

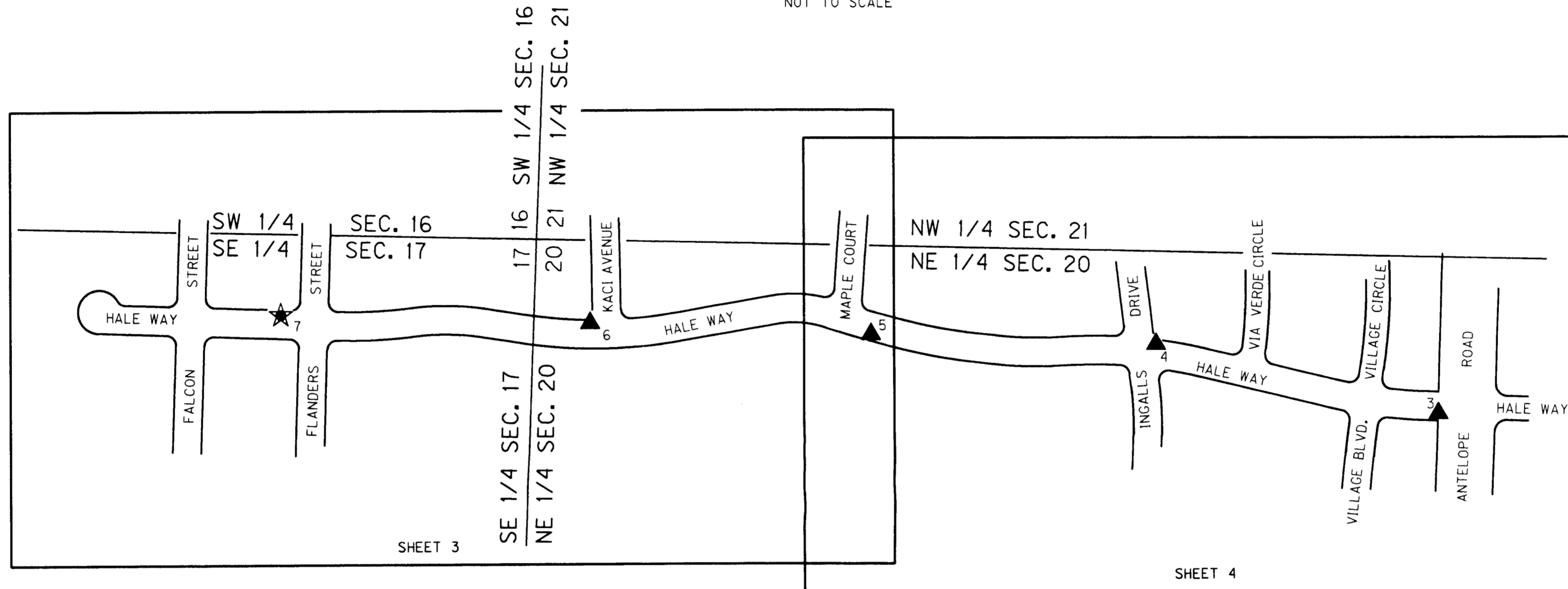
**SHEET INDEX**

- 1. SHEET LAYOUT AND NARRATIVE
- 2. CONTROL NETWORK AND BASIS OF BEARING
- 3-4. RECOVERY SURVEY

SE 1/4 SEC 17 T36S R1W WM  
NE 1/4 SEC 20 T36S R1W WM

\*\*\* RECEIVED \*\*\*  
DATE 11-9-2009  
This survey consists of:  
4 sheet(s) Map  
2 page(s) Narrative  
JACKSON COUNTY SURVEYOR

**SHEET LAYOUT DIAGRAM**  
NOT TO SCALE



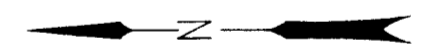
**NARRATIVE**

THE PURPOSE OF THIS SURVEY IS TO PERPETUATE THE POSITIONS OF ANY EXISTING SURVEY MONUMENTS OF RECORD THAT LIE WITHIN THE PROJECT AREA IN SUPPORT OF A PAVEMENT OVERLAY PROJECT ALONG HALE WAY. THIS WAS ACCOMPLISHED BY TYING THE FOUND MONUMENTS TO THE PROJECT CONTROL NETWORK. THE PROJECT AREA IS ALL THE PAVED AREA OF HALE WAY FROM FALCON STREET TO ANTELOPE ROAD, LOCATED IN WHITE CITY, JACKSON COUNTY, OREGON. THIS SURVEY WAS MADE AT THE REQUEST OF JACKSON COUNTY OREGON AND THE OREGON DEPARTMENT OF TRANSPORTATION (ODOT) FOR AN UPCOMING PROJECT IN THE PREVIOUSLY DESCRIBED VICINITY. THIS SURVEY MEETS THE REQUIREMENTS FOR A MONUMENT RECOVERY SURVEY AS OUTLINED IN THE OREGON REVISED STATUTES, CHAPTER 209.155 (1)(a)(b). THIS SURVEY DOES NOT CONSTITUTE A RIGHT-OF-WAY RETRACEMENT SURVEY OR A BOUNDARY SURVEY. THE PROPERTY LINES AND RIGHT-OF-WAY LINES AS SHOWN ON THIS SURVEY ARE APPROXIMATE, AND ARE INTENDED FOR VISUAL REFERENCE PURPOSES ONLY.

THIS SURVEY WAS PERFORMED IN AUGUST - OCTOBER OF 2009. THE SURVEY EQUIPMENT CONSISTED OF TWO TRIMBLE R8 GPS RECEIVERS, ONE TRIMBLE 5700 GPS RECIEVER, ONE TRIMBLE S6 ROBOTIC TOTAL STATION, AND TWO TRIMBLE TSC2 DATA COLLECTORS.

**REFERENCES**

ALL RECORDS LISTED IN THE RECOVERED MONUMENTS TABLES ON SHEETS 3 - 4 HEREON.



REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*J. Colton*  
OREGON  
JULY 12, 2005  
LOGAN MILES  
65452

RENEWAL: DEC. 31, 2010

FILE NAME: 16479\_Recovery Hale.dgn

**OBEC CONSULTING ENGINEERS**  
www.obec.com  
Corporate Office: 920 COUNTRY CLUB ROAD, SUITE 100B EUGENE, OREGON 97401-6089, 541-683-6090  
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831 O'HARE PARKWAY MEDFORD, OREGON 97504-4005, 541-774-5590  
5005 SW MEADOWS ROAD, SUITE 120 LAKE OSWEGO, OREGON 97035, 503-620-6103

OREGON DEPARTMENT OF TRANSPORTATION  
HORIZONTAL CONTROL AND RECOVERY SURVEY  
JACKSON COUNTY ROADS: PAVEMENT RESURFACING  
(HALE WAY) JACKSON COUNTY

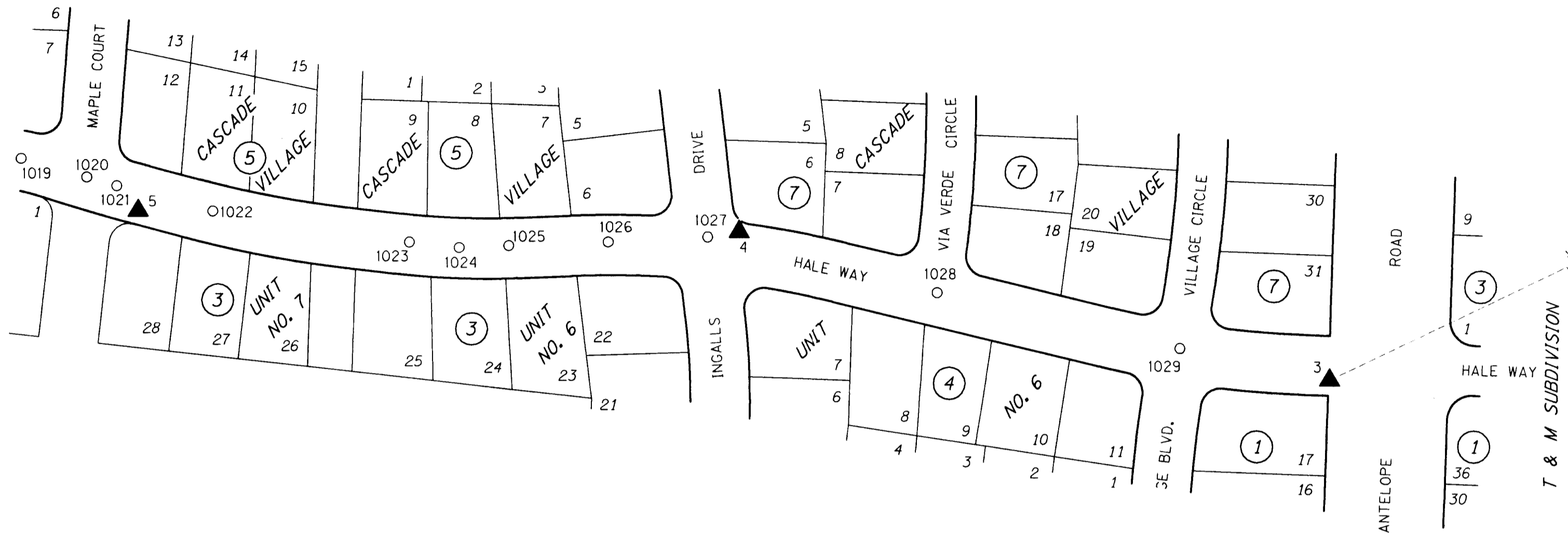
ODOT REGION 3  
3500 NW STEWART PARKWAY  
ROSEBURG, OR. 97470  
OCTOBER, 2009  
NO SCALE  
SHEET 1 OF 4  
KEY NO. 16479

J. COLTON	OBEC	DESIGNED: A. Cutsforth	PROJ. NO. 019-084.46
APPROVED BY:	GROUP MANAGER	DRAWN: A. Cutsforth	CHK'D: J. PROUTY

SE 1/4 SEC 20 T36S R1W WM

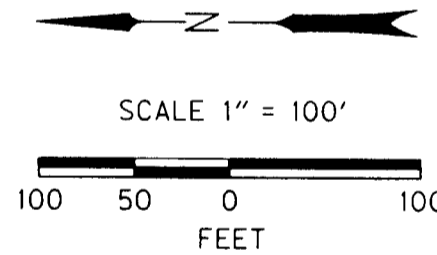
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 JACKSON COUNTY SURVEYOR

SEE SHEET 3



JACKSON COUNTY SURVEYOR  
 T36S R1W  
 S20 S21  
 2002  
 UNLAWFUL TO DISTURB

LEGEND	
○	FOUND MONUMENT NOTED IN TABLE
▲	SET NETWORK POINT
—	APPROXIMATE RIGHT-OF-WAY
—	APPROXIMATE PROPERTY LINE



ENGLISH

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON  
 JULY 12, 2005  
 LOGAN MILES  
 65452  
 RENEWAL: DEC. 31, 2010

RECOVERED MONUMENT LIST

FD = FOUND  
 CS = COUNTY SURVEY

PT. ID.	LDP NORTHING	LDP EASTING	DATE	DESCRIPTION & REFERENCE DOCUMENTS
1019	287421.14	4290796.75	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1020	287355.19	4290778.07	9/29/09	FD 3/4" IRON ROD, FLUSH, PER CS 6371
1021	287325.05	4290769.41	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1022	287228.46	4290743.92	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1023	287031.05	4290712.89	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1024	286981.11	4290707.42	9/29/09	FD 3/4" IRON ROD, DOWN 0.3', PER CS 6228
1025	286931.25	4290709.51	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1026	286831.44	4290713.12	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1027	286731.26	4290717.93	9/29/09	FD 5/8" IRON ROD, DOWN 0.3', PER CS 6228
1028	286499.72	4290663.33	9/29/09	FD 5/8" IRON ROD, DOWN 0.3', PER CS 6228
1029	286255.23	4290608.61	9/29/09	FD 5/8" IRON ROD, DOWN 0.3', PER CS 6228
1030	285387.20	4290922.41	10/21/09	FD 2-1/2" BRASS DISK IN CONCRETE STAMPED "JACKSON COUNTY SURVEYOR, T36S R1W, S 20, S21, 2002, UNLAWFUL TO DISTURB", FLUSH

FILE NAME: 16479\_Recovery Hale.dgn

OBEC CONSULTING ENGINEERS  
 Corporate Office: 920 COUNTRY CLUB ROAD, SUITE 100B EUGENE, OREGON 97401-6089, 541-683-6090  
 2235 MISSION STREET SE, SUITE 100 SALEM, OREGON 97302-1295, 503-589-4100  
 831 OHARE PARKWAY MEDFORD, OREGON 97504-4005, 541-774-5590  
 5005 SW MEADOWS ROAD, SUITE 120 LAKE OSWEGO, OREGON 97035, 503-620-6103  
 www.obec.com

OREGON DEPARTMENT OF TRANSPORTATION  
 HORIZONTAL CONTROL AND RECOVERY SURVEY  
 JACKSON COUNTY ROADS: PAVEMENT RESURFACING  
 (HALE WAY) JACKSON COUNTY

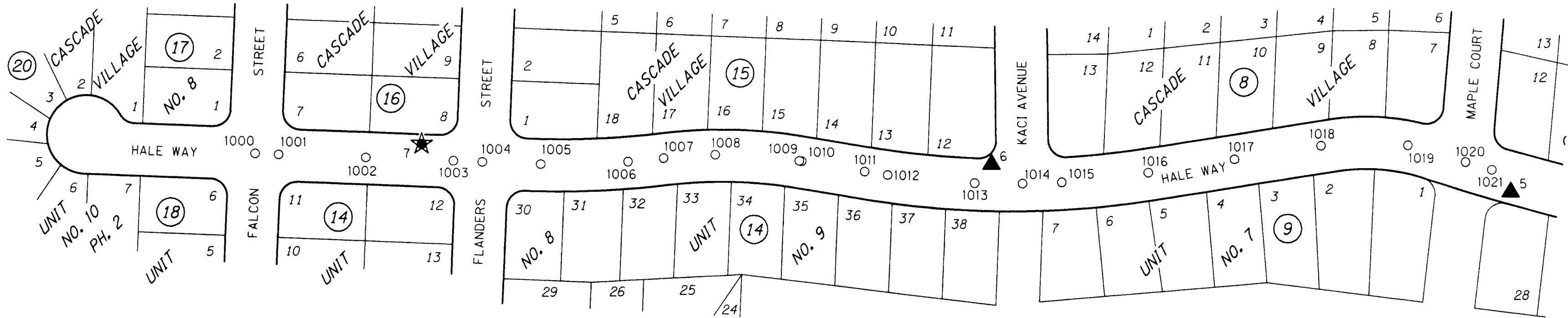
ODOT REGION 3  
 3500 NW STEWART PARKWAY  
 ROSEBURG, OR. 97470  
 KEY NO. 16479

OCTOBER, 2009  
 SCALE 1" = 100'  
 SHEET 4 OF 4

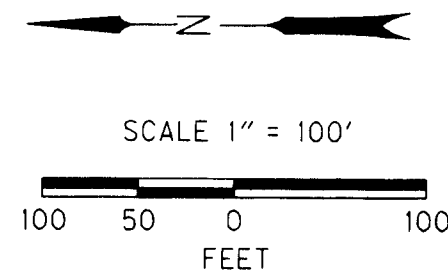
DESIGNED: A. Cutsforth  
 DRAWN: A. Cutsforth  
 PROJ. NO. 019-084.46  
 CHK'D: J. PROUTY

SE 1/4 SEC 17 T36S R1W WM  
NE 1/4 SEC 20 T36S R1W WM

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0 page(s) Narrative  
JACKSON COUNTY  
SURVEYOR



SEE SHEET 4



LEGEND	
○	FOUND MONUMENT NOTED IN TABLE
★	SET GPS NETWORK POINT
▲	SET NETWORK POINT
—	APPROXIMATE RIGHT-OF-WAY
—	APPROXIMATE PROPERTY LINE

RECOVERED MONUMENT LIST

FD = FOUND  
CS = COUNTY SURVEY

PT. ID.	LDP NORTHING	LDP EASTING	DATE	DESCRIPTION & REFERENCE DOCUMENTS
1000	288741.13	4290775.83	9/29/09	FD 1-1/2" BRASS DISK, DOWN 0.2', PER POST MONUMENTATION CS 7911, CAP NOT CALLED OUT
1001	288714.29	4290774.88	9/29/09	FD CONCRETE NAIL FLUSH IN AC, ORIGIN UNKNOWN
1002	288614.39	4290771.97	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1003	288514.36	4290768.81	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1004	288481.15	4290767.58	9/29/09	FD PK NAIL, PER POST MONUMENTATION CS 7911
1005	288414.45	4290765.58	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1006	288314.58	4290769.07	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1007	288273.87	4290773.39	9/29/09	FD 2" BRASS DISK, ILLEGIBLE, PER POST MONUMENTATION CS 9376
1008	288215.02	4290777.75	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1009	288118.08	4290771.24	9/29/09	FD 2" BRASS DISK IN CONCRETE STAMPED "LS 1270 1982 PC", DOWN 0.5', PER POST MONUMENTATION CS 9376
1010	288115.33	4290770.79	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1011	288042.84	4290759.65	9/29/09	FD 2" BRASS DISK IN CONCRETE STAMPED "LS 1270 1982 PT", FLUSH, PER POST MONUMENTATION CS 9376
1012	288016.49	4290755.88	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1013	287916.79	4290747.75	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1014	287861.70	4290747.83	9/29/09	FD 2" BRASS DISK IN CONCRETE STAMPED "LS 1270 1982 PT", FLUSH, PER POST MONUMENTATION CS 9376
1015	287816.83	4290749.82	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1016	287717.62	4290761.86	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1017	287619.06	4290778.54	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1018	287520.54	4290795.34	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1019	287421.14	4290796.75	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN
1020	287355.19	4290778.07	9/29/09	FD 3/4" IRON ROD, FLUSH, PER CS 6371
1021	287325.05	4290769.41	9/29/09	FD CONCRETE NAIL W/ 1-1/4" SHINER, ORIGIN UNKNOWN



REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*J. Miles*  
OREGON  
JULY 12, 2005  
LOGAN MILES  
65452

RENEWAL: DEC. 31, 2010

FILE NAME: 16479\_Recovery Hale.dgn



Corporate Office: 920 COUNTRY CLUB ROAD, SUITE 100B EUGENE, OREGON 97401-6089, 541-683-6090  
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OREGON DEPARTMENT OF TRANSPORTATION  
HORIZONTAL CONTROL AND RECOVERY SURVEY  
JACKSON COUNTY ROADS: PAVEMENT RESURFACING  
(HALE WAY) JACKSON COUNTY

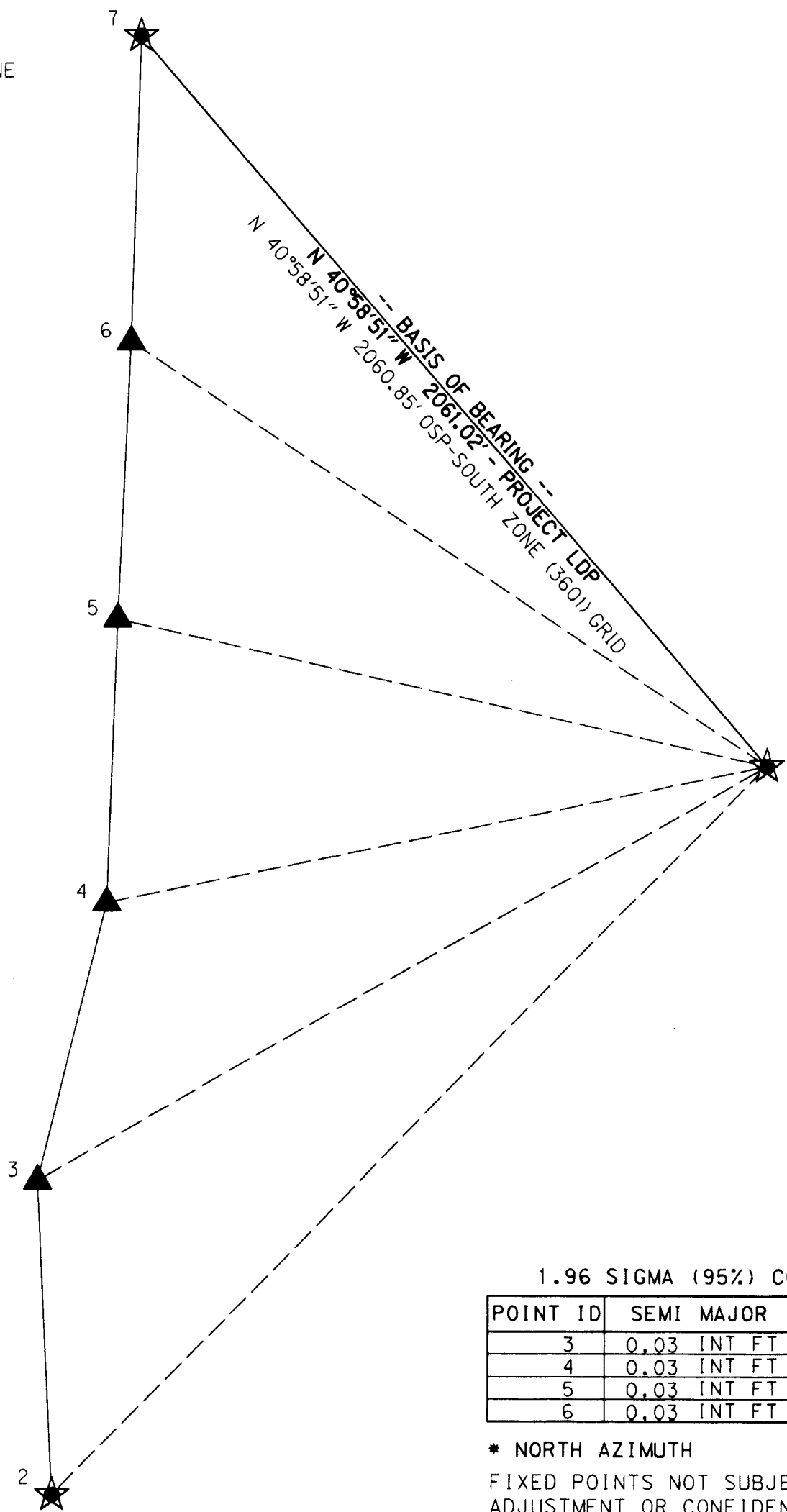
ODOT REGION 3  
3500 NW STEWART PARKWAY  
ROSEBURG, OR. 97470  
OCTOBER, 2009  
SCALE 1" = 100'  
SHEET 3 OF 4

DESIGNED: A. Cutsforth  
DRAWN: A. Cutsforth  
CHK'D: J. PROUTY  
PROJ. NO. 019-084.46

SE 1/4 SEC 17 T36S R1W WM  
 NE 1/4 SEC 20 T36S R1W WM  
 SE 1/4 SEC 20 T36S R1W WM

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 SURVEYOR

7  
 SET 1" COPPER PLUG  
 STAMPED "OBEC 7"  
 (08/29/09)  
 LDP PROJECT VALUES  
 N 288550.53  
 E 4290788.00  
 OREGON STATE PLANE  
 SOUTH ZONE (3602)  
 N 288525.44  
 E 4290414.87



CONTROL NETWORK SCHEMATIC &  
 BASIS OF BEARING  
 NOT TO SCALE

1  
 SET 1" COPPER PLUG  
 STAMPED "OBEC 1"  
 (08/29/09)  
 LDP PROJECT VALUES  
 N 286994.61  
 E 4292139.63  
 OREGON STATE PLANE  
 SOUTH ZONE (3602)  
 N 286969.65  
 E 4291766.39

1.96 SIGMA (95%) CONFIDENCE LEVEL LIMITS

POINT ID	SEMI MAJOR	SEMI MINOR	ORIENTATION*
3	0.03 INT FT	0.03 INT FT	161.9°
4	0.03 INT FT	0.03 INT FT	175.8°
5	0.03 INT FT	0.03 INT FT	16.9°
6	0.03 INT FT	0.03 INT FT	8.8°

\* NORTH AZIMUTH  
 FIXED POINTS NOT SUBJECT TO LEAST SQUARES  
 ADJUSTMENT OR CONFIDENCE LEVEL ANALYSIS:  
 POINTS 1, 2, AND 7.

2  
 SET 1" COPPER PLUG  
 STAMPED "OBEC 2"  
 (08/29/09)  
 LDP PROJECT VALUES  
 N 285431.64  
 E 4290609.75  
 OREGON STATE PLANE  
 SOUTH ZONE (3602)  
 N 285406.82  
 E 4290236.64

CONTROL NARRATIVE

PROJECT: JACKSON COUNTY ROADS:  
 PAVEMENT RESURFACING (HALE WAY)  
 LOCATION: JACKSON COUNTY  
 ODOT KEY NUMBER: 16479  
 OBEC PROJECT: 0019-0084.46  
 SURVEY DATUM:  
 HORIZONTAL - NAD83 (CORS96) EPOCH 2002  
 (INTERNATIONAL FEET)

HORIZONTAL CONTROL SURVEY

THE PRIMARY HORIZONTAL CONTROL WAS BROUGHT INTO THE PROJECT BY USING AN OPUS-S SOLUTION FOR CORS STATIONS "DDSN, DCSO, & ORK6", THEREBY ESTABLISHING A POSITION ON POINT 1. PRIMARY HORIZONTAL CONTROL WAS BROUGHT INTO THE PROJECT BY USING AN OPUS-RS SOLUTION FOR CORS STATIONS "DDSN, DCSO, ORK6, PTSG, MDMT, CABL, TRND, OBEC & LPSB", THEREBY ESTABLISHING POSITIONS ON POINTS 2 AND 7.

A SUBSEQUENT STATIC GPS SURVEY WAS PERFORMED TO ESTABLISH POSITIONS FOR POINTS 3 THROUGH 6. THE COORDINATE SYSTEM WAS HELD AT OREGON STATE PLANE - SOUTH ZONE (3602), UNTIL ALL GPS CONTROL SURVEYING AND ADJUSTMENTS WERE COMPLETE. THEN ALL POINTS WERE MOVED TO GROUND (LOCAL DATUM PLANE COORDINATE SYSTEM). TO CONVERT THE PROJECT LDP COORDINATES TO THE OREGON STATE PLANE COORDINATE SYSTEM - SOUTH ZONE NAD 83(CORS96) EPOCH 2002, MULTIPLY THE COORDINATE VALUES BY A COMBINED FACTOR OF 0.99991304.

OPUS-S NOTES

OREGON STATE PLANE SOUTH ZONE (3602) COORDINATE VALUES WAS DERIVED ON CONTROL POINT NUMBER 1 USING AN NGS OPUS-S SOLUTION WITH THE FOLLOWING CORS STATIONS BEING HELD:  
 DDSN (DODSON BUTTE), DCSO (ROSEBURG COOP) & ORK6 (KLAMATH FALLS 6)

OPUS-RS NOTES

OREGON STATE PLANE SOUTH ZONE (3602) COORDINATE VALUES WERE DERIVED ON CONTROL POINTS NUMBERED 2 AND 7 USING AN NGS OPUS-RS SOLUTION WITH THE FOLLOWING CORS STATIONS BEING HELD:  
 DDSN (DODSON BUTTE), DCSO (ROSEBURG COOP), ORK6 (KLAMATH FALLS 6), PTSG (POINT ST. GEORGE), MDMT (MEDICINE MOUNTAIN), CABL (CAPE BLANCO), TRND (TRINIDAD HEAD), OBEC (OBEC CONS COOP) & LPSB (LANE CNTY COOP)

ENGLISH

REGISTERED  
 PROFESSIONAL  
 LAND SURVEYOR

*J. Prouty*  
 OREGON  
 JULY 12, 2005  
 LOGAN MILES  
 65452  
 RENEWAL: DEC. 31, 2010

FILE NAME: 16479\_Recovery Hale.dgn

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 HORIZONTAL CONTROL AND RECOVERY SURVEY  
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ODOT REGION 3  
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 KEY NO. 16479  
 OCTOBER, 2009  
 NO SCALE  
 SHEET 2 OF 4

DESIGNED: A. Cutsforth  
 DRAWN: A. Cutsforth  
 PROJ. NO. 019-084.46  
 CHK'D: J. PROUTY

LEGEND

	SET GPS STATION
	SET NETWORK POINT
	LINES OF OBSERVATION (NOT INTERVISIBLE)
	LINES OF OBSERVATION (INTERVISIBLE)

NETWORK POINT COORDINATE TABLE

PT ID	LDP NORTHING	LDP EASTING	DATE	DESCRIPTION
1	286994.61	4292139.63	08/29/09	SET 1" COPPER PLUG MARKED "OBEC 1"
2	285431.64	4290609.75	08/29/09	SET 1" COPPER PLUG MARKED "OBEC 2"
3	286104.96	4290577.79	08/29/09	SET 1" COPPER PLUG MARKED "OBEC 3"
4	286699.47	4290723.19	08/29/09	SET 1" COPPER PLUG MARKED "OBEC 4"
5	287303.22	4290744.44	08/29/09	SET 1" COPPER PLUG MARKED "OBEC 5"
6	287897.48	4290769.80	08/29/09	SET 1" COPPER PLUG MARKED "OBEC 6"
7	288550.53	4290788.00	08/29/09	SET 1" COPPER PLUG MARKED "OBEC 7"