GOLDENDALE ENERGY STORAGE HYDROELECTRIC PROJECT

Federal Energy Regulatory Commission Project No. 14861

Klickitat County, Washington

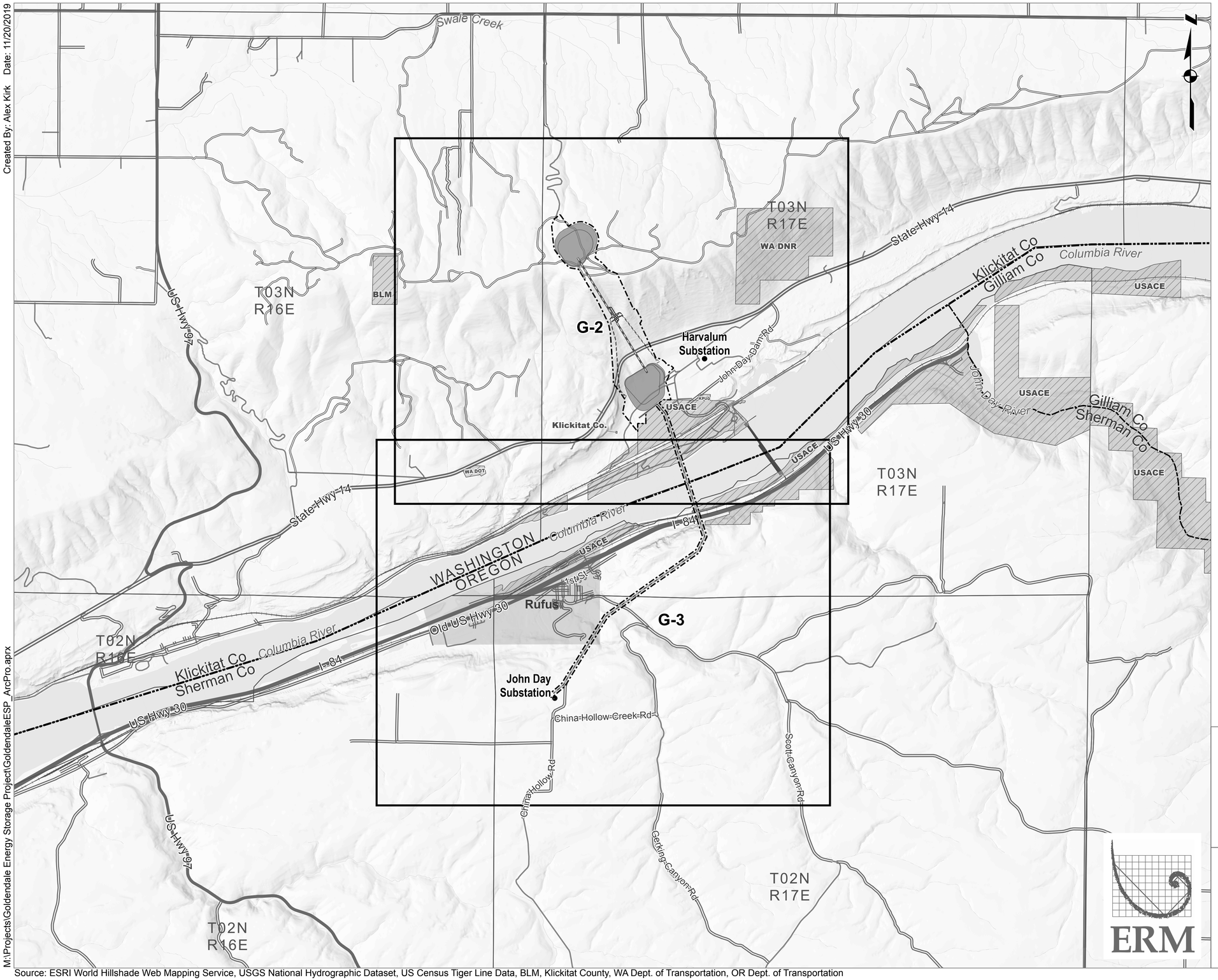
DRAFT LICENSE APPLICATION
Exhibit G: Map of the Project

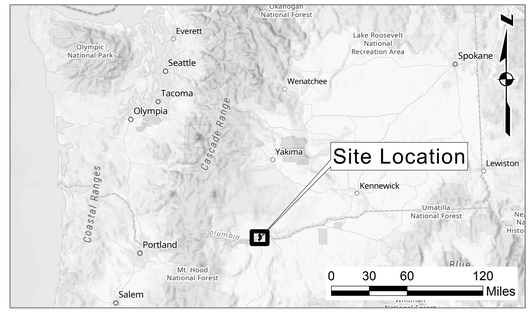
For:

FFP Project 101, LLC

December 2019

Created By: Alex Kirk Date: 11/20/2019





Legend

- Project Boundary
- Exhibit G Sheet
- Proposed Reservoir
- Proposed Penstock
- Proposed Transmission Line
- Transmission Co-Located with Existing BPA ROW
- State Boundaries
- County Boundaries
- PLSS Township/Range

Reference point coordinates and boundary azimuth /distances shown in NAD 1983 State Plane Washington South FIPS 4602 in feet.
All lands not shown as Federal Lands will be acquired as easements or are part of existing transmission line right-of-ways.

0 0.5 1 2 Miles

Exhibit G.1
Site Layout Overview
Goldendale Energy Storage Project
Draft License Application
Goldendale, WA

ERM

M:\Projects\Goldendale Energy Storage Project\GoldendaleESP_ArcPro.aprx

Source: ESRI World Hillshade Web Mapping Service, USGS National Hydrographic Dataset, US Census Tiger Line Data, BLM, Klickitat County, WA Dept. of Transportation, OR Dept. of Transportation

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E 1,582,000.00 ft
N 155,000.00 ft

KPUD Substation

Upper Constr. Laydown Area

Upper Reservoir

Swale Creek

WA DNR

Headrace Tunnel

Underground Powerhouse

E 1,593,000.00 ft
N 147,000.00 ft

State-Hwy-14

Multi-Use Tunnel

Access Tunnel

Tailrace Tunnel

Access Tunnel Portal

Water Supply Valve House

Harvalum Substation

Lower Reservoir

Transmission Line (To Be Relocated)

Multi-Use Tunnel Portal

KPUD

KPUD Substation

BNSF-Railway

Lake Umatilla

WASHINGTON
OREGON

Columbia River

John Day Dam

John Day Dam Rd

USACE

Substation

Klickitat Co.

E 1,575,000.00 ft
N 142,000.00 ft

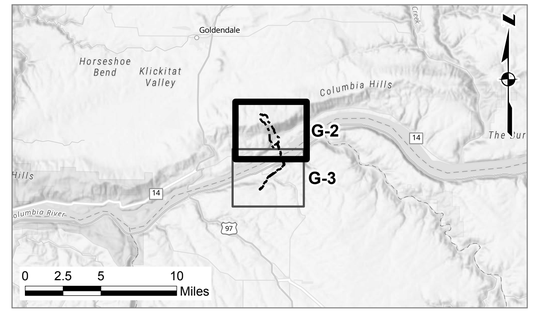
WA DOT

US-Hwy-30

T03N-R16E

T03N-R17E

BLM



Legend

- Project Boundary
- Boundary Vertices
- Reference Point
- Proposed Transmission Line
- Transmission Co-Located with Existing BPA ROW
- Proposed Access Roads
- Existing Access Road To Be Upgraded
- Proposed Penstock
- Proposed Reservoir
- Proposed Reservoir Berm Outer Slope
- Proposed Laydown Area
- Proposed Substation
- Proposed Underground Powerhouse
- Proposed Access Tunnel & Portal
- Elevation Contour (200ft)
- Wind Turbines

Existing Transmission Lines by Operator

- BPA — Bonneville Power Administration
- KID — Klickitat County PUD
- NW — Northern Wasco PUD
- WEC — Wasco Electric Cooperative
- State Boundaries
- County Boundaries
- Federal & State Lands
- PLSS Township/Range
- PLSS Section

Reference point coordinates shown in NAD 1983 State Plane Washington South FIPS 4602 in feet.
All lands not shown as Federal Lands within the Project Boundary will be acquired as easements or are part of existing transmission line right-of-ways.

0 1,000 2,000 4,000
Feet

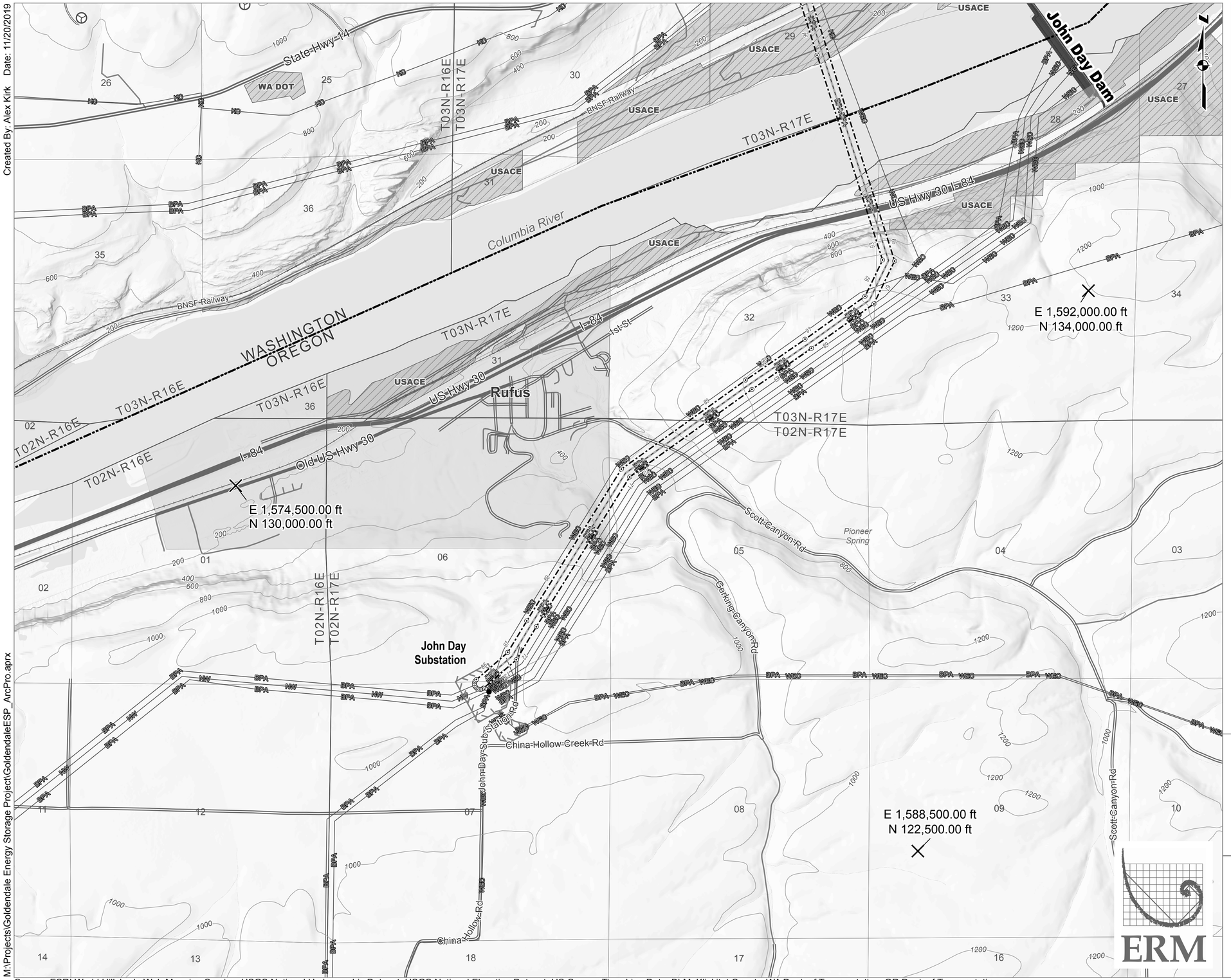
Exhibit G.2
Reservoirs & Powerhouse
Goldendale Energy Storage Project
Draft License Application
Goldendale, WA

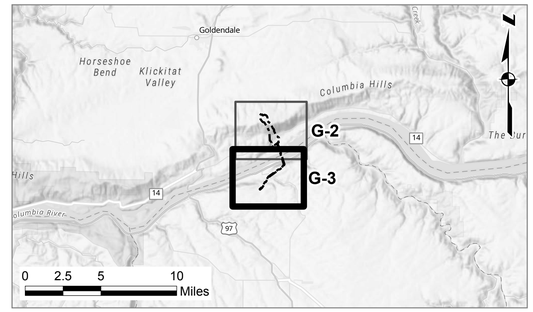
ERM

M:\Projects\Goldendale Energy Storage Project\GoldendaleESP_ArcPro.aprx

Source: ESRI World Hillshade Web Mapping Service, USGS National Hydrographic Dataset, USGS National Elevation Dataset, US Census Tiger Line Data, BLM, Klickitat County, WA Dept. of Transportation, OR Dept. of Transportation

Created By: Alex Kirk Date: 11/20/2019





Legend

- Project Boundary
- Boundary Vertices
- Reference Point
- Proposed Transmission Line
- Transmission Co-Located with Existing BPA ROW
- Proposed Access Roads
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Reference point coordinates shown in NAD 1983 State Plane Washington South FIPS 4602 in feet.
All lands not shown as Federal Lands within the Project Boundary will be acquired as easements or are part of existing transmission line right-of-ways.

0 1,000 2,000 4,000 Feet

Exhibit G.3
Transmission Line
Goldendale Energy Storage Project
Draft License Application
Goldendale, WA

ERM

M:\Projects\Goldendale Energy Storage Project\GoldendaleESP_ArcPro.aprx

Source: ESRI World Hillshade Web Mapping Service, USGS National Hydrographic Dataset, USGS National Elevation Dataset, US Census Tiger Line Data, BLM, Klickitat County, WA Dept. of Transportation, OR Dept. of Transportation

Exhibit G.4: Metes and Bounds for Goldendale Energy Storage Project, FERC No. 14861

Point ID	Bearing	Length (ft)	Easting	Northing
0	N/A	N/A	1,579,987.68	152,226.84
Line Segment	**Bearing**	**Length (ft)**	**Easting**	**Northing**
1	144.548	783.98	1,580,442.41	151,588.19
2	56.379	235.93	1,580,638.89	151,718.83
3	65.561	123.74	1,580,751.54	151,770.02
4	74.161	126.32	1,580,873.06	151,804.50
5	77.998	144.65	1,581,014.55	151,834.58
6	88.381	136.36	1,581,150.85	151,838.43
7	96.253	147.09	1,581,297.07	151,822.41
8	109.043	74.18	1,581,367.19	151,798.20
9	116.527	122.92	1,581,477.17	151,743.30
10	112.334	140.31	1,581,606.95	151,689.99
11	121.845	129.69	1,581,717.12	151,621.56
12	127.294	108.27	1,581,803.25	151,555.96
13	142.136	121.95	1,581,878.11	151,459.68
14	149.319	265.24	1,582,013.45	151,231.56
15	160.141	148.06	1,582,063.75	151,092.31
16	167.677	160.17	1,582,097.94	150,935.83
17	183.228	110.75	1,582,091.70	150,825.25
18	179.111	69.96	1,582,092.78	150,755.30
19	193.687	148.84	1,582,057.56	150,610.68
20	199.504	186.73	1,581,995.22	150,434.66
21	188.256	570.51	1,581,913.29	149,870.04
22	126.165	406.25	1,582,241.27	149,630.30
23	137.871	40.58	1,582,268.49	149,600.21
24	156.010	38.73	1,582,284.24	149,564.82
25	106.767	26.79	1,582,309.88	149,557.10
26	136.854	490.67	1,582,645.44	149,199.09
27	114.166	494.58	1,583,096.69	148,996.61
28	126.092	15.19	1,583,108.97	148,987.66
29	138.765	27.72	1,583,127.25	148,966.81
30	155.365	2,116.13	1,584,009.34	147,043.24
31	59.289	137.22	1,584,127.32	147,113.32
32	154.103	457.62	1,584,327.19	146,701.64
33	137.275	79.23	1,584,380.95	146,643.44
34	150.741	24.38	1,584,392.86	146,622.17
35	164.430	135.91	1,584,429.34	146,491.25
36	154.103	23.79	1,584,439.73	146,469.84
37	232.662	4.74	1,584,435.96	146,466.97
38	167.321	24.21	1,584,441.28	146,443.34
39	177.437	14.75	1,584,441.94	146,428.60
40	190.127	29.43	1,584,436.76	146,399.64

Line Segment	Bearing	Length (ft)	Easting	Northing
41	202.819	14.75	1,584,431.04	146,386.04
42	215.018	126.91	1,584,358.22	146,282.10
43	155.228	2,079.46	1,585,229.54	144,393.94
44	100.295	120.45	1,585,348.05	144,372.41
45	109.076	142.36	1,585,482.60	144,325.88
46	117.835	118.30	1,585,587.21	144,270.64
47	126.649	145.93	1,585,704.30	144,183.53
48	140.369	173.18	1,585,814.76	144,050.15
49	153.520	72.82	1,585,847.23	143,984.97
50	84.852	169.83	1,586,016.38	144,000.21
51	133.232	246.62	1,586,196.07	143,831.28
52	226.315	192.92	1,586,056.56	143,698.03
53	229.289	145.65	1,585,946.15	143,603.02
54	182.091	190.37	1,585,939.20	143,412.78
55	190.651	14.09	1,585,936.60	143,398.93
56	201.280	100.69	1,585,900.06	143,305.11
57	207.964	271.79	1,585,772.60	143,065.04
58	163.797	1,009.13	1,586,054.20	142,095.98
59	270.925	415.99	1,585,638.25	142,102.69
60	232.736	292.80	1,585,405.22	141,925.40
61	140.472	665.26	1,585,828.64	141,412.26
62	161.955	275.39	1,585,913.95	141,150.41
63	142.848	28.59	1,585,931.22	141,127.62
64	155.625	22.51	1,585,940.51	141,107.11
65	161.052	439.82	1,586,083.33	140,691.12
66	162.315	6,381.29	1,588,021.96	134,611.23
67	205.779	977.41	1,587,596.87	133,731.07
68	234.406	1,574.00	1,586,316.91	132,814.91
69	235.499	1,481.42	1,585,096.01	131,975.77
70	234.385	3,087.02	1,582,586.35	130,178.00
71	211.941	3,621.32	1,580,670.44	127,104.86
72	211.152	793.95	1,580,259.71	126,425.37
73	229.109	891.01	1,579,586.12	125,842.07
74	239.669	28.67	1,579,561.37	125,827.59
75	253.992	28.67	1,579,533.81	125,819.69
76	264.733	14.36	1,579,519.51	125,818.37
77	275.474	28.67	1,579,490.97	125,821.10
78	289.442	27.26	1,579,465.26	125,830.18
79	305.931	38.68	1,579,433.94	125,852.87
80	322.067	25.85	1,579,418.05	125,873.27
81	334.975	25.85	1,579,407.11	125,896.69
82	351.111	38.68	1,579,401.14	125,934.91
83	10.474	38.68	1,579,408.17	125,972.94

Line Segment	Bearing	Length (ft)	Easting	Northing
84	26.610	25.85	1,579,419.75	125,996.06
85	40.934	31.49	1,579,440.38	126,019.85
86	49.096	848.44	1,580,081.66	126,575.43
87	31.152	759.23	1,580,474.43	127,225.20
88	31.941	3,668.53	1,582,415.31	130,338.41
89	54.385	3,134.89	1,584,963.89	132,164.05
90	55.499	1,481.46	1,586,184.83	133,003.22
91	54.406	1,513.12	1,587,415.28	133,883.94
92	25.779	826.98	1,587,774.95	134,628.64
93	342.284	4,410.76	1,586,432.69	138,830.34
94	342.389	1,876.62	1,585,864.89	140,619.06
95	341.101	700.71	1,585,637.92	141,282.02
96	320.472	653.42	1,585,222.03	141,786.02
97	232.736	682.00	1,584,679.25	141,373.07
98	180.000	581.17	1,584,679.25	140,791.88
99	271.087	443.57	1,584,235.75	140,800.29
100	180.065	451.09	1,584,235.24	140,349.18
101	321.511	1,330.30	1,583,407.28	141,390.47
102	11.736	709.17	1,583,551.52	142,084.83
103	326.975	535.27	1,583,259.79	142,533.63
104	321.324	571.37	1,582,902.72	142,979.71
105	359.520	449.98	1,582,898.96	143,429.69
106	355.985	2,359.90	1,582,733.73	145,783.86
107	348.530	506.10	1,582,633.09	146,279.86
108	334.073	1,259.07	1,582,082.58	147,412.24
109	329.235	2,116.63	1,580,999.85	149,231.03
110	280.000	520.80	1,580,486.96	149,321.47
111	317.235	674.49	1,580,028.97	149,816.65
112	325.000	637.93	1,579,663.07	150,339.22
113	353.072	516.42	1,579,600.78	150,851.88
114	354.476	802.56	1,579,523.52	151,650.73
115	25.945	312.76	1,579,660.36	151,931.97
116	45.538	29.60	1,579,681.48	151,952.71
117	321.245	36.21	1,579,658.81	151,980.94
118	52.412	267.63	1,579,870.90	152,144.20
119	54.715	143.07	1,579,987.68	152,226.84