aerial imagery utilized in the creation of the site inventory maps is from multiple sources; the three main sources are Denver Regional Council of Governments (DRCOG) 2016, Digital Globe 10/22/2017, and National Agricultural Imagery Program (NAIP) 2015. The information shown in these maps is the best available data downloaded from Larimer County's website and other local agencies. Each figure lists its source information.

The Site Inventory Map(s) may be required to contain the following information:

4.b Existing buildings, structures, utilities (water transmission lines and sewer collection lines), easements and other features including irrigation facilities, fences, roads, etc.;

Figure 4.bS shows the best available data for existing utility corridors, which includes gas, electrical, telecommunications, water, and sanitary sewer utilities within the Alternative 3 (Option C) Corridor. Oil and gas wells are also shown. Subsurface utility engineering will be completed during the design and construction phases of the TWP and will include surface geophysical methods and test holes to determine the locations of existing utilities.

Other existing infrastructure such as buildings, other structures, irrigation facilities, and roads are shown on the Vicinity Maps in Section 3. Infrastructure information is shown on separate maps to enhance legibility.

4.c Location of all residences, any abutting subdivision outlines and names, and the boundaries of any adjacent municipality or Growth Management Area.

The location of residences, subdivision outlines and names, and the boundaries of adjacent municipality and GMAs are shown on the Vicinity Maps in Section 3.

4.d Existing vegetation, soil types for SCS Soil Survey, water bodies, and other natural features;

Figure 4.d-1S show soil types with the Soil Conservation Service (SCS) soil type, water bodies, and other natural features. Existing vegetation information within the Alternative 3 (Option C) Corridor and study buffer can be found in the Addendum A to the Natural and Cultural Resources Assessment in **Appendix A**. Vegetation is shown on **Figure Addendum-A3** in **Appendix A**.

4.e Officially designated 100 year flood plains with Flood Way and Flood Fringe clearly shown;
The Alternative 3 (Option C) Corridor does not cross any designated 100-year floodplain as shown on **Figure 4.eS**. The 100-year floodplain and floodway were identified using Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM). The flood fringe is identified as those areas within the floodplain but outside the floodway.

4.f Geologic Hazards rated 3 through 7 with location and classification shown, including areas with expansive soils and other moderate hazards;

Figure 4.f-1s shows geological hazards with rating and classifications within the Alternative 3 (Option C) Corridor. Additional information can be found in Section 8.c, Natural Hazard Mitigation Plan.

Figure 4.f-2S shows the Natural Resources Conservation Service (NRCS) soil erodibility K factor values. K factor values represent the susceptibility of soil erosion, transportability of the sediment, and the amount and rate of runoff given a particular rainfall event. The majority of the Alternative 3 (Option C) Corridor is located within the medium soil erodibility range. Additional information can be found in Section 8.e, Drainage and Erosion Control Report and Plan.

4.g Wetlands – area of wetlands (*See* Section 8.2)

Open waters, wetlands, and riparian areas within the Alternative 3 (Option C) Corridor and study buffer are described in the Addendum A to the Natural and Cultural Resources Assessment in **Appendix A**. **Figure Addendum-A3** shows these areas in the **Appendix A**.

4.h Drainage patterns and general direction of flows on and through the site;

Figure 4.hS shows drainage patterns and the general direction of flows in the Alternative 3 (Option C) Corridor. Additional information can be found in Section 8.e, Drainage and Erosion Control Report and Plan.

4.i Topography with a contour interval sufficient to evaluate the proposal but no greater than 40-foot intervals. Contours must be labeled every 5 to 7 inches and every 5th contour line clearly shown by a heavier line. Areas of 20% or greater slope must be clearly shown by shading or other means;

Figure 4.iS shows the topography of the Alternative 3 (Option C) Corridor with 10-foot contour intervals and areas of 20 percent or greater slope.

4.j Wildlife habitat and migration corridors with a description of the ways wildlife use the site and the species involved, with proposed setbacks or other potential mitigation measures;

Wildlife habitat and migration corridors within the Alternative 3 (Option C) Corridor and study buffer with description of the ways that wildlife use the site and the species involved, with proposed setback and other potential mitigation measures, can be found in the Addendum A to the Natural and Cultural Resources Assessment in **Appendix A**. Wildlife is shown on **Figure Addendum-A3** in **Appendix A**.

4.k Habitat for rare and endangered plants with species clearly indicated;

Information on habitat for rare and endangered plants, and specifically the species within the Alternative 3 (Option C) Corridor and study buffer, can be found in the Addendum A to the Natural and Cultural Resources Assessment in **Appendix A**.

4.l Wildfire Hazards with location and classification shown;

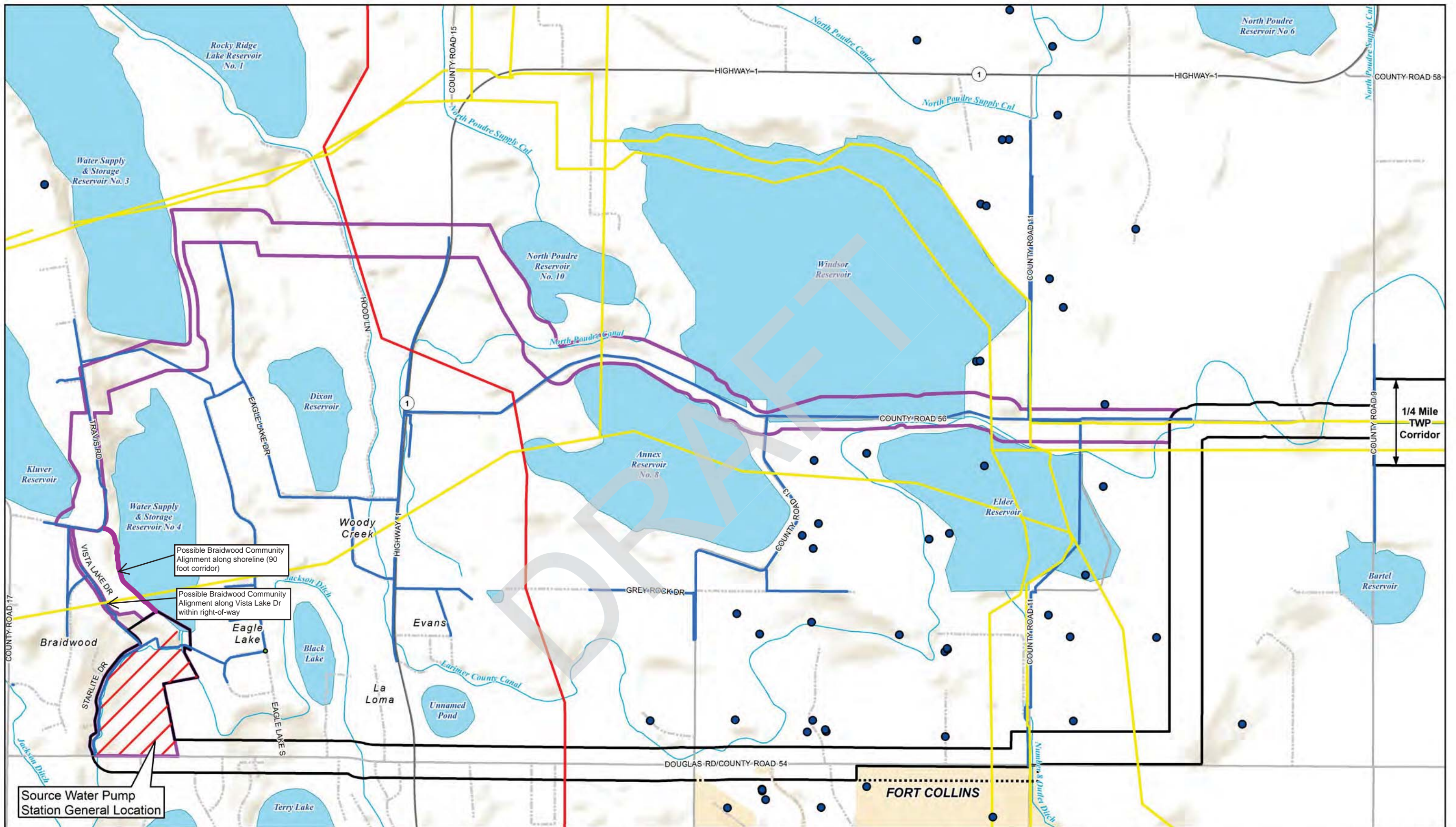
Figure 4.lS shows wildfire hazards with location and classification in the area surrounding the Alternative 3 (Option C) Corridor. The Alternative 3 (Option C) Corridor is located outside of wildfire hazard areas. Additional information can be found in Section 8.c, Natural Hazard Mitigation Plan.

4.m Sites and structures listed on the State and National Register of Historic Places;

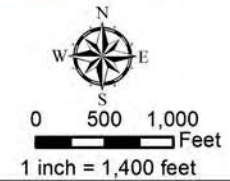
No cultural sites and structures listed on the State and National Register of Historic Places are located within the Alternative 3 (Option C) Corridor. Additional information can be found in the Addendum A to the Natural and Cultural Resources Assessment in **Appendix A. Figure Addendum A4** shows the Office of Archaeology and Historic Preservation search results can be found in Appendix A.

4.n Commercial Mineral Deposits with the type of mineral deposit indicated along with estimates of the quantity and quality of the mineral and the amount of overburden present.

Commercial mineral deposits are not present within the Alternative 3 (Option C) Corridor. **Figure 4.nS** shows locations of commercial mineral mines, active hard rock mines, sand and gravel construction mines, and other mines from the Division of Reclamation Mining and Safety.



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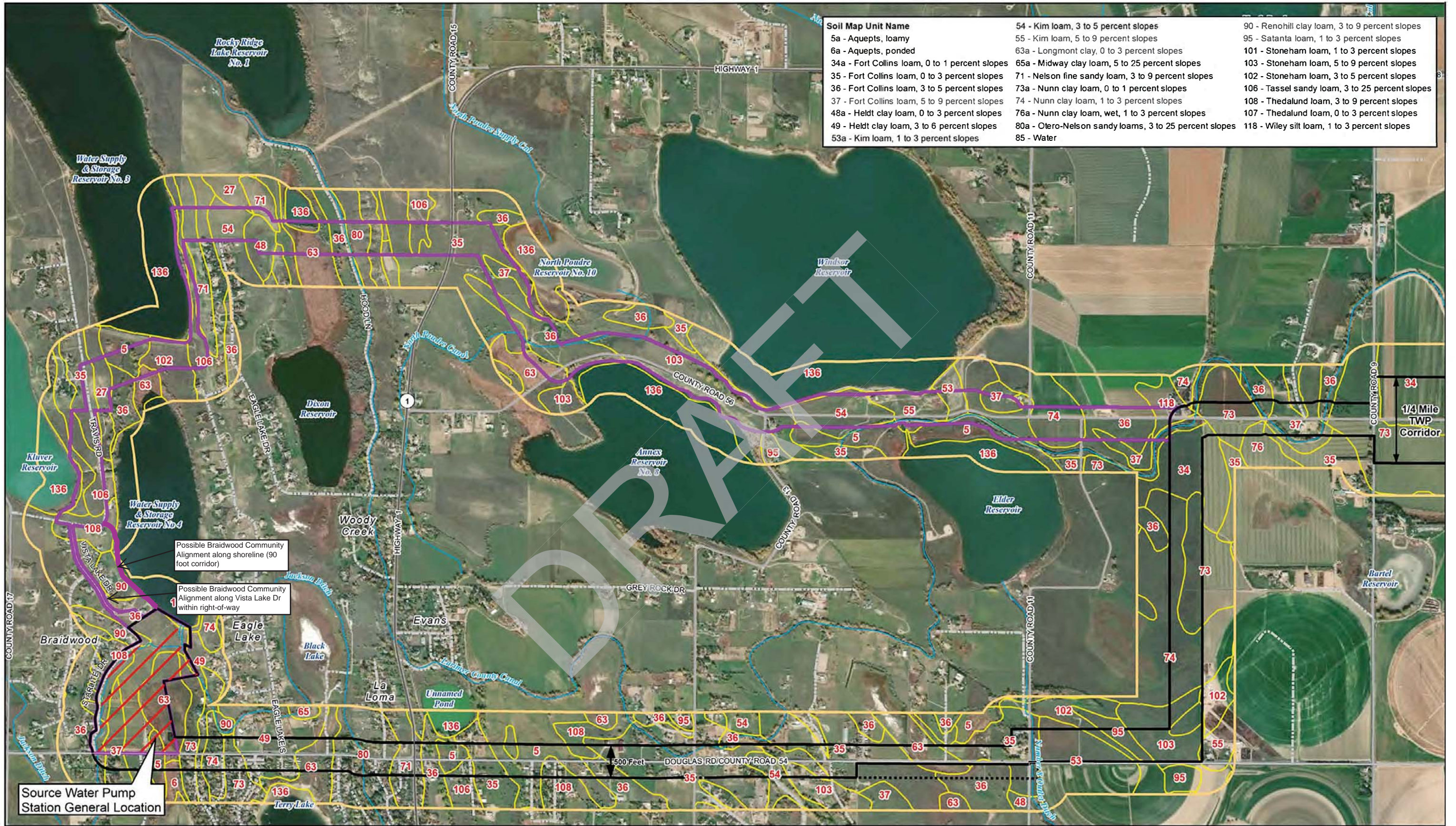


- Alternative 3 (Option C) Corridor
- TWP Corridor in Unincorporated Larimer County
- TWP Corridor outside Unincorporated Larimer County
- River/Stream/Canal/Ditch
- * Source Water Pump Station General Location
- Oil and Gas Wells
- Electrical Transmission Line
- Telecommunications Line
- Gas Line
- Water Pipeline
- Sanitary Sewer Line

* Final location of the Source Water Pump Station will be determined during design development. Thornton will submit a Site Plan Review permit application to Larimer County after design has progressed to the level necessary to submit the application.

**Figure 4.bS
Alternative 3 (Option C) Corridor
Existing Utility Corridors**

Sources: NHD, CDWR, Larimer County, CDOT, ESRI



Soil Map Unit Name		
5a - Aquepts, loamy	54 - Kim loam, 3 to 5 percent slopes	90 - Renohill clay loam, 3 to 9 percent slopes
6a - Aquepts, ponded	55 - Kim loam, 5 to 9 percent slopes	95 - Satanta loam, 1 to 3 percent slopes
34a - Fort Collins loam, 0 to 1 percent slopes	63a - Longmont clay, 0 to 3 percent slopes	101 - Stoneham loam, 1 to 3 percent slopes
35 - Fort Collins loam, 0 to 3 percent slopes	65a - Midway clay loam, 5 to 25 percent slopes	103 - Stoneham loam, 5 to 9 percent slopes
36 - Fort Collins loam, 3 to 5 percent slopes	71 - Nelson fine sandy loam, 3 to 9 percent slopes	102 - Stoneham loam, 3 to 5 percent slopes
37 - Fort Collins loam, 5 to 9 percent slopes	73a - Nunn clay loam, 0 to 1 percent slopes	106 - Tassel sandy loam, 3 to 25 percent slopes
48a - Heldt clay loam, 0 to 3 percent slopes	74 - Nunn clay loam, 1 to 3 percent slopes	108 - Thedalund loam, 3 to 9 percent slopes
49 - Heldt clay loam, 3 to 6 percent slopes	76a - Nunn clay loam, wet, 1 to 3 percent slopes	107 - Thedalund loam, 0 to 3 percent slopes
53a - Kim loam, 1 to 3 percent slopes	80a - Otero-Nelson sandy loams, 3 to 25 percent slopes	118 - Wiley silt loam, 1 to 3 percent slopes
	85 - Water	

Possible Braidwood Community Alignment along shoreline (90 foot corridor)

Possible Braidwood Community Alignment along Vista Lake Dr within right-of-way

Source Water Pump Station General Location

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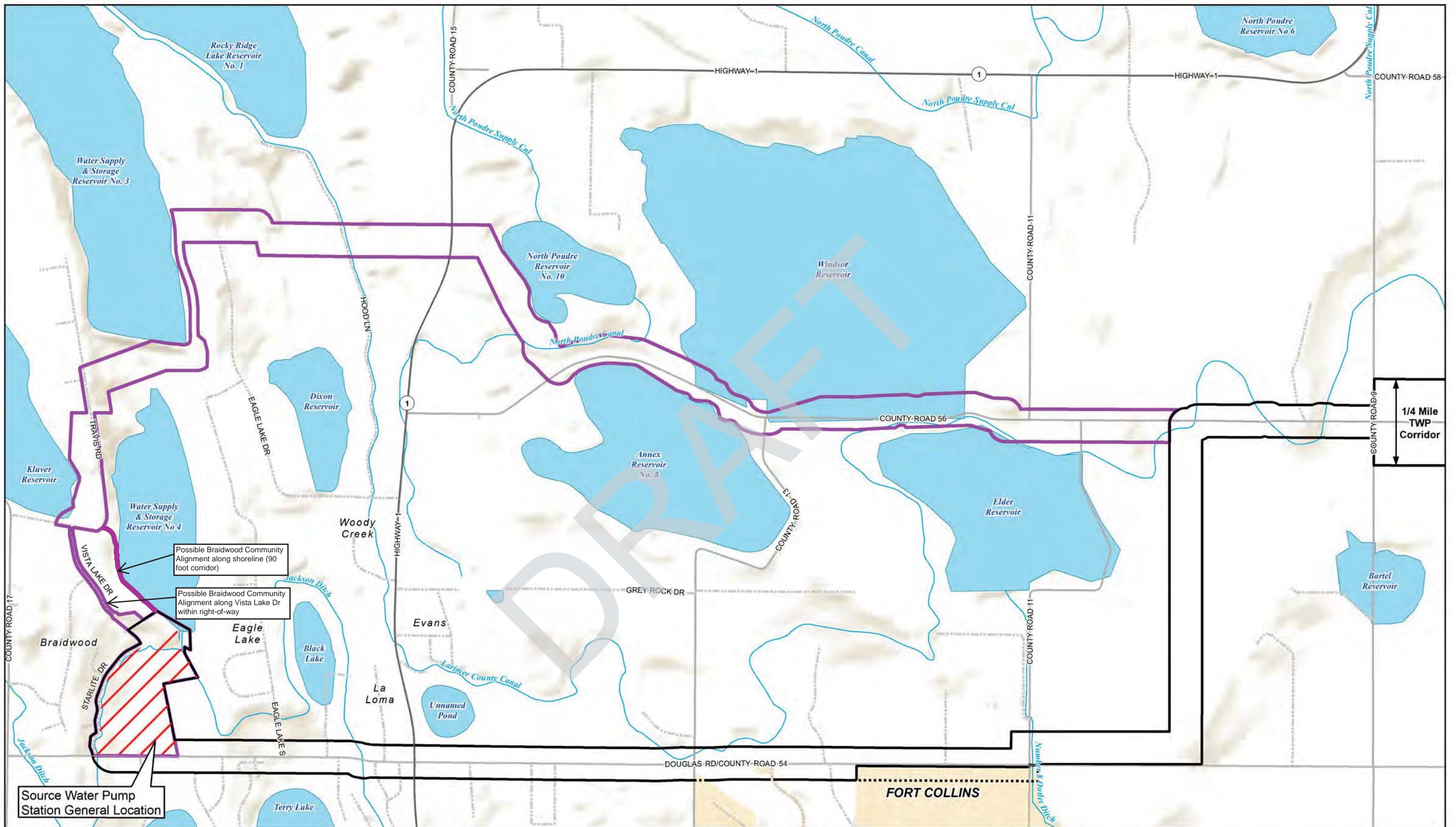
0 500 1,000 Feet
1 inch = 1,400 feet

<ul style="list-style-type: none"> Alternative 3 (Option C) Corridor TWP Corridor in Unincorporated Larimer County TWP Corridor outside Unincorporated Larimer County River/Stream/Canal/Ditch 	<ul style="list-style-type: none"> # *Source Water Pump Station General Location Study Buffer Soil Map Unit # Soil Map Unit Number
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* Final location of the Source Water Pump Station will be determined during design development. Thornton will submit a Site Plan Review permit application to Larimer County after design has progressed to the level necessary to submit the application.

Figure 4.dS
Alternative 3 (Option C) Corridor
Soil Map

Sources: NHD, CDWR, Larimer County, CDOT, ESRI



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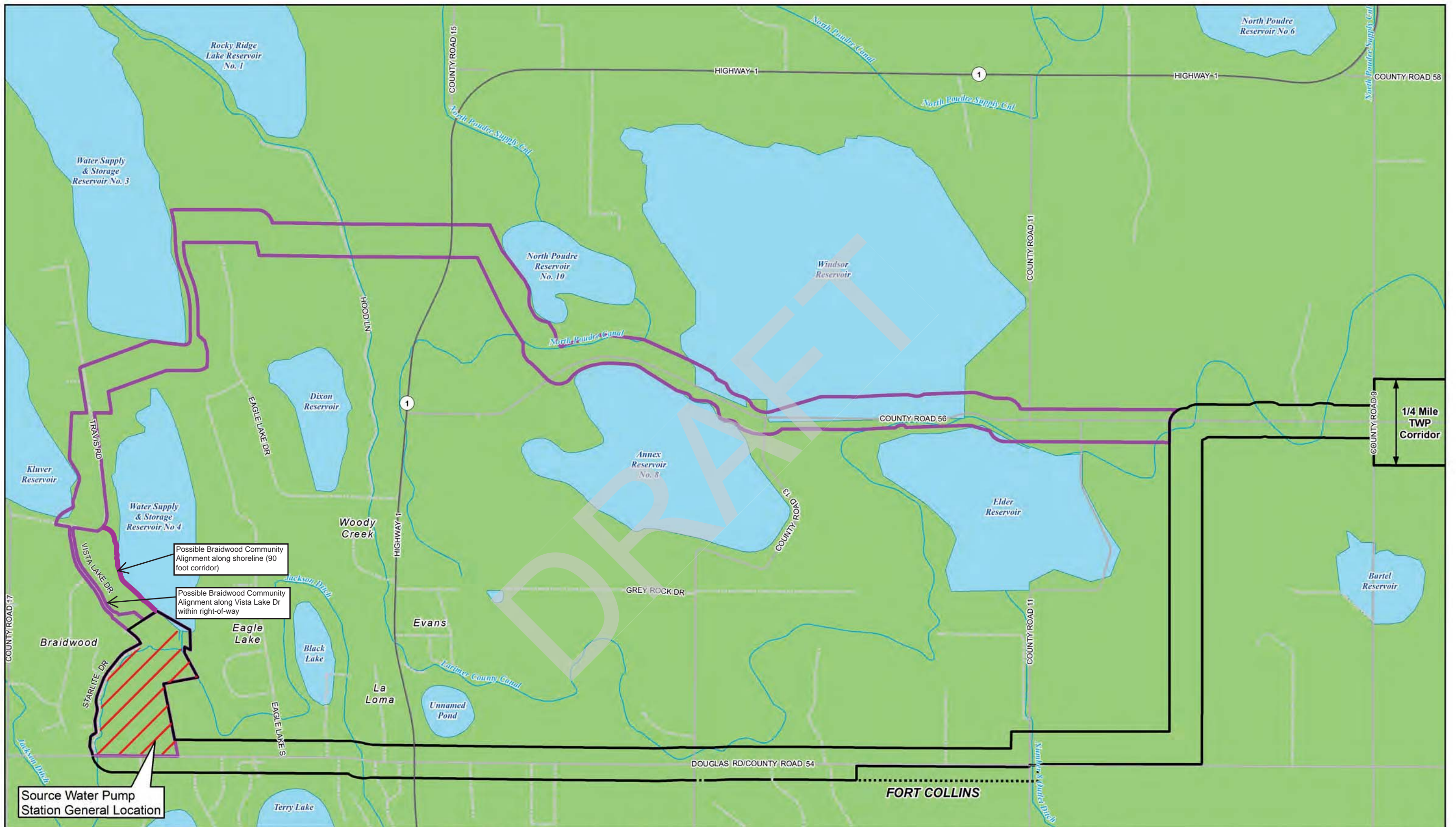
0 500 1,000 Feet

1 inch = 1,400 feet

Alternative 3 (Option C) Corridor	*Source Water Pump Station General Location	100-yr Flood Fringe
TWP Corridor in Unincorporated Larimer County	Lake/Reservoir	100-yr Floodway
TWP Corridor outside Unincorporated Larimer County	River/Stream/Canal/Ditch	Outside Floodway

* Final location of the Source Water Pump Station will be determined during design development. Thornton will submit a Site Plan Review permit application to Larimer County after design has progressed to the level necessary to submit the application.

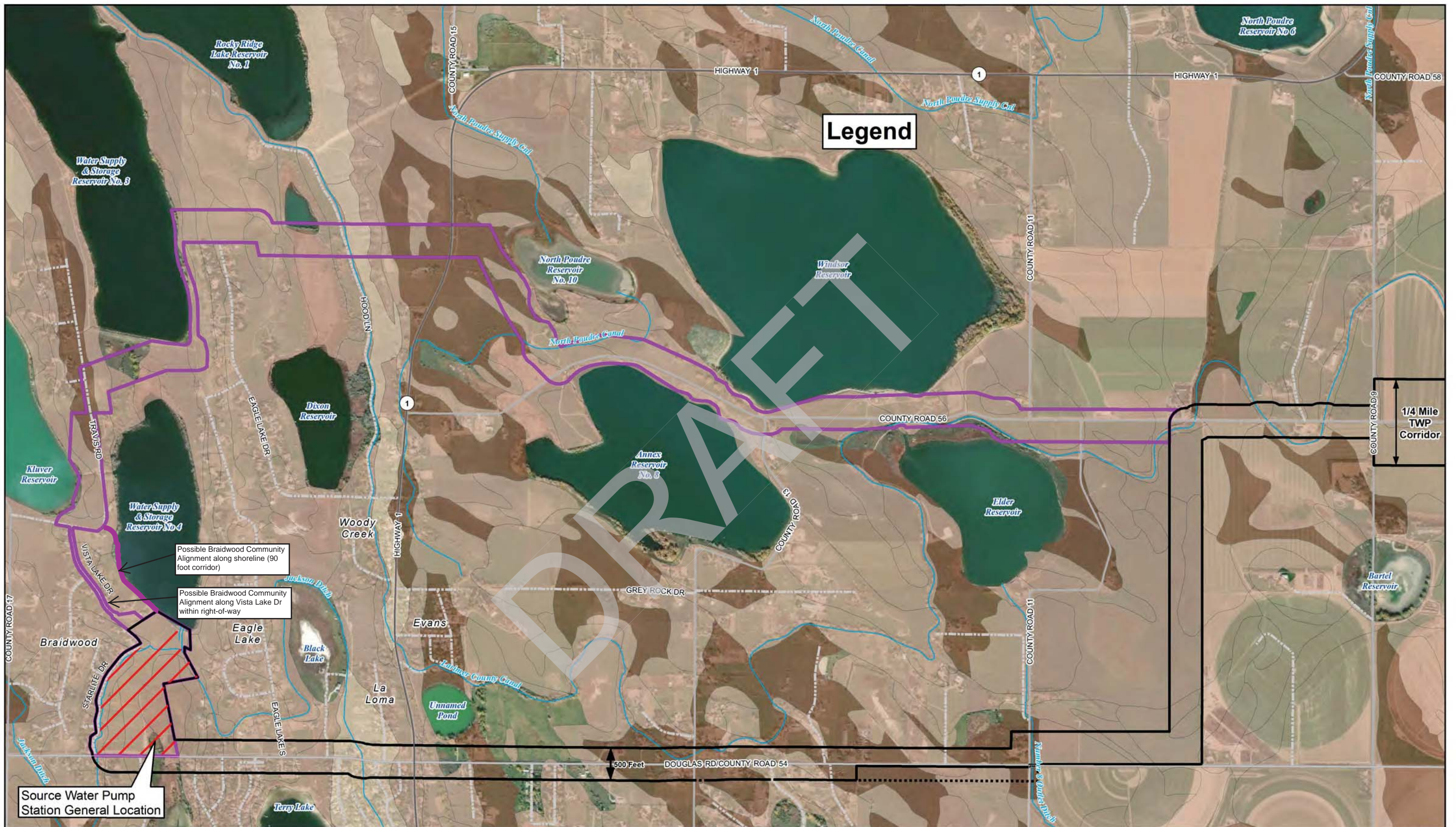
Figure 4.eS
Alternative 3 (Option C) Corridor
100-yr Floodplain



<p>CITY OF THORNTON COLORADO</p> <p>12450 WASHINGTON ST THORNTON, CO 80241-2405</p> <p>12/6/2018</p>	<p>0 500 1,000 Feet</p> <p>1 inch = 1,400 feet</p>	Alternative 3 (Option C) Corridor	*Source Water Pump Station General Location	Severe (Class 5, 6, 7)	<p>* Final location of the Source Water Pump Station will be determined during design development. Thornton will submit a Site Plan Review permit application to Larimer County after design has progressed to the level necessary to submit the application.</p>
		TWP Corridor in Unincorporated Larimer County	Lake/Reservoir	Moderate (Class 3, 4)	
		TWP Corridor outside Unincorporated Larimer County	River/Stream/Canal/Ditch	Low	

Figure 4.f-1S
Alternative 3 (Option C) Corridor
Geologic Hazards

Sources: NHD, CDWR, Larimer County, CDOT, ESRI



Legend

- Alternative 3 (Option C) Corridor
- TWP Corridor in Unincorporated Larimer County
- TWP Corridor outside Unincorporated Larimer County

- River/Stream/Canal/Ditch
- * Source Water Pump Station General Location

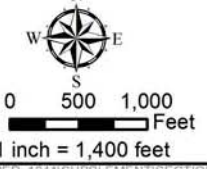
- Soil Erodibility (K Factor)**
- No Value
 - Low (<0.20)
 - Medium (0.20 - 0.40)
 - High (>0.40)

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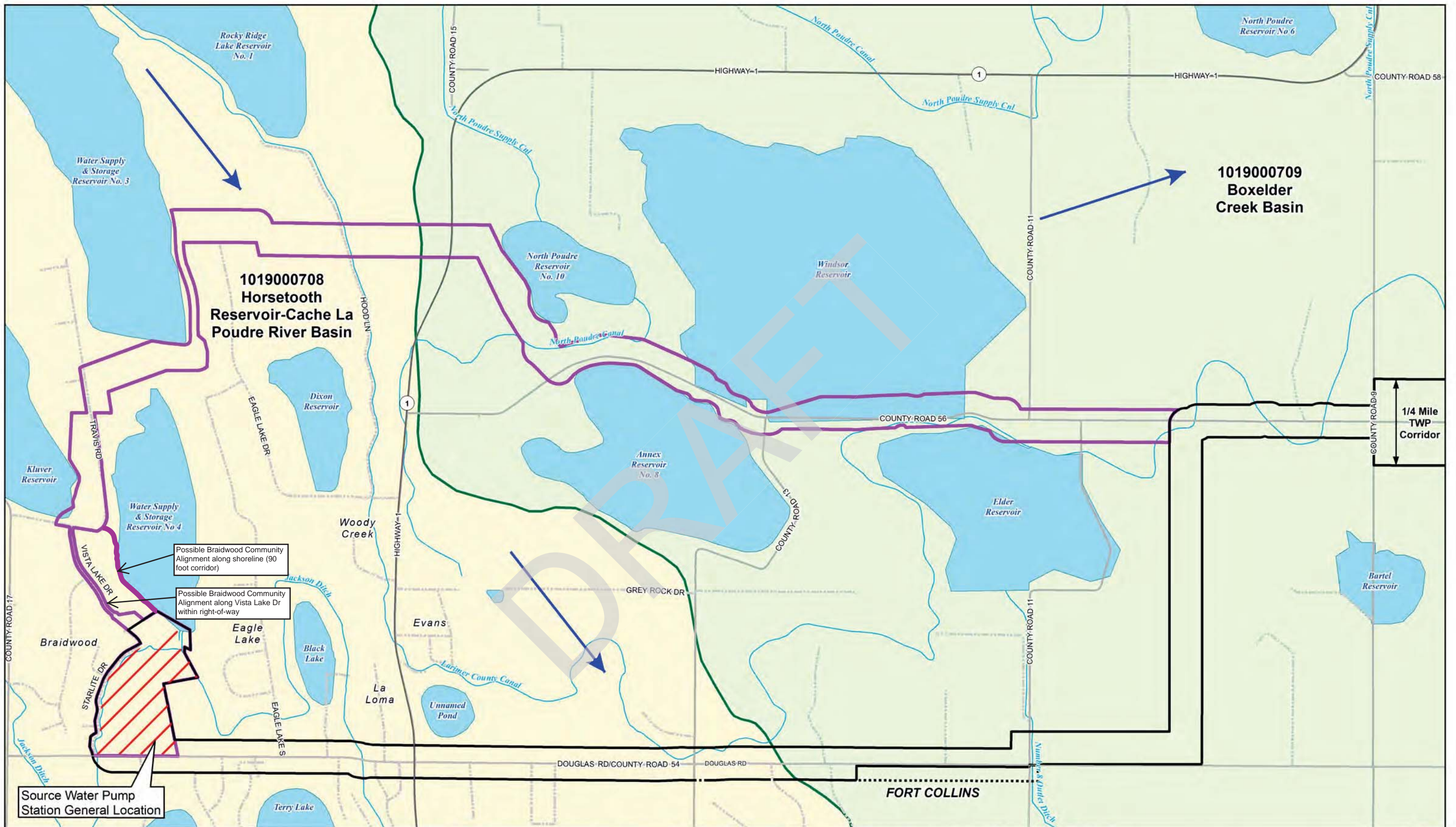
Figure 4.f-2S
Alternative 3 (Option C) Corridor
Soil Erodibility Map



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Sources: NHD, CDWR, Larimer County, CDOT, ESRI



**1019000709
Boxelder
Creek Basin**

**1019000708
Horsetooth
Reservoir-Cache La
Poudre River Basin**

Possible Braidwood Community
Alignment along shoreline (90
foot corridor)

Possible Braidwood Community
Alignment along Vista Lake Dr
within right-of-way

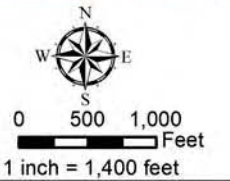
Source Water Pump
Station General Location



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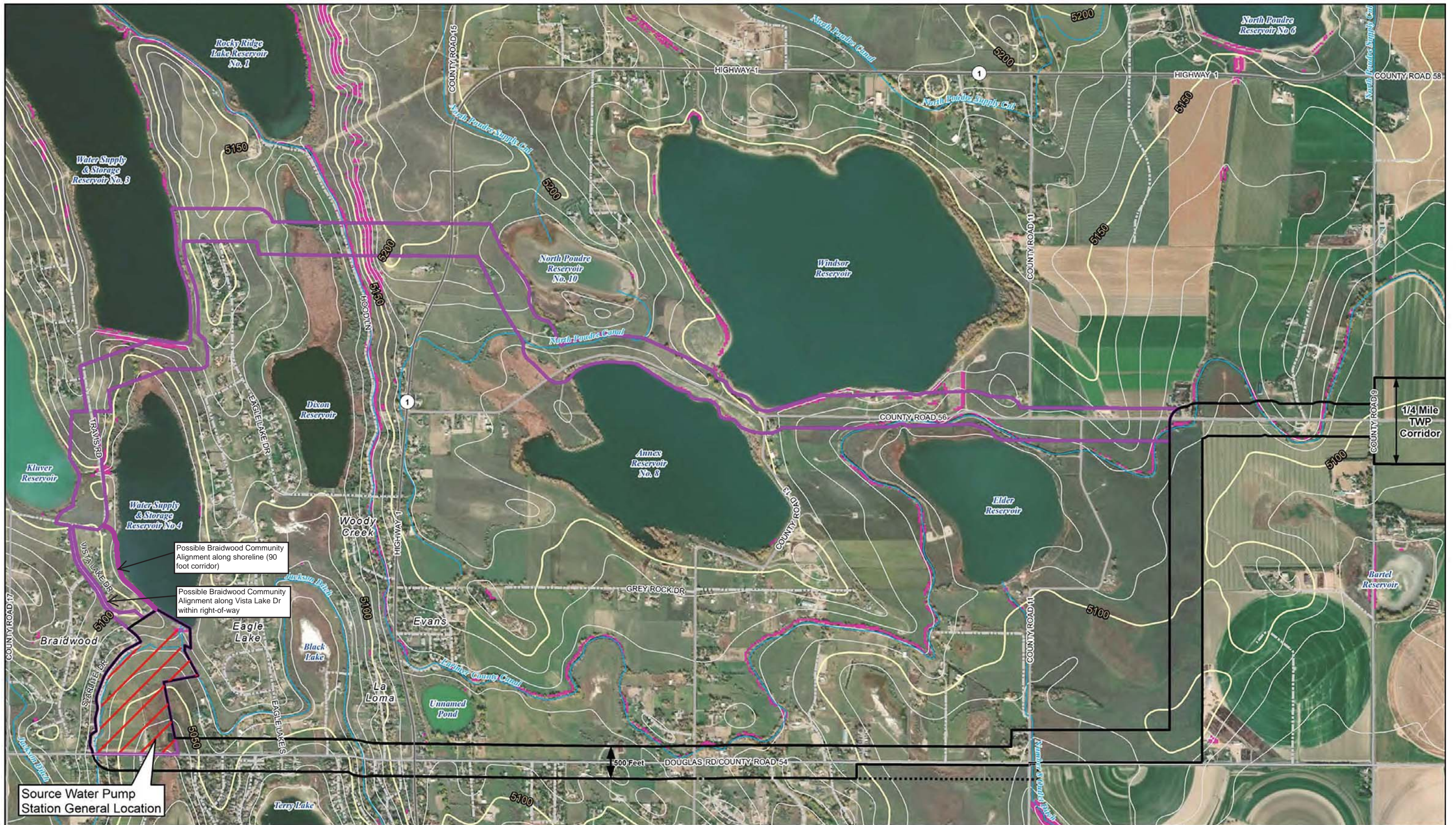


- Alternative 3 (Option C) Corridor
- TWP Corridor in Unincorporated Larimer County
- TWP Corridor outside Unincorporated Larimer County
- * Source Water Pump Station General Location
- Lake/Reservoir
- River/Stream/Canal/Ditch
- HUC 10 Boundary
- Boxelder Creek
- Horsetooth Reservoir - Cache La Poudre River
- Flow Direction

* Final location of the Source Water Pump Station will be determined during design development. Thornton will submit a Site Plan Review permit application to Larimer County after design has progressed to the level necessary to submit the application.

**Figure 4.hS
Alternative 3 (Option C) Corridor
HUC Watersheds**

Sources: NHD, CDWR, Larimer County, CDOT, ESRI



Possible Braidwood Community Alignment along shoreline (90 foot corridor)

Possible Braidwood Community Alignment along Vista Lake Dr within right-of-way

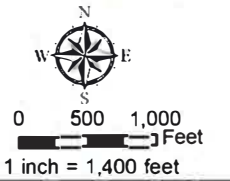
Source Water Pump Station General Location



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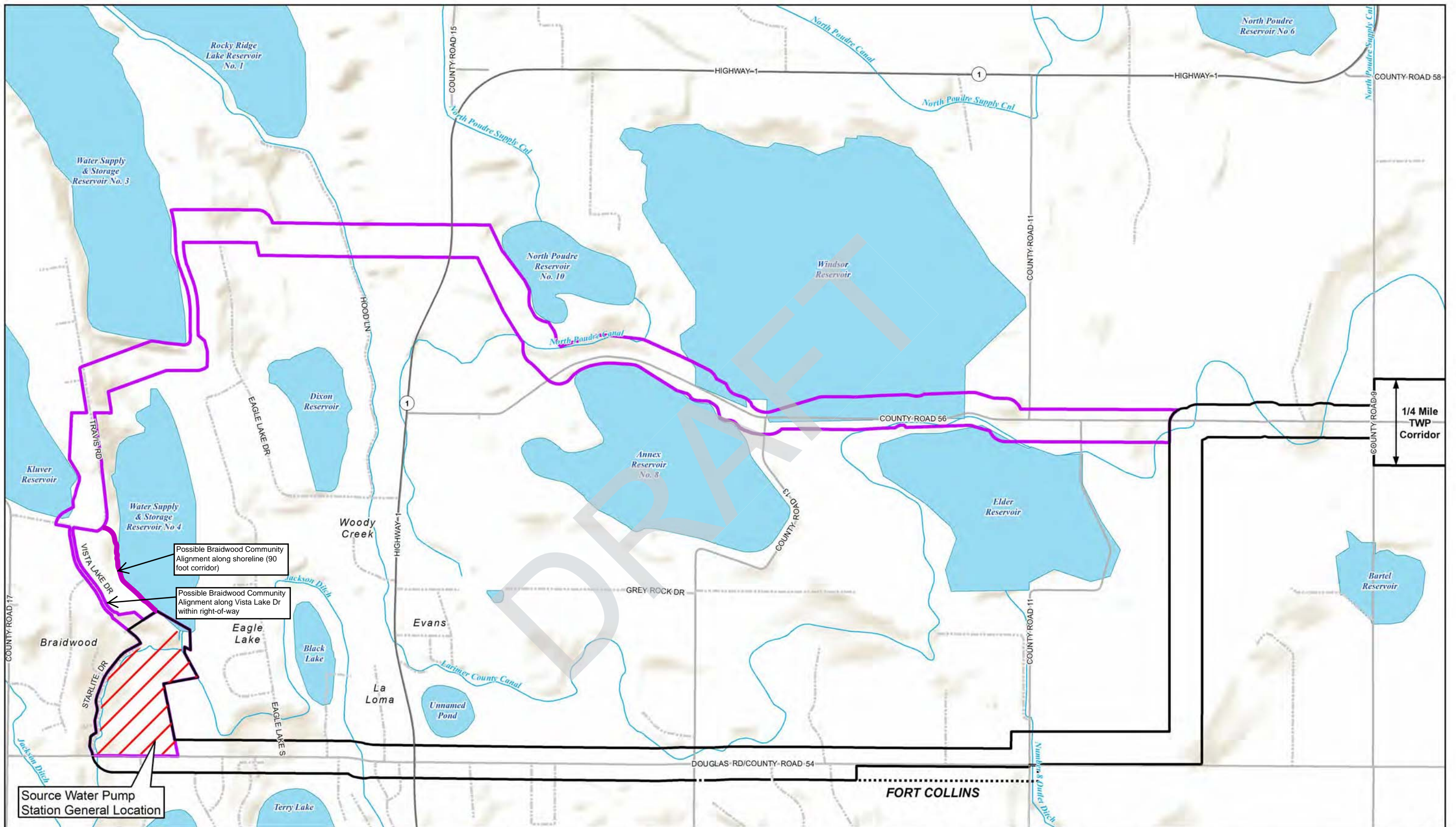


- Alternative 3 (Option C) Corridor
- TWP Corridor in Unincorporated Larimer County
- TWP Corridor outside Unincorporated Larimer County
- River/Stream/Canal/Ditch
- ★ Source Water Pump Station General Location
- Major Contour (Yellow Line)
- Minor Contour (White Line)
- >= 20%

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Figure 4.iS
Alternative 3 (Option C) Corridor
Topographic Map

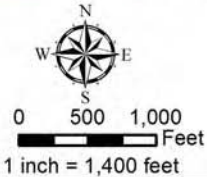
Sources: NHD, CDWR, Larimer County, CDOT, ESRI



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- Alternative 3 (Option C) Corridor
- TWP Corridor in Unincorporated Larimer County
- TWP Corridor outside Unincorporated Larimer County

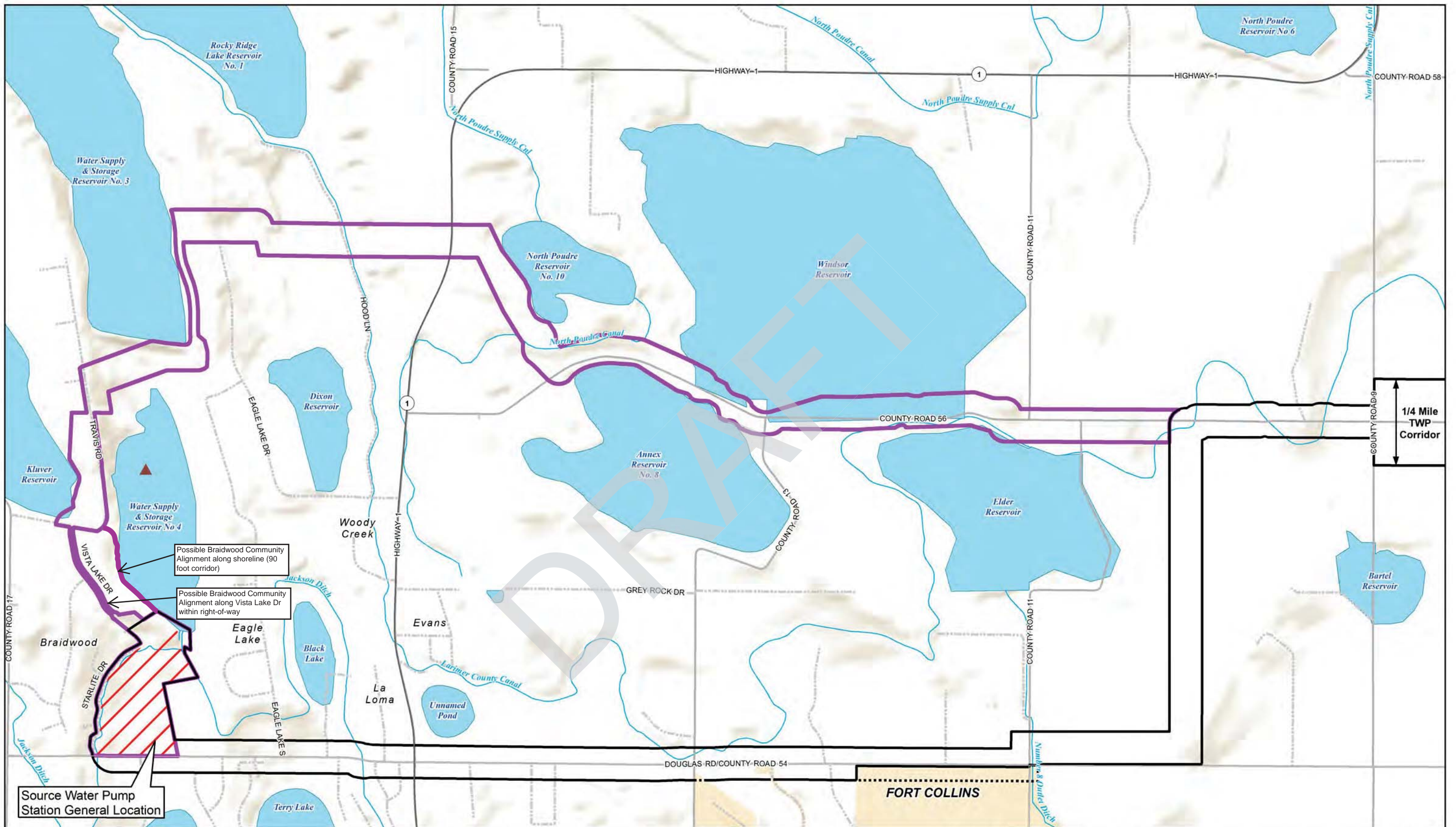
- *Source Water Pump Station General Location
- Lake/Reservoir
- River/Stream/Canal/Ditch

- Wildfire Hazard Area**
- Very High Hazard
- High Hazard
- Moderate Hazard
- Low Hazard
- Outside Hazard Mitigation Area

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Figure 4.IS
Alternative 3 (Option C) Corridor
Wildfire Hazards

Sources: NHD, CDWR, Larimer County, CDOT, ESRI



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0 500 1,000
 Feet
 1 inch = 1,400 feet

- Alternative 3 (Option C) Corridor
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- TWP Corridor outside Unincorporated Larimer County
- ▲ *Source Water Pump Station General Location
- Lake/Reservoir
- River/Stream/Canal/Ditch
- Mineral Resource Data System - Mines
- ▲ Stone, Crushed/Broken

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Figure 4.nS
Alternative 3 (Option C) Corridor
Commercial Mineral Mines

Sources: NHD, CDWR, Larimer County, CDOT, ESRI