## Attachment D, Wetland/Waterway

Impact analysis indicates that the Project may cause permanent impacts in 40 wetlands and temporary impacts in 44 wetlands. Permanent impacts are proposed in 25 jurisdictional waterways and temporary imapcts in 27 jurisdictional waterways. Features that may be impacted are itemized in Attachments I and O below.

## Attachment E, Directions to the Site

Maps identifying impact sites on wetlands and other waters are included as Figures C-1 through C-5.18 in Attachment C, above. These figures include roads and other landmarks to serve as directions to the removal fill sites.

# BLOCK 3 PROPOSED PROJECT INFORMATION

## Attachment F, State and Federally Listed Species

Exhibit Q provides expanded information about threatened and endangered species that may be present in the Project site (Site Boundary). A summary of state and federally listed species potentially within the site boundary is provided in Table F-1. Data from Oregon Biodiversity Information Center obtained in 2008 and 2010 were used to help develop threatened and endangered species information.

**Table F-1.** Federal or State Listed Threatened and Endangered Species Potentially Present within the Project Site (Site Boundary)

| Common Name<br>*Scientific Name* | Federal Status | State Status | Present in Wetlands or Other Waters | Documented Use of Analysis Area[1] |
|---|---|---|---|---|
| ***Wildlife*** | | | | |
| Gray Wolf<br>*Canis lupus* | E<br>(west of Highway 395) | E | No | Two records in existing databases for the Baker County area. Not found during surveys. |
| Washington Ground Squirrel<br>*Spermophilus washingtoni* | C | E | No[2] | Multiple records in existing databases, mostly along the Boardman Bombing Range; 12 active colonies identified in the Analysis Area during surveys. |
| ***Fish*** | | | | |
| Bull Trout<br>*Salvelinus confluentus* | T, CH | SC | Yes; but not impacted waters. | ORBIC record in the Grande Ronde River and its tributaries. Current literature states that they do occur in the streams or drainages within the Analysis Area. |
| Middle Columbia River Steelhead<br>*Oncorhynchus mykiss* | T, CH | SC | Yes; but not impacted waters. | ORBIC record in Birch Creek and its tributary, Stewart Creek, and in Meacham Creek. Current literature states that they do occur in the streams or drainages within the Analysis Area. |
| Snake River Basin Steelhead<br>*Oncorhynchus mykiss* | T, CH | SV | Yes; but not impacted waters. | ORBIC record in Ladd Creek, Rock Creek and its tributaries, Dry Creek and its tributaries, and Whiskey Creek; all of which are tributaries to the Grande Ronde River. Current literature states that they do occur in the streams or drainages within the Analysis Area. |
| Snake River Chinook (Spring/Summer Run)<br>*Oncorhynchus tshwatscha* | T, CH | T | Yes; but not impacted waters. | ORBIC record in the Grande Ronde River. Current literature states that they do occur in the streams or drainages within the Analysis Area. |
| ***Plants*** | | | | |
| Cronquist's Stickseed<br>Hackelia cronquistii | - | T | No | Multiple records in existing databases. Identified at 11 locations in Malheur County during surveys. |
| Cusick's Lupine<br>Lupinus lepidus var. cusickii | - | E | No | No existing database records or survey observations. |
| Cronquist's Stickseed<br>Hackelia cronquistii | - | T | No | Multiple records in existing databases. Identified at 11 locations in Malheur County during surveys. |

**Table F-1.** Federal or State Listed Threatened and Endangered Species Potentially Present within the Project Site (Site Boundary) (continued)

| **Common Name** ***Scientific Name*** | **Federal Status** | **State Status** | **Present in Wetlands or Other Waters** | **Documented Use of Analysis Area[1]** |
|---|---|---|---|---|
| Cusick's Lupine Lupinus lepidus var. cusickii | - | E | No | No existing database records or survey observations. |
| Golden Buckwheat Eriogonum chrysops | - | T | No | No existing database records or survey observations. |
| Howell's Spectacular Thelypody Thelypodium howellii ssp. spectabilis | T | E | No | Multiple records in existing databases. Not found during surveys. |
| Laurence's Milk-Vetch *Astragalus collinus* var. *laurentii* | - | T | No | Multiple records in existing databases for the area between the Boardman Bombing Range and Pilot Rock. Was found in this vicinity during 2011 sensitive plant surveys. |
| Malheur Valley Fiddleneck *Amsinckia carinata* | - | T | No | No existing database records or survey observations. |
| Mulford's Milk-Vetch *Astragalus mulfordiae* | - | E | No | Multiple records in existing databases. Not found during surveys. |
| Oregon Semaphore Grass *Pleuropogon oregonus* | - | T | No | Multiple records in existing databases. Not found during surveys. |
| Packard's Mentzelia *Mentzelia packardiae* | - | T | No | No existing database records or survey observations. Furthermore, suitable habitat for this species (ashy soil) does not occur within the portion of the Project that crosses this species habitat; therefore, this species is highly unlikely to occur within the analysis area. |
| Red-Fruited Lomatium *Lomatium erythrocarpum* | - | E | No | No existing database records or survey observations. |
| Salt Heliotrope *Heliotropium curassavicum* | - | E | No | Multiple records in existing databases. Not found during surveys. |
| Smooth Mentzelia *Mentzelia mollis* | - | E | No | Multiple records in existing databases. Not found in Oregon during surveys. |
| Snake River Goldenweed *Pyrrocoma radiata* | - | E | No | Multiple records in existing databases. Identified at 11 locations in Baker County during surveys. |
| Sterile Milk-Vetch (a.k.a. Cusick's Milk-vetch) *Astragalus cusickii* var. *sterilis* | - | T | No | Multiple records in existing databases. Not found during surveys. |

T = Threatened; E = Endangered; C = Candidate for listing; CH = Critical Habitat designated under the federal ESA; SC = State Sensitive Critical; SV = State Sensitive Vulnerable

[1] Based on results of Project specific surveys, as well as the databases discussed in Section 3.2.1 (e.g., 2012 ORBIC or GeoBOB data) of Exhibit Q.Analysis area extends 0.5 miles from the Site Boundary.

[2] Based on colony boundaries. 785-foot-wide buffers of some colonies overlap wetlands.

## Attachment G, Cultural and Historic Resources

Surveys of historic, cultural and archaeological resources are ongoing. The surveys are being conducted in compliance with Section 106 protocols and in consultation with the Native American tribes affected by the Project and the Oregon State Historic Preservation Office. Exhibit S provides information about historic, cultural and archaeological resources.

## Attachment H, Wild and Scenic Rivers; State Scenic Waterways

No impacts are proposed to wild and scenic rivers or state scenic waterways.

# BLOCK 4 PROPOSED PROJECT PURPOSE AND DESCRIPTION

## Attachment I, Project Purpose and Description

Project Purpose and Need.

The Project is proposed for the following purposes:

1. To allow IPC to meet its obligations to serve its retail customers located in the states of Idaho and Oregon.
2. To comply with the requirements of the Federal Energy Regulatory Commission (FERC) that IPC construct adequate transmission infrastructure to provide service to wholesale customers in accordance with IPC's Open Access Transmission Tariff (OATT) (2008).
3. To provide a cost-effective resource which serves as a critical component of the Company's preferred resource portfolio presented in IPC's 2009 Integrated Resource Plan (IRP) which has been acknowledged by both the Idaho Public Utilities Commission (IPUC) and the Oregon Public Utility Commission (OPUC).

The primary needs for the Project are:

1. To allow IPC to maintain reliable electric service pursuant to the standards set forth by the North American Electric Reliability Corporation (NERC) and implemented by the Western Electricity Coordinating Council (WECC).
2. To relieve congestion of the existing transmission system and enhance the reliable, efficient and cost-effective energy transfer capability between the Pacific Northwest and Intermountain regions.

In short, the Project will relieve existing congestion, alleviate reliability constraints, and provide additional capacity for the delivery of needed energy to IPC's Boise service area by 2018.

Project Description

1. Volumes and acreages of all fill and removal activities in waterway or wetland separately
2. Permanent and temporary impacts

Table I-1A provides temporary and permanent impacts for each wetland. Table I-1B provides temporary and permanent impacts for each water. These tables include features delineated in 2011 and 2012, and NWI and NHD features with preliminary boundaries.

To ensure that the total project impacts used in the JPA are conservative, the total impact acreage reported in tables I-1A and I-1B were adjusted upward by 33 percent to account for possible inaccuracies in NWI and NHD boundaries on features not yet delineated. Then, a 25 percent contingency was added to the total impact.

**Table I-1A.** Temporary and Permanent Potential Impacts to Wetlands

| County | Feature Name | Permanent Impacts | | | Temporary Impacts | | |
|---|---|---|---|---|---|---|---|
| | | Impact Acres | Removal cu yd | Fill cu yd | Impact Acres | Removal cu yd | Fill cu yd |
| **Permanent Impacts** | | | | | | | |
| Morrow | MO_G_64 | 0.005 | 0 | 0 | | | |
| Umatilla | UM_G_82 | 0.230 | 3 | 9 | | | |
| Umatilla | UM_G_26 | 0.005 | 0 | 0 | | | |
| Umatilla | UM_G_80 | 0.048 | 0 | 0 | | | |
| Union | UN_G_137 | 0.021 | 14 | 15 | | | |
| Union | UN_G_41 | 0.187 | 46 | 48 | | | |
| Union | UN_G_46 | 0.005 | 9 | 9 | | | |
| Baker | BApro_326 | 0.010 | 45 | 48 | | | |
| Baker | 23082012_1040_NK | 0.041 | 37 | 38 | | | |
| Baker | BA_G_115 | 0.000 | 15 | 15 | | | |
| Baker | BA_G_118 | 0.005 | 14 | 15 | | | |
| Baker | BA_G_132 | 0.006 | 18 | 19 | | | |
| Baker | BA_G_142 | 0.005 | 13 | 14 | | | |
| Baker | BA_G_144 | 0.000 | 13 | 14 | | | |
| Baker | BA_G_147 | 0.004 | 13 | 14 | | | |
| Baker | BA_G_186 | 0.012 | 62 | 66 | | | |
| Baker | BA_G_46 | 0.003 | 32 | 34 | | | |
| Baker | BA_G_48 | 0.014 | 13 | 14 | | | |
| Baker | BA_G_80 | 0.006 | 18 | 19 | | | |
| Baker | BA_G_222 | 0.009 | 0 | 0 | | | |
| Baker | BApro_594 | 0.036 | 28 | 30 | | | |
| Baker | BA_G_210 | 0.029 | 32 | 34 | | | |
| Baker | BA_G_166 | 0.012 | 14 | 15 | | | |
| Malheur | 08112012_1524_JRS | 0.074 | 50 | 54 | | | |
| Malheur | MA_G_12 | 0.006 | 11 | 11 | | | |
| Malheur | MA_G_128 | 0.012 | 27 | 29 | | | |
| Malheur | MA_G_19 | 0.006 | 13 | 14 | | | |
| Malheur | MA_G_24 | 0.006 | 15 | 16 | | | |
| Malheur | MA_G_267 | 0.007 | 18 | 19 | | | |
| Malheur | MA_G_294 | 0.007 | 0 | 0 | | | |
| Malheur | MA_G_37 | 0.062 | 60 | 65 | | | |
| Malheur | MA_G_43 | 0.013 | 13 | 0 | | | |
| Malheur | MA_G_24 | 0.007 | 15 | 16 | | | |
| Malheur | Malpro_570 | 0.003 | 13 | 14 | | | |
| Malheur | Malpro_576 | 0.001 | 13 | 14 | | | |
| Malheur | MalWIlwCk_214 | 0.003 | 21 | 23 | | | |
| Malheur | MalWIlwCrk_621 | 0.015 | 15 | 16 | | | |
| Malheur | MApro_446-NWI | 0.003 | 35 | 38 | | | |
| Malheur | MA_G_141 | 0.374 | 101 | 111 | | | |
| Malheur | Malpro_573 | 0.061 | 40 | 43 | | | |
| **Temporary Impacts** | | | | | | | |
| Morrow | MO_G_64 | | | | 0.137 | 221 | 221 |
| Umatilla | UM_G_26 | | | | 0.007 | 11 | 11 |
| Umatilla | UM_G_80 | | | | 0.050 | 81 | 81 |
| Umatilla | UM_G_82 | | | | 0.011 | 18 | 18 |
| Union | UN_G_137 | | | | 0.021 | 35 | 35 |
| Union | UN_G_41 | | | | 0.187 | 301 | 301 |
| Union | UN_G_46 | | | | 0.005 | 9 | 9 |

**Table I-1A.** Temporary and Permanent Potential Impacts to Wetlands (continued)

| County | Feature Name | Permanent Impacts | | | Temporary Impacts | | |
|---|---|---|---|---|---|---|---|
| | | Impact Acres | Removal cu yd | Fill cu yd | Impact Acres | Removal cu yd | Fill cu yd |
| Baker | BApro_326 | | | | 0.056 | 91 | 91 |
| Baker | 23082012_1040_NK | | | | 0.114 | 183 | 183 |
| Baker | BA_G_115 | | | | 0.002 | 3 | 3 |
| Baker | BA_G_118 | | | | 0.011 | 17 | 17 |
| Baker | BA_G_132 | | | | 0.008 | 13 | 13 |
| Baker | BA_G_142 | | | | 0.006 | 10 | 10 |
| Baker | BA_G_178 | | | | 0.005 | 8 | 8 |
| Baker | BA_G_186 | | | | 0.098 | 157 | 157 |
| Baker | BA_G_222 | | | | 0.006 | 9 | 9 |
| Baker | BApro_594 | | | | 0.060 | 97 | 97 |
| Baker | BApro_332 | | | | 0.021 | 34 | 34 |
| Malheur | 08112012_1524_JRS-Malheur | | | | 0.085 | 138 | 138 |
| Malheur | MA_G_12 | | | | 0.007 | 11 | 11 |
| Malheur | MA_G_128 | | | | 0.008 | 12 | 12 |
| Malheur | MA_G_19 | | | | 0.039 | 63 | 63 |
| Malheur | MA_G_24 | | | | 0.015 | 24 | 24 |
| Malheur | MA_G_267 | | | | 0.003 | 6 | 6 |
| Malheur | MA_G_277 | | | | 0.041 | 67 | 67 |
| Malheur | MA_G_37 | | | | 0.100 | 161 | 161 |
| Malheur | MA_G_43 | | | | 0.025 | 41 | 41 |
| Malheur | MA_G_44 | | | | 0.029 | 46 | 46 |
| Malheur | Malpro_225 | | | | 0.037 | 43 | 95 |
| Malheur | Malpro_570 | | | | 0.004 | 14 | 15 |
| Malheur | Malpro_576 | | | | 0.001 | 2 | 2 |
| Malheur | Malpro_578 | | | | 0.003 | 5 | 5 |
| Malheur | MalWIlwCk_214 | | | | 0.002 | 4 | 4 |
| Malheur | MalWIlwCrk_322 | | | | 0.124 | 32 | 39 |
| Malheur | MalWIlwCrk_621 | | | | 0.017 | 13 | 14 |
| Malheur | MApro_134 | | | | 0.000 | 0 | 0 |
| Malheur | MApro_446-NWI | | | | 0.001 | 2 | 2 |
| Malheur | MApro_502 | | | | 0.008 | 13 | 13 |
| Malheur | MApro_504 | | | | 0.006 | 10 | 10 |
| Malheur | MA_G_141 | | | | 0.426 | 687 | 687 |
| Malheur | MA_G_228 | | | | 0.097 | 156 | 156 |
| Malheur | MA_G_269 | | | | 0.000 | 1 | 1 |
| Malheur | Malpro_573 | | | | 0.561 | 60 | 72 |
| Malheur | MA_G_203 | | | | 0.001 | 1 | 1 |
| **Totals** | | **1.353** | **902** | **950** | **2.467** | **2932** | **3025** |
| **Add 33% NWI-NHD adjustment** | | **1.800** | **1199** | **1264** | **3.281** | **3899** | **4024** |
| **Add 25% contingency** | | **2.250** | **1499** | **1580** | **4.101** | **4874** | **5030** |

**Table I-1B.** Temporary and Permanent Potential Impacts to Other Waters

| County | Feature Name | Permanent Impacts | | | Temporary Impacts | | |
|---|---|---|---|---|---|---|---|
| | | Impact Acres | Removal cu yd | Fill cu yd | Impact Acres | Removal cu yd | Fill cu yd |
| **Permanent Impacts** | | | | | | | |
| Morrow | No Features | 0.000 | 0 | 0 | | | |
| Umatilla | UM_G_104 | 0.002 | 1 | 7 | | | |
| Umatilla | UM_G_110 | 0.002 | 1 | 7 | | | |
| Umatilla | UM_G_31 | 0.003 | 1 | 7 | | | |
| Union | UN_G_130 | 0.003 | 1 | 7 | | | |
| Union | UN_G_131 | 0.005 | 1 | 7 | | | |
| Union | UN_G_141 | 0.008 | 2 | 7 | | | |
| Union | UN_G_58 | 0.005 | 2 | 7 | | | |
| Union | UN12_1273 | 0.004 | 2 | 7 | | | |
| Union | UN12_1365 | 0.010 | 3 | 7 | | | |
| Union | UN_G_73 | 0.010 | 2 | 7 | | | |
| Union | UN_G_75 | 0.008 | 2 | 7 | | | |
| Baker | BA12_1512 | 0.020 | 15 | 12 | | | |
| Baker | BA12_1542 | 0.003 | 5 | 7 | | | |
| Baker | BA_G_203 | 0.002 | 1 | 7 | | | |
| Baker | BApro_341 | 0.003 | 1 | 7 | | | |
| Malheur | MalWllwCrk_375 | 0.005 | 2 | 3 | | | |
| Malheur | MA_G_103 | 0.004 | 1 | 7 | | | |
| Malheur | MA_G_110 | 0.004 | 1 | 7 | | | |
| Malheur | MA_G_23 | 0.003 | 1 | 7 | | | |
| Malheur | MA_G_293 | 0.060 | 5 | 25 | | | |
| Malheur | MA_G_3a | 0.003 | 14 | 10 | | | |
| Malheur | MA_G_3b | 0.003 | 14 | 10 | | | |
| Malheur | MA_G_3c | 0.003 | 14 | 10 | | | |
| Malheur | MA_G_7 | 0.001 | 1 | 7 | | | |
| Malheur | MA_G_127 | 0.060 | 2 | 7 | | | |
| **Temporary Impacts** | | | | | | | |
| Morrow | No Features | | | | 0 | 0 | 0 |
| Umatilla | UM_G_104 | | | | 0.002 | 1 | 7 |
| Umatilla | UM_G_110 | | | | 0.002 | 1 | 7 |
| Umatilla | UM_G_31 | | | | 0.003 | 1 | 7 |
| Union | UN_G_130 | | | | 0.003 | 1 | 7 |
| Union | UN_G_131 | | | | 0.005 | 1 | 7 |
| Union | UN_G_141 | | | | 0.008 | 2 | 7 |
| Union | UN_G_58 | | | | 0.005 | 2 | 7 |
| Union | UN12_1273 | | | | 0.004 | 1 | 7 |
| Union | UN12_1365 | | | | 0.010 | 3 | 7 |
| Union | UN_G_73 | | | | 0.010 | 2 | 7 |
| Union | UN_G_75 | | | | 0.008 | 2 | 7 |
| Baker | BA12_1512 | | | | 0.020 | 15 | |

**Table I-1B.** Temporary and Permanent Potential Impacts to Other Waters (continued)

| County | Feature Name | Permanent Impacts | | | Temporary Impacts | | |
|---|---|---|---|---|---|---|---|
| | | Impact Acres | Removal cu yd | Fill cu yd | Impact Acres | Removal cu yd | Fill cu yd |
| Baker | BA12_1542 | | | | 0.003 | 5 | 12 |
| Baker | BA_G_203 | | | | 0.002 | 1 | 7 |
| Baker | BApro_341 | | | | 0.003 | 1 | 7 |
| Malheur | MA_G_103 | | | | 0.004 | 1 | 7 |
| Malheur | MA_G_110 | | | | 0.004 | 1 | 7 |
| Malheur | MA_G_23 | | | | 0.003 | 1 | 7 |
| Malheur | MA_G_293 | | | | 0.060 | 5 | 25 |
| Malheur | MA_G_3a | | | | 0.003 | 14 | 10 |
| Malheur | MA_G_3b | | | | 0.003 | 14 | 10 |
| Malheur | MA_G_3c | | | | 0.003 | 14 | 10 |
| Malheur | MA_G_7 | | | | 0.001 | 1 | 7 |
| Malheur | MA12_1674 | | | | 0.002 | 1 | 7 |
| Malheur | MalWllwCrk_375 | | | | 0.005 | 2 | 3 |
| Malheur | MA_G_127 | | | | 0.060 | 2 | 7 |
| **Totals** | | **0.234** | **94** | **203** | **0.236** | **94** | **203** |
| **Add 33% NWI-NHD adjustment** | | **0.311** | **125** | **269** | **0.313** | **125** | **269** |
| **Add 25% contingency** | | **0.388** | **156** | **337** | **0.392** | **157** | **337** |

3. Types of materials (e.g., gravel, silt, clay, etc.)

Gravel, silt, clay, sand, loam, rock, and organic material will all likely be excavated from wetlands and waters during project construction. Fill material will consist of gravel, silt, clay, sand, loam, rock, and crushed rock, depending on the construction site and job to be accomplished. No material will be excavated from waters of the state for use as fill material. No excavated material will be disposed of in waters of the state.

4. How the project will be accomplished (i.e., describe construction methods, equipment, site access)

The following description of how the Project will be constructed is extracted and summarized from the Project Plan of Development, Appendix B, Transmission Line and Substation Components, Section 2 (November 2011).

**Transmission Line System Roads**

Construction of the new transmission lines would require vehicle, truck, and crane access to each new structure site for construction crews, materials, and equipment. Similarly, construction of other Project components such as staging areas and substation sites would require vehicle access.

Transmission line right-of-way (ROW) access would be a combination of new access roads, improvements to existing roads, and use of existing roads as is. Unimproved, overland travel routes will be established in flat and moderate terrain where safe and practical. They may consist of existing or new roads with minor grading or clearing; two track roads created by construction vehicles driving directly over low growth vegetation and brush, leaving no defined roadway beyond crushed vegetation; or any combination along the route. In some cases stumps or large root wads will be removed with the aid of a bulldozer and surface restored with a grader. In steep terrain new bladed access roads would be constructed using a bulldozer or

grader, followed by a roller to compact and smooth the ground. Front-end loaders will be used to move the soil locally or off-site as necessary. Typically, access to the transmission line ROW and tower sites requires a 14-foot-wide travel way for straight sections of road and a 16- to 20-foot-wide travel way at corners to facilitate safe movement of equipment and vehicles. In steep, rugged terrain, 8-foot-wide all-terrain vehicle (ATV) trails may be established to facilitate permanent access for off-road 4-wheel maintenance utility vehicles (UTVs).

Wherever possible, existing roads will be used and new access roads would be constructed within the proposed transmission line ROW. In other cases, new access roads would be required between the proposed transmission line and existing roads outside of the ROW, particularly in steep terrain where new bladed roads will often follow the contours to minimize grades. Erosion control and sedimentation measures such as at-grade water bars, culverts, sediment basins, or perimeter control would be installed as required to minimize erosion during and subsequent to construction of the Project.

**Staging Areas**

Construction of the Project will begin with the establishment of staging areas, or laydown yards. The staging areas will serve as field offices; reporting locations for workers; parking space for vehicles and equipment; and sites for material storage, fabrication assembly, concrete batch plants, and stations for equipment maintenance. Staging areas, about 20 acres each for 500-kV construction and 10 acres each for 138/69-kV construction, will be located approximately every 25 miles along the route. Additionally, fly yards for helicopter operations will be located approximately every 10 miles along the route where helicopter construction is planned, and will occupy approximately 10 to 15 acres.

Staging areas and helicopter fly yards will be fenced and their gates locked. Security guards will be stationed where needed. Staging area locations will be finalized following discussion with the land management agency or negotiations with landowners. In some areas, the staging area may need to be scraped by a bulldozer and a temporary layer of rock laid to provide an all-weather surface. Unless otherwise directed by the landowner, the rock will be removed from the staging area upon completion of construction and the area will be restored.

**Site Preparation**

Individual structure sites will be cleared to install the transmission line support structures and facilitate access for future transmission line and structure maintenance. Clearing of individual structure sites will be required to install the structures. Clearing individual structure sites will be done using a bulldozer to blade the required area. At each single-circuit 500-kV structure location, an area approximately 250 feet by 250 feet will be needed for construction laydown, tower assembly, and erection at each tower site. This area will provide a safe working space for placing equipment, vehicles, and materials. The work area will be cleared of vegetation only to the extent necessary. For 138/69-kV structures, the site preparation area will be approximately 100 feet by 100 feet. After line construction, areas not needed for normal transmission line maintenance, including fire and personnel safety clearance areas, will be graded to blend as near as possible with the natural contours, then revegetated as required.

Additional equipment may be required if solid rock is encountered at a structure location. Rock-hauling, hammering, or blasting may be required to remove the rock. Excess rock that is too large in size or volume to be spread at the individual structure sites will be hauled away and disposed of at approved landfills or at a location specified by the landowner.

**Lattice Steel Tower Foundations**

Each 500-kV support structure will require the installation of foundations, which are typically drilled concrete piers. First, four holes will be excavated for each structure. The holes will be drilled using truck- or track-mounted augers of various sizes depending on the diameter and depth requirements of the hole to be drilled. Each foundation will extend approximately 1 to 2 feet above the ground level.

**H-Frame Installation**

Each 500-kV H-frame structure will require the installation of drilled pier foundations. Two or three foundations will be required per H-frame structures. The holes for each foundation will be drilled using truck- or track-mounted augers of various sizes depending on the diameter and depth requirements of the hole to be drilled. The diameter of each foundation will be approximately 7 to 8 feet at a depth of 30 to 40 feet. Each foundation will extend approximately 1 to 2 feet above the ground level.

**Monopole Installation**

Tangent 138/69-kV monopole structures will require the poles to be directly embedded in the ground. Holes will be drilled in the ground using a truck- or track-mounted auger. The diameter of the hole excavated for embedment is typically between 5 and 6 feet. Depths of the holes range from 15 to 25 feet deep. When the poles are placed in the holes, the hole will be backfilled with native or select backfill. When backfill must be imported, material must be obtained from commercial sources or from areas free of noxious weed species.

Angle and dead-end 138/69-kV monopole structures will require the installation of drilled pier foundations. The hole for each foundation will be drilled using a truck- or track-mounted auger of various sizes depending on the diameter and depth requirements of the hole to be drilled. The diameter of the foundation will be approximately 5 to 6 feet with at a depth of 20 to 25 feet deep. Each drilled pier foundation will extend approximately one to two feet above the ground level.

Where solid rock is encountered, blasting, rock hauling, or the use of a rock anchoring or micro-pile system may be required. Micro-piles are high capacity, small diameter (5-inch to 12-inch) drilled and grouted in-place piles designed with steel reinforcement to primarily resist structural loading. The rock anchoring or micro-pile system will be used in areas where site access is limited or adjacent structures could be damaged as a result of blasting or rock hauling activities.

In environmentally sensitive areas with very soft soils, a HydroVac, which uses water pressure and a vacuum, may be used to excavate material into a storage tank. Alternatively, a temporary casing may be used during drilling to hold the excavation open, after which the casing is withdrawn as the concrete is placed in the hole. In areas where it is not possible to operate large drilling equipment due to access or environmental constraints, hand digging may be required.

Reinforced-steel anchor bolt cages will be installed after excavation and prior to structure installation. These cages are designed to strengthen the structural integrity of the foundations and will be assembled at the nearest Project laydown yard and delivered to the structure site via flatbed truck or helicopter. These cages will be inserted in the holes prior to pouring concrete. The excavated holes containing the reinforcing anchor bolt cages will be filled with concrete.

Typically, and because of the remote location of much of the transmission line route, concrete will be provided from portable batch plants set up approximately every 25 miles along the line route in one of the staging areas. Concrete will be delivered directly to structure sites in

concrete trucks with a capacity of up to 10 cubic yards. In the more developed areas along the route and in proximity to the substations, the construction contractor may use local concrete providers to deliver concrete to the site when economically feasible.

**Erect Support Structures**

The steel support structures will be assembled on site, except where helicopter delivery is employed. Steel members for each structure will be delivered to the site by flatbed truck. Assembly will be facilitated on site by a truck-mounted crane. Subsequent to assembly, the structures will be lifted onto foundations using a large crane designed for erecting towers. Where possible, the crane will move along the ROW from structure to structure site erecting the towers, if access along the ROW is not possible the crane will leave the ROW and use the access road network to reach the next structure.

The H-frame and monopole structures will be framed on-site. Two methods of assembly can be used to accomplish this, the first of which is to assemble the poles, braces, cross arms, hardware, and insulators on the ground. A crane is then used to set the fully framed structure by placing the poles in the excavated holes. Alternatively, aerial framing can be used by setting the poles in the ground first and assembling the braces, cross arms, hardware, and insulators in the air. Where possible, the crane will move along the ROW from structure to structure site setting the structures.

**String Conductors, Shield Wire, and Fiber Optic Ground Wire**

Conductor, shield wire, and optical ground wire (OPGW) will be placed on the transmission line support structures by a process called stringing. The first step to wire stringing will be to install insulators (if not already installed on the structures during ground assembly) and stringing sheaves. Stringing sheaves are rollers that are temporarily attached to the lower portion of the insulators at each transmission line support structure to allow conductors to be pulled along the line.

Additionally, temporary clearance structures (also called guard structures) will be erected where required prior to stringing any transmission lines. The temporary clearance structures are typically vertical wood poles with cross arms and are erected at road crossings or crossings with other energized electric and communication lines to prevent contact during stringing activities. Bucket trucks may also be used to provide temporary clearance. Bucket trucks are trucks fitted with a hinged arm ending in an enclosed platform called a bucket, which can be raised to let the worker in the bucket service portions of the transmission structure as well as the insulators and conductors without climbing the structure.

Once the stringing sheaves and temporary clearance structures are in place, the initial stringing operation will commence with the pulling of a lightweight “sock” line through the sheaves along the same path the transmission line will follow. Typically the sock line is pulled in via helicopter. The sock line is attached to the hard line, which follows the sock line as it is pulled through the sheaves. The hard line will then be attached to the conductor, shield wire, or OPGW to pull them through the sheaves into their final location. Pulling the lines may be accomplished by attaching them to a specialized wire stringing vehicle. Following the initial pulling of the wire into the sheaves, the wire will then be tensioned to achieve the correct sag between support structures.

Pulling and tensioning sites for 500-kV construction will be required approximately every 2 to 3 miles along the ROW and will require approximately 5 acres at each end of the wire section to accommodate required equipment. The 138/69-kV pulling and tensioning sites will be required approximately every 1 to 2 miles along the ROW and will require approximately 1.2 acres each

to accommodate required equipment. Equipment at sites required for pulling and tensioning activities will include tractors and trailers with spooled reels that hold the conductors and trucks with the tensioning equipment. To the extent practicable, pulling and tensioning sites will be located within the ROW. Depending on topography, minor grading may be required at some sites to create level pads for equipment. Finally, the tension and sag of conductors and wires will be fine-tuned, stringing sheaves will be removed, and the conductors will be permanently attached to the insulators at the support structures.

5. Describe any changes that the project may make to the hydraulic and hydrologic characteristics (e.g., general direction of stream and surface water flow, estimated winter and summer flow volumes.) of the waters of the state, and an explanation of measures taken to avoid or minimize any adverse effects of those changes..

The Project will not cause adverse effects on the hydraulic and hydrologic characterisitics of waters of the state. There will be no direct effects (removal or fill) during the Project's operation, and roads will be constructed using best management practices to prevent erosion and subsequent sedimentation in waters during the operational life of the Project.

Road crossings will be designed and constructed to not affect existing flow characteristics including the duration, extent of the wetted channel, overflow or bypass channels, meander opportunities or downstream hydraulic and hydrologic characteristics, of streams.

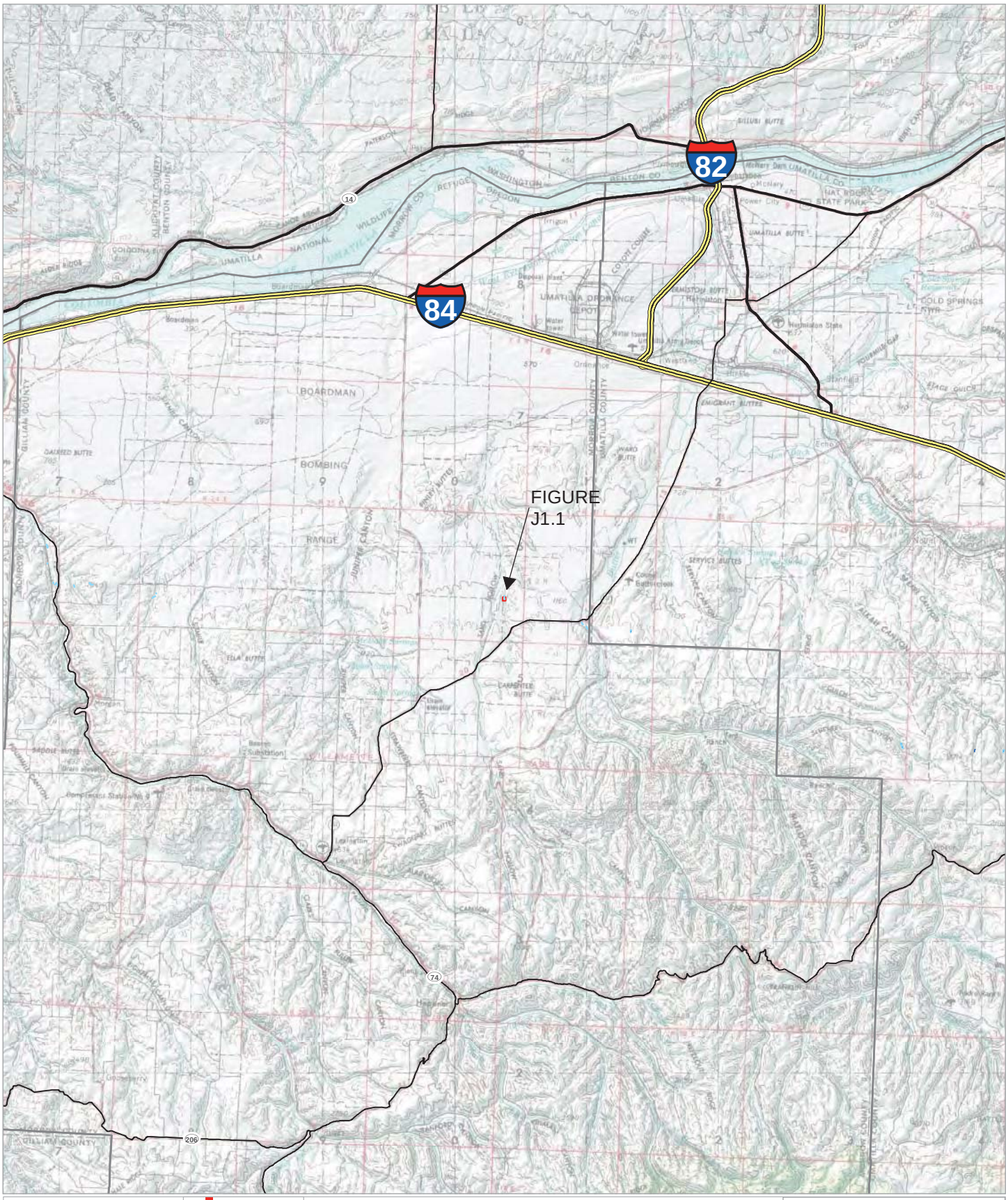
All temporary effects on waters of the state will be rehabilitated within 24 months according to the rehabilitation plan in Attachment Q.

## Attachment J, Project Drawings

Impact site location maps are provided in Attachment C above.

Site plan drawings depicting permanent and temporary impacts to wetlands and waters are provided in Figures J-1 – J-5, below.

Figures J-6 through J-10 below illustrate typical site plans and cross sections for road crossings and tower construction in  wetlands and other waters.




Feet
0 8,500 17,000 34,000

IDAHO POWER

**Route Type**

- Proposed Route
- Alternative Corridor Segment
- Primary Limited Access or Interstate
- Primary US and State Highways
- Secondary State and County

**FIGURE J1**

**MORROW COUNTY OVERVIEW**
**WETLANDS AND WATERS**
**IMPACT LOCATIONS**

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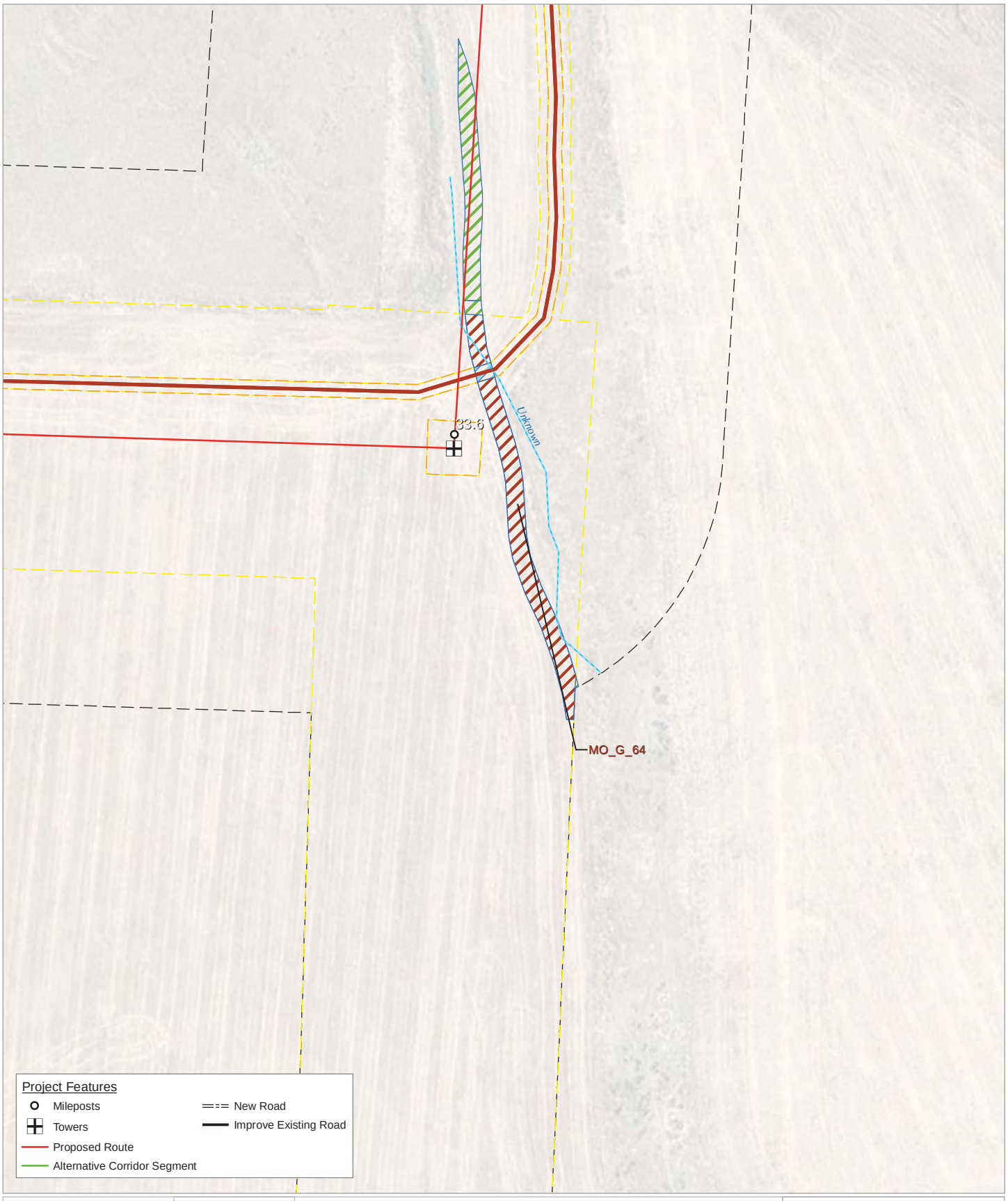


Feet
0 30 60 120

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

**FIGURE J1.1**

**MORROW COUNTY OVERVIEW WETLANDS AND WATERS IMPACT LOCATIONS**

**FEBRUARY 2013**

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Miles
0 1.25 2.5 5

IDAHO POWER
An IDACORP Company

Baker

Route Type
- Proposed Route
- Alternative Corridor Segment
- Primary Limited Access or Interstate
- Primary US and State Highways
- Secondary State and County

FIGURE J2

UMATILLA COUNTY OVERVIEW
WETLANDS AND WATERS
IMPACT LOCATIONS

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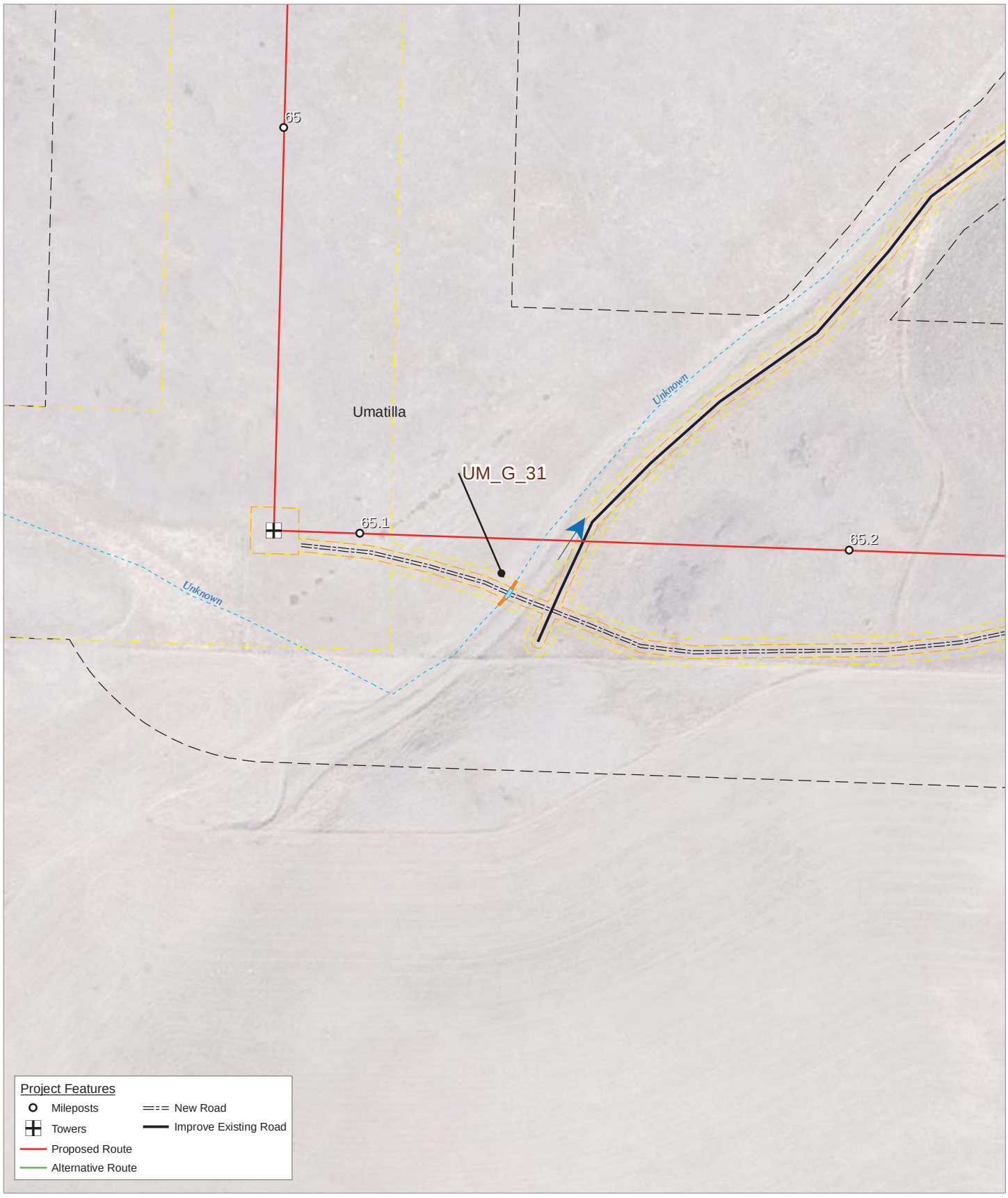


0 35 70 140 Feet

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J2.1
UMATILLA COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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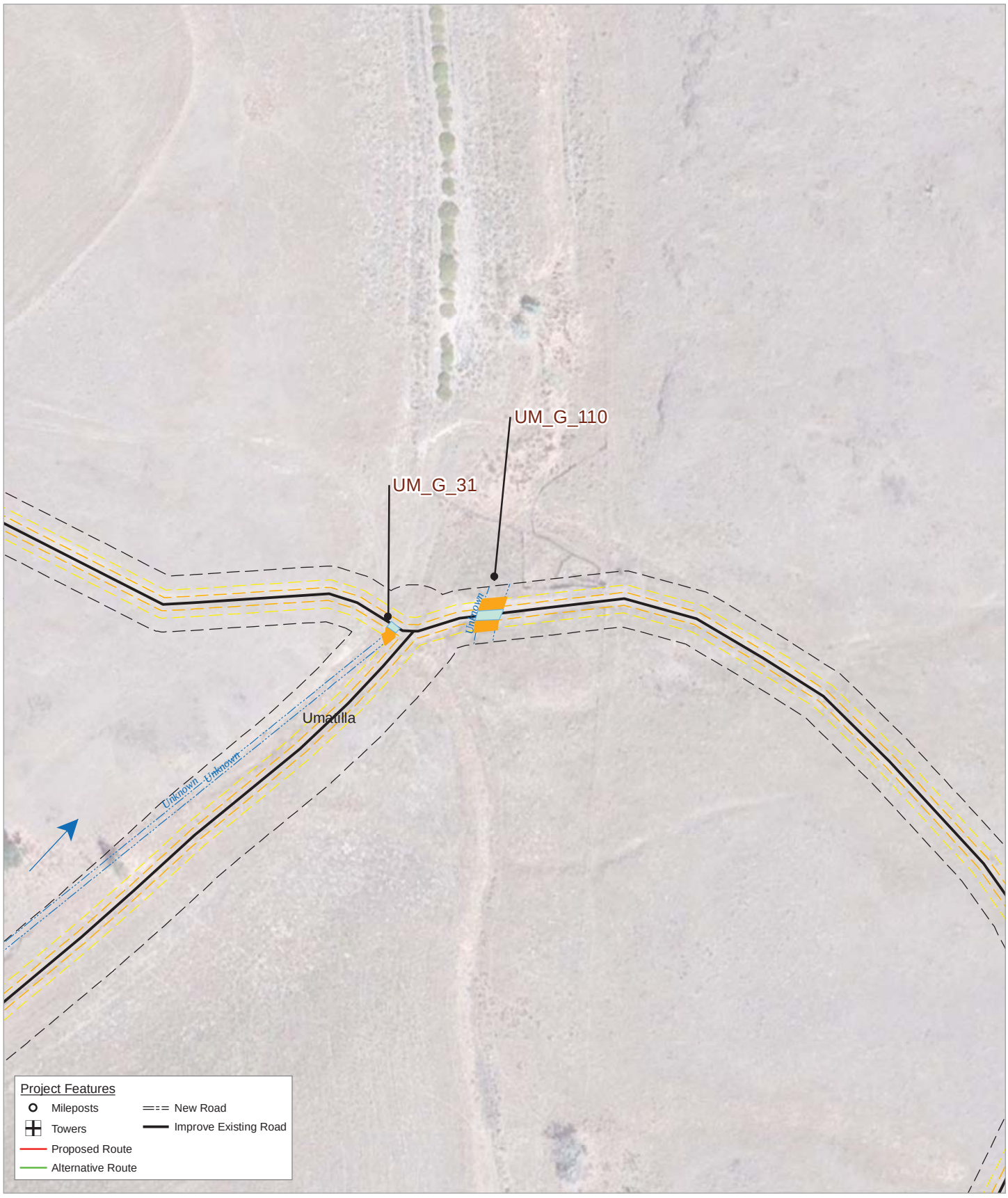


Feet
0 35 70 140

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J2.2
UMATILLA COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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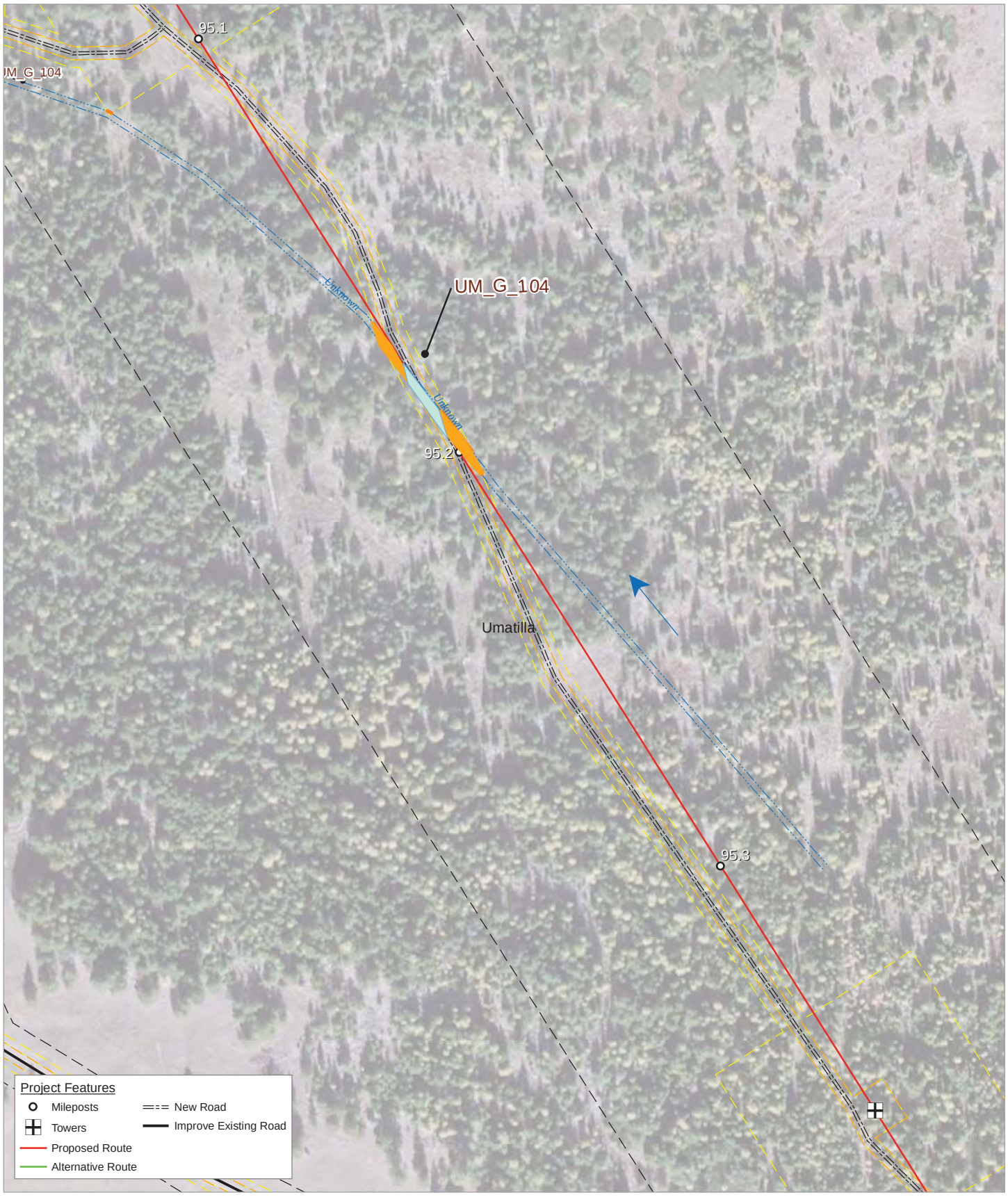


Feet
0 35 70 140

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J2.3

UMATILLA COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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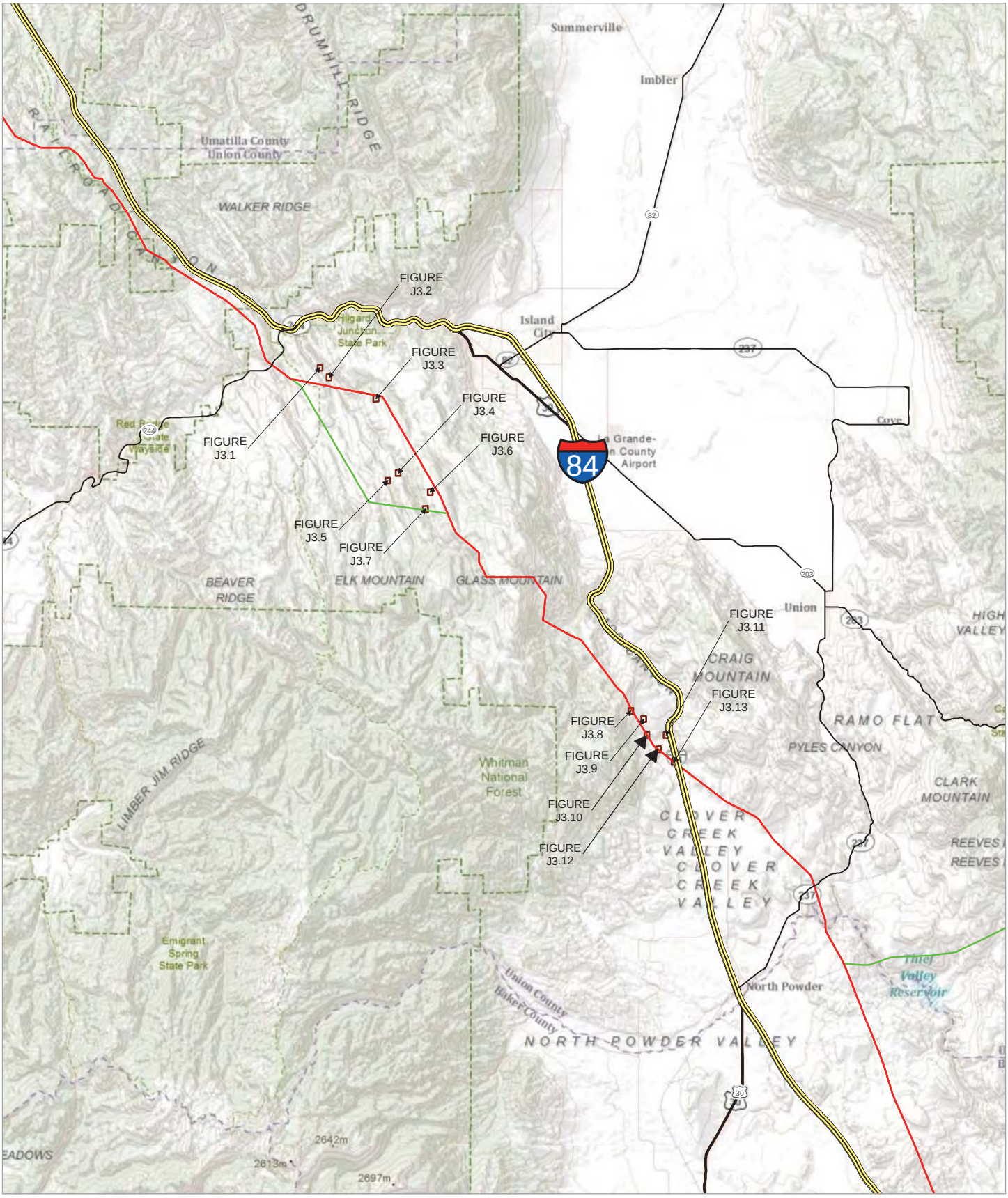


Miles
0 1.25 2.5 5

IDAHO POWER

Baker

Route Type
- Proposed Route
- Alternative Corridor Segment
- Primary Limited Access or Interstate
- Primary US and State Highways
- Secondary State and County

FIGURE J3

UNION COUNTY OVERVIEW
WETLANDS AND WATERS
IMPACT LOCATIONS

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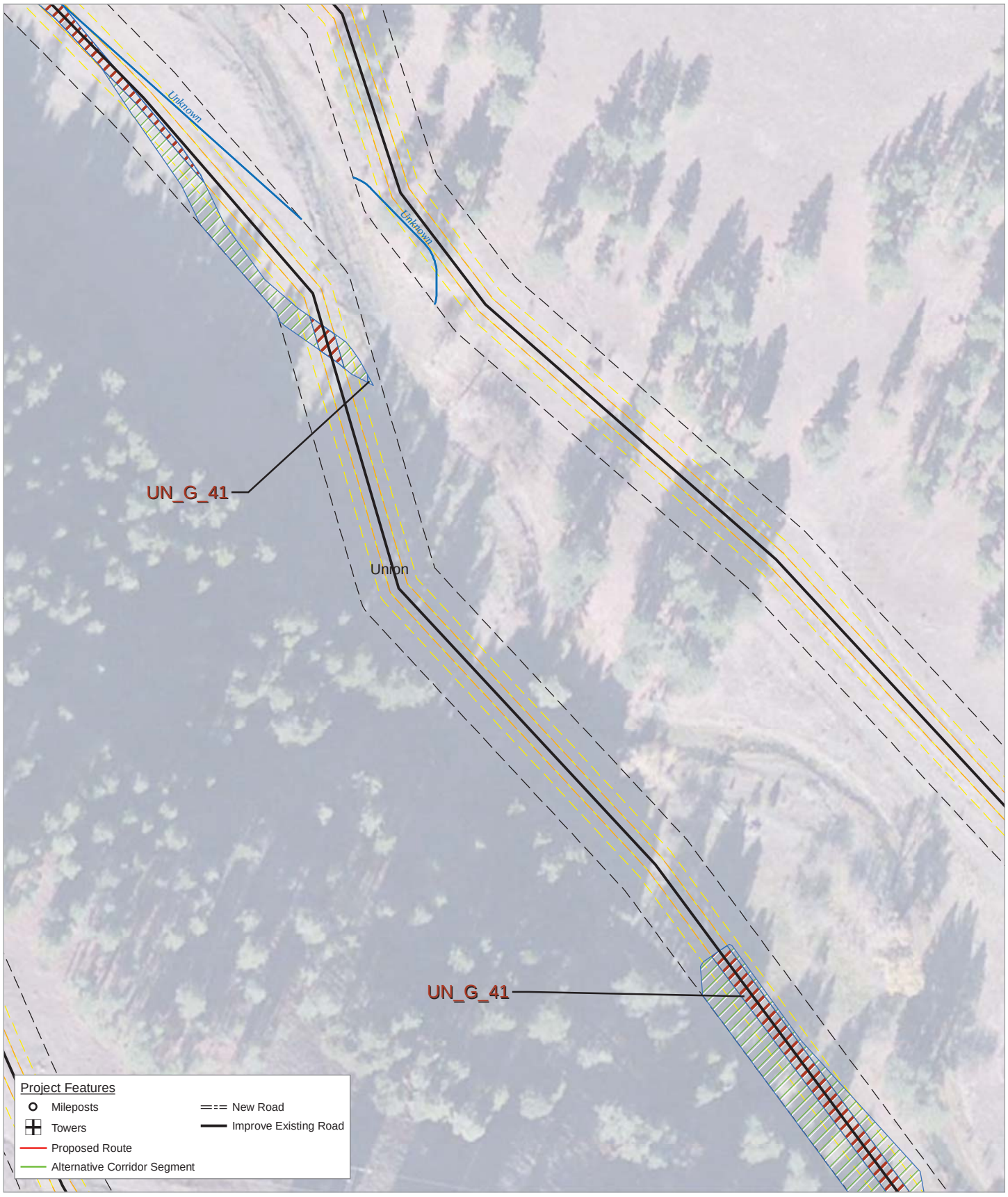


0 25 50 100 Feet

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J3.1

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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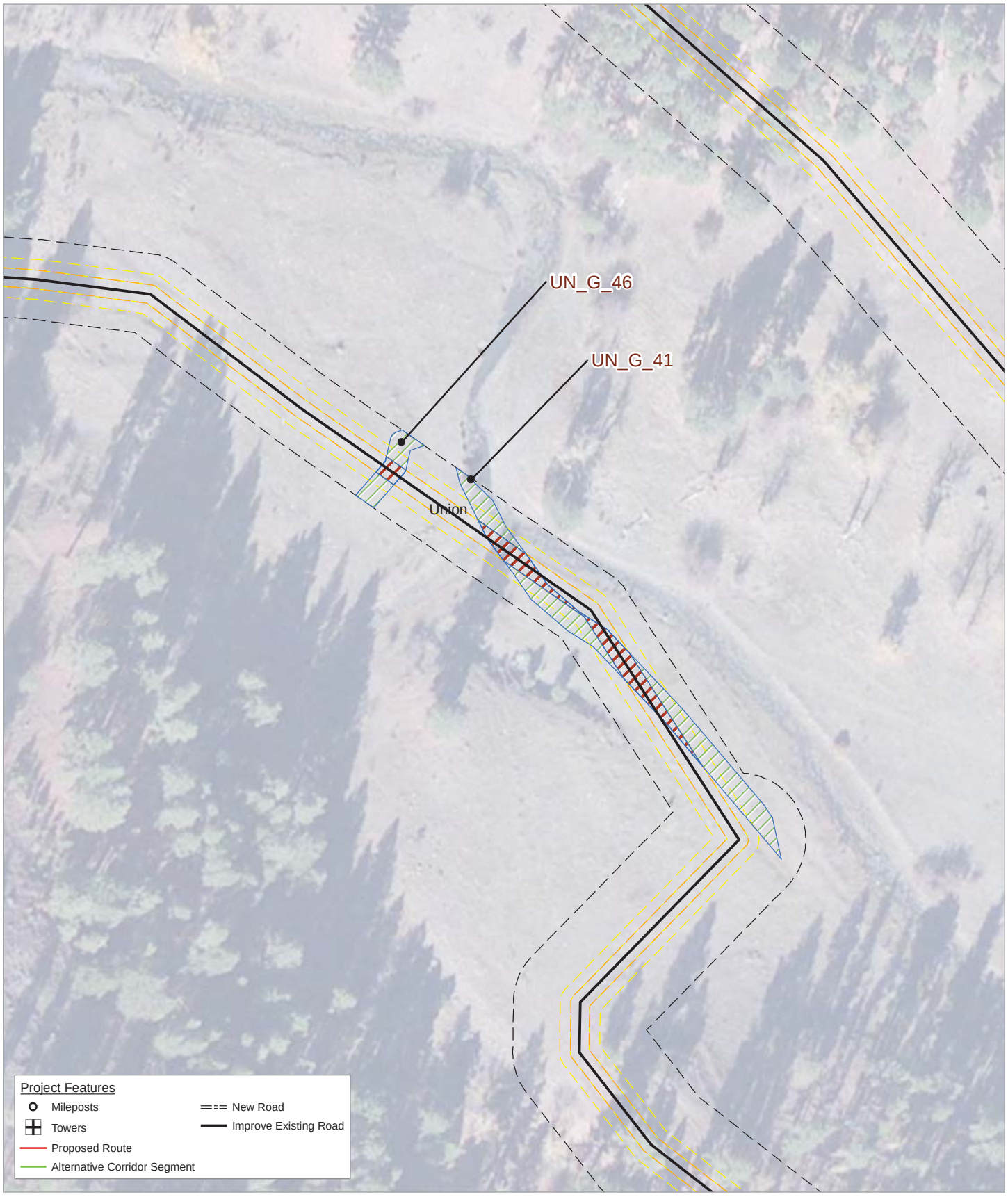


0 25 50 100 Feet

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J3.2

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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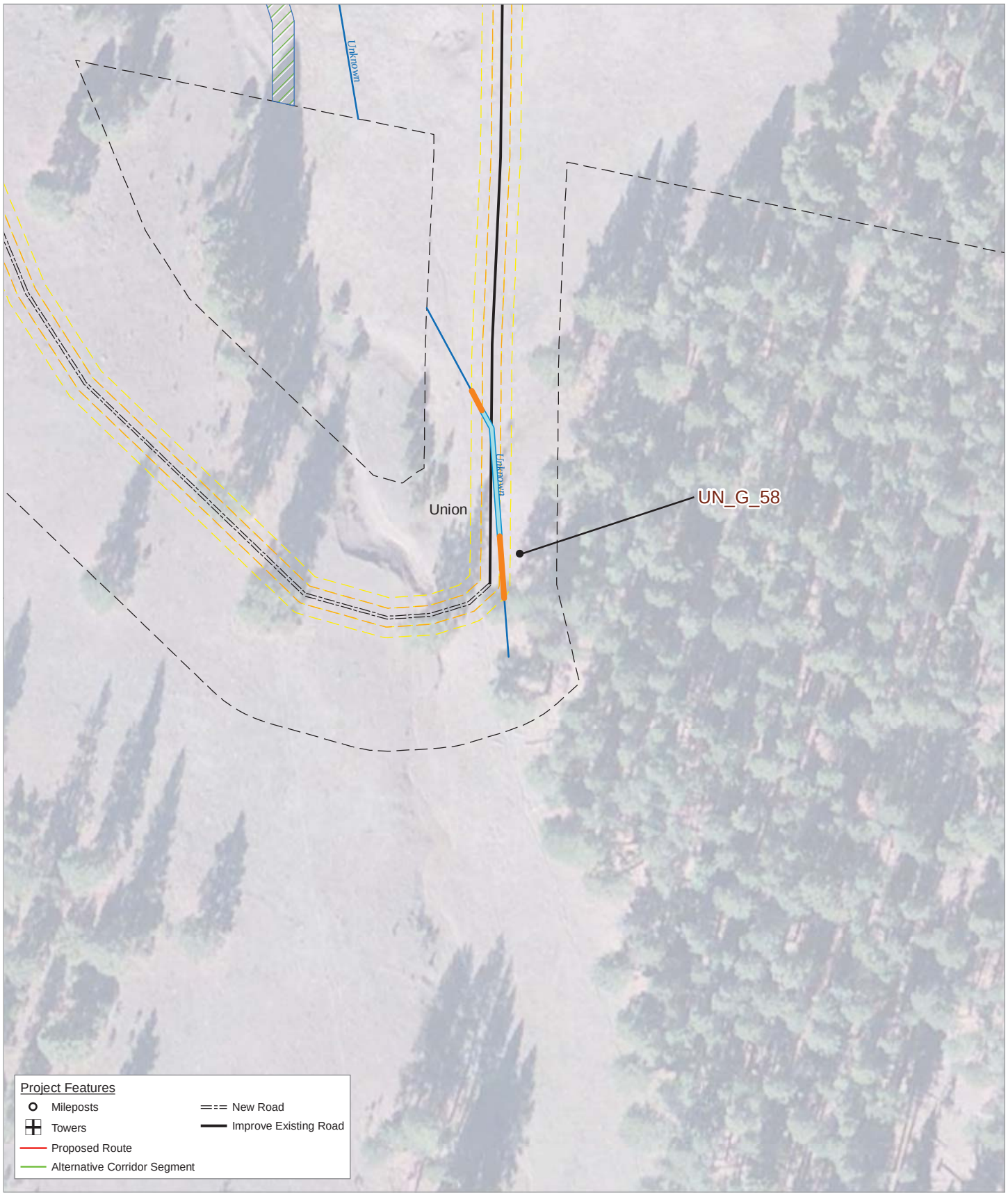


FIGURE J3.3

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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FIGURE J3.4

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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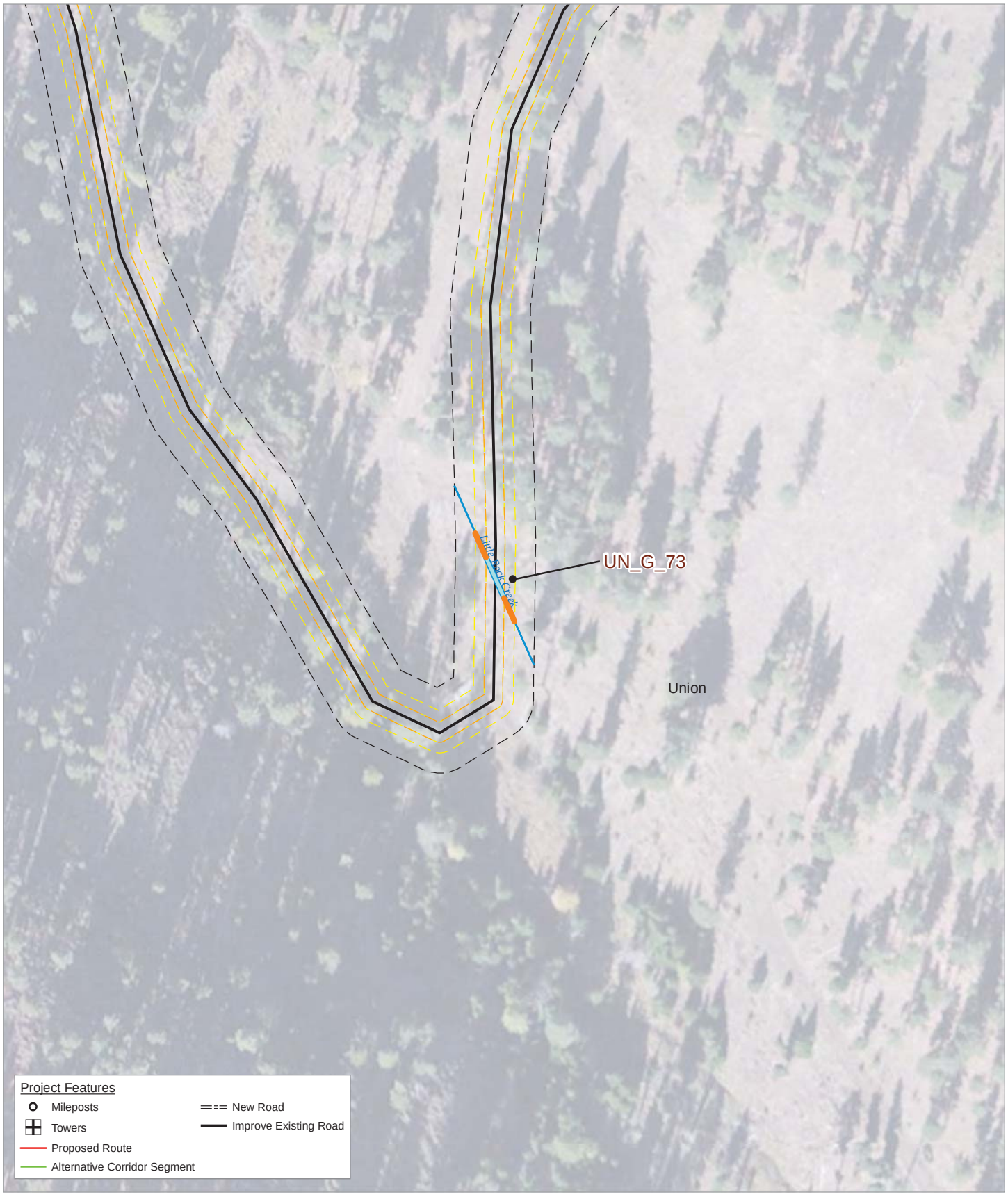


FIGURE J3.5

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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0 25 50 100 Feet

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J3.6

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J3.7

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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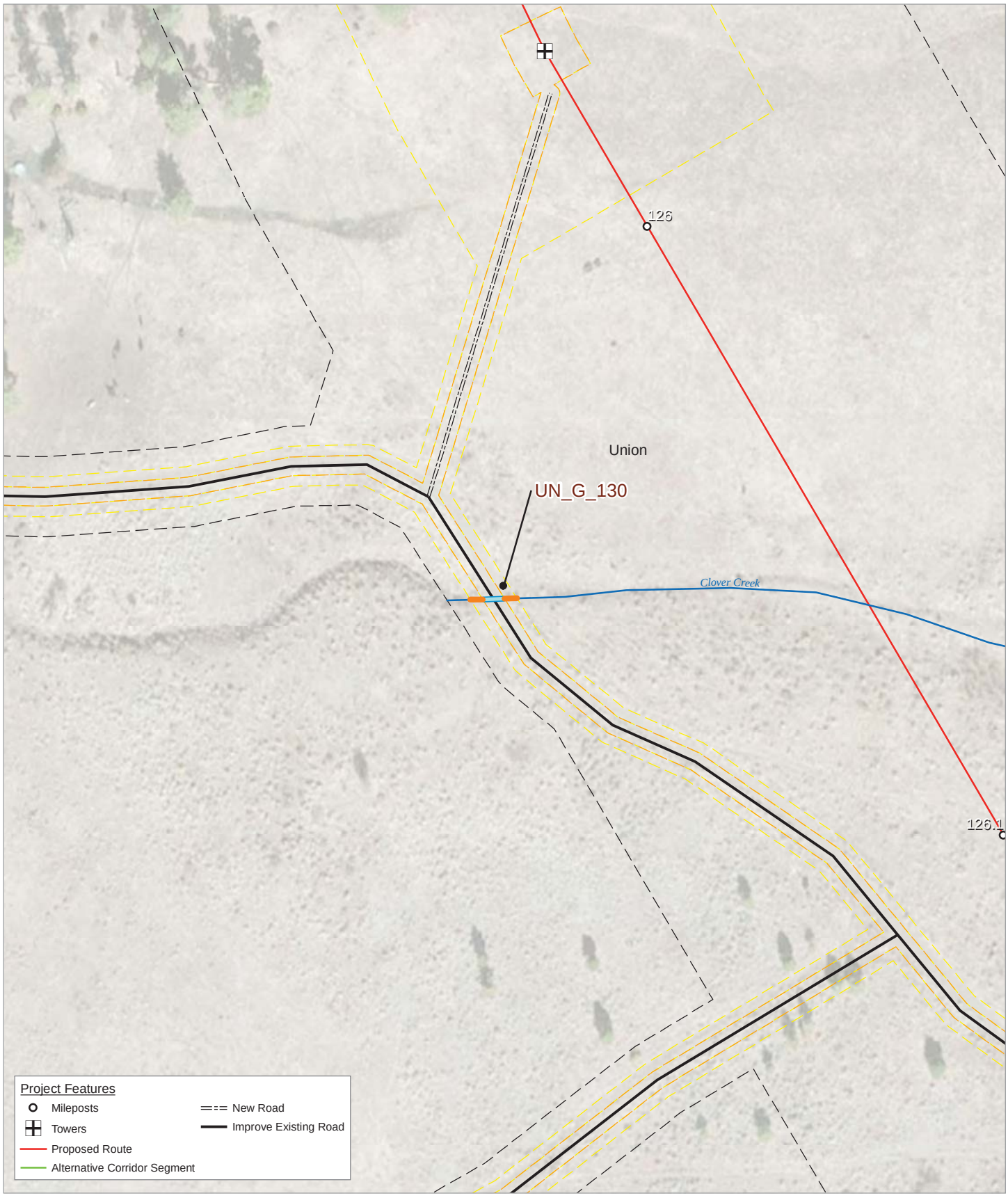


0 25 50 100 Feet

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J3.8

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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FIGURE J3.9

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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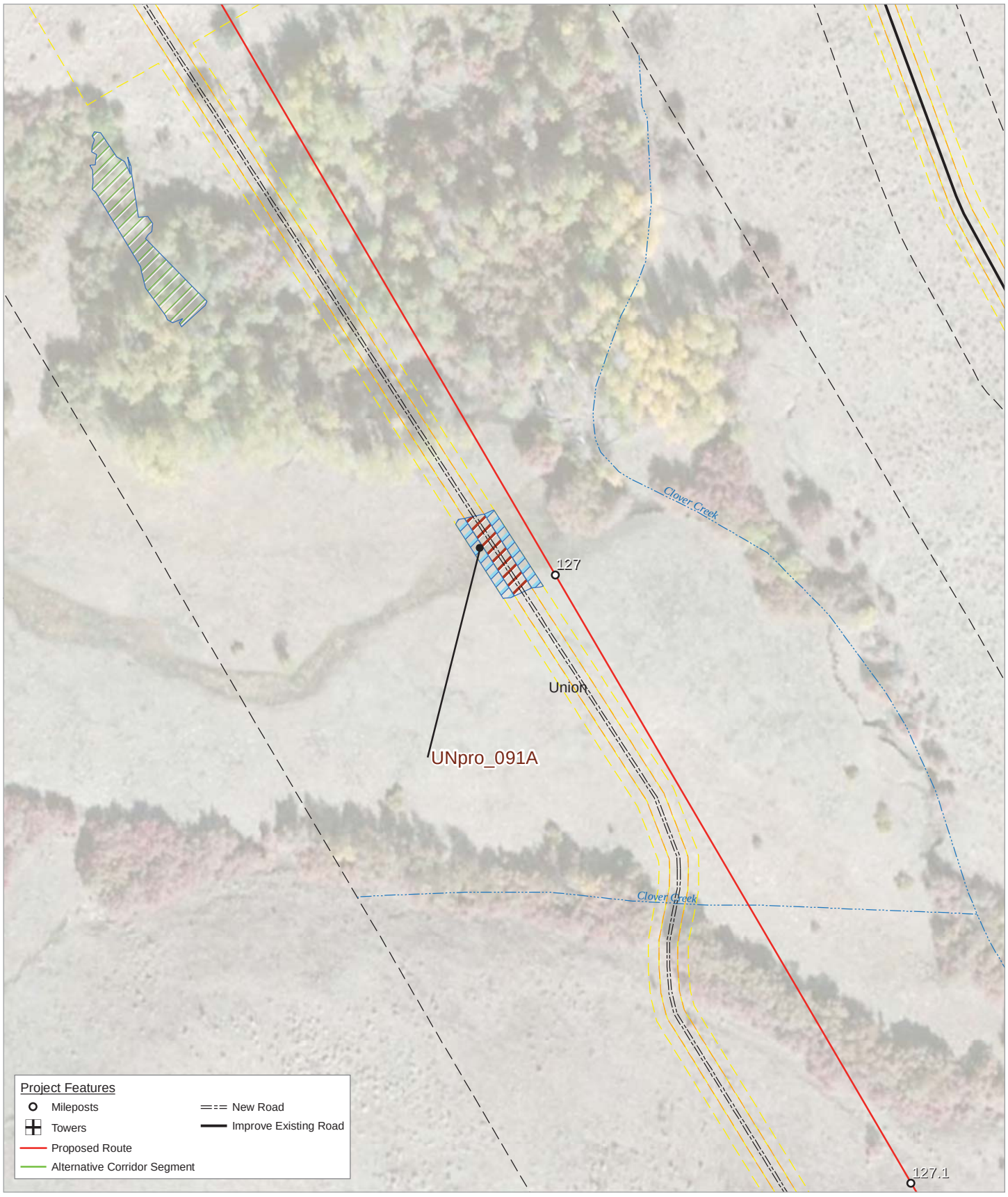


FIGURE J3.10

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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FIGURE J3.11

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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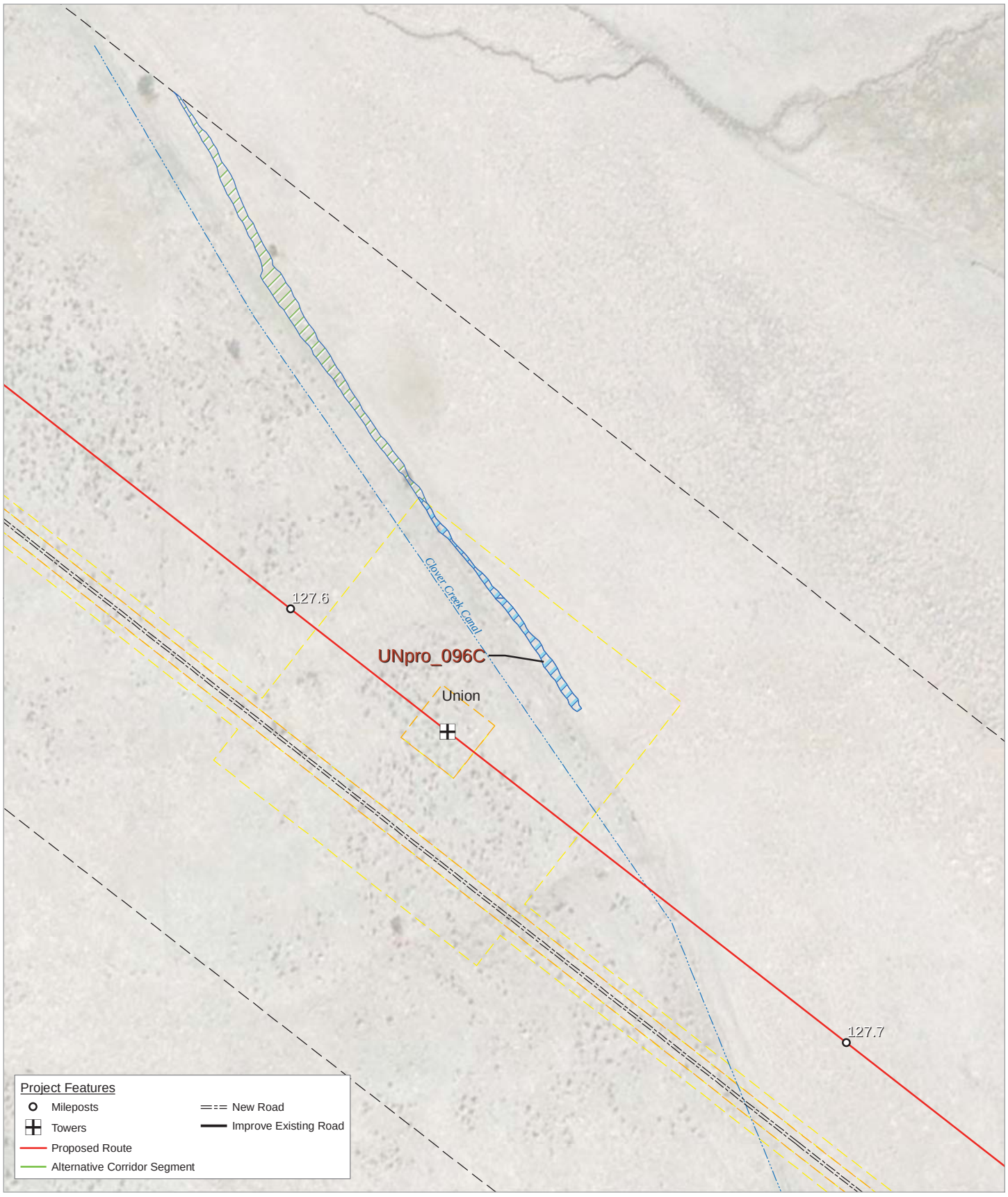


FIGURE J3.12

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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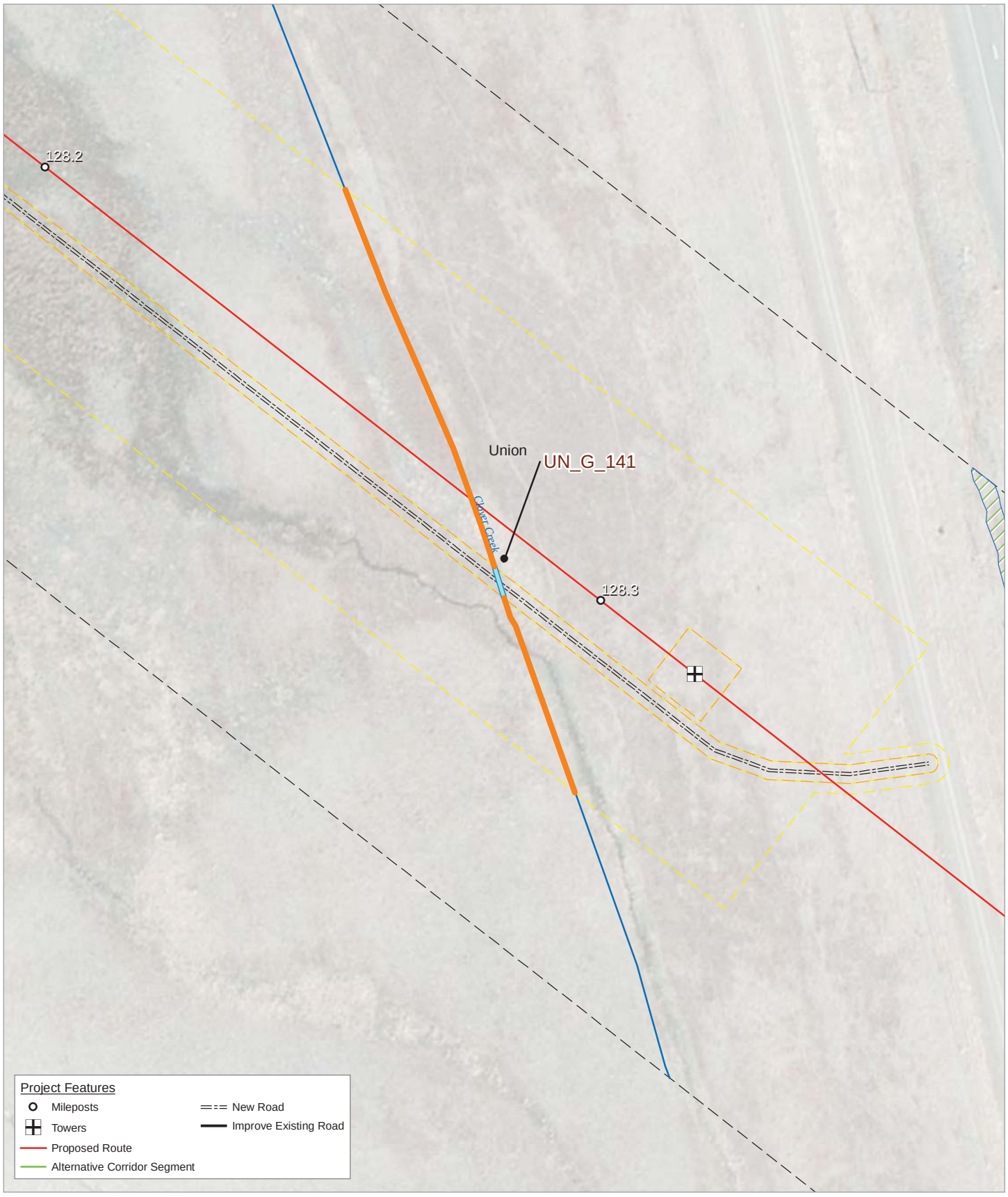


0 25 50 100 Feet

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J3.13

UNION COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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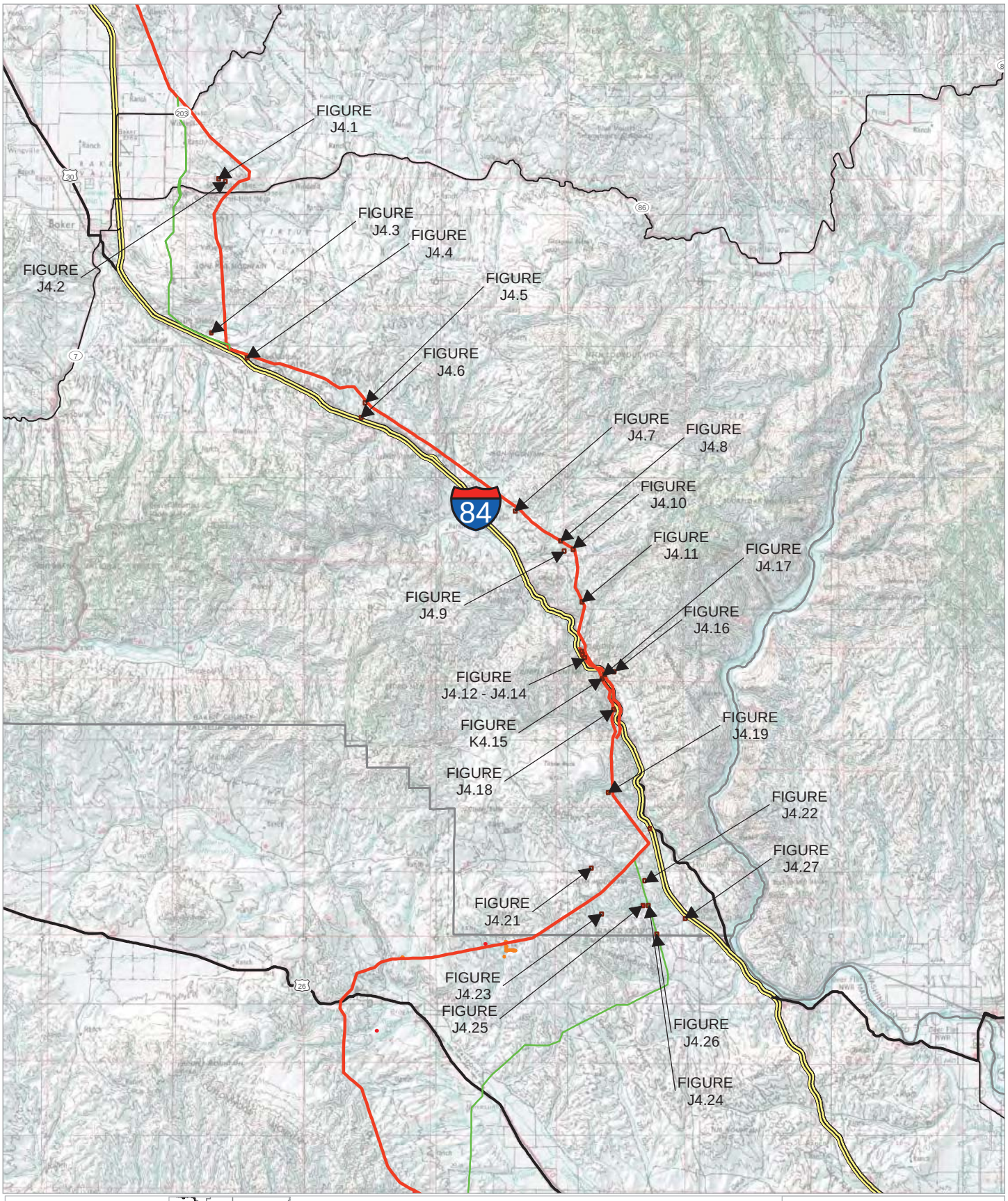
FIGURE J4.1
FIGURE J4.2
FIGURE J4.3
FIGURE J4.4
FIGURE J4.5
FIGURE J4.6
FIGURE J4.7
FIGURE J4.8
FIGURE J4.9
FIGURE J4.10
FIGURE J4.11
FIGURE J4.12 - J4.14
FIGURE J4.15
FIGURE J4.16
FIGURE J4.17
FIGURE J4.18
FIGURE J4.19
FIGURE J4.21
FIGURE J4.22
FIGURE J4.23
FIGURE J4.24
FIGURE J4.25
FIGURE J4.26
FIGURE J4.27
84
Baker
Miles
0 1.25 2.5 5
Route Type
Proposed Route
Alternative Corridor Segment
Primary Limited Access or Interstate
Primary US and State Highways
Secondary State and County
FIGURE J4
BAKER COUNTY OVERVIEW
WETLANDS AND WATERS
IMPACT LOCATIONS
FEBRUARY 2013
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0 25 50 100 Feet

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.1

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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FIGURE J4.2

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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0 25 50 100 Feet

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.3

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.4

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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0 25 50 100 Feet

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.5

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.6

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.7

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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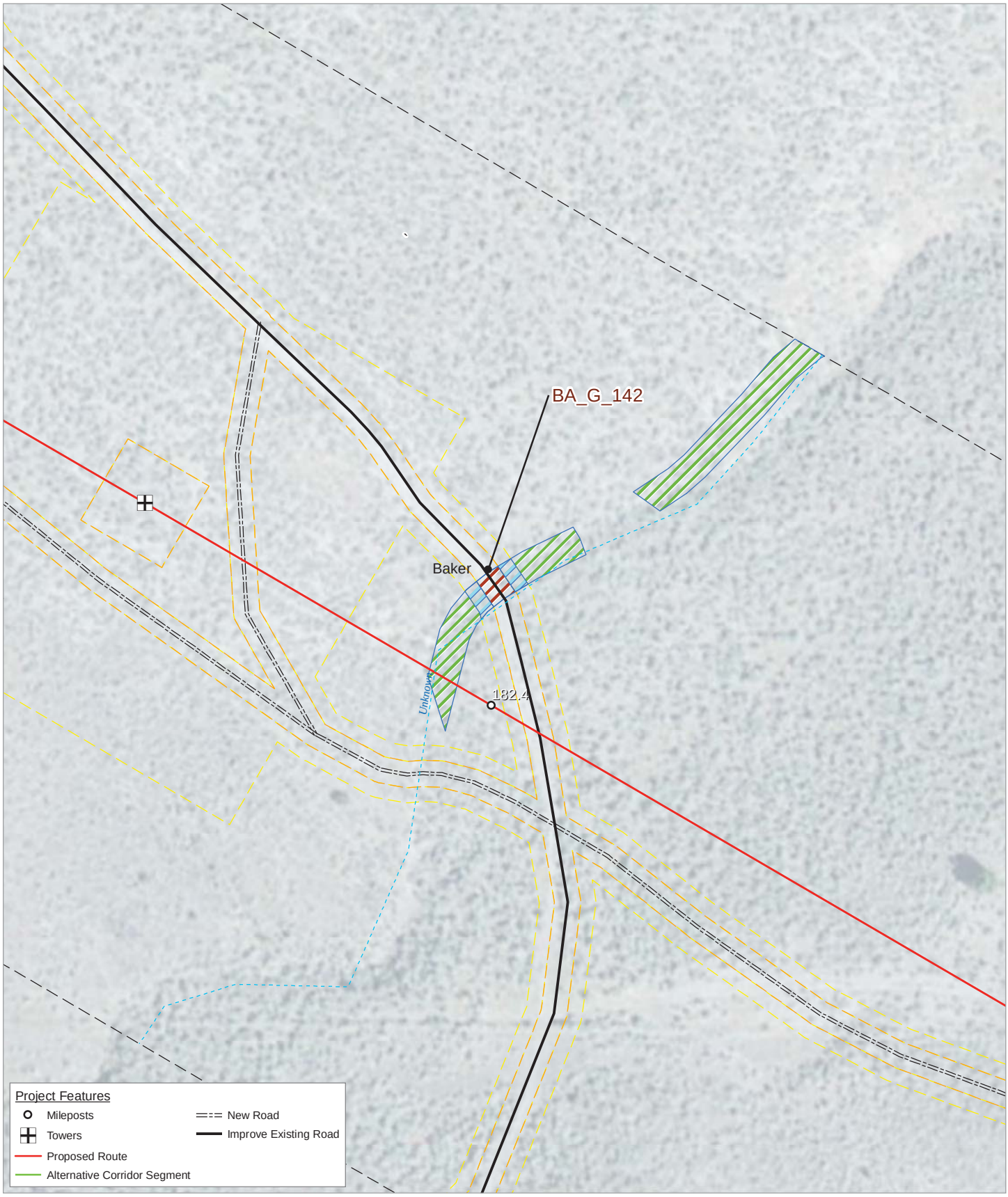


0 25 50 100 Feet

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.8

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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0 25 50 100 Feet

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.9

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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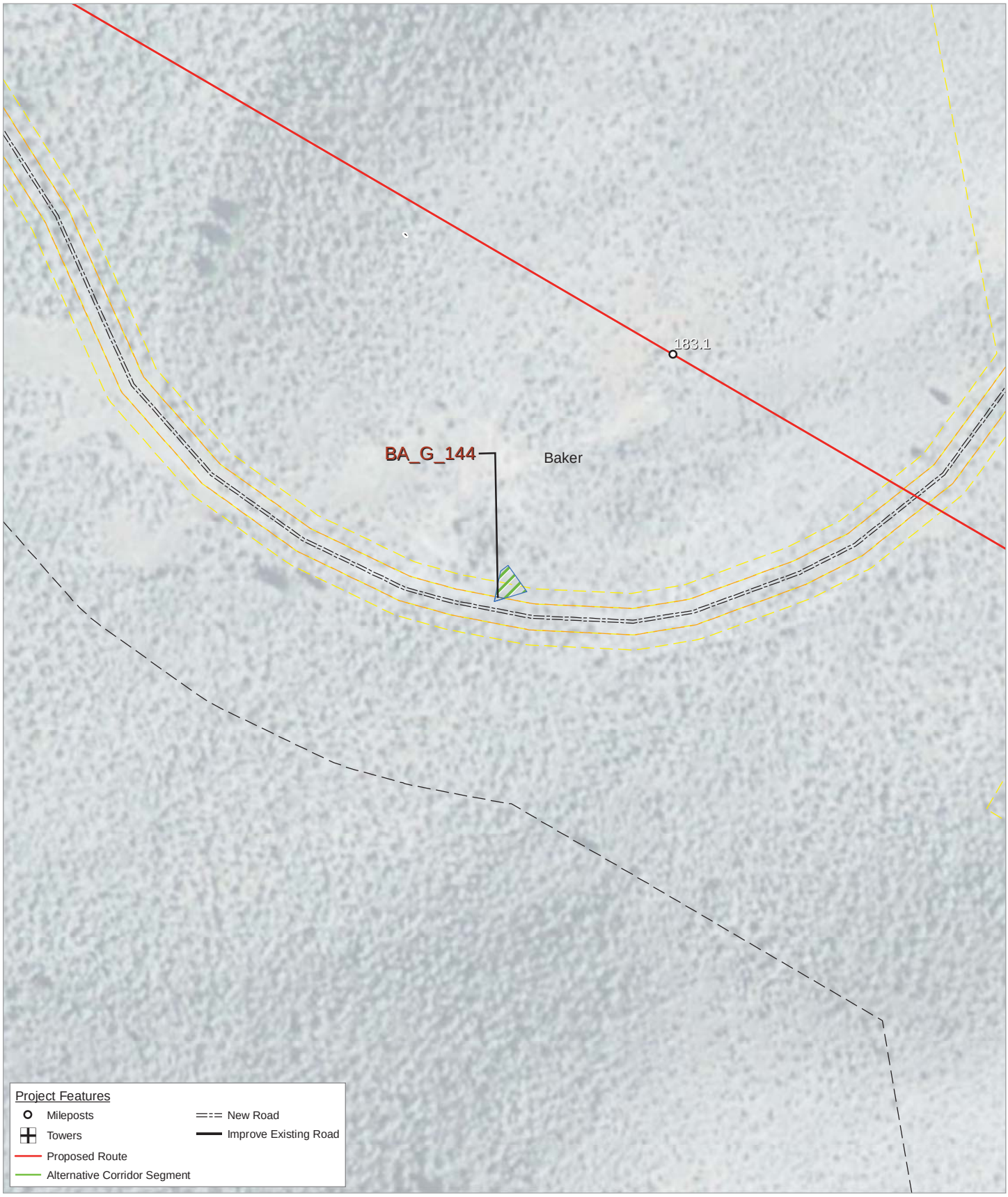


Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.10

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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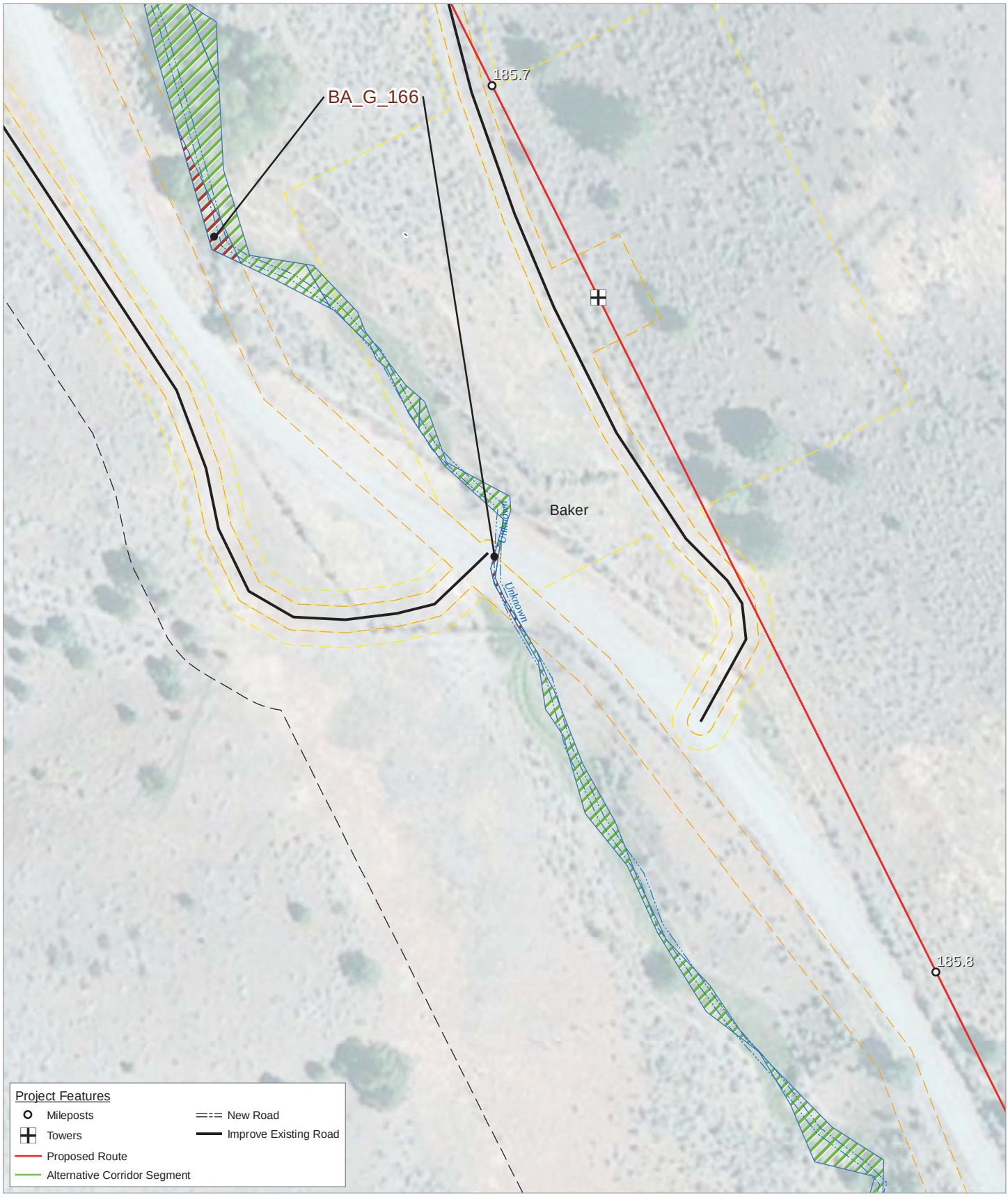


Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.11

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.12

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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FIGURE J4.13

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.14

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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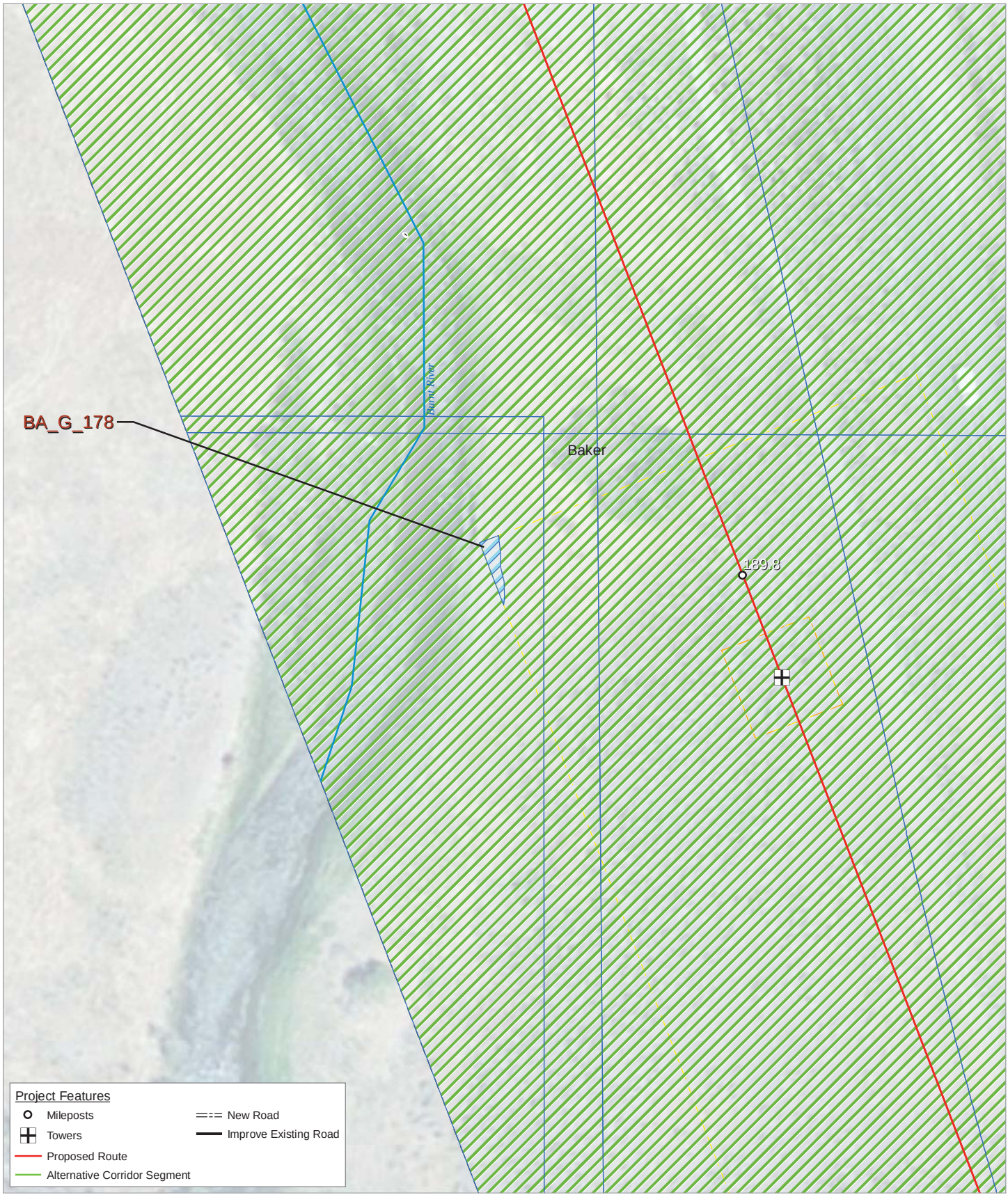


0 25 50 100 Feet

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.15

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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0 25 50 100 Feet

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.16

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.17

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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0 25 50 100 Feet

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.18

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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0 25 50 100 Feet

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.19

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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0 25 50 100 Feet

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.20

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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FIGURE J4.21

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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FIGURE J4.22

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.23

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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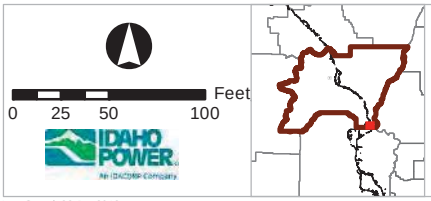




Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.24

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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0 25 50 100 Feet

IDAHO POWER

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.25

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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0 25 50 100 Feet

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.26

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J4.27

BAKER COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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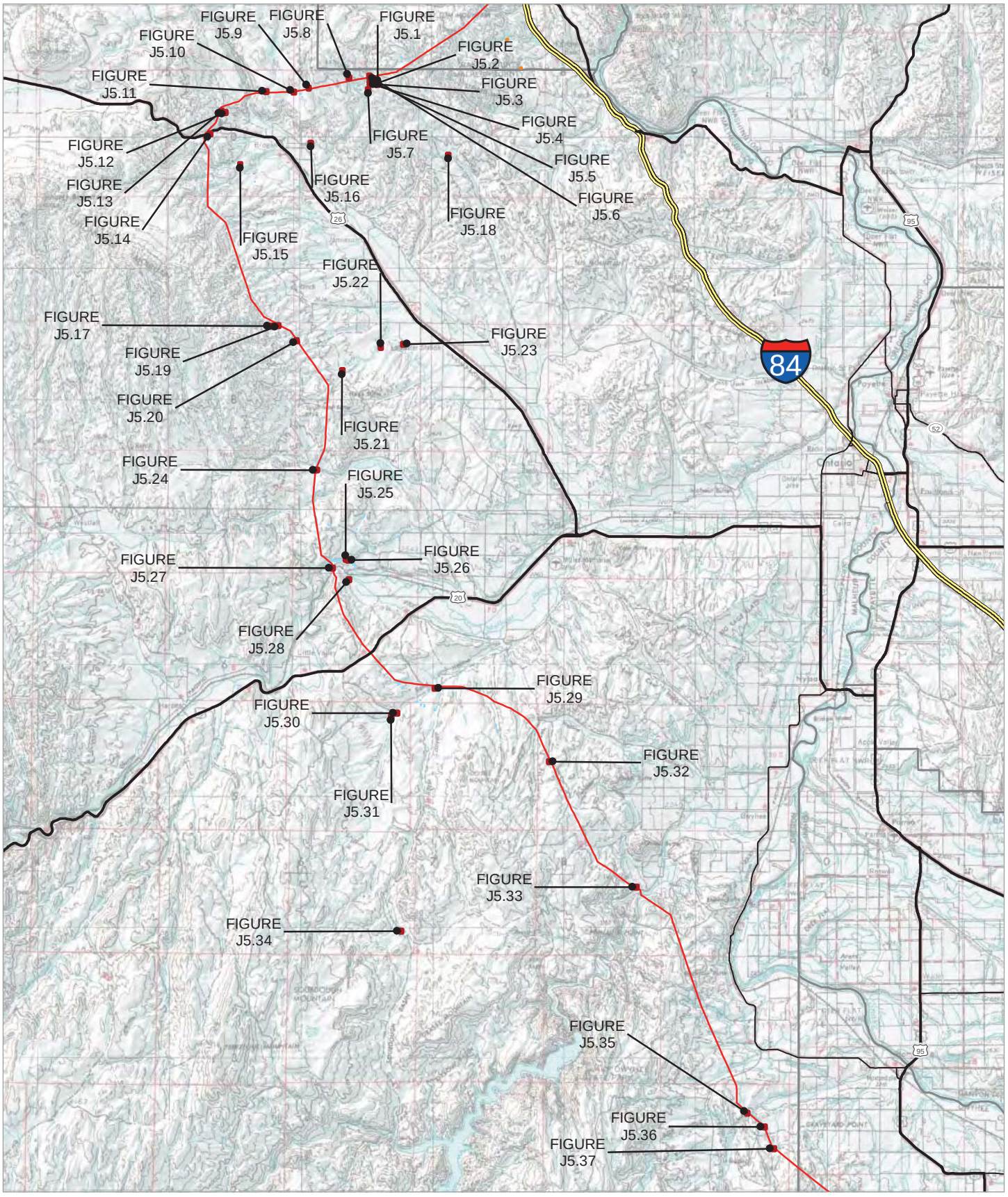


Miles
0 1.25 2.5 5

IDAHO POWER
An IDACORP Company

Route Type
- Proposed Route
- Alternative Corridor Segment
- Primary Limited Access or Interstate
- Primary US and State Highways
- Secondary State and County

FIGURE J5

MALHEUR COUNTY OVERVIEW
WETLANDS AND WATERS
IMPACT LOCATIONS

February 2013

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.1
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.2
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.3
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.4
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.5
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.6
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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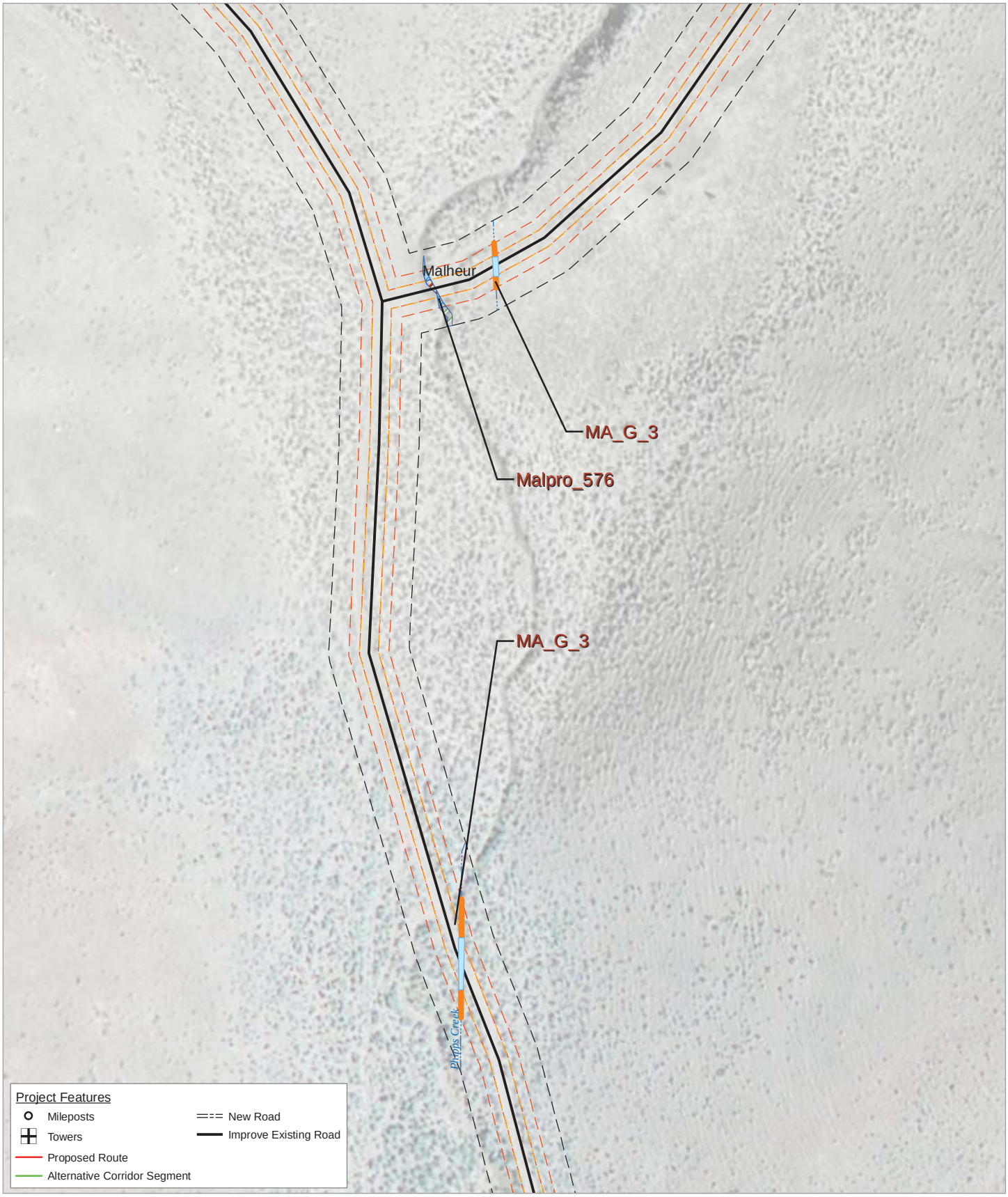


Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.7
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.8
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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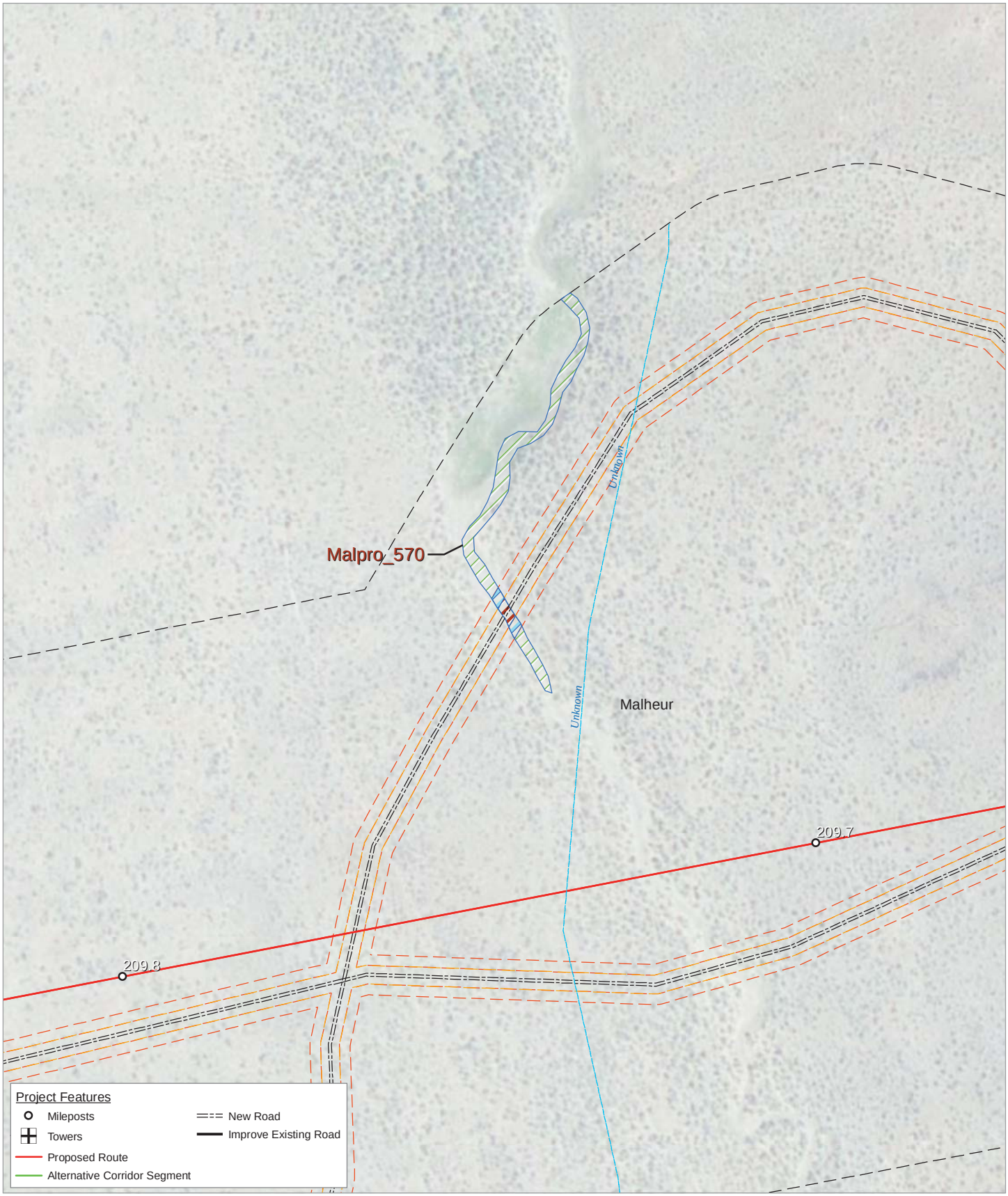


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.9
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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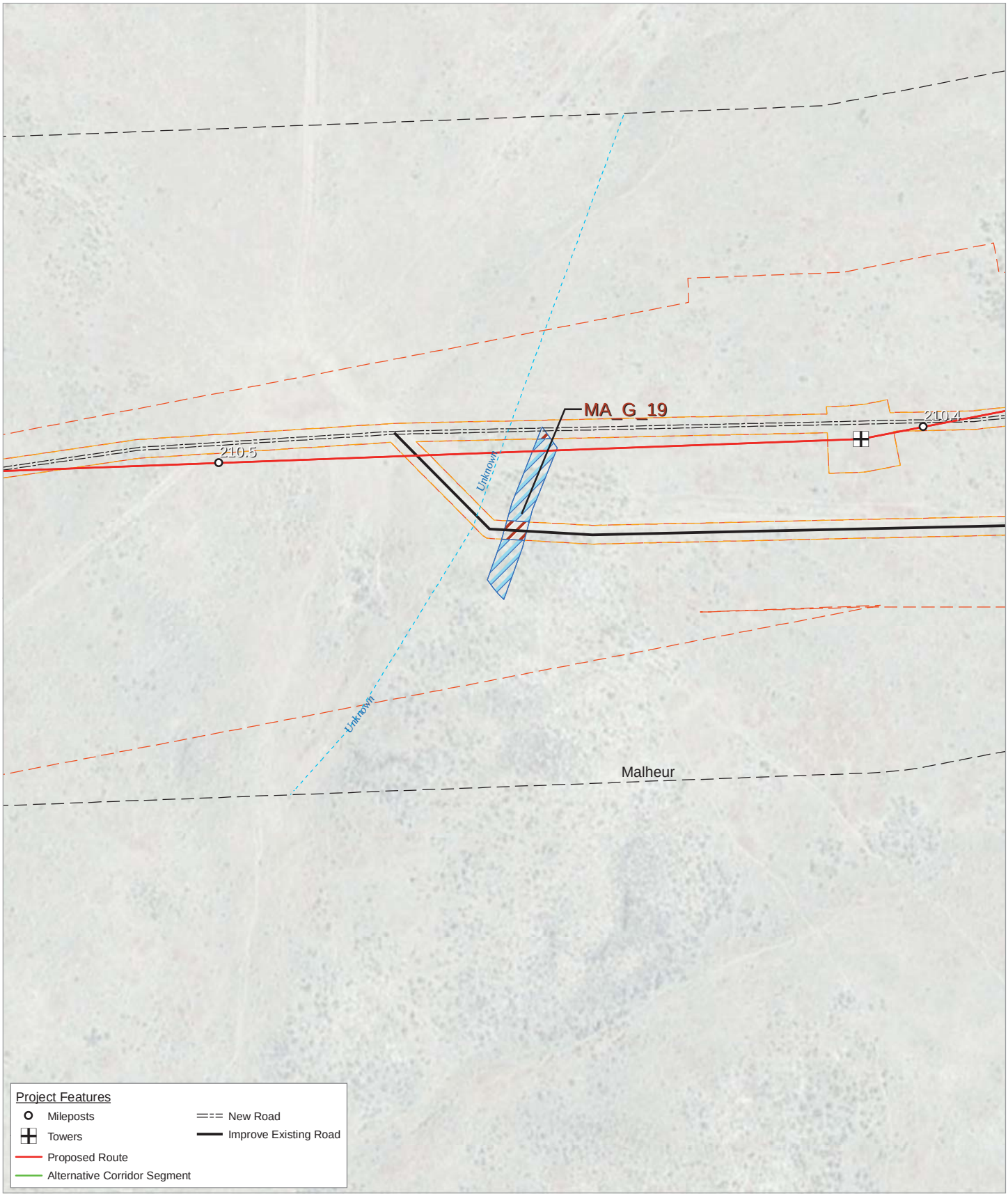


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.10
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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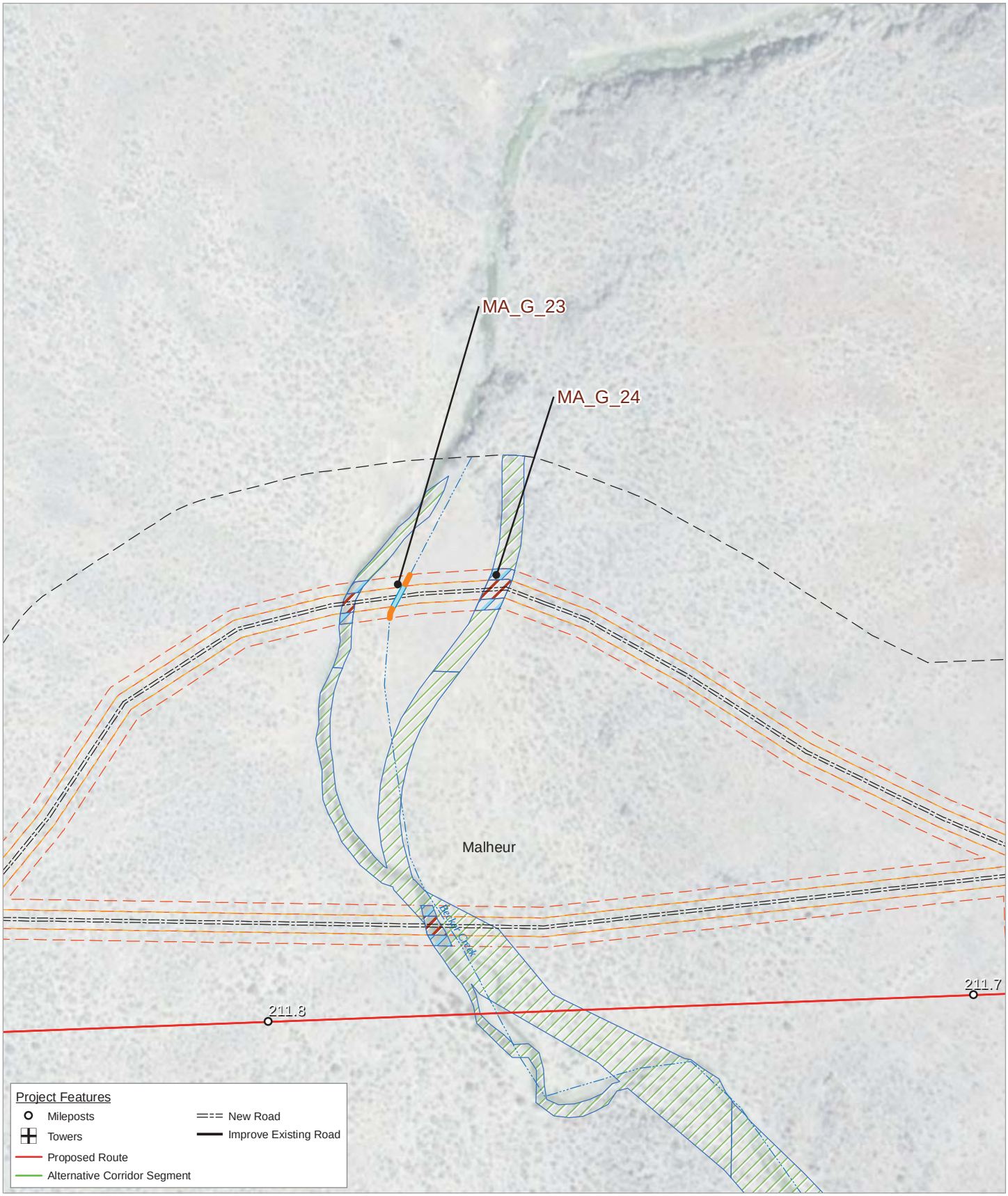


Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.11
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.12
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.13
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.14
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Figure J5.15 intentionally absent.


Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.16
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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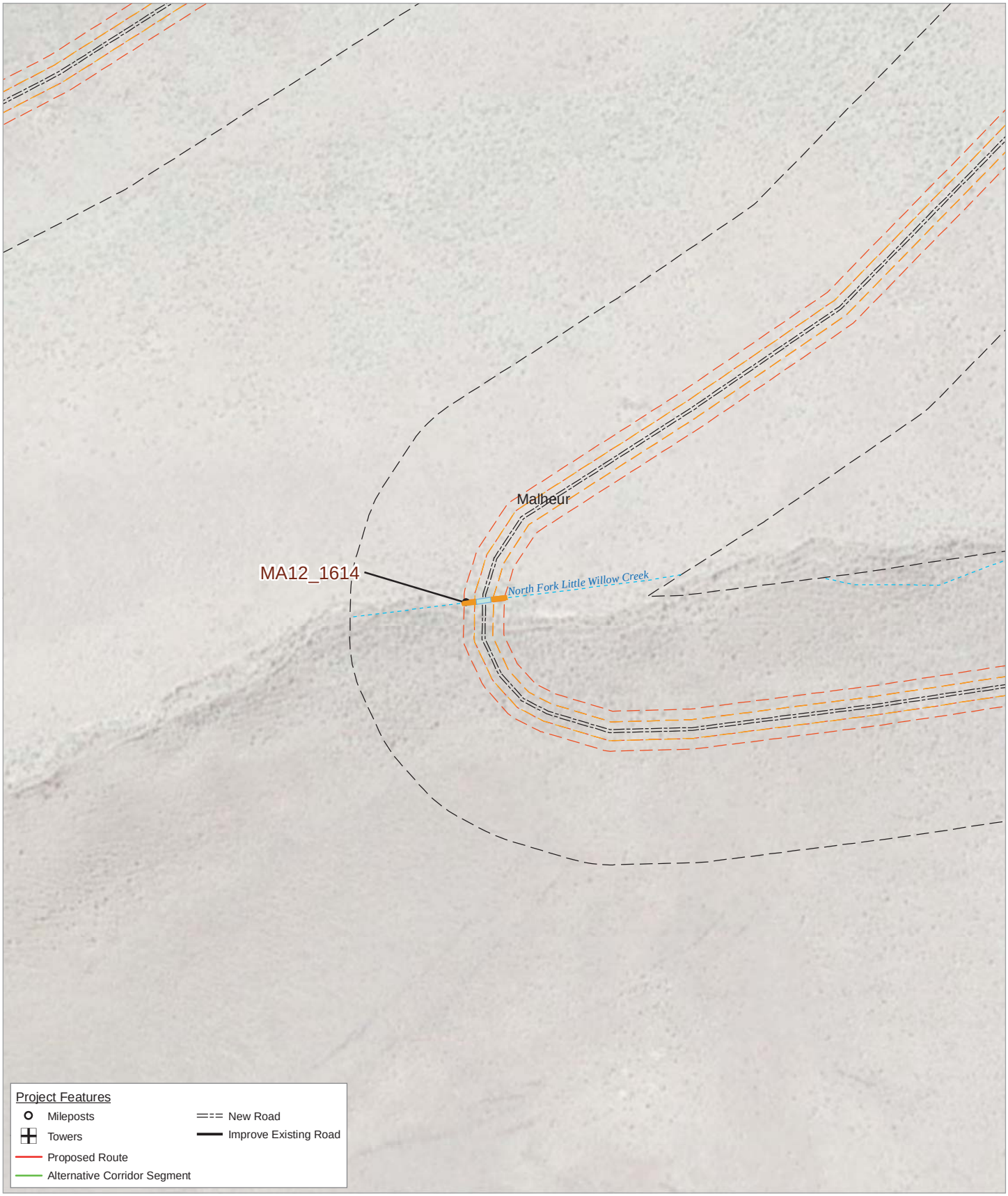


Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.17
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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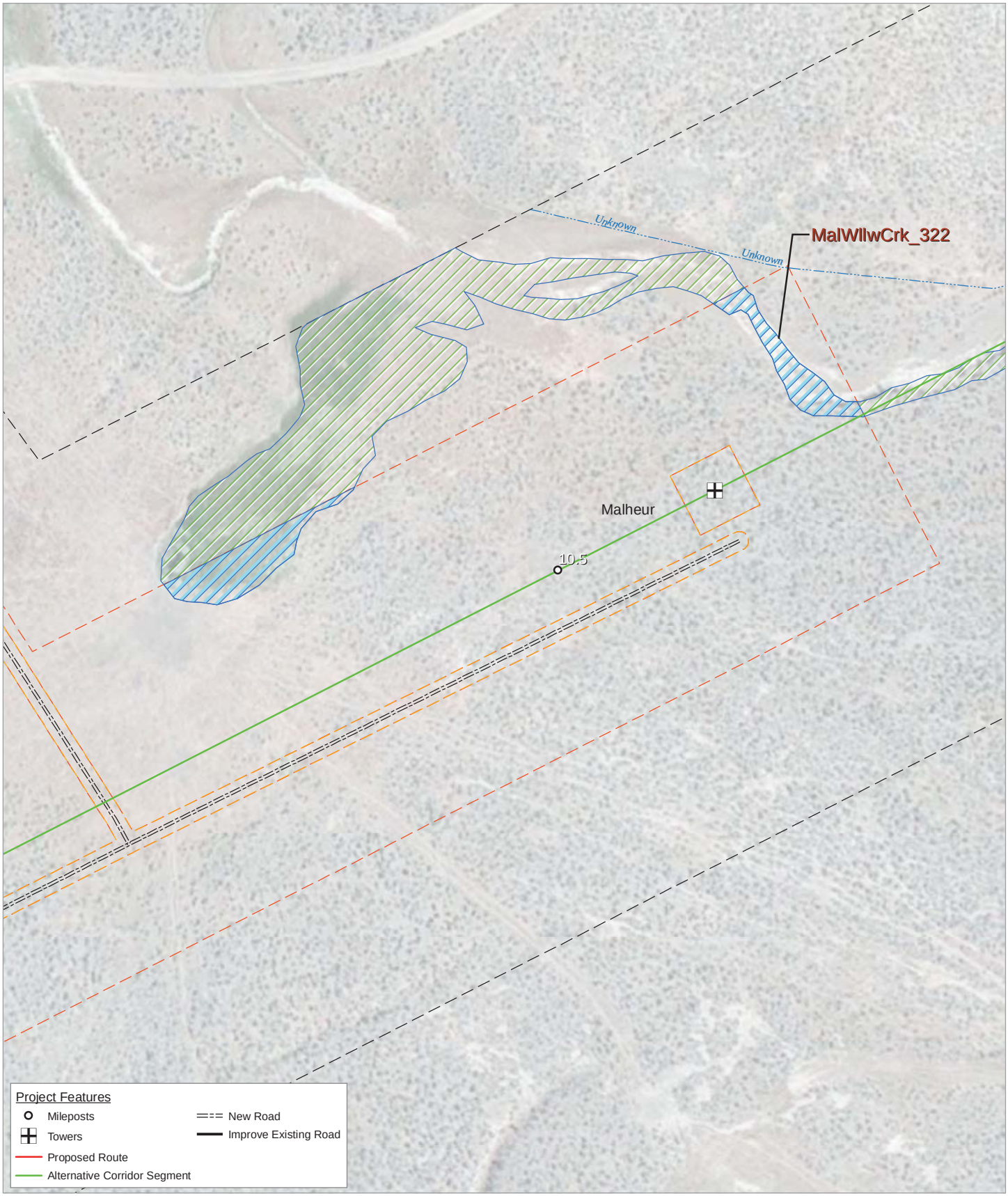


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.18
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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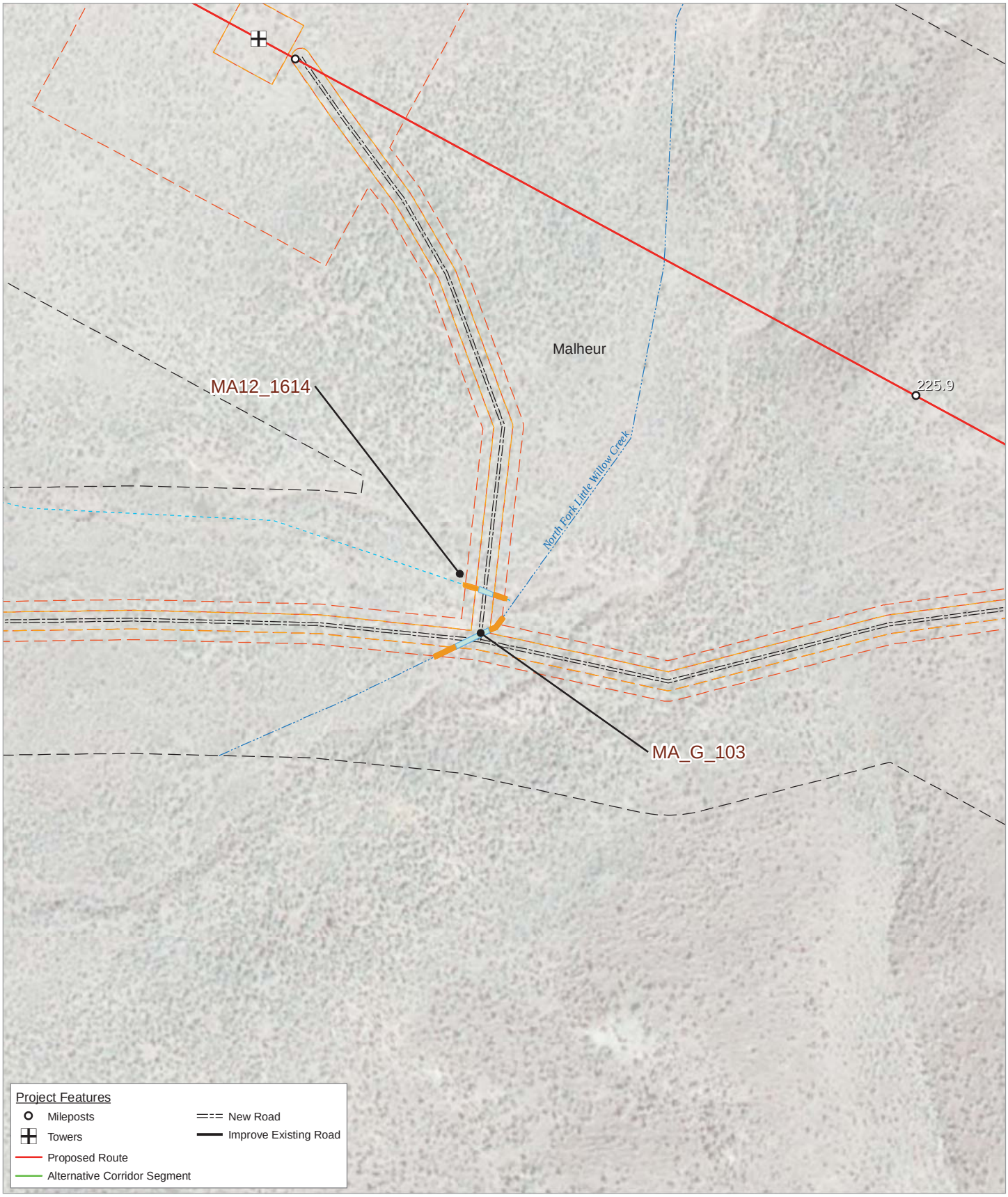


Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.19
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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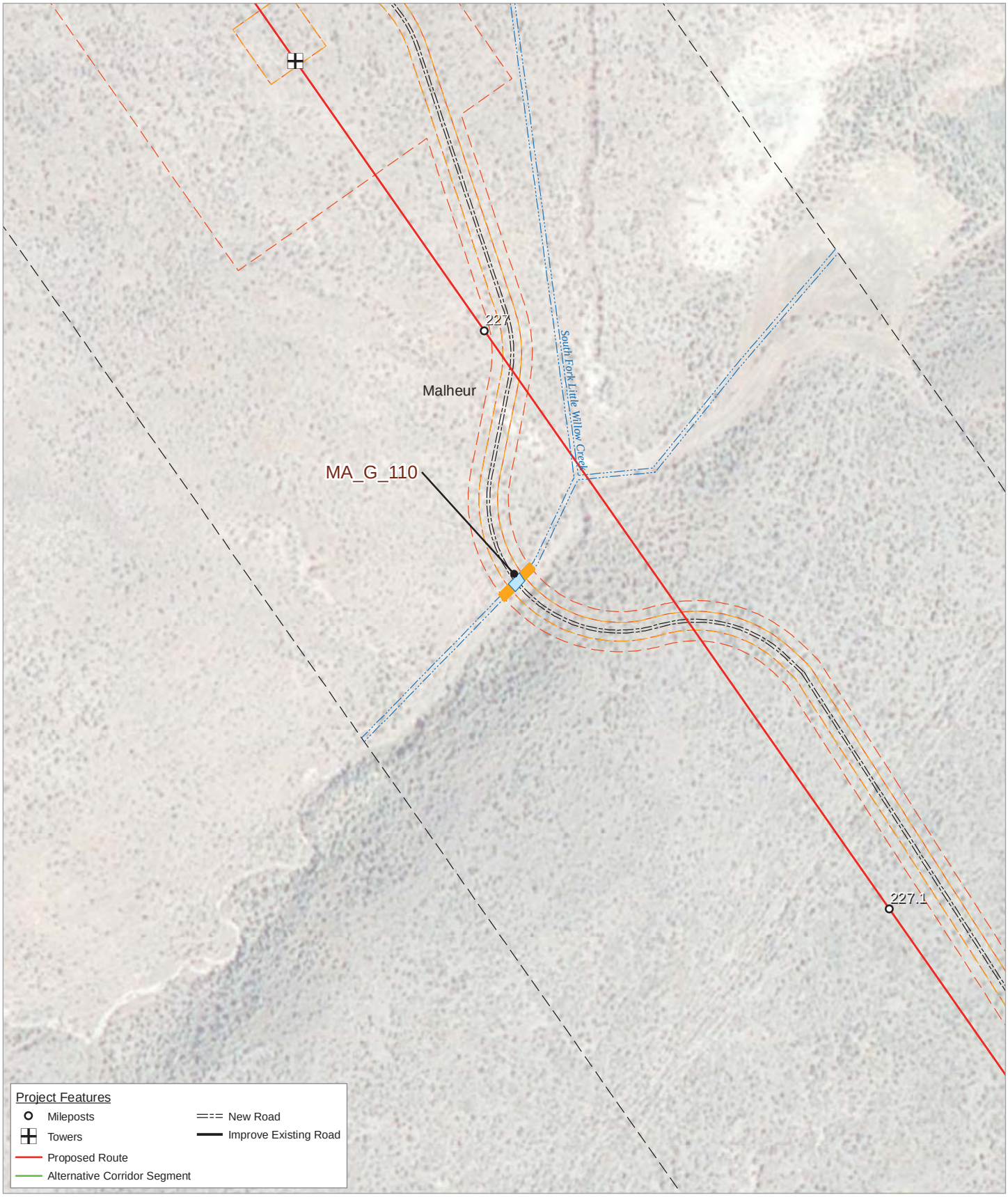


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.20
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.21
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.22
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.23
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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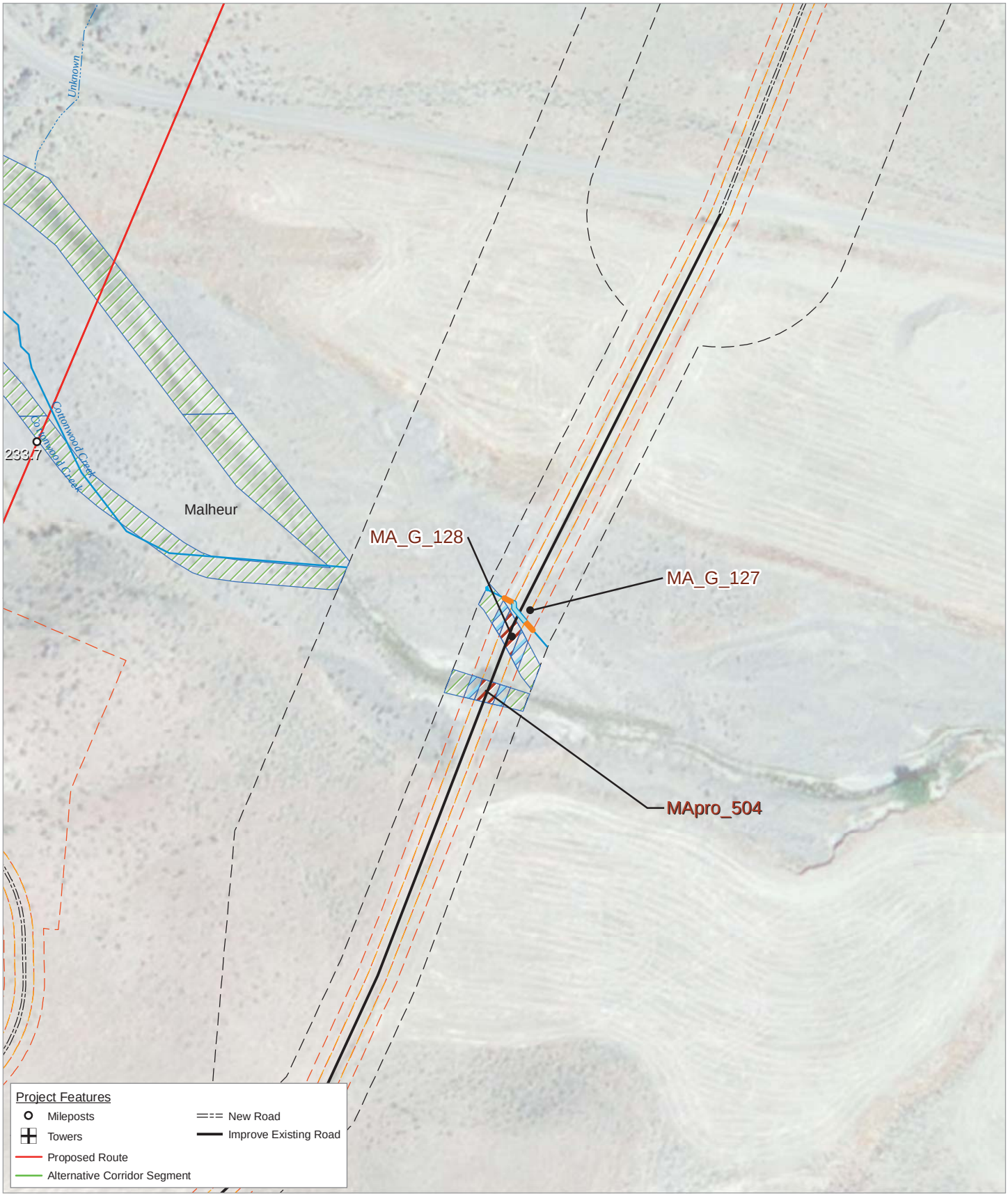


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.24
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.25
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.26
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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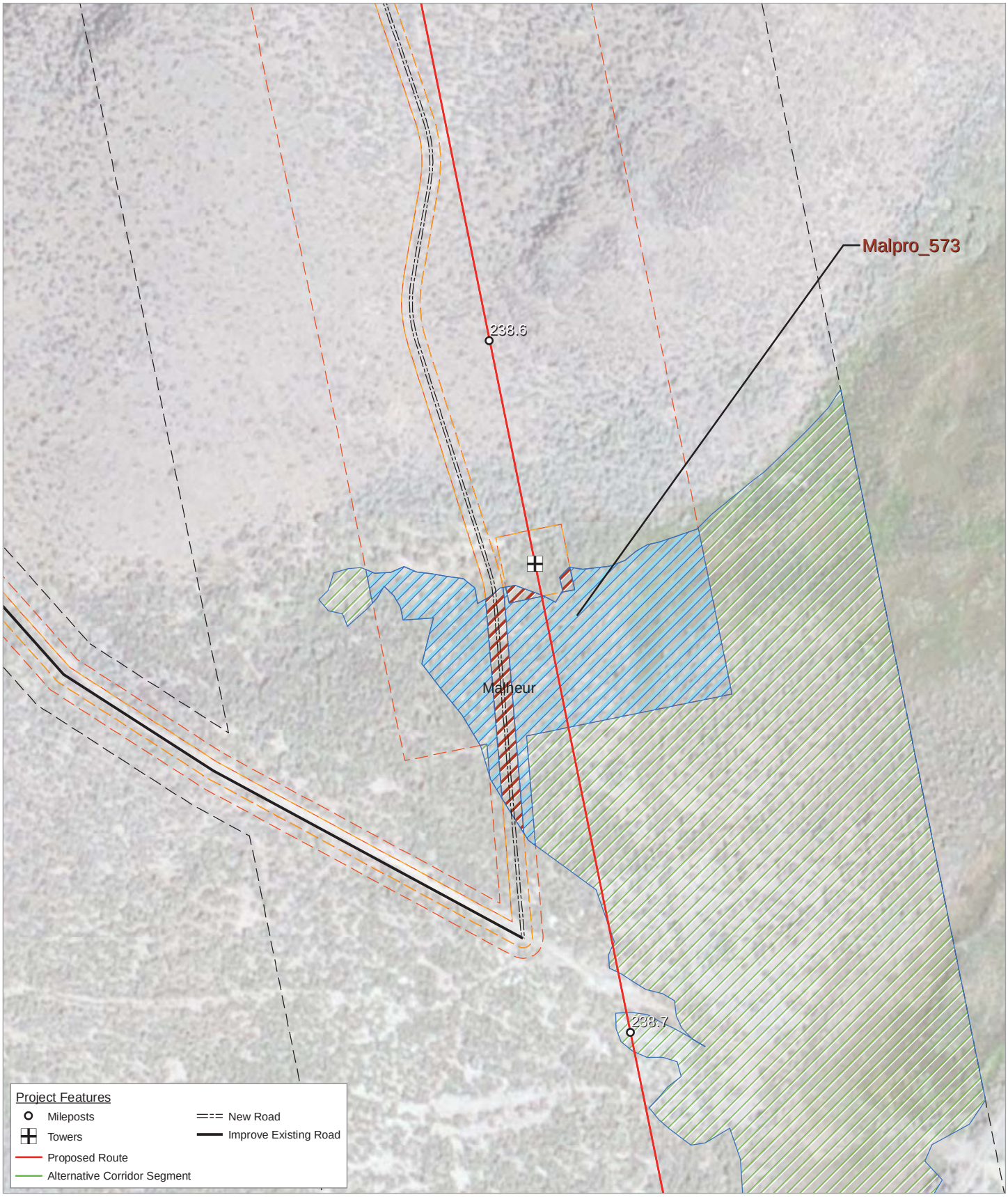


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.27
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.28
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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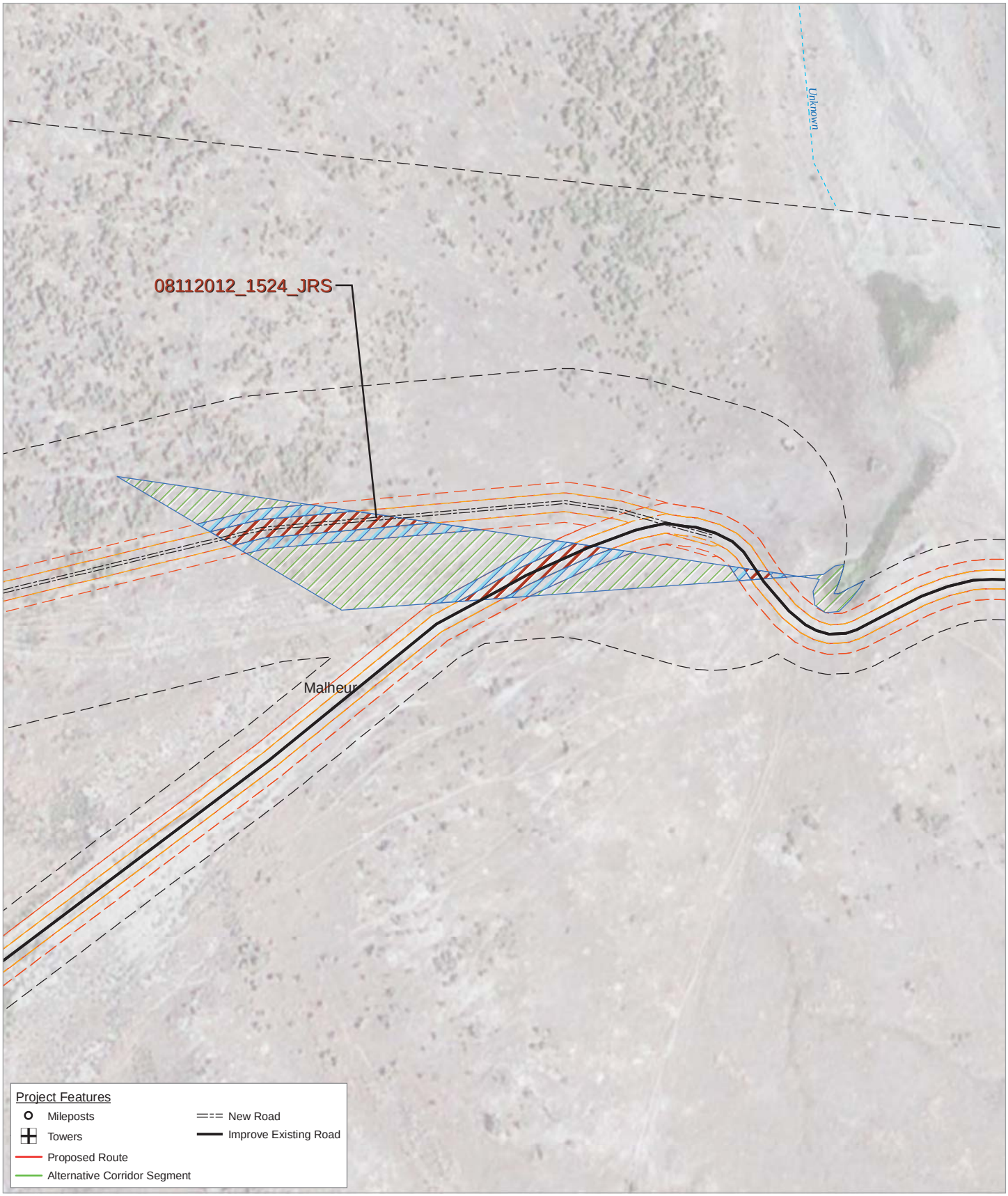


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.29
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.30
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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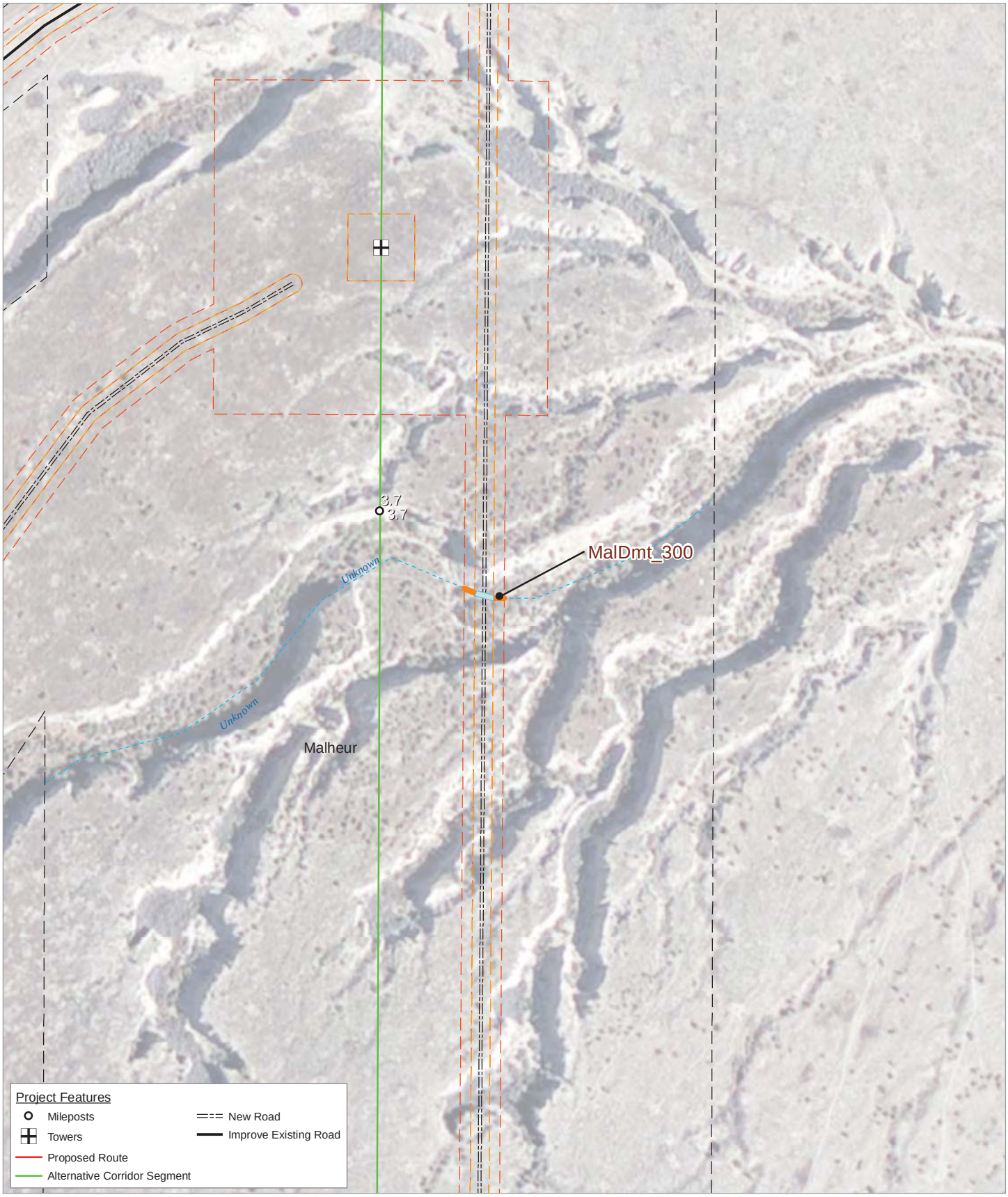


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.31
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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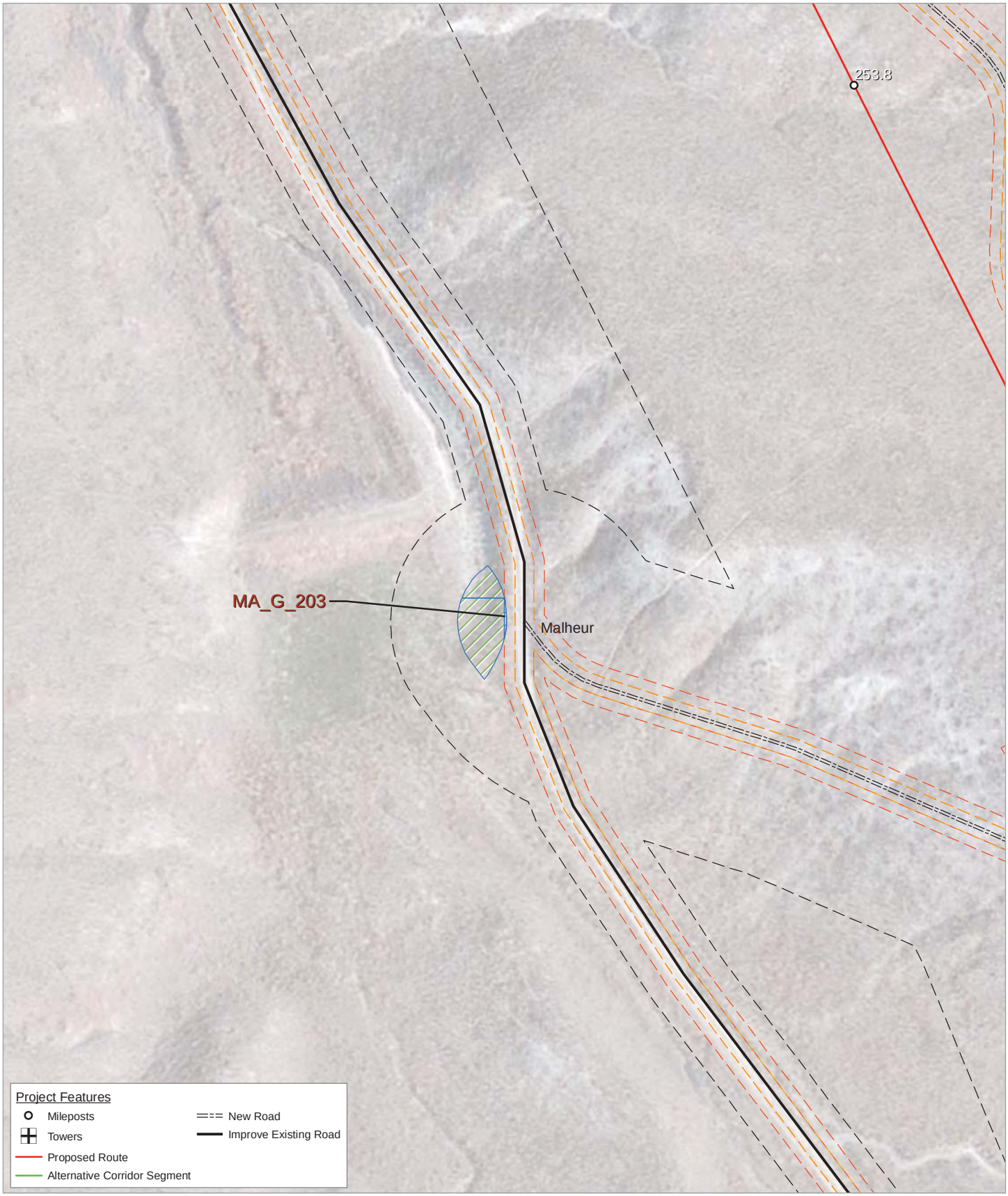


Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.32
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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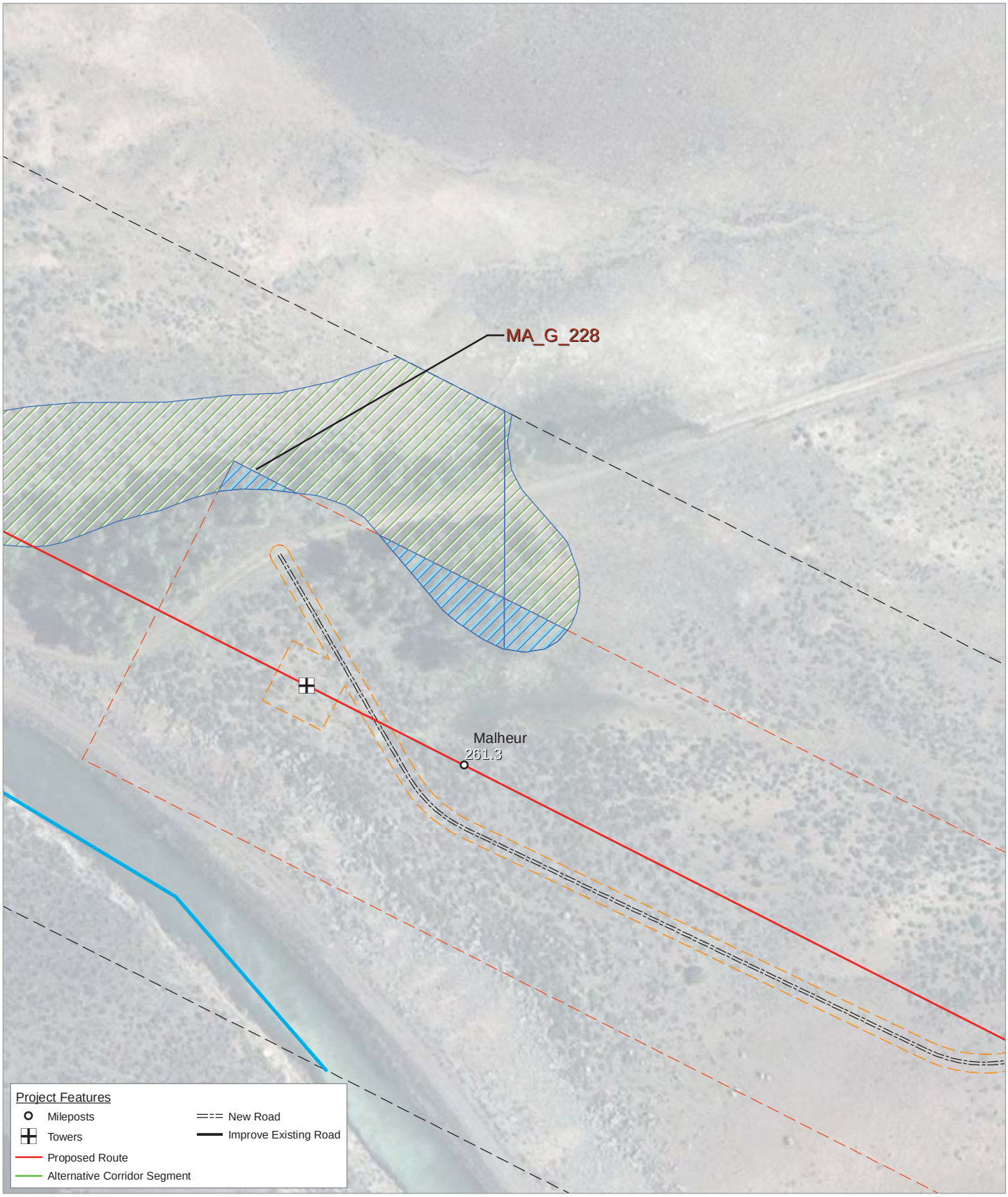


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream

Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.33
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

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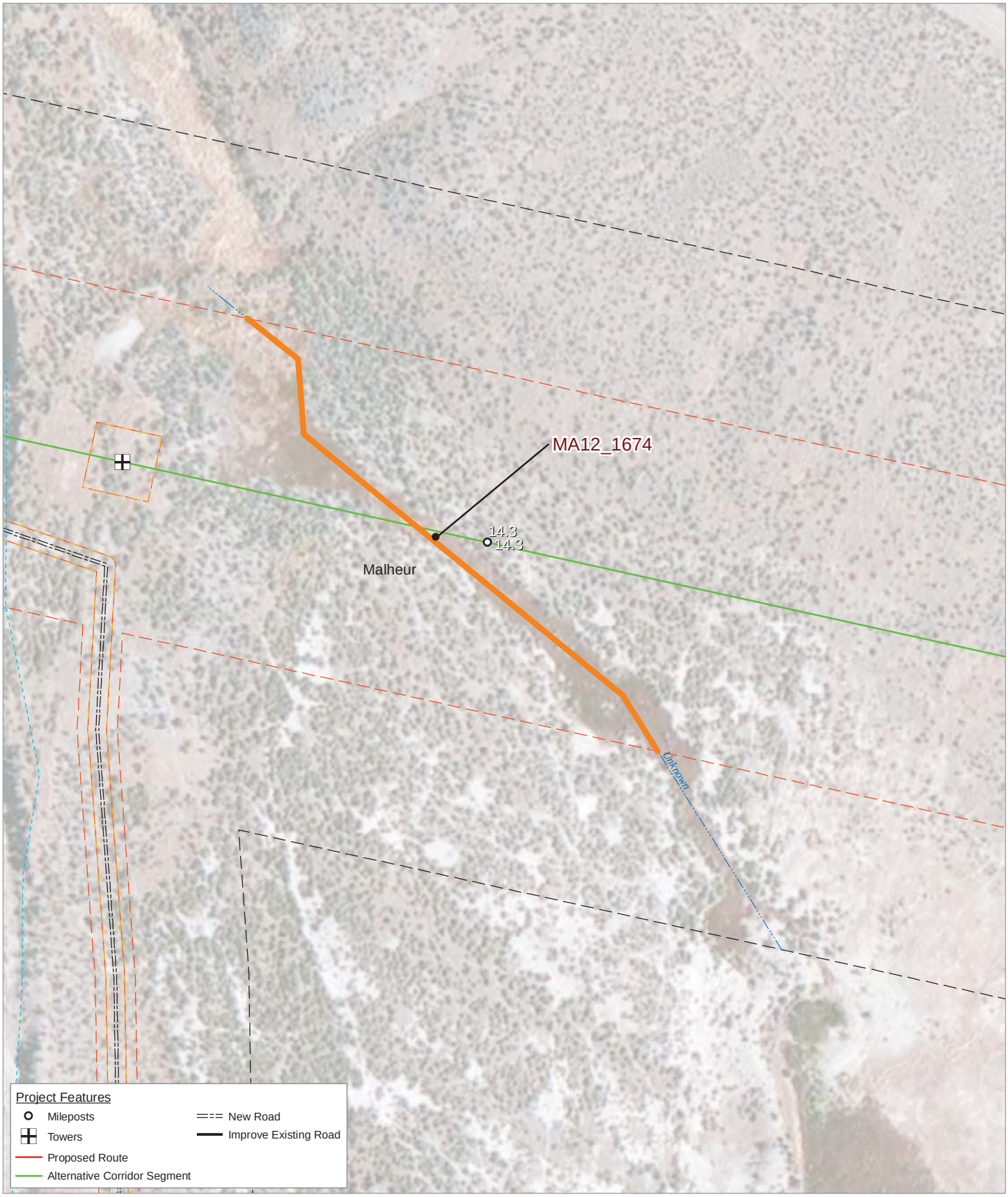


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.34
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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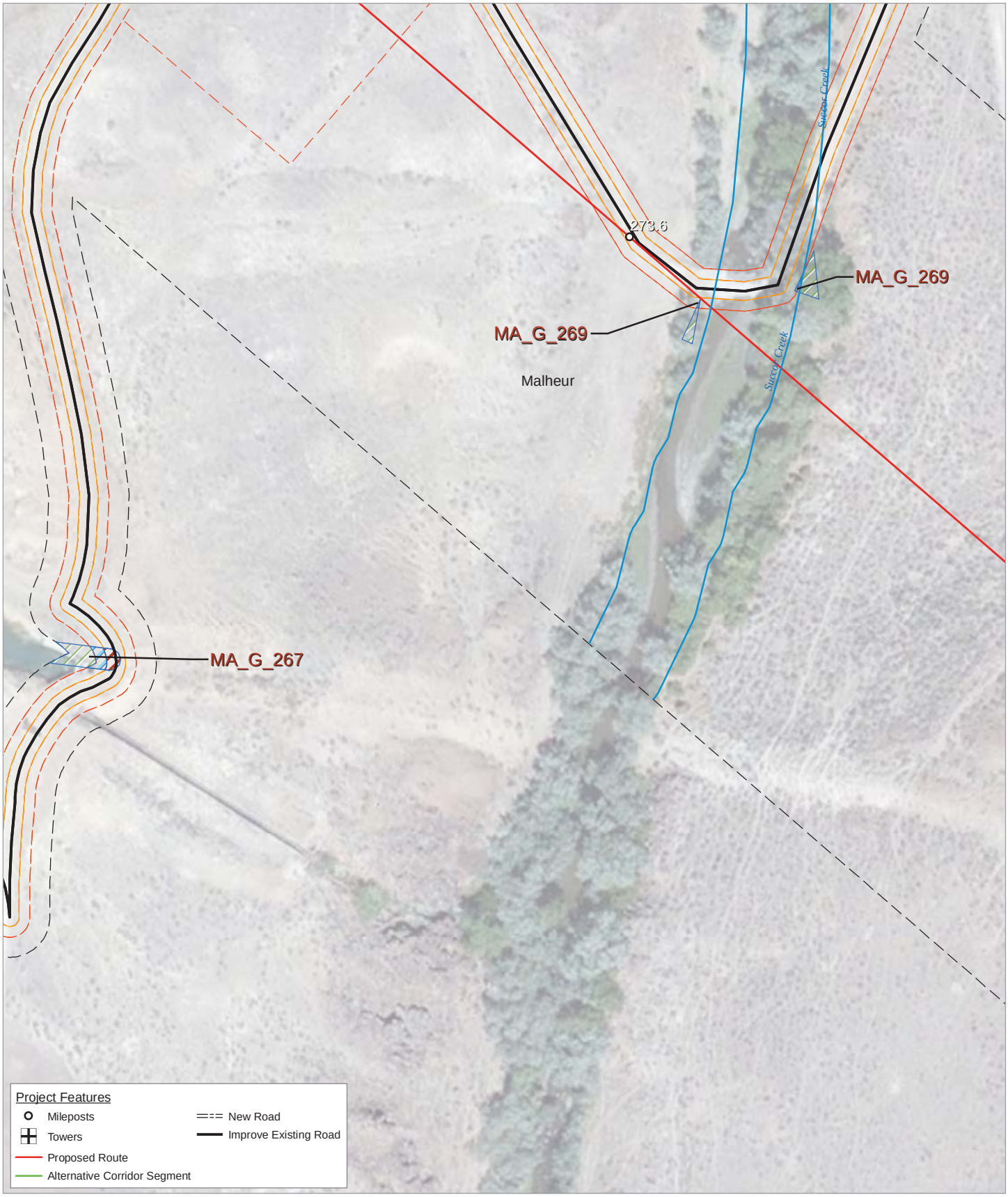


Feet
0 25 50 100

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.35
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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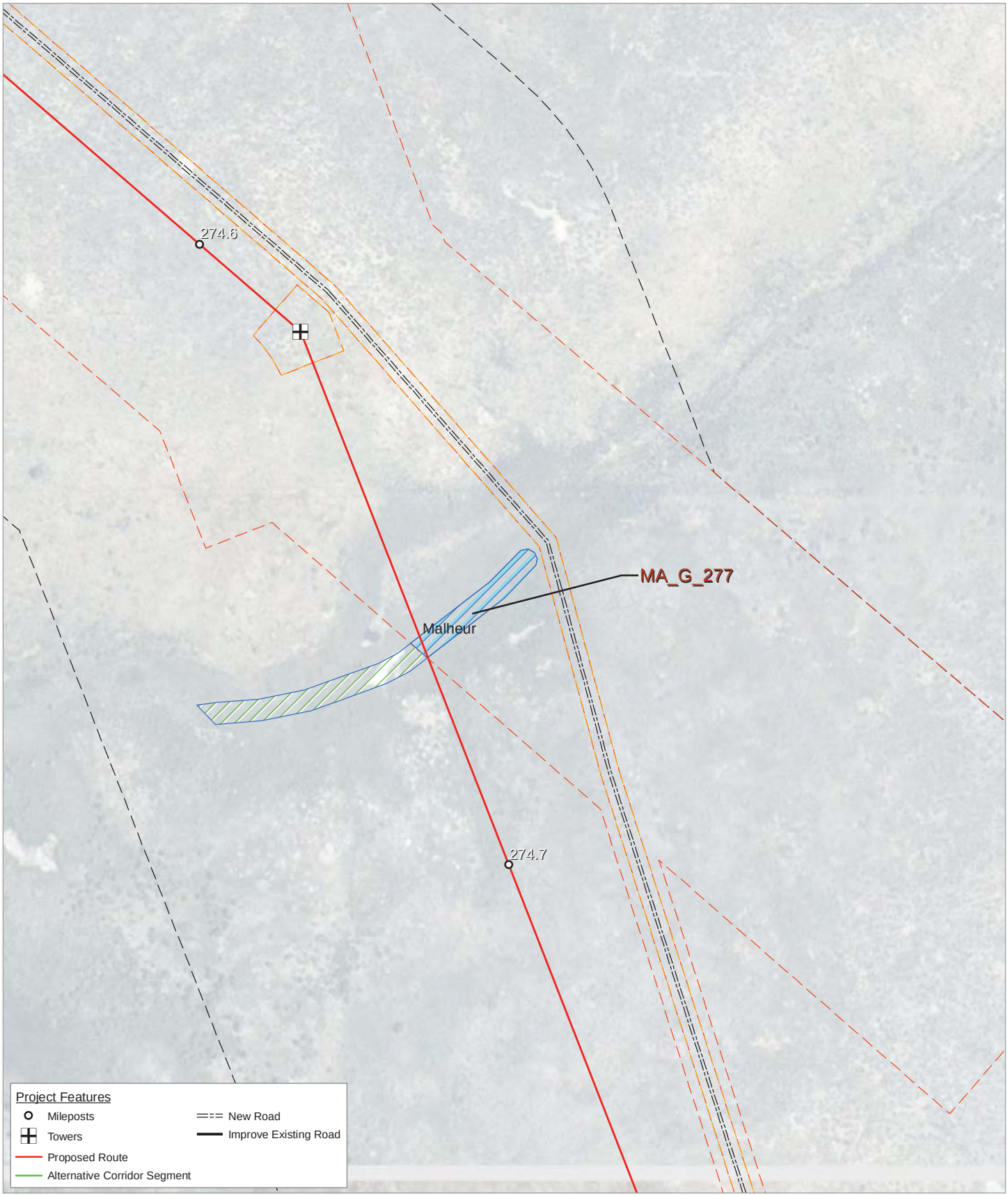


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.36
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

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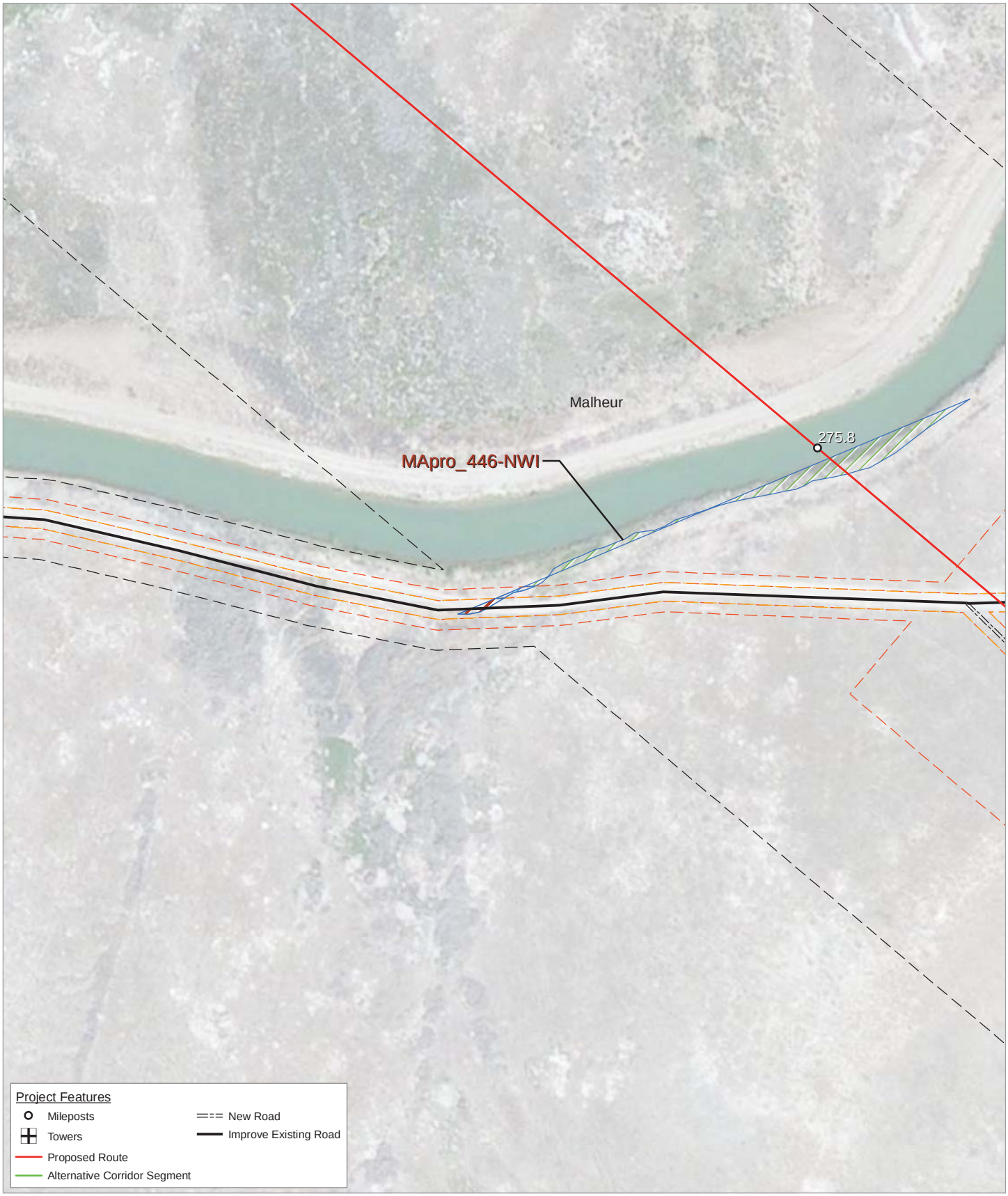


Feet
0 25 50 100

IDAHO POWER
An IDACORP Company

Flow Direction
Stream - Permanent Impact
Stream - Temporary Disturbance
Stream - Site Boundary
Ephemeral Stream
Intermittent Stream
Perennial Stream
Wetland - Temporary Disturbance
Wetland - Permanent Impact
Wetland - Site Boundary
June 2012 Site Boundary
Stream - Permanent Impacts
Stream - Temporary Impacts

FIGURE J5.37
MALHEUR COUNTY
WETLANDS AND WATERS
IMPACT LOCATIONS

FEBRUARY 2013

Last Saved: 22 Jan 2013
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1
2

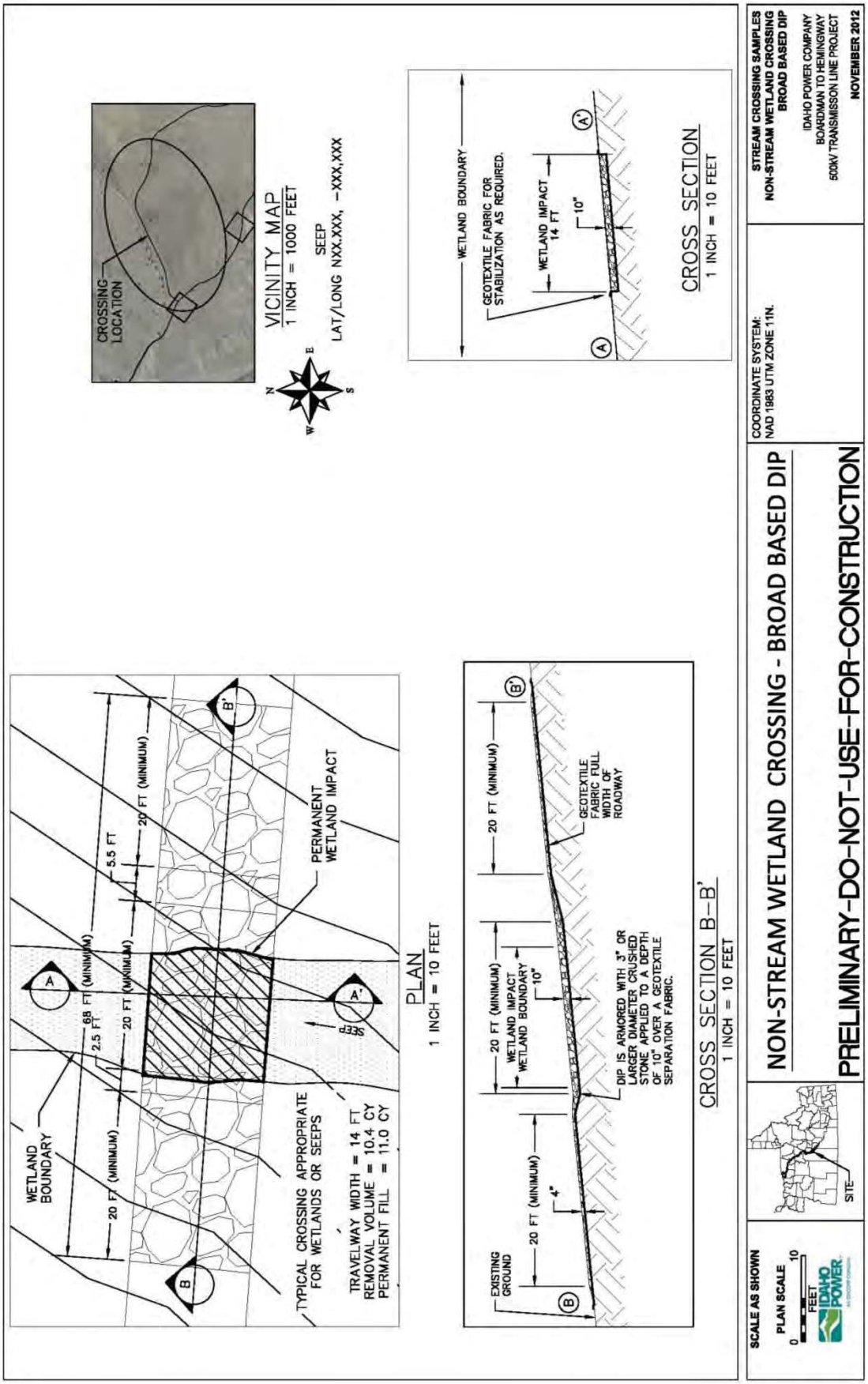


**Figure J-6.** Typical Site Plan and Cross Sections: Non-stream Wetland Crossing

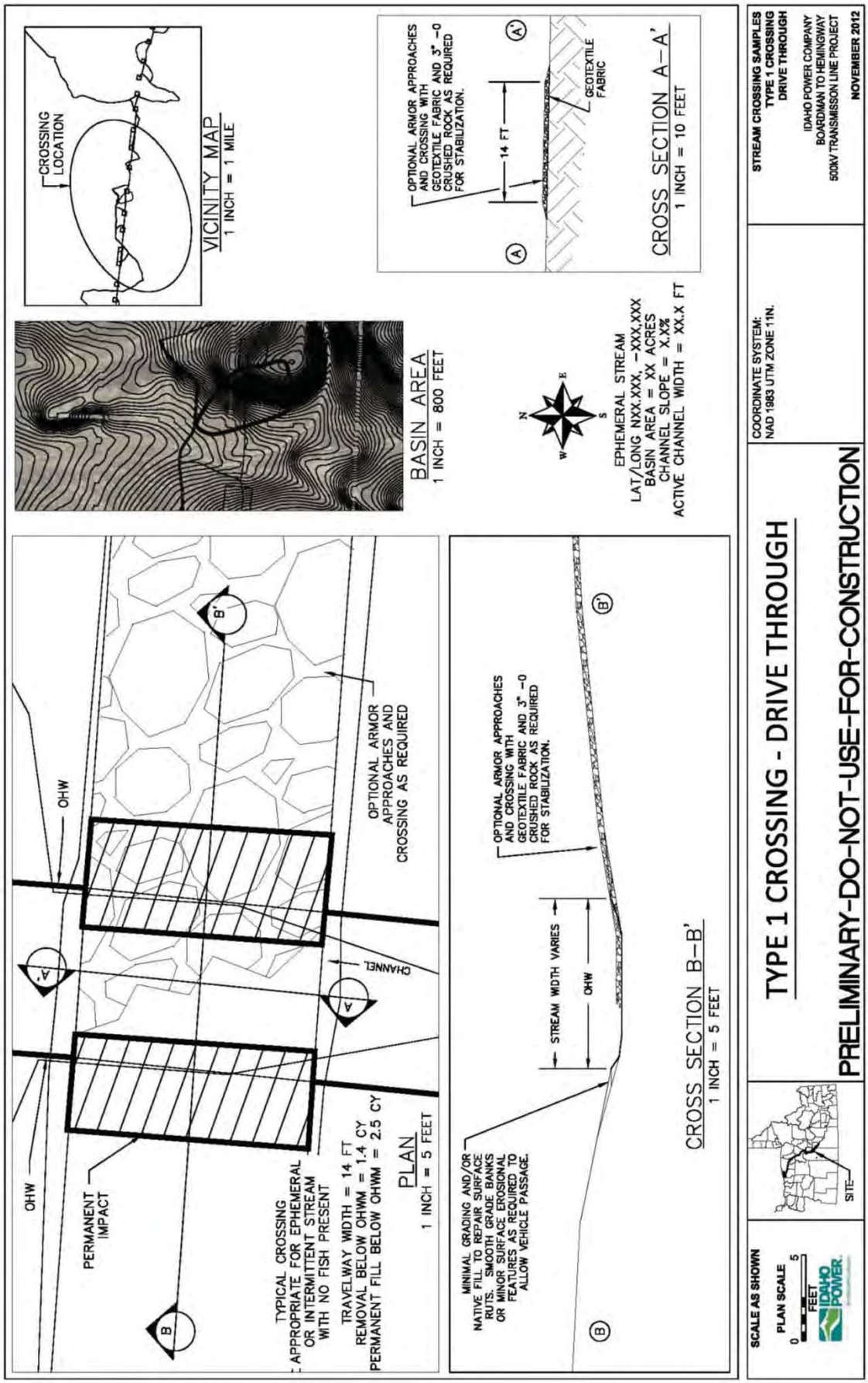


**Figure J-7.** Typical Site Plan and Cross Sections: Type 1 Crossing: Drive –Through

1

2

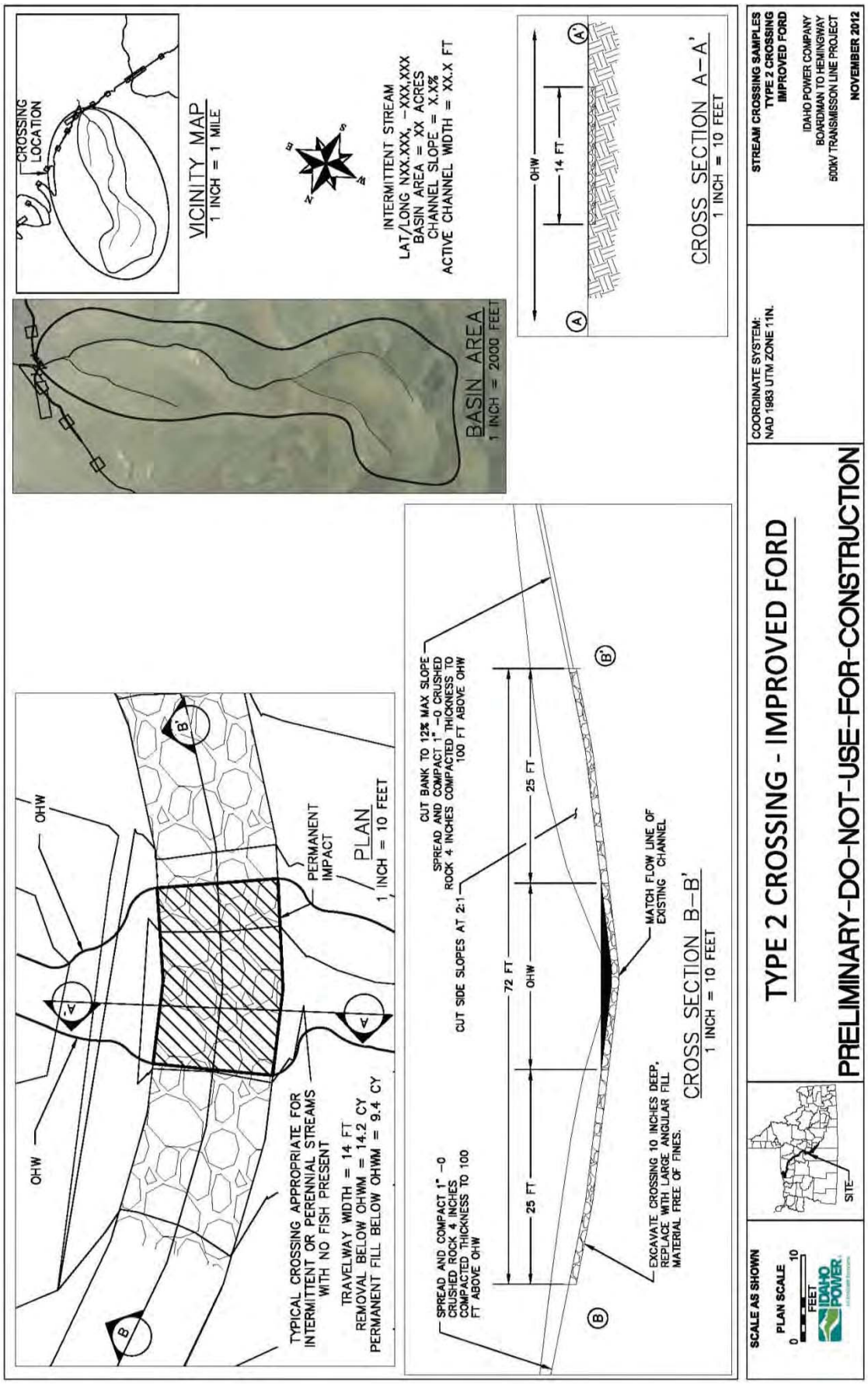


**Figure J-8.** Typical Site Plan and Cross Sections: Type 2 Crossing: Improved Ford

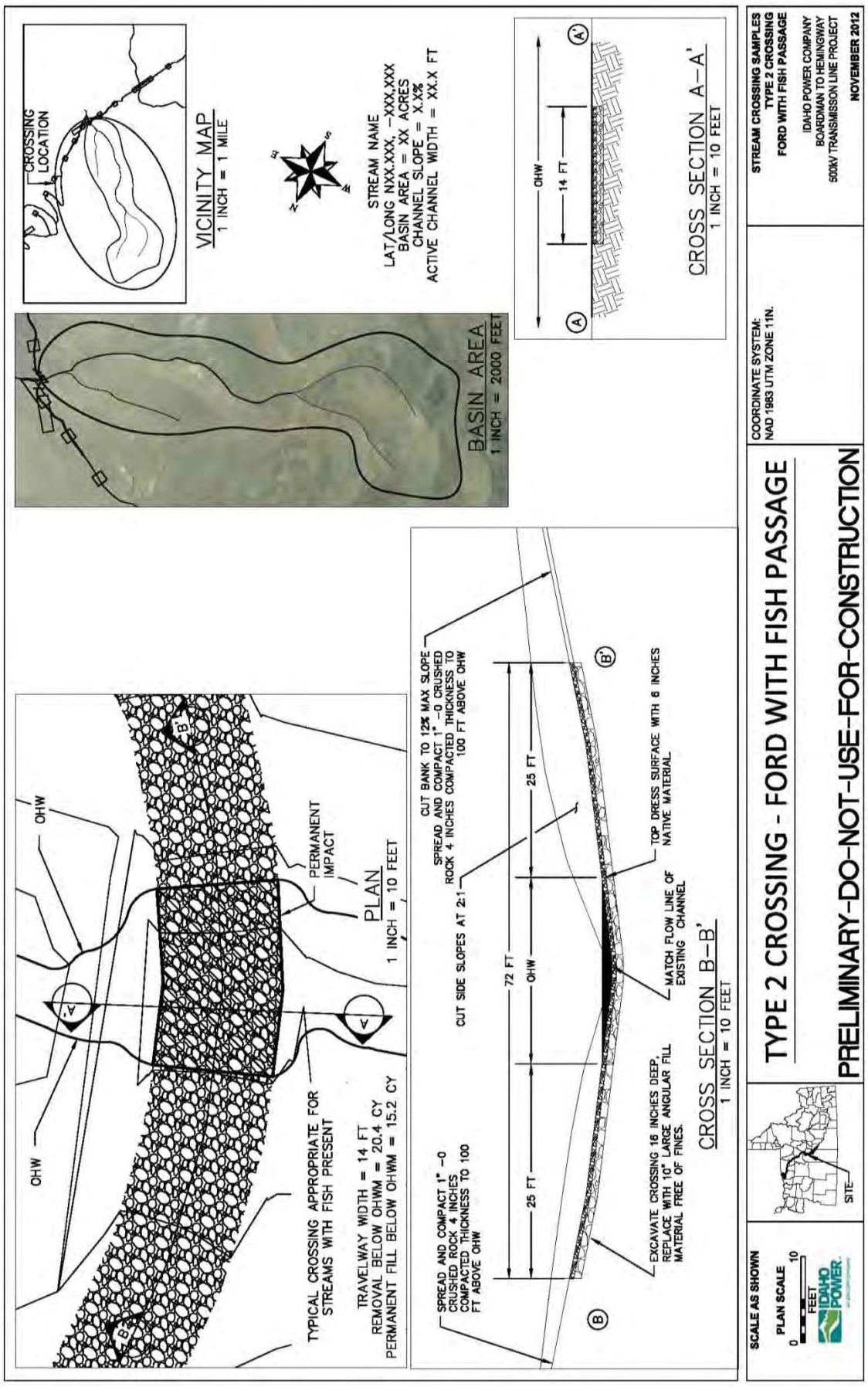


**Figure J-9.** Typical Site Plan and Cross Sections: Type 2 Crossing: Ford with Fish Passage

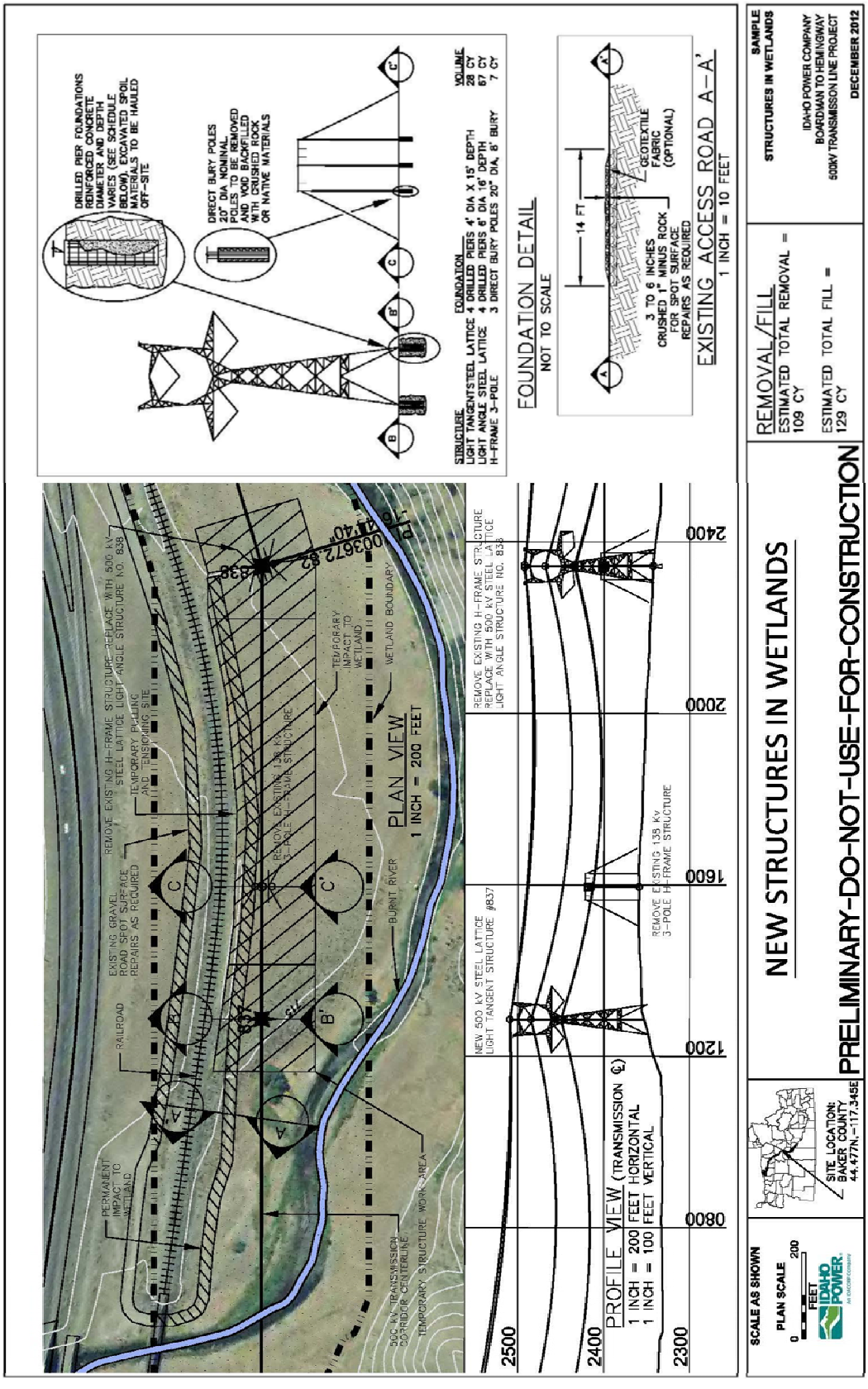


**Figure J-10.** Typical Site Plan and Cross Sections: Structures in Wetlands

# BLOCK 5 PROJECT IMPACTS AND ALTERNATIVES

## Attachment K, Alternatives Analysis

Through the 2011 Integrated Resource Plan (IRP), IPC evaluated the Project portfolio as one of nine alternative portfolios. The Project portfolio represents the lowest-cost resource that will ensure that IPC is able to meet growing load and maintain its system in a safe, reliable, and economic manner, and was selected on the basis of extensive cost analysis performed as part of the IRP process

IPC is fully engaged in a comprehensive evaluation of resources on the 283-mile long Proposed Corridor and seven alternate corridor sebments totaling 107 miles. This effort includes planning for avoidance and minimization of impacts to numerous resources including but not limited to waters of the state, threatened and endangered species, agricultural land, visual resources, and Section 106 resources. Selection of the final route and final micrositing of Project facilities must strike a balance of minimal impacts to all resources.

This alternatives analysis is ongoing. IPC is committed to achieving minimal impact to all resources, to the greatest extent possible while preserving the feasibility of accomplishing the project in terms of cost, logistics and technology.

## Attachment L, Measures to Minimize Impacts

IPC is actively engaged in avoiding and minimizing impacts to wetlands and waters. Table M-1 documents avoidance and minimization efforts that have occurred on some wetlands and waters. This information is not exhaustive; other avoidance and minimization actions have been taken that are not recorded here.

IPC will use BMPs to minimize impacts to wetland and streams. Typical BMPs for stream crossings are listed below.

**General BMP's for Stream Crossings:**

- Avoid crossing streams when practical.
- Cross at right angles at a point where the stream bed is straight and uniform.
- Minimize the use of equipment in the stream bed.
- Limit construction activity to periods of low flow or when streams are dry
- Avoid activity in streams outside of preferred in-stream work windows.
- Minimize excavation and fill at stream crossings and other disturbances to stream banks and channels.
- Use materials that are clean, non-erodible and non-toxic.
- Avoid using soil as fill except when installing culverts.
- Avoid altering stream flow.
- Divert runoff from roads and trails leading to stream crossings into undisturbed vegetation. Avoid directing runoff directly into streams, including ephemeral streams.
- Stabilize approaches to stream crossings with aggregate or other suitable material.
- Stabilize exposed soil as soon as practicable.
- Maintain crossings in safe, functional condition.
- Restore natural stream flow as soon as temporary crossings are no longer needed.
- The use of a temporary matting may be considered to accommodate construction traffic.

**Table L-1.** Avoidance and Minimization Actions

| Feature | Resource Type | Review Date | Proposed Impact (ac) | Impact Cause | Impact Type | Able to avoid impact? | Able to reduce impact? | Impact after review (ac) | Impact delta (ac) | Action taken to avoid or reduce impact | Explanation if unable to avoid |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BA_G_143 | Perennial | not recorded | 0.003 | Permanent Bladed access to a structure on top of hill. | Permanent | Possibly | | 0.003 | 0.000 | Identified possible avoidance access from agg land to the south or northeast. Unable to verify due to limited access. | |
| 487 | | 6/22/2012 | | Tower site is near drainage. | Temporary | Yes | | | | No Road Crossing, Trimmed Tower work area | |
| UM_G_110 | Intermittent | not recorded | 0.001 | Existing Crossing | Permanent | No | No | 0.001 | 0.000 | | Need Crossing to access 10 o 15 tower locations. No viable alternate access. |
| UM_G_31 | Intermittent | not recorded | 0.002 | Overland Travel to 2 structures | Permanent | No | No | 0.002 | 0.000 | | Only access to two structures |
| UM_G_70 | Intermittent | not recorded | 0.005 | Pulling & Tensioning site encroaches drainage | Temporary | Yes | Yes | 0.000 | 0.005 | No Crossing Here, Trimmed P&T | |
| UM_G_83 | Intermittent | not recorded | 0.002 | Existing Road Needs Repairs, Adjacent Intermittent Stream | Permanent | Yes | Yes | 0.000 | 0.002 | No Crossing - Shifted roadway approach | |
| UM_G_84 | Intermittent | not recorded | 0.002 | New Bladed Road between towers | Permanent | Yes | Yes | 0.000 | 0.002 | Eliminate Crossing can access adjacent towers from either side. | |
| UM_G_100 | Intermittent | not recorded | 0.004 | Existing access road to tower along ROW. | Permanent | Partial | Yes | 0.002 | 0.002 | Eliminate redundant crossings in ROW. Keep crossing to structure 414 | |

**Table L-1.** Avoidance and Minimization Actions (continued)

| Feature | Resource Type | Review Date | Proposed Impact (ac) | Impact Cause | Impact Type | Able to avoid impact? | Able to reduce impact? | Impact after review (ac) | Impact delta (ac) | Action taken to avoid or reduce impact | Explanation if unable to avoid |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UM_G_102 | Intermittent | not recorded | 0.002 | Access road to tower within ROW | Temporary Construction | Yes | Yes | 0.000 | 0.002 | Eliminate redundant crossings in ROW. Keep upland access, Do not cross drainage | |
| UM_G_104 | Intermittent | not recorded | | Existing road should not need any work. Identified by wetlands/stream adjacent to road. | None | | | | | Will not deviate from existing road. | |
| UN_G_3 | Intermittent | not recorded | 0.002 | Access road to one tower within ROW | Permanent | Yes | Yes | 0.000 | 0.002 | Eliminate overland travel road - Identified avoidance route from an existing road. | |
| UN_G_148 | Intermittent | not recorded | 0.004 | Permanent access to structures | Permanent | Yes | Yes | 0.000 | 0.004 | Eliminated crossing. Access from the other side. | |
| BA_G_136 | Intermittent | not recorded | 0.004 | Access between multiple structures on steep ridge. | Permanent | Partial | Yes | 0.002 | 0.002 | Eliminated access linking multiple towers in favor of access from either side. | Structure 795 if moved would exceed blowout criteria. |
| BA_G_165 | Intermittent | not recorded | | Buffer contacts riparian from existing County road. | None | | | | | Use County Road as is. (Plano Road) | |
| MA_G_3 | Intermittent | not recorded | 0.010 | Existing road with multiple crossings of perennial stream complex required to access several towers. | Permanent | SOME | Partial | 0.006 | 0.004 | Eliminated redundant section of road and 3 crossings. | |
| MA_G_67 | Intermittent | not recorded | 0.002 | Crossing of man-made irrigation canal. Existing | Permanent | No | No | 0.002 | 0.000 | Use as is with minor grading of approaches outside | Access to multiple towers. |

**Table L-1.** Avoidance and Minimization Actions (continued)

| Feature | Resource Type | Review Date | Proposed Impact (ac) | Impact Cause | Impact Type | Able to avoid impact? | Able to reduce impact? | Impact after review (ac) | Impact delta (ac) | Action taken to avoid or reduce impact | Explanation if unable to avoid |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | crossing may need minor grading work out of OHWM. | | | | | | of OHWM. | Alternate routes have stream crossings as well. |
| MA_G_106 | Intermittent | not recorded | 0.003 | New Bladed Road to link string of towers | Permanent | Yes | Yes | 0.000 | 0.003 | Located avoidance route from east and eliminated linkage between multiple towers | |
| 529 | Intermittent | 6/24/2012 | 0.004 | Old Logging Road with blown out culvert | Permanent | Yes | Yes | | 0.004 | Eliaminate - Removed access road from layout. | |
| BA_G_165 | Intermittent | 6/8/2012 | | Existing Road Crossing | | | | | | Keep Use existing road as is | |
| 37 Willow | Intermittent | 4/22/2012 | 0.010 | Willow Creek Alt. - Overland Crossing along ROW. | Permanent | Partial | Yes | 0.005 | 0.005 | Eliminate Redundant crossing down T-line. Use existing ford crossing | Keep existing Crossing, |
| 42 - Willow | Intermittent | 4/22/2012 | 0.003 | Crossing for access to 6 Structures in Middle of Span | Permanent | No | No | 0.003 | 0.000 | None | Keep. Potential Alternate Benson Creek Road has perennial ford crossing |
| UM_G_119 | Perennial | not recorded | | Perennial stream adjacent to existing Road | None | | | | | Use Existing Road | |
| UM_G_88 | Perennial | not recorded | 0.002 | Existing Road to be improved to access tower through wetland and stream off main road. | Permanent | Yes | Yes | 0.000 | 0.002 | Eliminate Crossing can access adjacent towers from either side. | |
| UN G 100 | Perennial | not recorded | | Existing bridge over perennial | NONE | | | | | Use as is. If bridge isn't rated for | |

**Table L-1.** Avoidance and Minimization Actions (continued)

| Feature | Resource Type | Review Date | Proposed Impact (ac) | Impact Cause | Impact Type | Able to avoid impact? | Able to reduce impact? | Impact after review (ac) | Impact delta (ac) | Action taken to avoid or reduce impact | Explanation if unable to avoid |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | stream | | | | | | construction then access from the north. | |
| BA_G_203 | Perennial | not recorded | 0.003 | Access to multiple structures. | Permanent | Yes | Partial | 0.003 | 0.000 | Use existing ford crossing for OM as is. Approach structures from either side for construction access. | Alternate avoidance route is 6.5 miles out of direction. |
| MA_G_147 | Perennial | not recorded | | Buffer contacts riparian from existing county road. One existing crossing to be used as is. | None | | | | | Use existing road with existing 18" CMP culvert as is. | |
| UN_G_44 | Perennial - Graves Creek | not recorded | 0.004 | Graves Creek - Existing ford to access one tower location. | Permanent | Yes | Yes | 0.000 | 0.004 | Span channel with temporary structure if used for Construction. Alterate access will be from Mill Canyon Road is rugged and steep. | Use temporary channel spanning structure (bridge) for construction with no impact to stream. Use alternate route for long-term O&M. |
| MA_G_229 | Perennial Owyhee River | not recorded | | Existing Crossing | None | | | | | Use existing road as is. | |
| 506 | Perennial | 6/23/2012 | | No Crossing Here | None | | | | | NA | |
| BA_G_143 | Perennial | 6/23/2012 | | | | | | | | | |
| 29 Proposed | Perennial | 4/22/2012 | 0.004 | Crossing on Durbin Creek | Permanent | Possible | Yes | 0.000 | 0.004 | Identified alternate access from Agg lands to the North. | |
| 29 Willow | Perennial | | 0.004 | Crossing on Durbin Creek | Permanent | Yes | Yes | 0.000 | 0.004 | Eliminated Crossing - Remove Fly Yard | |

**Table L-1.** Avoidance and Minimization Actions (continued)

| Feature | Resource Type | Review Date | Proposed Impact (ac) | Impact Cause | Impact Type | Able to avoid impact? | Able to reduce impact? | Impact after review (ac) | Impact delta (ac) | Action taken to avoid or reduce impact | Explanation if unable to avoid |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 477 | Perennial | 6/22/2012 | | Existing Culvert | None | | | | | Use as is | |
| 489 | Perennial | 6/22/2012 | | Ladd Creek; No Crossing - Using existing FS Road | None | | | | | NA | |

## Attachment M, Erosion and Sediment Control Plan

The Project's Erosion and Sediment Control Plan will be submitted with the final JPA.

## Attachment N, Fish Passage

The Project will demonstrate compliance with Oregon Department of Fish and Wildlife (ODFW) fish passage requirements. IPC has initiated communications with ODFW to ensure that designs forwarded for the project will comply with fish passage parameters. Compliance may be achieved by meeting the requirements of some or all of OAR 635-412-0020(3)(a), (b), (d) or (e).

OAR 635-412-0020

(3) If the Department determines, or the owner or operator assumes, that native migratory fish are or were historically present in the waters, prior to construction, fundamental change in permit status, or abandonment of the artificial obstruction the person owning or operating the artificial obstruction shall either:

(a) Obtain from the Department an approval determination of a fish passage plan that meets the requirements of OAR 635-412-0035 for the specific artificial obstruction.

(b) obtain from the Department a programmatic approval of a fish passage plan for multiple artificial obstructions of the same type…

(d) obtain a waiver from fish passage requirements for the artificial obstruction as provided in OAR 635-412-0025, or

(e) obtain an exemption from fish passage requirements for the artificial obstruction as provided in OAR 635-412-0025.

## Attachment O, Description of Resources: Wetlands and Waters Characteristics

Wetlands and other waters proposed for impact are described in tables O-1 and O-2, respectively, below.

**Table O-1.** Characteristics of Wetlands Proposed for Removal Fill Impacts

| Wetland ID code | Location map No. | Milepost | Cowardin Class | HGM Class | Perm Acres | Temp Acres | Hydrology Source | Predominant Plants | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Herbaceous | Scrub-shrub | Trees |
| MO_G_64 | J-1A 4 | 33.6 | PEM | RIVERINE | 0.005277 | 0.137 | TBD | | | |
| UM_G_26 | J-1B 03 | 62.9 | PEM | RIVERINE | | 0.007 | TBD | | | |
| UM_G_80 | J-1B 12 | 88.7 | PEM | SLOPE | | 0.050 | TBD | *Alopecurus pratensis, Juncus articulatis* | none | none |
| UM_G_82 | J-1B 14 | 91.4 | PEM | RIVERINE | 0.230290 | 0.011 | TBD | *Veratrum californicus, Trifolium repens, Calamagratis canadensis* | *Scirpus microcarpus, Ribes lacustre, Symphoricarpos albus, Rubus parviflorus* | *Pseudotsuga menziesii, Abies grandis* |
| UN_G_137 | J-1C 22 | 127.3 | PEM | SLOPE | 0.021413 | 0.021 | TBD | *Deschampsia cespitosa, Juncus articulatus* | *Ribes cereum* | none |
| UN_G_41 | J-1C 06 | 109.4 | PEM | RIVERINE | 0.186872 | 0.187 | TBD | *Juncus effusus gracilis, Phleum pratense, Juncus acuminatus, Juncus balticus, Scirpus cyperinus* | *Crataegus douglasii* | *Crataegus douglasii* |
| UN_G_46 | J-1C 08 | 109.7 | PEM | RIVERINE | 0.005350 | 0.005 | TBD | | | |
| UNpro_096C | J-1C 23 | 127.6 | PEM | SLOPE-CANAL | | 0.021 | TBD | *Carex nebrascensis, Phleum pratense* | none | none |
| 23082012_1040_NK | J-1D 27 | 0.4 | PEM | RIVERINE | 0.040866 | 0.114 | TBD | *Calamagrostis canadensis* | none | none |

**Table O-1.** Characteristics of Wetlands Proposed for Removal Fill Impacts (continued)

| Wetland ID code | Location map No. | Milepost | Cowardin Class | HGM Class | Perm Acres | Temp Acres | Hydrology Source | Predominant Plants | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Herbaceous | Scrub-shrub | Trees |
| BA_G_115 | J-1D 11 | 171.1 | PEM | SLOPE-CANAL | 0.000218 | 0.002 | TBD | *Carex cappilaris, Juncus bufonius* | none | none |
| BA_G_118 | J-1D 12 | 171.4 | PEM | RIVERINE | 0.005282 | 0.011 | TBD | | | |
| BA_G_132 | J-1D 17 | 179.8 | PEM | RIVERINE | 0.006245 | 0.008 | TBD | | | |
| BA_G_142 | J-1D 21 | 182.4 | PEM | RIVERINE | 0.005273 | 0.006 | TBD | | | |
| BA_G_144 | J-1D 22 | 183.1 | PEM | SLOPE | 0.000147 | | TBD | *Juncus acuminatus, Achillea millefolium, Rannunculus glaberrimus* | *Artemesia tridentata* | none |
| BA_G_147 | J-1D 23 | 182.8 | PEM | SLOPE | 0.003612 | | TBD | *Carex sp., Juncus ensifolius, Eleocharis palustris, Aster halii* | none | none |
| BA_G_166 | J-1D 25 | 185.6 | PSSC | RIVERINE | 0.012263 | | TBD | *Carex sp., Rumex crispus, Typha latifolia* | none | none |
| BA_G_178 | J-1D 30 | 190.1 | PEM | RIVERINE | | 0.005 | TBD | | | |
| BA_G_186 | J-1D 31 | 191.4 | PEM | RIVERINE | 0.012361 | 0.098 | TBD | | | |
| BA_G_210 | J-1D 35 | 197.8 | PFO | RIVERINE | 0.028556 | | TBD | *Dactylis glomelata, Polypogon monspeliensis, Agastache vatifolia* | none | none |
| BA_G_222 | J-1D 38 | 201.2 | PEM | SLOPE | | 0.006 | TBD | *Eleocharis palustrus, Juncus* | *Rosa woodsii* | |

**Table O-1.** Characteristics of Wetlands Proposed for Removal Fill Impacts (continued)

| Wetland ID code | Location map No. | Milepost | Cowardin Class | HGM Class | Perm Acres | Temp Acres | Hydrology Source | Predominant Plants | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Herbaceous | Scrub-shrub | Trees |
| | | | | | | | | *balticus, Carex aquatilus* | | |
| BA_G_46 | J-1D 07 | 156.1 | PEM | RIVERINE | 0.003426 | | TBD | | | |
| BA_G_48 | J-1D 07 | 155.9 | PEM | RIVERINE | 0.014150 | | TBD | | | |
| BA_G_80 | J-1D 09 | 164.8 | PEM | RIVERINE | 0.005698 | | TBD | | | |
| BApro_326 | J-1D 42 | 202.1 | PAB | DEPRESSIONAL | 0.009739 | 0.056 | TBD | *Bidens cernua, Typha latifolia* | none | none |
| BApro_332 | J-1D 30 | 1.9 | PSSB | RIVERINE | | 0.021 | TBD | | | |
| BApro_594 | J-1D 27 | 0.1 | PEM | RIVERINE | 0.036297 | 0.060 | TBD | *Calamagrostis canadensis* | none | *Populus balsamifera* |
| 08112012_1524_JRS | J-1E 36 | 246.8 | PEM | SLOPE | 0.074320 | 0.085 | TBD | *Scirpus acutus, Polypogon monspeliensis* | none | none |
| MA_G_12 | J-1E 09 | 210.1 | PEM | RIVERINE | 0.006171 | 0.007 | TBD | | | |
| MA_G_128 | J-1E 26 | 233.7 | PEM | RIVERINE | 0.011888 | 0.008 | TBD | | | |
| MA_G_141 | J-1E 29 | 238.5 | PSSB | SLOPE | 0.373944 | 0.426 | TBD | | | |
| MA_G_19 | J-1E 10 | 210.5 | PEM | RIVERINE | 0.006430 | 0.039 | TBD | | | |
| MA_G_203 | J-1E 37 | 253.8 | PUS | DEPRESSIONAL-MM | | 0.001 | TBD | | | |
| MA_G_228 | J-1E 40 | 261.3 | PSSB | SLOPE | | 0.097 | TBD | | | |
| MA_G_24 | J-1E 11 | 211.8 | PEM | SLOPE | 0.005870 | 0.015 | TBD | | | |
| MA_G_267 | J-1E 46 | 273.6 | PEM | RIVERINE | 0.006744 | 0.003 | TBD | | | |
| MA_G_269 | J-1E 46 | 273.6 | PSSB | SLOPE | | 0.000 | TBD | *Agostis sp., Polypogon monspeliensis, Poa pratensis, Trifolium fragiferum* | *Rosa woodsii* | *Eleagnus angustifolia, Fraxinus latifolia* |
| MA_G_277 | J-1E 48 | 274.7 | PEM | SLOPE | | 0.041 | TBD | | | |
| MA_G_37 | J-1E 13 | 214.2 | PEM | RIVERINE | 0.061539 | 0.100 | TBD | | | |
| MA_G_43 | J-1E 14 | 215.4 | PEM | DEPRESSIONAL | 0.013026 | 0.025 | TBD | | | |

**Table O-1.** Characteristics of Wetlands Proposed for Removal Fill Impacts (continued)

| Wetland ID code | Location map No. | Milepost | Cowardin Class | HGM Class | Perm Acres | Temp Acres | Hydrology Source | Predominant Plants | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Herbaceous | Scrub-shrub | Trees |
| MA_G_44 | J-1E 14 | 215.4 | PEM | RIVERINE | | 0.029 | TBD | | | |
| Malpro_225 | J-1E 34 | 239.2 | PEM | RIVERINE-CANAL | | 0.037 | TBD | | | |
| Malpro_570 | J-1E 08 | 209.7 | PEM | SLOPE | 0.002881 | 0.004 | TBD | | | |
| Malpro_573 | J-1E 33 | 238.7 | PSSB | SLOPE | 0.061426 | 0.561 | TBD | *Distichlis spicata* | *Sarcobatus vermiculatus* | none |
| Malpro_576 | J-1E 04 | 207 | PEM | RIVERINE | 0.000884 | 0.001 | TBD | | | |
| Malpro_578 | J-1E 03 | 206.9 | PEM | RIVERINE | | 0.003 | TBD | | | |
| MalWllwCk_214 | J-1E 23 | 22.6 | PEM | RIVERINE | 0.002707 | 0.002 | TBD | | | |
| MalWllwCrk_322 | J-1E 06 | 10.4 | PEM | RIVERINE | | 0.124 | TBD | *Juncus balticus, Polypogon monspeliensis* | | |
| MalWllwCrk_621 | J-1D 44 | 3.4 | PEM | RIVERINE | 0.014801 | 0.017 | TBD | | | |
| MApro_134 | J-1E 14 | 217.2 | PEM | RIVERINE | | 0.000 | TBD | *Scirpus americanus, Agrostis alba* | none | none |
| MApro_446-NWI | J-1E 50 | 275.8 | PEM | SLOPE | 0.002622 | 0.001 | TBD | *Eleocharis palustris, Hordeum brachyantherum, Agrostis stolonifera* | *Elaeagnus angustifolia, Tamarix ramosissima* | none |
| MApro_502 | J-1E 35 | 3.6 | PEM | RIVERINE | | 0.008 | TBD | | | |
| MApro_504 | J-1E 26 | 233.7 | PEM | RIVERINE | | 0.006 | TBD | | | |

**Table O-2.** Characteristics of Other Waters Proposed for Removal or Fill Impacts

| Wetland ID code | Location map No. | Milepost | Cowardin Class | HGM Class | Perm Acres | Temp Acres | Flow Duration | Fish Presence[1] |
|---|---|---|---|---|---|---|---|---|
| UM_G_104 | J-1B 18 | 95.2 | R4SB | Riverine | 0.002 | 0.002 | Intermittent | No |
| UM_G_110 | J-1B 04 | 65.4 | R4SB | Riverine | 0.002 | 0.002 | Intermittent | No |
| UM_G_31 | J-1B 04 | 65.4 | R4SB | Riverine | 0.003 | 0.003 | Intermittent | No |
| UN_G_130 | J-1C 19 | 126.1 | R4SB | Riverine | 0.003 | 0.003 | Intermittent | No |
| UN_G_131 | J-1C 23 | 126.5 | R4SB | Riverine | 0.005 | 0.005 | Intermittent | No |
| UN_G_141 | J-1C 24 | 128.3 | R4SB | Riverine | 0.008 | 0.008 | Intermittent | No |
| UN_G_58 | J-1C 10 | 111.3 | R4SB | Riverine | 0.005 | 0.005 | Intermittent | No |
| UN_G_73 | J-1C 14 | 5.9 | R3UB | Riverine | 0.010 | 0.010 | Perennial | No |
| UN_G_75 | J-1C 13 | 6.6 | R3UB | Riverine | 0.008 | 0.008 | Perennial | No |
| UN12_1273 | J-1C 13 | 114 | R4SB | Riverine | 0.004 | 0.004 | Intermittent | No |
| UN12_1365 | J-1C 21 | 127.3 | R4SB | Riverine | 0.010 | 0.010 | Intermittent | No |
| BA_G_203 | J-1D 33 | 195.4 | R3UB | Riverine | 0.002 | 0.002 | Perennial | No |
| BA12_1512 | J-1D 18 | 180.6 | R4SB | Riverine | 0.020 | 0.020 | Intermittent | No |
| BA12_1542 | J-1D 43 | 3.7 | R4SB | Riverine | 0.003 | 0.003 | Intermittent | No |
| BApro_341 | J-1D 29 | 2 | R3UB | Riverine | 0.003 | 0.003 | Perennial | No |
| MA_G_103 | J-1E 20 | 225.9 | R4SB | Riverine | 0.004 | 0.004 | Intermittent | No |
| MA_G_110 | J-1E 21 | 227 | R4SB | Riverine | 0.004 | 0.004 | Intermittent | No |
| MA_G_127 | J-1E 26 | 233.7 | R3UB | Riverine | 0.060 | 0.060 | Perennial | No |
| MA_G_23 | J-1E 11 | 211.8 | R4SB | Riverine | 0.003 | 0.003 | Intermittent | No |
| MA_G_293 | J-1E 35 | 3.6 | R4SB | Riverine | 0.060 | 0.060 | Intermittent | No |
| MA_G_3a | J-1E 04 | 206.8 | R4SB | Riverine | 0.003 | 0.003 | Intermittent | No |
| MA_G_3b | J-1E 04 | 207.8 | R4SB | Riverine | 0.003 | 0.003 | Intermittent | No |
| MA_G_3c | J-1E 03 | 208.8 | R4SB | Riverine | 0.003 | 0.003 | Intermittent | No |
| MA_G_7 | J-1E 07 | 207.8 | R4SB | Riverine | 0.001 | 0.001 | Intermittent | No |
| MA12_1674 | J-1E 39 | 14.3 | R4SB | Riverine | | 0.002 | Intermittent | No |
| MalWllwCrk_375 | J-1D 42 | 2.3 | R4SB | Riverine | 0.005 | | Intermittent | No |
| MalWllwCrk_375 | J-1D 42 | 3.3 | R4SB | Riverine | | 0.013 | Intermittent | No |

1/ Fish presence determination is based on the best information available at the time of document preparation, including consultation with ODFW fish biologists. Determinations are preliminary and subject to change based on new information.