Appendix C-135
Wetland and Other Waters Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Appendix C-138
Wetland and Other Waters Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
APPENDIX C-139
Wetland and Other Waters
Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Appendix C-140
Wetland and Other Waters
Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Appendix C-142

Wetland and Other Waters
Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Double Mountain Alternative

See Attachment C-3 (Maps 15-19)

Project Features
- Site Boundary
- Alternative Route
- Route Centerline
- Alternative Mileposts
- Mile
- Tenth-mile
- Other Waters
  - Field Survey Streams
  - NANS Streams (NHD)

Appendix C-146
Wetland and Other Waters Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Appendix C-149
Wetland and Other Waters
Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Boardman to Hemingway
Transmission Line Project
Application for Site Certificate

Appendix C-153
Wetland and Other Waters
Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Appendix C-154
Wetland and Other Waters
Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
PROJECT AREA

TAX LOT:
22S46E00300

TAX LOT:
22S46E00700

TAX LOT:
22S46E00900

MALHEUR COUNTY

Wetland and Other Waters
Impact Sites, Tax Lots and Locations
Detail Maps

Malheur County

Appendix C-156

Boardman to Hemingway
Transmission Line Project
Application for Site Certificate

Source(s): BLM, IPC, OSU, ODOT, USFS, USGS, Ventyx, Esri, DigitalGlobe, GeoEye, CNES/Airbus DS, AEX, Getmapping, Amappy, IGN, IGP, swisstopo

TTS075FS1.SDFlocalGIS
Highway 201

TAX LOT: 22S46E1000100

TAX LOT: 22S46E00900

TAX LOT: 22S46E00700

TAX LOT: 22S46E00000

NANS Wetland (NWI)

Appendix C-157
Wetland and Other Waters Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Appendix C-158
Wetland and Other Waters Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Appendix C-159
Wetland and Other Waters Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Appendix C-161
Wetland and Other Waters Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Malheur County

Boardman to Hemingway Transmission Line Project Application for Site Certificate

Appendix C-162 Wetland and Other Waters Impact Sites, Tax Lots and Locations Detail Maps
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Appendix C-164
Wetland and Other Waters Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County

Project Features
- Site Boundary
- Proposed Route
- Route Centerline
- Proposed Route Milepoints
- Mile

Source(s): BLM, ODF, OSOT, NFS, USDA, USGS, Veris, Exel DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Antargaz, IGN, IGP, swisstopo

Map Area

TAX LOT: 23S46E00100
TAX LOT: 23S46E00800
TAX LOT: 23S46E01000
TAX LOT: 23S46E01200
TAX LOT: 23S46E01900

NANS Streams (NHD)
Field Survey Streams

Other Waters

Impact Sites, Tax Lots and Locations
Malheur County
Appendix C-165
Wetland and Other Waters Impact Sites, Tax Lots and Locations
Detail Maps
Malheur County
Appendix D, Directions to the Site
Maps identifying Removal-Fill sites are included as Figures C-1 through C-165 in Appendix C, above. These figures include roads and other landmarks to serve as directions to the Removal-Fill sites.

Appendix E, Wetland/Waterway
Impact analysis indicates that the Project will cause permanent and temporary impacts in wetlands and other jurisdictional, non-wetland waters. Features proposed to be impacted are itemized in Appendices G and O below.

BLOCK 3 PROJECT PURPOSE, NEED, AND INDEPENDENT UTILITY

Appendix F, Project Purpose, Need, and Independent Utility
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, 2011, and 2013 Integrated Resource Plans (IRPs), which have been acknowledged by both the Idaho Public Utilities Commission (IPUC) and the Oregon Public Utility Commission (OPUC). The Project is also part of IPC’s preferred portfolio in its 2015 IRP, which was approved by the IPUC and is pending before the 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 service area by 2021 or later.

Further, with respect to the Project’s independent utility, OAR 141-085-0510(43) defines “independent utility” as meaning “the project accomplishes its intended purpose without the need for additional phases or other projects requiring further Removal-Fill activities.” Here, IPC intends that its Energy Facility Siting Council site certificate application—and the Removal-Fill Permit sought thereunder—will cover all phases of the construction, operation, and maintenance of the transmission line project and will cover all Removal-Fill activities related to the same. Because the Project will accomplish its intended purpose without additional phases or projects requiring further Removal-Fill activities, the Project will have the requisite independent utility.
BLOCK 4 DESCRIPTION OF RESOURCES IN PROJECT AREA

Appendix G, Description of Resources: Wetlands and Waters Characteristics

Delineated wetlands and other waters proposed for impact are described in tables G-1A and G-2A, respectively, below. Un-delineated National Wetlands Inventory (NWI), National Hydrography Dataset (NHD), and desktop aerial photo-interpreted features with preliminary boundaries are described in Tables G-1B and Table G-2B. Ephemeral stream impacts, which are assumed to be jurisdictional only by the US Army Corps of Engineers (USACE) are described in Table G-3.
### Table G-1A. Characteristics of Delineated Wetlands Proposed for Removal Fill Impacts

<table>
<thead>
<tr>
<th>Feature ID</th>
<th>County</th>
<th>Appendix K Map</th>
<th>Mile Post</th>
<th>Cowardin Class</th>
<th>HGM Class</th>
<th>Permanent Acres</th>
<th>Temporary Acres</th>
<th>Hydrology Source</th>
<th>HUC 6 Code</th>
<th>HUC 6 Name</th>
<th>Dominant Plants</th>
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Grand Total 0.211 0.386
### Table G-1B. Characteristics of Wetlands (Not Accessed/Not Delineated) Proposed for Removal Fill Impacts

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**Grand Total**: 0.327 acres

1. Project impacts currently listed at PFOA and PFOC wetlands will be avoided after final design, before the Project is completed. These wetlands are based on mapped NWI features. Once access to these sites is approved, field surveys will determine the extent of wetlands.
<table>
<thead>
<tr>
<th>Feature ID</th>
<th>County</th>
<th>Appendix K Map</th>
<th>Mile Post</th>
<th>Cowardin Class</th>
<th>Permanent Acres</th>
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<th>Permanent Stream Length (Feet)</th>
<th>Temporary Stream Length (Feet)</th>
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<td>170701</td>
<td>25-75% native &amp;/or affected by disturbance</td>
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<td>Lower Snake</td>
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1. Project impacts currently listed at streams with fish presence will be avoided after final design, before the Project is completed.
### Table G-2B. Characteristics of Other Waters (Not Accessed/Not Delineated) Proposed for Removal or Fill Impacts

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<th>Feature ID</th>
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<th>Mile Post</th>
<th>Cowardin Class</th>
<th>Permanent Acres</th>
<th>Temporary Acres</th>
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<th>Channel Bank Condition</th>
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<th>Riparian Vegetation Composition</th>
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<td>122</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.001</td>
<td>0.001</td>
<td>19.33</td>
<td>22.09</td>
</tr>
<tr>
<td>UN_LM_STRM_300</td>
<td>Union</td>
<td>K-92</td>
<td>121</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.004</td>
<td>0.008</td>
<td>27.58</td>
<td>48.59</td>
</tr>
<tr>
<td>UN_LM_STRM_301</td>
<td>Union</td>
<td>K-91</td>
<td>120.6</td>
<td>Unknown</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.001</td>
<td>0.003</td>
<td>15.10</td>
<td>36.47</td>
</tr>
<tr>
<td>UN_MC_STRM_002</td>
<td>Union</td>
<td>K-61</td>
<td>97.1</td>
<td>No</td>
<td>Lower Snake</td>
<td>170601</td>
<td>0.001</td>
<td>0.001</td>
<td>14.41</td>
<td>17.31</td>
</tr>
<tr>
<td>UN_MC_STRM_003</td>
<td>Union</td>
<td>K-61</td>
<td>97.1</td>
<td>No</td>
<td>Lower Snake</td>
<td>170601</td>
<td>0.002</td>
<td>0.003</td>
<td>35.26</td>
<td>41.58</td>
</tr>
<tr>
<td>UN_MC_STRM_004</td>
<td>Union</td>
<td>K-61</td>
<td>97.2</td>
<td>No</td>
<td>Lower Snake</td>
<td>170601</td>
<td>0.001</td>
<td>0.001</td>
<td>7.34</td>
<td>8.49</td>
</tr>
<tr>
<td>UN_ML_STRM_007</td>
<td>Union</td>
<td>K-67</td>
<td>2</td>
<td>No</td>
<td>Lower Snake</td>
<td>170601</td>
<td>0.000</td>
<td>0.029</td>
<td>0.00</td>
<td>207.21</td>
</tr>
<tr>
<td>BA_BR_029</td>
<td>Baker</td>
<td>K-131</td>
<td>169.8</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.001</td>
<td>0.001</td>
<td>23.86</td>
<td>27.40</td>
</tr>
<tr>
<td>BA_BR_416</td>
<td>Baker</td>
<td>K-125</td>
<td>167.3</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.001</td>
<td>0.002</td>
<td>14.85</td>
<td>37.49</td>
</tr>
<tr>
<td>BA_BR_461</td>
<td>Baker</td>
<td>K-128</td>
<td>169.7</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.001</td>
<td>0.008</td>
<td>14.27</td>
<td>152.61</td>
</tr>
<tr>
<td>BA_LM_STRM_202</td>
<td>Baker</td>
<td>K-105</td>
<td>133.6</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.000</td>
<td>0.005</td>
<td>0.00</td>
<td>22.13</td>
</tr>
<tr>
<td>BA_LM_STRM_205</td>
<td>Baker</td>
<td>K-107</td>
<td>136.9</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.001</td>
<td>0.001</td>
<td>14.30</td>
<td>16.38</td>
</tr>
<tr>
<td>BA_LM_STRM_206</td>
<td>Baker</td>
<td>K-106</td>
<td>135.7</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.004</td>
<td>0.016</td>
<td>56.80</td>
<td>169.65</td>
</tr>
<tr>
<td>BA_WT_STRM_219</td>
<td>Baker</td>
<td>K-145</td>
<td>178.8</td>
<td>Unknown</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.003</td>
<td>0.010</td>
<td>20.75</td>
<td>48.63</td>
</tr>
<tr>
<td>BA_WT_STRM_220</td>
<td>Baker</td>
<td>K-147</td>
<td>182.8</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.029</td>
<td>0.053</td>
<td>500.10</td>
<td>922.18</td>
</tr>
<tr>
<td>BA_WT_STRM_224</td>
<td>Baker</td>
<td>K-131</td>
<td>169.8</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.002</td>
<td>0.002</td>
<td>29.06</td>
<td>32.13</td>
</tr>
<tr>
<td>BA_WT_STRM_226</td>
<td>Baker</td>
<td>K-129</td>
<td>170.4</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.001</td>
<td>0.002</td>
<td>16.65</td>
<td>33.42</td>
</tr>
<tr>
<td>BA_WT_STRM_307</td>
<td>Baker</td>
<td>K-146</td>
<td>179.4</td>
<td>Unknown</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.001</td>
<td>0.003</td>
<td>16.02</td>
<td>45.74</td>
</tr>
<tr>
<td>Feature ID</td>
<td>County</td>
<td>Appendix K Map</td>
<td>Mile Post</td>
<td>Fish Presence</td>
<td>HUC 6 Name</td>
<td>HUC 6 Code</td>
<td>Permanent Acres</td>
<td>Temporary Acres</td>
<td>Permanent Stream Length (Feet)</td>
<td>Temporary Stream Length (Feet)</td>
</tr>
<tr>
<td>------------------</td>
<td>--------</td>
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<td>-----------</td>
<td>---------------</td>
<td>------------------------</td>
<td>------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>BA_WT_STRM_308</td>
<td>Baker</td>
<td>K-146</td>
<td>179.6</td>
<td>Unknown</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.001</td>
<td>0.003</td>
<td>19.21</td>
<td>45.00</td>
</tr>
<tr>
<td>MA_TM_405</td>
<td>Malheur</td>
<td>K-172</td>
<td>205.3</td>
<td>No</td>
<td>Middle Snake-Powder</td>
<td>170502</td>
<td>0.002</td>
<td>0.002</td>
<td>20.29</td>
<td>22.86</td>
</tr>
<tr>
<td>MA_TM_483</td>
<td>Malheur</td>
<td>K-177</td>
<td>215.8</td>
<td>Unknown</td>
<td>Middle Snake-Boise</td>
<td>170501</td>
<td>0.001</td>
<td>0.001</td>
<td>14.03</td>
<td>16.03</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>0.072</strong></td>
<td><strong>0.339</strong></td>
<td><strong>1,082.79</strong></td>
<td><strong>2,839.97</strong></td>
</tr>
</tbody>
</table>

1. Project impacts currently listed at streams with fish presence will be avoided after final design, before the project is completed.
2. Temporary impacts listed for stream BA_LM_STRM_202 will likely be avoided after final design for the project is completed.
Appendix H, State Listed Species

Exhibit Q of the ASC provides expanded information about threatened and endangered species that may be present in the Project site (Site Boundary). A summary of state listed species potentially within the Site Boundary is provided in Table H-1. Data from the following sources were reviewed, and used to help develop threatened and endangered species information:

- Oregon Biodiversity Information Center (ORBIC);
- StreamNet;
- Oregon Department of Fish and Wildlife (ODFW);
- Oregon Department of Agriculture;
- U.S. Department of Agriculture, Forest Service;
- Bureau of Land Management;
- Geographic Biotic Observation (GeoBOB) database;
- ODFW native fish status report; and
- National Oceanic and Atmospheric Administration Fisheries Division.
Table H-1. State Listed Threatened and Endangered Species Potentially Present within the Project Site (Site Boundary)

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>State Status</th>
<th>Present in Wetlands or Other Waters</th>
<th>Documented Use of Exhibit Q Analysis Area (Site Boundary +0.5 mile)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WILDLIFE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wolverine</td>
<td><em>Gulo gulo</em></td>
<td>T</td>
<td>No</td>
<td>No records in existing databases. Not found during surveys.</td>
</tr>
<tr>
<td>Washington Ground Squirrel</td>
<td><em>Urocitellus washingtoni</em></td>
<td>E</td>
<td>No²</td>
<td>Multiple records in existing databases, mostly along the Boardman Bombing Range; three active colonies identified in the analyses area during surveys.</td>
</tr>
<tr>
<td><strong>FISH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snake River Chinook (Spring/Summer Run)</td>
<td><em>Oncorhynchus tshwatscha</em></td>
<td>T</td>
<td>Yes; but not impacted waters.</td>
<td>ORBIC record in the Grande Ronde River. Current literature states that this species occurs in streams or drainages within the analysis area.</td>
</tr>
<tr>
<td><strong>PLANTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cronquist’s Stickseed</td>
<td><em>Hackelia cronquistii</em></td>
<td>T</td>
<td>No</td>
<td>Eleven occurrences within the analysis area in Malheur County, based on BLM and ORBIC databases, as well as observations from 2012, 2013, and 2016 field surveys. Estimated 877 acres and 9,833 individuals within the analysis area.</td>
</tr>
<tr>
<td>Howell’s Spectacular Thelypody</td>
<td><em>Thelypodium howellii ssp. spectabilis</em></td>
<td>E</td>
<td>No</td>
<td>One ORBIC occurrence in Union County within the analysis area. Not found during surveys. Estimated 40 acres and 1,000 individuals within the analysis area, based on a 1995 field visit reported by ORBIC. More recent field visits were made from the roadside, where only a few individuals were observed.</td>
</tr>
<tr>
<td>Laurence’s Milk-Vetch</td>
<td><em>Astragalus collinus var. laurentii</em></td>
<td>T</td>
<td>No</td>
<td>Three occurrences within the analysis area in Morrow and Umatilla counties, based on ORBIC database and observations from 2016 surveys in Umatilla County. Estimated 3 acres and 61 individuals within the analysis area.</td>
</tr>
<tr>
<td>Mulford’s Milk-Vetch</td>
<td><em>Astragalus mulfordiae</em></td>
<td>E</td>
<td>No</td>
<td>Two occurrences within the analysis area in Malheur county, based on BLM and ORBIC databases and observations from 2016 surveys. Estimated 173 acres and 4,753 individuals within the analysis area.</td>
</tr>
<tr>
<td>Oregon Semaphore Grass</td>
<td><em>Pleuropogon oregonus</em></td>
<td>T</td>
<td>No</td>
<td>No existing database records or survey observations within the analysis area. Closest known occurrence is 0.2 mile away from the analysis area.</td>
</tr>
<tr>
<td>Smooth Mentzelia</td>
<td><em>Mentzelia mollis</em></td>
<td>E</td>
<td>No</td>
<td>No existing database records or survey observations within the analysis area. Closest known occurrences is 0.2 mile away from the analysis area.</td>
</tr>
<tr>
<td>Common Name</td>
<td>State</td>
<td>Present in Wetlands or Other Waters</td>
<td>Documented Use of Exhibit Q Analysis Area (Site Boundary +0.5 mile)¹</td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------</td>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Snake River Goldenweed</strong></td>
<td><strong>E</strong></td>
<td><strong>No</strong></td>
<td>Four occurrences within the analysis area in Baker County, based on BLM and ORBIC databases, as well as observations from 2012, 2013, and 2016 field surveys. Estimated 500 acres and 12,155 individuals within the analysis area.</td>
<td></td>
</tr>
<tr>
<td><em>Pyrrocoma radiata</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sterile Milk-Vetch</strong></td>
<td><strong>T</strong></td>
<td><strong>No</strong></td>
<td>No existing database records or survey observations within the analysis area. Closest known occurrence is nearly 5 miles west of the analysis area.</td>
<td></td>
</tr>
<tr>
<td>(a.k.a. Cusick’s Milk-vetch)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Astragalus cusickii var. sterilis</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Based on results of Project-specific surveys, as well as the databases discussed in Exhibit Q, Section 3.2 (e.g., 2016 ORBIC, BLM, or USFS data). The number of occurrences for plants within the analysis area were identified based on a 0.62-mile separation distance as described in NatureServe (2004).

² Based on colony boundaries. 785-foot-wide buffers of some colonies overlap wetlands.
BLOCK 5 PROJECT SPECIFIC CRITERIA AND ALTERNATIVES ANALYSIS

Appendix I, Alternatives Analysis

Through IPC’s 2015 Integrated Resource Plan (IRP) — which forecasts load growth in IPC’s service — 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 270-mile long Proposed Route. 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 NHPA Section 106 resources. Selection of the final route and final micro-siting of Project facilities must strike a balance that optimizes 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.

The results of the 2011-2013 wetland delineation surveys were used to modify the location of proposed facilities to avoid or minimize impacts to stream, river, and wetland resources along the Proposed Route. The results of subsequent wetland surveys may be analyzed during the final engineering design for additional opportunities for avoidance and minimization.

In 2013, Exhibit J, total impacts to wetlands and other waters, both temporary and permanent, totaled 4.29 acres. In 2014, data analysis for a meeting with USACE in Boise indicated a total impact (again, wetlands and other waters, temporary and permanent) of 3.44 acres. (Impact totals listed above for 2013 and 2014 also included estimated permanent and temporary impacts for some wetlands and streams which had not been field delineated but were estimated from mapped NWI and NHD features). Analysis of the 2015 design indicated total permanent and temporary impact to all delineated water features of 0.351 acres. Total estimated permanent and temporary impact to all not yet field-delineated water features was 0.971 acres. In 2016, total combined impacts to delineated wetlands and other waters, both temporary and permanent, totaled 0.793 acres. Total estimated permanent and temporary impact to all not yet field-delineated wetlands and other waters was 4.47 acres. One potential wetland site (based on NWI mapping) that was not accessed in 2016 is a 25.203-acre potential temporary impact.

Table I-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.
### Table I-1. Morrow County Avoidance and Minimization

<table>
<thead>
<tr>
<th>Feature</th>
<th>Feature Type</th>
<th>Route</th>
<th>Mile</th>
<th>Impact Status</th>
<th>Review Date</th>
<th>Avoidance or Minimization Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>NANS_OW_152</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>0.8</td>
<td>Avoided</td>
<td>2014-04-14</td>
<td>No longer using Boardman Canal Rd.</td>
</tr>
</tbody>
</table>

### Table I-2. Umatilla County Avoidance and Minimization

<table>
<thead>
<tr>
<th>Feature</th>
<th>Feature Type</th>
<th>Route</th>
<th>Mile</th>
<th>Impact Status</th>
<th>Review Date</th>
<th>Avoidance or Minimization Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMpro_064</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>79.7</td>
<td>Avoided</td>
<td>2014-02-26</td>
<td>Removed redundant overland travel roads in ROW between structure's 383 and 385. Shifted work area for structure 385 east and trimmed to wetland. New access road was trimmed to avoid water feature.</td>
</tr>
<tr>
<td>UMpro_064</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>79.7</td>
<td>Avoided</td>
<td>2013-04-24</td>
<td>Shifted roadway approach slightly to avoid crossing buffer structure 405.</td>
</tr>
<tr>
<td>UM_S_0143</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>80.7</td>
<td>Avoided</td>
<td>2014-02-26</td>
<td>Will limit road disturbance as much as possible to avoid impacts.</td>
</tr>
<tr>
<td>UM_S_0059</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>81.4</td>
<td>Avoided</td>
<td>2014-03-13</td>
<td>Eliminated redundant overland travel.</td>
</tr>
<tr>
<td>NANS_OW_160</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>81.7</td>
<td>Avoided</td>
<td>2013-04-24</td>
<td>Design modified to avoid impact.</td>
</tr>
<tr>
<td>NANS_OW_160</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>83.2</td>
<td>Minimized</td>
<td>2014-02-26</td>
<td>Eliminated redundant overland travel road in ROW between structures 397 and 398. Road type changed to minimize impact as much as possible.</td>
</tr>
<tr>
<td>NANS_OW_160</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>83.2</td>
<td>Minimized</td>
<td>2014-03-13</td>
<td>Trimmed work area; eliminated redundant overland travel between structures in ROW.</td>
</tr>
<tr>
<td>UM_G_122</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>84</td>
<td>Avoided</td>
<td>2013-04-25</td>
<td>Design modified to avoid impact.</td>
</tr>
</tbody>
</table>
### Table I-3. Union County Avoidance and Minimization

<table>
<thead>
<tr>
<th>Feature</th>
<th>Feature Type</th>
<th>Route</th>
<th>Mile</th>
<th>Impact Status</th>
<th>Review Date</th>
<th>Avoidance or Minimization Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN_G_104</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>110.2</td>
<td>Avoided</td>
<td>2013-05-13</td>
<td>Shifted tower location; previously trimmed work area and changed access to avoid wetlands.</td>
</tr>
</tbody>
</table>

### Table I-4. Baker County Avoidance and Minimization

<table>
<thead>
<tr>
<th>Feature</th>
<th>Feature Type</th>
<th>Route</th>
<th>Mile</th>
<th>Impact Status</th>
<th>Review Date</th>
<th>Avoidance or Minimization Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA_S_0010</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>128.3</td>
<td>Avoided</td>
<td>2014-04-16</td>
<td>Reworked roads to use existing ephemeral crossing and minimize channel impacts.</td>
</tr>
<tr>
<td>BA_FL_035</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>150.8</td>
<td>Minimized</td>
<td>2014-03-19</td>
<td>Will limit road disturbance as much as possible to avoid impacts.</td>
</tr>
<tr>
<td>NANS_OW_1128 57470</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>153.9</td>
<td>Avoided</td>
<td>2014-03-19</td>
<td>Trimmed work area and overland travel site.</td>
</tr>
<tr>
<td>NANS_W_38</td>
<td>Wetland</td>
<td>Proposed Route</td>
<td>158.3</td>
<td>Avoided</td>
<td>2014-04-14</td>
<td>Added overland travel on one side and trimmed on the other side to avoid wetlands.</td>
</tr>
<tr>
<td>NANS_W_38</td>
<td>Wetland</td>
<td>Proposed Route</td>
<td>158.3</td>
<td>Avoided</td>
<td>2014-03-19</td>
<td>Trimmed remaining road stub to avoid waters/wetland impacts.</td>
</tr>
<tr>
<td>BA_TM_218</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>190.9</td>
<td>Avoided</td>
<td>2014-03-26</td>
<td>Eliminated crossing in favor of established crossing on Benson Creek Rd to the west.</td>
</tr>
</tbody>
</table>
### Table I-5. Malheur County Avoidance and Minimization

<table>
<thead>
<tr>
<th>Feature</th>
<th>Feature Type</th>
<th>Route</th>
<th>Mile</th>
<th>Impact Status</th>
<th>Review Date</th>
<th>Avoidance or Minimization Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA_G_290</td>
<td>Other Waters</td>
<td>Double Mountain</td>
<td>0.2</td>
<td>Minimized</td>
<td>date not recorded</td>
<td>Trimmed work area to minimize impact as much as possible.</td>
</tr>
<tr>
<td>MA_G_299</td>
<td>Other Waters</td>
<td>Double Mountain</td>
<td>2.5</td>
<td>Minimized</td>
<td>date not recorded</td>
<td>Will limit road disturbance as much as possible to avoid impacts.</td>
</tr>
<tr>
<td>MA_TM_465</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>212.2</td>
<td>Minimized</td>
<td>2014-06-02</td>
<td>Moved road to in-between water features.</td>
</tr>
<tr>
<td>MA_TM_033</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>216.4</td>
<td>Avoided</td>
<td>2014-04-11</td>
<td>Trimmed work areas, overland travel sites and reworked road to avoid impacts.</td>
</tr>
<tr>
<td>NANS_OW_14613</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>218.3</td>
<td>Avoided</td>
<td>2014-03-28</td>
<td>Eliminated stream crossing.</td>
</tr>
<tr>
<td>NANS_OW_15982</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>224.1</td>
<td>Avoided</td>
<td>date not recorded</td>
<td>Trimmed structure work area; reworked roads to avoid water feature.</td>
</tr>
<tr>
<td>NANS_OW_15982</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>224.1</td>
<td>Avoided</td>
<td>date not recorded</td>
<td>Trimmed structure work area; reworked roads to avoid water feature.</td>
</tr>
<tr>
<td>NANS_OW_16272</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>225.4</td>
<td>Avoided</td>
<td>date not recorded</td>
<td>Reworked roads.</td>
</tr>
<tr>
<td>Malpro_573</td>
<td>Wetland</td>
<td>Proposed Route</td>
<td>226.9</td>
<td>Avoided</td>
<td>2014-03-31</td>
<td>Structure previously shifted; Trimmed work area to avoid impact.</td>
</tr>
<tr>
<td>NANS_W_162723</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>234</td>
<td>Minimized</td>
<td>2014-06-02</td>
<td>Reduced structure work area and moved access road to reduce impact to resource.</td>
</tr>
<tr>
<td>MA12_1643</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>236.4</td>
<td>Minimized</td>
<td>2014-06-02</td>
<td>Moved road south to a better stream crossing point within the Site Boundary.</td>
</tr>
<tr>
<td>MA_S_0035</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>240.3</td>
<td>Avoided</td>
<td>2014-04-01</td>
<td>Eliminated crossing.</td>
</tr>
<tr>
<td>Feature</td>
<td>Feature Type</td>
<td>Route</td>
<td>Mile</td>
<td>Impact Status</td>
<td>Review Date</td>
<td>Avoidance or Minimization Action</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>---------------</td>
<td>------</td>
<td>---------------</td>
<td>-------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>MA_S_0082</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>243.1</td>
<td>Avoided</td>
<td>2014-04-01</td>
<td>Eliminated redundant overland travel in ROW with crossing.</td>
</tr>
<tr>
<td>MA_S_0038</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>243.9</td>
<td>Avoided</td>
<td>2014-04-01</td>
<td>Will limit road disturbance as much as possible to avoid impacts.</td>
</tr>
<tr>
<td>MA_G_256</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>259.2</td>
<td>Avoided</td>
<td>2014-04-02</td>
<td>Removed redundant overland travel in ROW.</td>
</tr>
<tr>
<td>MA_G_256</td>
<td>Other Waters</td>
<td>Proposed Route</td>
<td>259.2</td>
<td>Avoided</td>
<td>2014-04-02</td>
<td>Trimmed overland travel; removed overland travel in ROW.</td>
</tr>
</tbody>
</table>
BLOCK 6 PROJECT DESCRIPTION

Appendix J Summary of Overall Project Work

The following description of how the Project will be constructed is extracted and summarized from the Exhibit B Project Description of the ASC and from the draft Plan of Development prepared for the Bureau of Land Management.

Access Roads

The Project will require vehicular access during construction of each transmission structure, communication station site, as well as temporary facilities including multi-use areas and pulling and tensioning sites. As described in Exhibit B, Attachment B-5, Road Classification Guide and Access Control Plan, access roads included in the Site Boundary include:

- New roads (primitive, and bladed); and
- Existing roads requiring substantial modification.

Existing roads that will be used for construction and operation of the Project but will not require substantial modification are not “related and supporting facilities” and, therefore, are not included in the Site Boundary. See Exhibit B, Attachment B-5, Table B-12 for a summary of the access road classifications.

New Primitive Roads. New primitive roads are characterized as follows:

- Created by direct vehicle travel over native material and existing vegetation.
- Disturbance may include clearing of large woody vegetation and other obstructions to ensure safe vehicle operation.
- Will generally be present on the landscape as two-track roads leaving no disturbance beyond the edge of the travel surface.
- May require intermittent maintenance work to support continued safe vehicle passage during construction.
- Typical construction disturbance is 16 feet wide. The operational width is 10 feet. The Site Boundary for a new primitive road will be 200 feet wide (100 feet each side of centerline).

New Bladed Roads. New bladed roads are characterized as follows:

- Construction of new road prism across side slope over 8 percent or over rough and uneven terrain.
- Typical construction disturbance is 16 feet wide, but can be up to 35 feet wide as dictated by terrain and soil conditions. The operational width is 14 feet. The Site Boundary for a new bladed road will be 200 feet wide (100 feet each side of centerline).

Existing Roads – Substantial Modification. Existing roads that will require substantial modification are characterized as follows:

- Typical construction disturbance is 16 feet wide, but can be up to 30 feet wide when road modification exceeds 70 percent. The operational width is 14 feet. The Site Boundary for a substantial modification existing road will be 100 feet wide (50 feet each side of centerline).
After construction is completed, any new roads developed for the Project connecting to multi-use areas will be removed and restored to preconstruction conditions, unless the landowner requests otherwise. Roads developed for pulling and tensioning sites will be permanent because they will also provide access to structures for operations and maintenance. Both categories of access roads are shown on maps in Exhibit C of the ASC, Project Location, Attachment C-2.

**Multi-use Areas**

Construction of the Project will begin with the establishment of multi-use areas. The multi-use areas will serve as field offices; reporting locations for workers; parking space for vehicles and equipment; and sites for material delivery and storage, fabrication assembly of towers, cross arms and other hardware, concrete batch plants, and stations for equipment maintenance. Multi-use areas, each of which is about 30 acres in size, will be located approximately every 15 miles along the corridor.

Helicopter operations may be staged from multi-use areas. Project construction activities potentially facilitated by helicopters may include delivery of construction laborers, equipment, and materials to structure sites; structure placement; hardware installation; and wire stringing operations. Helicopters may also be used to support the administration and management of the Project by IPC, the Construction Contractor, or both. Where construction access by truck is not practical due to steep terrain, all-terrain vehicle trails may be utilized to support maintenance activities. The use of helicopter construction methods for this Project will not change the length of the access road system required for operating the Project because vehicle access is required to each tower site regardless of the construction method employed.

Multi-use areas will be fenced and their gates locked. Security guards will be stationed where needed. In some cases, the multi-use 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 multi-use area upon completion and the area will be restored.

**Pulling and Tensioning Sites**

Pulling and tensioning sites (299) will be required approximately every 1.5 to 2 miles along the ROW and at angle points greater than 30 degrees and will require approximately 5 acres at each end of the wire section 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.

Four pulling and tensioning Sites are designated as light-duty fly yards. Light-duty fly yards are similar to the multi-use areas but are smaller in size. All of the equipment and activities that occur at a multi-use area may also occur at a light-duty fly yard. The exception would be that, no oil and gas or explosive storage would occur and no batch plants would be located at the light-duty fly yards.

**Typical Site Preparation**

Individual structure work areas will be cleared as necessary to install the transmission line structures and to facilitate access for future operation and maintenance activities. As necessary, the blading of individual structure work areas will be done using a bulldozer to blade only the minimum required area, and to the extent practical, blading of native plant communities will be minimized. For all structure types, the structure work area will be cleared of vegetation only to the extent necessary and any removed topsoil will be stockpiled and stabilized to limit erosion.
At each single-circuit 500-kV structure location, an area approximately 250 feet by 250 feet will be needed for construction laydown, structure assembly, and erection, depending on slope. This area will provide a safe working space for placing equipment, vehicles, and materials. Upon completion of 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 or land-management agency.

**Structure Foundations**

The 500-kV single-circuit lattice steel structures each require four foundations, one on each of the four corners of the lattice towers. The foundation style, diameter, and depth will be determined during final design and are dependent on structure loading conditions and the type of soil or rock present at each specific site. The preliminary design indicates the foundations for the single-circuit tangent lattice towers will be composed of steel-reinforced concrete drilled piers with a typical diameter of 4 feet and a depth of approximately 15 feet.

For the 500-kV H-frame structures, each tangent structure will require two foundations, one for each pole that comprises the H-frame structure. Angle and dead-end structures will use a three-pole structure, each with its own foundation. They will be steel-reinforced drilled piers with a typical diameter of 6 to 8 feet and a depth of approximately 25 to 40 feet.

**Appendix K Work in Waters and Wetlands**

The proposed project crosses both wetlands and streams. There are a number of different construction methods that could potentially be used for any given crossing. Presented below is a brief description of the available construction methods applicable to the Project. This information is not exhaustive; other construction methods may be used that are not recorded here.

The primary impacts to wetlands and streams will be from improving existing access roads, and constructing new roads and new towers structures. Impacts may include site grading and placing geotextile separation fabric and crushed rock fill, and compaction for surface stabilization. Structures used at streams crossings such as rail car bridges or timber matting would span the stream above the ordinary high water mark and will be removed following construction. No de-watering of streams is anticipated during construction. 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.

Impact site location topographic maps are provided in Appendix C above. Site plan drawings depicting permanent and temporary impacts to wetlands and waters are provided in Figures K-1 – K-238, below.

Figures K-239 through K-241, below illustrate typical site plans, cross sections, and dimensions for road crossings, and related permanent and temporary impacts in wetlands and other waters, and construction BMPs. Construction work at road crossings of fish bearing streams will not be performed below the ordinary high water mark.
The best available environmental practices pertinent to each construction methodology or environmental protection measures will be employed. These practices include, but are not necessarily limited to the following:

- Prior to initial construction activities wetland and stream boundaries will be clearly marked with high visible flagging, signs, and/or construction fencing to delineate the limits of work in and near sensitive water resources.

- A storm water pollution prevention plan (SWPPP) and erosion and sediment control plan (ECSP) will be created and implemented to cover construction related ground disturbing activates associated with this project. The SWPPP and ESCP will specify best management practices (BMPs) that will be implemented in order to minimize sediment and other pollutants from impacting waters of the WOS/WOUS.

- Stream crossings and in-water work will follow preferred work periods outlined in the ODFW Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources (2008). Crossings will be reviewed with ODFW and follow the Fish Passage Plans and Designs document for this Project (Tetra Tech 2015).

- Temporary and permanent BMPs will be used to control erosion, sediment and other pollutants associated with construction related activities. BMPs will be installed and maintained until disturbed areas meet final stabilization criteria.

- Temporary impacts to wetlands and other non-wetland waters will rectified within 24-months from the date the impact occurred (see Site Rehabilitation Plan in Appendix S), and as specified in conditions of the Removal-Fill Permit.

- Temporary impact areas will be returned to their original contour, mulched, and replanted with native plants appropriate for the site location.

- During O&M activities IPC will use existing stream crossings or new, permanent crossings that were approved as part of the Project, and IPC will not create additional crossings without prior agency permitting and approval.
Appendix K
Joint Permit Application
Location Map
Morrow County
Map Index
Attachment K-3

Wetland and Other Waters Joint Permit Application

Detail Maps

Morrow County
PROJECT AREA
Sec.19
2N 26E
Morrow County
14.2
NANS_OW_152906926

Project Features
Site Boundary
Proposed Route
Route Centerline
Proposed Route
Work Areas
Pulling and Tensioning
Structure Work Area

Mileposts
Tenth-mile
Construction Access
Existing Road, No
Substantial Modification, 0-
20% Improvements

Rivers, Streams, and Canals
Other Waters
NANS Streams (NHD)
Stream Impact Type
Temporary
Permanent

Source(s): BLM, IPC, ODFW, ODOT, NFS, USDA, USGS, Venys, Esri, DigitalGlobe, Geology, GeoEye, Earthstar Geographics, CNES/Airbus DS, AKL, Metronav, Arewa, i2G, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Boardman to Hemingway
Transmission Line Project
Application for Site Certificate

Attachment K-5
Wetland and Other Waters
Joint Permit Application
Detail Maps
Morrow County
Project Features
Site Boundary
- Proposed Route
- Route Centerline
- Proposed Route
- Mileposts
- Tenth-mile

Construction Access
- Existing Road, Substantial Modifications, 21-70% Improvements
- Rivers, Streams, and Canals

Stream Impact Type
- Temporary
- Permanent

M Morrow County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-9
Wetland and Other Waters Joint Permit Application
Detail Maps
Morrow County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-10
Wetland and Other Waters Joint Permit Application
Detail Maps
Morrow County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project Application for Site Certificate

Attachment K-11
Wetland and Other Waters Joint Permit Application Detail Maps
Morrow County
Project Features

- Site Boundary
- Proposed Route
- Work Areas
- Multi-Use Area
- Construction Access
- Existing Road: Substantial Modification, 71-100% Improvements
- Rivers, Streams, and Canals
- Field Survey Streams
- Stream Impact Type
- Temporary
- Permanent

Other Waters

- Source(s): BLM, IPC, ODFW, ODOT-WPS, USDA, USFS, Vanport, ODOT, ODF, Ventyx, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AGI, Intergraph, Angstrom Data, GIF,Icon存在一定延迟

Contour lines are not available at this time and will be added at a later date.

Attachment K-13
Wetland and Other Waters Joint Permit Application
Detail Maps
Morrow County
Project Features
Site Boundary
- Proposed Route
- Route Centerline
- Proposed Route
- Work Areas
- Structure Work Area

Mileposts
- Tenth-mile

Construction Access
- Existing Road, Substantial Modification, 71-100% Improvements
- New Road, Primitive

Rivers, Streams, and Canals
- Field Survey Streams
- Stream Impact Type

Other Waters
- Temporary
- Permanent

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Ventyx, Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-15
Wetland and Other Waters Joint Permit Application
Detail Maps
Morrow County
Boardman to Hemingway Transmission Line Project Application for Site Certificate

Attachment K-16
Wetland and Other Waters Joint Permit Application Detail Maps
Morrow County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
**Project Area**

Dixie Canyon
Sec. 10
2S 29E

**MORROW COUNTY**

NANS_OW_160621288

**Project Features**

- **Site Boundary**
- **Proposed Route**
- **Construction Access**
  - Existing Road, Substantial Modification, 21-70% Improvements
  - Existing Road, Substantial Modification, 71-100% Improvements
  - New Road, Primitive

**Rivers, Streams, and Canals**

- NANS, OW, NHD

**Other Waters**

- NANS Streams (NHD)

**Stream Impact Type**

- Temporary
- Permanent

Source(s): BLM, IPC, ODFW, ODOT-WP, USDA, USTR, USGS, Veris, Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Area

Butter Creek
Sec. 32
T 1N 29E
UMATILLA COUNTY
MUA UM-02
Butter Creek Rd

Project Features

Transportation

Stream Impact Type

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Ventyx, Exel, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Angielski, Osisoft, GeoVario

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Transmission Line Project
Joint Permit Application
Detail Maps
Umatilla County
Project Features

- Site Boundary
- Proposed Route
- Construction Access
- Existing Road, Substantial Modification, 71-100% Improvements
- Rivers, Streams, and Canals

Other Waters
- NANS Streams (NHD)
  - Stream Impact Type
    - Temporary
    - Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.
PROJECT AREA

Rancheree Canyon

Sec.11

Sec.12

UMATILLA COUNTY

Project Features

Site Boundary

Proposed Route

Construction Access

Existing Road, Substantial Modification, 21-70% Improvements

Rivers, Streams, and Canals

Other Waters

NANS Streams (NHD)

Stream Impact Type

Temporary

Permanent

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Ventyx, Esri, DigitalGlobe, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Anginfo, iGI, GF, Wiseman

Notes: Elevation contour lines are not available at this time and will be added at a later date.
**Project Features**
- Site Boundary
- Proposed Route
- Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals

**Other Waters**
- NANS Streams (NHD)
- Stream Impact Type
  - Temporary
  - Permanent

**Source(s):** BLM, IPC, ODFW, ODOT, NFS, USDA, USGS, Venys, Exel, DigitalGlobe, Geology, Earthstar Geographics, CEER/KGS, DOG, Geomapping, Aspect, IGO, GIP, Landspark

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-22
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County
Project Features

- Site Boundary
- Proposed Route
- Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals

Other Waters
- NANS Streams (NHD)
- Stream Impact Type
  - Temporary
  - Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-26
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County
Project Features

Site Boundary
- Proposed Route

Route Centerline
- Proposed Route

Work Areas
- Structure Work Area

Mileposts
- Mile
- Tenth-mile

Construction Access
- New Road, Primitive

Field Survey Streams

NANS Streams (NHD)

Stream Impact Type
- Temporary
- Permanent

Other Waters
- Rivers, Streams, and Canals

Wetland
- NANS Wetland (NWI)

Other Sources
- BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Verisys, DigitalGlobe, Geofabrik, Cartographic Solutions, ORE, AEX, Garmin, ADE, GIF, Landinfo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-29
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County

Project Features:
- Site Boundary
- Proposed Route
- Work Areas
- Multi-Use Area
- Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals
- Other Waters
  - Field Survey Streams
  - Stream Impact Type
    - Temporary
    - Permanent

Source(s): BLM, IPC, ODFW, ODOT, USFS, USDA, USGS, Ventyx, Esri, DigitalGlobe, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Antargaz, IGN, GIP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Area
California Gulch
East Birch Creek
Sec. 10
2S 32E

Umatilla County
E Birch Creek Rd

Project Features
Site Boundary
Proposed Route
Construction Access
Existing Road, No Substantial Modification, 0-20% Improvements
Existing Road, Substantial Modification, 21-70% Improvements

Rivers, Streams, and Canals

Other Waters
Field Survey Streams
Stream Impact Type
Temporary
Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway
Transmission Line Project
Application for Site Certificate

Attachment K-31
Wetland and Other Waters
Joint Permit Application
Detail Maps
Umatilla County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
**PROJECT AREA**

- California Gulch
- Sec. 10
- Sec. 15
- GUMIL 32E
- UMATILLA COUNTY

**Project Features**

- Site Boundary
- Proposed Route
- Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals
- Other Waters
- NAMS Streams (NHD)

**Stream Impact Type**

- Temporary
- Permanent

**Source(s):** BLM, IPC, ODFW, ODOT-NFS, USDA, U.S.F.S, USGS, Ventyx, Exel, DigitalGlobe, Geofly, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, AngSTR, IXIA, GET, i-cubed

**Notes:** Elevation contour lines are not available at this time and will be added at a later date.

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**Attachment K-32**

Wetland and Other Waters Joint Permit Application Detail Maps

Umatilla County
Project Area

East Birch Creek
Sec. 7
2S 33E
Umatilla County
MUA UM-05
E Birch Creek Rd

Project Features

- Site Boundary
- Proposed Route
- Work Areas
- Multi-Use Area
- Construction Access

- Existing Road, No Substantial Modification, 0-20% Improvements

Rivers, Streams, and Canals
- Field Survey Streams
- Stream Impact Type
- Temporary

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features

Site Boundary
- Proposed Route
- Route Centerline

Work Areas
- Structure Work Area

Mileposts
- Mile
- Tenth-mile

Construction Access
- Existing Road, Substantial Modification, 71-100% Improvements
- New Road, Primitive

Rivers, Streams, and Canals

Wetland
- NANS Wetland (NWI)

Source(s): BLM, IPC, ODFW, ODOT, WFD, USDA, USGS, Verizon, Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway
Transmission Line Project
Application for Site Certificate

Attachment K-38
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-39
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-41
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features
- Site Boundary
- Route Centerline
- Proposed Route
- Work Areas
- Structure Work Area
- Construction Access
  - Existing Road, Substantial Modification, 21-70% Improvements
  - Rivers, Streams, and Canals
- Other Waters
  - NANS Streams (NHD)
- Stream Impact Type
  - Temporary
  - Permanent

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Vertica, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, Getmapping, Aerogrid, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Beaver Creek
Sec.16
Sec.21
1S 35E
NFD 381 Rd

Project Features
- Site Boundary
- Proposed Route
- Route Centerline
- Proposed Route Centerline
- Work Areas
  - Structure Work Area
- Mileposts
  - Tenth-mile
  - Construction Access
- Existing Road, No Improvements
- Substantial Modification, 0-20% Improvements
- Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals
- Other Waters
  - Field Survey Streams
  - NANS Streams (NHD)
- New Road, Bladed
- Permanent

Source(s): BLM, IPC, ODFW, ODOT-OR, USDA, USGS, USFWS, USFWS, USGS, Wetland Surveyors, GeoEye, DigitalGlobe, Esri, DigitalGlobe, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Angielski, iGO, IGN, swisstopo

Contour lines are not available at this time and will be added at a later date.

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Attachment K-43
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County
Attachment K-45
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County
BOARDMAN TO HEMINGWAY TRANSMISSION LINE PROJECT
APPLICATION FOR SITE CERTIFICATE

Umatilla County

Project Features

Site Boundary

Proposed Route

Construction Access

Existing Road, Substantial Modifications, 21-70% Improvements

Rivers, Streams, and Canals

Other Waters

NANS Streams (NHD)

Stream Impact Type

Temporary

Permanent

Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-47
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate
Attachment K-49
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County

Source(s): BLM, IPC, ODFW, ODOT-ODS, USDA, USGI, USGS, Vernex, Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo
Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-50
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-52
Wetland and Other Waters Joint Permit Application
Detail Maps
Umatilla County
Appendix K
Joint Permit Application
Location Map
Union County
Map Index
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-55
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County

Project Features
- Site Boundary
- Proposed Route
- Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- Existing Road, Substantial Modification, 71-100% Improvements
- Rivers, Streams, and Canals
- Field Survey Streams
- Stream Impact Type
- Temporary
- Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.
UNION COUNTY

Project Features
Site Boundary
Proposed Route
Construction Access
Existing Road, Substantial Modification, 71-100% Improvements
Rivers, Streams, and Canals

Other Waters
Field Survey Streams
Stream Impact Type
Temporary
Permanent

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Verxs, Evax, DigitalGlobe, Geofly, Earthstar Geographics, CNES/Airbus DS, ACI, GoogleMaps, Ampsat, ODA, OR, USGS

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Attachment K-56
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-57
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-58
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Union County
Wetland and Other Waters
Joint Permit Application
Detail Maps
Union County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-60
Wetland and Other Waters
Joint Permit Application
Detail Maps
Union County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features

- Site Boundary
- Proposed Route
- Route Centerline
- Proposed Route
- Mileposts
- Tenth-mile

Construction Access

- Existing Road
- Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals
- Other Waters
  - Field Survey Streams

Stream Impact Type

- Temporary
- Permanent

Source(s): BLM, IPC, ODFW, ODOT, NF, USDA, USGS, VENY, Ent., DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, Exone, GeoBase, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-62
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
Project Features

- Site Boundary
- Proposed Route
- Route Centerline
- Proposed Route
- Work Areas
- Structure Work Area

Mileposts
- Tenth-mile
- Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals

Other Waters
- Field Survey Streams
- Stream Impact Type
  - Temporary
  - Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Sources: BLM, IPC, ODFW, ODOT, NFS, USDA, USGS, Ventyx, Esri, DigitalGlobe, Geodis, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Amanta, IGN, IGP, swisstopo
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-64
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
Union County

Wetland and Other Waters Joint Permit Application
Detail Maps

Attachment K-65

Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Project Features

Site Boundary
- Proposed Route
- Construction Access

Transportation
- Existing Road, No Substantial Modification, 0-20% Improvements
- Existing Road, Substantial Modification, 21-70% Improvements

Stream Impact Type
- Temporary
- Permanent

New Road, Primitive

Other Major Roads

Rivers, Streams, and Canals

Other Waters

NHD Streams (NHD)

Source(s): BLM, IPC, ODFW, ODOT, NRCS, USDA, USGS, Vernex, Exel, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, ArcGIS, MapmyIndia, GSI, i casts, Inc.

Notes: Elevation contour lines are not available at this time and will be added at a later date.
UNION COUNTY

PROJECT AREA

Sec. 8
Sec. 7
3S 37E

Mill Canyon Rd

UN_ML_STRM_007

Mill Hill

UNION COUNTY

Source(s): BLM, IPC, ODFW, ODOT, USDI, USGS, USGS, others, Digital Globe, Geology, Engineers, ESRI/Auto DS, 400, Geomapping, Amigone, OGA, OR, Wilmes

Map Area

0 100

Feet

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-67
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
Project Features:
- Site Boundary
- Alternative Route
- Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals

Other Waters:
- NANS Streams (NHD)
- Stream Impact Type
- Temporary
- Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Vernex, Exel, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Antarin, iTrue, GFZ, Swisstopo
Project Features
- Site Boundary
- Proposed Route
- Alternative Route
- Route Centerline
- Proposed Route
- Work Areas
  - Structure Work Area
- Mileposts
  - Tenth-mile
  - Construction Access
- Rivers, Streams, and Canals
  - NANS Streams (NHD)
- Other Waters
  - Stream Impact Type
  - Temporary
  - Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Vernex, Exel, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Attachment K-71
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-72
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway
Transmission Line Project
Application for Site Certificate

Attachment K-73
Wetland and Other Waters
Joint Permit Application

Detail Maps
Union County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features

Site Boundary
- Proposed Route
- Route Centerline
- Proposed Routes
- Work Areas
- Structure Work Areas

Mileposts
- Tenth-mile Construction Access

Existing Road, Substantial Improvement

New Road, Bladed

Rivers, Streams, and Canals

NANS Streams (NHD)

Stream Impact Type
- Temporary
- Permanent

Wetland
- NANS Wetland (NWI)

Source(s): BLM, IPC, ODFW, ODOT, USDA, USGS, Ventus, Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-78
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features
- Site Boundary
- Proposed Route
- Route Centerline
- Proposed Route
- Work Areas
- Structure Work Area

Milepost
- Tenth-mile
- Construction Access
- Existing Road, No Substantial Modification, 0-20% Improvements

Transportation
- Interstates or Highways

Other Waters
- NANS Streams (NHD)
- Wetland
- NANS Wetland (NWI)

Source(s): BLM, IPC, ODFW, ODOT, USDA, USGS, Ventyx, Esri, DigitalGlobe, Geofy, GarberGIS Geographics, CNES/Airbus DS, OSI, Orthoimagery, Aerial Insight, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
UNION COUNTY

Project Features
- Site Boundary
- Proposed Route
  Construction Access
  - Existing Road, No Substantial Modification, 0-20% Improvements
  - Existing Road, Substantial Modification, 21-70% Improvements

Transportation
- Interstates or Highways
- Rivers, Streams, and Canals

Other Waters
- Field Survey Streams
- NHD Streams (NHD)

Stream Impact Type
- Temporary
- Permanent

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Ventyx, Esri, DigitalGlobe, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features
- Site Boundary
- Alternative Route
- Construction Access
  - Existing Road, Substantial Modification, 21-70% Improvements
  - New Road, Bladed

Rivers, Streams, and Canals
- Wetland
  - Field Survey Wetland

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Source(s): BLM, IPC, ODFW, ODOT, WDF, USDA, USGS, Venys, Esri, DigitalGlobe, Geology, Garmin Geographics, CNES/Airbus DS, AEX, Getmapping, Angi, IGN, IGP, Geonames

Union County
Wetland and Other Waters
Joint Permit Application
Detail Maps
Union County
UNION COUNTY

Project Features
Site Boundary
Construction Access
Existing Road, No
Substantial Modification, 0-
20% Improvements
New Road, Primitive

UN_ML_W_004
3S 37E

Source(s): BLM, IPC, ODFW, ODOT, NFS, USDA, USGS, Ventyx, Esri, DigitalGlobe, GeoEys,
Earthstar Geographics, CNES/Airbus DS, IGN, Ordnance Survey, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Attachment K-82
Wetland and Other Waters
Joint Permit Application
Detail Maps
Union County
Boardman to Hemingway
Transmission Line Project
Application for Site Certificate

Attachment K-84
Wetland and Other Waters
Joint Permit Application
Detail Maps
Union County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-86
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features

- Site Boundary
- Alternative Route
- Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals

Other Waters

- NANS Streams (NHD)

Stream Impact Type

- Temporary
- Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.
PROJECT AREA

Ladd Creek
Sec. 22
4S 38E

UNION COUNTY

Ladd Canyon Rd

15.1

MILEPOSTS

Construction Access

Existing Road, No Substantial Modification, 0-20% Improvements

RIVERS, STREAMS, AND CANALS

OTHER WATERS

NANS Streams (NHD)
Stream Impact Type
Permanent

15

NANS_OW_160030623

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Source(s): BLM, IPC, ODFW, ODOT-NPS, USDA, USGS, USDA, Ext. DigitalGlobe, Geology, Carlton Geographics, OREX, USGS, AGI, GeoEye, GeoEye, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, ADP, Geospatial Insight, OSU, IF, w-course, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Attachment K-89
Wetland and Other Waters Joint Permit Application Detail Maps Union County

Boardman to Hemingway Transmission Line Project Application for Site Certificate
Source(s): BLM, ODF, ODOT, WFP, USDA, USGS, Venys, Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Boardman to Hemingway Transmission Line Project Application for Site Certificate
Attachment K-91
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
UNION COUNTY
Sec. 17
5S 99E

Project Area

UN_LM_STAM 300

Project Features

Site Boundary

Proposal Route

Construction Access

Existing Road, Substantial

Modification, 71-100%

Improvements

Rivers, Streams, and

Canals

Field Survey Streams

Stream Impact Type

Temporary

Permanent

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, Venys, Exel. DigitalGlobe, GeoEye,
Garmin Geographics, CNES/Airbus DS, AEX, Getmapping, Insight, i-cubed, SPOT

Note: Elevation contour lines are not available at this time and will be added at a later date.

Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-92
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
PROJECT AREA
84 Sec. 17
UNION COUNTY
Glenn Access Rd
UN_LM_STRM_300

Project Features
- Site Boundary
- Proposed Route
- Construction Access
- Existing Road, No Substantial Modification, 0-20% Improvements
- Existing Road, Substantial Modification, 71-100% Improvements

Transportation
- Interstates or Highways
- Rivers, Streams, and Canals

Stream Impact Type
- Temporary
- Field Survey Streams

Source(s): BLM, IPC, ODFW, ODOD, WDF, USDA, USGS, Veneta, Ext. DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, ASI, Getmapping, Angers, USGS, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Attachment K-93
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-94
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
Union County

Project Features

- Site Boundary
- Proposed Route
- Construction Access
- Existing Road, Substantial
- Modifications, 21-70%
- Improvements
- Rivers, Streams, and Canals

Wetland
- NANS Wetland (NWI)

Source(s): BLM, IPC, ODFW, ODOT, NPS, USDA, USGS, USFWS, Ventyx, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, IGN, Getmapping, Aerogrid, IGN, GF, GeoEye

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Boardman to Hemingway Transmission Line Project Application for Site Certificate

Attachment K-95 Wetland and Other Waters Joint Permit Application Detail Maps Union County
Project Features

- Site Boundary
- Proposed Route
- Route Centerline
- Structure Work Area
- Work Areas
- Mileposts
- Tenths-mile
- Construction Access
- New Road, Primitive
- Rivers, Streams, and Canals

Other Waters
- NANS Streams (NHD)
- Stream Impact Type
- Temporary
- Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-97
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County

Source(s): BLM, ODFW, ODOT, OWS, USDA, USGS, Vertu, Esri, DigitalGlobe, Geodyne, Geomatica, NGCC, NGS, OESA, Orthoimages, ORC, ORP, Orleans

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features

- Site Boundary
- Proposed Route
- Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals

Other Waters
- NANS Streams (NHD)
  - Stream Impact Type
    - Temporary
    - Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Source(s): BLM, IPC, ODFW, ODOT-NPS, USDA, USFS, USGS, Venys, Exel, DigitalGlobe, Geodise, Esri, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-98
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-99
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County

Source: BLM, BPA, ODFW, ODOT, USFWS, USDA, Ventyx, Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, AEX, Geoameric, ANGELV, iGI, GISP, Landsat.

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project Application for Site Certificate

Attachment K-100
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features

Site Boundary
- Proposed Route
- Construction Access

Existing Road, Substantial Modification, 21-70% Improvements
- Rivers, Streams, and Canals

Other Waters
- NANS Streams (NHD)
- Stream Impact Type
  - Temporary
  - Permanent

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project
Application for Site Certificate

Attachment K-102
Wetland and Other Waters Joint Permit Application
Detail Maps
Union County
BAKER COUNTY

Sec.38
8S 40E
BA_S_0010

Project Features
Site Boundary
Proposed Route
Route Centerline
Proposed Route
Work Areas
Structure Work Area

Mileposts
Tenth-mile
Construction Access
Existing Road, Substantial Modification, 21-70% Improvements
New Road, Primitive

Rivers, Streams, and Canals
Field Survey Streams
Stream Impact Type
Temporary
Permanent

Source(s): BLM, IPC, ODFW, ODOT, WDFW, USDA, USGS, Ventyx, DigitalGlobe, GeoEye, Esri, GeoEys, Earthstar Geographics, CNES/Airbus DS, AEX, Getmapping, Azimap, USG, IGN, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Attachment K-104
Wetland and Other Waters
Joint Permit Application
Detail Maps
Baker County
Attachment K-105

Wetland and Other Waters Joint Permit Application
Detail Maps
Baker County
Project Features

- Site Boundary
- Proposed Route
- Route Centerline
- Proposed Route
- Work Areas
- Structure Work Area

Mileposts
- Tenth-mile

Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements
- New Road, Primitive

Rivers, Streams, and Canals
- Field Survey Streams
- Stream Impact Type
- Temporary
- Permanent

Sources: BLM, IFC, ODFW, ODOT, NPS, USDA, USFS, USGS, Vermont, Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, ICE, Getmapping, ANRT, IGN, iGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Project Features

Site Boundary
- Proposed Route
- Existing Road

Proposed Route Centerline
- Mileposts
- Tenth-mile

Construction Access
- Existing Road, Substantial Modification, 21-70% Improvements

Wetland and Other Waters
- Rivers, Streams, and Canals
- Other Waters
  - Field Survey Streams
  - Stream Impact Type
    - Temporary
    - Permanent

Source(s): BLM, ODFW, ODOT, NPS, USDA, USGS, U.S. Army Corps, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,getmapping.com, Aerogrid, IGN, IGP, swisstopo

Notes: Elevation contour lines are not available at this time and will be added at a later date.
Boardman to Hemingway Transmission Line Project Application for Site Certificate

Attachment K-109
Wetland and Other Waters Joint Permit Application Detail Maps
Baker County
Project Features

Site Boundary
- Proposed Route
- Multi-Use Area
- Construction Access
- Existing Road, No Substantial Modification, 0-20% Improvements

Transportation
- Other Major Roads
- Rivers, Streams, and Canals

Wetland
- NANS Wetland (NW)

Notes: Elevation contour lines are not available at this time and will be added at a later date.

Source(s): BLM, IPC, OSFWR, ODOT, USDA, USGS, Venys, Exx, DigitalGlobe, Geology, Cartographic Geographics, OMAHA/USGS, GNIS, Georectifying, Avenza, GIS, Giraffmaps

Attachment K-111
Wetland and Other Waters Joint Permit Application
Detail Maps
Baker County
Boardman to Hemingway
Transmission Line Project
Application for Site Certificate

Attachment K-113
Wetland and Other Waters
Joint Permit Application
Detail Maps
Baker County