

GEODETIC CONTROL SURVEY

FOR THE
BONNEVILLE POWER ADMINISTRATION

PURPOSE OF SURVEY

THE PURPOSE OF THIS SURVEY IS GEODETIC CONTROL FOR THE BONNEVILLE POWER ADMINISTRATION ON THE McNARY-JOHN DAY PROJECT, LOCATED IN BENTON AND KLICKITAT COUNTIES OF WASHINGTON, AND UMATILLA, MORROW, GILLIAM AND SHERMAN COUNTIES OF OREGON.

1402

WASHINGTON		BENTON COUNTY	
TOWNSHIP	RANGE	SECTION	
5 N	28 E	3, 4 & 5	
5 N	27 E	1, 2, 3, 4, 5, 6, 8 & 12	
6 N	26 E	7, 18 & 31	
5 N	26 E	2, 3, 6, 7, 8 & 10	
5 N	25 E	6, 8, 9, 12, 15, 16, 17, 18, 19, 20, 22, 28 & 31	
5 N	24 E	2, 3, 6, 8, 10, 11, 15, 18, 19, 23, 26, 28, 29, 31 33, 34 & 35	
4 N	24 E	5, 6 & 23	

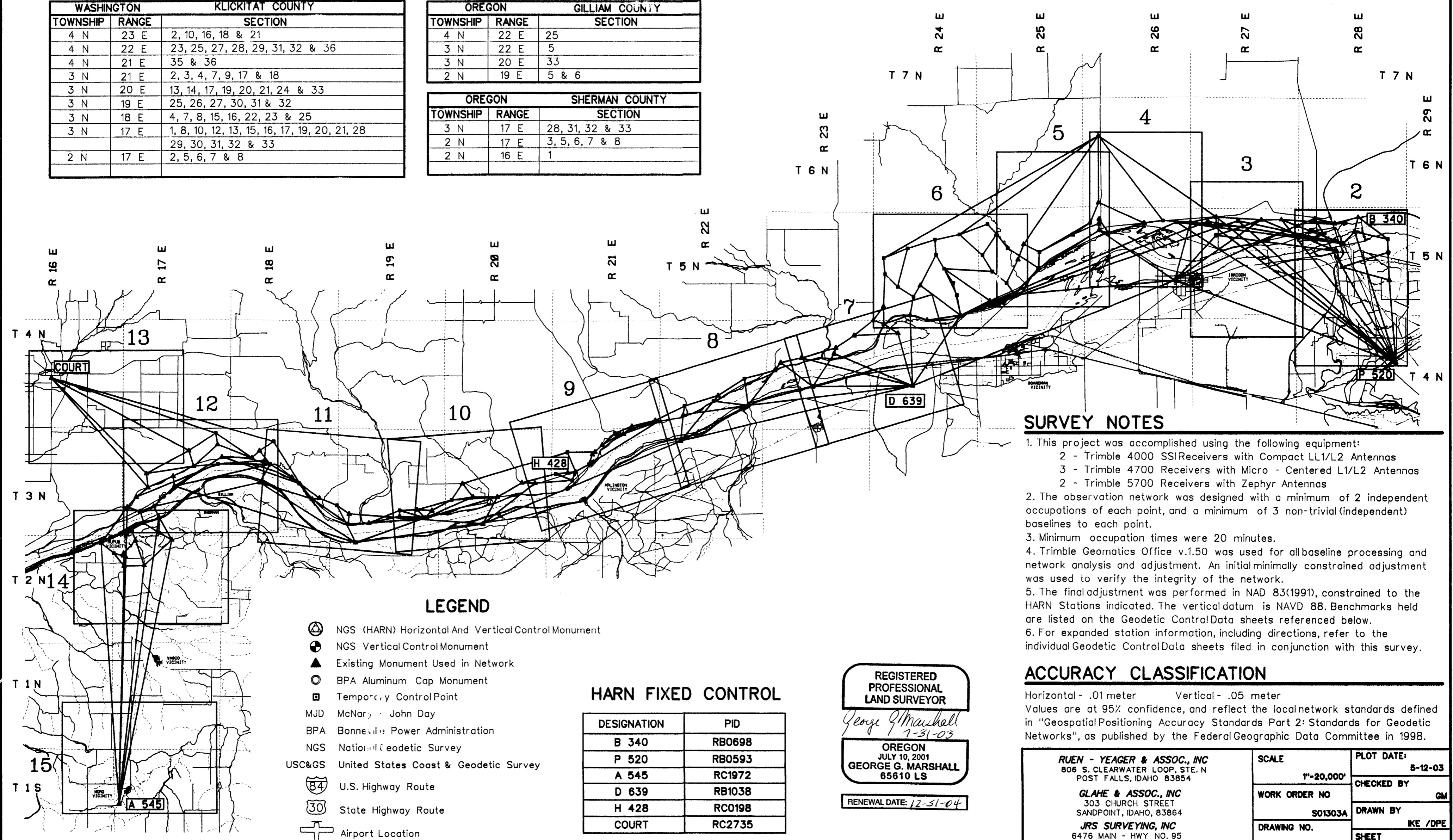
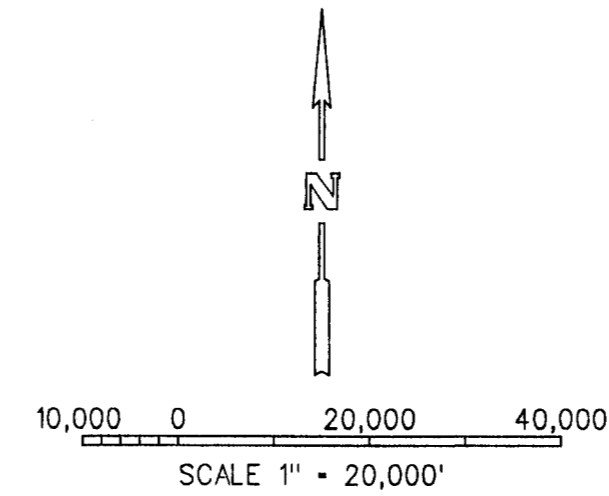
OREGON		UMATILLA COUNTY	
TOWNSHIP	RANGE	SECTION	
5 N	28 E	8, 9, 10, 11, 14, 16, 21 & 25	
4 N	28 E	13	

OREGON		MORROW COUNTY	
TOWNSHIP	RANGE	SECTION	
5 N	26 E	23	
4 N	24 E	21	
4 N	23 E	21	

WASHINGTON		KLICKITAT COUNTY	
TOWNSHIP	RANGE	SECTION	
4 N	23 E	2, 10, 16, 18 & 21	
4 N	22 E	23, 25, 27, 28, 29, 31, 32 & 36	
4 N	21 E	35 & 36	
3 N	21 E	2, 3, 4, 7, 9, 17 & 18	
3 N	20 E	13, 14, 17, 19, 20, 21, 24 & 33	
3 N	19 E	25, 26, 27, 30, 31 & 32	
3 N	18 E	4, 7, 8, 15, 16, 22, 23 & 25	
3 N	17 E	1, 8, 10, 12, 13, 15, 16, 17, 19, 20, 21, 28 29, 30, 31, 32 & 33	
2 N	17 E	2, 5, 6, 7 & 8	

OREGON		GILLIAM COUNTY	
TOWNSHIP	RANGE	SECTION	
4 N	22 E	25	
3 N	22 E	5	
3 N	20 E	33	
2 N	19 E	5 & 6	

OREGON		SHERMAN COUNTY	
TOWNSHIP	RANGE	SECTION	
3 N	17 E	28, 31, 32 & 33	
2 N	17 E	3, 5, 6, 7 & 8	
2 N	16 E	1	



SURVEY NOTES

- This project was accomplished using the following equipment:
 - 2 - Trimble 4000 SSI Receivers with Compact LL1/L2 Antennas
 - 3 - Trimble 4700 Receivers with Micro - Centered L1/L2 Antennas
 - 2 - Trimble 5700 Receivers with Zephyr Antennas
- The observation network was designed with a minimum of 2 independent occupations of each point, and a minimum of 3 non-trivial (independent) baselines to each point.
- Minimum occupation times were 20 minutes.
- Trimble Geomatics Office v.1.50 was used for all baseline processing and network analysis and adjustment. An initial minimally constrained adjustment was used to verify the integrity of the network.
- The final adjustment was performed in NAD 83(1991), constrained to the HARN Stations indicated. The vertical datum is NAVD 88. Benchmarks held are listed on the Geodetic Control Data sheets referenced below.
- For expanded station information, including directions, refer to the individual Geodetic Control Data sheets filed in conjunction with this survey.

ACCURACY CLASSIFICATION

Horizontal - .01 meter Vertical - .05 meter
Values are at 95% confidence, and reflect the local network standards defined in "Geospatial Positioning Accuracy Standards Part 2: Standards for Geodetic Networks", as published by the Federal Geographic Data Committee in 1998.

LEGEND

- NGS (HARN) Horizontal And Vertical Control Monument
- NGS Vertical Control Monument
- Existing Monument Used in Network
- BPA Aluminum Cap Monument
- Temporary Control Point
- MJD McNary - John Day
- BPA Bonneville Power Administration
- NGS National Geodetic Survey
- USC&GS United States Coast & Geodetic Survey
- U.S. Highway Route
- State Highway Route
- Airport Location

HARN FIXED CONTROL

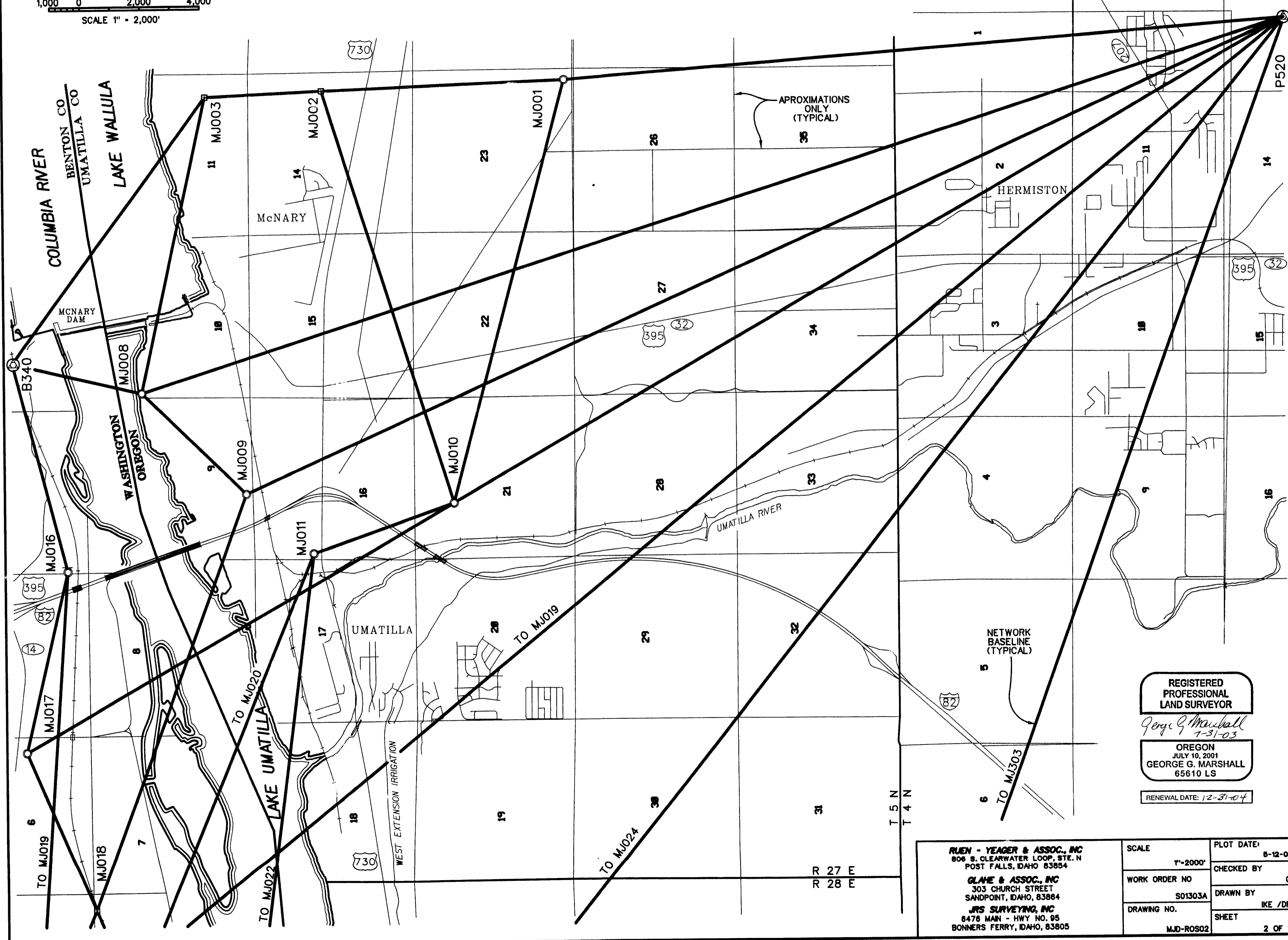
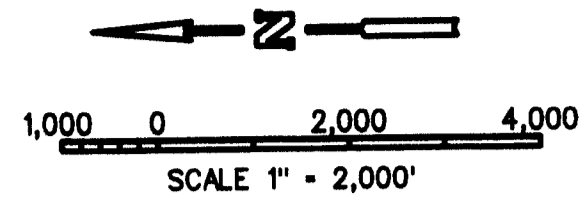
DESIGNATION	PID
B 340	RB0698
P 520	RB0593
A 545	RC1972
D 639	RB1038
H 428	RC0198
COURT	RC2735

REGISTERED PROFESSIONAL LAND SURVEYOR
George G. Marshall
7-31-03
OREGON
JULY 10, 2001
GEORGE G. MARSHALL
65610 LS
RENEWAL DATE: 12-31-04

RUEN - YEAGER & ASSOC., INC 806 S. CLEARWATER LOOP, STE. N POST FALLS, IDAHO 83854	SCALE	PLOT DATE:
	1"=20,000'	5-12-03
GLAHE & ASSOC., INC 303 CHURCH STREET SANDPOINT, IDAHO, 83864	WORK ORDER NO	CHECKED BY
	S01303A	GM
JRS SURVEYING, INC 6476 MAIN - HWY. NO. 95 BONNERS FERRY, IDAHO, 83805	DRAWING NO.	DRAWN BY
	MJD-ROS01	IKE /DPE
		SHEET
		1 OF 15

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RUE - YEAGER & ASSOC., INC
806 S. CLEARWATER LOOP, STE. N
POST FALLS, IDAHO 83854

GLANE & ASSOC., INC
303 CHURCH STREET
SANDPOINT, IDAHO, 83864

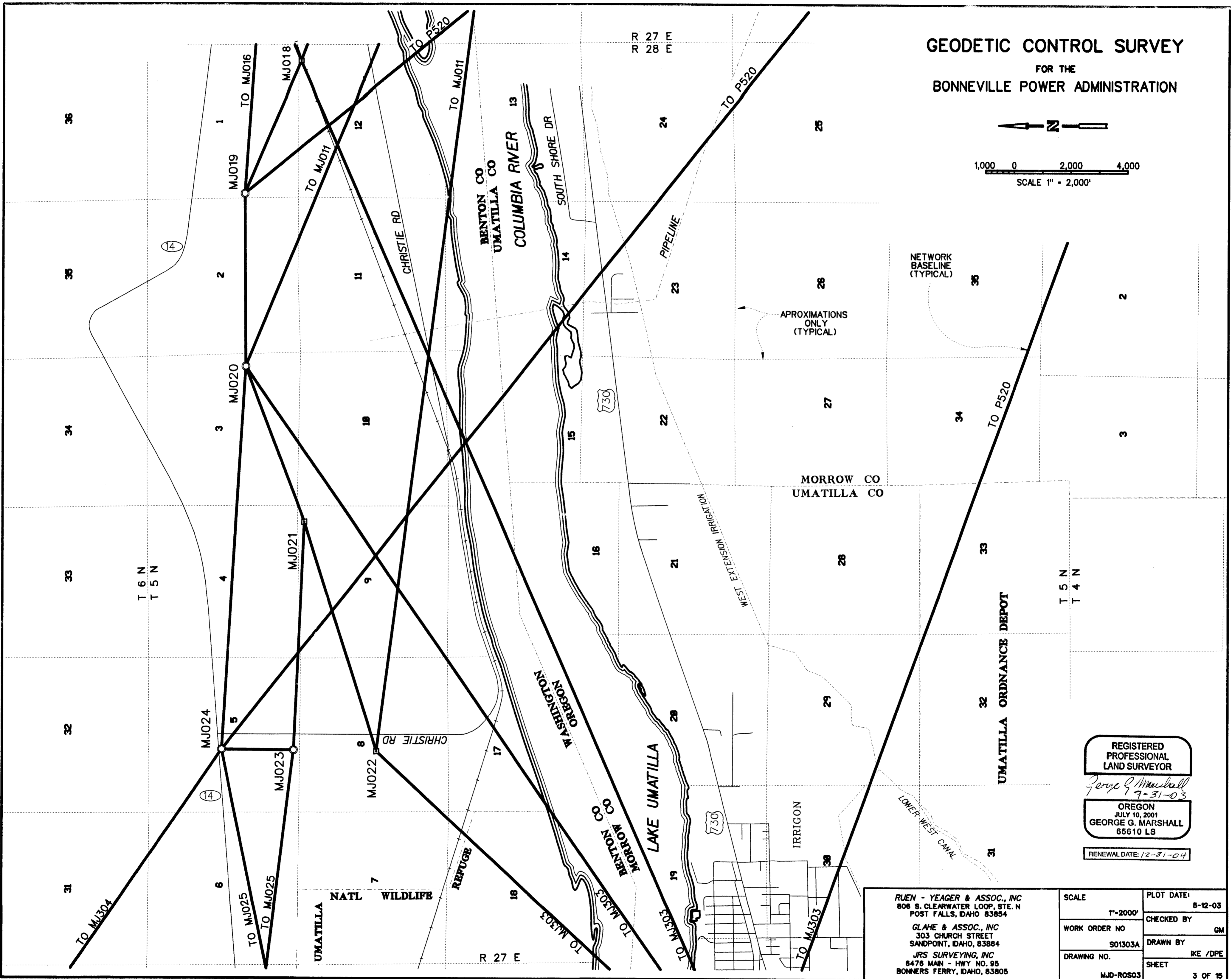
JRS SURVEYING, INC
8476 MAIN - HWY NO. 95
BONNERS FERRY, IDAHO, 83805

SCALE	1"=2000'	PLOT DATE:	5-12-03
WORK ORDER NO	S01303A	CHECKED BY	GM
DRAWING NO.	MJD-ROS02	DRAWN BY	IKL /DPE
		SHEET	2 OF 15

GEODETIC CONTROL SURVEY FOR THE BONNEVILLE POWER ADMINISTRATION



1,000 0 2,000 4,000
SCALE 1" = 2,000'



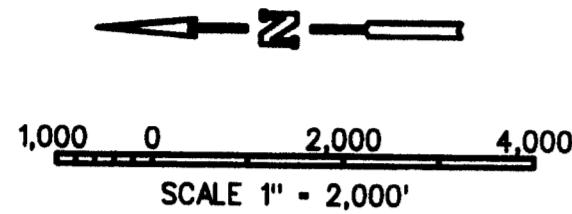
APPROXIMATIONS ONLY (TYPICAL)

NETWORK BASELINE (TYPICAL)

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	1"=2000'	5-12-03
WORK ORDER NO	S01303A	CHECKED BY
DRAWING NO.	MJD-ROS03	GM
		DRAWN BY
		KE /DPE
		SHEET
		3 OF 15

GEODETC CONTROL SURVEY
 FOR THE
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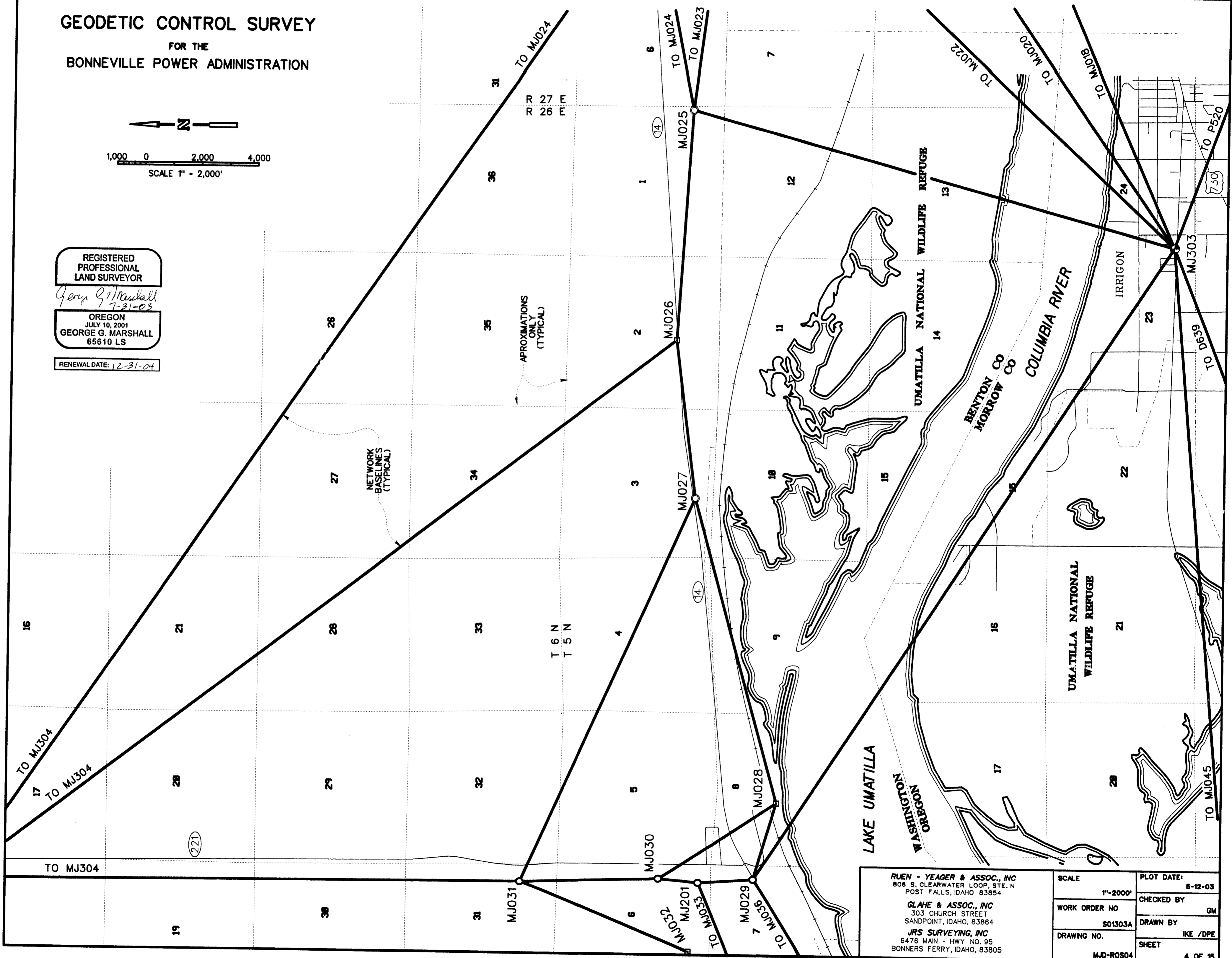


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 POST FALLS, IDAHO 83854

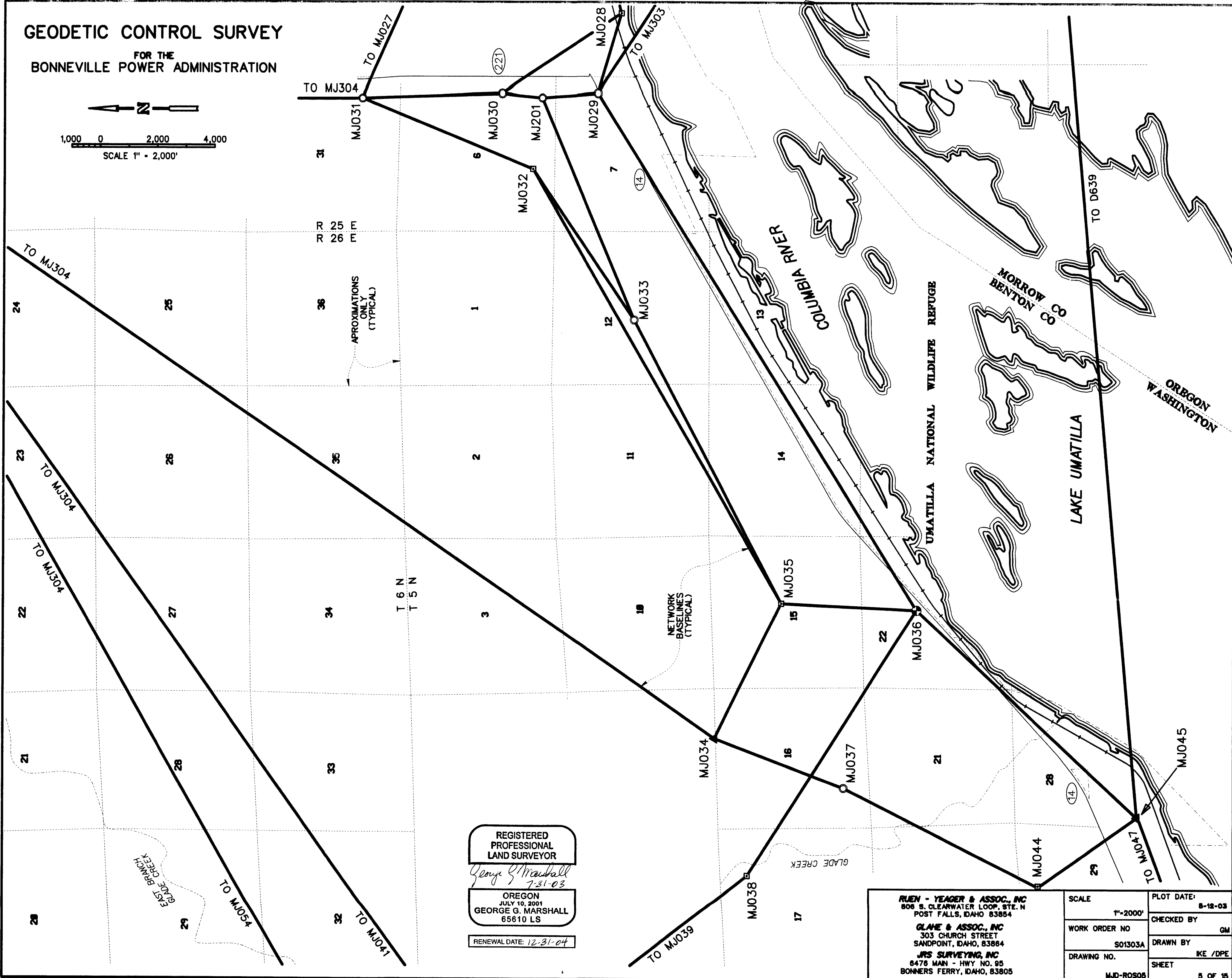
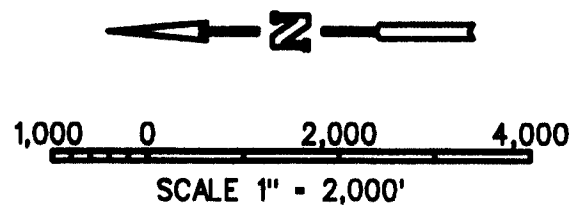
GLAHE & ASSOC., INC
 303 CHURCH STREET
 SANDPOINT, IDAHO, 83864

JRS SURVEYING, INC
 6476 MAIN - HWY NO. 95
 BONNERS FERRY, IDAHO, 83805

SCALE	1"=2000'	PLOT DATE:	8-12-03
WORK ORDER NO	S01303A	CHECKED BY	GM
DRAWING NO.	MJD-R0504	DRAWN BY	IKE /DPE
		SHEET	4 OF 15

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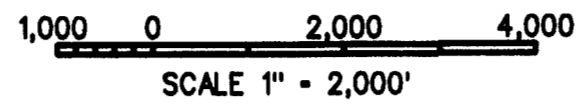
George G. Marshall
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GEORGE G. MARSHALL
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RENEWAL DATE: 12-31-04

RUEB - YEAGER & ASSOC., INC 806 S. CLEARWATER LOOP, STE. N POST FALLS, IDAHO 83854 GLAHE & ASSOC., INC 303 CHURCH STREET SANDPOINT, IDAHO, 83864 JRS SURVEYING, INC 8476 MAIN - HWY NO. 95 BONNERS FERRY, IDAHO, 83805		SCALE 1"=2000' WORK ORDER NO S01303A DRAWING NO. MJD-R0505	PLOT DATE: 8-12-03 CHECKED BY GM DRAWN BY KE /DPE SHEET 5 OF 15
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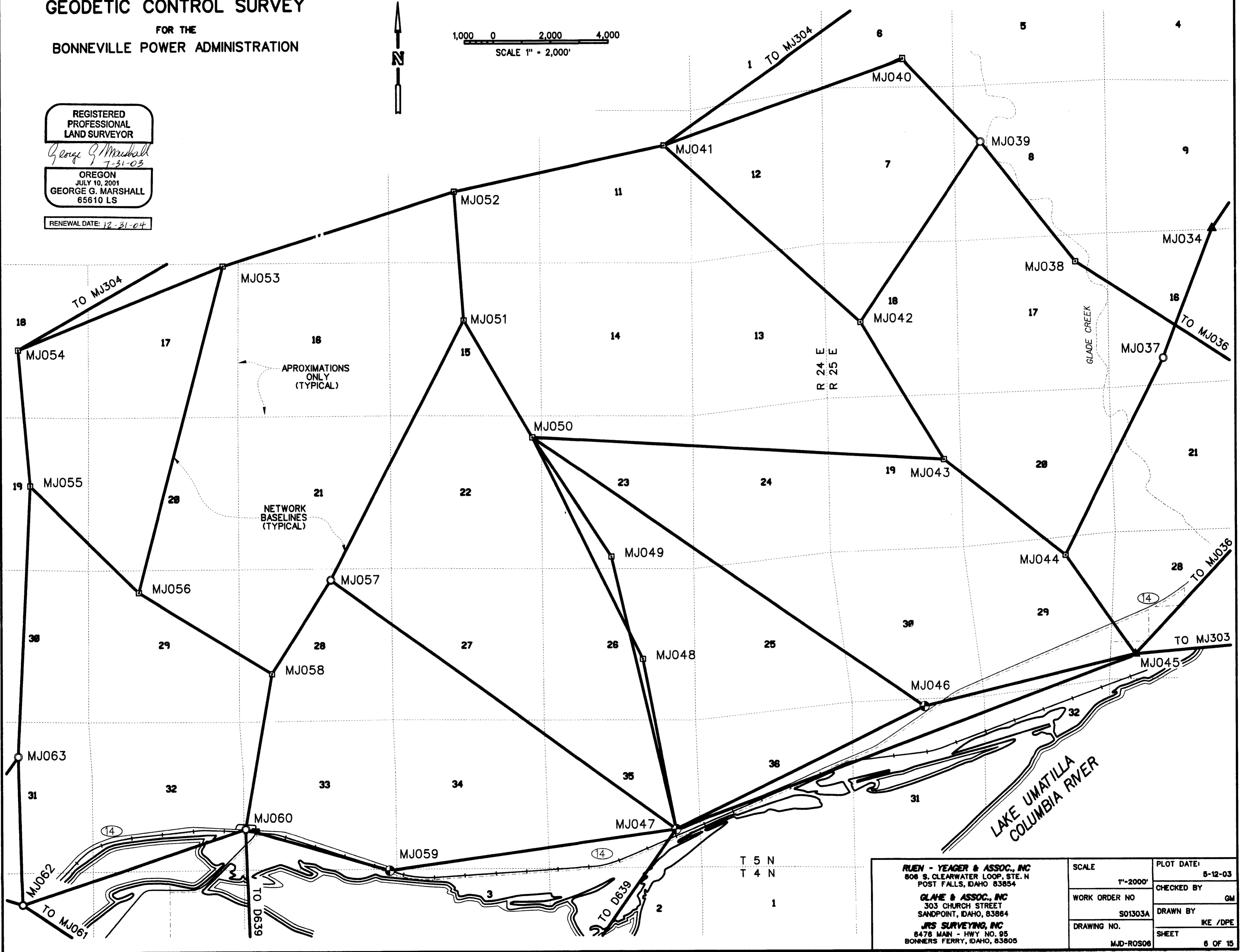


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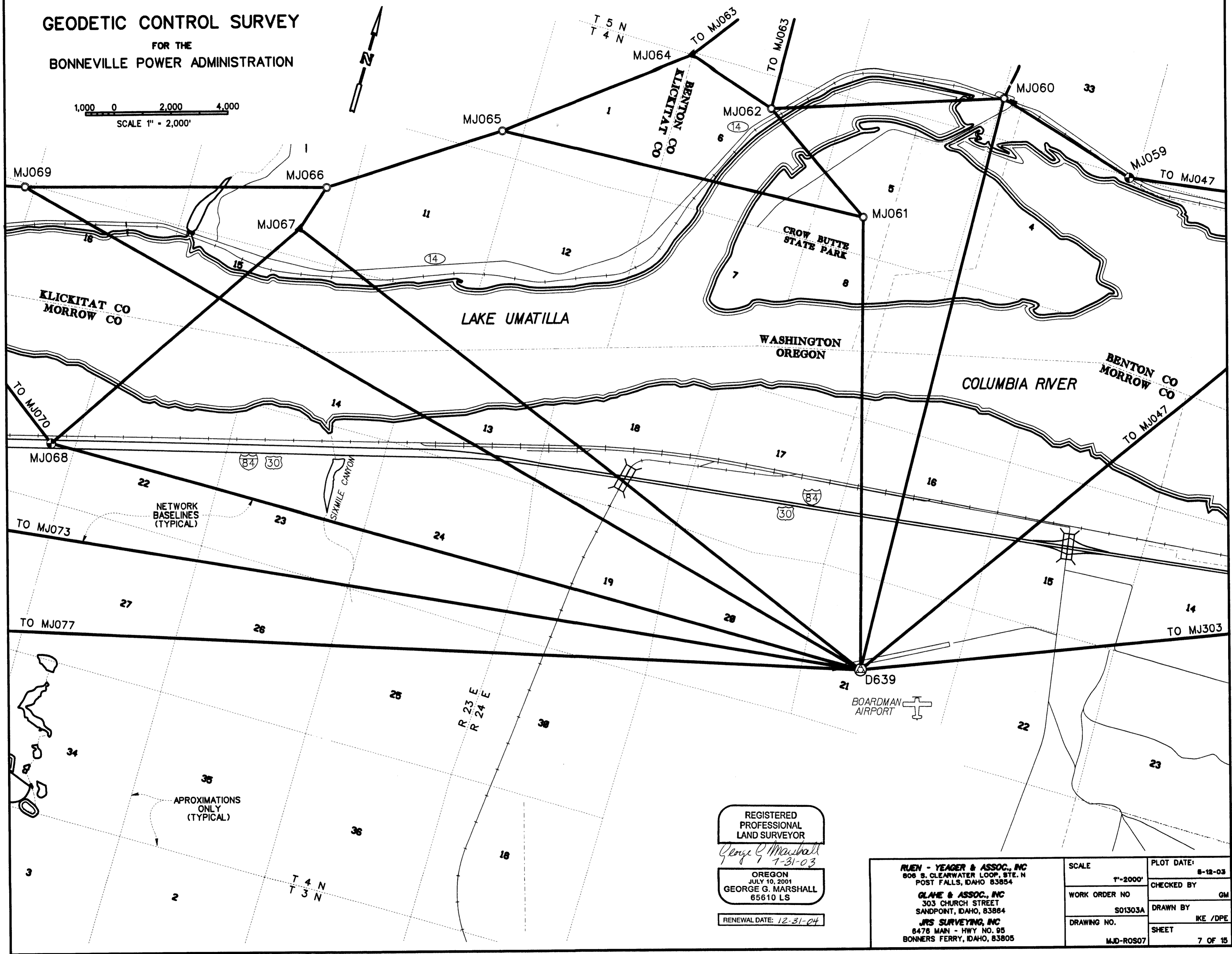
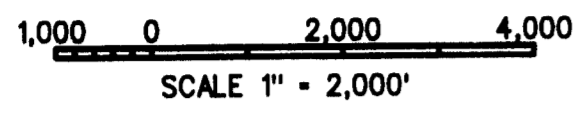
RENEWAL DATE: 12-31-04



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T 4 N
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RUEB - YEAGER & ASSOC., INC 806 S. CLEARWATER LOOP, STE. N POST FALLS, IDAHO 83854 GLAHE & ASSOC., INC 303 CHURCH STREET SANDPOINT, IDAHO, 83884 JRS SURVEYING, INC 8478 MAIN - HWY. NO. 95 BONNERS FERRY, IDAHO, 83805	SCALE	PLOT DATE:
	1"=2000'	5-12-03
	WORK ORDER NO	CHECKED BY
	S01303A	GM
DRAWING NO.	DRAWN BY	
	IKE /DPE	
	SHEET	
	MJD-ROS06	6 OF 15

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NETWORK
BASELINES
(TYPICAL)

APROXIMATIONS
ONLY
(TYPICAL)

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1-31-03

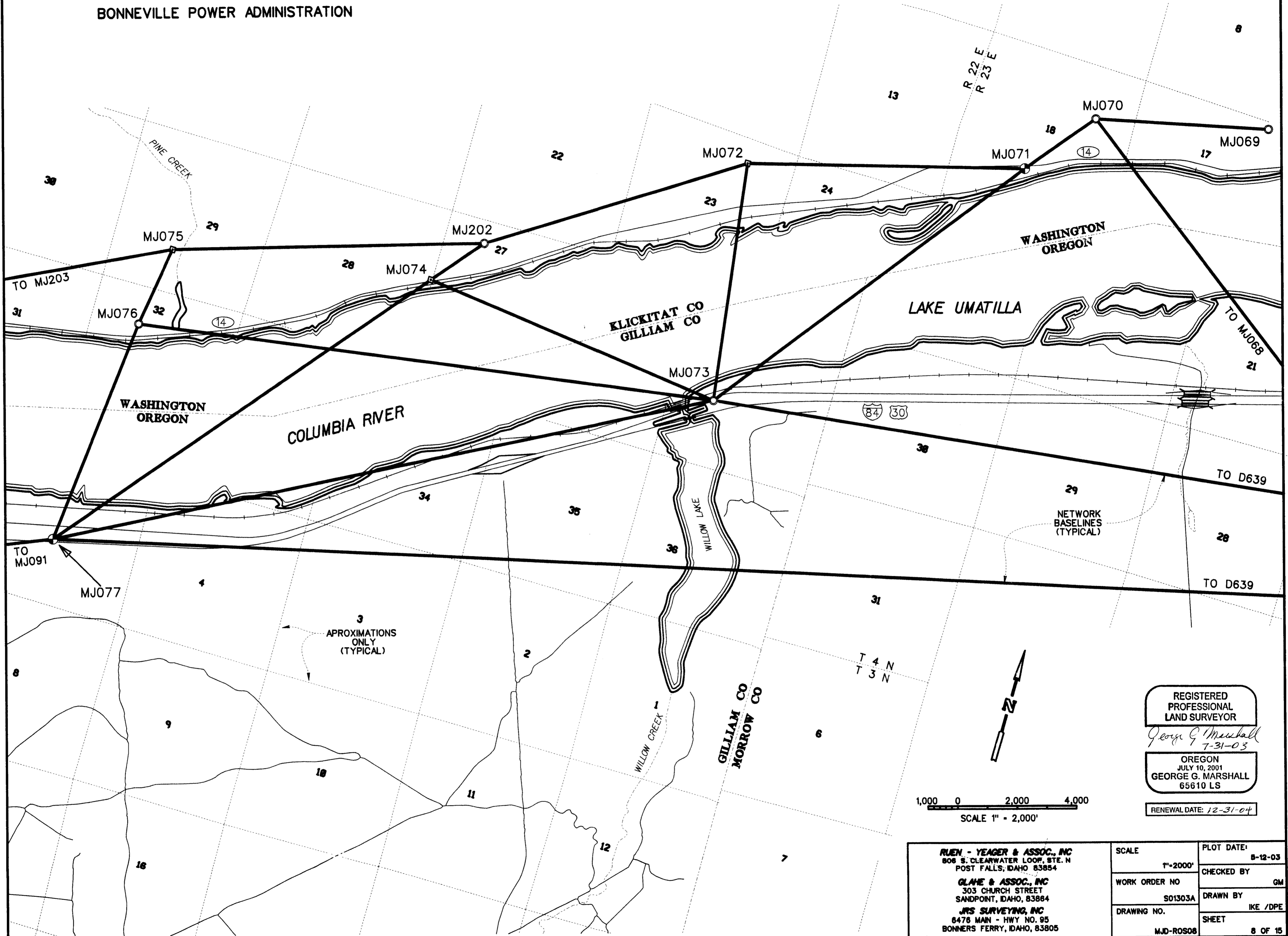
OREGON
JULY 10, 2001
GEORGE G. MARSHALL
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RENEWAL DATE: 12-31-04

RUEY - YEAGER & ASSOC., INC 908 S. CLEARWATER LOOP, STE. N POST FALLS, IDAHO 83854 GLAHE & ASSOC., INC 303 CHURCH STREET SANDPOINT, IDAHO, 83864 JRS SURVEYING, INC 8476 MAIN - HWY NO. 95 BONNERS FERRY, IDAHO, 83805	SCALE	PLOT DATE:
	1"=2000'	8-12-03
	WORK ORDER NO	CHECKED BY
	S01303A	GM
DRAWING NO.	DRAWN BY	
MJD-R0507	IKE /DPE	
	SHEET	
	7 OF 15	

GEODETIC CONTROL SURVEY
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1402



3
 APROXIMATIONS
 ONLY
 (TYPICAL)



1,000 0 2,000 4,000
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	1"=2000'	8-12-03
	WORK ORDER NO	CHECKED BY
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DRAWING NO.	DRAWN BY	
MJD-RS08	IKE /DPE	
	SHEET	8 OF 15