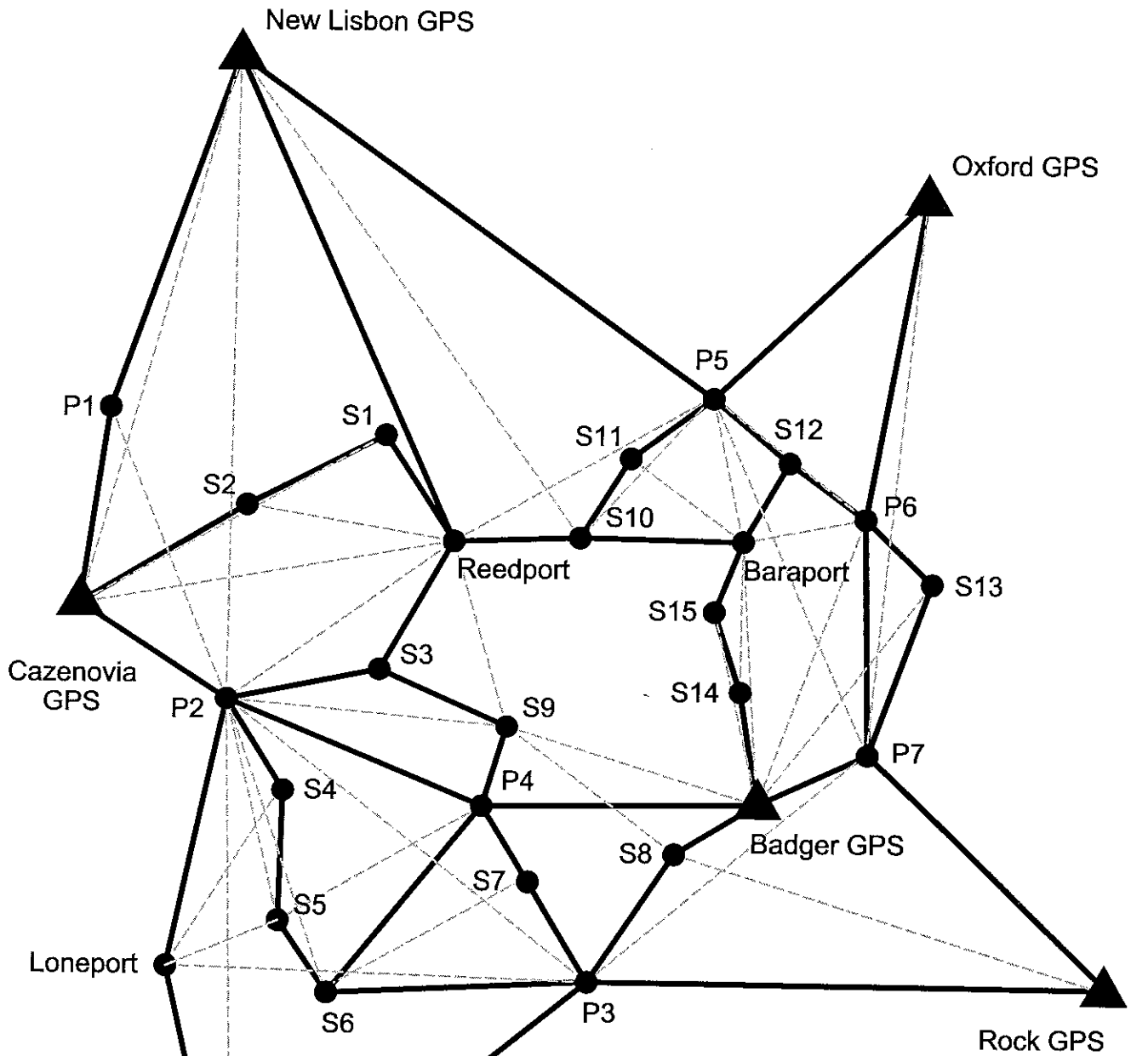




SAUK COUNTY WISCONSIN  
HIGH ACCURACY REFERENCE NETWORK  
FINAL REPORT

<b>INDEX</b>	<b>PAGE</b>
HARN MAP .....	2
 <b>PRIMARY STATION TIE SHEETS</b>	
Baraport (Primary) .....	3
Loneport (Primary) .....	4
Reedport(Primary) .....	5
Primary 1 .....	6
Primary 2 .....	7
Primary 3 .....	8
Primary 4 .....	9
Primary 5 .....	10
Primary 6 .....	11
Primary 7 .....	12
 <b>COORDINATES</b>	
Geographic Coordinates .....	13
State Plane Coordinates .....	14
Sauk County Coordinates .....	15
 <b>PROJECT PERSONNEL AND EQUIPMENT REPORT</b> .....	 16
 <b>COORDINATE ADJUSTMENT SUMMARY</b> .....	 17

SAUK COUNTY WISCONSIN  
HIGH ACCURACY REFERENCE NETWORK (HARN)



LEGEND

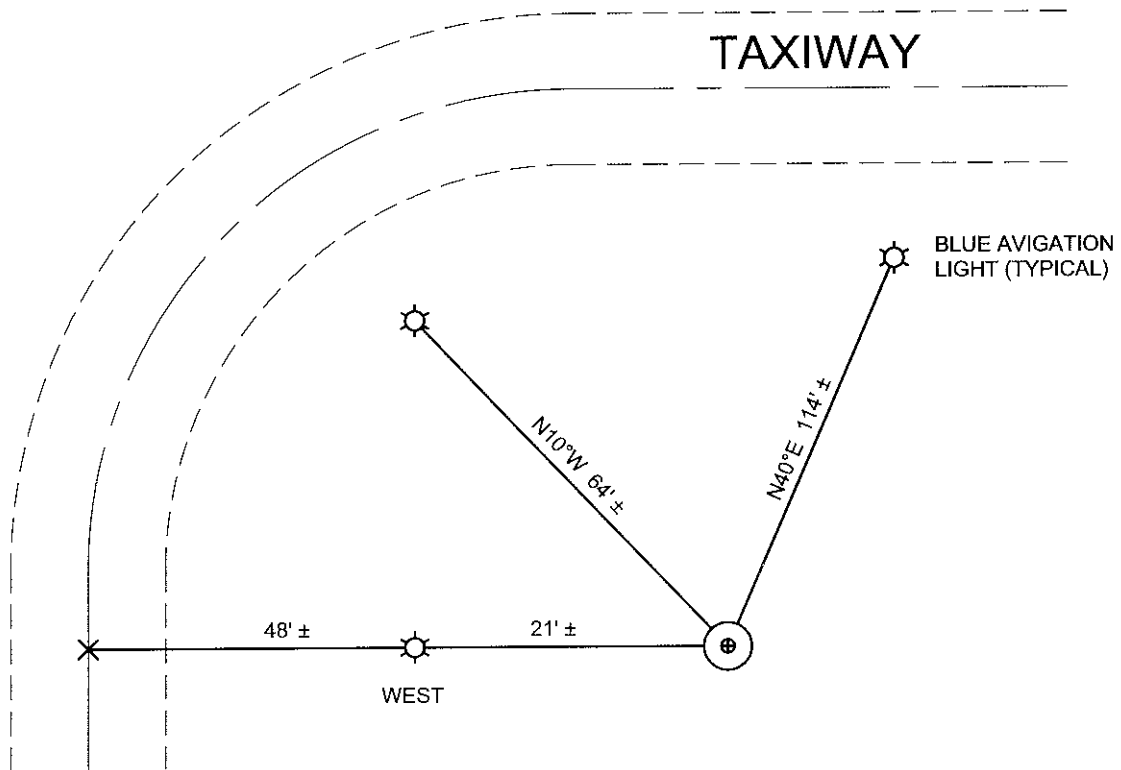
- Baseline Included In Network
- - - Trivial Baseline Not Included In Network
- ▲ Dodgeville GPS = State HARN Station
- P1 = Primary Sauk County HARN Station  
Includes Baraport, Loneport & Reedport
- S1 = Secondary Sauk County HARN Station

# SAUK COUNTY HIGH ACCURACY REFERENCE NETWORK (HARN) STATION LOCATION RECORD

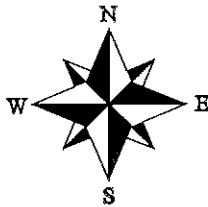
STATION NAME: BARAPORT (PRIMARY)

TO ARRIVE AT STATION... AT NORTH END BARABOO-DELLS AIRPORT RUNWAY, 2000 FEET EAST OF U.S.H. 12  
1260 FEET SOUTH OF NORTH REEDSBURG ROAD

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 258641.921  
EASTING: 643417.160



THE SAUK COUNTY HARN MONUMENT SHOWN IS AN EXISTING NGS BRONZE DISK SET IN CONCRETE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002

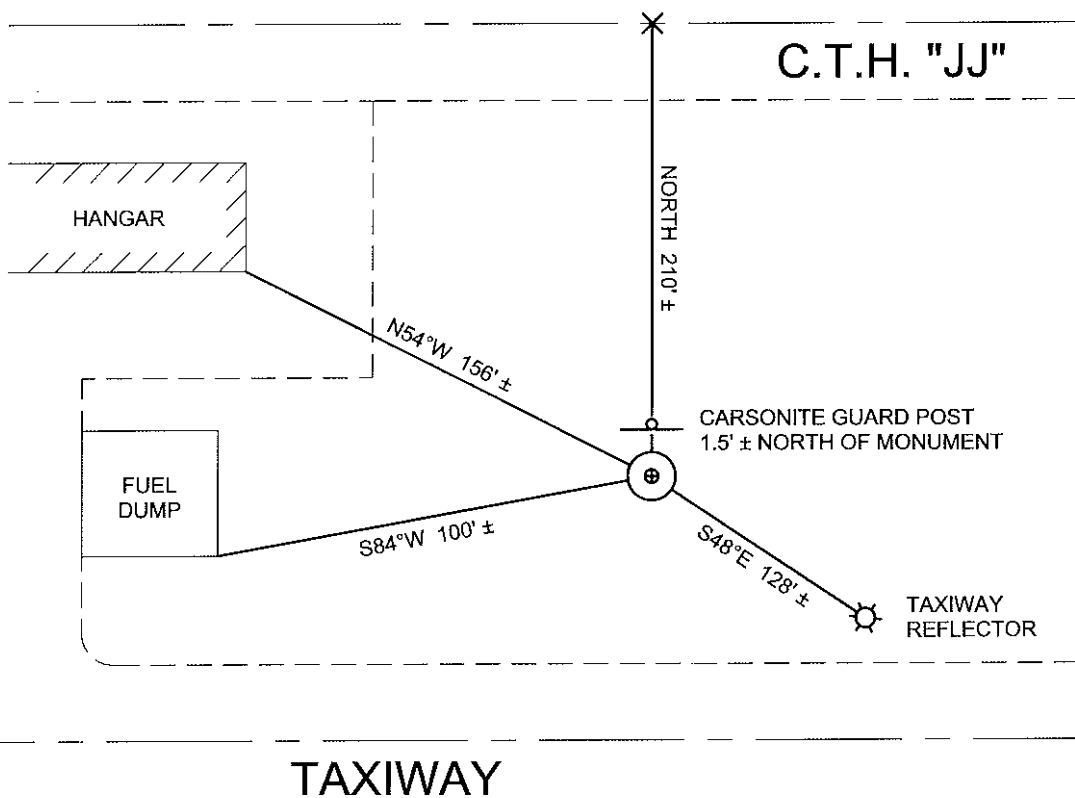


# SAUK COUNTY HIGH ACCURACY REFERENCE NETWORK (HARN) STATION LOCATION RECORD

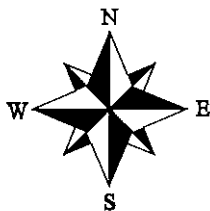
**STATION NAME: LONEPORT (PRIMARY)**

TO ARRIVE AT STATION... AT TRI-COUNTY AIRPORT NEAR LONE ROCK, 210 FEET SOUTH OF CENTERLINE CTH JJ  
600 FEET EAST OF CENTERLINE COUNTY LINE ROAD

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 143555.675  
EASTING: 531634.185



THE SAUK COUNTY HARN MONUMENT SHOWN IS AN EXISTING NGS BRONZE DISK SET IN CONCRETE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002

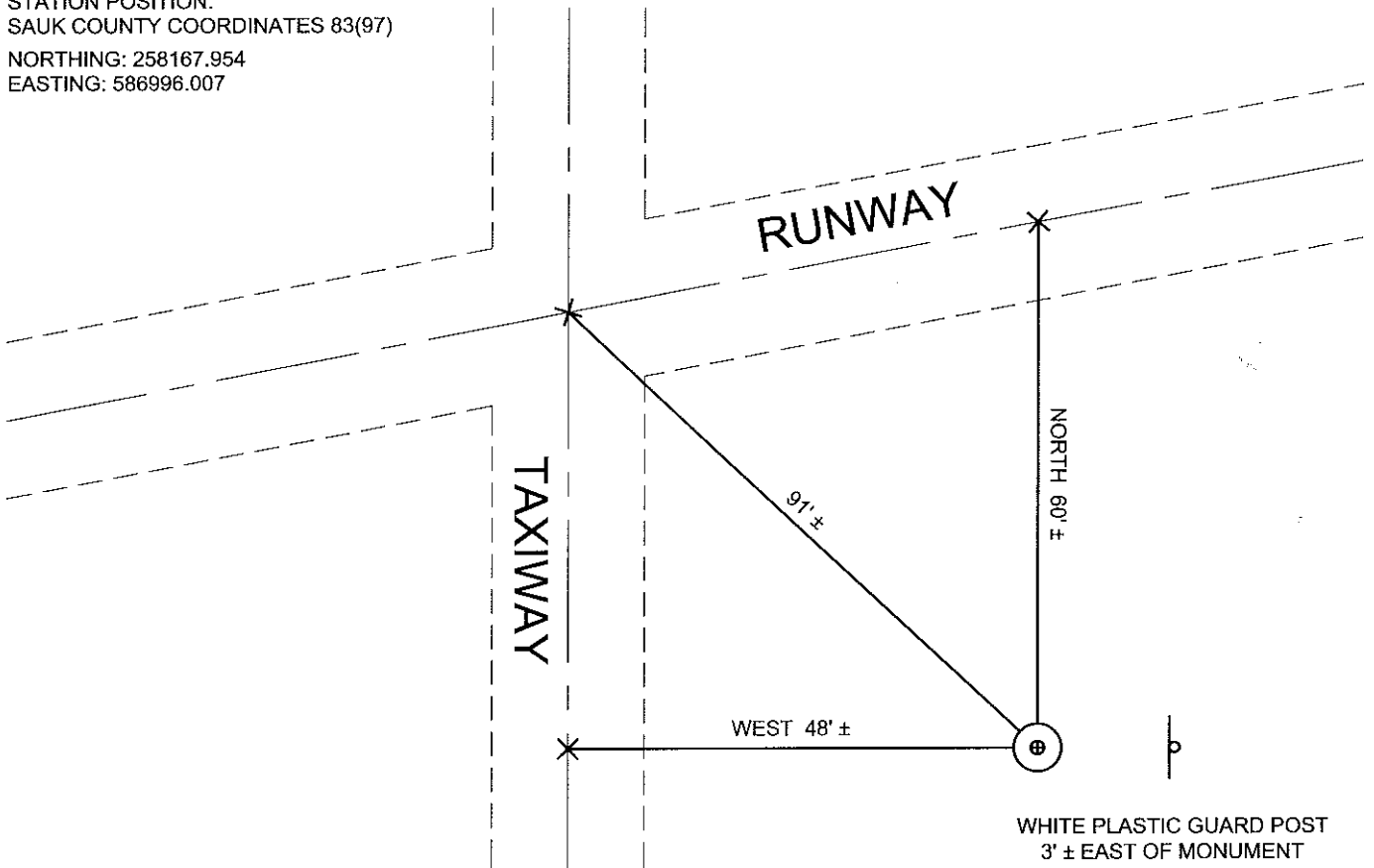


SAUK COUNTY  
HIGH ACCURACY REFERENCE NETWORK (HARN)  
STATION LOCATION RECORD

STATION NAME: REEDPORT (PRIMARY)

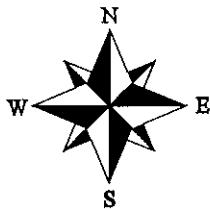
TO ARRIVE AT STATION... AT REEDSBURG AIRPORT, 1700 FEET SOUTH OF STH "23"- "33", NEAR INTERSECTION CROSSWIND  
RUNWAY AND TAXIWAY

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 258167.954  
EASTING: 586996.007



WHITE PLASTIC GUARD POST  
3' ± EAST OF MONUMENT

THE SAUK COUNTY HARN MONUMENT SHOWN IS AN EXISTING NGS BRONZE DISK SET IN CONCRETE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002

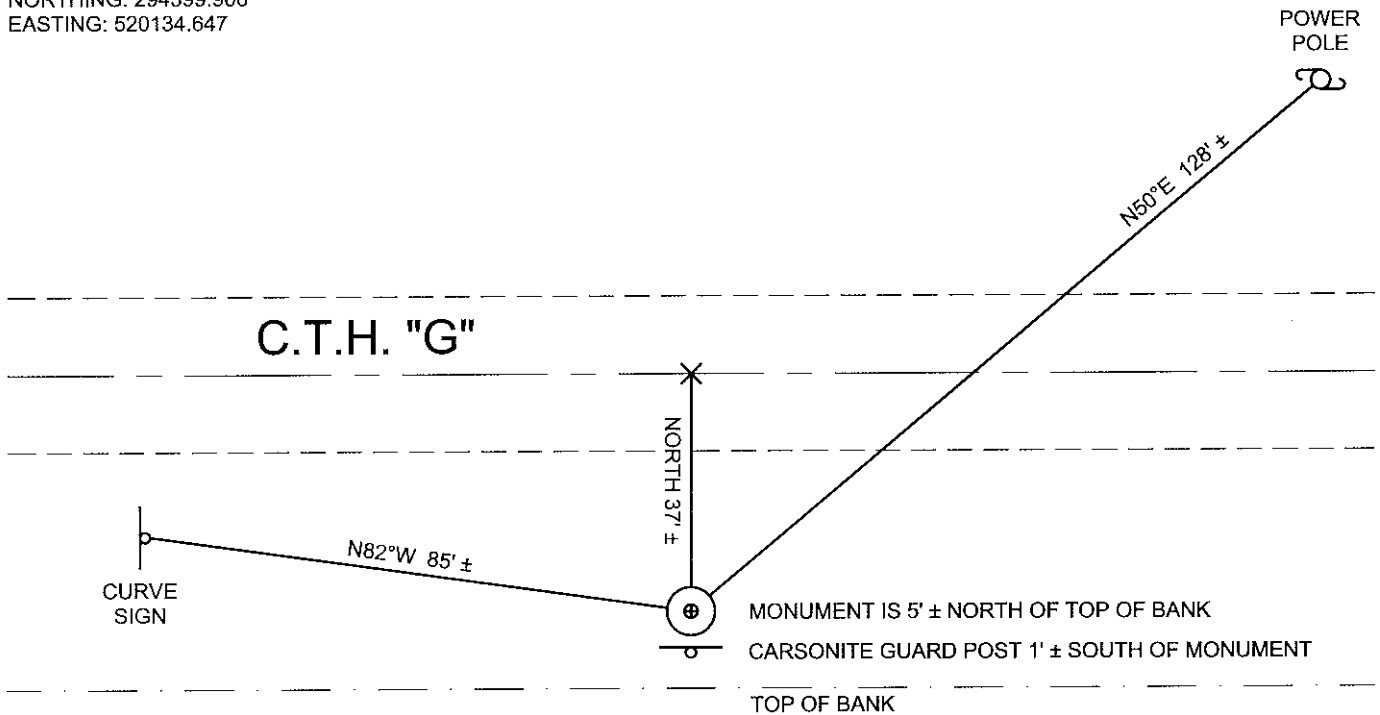


# SAUK COUNTY HIGH ACCURACY REFERENCE NETWORK (HARN) STATION LOCATION RECORD

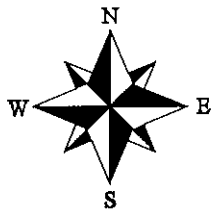
STATION NAME: PRIMARY 1

TO ARRIVE AT STATION... SOUTH SIDE CTH "G", 1100 FEET WEST OF CTH "G" AND MCGRUDER ROAD , 800 FEET EAST OF CTH "G" AND CTH "Y"

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 294399.906  
EASTING: 520134.647



THE SAUK COUNTY HARN MONUMENT SHOWN IS A 0.75" DIAMETER SECTIONAL ALUMINUM ROD DRIVEN TO REFUSAL AT 42.5'. THE ROD IS PLASTIC-SLEEVED NEAR THE GROUND SURFACE, CENTER-PUNCHED AND HOUSED IN AN ALUMINUM COVER AT GRADE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002

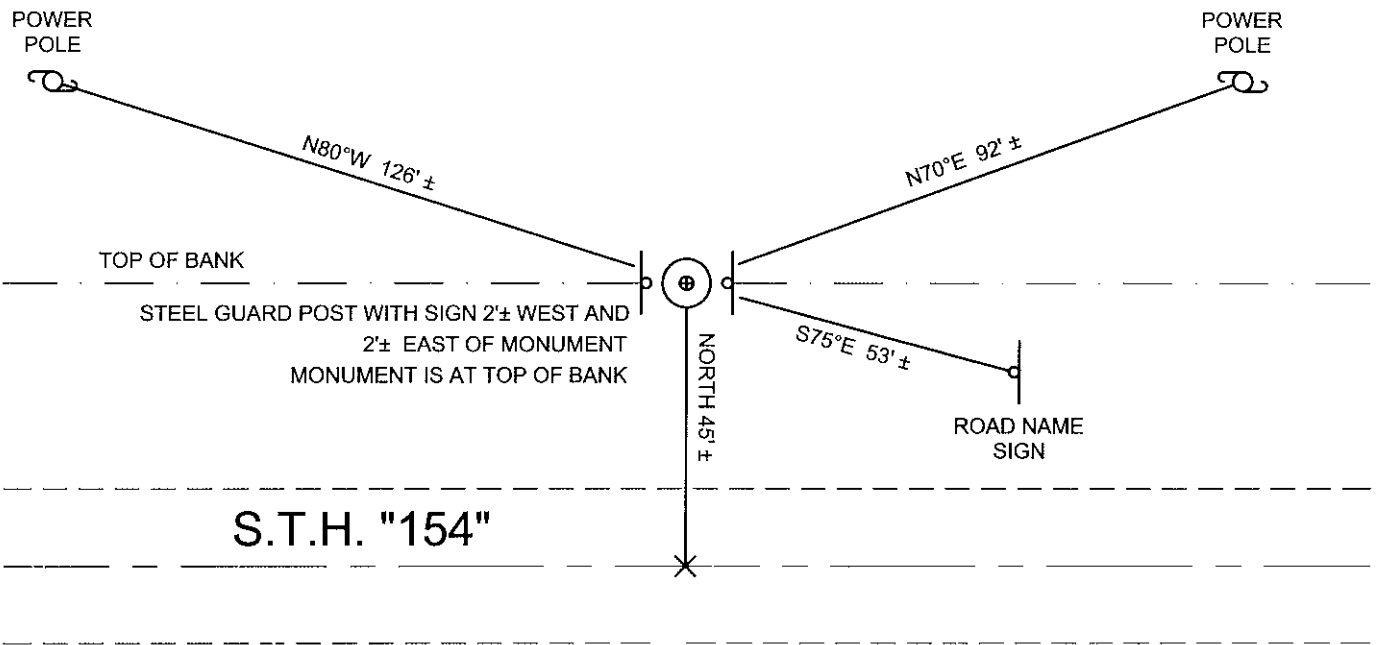


# SAUK COUNTY HIGH ACCURACY REFERENCE NETWORK (HARN) STATION LOCATION RECORD

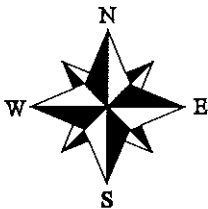
STATION NAME: PRIMARY 2

TO ARRIVE AT STATION... NORTH SIDE STH "154", 1200 FEET EAST OF INT STH "154", STH "130", AND CTH "G"

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 215057.827  
EASTING: 543068.849



THE SAUK COUNTY HARN MONUMENT SHOWN IS A 0.75" DIAMETER SECTIONAL ALUMINUM ROD DRIVEN TO REFUSAL AT 32.5'. THE ROD IS PLASTIC-SLEEVED NEAR THE GROUND SURFACE, CENTER-PUNCHED AND HOUSED IN AN ALUMINUM COVER AT GRADE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002

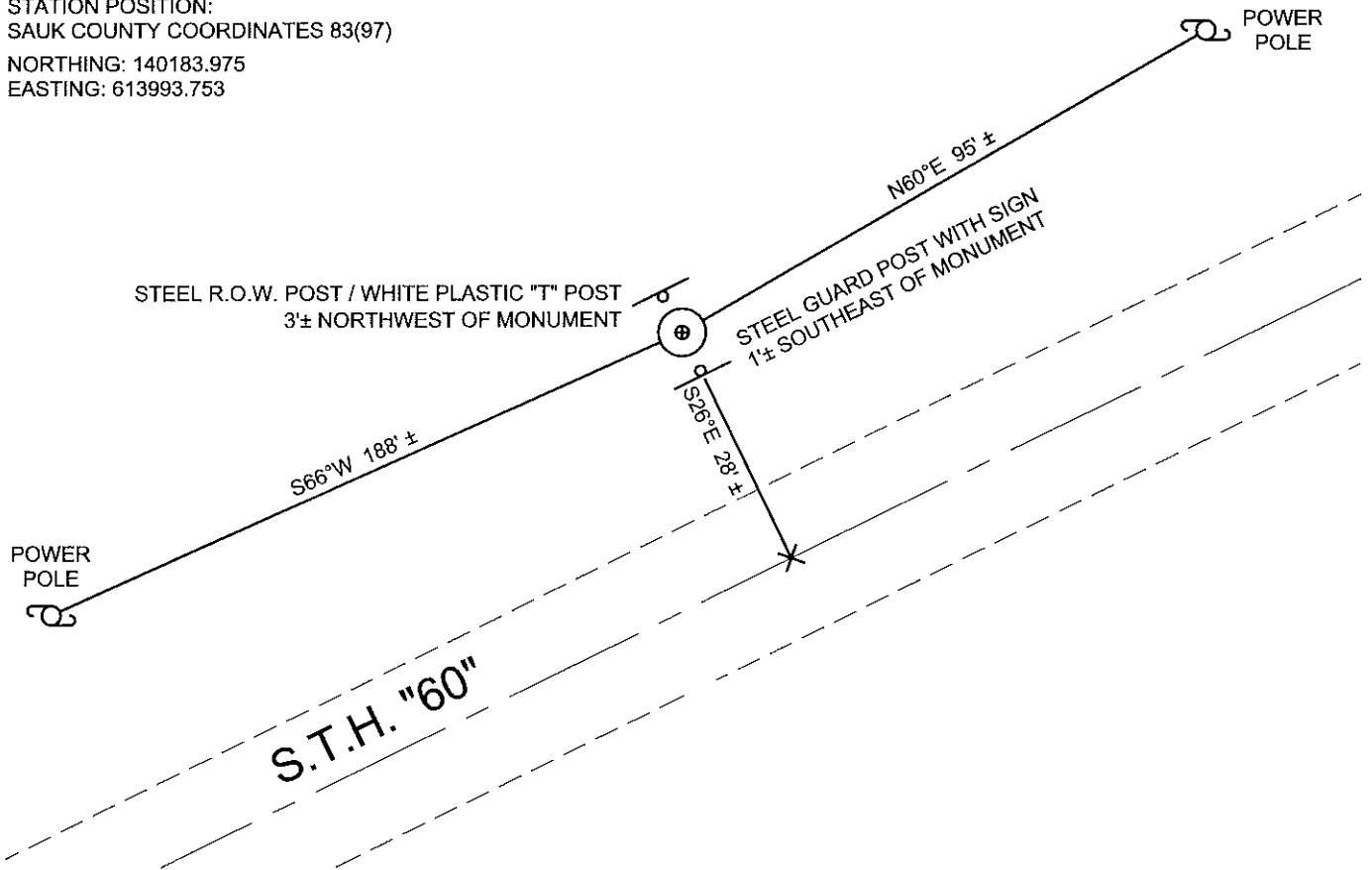


# SAUK COUNTY HIGH ACCURACY REFERENCE NETWORK (HARN) STATION LOCATION RECORD

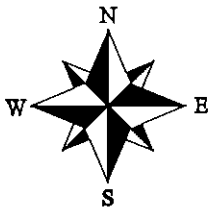
## STATION NAME: PRIMARY 3

TO ARRIVE AT STATION... NORTH SIDE STH "60", 1800 FEET NORTHEASTERLY FROM FOX ROAD  
1650 FEET SOUTHWESTERLY FROM CASSEL ROAD

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 140183.975  
EASTING: 613993.753



THE SAUK COUNTY HARN MONUMENT SHOWN IS A 0.75" DIAMETER SECTIONAL ALUMINUM ROD DRIVEN TO REFUSAL AT 48.0'. THE ROD IS PLASTIC-SLEEVED NEAR THE GROUND SURFACE, CENTER-PUNCHED AND HOUSED IN AN ALUMINUM COVER AT GRADE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002



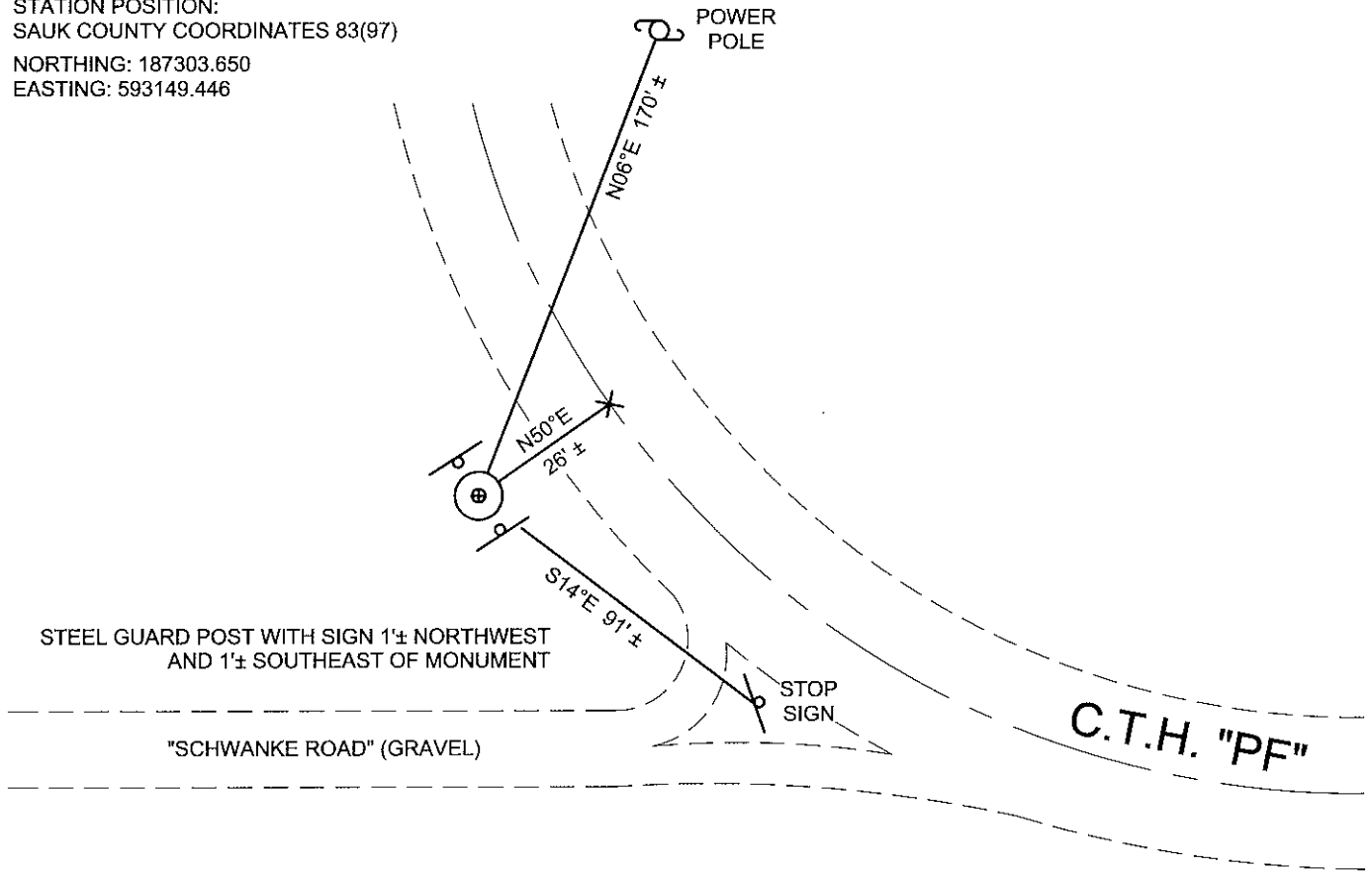


# SAUK COUNTY HIGH ACCURACY REFERENCE NETWORK (HARN) STATION LOCATION RECORD

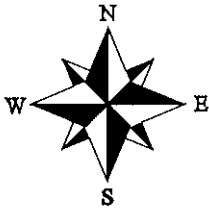
## STATION NAME: PRIMARY 4

TO ARRIVE AT STATION... WEST SIDE CTH "PF", 26 FEET WEST OF CENTERLINE CTH "PF", 100 FEET NORTH CENTERLINE SCHWANKE ROAD

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 187303.650  
EASTING: 593149.446



THE SAUK COUNTY HARN MONUMENT SHOWN IS A 0.75" DIAMETER SECTIONAL ALUMINUM ROD DRIVEN TO REFUSAL AT 28.0'. THE ROD IS PLASTIC-SLEEVED NEAR THE GROUND SURFACE, CENTER-PUNCHED AND HOUSED IN AN ALUMINUM COVER AT GRADE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002

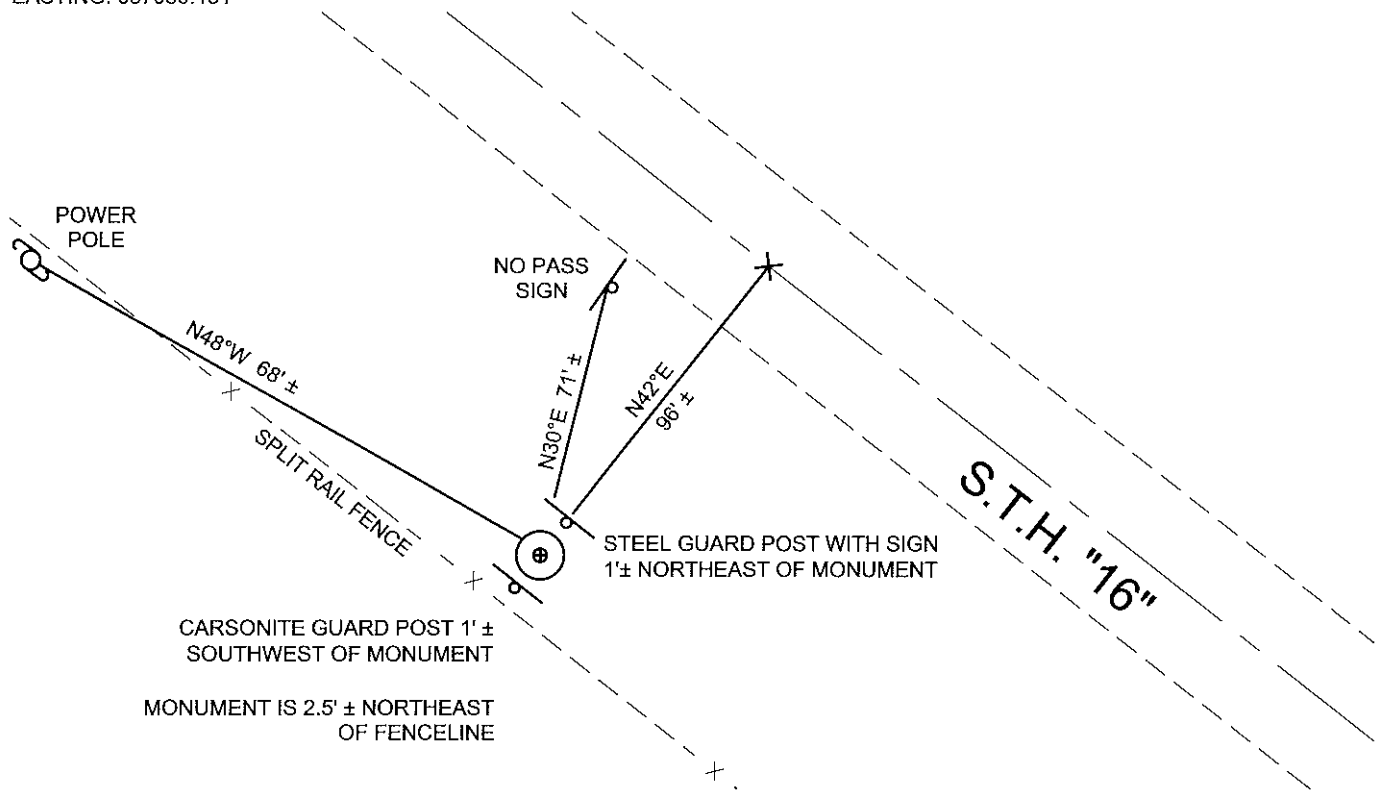


# SAUK COUNTY HIGH ACCURACY REFERENCE NETWORK (HARN) STATION LOCATION RECORD

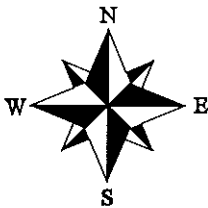
STATION NAME: PRIMARY 5

TO ARRIVE AT STATION... WEST SIDE STH "16", NORTH SIDE OF WISCONSIN DELLS, 1200 FEET NORTHWESTERLY FROM INTERSECTION STH "16" AND CTH "A"

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 297477.778  
EASTING: 637080.131



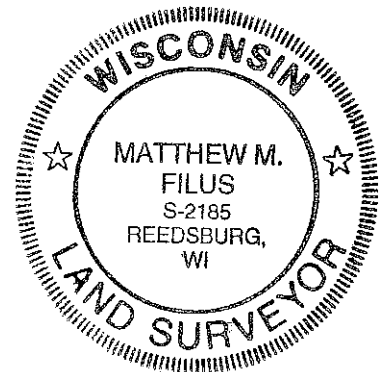
THE SAUK COUNTY HARN MONUMENT SHOWN IS A 0.75" DIAMETER SECTIONAL ALUMINUM ROD DRIVEN TO REFUSAL AT 13.5'. THE ROD IS PLASTIC-SLEEVED NEAR THE GROUND SURFACE, CENTER-PUNCHED AND HOUSED IN AN ALUMINUM COVER AT GRADE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002

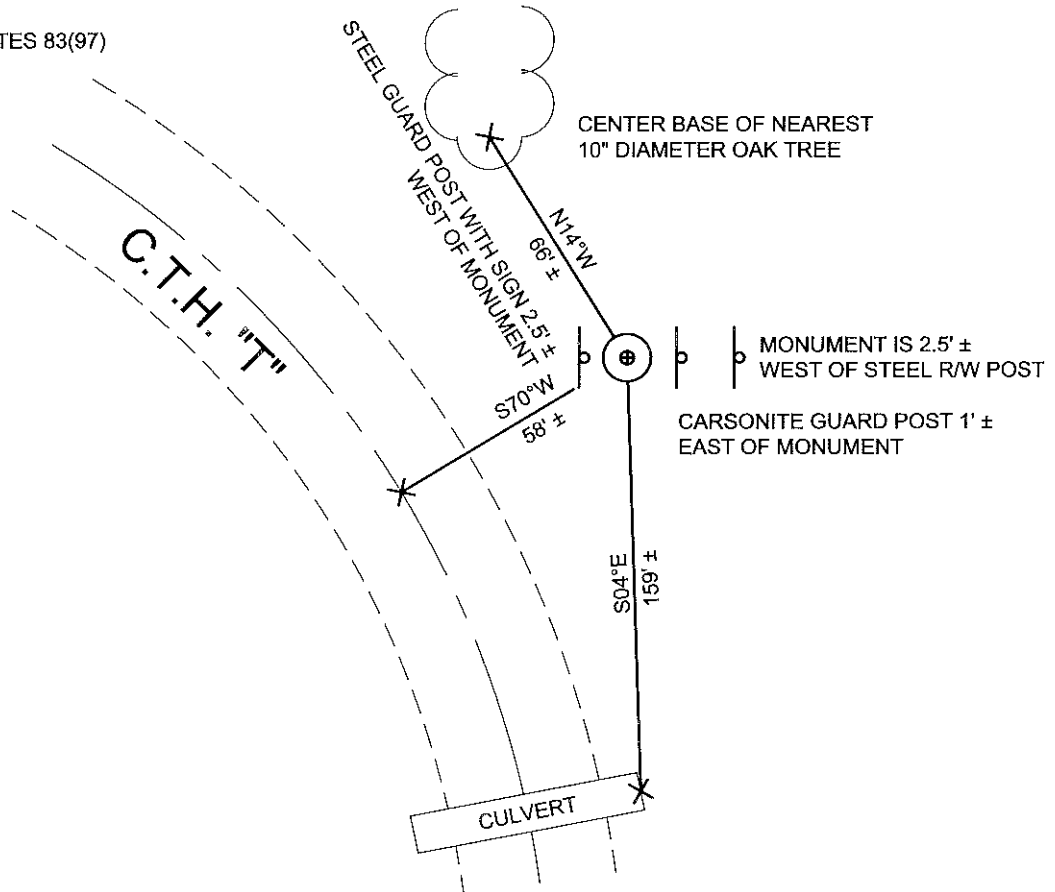


# SAUK COUNTY HIGH ACCURACY REFERENCE NETWORK (HARN) STATION LOCATION RECORD

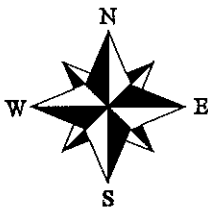
## STATION NAME: PRIMARY 6

TO ARRIVE AT STATION... EAST SIDE CTH "T", 600 FEET NORTH CTH "T" AND SHADY LANE ROAD

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 265839.476  
EASTING: 666484.370



THE SAUK COUNTY HARN MONUMENT SHOWN IS A 0.75" DIAMETER SECTIONAL ALUMINUM ROD DRIVEN TO REFUSAL AT 30.5'. THE ROD IS PLASTIC-SLEEVED NEAR THE GROUND SURFACE, CENTER-PUNCHED AND HOUSED IN AN ALUMINUM COVER AT GRADE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002

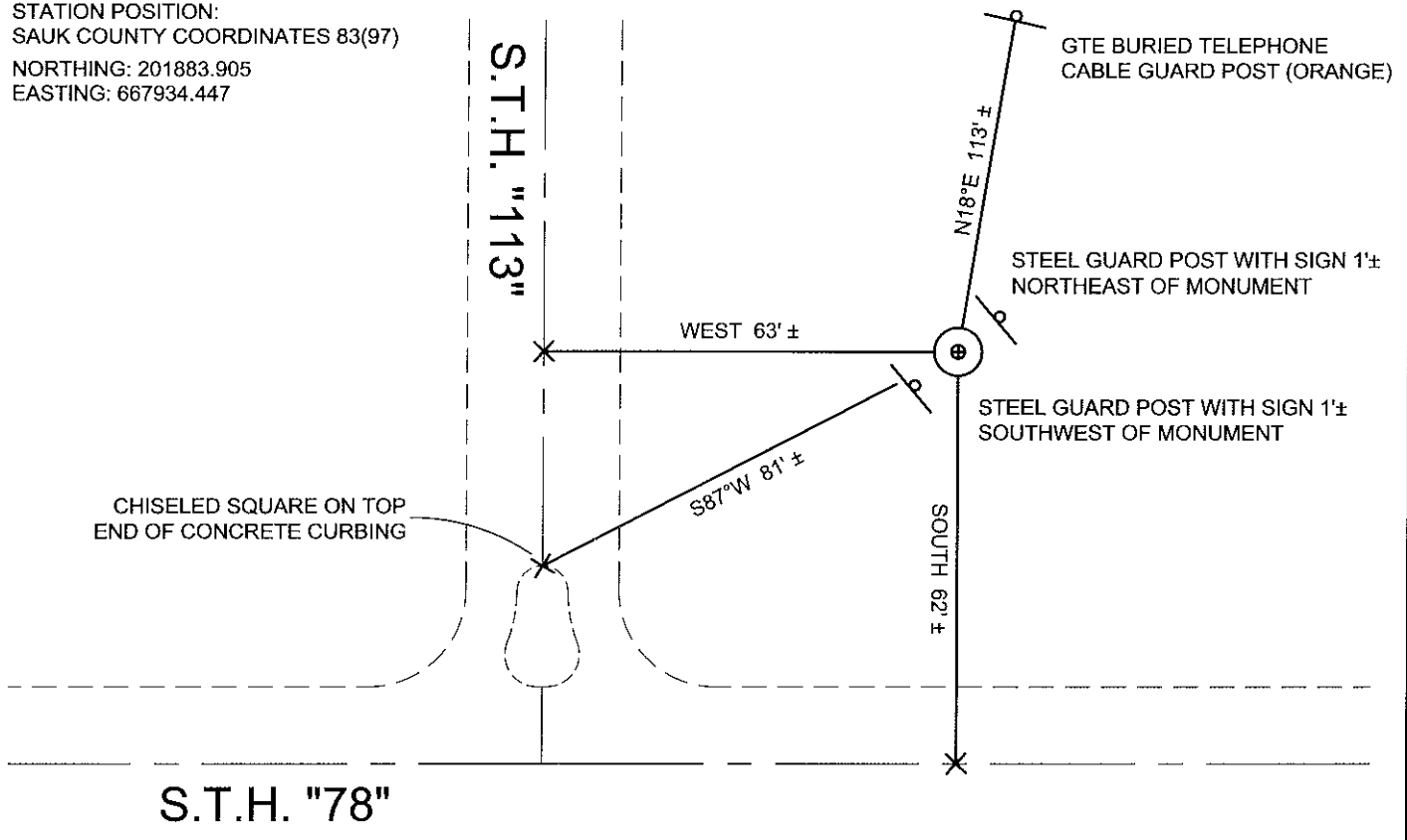


# SAUK COUNTY HIGH ACCURACY REFERENCE NETWORK (HARN) STATION LOCATION RECORD

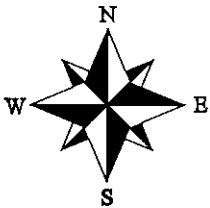
STATION NAME: PRIMARY 7

TO ARRIVE AT STATION... NORTHEAST QUADRANT OF INTERSECTION STH "78" AND STH "130"

STATION POSITION:  
SAUK COUNTY COORDINATES 83(97)  
NORTHING: 201883.905  
EASTING: 667934.447



THE SAUK COUNTY HARN MONUMENT SHOWN IS A 0.75" DIAMETER SECTIONAL ALUMINUM ROD DRIVEN TO REFUSAL AT 30.5'. THE ROD IS PLASTIC-SLEEVED NEAR THE GROUND SURFACE, CENTER-PUNCHED AND HOUSED IN AN ALUMINUM COVER AT GRADE.



NOT TO SCALE  
BEARINGS ARE MAGNETIC

STATION ORIGINALLY POSITIONED BY:  
VIERBICHER ASSOCIATES, INC.  
400 VIKING DRIVE  
REEDSBURG, WI 53959  
DECEMBER 1, 1999

*Matthew M. Filus*

SAUK COUNTY SURVEYOR'S OFFICE  
MATTHEW M FILUS, RLS # 2185  
PLAN VIEW REVISED MARCH 20, 2002



SAUK COUNTY HARN  
1999 SURVEY  
GEOGRAPHIC COORDINATES  
NAD 83 97 ADJUSTMENT

STATION,LATITUDE,LONGITUDE,ELLIP.HGHT

BADGER, 43 19 58.33091 N, 89 45 33.14298 W, 222.690  
BARAPORT, 43 31 44.21215 N, 89 46 12.84453 W, 258.610  
CAZ GPS, 43 28 43.80160 N, 90 15 23.13836 W, 333.270  
DODGEVILLE GPS, 42 59 40.56286 N, 90 8 22.70743 W, 344.560  
LONEPORT, 43 12 46.54216 N, 90 11 24.67337 W, 183.540  
NEWLISBONGPS, 43 52 54.26417 N, 90 8 38.40018 W, 235.590  
OXFORD, 43 46 37.18036 N, 89 38 25.57575 W, 249.690  
P1, 43 37 35.84268 N, 90 14 8.14974 W, 251.569  
P2, 43 24 33.07240 N, 90 8 53.13996 W, 329.291  
P3, 43 12 14.56117 N, 89 52 52.57894 W, 187.968  
P4, 43 19 59.88065 N, 89 57 34.45288 W, 209.434  
P5, 43 38 7.83507 N, 89 47 38.18628 W, 223.315  
P6, 43 32 54.81935 N, 89 40 59.49282 W, 218.615  
P7, 43 22 23.16079 N, 89 40 42.11478 W, 217.055  
REEDPORT, 43 31 39.68806 N, 89 58 58.66126 W, 239.830  
ROCK, 43 12 1.93297 N, 89 30 5.36676 W, 288.510  
S1, 43 36 14.65209 N, 90 2 3.20760 W, 274.626  
S10, 43 31 56.97627 N, 89 53 29.76723 W, 253.644  
S11, 43 35 27.18860 N, 89 51 3.48151 W, 257.758  
S12, 43 35 13.70154 N, 89 44 19.04113 W, 214.802  
S13, 43 30 7.98876 N, 89 38 0.81383 W, 211.052  
S14, 43 25 13.17225 N, 89 46 23.45341 W, 299.714  
S15, 43 28 41.13589 N, 89 47 25.30797 W, 231.609  
S2, 43 33 16.05356 N, 90 8 9.62256 W, 243.905  
S3, 43 25 56.12799 N, 90 2 11.92732 W, 256.420  
S4, 43 20 42.90369 N, 90 6 22.33709 W, 322.413  
S5, 43 14 59.86870 N, 90 6 29.23880 W, 205.637  
S6, 43 11 50.32511 N, 90 4 25.97889 W, 186.037  
S7, 43 16 46.43600 N, 89 55 37.23252 W, 206.860  
S8, 43 18 1.33363 N, 89 49 20.88461 W, 211.889  
S9, 43 23 27.82541 N, 89 56 31.52926 W, 327.750

SAUK COUNTY HARN  
1999 SURVEY  
WISCONSIN STATE PLANE COORDINATES  
SOUTH ZONE METER  
NAD 83 97 ADJUSTMENT

STATION,NORTHING,EASTING,ELLIP.HGHT

BADGER,148097.067,619526.891,222.690  
BARAPORT,169877.507,618572.552,258.610  
CAZ GPS,164316.384,579255.180,333.270  
DODGEVILLE GPS,110500.270,588613.033,344.560  
LONEPORT,134762.112,584546.595,183.540  
NEWLISBONGPS,209057.387,588427.768,235.590  
OXFORD,197472.101,628945.501,249.690  
P1,180730.199,580986.712,251.569  
P2,156557.779,588005.493,329.291  
P3,133764.478,609648.508,187.968  
P4,148117.491,603278.587,209.434  
P5,181711.190,616627.079,223.315  
P6,172079.489,625600.094,218.615  
P7,152588.437,626065.349,217.055  
REEDPORT,169712.447,601377.301,239.830  
ROCK,133489.025,640513.754,288.510  
S1,178198.320,597236.978,274.626  
S10,170251.515,608761.596,253.644  
S11,176743.763,612034.440,257.758  
S12,176349.874,621107.567,214.802  
S13,166947.590,629633.365,211.052  
S14,157809.560,618367.170,299.714  
S15,164223.543,616959.700,231.609  
S2,172695.111,589010.863,243.905  
S3,159110.817,597033.043,256.420  
S4,149449.822,591389.186,322.413  
S5,138864.425,591220.024,205.637  
S6,133012.386,593995.188,186.037  
S7,142149.836,605924.312,206.860  
S8,144473.816,614404.460,211.889  
S9,154535.289,604691.545,327.750

SAUK COUNTY HARN  
1999 SURVEY  
SAUK COUNTY COORDINATES  
U.S. FOOT  
NAD 83 97 ADJUSTMENT

STATION,NORTHING,EASTING

BADGER,187172.667,646462.873  
BARAPORT,258641.921,643417.160  
CAZ,240549.868,514387.946  
DODGEVILLE,63933.207,544882.677  
LONEPORT,143555.675,531634.185  
NEWLISBONGPS,387315.340,544663.255  
OXFORD,349143.533,677559.917  
P1,294399.906,520134.647  
P2,215057.827,543068.849  
P3,140183.975,613993.753  
P4,187303.650,593149.446  
P5,297477.778,637080.131  
P6,265839.476,666484.370  
P7,201883.905,667934.447  
REEDPORT,258167.954,586996.007  
ROCK,139157.784,715266.774  
S1,286027.847,573444.431  
S10,259907.645,611227.235  
S11,281196.899,621991.490  
S12,279868.914,651760.330  
S13,248984.994,679698.186  
S14,219045.665,642695.863  
S15,240096.615,638102.916  
S2,268003.453,546431.381  
S3,223399.271,572699.960  
S4,191721.979,554143.440  
S5,156990.039,553546.902  
S6,137777.658,562629.800  
S7,167712.349,601807.056  
S8,175304.337,629641.003  
S9,208356.010,597810.851

COORDINATE ADJUSTMENT SUMMARY  
 NETWORK = Saukharn1  
 TIME = Thu Dec 23 07:40:14 1999

Datum = NAD-83  
 Coordinate System = Geographic  
 Zone = Global

Network Adjustment Constraints:  
 8 fixed coordinates in y  
 8 fixed coordinates in x  
 8 fixed coordinates in H

POINT	NAME	OLD COORDS	ADJUST	NEW COORDS	1.00σ
1	BADGER				
	LAT=	43° 19' 58.330910"	+0.000000"	43° 19' 58.330910"	FIXED
	LON=	89° 45' 33.142980"	+0.000000"	89° 45' 33.142980"	FIXED
	ELL HT=	222.6900m	+0.0000m	222.6900m	FIXED
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
2	BARAPORT				
	LAT=	43° 31' 44.212148"	-0.000002"	43° 31' 44.212146"	0.016375m
	LON=	89° 46' 12.844520"	-0.000015"	89° 46' 12.844535"	0.012192m
	ELL HT=	258.6102m	+0.0002m	258.6104m	0.029875m
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
3	CAZ GPS				
	LAT=	43° 28' 43.801600"	+0.000000"	43° 28' 43.801600"	FIXED
	LON=	90° 15' 23.138360"	+0.000000"	90° 15' 23.138360"	FIXED
	ELL HT=	333.2700m	+0.0000m	333.2700m	FIXED
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
4	DODGEVILLE GPS				
	LAT=	42° 59' 40.562860"	+0.000000"	42° 59' 40.562860"	FIXED
	LON=	90° 08' 22.707434"	+0.000000"	90° 08' 22.707434"	FIXED
	ELL HT=	344.5600m	+0.0000m	344.5600m	FIXED
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
5	LONEPORT				
	LAT=	43° 12' 46.542160"	+0.000000"	43° 12' 46.542160"	FIXED
	LON=	90° 11' 24.673370"	+0.000000"	90° 11' 24.673370"	FIXED
	ELL HT=	183.5400m	+0.0000m	183.5400m	FIXED
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
6	NEWLISBONGPS				
	LAT=	43° 52' 54.264170"	+0.000000"	43° 52' 54.264170"	FIXED
	LON=	90° 08' 38.400180"	+0.000000"	90° 08' 38.400180"	FIXED
	ELL HT=	235.5900m	+0.0000m	235.5900m	FIXED
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
7	OXFORD				
	LAT=	43° 46' 37.180360"	+0.000000"	43° 46' 37.180360"	FIXED
	LON=	89° 38' 25.575750"	+0.000000"	89° 38' 25.575750"	FIXED
	ELL HT=	249.6900m	+0.0000m	249.6900m	FIXED
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
8	P1				
	LAT=	43° 37' 35.842688"	-0.000007"	43° 37' 35.842681"	0.011395m



# Sauk County High Accuracy Reference Network (HARN) Project Personnel & Equipment Report

## Initial Network Observations: July 29<sup>th</sup>, July 30<sup>th</sup> & August 2<sup>nd</sup>, 1999

Employee	Receiver Model	Antenna Model	Data Logger Model
Matthew M Filus	Trimble 4800	Trimble Internal	Trimble TSC1
William R Bulawa	Trimble 4700	Trimble Compact L1/L2 with Ground Plane	Trimble TSC1
James C Schroeder	Trimble 4400	Trimble Micro-Centered L1/L2 w/ Ground Plane	Trimble TSC1
Greg S Smith	Trimble 4400	Trimble Compact L1/L2 with Ground Plane	Trimble TSC1

## Repeat Baseline Observations: December 20<sup>th</sup> & 21st, 1999

Employee	Receiver Model	Antenna Model	Data Logger Model
Matthew M Filus	Trimble 4700	Trimble Compact L1/L2 with Ground Plane	Trimble TSC1
William R Bulawa	Trimble 4400	Trimble Micro-Centered L1/L2 w/ Ground Plane	Trimble TSC1

	LON=	90° 14'	08.149754"	+0.000010"	90° 14'	08.149744"	0.008683m
	ELL HT=		251.5694m	-0.0001m		251.5693m	0.018900m
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
9	P2						
	LAT=	43° 24'	33.072668"	-0.000264"	43° 24'	33.072404"	0.008642m
	LON=	90° 08'	53.139973"	+0.000014"	90° 08'	53.139959"	0.007693m
	ELL HT=		329.2847m	+0.0064m		329.2910m	0.018339m
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
10	P3						
	LAT=	43° 12'	14.561206"	-0.000037"	43° 12'	14.561169"	0.011187m
	LON=	89° 52'	52.578961"	+0.000017"	89° 52'	52.578944"	0.007820m
	ELL HT=		187.9667m	+0.0009m		187.9677m	0.021167m
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
11	P4						
	LAT=	43° 19'	59.880744"	-0.000091"	43° 19'	59.880654"	0.012163m
	LON=	89° 57'	34.452917"	+0.000032"	89° 57'	34.452885"	0.009183m
	ELL HT=		209.4327m	+0.0015m		209.4343m	0.024626m
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
12	P5						
	LAT=	43° 38'	07.835039"	+0.000036"	43° 38'	07.835075"	0.013454m
	LON=	89° 47'	38.186285"	+0.000004"	89° 47'	38.186280"	0.009859m
	ELL HT=		223.3172m	-0.0023m		223.3149m	0.026276m
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
13	P6						
	LAT=	43° 32'	54.819334"	+0.000017"	43° 32'	54.819351"	0.014249m
	LON=	89° 40'	59.492823"	+0.000004"	89° 40'	59.492819"	0.009822m
	ELL HT=		218.6154m	-0.0004m		218.6150m	0.027504m
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
14	P7						
	LAT=	43° 22'	23.160757"	+0.000032"	43° 22'	23.160789"	0.014034m
	LON=	89° 40'	42.114788"	+0.000007"	89° 40'	42.114782"	0.008726m
	ELL HT=		217.0559m	-0.0008m		217.0551m	0.025612m
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
15	REEDPORT						
	LAT=	43° 31'	39.688060"	+0.000000"	43° 31'	39.688060"	FIXED
	LON=	89° 58'	58.661260"	+0.000000"	89° 58'	58.661260"	FIXED
	ELL HT=		239.8300m	+0.0000m		239.8300m	FIXED
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
16	ROCK						
	LAT=	43° 12'	01.932970"	+0.000000"	43° 12'	01.932970"	FIXED
	LON=	89° 30'	05.366760"	+0.000000"	89° 30'	05.366760"	FIXED
	ELL HT=		288.5100m	+0.0000m		288.5100m	FIXED
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
17	S1						
	LAT=	43° 36'	14.652109"	-0.000017"	43° 36'	14.652092"	0.023074m
	LON=	90° 02'	03.207589"	-0.000006"	90° 02'	03.207596"	0.011202m
	ELL HT=		274.6246m	+0.0019m		274.6265m	0.035308m
	ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
18	S10						
	LAT=	43° 31'	56.976265"	+0.000006"	43° 31'	56.976272"	0.016116m
	LON=	89° 53'	29.767233"	+0.000003"	89° 53'	29.767230"	0.011516m

ELL HT=	253.6441m	-0.0003m	253.6438m	0.030529m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
19 S11				
LAT=	43° 35' 27.188593"	+0.000011"	43° 35' 27.188604"	0.024067m
LON=	89° 51' 03.481516"	+0.000004"	89° 51' 03.481512"	0.015176m
ELL HT=	257.7590m	-0.0006m	257.7584m	0.046983m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
20 S12				
LAT=	43° 35' 13.701530"	+0.000013"	43° 35' 13.701544"	0.017910m
LON=	89° 44' 19.041123"	-0.000006"	89° 44' 19.041129"	0.012168m
ELL HT=	214.8024m	-0.0005m	214.8019m	0.028460m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
21 S13				
LAT=	43° 30' 07.988737"	+0.000019"	43° 30' 07.988756"	0.019723m
LON=	89° 38' 00.813820"	-0.000009"	89° 38' 00.813829"	0.014108m
ELL HT=	211.0520m	-0.0003m	211.0518m	0.041003m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
22 S14				
LAT=	43° 25' 13.172259"	-0.000006"	43° 25' 13.172253"	0.012267m
LON=	89° 46' 23.453406"	-0.000003"	89° 46' 23.453409"	0.010612m
ELL HT=	299.7138m	+0.0007m	299.7145m	0.024073m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
23 S15				
LAT=	43° 28' 41.135897"	-0.000006"	43° 28' 41.135891"	0.015684m
LON=	89° 47' 25.307964"	-0.000004"	89° 47' 25.307968"	0.012902m
ELL HT=	231.6082m	+0.0007m	231.6089m	0.030077m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
24 S2				
LAT=	43° 33' 16.053574"	-0.000016"	43° 33' 16.053558"	0.024341m
LON=	90° 08' 09.622562"	-0.000002"	90° 08' 09.622564"	0.012273m
ELL HT=	243.9035m	+0.0011m	243.9046m	0.040434m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
25 S3				
LAT=	43° 25' 56.128128"	-0.000134"	43° 25' 56.127994"	0.019518m
LON=	90° 02' 11.927332"	+0.000010"	90° 02' 11.927322"	0.013906m
ELL HT=	256.4175m	+0.0030m	256.4205m	0.043905m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
26 S4				
LAT=	43° 20' 42.903869"	-0.000182"	43° 20' 42.903687"	0.028379m
LON=	90° 06' 22.337118"	+0.000031"	90° 06' 22.337088"	0.019541m
ELL HT=	322.4086m	+0.0041m	322.4127m	0.043706m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
27 S5				
LAT=	43° 14' 59.868810"	-0.000113"	43° 14' 59.868697"	0.021375m
LON=	90° 06' 29.238856"	+0.000054"	90° 06' 29.238802"	0.016028m
ELL HT=	205.6354m	+0.0016m	205.6370m	0.041484m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
28 S6				
LAT=	43° 11' 50.325178"	-0.000072"	43° 11' 50.325106"	0.015136m
LON=	90° 04' 25.978953"	+0.000060"	90° 04' 25.978893"	0.011205m
ELL HT=	186.0371m	+0.0002m	186.0373m	0.028011m

ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
29 S7				
LAT=	43° 16' 46.436070"	-0.000066"	43° 16' 46.436004"	0.017013m
LON=	89° 55' 37.232546"	+0.000025"	89° 55' 37.232520"	0.012006m
ELL HT=	206.8589m	+0.0015m	206.8604m	0.027915m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
30 S8				
LAT=	43° 18' 01.333639"	-0.000005"	43° 18' 01.333634"	0.014218m
LON=	89° 49' 20.884615"	+0.000003"	89° 49' 20.884612"	0.010686m
ELL HT=	211.8894m	+0.0000m	211.8894m	0.029337m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
31 S9				
LAT=	43° 23' 27.825532"	-0.000120"	43° 23' 27.825412"	0.021672m
LON=	89° 56' 31.529269"	+0.000008"	89° 56' 31.529260"	0.015687m
ELL HT=	327.7478m	+0.0020m	327.7498m	0.051930m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN