

Bonneville Power Administration
Geodetic Control Data Sheet

Station: WM013 (213)
Project: Wallula-Smiths Harbor-McNary
Section: NW 1/4 7 Township: 7 North Range: 32 East Meridian: Willamette
County: Walla Walla State: WA USGS Quad: Zangar Junction, Washington
Surveyor: M R Heidecke Date Surveyed: July, 2001

Instrument:

The horizontal coordinates and orthometric elevation were established by GPS observations using six Trimble 4000 SSI dual frequency receivers with Compact L1/L2 antennae with ground plane.

Adjustment:

The Basis of Coordinates for this survey is the Washington State Coordinate System, South Zone, NAD 83 (1998). The horizontal component of the least squares adjustment was constrained by holding NGS Stations B 340 (A), B 502 (B), PENDLETON (B), STANFIELD EAST BASE RESET (B), and BURDEN (B). The vertical component of the least squares adjustment was constrained by holding NGS Benchmarks B 340 (First Order Class II), B 502 (First Order Class II), BURDEN (Second Order Class II), V 203 (Second Order Class 0), G 640 (First Order Class I). The elevation for point 106, 201, 249, and 255 were determined by differential leveling from G 640, D 502, E 525 and F 431 respectively and held.

Horizontal Datum: NAD83 (1998) Linear Unit: U.S. Survey Feet
Vertical Datum: NAVD88 Linear Unit: U.S. Survey Feet

Latitude: <u>N 46-06-19.08701</u>	Longitude: <u>W 118-51-35.63585</u>
US State Plane Coordinate System: <u>Washington South Zone - 4602</u>	
Northing: <u>285,833.939</u>	Easting: <u>2,056,396.389</u>
Orthometric Elevation: <u>577.63</u>	Ellipsoid Height: <u>506.86</u>
Combined Factor: <u>0.99992526</u>	Convergence: <u>- 1-11-29</u>
Confidence: 95% Confidence ("1.96 Sigma") Values	
<u>Northing-0.009</u>	<u>Easting-0.006</u> <u>Elevation-0.099</u>

Monumentation: BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.
Stamping: U.S.D.O.E. Bonneville Pwr. Adm., WM013 - FEC-01 - ATB - GPS

To-Reach Description:

Begin at Wallula Post Office at Wallula, Wa. 99363. Drive north on Columbia Way (County Road #1870) 0.2 miles to intersection of Columbia Way and Washington State Highway #12. Drive north on Washington State Highway #12, 3.8 miles to intersection of Highway #12 and Dodd-Iowa Beef Road. Turn right and drive east on Dodd-Iowa Beef Road 4.6 miles to the crossing of BPA Lower Monumental-McNary 500kV transmission line. Drive southerly on the transmission line access road 2.5 miles to the station. The station is 497 feet south and 123 feet west of tower 34/5. Witness post is a yellow carsonite marker inscribed with BPA logo, bearing and distance to station.

RECEIVED BY _____
Walla Walla County Surveyor
Date _____
Rec'd By _____
No. 02-19-9