

RECORD OF SURVEY

for

A GPS Network Map in:

Sections 25, 26, 27, 33, 34, 35 & 36 Township 8 North, Range 31 East & Section 31
Township 8 North, Range 32 East & Sections 1, 3, 11, 12, 14, 23, 24, 25, 26, 27 & 35
Township 7 North, Range 31 East & Sections 5, 7, 18 & 30 Township 7 North, Range 32
East & Sections 3, 11, 15 & 16 Township 6 North, Range 31 East, Willamette Meridian,
Walla Walla County, Washington

Sections 15, 21, 28 & 29 Township 6 North, Range 31 East & Sections 5, & 6 Township 5
North, Range 31 East & Sections 1, 2, 9, 10, 16, 17 & 18, Township 5 North, Range 30 East
& Sections 15, 19, 20, 21, 22, 23, 24 & 27 Township 5 North, Range 29 East & Sections
9, 10, 11, 13, 14, 15, 21, & 23 Township 5 North, Range 28 East, Willamette Meridian,
Umatilla County, Oregon

NARRATIVE

THIS PLAT REPRESENTS THE RESULTS OF A SURVEY CONDUCTED UNDER MY DIRECT SUPERVISION AT THE REQUEST OF THE U.S. DEPARTMENT OF ENERGY, BONNEVILLE POWER ADMINISTRATION. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH AERIAL PHOTO CONTROL.

THE BASIS OF COORDINATES FOR THIS GPS NETWORK IS THE OREGON COORDINATE SYSTEM, NORTH ZONE (NAD 83/98), WASHINGTON COORDINATE SYSTEM, SOUTH ZONE (NAD 83/98). THE VERTICAL DATUM IS NAVD 88.

ALL OF THE MEASUREMENTS FOR DETERMINING THE POSITIONS ESTABLISHED BY THIS SURVEY WERE MADE USING SIX (6) TRIMBLE 4000SI GEODETIC SYSTEM SURVEYOR DUAL FREQUENCY GLOBAL POSITIONING (GPS) RECEIVERS. THE MANUFACTURER'S STATED HORIZONTAL ACCURACY OF THIS EQUIPMENT IS 5MM +1PPM; THE VERTICAL ACCURACY OF THIS EQUIPMENT IS 10MM +1PPM; AND, THE AZIMUTH ACCURACY IS 1.0 +5/D ARC SECONDS, WHERE D IS BASELINE LENGTH IN KILOMETERS.

THE GPS BASELINE DATA WAS PROCESSED USING TRIMBLE'S GEOMATICS OFFICE VERSION 1.50 USING THE BROADCAST EPHMERIDES. ALL OF THE MEASUREMENTS WERE SIMULTANEOUSLY ADJUSTED. THE NATIONAL GEODETIC SURVEY'S GEOD99 MODEL WAS USED TO CALCULATE THE GEODAL SEPARATIONS OF THE STATIONS.

THE GPS VECTORS WERE INITIALLY TESTED BY EVALUATING THE LOOP CLOSURE BETWEEN SETS OF STATIONS. THE AVERAGE CLOSURES (XYZ) OF EACH LOOP HAD A MAXIMUM MISCLOSURE OF NO MORE THAN 2 PPM WITH NO INDIVIDUAL COMPONENT (XYZ) HAVING NO MORE THAN 8 PPM. THE GPS BASELINES WERE COMBINED IN A MINIMALLY CONSTRAINED LEAST SQUARES ADJUSTMENT TO CHECK THE VALIDITY OF THE GPS MEASUREMENTS WITH THEMSELVES.

THE HORIZONTAL COMPONENT OF THE LEAST SQUARES ADJUSTMENT WAS CONSTRAINED BY HOLDING NGS STATIONS; B 340 (A), B 502 (B), PENDELTON (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 O), 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.

THE HORIZONTAL POSITIONAL TOLERANCE AT A 95% CONFIDENCE LEVEL OF THE STATIONS IS 0.02CM. THE VERTICAL POSITIONAL TOLERANCE AT A 95% CONFIDENCE LEVEL OF THE STATIONS IS 0.03CM.

SURVEYOR'S CERTIFICATE

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE SURVEY RECORDING ACT AND AT THE REQUEST OF BONNEVILLE POWER ADMINISTRATION. THIS 4th DAY OF FEBRUARY 2002.

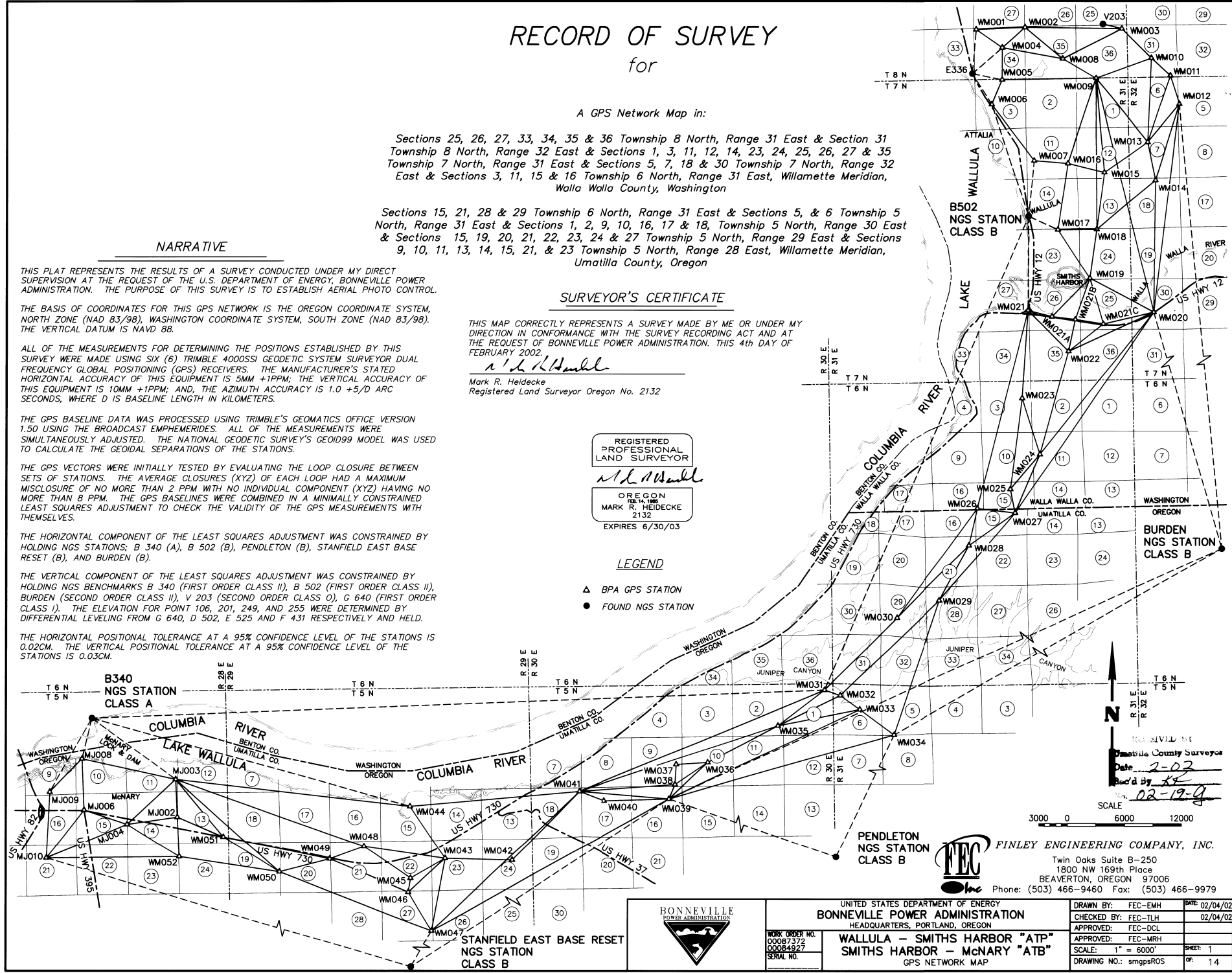
Mark R. Heidecke
Mark R. Heidecke
Registered Land Surveyor Oregon No. 2132

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
1981-14, 1988
MARK R. HEIDECKE
2132
EXPIRES 6/30/03

LEGEND

- ▲ BPA GPS STATION
- FOUND NGS STATION



RECEIVED BY
Umatilla County Surveyor
Date: *2-02*
Rec'd by: *KS*
02-19-02

SCALE
3000 0 6000 12000

FEC FINLEY ENGINEERING COMPANY, INC.
Twin Oaks Suite B-250
1800 NW 169th Place
BEAVERTON, OREGON 97006
Phone: (503) 466-9460 Fax: (503) 466-9979



UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

**WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"**
GPS NETWORK MAP

DRAWN BY: FEC-EJH	DATE: 02/04/02
CHECKED BY: FEC-TLH	02/04/02
APPROVED: FEC-DCL	
APPROVED: FEC-MRH	
SCALE: 1" = 6000'	SHEET: 1
DRAWING NO.: smgpsROS	OF: 14

WORK ORDER NO.
00087372
00084927
SERIAL NO.

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

POINT NO.	STAMPING	WASHINGTON SOUTH U.S. SURVEY FEET NORTHING	WASHINGTON SOUTH U.S. SURVEY FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
Δ WM001	U.S.D.O.E. Bonneville Pwr. Adm., WM001 - FEC-01 - ATB - GPS	297594.199	2038423.995	381.84	0.99992996	1°08'26"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Wallula Post Office in 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-lowa Beef Road. Turn right and drive east on Dodd-lowa Beef Road 0.2 miles to the station on right. Station is 45 feet south of centerline of Dodd-lowa Beef Road in centerline of canal bank road, 125 feet east of the canal crossing of Rainier Lane, private road.
Δ WM002	U.S.D.O.E. Bonneville Pwr. Adm., WM002 - FEC-01 - ATB - GPS	297815.291	2043529.667	477.10	0.99992537	1°09'19"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	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-lowa Beef Road. Turn right and drive east on Dodd-lowa Beef Road 1.1 miles. Station is on the left, 65 feet north of the centerline of Dodd-lowa Beef Road.
Δ WM003	U.S.D.O.E. Bonneville Pwr. Adm., WM003 - FEC-01 - ATB - GPS	297687.242	2053662.959	594.42	0.99991989	1°11'03"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	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-lowa Beef Road. Turn right and drive east on Dodd-lowa Beef Road 2.8 miles to intersection of track road to right (south). Station is 200 feet south of the centerline of Dodd-lowa Beef Road and 35 feet west of centerline of track dirt field road.
Δ WM004	U.S.D.O.E. Bonneville Pwr. Adm., WM004 - FEC-01 - ATB - GPS	295747.270	2041147.255	422.49	0.99992873	1°08'54"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	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-lowa Beef Road. Turn right and drive east on Dodd-lowa Beef Road 0.7 miles to intersection with the Union Pacific Railroad crossing (north-south). Drive south on Union Pacific Railroad right-of-way access road, running on east side of tracks, 0.3 miles. Station is on hummock, on railroad right-of-way, 51 feet east of centerline of railroad tracks.
Δ WM005	U.S.D.O.E. Bonneville Pwr. Adm., WM005 - FEC-01 - ATB - GPS	292394.926	2041120.937	402.79	0.99993093	1°08'53"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	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-lowa Beef Road. Turn right and drive east on Dodd-lowa Beef Road 0.7 miles to intersection with the Union Pacific Railroad crossing (north-south). Drive south on Union Pacific Railroad right-of-way access road, running on east side of railroad tracks, 1.1 miles. Station is 150 feet east of centerline of railroad tracks, 75 feet south of railroad signal poles and 43 feet south of east west fence line.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

M.R. Heidecke

OREGON
REG. NO. 2132
MARK R. HEIDECHE
EXPIRES 6/30/03



LEGEND

- Δ BPA GPS STATION
- FOUND NGS STATION

Umatilla County Surveyor
Date: 2-02
Red'd by: *RF*
No. 02-19-0



FINLEY ENGINEERING COMPANY, INC.

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1800 NW 169th Place
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Phone: (503) 466-9460 Fax: (503) 466-9979



UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

WORK ORDER NO.
00087372
00084927
SERIAL NO.

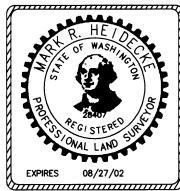
**WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"**
GPS NETWORK MAP

DRAWN BY: FEC-EMH	DATE: 02/04/02
CHECKED BY: FEC-TLH	02/04/02
APPROVED: FEC-DCL	
APPROVED: FEC-MRH	
SCALE: N/A	SHEETS: 2
DRAWING NO.: smgpsROS	OF: 14

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

POINT NO.	STAMPING	WASHINGTON SOUTH U.S. SURVEY FEET NORTHING	WASHINGTON SOUTH U.S. SURVEY FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
△ WM006	U.S.D.O.E. Bonneville Pwr. Adm., WM006 – FEC-01 – ATB – GPS	289736.149	2040044.807	366.33	0.99993369	108°41"	BPA 3/4–inch Aluminum Cap on 5/8–inch aluminum rod, flush with ground.	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, 2.2 miles, to intersection of a gravel road to the right (east). Drive east on gravel road 105 feet. Station is 16 feet south of the edge of the gravel road.
△ WM007	U.S.D.O.E. Bonneville Pwr. Adm., WM007 – FEC-01 – ATB – GPS	283913.915	2044512.501	451.49	0.99993195	109°26"	BPA 3/4–inch Aluminum Cap on 5/8–inch aluminum rod, flush with ground.	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, 1.0 mile, to intersection of a dirt road to the right (east). Sign at intersection says to Worden Farms & Boise Cascade Fiber Farm Office. Drive east on dirt road 0.3 miles crossing between 2 PP&L 115kV transmission lines to a dirt road to the right (south). Drive south, sign says to Boise Cascade Fiber Farm Office. Drive south on dirt road 125 feet to the station, 30 feet west of dirt road centerline.
△ WM008	U.S.D.O.E. Bonneville Pwr. Adm., WM008 – FEC-01 – ATB – GPS	294624.239	2047443.339	441.43	0.99992829	109°58"	BPA 3/4–inch Aluminum Cap on 5/8–inch aluminum rod, flush with ground.	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–lowa Beef Road. Turn right and drive east on Dodd–lowa Beef Road 2.8 miles to intersection of gravel road running northeast–southwest. Drive southwesterly on gravel road 1.0 mile to intersection of Union Pacific Railroad and railroad access road. Drive northeasterly on railroad access road running on east side of Union Pacific track 0.2 miles to station 70 feet east of railroad centerline and 30 feet west of railroad right–of–way fence.
△ WM009	U.S.D.O.E. Bonneville Pwr. Adm., WM009 – FEC-01 – ATB – GPS	292587.509	2050940.470	580.12	0.99992247	110°34"	BPA 3/4–inch Aluminum Cap on 5/8–inch aluminum rod, flush with ground.	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–lowa Beef Road. Turn right and drive east on Dodd–lowa Beef Road 2.8 miles to intersection of gravel road running northeast–southwest and dirt field road running south & southeast between irrigation crop circles. Drive southeasterly between circles, 1.2 miles to 25 foot tall water tank and pumping station. Continue south 0.1 miles to field road intersection north–south and east–west. A 5 foot tall tree is located southeast of the intersection. Drive east on dirt field road 0.1 mile to station 46 feet south of dirt road.
△ WM010	U.S.D.O.E. Bonneville Pwr. Adm., WM010 – FEC-01 – ATB – GPS	294702.604	2056721.823	602.98	0.99992062	111°34"	BPA 3/4–inch Aluminum Cap on 5/8–inch aluminum rod, flush with ground.	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–lowa Beef Road. Turn right and drive east on Dodd–lowa Beef Road 4.6 miles to the crossing of BPA Lower Monumental–McNary 500kV transmission line. Drive southerly on the transmission line access road 1.1 miles to intersection of a dirt field road along the north side of a canal running east–west along the south section line of Section 31, Township 8 North, Range 32 East. Drive west on dirt road 0.5 miles to intersection of a dirt field road. Drive north on the dirt field road 0.3 miles to the station. Station is 35 feet west of centerline of dirt road.

REGISTERED
PROFESSIONAL
LAND SURVEYOR
Mark R. Heidecke
OREGON
MARK R. HEIDECCKE
2132
EXPIRES 6/30/03



LEGEND

- △ BPA GPS STATION
- FOUND NGS STATION

RECEIVED BY
Umatilla County Surveyor
Date 2-02
Rec'd by RR
02-19-02



FINLEY ENGINEERING COMPANY, INC.
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1800 NW 169th Place
BEAVERTON, OREGON 97006
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UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON
**WALLULA – SMITHS HARBOR "ATP"
SMITHS HARBOR – McNARY "ATB"
GPS NETWORK MAP**

DRAWN BY: FEC-EMH DATE: 02/04/02
CHECKED BY: FEC-TLH 02/04/02
APPROVED: FEC-DCL
APPROVED: FEC-MRH
SCALE: N/A SHEET: 3
DRAWING NO.: smgpsROS OF: 14

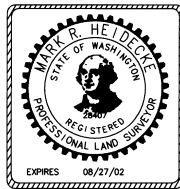
GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

POINT NO.	STAMPING	WASHINGTON SOUTH U.S. SURVEY FEET NORTHING	WASHINGTON SOUTH U.S. SURVEY FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
Δ WM011	U.S.D.O.E. Bonneville Pwr. Adm., WM011 - FEC-01 - ATB - GPS	292874.999	2058725.922	642.52	0.99991944	111°54"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	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 1.1 miles to intersection of a dirt field road along the north side of a canal running east-west along the south section line of Section 31, Township 8 North, Range 32 East. Drive west on dirt road 250 feet to station 20 feet north of the centerline of dirt road.
Δ WM012	U.S.D.O.E. Bonneville Pwr. Adm., WM012 - FEC-01 - ATB - GPS	289810.046	2059692.020	570.19	0.99992408	112°04"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	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 1.6 miles to tower 34/1. Pock or use ATV to reach the station, which bears S65°E a distance of 1500 feet from tower 34/1.
Δ WM013	U.S.D.O.E. Bonneville Pwr. Adm., WM013 - FEC-01 - ATB - GPS	285833.939	2056396.389	577.63	0.99992526	111°29"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	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.
Δ WM014	U.S.D.O.E. Bonneville Pwr. Adm., WM014 - FEC-01 - ATB - GPS	281830.631	2057217.522	575.61	0.99992698	111°37"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	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, 1.0 mile to intersection of a dirt road to the right (east). Sign at intersection says to Worden Farms & Boise Cascade Fiber Farm Office. The dirt road parallels 2 PP&L 69kV transmission lines. Drive southeasterly 2.7 miles along the PP&L lines to the station. The station is 240 feet west and 137 feet south of PP&L structure 5/2.
Δ WM015	U.S.D.O.E. Bonneville Pwr. Adm., WM015 - FEC-01 - ATB - GPS	282681.260	2051869.212	504.74	0.99992997	110°42"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	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, 1.0 mile to intersection of a dirt road to the right (east). Sign at intersection says to Worden Farms & Boise Cascade Fiber Farm Office. The dirt road parallels 2 PP&L 69kV transmission lines. Drive southeasterly 1.6 miles along the PP&L lines to the station. The station bears west 219 feet from the south pole of PP&L structure 5/4.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

M. R. Heidecke

OREGON
REG. 14, 1996
MARK R. HEIDECCKE
2132
EXPIRES 6/30/03



LEGEND

- Δ BPA GPS STATION
- FOUND NGS STATION



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UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
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WORK ORDER NO.
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**WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"**
GPS NETWORK MAP

RECEIVED BY
Umatilla County Surveyor
Date 2-02
Rec'd By J.R.
File 02-19-g

DRAWN BY:	FEC-EMH	DATE:	02/04/02
CHECKED BY:	FEC-TLH		02/04/02
APPROVED:	FEC-DCL		
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SCALE:	N/A	SHEET:	4
DRAWING NO.:	smggsROS	OF:	14

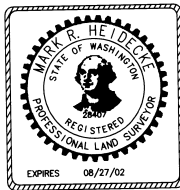
GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
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UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

POINT NO.	STAMPING	WASHINGTON SOUTH U.S. SURVEY FEET NORTHING	WASHINGTON SOUTH U.S. SURVEY FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
Δ WM016	U.S.D.O.E. Bonneville Pwr. Adm., WM016 - FEC-01 - ATB - GPS	283628.811	2048048.348	477.34	0.99993086	110°02"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	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, 1.0 mile to intersection of a dirt road to the right (east). Drive east on the dirt road parallel to 2 PP&L 69kV transmission lines 0.9 miles to the station on the left. The station is S42°W, 94.3 feet from south pole of PP&L structure 3/5.
Δ WM017	U.S.D.O.E. Bonneville Pwr. Adm., WM017 - FEC-01 - ATB - GPS	276601.898	2047015.109	376.12	0.99993856	1°09'50"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Wallula Post Office at Wallula, Wa. 99363. Drive south on Columbia Way (County Road #1870) 0.1 miles to intersection of First Street. Drive east on First Street 0.1 miles to intersection of Ross Way. Drive south on a dirt farm road 0.1 miles where the dirt field road turns east. Continue east on the dirt field road along the North line of Section 23, Township 7 North, Range 31 East, 0.4 miles to the station. The station is 27 feet south of the centerline of the east-west field road and is 46 feet south of a PP&L power pole #145002.
Δ WM018	U.S.D.O.E. Bonneville Pwr. Adm., WM018 - FEC-01 - ATB - GPS	276641.340	2051083.040	448.41	0.99993513	110°32"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Wallula Post Office at Wallula, Wa. 99363. Drive south on Columbia Way (County Road #1870) 0.1 miles to intersection of First Street. Drive east on First Street 0.1 miles to intersection of Ross Way. Drive south on a dirt farm road 0.1 miles where the dirt field road turns east. Continue east on the dirt field road along the North line of Section 23, Township 7 North, Range 31 East, 1.1 miles to the station. The station is 35.1 feet south of the dirt road centerline, and is 27 feet east of a PP&L power pole #243900.
Δ WM019	U.S.D.O.E. Bonneville Pwr. Adm., WM019 - FEC-01 - ATB - GPS	271486.022	2050363.343	411.05	0.99993909	110°24"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Wallula Post Office at Wallula, Wa. 99363. Drive north on Columbia Way (County Road #1870) 0.1 miles to intersection of Columbia Way and Washington State Highway #12. Drive south on Washington State Highway #12, 1.1 miles to the intersection of a gravel road to the left (east). Sign says Northshore Road. Drive east on Northshore Road 150 feet to a fork. Continue east on left fork. Sign says to Wallula Habitat Management Unit, continue east on 16 foot gravel road parallel to Union Pacific Railroad tracks (north side) for 1.4 miles to intersection of a dirt road on right (south). Sign says Ranger Road. Drive south on Ranger Road 65 feet thru a gate to station on the right, 40 feet west of centerline of Ranger Road.
Δ WM020	U.S.D.O.E. Bonneville Pwr. Adm., WM020 - FEC-01 - ATB - GPS	267913.635	2057060.327	412.95	0.99994060	111°32"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Go east on Washington State Highway #12, 2.6 miles to the station on the north side of the highway. The monument is 33 feet north of the north fog line, 33 feet east of the end of a guardrail and 275 feet east of mile post 310.
Δ WM021	U.S.D.O.E. Bonneville Pwr. Adm., WM021 - FEC-01 - ATB - GPS	268067.955	2043894.610	414.15	0.99994037	110°16"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Station is east on Highway #12, 250 feet and north 150 feet. The station is on top of a natural earth mound in the interior of the "Y" formed by the junction of Washington State Highway #12 and Highway #730. Station is S85°W from PP&L power pole #279442.

REGISTERED PROFESSIONAL LAND SURVEYOR

Mark R. Heidecke

OREGON
MARK R. HEIDECKE
2132
EXPIRES 6/30/03



LEGEND

- Δ BPA GPS STATION
- FOUND NGS STATION



FINLEY ENGINEERING COMPANY, INC.
Twin Oaks Suite B-250
1800 NW 169th Place
BEAVERTON, OREGON 97006
Phone: (503) 466-9460 Fax: (503) 466-9979



UNITED STATES DEPARTMENT OF ENERGY BONNEVILLE POWER ADMINISTRATION HEADQUARTERS, PORTLAND, OREGON		DRAWN BY: FEC-EMH	DATE: 02/04/02
WORK ORDER NO. 00087372 00084827		CHECKED BY: FEC-TLH	02/04/02
SERIAL NO.		APPROVED: FEC-DCL	
WALLULA - SMITHS HARBOR "ATP" SMITHS HARBOR - McNARY "ATB" GPS NETWORK MAP		APPROVED: FEC-MRH	
		SCALE: N/A	SHEET: 5
		DRAWING NO.: smgprsOS	OF: 14

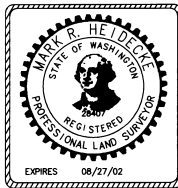
Umatilla County Surveyor
Date: 2-02
Red By: [Signature]
No. 02-19-9

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

POINT NO.	STAMPING	WASHINGTON SOUTH U.S. SURVEY FEET NORTHING	WASHINGTON SOUTH U.S. SURVEY FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
▲ WM022	U.S.D.O.E. Bonneville Pwr. Adm., WM022 - FEC-01 - ATB - GPS	263844.670	2048150.421	1063.93	0.99991127	109°59"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive west on Washington State Highway #12, 0.1 miles to the intersection of Hatch Grade to the left (south). Drive southeasterly on Hatch Grade Road 1.5 miles to intersection of BPA Lower Monumental-McNary 500kV transmission line near tower 39/3. The station is approximately 200 feet northwest of the tower and 19 feet east of the east right-of-way fence of Hatch Grade Road.
▲ WM023	U.S.D.O.E. Bonneville Pwr. Adm., WM023 - FEC-01 - ATB - GPS	258833.403	2043306.853	1123.39	0.99991065	109°08"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive west on Washington State Highway #12, 0.1 miles to the intersection of Hatch Grade to the left (south). Drive southeasterly on Hatch Grade Road 1.5 miles to intersection of BPA Lower Monumental-McNary 500kV transmission line. Continue southeasterly on Hatch Grade Road 1.0 mile to intersection of Braden Ranch Road to right (south). Drive south on Braden Ranch Road 0.4 miles to intersection of a semi-permanent wheat field access road to the right (west). Drive southwesterly on the private wheat field access road 0.5 miles to a fork take right fork northwesterly 0.8 miles to a fork. The left fork is graded and graveled road that descends to Spring Gulch Canyon. From this point pack or ATV northwest across dry land wheat field 0.8 miles to the station. The station bears N 30° W, 170 feet from center of structure 3/27 of PP&L 230 kV transmission line.
▲ WM024	U.S.D.O.E. Bonneville Pwr. Adm., WM024 - FEC-01 - ATB - GPS	253015.314	2045172.904	1374.19	0.99990140	109°26"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive west on Washington State Highway #12, 0.1 miles to the intersection of Hatch Grade to the left (south). Drive southeasterly on Hatch Grade Road 1.5 miles to intersection of BPA Lower Monumental-McNary 500kV transmission line. Continue southeasterly on Hatch Grade Road 1.0 mile to intersection of Braden Ranch Road to right (south). Drive south on Braden Ranch Road 0.4 miles to intersection of a semi-permanent wheat field access road to the right (west). Drive southwesterly on the private wheat field access road 0.5 miles to a fork, take right fork northwesterly 0.8 miles to a fork. The left fork is graded and graveled road. Drive the graveled road 0.3 miles to station. Station is 25 feet left of centerline of the gravel road.
▲ WM025	U.S.D.O.E. Bonneville Pwr. Adm., WM025 - FEC-01 - ATB - GPS	249261.234	2042086.077	1358.80	0.99990389	108°54"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive west on Washington State Highway #12, 0.1 miles to the intersection of Hatch Grade to the left (south). Drive south easterly on Hatch Grade Road 1.5 miles to intersection of BPA Lower Monumental- McNary 500kV transmission line. Continue southeasterly on Hatch Grade Road 1.0 mile to intersection of Braden Ranch Road to right (south). Drive south on Braden Ranch Road 0.4 miles to intersection of a semi-permanent wheat field access road to the right (west). Drive southwesterly on the private wheat field access road 0.5 miles to a fork, take right fork northwesterly 0.8 miles to a fork. The left fork is graded and graveled road. Drive the graveled road 1.3 miles to a fork in the bottom of Spring Gulch. Drive the left fork parallel to Spring Gulch 100 feet to a fork. Drive south and southwesterly and uphill through wheat field 0.9 miles to intersection with BPA 500kV transmission line and the Washington-Oregon State line. Pack or ATV northeasterly along BPA transmission line 0.4 miles to the station located about 640 feet easterly from BPA tower 42/3

REGISTERED
PROFESSIONAL
LAND SURVEYOR

Mark R. Heidecke
OREGON
FEB 14 1992
MARK
R. HEIDECCKE
2132
EXPIRES 6/30/03



LEGEND

- ▲ BPA GPS STATION
- FOUND NGS STATION



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UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

WORK ORDER NO.
00087372
00084827
SERIAL NO.

**WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"**
GPS NETWORK MAP

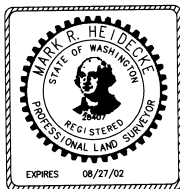
RECEIVED BY
Umatilla County Surveyor
Date *2-2-02*
Rec'd By *JK*
No. *02-19-9*

DRAWN BY: FEC-EJM	DATE: 02/04/02
CHECKED BY: FEC-TLH	02/04/02
APPROVED: FEC-DCL	
APPROVED: FEC-MRH	
SCALE: N/A	SHEET: 6
DRAWING NO.: smgpsROS	OF: 14

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

POINT NO.	STAMPING	WASHINGTON SOUTH U.S. SURVEY FEET NORTHING	WASHINGTON SOUTH U.S. SURVEY FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
▲ WM021A	None	267439.670	2046416.377	404.57	0.99994112	1°09'42"	PK Nail in Asphalt. (GPS point WM021A)	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive east on Washington State Highway #12, 0.4 mile to a 24 foot wide asphalt driveway to the right (south), heading into Washington D. O. T. gravel pit. The mark is a PK Nail in the centerline of driveway 56 feet west of milepost marker 308 and 9 feet south of the south fog line.
▲ WM021B	None	267146.488	2048850.022	412.24	0.99994090	1°10'07"	PK Nail in Asphalt. (GPS point WM021B)	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive east on Washington State Highway #12, 1.0 mile to the intersection of a paved road to the left (north). The intersection is 400 feet west of the intersection of Washington State Highway #12 and BPA Lower Monumental-McNary 500kV transmission line. The mark is a PK Nail in the approximate centerline of the paved road's north bound driving lane, 54.6 feet north of centerline of Washington State Highway #12 and 64 feet east of a stop sign.
▲ WM021C	U.S.D.O.E. Bonneville Pwr. Adm., WM021C - FEC-01 - ATB - GPS	266682.463	2051786.878	444.47	0.99993959	1°10'37"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive east on Washington State Highway #12, 1.45 mile to the station. The station is 49 feet north of the centerline of Washington State Highway #12, also 23 feet west of U.S.C.&G.S. Bench Mark F-431.
● B502	B502, 1981	277985.953	2043948.214	368.12	0.99993834	1°09'19"	3/4" Stainless Steel Rod in U.S.C.&G.S. Monument Box.	From the junction of US Highway #12 and Highway #730, proceed north on US highway #12, 1.8 miles to a historic marker site on the left and the station set near the Granite Marker for Fort Walla Walla. Station is 66.5 feet southwest of US Highway #12 centerline and 1.3 feet south of the south edge of the Granite Marker.
● E336	E336, 1951	293046.657	2038017.059	362.45	0.99993259	1°08'21"	Brass Disk In Top of Concrete Monument.	Drive 3.35 miles north along US Highway #12 and #395 from the north t-junction of Wallula Road at Wallula, 0.5 miles north of highway milepost 303, 80.5 feet south of the fourth telephone pole 0.1 mile south of the Northern and Union Pacific Railroad milepost 2, 99.6 feet west of the centerline of the highway, 88.0 feet east of the east rail, 61.0 feet north-northeast of the fifth telephone pole number EA 35 south of the railroad milepost, 11.2 feet west-southwest of the southwest edge of a 5 x 5 foot boulder projecting 3 feet above the ground, 4.0 feet northeast of a wooden witness post. Mark is 1.3 feet east from a witness post. Mark is 3.1 feet below the highway centerline.
● V203	U.S.C.&G.S., V203, 1949	298164.500	2051684.190	507.65	0.99992384	1°10'43"	3/2-inch Brass Cap In 3/2-inch Pipe Set In Concrete Post.	Drive 3.7 miles northeast along the Northern Pacific Railway from the station at Attala, 159.5 feet northeast of milepost 16, 19.8 feet southeast of the southeast rail, 3.8 feet southeast of a witness post, about 3 feet lower than the track, and brazed on top of a 3 1/2-inch iron pipe projecting 0.7 foot above the ground.
● BURDEN	BURDEN, 1990	262170.490	2105224.002	443.82	0.99994214	1°19'47"	Horizontal control disk set in top of concrete monument.	The station is located about 25.0 miles southwest of Prescott, 23.0 miles southeast of Pasco, 16.0 miles west of Walla Walla and at the Walla Walla county shop in Touchet. From the junction of Hanson Road, Balm Street and US Highway #12 in Touchet, go east on US Highway #12 for 0.3 mile to a cross road. Turn right and go south on Walnut Road for 0.2 miles to the county shop on the right and the station on the inside of the fenced area. The mark is set in the top of a round concrete monument that is recessed 0.49 feet below the ground surface. It is 61.4 feet southwest of the south gate post, 26.9 feet west of the chain link fence and 7.9 feet north of a county witness sign.

REGISTERED
PROFESSIONAL
LAND SURVEYOR
Mark R. Heidecke
OREGON
1981-1990
MARK R. HEIDECHE
2132
EXPIRES 6/30/03



LEGEND
▲ BPA GPS STATION
● FOUND NGS STATION

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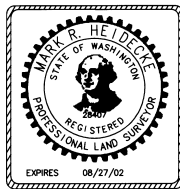
 BONNEVILLE POWER ADMINISTRATION	UNITED STATES DEPARTMENT OF ENERGY BONNEVILLE POWER ADMINISTRATION HEADQUARTERS, PORTLAND, OREGON		DRAWN BY: FEC-EMH CHECKED BY: FEC-TLH APPROVED: FEC-DCL	DATE: 02/04/02 02/04/02
	WALLULA - SMITHS HARBOR "ATP" SMITHS HARBOR - McNARY "ATB" GPS NETWORK MAP		APPROVED: FEC-MRH SCALE: N/A DRAWING NO.: smgpsROS	SHEET: 7 OF: 14

Umatilla County Surveyor
Date: 2-02
Rec'd By: [Signature]
No. 02-19-9

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

POINT NO.	STAMPING	OREGON NORTH INTERNATIONAL FEET NORTHING	OREGON NORTH INTERNATIONAL FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
Δ MJ002	None	822342.980	8516252.327	499.21	0.99995923	0°52'31"	PK Nail in pavement (GPS point MJ002)	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 2.9 miles to intersection of Highway #730 and Beach Access Road. Turn left (north) onto Beach Access Road at McNary Beach Park sign. Drive 0.2 miles north on Beach Access Road to station painted on road. Station is PK nail driven into pavement.
Δ MJ003	None	826241.888	8516083.199	504.26	0.99996145	0°52'30"	2 inch wood hub with tack (GPS point MJ003)	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 2.9 miles to intersection of Highway #730 and Beach Access Road. Turn left (north) onto Beach Access Road at McNary Beach Park sign. Drive 0.9 miles to "Y" intersection of Beach Access Road and Roxburn Road. Turn right (northeast) at McNary Beach Park sign and right at gravel road (100 feet).
Δ MJ004	HPP-16, 2000	821588.942	8510975.120	473.62	0.99996003	0°51'38"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 1.9 miles to intersection of a 12 foot wide gravel road to right (south). Drive south on the gravel road 0.2 miles to a cattle guard and the station. The station is west of the cattle guard, 16.3 feet from an east/west fence and 16.6 feet from a north/south fence.
Δ G640	U.S.C.&G.S. BM C640, 1968	823081.662	8506462.473	467.57	0.99996130	0°50'53"	Concrete monument with brass disk. (GPS point MJ006)	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 0.9 miles to intersection of Highway #395. Continue east 0.1 mile on Highway #730. Station is on north (left) side of Highway #730 adjacent to right-of-way fence.
Δ MJ008	U.S.D.O.E. Bonneville Pwr. Adm. MJ008, RYA 01	828416.085	8506242.644	295.14	0.99997290	0°50'52"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 0.9 miles to junction of Highway #730 and Highway #395. Turn left (north) at stop light. Drive 0.7 mile, on Denore Road, cross railroad tracks to stop sign. Turn left (northwest). Drive 0.7 mile to Spillway Park turn around. Station is north of turn around, 58 feet north of curb and 24 feet south of fence, west of Spillway Park end.
Δ MJ009	Punched not stamped	824953.375	8502855.533	306.46	0.99997020	0°50'17"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 0.9 miles to junction of Highway #730 and Highway #395. Turn left (north) at stop light. Drive 0.7 mile, on Denore Road, cross railroad tracks to stop sign. Turn left drive 0.2 miles to junction with 3rd Street. Turn left (west) onto 3rd Street, drive 1.0 mile (past McNary Substation). Turn left (south) onto 15' gravel drive. Station is 300 feet south on gravel drive, 15 feet right of edge of gravel.
Δ MJ010	U.S.D.O.E. Bonneville Pwr. Adm., MJ010, RYA 01	818025.838	8502501.221	399.85	0.99996142	0°50'13"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive west on Highway #730, 0.3 miles to Umatilla River Road, turn left (south) for 0.9 miles to Bonney Lane turn left (east) on Bonney Lane across railroad tracks and turn right (south) at intersection of dirt roads. Proceed south for 250 feet to a dirt road on the left that crosses cultivated fields. Follow dirt road for 1100 feet to the station. Station lies at a complex of farm buildings at the northwest side. Station lies S73°W, 160 feet from a sprinkler pivot point.

REGISTERED PROFESSIONAL LAND SURVEYOR
M. R. Heidecke
OREGON
MARK R. HEIDECCKE
2132
EXPIRES 6/30/03



LEGEND

- Δ BPA GPS STATION
- FOUND NGS STATION



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UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON
**WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"
GPS NETWORK MAP**

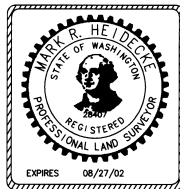
WORK ORDER NO. 00087372	DRAWN BY: FEC-EMH	DATE: 02/04/02
00084927	CHECKED BY: FEC-TLH	02/04/02
SERIAL NO.	APPROVED: FEC-DCL	
	APPROVED: FEC-MRH	
	SCALE: N/A	SHEET: 8
	DRAWING NO.: smggsROS	OF: 14

RECEIVED BY
Umatilla County Surveyor
Date: 2-02
Checked By: KE
Date: 02-19-02

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

POINT NO.	STAMPING	OREGON NORTH INTERNATIONAL FEET NORTHING	OREGON NORTH INTERNATIONAL FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
▲ WM026	U.S.D.O.E. Bonneville Pwr. Adm., WM026 - FEC-01 - ATB - GPS	854755.120	8600344.263	1548.53	0.99992962	1'06'41"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive west on Washington State Highway #12, 0.1 miles to the intersection of Hatch Grade to the left (south). Drive southeasterly on Hatch Grade Road 1.5 miles to intersection of BPA Lower Monumental-McNary 500kV transmission line. Continue southeasterly on Hatch Grade Road 1.0 mile to intersection of Braden Ranch Road to right (south). Drive south on Braden Ranch Road 0.4 miles to intersection of a semi-permanent wheat field access road to the right (west). Drive southwesterly on the private wheat field access road 0.4 miles to a fork. Drive on right fork northwesterly 0.8 miles to a fork. The left fork is graded and graveled road. Drive the graveled road southwesterly 1.3 miles to a fork in the bottom of Spring Gulch. Drive the left fork parallel to Spring Gulch 100 feet to a fork. Drive the right fork south and southwesterly and uphill through wheat field 0.9 miles to intersection with BPA 500kV transmission line and the Washington-Oregon State line. Continue east on dirt road along state line 0.3 miles to station. Station set in the fence line on the south side of the dirt road.
▲ WM027	U.S.D.O.E. Bonneville Pwr. Adm., WM027 - FEC-01 - ATB - GPS	854293.766	8604293.756	1433.11	0.99993474	1'07'21"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive west on Washington State Highway #12, 0.1 miles to the intersection of Hatch Grade to the left (south). Drive southeasterly on Hatch Grade Road 1.5 miles to intersection of BPA Lower Monumental-McNary 500kV transmission line. Continue southeasterly on Hatch Grade Road 1.0 mile to intersection of Braden Ranch Road to right (south). Drive south on Braden Ranch Road 0.4 miles to intersection of a semi-permanent wheat field access road to the right (west). Drive southwesterly on the private wheat field access road 0.4 miles to a fork. Drive on right fork northwesterly 0.8 miles to a fork. The left fork is graded and graveled road. Drive the graveled road southwesterly 1.3 miles to a fork in the bottom of Spring Gulch. Drive the left fork parallel to Spring Gulch 0.6 miles to a fork. Drive the right fork northeasterly 0.2 miles to a fork. Drive the right fork northeasterly on a 24 foot wide gravel road 0.6 miles to the Braden Ranch HQ buildings. Passing thru the Braden Ranch HQ, continue southwesterly on a 15 foot wide gravel road 0.9 miles to a fork. Drive the right fork on a 15 foot wide gravel road (vacated Umatilla County Road #896) northwesterly 1.2 miles to the station. Pack or walk 150 feet east to a high point on a sage brush covered knoll to the station.
▲ WM028	U.S.D.O.E. Bonneville Pwr. Adm., WM028 - FEC-01 - ATB - GPS	850889.084	8599463.622	1623.25	0.99992338	1'06'31"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, flush with ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive west on Washington State Highway #12, 0.1 miles to the intersection of Hatch Grade to the left (south). Drive southeasterly on Hatch Grade Road 1.5 miles to intersection of BPA Lower Monumental-McNary 500kV transmission line. Continue southeasterly on Hatch Grade Road 1.0 mile to intersection of Braden Ranch Road to right (south). Drive south on Braden Ranch Road 0.4 miles to intersection of a semi-permanent wheat field access road to the right (west). Drive southwesterly on the private wheat field access road 0.4 miles to a fork. Drive on right fork northwesterly 0.8 miles to a fork. The left fork is graded and graveled road. Drive the graveled road southwesterly 1.3 miles to a fork in the bottom of Spring Gulch. Drive the left fork parallel to Spring Gulch 0.6 miles to a fork. Drive the right fork northeasterly 0.2 miles to a fork. Drive the right fork northeasterly on a 24 foot wide gravel road 0.6 miles to the Braden Ranch HQ buildings. Passing thru the Braden Ranch HQ, continue southwesterly on a 15 foot wide gravel road 0.9 miles to a fork. Drive the right fork on a 15 foot wide gravel road (vacated Umatilla County Road #896) northwesterly 2.3 miles to a fork that is 300 feet east of BPA 500kV transmission line. Drive right fork on a 10 foot wide semi-permanent wheat field access road 0.3 miles to the station. The station is in the centerline of a 10 foot wide dirt wheat field access road.

REGISTERED PROFESSIONAL LAND SURVEYOR
M. R. Heidecke
OREGON
MARK R. HEIDECCKE
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EXPIRES 6/30/03



LEGEND

- ▲ BPA GPS STATION
- FOUND NGS STATION



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BEAVERTON, OREGON 97006
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UNITED STATES DEPARTMENT OF ENERGY BONNEVILLE POWER ADMINISTRATION HEADQUARTERS, PORTLAND, OREGON		DRAWN BY: FEC-EMH	DATE: 02/04/02
		CHECKED BY: FEC-TLH	02/04/02
		APPROVED: FEC-DCL	
		APPROVED: FEC-MRH	
		SCALE: N/A	SHEET: 9
WORK ORDER NO. 00087372 00084927 SERIAL NO.		DRAWING NO.: smgpsROS OF: 14	

**WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"**
GPS NETWORK MAP

RBC
Umatilla County Surveyor
Date: 2-02
Rec'd By: KR
No. 02-19-g

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

POINT NO.	STAMPING	OREGON NORTH INTERNATIONAL FEET NORTHING	OREGON NORTH INTERNATIONAL FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
▲ WM029	U.S.D.O.E. Bonneville Pwr. Adm., WM029 - FEC-01 - ATB - GPS	845065.214	8596357.444	1434.13	0.99992847	1°05'59"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod 1.3 feet below ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive west on Washington State Highway #12, 0.1 miles to the intersection of Hatch Grade to the left (south). Drive southeasterly on Hatch Grade Road 1.5 miles to intersection of BPA Lower Monumental-McNary 500kV transmission line. Continue southeasterly on Hatch Grade Road 1.0 mile to intersection of Braden Ranch Road to right (south). Drive south on Braden Ranch Road 0.4 miles to intersection of a semi-permanent wheat field access road to the right (west). Drive southwesterly on the private wheat field access road 0.4 miles to a fork. Drive on right fork northwesterly 0.8 miles to a fork. The left fork is graded and graveled road. Drive the graveled road southwesterly 1.3 miles to a fork in the bottom of Spring Gulch. Drive the left fork parallel to Spring Gulch 0.6 miles to a fork. Drive the right fork northeasterly 0.2 miles to a fork. Drive the right fork northeasterly on a 24 foot wide gravel road 0.6 miles to the Braden Ranch HQ buildings. Passing thru the Braden Ranch HQ, continue southwesterly on a 15 foot wide gravel road 0.9 miles to a fork. Drive the right fork on a 15 foot wide gravel road (vacated Umatilla County Road #896) northwesterly 2.3 miles to a fork that is 300 feet east of BPA 500kV transmission line. Drive left fork on a 10 foot wide semi-permanent wheat field and transmission line access road 1.4 miles to tower 44/6. Pack or ATV S40°E, 1800 feet cross country and wheat fields to the station.
▲ WM030	U.S.D.O.E. Bonneville Pwr. Adm., WM031 - FEC-01 - ATB - GPS	843283.478	8591921.340	1415.86	0.99992821	1°05'14"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod 1.5 feet below ground.	Begin on Washington State Highway #12 at the Washington State Truck Weigh Station at Wallula Junction. Drive west on Washington State Highway #12, 0.1 miles to the intersection of Hatch Grade to the left (south). Drive southeasterly on Hatch Grade Road 1.5 miles to intersection of BPA Lower Monumental-McNary 500kV transmission line. Continue southeasterly on Hatch Grade Road 1.0 mile to intersection of Braden Ranch Road to right (south). Drive south on Braden Ranch Road 0.4 miles to intersection of a semi-permanent wheat field access road to the right (west). Drive southwesterly on the private wheat field access road 0.4 miles to a fork. Drive on right fork northwesterly 0.8 miles to a fork. The left fork is graded and graveled road. Drive the graveled road southwesterly 1.3 miles to a fork in the bottom of Spring Gulch. Drive the left fork parallel to Spring Gulch 0.6 miles to a fork. Drive the right fork northeasterly 0.2 miles to a fork. Drive the right fork northeasterly on a 24 foot wide gravel road 0.6 miles to the Braden Ranch HQ buildings. Passing thru the Braden Ranch HQ, continue southwesterly on a 15 foot wide gravel road 0.9 miles to a fork. Drive the right fork on a 15 foot wide gravel road (vacated Umatilla County Road #896) northwesterly 2.3 miles to a fork that is 300 feet east of BPA 500kV transmission line. Drive left fork on a 10 foot wide semi-permanent wheat field and transmission line access road 2.3 miles to tower 45/5. Pack or ATV N40°W, 540 feet cross country and wheat fields to the station.
▲ WM031	U.S.D.O.E. Bonneville Pwr. Adm., WM031 - FEC-01 - ATB - GPS	835671.873	8584302.317	1122.21	0.99993727	1°03'56"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod, 1.5 feet below ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 6.2 miles to tower 47/2. Pack N45°W about 800 feet to the station.
▲ WM032	U.S.D.O.E. Bonneville Pwr. Adm., WM032 - FEC-01 - ATB - GPS	835113.947	8585954.371	1060.74	0.99993981	1°04'13"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 6.2 miles to tower 47/2. Pack S45°E, 180 feet from tower center to the station.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

M.R. Heidecke

OREGON
MARK R. HEIDECHE
2132
EXPIRES 6/30/03



LEGEND

- ▲ BPA GPS STATION
- FOUND NGS STATION



FINLEY ENGINEERING COMPANY, INC.
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UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON
WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"
GPS NETWORK MAP

WORK ORDER NO.
00087372
00084327
SERIAL NO.

RECEIVED BY
Umatilla County Surveyor
Date: 2-02
Rec'd by: [Signature]
Use: 02-19-g

DRAWN BY: FEC-EMH	DATE: 02/04/02
CHECKED BY: FEC-TLH	02/04/02
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SCALE: N/A	SHEET: 10
DRAWING NO.: smgpsROS	OF: 14

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

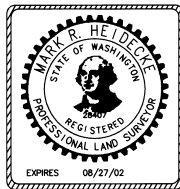
POINT NO.	STAMPING	OREGON NORTH INTERNATIONAL FEET NORTHING	OREGON NORTH INTERNATIONAL FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
Δ WM033	U.S.D.O.E. Bonneville Pwr. Adm., WM033 - FEC-01 - ATB - GPS	833655.634	8588006.612	1120.00	0.99993601	1°04'33"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 6.2 miles to tower 47/2. From this tower pack or ATV to the station which is about 3000 feet southwest on BLM grazing land. Advise using hand held GPS equipment to locate point.
Δ WM034	U.S.D.O.E. Bonneville Pwr. Adm., WM034 - FEC-01 - ATB - GPS	831006.239	8591630.597	1160.67	0.99993231	1°05'09"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 6.2 miles to tower 47/2. From this tower pack or ATV to the station which is about 7000 feet southwest on BLM grazing land. Advise using hand held GPS equipment and ATV to locate point.
Δ WM035	U.S.D.O.E. Bonneville Pwr. Adm., WM035 - FEC-01 - ATB - GPS	831960.864	8579408.676	1215.24	0.99993048	1°03'06"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 4.2 miles to tower 49/2. From this tower the station is 261 feet northeast.
Δ WM036	U.S.D.O.E. Bonneville Pwr. Adm., WM036 - FEC-01 - ATB - GPS	828048.962	8572034.028	1021.68	0.99993729	1°01'52"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 2.9 miles to intersection of a Pacific Power & Light 230kV transmission line at PP&L structure 2/16. Drive north on the PP&L transmission line access road 0.4 miles to PP&L structure 5/16. Drive east on the PP&L line access road 0.6 miles to PP&L structure 2/17. The station is 181 feet north of the PP&L line.
Δ WM036	U.S.D.O.E. Bonneville Pwr. Adm., WM037 - FEC-01 - ATB - GPS	827831.541	8568718.884	883.38	0.99994042	1°01'18"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 2.9 miles to intersection of a Pacific Power & Light 230kV transmission line at PP&L structure 2/16. Drive north on the PP&L transmission line access road 0.4 miles to PP&L structure 5/16 to the station. The station is west 162 feet from the center of pole of PP&L structure 5/16.
Δ WM038	U.S.D.O.E. Bonneville Pwr. Adm., WM038 - FEC-01 - ATB - GPS	825723.406	8568593.482	887.65	0.99994225	1°01'17"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 2.9 miles to intersection of a Pacific Power & Light 230kV transmission line at PP&L structure 2/16. The station is 228 feet northeast of the center of PP&L structure 2/16.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

M.R. Heidecke

OREGON
MARK R. HEIDECCKE
2132

EXPIRES 6/30/03



LEGEND

- Δ BPA GPS STATION
- FOUND NGS STATION



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UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

WORK ORDER NO.
00087372
00084927
SERIAL NO.

WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"
GPS NETWORK MAP

DRAWN BY: FEC-EMH	DATE 02/04/02
CHECKED BY: FEC-TLH	02/04/02
APPROVED: FEC-DCL	
APPROVED: FEC-MRH	
SCALE: N/A	SHEET: 11
DRAWING NO.: smgpsROS	OF: 14

RECEIVED BY
Umatilla County Surveyor
Date 2-02
Add By KR
Mo. 02-19-g

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
and
UMATILLA COUNTY, OREGON
FEBRUARY 4, 2002

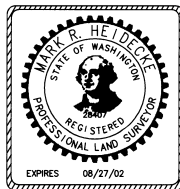
POINT NO.	STAMPING	OREGON NORTH INTERNATIONAL FEET NORTHING	OREGON NORTH INTERNATIONAL FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
Δ WM039	U.S.D.O.E. Bonneville Pwr. Adm., WM039 - FEC-01 - ATB - GPS	824241.533	8567957.380	898.19	0.99994082	1°01'10"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 2.0 miles to intersection of Walls Road to right (west) and a private drive to left (east). Sign says "Philip and Ardele Hawman". Drive northeasterly on private drive 0.6 miles to the Hawman Ranch house. Continue northeasterly following field access roads along cultivated farm fields 2.0 miles to the station. Advise using hand held GPS equipment to find point.
Δ WM040	U.S.D.O.E. Bonneville Pwr. Adm., WM040 - FEC-01 - ATB - GPS	824040.203	8561110.598	803.74	0.99994529	1°00'01"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 2.0 miles to intersection of Walls Road to right (west) and a private drive to left (east). Sign says "Philip and Ardele Hawman". Drive northeasterly on private drive 0.6 miles to the Hawman Ranch house. Continue northwesterly following field access roads along cultivated farm fields 0.4 miles to the station. Advise using hand held GPS equipment to find point.
Δ WM041	U.S.D.O.E. Bonneville Pwr. Adm., WM041 - FEC-01 - ATB - GPS	825018.137	8558494.511	665.89	0.99995251	0°59'35"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37 1.3 miles to intersect BPA Lower Monumental-McNary 500kV transmission line crossing Highway #37 northeast to southwest. Drive northeasterly on the transmission line access road 1.0 mile to tower 53/2. The station is approximately 115 feet southeast of an irrigation pumping structure.
Δ WM042	U.S.D.O.E. Bonneville Pwr. Adm., WM042 - FEC-01 - ATB - GPS	817803.565	8551417.586	680.86	0.99994738	0°58'23"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 9.2 miles to intersection of State Highway #37 to right (south). Drive southeasterly on State Highway #37, 1.3 miles to intersect BPA Lower Monumental-McNary 500kV transmission line crossing Highway #37 northeast to southwest. Drive southwesterly on the transmission line access road 0.7 miles to tower 55/1. The station is approximately 215 feet southwest of tower 55/1.
Δ WM043	U.S.D.O.E. Bonneville Pwr. Adm., WM043 - FEC-01 - ATB - GPS	817983.506	8544381.049	500.39	0.99995618	0°57'13"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 8.4 miles to intersection of a 12 foot wide gravel road to the right (south). Drive southwesterly on the 12 foot wide gravel road 0.7 miles to the station about 120 feet south of gravel road, dead end. Advise use of hand held GPS equipment to locate point.
Δ WM044	U.S.D.O.E. Bonneville Pwr. Adm., WM044 - FEC-01 - ATB - GPS	823456.915	8540684.054	418.38	0.99996353	0°56'37"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 8.3 miles to intersection of a 24 foot wide paved road to the left (north). Sign says "Hot Rock State Park". Drive north on Hot Rock State Park Road 0.7 miles to intersection of "C" Street. Drive east on "C" Street 0.5 miles to intersection of Beachshore Drive. Drive (left) on Beachshore Drive 0.1 miles to the station, 85 feet west of the centerline of Beachshore Drive.
Δ WM045	U.S.D.O.E. Bonneville Pwr. Adm., WM045 - FEC-01 - ATB - GPS	815907.432	8540748.727	490.18	0.99995544	0°56'36"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 7.5 miles to intersection of State Highway #207 to the right (south). Drive southwesterly on State Highway #207 0.3 miles to the intersection of BPA Lower Monumental-McNary 500kV transmission line crossing from east to west. Drive easterly on the transmission line access road 0.3 miles to tower 57/3. Pock easterly along transmission line 0.2 miles to tower 57/2 and the station about 50 feet south of tower 57/2.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

Mark R. Heidecke

OREGON
FEB. 14, 1980
MARK R. HEIDECHE
2132

EXPIRES 6/30/03



LEGEND

- Δ BPA GPS STATION
- FOUND NGS STATION



FINLEY ENGINEERING COMPANY, INC.

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UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

WORK ORDER NO.
00087372
00084927
SERIAL NO.

WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"
GPS NETWORK MAP

RECEIVED BY
Umatilla County Surveyors

Date 2-02

Rec'd by KE

02-19-02

DRAWN BY:	FEC-EMH	DATE:	02/04/02
CHECKED BY:	FEC-TLH		02/04/02
APPROVED:	FEC-DCL		
APPROVED:	FEC-MRH		
SCALE:	N/A	SHEET:	12
DRAWING NO.:	smgpsROS	OF:	14

GPS NETWORK MAP
in
WALLA WALLA COUNTY, WASHINGTON
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FEBRUARY 4, 2002

POINT NO.	STAMPING	OREGON NORTH INTERNATIONAL FEET NORTHING	OREGON NORTH INTERNATIONAL FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
▲ WM046	U.S.D.O.E. Bonneville Pwr. Adm., WM046 - FEC-01 - ATB - GPS	814466.080	8540510.324	492.89	0.99995443	0°56'33"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 7.5 miles to intersection of State Highway #207 to the right (south). Drive southwesterly on State Highway #207 0.8 miles to the intersection of East Progress Road. Drive east on East Progress Road 0.4 miles to gate and sign "Private Road". Continue east on East Progress Road 0.2 miles to end of pavement and station on south side of the road. Station is 122 feet southeast from road centerline at end of pavement.
▲ WM047	U.S.D.O.E. Bonneville Pwr. Adm., WM047 - FEC-01 - ATB - GPS	810415.879	8542953.894	568.03	0.99994838	0°56'57"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 5.3 miles to intersection of Craig Road to the right (south). Drive south on Craig Road 1.9 miles to the intersection of Umatilla County Road "Walls Road" to the left (east). Drive east on Walls Road 3.0 miles to the intersection of Marks Road to the left (north). Drive north on Marks Road 0.2 miles to the station, 24 feet east of centerline of Marks Road.
▲ WM048	U.S.D.O.E. Bonneville Pwr. Adm., WM048 - FEC-01 - ATB - GPS	819256.592	8535856.190	454.61	0.99995924	0°55'47"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 6.7 miles. Pack north approximately 2000 feet to the station. Advise use of hand held GPS equipment to locate point.
▲ WM049	Edwards 951	817924.238	8532265.890	456.52	0.99995837	0°55'11"	Yellow plastic cap on 5/8-inch steel rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 5.1 miles to station in the south right-of-way fence. Station is 54.5 feet south of the centerline of Highway #730 in the south right-of-way fence of Highway #730, and 400 feet west of MP 190.
▲ WM050	U.S.D.O.E. Bonneville Pwr. Adm., WM050 - FEC-01 - ATB - GPS	816563.972	8526985.104	466.63	0.99995710	0°54'18"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 5.3 miles to intersection of Craig Road to the right (south). Drive south on Craig Road 0.5 miles to the station on right (west) side of road. Station is 15 feet from west edge of Craig Road and 9 feet east of barb wire fence.
▲ WM051	U.S.D.O.E. Bonneville Pwr. Adm., WM051 - FEC-01 - ATB - GPS	820263.593	8521093.588	496.97	0.99995799	0°53'20"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 3.9 miles to station on left (north) side of road. Station is 49 feet from centerline of Highway #730.
▲ WM052	U.S.D.O.E. Bonneville Pwr. Adm., WM052 - FEC-01 - ATB - GPS	818168.183	8516457.926	474.54	0.99995781	0°52'33"	BPA 3/4-inch Aluminum Cap on 5/8-inch aluminum rod flush with ground.	Begin at Umatilla Post Office, Umatilla, OR. 97882. Drive east on Highway #730, 1.9 miles to the intersection of a 12 foot wide gravel road to the right (south). Drive south on the gravel road 0.2 miles to a cattle guard and a canal crossing. Drive southeasterly along the south side of the canal 1.2 miles to a gate and the station. The station is 95 feet south of the gate and 15 feet west of the canal.
● B340	U.S.C.&G.S., B340, 1951	832734.892	8507269.537	364.32	0.99997238	0°51'03"	Brass Cap in Concrete Barricade Wall.	At McNary Dam, Benton County, at the extreme north end of the dam, on the Spokane, Portland and Seattle Railway, at the concrete stop log structure across the tracks, in the center of the top of the structure, 24 feet south of the south rail, 14.5 feet south of the south stop log slot, and 8.8 feet higher than the track.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

Mark R. Heidecke
OREGON
MARK R. HEIDECHE
2132
EXPIRES 6/30/03



LEGEND

- ▲ BPA GPS STATION
- FOUND NGS STATION

RECEIVED BY

Umatilla County Surveyor

Date 2-02

Rec'd By KE

02-19-9



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**WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"**
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APPROVED: FEC-DCL	
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SCALE: N/A	SHEET: 13
DRAWING NO.: smgpsROS	OF: 14

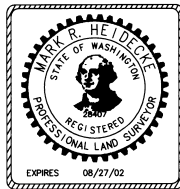
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FEBRUARY 4, 2002

POINT NO.	STAMPING	OREGON NORTH INTERNATIONAL FEET NORTHING	OREGON NORTH INTERNATIONAL FEET EASTING	ORTHOMETRIC ELEVATION U.S. SURVEY FEET	COMBINED FACTOR	THETA ANGLE	MONUMENTATION	TO REACH DESCRIPTION
● STANFIELD	Stamped Stanfield East Base U.S.C. & G.S. 1941 1916	769651.509	8508898.251	758.54	0.99991714	0°51'10"	A standard U.S.E. bronze disk set in the top of a 1-foot square concrete monument that projects about 4 inches above the ground.	From the Post Office in Stanfield, proceed north for 0.1 miles to a cross road. Turn left and go west on Coe Street for 0.25 miles to a fork. Take the left fork and go southwest, crossing the railroad tracks, for 0.8 miles to a side road left. Turn left and go south for 0.6 miles to the overpass over Interstate Highway #84. Continue south for 0.4 miles to a cross road. Turn right and go west for 2.55 miles to a bridge over a canal. Continue west for 0.1 miles to a fork. Take the right fork, pass through the gate and go northwest on the sand road for 0.25 miles to a fork. Take the left fork and go west for 0.3 miles to a fence. Turn right along the east side of the fence for 0.2 miles to a fence corner. From this point go north-northeast cross country on the track road for 0.2 miles to the highest point and the station. The mark is set in the top of a square concrete monument that projects 0.98 feet above the ground surface.
● PENDLETON	Stamped Pendleton 1963	733999.652	8642421.588	1325.31	0.99987242	1°13'18"	The station is a standard disk, set in the top of a 12-inch square concrete post which projects 2 inches above the ground.	From the intersection of Interstate Highway #84 and SE 3rd Street, exit number 210, proceed north on SE 3rd Street for 0.3 miles to a cross road. Turn right and go east on SE Goodwin Street for 0.1 miles to an intersection. Turn right on SE 8th Street for 0.4 miles to the intersection of SE 6th Street and East Isaac Street. Continue south on SE 6th Street for 0.2 miles to the end of the street and the station. The mark is set in the top of a square concrete monument that projects 3 inches above the ground surface. It is 41.0 feet west of a power line pole, 37.4 feet southwest of the northwest gate post of a gate across the entrance to the water reservoir and 3.0 feet west of a witness post.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

M. R. Heidecke

OREGON
FEB 14, 1988
MARK R. HEIDECKE
2132
EXPIRES 6/30/03



LEGEND

- ▲ BPA GPS STATION
- FOUND NGS STATION

RECEIVED BY
Umatilla County Surveyor
Date 2-02
Rec'd By KR
No. 02-19-G



FINLEY ENGINEERING COMPANY, INC.

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UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

WORK ORDER NO.
00087372
00084927
SERIAL NO.

WALLULA - SMITHS HARBOR "ATP"
SMITHS HARBOR - McNARY "ATB"
GPS NETWORK MAP

DRAWN BY: FEC-EMH	DATE: 02/04/02
CHECKED BY: FEC-TLH	02/04/02
APPROVED: FEC-DCL	
APPROVED: FEC-MRH	
SCALE: N/A	SHEET: 14
DRAWING NO.: smgppsROS	OF: 14