

**POTTAWATTAMIE COUNTY
IOWA
GPS SURVEY REPORT**

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POTTAWATTAMIE COUNTY

I. INTRODUCTION

This report summarizes the results of a control survey requested by POTTAWATTAMIE COUNTY, State of IOWA. The survey was done throughout the County based on an approximate 3 mile survey grid system, located in Townships 74, 75, 76, 77 North, Ranges 38, 39, 40, 41, 42, 43, 44, 45 West. The survey was accomplished using GPS (Global Positioning System) survey methods. The purpose of the survey was to establish horizontal control and vertical control on approximately 134 points, and establish the GPS network as a horizontal control network for future control needs. The GPS network is related to the NAD-83 (1996) horizontal datum and the NAVD88 vertical datum.

II. HORIZONTAL AND VERTICAL CONTROL

NAD-83 (1996) (North American Datum of 1983, adjustment of 1996) geodetic and state plane positions were established on approximately 134 points. The primary horizontal precision meets or exceeds the accuracy standards and specifications for using GPS relative positioning techniques for first order horizontal control and exceeds the accuracies necessary to meet the National Map Accuracy Standards. The following primary existing "B" ORDER points with NAD-83 (1996) coordinate values were held fixed for the GPS network. These points have been used and are recognized as primary control in this area. Newly established coordinate values should be based on these controlling points. Note that "B" ORDER control point HANCOCK had a new value established in 1996 (Lat = 41 23 07.71523, Long = 095 20 49.28040).

Do Not use the NAD 83 (1995) value.

PT#	NAME or DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT
		LATITUDE NORTH DEG MIN SEC	LONGITUDE WEST DEG MIN SEC	ELLIPSOID METERS
101	J 180	41 8 56.89950 N	95 48 44.50313 W	270.52
105	E 180	41 24 5.44242 N	95 53 38.81424 W	272.49
106	HANCOCK	41 23 7.71523 N	95 20 49.28040 W	353.65
148	U 148	41 8 46.35668 N	95 17 20.47452 W	360.27
149	TURK	41 19 53.01878 N	94 59 13.29149 W	370.85
152	HNR A	41 35 4.93848 N	95 20 30.15703 W	339.53

All "B" Order control points checked within 0.018 meters horizontally and 0.023 meters ellipsoid vertical. See section on comparisons and analysis of geodetic network.

POTTAWATTAMIE COUNTY

THE NAD83 (1996) IOWA SOUTH STATE PLANE COORDINATES SYSTEM WAS USED TO DEFINE COORDINATE VALUES IN AND AROUND THE POTTAWATTAMIE COUNTY AREA.

BASIS OF BEARING AND COORDINATES STATEMENT:

The NAD-83 (1996) (North American Datum of 1983, adjustment of 1996) IOWA SOUTH STATE PLANE COORDINATE SYSTEM is a Lambert Projection of the GRS-80 Ellipsoid, having the following conditions for defining and stating the positions or locations of points on the surface of the earth within the State of Iowa.

Projection: 1983 State Plane Lambert

Zone = Iowa South

Central Meridian = W 93° 30' 00.00000"

Latitude Of Origin = N 40° 00' 00.00000"

Origin Northing = 0.0000(M) Easting = 500000.0000(M)

North Standard Parallel = N 41° 47' 00.00000"

South Standard Parallel = N 40° 37' 00.00000"

Scale Along Standard Parallels = 1.000000000

From the existing NGS "B" Order Coordinate values, 10 new main control points were established within Pottawattamie County to perpetuate the remaining 124 control points. The "B" Order horizontal control points with published NGS positions and the 10 newly established main control points were compared to show differences between existing published NGS coordinates and this established GPS control network (before network was constrained).

POTTAWATTAMIE COUNTY

COMPARISONS (MAIN CONTROL POINTS)

PT#	NAME or DESIGNATION	SP NAD83 (1996)			PUBLISHED			DIFF.	DIFF.	DIFF.
		IOWA SOUTH		HEIGHT	PUBLISHED	PUBLISHED	PUBLISHED	DIFF.	DIFF.	DIFF.
		NORTHING	EASTING	ELLIPSOID	NORTHING	EASTING	ELLIPSOID	NORTHING	EASTING	ELLIPSOID
	Y	X								
		METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS
105	E 180	158391.842	299832.393	272.494	<u>158391.839</u>	<u>299832.389</u>	<u>272.49</u>	0.003	0.004	0.004
106	HANCOCK	<u>155496.250</u>	<u>345528.113</u>	353.638	<u>155496.25</u>	<u>345528.113</u>	<u>353.65</u>	<u>0.000</u>	<u>0.000</u>	-0.012
152	HNR A	177608.020	346440.744	339.550	<u>177608.005</u>	<u>346440.755</u>	<u>339.53</u>	0.015	-0.011	0.020
101	J 180	130189.883	305920.988	270.537	<u>130189.867</u>	<u>305920.994</u>	<u>270.52</u>	0.016	-0.006	0.017
149	TURK	148913.984	375529.734	<u>370.850</u>	<u>148913.966</u>	<u>375529.748</u>	<u>370.85</u>	0.018	-0.014	<u>0.000</u>
148	U 148	128829.150	349831.789	360.247	<u>128829.135</u>	<u>349831.797</u>	<u>360.27</u>	0.015	-0.008	-0.023
532	764306-1	159523.742	305609.933	279.375	159523.737	305609.937	279.374	0.005	-0.004	0.001
535	764204-1	159696.381	318642.393	304.630	159696.374	318642.396	304.631	0.007	-0.003	-0.001
540	774035-2	159296.705	340906.192	373.028	159296.698	340906.196	373.036	0.007	-0.004	-0.008
542	773936-3	159079.590	350445.140	366.885	159079.583	350445.146	366.893	0.007	-0.006	-0.008
566	764235-3	150216.991	320391.036	360.323	150216.984	320391.038	360.323	0.007	-0.002	0.000
569	764033-3	149823.632	335887.263	330.956	149823.627	335887.266	330.964	0.005	-0.003	-0.008
586	753913-3	144685.758	350161.204	351.703	144685.750	350161.210	351.713	0.008	-0.006	-0.010
599	744006-1	140223.255	334019.304	334.514	140223.249	334019.307	334.522	0.006	-0.003	-0.008
612	744224-3	134265.096	321170.713	337.637	134265.090	321170.715	337.639	0.006	-0.002	-0.002
621	743816-3	135055.478	354731.940	330.489	135055.470	354731.945	330.500	0.008	-0.005	-0.011
AVERAGE =								0.008	-0.005	-0.003

Note: All COMPARISONS of the fixed points check extremely well. (see comparisons and analysis)
 An average Combined Factor for the area is 0.999900.

The Primary vertical control is based on NAVD 88 (North American Vertical Datum of 1988) orthometric heights (elevations). The ellipsoid vertical control was established by GPS methods based on the GRS 80 ellipsoid, the ellipsoid heights and resulting elevation difference accuracy is 3rd order or better vertical control. The true ellipsoid height offset to false ellipsoid height has an average constant of 0.037 meters based on the geoid96 model. Vertical precision also exceeds the accuracies necessary to meet the National Map Accuracy Standards.

The following Bench Marks where used to establish the vertical control.

Primary vertical control points with published NGS and heights were compared to show differences between existing published heights and heights established by this GPS control network (before network was constrained).

POTTAWATTAMIE COUNTY

COMPARISONS (VERTICAL CONTROL)

1 VERT. FIXED POINT ELLIP. (764033-3) ORTHO (R149)							
PT#	NAME or DESIGNATION	HEIGHT	HEIGHT	PUBLISHED	PUBLISHED	DIFF.	DIFF.
		ELLIPSOID	NAVD88	ELLIPSOID	NAVD88	ELLIPSOID	NAVD88
		METERS	METERS	METERS	METERS	METERS	METERS
105	E 180	272.522	300.745	272.49	300.733	0.032	0.012
106	HANCOCK	353.638	381.355	353.65	381.4	-0.012	0.004
502	T 180	280.098	308.708		308.706		0.002
529	A 150	365.440	393.129		393.153		-0.024
530	N 180	272.851	301.162		301.157		0.005
532	764306-1	279.370	307.643	279.374	307.663	-0.004	-0.020
535	764204-1	304.644	332.828	304.631	332.825	0.013	0.003
540	774035-2	373.031	400.897	373.036	400.896	-0.005	0.001
542	773836-3	366.892	394.607	366.893	394.598	-0.001	0.009
549	NGS-1072	298.901	326.929		326.956		-0.027
554	J 147	310.201	337.932		337.925		0.007
564	R 135	292.358	320.263		320.279		-0.016
569	764033-3	330.964	358.668	330.964	358.653	0.000	0.015
584	R 149	305.546	333.246		333.246		0.000
586	753913-3	351.710	379.438	351.713	379.413	-0.003	0.025
599	744006-1	334.504	362.211	334.522	362.205	-0.018	0.006
600	H 149RESET	297.648	325.435		325.44		-0.005
608	LEWIS	268.342	295.751		295.718		0.033
612	744224-3	337.653	365.272	337.639	365.238	0.014	0.034
616	C 149	336.050	363.998		363.998		0.000
621	743816-3	330.499	358.595	330.500	358.555	-0.001	0.040
AVERAGE =						0.001	0.005

The height on NGS point R 149 was established as the best fit vertical control and used as the base station for vertical control.. NGS vertical control points UU 135, E 150, and T182 where not use to establish vertical control because it is possible these points have been moved or disturbed, but these points where used for verification. All elevations (orthometric heights) checked within 0.056 meters (0.18 feet). The vertical results from the GPS survey checked good. An approximate average conversion factor used to establish the difference between vertical datum NAVD88 and vertical datum NGVD29 is +0.09 meters (0.3 feet).

III. JOB SUMMARY AND EQUIPMENT

POTTAWATTAMIE COUNTY

Dual frequency TRIMBLE 4000SSI GEODETIC RECEIVERS were used for this project.

GPS field observations were made in August and September of 1998 and January and February of 1999, utilizing the most optimum satellite configurations. Satellite information was collected by utilizing four Trimble GPS receivers Model No. 4000 SSI.

Serial Numbers

3136A00107

3136A00109

3136A00113

3136A00121

All antenna heights were measured in both meters and feet. GPS in the static mode was used for all sessions.

IV. LOOP-CLOSURES

A loop closure is a test of GPS observations that relates to conventional survey traverse closure methods. Closures on the GPS network are included to show the resulting precision ratio in parts per million (PPM). Coordinates are in latitude and longitude, height is ellipsoid height (not orthometric heights). The slope distance and total distance traveled along the traverse is displayed (in meters) together with the precision in parts per million (PPM) and the loop closure error is stated in Northing, Easting, and Height (U) components in meters. Loop closures are done before any adjustment and before any constraint of the GPS network. The latitude and longitude coordinates and ellipsoid heights from loop closures are not to be used as final coordinates. All loop closures showed good results (see comparisons and analysis section).

V. ERROR ELLIPSES

An error ellipse shows the points expected horizontal coordinate standard error. The standard error for the ellipsoid height and orthometric height is shown by the arrows to the right of the ellipse. The scale of the plots is shown by the bar ticks running through the ellipses and by the tag at the bottom of the page of the display indicating the bar scale tick value (0.01 m). The scale is the same for all pages of displayed ellipses. The ellipses for control point HANCOCK do not show because it was held as a fixed point. All error ellipses showed good results.

**POTTAWATTAMIE COUNTY
IOWA
MAIN CONTROL POINTS**

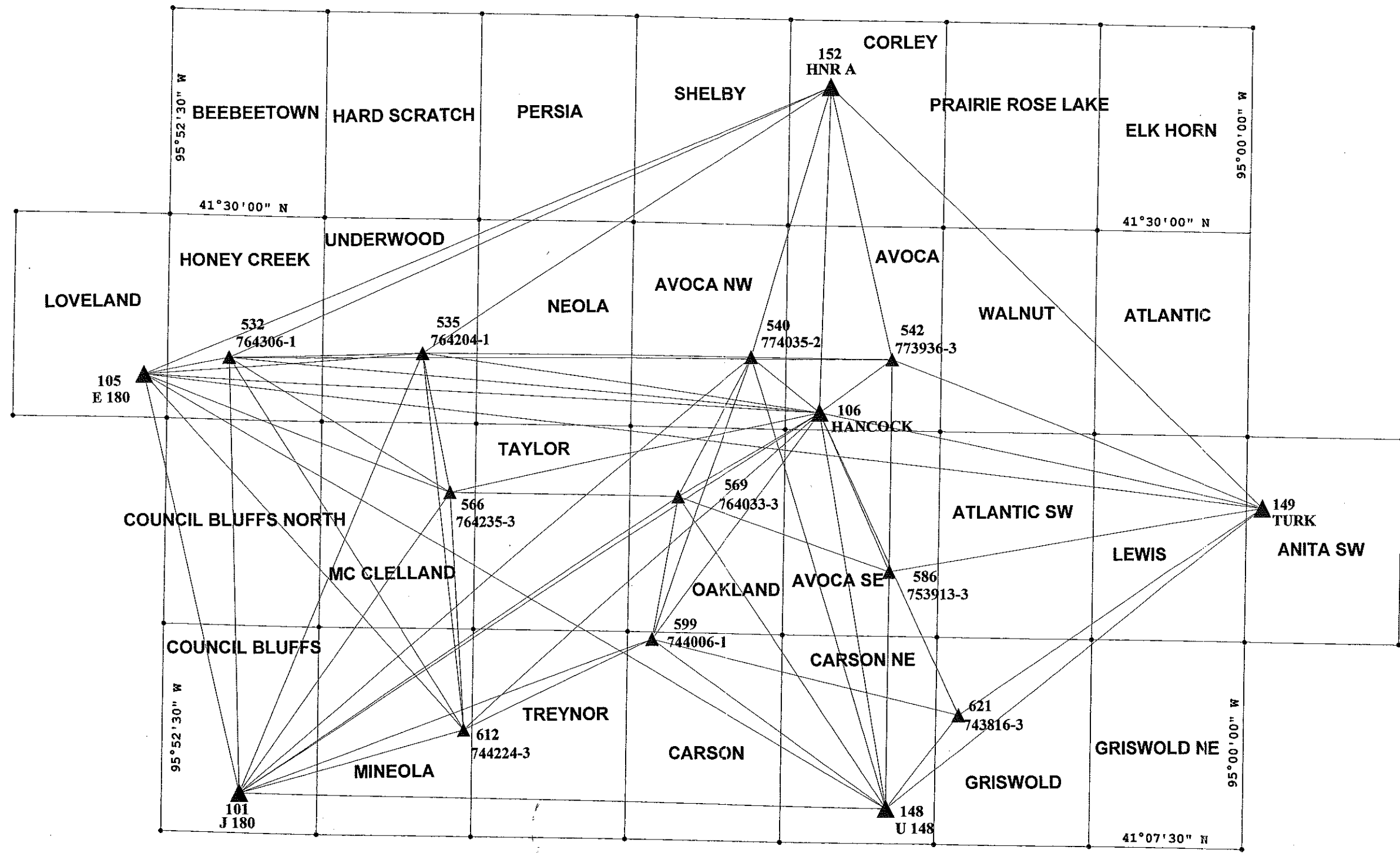
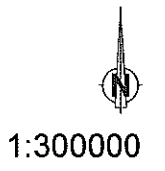
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JUNE 1999

STA.	STA.	GEODETIC NAD83 (1996)		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT
NAME	ID	LATITUDE	LONGITUDE	ELLIPSOID	NORTHING	EASTING	NAVD88	NORTHING	EASTING	NAVD88
or		NORTH	WEST		Y	X		Y	X	
DESIGNATION		DEG MIN SEC	DEG MIN SEC	METERS	METERS	METERS	METERS	US FEET	US FEET	US FEET
J 180	0101	41 8 56.89950 N	95 48 44.50313 W	270.52	130189.867	305920.994	297.886	427131.26	1003675.79	977.31
E 180	0105	41 24 5.44242 N	95 53 38.81424 W	272.49	158391.839	299832.389	300.733	519657.23	983700.10	986.65
HANCOCK	0106	41 23 7.71523 N	95 20 49.28040 W	353.65	155496.250	345528.113	381.4	510157.28	1133620.15	1251.2
U 148	0148	41 8 46.35668 N	95 17 20.47452 W	360.27	128829.135	349831.797	388.514	422666.92	1147739.82	1274.65
TURK	0149	41 19 53.01878 N	94 59 13.29149 W	370.85	148913.966	375529.748	398.7	488561.90	1232050.51	1308.0
HNR A	0152	41 35 4.93848 N	95 20 30.15703 W	339.53	177608.005	346440.755	368.1	582702.26	1136614.38	1207.7
764306-1	0532	41 24 47.20050 N	95 49 31.46748 W	279.37	159523.735	305609.939	307.66	523370.79	1002655.27	1009.4
764204-1	0535	41 25 3.70932 N	95 40 10.64719 W	304.63	159696.373	318642.397	332.83	523937.18	1045412.60	1091.9
774035-2	0540	41 25 7.65192 N	95 24 11.74838 W	373.04	159296.698	340906.196	400.90	522625.92	1118456.41	1315.3
773936-3	0542	41 25 7.17799 N	95 17 20.85830 W	366.88	159079.581	350445.147	394.60	521913.59	1149752.12	1294.6
764235-3	0566	41 19 57.92510 N	95 38 45.29826 W	360.33	150216.983	320391.037	388.10	492836.89	1051149.59	1273.3
764033-3	0569	41 19 57.03438 N	95 27 38.63321 W	330.96	149823.626	335887.267	358.65	491546.35	1101990.14	1176.7
753913-3	0586	41 17 20.49343 N	95 17 20.33545 W	351.71	144685.749	350161.210	379.41	474689.83	1148820.57	1244.8
744006-1	0599	41 14 44.53009 N	95 28 49.54840 W	334.52	140223.248	334019.307	362.21	460049.11	1095861.68	1188.3
744224-3	0612	41 11 21.59252 N	95 37 54.96319 W	337.64	134265.089	321170.715	365.24	440501.38	1053707.59	1198.3
743816-3	0621	41 12 11.37175 N	95 13 55.68837 W	330.50	135055.470	354731.946	358.56	443094.49	1163816.39	1176.4

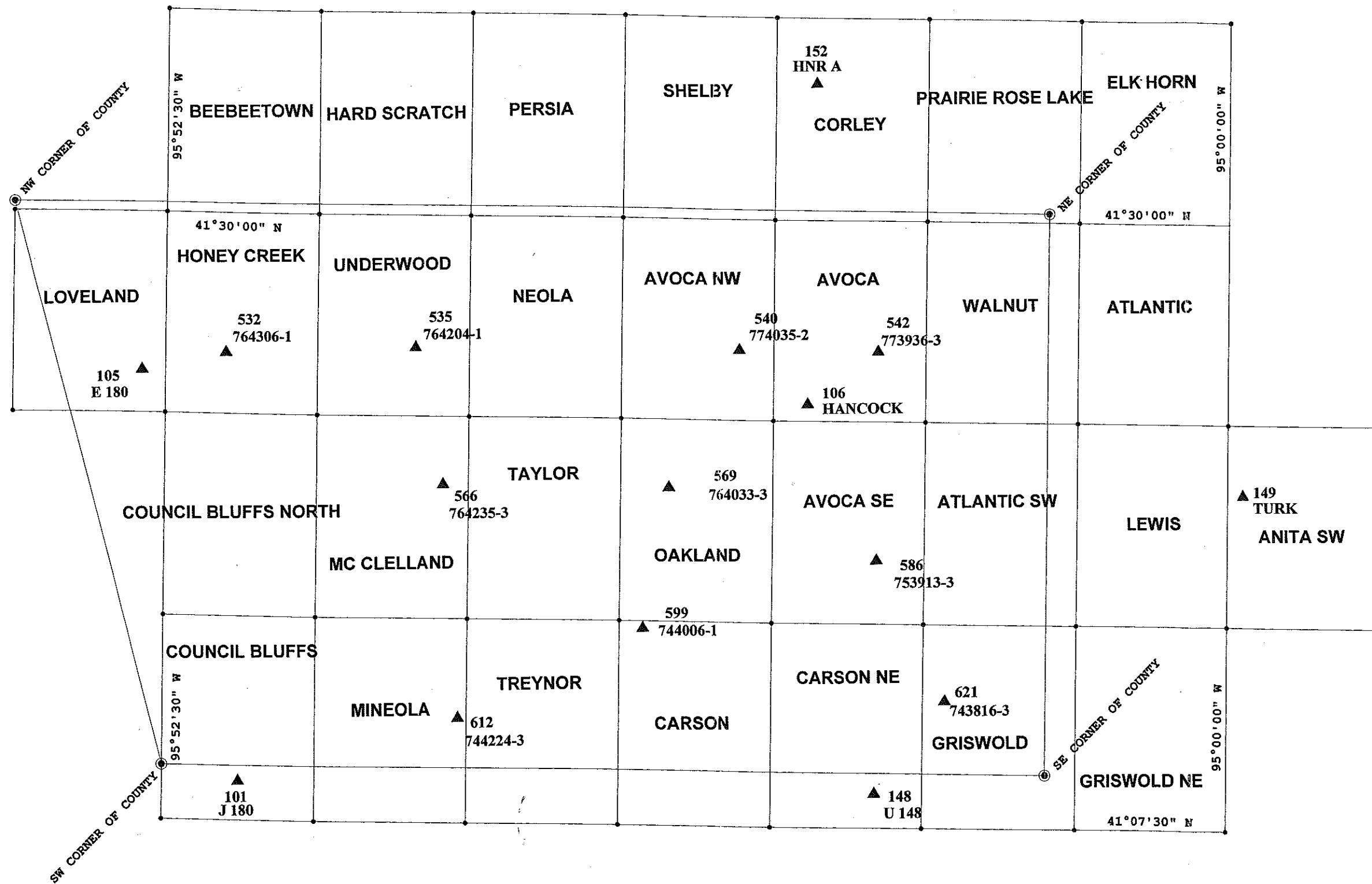
POTTAWATTAMIE COUNTY
IOWA

MAIN CONTROL POINTS
QUAD MAP LOCATIONS



POTTAWATTAMIE COUNTY
IOWA

MAIN CONTROL POINTS
QUAD MAP LOCATIONS




POTTAWATTAMIE COUNTY


EXISTING B ORDER POINTS
NEW NGS 1ST ORDER POINTS


1 in to 30000 ft

NW CORNER OF COUNTY

NE CORNER OF COUNTY

 HNR A - B ORDER


 E 180 - B ORDER

532

535


540

542

 HANCOCK - B ORDER

566

569

 TURK - B ORDER


586


599

SW CORNER OF COUNTY

SE CORNER OF COUNTY

621

 180 - B ORDER

 148 - B ORDER

POTTAWATTAMIE COUNTY, IOWA
GIS MAPPING PROJECT
GPS SURVEY REPORT (MAIN)
JUNE 1999

<u>PT#</u>	<u>DESIGNATION</u>	<u>DESCRIPTION</u>
532	764306-1	TO REACH THE STATION FROM THE INTERSECTION OF HIGHWAY 988 AND HIGHWAY 183 IN CRESCENT, IOWA, GO NORTHEAST 3.7 MILES ON HIGHWAY 183 TO COLDWATER AVENUE, GO 0.5 MILES NORTHEAST ON COLDWATER AVENUE TO STATION ON LEFT. THE STATION IS LOCATED AT THE NORTHEAST CORNER OF COLDWATER AVENUE (ROUTE L36) AND 190 TH STREET, LOCATED 28 FEET EAST OF THE EAST EDGE OF 190 TH STREET, 32 FEET NORTHEAST OF THE NORTHEASTERLY EDGE OF COLDWATER AVENUE (ROUTE L36), 21 FEET SOUTHEAST OF A POWER POLE, 25 FEET SOUTHWEST OF "GRANGE CEMETERY" SIGN, IN PUBLIC ROAD RIGHT OF WAY APPROXIMATELY 6 FEET BELOW THE SURFACE OF THE ROADS.
535	764204-1	TO REACH THE STATION FROM THE INTERSECTION OF COUNTY ROAD G30 AND HIGHWAY 191 ON THE NORTH SIDE OF THE TOWN OF UNDERWOOD, IOWA, GO NORTHEAST ON HIGHWAY 191 2.3 MILES TO THE INTERSECTION OF ROSEWOOD ROAD, TURN LEFT (WEST) AND GO 0.8 MILES ON ROSEWOOD ROAD TO A "T" INTERSECTION WITH COUNTY ROAD L52. POINT IS LOCATED AT THE SOUTHWEST CORNER OF THE INTERSECTION, 14 FEET WEST OF THE WEST EDGE OF 220 TH , 70 FEET SOUTH OF CENTERLINE OF ROSEWOOD ROAD, 65 FEET SOUTHWEST OF POWER POLE, 2 FEET EAST OF ORANGE CARSONITE POST AND NORTH-SOUTH FENCE, IN PUBLIC RIGHT OF WAY, APPROXIMATELY 5 FEET BELOW THE SURFACE OF THE ROAD.
540	774035-2	TO REACH THE STATION FROM THE INTERSECTION OF COUNTY ROAD G30 AND HIGHWAY 59 IN HANCOCK, GO WEST ON COUNTY ROAD G30 2.1 MILES TO COUNTY ROAD M23, GO NORTH ON COUNTY ROAD M23 2.0 MILES TO STATION ON THE LEFT. THE STATION IS LOCATED AT THE NORTHWEST CORNER OF ROSEWOOD AND 410 TH STREET (M23), 20 FEET WEST OF THE WEST EDGE OF GRAVEL OF 410 TH STREET, 1.6 FEET EAST OF CARSONITE POST, 1.9 FEET EAST OF THE NORTH SOUTH BARBED WIRE FENCE, 13.5 FEET NORTH OF FENCE CORNER, 31 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD.

POTTAWATTAMIE COUNTY, IOWA
GIS MAPPING PROJECT
GPS SURVEY REPORT (MAIN)
JUNE 1999

<u>PT#</u>	<u>DESIGNATION</u>	<u>DESCRIPTION</u>
542	773936-3	TO REACH THE STATION FROM HANCOCK, FROM THE INTERSECTION OF HIGHWAY 59 AND G-30 TRAVEL EAST 2.5 MILES TO THE INTERSECTION OF G-30 AND 470 TH STREET, TRAVEL NORTH ON 470 TH STREET 2 MILES TO THE INTERSECTION OF 470 TH AND ROSEWOOD LANE. THE STATION IS LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION, 3.0 FEET SOUTHWEST OF AN ORANGE CARSONITE POST, 26 FEET SOUTHEAST OF A FENCE ANGLE POINT, 31 FEET NORTHWEST OF A POWER POLE, 30 FEET NORTHEAST OF A STOP SIGN, 3.5 FEET SOUTHWEST OF FENCE.
566	764235-3	TO REACH THE STATION FROM THE INTERSECTION OF L52 ROAD AND IDLEWOOD ROAD ON THE EAST SIDE OF MCLELLAND, TRAVEL EAST 2.3 MILES TO THE INTERSECTION OF IDLEWOOD ROAD AND 282 ND STREET. THE STATION IS LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF IDLEWOOD & 282 ND , 3 FEET WEST OF THE ORANGE CARSONITE POST, 15 FEET EAST OF EAST EDGE OF 282 ND STREET, 32 FEET NORTH OF NORTH EDGE OF IDLEWOOD ROAD, 9 FEET NORTHWEST OF POWER POLE.
569	764033-3	TO REACH THE STATION FROM OAKLAND ROAD (G42) AND HIGHWAY 6 IN DOWNTOWN OAKLAND, GO WEST (NW) ON COUNTY ROAD G42 3.6 MILES AT WHICH POINT ROAD TURNS INTO COUNTY ROAD M16, CONTINUE 1 MILE TO STATION ON RIGHT AT THE NORTHEAST CORNER OF THE INTERSECTION. THE STATION IS LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF IDLEWOOD ROAD AND 380 TH STREET (COUNTY ROAD M16), 1.4 FEET WEST OF BARBED WIRE FENCE AND CARSONITE POST, 38.8 FEET NORTH OF UNDERGROUND CABLE MARKER SIGN, 34.6 FEET EAST OF EAST EDGE 380 TH STREET, 90 FEET NORTH OF THE IDLEWOOD ROAD, IN PUBLIC RIGHT OF WAY.
586	753913-3	TO REACH THE STATION FROM OAKLAND, FROM THE INTERSECTION OF US HIGHWAY 6 AND US HIGHWAY 59 TRAVEL EAST 5 MILES TO 470 TH STREET, THEN TRAVEL SOUTH ON 470 TH STREET 2 MILES TO HACKBERRY ROAD. THE STATION IS LOCATED ON THE NORTHEAST CORNER OF INTERSECTION OF 470 TH STREET AND HACKBERRY ROAD, 3 FEET SOUTH OF ORANGE CARSONITE POST, 9 FEET EAST OF EAST EDGE GRAVEL 470 TH STREET, 17.5 WEST OF END OF FENCE, 52.5 FEET NORTH OF STOP SIGN, IN ROAD RIGHT OF WAY.

POTTAWATTAMIE COUNTY, IOWA
GIS MAPPING PROJECT
GPS SURVEY REPORT (MAIN)
JUNE 1999

<u>PT#</u>	<u>DESIGNATION</u>	<u>DESCRIPTION</u>
599	744006-1	TO REACH THE STATION FROM THE INTERSECTION OF HIGHWAYS 59 AND 92 ON THE EAST SIDE OF CARSON, IOWA, GO WEST 4.1 MILES ON HIGHWAY 92 THROUGH CARSON TO COUNTY ROAD M16 (370 TH STREET), GO NORTH 1 MILE TO STATION ON LEFT. THE STATION IS LOCATED IN THE SOUTHWEST CORNER OF THE INTERSECTION OF 370 TH (M16) AND COTTONWOOD ROAD , 28 FEET SOUTH OF THE SOUTH EDGE OF GRAVEL OF COTTONWOOD ROAD, 10 FEET WEST OF THE WEST EDGE OF COUNTY ROAD M16 (370 TH STREET), 23 FEET SOUTHEAST OF STOP SIGN, 2.3 FEET EAST OF WEST RIGHT OF WAY FENCE OF ROAD M16, IN PUBLIC RIGHT OF WAY, APPROXIMATELY 3 FEET BELOW THE SURFACE OF ROAD.
612	744224-3	TO REACH THE STATION FROM TREYNOR, TRAVEL SOUTH ON COUNTY ROAD L-55 3 MILES TO THE INTERSECTION OF COUNTY ROAD L-55 AND COUNTY ROAD G66. THE STATION IS LOCATED ON THE NORTHEAST CORNER OF THE INTERSECTION OF COUNTY ROAD G-66 (PIONEER TRAIL) AND COUNTY ROAD L-55 (290 TH STREET), LOCATED APPROXIMATELY 3 FEET SOUTHWEST OF A BARBED WIRE FENCE RUNNING NORTHWEST TO SOUTHEAST, 3 FEET SOUTHWEST OF AN ORANGE CARSONITE POST, 7.1 FEET NORTHWEST OF SIGN (TRIPLE TRUCKING), 47 FEET NORTHEAST OF STOP SIGN, 34.5 FEET SOUTHEAST OF FENCE ANGLE POINT.
621	743816-3	TO REACH THE STATION FROM MACEDONIA, TRAVEL WEST ON COUNTY ROAD G-66, 9 MILES TO COUNTY ROAD M47, THEN NORTH 2 MILES TO BEECHNUT ROAD. THE STATION IS LOCATED NORTHEAST OF THE INTERSECTION OF BEECHNUT ROAD AND 500 TH STREET, 3.5 FEET SOUTHWEST OF A BARBED WIRE FENCE, 52 FEET EAST OF EAST EDGE OF 500 TH STREET, ON THE NORTH SIDE OF BEECHNUT ROAD, 40.2 FEET NORTHEAST OF SIGN (STREET INTERSECTION), 54.5 FEET NORTH OF STOP SIGN, APPROXIMATELY 4 FEET SOUTHWEST OF AN ORANGE CARSONITE POST.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998

MJ1382 *****

MJ1382 CBN - This is a Cooperative Base Network Control Station.

MJ1382 DESIGNATION - E 180

MJ1382 PID - MJ1382

MJ1382 STATE/COUNTY- IA/POTTAWATTAMIE

MJ1382 USGS QUAD - LOVELAND (1977)

MJ1382

MJ1382 *CURRENT SURVEY CONTROL

MJ1382

MJ1382* NAD 83(1996)- 41 24 05.44242(N) 095 53 38.81424(W) ADJUSTED

MJ1382* NAVD 88 - 300.733 (meters) 986.65 (feet) ADJUSTED

MJ1382

MJ1382 X - -492,033.036 (meters) COMP

MJ1382 Y - -4,766,092.915 (meters) COMP

MJ1382 Z - 4,196,153.894 (meters) COMP

MJ1382 LAPLACE CORR- 0.04 (seconds) DEFLEC96

MJ1382 ELLIP HEIGHT- 272.49 (meters) GPS OBS

MJ1382 GEOID HEIGHT- -28.18 (meters) GEOID96

MJ1382 DYNAMIC HT - 300.599 (meters) 986.22 (feet) COMP

MJ1382 MODELED GRAV- 980,168.3 (mgal) NAVD 88

MJ1382

MJ1382 HORZ ORDER - B

MJ1382 VERT ORDER - FIRST CLASS II

MJ1382 ELLP ORDER - FOURTH CLASS I

MJ1382

MJ1382.The horizontal coordinates were established by GPS observations

MJ1382.and adjusted by the National Geodetic Survey in August 1997.

MJ1382.This is a SPECIAL STATUS position. See SPECIAL STATUS under the

MJ1382.DATUM ITEM on the data sheet items page.

MJ1382

MJ1382.The orthometric height was determined by differential leveling

MJ1382.and adjusted by the National Geodetic Survey in June 1991.

MJ1382

MJ1382.The X, Y, and Z were computed from the position and the ellipsoidal ht.

MJ1382

MJ1382.The Laplace correction was computed from DEFLEC96 derived deflections.

MJ1382

MJ1382.The ellipsoidal height was determined by GPS observations

MJ1382.and is referenced to NAD 83.

MJ1382

MJ1382.The geoid height was determined by GEOID96.

MJ1382

MJ1382.The dynamic height is computed by dividing the NAVD 88

MJ1382.geopotential number by the normal gravity value computed on the

MJ1382.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MJ1382.degrees latitude (G = 980.6199 gals.).

MJ1382

MJ1382.The modeled gravity was interpolated from observed gravity values.

MJ1382

MJ1382; North East Units Scale Converg.

MJ1382;SPC IA S - 158,391.839 299,832.389 MT 0.99995448 -1 34 37.2

MJ1382;UTM 15 - 4,587,372.914 258,070.461 MT 1.00032037 -1 54 53.6

MJ1382

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

MJ1382 SUPERSEDED SURVEY CONTROL

MJ1382

MJ1382.No superseded survey control is available for this station.

MJ1382

MJ1382_MARKER: I = METAL ROD

MJ1382_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)

MJ1382_STAMPING: E 180 1989

MJ1382_PROJECTION: FLUSH

MJ1382_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

MJ1382_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

MJ1382+SATELLITE: SATELLITE OBSERVATIONS - 1989

MJ1382_ROD/PIPE-DEPTH: 24.4 meters

MJ1382

MJ1382 HISTORY -Date Condition Recov. By

MJ1382 HISTORY - 1989 MONUMENTED NGS

MJ1382 HISTORY - 19960919 GOOD IADT

MJ1382

MJ1382 STATION DESCRIPTION

MJ1382

MJ1382'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989

MJ1382'8.3 KM (5.15 MI) SOUTHERLY ALONG INTERSTATE HIGHWAY 29 FROM ITS

MJ1382'JUNCTION WITH INTERSTATE HIGHWAY 680 IN LOVELAND, THENCE 2.4 KM

MJ1382'(1.50 MI) SOUTHERLY ALONG COUNTY ROAD L 19, 10.6 M (34.8 FT) EAST OF

MJ1382'THE CENTER OF THE ROAD, 6.7 M (22.0 FT) SOUTH OF THE CENTER OF A

MJ1382'DRIVEWAY, 0.7 M (2.3 FT) SOUTH OF A UTILITY POLE, 0.5 M (1.6 FT) WEST

MJ1382'OF A WITNESS POST AND FENCE, AND LEVEL WITH THE ROAD. NOTE--ACCESS TO

MJ1382'DATUM POINT IS HAD THROUGH A 5-INCH LOGO CAP.

MJ1382

MJ1382 STATION RECOVERY (1996)

MJ1382

MJ1382'RECOVERY NOTE BY IOWA DEPARTMENT OF TRANSPORTATION 1996 (DMO)

MJ1382'RECOVERED AS DESCRIBED. A PINK STATE HARN SURVEY SIGN WAS SET ON THE

MJ1382'UTILITY POLE.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)**

"B" ORDER

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998

MJ1199 *****

MJ1199 CBN - This is a Cooperative Base Network Control Station.

MJ1199 DESIGNATION - HANCOCK

MJ1199 PID - MJ1199

MJ1199 STATE/COUNTY- IA/POTTAWATTAMIE

MJ1199 USGS QUAD - AVOCA (1964)

MJ1199

MJ1199 *CURRENT SURVEY CONTROL

MJ1199

MJ1199* NAD 83(1996)- 41 23 07.71523(N) 095 20 49.28040(W) ADJUSTED

MJ1199* NAVD 88 - 381.4 (meters) 1251. (feet) GPS OBS

MJ1199

MJ1199 X - -446,617.343 (meters) COMP

MJ1199 Y - -4,771,806.918 (meters) COMP

MJ1199 Z - 4,194,871.479 (meters) COMP

MJ1199 LAPLACE CORR- 2.29 (seconds) DEFLEC96

MJ1199 ELLIP HEIGHT- 353.65 (meters) GPS OBS

MJ1199 GEOID HEIGHT- -27.67 (meters) GEOID96

MJ1199

MJ1199 HORZ ORDER - B

MJ1199 ELLP ORDER - FOURTH CLASS I

MJ1199

MJ1199.The horizontal coordinates were established by GPS observations

MJ1199.and adjusted by the National Geodetic Survey in August 1997.

MJ1199.This is a SPECIAL STATUS position. See SPECIAL STATUS under the

MJ1199.DATUM ITEM on the data sheet items page.

MJ1199

MJ1199.The orthometric height was determined by GPS observations.

MJ1199

MJ1199.The X, Y, and Z were computed from the position and the ellipsoidal ht.

MJ1199

MJ1199.The Laplace correction was computed from DEFLEC96 derived deflections.

MJ1199

MJ1199.The ellipsoidal height was determined by GPS observations

MJ1199.and is referenced to NAD 83.

MJ1199

MJ1199.The geoid height was determined by GEOID96.

MJ1199

MJ1199; North East Units Scale Converg.

MJ1199;SPC IA S - 155,496.250 345,528.113 MT 0.99995354 -1 12 59.9

MJ1199;UTM 15 - 4,584,208.103 303,759.292 MT 1.00007396 -1 33 07.8

MJ1199

MJ1199: Primary Azimuth Mark Grid Az

MJ1199:SPC IA S - HANCOCK AZ MK 070 35 13.7

MJ1199:UTM 15 - HANCOCK AZ MK 070 55 21.6

MJ1199

MJ1199|-----|

MJ1199| PID Reference Object Distance Geod. Az |

MJ1199| dddmmss.s |

MJ1199| MJ1198 AVOCA MUN TANK APPROX.10.8 KM 0045731.4 |

MJ1199| MJ1196 HANCOCK AZ MK APPROX. 4.9 KM 0692213.8 |

MJ1199| HANCOCK RM 2 19.172 METERS 09720 |

MJ1199| HANCOCK RM 1 19.471 METERS 35833 |

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

MJ1199|-----|

MJ1199

MJ1199

SUPERSEDED SURVEY CONTROL

MJ1199

MJ1199 NAD 83(1986)- 41 23 07.72175(N) 095 20 49.30028(W) AD() 2

MJ1199 NAD 83(1995)- 41 23 07.72151(N) 095 20 49.29945(W) AD() 2

MJ1199 NAD 27 - 41 23 07.75387(N) 095 20 48.29945(W) AD() 2

MJ1199 NGVD 29 - 381.1 (m) 1250. (f) VERT ANG

MJ1199

MJ1199.Superseded values are not recommended for survey control.

MJ1199.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MJ1199.See file format.dat to determine how the superseded data were derived.

MJ1199

MJ1199_MARKER: DD = SURVEY DISK

MJ1199_SETTING: 46 = COPPER-CLAD STEEL ROD W/O SLEEVE (10 FT.+)

MJ1199_STAMPING: HANCOCK 1968

MJ1199_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

MJ1199

MJ1199 HISTORY - Date Condition Recov. By

MJ1199 HISTORY - 1968 MONUMENTED USGS

MJ1199 HISTORY - 19960917 GOOD IADT

MJ1199

MJ1199 STATION DESCRIPTION

MJ1199

MJ1199'DESCRIBED BY US GEOLOGICAL SURVEY 1968 (JFS)

MJ1199'STATION IS LOCATED 0.8 MI E. OF HANCOCK, IN THE RIGHT-OF-WAY

MJ1199'OF A N.-S. GRAVEL RD., 0.3 MI S. OF ITS INTERSECTION WITH

MJ1199'U.S. HWY. 59 AND 0.3 MI S. OF COR. OF SECS. 8, 9, 16 AND 17,

MJ1199'T. 76 N., R. 39 W.

MJ1199'

MJ1199'TO REACH THE STATION FROM THE POST OFFICE AT HANCOCK, DRIVE S. 0.1

MJ1199'MI TO U.S. HWY. 59, TURN LEFT AND DRIVE E. ON HWY. 59 FOR 0.8 MI

MJ1199'TO A GRAVEL RD. CROSSING, TURN RIGHT AND DRIVE S. ON GRAVEL

MJ1199'RD. FOR 0.3 MI TO STATION ON THE RIGHT.

MJ1199'

MJ1199'STATION MARK AND REFERENCE MARKS ARE STANDARD TABLETS STAMPED

MJ1199'HANCOCK 1968 CRIMPED ON 10 FT LENGTHS OF COPPER COATED ROD, DRIVEN

MJ1199'FLUSH WITH THE GROUND AND SET IN 6 IN. TILE FILLED WITH GRAVEL.

MJ1199'

MJ1199'STATION MARK IS 0.15 MI S. OF CENTER OF A WOODEN BRIDGE OVER A

MJ1199'RR., 30 FT W. OF CENTER OF THE GRAVEL RD., 8 FT N. OF CENTER OF

MJ1199'APPROACH TO FIELD W., 2.7 FT E. OF N. GATE POST OF FIELD ENTRANCE

MJ1199'AND 0.6 FT W. OF A METAL WITNESS POST.

MJ1199'

MJ1199'REFERENCE MARK 1 IS 63.88 FT (19.470 M.) N. OF STATION, 32 FT

MJ1199'W. OF CENTER OF GRAVEL RD., 3.4 FT S. OF A TELEPHONE POLE AND 1

MJ1199'FT E. OF RIGHT-OF-WAY FENCE AND A METAL WITNESS POST.

MJ1199'

MJ1199'REFERENCE MARK 2 IS 62.90 FT (19.172 M.) E. OF STATION, 34

MJ1199'FT E. OF CENTER OF THE RD., 3.6 FT N. OF A POWER LINE POLE AND 1

MJ1199'FT W. OF RIGHT-OF-WAY FENCE AND A METAL WITNESS POST.

MJ1199

MJ1199

STATION RECOVERY (1996)

MJ1199

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

MJ1199'RECOVERY NOTE BY IOWA DEPARTMENT OF TRANSPORTATION 1996 (DMO)
MJ1199'RECOVERED AS DESCRIBED. A PINK STATE HARN SURVEY SIGN WAS SET 1.0 M
MJ1199'(3.3 FT) NORTHWEST OF THE MONUMENT.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998

AE2137 *****

AE2137 CBN - This is a Cooperative Base Network Control Station.

AE2137 PACS - This is a Primary Airport Control Station.

AE2137 DESIGNATION - HNR A

AE2137 PID - AE2137

AE2137 STATE/COUNTY- IA/SHELBY

AE2137 USGS QUAD - CORLEY (1978)

AE2137

AE2137 *CURRENT SURVEY CONTROL

AE2137

AE2137* NAD 83(1996)- 41 35 04.93848(N) 095 20 30.15703(W) ADJUSTED

AE2137* NAVD 88 - 368.07 (meters) 1207.6 (feet) GPS OBS

AE2137

AE2137 X - -444,809.331 (meters) COMP

AE2137 Y - -4,757,243.159 (meters) COMP

AE2137 Z - 4,211,438.970 (meters) COMP

AE2137 LAPLACE CORR- 5.40 (seconds) DEFLEC96

AE2137 ELLIP HEIGHT- 339.53 (meters) GPS OBS

AE2137 GEOID HEIGHT- -28.50 (meters) GEOID96

AE2137

AE2137 HORZ ORDER - B

AE2137 ELLP ORDER - FOURTH CLASS I

AE2137

AE2137.This mark is at Harlan Municipal Airport (HNR)

AE2137

AE2137.The horizontal coordinates were established by GPS observations

AE2137.and adjusted by the National Geodetic Survey in August 1997.

AE2137.This is a SPECIAL STATUS position. See SPECIAL STATUS under the

AE2137.DATUM ITEM on the data sheet items page.

AE2137

AE2137.The orthometric height was determined by GPS observations.

AE2137

AE2137.GPS derived orthometric heights for airport stations designated as

AE2137.PACS or SACS are published to 2 decimal places. This maintains

AE2137.centimeter relative accuracy between the PACS and SACS. It does

AE2137.not indicate centimeter accuracy relative to other marks which are

AE2137.part of the NAVD 88 network.

AE2137

AE2137.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AE2137

AE2137.The Laplace correction was computed from DEFLEC96 derived deflections.

AE2137

AE2137.The ellipsoidal height was determined by GPS observations

AE2137.and is referenced to NAD 83.

AE2137

AE2137.The geoid height was determined by GEOID96.

AE2137

AE2137; North East Units Scale Converg.

AE2137;SPC IA S - 177,608.005 346,440.755 MT 0.99997077 -1 12 47.3

AE2137;UTM 15 - 4,606,316.517 304,802.695 MT 1.00006891 -1 33 17.1

AE2137

AE2137

SUPERSEDED SURVEY CONTROL

AE2137

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

AE2137.No superseded survey control is available for this station.

AE2137

AE2137_MARKER: I = METAL ROD

AE2137_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

AE2137_STAMPING: HNR A 1996

AE2137_PROJECTION: FLUSH

AE2137_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

AE2137_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AE2137+SATELLITE: SATELLITE OBSERVATIONS - 1996

AE2137_ROD/PIPE-DEPTH: 16.0 meters

AE2137_SLEEVE-DEPTH : 0.9 meters

AE2137

AE2137 HISTORY - Date Condition Recov. By

AE2137 HISTORY - 1996 MONUMENTED NGS

AE2137

AE2137 STATION DESCRIPTION

AE2137

AE2137'DESCRIBED BY NATIONAL GEODETIC SURVEY 1996 (SFH)

AE2137'THE STATION IS LOCATED ABOUT 7.25 KM (4.50 MI) SOUTH OF HARLAN, IA.,

AE2137'AT THE HARLAN MUNICIPAL AIRPORT/RUSHENBERG FIELD. IN THE GRASS, ON A
AE2137'SMALL RISE ALONG THE EAST SIDE OF THE WEST PERIMETER FENCE, BETWEEN 2
AE2137'FENCE POSTS PAINTED YELLOW. OWNERSHIP--CITY OF HARLAN, HARLAN, IA.

AE2137'51537. AIRPORT MANAGER OLIN PASH, PHONE 712-744-3366. NOTE--THIS

AE2137'STATION IS THE (PACS AND CBN STATION). TO REACH THE STATION FROM THE

AE2137'JUNCTION OF U.S. HIGHWAY 59 AND STATE HIGHWAY 44, ON THE WEST SIDE OF

AE2137'HARLAN, GO SOUTH, 7.25 KM (4.50 MI) ALONG HIGHWAY 59 TO THE AIRPORT

AE2137'ENTRANCE ON THE RIGHT. TURN RIGHT, NORTH, 0.08 KM (0.05 MI) ALONG THE

AE2137'ENTRANCE ROAD TO A ROAD BETWEEN THE HANGARS JUST PAST THE BEACON

AE2137'TOWER. TURN LEFT, WEST, 0.3 KM (0.20 MI) BETWEEN THE HANGARS, THEN

AE2137'SOUTHWESTERLY ACROSS APRON AND ALONG THE TAXI/RAMP TO THE RUNWAY.

AE2137'TURN RIGHT, NORTH-NORTHWEST, 0.3 KM (0.20 MI) CROSSING THE RUNWAY TO A

AE2137'NORTHEAST-SOUTHWEST TURF RUNWAY. TURN LEFT, SOUTHWEST, 0.24 KM (0.15

AE2137'MI) ALONG THE TURF RUNWAY TO ITS END AT THE WEST PERIMETER FENCE.

AE2137'TURN RIGHT, NORTH, 0.88 KM (0.55 MI) ALONG THE EAST SIDE OF THE FENCE

AE2137'TO THE STATION ON THE LEFT JUST EAST OF THE FENCE. STATION IS 110.0 M

AE2137'(360.9 FT) SOUTH OF THE NORTHEAST CORNER OF THE FENCE, 2.6 M (8.5 FT)

AE2137'NORTH OF A YELLOW FENCE POST, 2.3 M (7.5 FT) SOUTH OF A YELLOW FENCE

AE2137'POST, 0.4 M (1.3 FT) EAST OF THE FENCE AND WITNESS POST, AND THE

AE2137'STATION IS LEVEL WITH THE FENCE ROW AND FLUSH WITH THE GROUND SURFACE.

AE2137'NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO CAP. BY R.G.

AE2137'HAYES

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998

MJ1402 *****

MJ1402 CBN - This is a Cooperative Base Network Control Station.

MJ1402 DESIGNATION - J 180

MJ1402 PID - MJ1402

MJ1402 STATE/COUNTY- IA/POTTAWATTAMIE

MJ1402 USGS QUAD - COUNCIL BLUFFS SOUTH (1977)

MJ1402

MJ1402 *CURRENT SURVEY CONTROL

MJ1402

MJ1402* NAD 83(1996)- 41 08 56.89950(N) 095 48 44.50313(W) ADJUSTED

MJ1402* NAVD 88 - 297.886 (meters) 977.31 (feet) ADJUSTED

MJ1402

MJ1402 X - -487,104.385 (meters) COMP

MJ1402 Y - -4,785,184.055 (meters) COMP

MJ1402 Z - 4,175,087.048 (meters) COMP

MJ1402 LAPLACE CORR- -3.43 (seconds) DEFLEC96

MJ1402 ELLIP HEIGHT- 270.52 (meters) GPS OBS

MJ1402 GEOID HEIGHT- -27.32 (meters) GEOID96

MJ1402 DYNAMIC HT - 297.766 (meters) 976.92 (feet) COMP

MJ1402 MODELED GRAV- 980,212.2 (mgal) NAVD 88

MJ1402

MJ1402 HORZ ORDER - B

MJ1402 VERT ORDER - FIRST CLASS II

MJ1402 ELLP ORDER - FOURTH CLASS I

MJ1402

MJ1402.The horizontal coordinates were established by GPS observations

MJ1402.and adjusted by the National Geodetic Survey in August 1997.

MJ1402.This is a SPECIAL STATUS position. See SPECIAL STATUS under the
MJ1402.DATUM ITEM on the data sheet items page.

MJ1402

MJ1402.The orthometric height was determined by differential leveling

MJ1402.and adjusted by the National Geodetic Survey in June 1991.

MJ1402

MJ1402.The X, Y, and Z were computed from the position and the ellipsoidal ht.

MJ1402

MJ1402.The Laplace correction was computed from DEFLEC96 derived deflections.

MJ1402

MJ1402.The ellipsoidal height was determined by GPS observations

MJ1402.and is referenced to NAD 83.

MJ1402

MJ1402.The geoid height was determined by GEOID96.

MJ1402

MJ1402.The dynamic height is computed by dividing the NAVD 88

MJ1402.geopotential number by the normal gravity value computed on the

MJ1402.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MJ1402.degrees latitude (G = 980.6199 gals.).

MJ1402

MJ1402.The modeled gravity was interpolated from observed gravity values.

MJ1402

MJ1402; North East Units Scale Converg.

MJ1402;SPC IA S - 130,189.867 305,920.994 MT 0.99994878 -1 31 23.4

MJ1402;UTM 15 - 4,559,126.062 263,997.122 MT 1.00028554 -1 51 05.2

MJ1402

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

MJ1402 SUPERSEDED SURVEY CONTROL

MJ1402

MJ1402.No superseded survey control is available for this station.

MJ1402

MJ1402_MARKER: I = METAL ROD

MJ1402_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

MJ1402_STAMPING: J 180

MJ1402_PROJECTION: FLUSH

MJ1402_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

MJ1402_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

MJ1402+SATELLITE: SATELLITE OBSERVATIONS - 1989

MJ1402_ROD/PIPE-DEPTH: 19.2 meters

MJ1402_SLEEVE-DEPTH : 4.6 meters

MJ1402

MJ1402 HISTORY - Date Condition Recov. By

MJ1402 HISTORY - 1989 MONUMENTED NGS

MJ1402 HISTORY - 19960918 GOOD IADT

MJ1402

MJ1402 STATION DESCRIPTION

MJ1402

MJ1402'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989

MJ1402'8.1 KM (5.05 MI) SOUTHERLY ALONG INTERSTATE HIGHWAY 29 FROM THE

MJ1402'JUNCTION OF STATE HIGHWAY 92 IN COUNCIL BLUFFS, THENCE 0.8 KM

MJ1402'(0.50 MI) EAST ALONG STATE HIGHWAY 370, 65.5 M (214.9 FT) EAST OF THE

MJ1402'CENTER OF COUNTY ROAD L 31, 17.2 M (56.4 FT) SOUTH OF THE CENTERLINE

MJ1402'OF THE HIGHWAY, 1.8 M (5.9 FT) EAST OF A UTILITY POLE, 0.9 M (3.0 FT)

MJ1402'NORTH OF A WITNESS POST AND FENCE, AND 1.3 M (4.3 FT) BELOW THE LEVEL

MJ1402'OF THE HIGHWAY. NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH

MJ1402'LOGO CAP.

MJ1402

MJ1402 STATION RECOVERY (1996)

MJ1402

MJ1402'RECOVERY NOTE BY IOWA DEPARTMENT OF TRANSPORTATION 1996 (DMO)

MJ1402'RECOVERED AS DESCRIBED. A PINK STATE HARN SURVEY SIGN WAS SET 0.6 M

MJ1402'(2.0 FT) SOUTH OF THE MONUMENT.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998

MJ1121 *****

MJ1121 FBN - This is a Candidate for Federal Base Network Control.

MJ1121 DESIGNATION - TURK

MJ1121 PID - MJ1121

MJ1121 STATE/COUNTY- IA/CASS

MJ1121 USGS QUAD - ANITA SW (1973)

MJ1121

MJ1121 *CURRENT SURVEY CONTROL

MJ1121

MJ1121* NAD 83(1996)- 41 19 53.01878(N) 094 59 13.29149(W) ADJUSTED

MJ1121* NAVD 88 - 398.7 (meters) 1308. (feet) GPS OBS

MJ1121

MJ1121 X - -416,972.989 (meters) COMP

MJ1121 Y - -4,778,485.777 (meters) COMP

MJ1121 Z - 4,190,374.213 (meters) COMP

MJ1121 LAPLACE CORR- -3.46 (seconds) DEFLEC96

MJ1121 ELLIP HEIGHT- 370.85 (meters) GPS OBS

MJ1121 GEOID HEIGHT- -27.80 (meters) GEOID96

MJ1121

MJ1121 HORZ ORDER - B

MJ1121 ELLP ORDER - FOURTH CLASS I

MJ1121

MJ1121.The horizontal coordinates were established by GPS observations

MJ1121.and adjusted by the National Geodetic Survey in August 1997.

MJ1121.This is a SPECIAL STATUS position. See SPECIAL STATUS under the
MJ1121.DATUM ITEM on the data sheet items page.

MJ1121

MJ1121.The orthometric height was determined by GPS observations.

MJ1121

MJ1121.The X, Y, and Z were computed from the position and the ellipsoidal ht.

MJ1121

MJ1121.The Laplace correction was computed from DEFLEC96 derived deflections.

MJ1121

MJ1121.The ellipsoidal height was determined by GPS observations

MJ1121.and is referenced to NAD 83.

MJ1121

MJ1121.The geoid height was determined by GEOID96.

MJ1121

MJ1121; North East Units Scale Converg.

MJ1121;SPC IA S - 148,913.966 375,529.748 MT 0.99995096 -0 58 46.2

MJ1121;UTM 15 - 4,577,450.554 333,723.608 MT 0.99994027 -1 18 45.2

MJ1121

MJ1121: Primary Azimuth Mark Grid Az

MJ1121:SPC IA S - TURK AZ MK 201 40 04.2

MJ1121:UTM 15 - TURK AZ MK 202 00 03.2

MJ1121

MJ1121|-----|

MJ1121| PID Reference Object Distance Geod. Az |

MJ1121| dddmmss.s |

MJ1121| TURK RM 1 12.539 METERS 08743 |

MJ1121| TURK RM 2 19.657 METERS 16446 |

MJ1121| MJ1188 TURK AZ MK APPROX. 3.4 KM 2004118.0 |

MJ1121| MJ1190 LEWIS STATE PATROL RAD MAST APPROX. 9.7 KM 2601407.8 |

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)**

"B" ORDER

MJ1121|-----|

MJ1121

MJ1121 SUPERSEDED SURVEY CONTROL

MJ1121

MJ1121 NAD 83(1986)- 41 19 53.01151(N) 094 59 13.31639(W) AD() 2

MJ1121 NAD 27 - 41 19 53.04833(N) 094 59 12.35728(W) AD() 2

MJ1121 NGVD 29 - 398.6 (m) 1308. (f) LEVELING 3

MJ1121

MJ1121.Superseded values are not recommended for survey control.

MJ1121.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MJ1121.See file format.dat to determine how the superseded data were derived.

MJ1121

MJ1121_MARKER: DD = SURVEY DISK

MJ1121_SETTING: 46 = COPPER-CLAD STEEL ROD W/O SLEEVE (10 FT.+)

MJ1121_STAMPING: TURK 1968

MJ1121_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

MJ1121_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

MJ1121+SATELLITE: SATELLITE OBSERVATIONS - September 17, 1996

MJ1121

MJ1121 HISTORY - Date Condition Recov. By

MJ1121 HISTORY - 1968 MONUMENTED USGS

MJ1121 HISTORY - 19960917 GOOD IADT

MJ1121

MJ1121 STATION DESCRIPTION

MJ1121

MJ1121'DESCRIBED BY US GEOLOGICAL SURVEY 1968 (JFS)

MJ1121'STATION IS LOCATED ABOUT 1 MI E. AND 5 MI S. OF ATLANTIC,

MJ1121'ABOUT 0.1 MI W. OF COR. OF SECS. 3, 4, 33 AND 34, TS. 75 AND

MJ1121'76 N., R. 36 W., IN THE RIGHT-OF-WAY OF AN E.-W. GRAVEL RD., ABOUT

MJ1121'0.1 MI W. OF ITS INTERSECTION WITH U.S. HWY. 71.

MJ1121'

MJ1121'TO REACH THE STATION FROM THE POST OFFICE IN ATLANTIC,

MJ1121'DRIVE 2 BLOCKS S. ON WALNUT STREET TO JCT. WITH U.S. HWY. 6,

MJ1121'TURN LEFT AND DRIVE E. 1.5 MI ON HWY. 6 TO T-JCT. WITH

MJ1121'U.S. HWY. 71, TURN RIGHT AND DRIVE 4.9 MI S. TO JCT. OF AN

MJ1121'E.-W. GRAVEL RD., TURN RIGHT AND DRIVE W. 0.1 MI ON GRAVEL

MJ1121'RD. TO STATION ON THE RIGHT.

MJ1121'

MJ1121'STATION AND REFERENCE MARKS ARE STANDARD TABLETS STAMPED

MJ1121'TURK 1968 CRIMPED ON 10 FT LENGTHS OF COPPER COATED ROD,

MJ1121'DRIVEN FLUSH WITH THE GROUND AND SET IN 6 IN. TILE FILLED

MJ1121'WITH GRAVEL.

MJ1121'

MJ1121'STATION MARK IS 30 FT N. OF CENTER OF THE E.-W. RD., 14 FT

MJ1121'E. OF CENTER OF APPROACH TO FIELD N., 5.6 FT E. OF E. GATE

MJ1121'POST AND 2.4 FT S. OF THE RIGHT-OF-WAY FENCE AND A METAL

MJ1121'WITNESS POST. ELEVATION OF STATION MARK = 1307.643 FT, BY

MJ1121'P. J. HOHENBERGER, BK. 1, P. 53. 1968.

MJ1121'

MJ1121'REFERENCE MARK 1 IS 41.14 FT (12.539 M.) E. OF STATION,

MJ1121'32 FT N. OF CENTER OF THE RD. AND 1 FT S. OF THE RIGHT-OF-WAY

MJ1121'FENCE AND A METAL WITNESS POST.

MJ1121'

MJ1121'REFERENCE MARK 2 IS 64.49 FT (19.656 M.) S.-SE. OF STATION,

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

MJ1121'33 FT S. OF CENTER OF THE RD., 15 FT W. OF A POWER LINE POLE
MJ1121'AND 1 FT N. OF THE RIGHT-OF-WAY FENCE AND A METAL WITNESS POST.

MJ1121

MJ1121 STATION RECOVERY (1996)

MJ1121

MJ1121'RECOVERY NOTE BY IOWA DEPARTMENT OF TRANSPORTATION 1996 (DMO)

MJ1121'RECOVERED AS DESCRIBED. A PINK STATE HARN SURVEY SIGN WAS PLACED 0.9

MJ1121'M (3.0 FT) NNW OF THE MONUMENT.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998

MJ0521 *****

MJ0521 CBN - This is a Cooperative Base Network Control Station.

MJ0521 DESIGNATION - U 148

MJ0521 PID - MJ0521

MJ0521 STATE/COUNTY- IA/MONTGOMERY

MJ0521 USGS QUAD - CARSON NE (1978)

MJ0521

MJ0521 *CURRENT SURVEY CONTROL

MJ0521

MJ0521* NAD 83(1996)- 41 08 46.35668(N) 095 17 20.47452(W) ADJUSTED

MJ0521* NAVD 88 - 388.514 (meters) 1274.65 (feet) ADJUSTED

MJ0521

MJ0521 X - -443,402.623 (meters) COMP

MJ0521 Y - -4,789,714.005 (meters) COMP

MJ0521 Z - 4,174,901.183 (meters) COMP

MJ0521 LAPLACE CORR- -4.98 (seconds) DEFLEC96

MJ0521 ELLIP HEIGHT- 360.27 (meters) GPS OBS

MJ0521 GEOID HEIGHT- -28.25 (meters) GEOID96

MJ0521 DYNAMIC HT - 388.351 (meters) 1274.11 (feet) COMP

MJ0521 MODELED GRAV- 980,193.3 (mgal) NAVD 88

MJ0521

MJ0521 HORZ ORDER - B

MJ0521 VERT ORDER - SECOND CLASS 0

MJ0521 ELLP ORDER - FOURTH CLASS I

MJ0521

MJ0521.The horizontal coordinates were established by GPS observations

MJ0521.and adjusted by the National Geodetic Survey in August 1997.

MJ0521.This is a SPECIAL STATUS position. See SPECIAL STATUS under the

MJ0521.DATUM ITEM on the data sheet items page.

MJ0521

MJ0521.The orthometric height was determined by differential leveling

MJ0521.and adjusted by the National Geodetic Survey in June 1991.

MJ0521

MJ0521.The X, Y, and Z were computed from the position and the ellipsoidal ht.

MJ0521

MJ0521.The Laplace correction was computed from DEFLEC96 derived deflections.

MJ0521

MJ0521.The ellipsoidal height was determined by GPS observations

MJ0521.and is referenced to NAD 83.

MJ0521

MJ0521.The geoid height was determined by GEOID96.

MJ0521

MJ0521.The dynamic height is computed by dividing the NAVD 88

MJ0521.geopotential number by the normal gravity value computed on the

MJ0521.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MJ0521.degrees latitude (G = 980.6199 gals.).

MJ0521

MJ0521.The modeled gravity was interpolated from observed gravity values.

MJ0521

MJ0521; North East Units Scale Converg.

MJ0521;SPC IA S - 128,829.135 349,831.797 MT 0.99994882 -1 10 42.3

MJ0521;UTM 15 - 4,557,513.461 307,908.941 MT 1.00005415 -1 30 23.7

MJ0521

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

MJ0521 SUPERSEDED SURVEY CONTROL

MJ0521

MJ0521 NGVD 29 - 388.438 (m) 1274.40 (f) ADJ UNCH 2 0

MJ0521

MJ0521. Superseded values are not recommended for survey control.

MJ0521. NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MJ0521. See file format.dat to determine how the superseded data were derived.

MJ0521

MJ0521_MARKER: DB = BENCH MARK DISK

MJ0521_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)

MJ0521_STAMPING: U 148 1949

MJ0521_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

MJ0521+STABILITY: SURFACE MOTION

MJ0521

MJ0521 HISTORY - Date Condition Recov. By

MJ0521 HISTORY - 1949 MONUMENTED CGS

MJ0521 HISTORY - 1970 GOOD NGS

MJ0521 HISTORY - 1976 POOR USGS

MJ0521 HISTORY - 19960917 GOOD IADT

MJ0521

MJ0521 STATION DESCRIPTION

MJ0521

MJ0521'DESCRIBED BY COAST AND GEODETIC SURVEY 1949

MJ0521'7 MI W FROM ELLIOTT.

MJ0521'0.3 MILE SOUTH ALONG A DIRT ROAD FROM THE WATER TOWER AT ELLIOT,

MJ0521'THENCE 3.7 MILES WEST ALONG STATE HIGHWAY 48, THENCE 3.0 MILES

MJ0521'WEST ALONG COUNTY ROAD A, IN THE NORTHWEST CORNER OF A SCHOOL YARD,

MJ0521'210 FEET NORTH OF THE CENTER LINE OF THE COUNTY ROAD, 55 FEET EAST

MJ0521'OF THE CENTER LINE OF A NORTH AND SOUTH ROAD, 70.0 FEET NORTH OF

MJ0521'THE NORTHWEST CORNER OF A SCHOOL BUILDING, 1.0 FOOT SOUTH OF A FENCE,

MJ0521'1.4 FEET WEST OF A WITNESS POST, SET IN THE TOP OF A CONCRETE POST

MJ0521'WHICH PROJECTS 0.4 FOOT ABOVE THE GROUND. THIS MARK IS 1.1 MILES

MJ0521'EAST OF BENCH MARK V 148. NOTE-- THE OLD SCHOOLHOUSE MENTIONED

MJ0521'IN THE DESCRIPTION NO LONGER REMAINS. A METAL WITNESS POST WAS

MJ0521'SET 1 FOOT WEST OF THE MARK.

MJ0521

MJ0521 STATION RECOVERY (1970)

MJ0521

MJ0521'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1970

MJ0521'RECOVERED IN GOOD CONDITION.

MJ0521

MJ0521 STATION RECOVERY (1976)

MJ0521

MJ0521'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1976

MJ0521'MARK RECOVERED IN POOR CONDITION.

MJ0521

MJ0521 STATION RECOVERY (1996)

MJ0521

MJ0521'RECOVERY NOTE BY IOWA DEPARTMENT OF TRANSPORTATION 1996 (DMO)

MJ0521'STATION IS 6 MI (9.7 KM) WEST OF ELLIOT, IN THE SOUTHWEST QUARTER OF

MJ0521'SECTION 1, T 73 N, R 39 W. TO REACH THE STATION FROM THE JUNCTION OF

MJ0521'STATE HIGHWAY 48 AND COUNTY ROAD H 12, JUST 3 MI (4.8 KM) WEST OF THE

MJ0521'TOWN OF ELLIOT, GO WEST ON COUNTY ROAD H 12 FOR 3 MI (4.8 KM) TO A

MJ0521'GRAVEL CROSSROAD AND THE STATION ON THE RIGHT, 210 FT (64.0 M) NORTH

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS CONTROL (MAIN)
"B" ORDER**

MJ0521' OF THE CENTERLINE OF COUNTY ROAD H 12, 55 FT (16.8 M) EAST OF THE
MJ0521' CENTERLINE OF THE GRAVEL ROAD, 1.5 FT (0.5 M) SOUTH OF A FENCE, 1.4 FT
MJ0521' (0.4 M) WEST OF A WHITE SURVEY WITNESS POST, AND 0.35 M (1.15 FT) WEST
MJ0521' OF A PINK STATE HARN SURVEY SIGN.

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998

POTTAWATTAMIE COUNTY
IOWA
3 MILE GRID CONTROL

50013142
JUNE 1999

PT#	NAME or DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT
		LATITUDE	LONGITUDE	ELLIPSOID	NORTHING	EASTING	NAVD88	NORTHING	EASTING	NAVD88
		NORTH	WEST		Y	X	(Z)	Y	X	(Z)
		DEG MIN SEC	DEG MIN SEC	METERS	METERS	METERS	METERS	US FEET	US FEET	US FEET
101	J 180	41 8 56.89950 N	95 48 44.50313 W	270.52	130189.867	305920.994	297.886	427131.25	1003675.79	977.31
105	E 180	41 24 5.44242 N	95 53 38.81424 W	272.49	158391.839	299832.389	300.733	519657.23	983700.10	986.65
106	HANCOCK	41 23 7.71523 N	95 20 49.28040 W	353.65	155496.250	345528.113	381.35	510157.28	1133620.15	1251.2
148	U 148	41 8 46.35668 N	95 17 20.47452 W	360.27	128829.135	349831.797	388.514	422666.92	1147739.82	1274.65
149	TURK	41 19 53.01878 N	94 59 13.29149 W	370.85	148913.966	375529.748	398.67	488561.90	1232050.51	1308.0
152	HNR A	41 35 4.93848 N	95 20 30.15703 W	339.53	177608.005	346440.755	368.12	582702.26	1136614.38	1207.7
501	774501-4	41 30 23.60989 N	95 58 31.01245 W	275.75	170243.326	293379.978	304.28	558539.98	962530.81	998.3
502	T 180	41 30 23.66804 N	95 53 26.50669 W	280.07	170047.627	300438.806	308.71	557897.92	985689.65	1012.8
503	774401-4	41 30 23.32829 N	95 51 1.72155 W	355.80	169945.655	303794.867	384.48	557563.37	996700.33	1261.4
504	774303-3	41 29 30.60104 N	95 47 2.29258 W	346.43	168171.692	309302.596	375.10	551743.29	1014770.27	1230.7
505	774206-3	41 29 31.93521 N	95 43 36.06037 W	303.14	168088.819	314085.679	331.82	551471.40	1030462.77	1088.6
506	774203-4	41 30 22.48365 N	95 40 11.30700 W	303.12	169527.731	318872.366	331.82	556192.23	1046167.09	1088.6
507	774202-1	41 30 20.91139 N	95 37 54.93984 W	336.68	169401.052	322032.604	365.34	555776.62	1056535.30	1198.6
508	774103-1	41 30 21.61768 N	95 32 45.51163 W	374.07	169250.521	329206.822	402.62	555282.75	1080072.72	1320.9
509	774005-4	41 30 21.22273 N	95 28 47.28019 W	382.95	169110.504	334729.741	411.36	554823.38	1098192.49	1349.6
510	774004-3	41 29 29.65475 N	95 27 5.56362 W	364.03	167466.740	337052.298	392.30	549430.46	1105812.41	1287.1
511	774001-4	41 30 20.70386 N	95 24 9.82758 W	383.77	168950.914	341162.027	412.03	554299.79	1119295.75	1351.8
512	773904-1	41 30 7.67800 N	95 19 55.54353 W	361.46	168422.567	347049.168	389.55	552566.37	1138610.48	1278.1
513	773901-4	41 30 21.14341 N	95 17 19.70610 W	352.48	168762.666	350671.069	380.49	553682.18	1150493.33	1248.3
514	773803-4	41 30 19.08189 N	95 12 44.74627 W	374.71	168570.758	357044.958	402.55	553052.56	1171405.00	1320.7
515	773801-3	41 29 27.94767 N	95 10 27.06876 W	372.96	166931.418	360206.819	400.69	547674.16	1181778.54	1314.6
516	774518-1	41 28 12.59695 N	95 56 15.87755 W	274.19	166114.708	296399.273	302.71	544994.67	972436.61	993.1
517	774318-2	41 27 53.78101 N	95 49 41.77116 W	355.98	165283.960	305524.788	384.54	542269.13	1002375.91	1261.6
518	774321-4	41 27 41.60867 N	95 47 49.28991 W	349.72	164839.191	308124.070	378.27	540809.91	1010903.72	1241.0
519	774230-4	41 26 53.56869 N	95 43 20.48260 W	292.89	163195.632	314322.082	321.31	535417.67	1031238.36	1054.1
520	774215-3	41 27 46.53088 N	95 40 10.49537 W	356.99	164717.663	318771.194	385.45	540411.20	1045835.16	1264.6
521	774224-4	41 27 25.21073 N	95 37 35.93031 W	309.17	163971.574	322340.803	337.54	537963.41	1057546.45	1107.4
522	UU 135	41 27 45.87551 N	95 34 40.58552 W	357.81	164510.547	326424.200	386.15	539731.69	1070943.40	1266.9
523	774018-3	41 27 44.87580 N	95 29 51.88897 W	381.62	164322.775	333121.062	409.82	539115.64	1092914.68	1344.6
524	774016-3	41 27 45.46650 N	95 27 39.86641 W	378.87	164271.281	336184.370	407.01	538946.69	1102964.89	1335.3
525	774013-3	41 27 44.36627 N	95 24 10.48055 W	371.66	164129.433	341041.385	399.70	538481.31	1118899.94	1311.4
526	E 150	41 29 5.75645 N	95 20 10.53929 W	321.46	166520.060	346661.144	349.48	546324.56	1137337.44	1146.6
527	773913-1	41 28 10.26448 N	95 16 11.12812 W	351.48	164693.394	352178.945	379.31	540331.58	1155440.42	1244.5
528	773820-3	41 26 50.99584 N	95 15 3.78687 W	382.51	162216.871	353691.940	410.24	532206.52	1160404.31	1345.9
529	A 150	41 28 18.99228 N	95 10 27.21236 W	365.46	164804.625	360162.547	393.15	540696.51	1181633.29	1289.9
530	N 180	41 25 7.41934 N	95 53 56.60730 W	272.83	160314.432	299471.985	301.16	525964.93	982517.67	988.0

**POTTAWATTAMIE COUNTY
IOWA
3 MILE GRID CONTROL**

50013142
JUNE 1999

PT#	NAME or DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT
		LATITUDE	LONGITUDE	ELLIPSOID	NORTHING	EASTING	NAVD88	NORTHING	EASTING	NAVD88
		NORTH	WEST		Y	X	(Z)	Y	X	(Z)
		DEG MIN SEC	DEG MIN SEC	METERS	METERS	METERS	METERS	US FEET	US FEET	US FEET
531	774435-1	41 25 58.23806 N	95 51 58.52588 W	279.77	161806.470	302255.605	308.18	530860.06	991650.26	1011.1
532	764306-1	41 24 47.20050 N	95 49 31.46748 W	279.37	159523.735	305609.939	307.66	523370.79	1002655.27	1009.4
533	774334-4	41 25 35.89754 N	95 46 29.61396 W	293.74	160913.821	309870.988	322.08	527931.43	1016635.07	1056.7
534	774231-3	41 25 10.46876 N	95 43 34.98633 W	348.27	160024.721	313904.149	376.54	525014.44	1029867.20	1235.4
535	764204-1	41 25 3.70932 N	95 40 10.64719 W	304.63	159696.373	318642.397	332.83	523937.18	1045412.60	1091.9
536	774132-3	41 25 10.10335 N	95 35 38.01630 W	373.77	159738.425	324976.193	401.90	524075.15	1066192.73	1318.6
537	764103-1	41 25 9.00845 N	95 32 11.19966 W	378.66	159590.646	329776.550	406.71	523590.31	1081941.90	1334.4
538	764006-3	41 24 17.38228 N	95 29 51.47364 W	357.11	157923.211	332983.706	385.05	518119.73	1092464.04	1263.3
539	774033-3	41 25 8.14166 N	95 27 38.19412 W	360.18	159418.269	336113.780	388.13	523024.77	1102733.29	1273.4
540	774035-2	41 25 7.65192 N	95 24 11.74838 W	373.04	159296.698	340906.196	400.90	522625.92	1118456.41	1315.3
541	763903-3	41 24 41.33352 N	95 19 38.93530 W	348.51	158349.129	347222.757	376.26	519517.10	1139180.00	1234.4
542	773836-3	41 25 7.17799 N	95 17 20.85830 W	366.88	159079.581	350445.147	394.60	521913.59	1149752.12	1294.6
543	773834-3	41 25 6.46306 N	95 12 45.93433 W	365.65	158929.029	356827.524	393.29	521419.66	1170691.63	1290.3
544	763801-3	41 24 16.57711 N	95 10 26.65651 W	370.80	157327.415	360031.522	398.40	516165.03	1181203.42	1307.1
545	764409-4	41 23 53.65332 N	95 54 26.70597 W	272.56	158058.995	298710.347	300.79	518565.22	980018.86	986.8
546	764308-3	41 23 29.93264 N	95 49 22.47776 W	292.97	157135.366	305754.987	321.14	515534.95	1003131.15	1053.6
547	764315-2	41 23 0.59944 N	95 46 13.18574 W	365.61	156114.683	310127.267	393.70	512186.26	1017475.88	1291.7
548	764207-3	41 23 27.36778 N	95 43 35.49921 W	349.64	156845.497	313810.838	377.75	514583.93	1029561.06	1239.3
549	NGS-1072	41 23 8.15437 N	95 40 46.84515 W	298.89	156153.743	317712.763	326.96	512314.41	1042362.62	1072.7
550	764213-2	41 22 36.93079 N	95 37 19.52116 W	356.65	155071.721	322504.567	384.59	508764.47	1058083.73	1261.8
551	764114-3	41 22 59.87474 N	95 32 10.63443 W	369.14	155607.777	329696.422	397.03	510523.18	1081679.01	1302.6
552	764018-3	41 22 33.30843 N	95 29 52.22051 W	344.13	154713.884	332892.629	371.96	507590.47	1092165.23	1220.3
553	764009-2	41 23 25.64685 N	95 26 31.58606 W	345.33	156222.490	337589.523	373.15	512539.95	1107574.96	1224.3
554	J 147	41 22 56.22149 N	95 22 5.97827 W	310.21	155179.816	343738.974	337.93	509119.11	1127750.28	1108.7
555	763911-3	41 23 24.83084 N	95 18 30.18656 W	350.57	155956.237	348769.959	378.25	511666.42	1144256.11	1241.0
556	763808-3	41 23 24.55514 N	95 15 4.25227 W	363.12	155849.851	353552.934	390.76	511317.39	1159948.25	1282.0
557	763816-2	41 22 32.34996 N	95 12 46.77160 W	376.20	154176.094	356714.464	403.81	505826.07	1170320.70	1324.8
558	763813-3	41 22 31.82526 N	95 10 27.26652 W	354.52	154096.798	359955.161	382.12	505565.91	1180952.89	1253.7
559	764432-4	41 20 38.53105 N	95 56 10.54709 W	272.19	152109.209	296130.629	300.11	499044.96	971555.24	984.6
560	764435-2	41 20 11.11333 N	95 52 9.88779 W	305.64	151109.191	301700.260	333.51	495764.07	989828.27	1094.2
561	764424-4	41 22 12.56452 N	95 51 29.39615 W	275.91	154828.847	302742.925	303.96	507967.64	993249.08	997.3
562	764329-2	41 21 2.90059 N	95 48 30.48741 W	367.53	152569.044	306841.981	395.47	500553.61	1006697.40	1297.5
563	764335-4	41 20 49.31586 N	95 45 50.35503 W	332.08	152052.289	310552.132	359.98	498858.22	1018869.79	1181.0
564	R 135	41 21 23.91987 N	95 42 7.25337 W	292.34	152986.308	315763.832	320.28	501922.58	1035968.51	1050.8
565	754204-4	41 19 48.30268 N	95 41 6.89639 W	353.62	150002.201	317092.188	381.41	492132.22	1040326.62	1251.3
566	764235-3	41 19 57.92510 N	95 38 45.29826 W	360.33	150216.983	320391.037	388.10	492836.89	1051149.59	1273.3
567	764132-3	41 19 57.78960 N	95 35 37.86363 W	338.28	150106.601	324747.837	366.02	492474.74	1065443.53	1200.9

**POTTAWATTAMIE COUNTY
IOWA
3 MILE GRID CONTROL**

50013142
JUNE 1999

PT#	NAME or DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT
		LATITUDE	LONGITUDE	ELLIPSOID	NORTHING	EASTING	NAVD88	NORTHING	EASTING	NAVD88
		NORTH	WEST		Y	X	(Z)	Y	X	(Z)
		DEG MIN SEC	DEG MIN SEC	METERS	METERS	METERS	METERS	US FEET	US FEET	US FEET
568	764136-3	41 19 57.24936 N	95 31 2.19294 W	355.25	149938.477	331155.508	382.96	491923.15	1086466.03	1256.4
569	764033-3	41 19 57.03438 N	95 27 38.63321 W	330.96	149823.626	335887.267	358.65	491546.35	1101990.14	1176.7
570	764036-3	41 19 56.18195 N	95 24 12.08645 W	304.25	149690.670	340688.111	331.93	491110.14	1117740.91	1089.0
571	763934-3	41 19 56.02586 N	95 19 39.13017 W	325.48	149549.753	347033.325	353.12	490647.81	1138558.50	1158.5
572	763831-3	41 19 55.61251 N	95 16 11.75034 W	369.63	149437.297	351854.030	397.27	490278.87	1154374.43	1303.4
573	763834-3	41 19 55.71408 N	95 12 46.29020 W	337.22	149344.793	356630.502	364.86	489975.38	1170045.24	1197.0
574	753811-1	41 18 36.89722 N	95 11 2.20010 W	372.72	146866.611	359003.279	400.43	481844.87	1177829.92	1313.7
575	754421-4	41 17 6.21459 N	95 54 45.82032 W	271.69	145507.196	297917.926	299.32	477384.86	977419.06	982.0
576	754413-3	41 17 33.02301 N	95 51 17.44218 W	290.40	146201.025	302787.186	318.07	479661.20	993394.29	1043.5
577	754308-1	41 18 44.82709 N	95 48 47.98777 W	312.28	148321.985	306322.056	340.03	486619.71	1004991.61	1115.6
578	754314-3	41 17 37.13790 N	95 45 34.06823 W	335.21	146116.043	310776.640	362.89	479382.38	1019606.36	1190.6
579	754207-1	41 18 41.91139 N	95 43 4.52759 W	352.58	148024.017	314305.597	380.31	485642.13	1031184.28	1247.7
580	754216-1	41 18 14.98901 N	95 40 12.83574 W	324.96	147093.042	318277.040	352.66	482587.76	1044213.92	1157.0
581	754108-3	41 18 14.51345 N	95 35 38.57651 W	340.93	146922.009	324654.575	368.61	482026.62	1065137.55	1209.3
582	754111-3	41 18 14.01198 N	95 32 11.01307 W	346.10	146791.916	329481.193	373.77	481599.81	1080972.88	1226.3
583	754009-3	41 18 13.42505 N	95 27 39.24702 W	340.19	146628.568	335800.951	367.87	481063.89	1101706.95	1206.9
584	R 149	41 17 41.08279 N	95 24 12.77319 W	305.55	145524.417	340580.950	333.25	477441.36	1117389.33	1093.3
585	753921-1	41 17 20.24274 N	95 19 40.05622 W	357.61	144745.600	346910.822	385.31	474886.19	1138156.59	1264.1
586	753913-3	41 17 20.49343 N	95 17 20.33545 W	351.71	144685.749	350161.210	379.41	474689.83	1148820.57	1244.8
587	753816-3	41 17 20.16530 N	95 13 56.20618 W	352.22	144579.500	354909.577	379.96	474341.24	1164399.17	1246.6
588	753814-2	41 17 18.83439 N	95 11 2.17093 W	348.94	144458.938	358957.341	376.71	473945.70	1177679.21	1235.9
589	754436-4	41 14 45.50041 N	95 50 47.72089 W	274.81	141016.451	303339.034	302.32	462651.47	995204.81	991.9
590	744304-1	41 14 22.59664 N	95 47 23.66507 W	301.83	140183.554	308069.697	329.34	459918.88	1010725.33	1080.5
591	754326-3	41 15 52.57573 N	95 45 59.14164 W	339.41	142906.753	310109.452	366.99	468853.24	1017417.43	1204.0
592	754336-2	41 14 57.68771 N	95 44 12.55330 W	306.90	141149.907	312546.033	334.45	463089.32	1025411.44	1097.3
593	754220-3	41 16 56.91080 N	95 42 15.66041 W	324.31	144757.072	315359.769	351.95	474923.83	1034642.84	1154.7
594	754234-2	41 14 46.55037 N	95 39 38.73616 W	306.28	140645.319	318910.305	333.86	461433.85	1046291.56	1095.3
595	754119-3	41 16 30.15815 N	95 36 45.62107 W	351.16	143741.484	323017.260	378.79	471591.85	1059765.79	1242.7
596	744106-3	41 13 57.21078 N	95 36 46.55114 W	341.39	139025.267	322881.023	368.99	456118.73	1059318.82	1210.6
597	754123-3	41 16 29.92185 N	95 32 12.42536 W	334.16	143582.561	329373.167	361.80	471070.45	1080618.47	1187.0
598	754135-3	41 14 45.79399 N	95 32 13.07720 W	305.78	140371.647	329282.787	333.42	460535.98	1080321.94	1093.9
599	744006-1	41 14 44.53009 N	95 28 49.54840 W	334.52	140223.248	334019.307	362.21	460049.11	1095861.68	1188.3
600	H 149RESET	41 13 57.50136 N	95 25 22.10741 W	297.65	138664.505	338815.808	325.44	454935.13	1111598.20	1067.7
601	753930-3	41 15 36.67176 N	95 23 2.97173 W	351.11	141652.102	342121.390	378.85	464736.94	1122443.26	1242.9
602	753927-3	41 15 36.49522 N	95 19 38.82600 W	348.76	141545.279	346872.206	376.52	464386.47	1138029.90	1235.3
603	743912-3	41 13 4.43862 N	95 17 20.04924 W	339.82	136788.481	350005.432	367.75	448780.21	1148309.49	1206.5
604	753833-3	41 14 44.04396 N	95 13 55.21096 W	339.13	139763.935	354836.838	367.00	458542.18	1164160.53	1204.1

**POTTAWATTAMIE COUNTY
IOWA
3 MILE GRID CONTROL**

50013142
JUNE 1999

PT#	NAME or DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT	SP NAD83 (1996) IOWA SOUTH		HEIGHT
		LATITUDE	LONGITUDE	ELLIPSOID	NORTHING	EASTING	NAVD88	NORTHING	EASTING	NAVD88
		NORTH	WEST		Y	X	(Z)	Y	X	(Z)
		DEG MIN SEC	DEG MIN SEC	METERS	METERS	METERS	METERS	US FEET	US FEET	US FEET
605	753835-1	41 15 8.19346 N	95 10 50.39553 W	363.91	140424.355	359153.411	391.82	460708.90	1178322.48	1285.5
606	744422-3	41 11 22.71048 N	95 54 10.14602 W	267.65	134891.849	298455.026	294.95	442557.67	979181.20	967.7
607	744413-4	41 13 5.23023 N	95 51 3.48903 W	269.89	137934.362	302888.454	297.32	452539.65	993726.54	975.5
608	LEWIS	41 11 47.14371 N	95 49 6.20422 W	268.32	135453.102	305555.128	295.72	444399.05	1002475.45	970.2
609	744315-1	41 12 50.93906 N	95 46 30.67985 W	286.47	137324.702	309229.077	313.94	450539.46	1014529.06	1030.0
610	744219-4	41 11 46.81251 N	95 43 37.92017 W	361.71	135243.047	313201.326	389.20	443709.90	1027561.35	1276.9
611	744221-3	41 11 32.90590 N	95 41 22.53866 W	305.95	134734.117	316343.927	333.48	442040.18	1037871.70	1094.1
612	744224-3	41 11 21.59252 N	95 37 54.96319 W	337.64	134265.089	321170.715	365.24	440501.38	1053707.59	1198.3
613	744121-3	41 11 21.04099 N	95 34 32.36328 W	318.56	134133.905	325890.048	346.24	440070.99	1069190.93	1136.0
614	744124-3	41 11 21.47118 N	95 31 5.11620 W	329.34	134033.538	330718.442	357.10	439741.70	1085032.09	1171.6
615	744017-4	41 12 39.90584 N	95 28 49.79028 W	337.30	136379.971	333926.152	365.05	447439.95	1095556.05	1197.7
616	C 149	41 10 42.62513 N	95 24 14.13307 W	336.06	132619.620	340266.793	364.00	435102.87	1116358.64	1194.2
617	743919-3	41 11 20.69972 N	95 22 32.07557 W	313.00	133742.189	342670.160	340.92	438785.83	1124243.68	1118.5
618	743915-3	41 12 12.14984 N	95 19 38.38904 W	341.92	135242.817	346749.959	369.85	443709.14	1137628.82	1213.4
619	743927-4	41 11 6.85467 N	95 19 38.56395 W	345.94	133229.137	346703.572	373.94	437102.59	1137476.64	1226.8
620	743924-3	41 11 19.35469 N	95 17 20.31918 W	343.62	133547.686	349932.480	371.66	438147.70	1148070.14	1219.4
621	743816-3	41 12 11.37175 N	95 13 55.68837 W	330.50	135055.470	354731.946	358.56	443094.49	1163816.39	1176.4
622	743824-1	41 11 44.20010 N	95 9 20.84518 W	300.12	134092.743	361118.011	328.38	439935.94	1184768.01	1077.4
623	744436-2	41 8 56.96458 N	95 51 20.76586 W	267.07	130289.632	302278.793	294.36	427458.57	991726.34	965.7
624	T-182	41 9 49.72946 N	95 49 22.63961 W	268.81	131842.652	305075.601	296.16	432553.77	1000902.20	971.7
625	744231-3	41 9 44.48686 N	95 43 38.76819 W	331.39	131471.328	313084.954	358.88	431335.52	1027179.55	1177.4
626	744234-3	41 9 36.79949 N	95 40 12.99201 W	311.79	131113.011	317874.610	339.39	430159.94	1042893.62	1113.5
627	744236-3	41 9 38.52422 N	95 37 57.92522 W	321.71	131088.321	321023.763	349.37	430078.93	1053225.46	1146.2
628	744133-3	41 9 45.42919 N	95 34 31.74001 W	338.29	131184.998	325834.200	366.02	430396.11	1069007.70	1200.8
629	744032-3	41 9 37.30699 N	95 28 47.96900 W	343.24	130747.707	333840.361	371.12	428961.44	1095274.58	1217.6
630	743934-3	41 9 35.86622 N	95 19 38.85738 W	335.64	130423.121	346637.771	363.75	427896.52	1137260.75	1193.4
631	743830-3	41 10 26.86028 N	95 16 11.27933 W	364.73	131895.781	351508.027	392.88	432728.07	1153239.25	1289.0
632	743827-3	41 10 26.08466 N	95 12 46.73312 W	348.19	131776.420	356274.177	376.46	432336.47	1168876.20	1235.1
633	743825-2	41 10 25.52712 N	95 9 54.78644 W	298.01	131681.403	360280.851	326.39	432024.74	1182021.43	1070.8
634	754310-1	41 19 3.06026 N	95 45 50.16058 W	284.34	148775.447	310471.347	312.11	488107.45	1018604.74	1024.0
1533	774334-4 2001	41°25'36.02664"N	95°46'30.17796"W	293.40	160918.145	309858.002	321.71	527945.61	1016592.46	1055.5
1570	754002-1 2001	41°19'55.59263"N	95°24'13.52243"W	303.69	149673.226	340654.332	331.35	491052.91	1117630.09	1087.1
1585	753921-1 2001	41°17'19.57838"N	95°19'40.08412"W	360.22	144725.124	346909.743	387.92	474819.01	1138153.05	1272.7

**POTTAWATTAMIE COUNTY, IOWA
 MONUMENT DESCRIPTIONS
 3 MILE GRID SYSTEM
 GPS SURVEY REPORT (ALL)**

<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
501	774501-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 501, 774501-4". LOCATED APPROXIMATELY 17 FEET EAST OF EAST EDGE HWY L-16, 6 FEET SOUTH OF ELECTRIC BOX, 13 FEET NORTH OF A POWER POLE ON THE SOUTH SIDE OF YORK ROAD. ON THE MISSOURI VALLEY 7.5 MINUTE QUADRANGLE.
502	T180	FOUND 5/8 INCH DIAMETER STEEL ROD 0.2 FEET BELOW GROUND IN MONUMENT BOX . LOCATED APPROXIMATELY AT THE POTTAWATTAMIE-HARRISON COUNTY LINE, 15 FEET SOUTH OF THE SOUTH EDGE OF WOOD LANE, 14 FEET EAST OF THE EAST EDGE OF YORK ROAD, 1 FOOT WEST OF A CARSONITE POST, 11 FEET SOUTHEAST OF A STOP SIGN (SEE NGS CONTROL). ON THE MISSOURI VALLEY 7.5 MINUTE QUADRANGLE.
503	774401-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.15 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 503, 774401-4". LOCATED APPROXIMATELY 20 FEET SOUTH OF THE SOUTH EDGE OF YORK ROAD, 9 FEET WEST OF A POWER POLE, 12.5 FEET WEST OF STREET INTERSECTION SIGN. ON THE BEEBEETOWN 7.5 MINUTE QUADRANGLE.
504	774309-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.15 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 504, 774309-1". LOCATED APPROXIMATELY 19 FEET SOUTH OF THE SOUTH EDGE OF WHIPPOORWILL ROAD (HWY L-36), 15 FEET WEST OF THE WEST EDGE OF 210TH STREET, 23 FEET NORTHEAST OF STREET INTERSECTION SIGN. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.
505	774206-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.15 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 505, 774206-3". LOCATED APPROXIMATELY 11 FEET EAST OF THE EAST EDGE OF 240TH STREET, 93 FEET NORTH OF A DEAD END SIGN, 1.3 FEET WEST OF A CARSONITE POST, ON THE NORTH SIDE OF WHIPPOORWILL ROAD. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.
506	774203-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.25 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 506, 774203-4". LOCATED APPROXIMATELY 25 FEET EAST OF THE EAST EDGE OF 270TH STREET, 3 FEET SOUTHWEST OF FENCE, 18 FEET EAST OF EAST END OF CANAL PIPE. ON THE HARD SCRATCH 7.5 MINUTE QUADRANGLE.

**POTTAWATTAMIE COUNTY, IOWA
 MONUMENT DESCRIPTIONS
 3 MILE GRID SYSTEM
 GPS SURVEY REPORT (ALL)**

<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
507	774202-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 507, 774202-1". LOCATED APPROXIMATELY 18 FEET SOUTH OF THE SOUTH EDGE OF YORK ROAD, 8.7 FEET WEST OF TUSTIN LANE SIGN, 1.7 FEET NORTH OF FENCE. ON THE HARD SCRATCH 7.5 MINUTE QUADRANGLE.
508	774103-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 508, 774103-1". LOCATED APPROXIMATELY 19 FEET SOUTH OF THE SOUTH EDGE OF YORK ROAD, 31 FEET EAST OF THE EAST EDGE OF HWY L66, 24.5 FEET NORTHEAST OF A NO PASSING SIGN. ON THE PERSIA 7.5 MINUTE QUADRANGLE.
509	774005-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 509, 774005-4". LOCATED APPROXIMATELY 11 FEET EAST OF THE EAST EDGE 370TH STREET, 3.4 FEET WEST OF A FENCE, 16 FEET SOUTH OF A STREET INTERSECTION SIGN, ON THE SOUTH SIDE OF YORK ROAD. ON THE SHELBY 7.5 MINUTE QUADRANGLE.
510	774004-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 510, 774004-3". LOCATED APPROXIMATELY 41 FEET NORTH OF THE NORTH EDGE OF WHIPPOORWILL ROAD, 64.5 FEET WEST OF THE WEST EDGE OF 385TH STREET, 30.6 FEET NORTHWEST OF A STREET INTERSECTION SIGN, 33.8 FEET SOUTHWEST OF A POWERPOLE, 3.3 FEET SOUTHEAST OF A BARBED WIRE FENCE. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.
511	774001-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.25 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 511, 774001-4". LOCATED APPROXIMATELY 10 FEET EAST OF THE EAST EDGE OF 410TH STREET, 3.1 FEET WEST OF A BARBED WIRE FENCE, 4.5 FEET SOUTHWEST OF A POWERPOLE, ON THE SOUTH SIDE OF YORK ROAD. ON THE SHELBY 7.5 MINUTE QUADRANGLE.
512	773904-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.35 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 512, 773904-1". LOCATED APPROXIMATELY 35 FEET NORTH OF THE NORTH EDGE OF YORK ROAD, 30 FEET EAST OF THE EAST EDGE OF 448TH STREET, 8.1 FEET NORTH OF A POWERPOLE. ON THE CORLEY 7.5 MINUTE QUADRANGLE.

**POTTAWATTAMIE COUNTY, IOWA
 MONUMENT DESCRIPTIONS
 3 MILE GRID SYSTEM
 GPS SURVEY REPORT (ALL)**

<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
513	773901-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 513, 773901-4". LOCATED APPROXIMATELY 24 FEET WEST OF THE WEST EDGE OF 470TH STREET, 5.2 FEET EAST OF A FENCE, 26 FEET NORTH OF A GROW SIGN. ON THE CORLEY 7.5 MINUTE QUADRANGLE.
514	773803-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.6 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 514, 773803-4". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 510TH STREET, 3 FEET WEST OF A FENCE, 19 FEET SOUTH OF A POWERPOLE, 16 FEET SOUTH OF A STOP SIGN. ON THE PRAIRIE ROSE LAKE 7.5 MINUTE QUADRANGLE.
515	773801-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.15 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 515, 773801-3". LOCATED APPROXIMATELY 17.5 FEET NORTH OF THE NORTH EDGE OF WHIPPOORWILL ROAD, 22.5 FEET EAST OF A STOP SIGN, 40 FEET SOUTHWEST OF A POWERPOLE, ON THE EAST SIDE OF 530TH STREET. ON THE WALNUT 7.5 MINUTE QUADRANGLE.
516	774518-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.25 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 516, 774518-1". LOCATED APPROXIMATELY 9 FEET WEST OF THE WEST EDGE OF 130TH STREET, 18 FEET NORTH OF A PRIVATE PROPERTY SIGN, 1.5 FEET EAST OF A CARSONITE POST. ON THE LOVELAND 7.5 MINUTE QUADRANGLE.
517	774318-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 517, 774318-2". LOCATED APPROXIMATELY 18 FEET WEST OF THE WEST EDGE 185TH STREET, 13.4 FEET SOUTHEAST OF THE SOUTH GATEPOST, 4 FEET EAST OF A FENCE, 11 FEET NORTH OF A STREET SIGN. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.
518	774321-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 518, 774321-4". LOCATED APPROXIMATELY 15 FEET NORTHWEST OF THE NORTHWEST EDGE OF COLDWATER AVENUE, 1.3 FEET SOUTHEAST OF A CARSONITE POST, 13 FEET NORTHEAST OF A STREET INTERSECTION SIGN. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.

**POTTAWATTAMIE COUNTY, IOWA
 MONUMENT DESCRIPTIONS
 3 MILE GRID SYSTEM
 GPS SURVEY REPORT (ALL)**

<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
519	774230-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 519, 774230-4". LOCATED APPROXIMATELY 51 FEET SOUTH OF THE SOUTH EDGE OF SYCAMORE ROAD, 3.5 FEET EAST OF THE EAST EDGE OF 242ND STREET, 9.2 FEET WEST OF A SIGNPOST. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.
520	774215-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 520, 774215-3". LOCATED APPROXIMATELY 22.5 FEET EAST OF THE EAST EDGE OF 270TH STREET, 29 FEET NORTH OF THE NORTH EDGE OF TEAKWOOD ROAD, 9.5 FEET SOUTH-SOUTHEAST OF A FENCE ANGLE POINT, 15 FEET NORTH-NORTHWEST OF A FENCE ANGLE POINT. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.
521	774224-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 521, 774224-4". LOCATED APPROXIMATELY 30 FEET EAST OF THE EAST EDGE OF A GRAVEL DRIVE, 24 FEET NORTH OF THE NORTH EDGE OF HWY L-55, 6 FEET EAST OF A 7 FOOT TALL WOOD POST, 2.8 FEET SOUTH OF A CARSONITE POST. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.
522	UU135	FOUND 3.5 INCH DIAMETER BRASS CAP IN THE TOP OF A CONCRETE HEADWALL, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK UU135 1948". LOCATED APPROXIMATELY 7.4 FEET SOUTH OF THE SOUTH EDGE OF HWY 83, 2.8 FEET EAST OF A CAUTION BARRICADE POST, 16 FEET SOUTH OF THE CENTERLINE OF HWY 83 (SEE NGS CONTROL). ON THE NEOLA 7.5 MINUTE QUADRANGLE.
523	774018-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 523, 774018-3". LOCATED APPROXIMATELY 18 FEET NORTH OF THE NORTH EDGE OF TEAKWOOD ROAD, 12 FEET EAST OF THE EAST EDGE OF 360TH STREET, 10 FEET NORTHWEST OF A BARBED WIRE FENCE CORNER. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.

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<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
524	774016-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 524, 774016-3". LOCATED APPROXIMATELY 46 FEET EAST OF THE EAST EDGE OF 380TH STREET (COUNTY ROAD M-16), 32 FEET NORTH OF THE NORTH EDGE OF TEAKWOOD ROAD, 16.5 NORTHEAST OF A STOP SIGN, 2.5 FEET SOUTH OF A CARSONITE POST. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.
525	774013-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 525, 774013-3". LOCATED APPROXIMATELY 27 FEET EAST OF THE EAST EDGE OF GRAVEL 410TH STREET, 21 FEET NORTH OF THE NORTH EDGE OF GRAVEL TEAKWOOD ROAD, 11 FEET NORTHEAST OF A STOP SIGN, 8 FEET EAST OF ANGLE POINT IN BARBED WIRE FENCE, 1.8 FEET SOUTH OF A CARSONITE POST. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.
526	E150	FOUND 3.5 INCH DIAMETER BRASS CAP, FLUSH WITH GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK, E150 1949". LOCATED APPROXIMATELY 15.5 FEET SOUTH OF THE SOUTH EDGE OF E. WILSON STREET, 25.5 FEET EAST OF THE EAST EDGE OF N. CHESTNUT STREET, 9.4 FEET EAST OF A WATER VALVE, 7.5 FEET EAST OF A FIRE HYDRANT. ON THE AVOCA 7.5 MINUTE QUADRANGLE.
527	773913-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 527, 773913-1". LOCATED APPROXIMATELY 17 FEET WEST OF THE WEST EDGE OF 480TH STREET, 84 FEET NORTH OF THE NORTH EDGE OF TAILOR ROAD, 81 FEET NORTHWEST OF A STREET INTERSECTION SIGN, 2.2 FEET EAST OF AN ORANGE CARSONITE POST AT A BARRED WIRE FENCELINE. ON THE AVOCA 7.5 MINUTE QUADRANGLE.
528	773820-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 528, 773820-3". LOCATED APPROXIMATELY 22 FEET NORTH OF THE NORTH EDGE OF SYCAMORE ROAD, 32 FEET EAST OF THE EAST EDGE OF 490TH STREET, 5.9 FEET SOUTHEAST OF A STREET INTERSECTION SIGN, 2.5 FEET SOUTH OF A CARSONITE POST AND FENCELINE. ON THE WALNUT 7.5 MINUTE QUADRANGLE.

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529	A150	FOUND 3.5 INCH DIAMETER CAP IN CONCRETE POST FLUSH WITH GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK, A150 1949". LOCATED APPROXIMATELY 12 FEET SOUTH OF THE CENTERLINE OF AN OLD RAILROAD GRADE DIRT ROAD, 50 FEET WEST OF THE WEST EDGE OF 530TH STREET, 2 FEET NORTH OF OLD BARBED WIRE FENCE REMNANTS, 1 FOOT EAST OF A SET ORANGE CARSONITE POST (SEE NGS CONTROL). ON THE WALNUT 7.5 MINUTE QUADRANGLE.
530	N180	FOUND 5/8 INCH DIAMETER STEEL ROD IN MONUMENT BOX , 0.3 FEET BELOW GROUND, LOCATED APPROXIMATELY 62.3 FEET EAST-SOUTHEAST OF THE CENTER OF THE NORTHBOUND OFF RAMP OF INTERSTATE HIGHWAY 29, 137.1 FEET WEST OF THE NEAR RAIL RR TRACKS, 69.6 FEET NORTHWEST OF A POWERPOLE, 226 FEET SOUTH OF THE CENTERLINE OF COUNTY ROAD L 19, 1.6 FEET EAST OF A ORANGE CARSONITE POST (SEE NGS CONTROL). ON THE LOVELAND 7.5 MINUTE QUADRANGLE.
531	774435-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 531, 774435-1". LOCATED APPROXIMATELY 42 FEET WEST OF THE WEST EDGE OF HONEY CREEK ROAD, 17 FEET SOUTH OF A POWERPOLE, 37 FEET NORTH OF A ROAD SIGN WITH 10 MPH SIGN, 3 FEET EAST OF A CARSONITE POST. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.
532	764306-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 532, 764306-1". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 190TH STREET, 32 FEET NORTHWEST OF THE NORTHWEST EDGE OF COLDWATER AVE, 29 FEET SOUTH OF A POWER POLE, 25 FEET WEST OF A GRANGE CEMETERY SIGN. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.
533	(SEE 1533)	(SEE 1533)

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<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
534	774231-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 534, 774231-3". LOCATED APPROXIMATELY 22 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, 28.5 FEET EAST OF A "ROAD CLOSED AHEAD" SIGN, 24 FEET SOUTHEAST OF A BURIED TELEPHONE SIGN, 3 FEET SOUTH OF A SET ORANGE CARSONITE POST AND FENCE, ON THE EAST SIDE OF 240TH STREET. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.
535	764204-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.25 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 535, 764204-1". LOCATED APPROXIMATELY 14 FEET WEST OF THE WEST EDGE OF COUNTY ROAD L52 (270TH STREET), 72 FEET SOUTH OF A TRAFFIC "T" INTERSECTION SIGN, 65 FEET SOUTHWEST OF A POWERPOLE, 2 FEET EAST OF A SET ORANGE CARSONITE POST, SOUTH OF ROSEWOOD ROAD. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.
536	774132-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 536, 774132-3". LOCATED APPROXIMATELY 15 FEET EAST OF THE EAST EDGE OF 310TH STREET, 19 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, 8 FEET NORTH OF A STREET SIGN, 17 FEET NORTH-NORTHEAST OF A STOP SIGN, 4 FEET WEST OF A NORTH-SOUTH FENCELINE. ON THE NEOLA 7.5 MINUTE QUADRANGLE.
537	764103-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 537, 764103-1". LOCATED APPROXIMATELY AT THE SOUTHWEST CORNER OF 340TH STREET AND ROSEWOOD ROAD, 6 FEET SOUTH OF A STOP SIGN, 5 FEET NORTHWEST OF A FENCE CORNER, 19.5 FEET WEST OF A POWERPOLE. ON THE NEOLA 7.5 MINUTE QUADRANGLE.
538	764006-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 538, 764006-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF 360TH STREET AND PINOAK ROAD, 21.5 FEET NORTHEAST OF A STREET INTERSECTION SIGN, 49 FEET SOUTH OF A POWERPOLE, 6 FEET SOUTHWEST OF A FENCE. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.

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<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
539	774033-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 539, 774033-3". LOCATED APPROXIMATELY 31 FEET EAST OF THE EAST EDGE OF 380TH STREET, 31 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, 6 FEET NORTHEAST OF A STREET SIGN, 21 FEET NORTHEAST OF A STOP SIGN, 3 FEET SOUTH OF A SET ORANGE CARSONITE POST. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.
540	774035-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 540, 774035-2". LOCATED APPROXIMATELY 20 FEET WEST OF THE WEST EDGE OF 410TH STREET, 31 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, 13.5 FEET NORTH OF FENCE CORNER, 1.6 FEET EAST OF A ORANGE CARSONITE POST, 1.9 FEET EAST OF A NORTH-SOUTH FENCE. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.
541	763903-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.35 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 541, 763903-3". LOCATED APPROXIMATELY AT THE SOUTHEAST CORNER OF PRIMROSE LANE AND 450TH STREET, 22 FEET SOUTHEAST OF A POWERPOLE, 17 FEET EAST OF A FENCE LINE EXTENDED, 16 FEET SOUTHEAST OF A "DEAD END" SIGN, 3 FEET NORTH OF A CARSONITE POST, 3.5 FEET NORTH OF A EAST-WEST FENCE. ON THE AVOCA 7.5 MINUTE QUADRANGLE.
542	773936-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 542, 773936-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF 470TH STREET AND ROSEWOOD ROAD, 26 FEET SOUTHEAST OF A FENCE ANGLE POINT, 31 FEET NORTHWEST OF A POWERPOLE, 30 FEET NORTH-NORTHEAST OF A STOP SIGN, 3 FEET SOUTHWEST OF A CARSONITE POST, 3.5 FEET SOUTHWEST OF A BARBED WIRE FENCE. ON THE AVOCA 7.5 MINUTE QUADRANGLE.
543	773834-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 543, 773834-3". LOCATED APPROXIMATELY 33 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, ON THE EAST SIDE OF 510TH STREET, 23 FEET NORTHEAST OF A STOP SIGN, 3 FEET SOUTHWEST OF A CARSONITE POST, 4 FEET SOUTHWEST OF A BARBED WIRE FENCE. ON THE WALNUT 7.5 MINUTE QUADRANGLE.

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<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
544	773801-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 544, 773801-3". LOCATED APPROXIMATELY 55 FEET NORTH OF THE NORTH EDGE OF PINOAK ROAD, ON THE EAST SIDE OF 530TH STREET, 3 FEET SOUTHWEST OF A CARSONITE POST, 3.3 FEET SOUTHWEST OF A BARBED WIRE FENCE, 48 FEET SOUTHEAST OF A FENCE CORNER, 44 FEET SOUTHEAST OF A POWERPOLE. ON THE WALNUT 7.5 MINUTE QUADRANGLE.
545	764409-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 545, 764409-4". LOCATED APPROXIMATELY 11 FEET NORTH OF THE NORTH LINE OF MEADOWLARK ROAD, 19 FEET WEST OF THE WEST LINE OF 145TH STREET, 54.5 FEET NORTHWEST OF A STOP SIGN. ON THE LOVELAND 7.5 MINUTE QUADRANGLE.
546	764308-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 546, 764308-3". LOCATED APPROXIMATELY 18 FEET EAST OF THE EAST EDGE OF 195TH STREET, 21 FEET NORTH OF THE NORTH EDGE OF MAHOGANY ROAD, 18 FEET WEST OF A CARSONITE POST. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.
547	764315-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 547, 764315-2". LOCATED APPROXIMATELY 17 FEET EAST OF THE EAST EDGE OF ASPHALT COUNTY ROAD L34, ON THE SOUTH SIDE OF MESQUITE AVENUE, 18.9 FEET WEST OF A POWERPOLE WITH GUY ANCHOR, 39 FEET NORTHEAST OF A TRAFFIC CURVE ROAD SIGN, 2.5 FEET EAST OF AN ORANGE CARSONITE POST. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.
548	764207-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 548, 764207-3". LOCATED APPROXIMATELY 33 FEET EAST OF THE EAST EDGE OF 240TH STREET, ON THE NORTH SIDE OF COUNTY ROAD G30 (MAHOGANY ROAD), 20 FEET NORTHEAST OF A STREET INTERSECTION SIGN, 41.5 FEET NORTHWEST OF A FOUND STEEL FENCEPOST, 1.5 FEET WEST OF AN ORANGE CARSONITE POST. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.

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<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
549	1072	FOUND 3.5 INCH DIAMETER BRASS CAP IN TOP OF OLD RR CONCRETE HEADWALL, STAMPED "U. S. GEOLOGICAL SURVEY BM 1072.173 FT." LOCATED APPROXIMATELY 97 FEET EAST OF THE EAST EDGE OF ASPHALT HIGHWAY 191, 170 FEET SOUTH OF 4TH STREET IN UNDERWOOD, 62 FEET NORTHEAST OF POWERPOLE, 1.1 FEET WEST OF EAST EDGE OF CONCRETE HEADWALL, 10.85 FEET SOUTH OF NORTH EDGE OF CONCRETE HEADWALL, 51.1 FEET EAST OF SOUTHEAST CORNER OF WESTERLY CONCRETE HEADWALL (SEE NGS CONTROL). ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.
550	764213-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 550, 764213-3". LOCATED APPROXIMATELY 36 FEET SOUTH OF THE SOUTH EDGE OF MAGNOLIA ROAD, 19 FEET WEST OF THE WEST EDGE OF 295TH STREET, 7 FEET WEST OF STREET SIGN, 27 FEET SOUTHEAST OF BENTLEY SIGN, 3 FEET NORTHEAST OF CARSONITE POST. ON THE NEOLA 7.5 MINUTE QUADRANGLE.
551	764114-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 551, 764114-3". LOCATED APPROXIMATELY 26 FEET SOUTH OF THE SOUTH EDGE OF MAGNOLIA ROAD, ON THE EAST SIDE OF COUNTY ROAD L66, 14 FEET SOUTHWEST OF A FENCE ANGLE POINT, 16 FEET NORTHEAST OF A FENCE ANGLE POINT. ON THE NEOLA 7.5 MINUTE QUADRANGLE.
552	764018-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 552, 764018-3". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 360TH STREET, 10 FEET NORTHWEST OF A FENCE CORNER, 6.1 FEET NORTHWEST OF AN ELECTRIC BOX. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.
553	764009-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 553, 764009-2". LOCATED APPROXIMATELY 33 FEET WEST OF THE WEST EDGE OF 390TH STREET, 35 FEET NORTH OF THE NORTH EDGE OF MAHOGANY ROAD, 14 FEET WEST OF A POWERPOLE, 22 FEET WEST OF A STOP SIGN, 3 FEET SOUTH OF A CARSONITE POST. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.

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554	J147	FOUND A 3.5 INCH DIAMETER BRASS CAP IN A CONCRETE POST 0.3 FT ABOVE GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY J147 1949". LOCATED APPROXIMATELY 91 FEET EAST OF THE EAST EDGE OF HIGHWAY 59, 41 FEET EAST OF THE CENTER OF A 24 INCH DIAMETER DRAINAGE CULVERT, 2.8 FEET NORTH OF AN EAST-WEST FENCE CORNER, 1 FOOT WEST OF A CARSONITE POST (SEE NGS CONTROL). ON THE AVOCA 7.5 MINUTE QUADRANGLE.
555	763911-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 555, 763911-3". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 460TH STREET, 80 FEET NORTH OF THE NORTH EDGE OF MAHOGANY ROAD, 60 FEET NORTH OF AN EAST-WEST FENCELINE, 1.9 FEET WEST OF A FENCE CORNER. ON THE AVOCA 7.5 MINUTE QUADRANGLE.
556	763808-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 556, 763808-3". LOCATED APPROXIMATELY 20 FEET EAST OF THE EAST EDGE OF 490TH STREET, 1.8 FEET WEST OF A FENCE CORNER, 36 FEET NORTHEAST OF THE FLOWLINE OF A 36 INCH CULVERT, 63 FEET NORTH OF THE FLOWLINE OF A 36 INCH CULVERT. ON THE WALNUT 7.5 MINUTE QUADRANGLE.
557	763816-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 557, 763816-2". LOCATED APPROXIMATELY 54 FEET WEST OF THE WEST EDGE 510TH STREET, 45 FEET NORTH OF THE NORTH EDGE OF MAGNOLIA ROAD, 3 FEET SOUTHEAST OF A CARSONITE POST, 39 FEET SOUTHWEST OF A FENCE ANGLE POINT, 24 FEET SOUTH-SOUTHWEST OF A "CAUTION GAS PIPELINE" SIGN. ON THE WALNUT 7.5 MINUTE QUADRANGLE.
558	763813-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 558, 763813-3". LOCATED APPROXIMATELY 20 FEET EAST OF THE EAST EDGE OF 530TH STREET, 34 FEET NORTH OF THE NORTH EDGE OF MAGNOLIA ROAD, 1.8 FEET WEST OF A CARSONITE POST, 2.8 FEET NORTHWEST OF A FENCE CORNER, 5.5 FEET NORTH OF A STREET SIGN. ON THE WALNUT 7.5 MINUTE QUADRANGLE.

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<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
559	764432-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 559, 764432-4". LOCATED APPROXIMATELY 15 FEET NORTH OF THE NORTH EDGE OF RIVERROAD NORTH, 13 FEET EAST OF THE EAST EDGE OF 130TH STREET, 51 FEET NORTHWEST OF A POWERPOLE. ON THE OMAHA NORTH 7.5 MINUTE QUADRANGLE.
560	764435-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 560, 764435-2". LOCATED APPROXIMATELY 15 FEET NORTH OF THE NORTH EDGE OF LIME KILN ROAD, WEST OF HILLSBORO LANE, 43 FEET WEST OF A POWERPOLE, 67 FEET EAST OF A POWERPOLE. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.
561	764424-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 561, 764424-4". LOCATED APPROXIMATELY 19.8 FEET WEST OF THE WEST EDGE OF HIGHWAY 183, 3 FEET EAST OF AN ORANGE CARSONITE POST, 19 FEET NORTHWEST OF A POWERPOLE, NORTH OF THE TOWN OF CRESCENT, ACROSS THE HIGHWAY FROM RESIDENCE AT ADDRESS 1309. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.
562	764329-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 562, 764329-2". LOCATED APPROXIMATELY 20 FEET SOUTH OF THE SOUTH EDGE OF BADGER AVENUE, 23 FEET EAST OF THE EAST EDGE OF MUDHOLLOW ROAD, 29 FEET NORTHEAST OF A STOP SIGN. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.
563	764335-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 563, 764335-4". LOCATED APPROXIMATELY 55 FEET EAST OF THE EAST EDGE OF COUNTY ROAD L34, 36.8 FEET NORTHEAST OF A TELEPHONE PEDESTAL, 50.5 FEET SOUTHWEST OF AN ANGLE POINT FENCELINE, 2 FEET NORTHWEST OF AN ORANGE CARSONITE, ON THE SOUTH SIDE OF COUNTY ROAD G36. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.

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<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
564	R135	FOUND 3.5 INCH DIAMETER BRASS CAP IN TOP OF CONCRETE DRAINAGE STRUCTURE, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK R135 1948". LOCATED APPROXIMATELY 84 FEET EAST OF THE EAST EDGE OF HIGHWAY 191, 1 FOOT SOUTH OF THE NORTH EDGE OF CONCRETE DRAINAGE STRUCTURE, 2.5 FEET SOUTH OF A CARSONITE POST, 0.5 FEET WEST OF THE EAST EDGE OF CONCRETE DRAINAGE STRUCTURE, 1.5 MILES SOUTH OF THE UNDERWOOD EXIT ROAD FOR I-80 ON THE EAST SIDE OF HIGHWAY 191 (SEE NGS CONTROL). ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.
565	754204-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 565, 754204-4". LOCATED APPROXIMATELY, 2.2 FEET NORTH-NORTHEAST OF AN ORANGE CARSONITE POST, 137 FEET SOUTHEAST OF A POWERPOLE, 43 FEET NORTHEAST OF THE CENTERLINE INTERSECTION OF PARK AVENUE AND MCCLELLAND AVENUE, 67.2 FEET NORTHEAST OF A STREET INTERSECTION SIGN, NORTHWEST OF RAILROAD TRACKS. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.
566	764235-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 566, 764235-3". LOCATED APPROXIMATELY 15 FEET EAST OF THE EAST EDGE OF 282ND STREET, 32 FEET NORTH OF THE NORTH EDGE OF IDLEWOOD ROAD, 9 FEET NORTHWEST OF A POWERPOLE, 3 FEET WEST OF A CARSONITE POST. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.
567	764132-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 567, 764132-3". LOCATED APPROXIMATELY 35 FEET EAST OF THE EAST EDGE OF 310TH STREET, 48 FEET NORTH OF THE NORTH EDGE OF IDLEWOOD ROAD, 24 FEET NORTHEAST OF A STREET SIGN 32 FEET NORTHEAST OF A STOP SIGN, 17.5 FEET NORTHEAST OF A BURIED CABLE MARKER. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.

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568	764136-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 568, 764136-3". LOCATED APPROXIMATELY 20.7 FEET NORTH OF THE NORTH EDGE OF IDLEWOOD STREET, 2.5 FEET NORTHEAST OF THE STREET INTERSECTION SIGN, 1.6 FEET SOUTH OF A BARBED WIRE FENCE. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.
569	764033-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 569, 764033-3". LOCATED APPROXIMATELY 34.6 FEET EAST OF THE EAST EDGE OF ASPHALT 380TH STREET, 38.8 FEET NORTH OF UNDERGROUND CABLE WARNING SIGN, 1.4 FEET WEST OF BARBED WIRE FENCE. ON THE OAKLAND 7.5 MINUTE QUADRANGLE.
570	(SEE 1570)	(SEE 1570)
571	763934-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 571, 763934-3". LOCATED APPROXIMATELY 23 FEET EAST OF THE EAST EDGE OF 450TH STREET, 26 FEET NORTHWEST OF A STOP SIGN, 5 FEET NORTHEAST OF A STREET INTERSECTION SIGN (450TH AND IDLEWOOD). ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.
572	763831-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 572, 763831-3". LOCATED APPROXIMATELY 12.7 FEET EAST OF THE EAST EDGE OF 480TH STREET, 41.2 FEET NORTH OF THE STREET INTERSECTION SIGN (480TH AND IDLEWOOD), 3.5 FEET SOUTH OF A FENCE CORNER. ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.

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573	763834-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 573, 763834-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF THE INTERSECTION OF 510TH STREET AND IDLEWOOD ROAD, 46 FEET NORTH OF A STOP SIGN, 39.2 FEET NORTHEAST OF THE STREET INTERSECTION SIGN, 49 FEET NORTHWEST OF A POWERPOLE. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.
574	753811-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 574, 753811-1". LOCATED APPROXIMATELY 15.5 FEET NORTH OF THE NORTH EDGE OF HITCHCOCK AVENUE, 8.5 FEET NORTHWEST OF A STOP SIGN, 4.5 FEET SOUTH OF A BARBED WIRE FENCE. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.
575	754421-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 575, 754421-4". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF 13TH ST AND LOCUSTSTREET, 21 FEET NORTH OF THE NORTH FLOWLINE OF LOCUST, 45 FEET NORTHEAST OF A LIGHTPOLE, 18 FEET NORTH-NORTHWEST OF A TURN ONLY SIGN, 2 FEET SOUTH OF A ORANGE CARSONITE POST. ON THE OMAHA NORTH 7.5 MINUTE QUADRANGLE.
576	754413-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 576, 754413-3". LOCATED APPROXIMATELY 13 FEET SOUTHEAST OF THE SOUTHEAST EDGE OF MYNSTER SPRINGS ROAD, 4 FEET NORTHWEST OF A FENCE, 3.5 FEET NORTHWEST OF A CARSONITE POST, 16 FEET SOUTHWEST OF A GATEPOST. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.
577	754308-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 577, 754308-4". LOCATED APPROXIMATELY 10 FEET WEST OF THE WEST EDGE OF MUDHOLLOW ROAD, 62 FEET NORTHWEST OF ROAD CURVES SIGN, 3.3 FEET EAST OF FENCE. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.

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578	754314-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 578, 754314-3". LOCATED APPROXIMATELY 13 FEET NORTH OF THE NORTH EDGE OF GRAVEL HUNT AVENUE, 19 FEET EAST OF STREET INTERSECTION SIGN (HUNT AVE. AND GILLIAT), 2.3 FEET SOUTH OF ORANGE CARSONITE POST, 13.5 FEET NORTHEAST OF TRAFFIC "T" SIGN. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.
579	754207-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 579, 754207-1". LOCATED APPROXIMATELY 48 FEET NORTH OF THE NORTH EDGE OF HUNT AVENUE (COUNTY ROAD 6L), 11 FEET EAST OF THE EAST EDGE OF A DIRT ROAD, 13 FEET SOUTH OF A FOUND STEEL FENCE POST, 2.1 FEET SOUTHWEST OF A FOUND STEEL FENCE POST, 1.7 FEET WEST OF A SET ORANGE CARSONITE POST. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.
580	754216-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.45 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 580, 754216-1". LOCATED APPROXIMATELY 21 FEET SOUTH OF THE SOUTH EDGE OF HICKORY ROAD, 57 WEST OF THE WEST EDGE OF 270TH STREET, 4.3 FEET NORTHWEST OF A FENCE END, 3 FEET NORTH OF A CARSONITE POST, 3.5 FEET NORTH OF A EAST-WEST FENCE. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.
581	754108-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 581, 754108-3". LOCATED APPROXIMATELY 9 FEET EAST OF THE EAST EDGE OF 310TH STREET, 12 FEET NORTH OF THE NORTH EDGE OF HICKORY ROAD, 7.1 FEET NORTH OF STREET INTERSECTION SIGN. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.
582	754111-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 582, 754111-3". LOCATED APPROXIMATELY 20 FEET NORTH OF THE NORTH EDGE OF GRAVEL HICKORY ROAD, 22 FEET EAST OF THE EAST EDGE OF ASPHALT COUNTY ROAD L66 (340TH STREET), 10.8 FEET NORTHWEST OF STOP SIGN, 2 FEET WEST OF FENCE CORNER, 1.5 FEET WEST OF CARSONITE POST. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.

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583	754009-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 583, 754009-3". LOCATED APPROXIMATELY 20 FEET NORTH OF THE NORTH EDGE GRAVEL HICKORY ROAD, 26 FEET EAST OF THE EAST EDGE OF GRAVEL 380TH STREET (COUNTY ROAD M16), 11.3 FEET NORTH OF STOP SIGN, 5.5 FEET SOUTHEAST OF POWERPOLE, 3 FEET SOUTH OF ORANGE CARSONITE POST. ON THE OAKLAND 7.5 MINUTE QUADRANGLE.
584	R149	FOUND 3.5 INCH DIAMETER BRASS CAP IN CONCRETE POST, UP 0.2 FEET ABOVE GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK R149 1949". LOCATED APPROXIMATELY 105 FEET SOUTH OF A GRAVEL FIELD ROAD, 29.5 FEET WEST OF THE WEST EDGE OF ASPHALT HIGHWAY 59, 1 FOOT EAST OF A YELLOW CARSONITE POST (SEE NGS DESCRIPTION). ON THE OAKLAND 7.5 MINUTE QUADRANGLE.
585	(SEE 1585)	(SEE 1585)
586	753913-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.8 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 586, 753913-3". LOCATED APPROXIMATELY 9 FEET EAST OF THE EAST EDGE OF GRAVEL 470TH STREET, 3 FEET SOUTH OF A ORANGE CARSONITE POST, 17.5 FEET WEST OF END OF FENCE, 52.5 FEET NORTH OF STOP SIGN, ON THE NORTH SIDE OF HACKBERRY ROAD EXTENDED. ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.
587	753816-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 587, 753816-3". LOCATED APPROXIMATELY 40 FEET EAST OF THE EAST EDGE OF ASPHALT EXTENDED 500TH STREET (COUNTY ROAD M47), 27 FEET NORTH OF THE NORTH EDGE OF GRAVEL HACKBERRY ROAD, 16.3 FEET NORTHWEST OF A STOP SIGN, 11.7 FEET SOUTHEAST OF A STREET INTERSECTION SIGN, 3 FEET SOUTH OF A ORANGE CARSONITE POST. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.

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588	753814-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 588, 753814-2". LOCATED APPROXIMATELY 35 FEET NORTH OF THE NORTH EDGE OF GRAVEL HACKBERRY ROAD, 16.3 FEET NORTHEAST OF A STREET INTERSECTION SIGN (525TH STREET AND HACKBERRY ROAD), 11.3 FEET NORTHEAST OF A POWERPOLE, 13 FEET SOUTHEAST OF A FENCE CORNER, 2.5 FEET SOUTH OF A ORANGE CARSONITE POST. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.
589	754436-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 589, 754436-4". LOCATED APPROXIMATELY IN THE WEST GRAHAM STREET CENTER MEDIAN AT THE INTERSECTION WITH HIGH STREET, 9.3 FEET SOUTH OF MEDIAN SIGN, 14 FEET EAST OF WEST FLOWLINE OF MEDIAN, 12 FEET WEST OF EAST FLOWLINE OF MEDIAN, 21.5 FEET NORTHEAST OF FIRE HYDRANT. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.
590	744304-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 590, 744304-1". LOCATED APPROXIMATELY IN THE NE ¼ OF THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.
591	754326-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 591, 754326-3". LOCATED APPROXIMATELY 21 FEET NORTH OF THE NORTH EDGE OF ASPHALT HIGHWAY 6, 51 FEET EAST OF A POWERPOLE, 1.7 FEET SOUTH OF A ORANGE CARSONITE POST, 84 FEET WEST OF A TELEPHONE PEDESTAL, EAST OF THE INTERSECTION OF MCCANDLESS DRIVE (ROAD TO COUNCIL BLUFFS AIRPORT). ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.
592	754336-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 592, 754336-2". LOCATED APPROXIMATELY 37 FEET EAST OF THE EAST EDGE OF 235TH STREET (COUNTY ROAD L43), 68.5 FEET NORTH OF A POWERPOLE, 22.5 FEET NORTHWEST OF A STOP SIGN, 3 FEET WEST OF A ORANGE CARSONITE POST. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.

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593	754220-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 593, 754220-3". LOCATED APPROXIMATELY 19 FEET NORTH OF THE NORTH EDGE OF MCPHERSON AVENUE, 25 FEET EAST OF A MAILBOX AT ADDRESS 25190, 3 FEET SOUTHWEST OF A ORANGE CARSONITE POST, 11.5 FEET SOUTHWEST OF A STOP SIGN, ON THE WEST SIDE OF EMERALD AVENUE. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.
594	754234-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 594, 754234-2". LOCATED APPROXIMATELY 24 FEET EAST OF THE EAST EDGE OF GRAVEL 275TH STREET, 10 FEET NORTH OF THE NORTH EDGE OF GRAVEL COTTONWOOD ROAD, 3.8 FEET WEST OF STOP SIGN. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.
595	754119-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 595, 754119-3". LOCATED APPROXIMATELY 18.4 FEET NORTHWEST OF A STOP SIGN, 19 FEET SOUTHWEST OF THE END OF A FENCE, 5.7 FEET WEST OF STREET INTERSECTION SIGN (300TH AND ELMTREE), IN THE NORTHEAST CORNER OF THE INTERSECTION. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.
596	744106-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 596, 744106-3". LOCATED APPROXIMATELY 5.2 FEET EAST OF THE EAST EDGE OF HIGHWAY L55, 21.1 FEET NORTHWEST OF "MEAT AND GROCERY" SIGN, 5 FEET SOUTHEAST OF SPEED LIMIT SIGN. ON THE TREYNOR 7.5 MINUTE QUADRANGLE.
597	754123-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 597, 754123-3". LOCATED APPROXIMATELY 22 FEET EAST OF THE EAST EDGE OF 340TH STREET (COUNTY ROAD L66), 39 FEET NORTH OF THE NORTH EDGE OF ELMTREE ROAD, 12.5 FT NORTHWEST OF THE NORTH CORNER OF STONE MONUMENT TO "PLEASANT TAYLOR STATION", 1 FOOT WEST OF ORANGE CARSONITE POST. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.

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598	754135-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 598, 754135-3". LOCATED APPROXIMATELY 34 FEET EAST OF THE EAST EDGE OF 340TH STREET, 17 FEET NORTHEAST OF A STOP SIGN, 10.4 FEET NORTH OF A STREET INTERSECTION SIGN (340TH STREET AND COTTONWOOD ROAD), 2.2 FEET WEST OF A FENCE CORNER, ON THE NORTH SIDE OF COTTONWOOD ROAD. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.
599	744006-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 599, 744006-1". LOCATED APPROXIMATELY 28 FEET SOUTH OF THE SOUTH EDGE OF COTTONWOOD ROAD, 10 FEET WEST OF THE WEST EDGE OF 370TH STREET (COUNTY ROAD M16), 23 FEET SOUTHEAST OF A STOP SIGN, 2.3 FEET EAST OF A ORANGE CARSONITE AND FENCE. ON THE CARSON 7.5 MINUTE QUADRANGLE.
600	H149RESET	FOUND A 3.5 INCH DIAMETER BRASS CAP IN CONCRETE, FLUSH WITH GROUND, STAMPED "H149 RESET 1955, U. S. COAST AND GEODETIC SURVEY BENCHMARK", LOCATED APPROXIMATELY 34 FEET WEST OF THE CENTERLINE EXTENDED OF SOUTH COMMERCIAL STREET, 41 FEET SOUTH OF THE SOUTH EDGE OF HIGHWAY 92, 24 FEET WEST OF A POWERPOLE, 14.6 FEET SOUTHEAST OF A POWERPOLE, 10.4 FEET SOUTH OF SOUTH POST OF "CARSON SMALL IN NUMBER, LARGE IN SPIRIT" SIGN. ON THE CARSON 7.5 MINUTE QUADRANGLE.
601	753930-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 601, 753930-3". LOCATED APPROXIMATELY 24 FEET EAST OF THE EAST EDGE OF GRAVEL 420TH STREET, 24 FEET NORTH OF THE NORTH EDGE OF GRAVEL DOGWOOD ROAD, 3 FEET NORTHEAST OF A STREET INTERSECTION SIGN (420TH AND DOGWOOD), 3.3 FEET SOUTH OF A ORANGE CARSONITE POST AND FENCE. ON THE OAKLAND 7.5 MINUTE QUADRANGLE.
602	753927-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 602, 753927-3". LOCATED APPROXIMATELY 19 FEET NORTH OF THE NORTH EDGE OF DOGWOOD ROAD, ON THE EAST SIDE OF 450TH STREET, 7 FEET NORTHEAST OF A STOP SIGN, 4 FEET SOUTHEAST OF A FENCE CORNER, 16.1 FEET WEST OF A POWERPOLE. ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.

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603	743912-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 603, 743912-3". LOCATED APPROXIMATELY 32 FEET NORTH OF THE NORTH EDGE OF CHESTNUT ROAD, 19.5 FEET EAST OF THE EAST EDGE OF 470TH STREET, 5.9 FEET NORTH OF A STREET INTERSECTION SIGN, 2.7 FEET WEST OF A ORANGE CARSONITE POST. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.
604	753833-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 604, 753833-3". LOCATED APPROXIMATELY 38 FEET EAST OF THE EAST EDGE OF 500TH STREET (COUNTY ROAD M47), 27 FEET NORTHEAST OF THE TOP CENTER OF A 48 INCH DIAMETER CULVERT, 25.5 FEET SOUTH OF A POWERPOLE, 3 FEET SOUTHWEST OF A ORANGE CARSONITE POST. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.
605	753835-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 605, 753835-1". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 525TH STREET, 14.5 FEET NORTHEAST OF A TELEPHONE PEDESTAL, 3 FEET SOUTH OF A ORANGE CARSONITE POST, 3.5 FEET SOUTHWEST OF A FENCE CORNER, AT ENTRANCE TO CREIGHTON UNIVERSITY RETREAT CENTER. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.
606	744422-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.35 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 606, 744422-3". LOCATED APPROXIMATELY 31 FEET NORTHWEST OF ROAD SIGN, 48 FEET EAST OF EAST EDGE OF EXISTING TREES, 16 FEET NORTH OF NORTH EDGE OF ROAD, 1.5 FEET SOUTH OF ORANGE CARSONITE POST. ON THE OMAHA SOUTH 7.5 MINUTE QUADRANGLE.
607	744413-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 607, 744413-4". LOCATED APPROXIMATELY 8 FEET SOUTH OF THE SOUTH EDGE OF WRIGHT ROAD, 33 FEET WEST OF THE WEST EDGE OF PIUTE STREET, 8.7 FEET NORTHWEST OF YELLOW EASEMENT MARKER, 8.7 FEET SOUTH OF STOP SIGN, 4 FEET SOUTH OF A WOODEN POST. ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.

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608	LEWIS	FOUND 3.5 INCH DIAMETER BRASS CAP IN CONCRETE, FLUSH WITH GROUND, STAMPED "LEWIS 1947 U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATION". LOCATED APPROXIMATELY IN THE SOUTHWEST QUADRANT OF SECTION 20, TOWNSHIP 74 NORTH, RANGE 43 WEST, 17.5 FEET SOUTHEAST OF THE SOUTH END OF A NORTH-SOUTH FENCE, 15 FEET NORTHEAST OF THE EAST END OF A EAST-WEST FENCE, 25 FEET NORTHEAST OF A 8 INCH DIAMETER DECIDUOUS TREE, 111 FEET NORTH-NORTHWEST OF A TELEPHONE BOX AND ADDRESS SIGN FOR "12468 L31", 46 FEET WEST OF POWERPOLE AK68, ON THE WEST SIDE OF COUNTY ROAD L31 (SEE NGS CONTROL). ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.
609	744315-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 609, 744315-1". LOCATED APPROXIMATELY, 22.5 FEET EAST OF THE EAST EDGE OF CHESTNUT ROAD, 47 FEET SOUTHEAST OF THE SOUTH CORNER OF A DRAINAGE STRUCTURE, 3 FEET SOUTHWEST OF A ORANGE CARSONITE POST. ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.
610	744219-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 610, 744219-4". LOCATED APPROXIMATELY 45 FEET EAST OF THE EAST EDGE OF 240TH STREET, 86 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 20 FEET NORTHEAST OF "MORMON PIONEER TRAIL" SIGN, 4.5 FEET SOUTHWEST OF NORTHWEST-SOUTHEAST BARBED WIRE FENCE. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.
611	744221-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 611, 744221-3". LOCATED APPROXIMATELY 12 FEET EAST OF THE EAST EDGE OF 260TH STREET, 43 FEET NORTH OF THE NORTH EDGE OF BASSWOOD ROAD EXTENDED, 57 FEET NORTH OF STREET SIGN, 3 FEET WEST OF NORTH-SOUTH BARBED WIRE FENCE. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.
612	744224-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 612, 744224-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF PIONEER TRAIL AND HIGHWAY L55 (290TH STREET), 47 FEET NORTHEAST OF STOP SIGN, 7.1 FEET NORTHWEST OF "TRIPLE TRUCKING" SIGN, 34.5 FEET SOUTHEAST OF FENCE ANGLE POINT. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.

**POTTAWATTAMIE COUNTY, IOWA
 MONUMENT DESCRIPTIONS
 3 MILE GRID SYSTEM
 GPS SURVEY REPORT (ALL)**

<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
613	744121-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 613, 744121-3". LOCATED APPROXIMATELY 27 FEET EAST OF THE EAST EDGE OF 320TH STREET, 39 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 16.1 FEET NORTHEAST OF STREET INTERSECTION SIGN. ON THE TREYNOR 7.5 MINUTE QUADRANGLE.
614	744124-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 614, 744124-3". LOCATED APPROXIMATELY 26.5 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 17.2 FEET NORTHEAST OF A STREET INTERSECTION SIGN, ON THE EAST SIDE OF 350TH STREET, 17.9 FEET NORTHWEST OF A CABLE BOX, 22 FEET SOUTHEAST OF A FENCE ANGLE POINT. ON THE TREYNOR 7.5 MINUTE QUADRANGLE.
615	744017-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 615, 744017-4". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF COUNTY ROAD M16 (370TH STREET), AND BRUNSWICK AVENUE, 23.5 FEET NORTHEAST OF A STOP SIGN, 3 FEET SOUTHEAST OF A FENCE CORNER, 23.3 FEET SOUTH OF A POWERPOLE. ON THE CARSON 7.5 MINUTE QUADRANGLE.
616	C149	FOUND 3.5 INCH DIAMETER BRASS CAP IN 1 FOOT DIAMETER CONCRETE POST 0.55 FEET ABOVE GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK, C149, 1949". LOCATED APPROXIMATELY 48 FEET NORTH OF THE NORTH EDGE OF ASPEN ROAD, 65 FEET WEST OF THE WEST EDGE OF HIGHWAY 59, 37 FEET WEST OF A POWERPOLE, 7.5 FEET SOUTH OF A POWERPOLE, 9.5 FEET SOUTH OF A FENCE CORNER, IN SECTION 23, TOWNSHIP 74 NORTH, RANGE 40 WEST (SEE NGS CONTROL). ON THE CARSON 7.5 MINUTE QUADRANGLE.
617	743919-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 617, 743919-3". LOCATED APPROXIMATELY 26 FEET NORTH OF THE NORTH EDGE OF GRAVEL PIONEER ROAD (COUNTY ROAD G66), 23 FEET WEST OF THE WEST EDGE OF 425TH STREET, 22.3 FEET SOUTH OF TELEPHONE PEDESTAL B-16, 3.3 FEET EAST OF ORANGE CARSONITE POST AND FENCE. ON THE CARSON 7.5 MINUTE QUADRANGLE.

**POTTAWATTAMIE COUNTY, IOWA
MONUMENT DESCRIPTIONS
3 MILE GRID SYSTEM
GPS SURVEY REPORT (ALL)**

<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
618	743915-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 618, 743915-3". LOCATED APPROXIMATELY 27 FEET NORTH OF THE NORTH EDGE OF BEECHNUT ROAD, 36 FEET EAST OF THE EAST EDGE OF 450TH STREET (COUNTY ROAD M37), 13.2 FEET NORTHWEST OF A STOP SIGN, 2 FEET SOUTHWEST OF A ORANGE CARSONITE POST. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.
619	743927-4	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 619, 743927-4". LOCATED APPROXIMATELY 15.7 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, ON THE EAST SIDE OF 450TH STREET, 23.9 FEET SOUTHEAST OF ROAD SIGN (M37), 4.4 FEET SOUTH OF CORNER OF BARBED WIRE FENCE, 5.5 FEET EAST OF A STREET INTERSECTION SIGN. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.
620	743924-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 620, 743924-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF 470TH STREET AND BASSWOOD ROAD, 5.5 FEET EAST OF A STREET INTERSECTION SIGN, 7.8 FEET NORTH OF A STOP SIGN, 2.9 FEET SOUTH OF A BARBED WIRE FENCE. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.
621	743816-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 621, 743816-3". LOCATED APPROXIMATELY 52 FEET EAST OF THE EAST EDGE OF 500TH STREET, ON THE NORTH SIDE OF BEECHNUT ROAD, 40.2 FEET NORTHEAST OF STREET INTERSECTION SIGN, 54.5 FEET NORTH OF STOP SIGN, 3.5 FEET SOUTHWEST OF A FENCE. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.
622	743824-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 622, 743824-1". LOCATED APPROXIMATELY 21 FEET WEST OF THE WEST EDGE OF 540TH STREET, ON THE NORTH SIDE OF A FARMERS CANAL, 54.3 FEET NORTH OF A STREET SIGN (540TH), 3.1 FEET SOUTHEAST OF A FENCE POST. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.

**POTTAWATTAMIE COUNTY, IOWA
 MONUMENT DESCRIPTIONS
 3 MILE GRID SYSTEM
 GPS SURVEY REPORT (ALL)**

<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
623	744436-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 623, 744436-2". LOCATED APPROXIMATELY 60 FEET NORTH OF THE NORTH EDGE OF HIGHWAY 370, 24 FEET EAST OF THE EAST EDGE OF ALLICE ROAD, 10 FEET EAST OF UNDERGROUND CABLE SIGN, 7 FEET NORTH OF POWERPOLE. ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.
624	T182	FOUND 5/8 INCH DIAMETER STEEL ROD IN MONUMENT BOX, 0.4 FEET BELOW LID AND GROUND, LID IS MARKED WITH T-182 DESIGNATION. LOCATED APPROXIMATELY 1 FOOT EAST OF THE EAST RIGHT OF WAY FENCE FOR I-29, 24 FEET WEST OF THE WEST EDGE OF COUNTY HIGHWAY L31, 12 FEET NORTHWEST OF POWERPOLE WITH 2 GUY WIRES TO THE WEST AND SOUTH, 25 FEET NORTHWEST OF MAILBOX FOR SAM KMEZICH RESIDENCE, IN THE NORTHWEST QUADRANT OF SECTION 32, TOWNSHIP 74 NORTH, RANGE 43 WEST. SEE NGS CONTROL. ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.
625	744231-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 625, 744231-3". LOCATED APPROXIMATELY 13 FEET EAST OF THE EAST EDGE OF 240TH STREET, 21 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 4.5 FEET NORTHWEST OF A FENCE CORNER, 3 FEET WEST OF A NORTH-SOUTH FENCE. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.
626	744234-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 626, 744234-3". LOCATED APPROXIMATELY, 20 FEET EAST OF THE EAST EDGE OF 270TH STREET, 41 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 18 FEET NORTH OF A POWERPOLE. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.
627	744236-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 627, 744236-3". LOCATED APPROXIMATELY 35 FEET EAST OF THE EAST EDGE OF 290TH STREET (COUNTY ROAD L-55), 24 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 17 FEET NORTH OF A STOP SIGN. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.

**POTTAWATTAMIE COUNTY, IOWA
 MONUMENT DESCRIPTIONS
 3 MILE GRID SYSTEM
 GPS SURVEY REPORT (ALL)**

<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
628	744133-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 628, 744133-3". LOCATED APPROXIMATELY 19 FEET EAST OF THE EAST EDGE OF 320TH STREET, 69.5 FEET NORTH OF A STREET INTERSECTION SIGN, 2 FEET WEST OF A NORTH-SOUTH FENCE. ON THE TREYNOR 7.5 MINUTE QUADRANGLE.
629	744032-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 629, 744032-3". LOCATED APPROXIMATELY 61 FEET EAST OF THE EAST EDGE OF 370TH STREET, 45 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 3 FEET SOUTHWEST OF A CARSONITE POST, 27 FEET NORTHEAST OF A STOP SIGN, 29 FEET NORTHEAST OF A STREET SIGN. ON THE CARSON 7.5 MINUTE QUADRANGLE.
630	743934-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 630, 743934-3". LOCATED APPROXIMATELY 22 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 18 FEET EAST OF THE EAST EDGE OF 450TH STREET, 3 FEET SOUTH OF A ORANGE CARSONITE POST, 5 FEET NORTHEAST OF A STREET SIGN, 12 FEET NORTH OF A STOP SIGN. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.
631	743830-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 631, 743830-3". LOCATED APPROXIMATELY 22 FEET EAST OF THE EAST EDGE OF 480TH STREET, 17 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 5 FEET NORTHEAST OF A STREET SIGN, 3.5 FEET SOUTHEAST OF A CAUTION SIGN, 3.3 FEET NORTHWEST OF A FENCE CORNER. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.
632	743827-3	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 632, 743827-3". LOCATED APPROXIMATELY 17 FEET EAST OF THE EAST EDGE OF 510TH STREET, 15.5 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 3.5 FEET NORTHEAST OF STREET SIGN, 1.6 FEET SOUTHWEST OF FENCE CORNER. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.

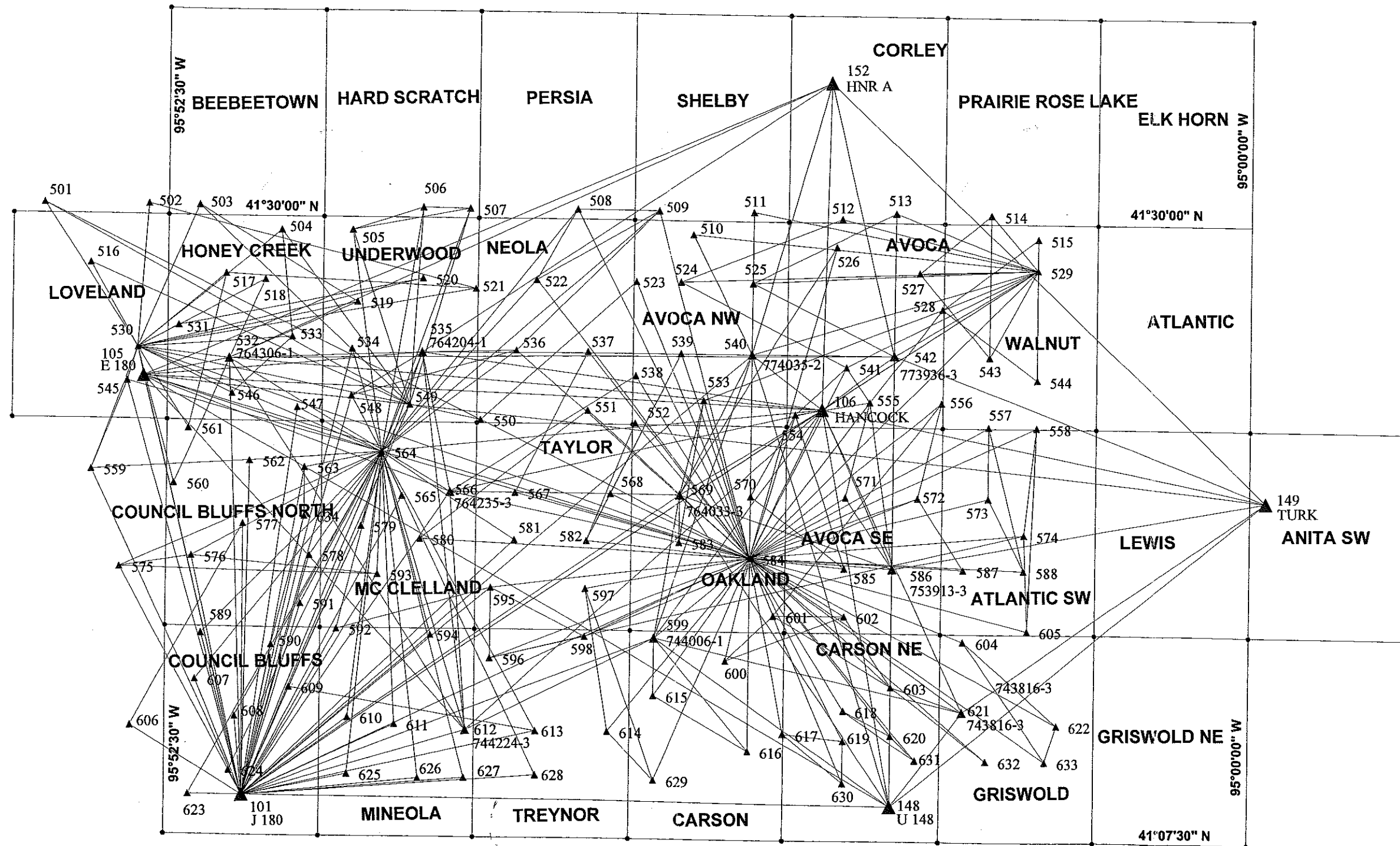
**POTTAWATTAMIE COUNTY, IOWA
 MONUMENT DESCRIPTIONS
 3 MILE GRID SYSTEM
 GPS SURVEY REPORT (ALL)**

<u>PT#</u>	<u>NAME</u>	<u>DESCRIPTION</u>
633	743825-2	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 633, 743825-2". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 535TH STREET, 23 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 3 FEET SOUTH OF A ORANGE CARSONITE POST, 9 FEET NORTHEAST OF A POWERPOLE, 15 FEET NORTHEAST OF A SIGN POLE. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.
634	754310-1	SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 634, 754310-1". LOCATED APPROXIMATELY 33 FEET NORTHWEST OF THE NORTHWEST EDGE OF HIGHWAY 191, ON THE SOUTHWEST SIDE OF HIGHWAY L34, 14 FEET SOUTHWEST OF POWERPOLE, 9.5 FEET SOUTH OF FENCE CORNER. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.
1533	774334-4 2001	SET 3/4 INCH DIAMETER ROD WITH 3-1/4 INCH DIAMETER CAP, IN MONUMENT BOX, 0.1 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE COUNTY, 774334-4 2001". LOCATED APPROXIMATELY AT THE INTERSECTION OF COUGAR AVE. AND 215 TH STREET, 95 FEET SW OF STREET INTERSECTION SIGN, 50 FEET SOUTH OF CENTERLINE COUGAR AVE., 63 FEET WEST OF CENTERLINE 215 TH STREET, 44.9 FEET NW OF OLD POINT 533, 1.5 FEET NORTH OF CARSONITE POST. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.
1570	754002-1 2001	SET 3/4 INCH DIAMETER ROD WITH 3-1/4 INCH DIAMETER CAP, IN MONUMENT BOX, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE COUNTY, 754002-1 2001". LOCATED APPROXIMATELY AT THE INTERSECTION OF IDLEWOOD AVE. AND 410 TH STREET, 26.0 FEET SOUTH OF CENTERLINE IDLEWOOD AVE., 79.5 FEET SW OF STREET INTERSECTION SIGN, 1.7 FEET NORTH OF FENCE LINE, 1.0 FEET NORTH OF CARSONITE POST. ON THE OAKLAND 7.5 MINUTE QUADRANGLE.
1585	753921-1 2001	SET 3/4 INCH DIAMETER ROD WITH 3-1/4 INCH DIAMETER CAP, IN MONUMENT BOX, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE COUNTY, 753921-1 2001". LOCATED APPROXIMATELY AT THE INTERSECTION OF HACKBERRY ROAD AND 450 TH STREET, 4 FEET EAST OF FENCE LINE, 51 FEET SOUTH OF FENCE CORNER, 41 FEET WEST OF CENTERLINE 450 TH STREET, 1.5 FEET NORTH OF CARSONITE POST. ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.

POTTAWATTAMIE COUNTY IOWA

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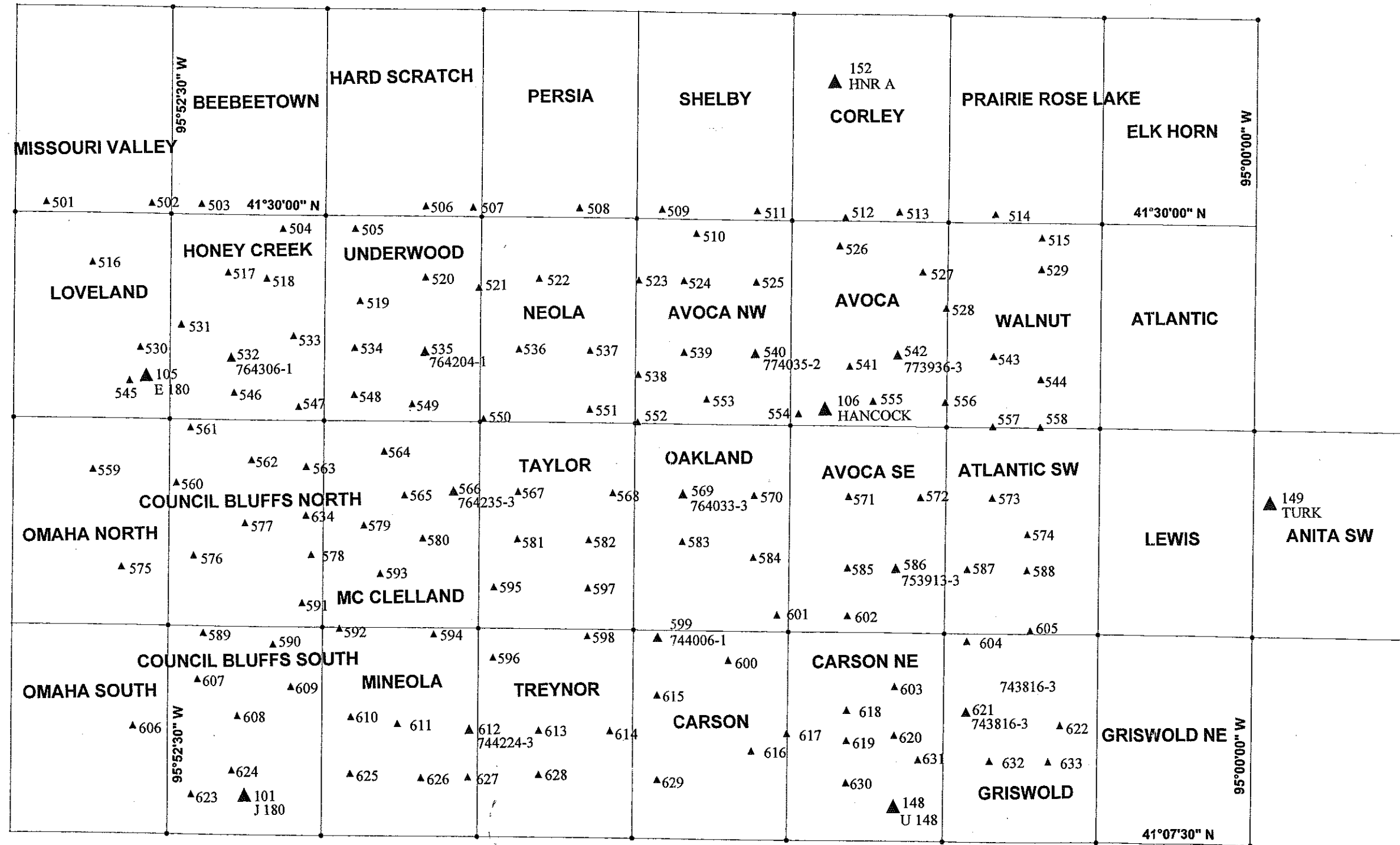
QUAD MAP LOCATIONS

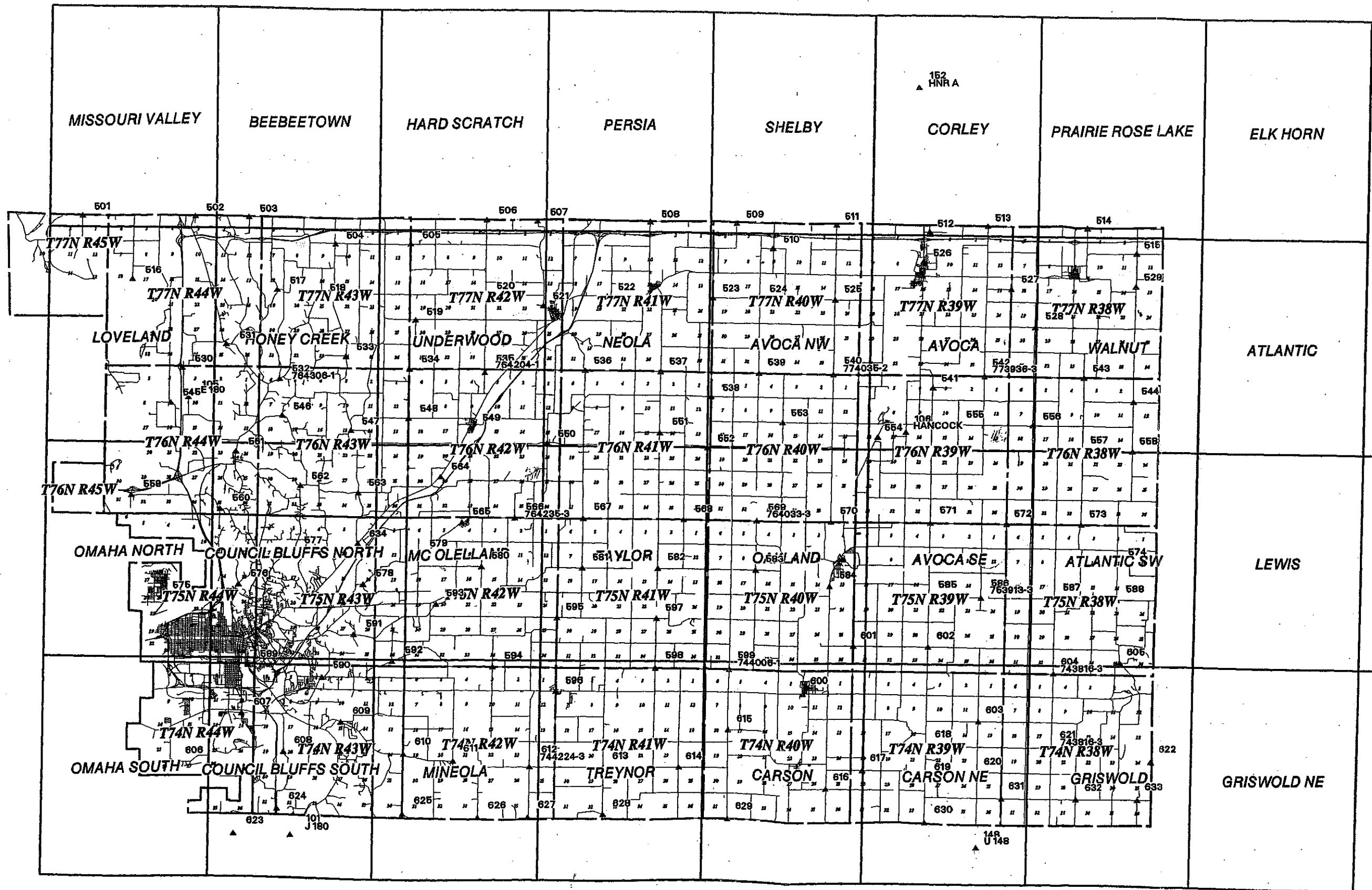


POTTAWATTAMIE COUNTY IOWA

1:300000

QUAD MAP LOCATIONS





MISSOURI VALLEY

BEEBETOWN

HARD SCRATCH

PERSIA

SHELBY

CORLEY

PRAIRIE ROSE LAKE

ELK HORN

501 502 503 506 507 508 509 511 512 513 514

T77N R45W
T77N R44W
T77N R43W
T77N R42W
T77N R41W
T77N R40W
T77N R39W
T77N R38W
LOVELAND
HONEY CREEK
UNDERWOOD
NEOLA
AVOCA NW
AVOCA
WALNUT
T76N R44W
T76N R43W
T76N R42W
T76N R41W
T76N R40W
T76N R39W
T76N R38W
T76N R45W
OMAHA NORTH
COUNCIL BLUFFS NORTH
MC OLELLAN
TAYLOR
OLELAND
AVOCA SE
ATLANTIC SW
T75N R44W
T75N R43W
T75N R42W
T75N R41W
T75N R40W
T75N R39W
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T74N R40W
T74N R39W
T74N R38W
OMAHA SOUTH
COUNCIL BLUFFS SOUTH
MINEOLA
TREYNOR
CARSON
CARSON NE
GRISWOLD

152
HNRA

149
TURK

148
U 148

ATLANTIC

LEWIS

ANITA SW

GRISWOLD NE

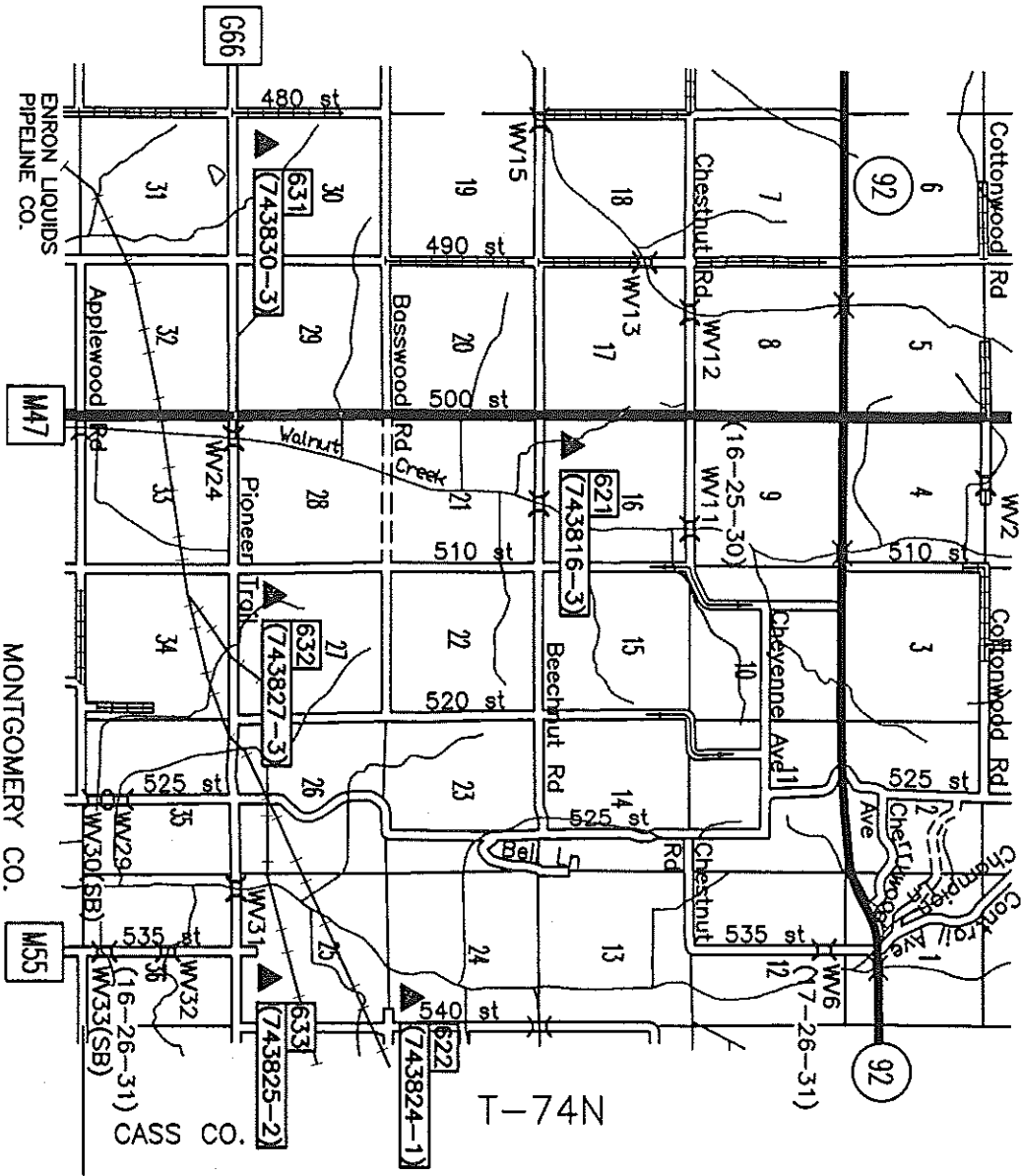
POTTAWATTAMIE COUNTY

IOWA

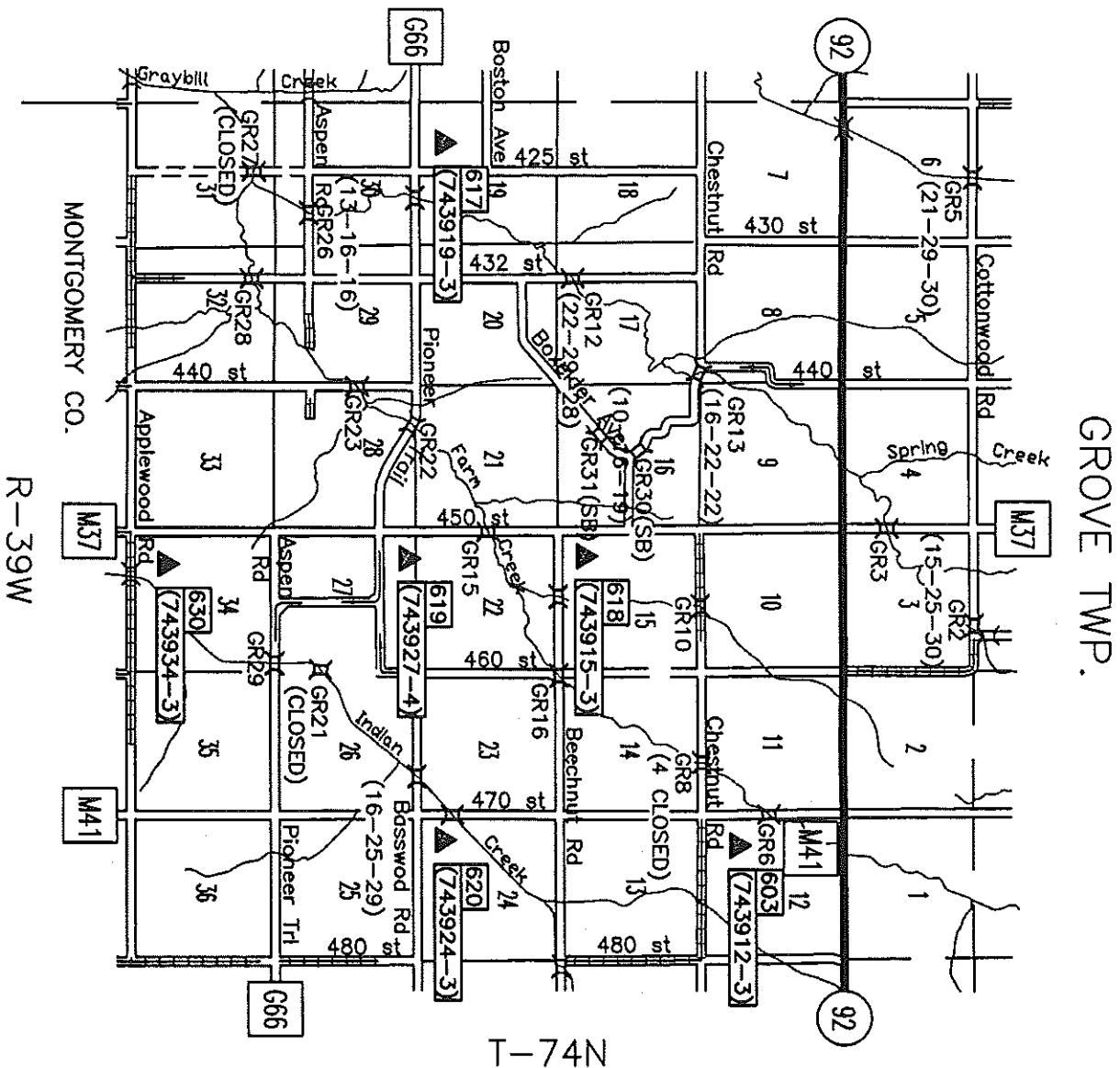
3 MILE GRID CONTROL

WAVELAND TWP.

R-38W

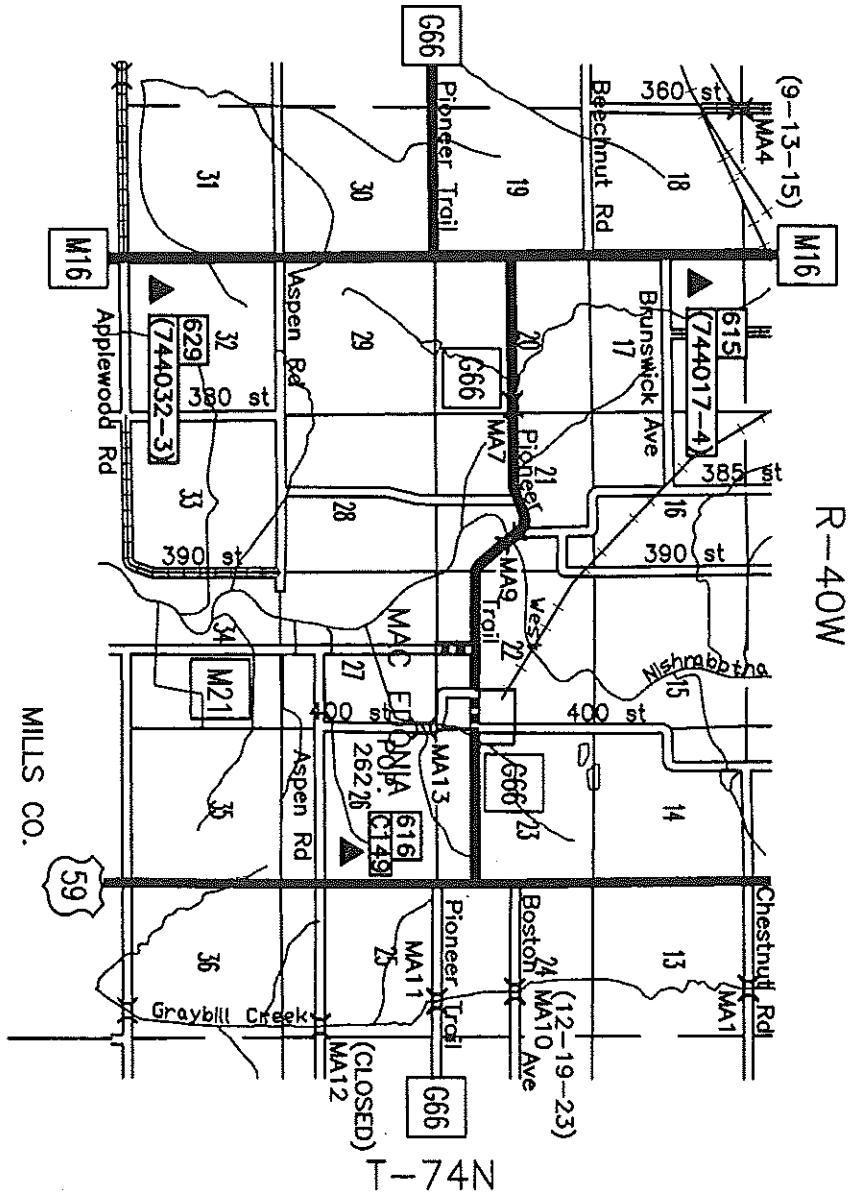


PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
621	41° 12' 11.37166" N	95° 13' 55.68837" W	443094.49	1163816.39	1176.4
622	41° 11' 44.20010" N	95° 09' 20.84518" W	439935.94	1184768.01	1077.4
631	41° 10' 26.86028" N	95° 16' 11.27933" W	432728.07	1153239.25	1289.0
632	41° 10' 26.08466" N	95° 12' 46.73312" W	432336.47	1168876.20	1235.1
633	41° 10' 25.52712" N	95° 09' 54.78644" W	432024.74	1182021.43	1070.8



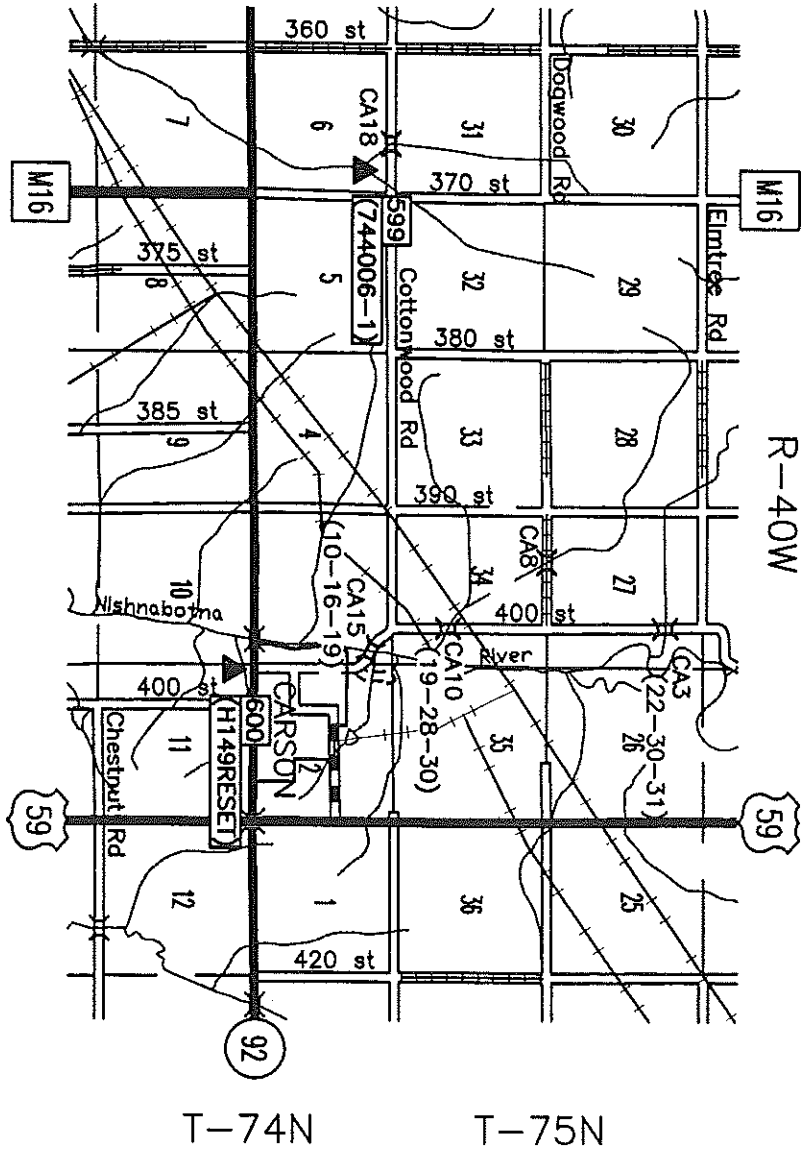
PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
603	41° 11' 21.04099" N	95° 34' 32.36328" W	440070.99	1069190.93	1136.0
617	41° 11' 20.69972" N	95° 22' 32.07557" W	438785.83	1124243.68	1118.5
618	41° 12' 12.14984" N	95° 19' 38.38904" W	443709.14	1137628.82	1213.4
619	41° 11' 06.85467" N	95° 19' 38.56395" W	437102.59	1137476.64	1226.3
620	41° 11' 19.35469" N	95° 17' 20.31918" W	438147.70	1148070.14	1219.4
630	41° 09' 35.86622" N	95° 19' 38.85738" W	427896.52	1137260.75	1193.4

MACEDONIA TWP.



PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
615	41° 12' 39.90584" N	95° 28' 49.79028" W	447439.95	1095556.05	1197.7
616	41° 10' 42.62513" N	95° 24' 14.13307" W	435102.87	1116358.64	1194.2
629	41° 09' 37.30699" N	95° 28' 47.96900" W	428961.44	1095274.58	1217.6

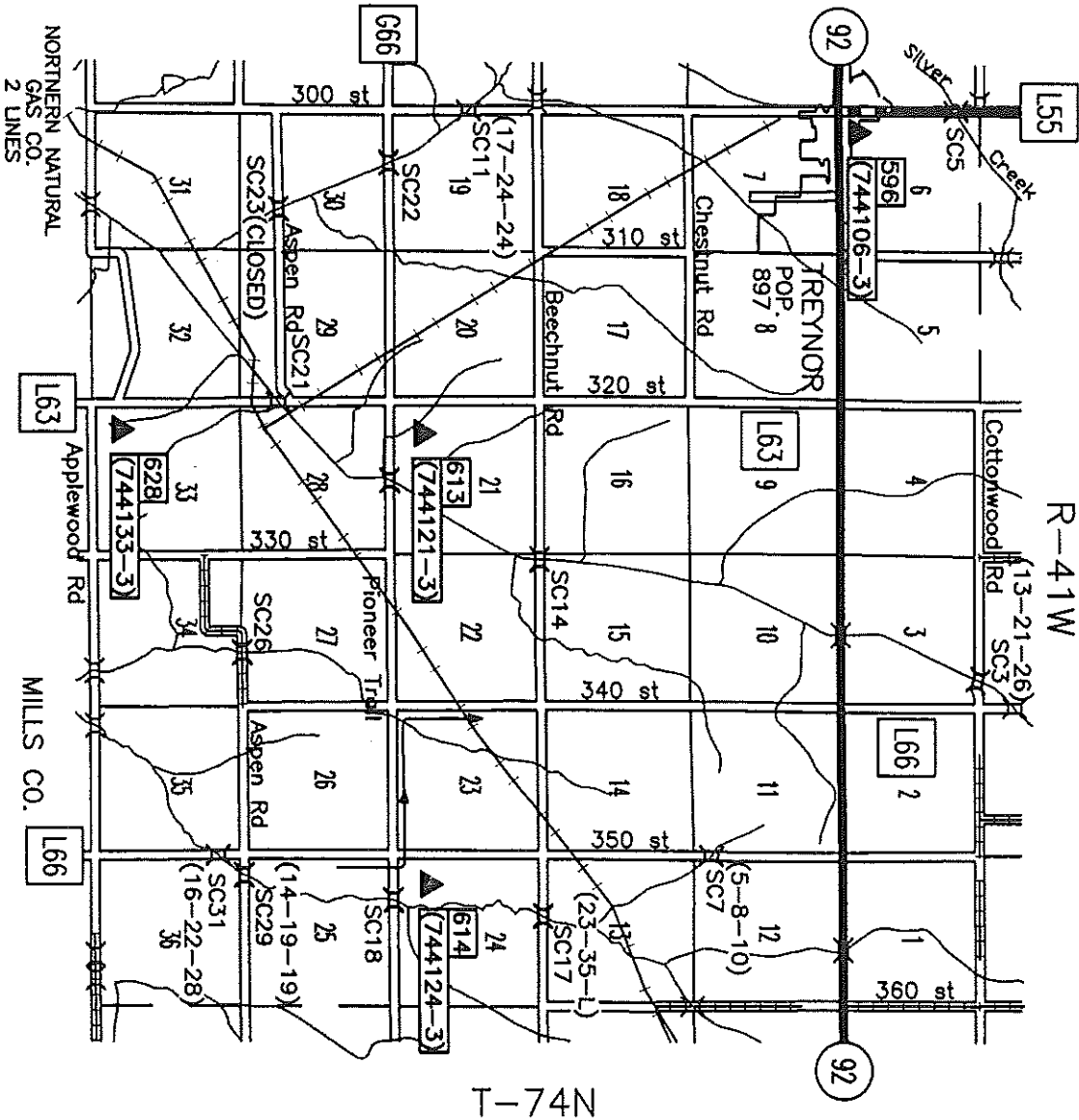
CARSON TWP.



PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
599	41° 14' 44.53005" N	95° 28' 49.54849" W	460049.11	1095861.68	1188.3
600	41° 13' 57.50136" N	95° 25' 22.10741" W	454935.13	1111598.20	1067.7

SILVER CREEK TWP.

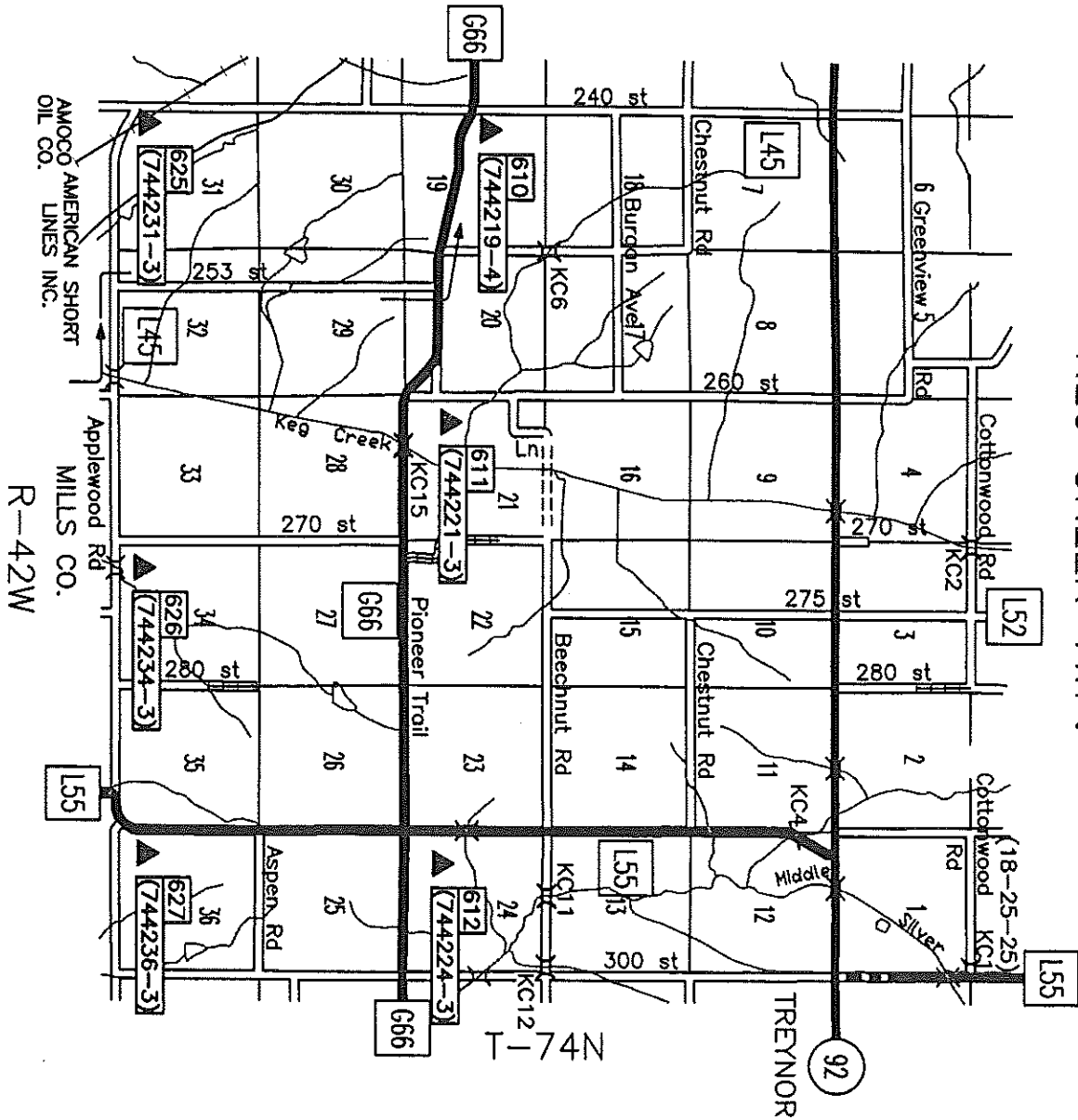
R-41W



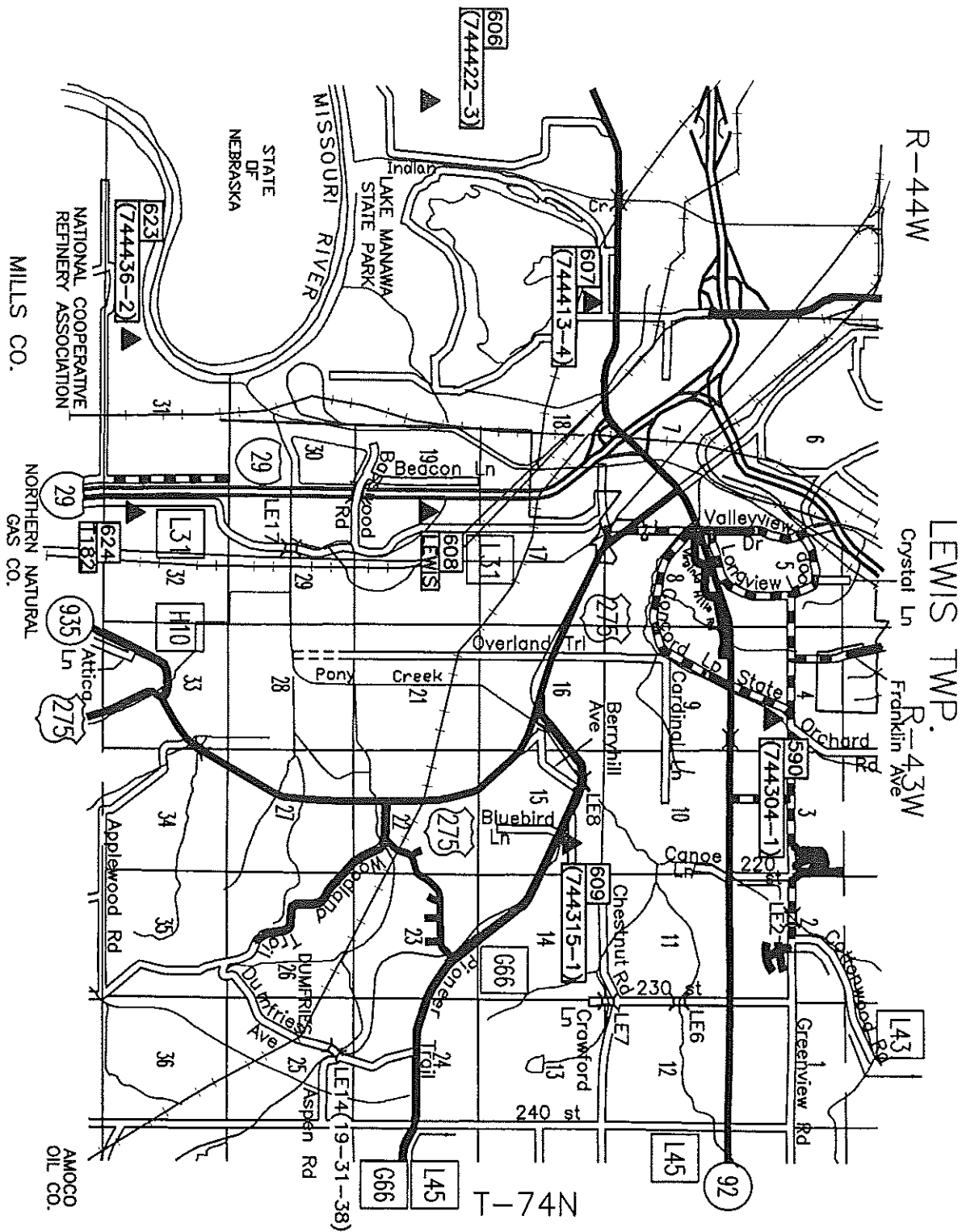
T-74N

PT#	GEODETC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
596	41° 13' 57.21078" N	95° 36' 46.55114" W	456118.73	1059318.82	1210.6
613	41° 11' 21.04099" N	95° 34' 32.36328" W	440070.99	1069190.93	1136.0
614	41° 11' 21.47118" N	95° 31' 05.11620" W	439741.70	1085032.09	1171.6
628	41° 09' 45.42919" N	95° 34' 31.74001" W	430396.11	1069007.70	1200.8

KEG CREEK TWP.

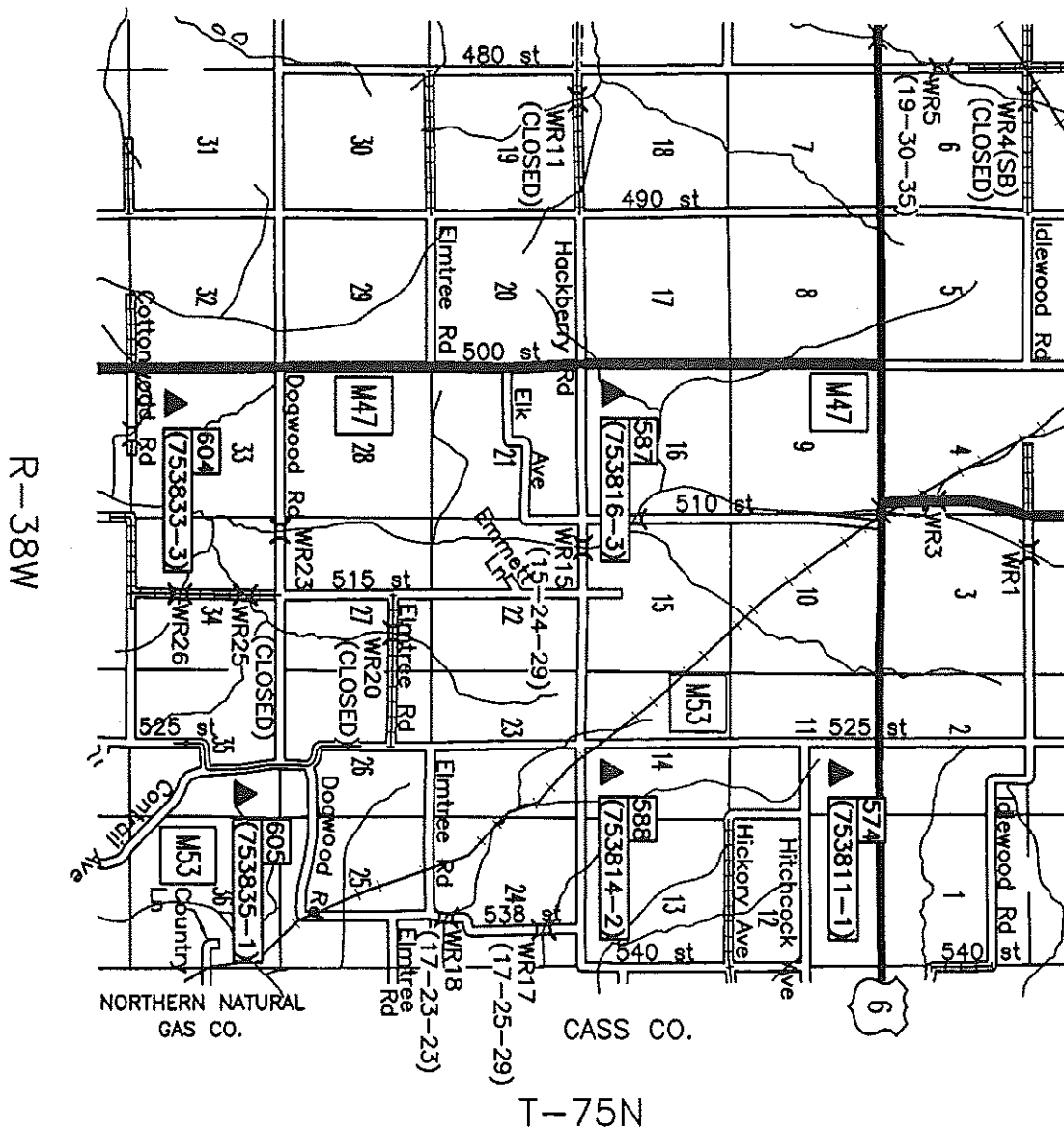


PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
610	41° 11' 46.81251" N	95° 43' 37.92017" W	443709.90	1027561.35	1276.9
611	41° 11' 32.90590" N	95° 41' 22.53866" W	442040.18	1037871.70	1094.1
612	41° 11' 21.59242" N	95° 37' 54.96325" W	440501.38	1053707.59	1198.3
625	41° 11' 06.85467" N	95° 19' 38.56395" W	437102.59	1137476.64	1226.3
626	41° 09' 36.79949" N	95° 40' 12.99201" W	430159.94	1042893.62	1113.5
627	41° 09' 38.52422" N	95° 37' 57.92522" W	430078.93	1053225.46	1146.2



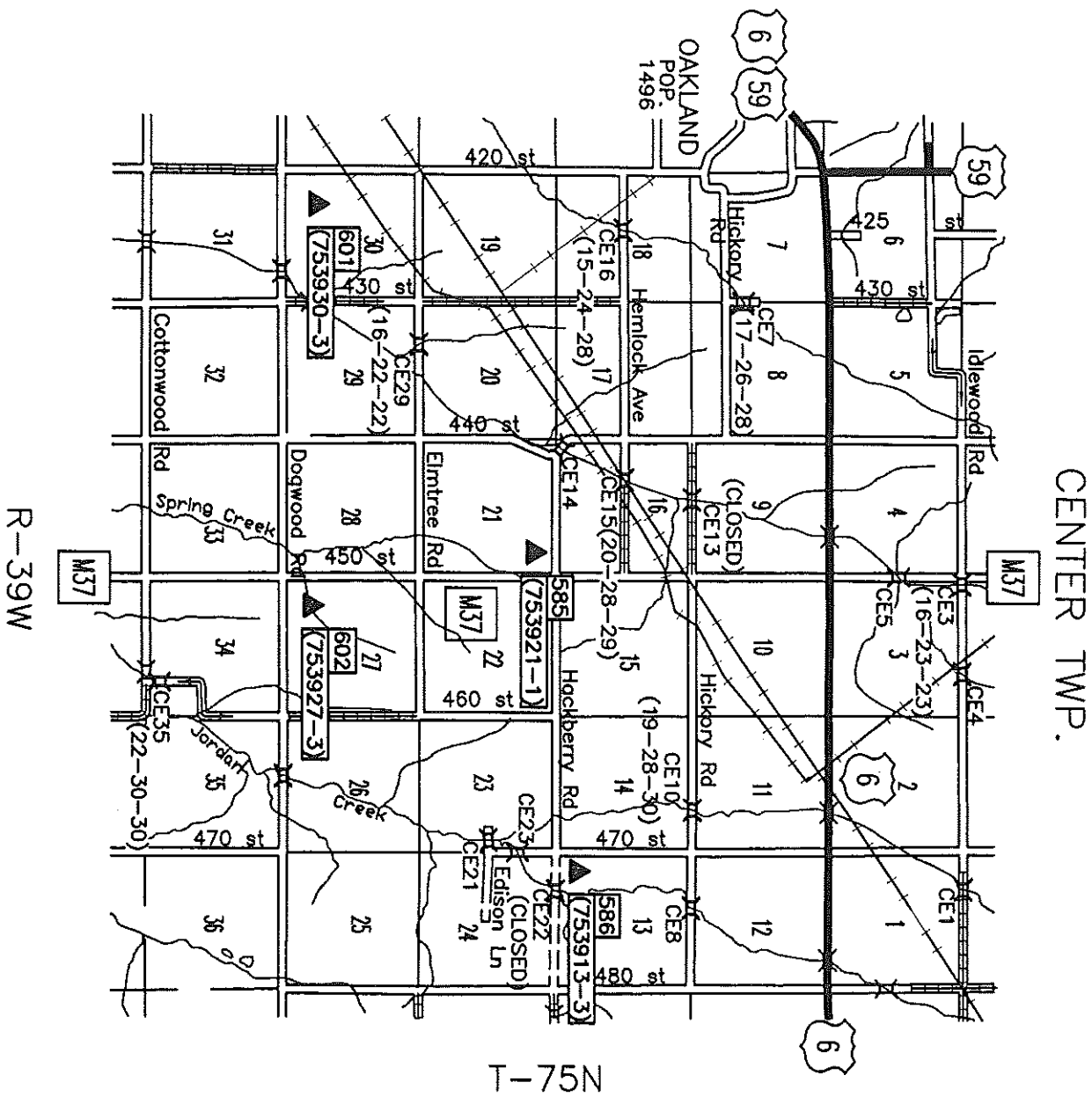
PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
590	41° 14' 22.59664" N	95° 47' 23.66507" W	459918.88	1010725.33	1080.5
606	41° 11' 22.71048" N	95° 54' 10.14602" W	442557.67	979181.20	967.7
607	41° 13' 05.23023" N	95° 51' 03.48903" W	452539.65	993726.54	975.5
608	41° 11' 47.14371" N	95° 49' 06.20422" W	444399.05	1002475.45	970.2
609	41° 12' 50.93906" N	95° 46' 30.67985" W	450539.46	1014529.06	1030.0
623	41° 08' 56.96458" N	95° 51' 20.76586" W	427458.57	991726.34	965.7
624	41° 09' 49.72946" N	95° 49' 22.63961" W	432553.77	1000902.20	971.7

WRIGHT TWP.



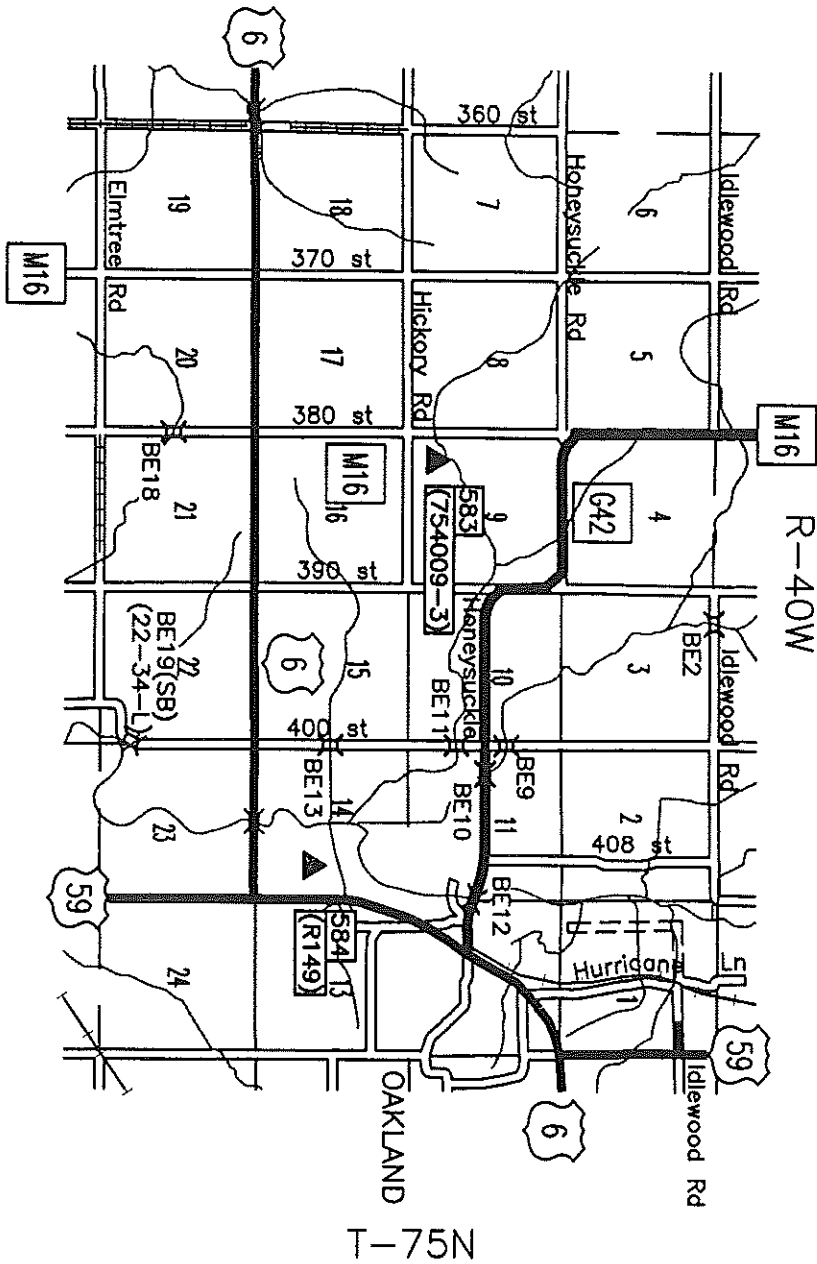
R-38W

PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
621	41° 12' 11.37166" N	95° 13' 55.68837" W	443094.49	1163816.39	1176.4
622	41° 11' 44.20010" N	95° 09' 20.84518" W	439935.94	1184768.01	1077.4
631	41° 10' 26.86028" N	95° 16' 11.27933" W	432728.07	1153239.25	1289.0
632	41° 10' 26.08466" N	95° 12' 46.73312" W	432336.47	1168876.20	1235.1
633	41° 10' 25.52712" N	95° 09' 54.78644" W	432024.74	1182021.43	1070.8



PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
585	41° 17' 20.24274" N	95° 19' 40.05622" W	474886.19	1138156.59	1264.1
586	41° 17' 20.49341" N	95° 17' 20.33552" W	474689.83	1148820.57	1244.8
601	41° 15' 36.67176" N	95° 23' 02.97173" W	464736.94	1122443.26	1242.9
602	41° 15' 36.49522" N	95° 19' 38.82600" W	464386.47	1138029.90	1235.3

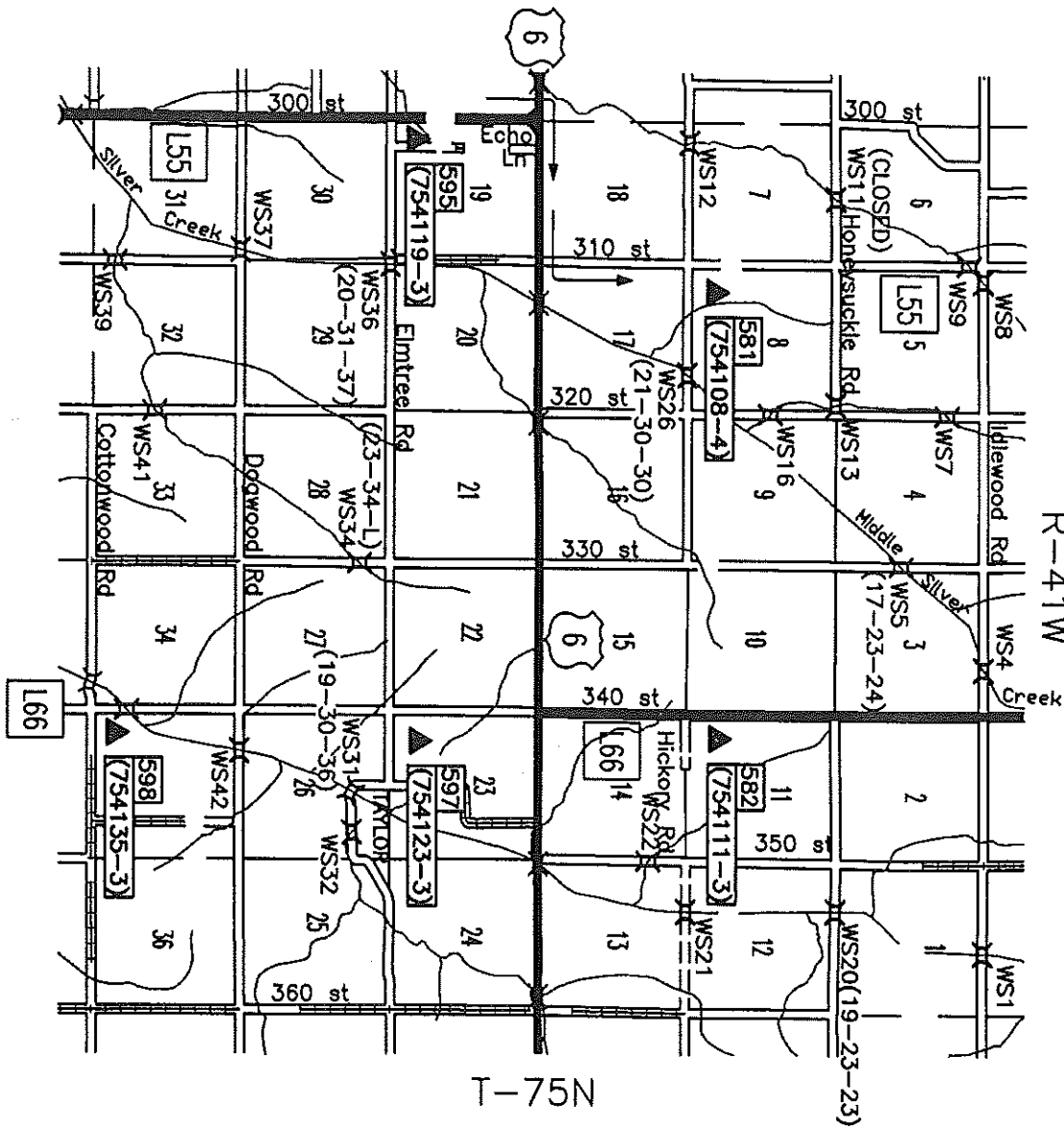
BELKNAP TWP.



PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
583	41° 18' 13.42505" N	95° 27' 39.24702" W	481063.89	1101706.95	1206.9
584	41° 17' 41.08279" N	95° 24' 12.77319" W	477441.36	1117389.33	1093.3

WASHINGTON TWP.

R-41W

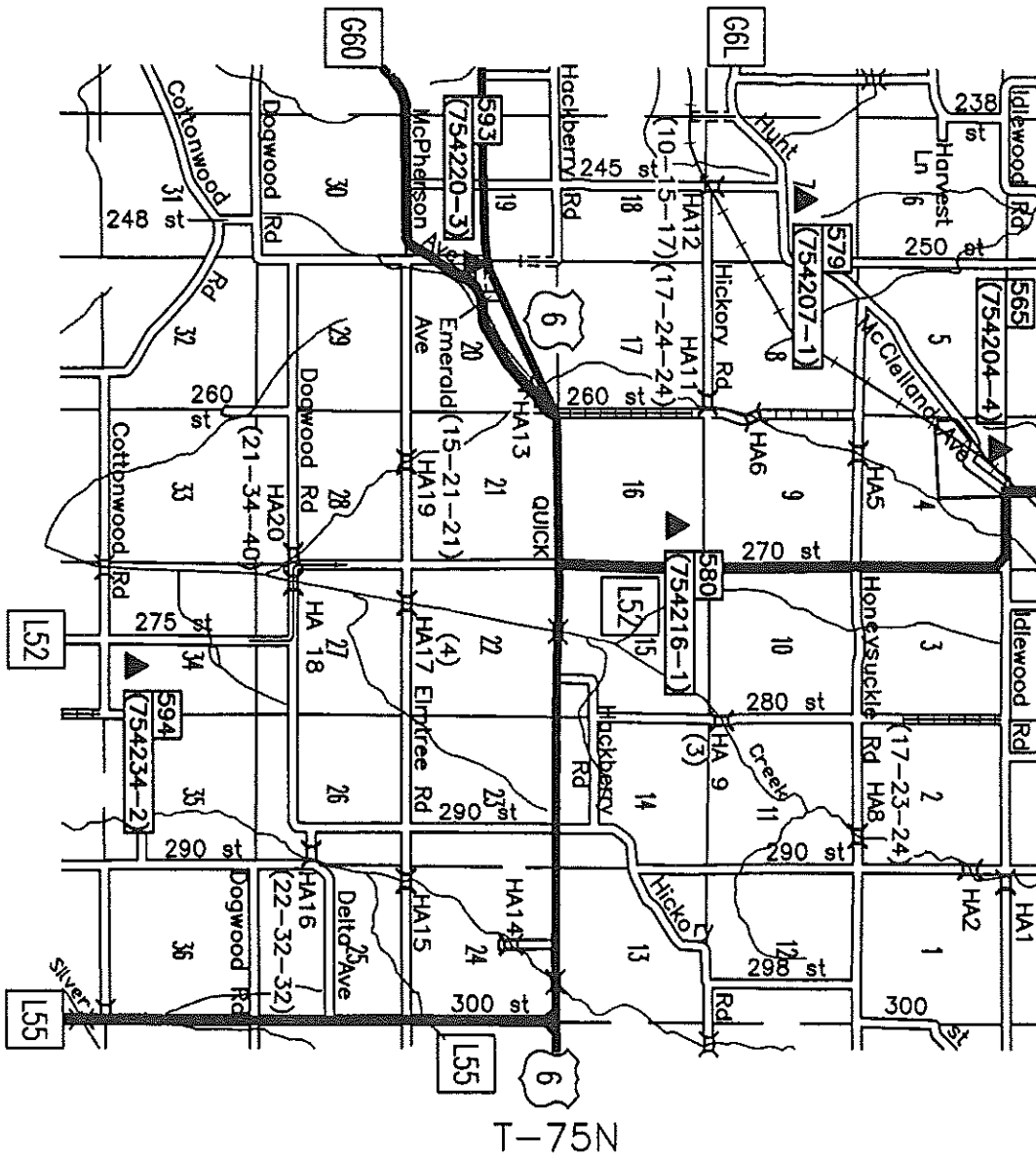


T-75N

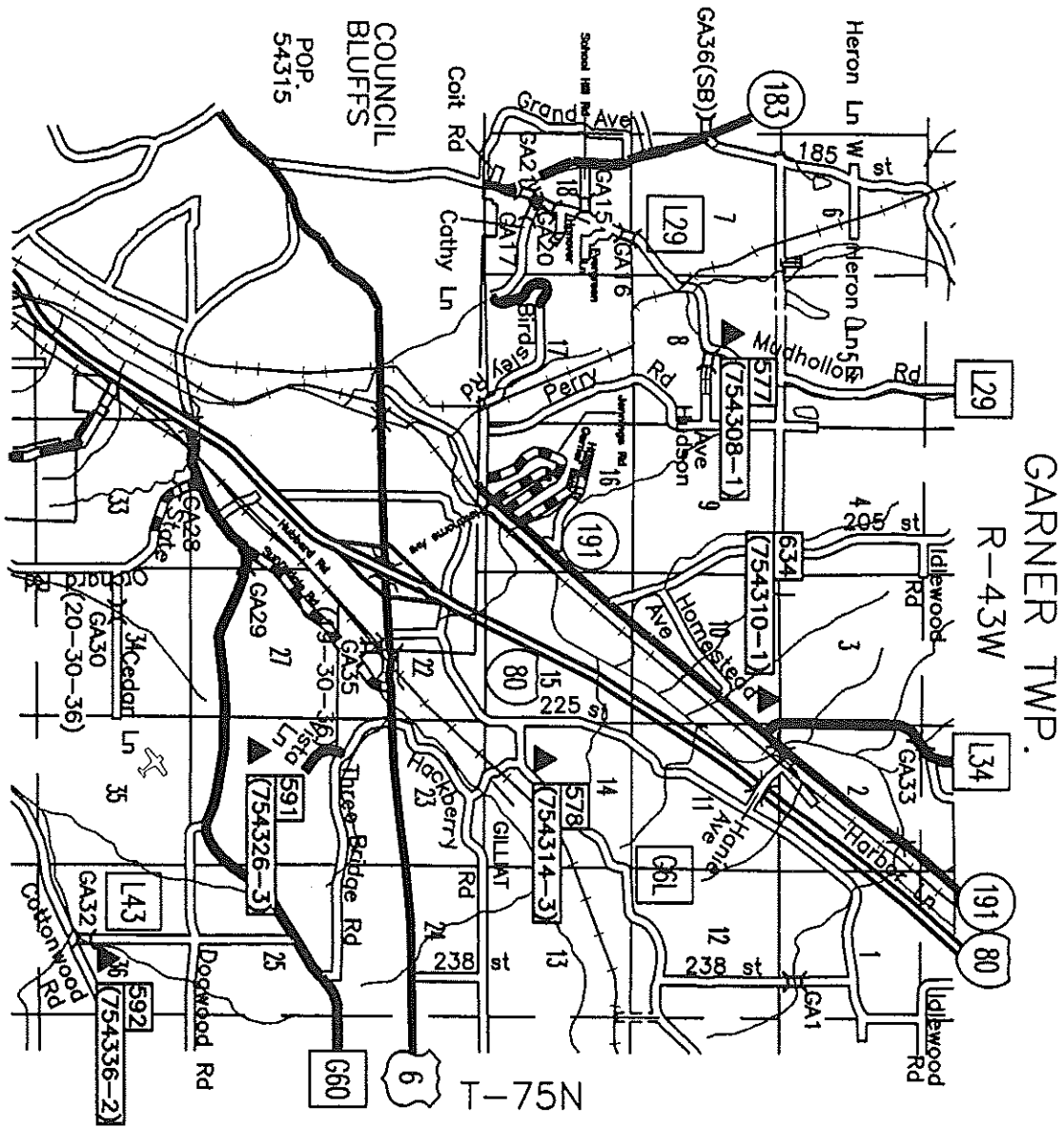
PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT US FEET
	LATITUDE	LONGITUDE	NORTHING	EASTING	
581	41° 18' 14.51345" N	95° 35' 38.57651" W	482026.62	1065137.55	1209.3
582	41° 18' 14.01198" N	95° 32' 11.01307" W	481599.81	1080972.88	1226.3
595	41° 16' 30.15815" N	95° 36' 45.62107" W	471591.85	1059765.79	1242.7
597	41° 16' 29.92185" N	95° 32' 12.42536" W	471070.45	1080618.47	1187.0
598	41° 14' 45.79399" N	95° 32' 13.07720" W	460535.98	1080321.94	1093.9

HARDIN TWP.

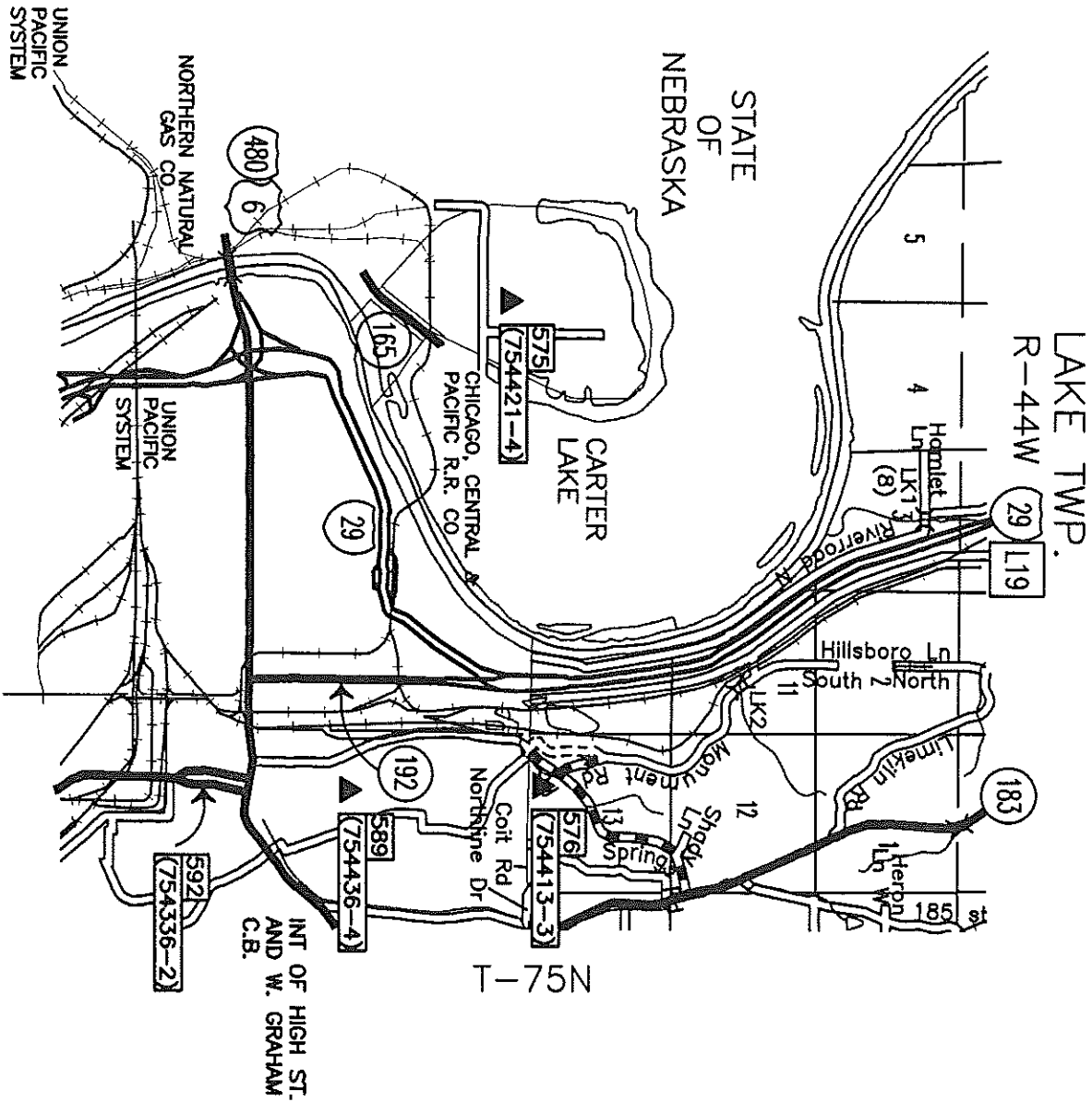
McCLELLAND L52 R-42W



PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
565	41° 19' 48.30268" N	95° 41' 06.89639" W	492132.22	1040326.62	1251.3
579	41° 18' 41.91139" N	95° 43' 04.52759" W	485642.13	1031184.28	1247.7
580	41° 18' 14.98901" N	95° 40' 12.83574" W	482587.76	1044213.92	1157.0
593	41° 16' 56.91080" N	95° 42' 15.66041" W	474923.83	1034642.84	1154.7
594	41° 14' 46.55037" N	95° 39' 38.73616" W	461433.85	1046291.56	1095.3



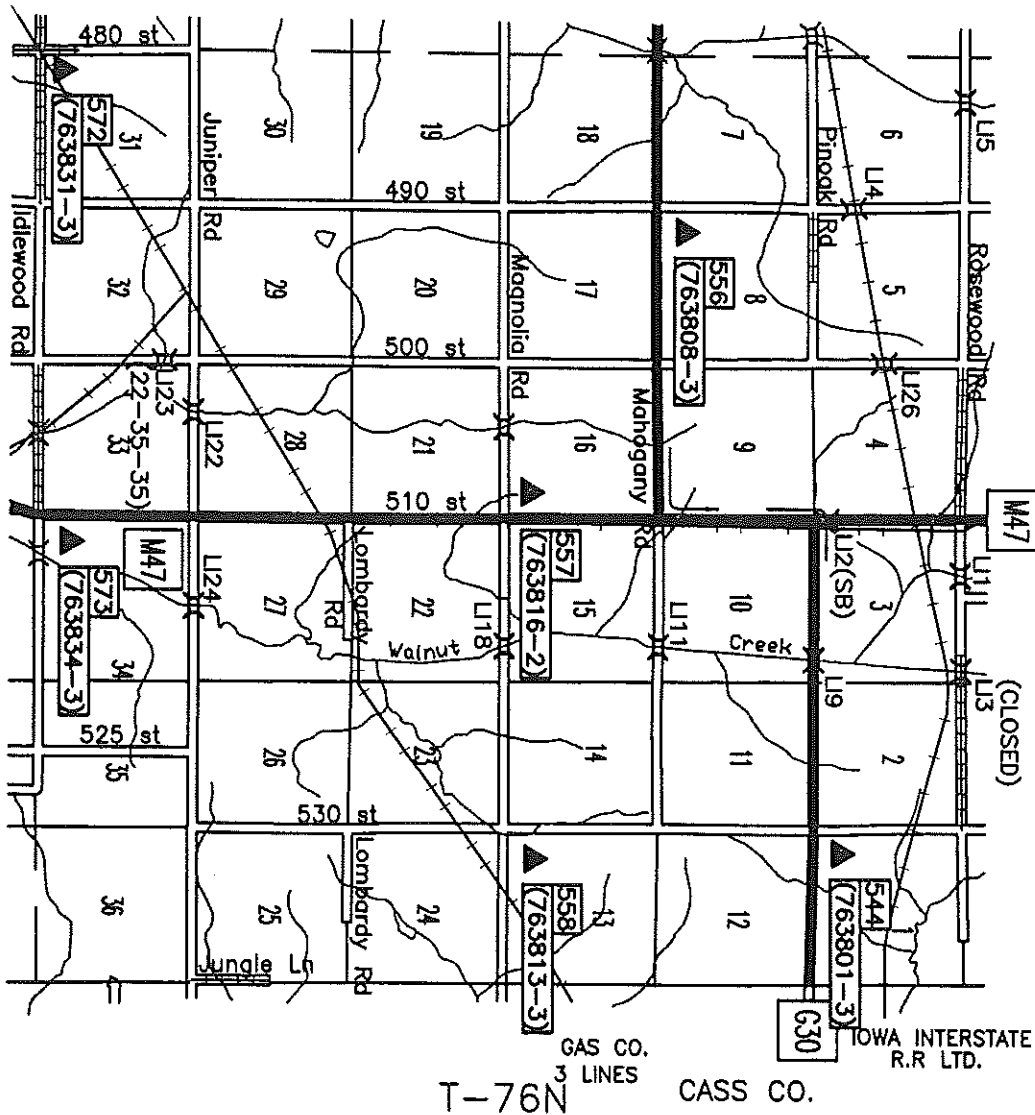
PT#	GEODETTIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
577	41° 18' 44.82709" N	95° 48' 47.98777" W	486619.71	1004991.61	1115.6
634	41° 19' 03.06026" N	95° 45' 50.16058" W	488107.45	1018604.74	1024.0
578	41° 11' 44.20010" N	95° 09' 20.84518" W	479382.38	1019606.36	1190.6
591	41° 15' 52.57573" N	95° 45' 59.14164" W	468853.24	1017417.43	1204.0
592	41° 14' 57.68771" N	95° 42' 15.66041" W	474923.83	1034642.84	1154.7



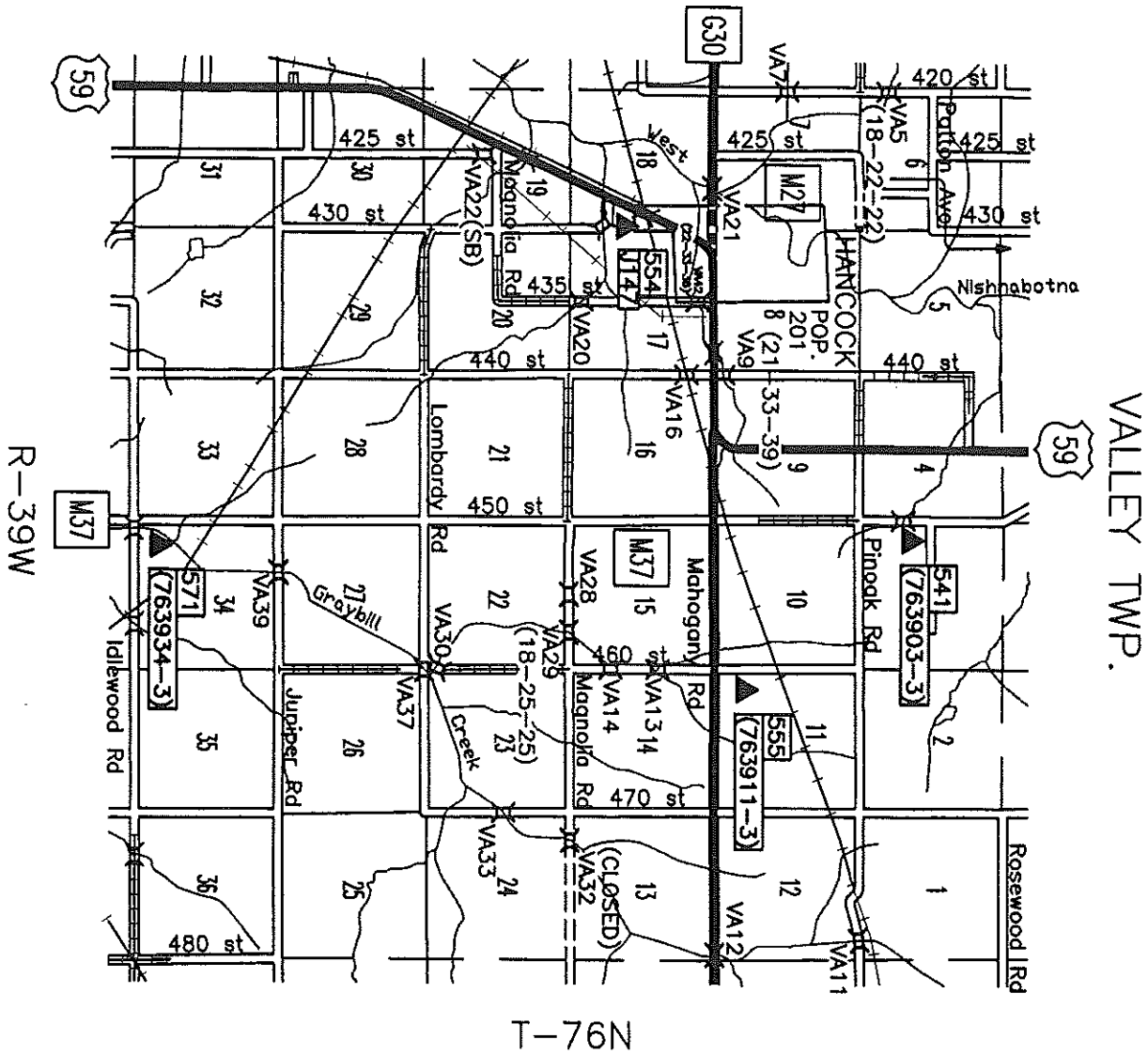
PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
575	41° 17' 06.21459" N	95° 54' 45.82032" W	477384.86	977419.06	982.0
576	41° 17' 33.02301" N	95° 51' 17.44218" W	479661.20	993394.29	1043.5
589	41° 14' 45.50041" N	95° 50' 47.72089" W	462651.47	995204.81	991.9
592	41° 14' 57.68771" N	95° 44' 12.55330" W	463089.32	1025411.44	1097.3

LINCOLN TWP.

R-38W



PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
544	41° 24' 16.57711" N	95° 10' 26.65651" W	516165.03	1181203.42	1307.1
556	41° 23' 24.55514" N	95° 15' 04.25227" W	511317.39	1159948.25	1282.0
557	41° 22' 32.34996" N	95° 12' 46.77160" W	505826.07	1170320.70	1324.8
558	41° 22' 31.82526" N	95° 10' 27.26652" W	505565.91	1180952.89	1253.7
572	41° 19' 55.61251" N	95° 16' 11.75034" W	490278.87	1154374.43	1303.4
573	41° 19' 55.71408" N	95° 12' 46.29020" W	489975.38	1170045.24	1197.0

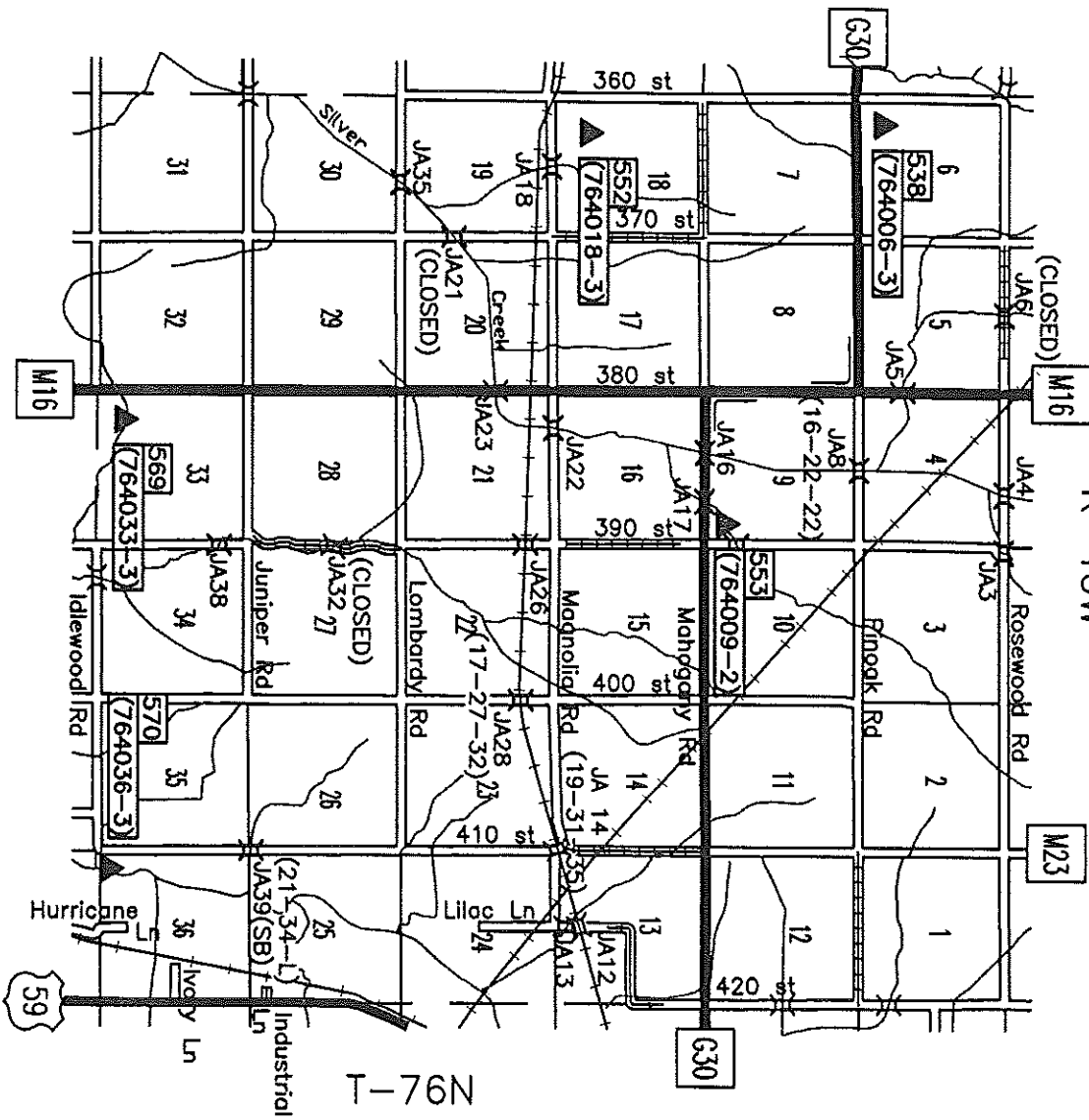


R-39W

T-76N

PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
541	41° 24' 41.33352" N	95° 19' 38.93530" W	519517.10	1139180.00	1234.4
554	41° 22' 56.22149" N	95° 22' 05.97827" W	509119.11	1127750.28	1108.7
555	41° 23' 24.83084" N	95° 18' 30.18656" W	511666.42	1144256.11	1241.0
571	41° 19' 56.02586" N	95° 19' 39.13017" W	490647.81	1138558.50	1158.5

JAMES TWP.
R-40W

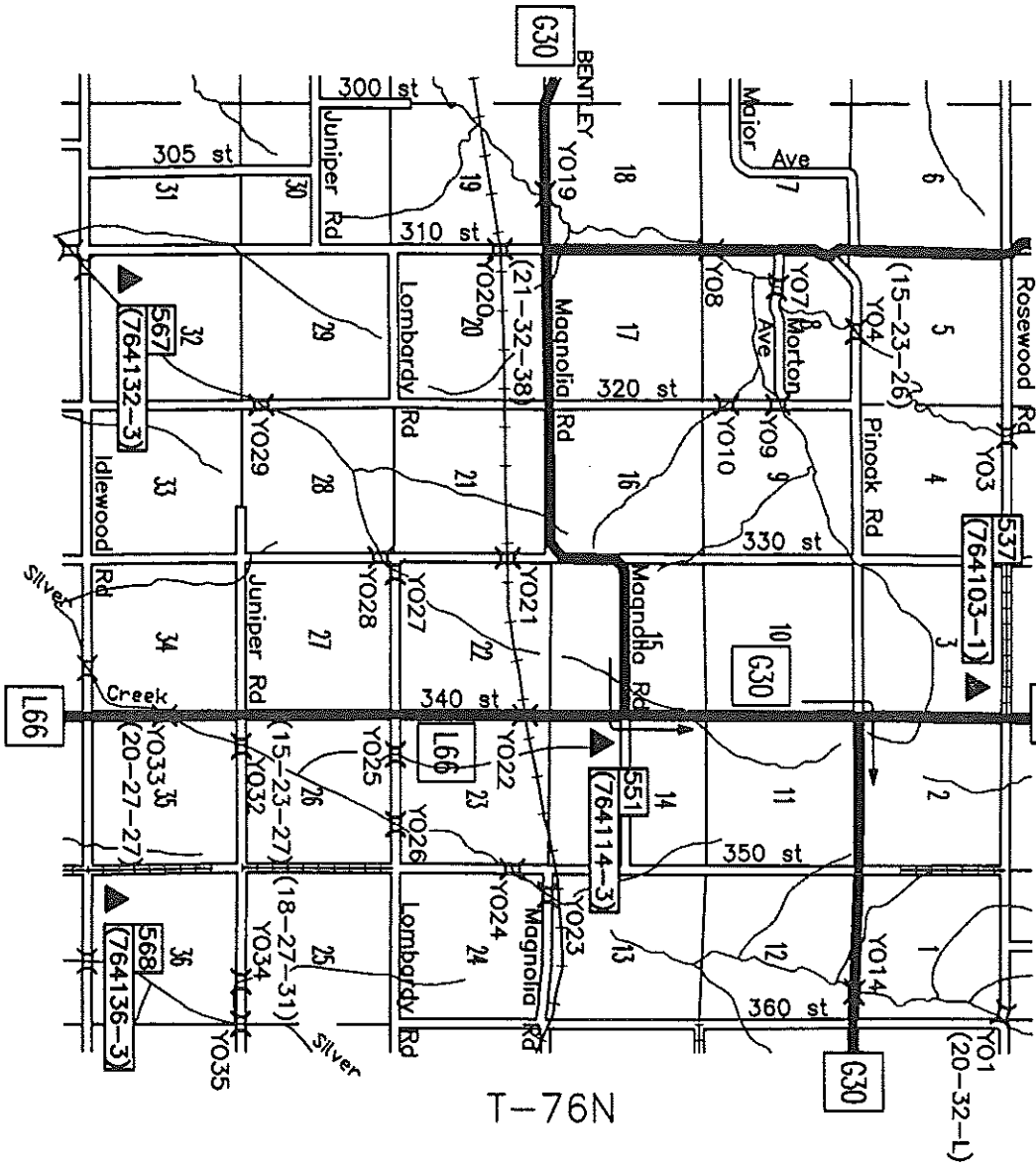


T-76N

PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
538	41° 24' 17.38228" N	95° 29' 51.47364" W	518119.73	1092464.04	1263.3
552	41° 22' 33.30843" N	95° 29' 52.22051" W	507590.47	1092165.23	1220.3
553	41° 23' 25.64685" N	95° 26' 31.58606" W	512539.95	1107574.96	1224.3
569	41° 19' 57.03442" N	95° 27' 38.63330" W	491546.35	1101990.14	1176.7
570	41° 19' 56.18195" N	95° 24' 12.08645" W	491110.14	1117740.91	1089.0

YORK TWP.

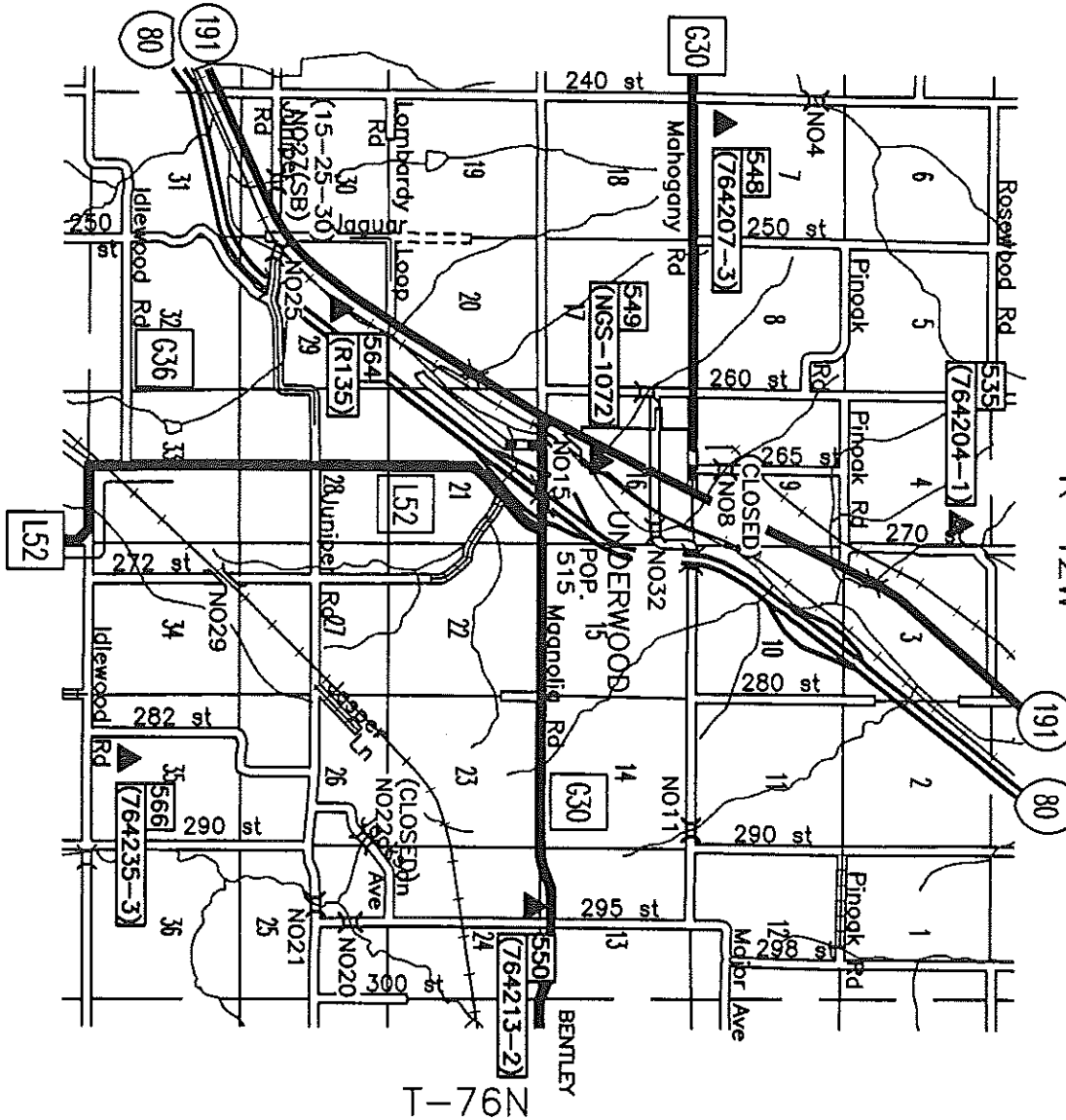
R-41W



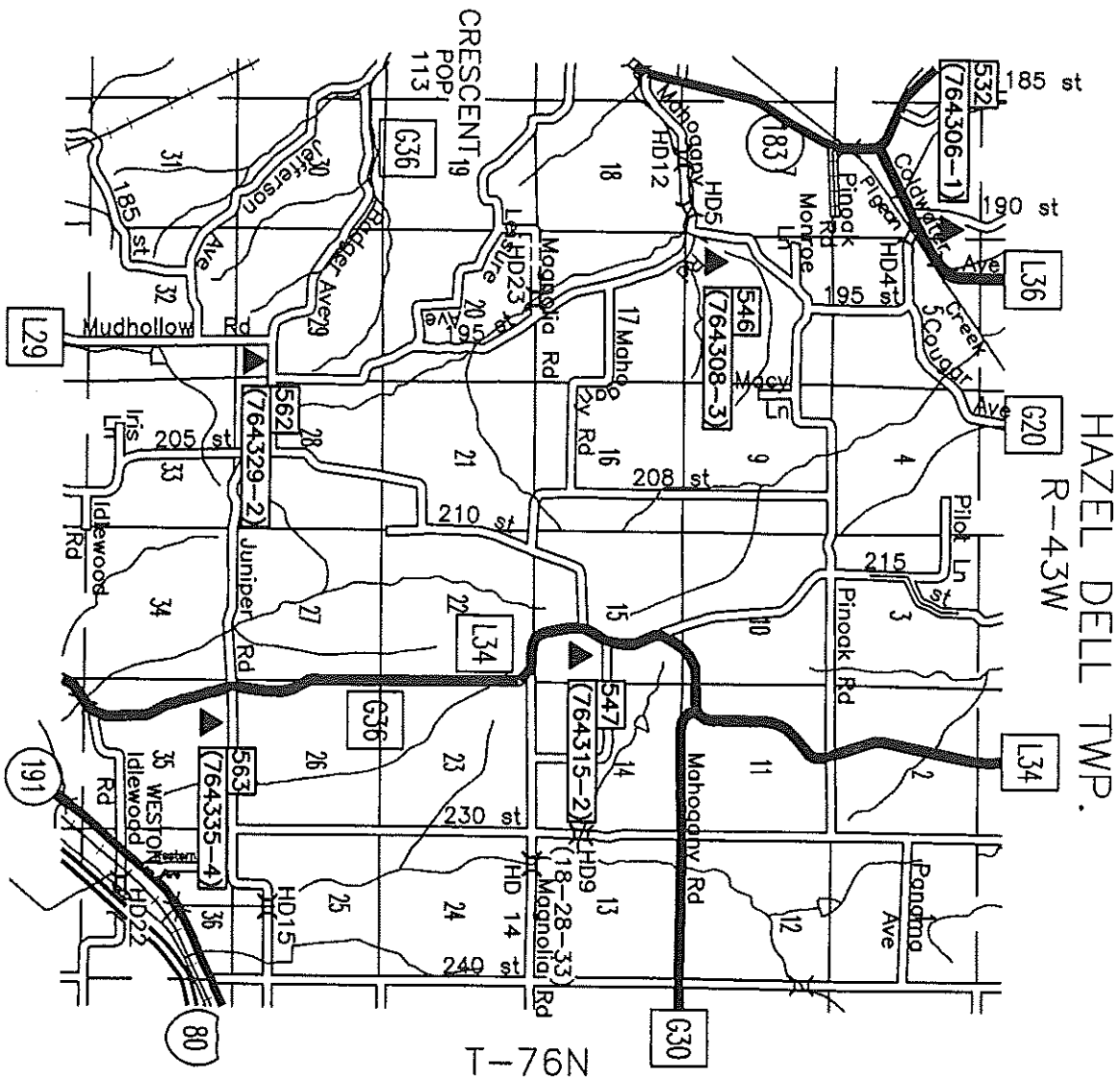
T-76N

PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
537	41° 25' 09.00845" N	95° 32' 11.19966" W	523590.31	1081941.90	1334.4
551	41° 22' 59.87474" N	95° 32' 10.63443" W	510523.18	1081679.01	1302.6
567	41° 19' 57.78960" N	95° 35' 37.86363" W	492474.74	1065443.53	1200.9
568	41° 19' 57.24936" N	95° 31' 02.19294" W	491923.15	1086466.03	1256.4

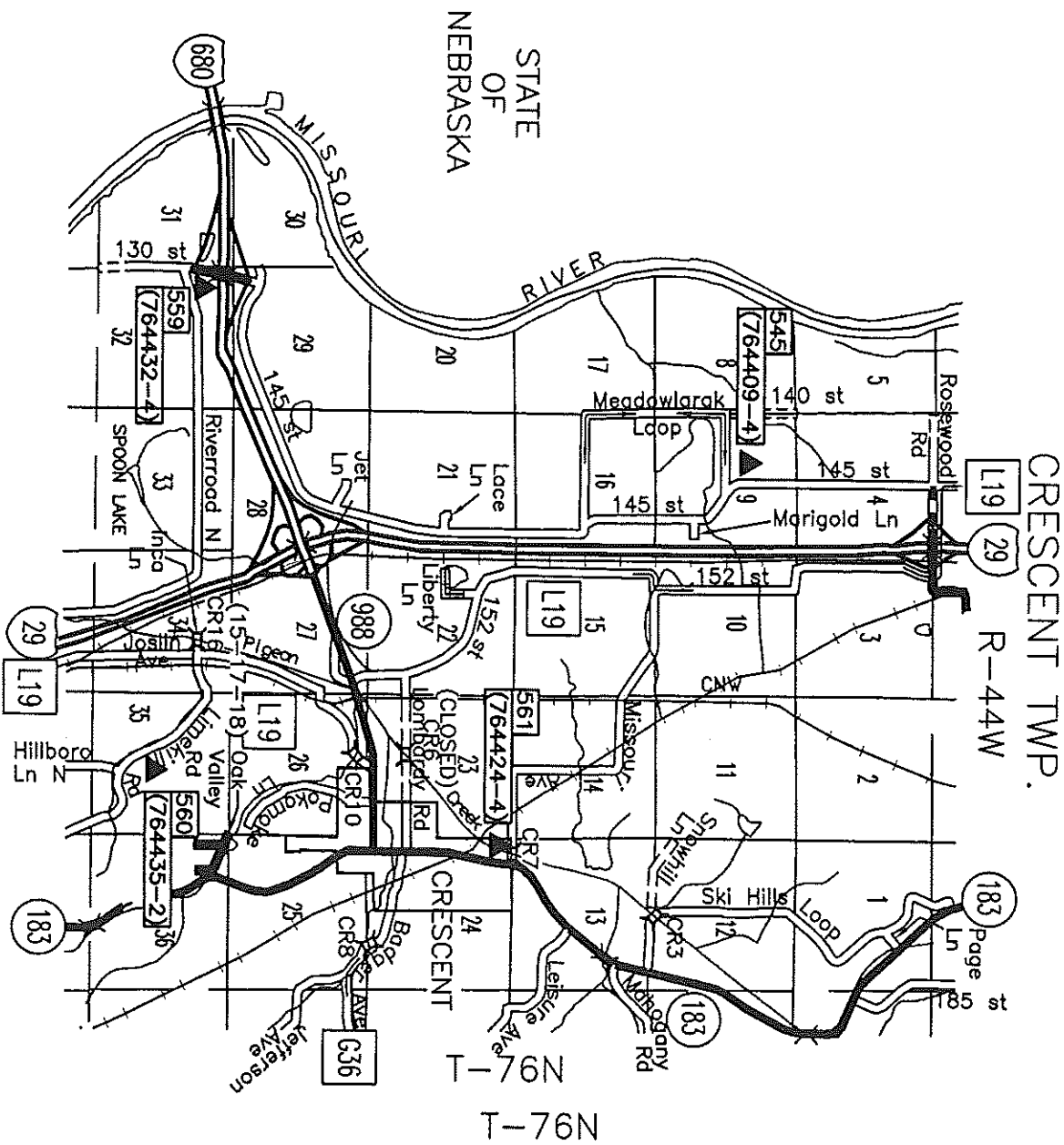
NORWALK TWP.
R-42W



PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
535	41° 25' 03.70937" N	95° 40' 10.64736" W	523937.19	1045412.59	1091.9
548	41° 23' 29.93264" N	95° 49' 22.47776" W	515534.95	1003131.15	1053.6
549	41° 23' 08.15437" N	95° 40' 46.84515" W	512314.41	1042362.62	1072.7
550	41° 22' 36.93079" N	95° 37' 19.52116" W	508764.47	1058083.73	1261.8
564	41° 21' 23.91987" N	95° 42' 07.25337" W	501922.58	1035968.51	1050.8
566	41° 19' 57.92514" N	95° 38' 45.29832" W	492836.89	1051149.60	1273.3



PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT US FEET
	LATITUDE	LONGITUDE	NORTHING	EASTING	
532	41° 24' 47.20053" N	95° 49' 31.46784" W	523370.79	1002655.27	1009.4
546	41° 23' 29.93264" N	95° 49' 22.47776" W	515534.95	1003131.15	1053.6
547	41° 23' 00.59944" N	95° 46' 13.18574" W	512186.26	1017475.88	1291.7
562	41° 21' 02.90059" N	95° 48' 30.48741" W	500553.61	1006697.40	1297.5
563	41° 20' 49.31586" N	95° 45' 50.35503" W	498858.22	1018869.79	1181.0

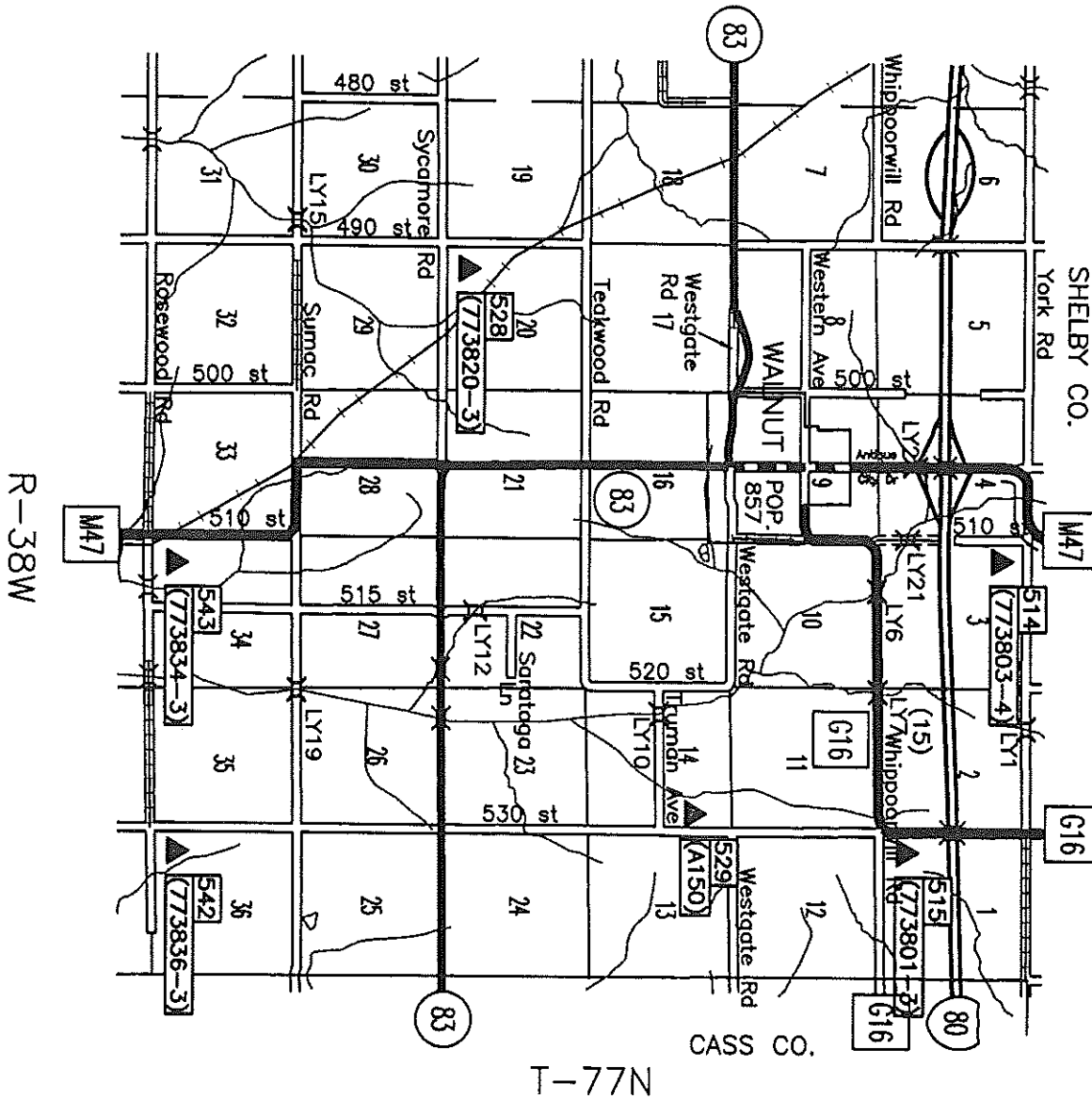


PT#	GEODETTIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
545	41° 23' 53.65332" N	95° 54' 26.70597" W	518565.22	980018.86	986.8
559	41° 20' 38.53105" N	95° 56' 10.54709" W	499044.96	971555.24	984.6
560	41° 20' 11.11333" N	95° 52' 09.88779" W	495764.07	989828.27	1094.2
561	41° 22' 12.56452" N	95° 51' 29.39615" W	507967.64	993249.08	997.3

LAYTON TWP.

SHELBY CO.

CASS CO.

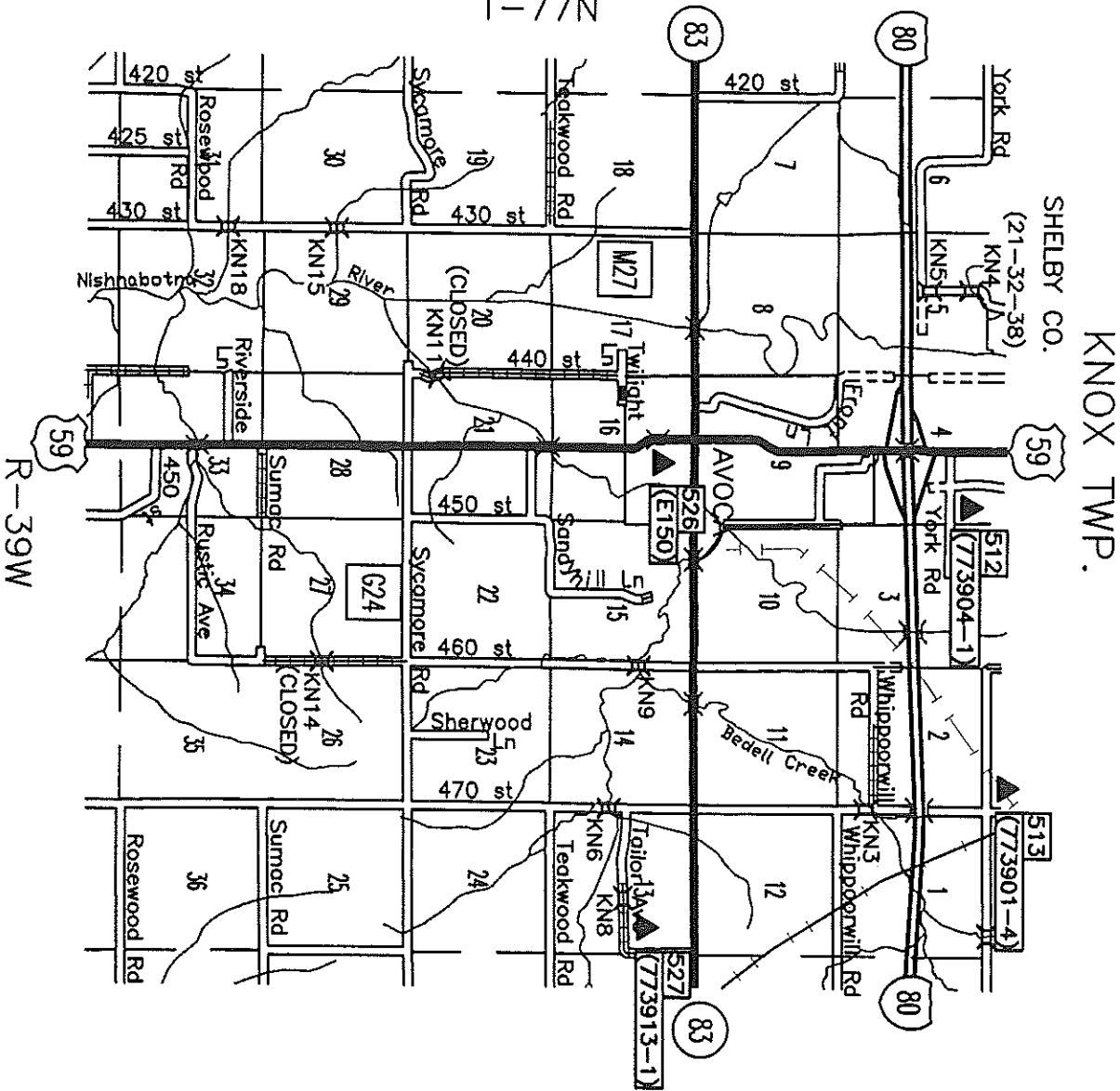


T-77N

R-38W

PT#	GEODETTIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
514	41° 30' 19.08189" N	95° 12' 44.74627" W	553052.56	1171405.00	1320.7
515	41° 29' 27.94767" N	95° 10' 27.06876" W	547674.16	1181778.54	1314.6
528	41° 26' 50.99584" N	95° 15' 03.78687" W	532206.52	1160404.31	1345.9
529	41° 28' 18.99228" N	95° 10' 27.21236" W	540696.51	1181633.29	1289.9
542	41° 25' 07.17805" N	95° 17' 20.85833" W	521913.60	1149752.12	1294.6
543	41° 25' 06.46306" N	95° 12' 45.93433" W	521419.66	1170691.63	1290.3

T-77N



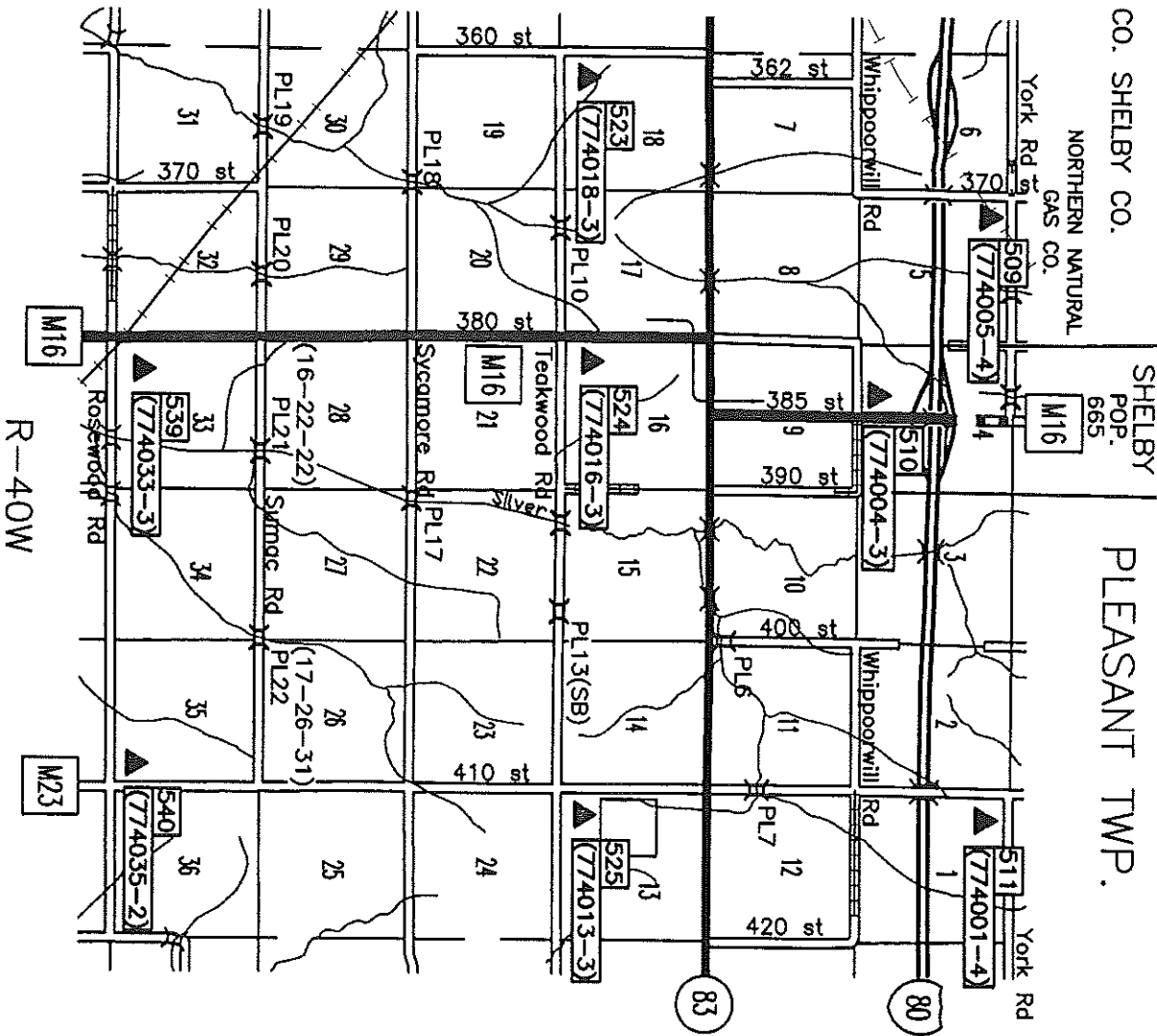
PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
512	41° 30' 07.67800" N	95° 19' 55.54353" W	552566.37	1138610.48	1278.1
513	41° 30' 21.14341" N	95° 17' 19.70610" W	553682.18	1150493.33	1248.3
526	41° 29' 05.75645" N	95° 20' 10.53929" W	546324.56	1137337.44	1146.6
527	41° 28' 10.26448" N	95° 16' 11.12812" W	540331.58	1155440.42	1244.5

HARRISON CO. SHELBY CO.

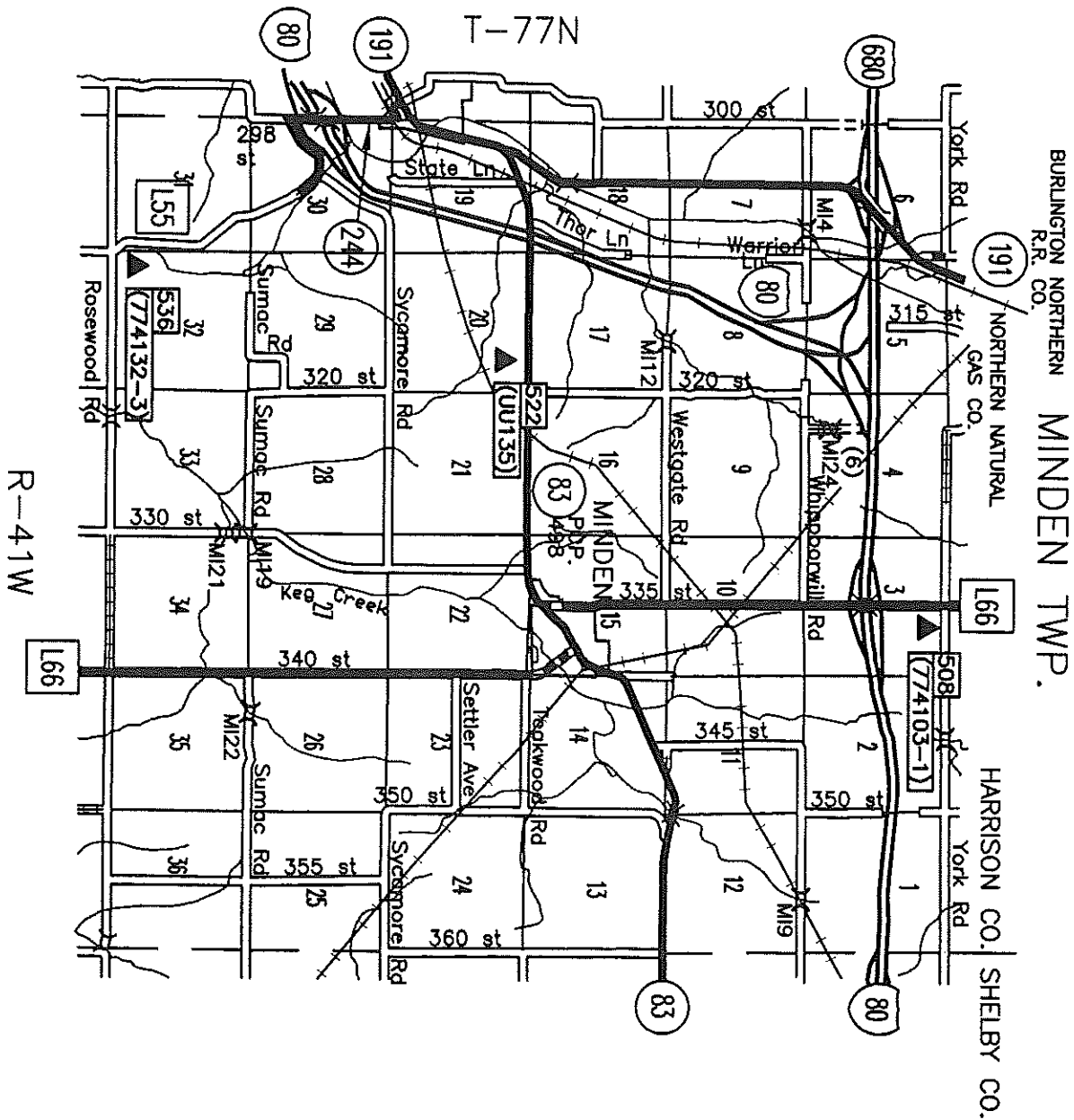
NORTHERN NATURAL
GAS CO.

SHELBY
POP. 665
PLEASANT TWP.

T-77N



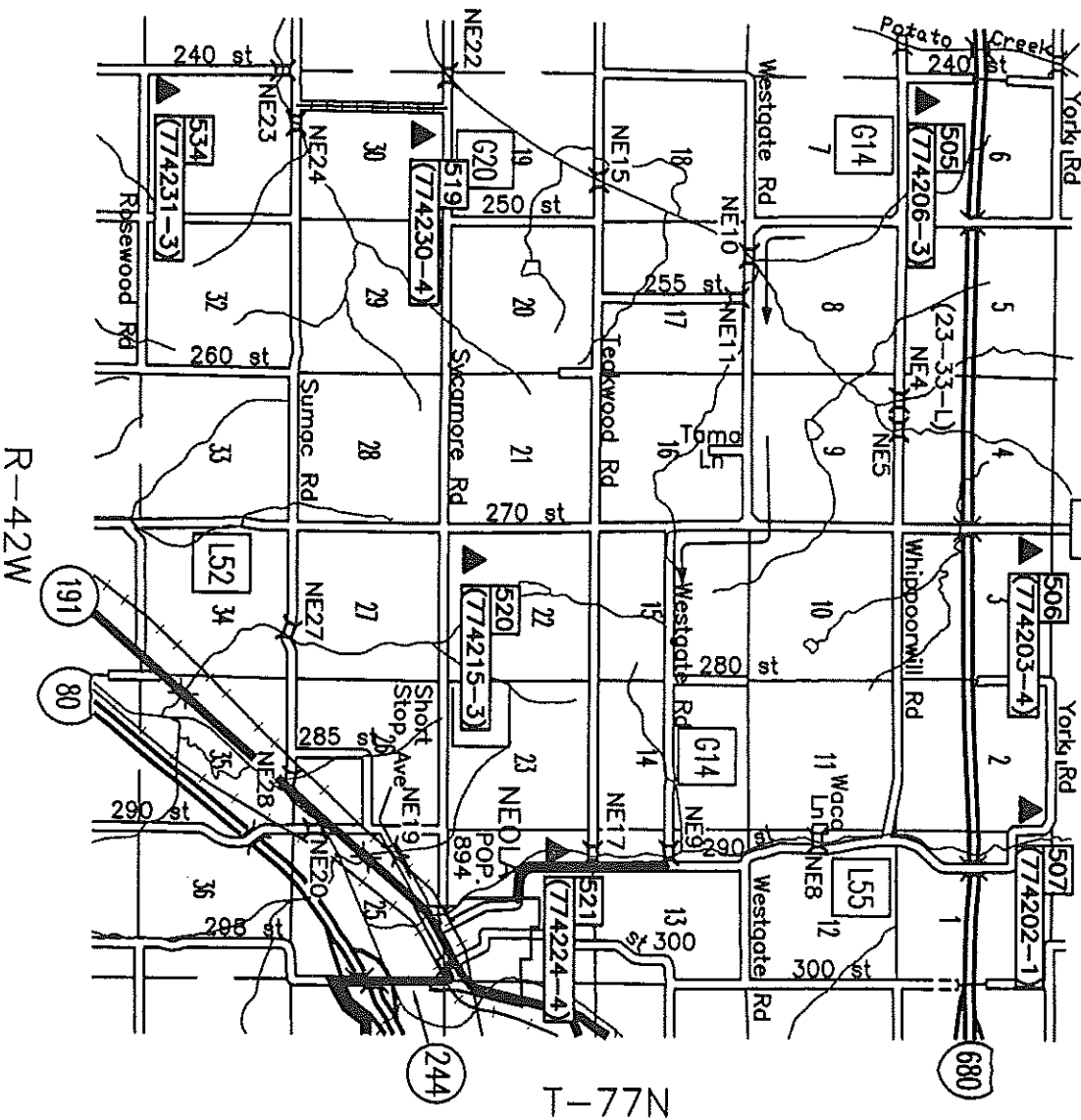
PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
509	41° 30' 21.22273" N	95° 28' 47.28019" W	554823.38	1098192.49	1349.6
510	41° 29' 29.65475" N	95° 27' 05.56362" W	549430.46	1105812.41	1287.1
511	41° 30' 20.70386" N	95° 24' 09.82758" W	554299.79	1119295.75	1351.8
523	41° 27' 44.87580" N	95° 29' 51.88897" W	539115.64	1092914.68	1344.6
524	41° 27' 45.46650" N	95° 27' 39.86641" W	538946.69	1102964.89	1335.3
525	41° 27' 44.36627" N	95° 24' 10.48055" W	538481.31	1118899.94	1311.4
539	41° 25' 08.14166" N	95° 27' 38.19412" W	523024.77	1102733.29	1273.4
540	41° 25' 07.65196" N	95° 24' 11.74837" W	522625.92	1118456.41	1315.3



PT#	GEODETTIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
508	41° 30' 21.61768" N	95° 32' 45.51163" W	555282.75	1080072.72	1320.9
522	41° 27' 45.87551" N	95° 34' 40.58552" W	539731.69	1070943.40	1266.9
536	41° 25' 10.10335" N	95° 35' 38.01630" W	524075.15	1066192.73	1318.6

NEOLA TWP.

HARRISON CO.

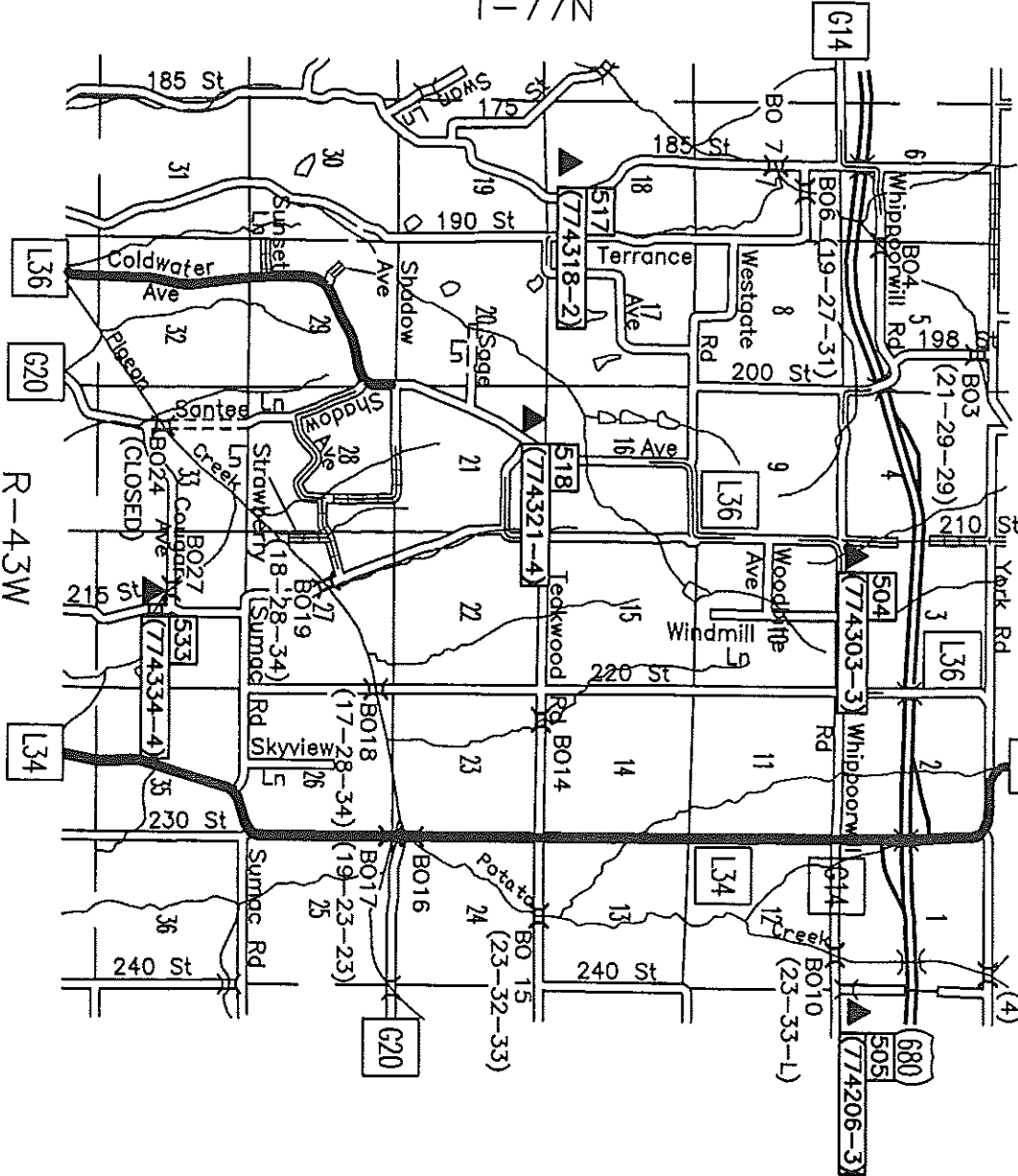


PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
505	41° 29' 31.93521" N	95° 43' 36.06037" W	551471.40	1030462.77	1230.7
506	41° 30' 22.48365" N	95° 40' 11.30700" W	556192.23	1046167.09	1088.6
507	41° 30' 20.91139" N	95° 37' 54.93984" W	555776.62	1056535.30	1198.5
519	41° 26' 53.56869" N	95° 43' 20.48260" W	535417.67	1031238.36	1054.1
520	41° 27' 46.53088" N	95° 40' 10.49537" W	540411.20	1045835.16	1264.6
521	41° 27' 25.21073" N	95° 37' 35.93031" W	537963.41	1057546.45	1107.4
534	41° 25' 10.46876" N	95° 43' 34.98633" W	525014.44	1029867.20	1235.4

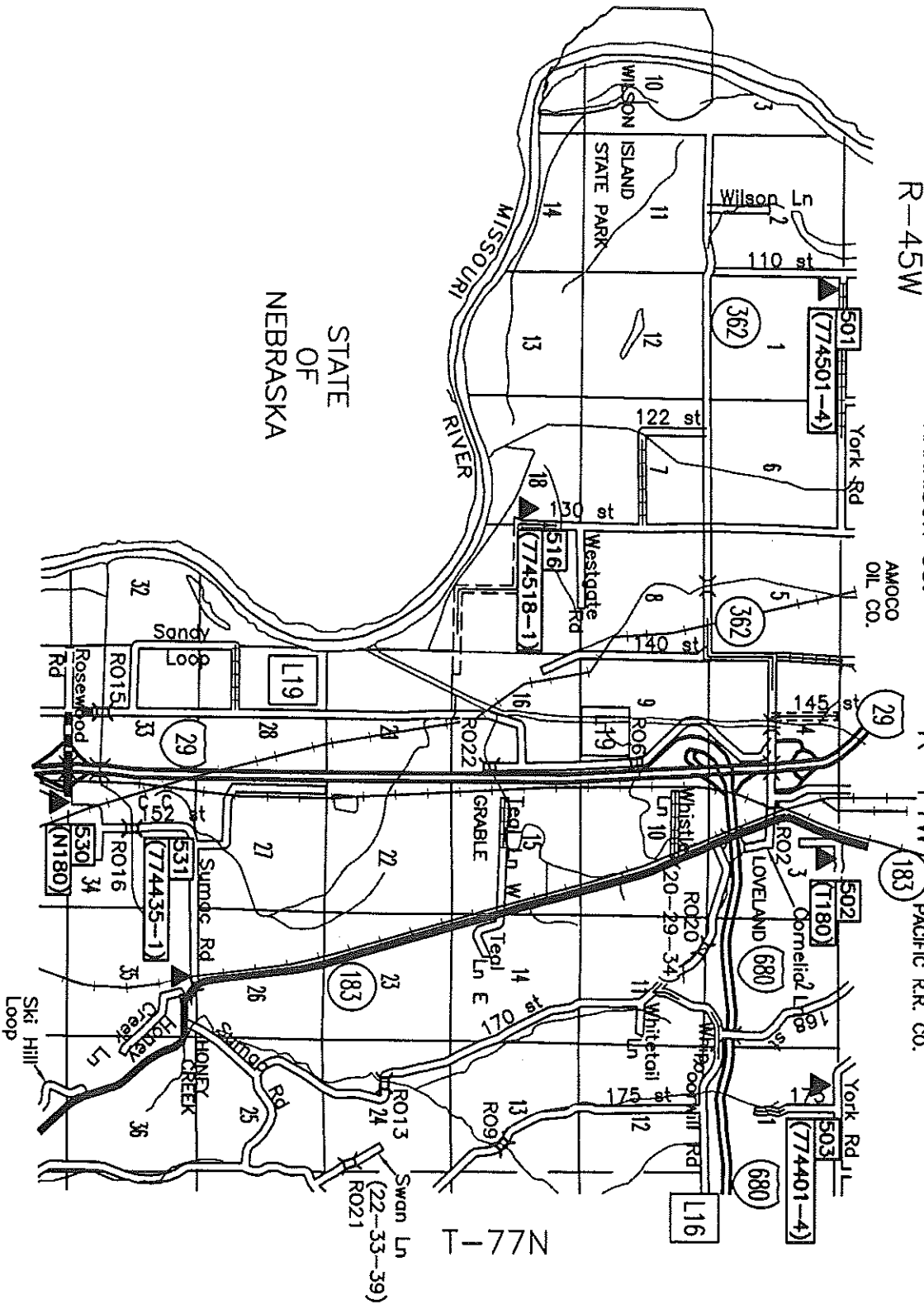
BOOMER TWP.

HARRISON CO.

T-77N



PT#	GEODETIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
504	41° 29' 30.60104" N	95° 47' 02.29258" W	551743.29	1014770.27	1230.7
505	41° 29' 31.93521" N	95° 43' 36.06037" W	551471.40	1030462.77	1088.6
517	41° 27' 53.78101" N	95° 49' 41.77116" W	542269.13	1002375.91	1261.6
518	41° 27' 41.60867" N	95° 47' 49.28991" W	540809.91	1010903.72	1241.0
533	41° 25' 35.89754" N	95° 46' 29.61396" W	527931.43	1016635.07	1056.7



ROCKFORD TWP.

CHICAGO & NORTH WESTERN
TRANSPORTATION CO.

R-45W

HARRISON CO.

R-44W / CHICAGO, CENTRAL &
PACIFIC R.R. CO.

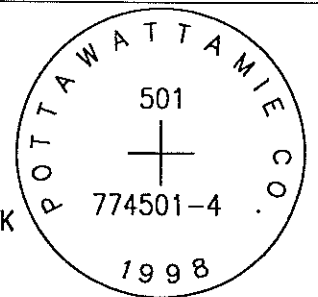
T-77N

PT#	GEODETTIC NAD83 (1996)		IOWA SOUTH (US FEET)		HEIGHT
	LATITUDE	LONGITUDE	NORTHING	EASTING	US FEET
501	41° 30' 23.60989" N	95° 58' 31.01245" W	558539.98	962530.81	998.3
502	41° 30' 23.66804" N	95° 53' 26.50669" W	557897.92	985689.65	1012.8
503	41° 30' 23.32829" N	95° 51' 01.72155" W	557563.37	996700.33	1261.4
516	41° 28' 12.59695" N	95° 56' 15.87755" W	544994.67	972436.61	993.1
530	41° 25' 07.41934" N	95° 53' 56.60730" W	525964.93	982517.67	988.0
531	41° 25' 58.23806" N	95° 51' 58.52588" W	530860.06	991650.26	1011.1

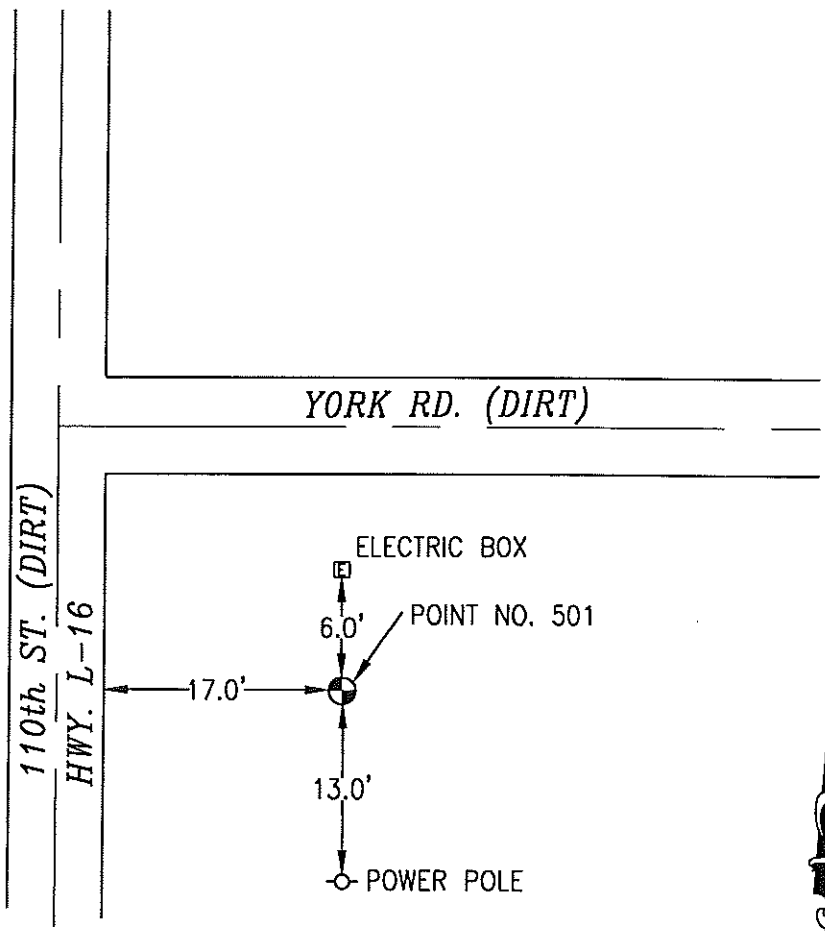
ok

501 774501-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 501, 774501-4". LOCATED APPROXIMATELY 17 FEET EAST OF EAST EDGE HWY L-16, 6 FEET SOUTH OF ELECTRIC BOX, 13 FEET NORTH OF A POWER POLE ON THE SOUTH SIDE OF YORK ROAD. ON THE MISSOURI VALLEY 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
501	774501-4	41 30 23.60989	95 58 31.01245	275.75	170243.326	293379.978	304.28	558539.98	962530.81	998.3



NOT TO SCALE

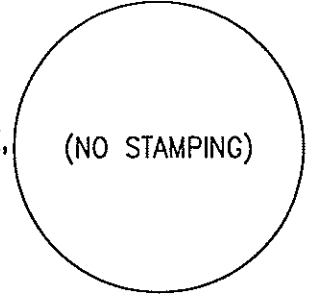
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report

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Engineers & Architects
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: October 23, 1998

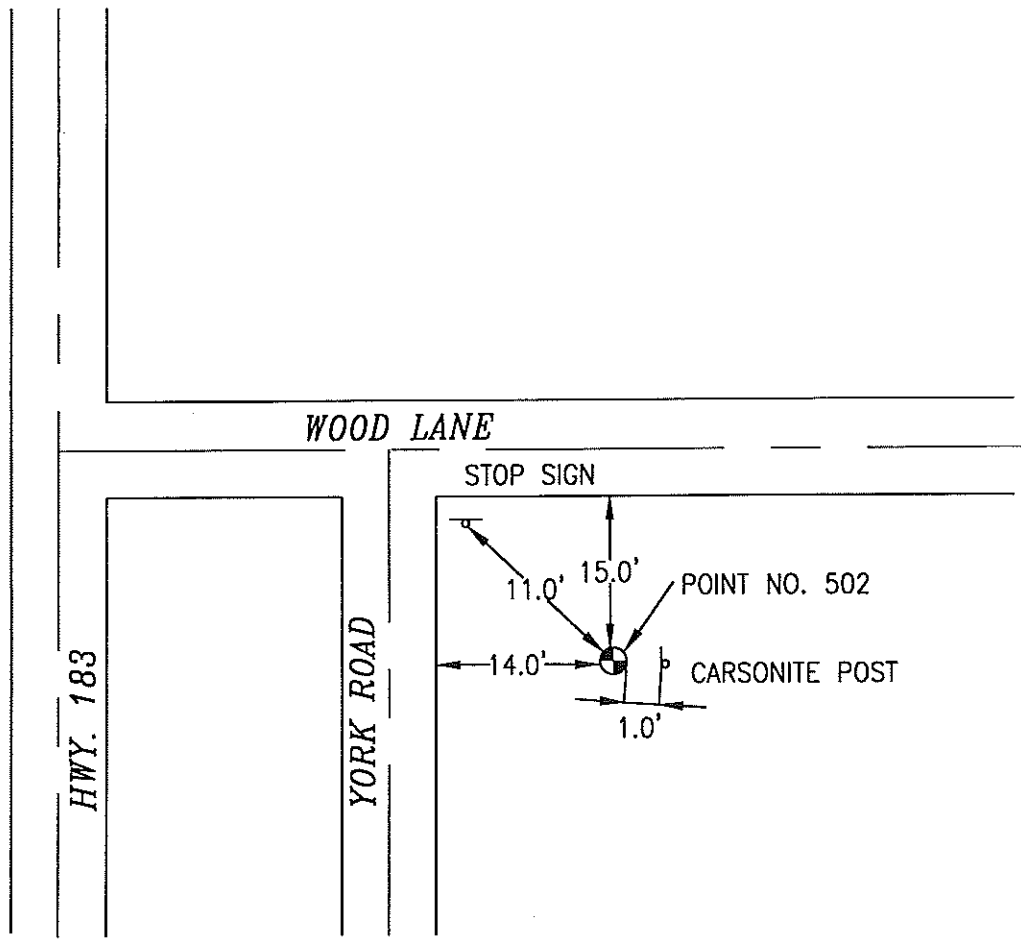
ok

502 T180

FOUND 5/8 INCH DIAMETER STEEL ROD 0.2 FEET BELOW GROUND IN MONUMENT BOX . LOCATED APPROXIMATELY AT THE POTTAWATTAMIE-HARRISON COUNTY LINE, 15 FEET SOUTH OF THE SOUTH EDGE OF WOOD LANE, 14 FEET EAST OF THE EAST EDGE OF YORK ROAD, 1 FOOT WEST OF A CARSONITE POST, 11 FEET SOUTHEAST OF A STOP SIGN (SEE NGS CONTROL). ON THE MISSOURI VALLEY 7.5 MINUTE QUADRANGLE.

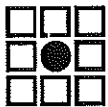


PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
502	T 180	41 30 23.66804	95 53 26.50669	280.07	170047.627	300438.806	308.71	557897.92	985689.65	1012.8



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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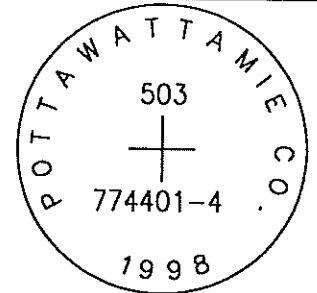
MERRICK
 Engineers & Architects
 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 23, 1998

503

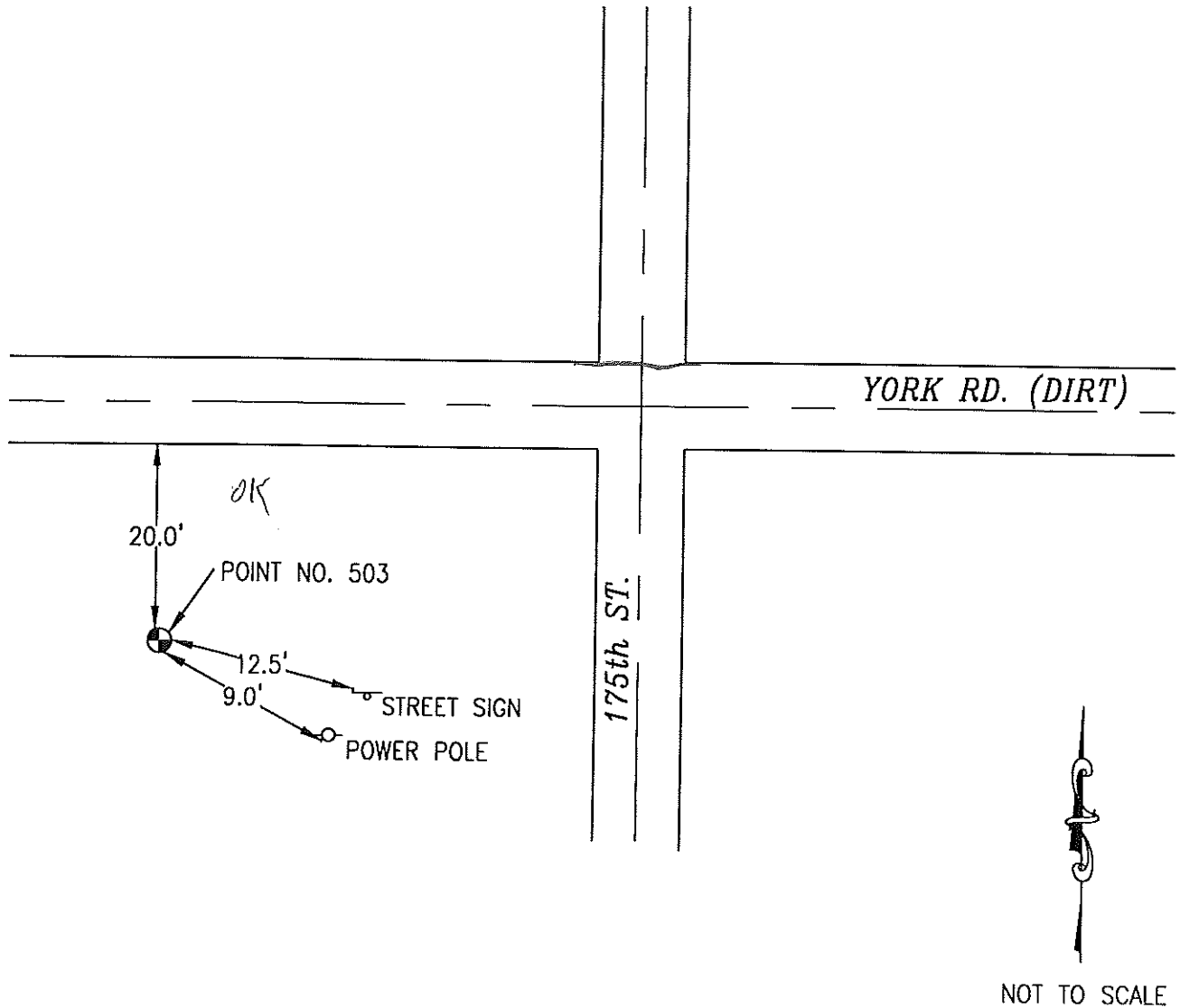
774401-4

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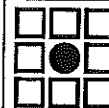
SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.15 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 503, 774401-4". LOCATED APPROXIMATELY 20 FEET SOUTH OF THE SOUTH EDGE OF YORK ROAD, 9 FEET WEST OF A POWER POLE, 12.5 FEET WEST OF STREET INTERSECTION SIGN. ON THE BEEBEETOWN CREEK 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 US FEET
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS		NORTHING US FEET	EASTING US FEET	
503	774401-4	41 30 23.32829	95 51 01.72155	355.80	169945.655	303794.867	384.48	557563.37	996700.33	1261.4



LOCATION DIAGRAM
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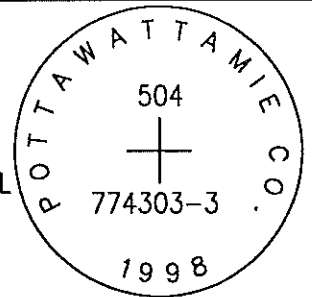
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Date: October 23, 1998

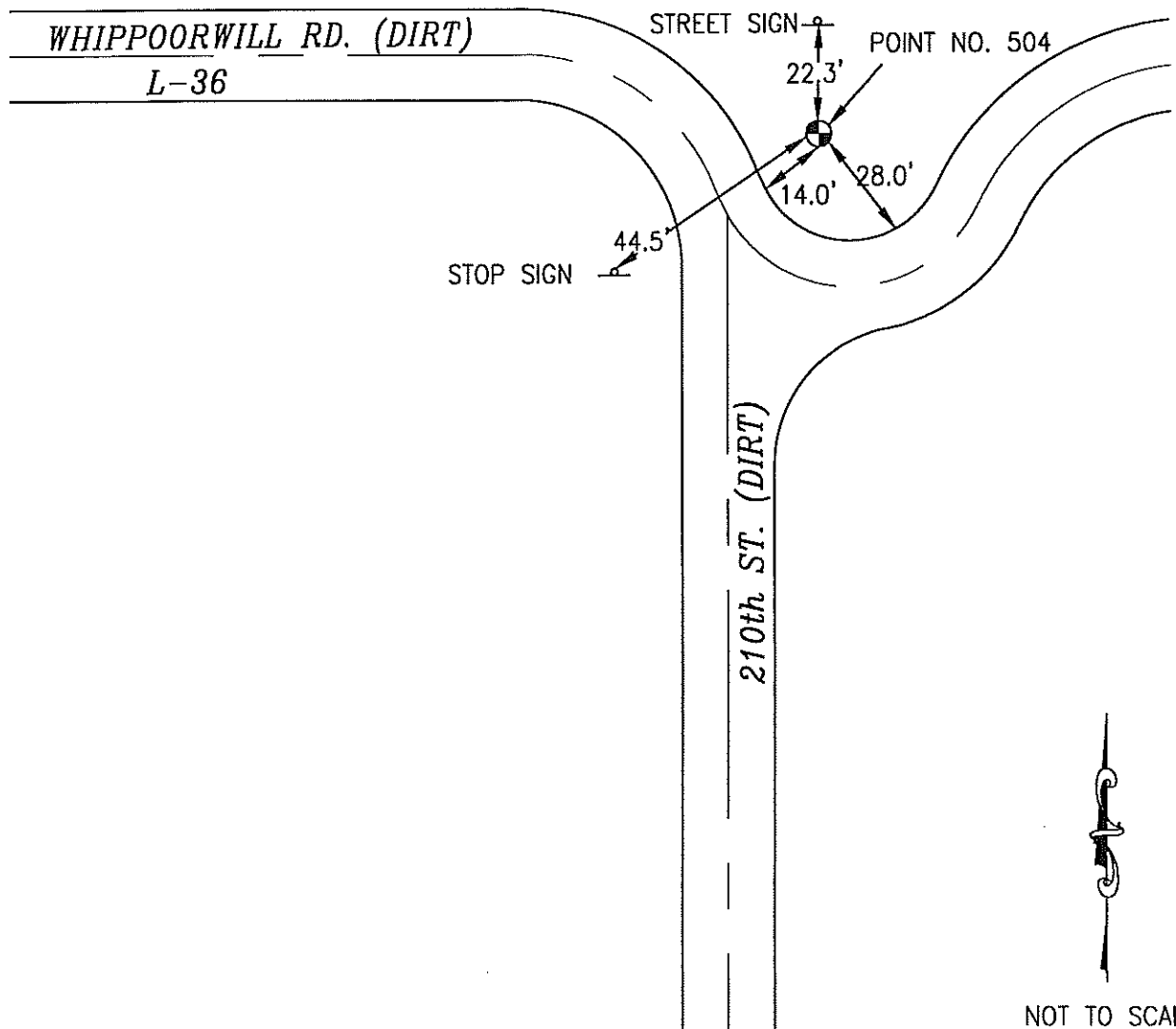
OK

504 774303-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.15 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 504, 774303-3". LOCATED APPROXIMATELY 28 FEET NORTHWEST OF THE NORTHWEST EDGE OF WHIPPOORWILL ROAD (L-36), 22.3 FEET SOUTHERLY OF STREET INTERSECTION SIGN, 44.5 FEET NORTHEASTERLY OF STOP SIGN, ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
504	774303-3	41 29 30.60104	95 47 02.29258	346.43	168171.692	309302.596	375.10	551743.29	1014770.27	1230.7



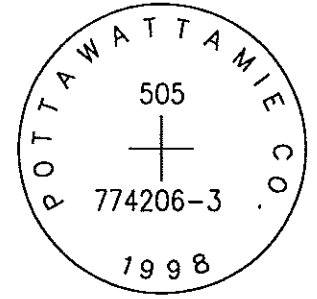
LOCATION DIAGRAM
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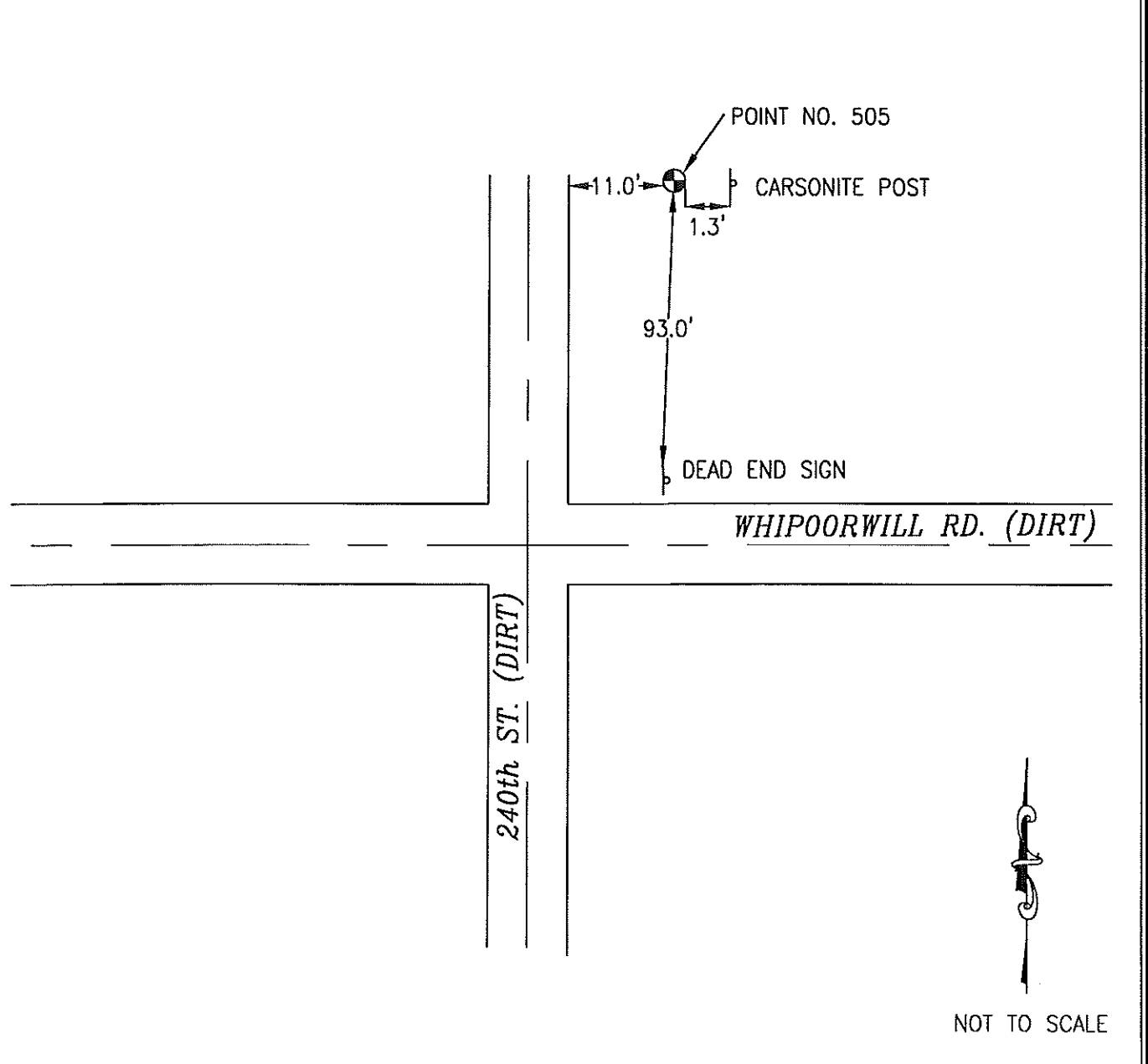
OK

505 774206-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.15 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 505, 774206-3". LOCATED APPROXIMATELY 11 FEET EAST OF THE EAST EDGE OF 240TH STREET, 93 FEET NORTH OF A DEAD END SIGN, 1.3 FEET WEST OF A CARSONITE POST, ON THE NORTH SIDE OF WHIPPOORWILL ROAD. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.

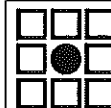


PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
505	774206-3	41 29 31.93521	95 43 36.06037		303.14	168088.819	314085.679	331.82	551471.40	1030462.77	1088.6



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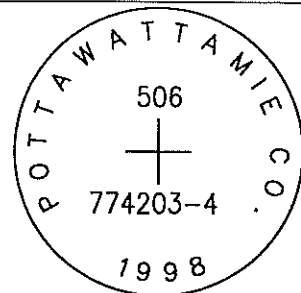
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Date: October 23, 1998

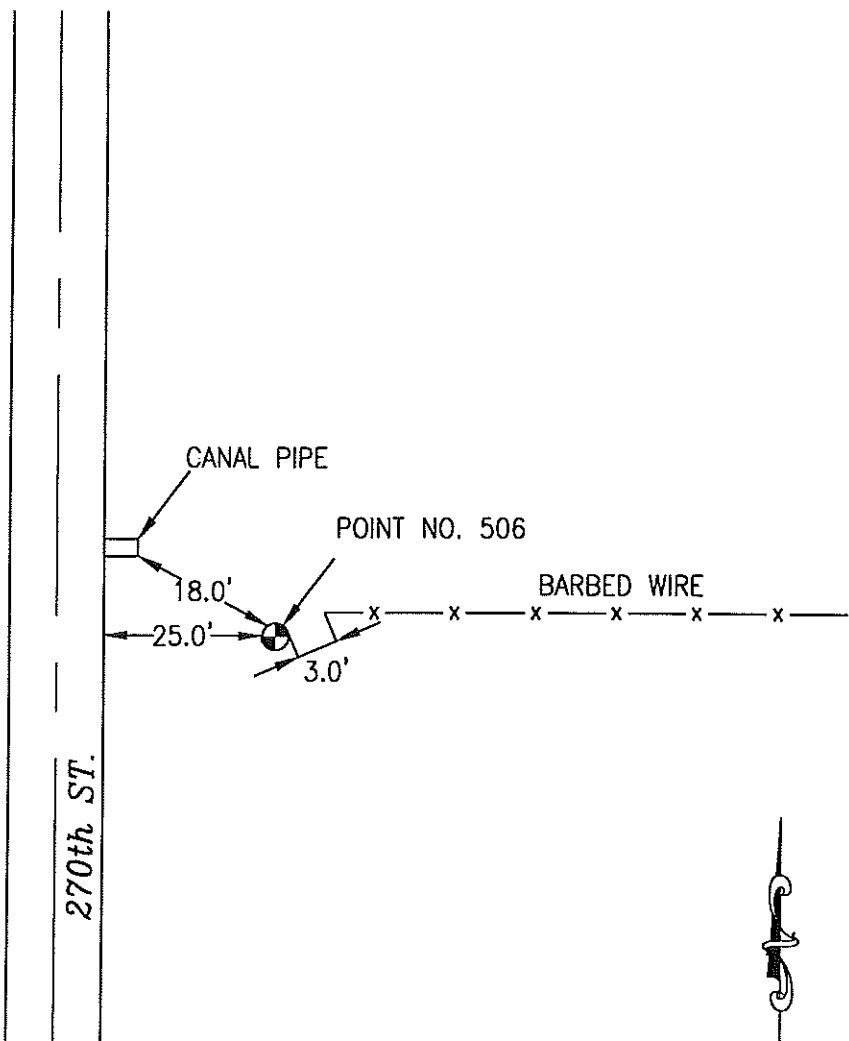
OK

506 774203-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.25 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 506, 774203-4". LOCATED APPROXIMATELY .25 FEET EAST OF THE EAST EDGE OF 270TH STREET, 3 FEET SOUTHWEST OF FENCE, 18 FEET EAST OF EAST END OF CANAL PIPE. ON THE HARD SCRATCH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
506	774203-4	41 30 22.48365	95 40 11.30700	303.12	169527.731	318872.366	331.82	556192.23	1046167.09	1088.6



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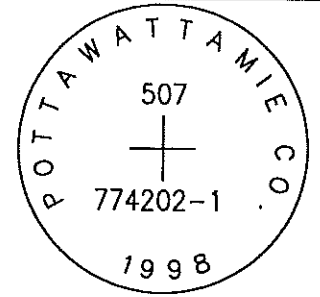
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
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Job Number: 50013142
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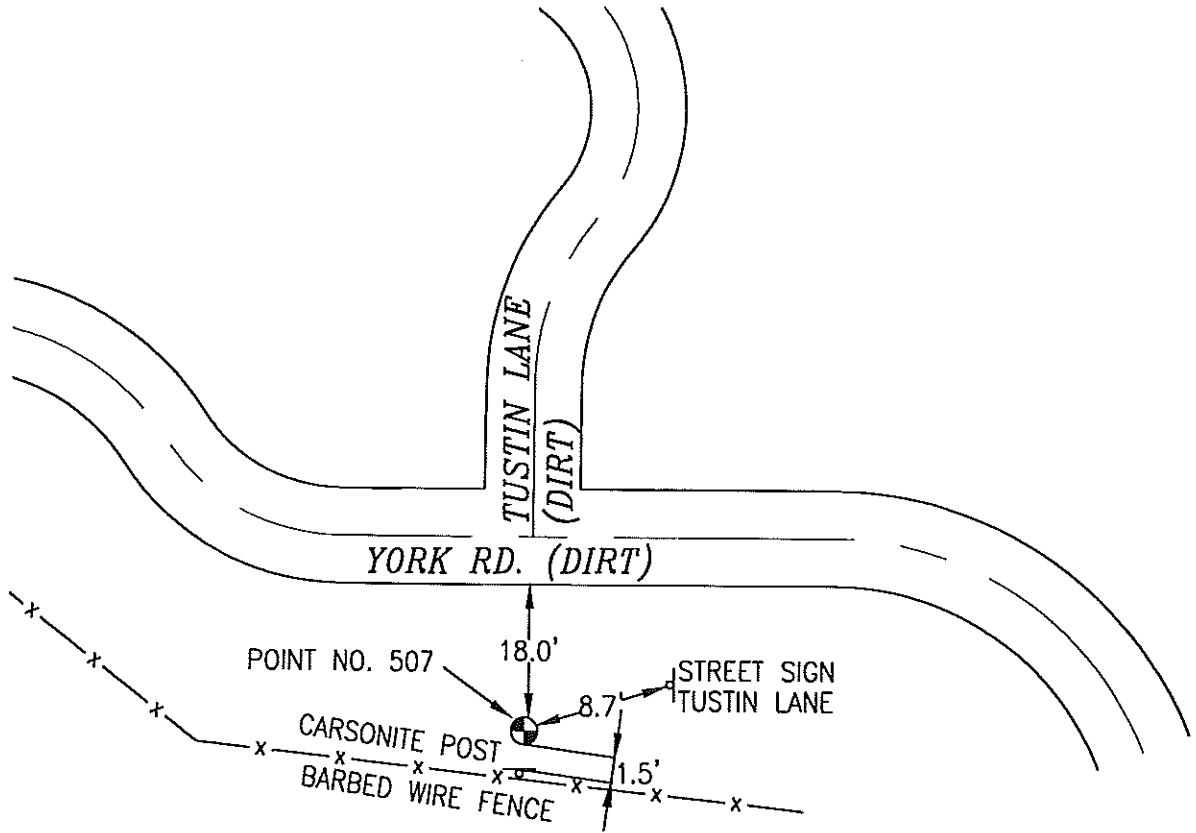
OK

507 774202-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 507, 774202-1". LOCATED APPROXIMATELY 18 FEET SOUTH OF THE SOUTH EDGE OF YORK ROAD, 8.7 FEET WEST OF TUSTIN LANE SIGN, 1.5 FEET NORTH OF CARSONITE POST. ON THE HARD SCRATCH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT		SP NAD83 (1996) IOWA SOUTH HEIGHT			
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NORTHING US FEET	EASTING US FEET	NAVD88 METERS	NAVD88 US FEET
507	774202-1	41 30 20.91139	95 37 54.93984	336.68	169401.052	322032.604	365.34	555776.62	1056535.30	1198.6



NOT TO SCALE

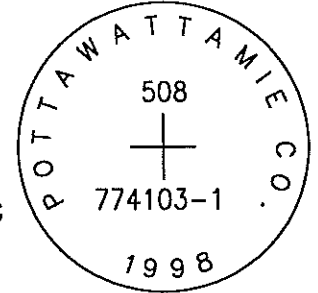
LOCATION DIAGRAM
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GIS Mapping Project
GPS Survey Report

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Engineers & Architects
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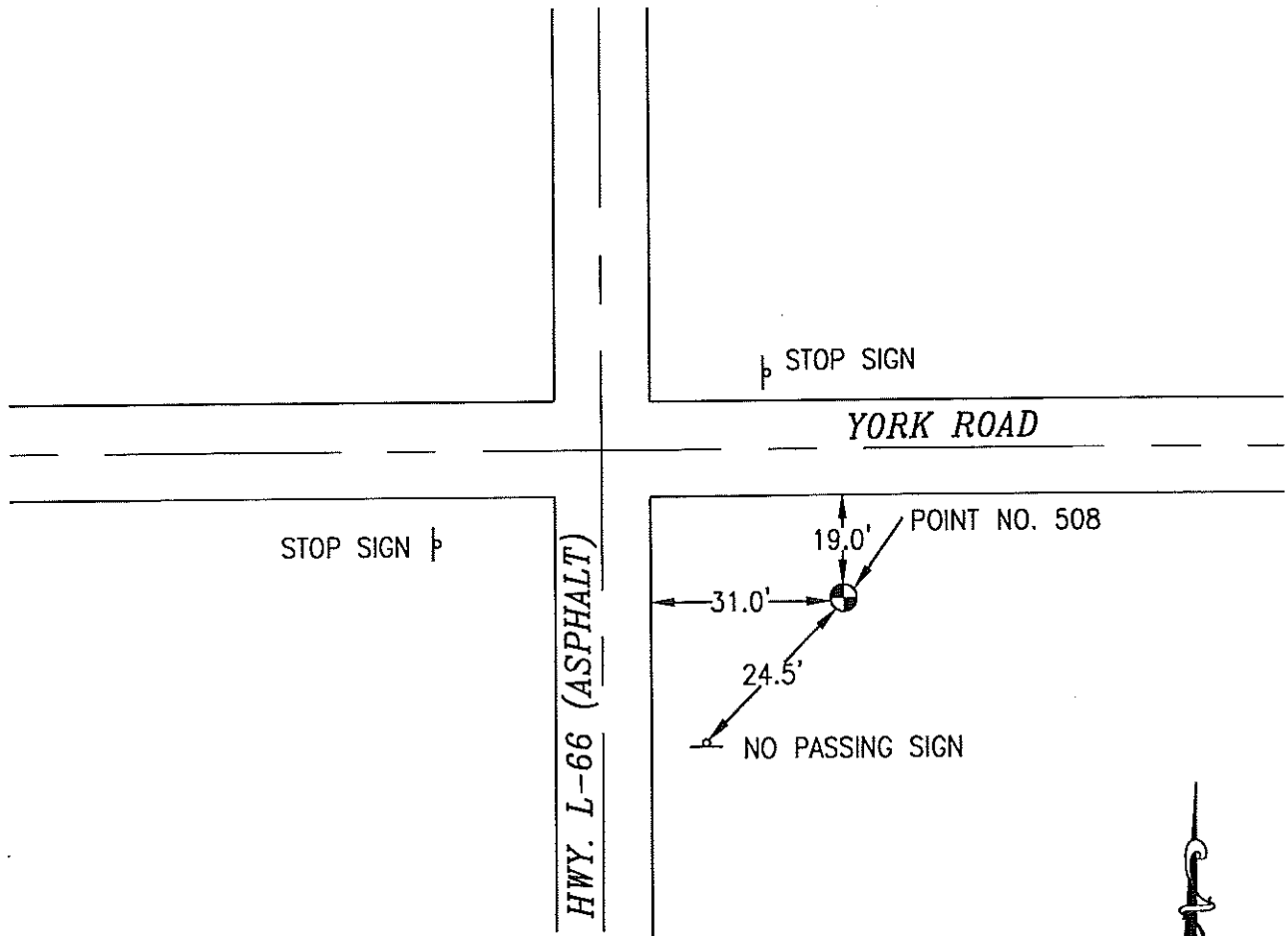
OK

508 774103-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 508, 774103-1". LOCATED APPROXIMATELY 19 FEET SOUTH OF THE SOUTH EDGE OF YORK ROAD, 31 FEET EAST OF THE EAST EDGE OF HWY L66, 24.5 FEET NORTHEAST OF A NO PASSING SIGN. ON THE PERSIA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
508	774103-1	41 30 21.61768	95 32 45.51163	374.07	169250.521	329206.822	402.62	555282.75	1080072.72	1320.9



NOT TO SCALE

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POTTAWATTAMIE COUNTY IOWA
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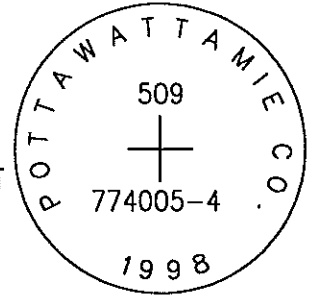
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Date: October 23, 1998

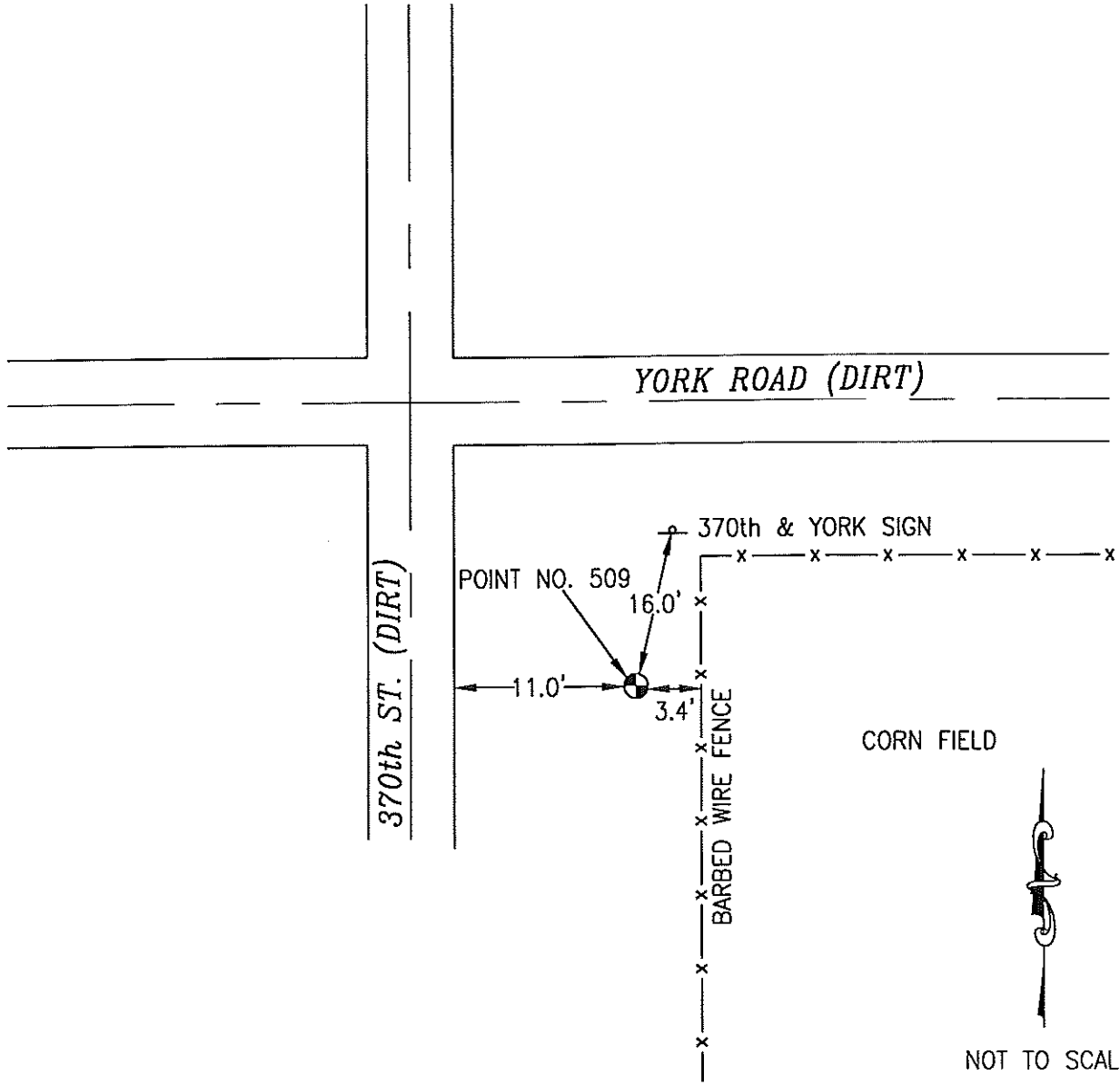
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509 774005-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 509, 774005-4". LOCATED APPROXIMATELY 11 FEET EAST OF THE EAST EDGE 370TH STREET, 3.4 FEET WEST OF A FENCE, 16 FEET SOUTH OF A STREET INTERSECTION SIGN, ON THE SOUTH SIDE OF YORK ROAD. ON THE SHELBY 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
509	774005-4	41 30 21.22273	95 28 47.28019	382.95	169110.504	334729.741	411.36	554823.38	1098192.49	1349.6



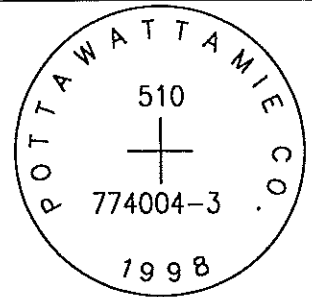
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

MERRICK
 Engineers & Architects
 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
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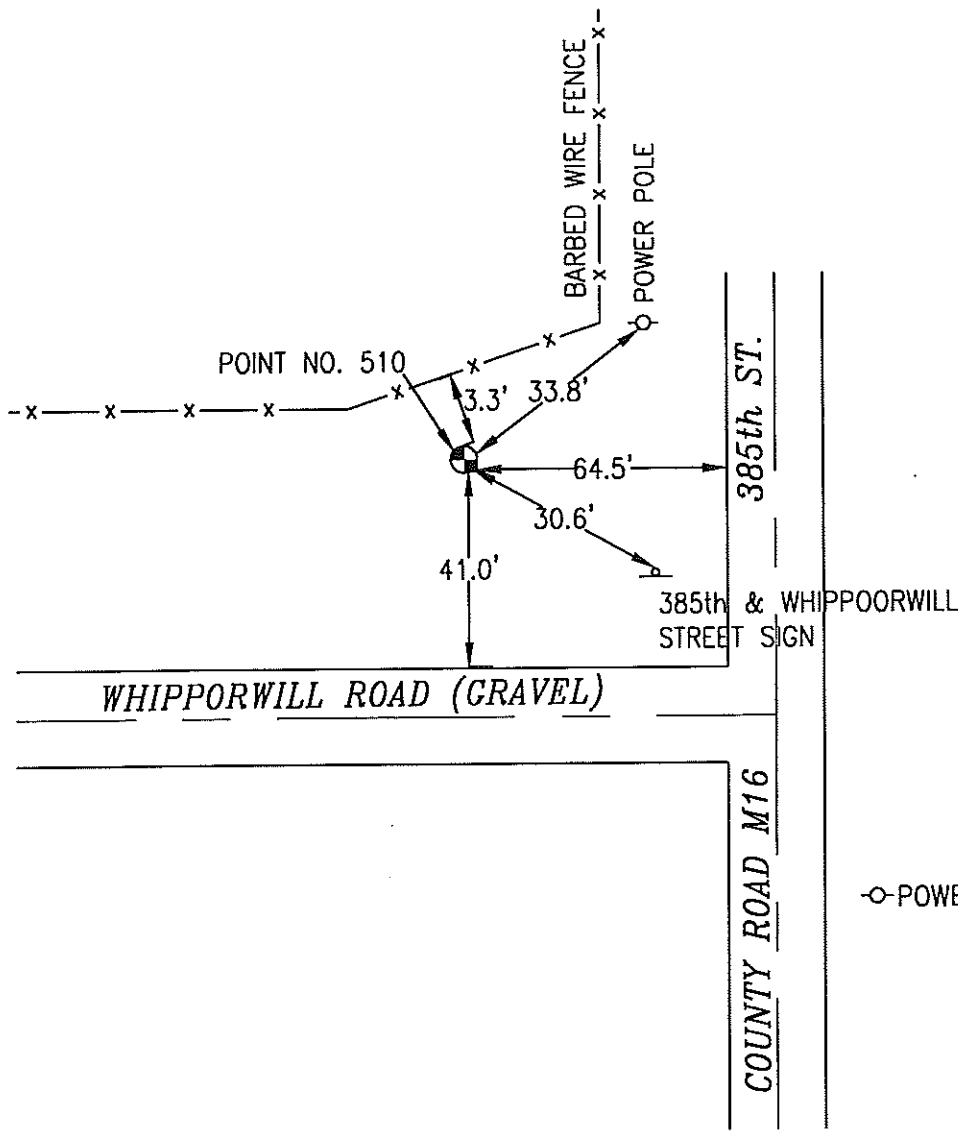
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510 774004-3

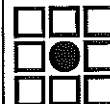
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PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT NAVD88 METERS			SP NAD83 (1996) IOWA SOUTH HEIGHT NAVD88 US FEET		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	HEIGHT METERS	NORTHING US FEET	EASTING US FEET	HEIGHT US FEET
510	774004-3	41 29 29.65475	95 27 05.56362	364.03	167466.740	337052.298	392.30	549430.46	1105812.41	1287.1



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 POTTAWATTAMIE COUNTY IOWA
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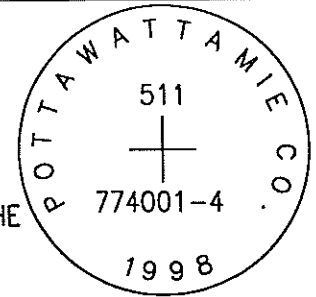
Job Number: 50013142

Date: October 23, 1998

OK

511 774001-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.25 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 511, 774001-4". LOCATED APPROXIMATELY 10 FEET EAST OF THE EAST EDGE OF 410TH STREET, 3.1 FEET WEST OF A BARBED WIRE FENCE, 4.5 FEET SOUTHWEST OF A POWERPOLE, ON THE SOUTH SIDE OF YORK ROAD. ON THE SHELBY 7.5 MINUTE QUADRANGLE.

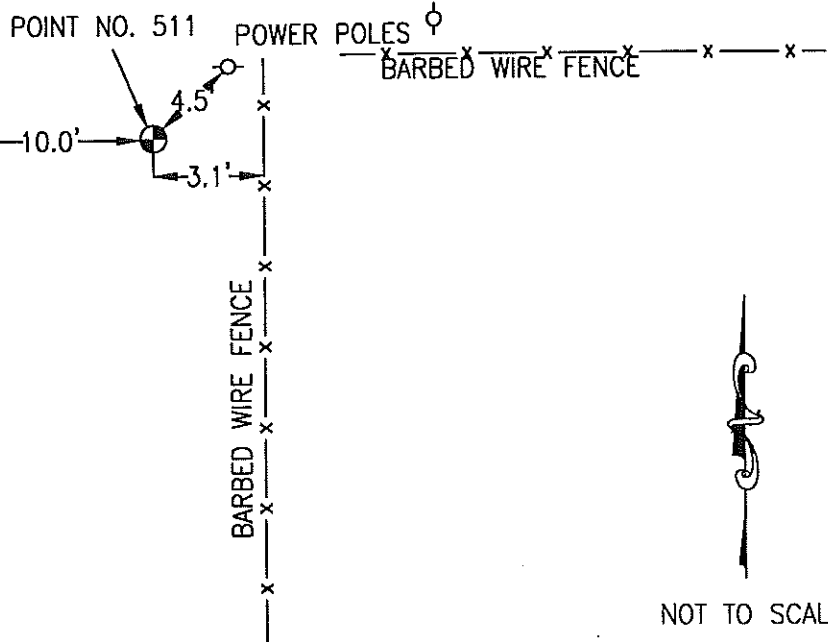


PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
511	774001-4	41 30 20.70386	95 24 09.82758	383.77	168950.914	341162.027	412.03	554299.79	1119295.75	1351.8

STREET SIGN
410th & YORK ST.

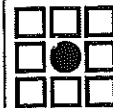
410th ST. (DIRT)

YORK ST. (DIRT)



NOT TO SCALE

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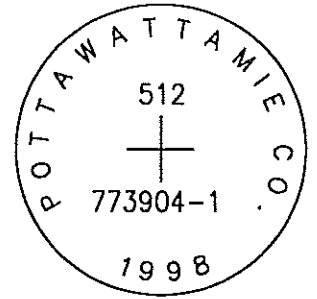
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Date: October 23, 1998

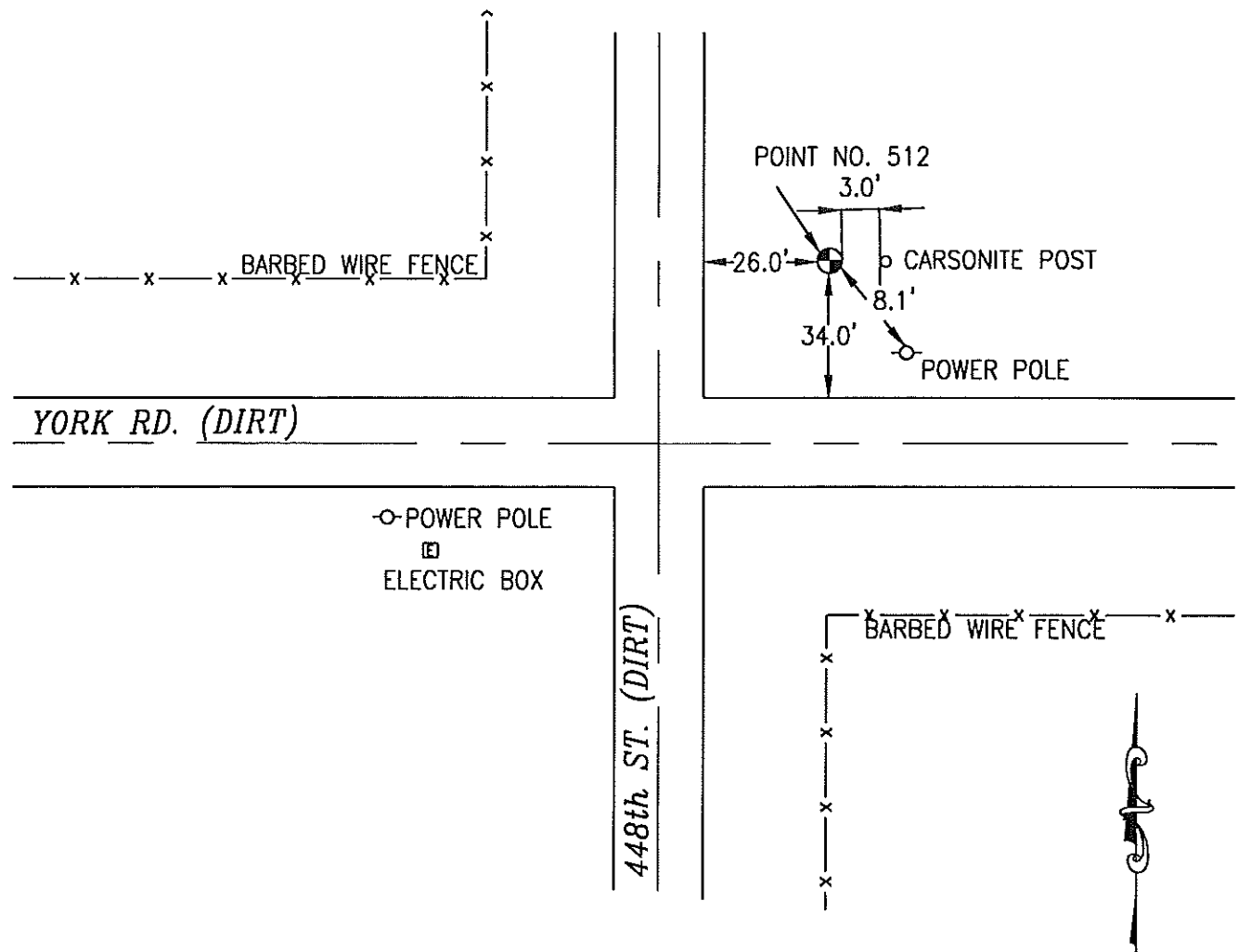
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512 773904-1

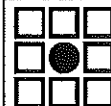
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PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
512	773904-1	41 30 07.67800	95 19 55.54353	361.46	168422.567	347049.168	389.55	552566.37	1138610.48	1278.1



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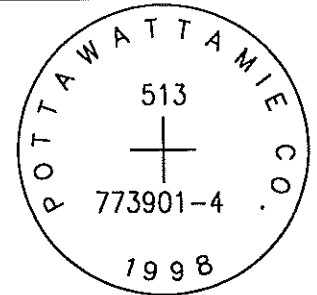
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Date: October 23, 1998

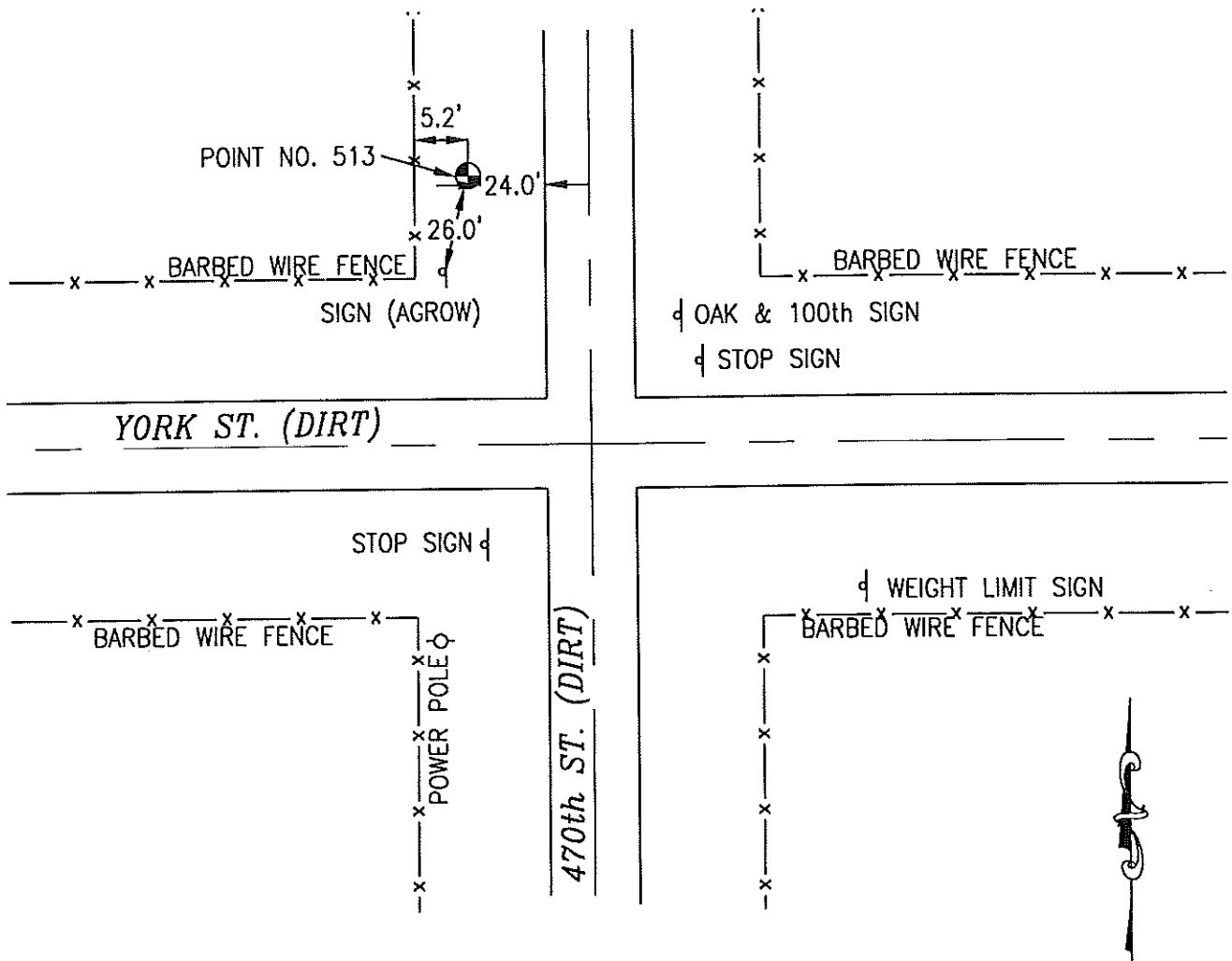
ok

513 773901-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 513, 773901-4". LOCATED APPROXIMATELY 24 FEET WEST OF THE WEST EDGE OF 470TH STREET, 5.2 FEET EAST OF A FENCE, 26 FEET NORTH OF SIGN (AGROW). ON THE CORLEY 7.5 MINUTE QUADRANGLE.

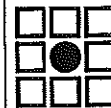


PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
513	773901-4	41 30 21.14341	95 17 19.70610	352.48	168762.666	350671.069	380.49	553682.18	1150493.33	1248.3



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report



MERRICK

Engineers & Architects

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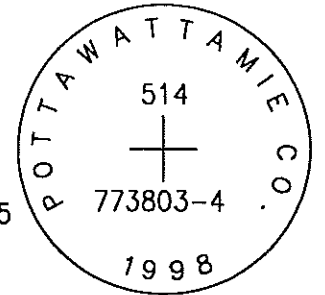
Job Number: 50013142

Date: October 23, 1998

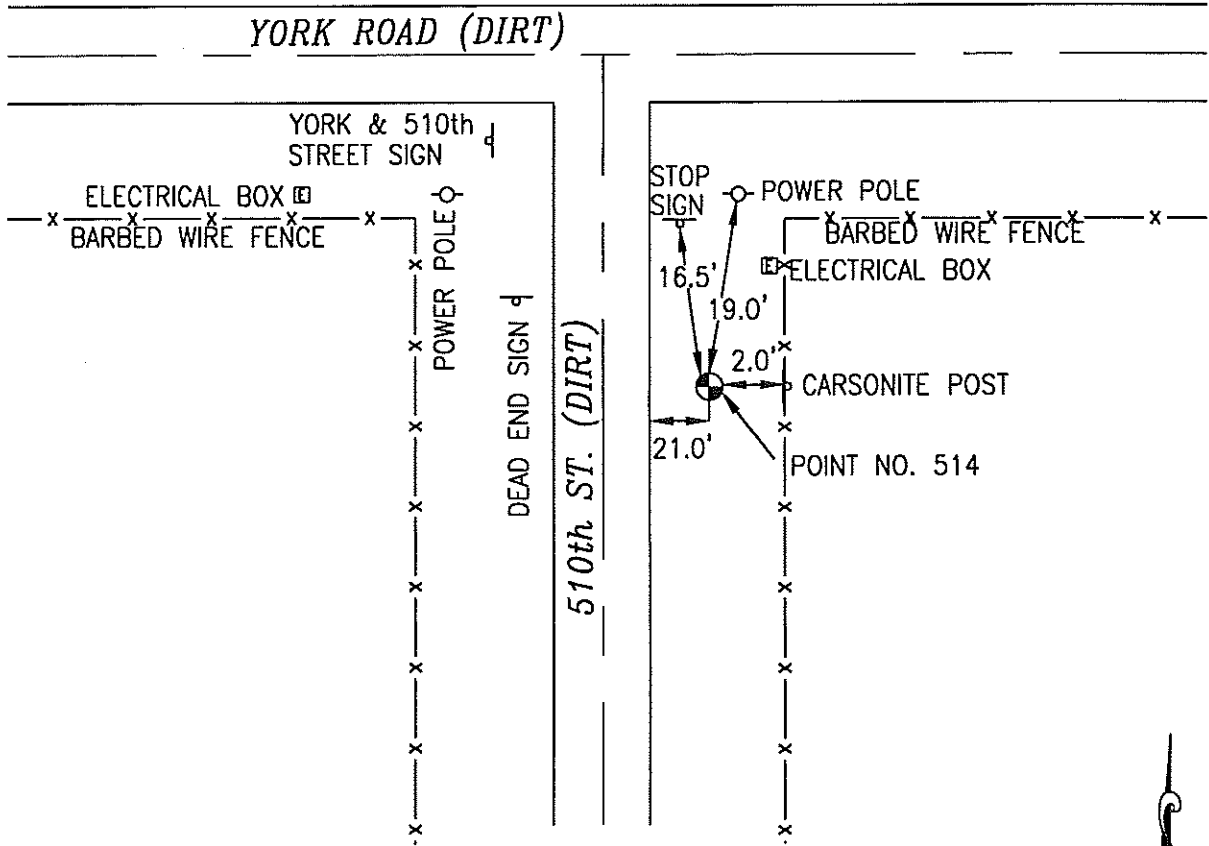
ok

514 773803-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.6 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 514, 773803-4". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 510TH STREET, 2 FEET WEST OF A CARSONITE POST AND FENCE, 19 FEET SOUTH OF A POWERPOLE, 16.5 FEET SOUTH OF A STOP SIGN, ON THE PRAIRIE ROSE LAKE 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
514	773803-4	41 30 19.08189	95 12 44.74627	374.71	168570.758	357044.958	402.55	553052.56	1171405.00	1320.7



NOT TO SCALE

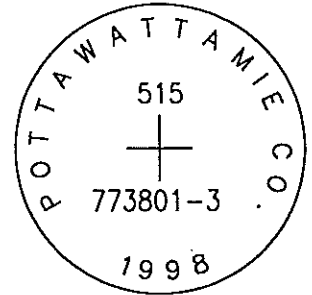
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
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Engineers & Architects
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Job Number: 50013142
Date: October 23, 1998

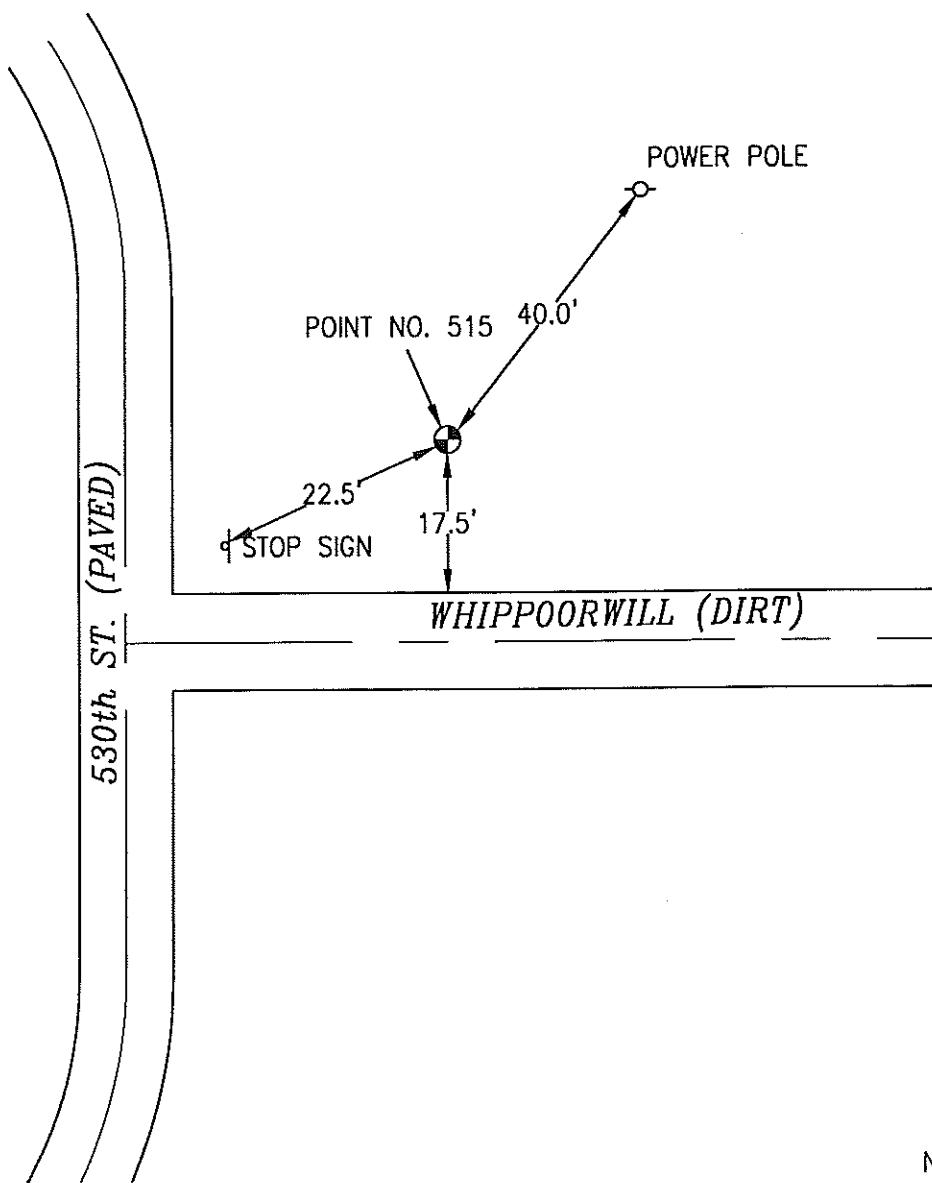
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515 773801-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.15 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 515, 773801-3". LOCATED APPROXIMATELY 17.5 FEET NORTH OF THE NORTH EDGE OF WHIPPOORWILL ROAD, 22.5 FEET EAST OF A STOP SIGN, 40 FEET SOUTHWEST OF A POWERPOLE, ON THE EAST SIDE OF 530TH STREET. ON THE WALNUT 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
515	773801-3	41 29 27.94767	95 10 27.06876	372.96	166931.418	360206.819	400.69	547674.16	1181778.54	1314.6



NOT TO SCALE

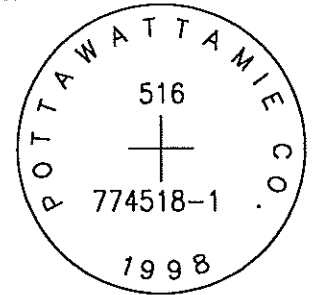
LOCATION DIAGRAM
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MERRICK
 Engineers & Architects
 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 23, 1998

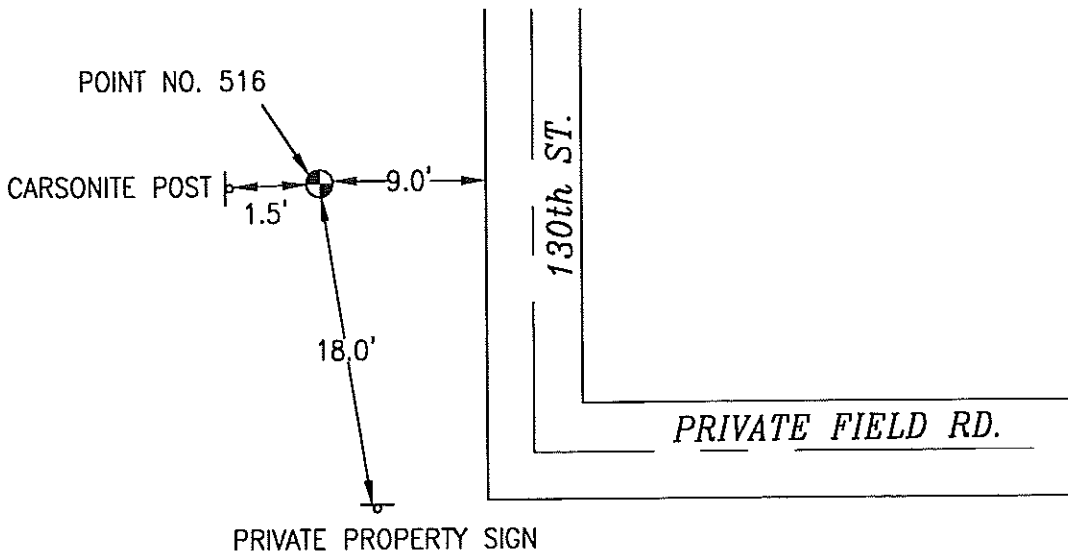
OK

516 774518-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.25 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 516, 774518-1". LOCATED APPROXIMATELY 9 FEET WEST OF THE WEST EDGE OF 130TH STREET, 18 FEET NORTH OF A PRIVATE PROPERTY SIGN, 1.5 FEET EAST OF A CARSONITE POST. ON THE LOVELAND 7.5 MINUTE QUADRANGLE.

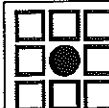


PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
516	774518-1	41 28 12.59695	95 56 15.87755	274.19	166114.708	296399.273	302.71	544994.67	972436.61	993.1



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POTTAWATTAMIE COUNTY IOWA
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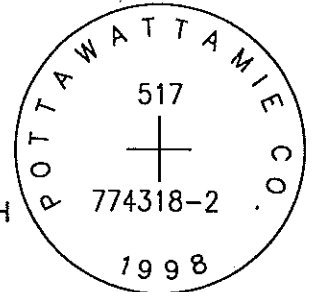
Job Number: 50013142

Date: October 26, 1998

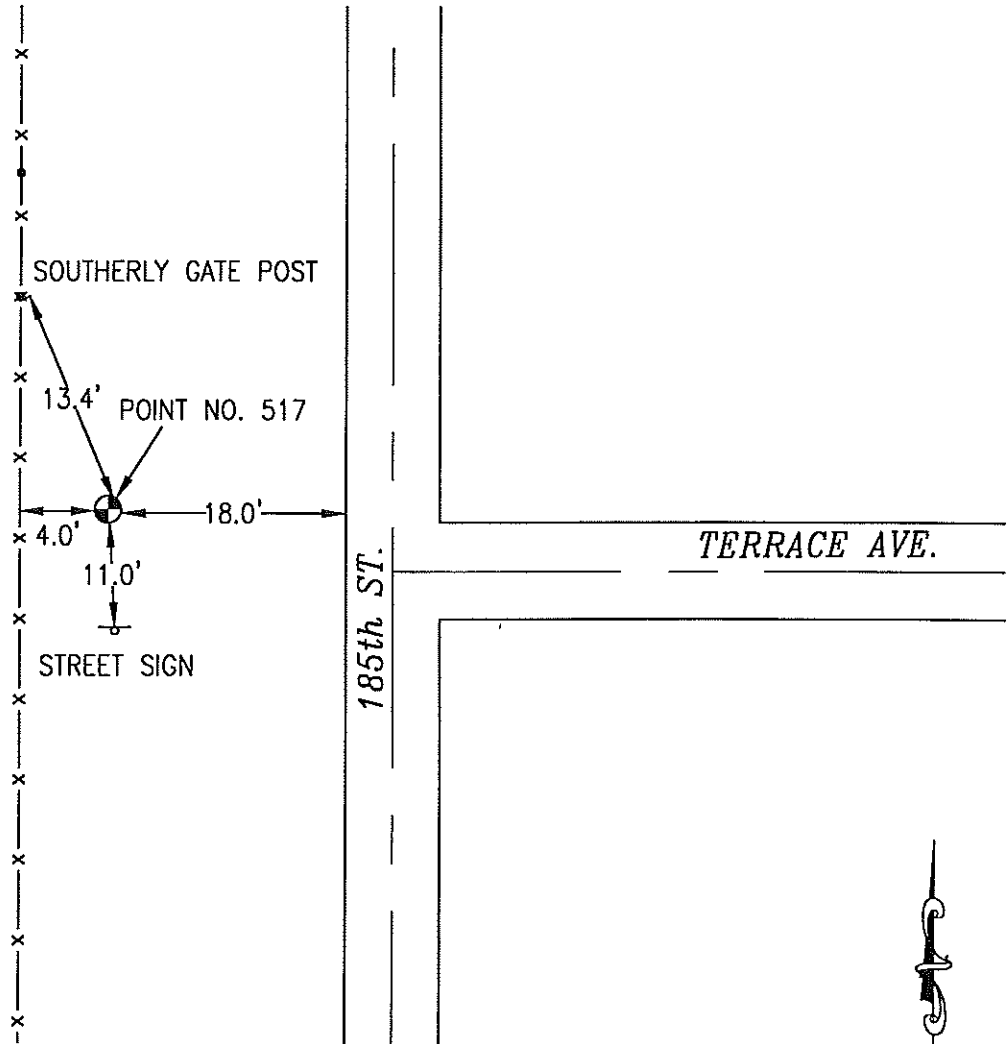
OK

517 774318-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 517, 774318-2". LOCATED APPROXIMATELY 18 FEET WEST OF THE WEST EDGE 185TH STREET, 13.4 FEET SOUTHEAST OF THE SOUTH GATEPOST, 4 FEET EAST OF A FENCE, 11 FEET NORTH OF A STREET SIGN. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV088 METERS	NORTHING US FEET	EASTING US FEET	NAV088 US FEET
517	774318-2	41 27 53.78101	95 49 41.77116	355.98	165283.960	305524.788	384.54	542269.13	1002375.91	1261.6



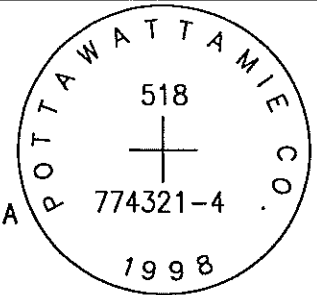
NOT TO SCALE

LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
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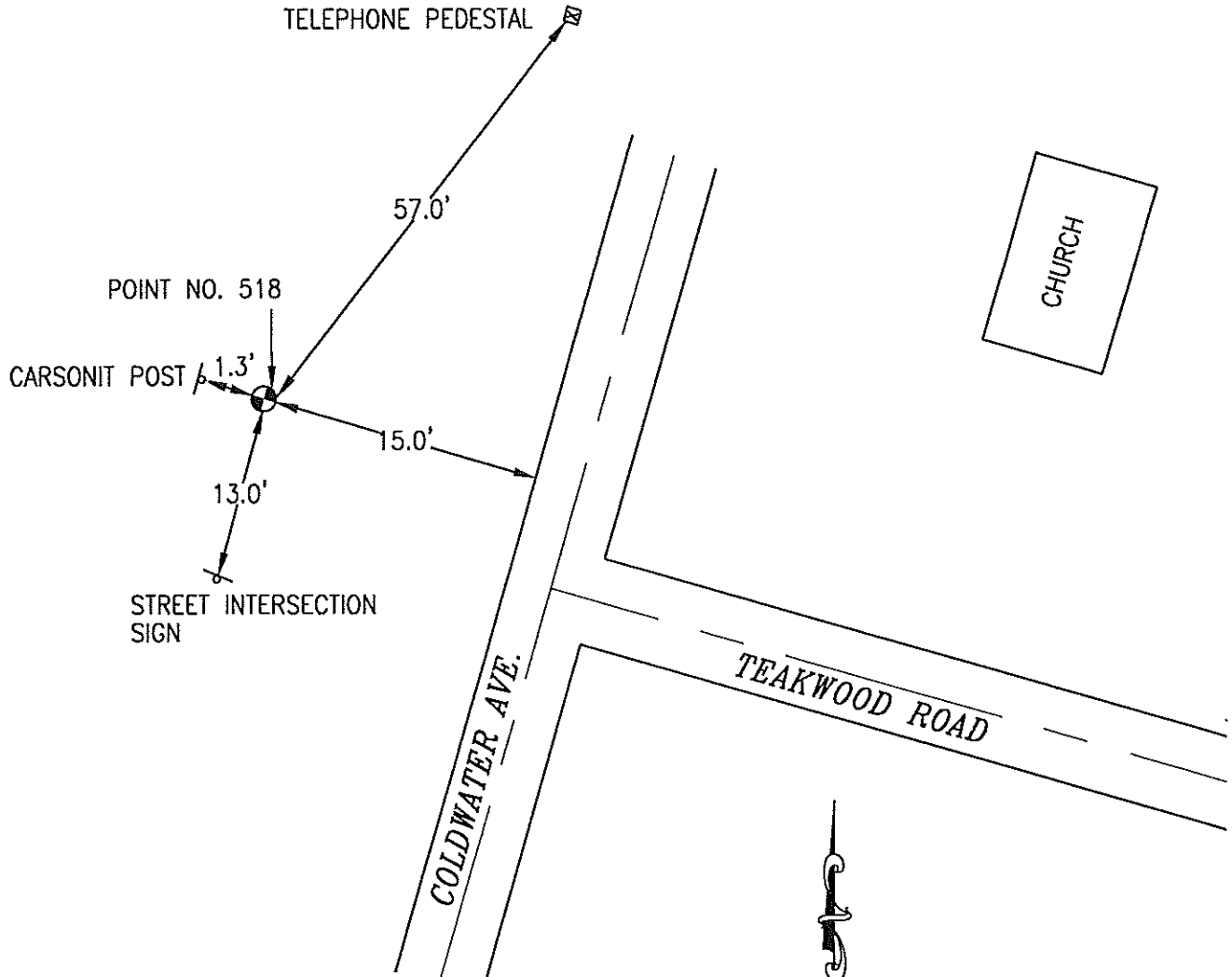
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Job Number: 50013142
Date: October 26, 1998

518 774321-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 518, 774321-4". LOCATED APPROXIMATELY 15 FEET NORTHWEST OF THE NORTHWEST EDGE OF COLDWATER AVENUE, 1.3 FEET SOUTHEAST OF A CARSONITE POST, 13 FEET NORTHEAST OF A STREET INTERSECTION SIGN, 57.0 FEET SOUTHWEST OF A TELEPHONE PEDESTAL, ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
518	774321-4	41 27 41.60867	95 47 49.28991	349.72	164839.191	308124.070	378.27	540809.91	1010903.72	1241.0



NOT TO SCALE

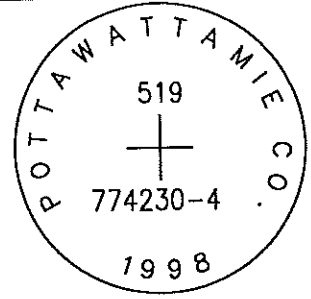
LOCATION DIAGRAM
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 Job Number: 50013142
 Date: October 26, 1998

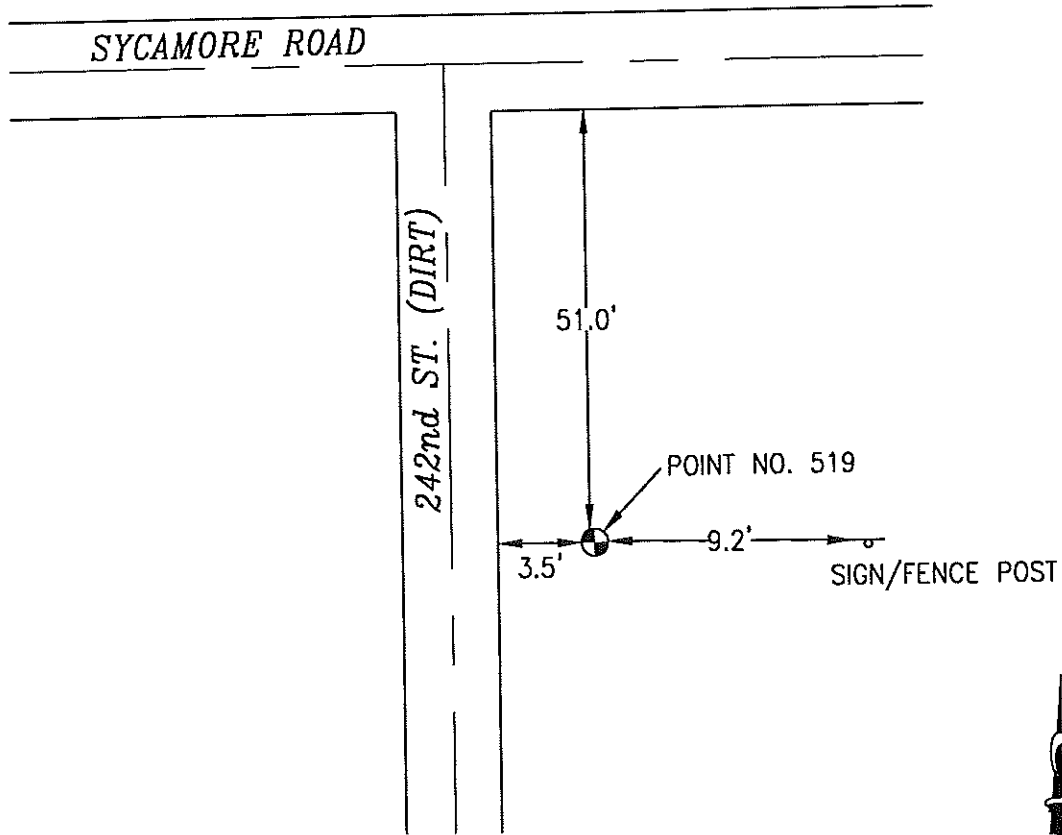
OK

519 774230-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 519, 774230-4". LOCATED APPROXIMATELY 51 FEET SOUTH OF THE SOUTH EDGE OF SYCAMORE ROAD, 3.5 FEET EAST OF THE EAST EDGE OF 242ND STREET, 9.2 FEET WEST OF A SIGNPOST. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.

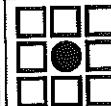


PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
519	774230-4	41 26 53.56869	95 43 20.48260	292.89	163195.632	314322.082	321.31	535417.67	1031238.36	1054.1



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 GPS Survey Report

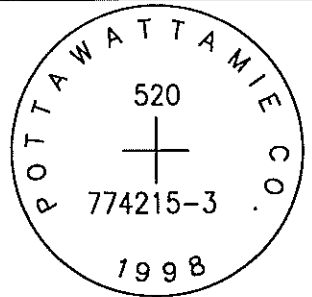


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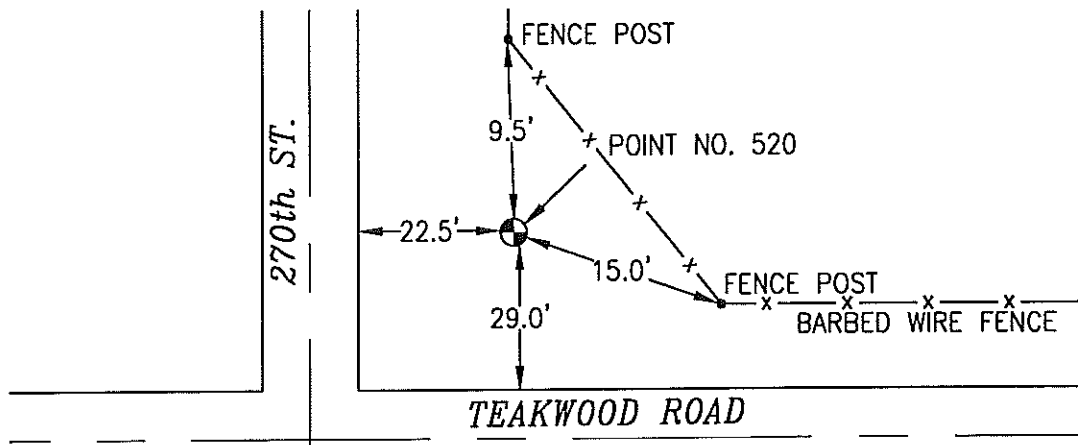
ok

520 774215-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 520, 774215-3". LOCATED APPROXIMATELY 22.5 FEET EAST OF THE EAST EDGE OF 270TH STREET, 29 FEET NORTH OF THE NORTH EDGE OF TEAKWOOD ROAD, 9.5 FEET SOUTH-SOUTHWEST OF A FENCE ANGLE POINT, 15 FEET NORTH-NORTHWEST OF A FENCE ANGLE POINT. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS
520	774215-3	41 27 46.53088	95 40 10.49537	356.99	164717.663	318771.194	385.45
					540411.20	1045835.16	1264.6



NOT TO SCALE

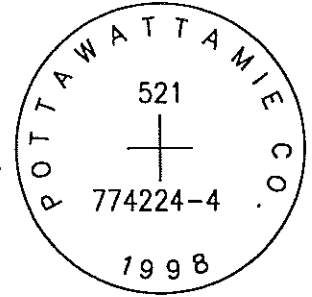
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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JK

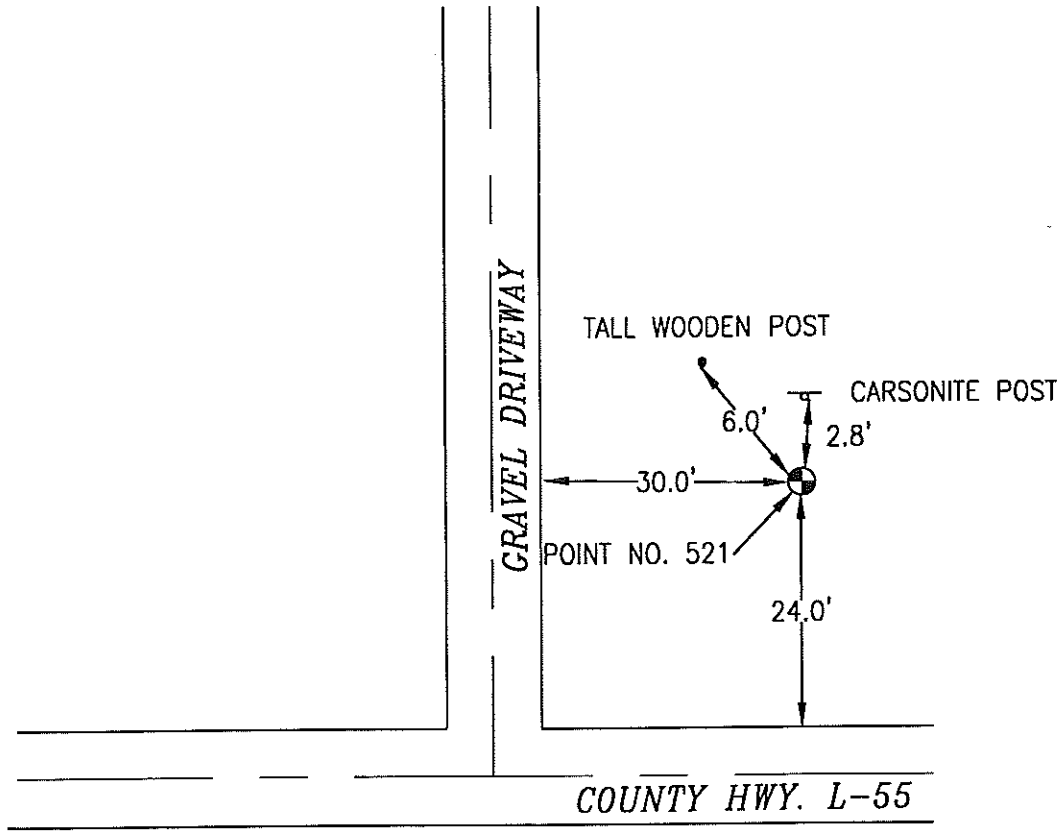
521

774224-4



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 521, 774224-4". LOCATED APPROXIMATELY 30 FEET EAST OF THE EAST EDGE OF A GRAVEL DRIVE, 24 FEET NORTH OF THE NORTH EDGE OF HWY L-55, 6 FEET EAST OF A 7 FOOT TALL WOOD POST, 2.8 FEET SOUTH OF A CARSONITE POST. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
521	774224-4	41 27 25.21073	95 37 35.93031	309.17	163971.574	322340.803	337.54	537963.41	1057546.45	1107.4



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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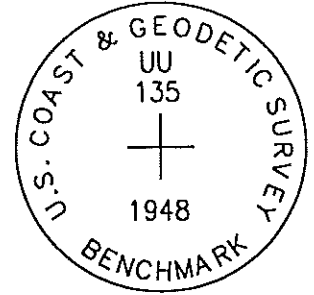
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Date: October 26, 1998

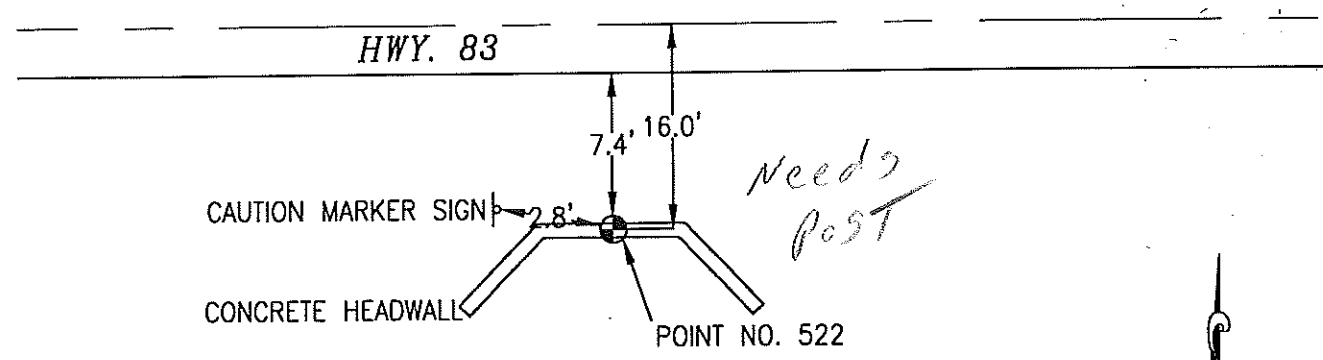
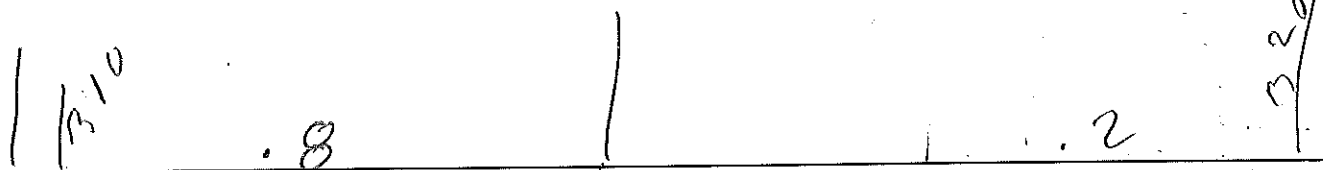
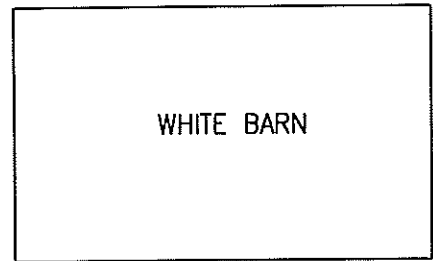
015

522 UU135

FOUND 3.5 INCH DIAMETER BRASS CAP IN THE TOP OF A CONCRETE HEADWALL, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK UU135 1948". LOCATED APPROXIMATELY 7.4 FEET SOUTH OF THE SOUTH EDGE OF HWY 83, 2.8 FEET EAST OF A CAUTION BARRICADE POST, 16 FEET SOUTH OF THE CENTERLINE OF HWY 83. SEE NGS CONTROL. ON THE NEOLA 7.5 MINUTE QUADRANGLE.

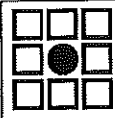


PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
522	UU 135	41 27 45.87551	95 34 40.58552	357.81	164510.547	326424.200	386.15	539731.69	1070943.40	1266.9



NOT TO SCALE

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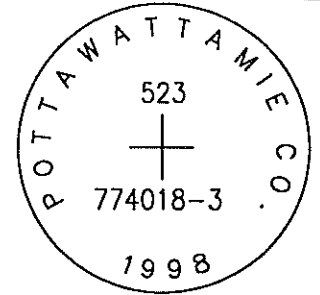


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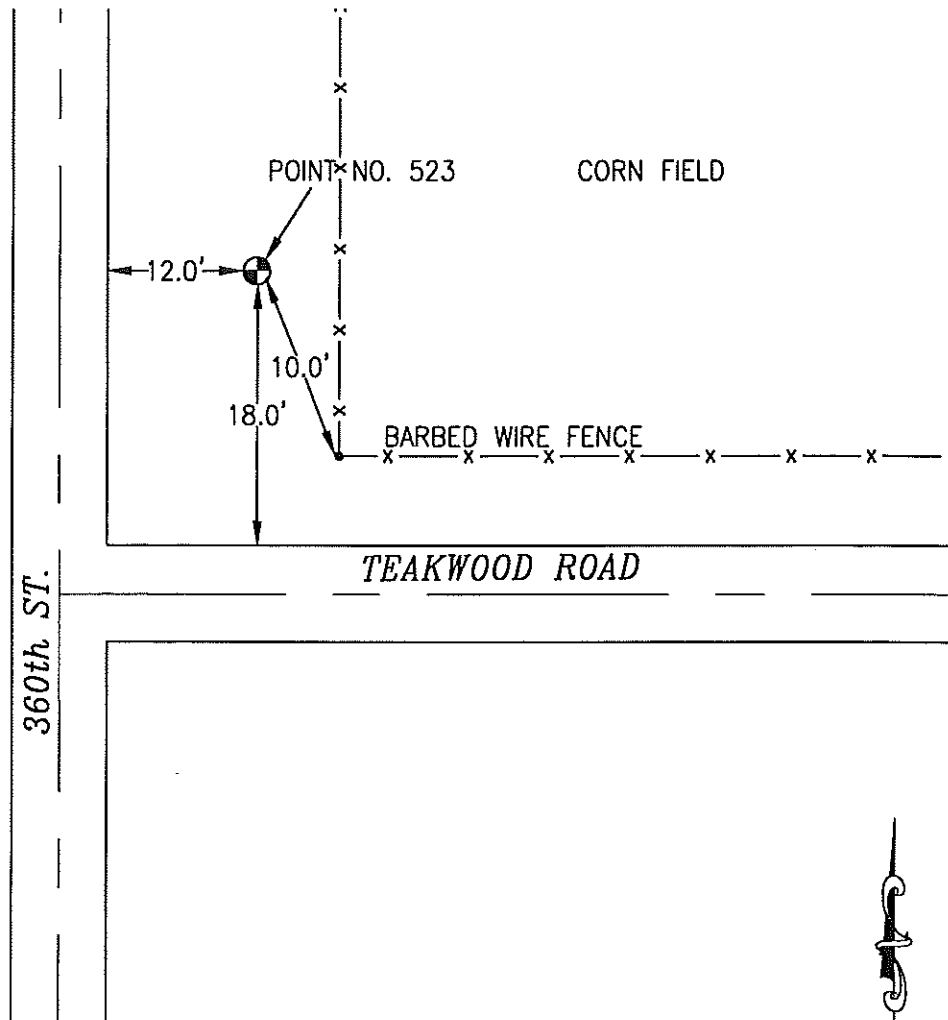
OK

523 774018-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 523, 774018-3". LOCATED APPROXIMATELY 18 FEET NORTH OF THE NORTH EDGE OF TEAKWOOD ROAD, 12 FEET EAST OF THE EAST EDGE OF 360TH STREET, 10 FEET NORTHWEST OF A BARBED WIRE FENCE CORNER. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 US FEET
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS		NORTHING US FEET	EASTING US FEET	
523	774018-3	41 27 44.87580	95 29 51.88897	381.62	164322.775	333121.062	409.82	539115.64	1092914.68	1344.6



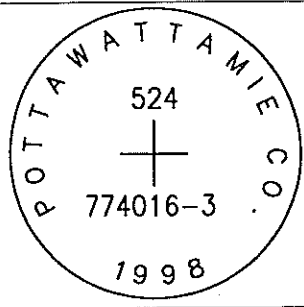
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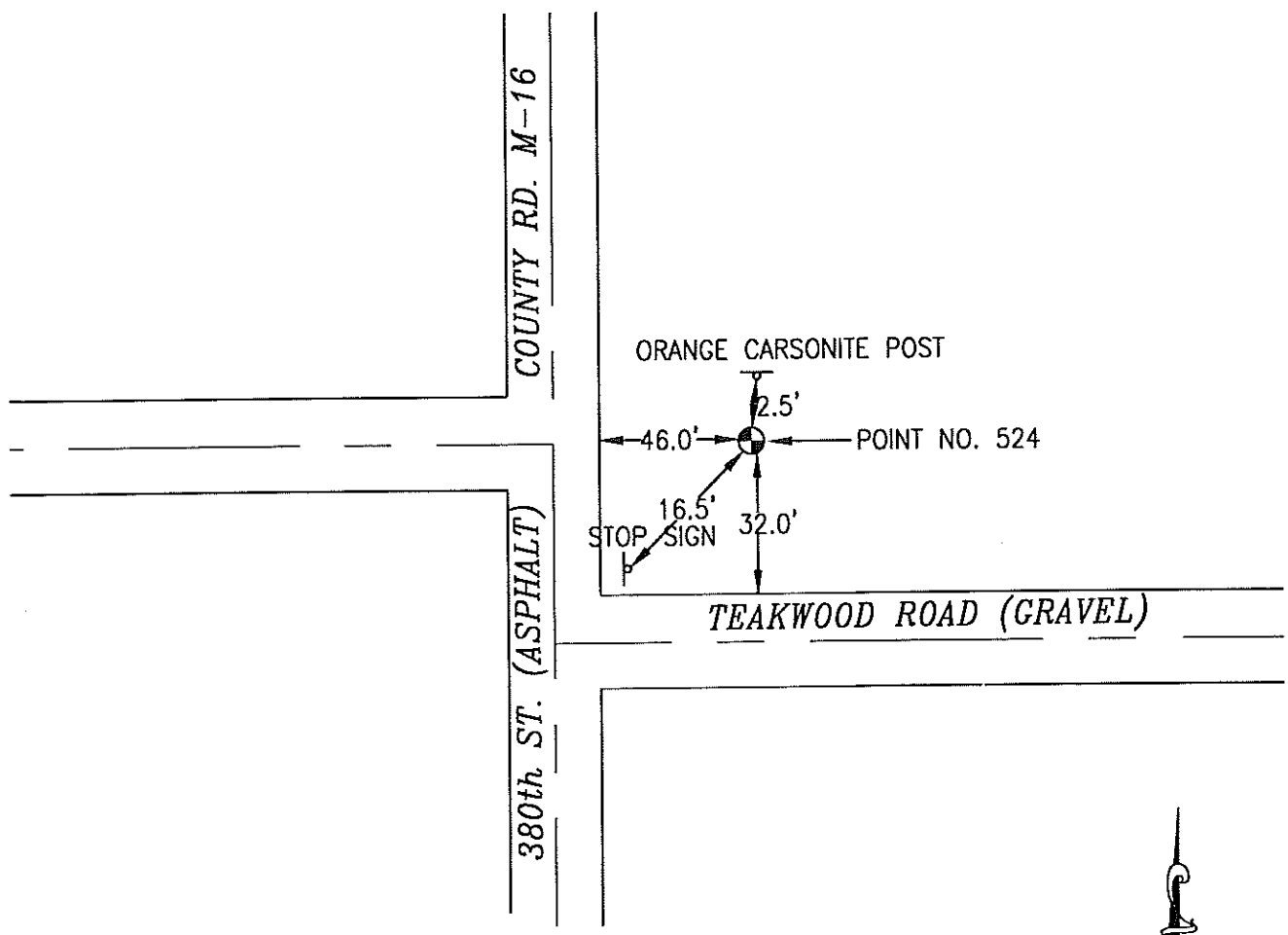
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524 774016-3



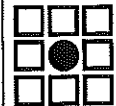
SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 524, 774016-3". LOCATED APPROXIMATELY 46 FEET EAST OF THE EAST EDGE OF 380TH STREET (COUNTY ROAD M-16), 32 FEET NORTH OF THE NORTH EDGE OF TEAKWOOD ROAD, 16.5 NORTHEAST OF A STOP SIGN, 2.5 FEET SOUTH OF A CARSONITE POST. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 US FEET
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS		NORTHING US FEET	EASTING US FEET	
524	774016-3	41 27 45.46650	95 27 39.86641	378.87	164271.281	336184.370	407.01	538946.69	1102964.89	1335.3



NOT TO SCALE

LOCATION DIAGRAM
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Engineers & Architects

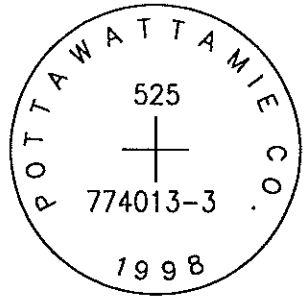
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Job Number: 50013142

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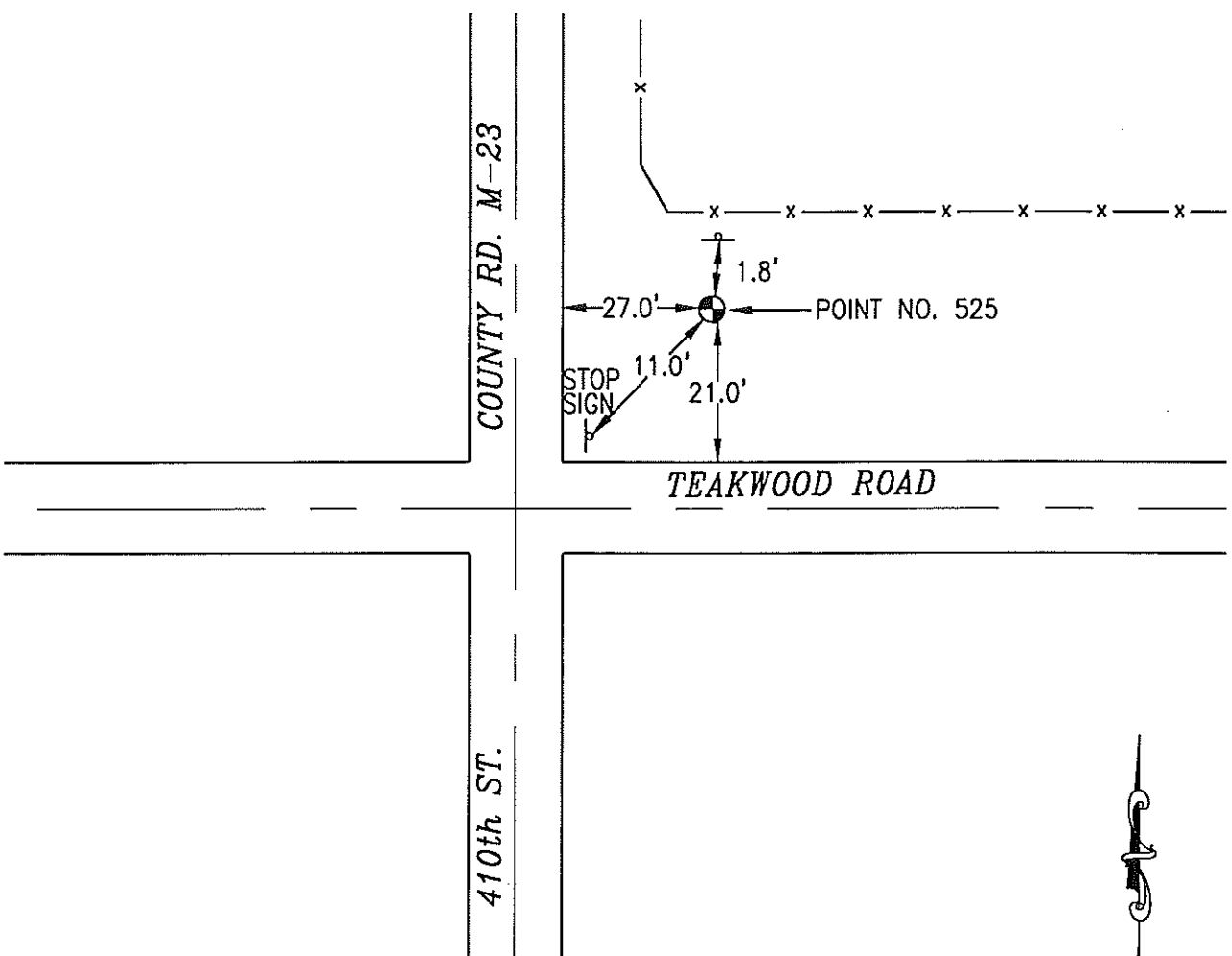
OK

525 774013-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 525, 774013-3". LOCATED APPROXIMATELY 27 FEET EAST OF THE EAST EDGE OF GRAVEL 410TH STREET, 21 FEET NORTH OF THE NORTH EDGE OF GRAVEL TEAKWOOD ROAD, 11 FEET NORTHEAST OF A STOP SIGN, 8 FEET EAST OF ANGLE POINT IN BARBED WIRE FENCE, 1.8 FEET SOUTH OF A CARSONITE POST. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC	ELLIPSOID METERS		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
525	774013-3	41 27 44.36627	95 24 10.48055	371.66	164129.433	341041.385	399.70	538481.31	1118899.94	1311.4	



NOT TO SCALE

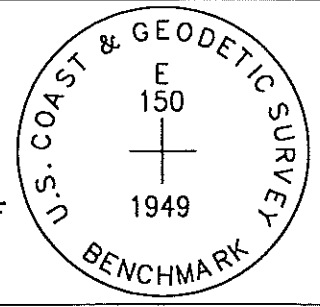
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

MERRICK
 Engineers & Architects
 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 26, 1998

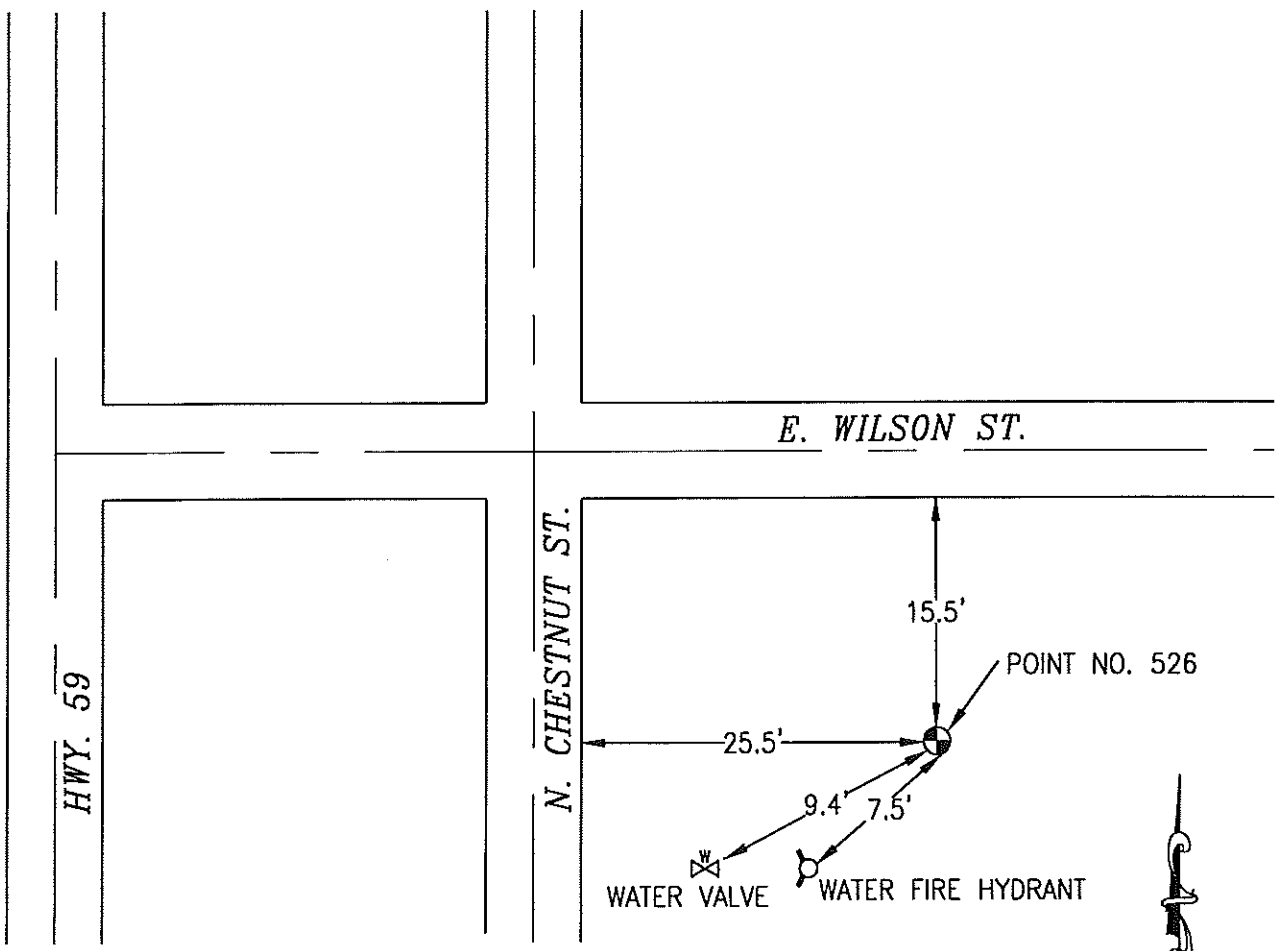
60 NW

526 E150

FOUND 3.5 INCH DIAMETER BRASS CAP, FLUSH WITH GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK, E150 1949". LOCATED APPROXIMATELY 15.5 FEET SOUTH OF THE SOUTH EDGE OF E. WILSON STREET, 25.5 FEET EAST OF THE EAST EDGE OF N. CHESTNUT STREET, 9.4 FEET EAST OF A WATER VALVE, 7.5 FEET EAST OF A FIRE HYDRANT. ON THE AVOCA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
526	E 150	41 29 05.75645	95 20 10.53929	321.46	166520.060	346661.144	349.48	546324.56	1137337.44	1146.6



NOT TO SCALE

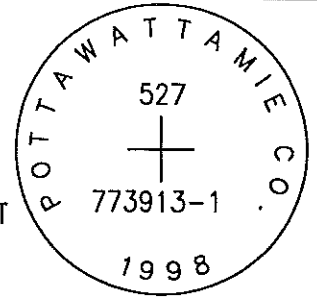
LOCATION DIAGRAM
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 Engineers & Architects
 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 23, 1998

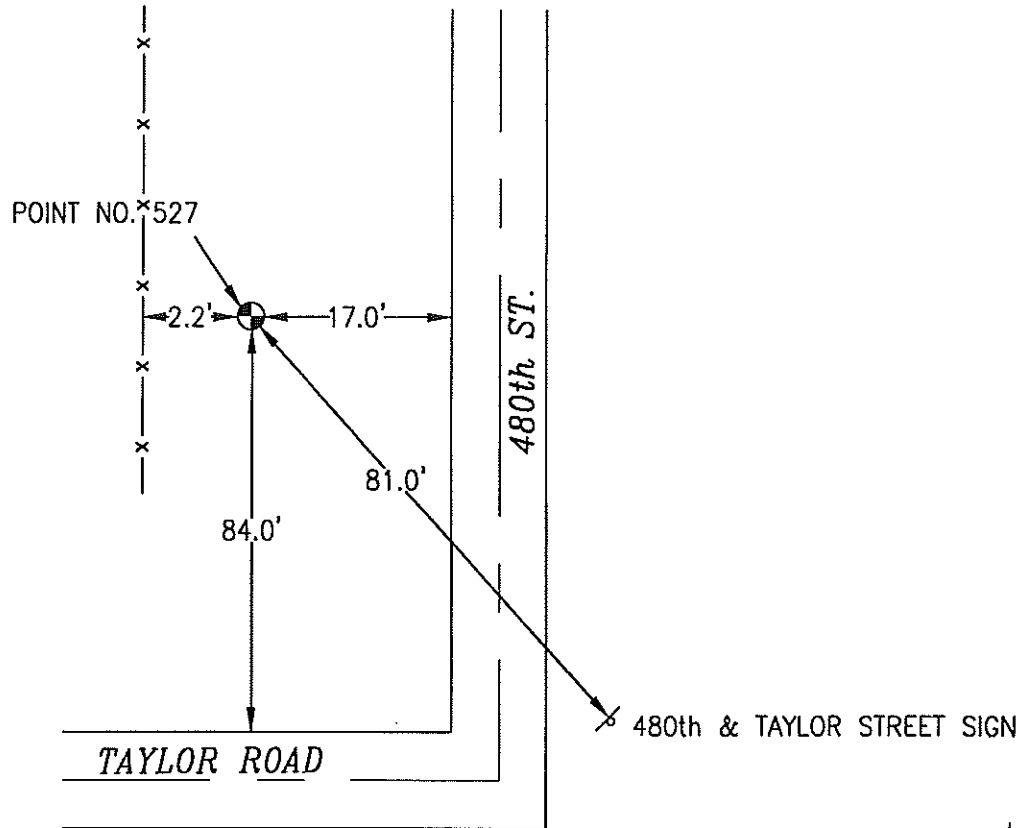
OK

527 773913-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 527, 773913-1". LOCATED APPROXIMATELY 17 FEET WEST OF THE WEST EDGE OF 480TH STREET, 84 FEET NORTH OF THE NORTH EDGE OF TAYLOR ROAD, 81 FEET NORTHWEST OF A STREET INTERSECTION SIGN, 2.2 FEET EAST OF AN ORANGE CARSONITE POST AT A BARRED WIRE FENCELINE. ON THE AVOCA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
527	773913-1	41 28 10.26448	95 16 11.12812		351.48	164693.394	352178.945	379.31	540331.58	1155440.42	1244.5



NOT TO SCALE

LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
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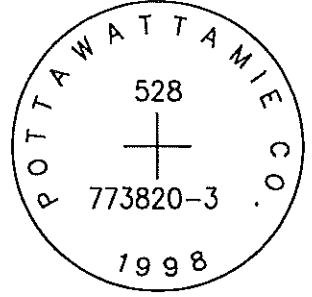
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Date: October 26, 1998

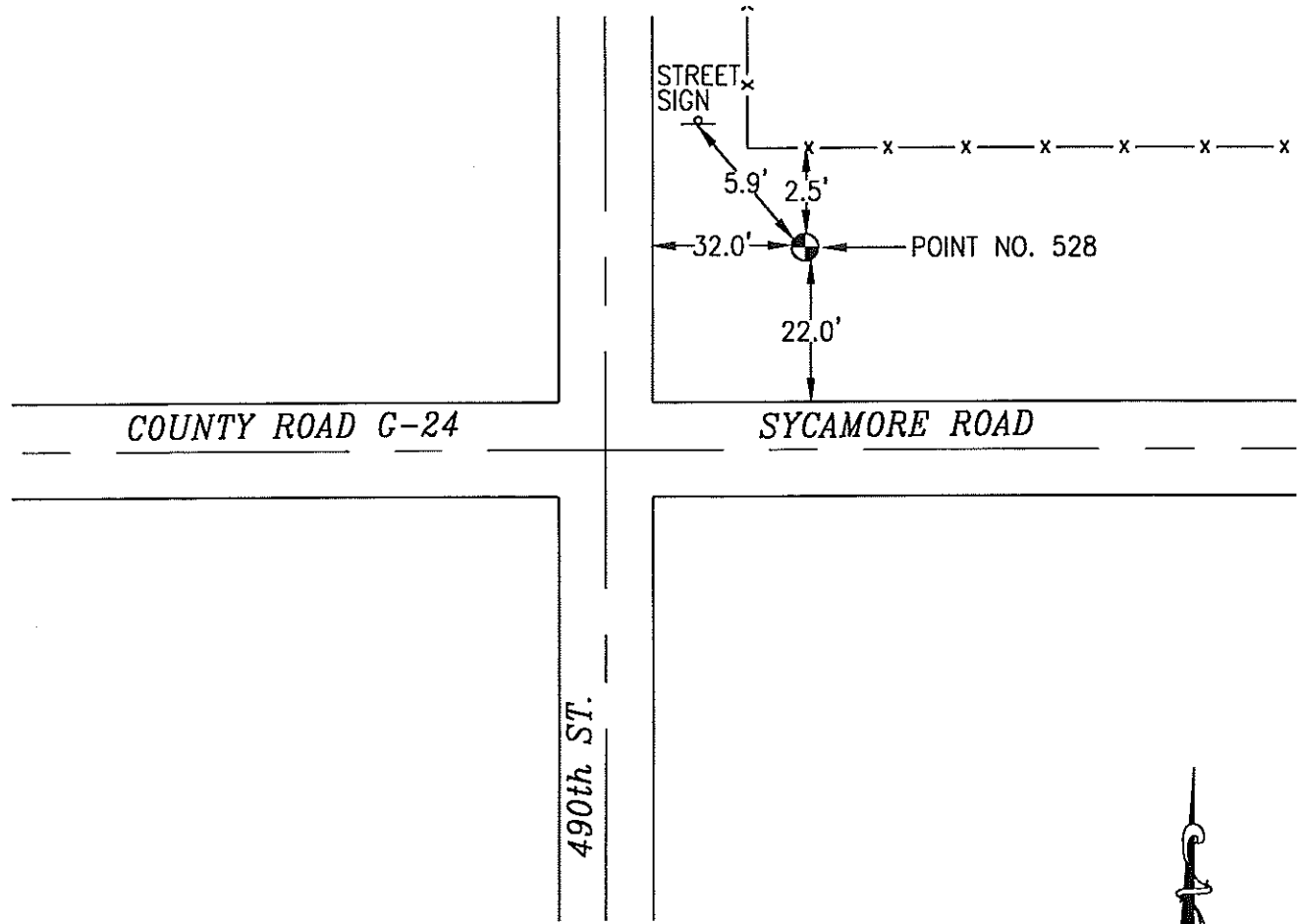
OK

528 773820-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 528, 773820-3". LOCATED APPROXIMATELY 22 FEET NORTH OF THE NORTH EDGE SYCAMORE ROAD, 32 FEET EAST OF THE EAST EDGE OF 490TH STREET, 5.9 FEET SOUTHEAST OF A STREET INTERSECTION SIGN, 2.5 FEET SOUTH OF A CARSONITE POST AND FENCELINE. ON THE WALNUT 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
528	773820-3	41 26 50.99584	95 15 03.78687	382.51	162216.871	353691.940	410.24	532206.52	1160404.31	1345.9



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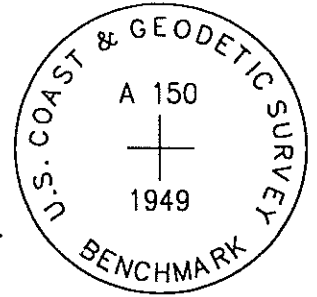
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report

MERRICK
Engineers & Architects
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
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Date: October 26, 1998

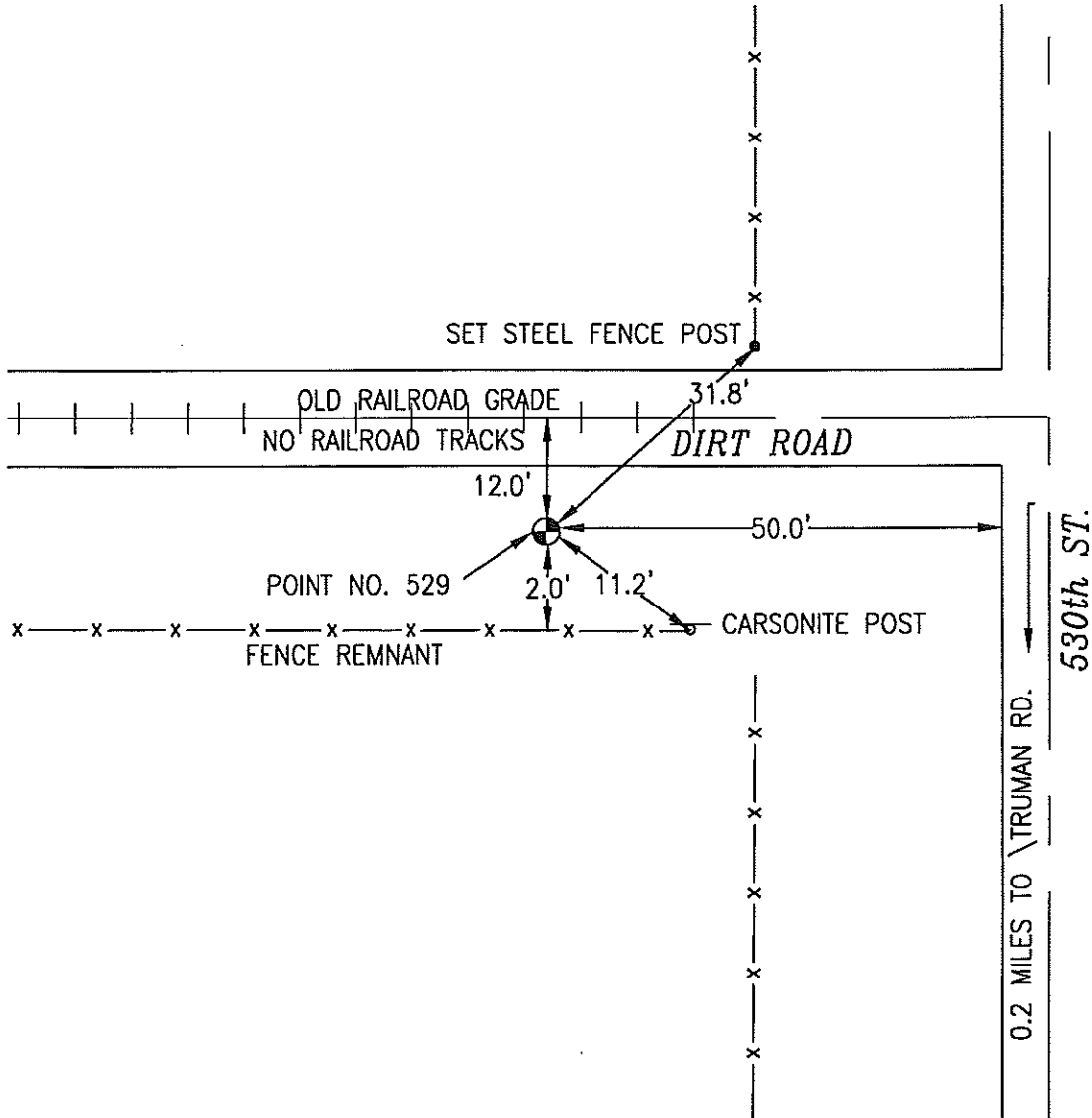
50N E

529 A150

FOUND 3.5 INCH DIAMETER CAP IN CONCRETE POST FLUSH WITH GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK, A150 1949". LOCATED APPROXIMATELY 12 FEET SOUTH OF THE CENTERLINE OF AN OLD RAILROAD GRADE DIRT ROAD, 50 FEET WEST OF THE WEST EDGE OF 530TH STREET, 2 FEET NORTH OF OLD BARBED WIRE FENCE REMNANTS, 11.2 FEET WEST OF A SET ORANGE CARSONITE POST, 31.8 FEET SOUTHWEST OF A SET STEEL FENCE POST (SEE NGS CONTROL), ON THE WALNUT 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
529	A 150	41 28 18.99228	95 10 27.21236	365.46	164804.625	360162.547	393.15	540696.51	1181633.29	1289.9	



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 GPS Survey Report

MERRICK
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 Job Number: 50013142
 Date: October 23, 1998

OK? replace post

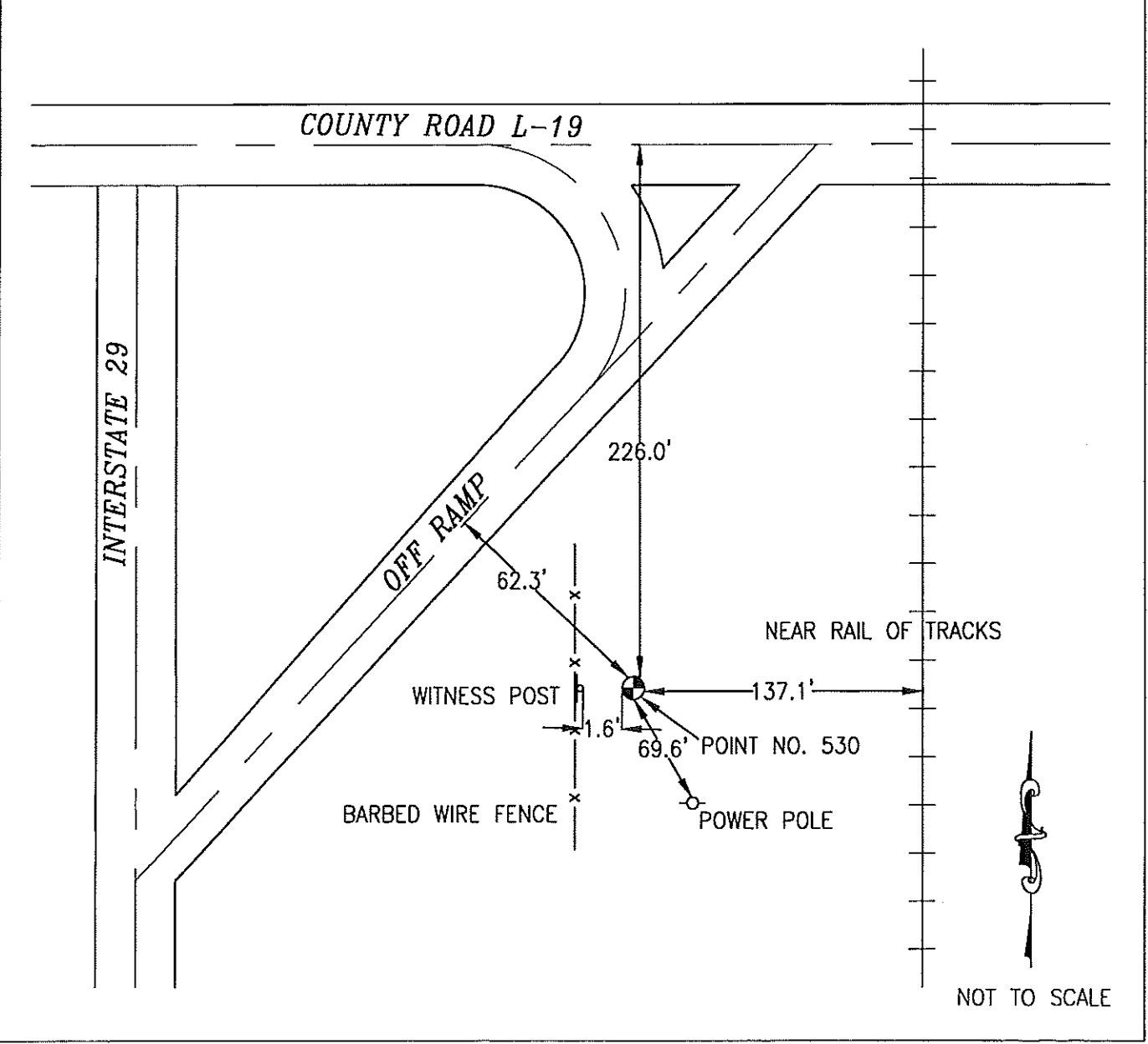
530

N180

FOUND 5/8 INCH DIAMETER STEEL ROD IN MONUMENT BOX , 0.3 FEET BELOW GROUND, LOCATED APPROXIMATELY 62.3 FEET EAST-SOUTHEAST OF THE CENTER OF THE NORTHBOUND OFF RAMP OF INTERSTATE HIGHWAY 29, 137.1 FEET WEST OF THE NEAR RAIL RR TRACKS, 69.6 FEET NORTHWEST OF A POWERPOLE, 226 FEET SOUTH OF THE CENTERLINE OF COUNTY ROAD L 19, 1.6 FEET EAST OF A ORANGE CARSONITE POST (SEE NGS CONTROL). ON THE LOVELAND 7.5 MINUTE QUADRANGLE.

(NO STAMPING)

PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
530	N 180	41 25 07.41934	95 53 56.60730	272.83	160314.432	299471.985	301.16	525964.93	982517.67	988.0



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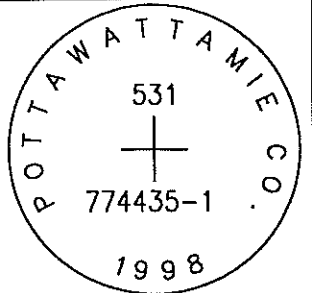
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

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 Date: October 23, 1998

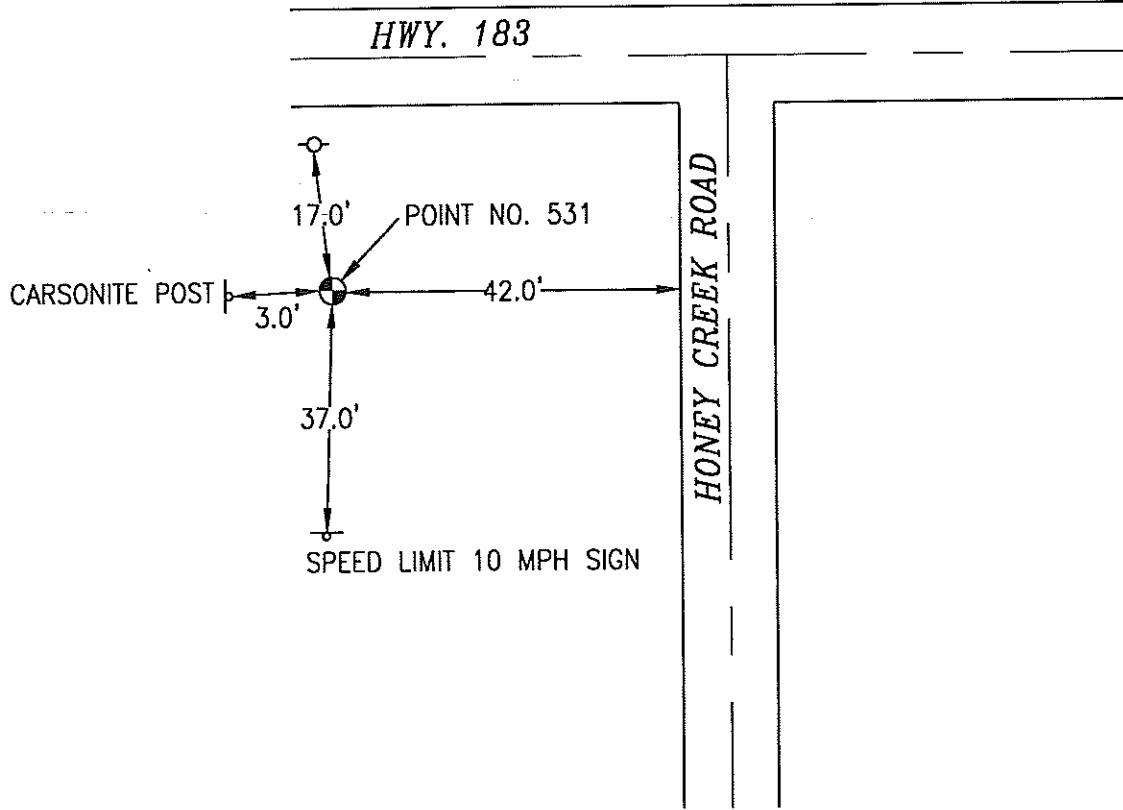
OK

531 774435-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 531, 774435-1". LOCATED APPROXIMATELY 42 FEET WEST OF THE WEST EDGE OF HONEY CREEK ROAD, 17 FEET SOUTH OF A POWERPOLE, 37 FEET NORTH OF A ROAD SIGN WITH 10 MPH SIGN, 3 FEET EAST OF A CARSONITE POST. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT		SP NAD83 (1996) IOWA SOUTH HEIGHT		NAVD88 METERS	NAVD88 US FEET
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NORTHING US FEET	EASTING US FEET		
531	774435-1	41 25 58.23806	95 51 58.52588	279.77	161806.470	302255.605	308.18	530860.06	991650.26	1011.1



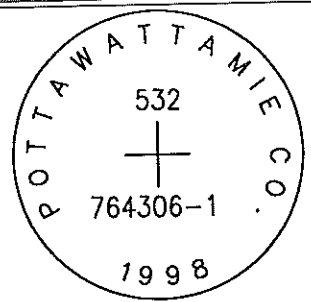
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LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 GPS Survey Report

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 Job Number: 50013142
 Date: October 26, 1998

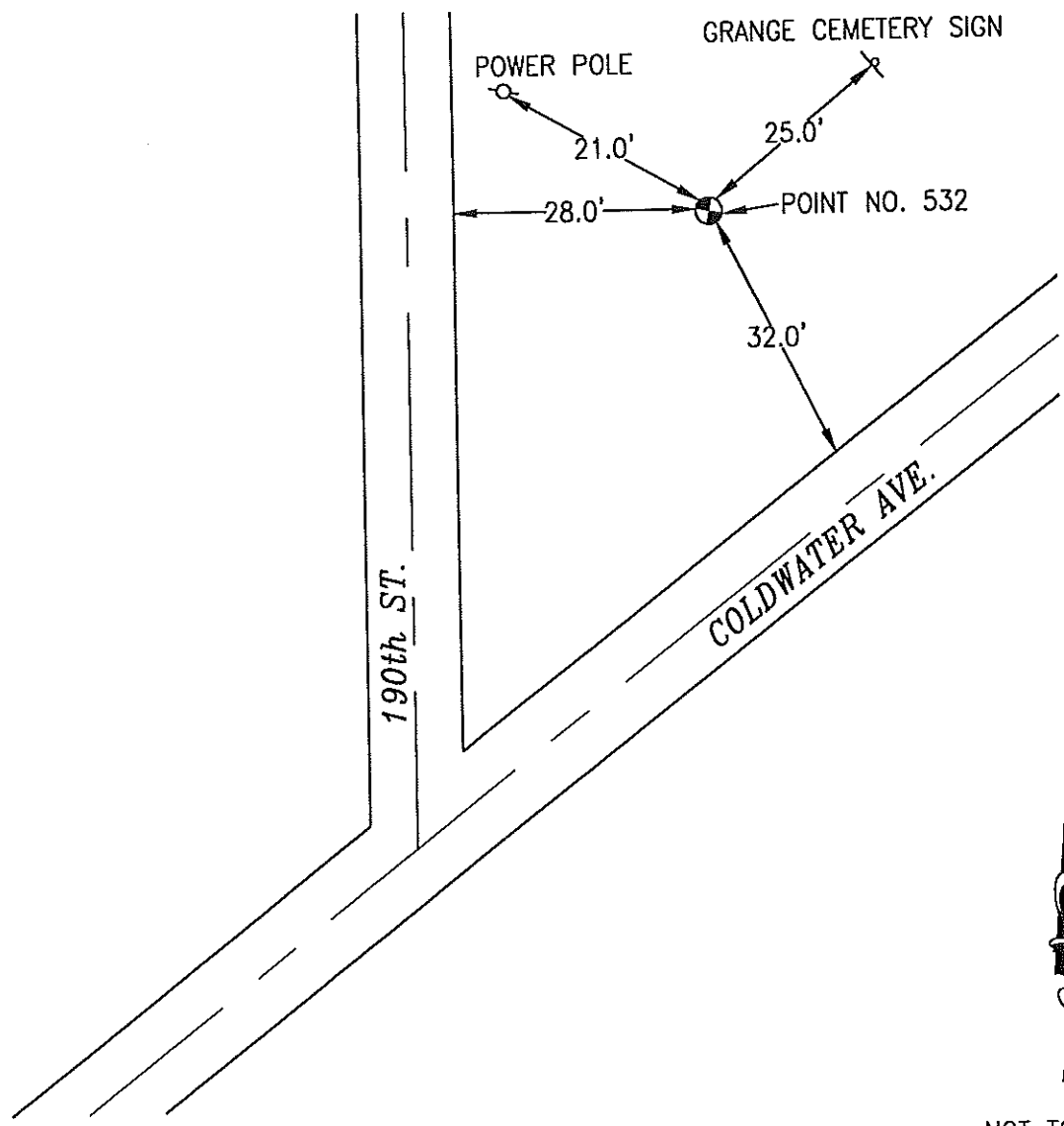
OK Replace post

532 764306-1



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 532, 764306-1". LOCATED APPROXIMATELY 28 FEET EAST OF THE EAST EDGE OF 190TH STREET, 32 FEET NORTH OF THE NORTH EDGE OF COLDWATER AVE, 21 FEET SOUTH OF A POWER POLE, 25 FEET WEST OF A GRANGE CEMETERY SIGN, ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 US FEET
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS		NORTHING US FEET	EASTING US FEET	
532	764306-1	41 24 47.20053	95 49 31.46784	279.37	159523.737	305609.937	307.66	523370.79	1002655.27	1009.4



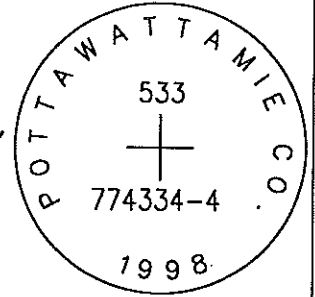
NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

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 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
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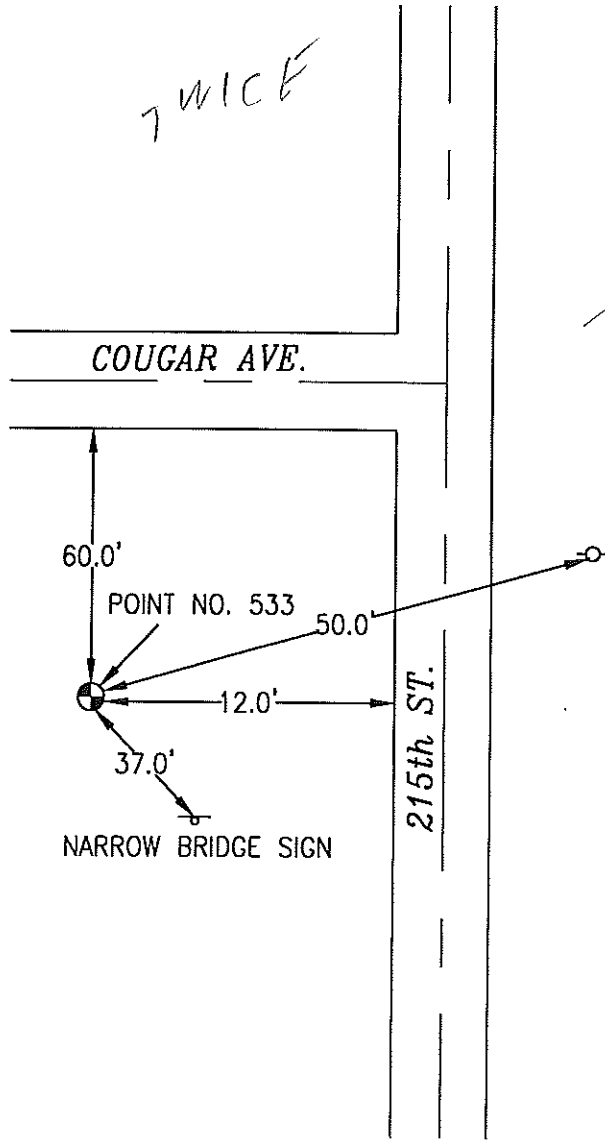
OK

533 774334-4



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 533, 774334-4". LOCATED APPROXIMATELY 12 FEET WEST OF THE WEST EDGE OF 215TH STREET, 60 FEET SOUTH OF THE SOUTH EDGE OF COUGAR AVE., 37 FEET NORTH OF NARROW BRIDGE SIGN, 50 FEET WEST-SOUTHWEST OF A POWERPOLE. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
533	774334-4	41 25 35.89754	95 46 29.61396	293.74	160913.821	309870.988	322.08	527931.43	1016635.07	1056.7



SEE
PT 1533



NOT TO SCALE

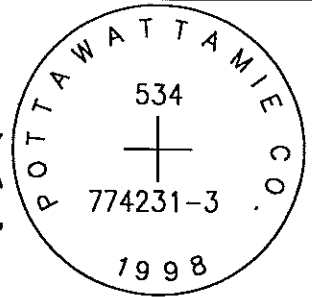
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report

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2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: October 26, 1998

OK

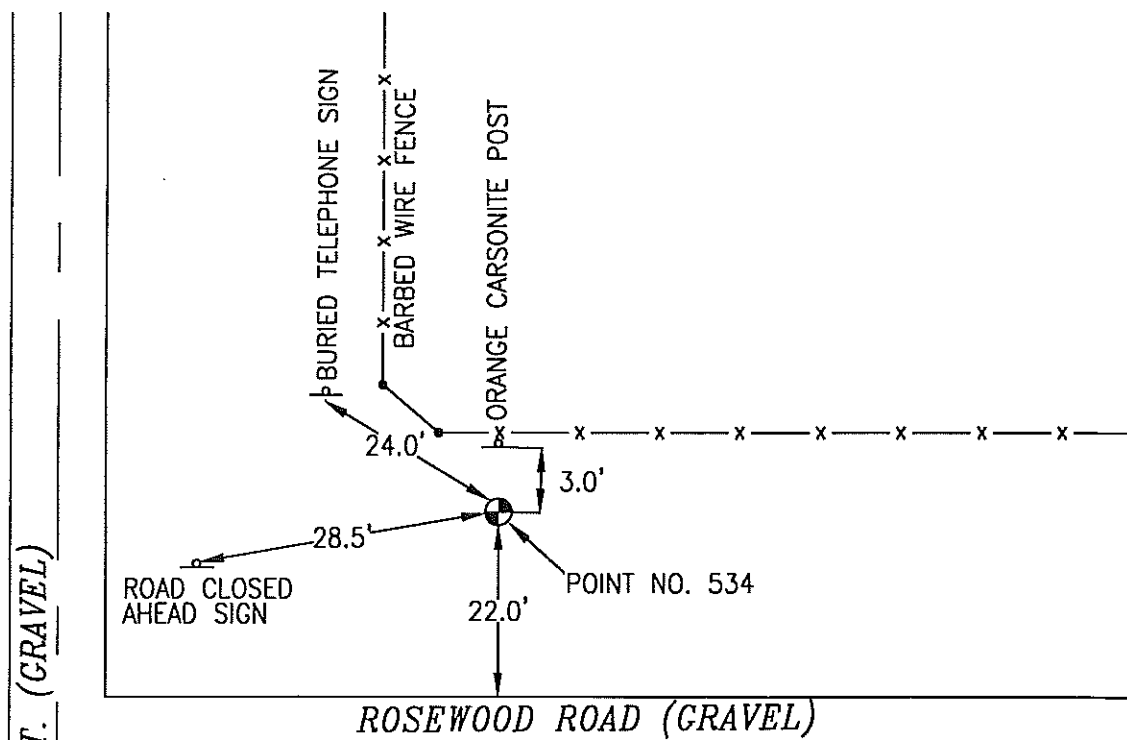
534

774231-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 534, 774231-3". LOCATED APPROXIMATELY 22 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, 28.5 FEET EAST OF A "ROAD CLOSED AHEAD" SIGN, 24 FEET SOUTHEAST OF A BURIED TELEPHONE SIGN, 3 FEET SOUTH OF A SET ORANGE CARSONITE POST AND FENCE, ON THE EAST SIDE OF 240TH STREET. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
534	774231-3	41 25 10.46876	95 43 34.98633	348.27	160024.721	313904.149	376.54	525014.44	1029867.20	1235.4



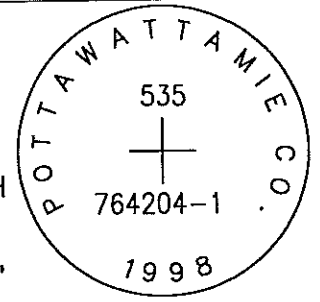
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LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 GPS Survey Report

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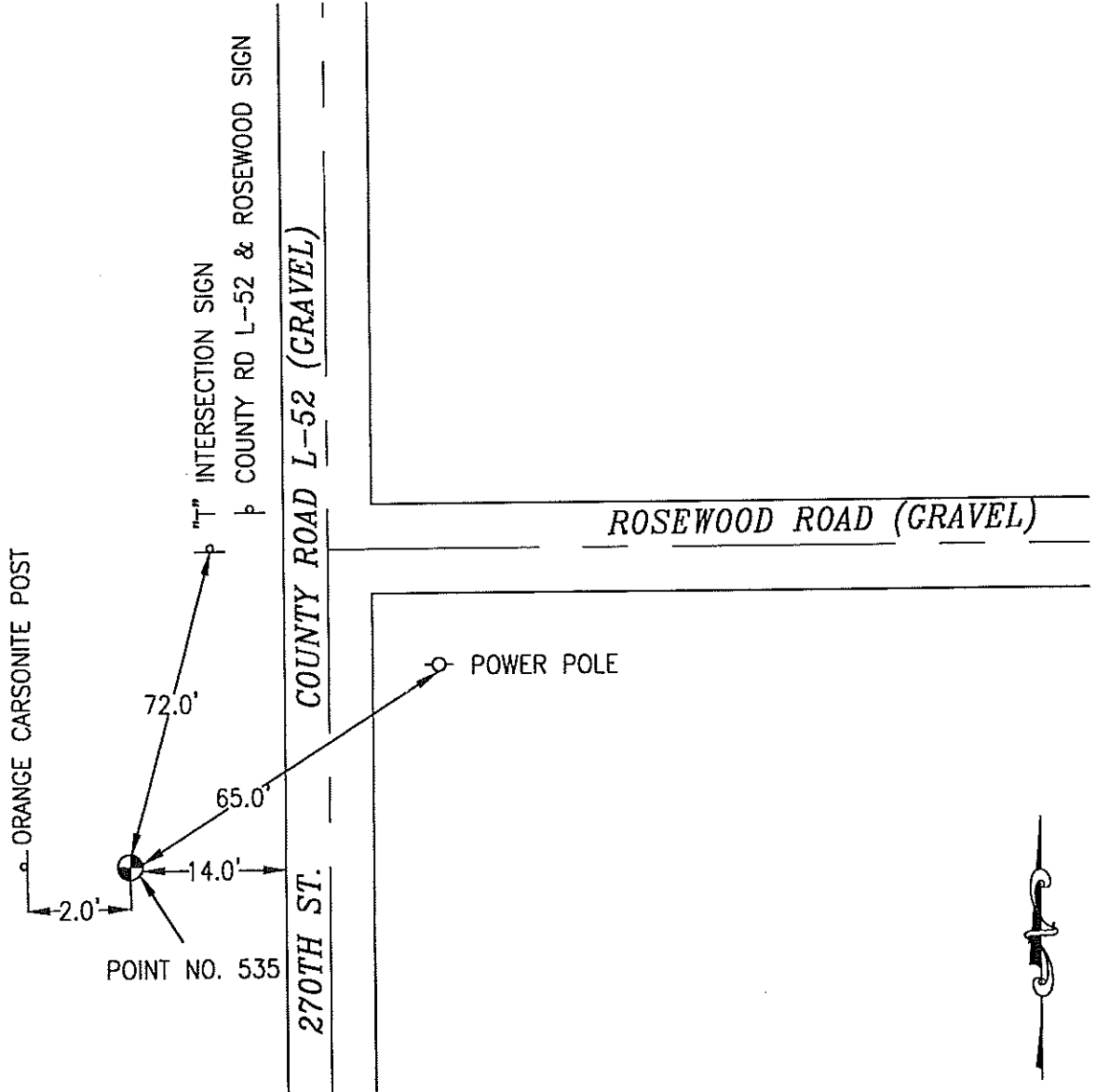
ok

535 764204-1



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.25 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 535, 764204-1". LOCATED APPROXIMATELY 14 FEET WEST OF THE WEST EDGE OF COUNTY ROAD L52 (270TH STREET), 72 FEET SOUTH OF A TRAFFIC "T" INTERSECTION SIGN, 65 FEET SOUTHWEST OF A POWERPOLE, 2 FEET EAST OF A SET ORANGE CARSONITE POST, SOUTH OF ROSEWOOD ROAD. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
535	764204-1	41 25 03.70937	95 40 10.64736	304.63	159696.374	318642.396	332.83	523937.19	1045412.59	1091.9



NOT TO SCALE

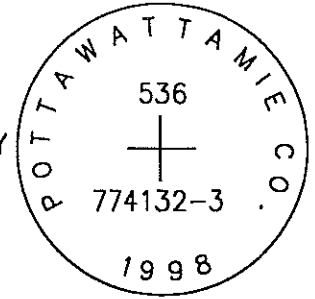
LOCATION DIAGRAM
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 GPS Survey Report

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 Engineers & Architects
 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
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 Date: October 26, 1998

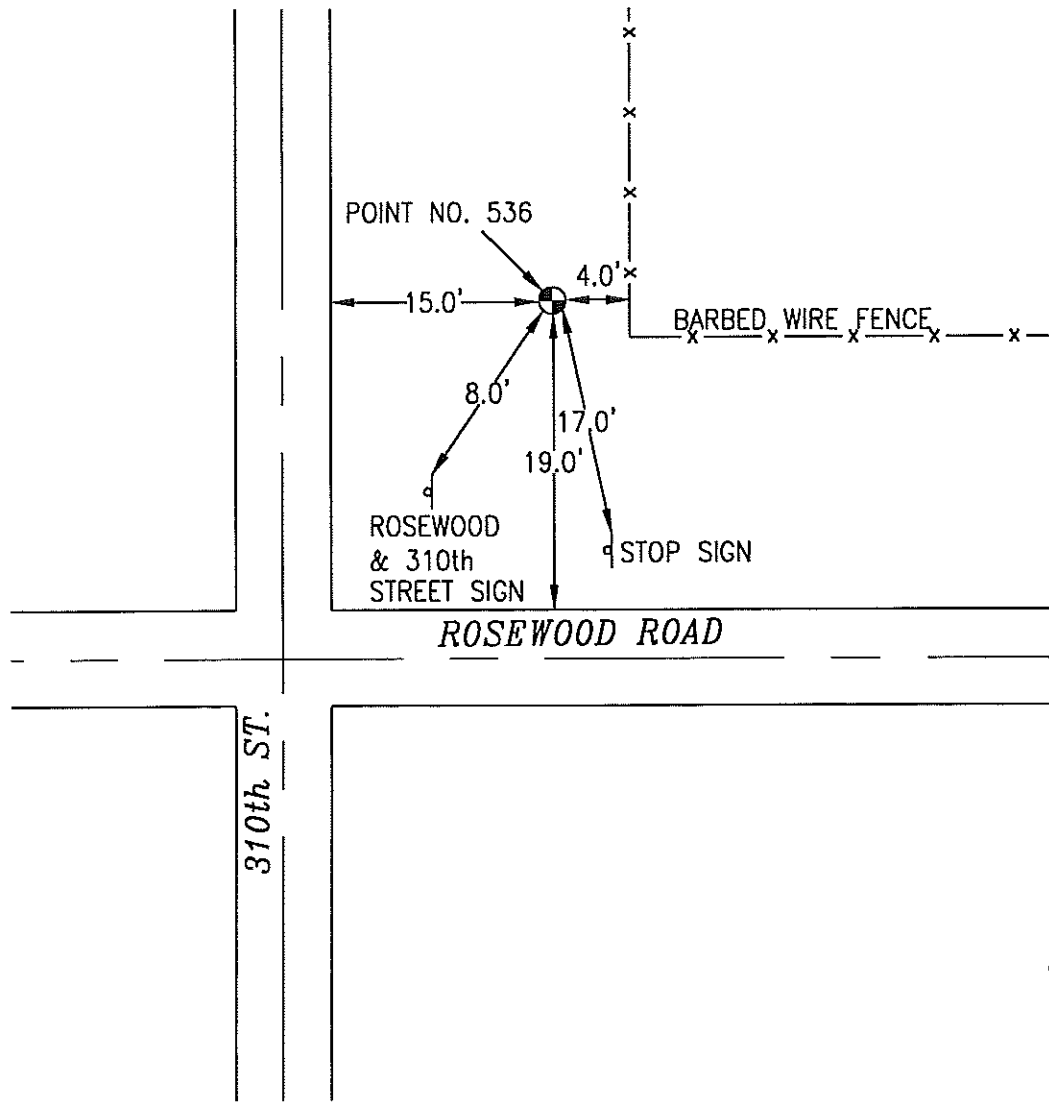
OK

536 774132-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 536, 774132-3". LOCATED APPROXIMATELY 15 FEET EAST OF THE EAST EDGE OF 310TH STREET, 19 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, 8 FEET NORTH OF A STREET SIGN, 17 FEET NORTH-NORTHEAST OF A STOP SIGN, 4 FEET WEST OF A NORTH-SOUTH FENCELINE. ON THE NEOLA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETI G NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 US FEET
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS		NORTHING US FEET	EASTING US FEET	
536	774132-3	41 25 10.10335	95 35 38.01630	373.77	159738.425	324976.193	401.90	524075.15	1066192.73	1318.6



NOT TO SCALE

LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
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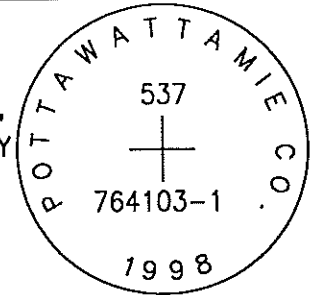
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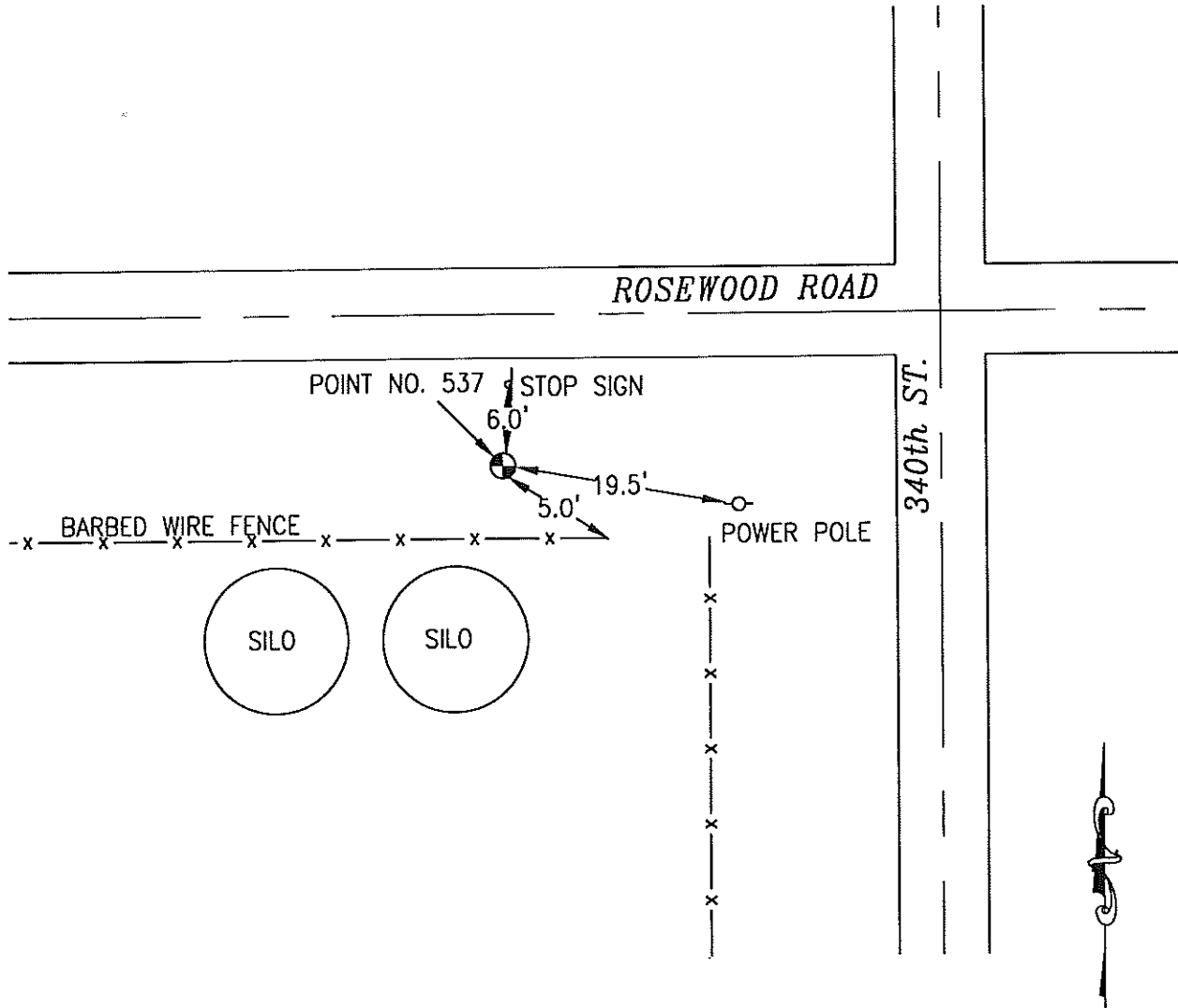
OK

537 764103-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 537, 764103-1". LOCATED APPROXIMATELY AT THE SOUTHWEST CORNER OF 340TH STREET AND ROSEWOOD ROAD, 6 FEET SOUTH OF A STOP SIGN, 5 FEET NORTHWEST OF A FENCE CORNER, 19.5 FEET WEST OF A POWERPOLE. ON THE NEOLA 7.5 MINUTE QUADRANGLE.

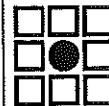


PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT					
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS			
537	764103-1	41 25 09.00845	95 32 11.19966	378.66	159590.646	329776.550	406.71	523590.31	1081941.90	1334.4



NOT TO SCALE

LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report



MERRICK

Engineers & Architects

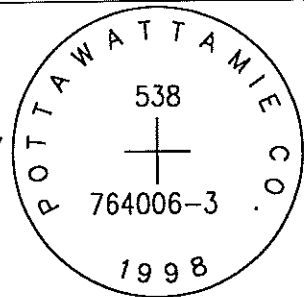
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142
Date: October 27, 1998

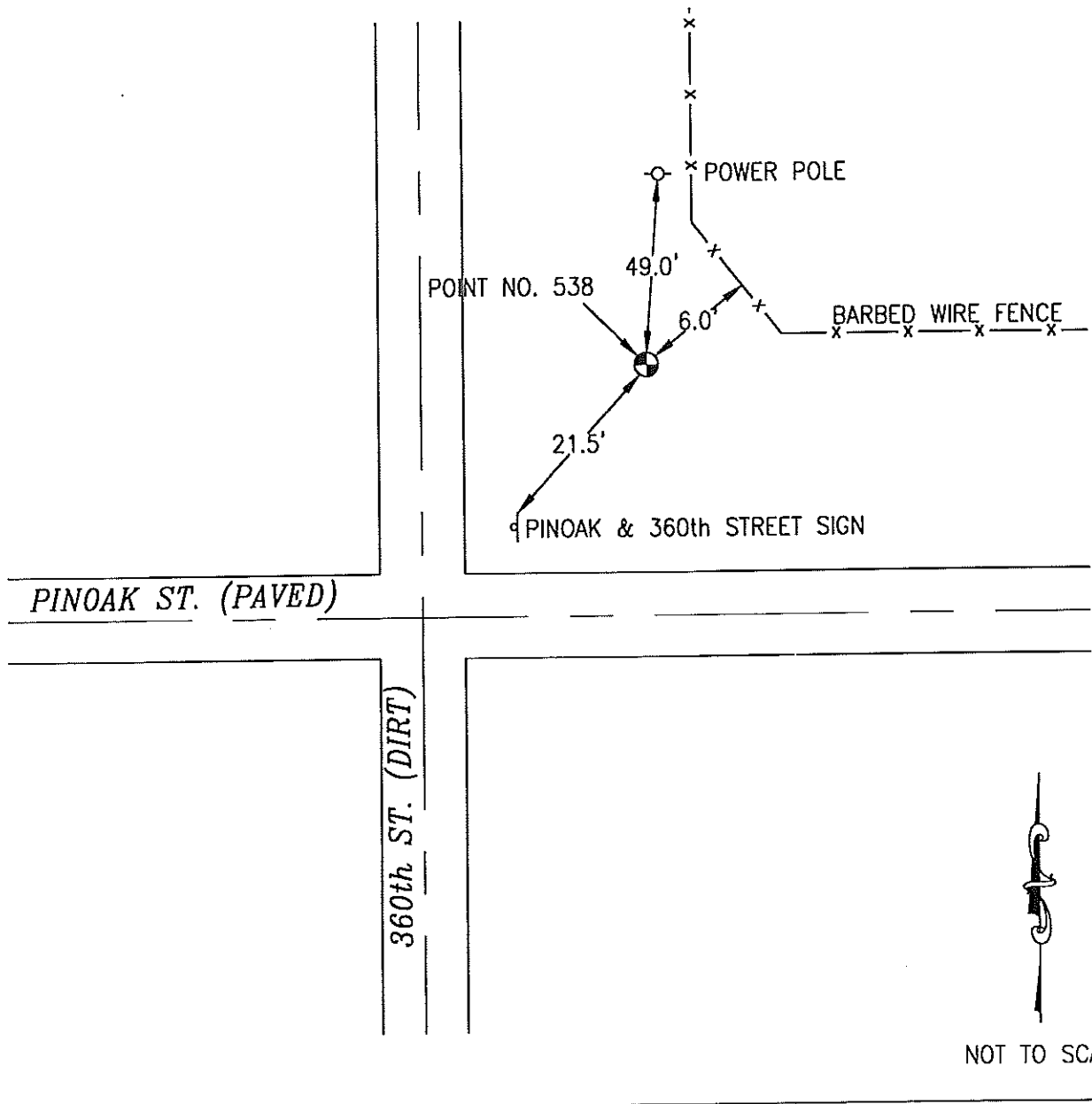
OK

538 764006-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 538, 764006-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF 360TH STREET AND PINOAK ROAD, 21.5 FEET NORTHEAST OF A STREET INTERSECTION SIGN, 49 FEET SOUTH OF A POWERPOLE, 6 FEET SOUTHWEST OF A FENCE. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
538	764006-3	41 24 17.38228	95 29 51.47364		357.11	157923.211	332983.706	385.05	518119.73	1092464.04	1263.3



NOT TO SCALE

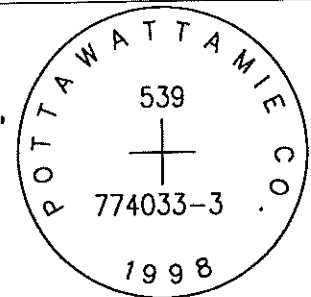
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

MERRICK
 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 27, 1998

OK

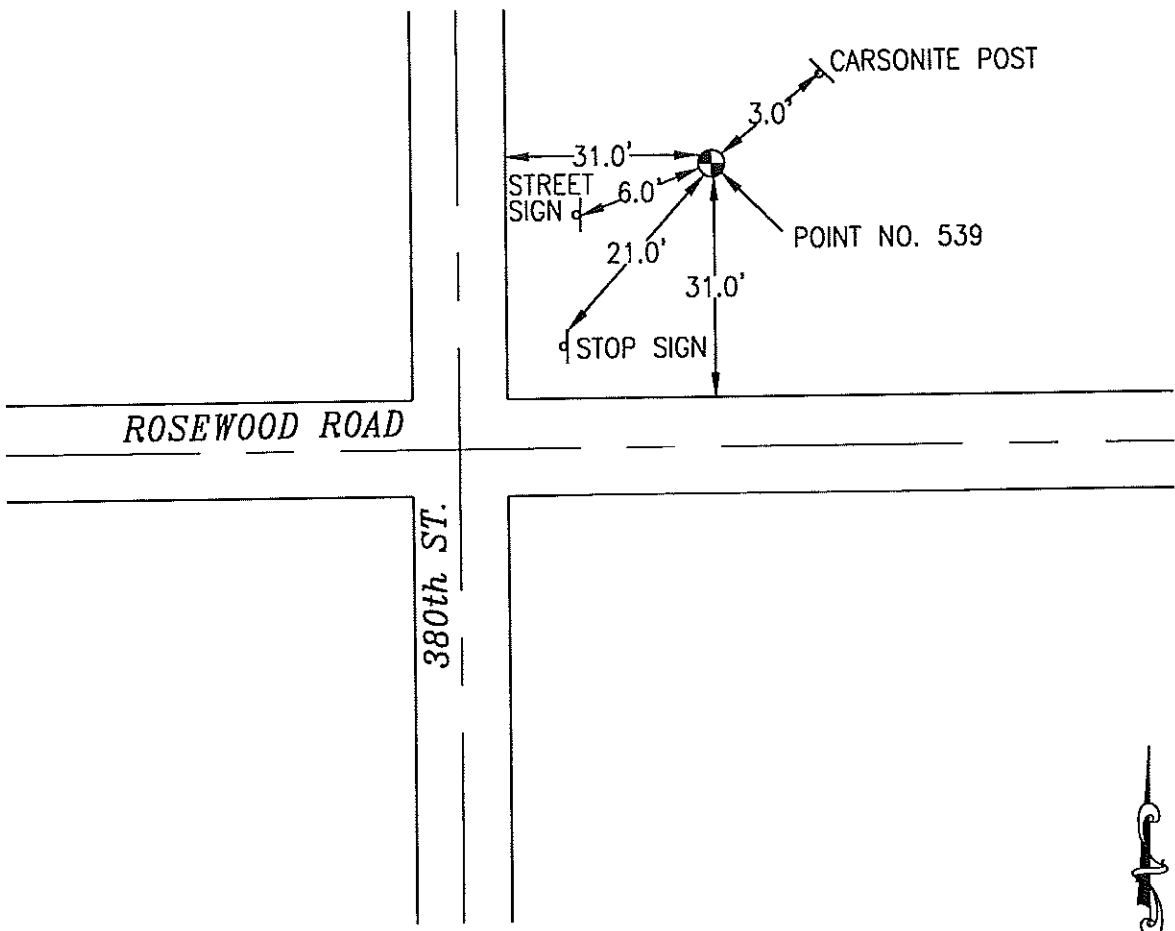
539

774033-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 539, 774033-3". LOCATED APPROXIMATELY 31 FEET EAST OF THE EAST EDGE OF 380TH STREET, 31 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, 6 FEET NORTHEAST OF A STREET SIGN, 21 FEET NORTHEAST OF A STOP SIGN, 3 FEET SOUTH OF A SET ORANGE CARSONITE POST. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
539	774033-3	41 25 08.14166	95 27 38.19412	360.18	159418.269	336113.780	388.13	523024.77	1102733.29	1273.4



NOT TO SCALE

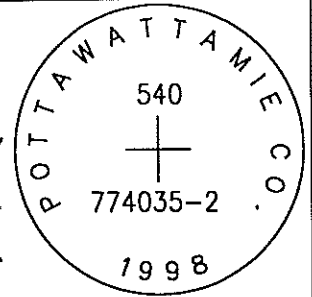
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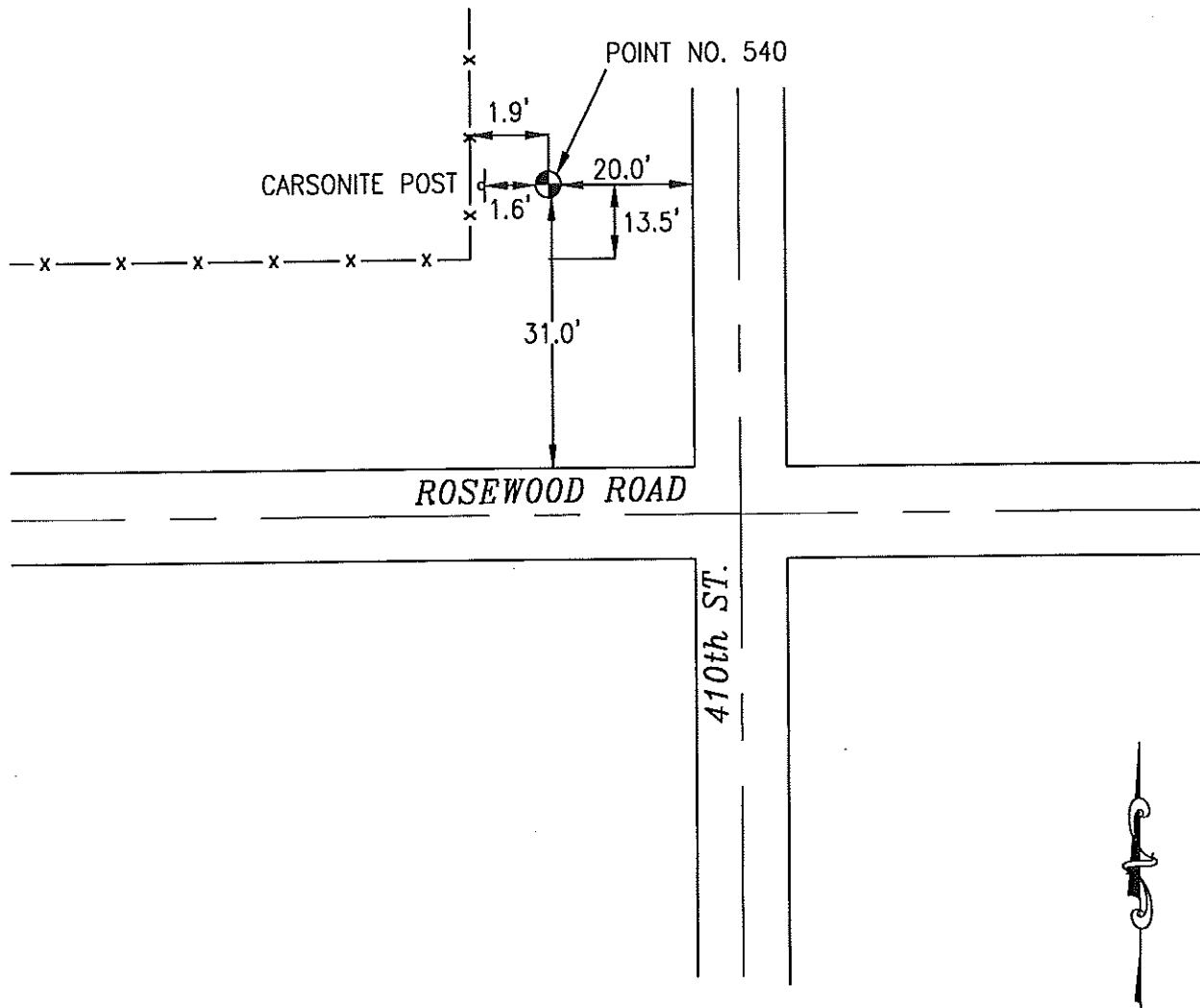
OK

540 774035-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 540, 774035-2". LOCATED APPROXIMATELY 20 FEET WEST OF THE WEST EDGE OF 410TH STREET, 31 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, 13.5 FEET NORTH OF FENCE CORNER, 1.6 FEET EAST OF A ORANGE CARSONITE POST, 1.9 FEET EAST OF A NORTH-SOUTH FENCE. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.

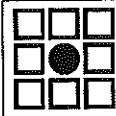


PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
540	774035-2	41 25 07.65196	95 24 11.74837	373.04	159296.698	340906.196	400.90	522625.92	1118456.41	1315.3	



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

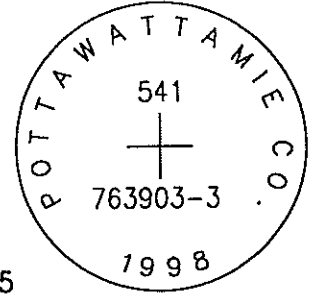


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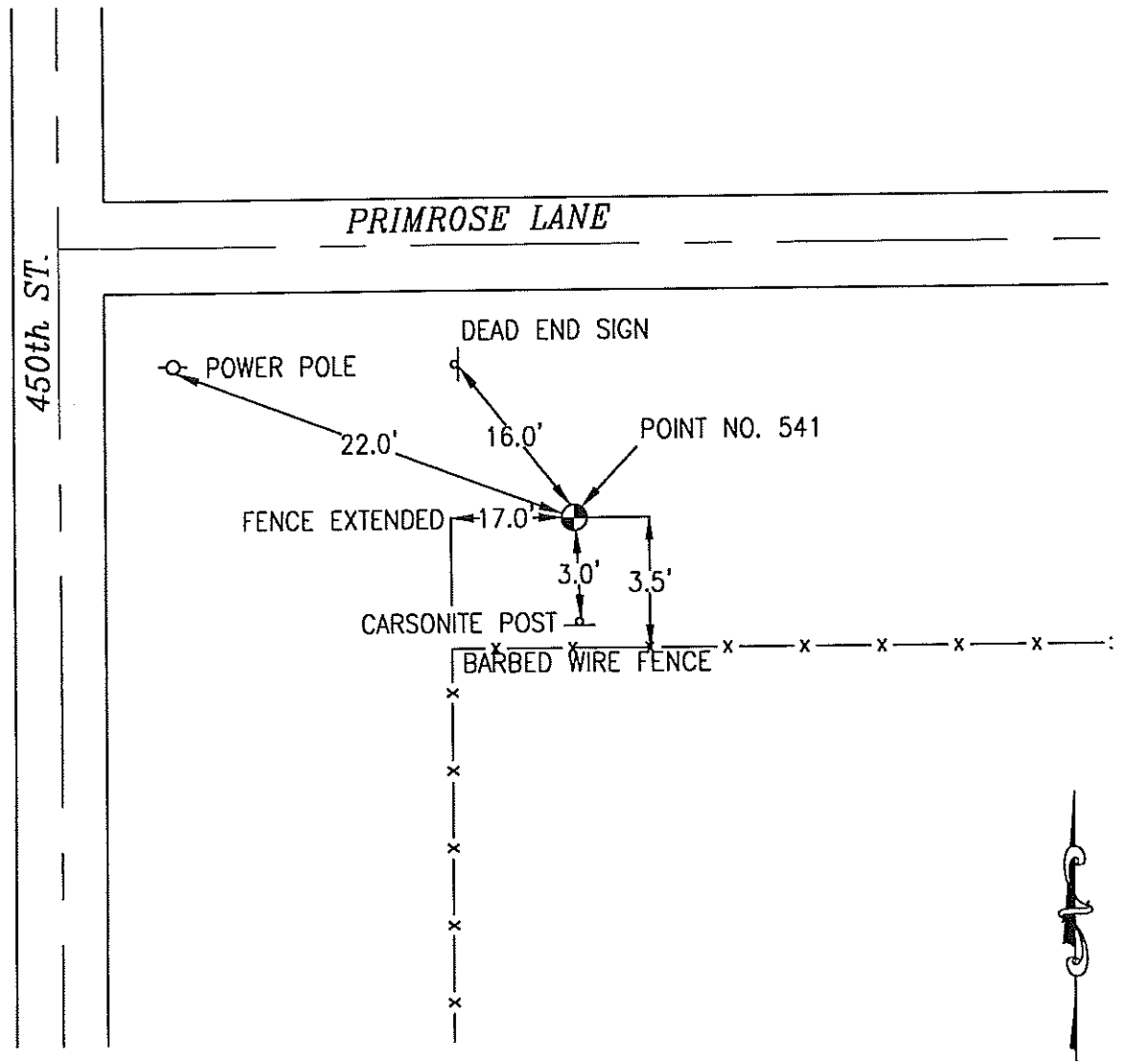
OK

541 763903-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.35 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 541, 763903-3". LOCATED APPROXIMATELY AT THE SOUTHEAST CORNER OF PRIMROSE LANE AND 450TH STREET, 22 FEET SOUTHEAST OF A POWERPOLE, 17 FEET EAST OF A FENCE CORNER, 16 FEET SOUTHEAST OF A "DEAD END" SIGN, 3 FEET NORTH OF A CARSONITE POST, 3.5 FEET NORTH OF A EAST-WEST FENCE. ON THE AVOCA 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
541	763903-3	41 24 41.33352	95 19 38.93530	348.51	158349.129	347222.757	376.26	519517.10	1139180.00	1234.4	



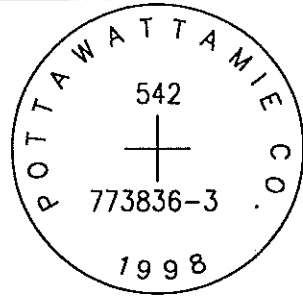
NOT TO SCALE

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 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
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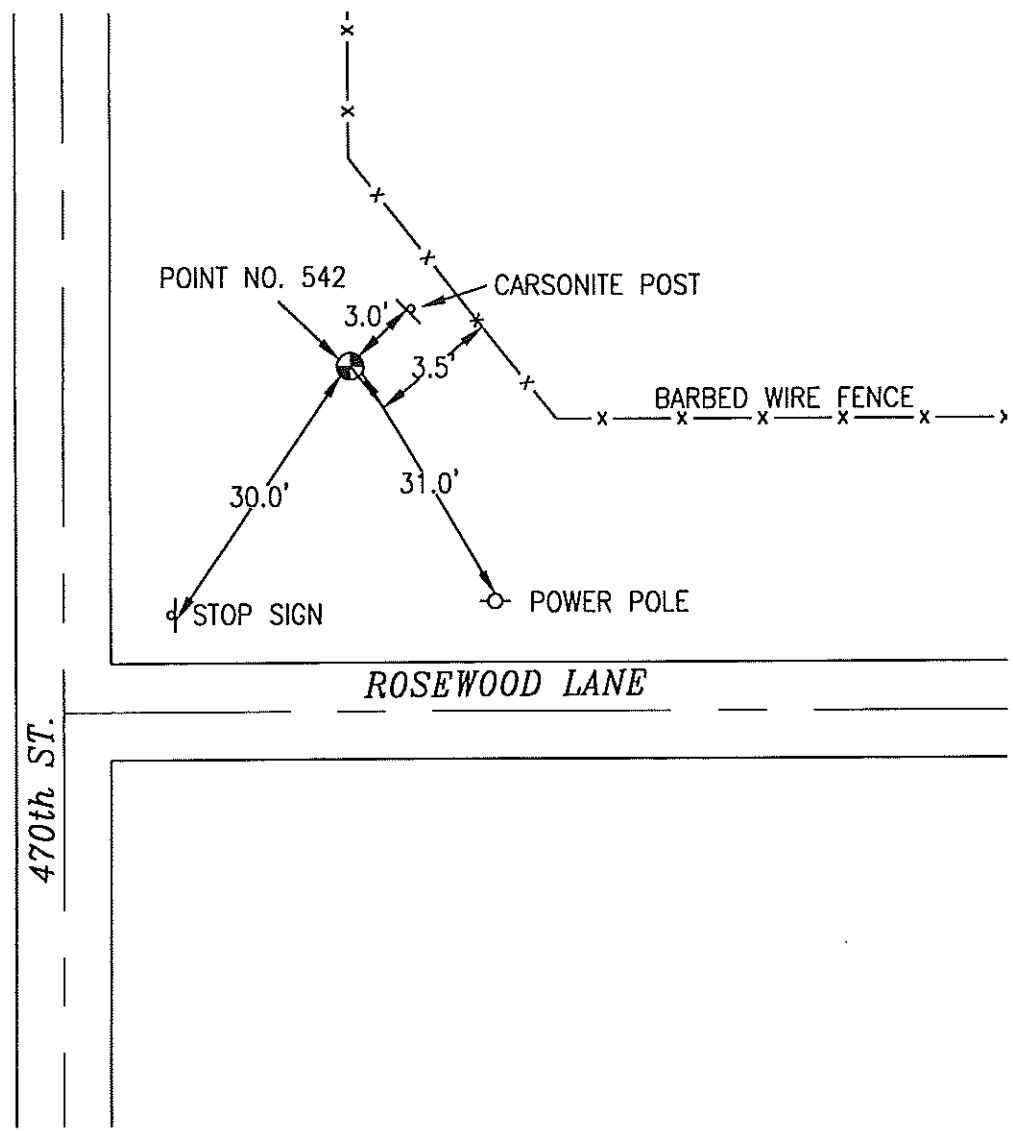
ok

542 773836-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 542, 773836-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF 470TH STREET AND ROSEWOOD ROAD, 26 FEET SOUTHWEST OF A FENCE ANGLE POINT, 31 FEET NORTHWEST OF A POWERPOLE, 30 FEET NORTH-NORTHEAST OF A STOP SIGN, 3 FEET SOUTHWEST OF A CARSONITE POST, 3.5 FEET SOUTHWEST OF A BARBED WIRE FENCE. ON THE AVOCA 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC	NORTHING METERS		EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET	
542	773836-3	41 25 07.17805	95 17 20.85833	366.89	159079.583	350445.146	394.60	521913.60	1149752.12	1294.6	



NOT TO SCALE

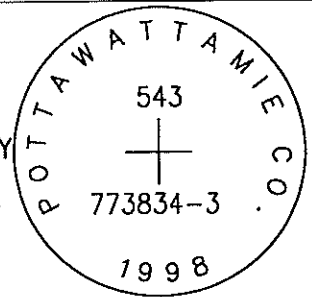
LOCATION DIAGRAM
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 GPS Survey Report

MERRICK
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 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
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OK

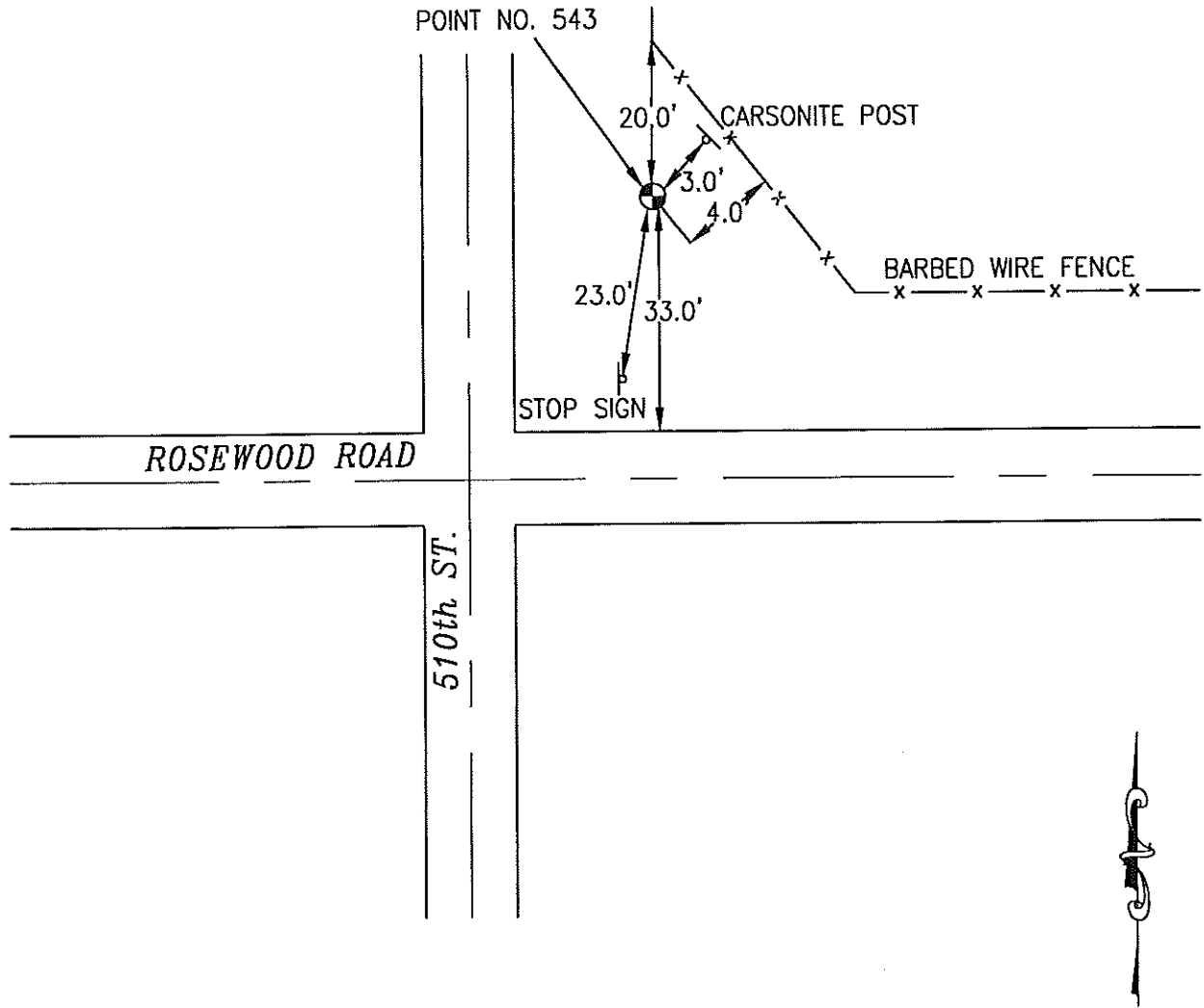
543

773834-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 543, 773834-3". LOCATED APPROXIMATELY 33 FEET NORTH OF THE NORTH EDGE OF ROSEWOOD ROAD, ON THE EAST SIDE OF 510TH STREET, 23 FEET NORTHEAST OF A STOP SIGN, 3 FEET SOUTHWEST OF A CARSONITE POST, 4 FEET SOUTHWEST OF A BARBED WIRE FENCE. ON THE WALNUT 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT NAVD88 METERS			SP NAD83 (1996) IOWA SOUTH HEIGHT NAVD88 METERS		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	SOUTH HEIGHT METERS	NORTHING US FEET	EASTING US FEET	SOUTH HEIGHT US FEET
543	773834-3	41 25 06.46306	95 12 45.93433	365.65	158929.029	356827.524	393.29	521419.66	1170691.63	1290.3



NOT TO SCALE

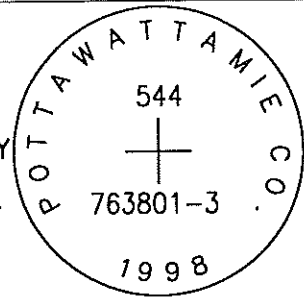
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 Job Number: 50013142
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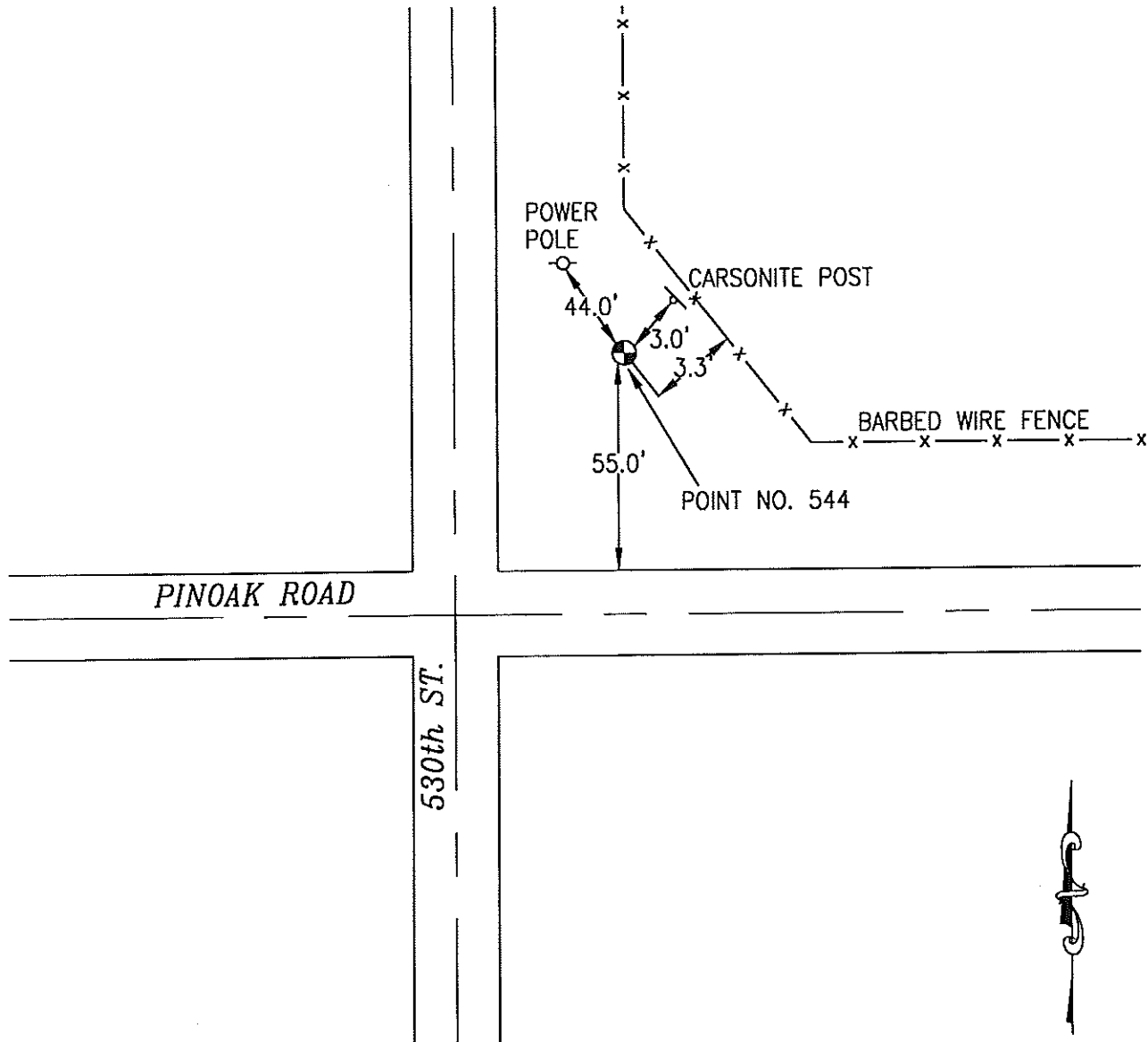
OK

544 763801-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 544, 763801-3". LOCATED APPROXIMATELY 55 FEET NORTH OF THE NORTH EDGE OF PINOAK ROAD, ON THE EAST SIDE OF 530TH STREET, 3 FEET SOUTHWEST OF A CARSONITE POST, 3.3 FEET SOUTHWEST OF A BARBED WIRE FENCE, 48 FEET SOUTHWEST OF A FENCE CORNER, 44 FEET SOUTHWEST OF A POWERPOLE. ON THE WALNUT 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
544	763801-3	41 24 16.57711	95 10 26.65651	370.80	157327.415	360031.522	398.40	516165.03	1181203.42	1307.1



NOT TO SCALE

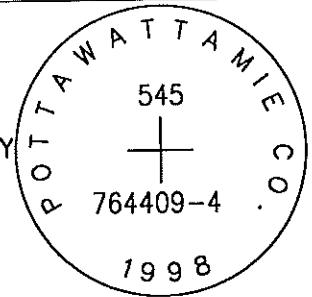
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

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 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
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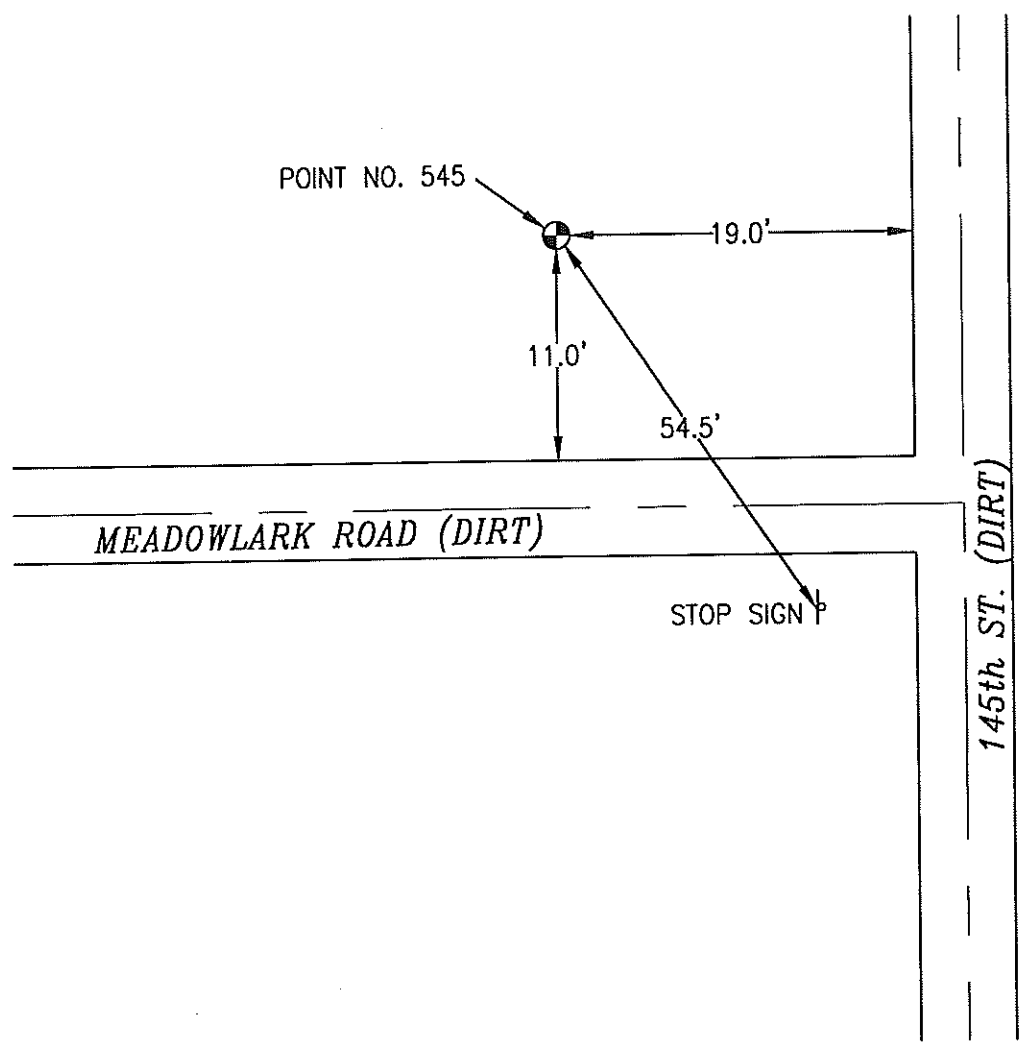
OK

545 764409-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 545, 764409-4". LOCATED APPROXIMATELY 11 FEET NORTH OF THE NORTH LINE OF MEADOWLARK ROAD, 19 FEET WEST OF THE WEST LINE OF 145TH STREET, 54.5 FEET NORTHWEST OF A STOP SIGN. ON THE LOVELAND 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT		SP NAD83 (1996) IOWA SOUTH HEIGHT			
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
545	764409-4	41 23 53.65332	95 54 26.70597	272.56	158058.995	298710.347	300.79	518565.22	980018.86	986.8



NOT TO SCALE

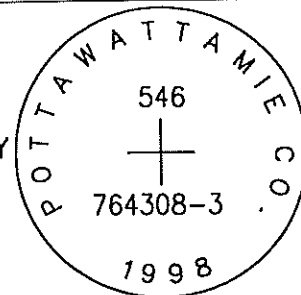
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report

MERRICK
Engineers & Architects
2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: October 27, 1998

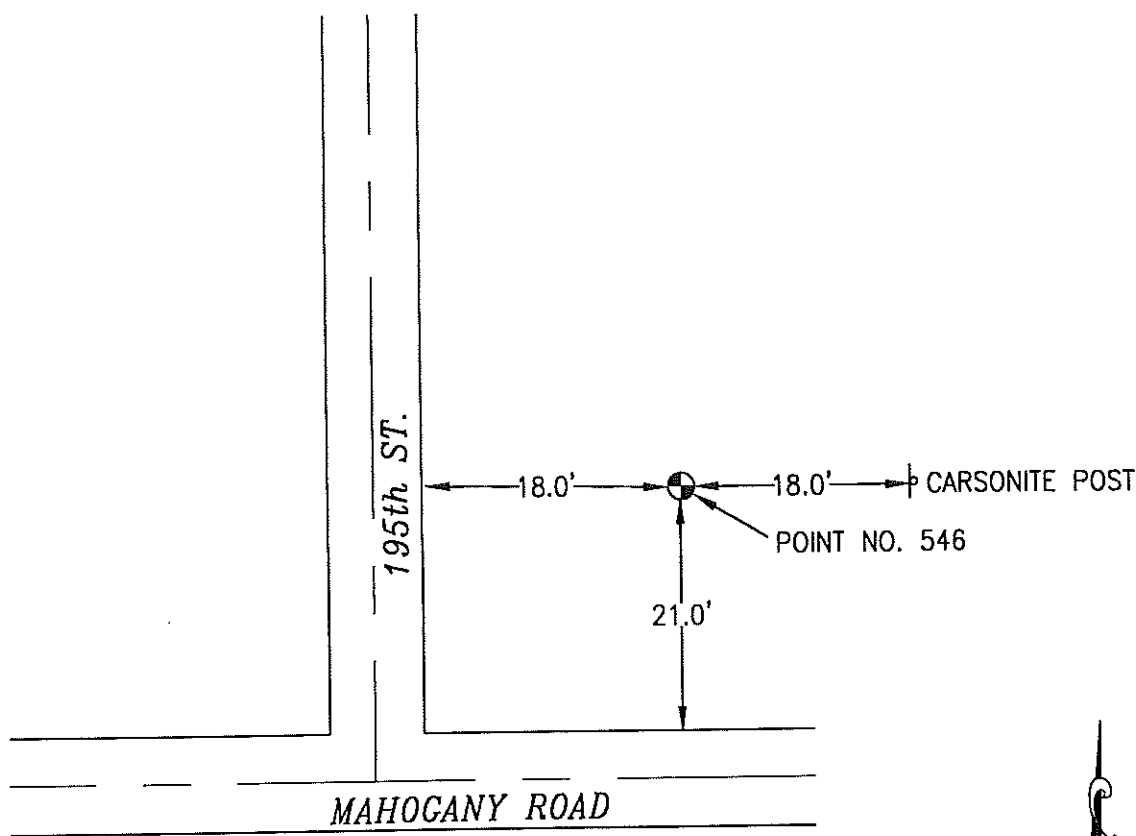
OK

546 764308-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 546, 764308-3". LOCATED APPROXIMATELY 18 FEET EAST OF THE EAST EDGE OF 195TH STREET, 21 FEET NORTH OF THE NORTH EDGE OF MAHOGANY ROAD, 18 FEET WEST OF A CARSONITE POST. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
546	764308-3	41 23 29.93264	95 49 22.47776	292.97	157135.36	305754.987	321.14	515534.95	1003131.15	1053.6



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report



MERRICK

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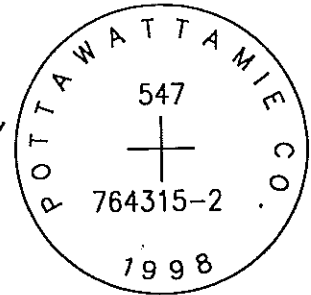
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142
 Date: October 27, 1998

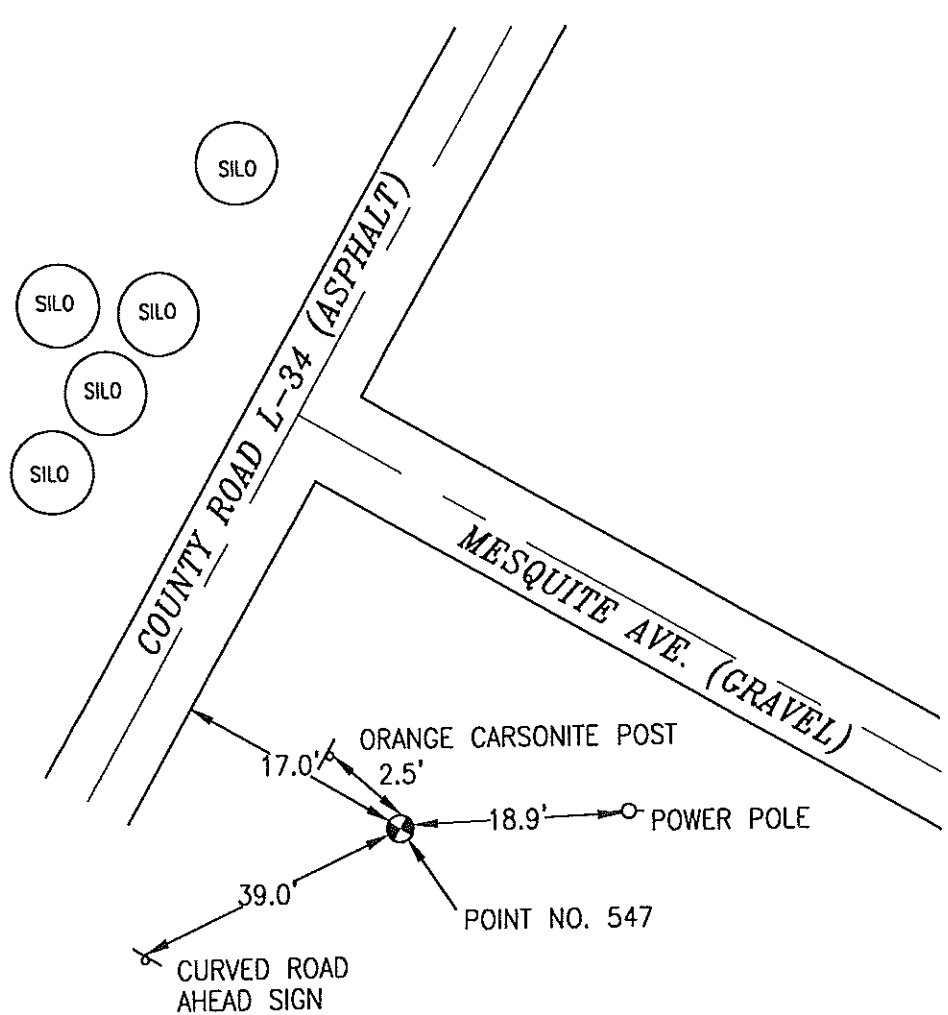
547

764315-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 547, 764315-2". LOCATED APPROXIMATELY 17 FEET EAST OF THE EAST EDGE OF ASPHALT COUNTY ROAD L34, ON THE SOUTH SIDE OF MESQUITE AVENUE, 18.9 FEET WEST OF A POWERPOLE WITH GUY ANCHOR, 39 FEET NORTHEAST OF A TRAFFIC CURVE ROAD SIGN, 2.5 FEET EAST OF AN ORANGE CARSONITE POST. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
547	764315-2	41 23 00.59944	95 46 13.18574		365.61	156114.683	310127.267	393.70	512186.26	1017475.88	1291.7



NOT TO SCALE

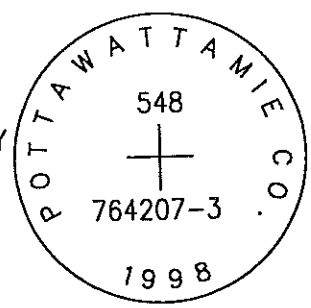
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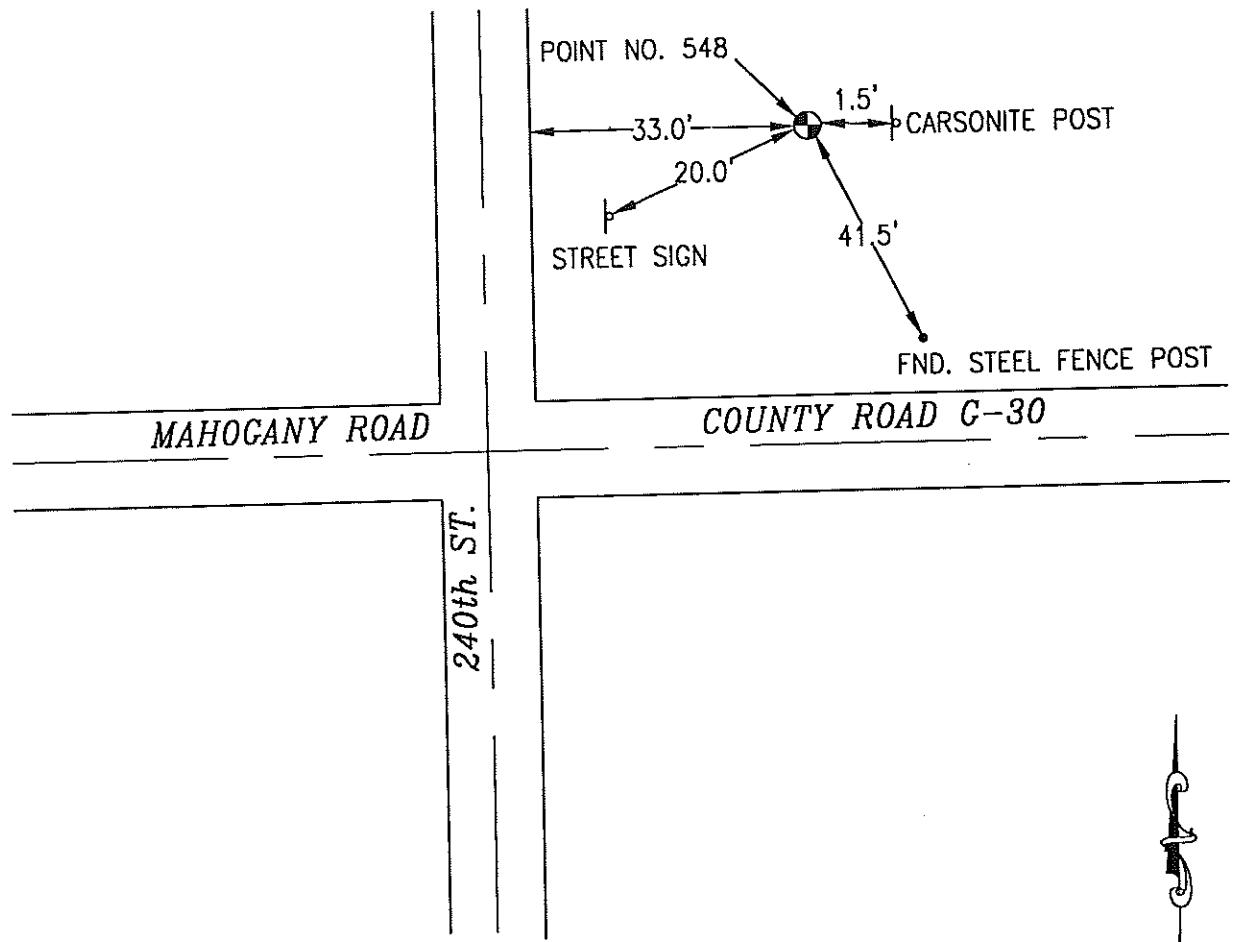
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548 764207-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 548, 764207-3". LOCATED APPROXIMATELY 33 FEET EAST OF THE EAST EDGE OF 240TH STREET, ON THE NORTH SIDE OF COUNTY ROAD G30 (MAHOGANY ROAD), 20 FEET NORTHEAST OF A STREET INTERSECTION SIGN, 41.5 FEET NORTHWEST OF A FOUND STEEL FENCEPOST, 1.5 FEET WEST OF AN ORANGE CARSONITE POST. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH			HEIGHT NAVD88		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	SOUTH METERS	NORTHING US FEET	EASTING US FEET	HEIGHT US FEET
548	764207-3	41 23 27.36778	95 43 35.49921	349.64	156845.497	313810.838	377.75	514583.93	1029561.06	1239.3



NOT TO SCALE

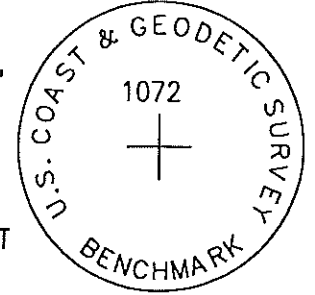
LOCATION DIAGRAM
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 2450 S. Pearla Street Aurora, Colorado 80014 (303)751-0741
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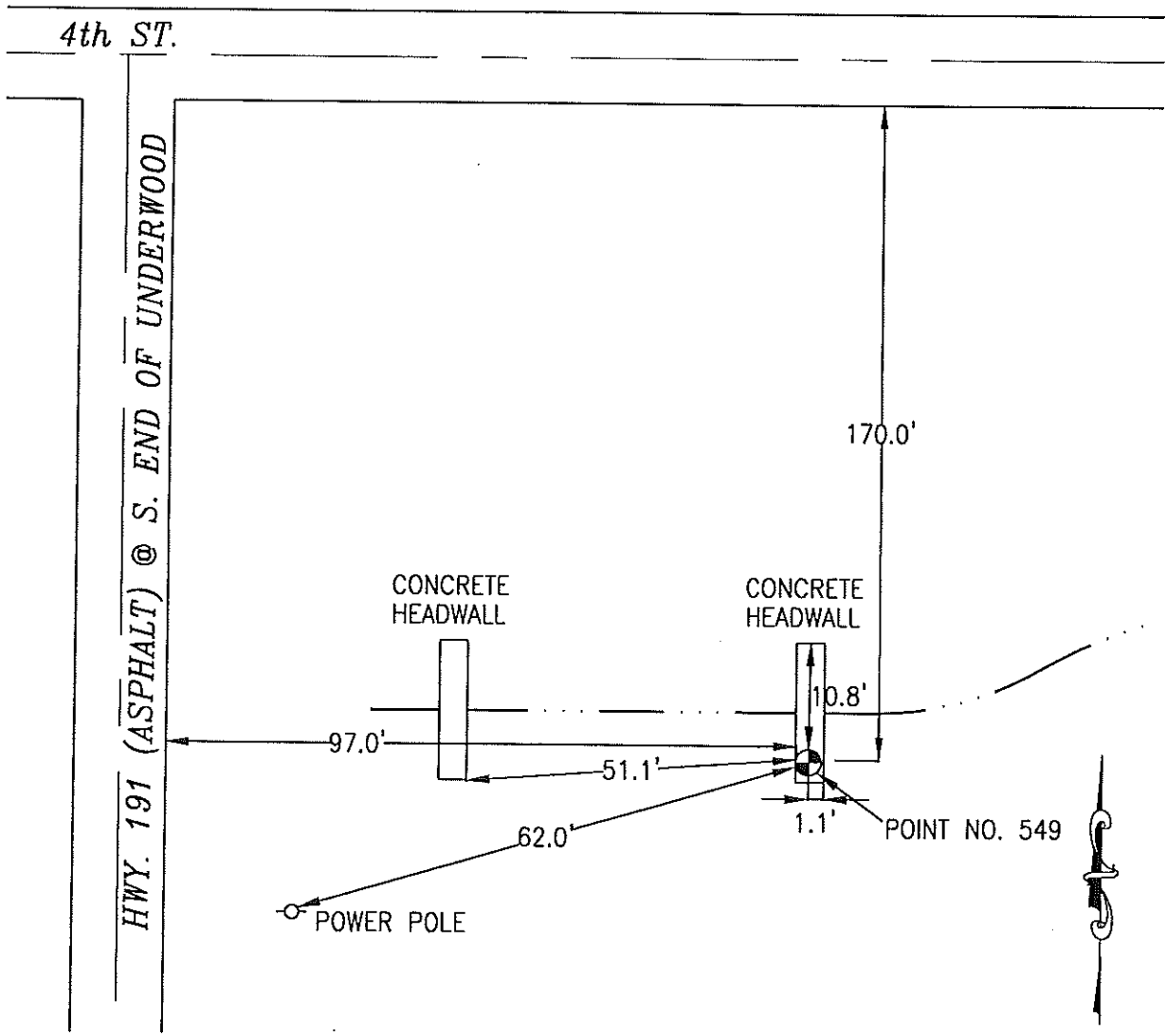
Needs Post Near Marker

549 NGS-1072

FOUND 3.5 INCH DIAMETER BRASS CAP IN TOP OF OLD RR CONCRETE HEADWALL, STAMPED "U. S. COAST & GEODETIC SURVEY BM 1072." LOCATED APPROXIMATELY 97 FEET EAST OF THE EAST EDGE OF ASPHALT HIGHWAY 191, 170 FEET SOUTH OF 4TH STREET IN UNDERWOOD, 62 FEET NORTHEAST OF POWERPOLE, 1.1 FEET WEST OF EAST EDGE OF CONCRETE HEADWALL, 10.85 FEET SOUTH OF NORTH EDGE OF CONCRETE HEADWALL, 51.1 FEET EAST OF SOUTHEAST CORNER OF WESTERLY CONCRETE HEADWALL. SEE NGS CONTROL. ON THE UNDERWOOD 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC	NORTHING METERS		EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET	
549	NGS-1072	41 23 08.15437	95 40 46.84515	298.89	156153.743	317712.763	326.96	512314.41	1042362.62	1072.7	



NOT TO SCALE

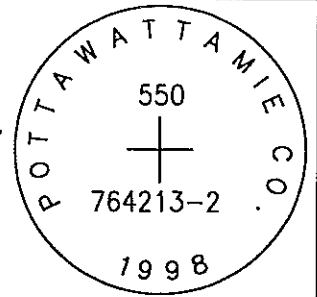
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 Engineers & Architects
 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
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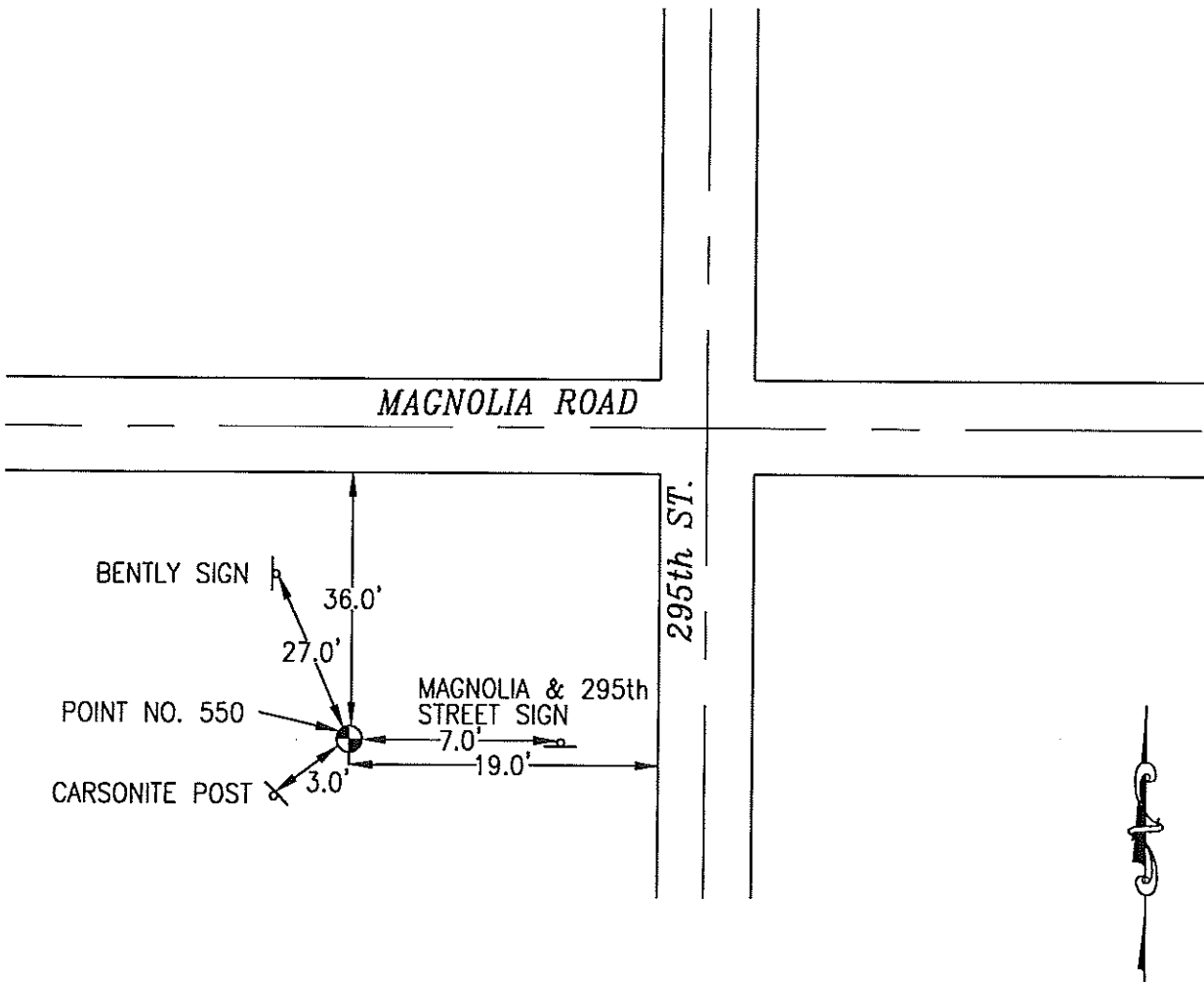
OK

550 764213-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 550, 764213-2". LOCATED APPROXIMATELY 36 FEET SOUTH OF THE SOUTH EDGE OF MAGNOLIA ROAD, 19 FEET WEST OF THE WEST EDGE OF 295TH STREET, 7 FEET WEST OF STREET SIGN, 27 FEET SOUTHEAST OF BENTLEY SIGN, 3 FEET NORTHEAST OF CARSONITE POST. ON THE NEOLA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
550	764213-2	41 22 36.93079	95 37 19.52116	356.65	155071.721	322504.567	384.59	508764.47	1058083.73	1261.8



NOT TO SCALE

LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
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GPS Survey Report

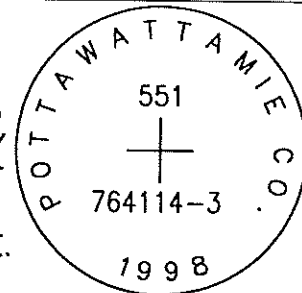
MERRICK
Engineers & Architects
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: October 27, 1998

OK

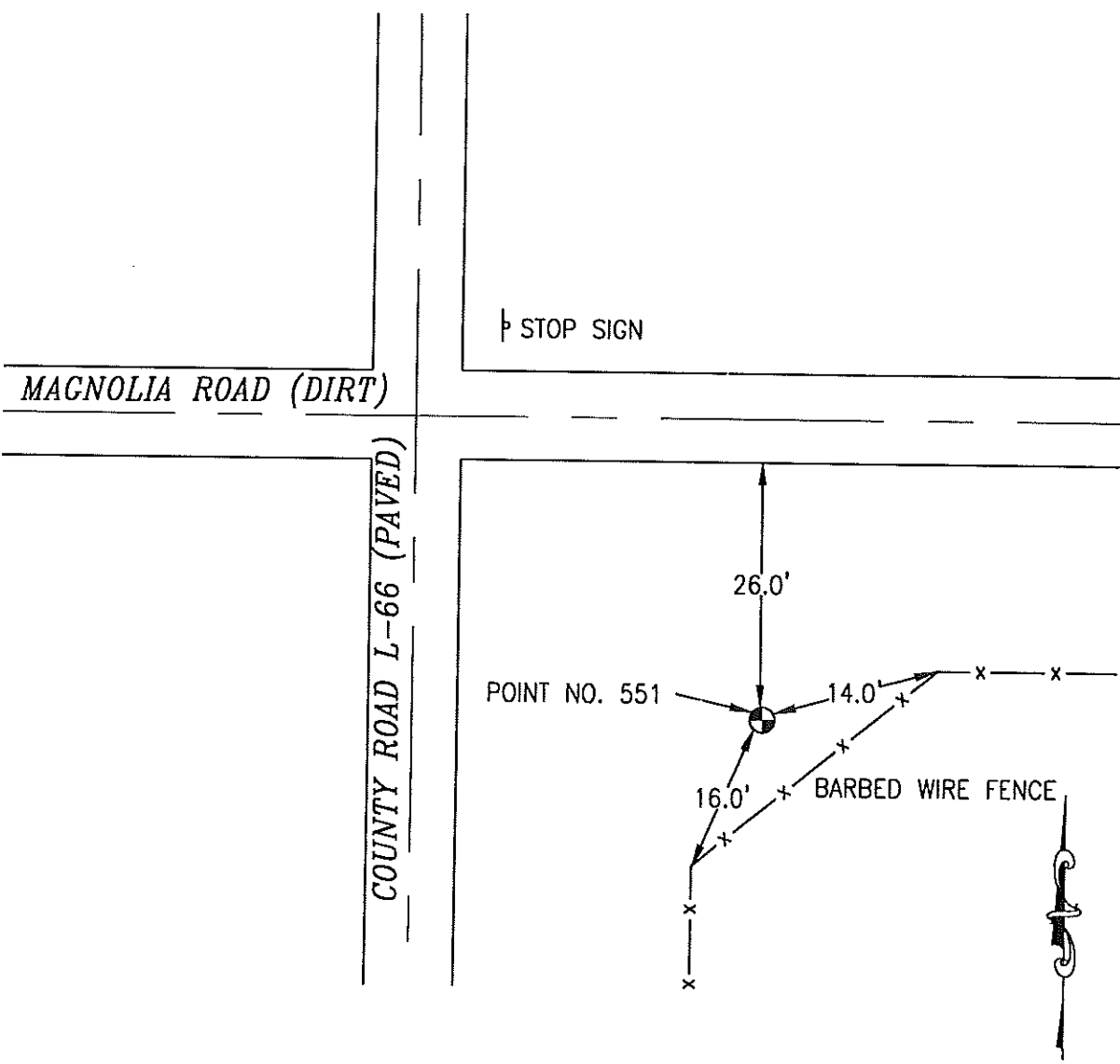
551

764114-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 551, 764114-3". LOCATED APPROXIMATELY 26 FEET SOUTH OF THE SOUTH EDGE OF MAGNOLIA ROAD, ON THE EAST SIDE OF COUNTY ROAD L66, 14 FEET SOUTHWEST OF A FENCE ANGLE POINT, 16 FEET NORTHEAST OF A FENCE ANGLE POINT. ON THE NEOLA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH			SP NAD83 (1996) IOWA SOUTH		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	HEIGHT NAVD88 METERS	NORTHING US FEET	EASTING US FEET	HEIGHT NAVD88 US FEET
551	764114-3	41 22 59.87474	95 32 10.63443	369.14	155607.777	329696.422	397.03	510523.18	1081679.01	1302.6



NOT TO SCALE

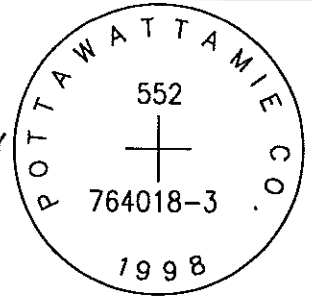
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report

MERRICK
Engineers & Architects
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: October 27, 1998

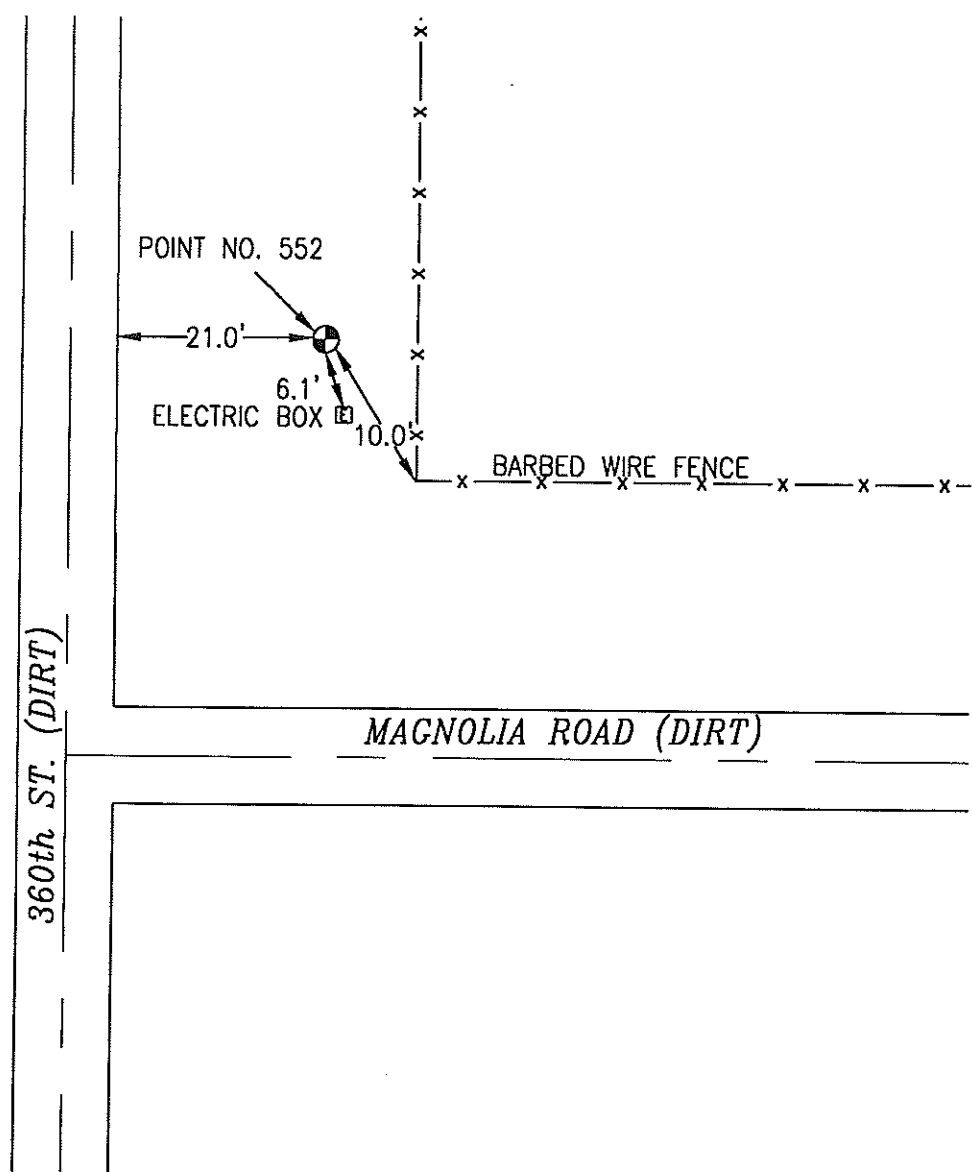
OK

552 764018-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 552, 764018-3". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 360TH STREET, 10 FEET NORTHWEST OF A FENCE CORNER, 6.1 FEET NORTHWEST OF AN ELECTRIC BOX. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.

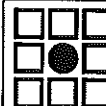


PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
552	764018-3	41 22 33.30843	95 29 52.22051	344.13	154713.884	332892.629	371.96	507590.47	1092165.23	1220.3



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Job Number: 50013142

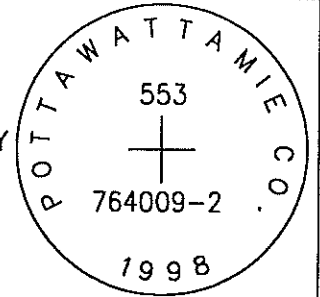
Date: October 27, 1998

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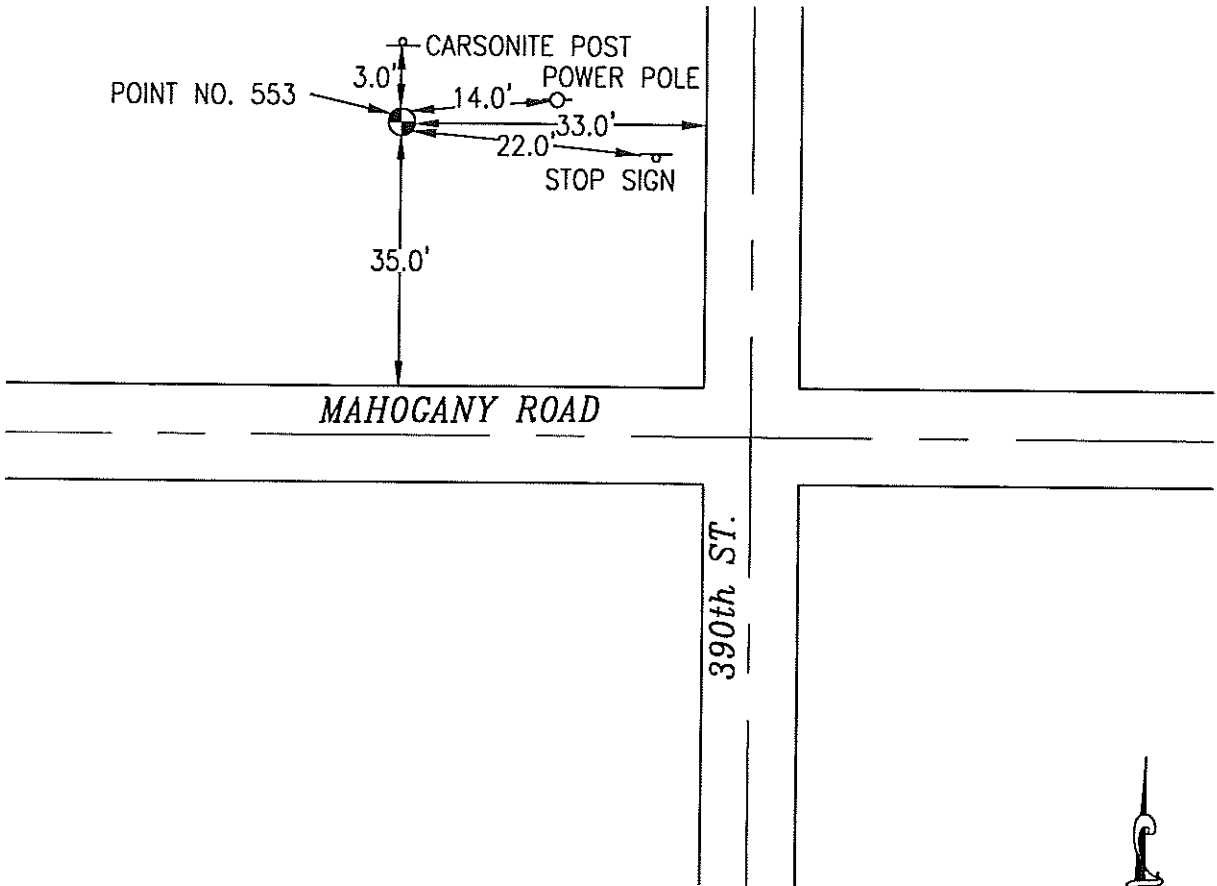
553

764009-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 553, 764009-2". LOCATED APPROXIMATELY 33 FEET WEST OF THE WEST EDGE OF 390TH STREET, 35 FEET NORTH OF THE NORTH EDGE OF MAHOGANY ROAD, 14 FEET WEST OF A POWERPOLE, 22 FEET WEST OF A STOP SIGN, 3 FEET SOUTH OF A CARSONITE POST. ON THE AVOCA NW 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT					
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	HEIGHT NAVD88 METERS			
553	764009-2	41 23 25.64685	95 26 31.58606	345.33	156222.490	337589.523	373.15	512539.95	1107574.96	1224.3



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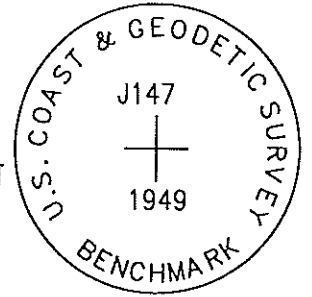
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Date: October 27, 1998

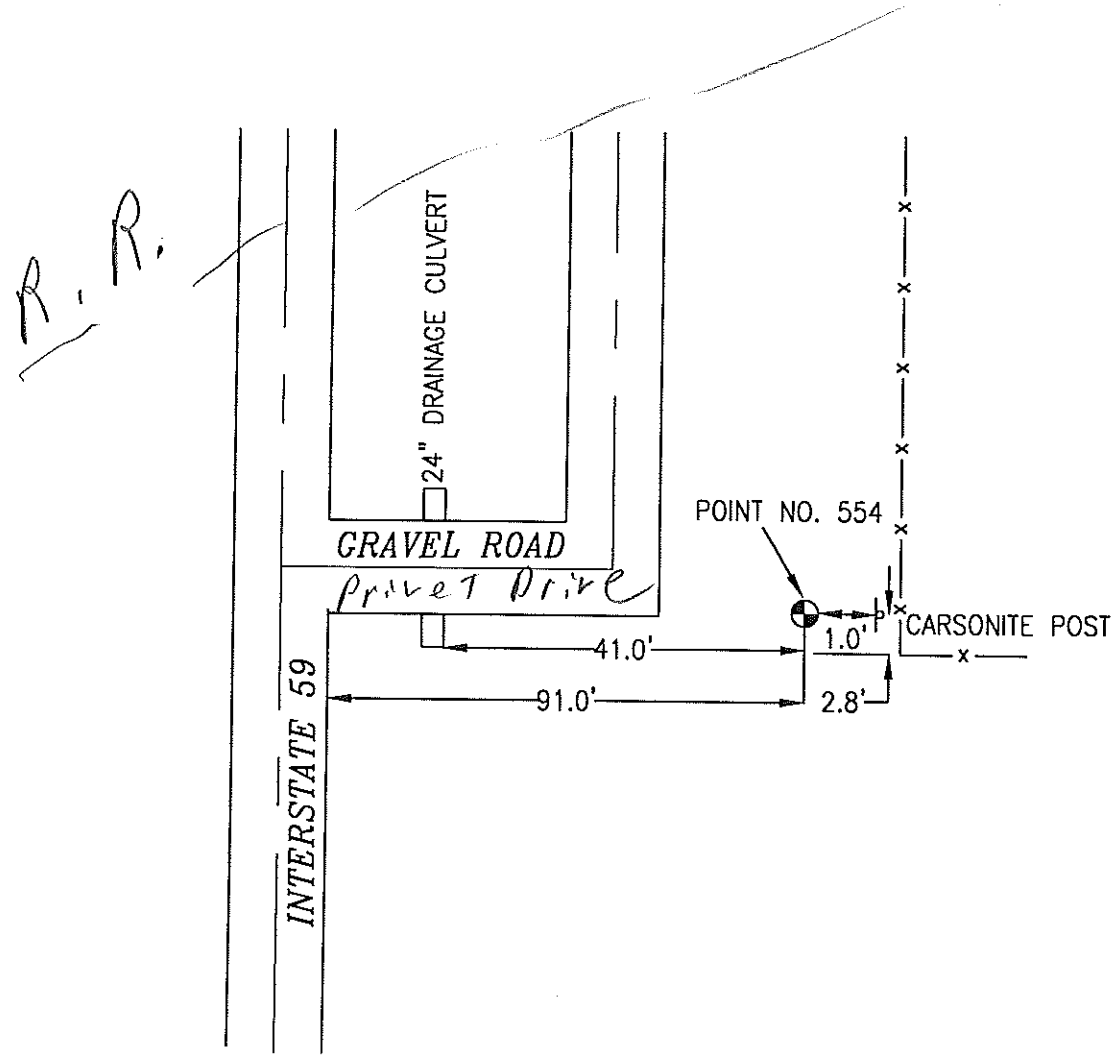
OK

554 J147

FOUND A 3.5 INCH DIAMETER BRASS CAP IN A CONCRETE POST 0.3 FT ABOVE GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY J147 1949". LOCATED APPROXIMATELY 91 FEET EAST OF THE EAST EDGE OF HIGHWAY 59, 41 FEET EAST OF THE CENTER OF A 24 INCH DIAMETER DRAINAGE CULVERT, 2.8 FEET NORTH OF AN EAST-WEST FENCE CORNER, 1 FOOT WEST OF A CARSONITE POST. ON THE AVOCA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC	HEIGHT ELLIPSOID METERS	NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
554	J 147	41 22 56.22149	95 22 5.97827	310.21	155179.816	343738.974	337.93	509119.11	1127750.28	1108.7



NOT TO SCALE

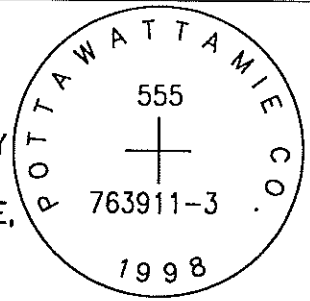
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 GPS Survey Report

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 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 23, 1998

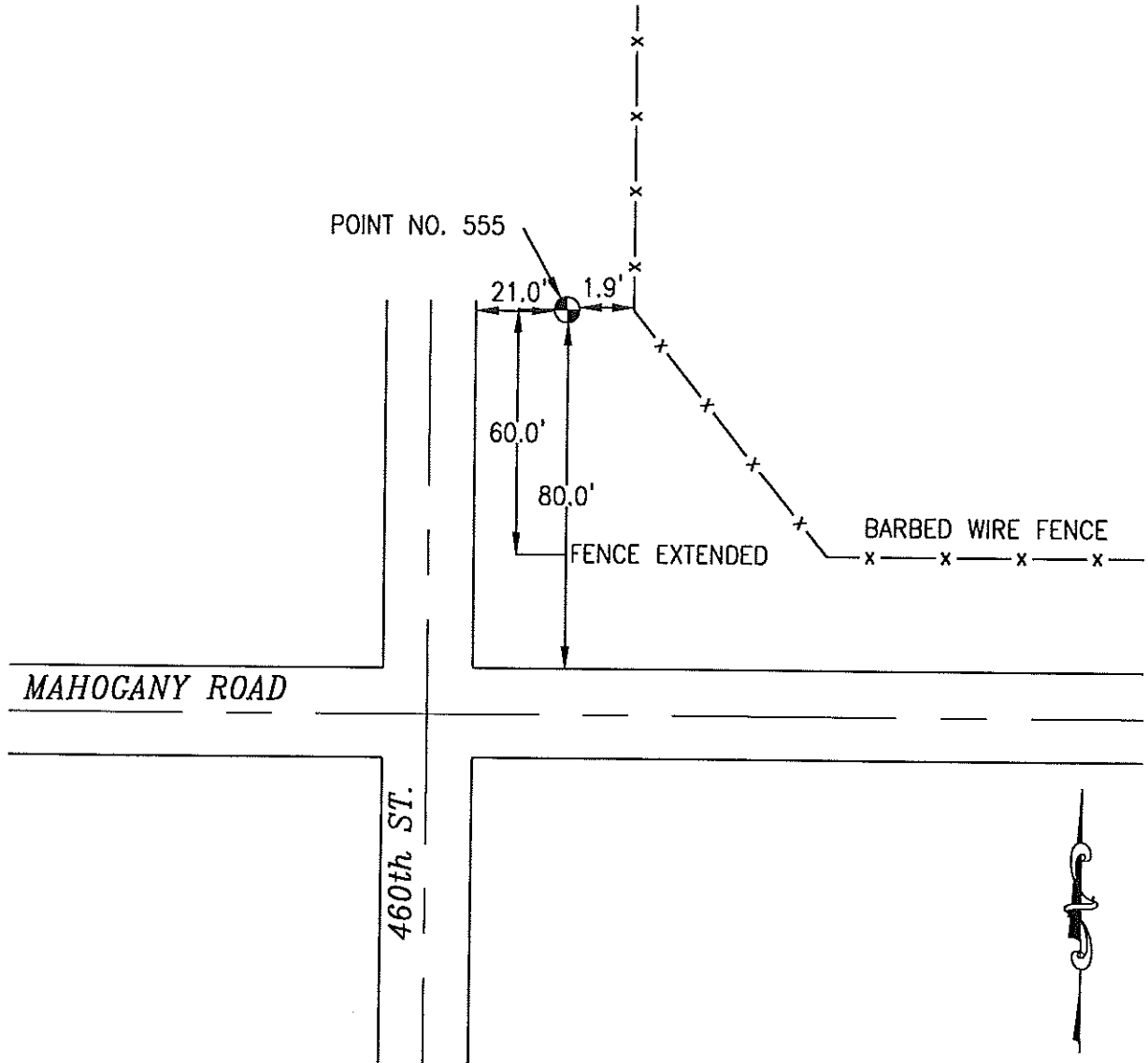
OK

555 763911-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 555, 763911-3". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 460TH STREET, 80 FEET NORTH OF THE NORTH EDGE OF MAHOGANY ROAD, 60 FEET NORTH OF AN EAST-WEST FENCELINE, 1.9 FEET WEST OF A FENCE CORNER. ON THE AVOCA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
555	763911-3	41 23 24.83084	95 18 30.18656	350.57	155956.237	348769.959	378.25	511666.42	1144256.11	1241.0



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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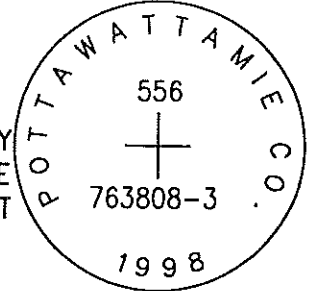
2450 S. Pearla Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

Date: October 27, 1998

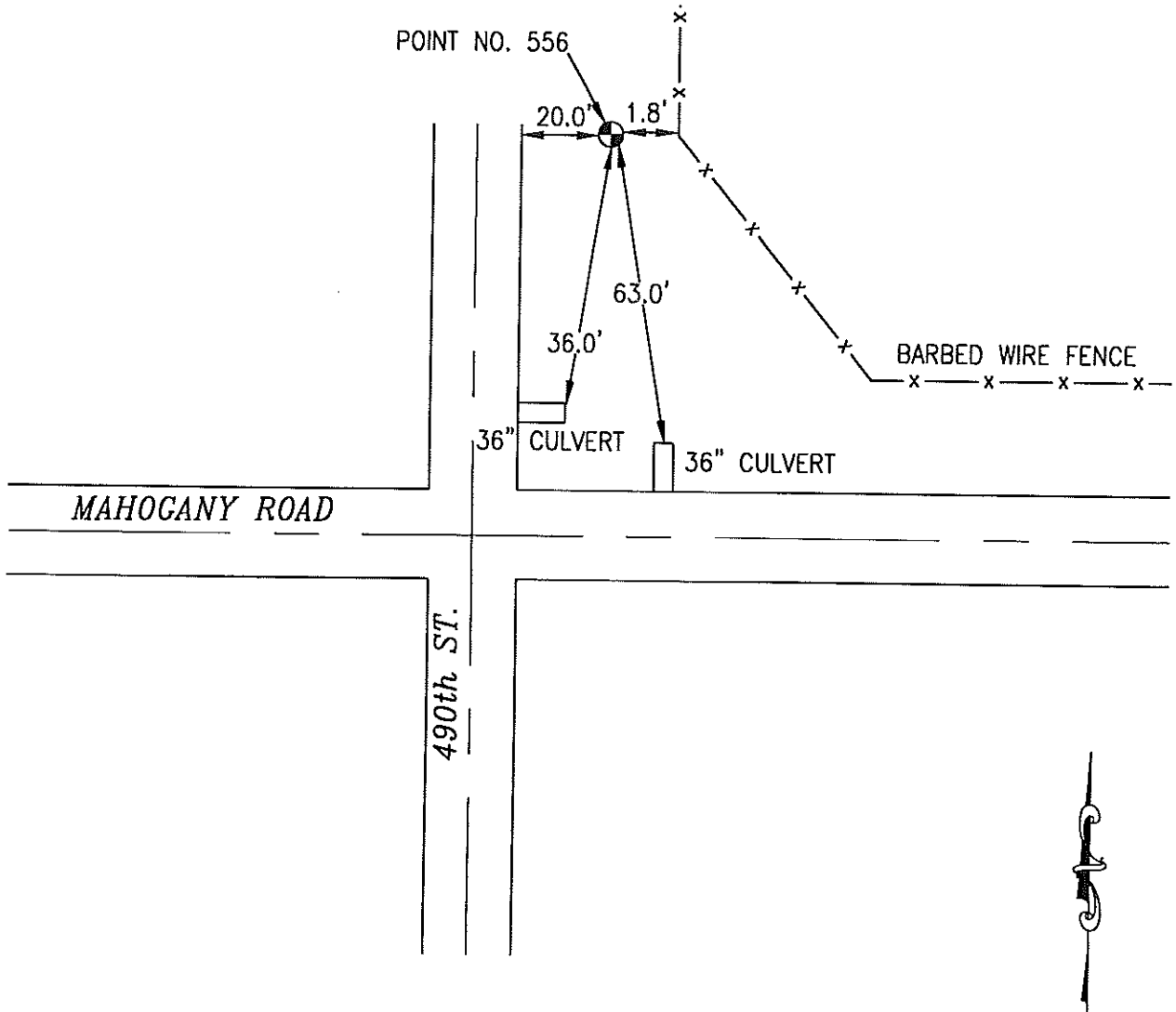
OK

556 763808-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 556, 763808-3". LOCATED APPROXIMATELY 20 FEET EAST OF THE EAST EDGE OF 490TH STREET, 1.8 FEET WEST OF A FENCE CORNER, 36 FEET NORTHEAST OF THE FLOWLINE OF A 36 INCH CULVERT, 63 FEET NORTH OF THE FLOWLINE OF A 36 INCH CULVERT. ON THE WALNUT 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 METERS
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS		NORTHING US FEET	EASTING US FEET	
556	763808-3	41 23 24.55514	95 15 04.25227	363.12	155849.851	353552.934	390.76	511317.39	1159948.25	1282.0



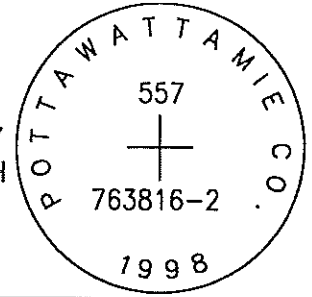
NOT TO SCALE

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 POTTAWATTAMIE COUNTY IOWA
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 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 27, 1998

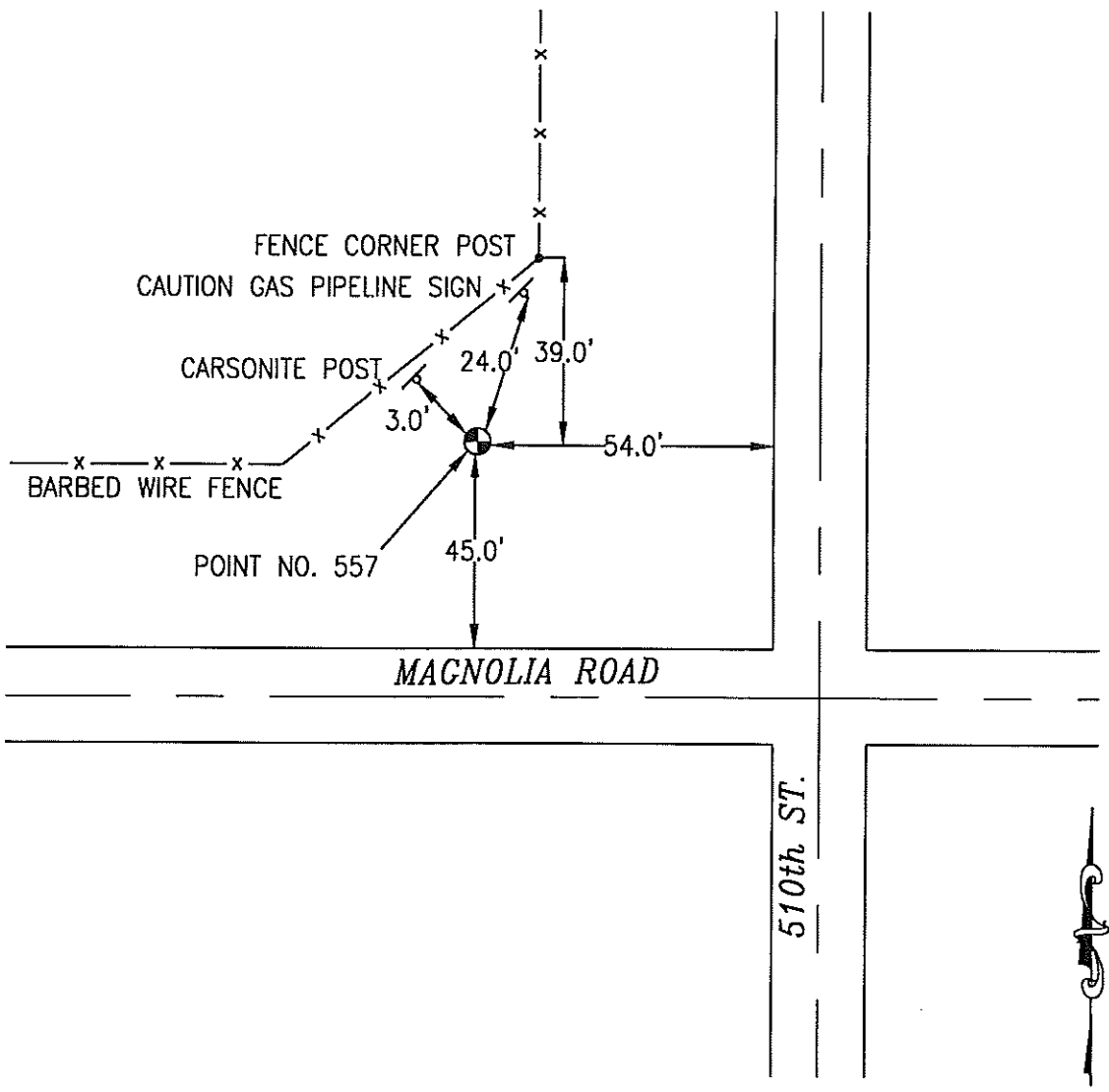
OK

557 763816-2



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 557, 763816-2". LOCATED APPROXIMATELY 54 FEET WEST OF THE WEST EDGE 510TH STREET, 45 FEET NORTH OF THE NORTH EDGE OF MAGNOLIA ROAD, 3 FEET SOUTHWEST OF A CARSONITE POST, 39 FEET SOUTHWEST OF A FENCE ANGLE POINT, 24 FEET SOUTH-SOUTHWEST OF A "CAUTION GAS PIPELINE" SIGN. ON THE WALNUT 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
557	763816-2	41 22 32.34996	95 12 46.77160	376.20	154176.094	356714.464	403.81	505826.07	1170320.70	1324.8



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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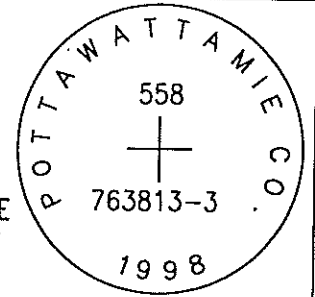
MERRICK
 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 28, 1998

558

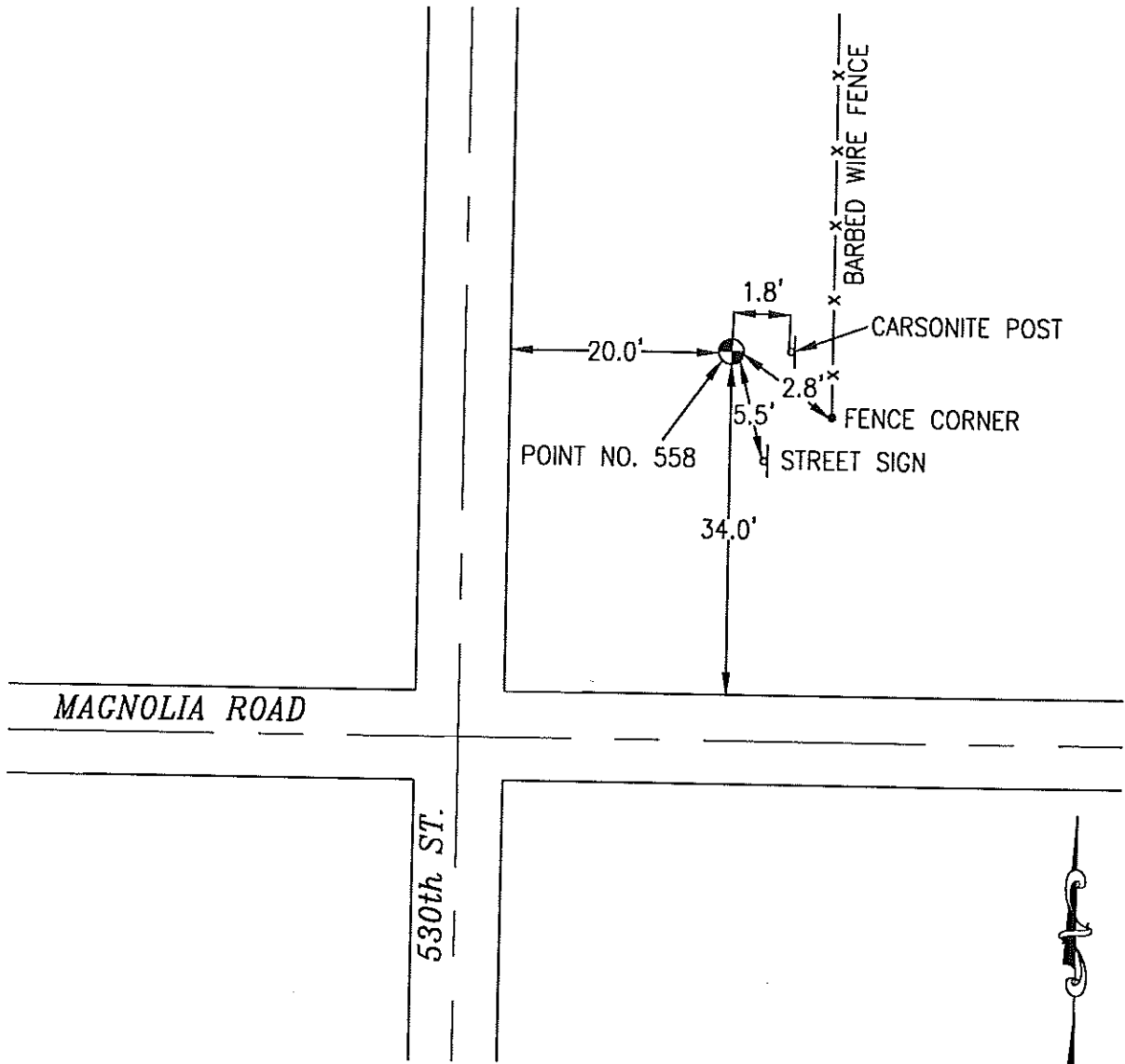
763813-3

OK

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 558, 763813-3". LOCATED APPROXIMATELY 20 FEET EAST OF THE EAST EDGE OF 530TH STREET, 34 FEET NORTH OF THE NORTH EDGE OF MAGNOLIA ROAD, 1.8 FEET WEST OF A CARSONITE POST, 2.8 FEET NORTHWEST OF A FENCE CORNER, 5.5 FEET NORTH OF A STREET SIGN. ON THE WALNUT 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
558	763813-3	41 22 31.82526	95 10 27.26652	354.52	154096.798	359955.161	382.12	505565.91	1180952.89	1253.7



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 GPS Survey Report

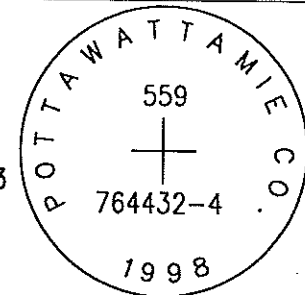
MERRICK
 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 28, 1998

OK

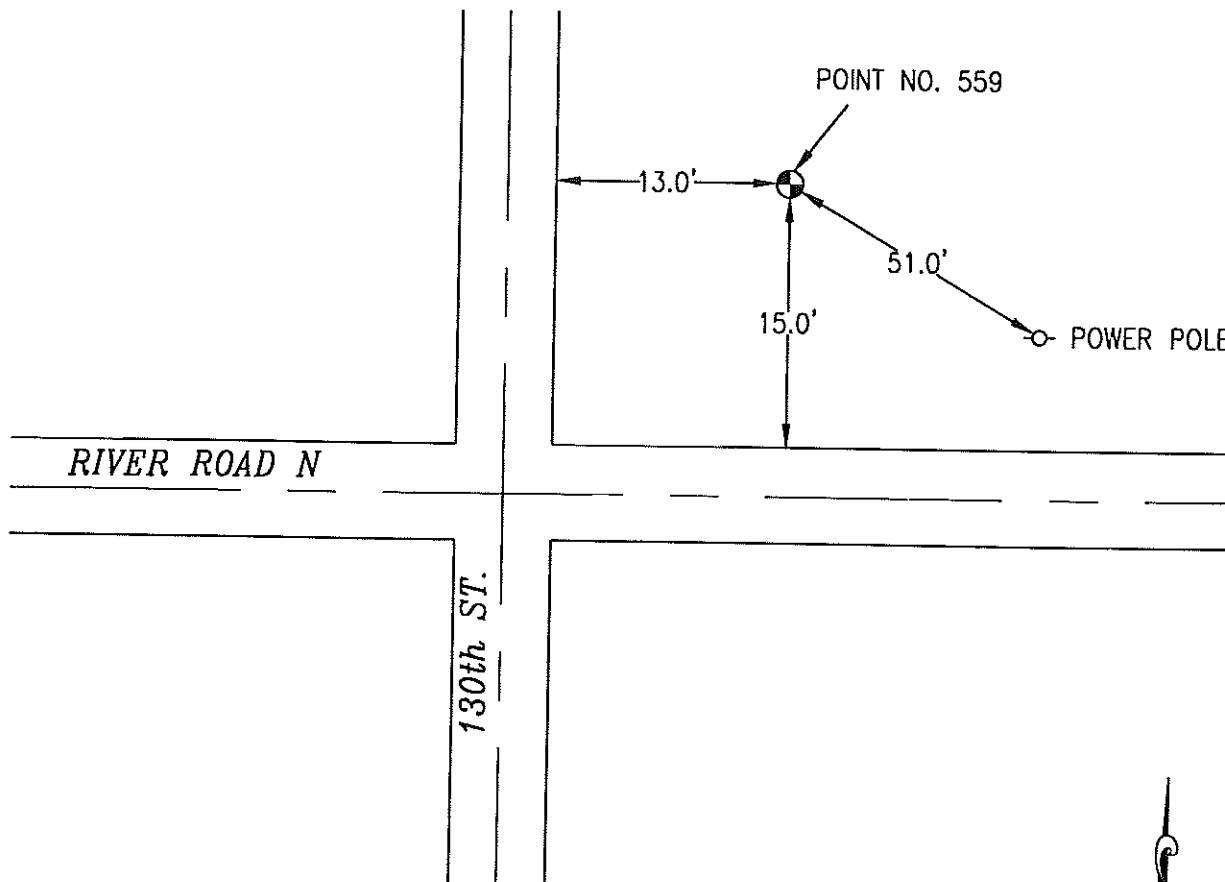
559

764432-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 559, 764432-4". LOCATED APPROXIMATELY 15 FEET NORTH OF THE NORTH EDGE OF RIVER ROAD NORTH, 13 FEET EAST OF THE EAST EDGE OF 130TH STREET, 51 FEET NORTHWEST OF A POWERPOLE. ON THE OMAHA NORTH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	SOUTH HEIGHT NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
559	764432-4	41 20 38.53105	95 56 10.54709	272.19	152109.209	296130.629	300.11	499044.96	971555.24	984.6



NOT TO SCALE

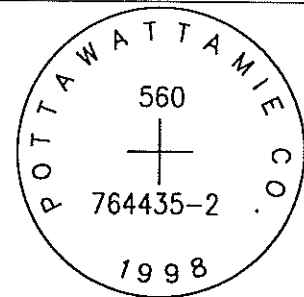
LOCATION DIAGRAM
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Engineers & Architects
2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
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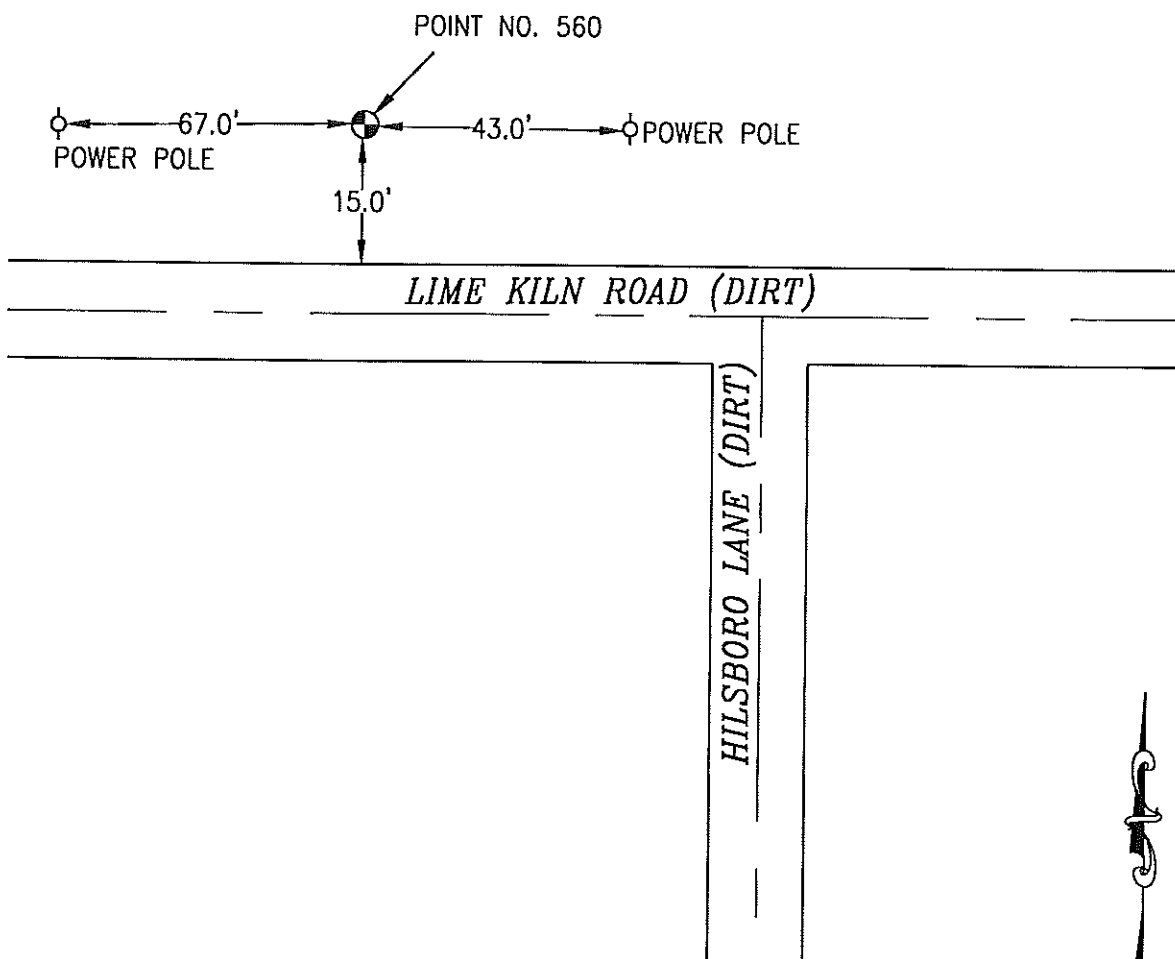
Check R WATER MAY have moved IT

560 764435-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 560, 764435-2". LOCATED APPROXIMATELY 15 FEET NORTH OF THE NORTH EDGE OF LIME KILN ROAD, WEST OF HILLSBORO LANE, 43 FEET WEST OF A POWERPOLE, 67 FEET EAST OF A POWERPOLE. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
560	764435-2	41 20 11.11333	95 52 9.88779	305.64	151109.191	301700.260	333.51	495764.07	989828.27	1094.2	



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report



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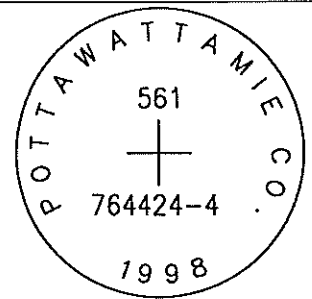
2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

Date: October 28, 1998

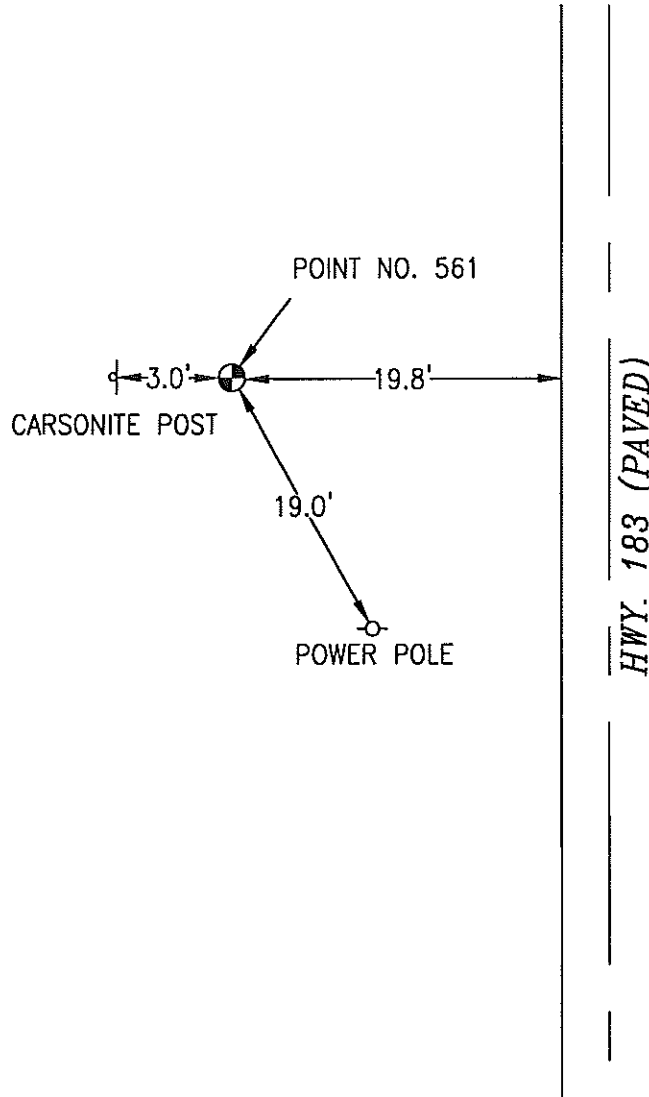
OK

561 764424-4



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 561, 764424-4". LOCATED APPROXIMATELY 19.8 FEET WEST OF THE WEST EDGE OF HIGHWAY 183, 3 FEET EAST OF AN ORANGE CARSONITE POST, 19 FEET NORTHWEST OF A POWERPOLE, NORTH OF THE TOWN OF CRESCENT, ACROSS THE HIGHWAY FROM RESIDENCE AT ADDRESS 1309. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
561	764424-4	41 22 12.56452	95 51 29.39615		275.91	154828.847	302742.925	303.96	507967.64	993249.08	997.3

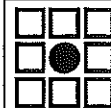


1311
Crescent
1309



NOT TO SCALE

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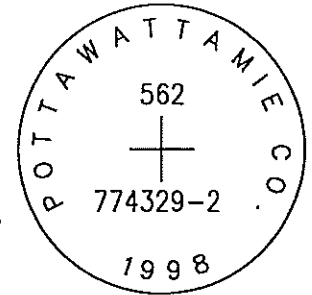
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Date: October 28, 1998

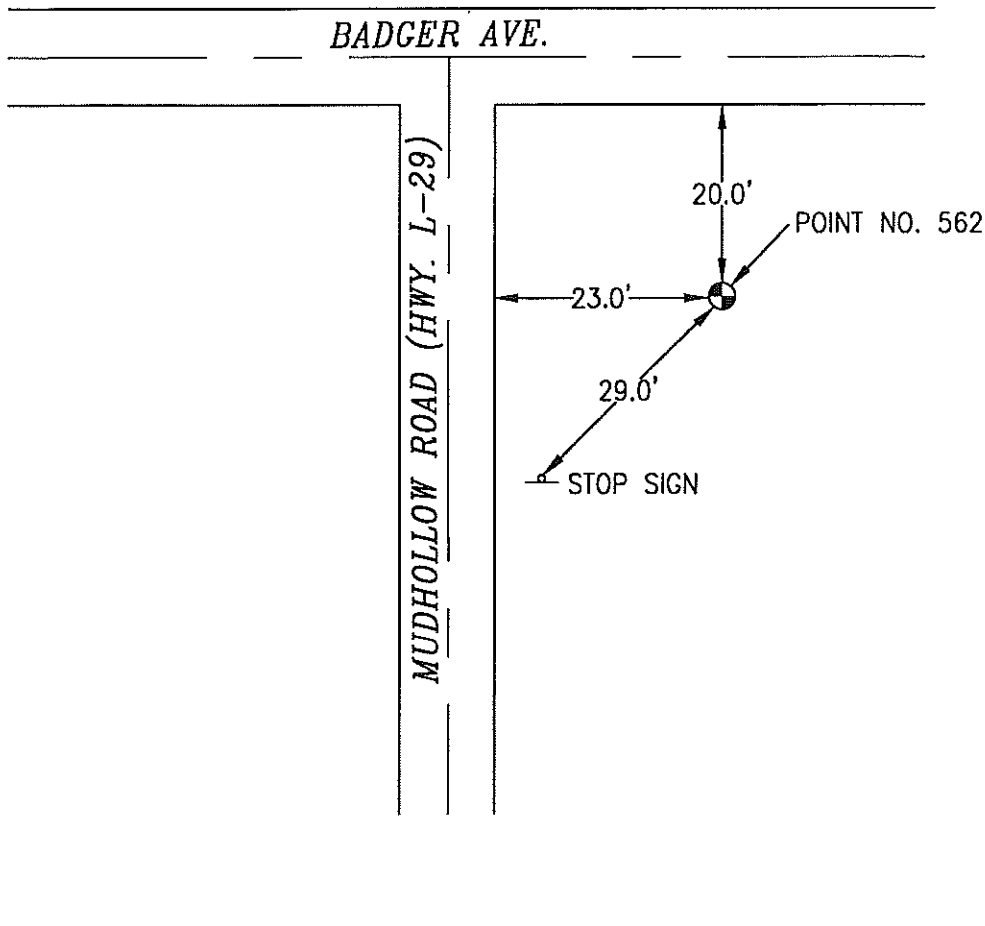
OK

562 764329-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 562, 764329-2". LOCATED APPROXIMATELY 20 FEET SOUTH OF THE SOUTH EDGE OF BADGER AVENUE, 23 FEET EAST OF THE EAST EDGE OF MUDHOLLOW ROAD, 29 FEET NORTHEAST OF A STOP SIGN. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
562	764329-2	41 21 02.90059	95 48 30.48741	367.53	152569.044	306841.981	395.47	500553.61	1006697.40	1297.5



NOT TO SCALE

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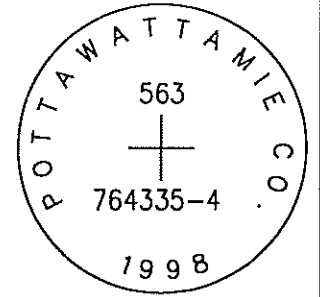
Job Number: 50013142

Date: October 28, 1998

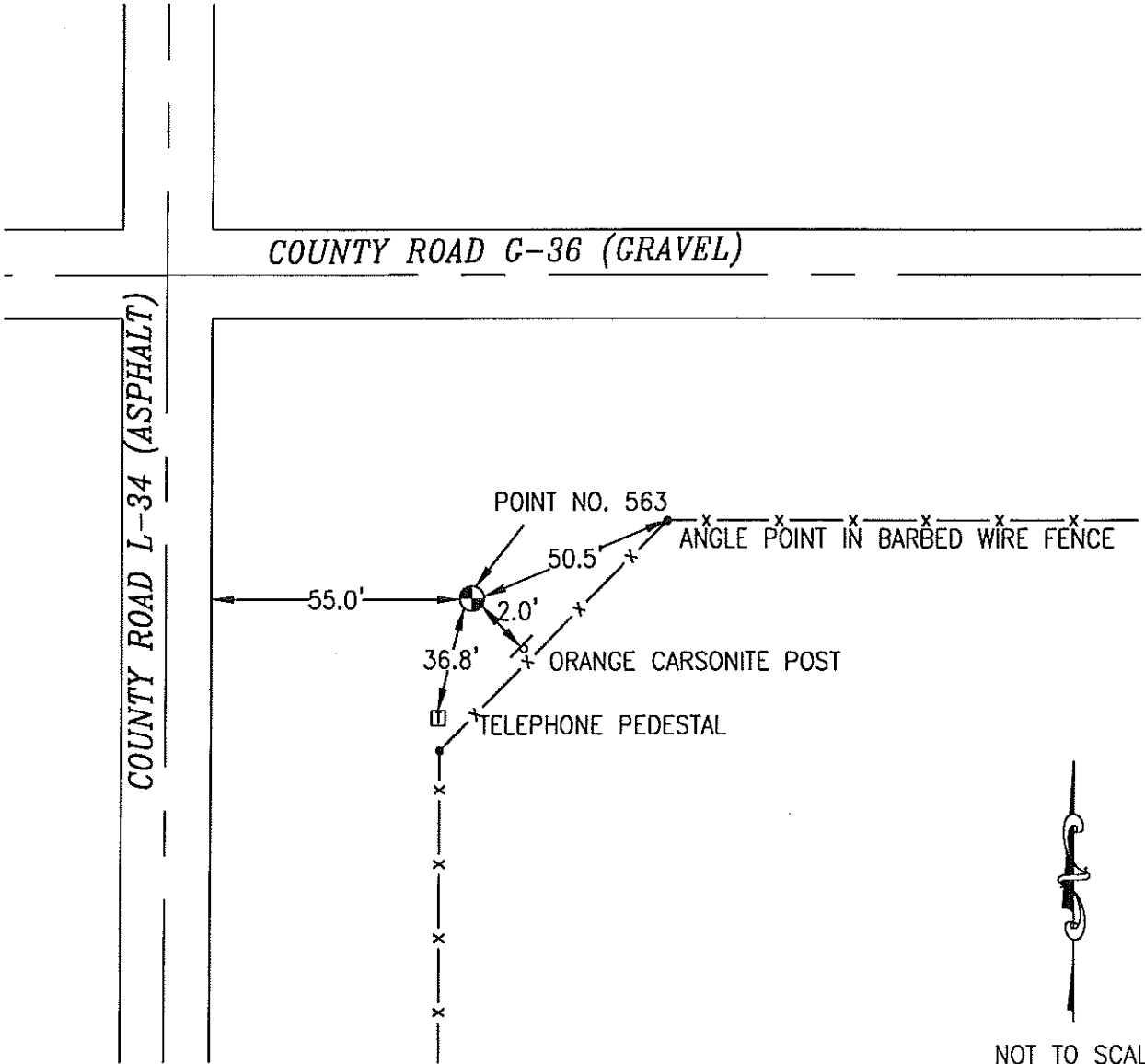
OK

563 764335-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 563, 764335-4". LOCATED APPROXIMATELY 55 FEET EAST OF THE EAST EDGE OF COUNTY ROAD L34, 36.8 FEET NORTHEAST OF A TELEPHONE PEDESTAL, 50.5 FEET SOUTHWEST OF AN ANGLE POINT FENCELINE, 2 FEET NORTHWEST OF AN ORANGE CARSONITE POST, ON THE SOUTH SIDE OF COUNTY ROAD G36. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.

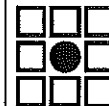


PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
563	764335-4	41 20 49.31586	95 45 50.35503	332.08	152052.289	310552.132	359.98	498858.22	1018869.79	1181.0



NOT TO SCALE

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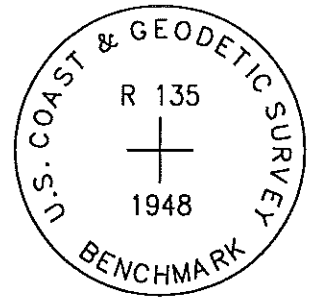
Job Number: 50013142

Date: October 28, 1998

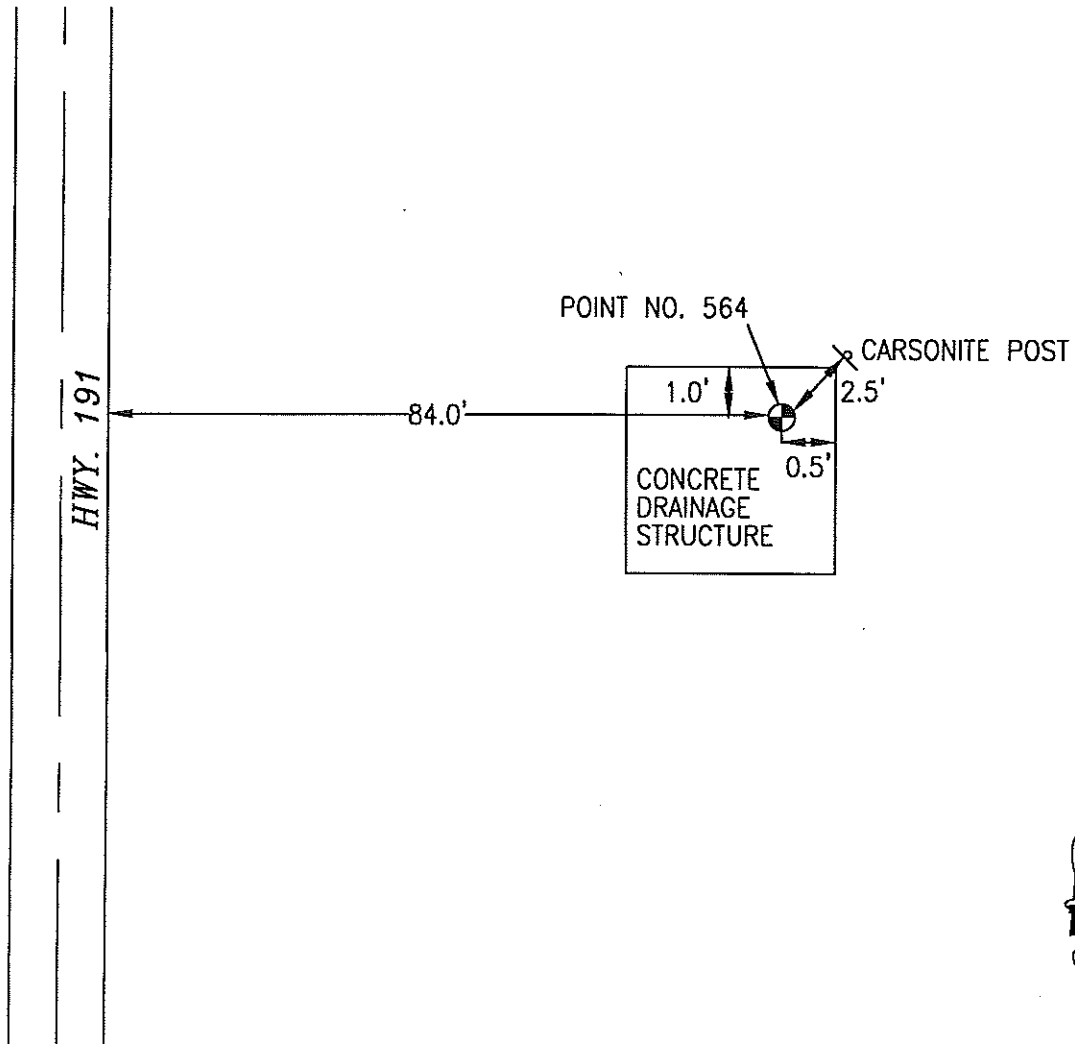
ok Need'g post

564 R135

FOUND 3.5 INCH DIAMETER BRASS CAP IN TOP OF CONCRETE DRAINAGE STRUCTURE, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK R135 1948". LOCATED APPROXIMATELY 84 FEET EAST OF THE EAST EDGE OF HIGHWAY 191, 1 FOOT SOUTH OF THE NORTH EDGE OF CONCRETE DRAINAGE STRUCTURE, 2.5 FEET SOUTH OF A CARSONITE POST, 0.5 FEET WEST OF THE EAST EDGE OF CONCRETE DRAINAGE STRUCTURE, 1.5 MILES SOUTH OF THE UNDERWOOD EXIT ROAD FOR I-80 ON THE EAST SIDE OF HIGHWAY 191, SEE NGS CONTROL. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.

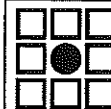


PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
564	R 135	41 21 23.91987	95 42 07.25337		292.34	152986.308	315763.832	320.28	501922.58	1035968.51	1050.8



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report



MERRICK

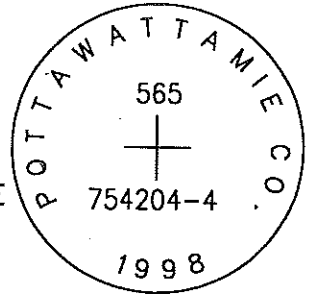
Engineers & Architects

2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

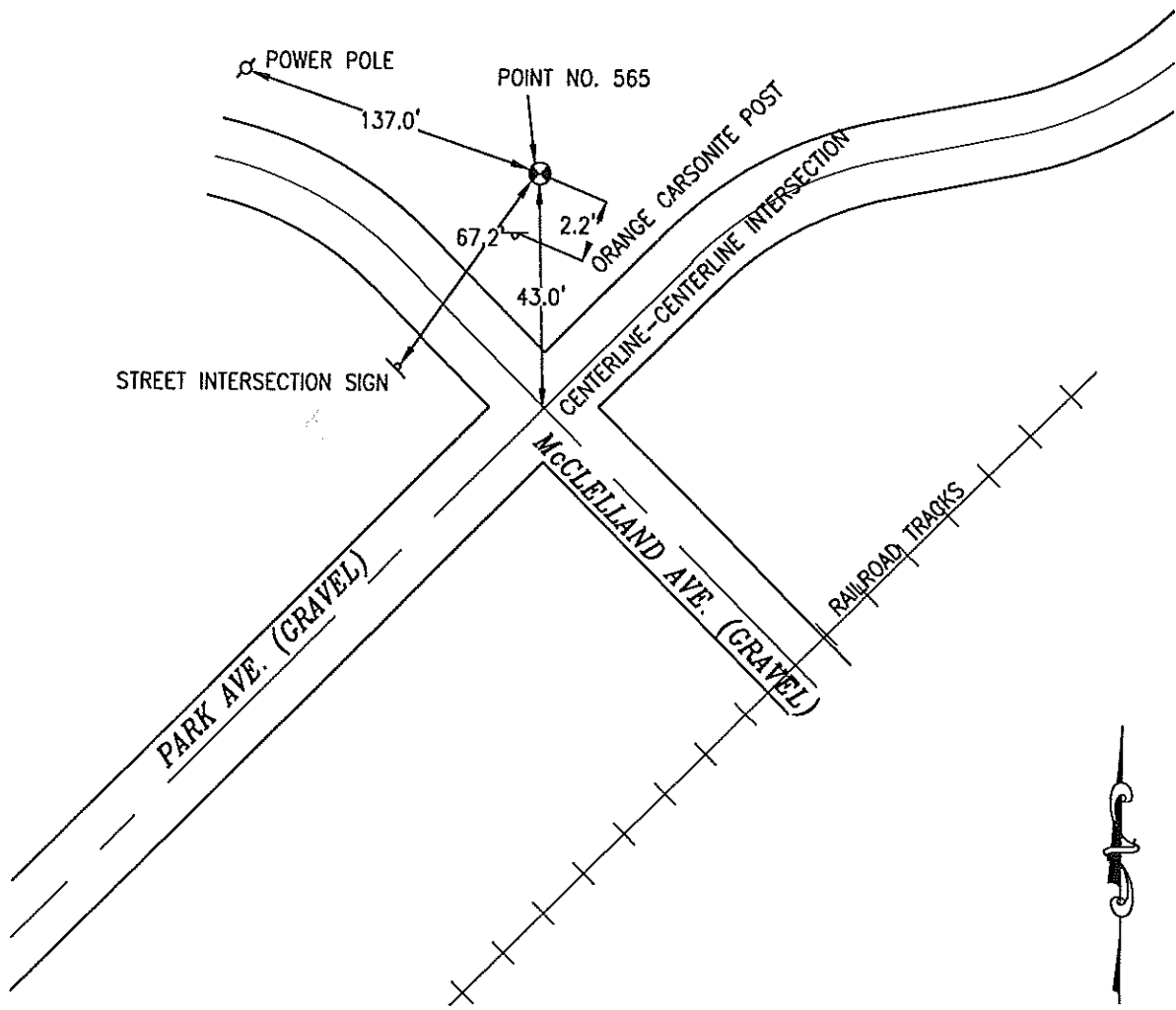
Date: October 28, 1998

565 754204-4



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 565, 754204-4". LOCATED APPROXIMATELY 2.2 FEET NORTH-NORTHEAST OF AN ORANGE CARSONITE POST, 137 FEET SOUTHEAST OF A POWERPOLE, 43 FEET NORTHEAST OF THE CENTERLINE INTERSECTION OF PARK AVENUE AND MCCLELLAND AVENUE, 67.2 FEET NORTHEAST OF A STREET INTERSECTION SIGN, NORTHWEST OF RAILROAD TRACKS. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
565	754204-4	41 19 48.30268	95 41 06.89639	353.62	150002.201	317092.188	381.41	492132.22	1040326.62	1251.3



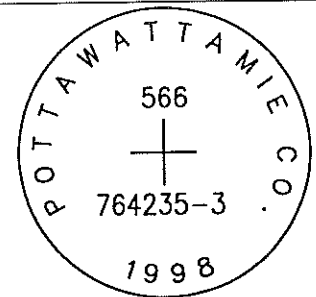
NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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MERRICK
 Engineers & Architects
 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 28, 1998

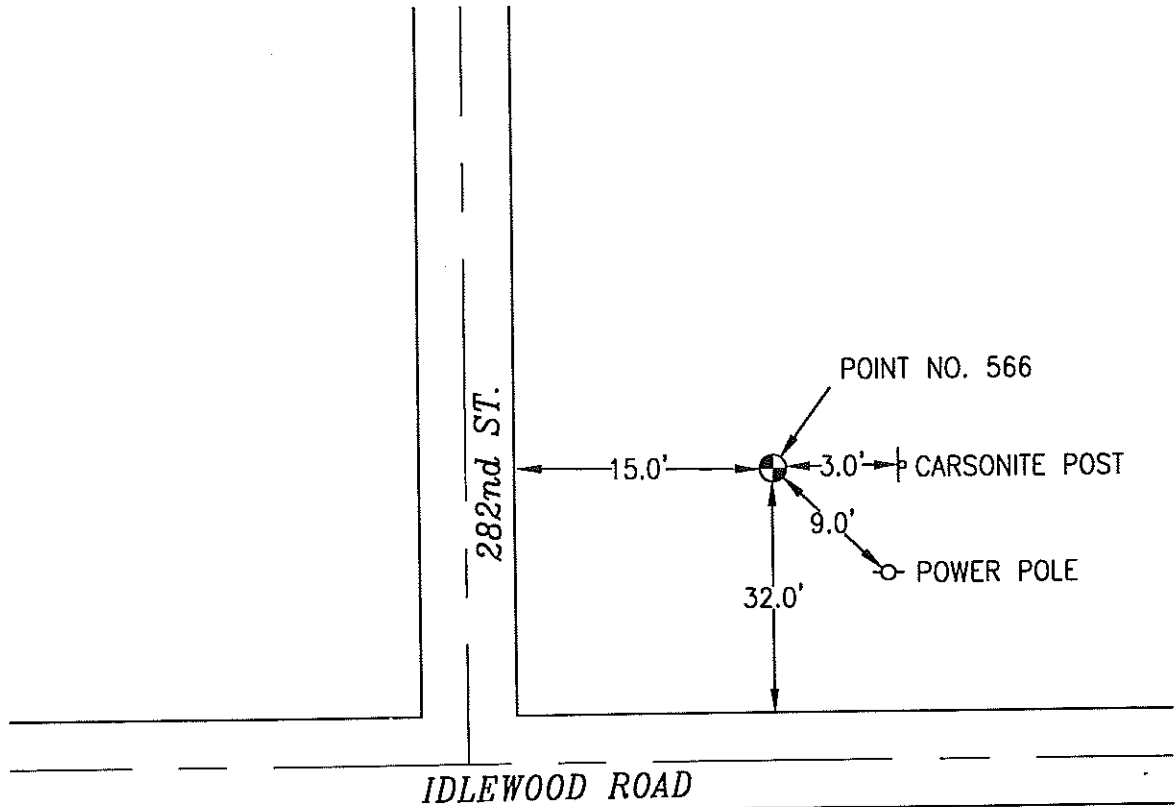
OK

566 764235-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 566, 764235-3". LOCATED APPROXIMATELY 15 FEET EAST OF THE EAST EDGE OF 282ND STREET, 32 FEET NORTH OF THE NORTH EDGE OF IDLEWOOD ROAD, 9 FEET NORTHWEST OF A POWERPOLE, 3 FEET WEST OF A CARSONITE POST. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV088 METERS	NORTHING US FEET	EASTING US FEET	NAV088 US FEET
566	764235-3	41 19 57.92514	95 38 45.29832	360.32	150216.984	320391.038	388.10	492836.89	1051149.60	1273.3



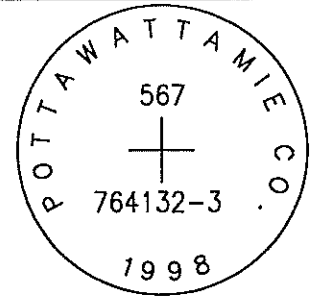
NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 28, 1998

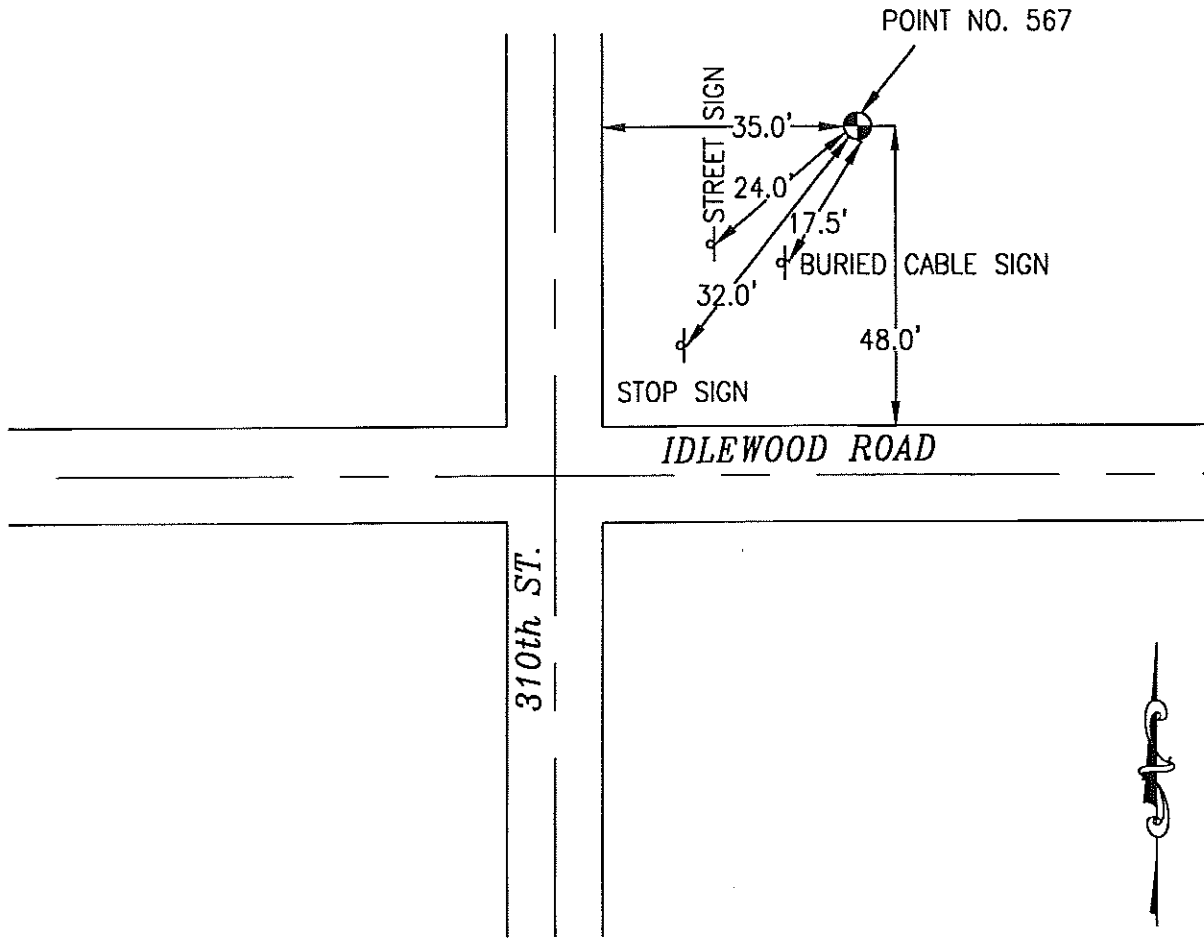
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567 764132-3



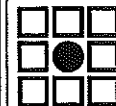
SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 567, 764132-3". LOCATED APPROXIMATELY 35 FEET EAST OF THE EAST EDGE OF 310TH STREET, 48 FEET NORTH OF THE NORTH EDGE OF IDLEWOOD ROAD, 24 FEET NORTHWEST OF A STREET SIGN, 32 FEET NORTHWEST OF A STOP SIGN, 17.5 FEET NORTHWEST OF A BURIED CABLE SIGN. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
567	764132-3	41 19 57.78960	95 35 37.86363	338.28	150106.601	324747.837	366.02	492474.74	1065443.53	1200.9



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report



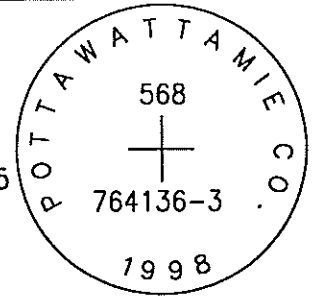
MERRICK
 Engineers & Architects

2450 S. Pearla Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 28, 1998

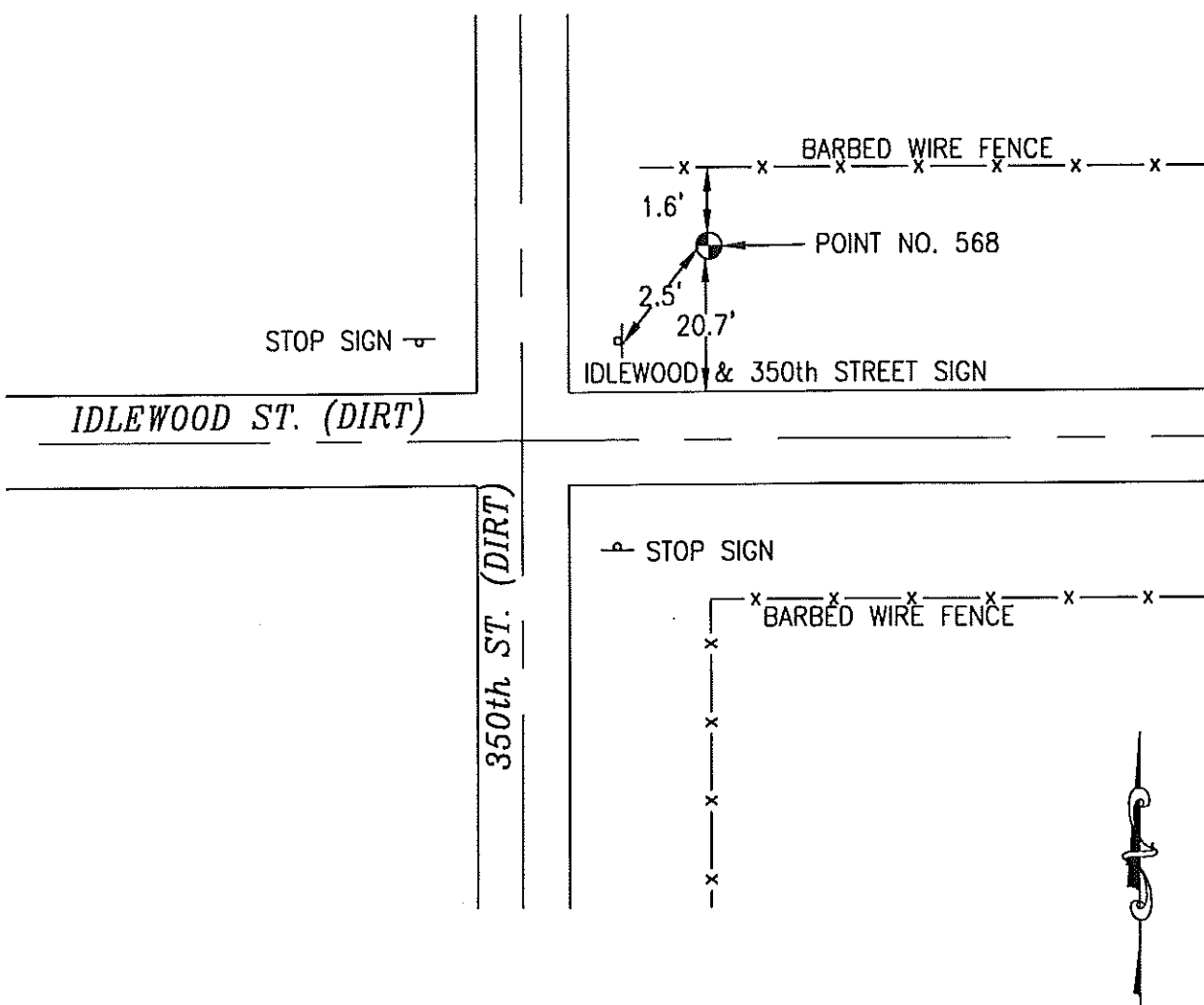
OK

568 764136-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 568, 764136-3". LOCATED APPROXIMATELY 20.7 FEET NORTH OF THE NORTH EDGE OF IDLEWOOD STREET, 2.5 FEET NORTHEAST OF THE STREET INTERSECTION SIGN, 1.6 FEET SOUTH OF A BARBED WIRE FENCE. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
568	764136-3	41 19 57.24936	95 31 2.19294	355.25	149938.477	331155.508	382.96	491923.15	1086466.03	1256.4



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 POTTAWATTAMIE COUNTY IOWA
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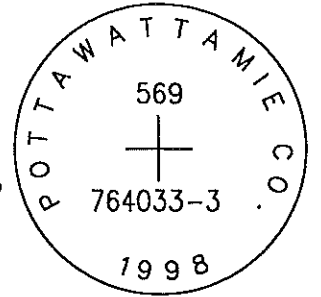
Job Number: 50013142

Date: October 28, 1998

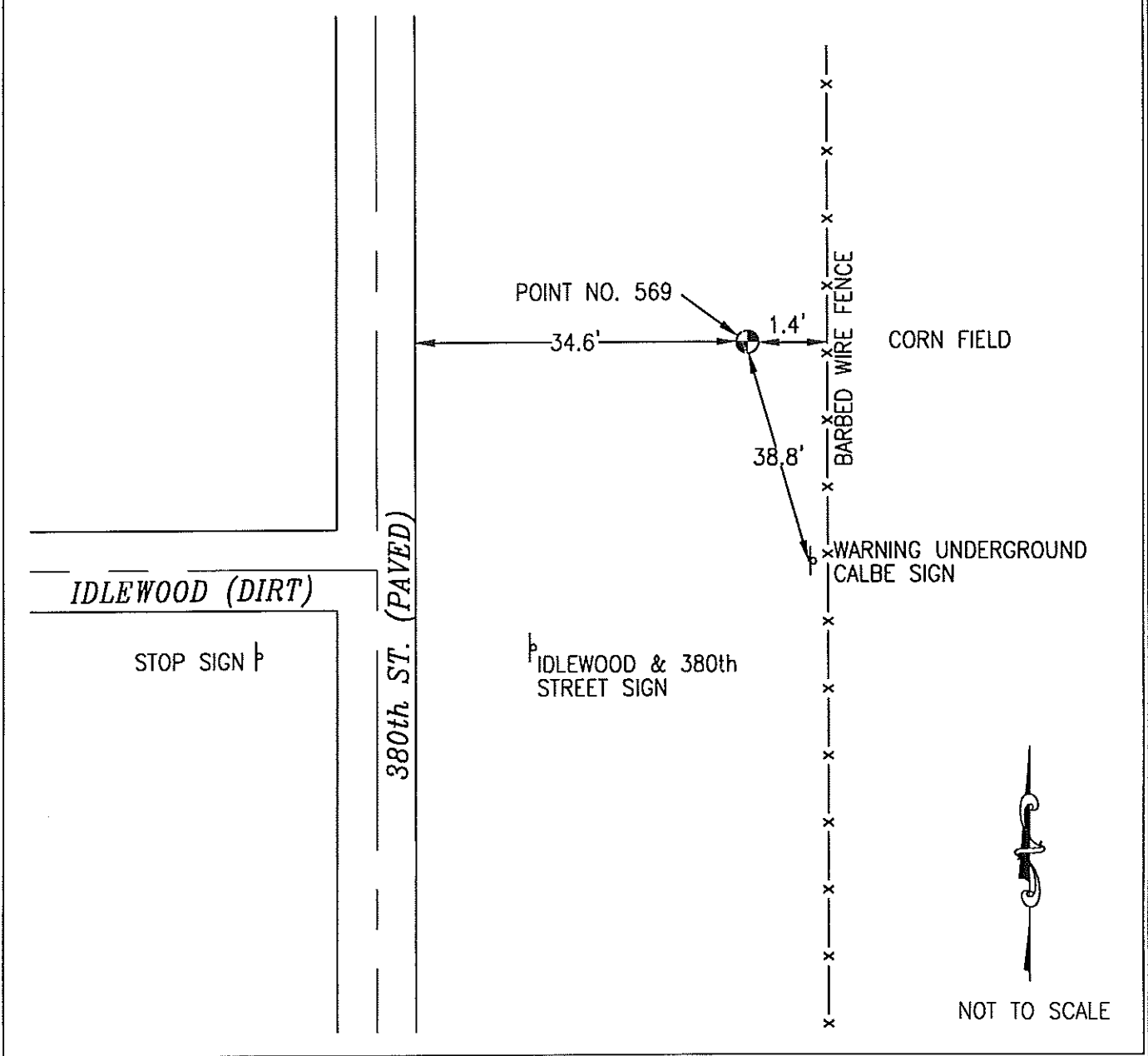
OK

569 764033-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 569, 764033-3". LOCATED APPROXIMATELY 34.6 FEET EAST OF THE EAST EDGE OF ASPHALT 380TH STREET, 38.8 FEET NORTH OF UNDERGROUND CABLE WARNING SIGN, 1.4 FEET WEST OF BARBED WIRE FENCE. ON THE OAKLAND 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
569	764033-3	41 19 57.03442	95 27 38.63330	330.96	149823.627	335887.265	358.65	491546.35	1101990.14	1176.7

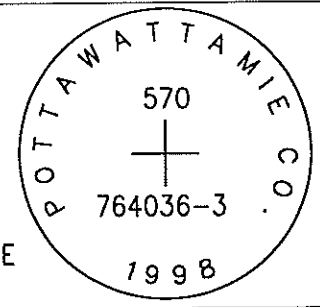


LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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MERRICK
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 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: October 28, 1998

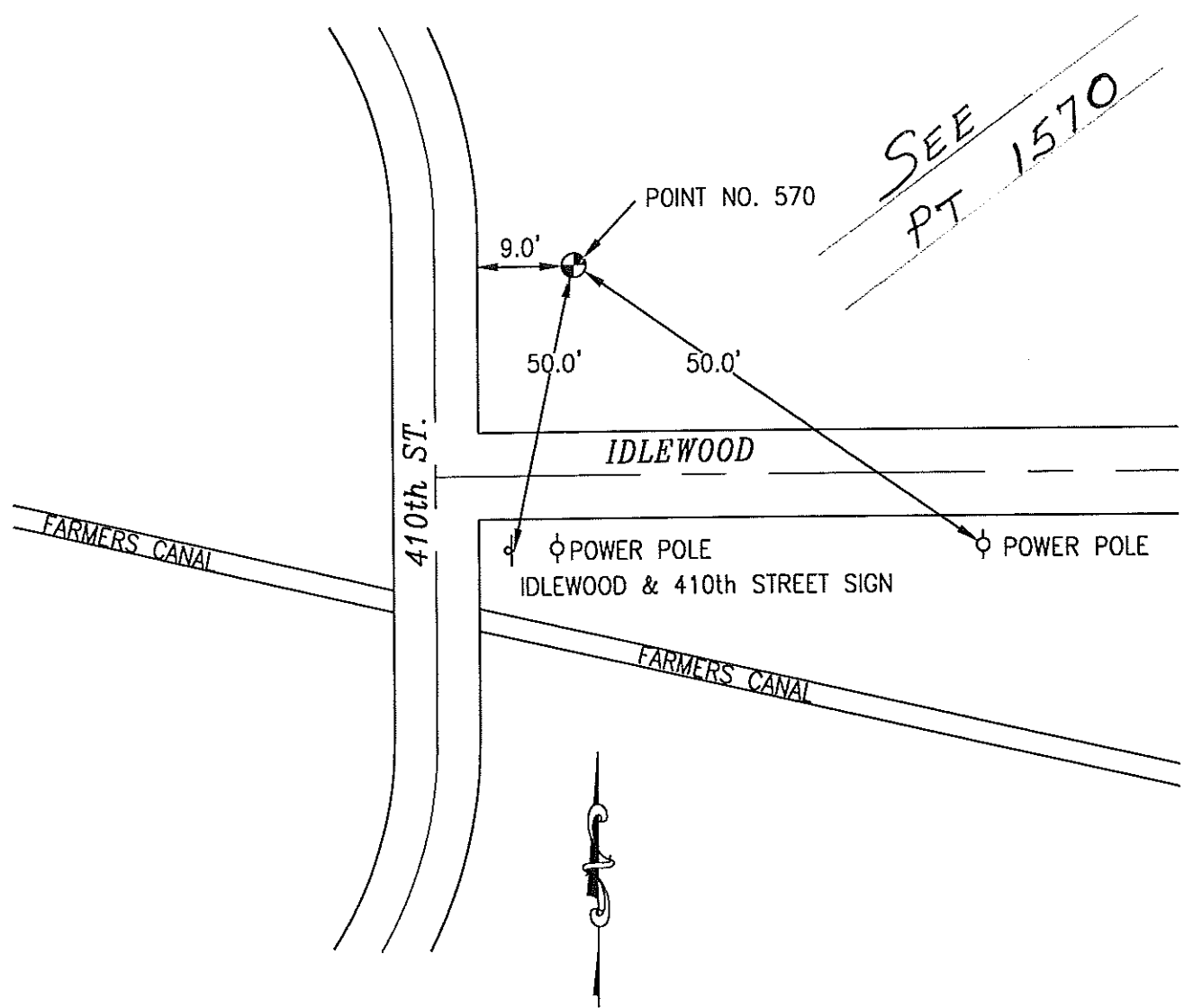
OK CARSONITE
TWO POST

570 764036-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 570, 764036-3". LOCATED APPROXIMATELY 9 FEET EAST OF THE EAST EDGE OF 410TH STREET, 50 FEET NORTH OF THE STREET INTERSECTION SIGN (410TH AND IDLEWOOD), 50 FEET NORTHWEST OF A POWERPOLE, ON THE NORTH SIDE OF IDLEWOOD ROAD. ON THE OAKLAND 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	SOUTH NAVD88 METERS	NORTHING US FEET	EASTING US FEET	SOUTH NAVD88 US FEET
570	764036-3	41 19 56.18195	95 24 12.08645	304.25	149690.670	340688.111	331.93	491110.14	1117740.91	1089.0	



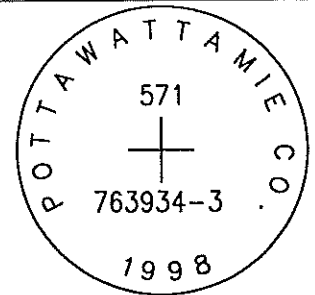
SEE
PT 1570

NOT TO SCALE

LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
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GPS Survey Report

MERRICK
Engineers & Architects
2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: October 28, 1998

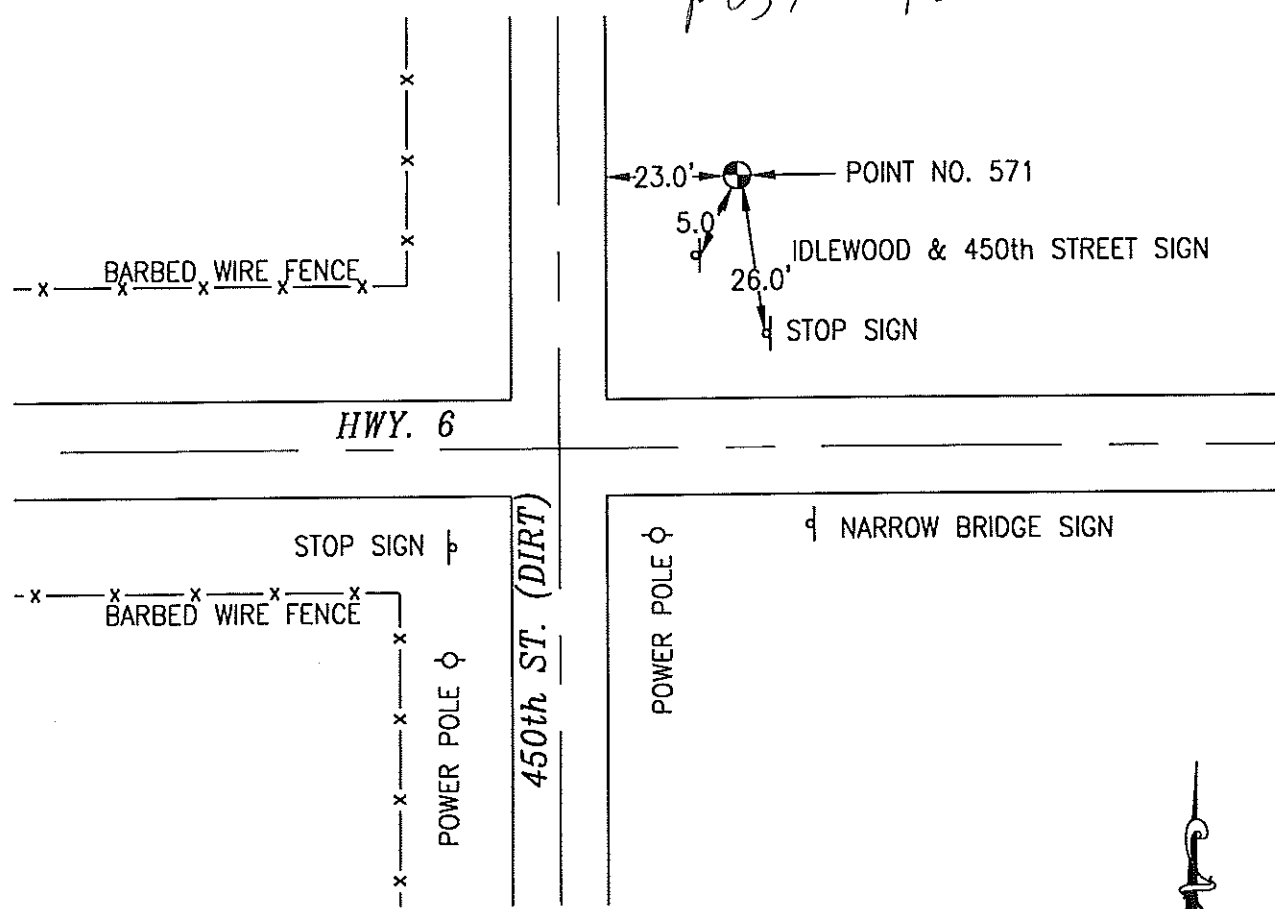
571 763934-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 571, 763934-3". LOCATED APPROXIMATELY 23 FEET EAST OF THE EAST EDGE OF 450TH STREET, 26 FEET NORTHWEST OF A STOP SIGN, 5 FEET NORTHEAST OF A STREET INTERSECTION SIGN (450TH AND IDLEWOOD). ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
571	763934-3	41 19 56.02586	95 19 39.13017	325.48	149549.753	347033.325	353.12	490647.81	1138558.50	1158.5

CARSONITE
POST 450 & IDLEWOOD



NOT TO SCALE

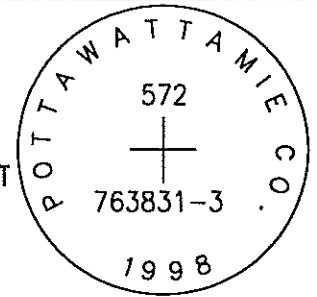
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report

2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: October 28, 1998

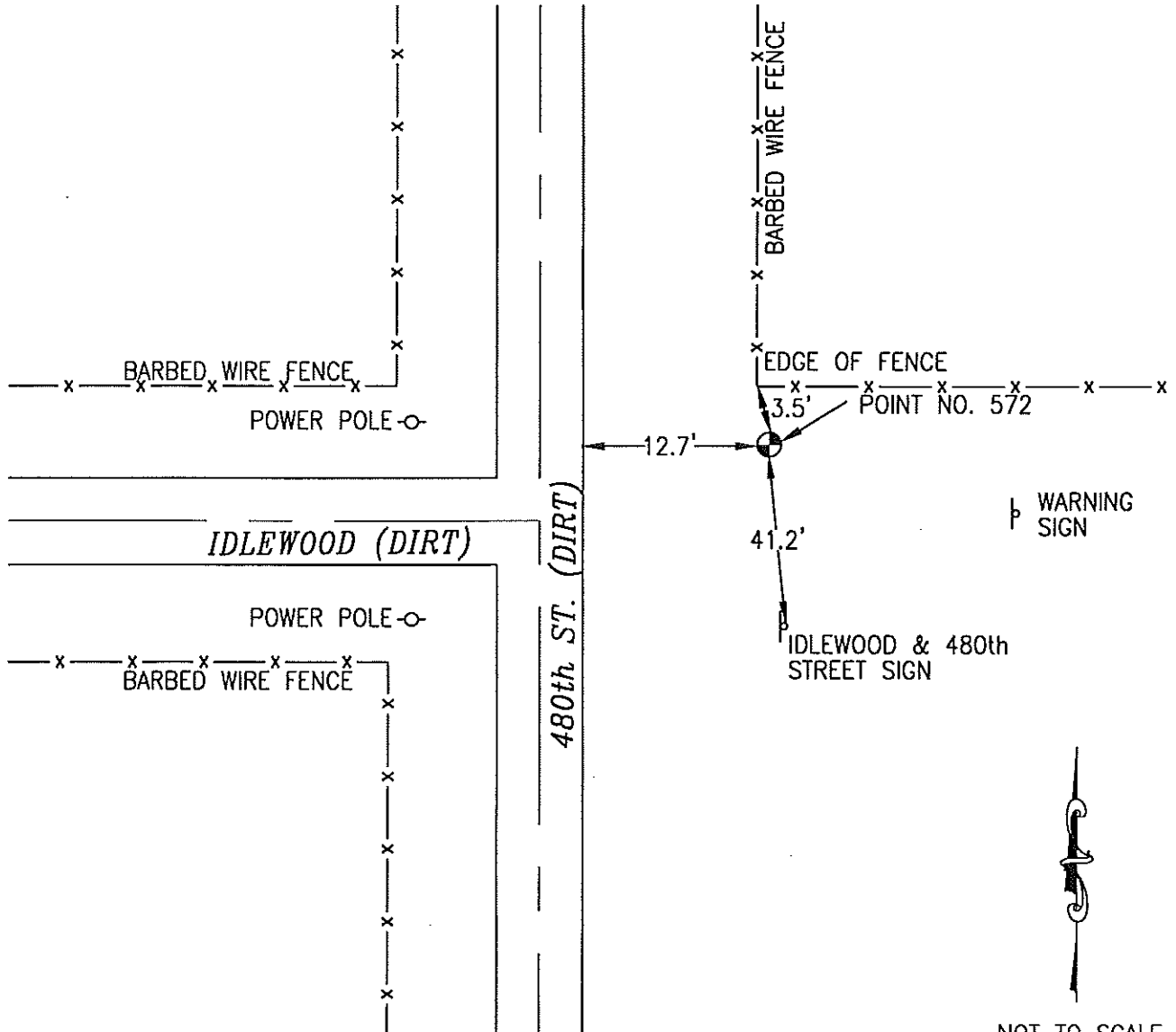
OK

572 763831-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 572, 763831-3". LOCATED APPROXIMATELY 12.7 FEET EAST OF THE EAST EDGE OF 480TH STREET, 41.2 FEET NORTH OF THE STREET INTERSECTION SIGN (480TH AND IDLEWOOD), 3.5 FEET SOUTH OF A FENCE CORNER. ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
572	763831-3	41 19 55.61251	95 16 11.75034	369.63	149437.297	351854.030	397.27	490278.87	1154374.43	1303.4



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LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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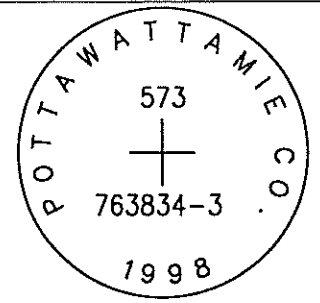
Job Number: 50013142

Date: October 28, 1998

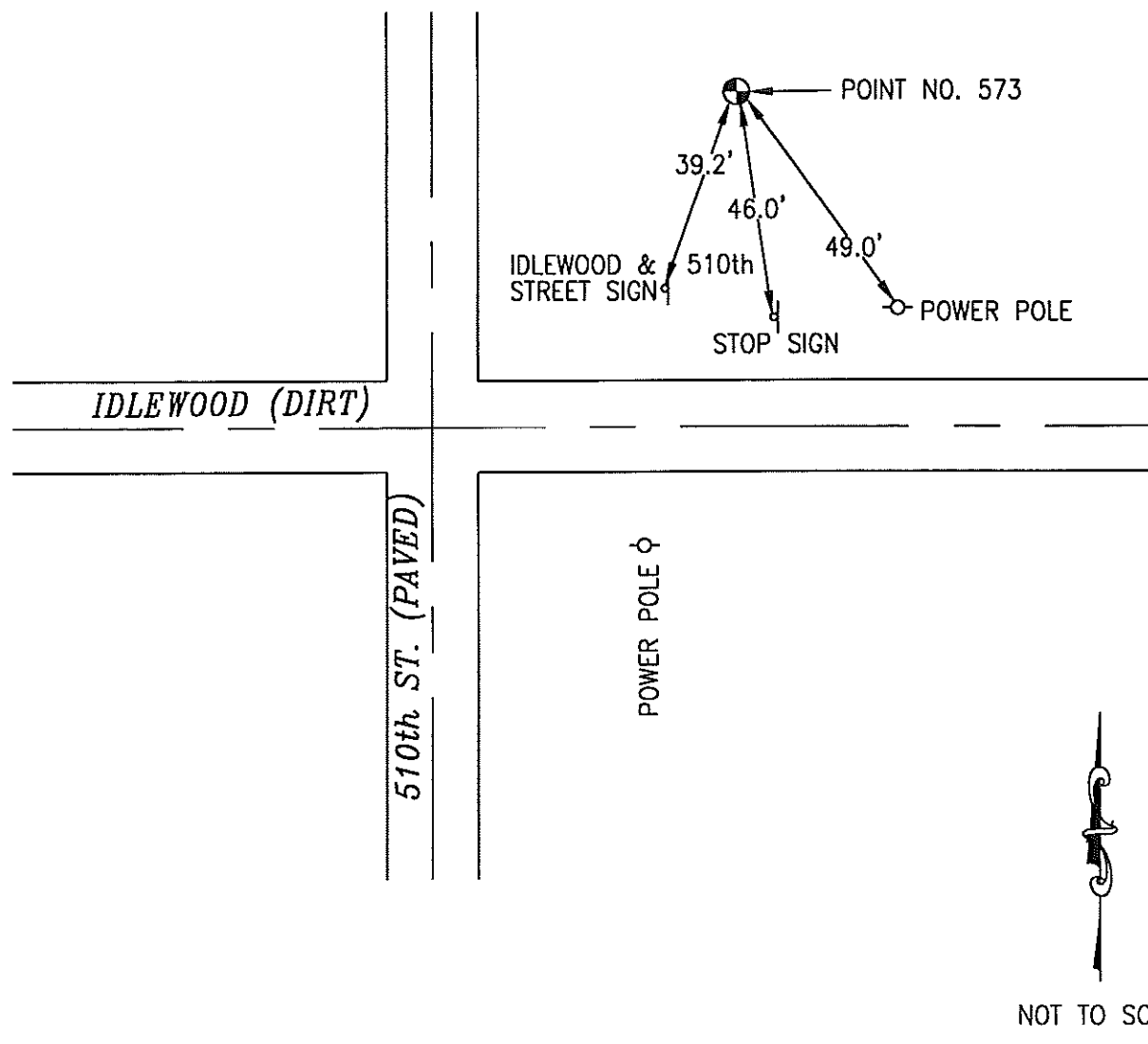
OK

573 763834-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 573, 763834-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF THE INTERSECTION OF 510TH STREET AND IDLEWOOD ROAD, 46 FEET NORTH OF A STOP SIGN, 39.2 FEET NORTHEAST OF THE STREET INTERSECTION SIGN, 49 FEET NORTHWEST OF A POWERPOLE. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
573	763834-3	41 19 55.71408	95 12 46.29020	337.22	149344.793	356630.502	364.86	489975.38	1170045.24	1197.0

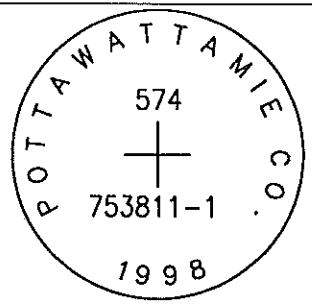


LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 GPS Survey Report

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 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 3, 1998

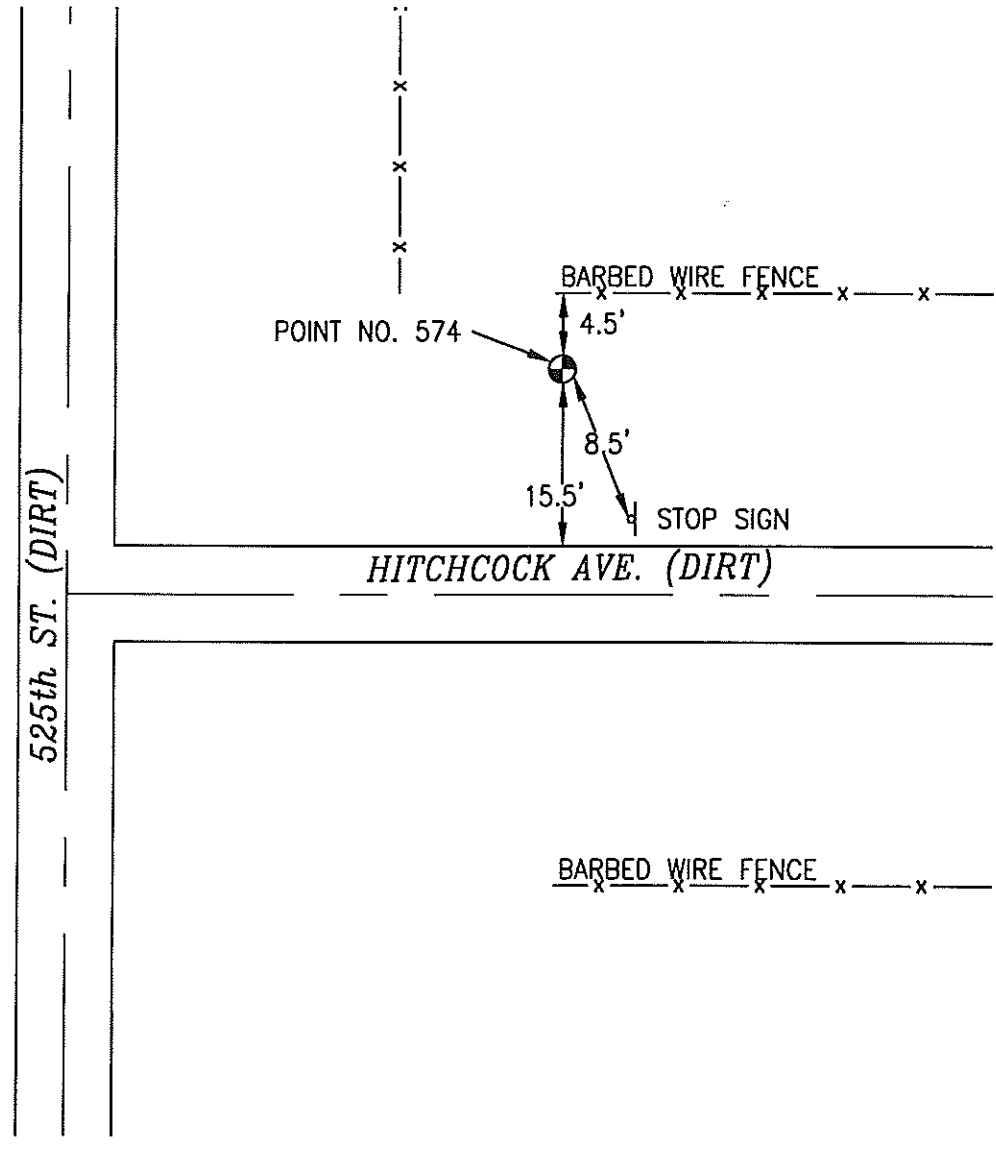
OK

574 753811-1



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 574, 753811-1". LOCATED APPROXIMATELY 15.5 FEET NORTH OF THE NORTH EDGE OF HITCHCOCK AVENUE, 8.5 FEET NORTHWEST OF A STOP SIGN, 4.5 FEET SOUTH OF A BARBED WIRE FENCE. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
574	753811-1	41 18 36.89722	95 11 02.20010	372.72	146866.611	359003.279	400.43	481844.87	1177829.92	1313.7



NOT TO SCALE

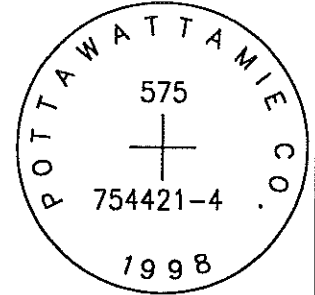
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 3, 1998

BAD Lid Need worked on

575 754421-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 575, 754421-4 LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF 13TH ST AND LOCUST STREET, 21 FEET NORTH OF THE NORTH FLOWLINE OF LOCUST, 45 FEET NORTHEAST OF A LIGHTPOLE, 18 FEET NORTH-NORTHWEST OF A TURN ONLY SIGN, 2 FEET SOUTH OF A ORANGE CARSONITE POST. ON THE OMAHA NORTH 7.5 MINUTE QUADRANGLE.

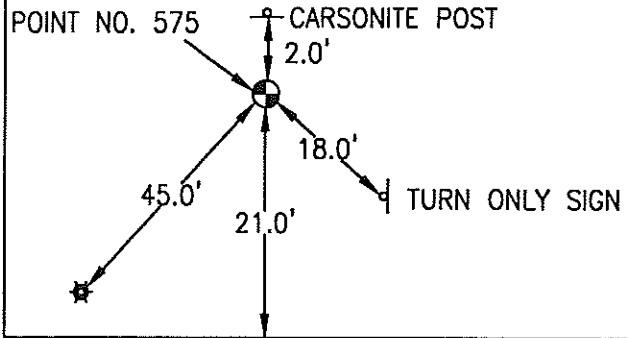


PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
575	754421-4	41 17 06.21459	95 54 45.82032	271.69	145507.196	297917.926	299.32	477384.86	977419.06	982.0

PEOPLES NATIONAL BANK

C.L. SNACK SHACK

13th ST.



LOCUST ST.

BUDGET AUTO GLASS



NOT TO SCALE

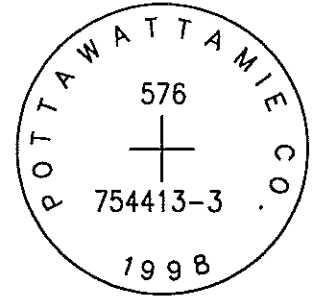
LOCATION DIAGRAM
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MERRICK
 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 3, 1998

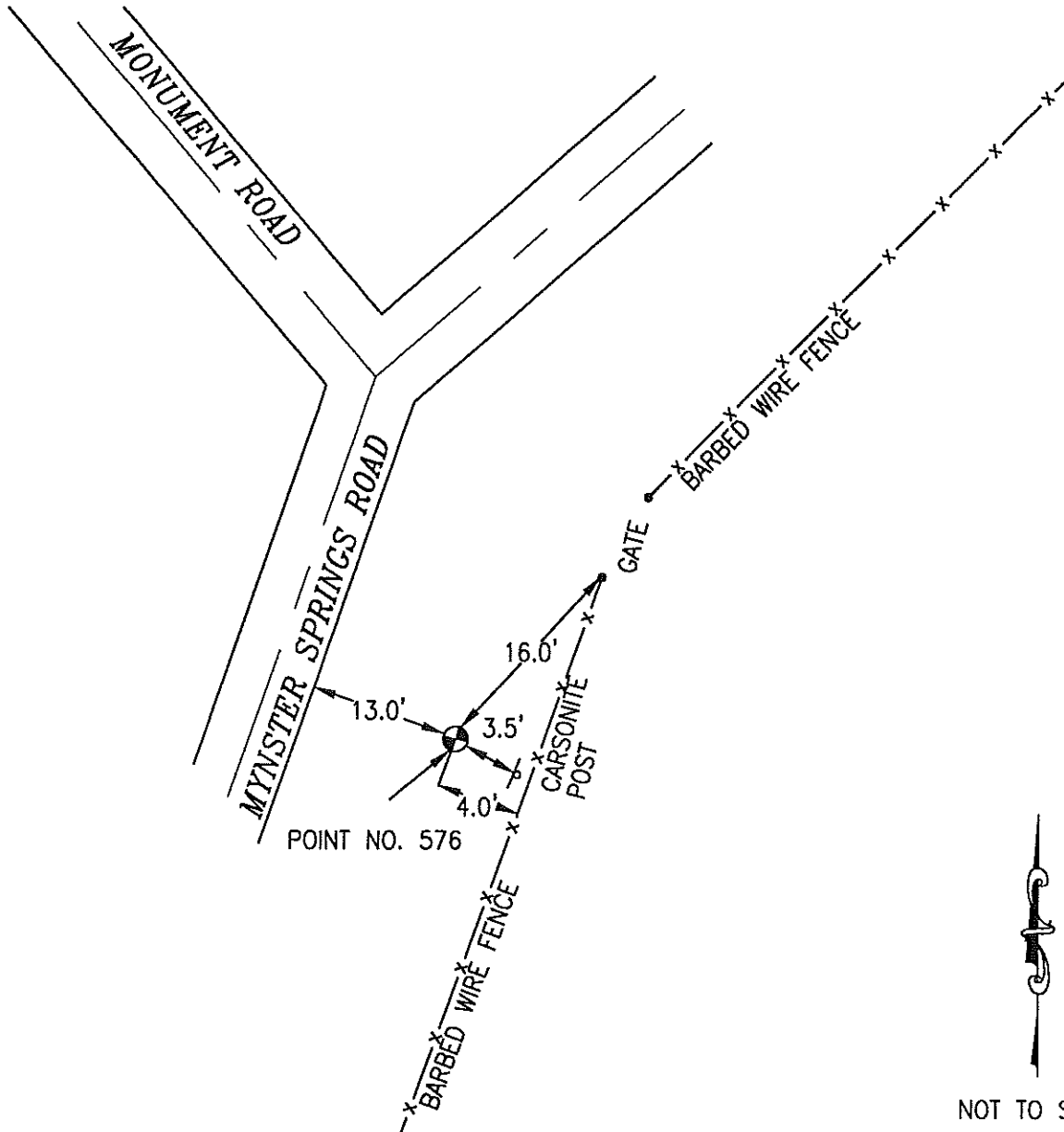
OK

576 754413-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 576, 754413-3". LOCATED APPROXIMATELY 13 FEET SOUTHEAST OF THE SOUTHEAST EDGE OF MYNSTER SPRINGS ROAD, 4 FEET NORTHWEST OF A FENCE, 3.5 FEET NORTHWEST OF A CARSONITE POST, 16 FEET SOUTHWEST OF A GATEPOST. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
576	754413-3	41 17 33.02301	95 51 17.44218	290.40	146201.025	302787.186	318.07	479661.20	993394.29	1043.5



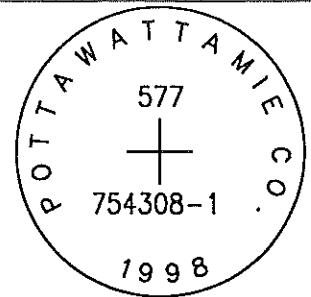
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

MERRICK
 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 3, 1998

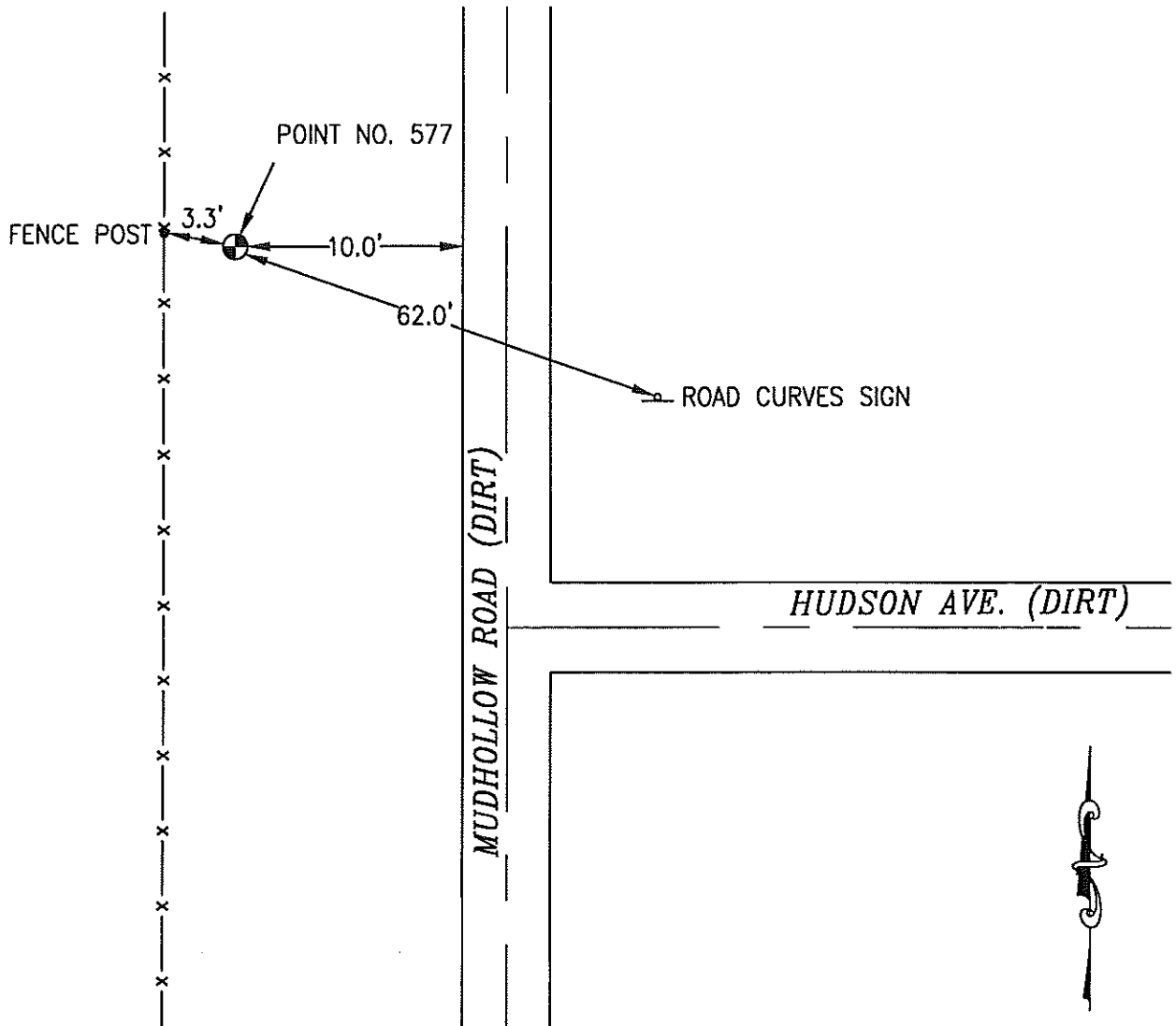
OK

577 754308-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 577, 754308-1". LOCATED APPROXIMATELY 10 FEET WEST OF THE WEST EDGE OF MUDHOLLOW ROAD, 62 FEET NORTHWEST OF ROAD CURVES SIGN, 3.3 FEET EAST OF FENCE. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.

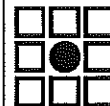


PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
577	754308-1	41 18 44.82709	95 48 47.98777		312.28	148321.985	306322.056	340.03	486619.71	1004991.61	1115.6



NOT TO SCALE

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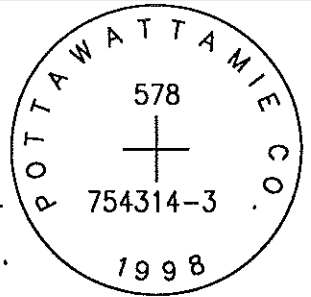
Job Number: 50013142

Date: November 3, 1998

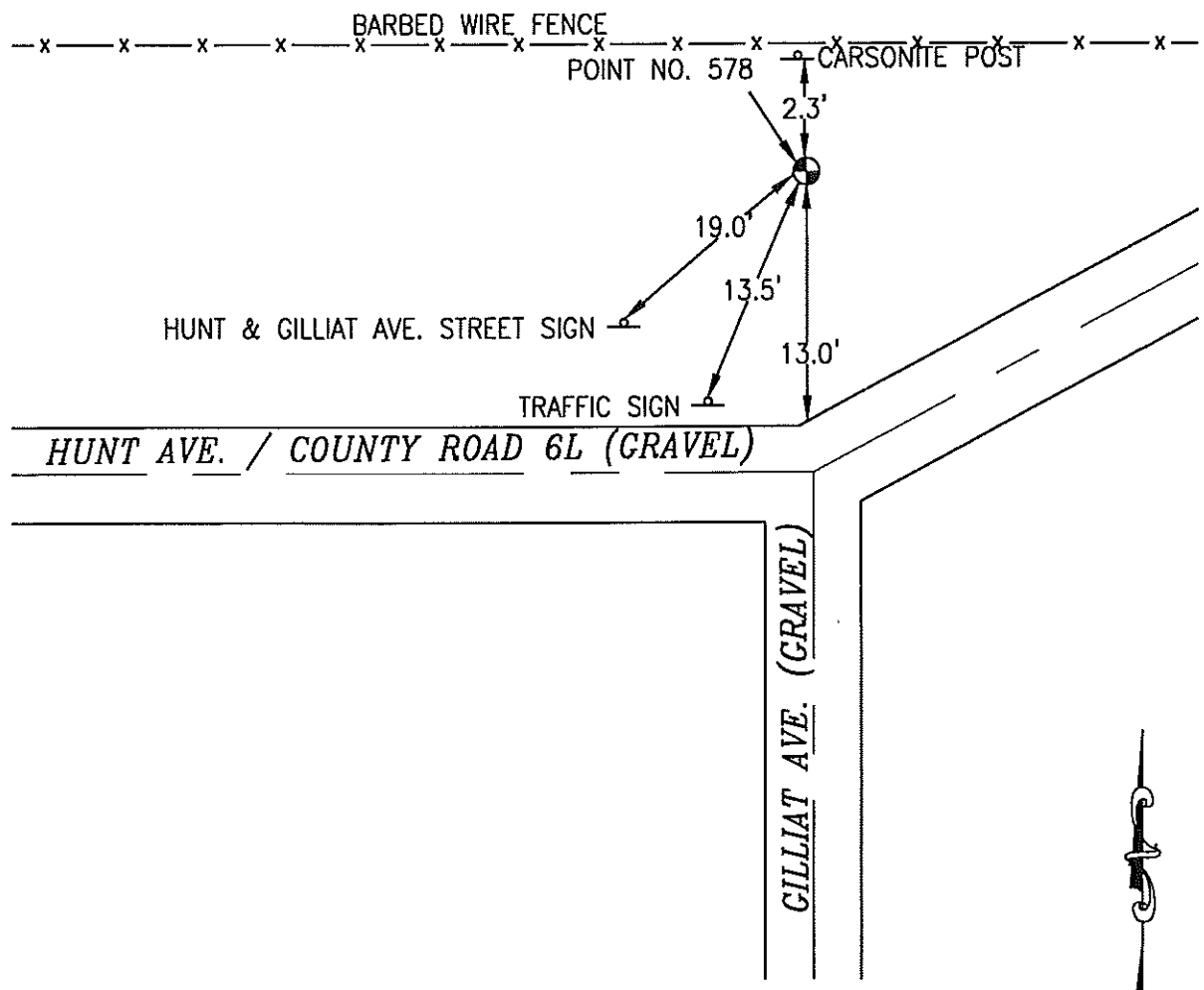
Needs dirt around it

578 754314-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 578, 754314-3". LOCATED APPROXIMATELY 13 FEET NORTH OF THE NORTH EDGE OF GRAVEL HUNT AVENUE, 19 FEET EAST OF STREET INTERSECTION SIGN (HUNT AVE. AND GILLIAT), 2.3 FEET SOUTH OF ORANGE CARSONITE POST, 13.5 FEET NORTHEAST OF TRAFFIC "T" SIGN. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
578	754314-3	41 17 37.13790	95 45 34.06823		335.21	146116.043	310776.640	362.89	479382.38	1019606.36	1190.6



NOT TO SCALE

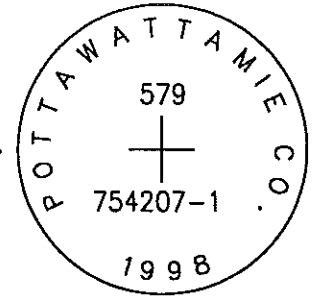
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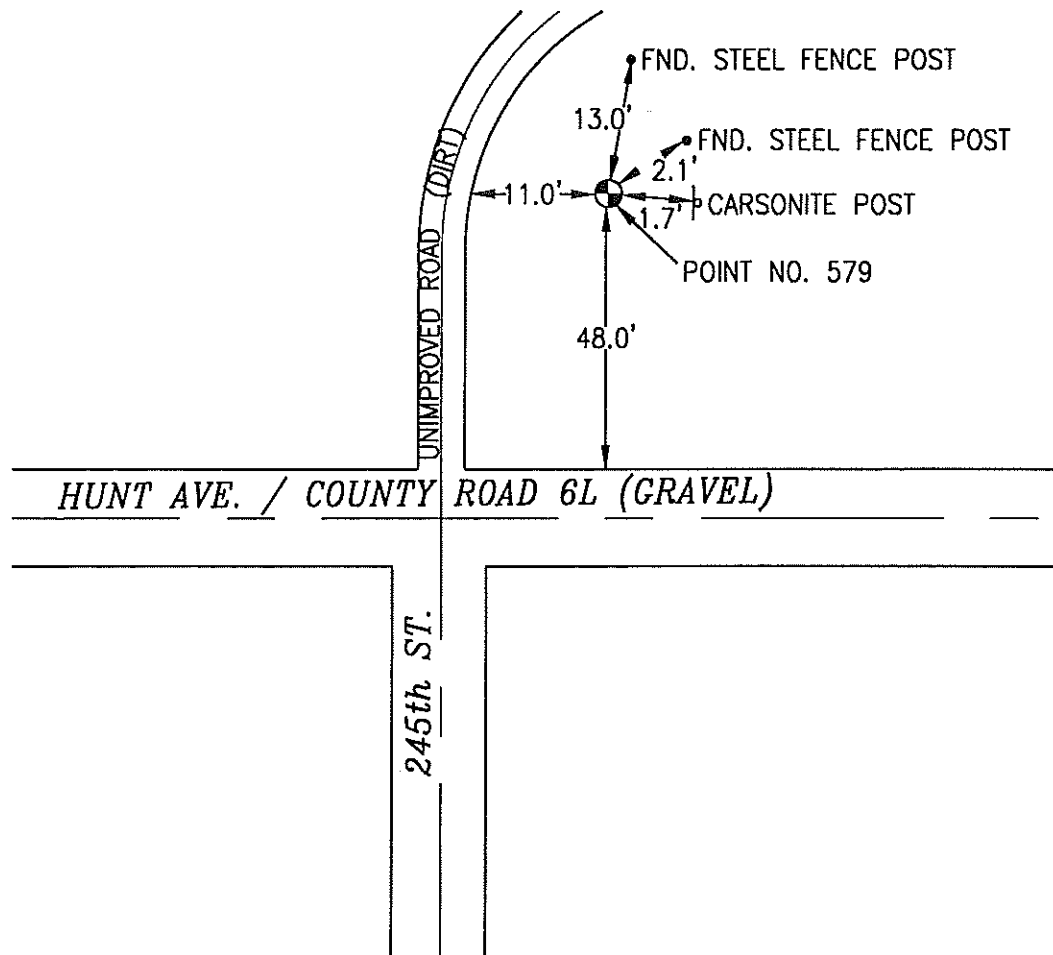
ok

579 754207-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 579, 754207-1". LOCATED APPROXIMATELY 48 FEET NORTH OF THE NORTH EDGE OF HUNT AVENUE (COUNTY ROAD 6L), 11 FEET EAST OF THE EAST EDGE OF A DIRT ROAD, 13 FEET SOUTH OF A FOUND STEEL FENCEPOST, 2.1 FEET SOUTHWEST OF A FOUND STEEL FENCEPOST, 1.7 FEET WEST OF A SET ORANGE CARSONITE POST. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC	NORTHING METERS		EASTING METERS	NAV088 METERS	NORTHING US FEET	EASTING US FEET	NAV088 US FEET	
579	754207-1	41 18 41.91139	95 43 04.52759	352.58	148024.017	314305.597	380.31	485642.13	1031184.28	1247.7	



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POTTAWATTAMIE COUNTY IOWA
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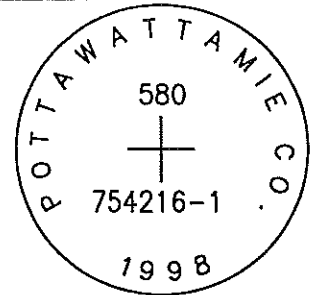
Job Number: 50013142

Date: November 3, 1998

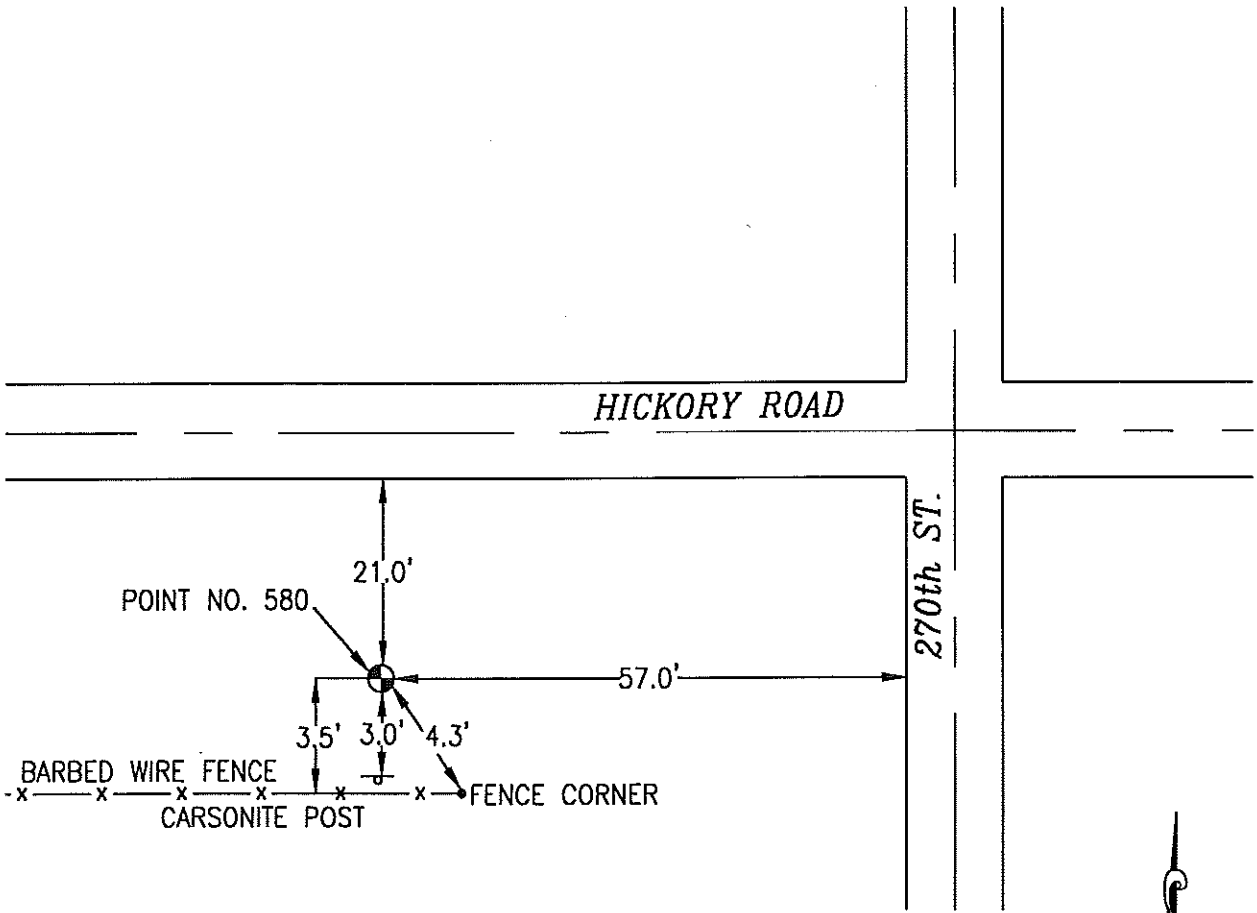
OK

580 754216-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.45 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 580, 754216-1". LOCATED APPROXIMATELY 21 FEET SOUTH OF THE SOUTH EDGE OF HICKORY ROAD, 57 WEST OF THE WEST EDGE OF 270TH STREET, 4.3 FEET NORTHWEST OF A FENCE END, 3 FEET NORTH OF A CARSONITE POST, 3.5 FEET NORTH OF A EAST-WEST FENCE. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.

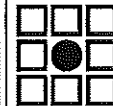


PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
580	754216-1	41 18 14.98901	95 40 12.83574	324.96	147093.042	318277.040	352.66	482587.76	1044213.92	1157.0



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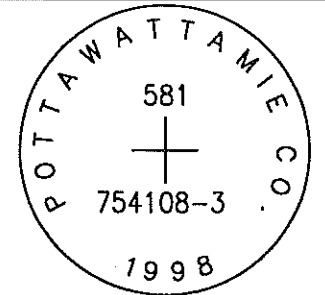
Job Number: 50013142

Date: November 3, 1998

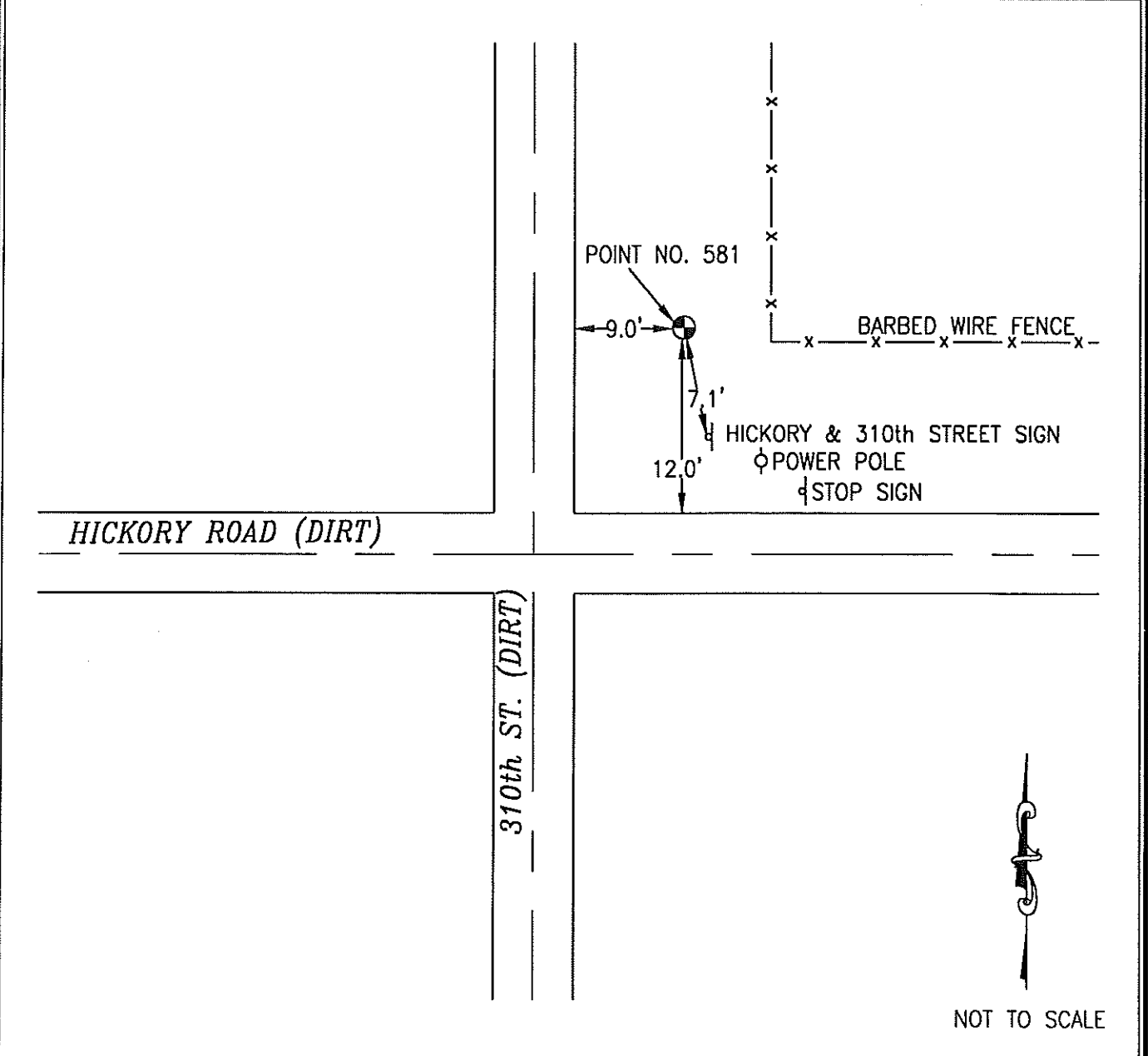
OK

581 754108-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 581, 754108-3". LOCATED APPROXIMATELY 9 FEET EAST OF THE EAST EDGE OF 310TH STREET, 12 FEET NORTH OF THE NORTH EDGE OF HICKORY ROAD, 7.1 FEET NORTH OF STREET INTERSECTION SIGN. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
581	754108-3	41 18 14.51345	95 35 38.57651		340.93	146922.009	324654.575	368.61	482026.62	1065137.55	1209.3



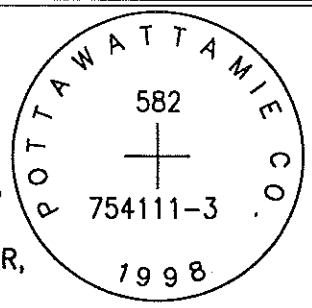
NOT TO SCALE

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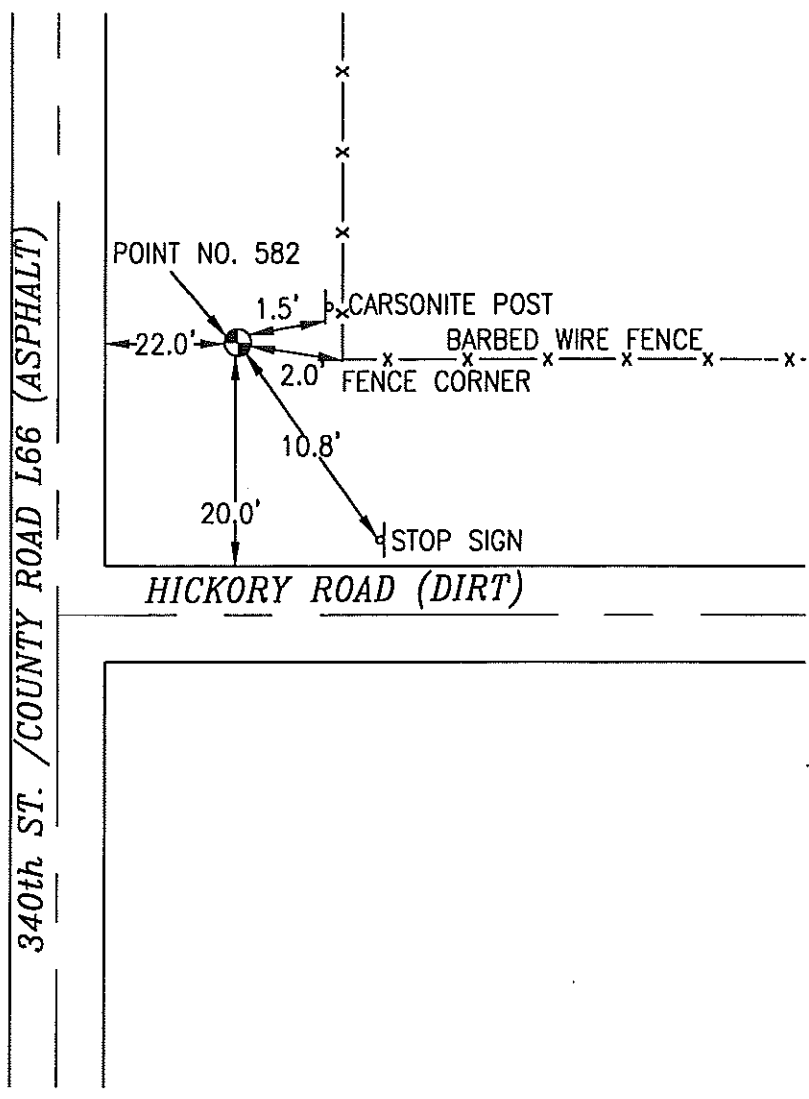
OK

582 754111-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 582, 754111-3". LOCATED APPROXIMATELY 20 FEET NORTH OF THE NORTH EDGE OF GRAVEL HICKORY ROAD, 22 FEET EAST OF THE EAST EDGE OF ASPHALT COUNTY ROAD L66 (340TH STREET), 10.8 FEET NORTHWEST OF A STOP SIGN, 2 FEET WEST OF FENCE CORNER, 1.5 FEET WEST OF CARSONITE POST. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
582	754111-3	41 18 14.01	98 32 11.01	346.10	146791.916	329481.193	373.77	481599.81	1080972.88	1226.3



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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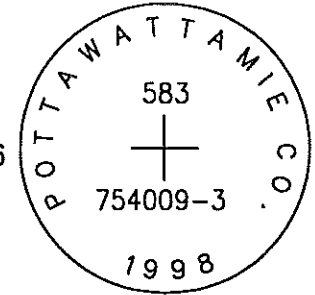
MERRICK
 Engineers & Architects
 2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 3, 1998

OK

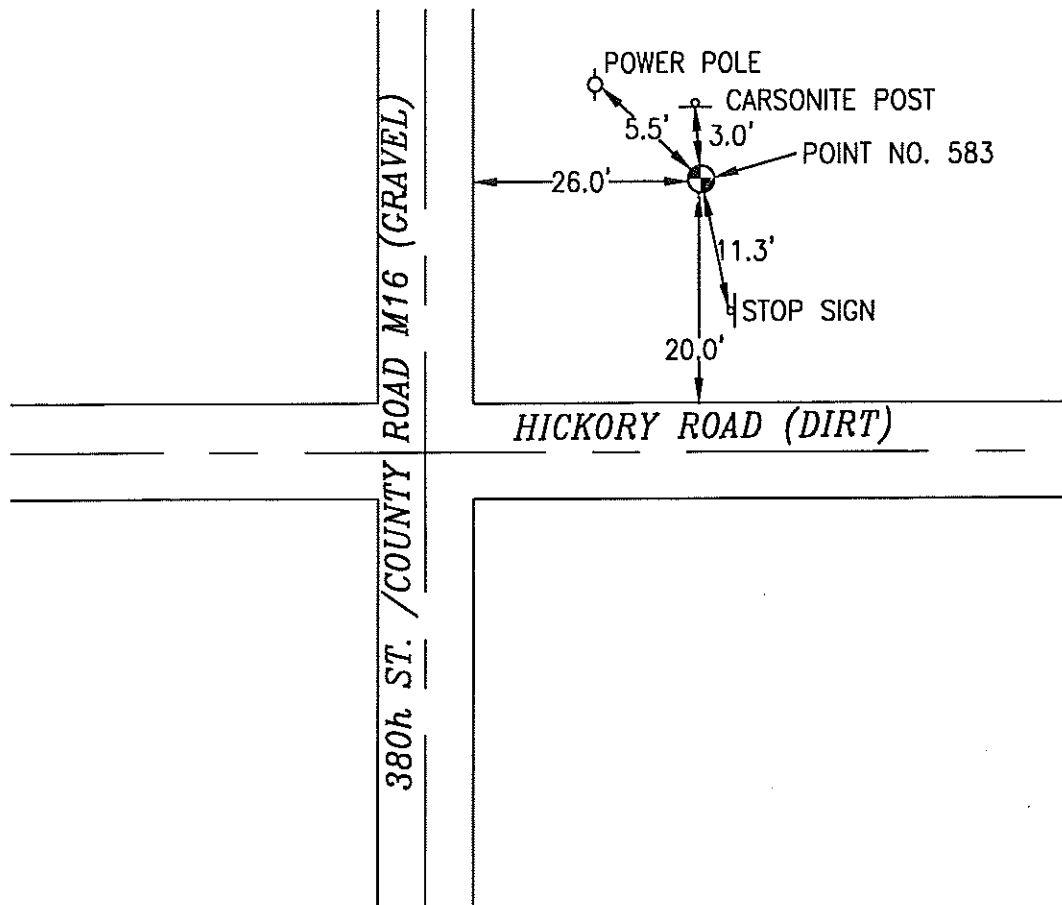
583

754009-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 583, 754009-3". LOCATED APPROXIMATELY 20 FEET NORTH OF THE NORTH EDGE GRAVEL HICKORY ROAD, 26 FEET EAST OF THE EAST EDGE OF GRAVEL 380TH STREET (COUNTY ROAD M16), 11.3 FEET NORTH OF STOP SIGN, 5.5 FEET SOUTHEAST OF POWERPOLE, 3 FEET SOUTH OF ORANGE CARSONITE POST. ON THE OAKLAND 7.5 MINUTE QUADRANGLE.

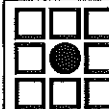


PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
583	754009-3	41 18 13.42505	95 27 39.24702	340.19	146628.568	335800.951	367.87	481063.89	1101706.95	1206.9



NOT TO SCALE

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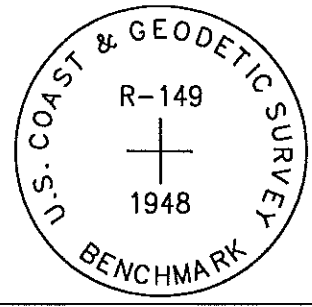
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Date: November 3, 1998

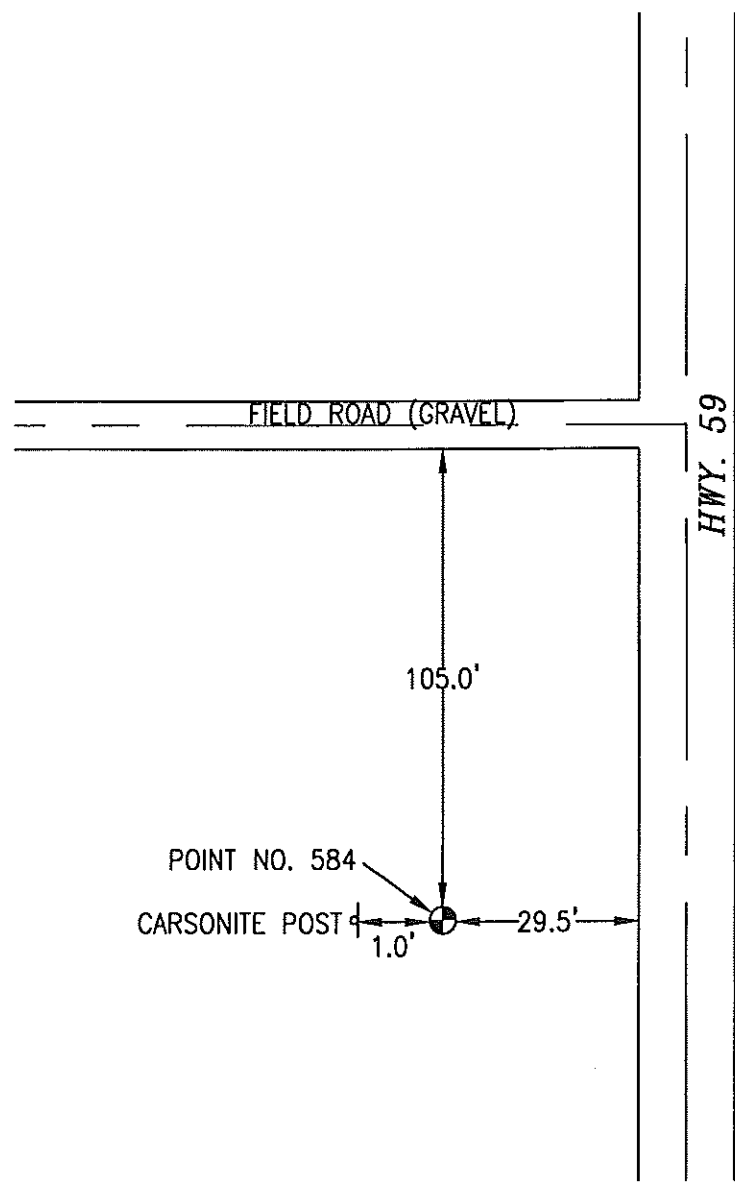
OK Needy county post

584 R149

FOUND 3.5 INCH DIAMETER BRASS CAP IN CONCRETE POST UP 0.2 FEET ABOVE GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK R149 1949". LOCATED APPROXIMATELY 105 FEET SOUTH OF A GRAVEL FIELD ROAD, 29.5 FEET WEST OF THE WEST EDGE OF ASPHALT HIGHWAY 59, 1 FOOT EAST OF A YELLOW CARSONITE POST. SEE NGS DESCRIPTION. ON THE OAKLAND 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
584	R 149	41 17 41.08279	95 24 12.77319	305.55	145524.417	340580.950	333.25	477441.36	1117389.33	1093.3



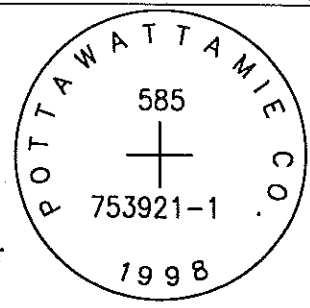
NOT TO SCALE

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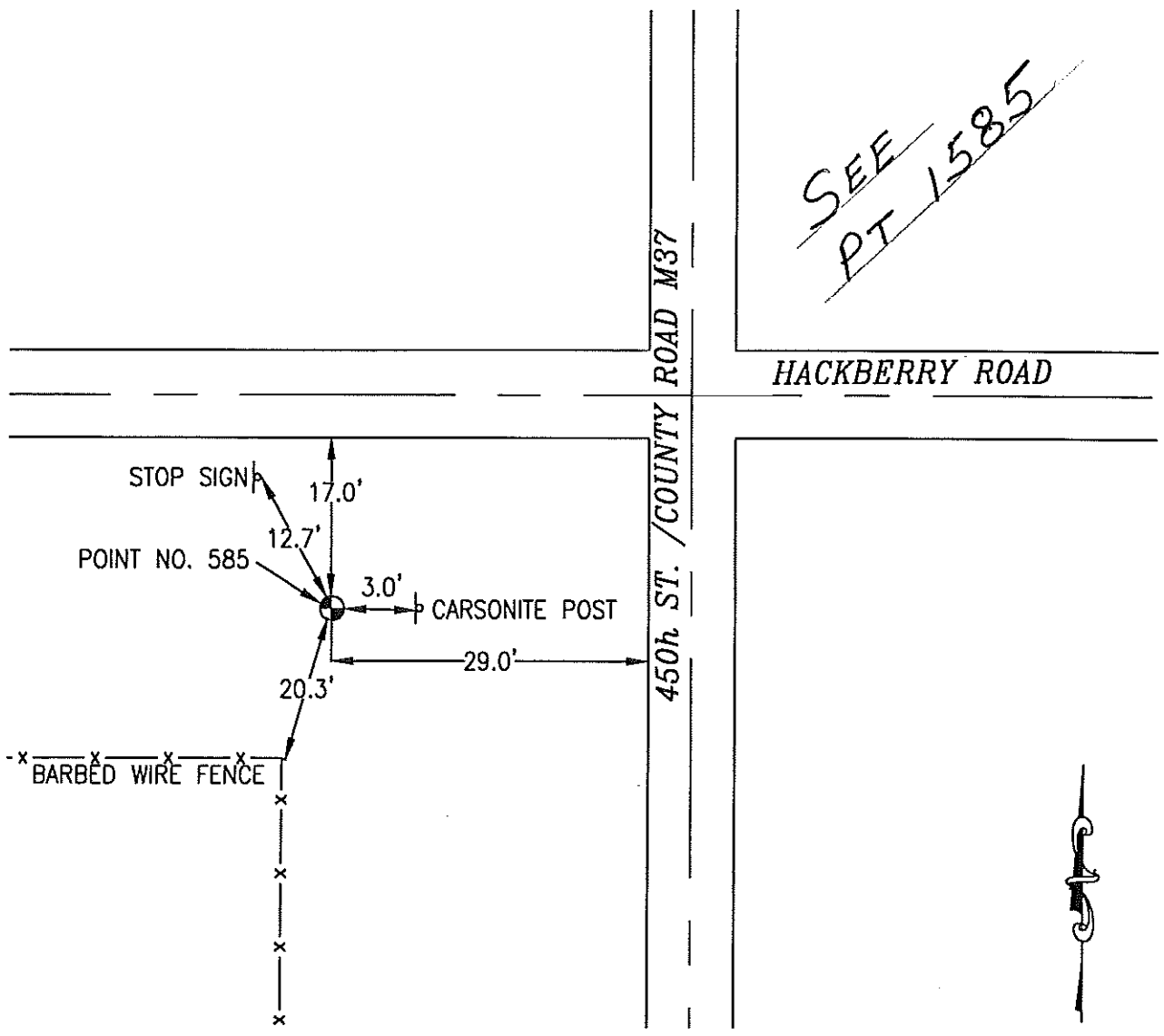
OK

585 753921-1



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 585, 753921-1". LOCATED APPROXIMATELY 17 FEET SOUTH OF THE SOUTH EDGE OF GRAVEL HACKBERRY ROAD, 29 FEET WEST OF THE WEST EDGE OF GRAVEL 450TH STREET (COUNTY ROAD M37), 3 FEET WEST OF A ORANGE CARSONITE POST, 12.7 FEET SOUTHWEST OF A STOP SIGN, 20.3 FEET NORTHEAST OF A FENCE CORNER. ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.

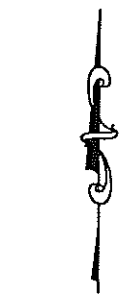
PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
585	753921-1	41 17 20.24274	95 19 40.05622	357.61	144745.600	346910.822	385.31	474886.19	1138156.59	1264.1	



SEE
PT 1585

HACKBERRY ROAD

450th ST. / COUNTY ROAD M37



NOT TO SCALE

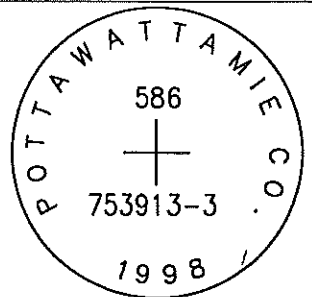
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OK

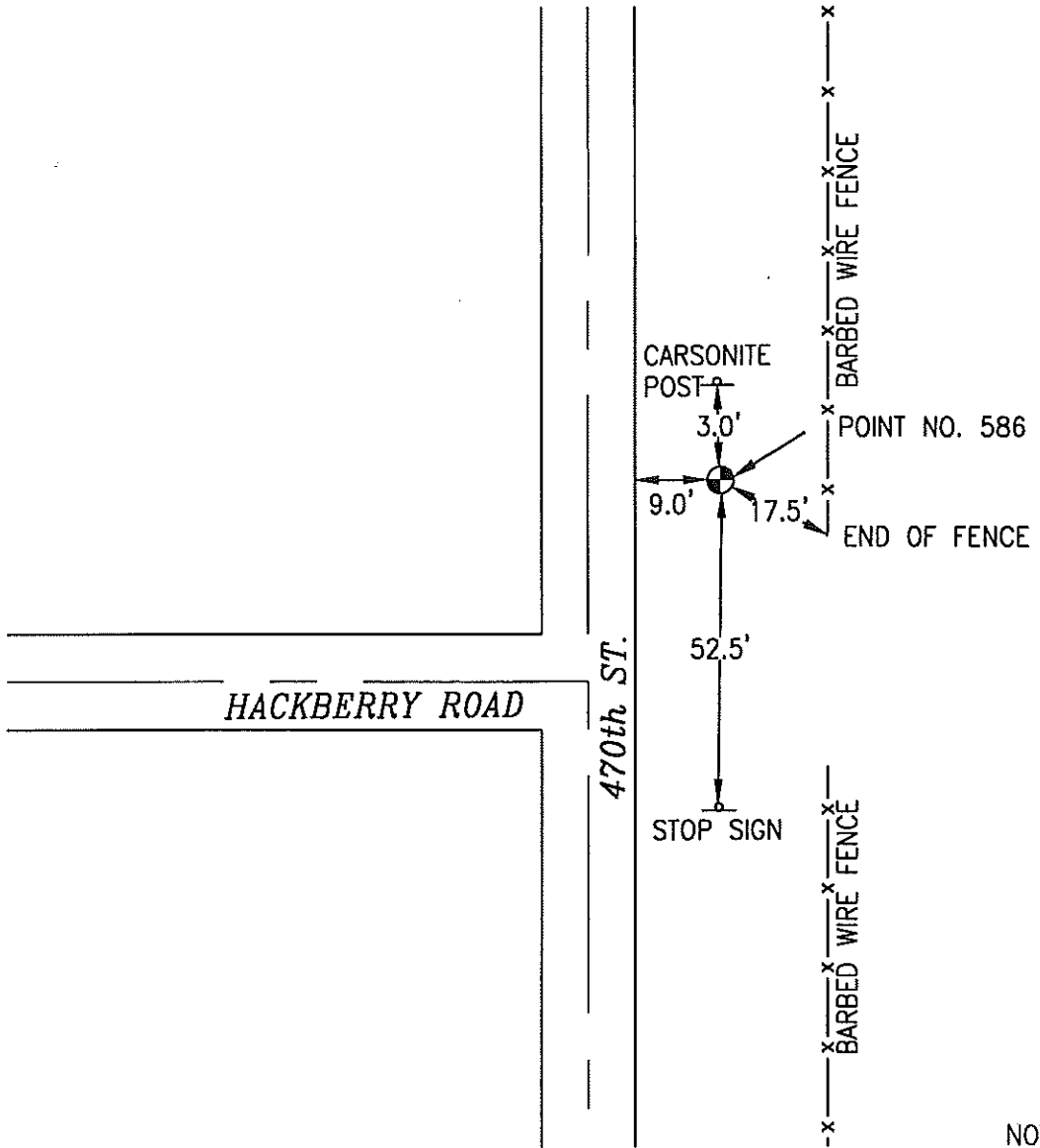
586

753913-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.8 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 586, 753913-3". LOCATED APPROXIMATELY 9 FEET EAST OF THE EAST EDGE OF GRAVEL 470TH STREET, 3 FEET SOUTH OF A ORANGE CARSONITE POST, 17.5 FEET WEST OF END OF FENCE, 52.5 FEET NORTH OF STOP SIGN, ON THE NORTH SIDE OF HACKBERRY ROAD EXTENDED. ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
586	753913-3	41 17 20.49341	95 17 20.33552	351.71	144685.750	350161.210	379.41	474689.83	1148820.57	1244.8	



NOT TO SCALE

LOCATION DIAGRAM
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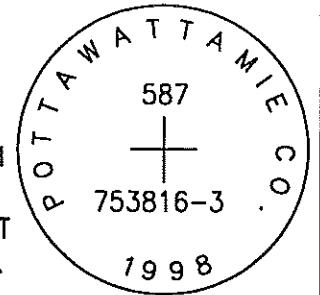
MERRICK
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ok

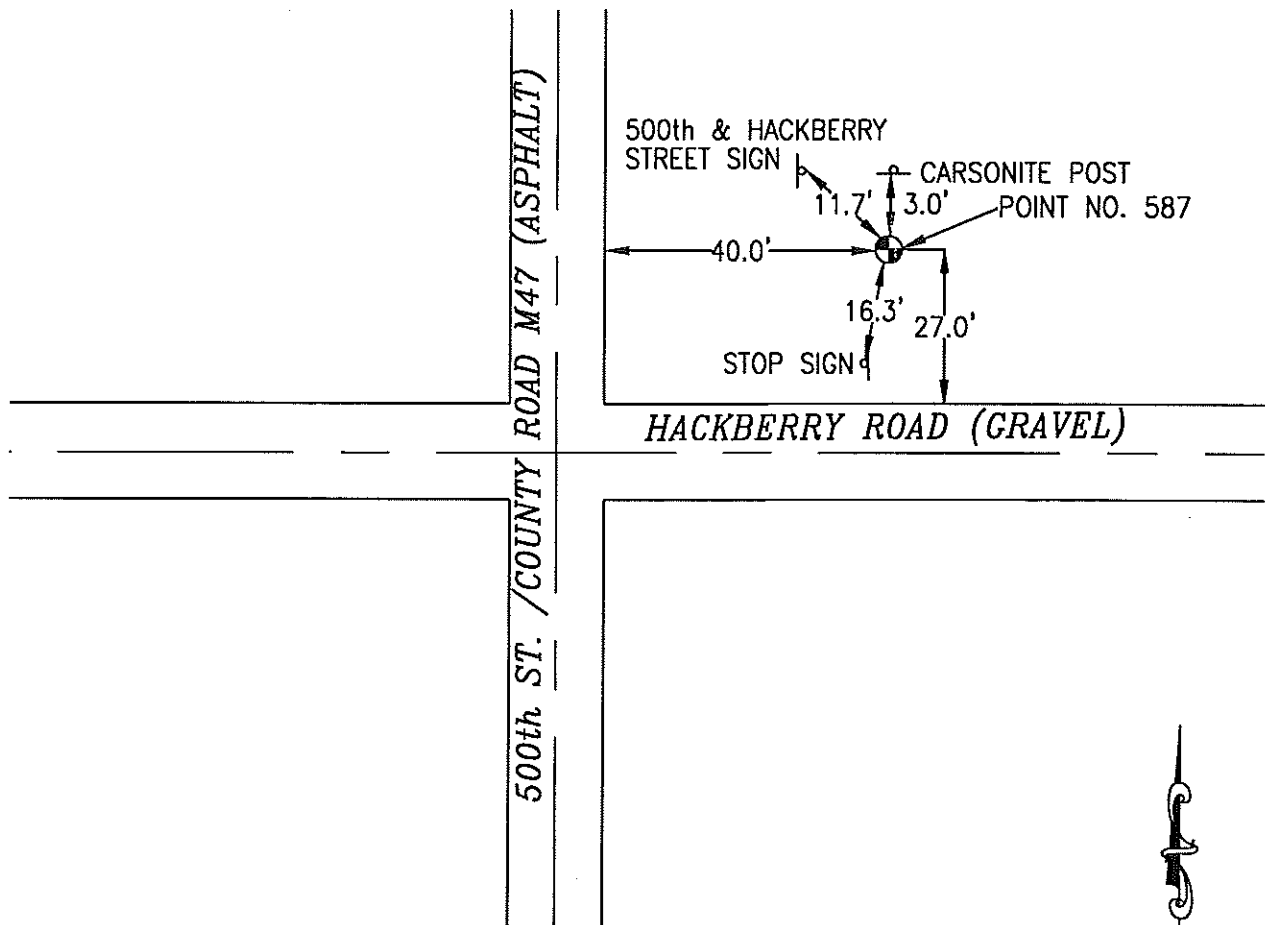
587

753816-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 587, 753816-3". LOCATED APPROXIMATELY 40 FEET EAST OF THE EAST EDGE OF ASPHALT EXTENDED 500TH STREET (COUNTY ROAD M47), 27 FEET NORTH OF THE NORTH EDGE OF GRAVEL HACKBERRY ROAD, 16.3 FEET NORTHWEST OF A STOP SIGN, 11.7 FEET SOUTHWEST OF A STREET INTERSECTION SIGN, 3 FEET SOUTH OF A ORANGE CARSONITE POST. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
587	753816-3	41 17 20.16530	95 13 56.20618	352.22	144579.500	354909.577	379.96	474341.24	1164399.17	1246.6



NOT TO SCALE

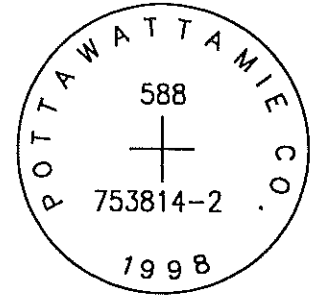
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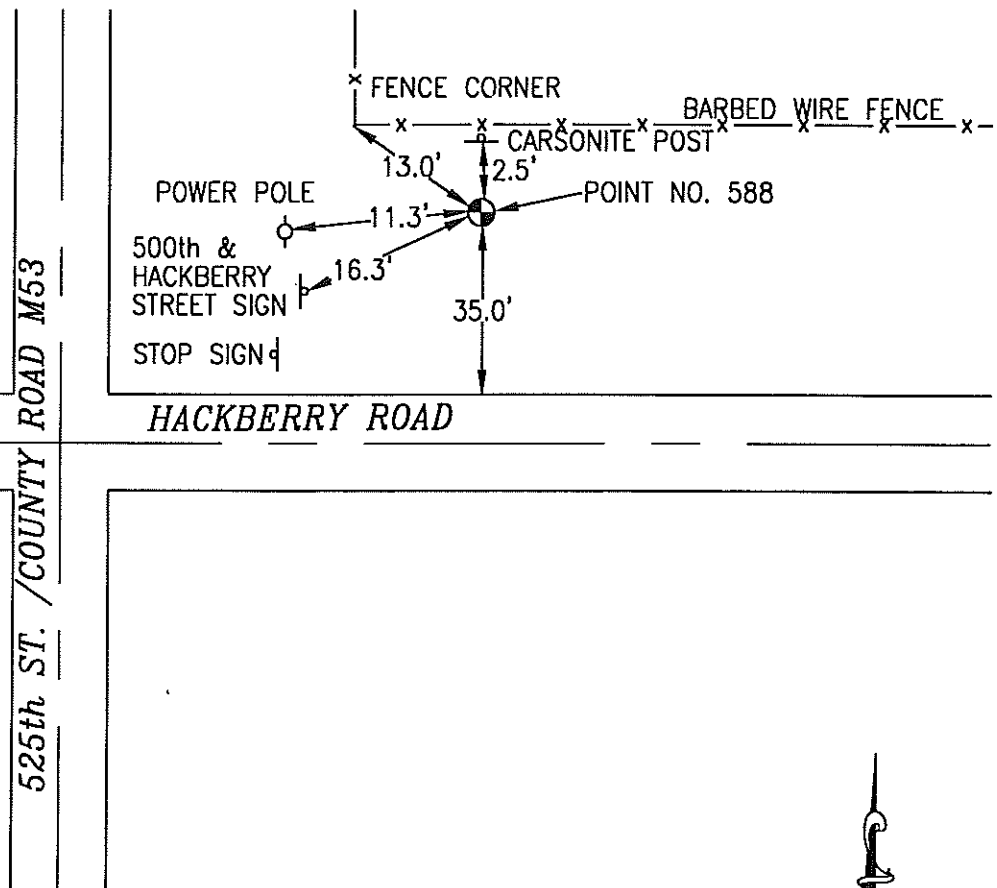
588 753814-2

OK

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 588, 753814-2". LOCATED APPROXIMATELY 35 FEET NORTH OF THE NORTH EDGE OF GRAVEL HACKBERRY ROAD, 16.3 FEET NORTHEAST OF A STREET INTERSECTION SIGN (525TH STREET AND HACKBERRY ROAD), 11.3 FEET NORTHEAST OF A POWERPOLE, 13 FEET SOUTHEAST OF A FENCE CORNER, 2.5 FEET SOUTH OF AN ORANGE CARSONITE POST. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
588	753814-2	41 17 18.83439	95 11 02.17093	348.94	144458.938	358957.341	376.71	473945.70	1177679.21	1235.9	



NOT TO SCALE

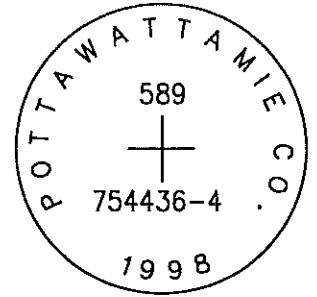
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MERRICK
 Engineers & Architects
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Needs dirt around it

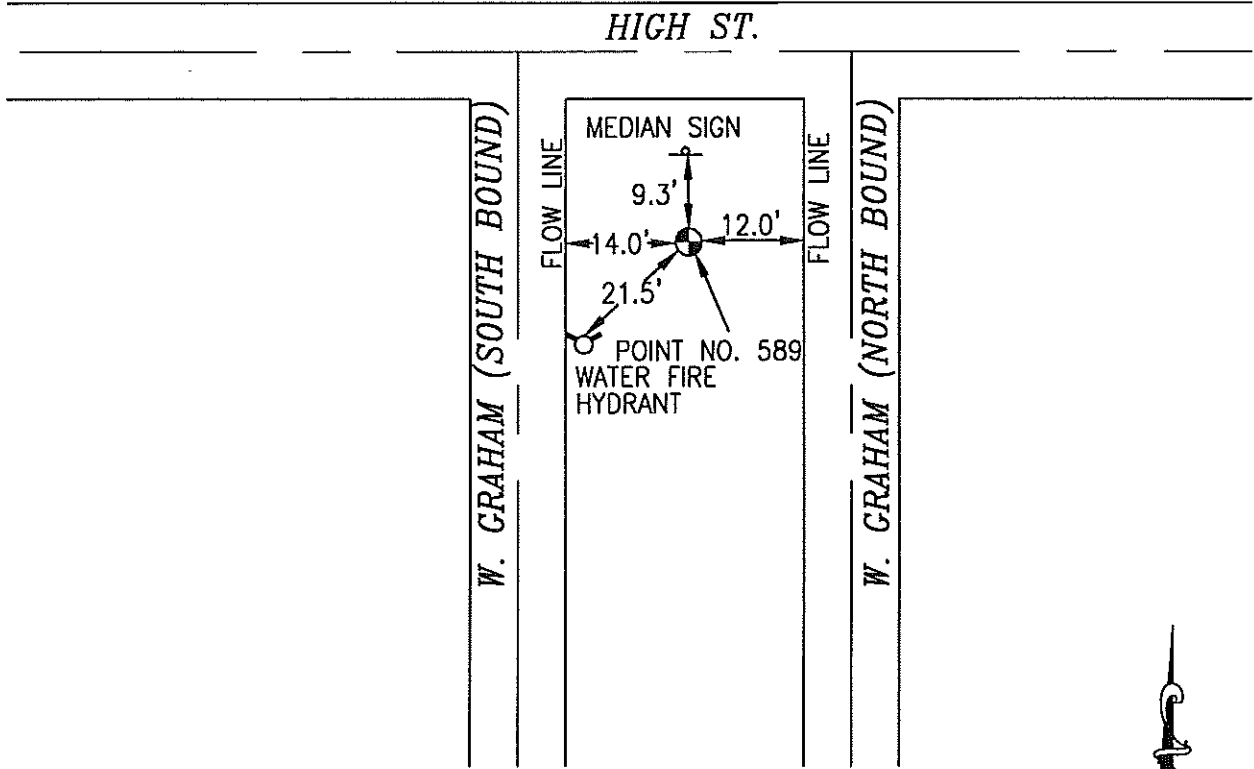
589

754436-4



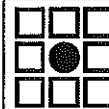
SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 589, 754436-4". LOCATED APPROXIMATELY IN THE WEST GRAHAM STREET CENTER MEDIAN AT THE INTERSECTION WITH HIGH STREET, 9.3 FEET SOUTH OF MEDIAN SIGN, 14 FEET EAST OF WEST FLOWLINE OF MEDIAN, 12 FEET WEST OF EAST FLOWLINE OF MEDIAN, 21.5 FEET NORTHEAST OF FIRE HYDRANT. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
589	754436-4	41 14 45.50041	95 50 47.72089	274.81	141016.451	303339.034	302.32	462651.47	995204.81	991.9



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LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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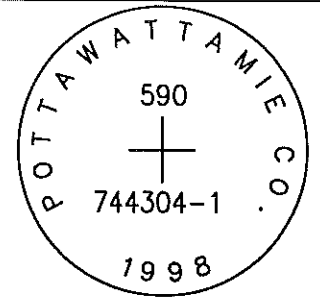
Job Number: 50013142

Date: November 3, 1998

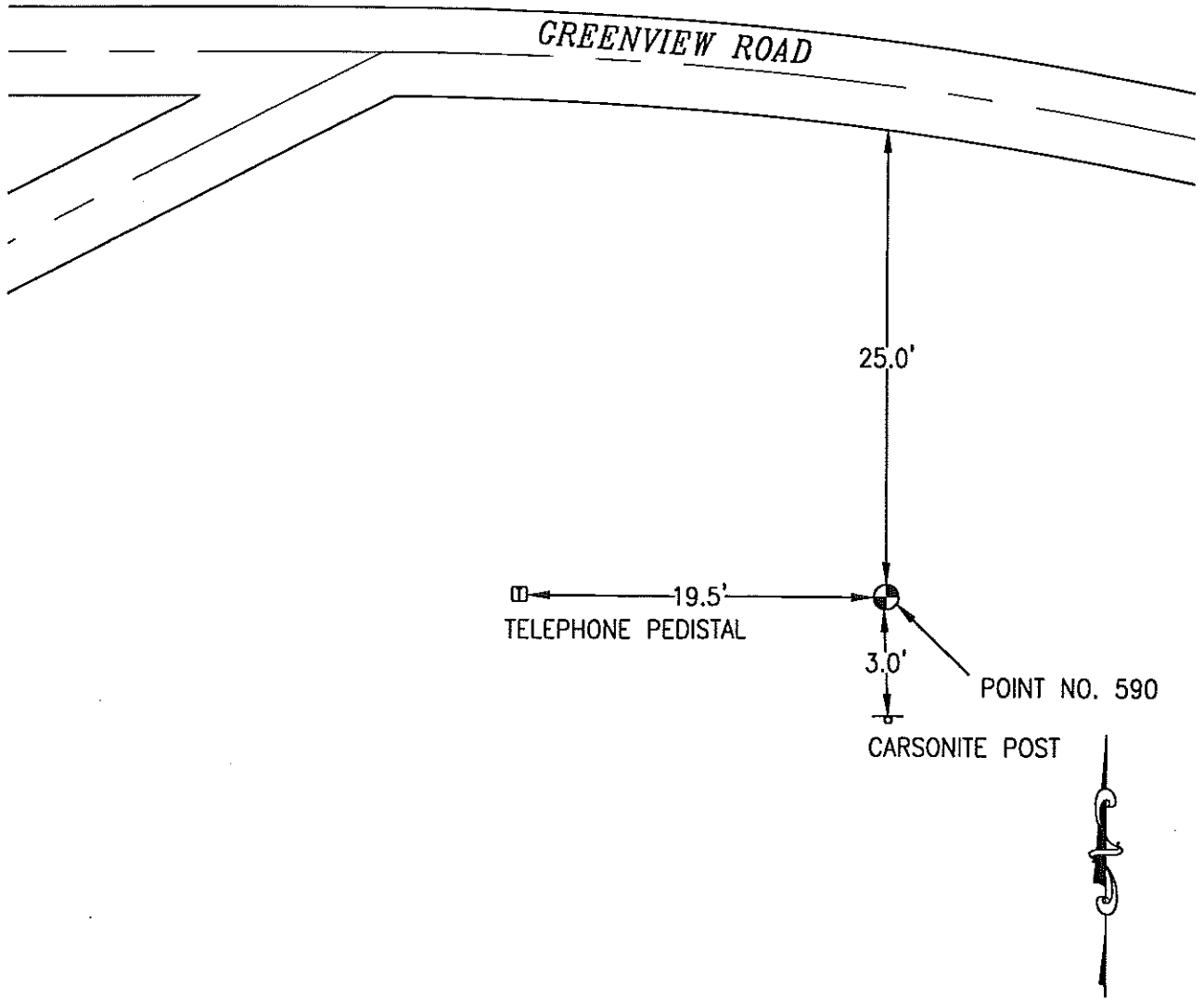
OK

590 744304-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 590, 744304-1". LOCATED APPROXIMATELY 3.0 FEET NORTH OF A CARSONITE POST, 19.5 FEET EAST OF A TELEPHONE PEDESTAL, 25.0 FEET SOUTHERLY OF THE SOUTHERLY EDGE OF GREENVIEW ROAD, ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.

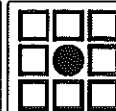


PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
590	744304-1	41 14 22.59664	95 47 23.66507	301.83	140183.554	308069.697	329.34	459918.88	1010725.33	1080.5



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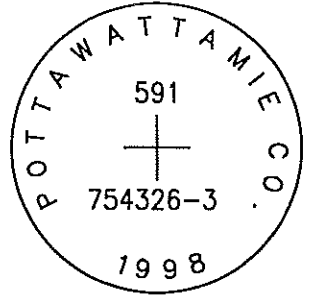
2450 S. Pearla Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

Date: November 3, 1998

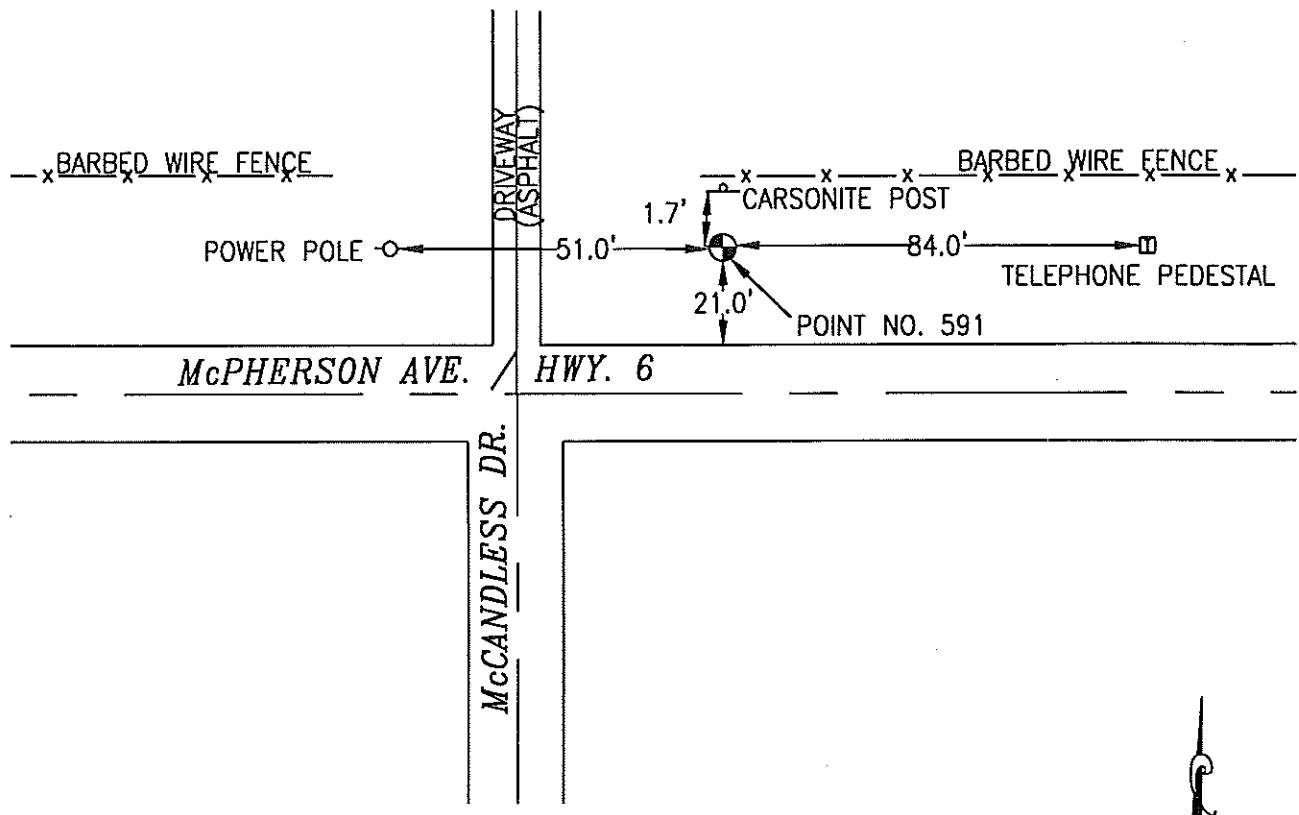
O K

591 754326-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 591, 754326-3". LOCATED APPROXIMATELY 21 FEET NORTH OF THE NORTH EDGE OF ASPHALT HIGHWAY 6, 51 FEET EAST OF A POWERPOLE, 1.7 FEET SOUTH OF A ORANGE CARSONITE POST, 84 FEET WEST OF A TELEPHONE PEDESTAL, EAST OF THE INTERSECTION OF MCCANDLESS DRIVE (ROAD TO COUNCIL BLUFFS AIRPORT). ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
591	754326-3	41 15 52.57573	95 45 59.14164	339.41	142906.753	310109.452	366.99	468853.24	1017417.43	1204.0



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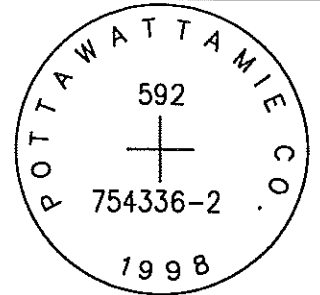
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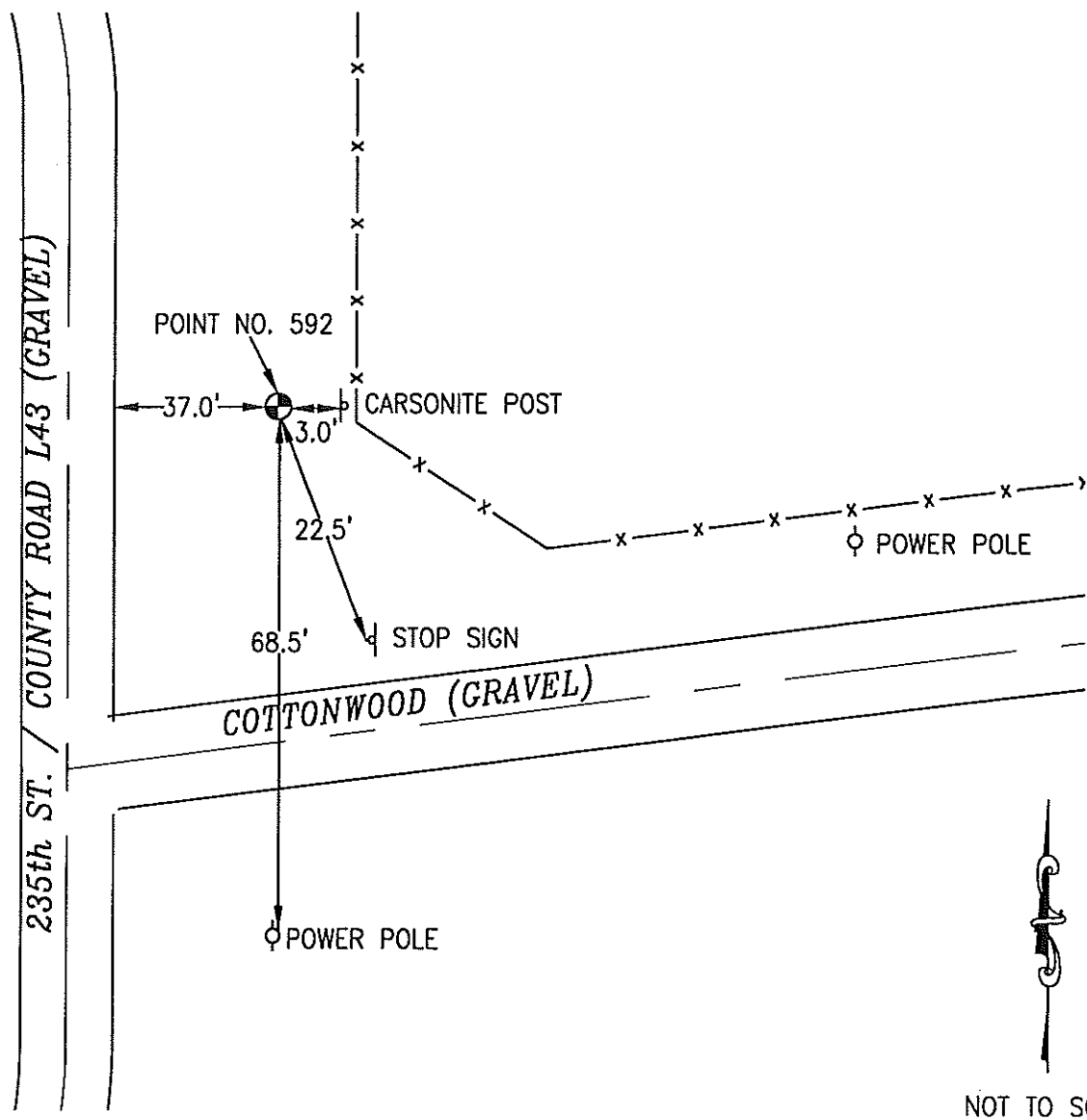
OK

592 754336-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 592, 754336-2". LOCATED APPROXIMATELY 37 FEET EAST OF THE EAST EDGE OF 235TH STREET (COUNTY ROAD L43), 68.5 FEET NORTH OF A POWERPOLE, 22.5 FEET NORTHWEST OF A STOP SIGN, 3 FEET WEST OF A ORANGE CARSONITE POST. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
592	754336-2	41 14 57.68771	95 44 12.55330		306.90	141149.907	312546.033	334.45	463089.32	1025411.44	1097.3



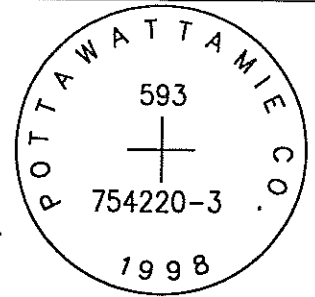
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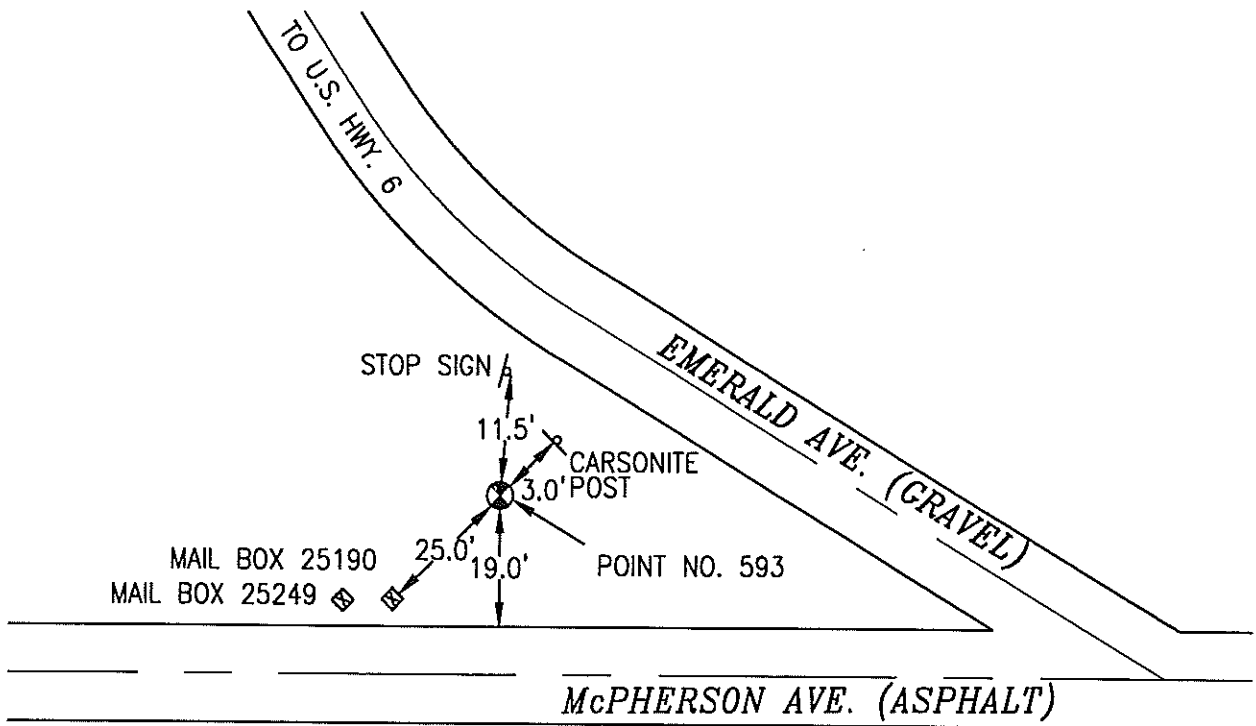
OK

593 754220-3



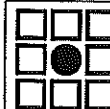
SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 593, 754220-3". LOCATED APPROXIMATELY 19 FEET NORTH OF THE NORTH EDGE OF MCPHERSON AVENUE, 25 FEET EAST OF A MAILBOX AT ADDRESS 25190, 3 FEET SOUTHWEST OF A CARSONITE POST, 11.5 FEET SOUTHWEST OF A STOP SIGN, ON THE WEST SIDE OF EMERALD AVENUE. ON THE MCCLELLAND 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
593	754220-3	41 16 56.91080	95 42 15.66041		324.31	144757.072	315359.769	351.95	474923.83	1034642.84	1154.7



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Job Number: 50013142

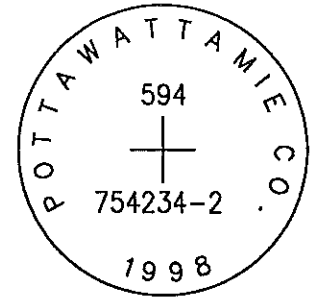
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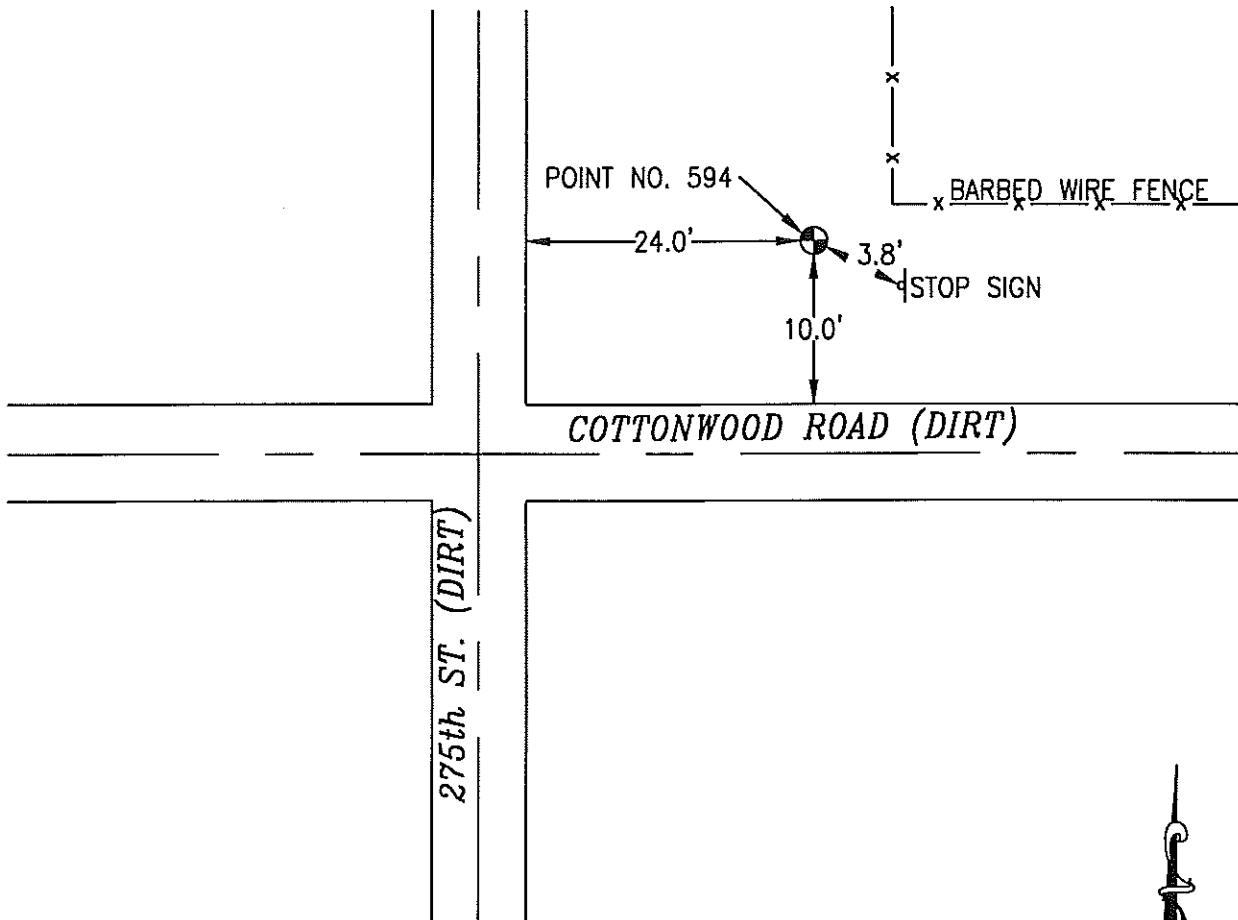
594

754234-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 594, 754234-2". LOCATED APPROXIMATELY 24 FEET EAST OF THE EAST EDGE OF GRAVEL 275TH STREET, 10 FEET NORTH OF THE NORTH EDGE OF GRAVEL COTTONWOOD ROAD, 3.8 FEET WEST OF STOP SIGN. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
594	754234-2	41 14 46.55037	95 39 38.73616	306.28	140645.319	318910.305	333.86	461433.85	1046291.56	1095.3



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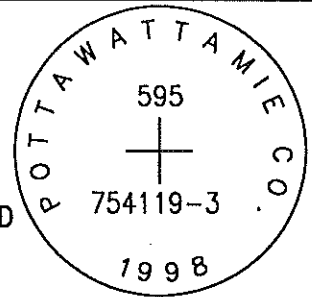
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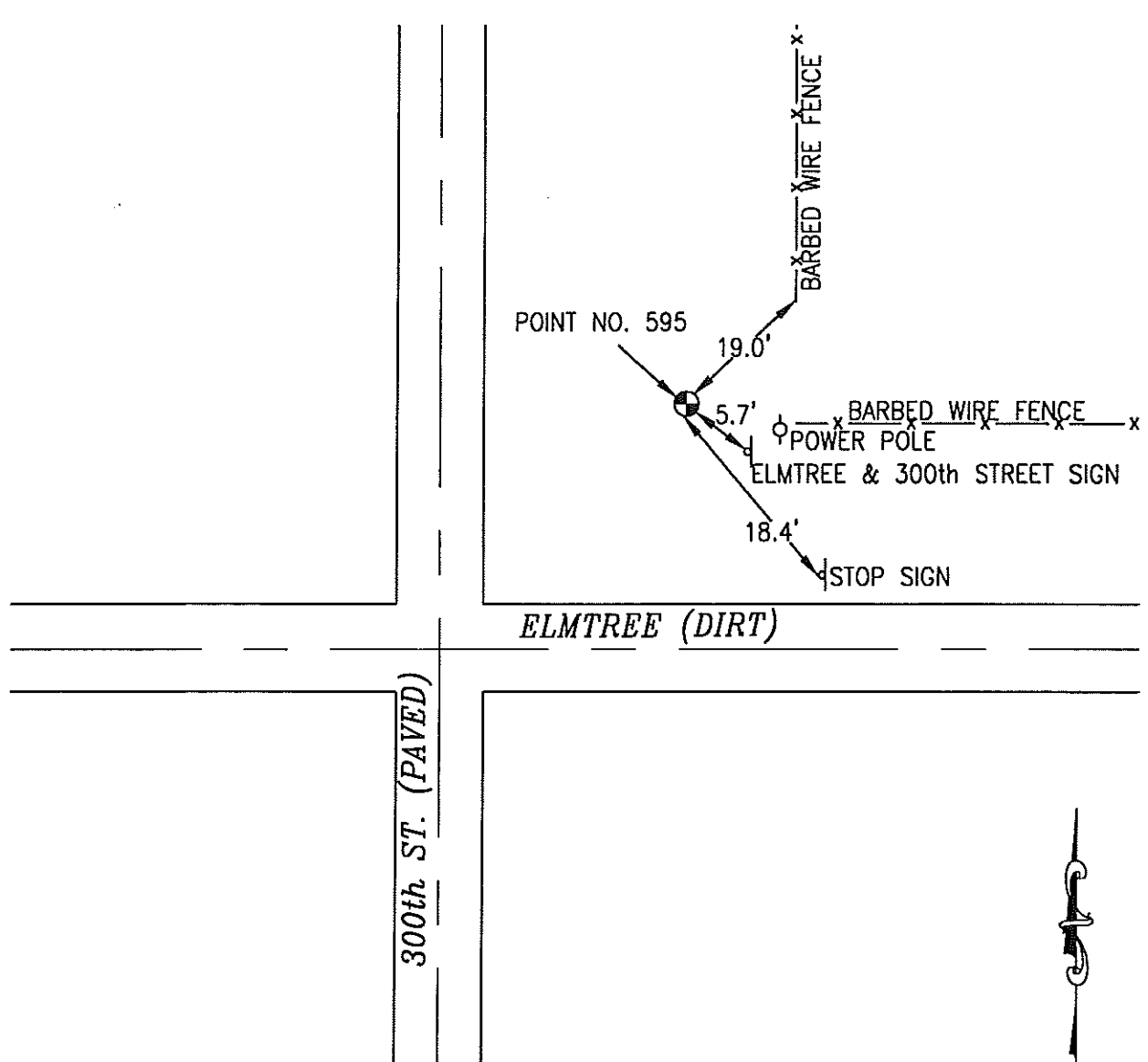
ok

595 754119-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 595, 754119-3". LOCATED APPROXIMATELY 18.4 FEET NORTHWEST OF A STOP SIGN, 19 FEET SOUTHWEST OF THE END OF A FENCE, 5.7 FEET WEST OF STREET INTERSECTION SIGN (300TH AND ELMTREE), IN THE NORTHEAST CORNER OF THE INTERSECTION. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
595	754119-3	41 16 30.15815	95 36 45.62107	351.16	143741.484	323017.260	378.79	471591.85	1059765.79	1242.7



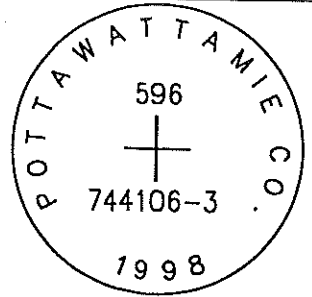
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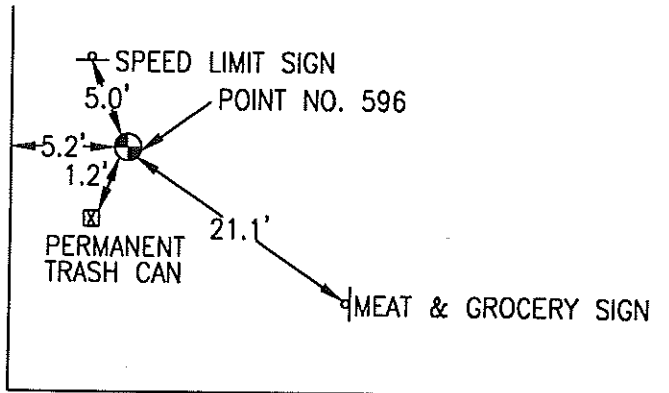
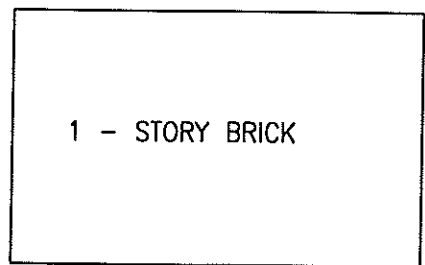
OK

596 744106-3

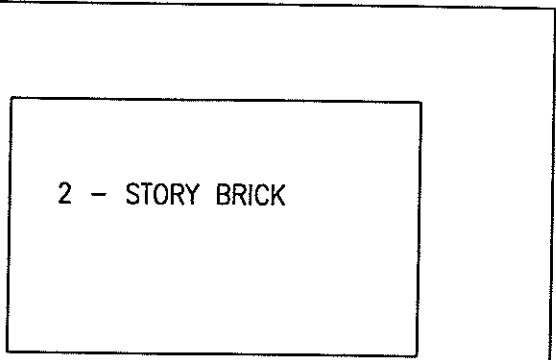


SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 596, 744106-3". LOCATED APPROXIMATELY 5.2 FEET EAST OF THE EAST EDGE OF HIGHWAY L55, 21.1 FEET NORTHWEST OF "MEAT AND GROCERY" SIGN, 5 FEET SOUTHEAST OF SPEED LIMIT SIGN. ON THE TREYNOR 7.5 MINUTE QUADRANGLE.

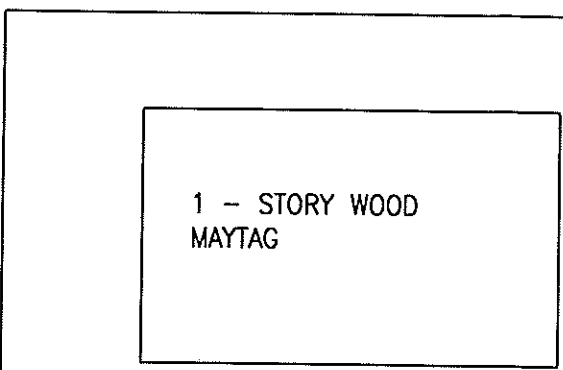
PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
596	744106-3	41 13 57.21078	95 36 46.55114	341.39	139025.267	322881.023	368.99	456118.73	1059318.82	1210.6



HWY. 92



HWY. L-55



NOT TO SCALE

LOCATION DIAGRAM
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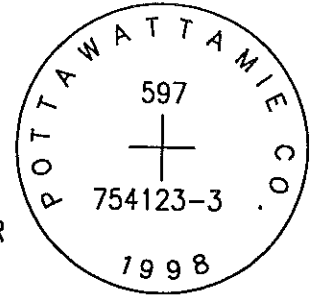
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Job Number: 50013142
Date: November 3, 1998

597

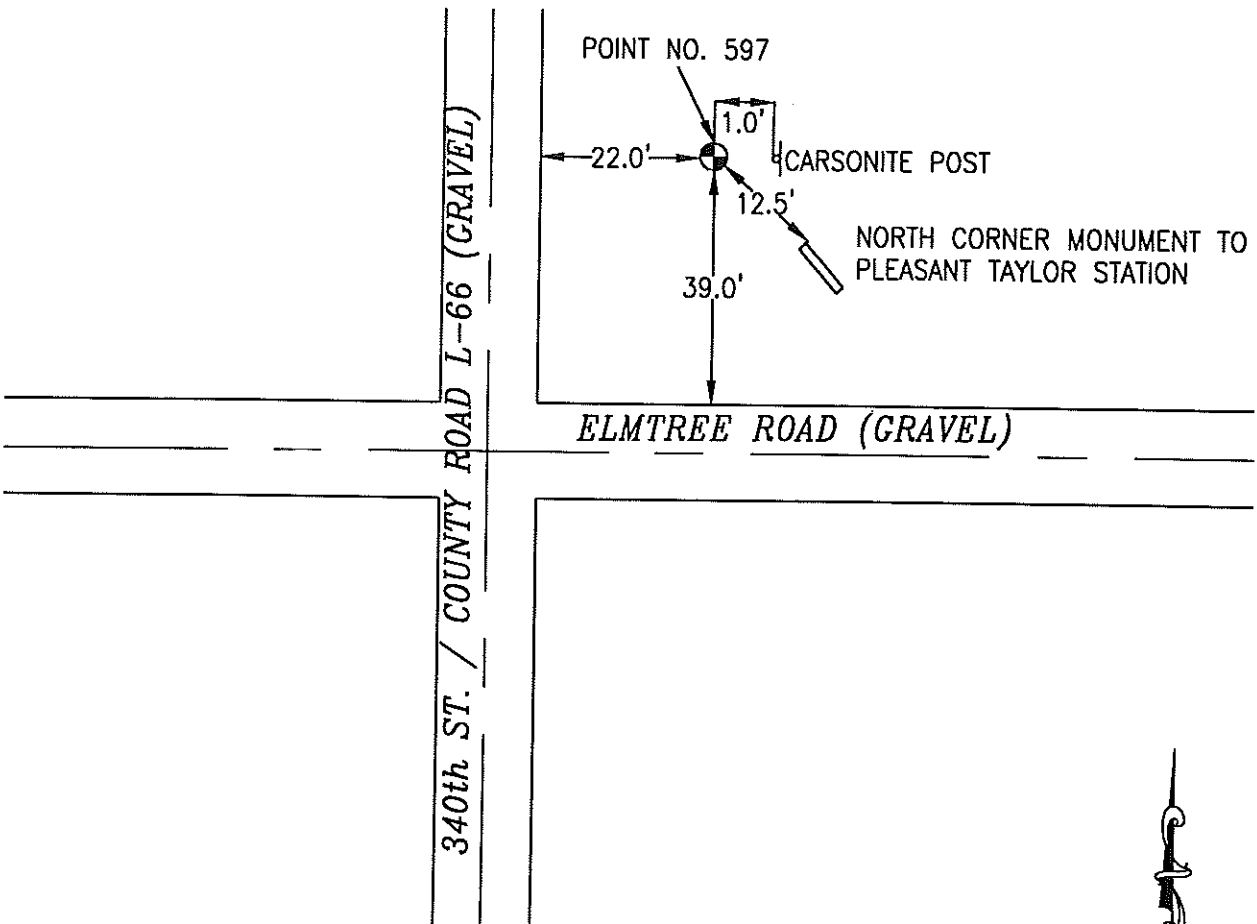
754123-3

OK

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 597, 754123-3". LOCATED APPROXIMATELY 22 FEET EAST OF THE EAST EDGE OF 340TH STREET (COUNTY ROAD L66), 39 FEET NORTH OF THE NORTH EDGE OF ELMTREE ROAD, 12.5 FT NORTHWEST OF THE NORTH CORNER OF STONE MONUMENT TO "PLEASANT TAYLOR STATION", 1 FOOT WEST OF ORANGE CARSONITE POST. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.

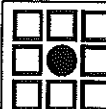


PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
597	754123-3	41 16 29.92185	95 32 12.42536	334.16	143582.561	329373.167	361.80	471070.45	1080618.47	1187.0



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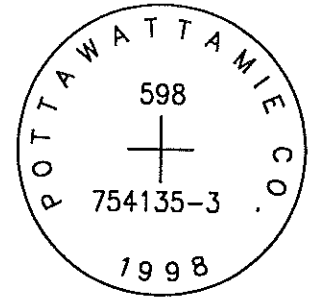
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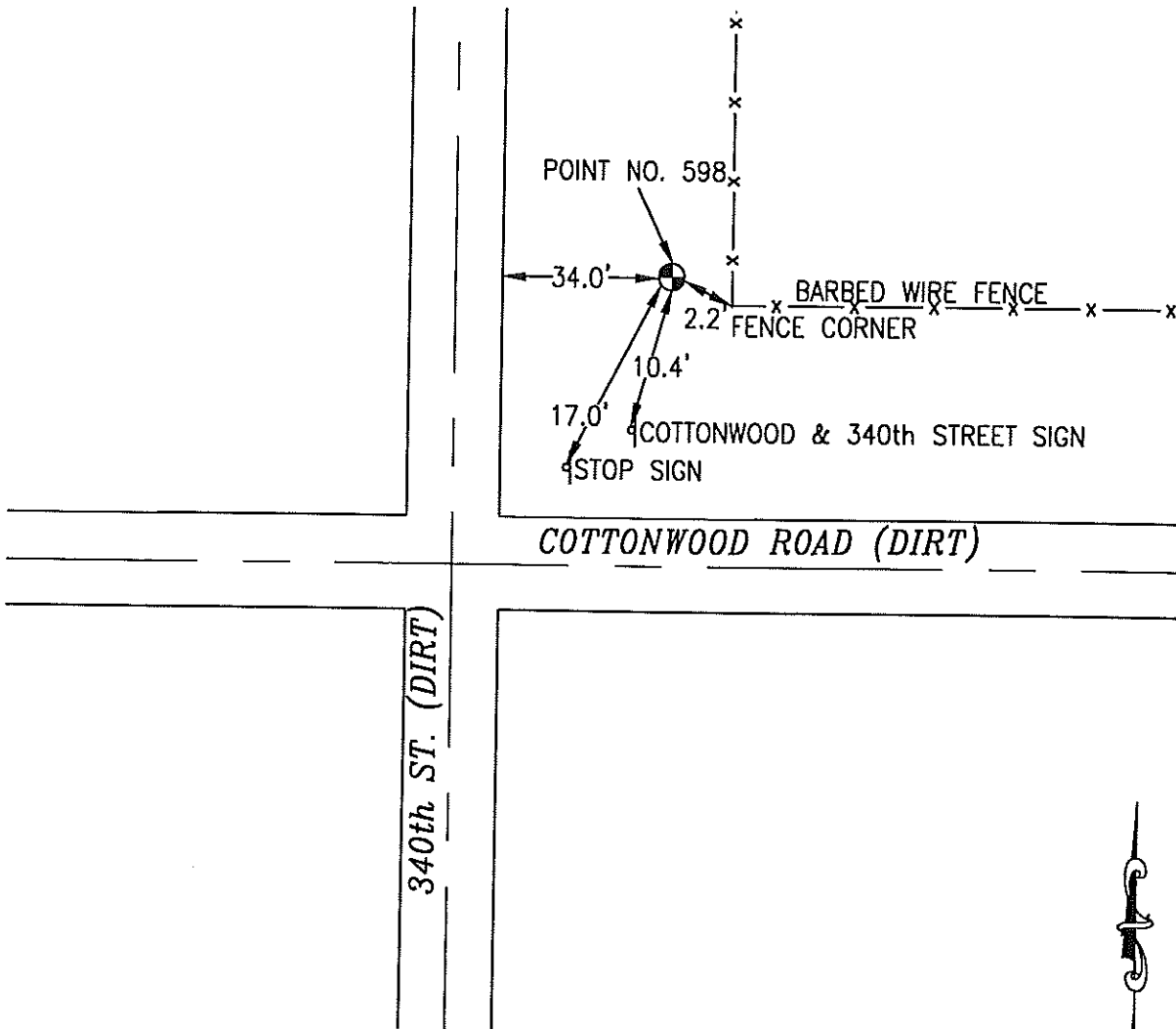
598

754135-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 598, 754135-3". LOCATED APPROXIMATELY 34 FEET EAST OF THE EAST EDGE OF 340TH STREET, 17 FEET NORTHEAST OF A STOP SIGN, 10.4 FEET NORTH OF A STREET INTERSECTION SIGN (340TH STREET AND COTTONWOOD ROAD), 2.2 FEET WEST OF A FENCE CORNER, ON THE NORTH SIDE OF COTTONWOOD ROAD. ON THE TAYLOR 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
598	754135-3	41 14 45.79399	95 32 13.07720	305.78	140371.647	329282.787	333.42	460535.98	1080321.94	1093.9



NOT TO SCALE

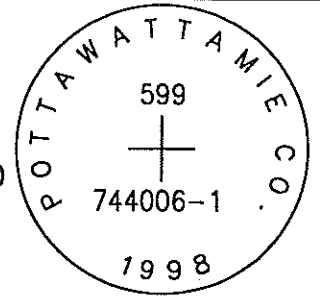
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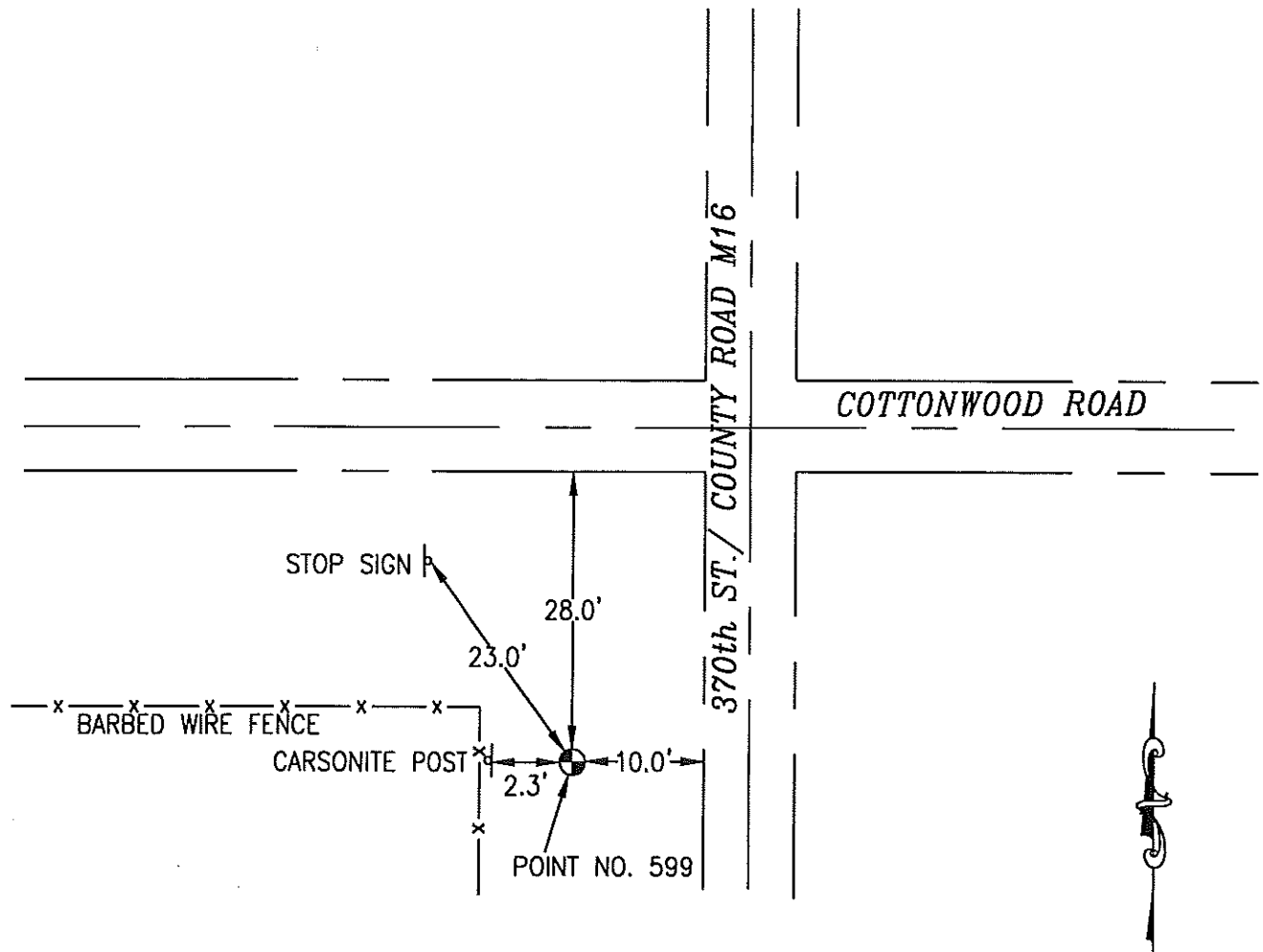
OK

599 744006-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 599, 744006-1". LOCATED APPROXIMATELY 28 FEET SOUTH OF THE SOUTH EDGE OF COTTONWOOD ROAD, 10 FEET WEST OF THE WEST EDGE OF 370TH STREET (COUNTY ROAD M16), 23 FEET SOUTHEAST OF A STOP SIGN, 2.3 FEET EAST OF A ORANGE CARSONITE AND FENCE. ON THE CARSON 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
599	744006-1	41 14 44.53005	95 28 49.54849	334.52	140223.249	334019.307	362.21	460049.11	1095861.68	1188.3



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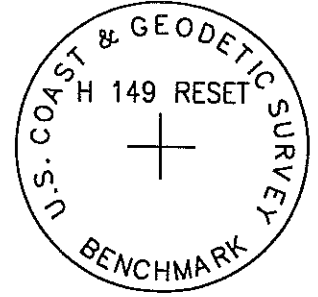
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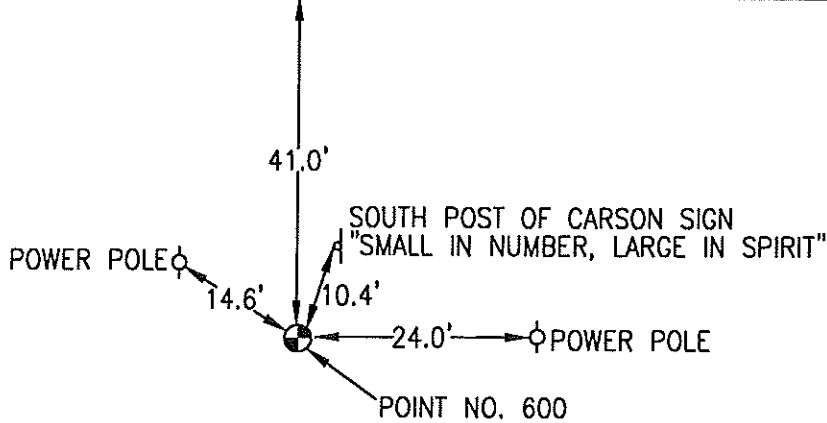
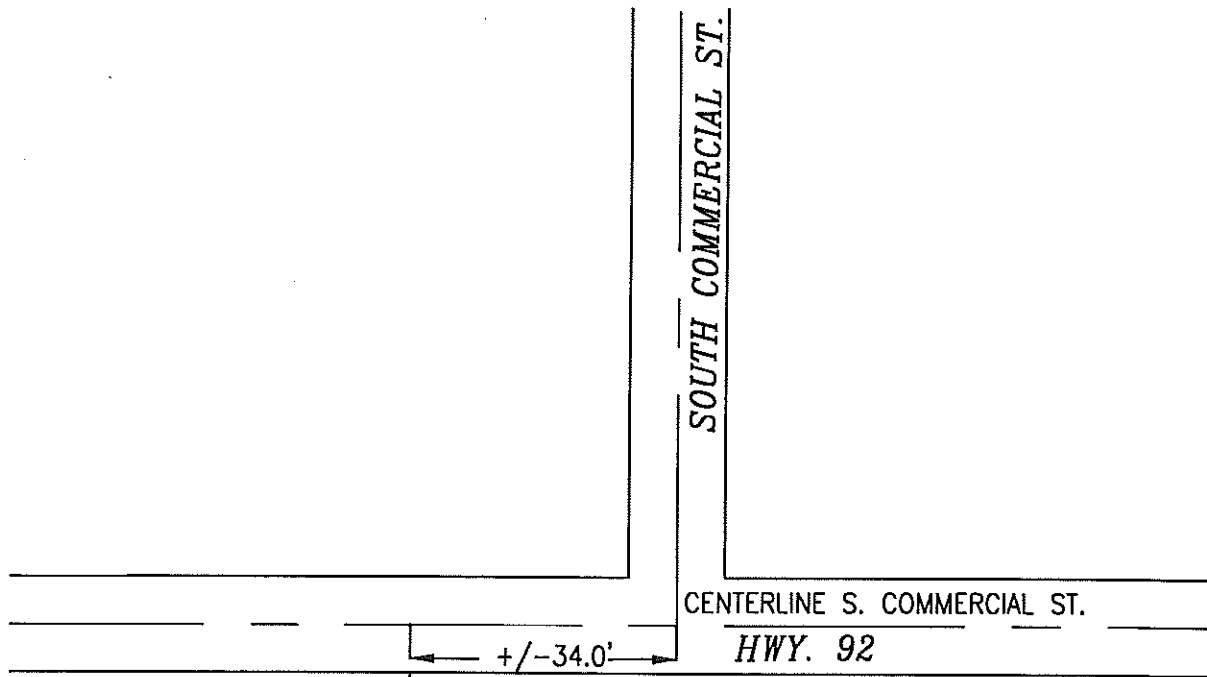
OK

600 H149RESET

FOUND A 3.5 INCH DIAMETER BRASS CAP IN CONCRETE, FLUSH WITH GROUND, STAMPED "H149 RESET 1955 U. S. COAST AND GEODETIC SURVEY BENCHMARK", LOCATED APPROXIMATELY 34 FEET WEST OF THE CENTERLINE EXTENDED OF SOUTH COMMERCIAL STREET, 41 FEET SOUTH OF THE SOUTH EDGE OF HIGHWAY 92, 24 FEET WEST OF A POWERPOLE, 14.6 FEET SOUTHEAST OF A POWERPOLE, 10.4 FEET SOUTH OF SOUTH POST OF "CARSON SMALL IN NUMBER, LARGE IN SPIRIT" SIGN. ON THE CARSON 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVDB88 METERS	NORTHING US FEET	EASTING US FEET	NAVDB88 US FEET
600	H149RESET	41 13 57.50136	95 25 22.10741	297.65	138664.505	338815.808	325.44	454935.13	1111598.20	1067.7



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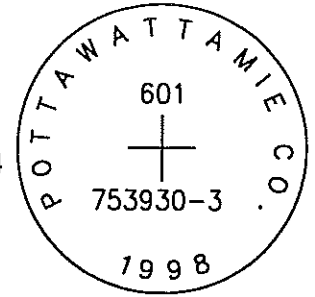
Job Number: 50013142

Date: November 4, 1998

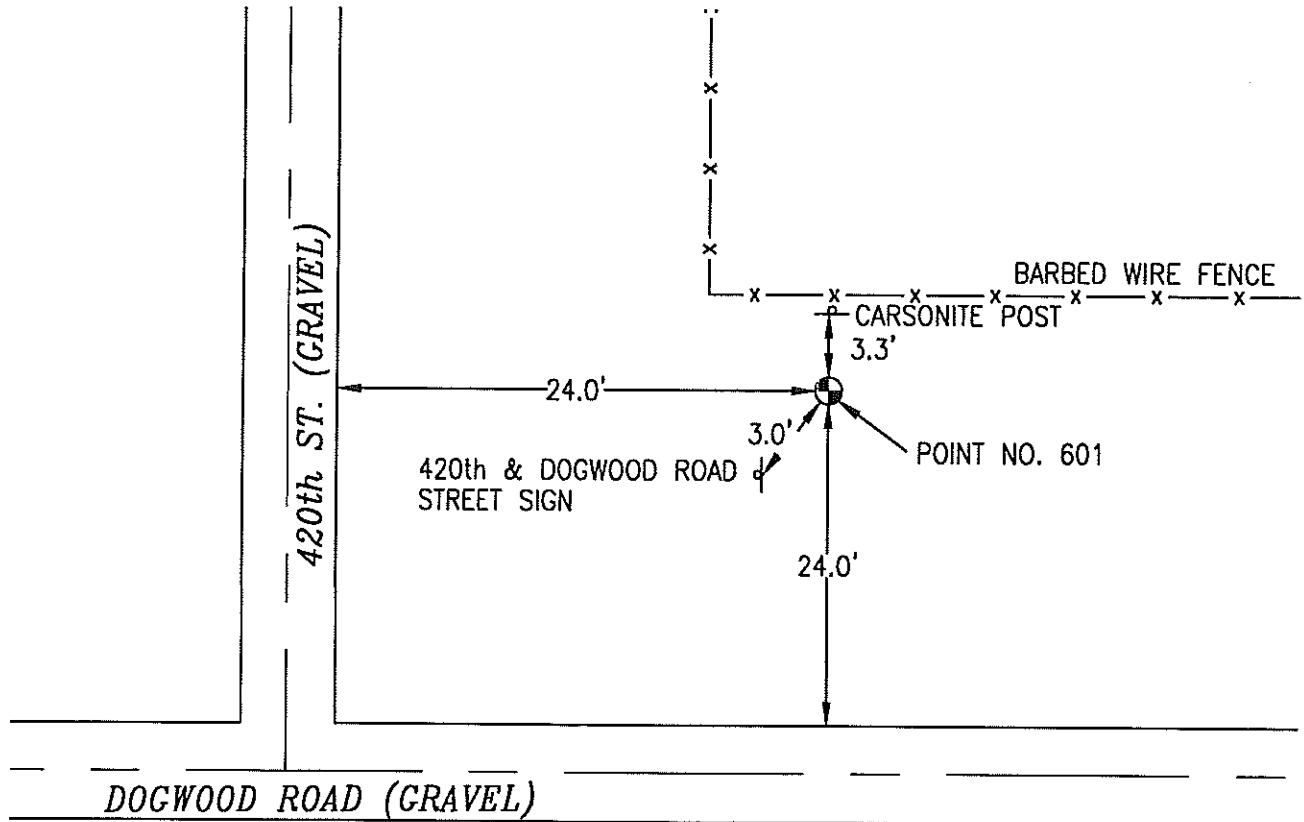
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601 753930-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 601, 753930-3". LOCATED APPROXIMATELY 24 FEET EAST OF THE EAST EDGE OF GRAVEL 420TH STREET, 24 FEET NORTH OF THE NORTH EDGE OF GRAVEL DOGWOOD ROAD, 3 FEET NORTHEAST OF A STREET INTERSECTION SIGN (420TH AND DOGWOOD), 3.3 FEET SOUTH OF A ORANGE CARSONITE POST AND FENCE. ON THE OAKLAND 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
601	753930-3	41 15 36.67176	95 23 2.97173	351.11	141652.102	342121.390	378.85	464736.94	1122443.26	1242.9



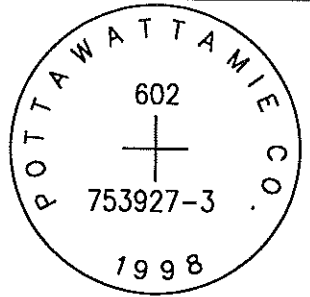
NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 Job Number: 50013142
 Date: November 4, 1998

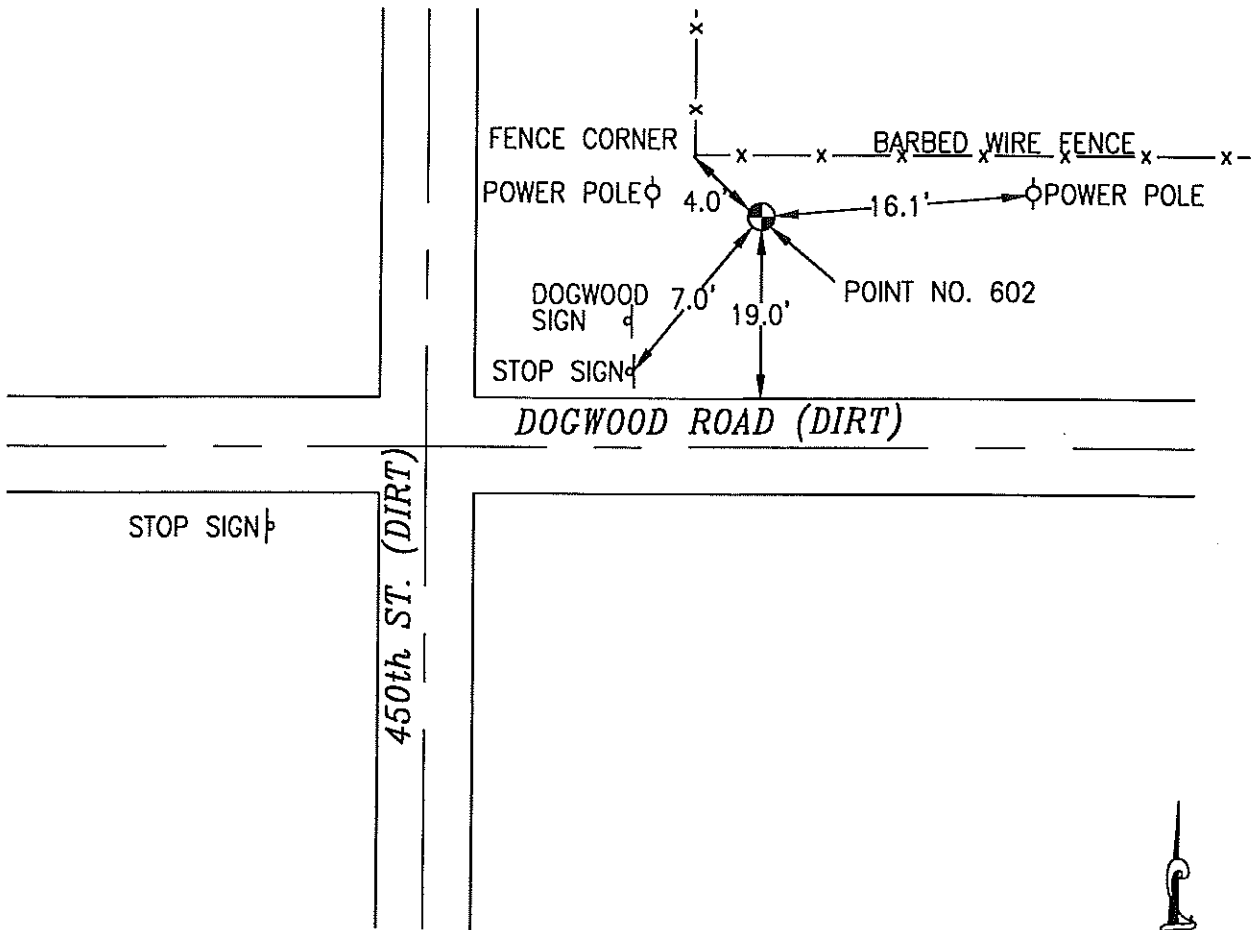
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602 753927-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 602, 753927-3". LOCATED APPROXIMATELY 19 FEET NORTH OF THE NORTH EDGE OF DOGWOOD ROAD, ON THE EAST SIDE OF 450TH STREET, 7 FEET NORTHEAST OF A STOP SIGN, 4 FEET SOUTHEAST OF A FENCE CORNER, 16.1 FEET WEST OF A POWERPOLE. ON THE AVOCA SE 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
602	753927-3	41 15 36.49522	95 19 38.82600	348.76	141545.279	346872.206	376.52	464386.47	1138029.90	1235.3

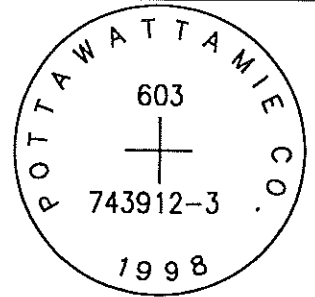


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LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 GPS Survey Report

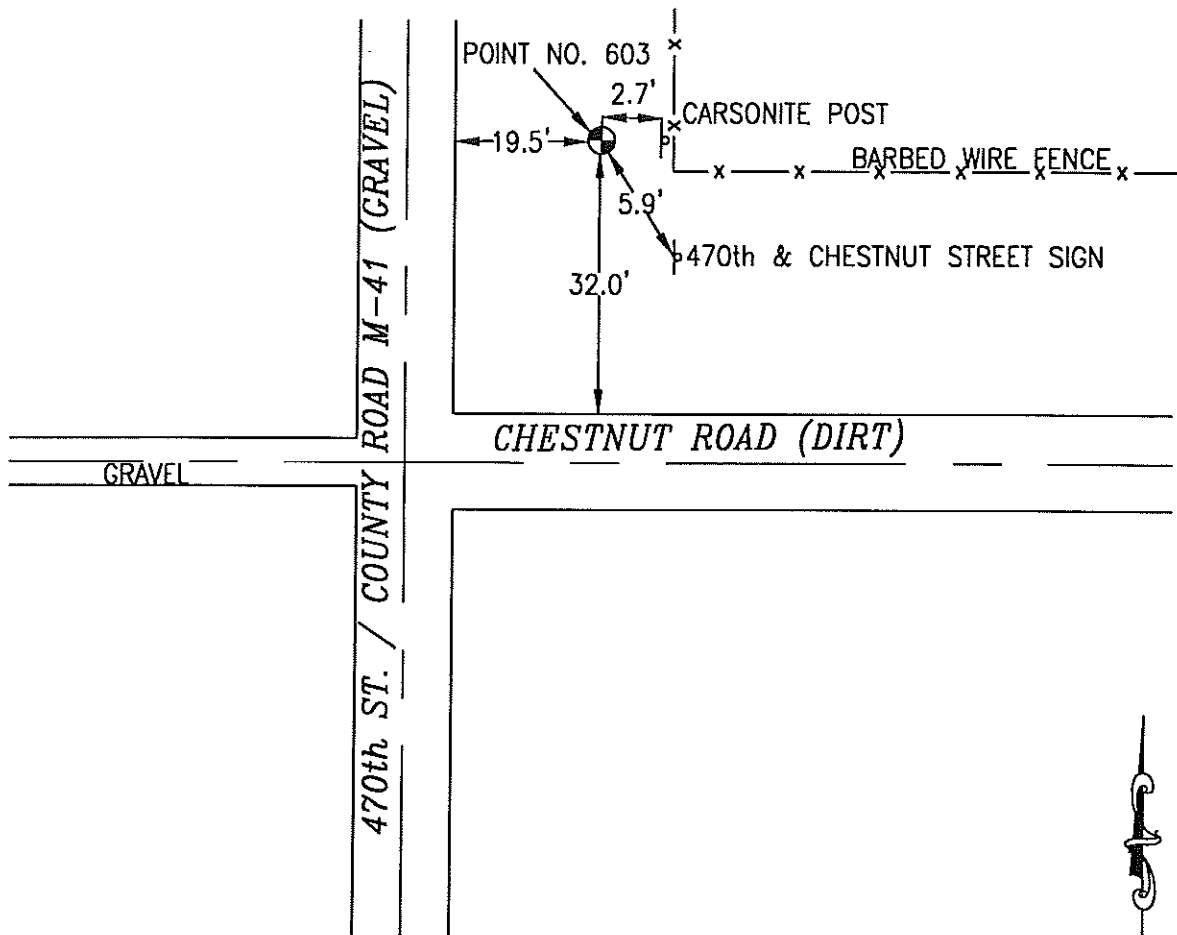
MERRICK
 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 4, 1998

603 743912-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 603, 743912-3". LOCATED APPROXIMATELY 32 FEET NORTH OF THE NORTH EDGE OF CHESTNUT ROAD, 19.5 FEET EAST OF THE EAST EDGE OF 470TH STREET, 5.9 FEET NORTH OF A STREET INTERSECTION SIGN, 2.7 FEET WEST OF A ORANGE CARSONITE POST. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
603	743912-3	41 13 04.43862	95 17 20.04924	339.82	136788.481	350005.432	367.75	448780.21	1148309.49	1206.5



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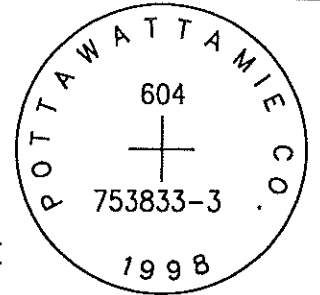
Job Number: 50013142

Date: November 4, 1998

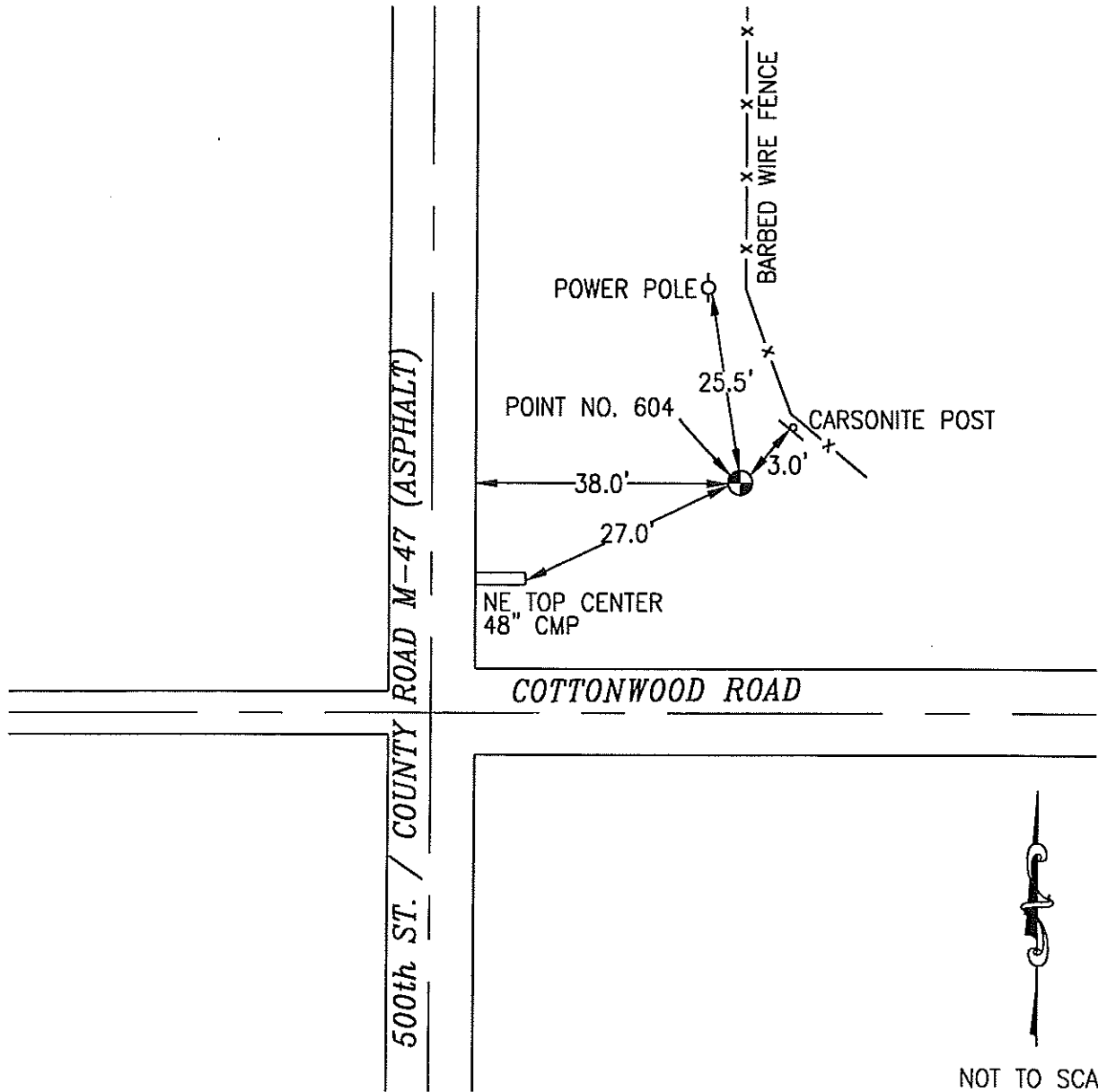
OK

604 753833-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 604, 753833-3". LOCATED APPROXIMATELY 38 FEET EAST OF THE EAST EDGE OF 500TH STREET (COUNTY ROAD M47), 27 FEET NORTHEAST OF THE TOP CENTER OF A 48 INCH DIAMETER CULVERT, 25.5 FEET SOUTH OF A POWERPOLE, 3 FEET SOUTHWEST OF A ORANGE CARSONITE POST. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.

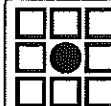


PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
604	753833-3	41 14 44.04396	95 13 55.21096	339.13	139763.935	354836.838	367.00	458542.18	1164160.53	1204.1



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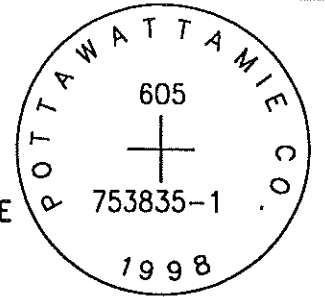
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Date: November 4, 1998

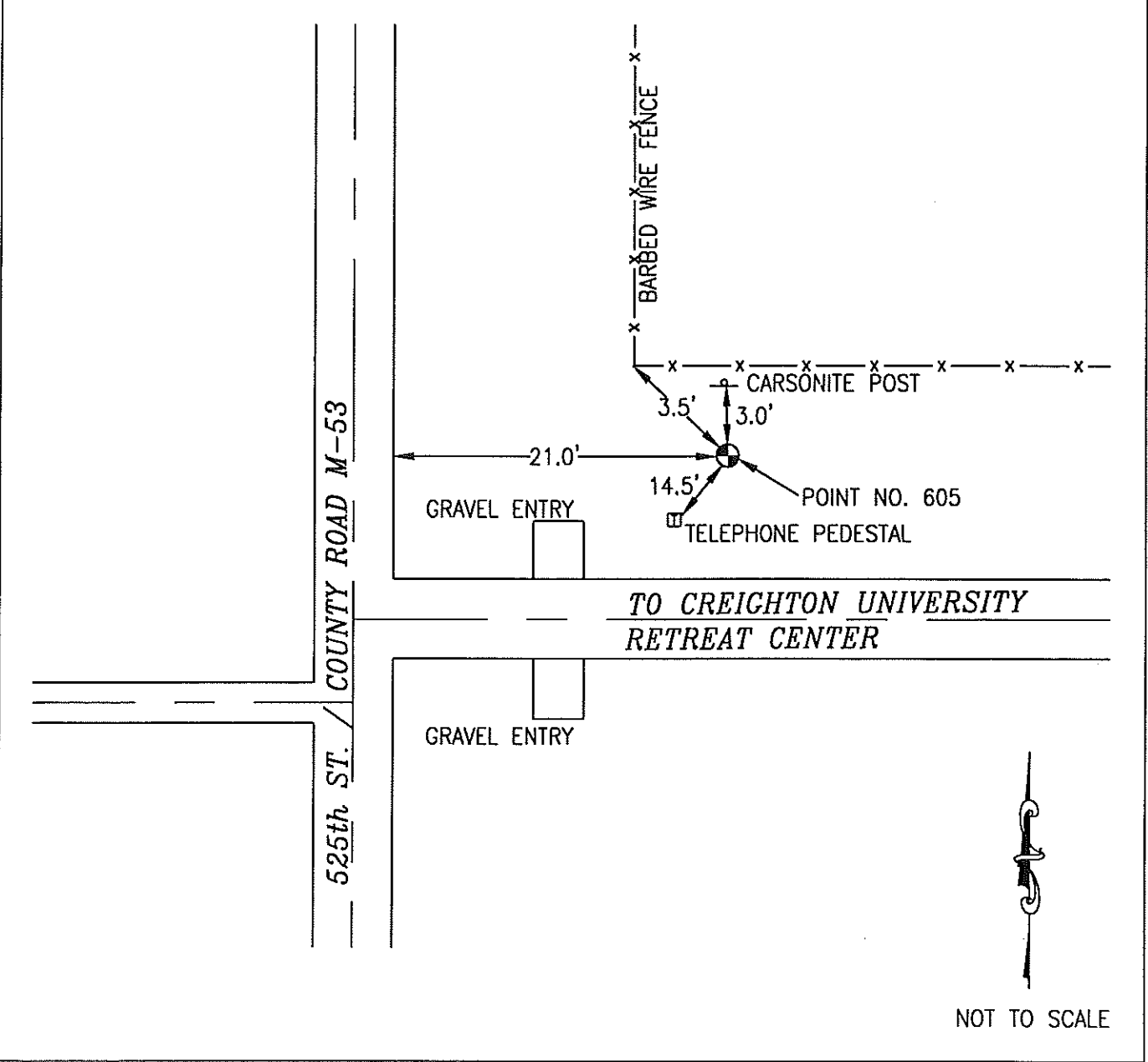
OK

605 753835-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 605, 753835-1". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 525TH STREET, 14.5 FEET NORTHEAST OF A TELEPHONE PEDESTAL, 3 FEET SOUTH OF A ORANGE CARSONITE POST, 3.5 FEET SOUTHWEST OF A FENCE CORNER, AT ENTRANCE TO CREIGHTON UNIVERSITY RETREAT CENTER. ON THE ATLANTIC SW 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
605	753835-1	41 15 8.19346	95 10 50.39553	363.91	140424.355	359153.411	391.82	460708.90	1178322.48	1285.5



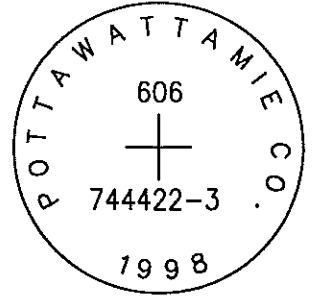
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Gene could NOT find it

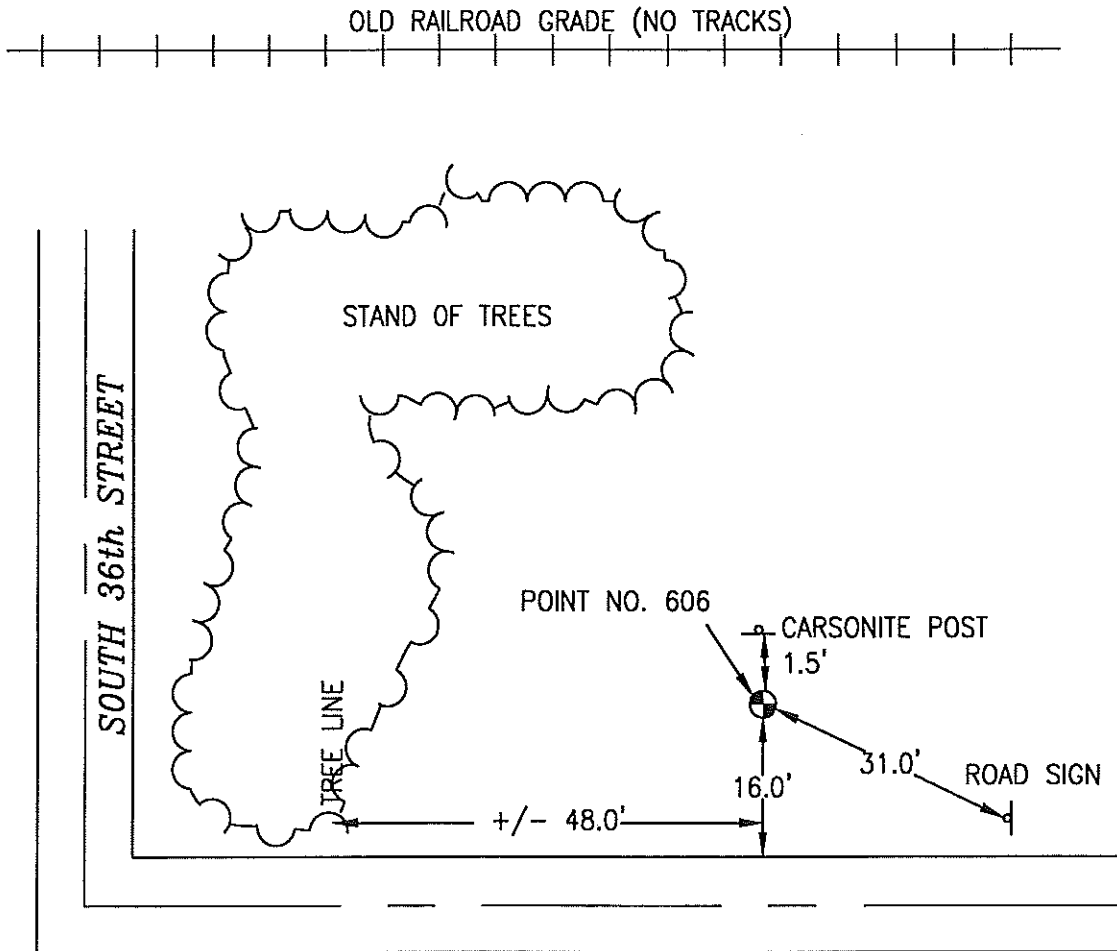
606

744422-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.35 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 606, 744422-3". LOCATED APPROXIMATELY 31 FEET NORTHWEST OF ROAD SIGN, 48 FEET EAST OF EAST EDGE OF EXISTING TREES, 16 FEET NORTH OF NORTH EDGE OF ROAD, 1.5 FEET SOUTH OF ORANGE CARSONITE POST. ON THE OMAHA SOUTH 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
606	744422-3	41 11 22.71048	95 54 10.14602	267.65	134891.849	298455.026	294.95	442557.67	979181.20	967.7



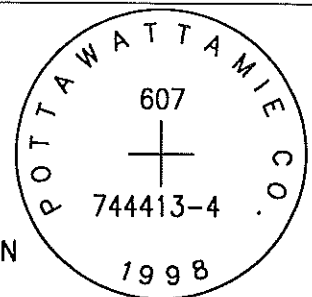
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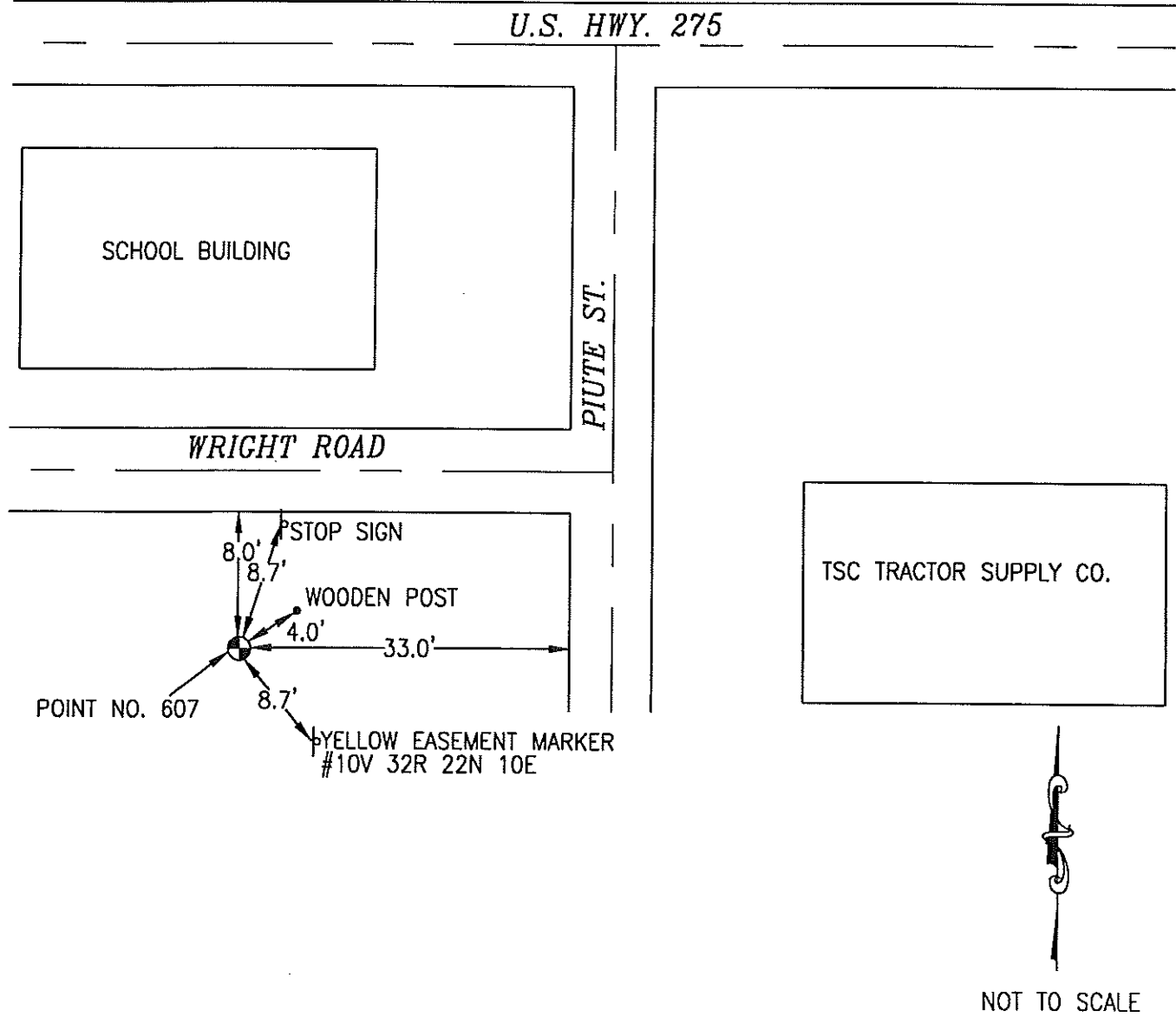
ok

607 744413-4



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 607, 744413-4". LOCATED APPROXIMATELY 8 FEET SOUTH OF THE SOUTH EDGE OF WRIGHT ROAD, 33 FEET WEST OF THE WEST EDGE OF PIUTE STREET, 8.7 FEET NORTHWEST OF YELLOW EASEMENT MARKER, 8.7 FEET SOUTH OF STOP SIGN, 4 FEET SOUTH OF A WOODEN POST. ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
607	744413-4	41 13 05.23023	95 51 03.48903	269.89	137934.362	302888.454	297.32	452539.65	993726.54	975.5



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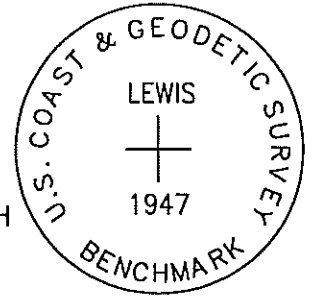
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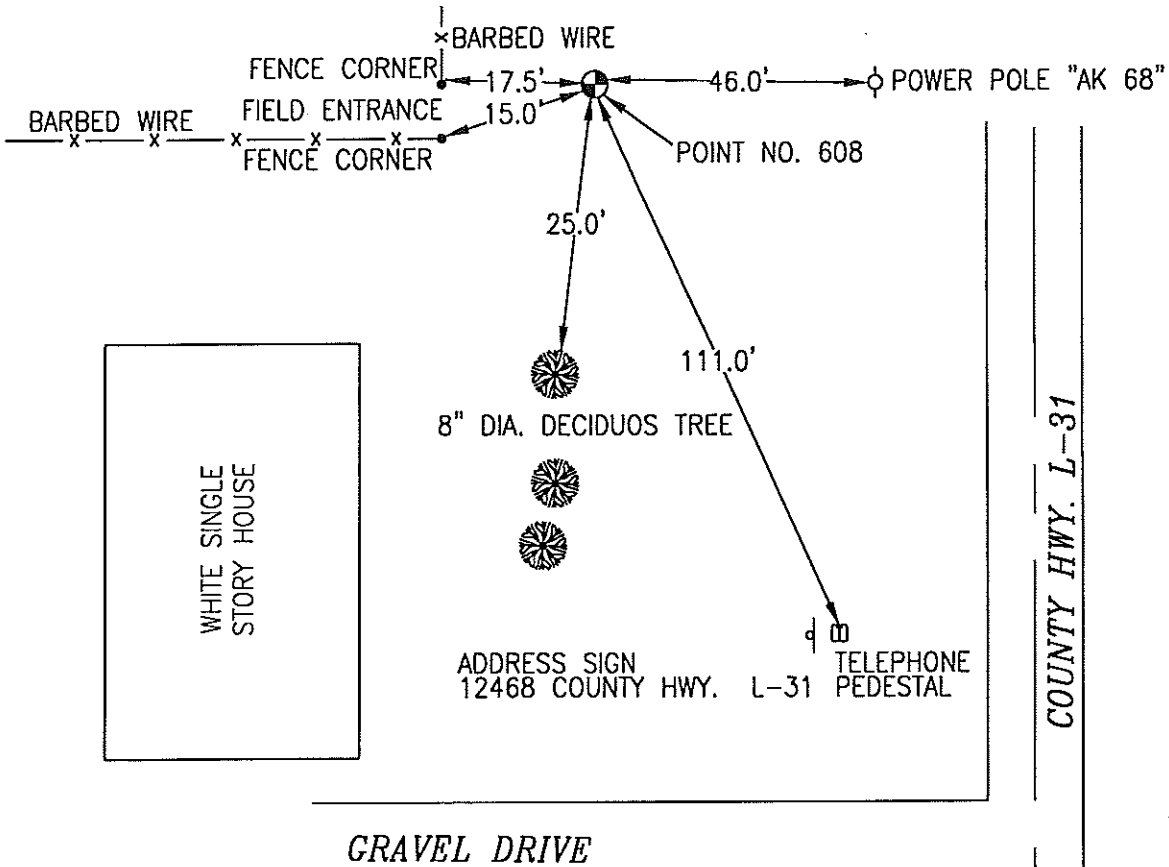
OK

608 LEWIS

FOUND 3.5 INCH DIAMETER BRASS CAP IN CONCRETE, FLUSH WITH GROUND, STAMPED "LEWIS 1947 U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATION". LOCATED APPROXIMATELY IN THE SOUTHWEST QUADRANT OF SECTION 20, TOWNSHIP 74 NORTH, RANGE 43 WEST, 17.5 FEET SOUTHEAST OF THE SOUTH END OF A NORTH-SOUTH FENCE, 15 FEET NORTHEAST OF THE EAST END OF A EAST-WEST FENCE, 25 FEET NORTHEAST OF A 8 INCH DIAMETER DECIDUOUS TREE, 111 FEET NORTH-NORTHWEST OF A TELEPHONE BOX AND ADDRESS SIGN FOR "12468 L31", 46 FEET WEST OF POWERPOLE AK68, ON THE WEST SIDE OF COUNTY ROAD L31. SEE NGS CONTROL. ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
608	LEWIS	41 11 47.14371	95 49 6.20422	268.32	135453.102	305555.128	295.72	444399.05	1002475.45	970.2



*NOTE: LARGE WHITE DOG ON PROPERTY FRIENDLY ON 8-25-98

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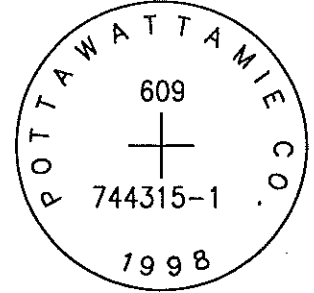
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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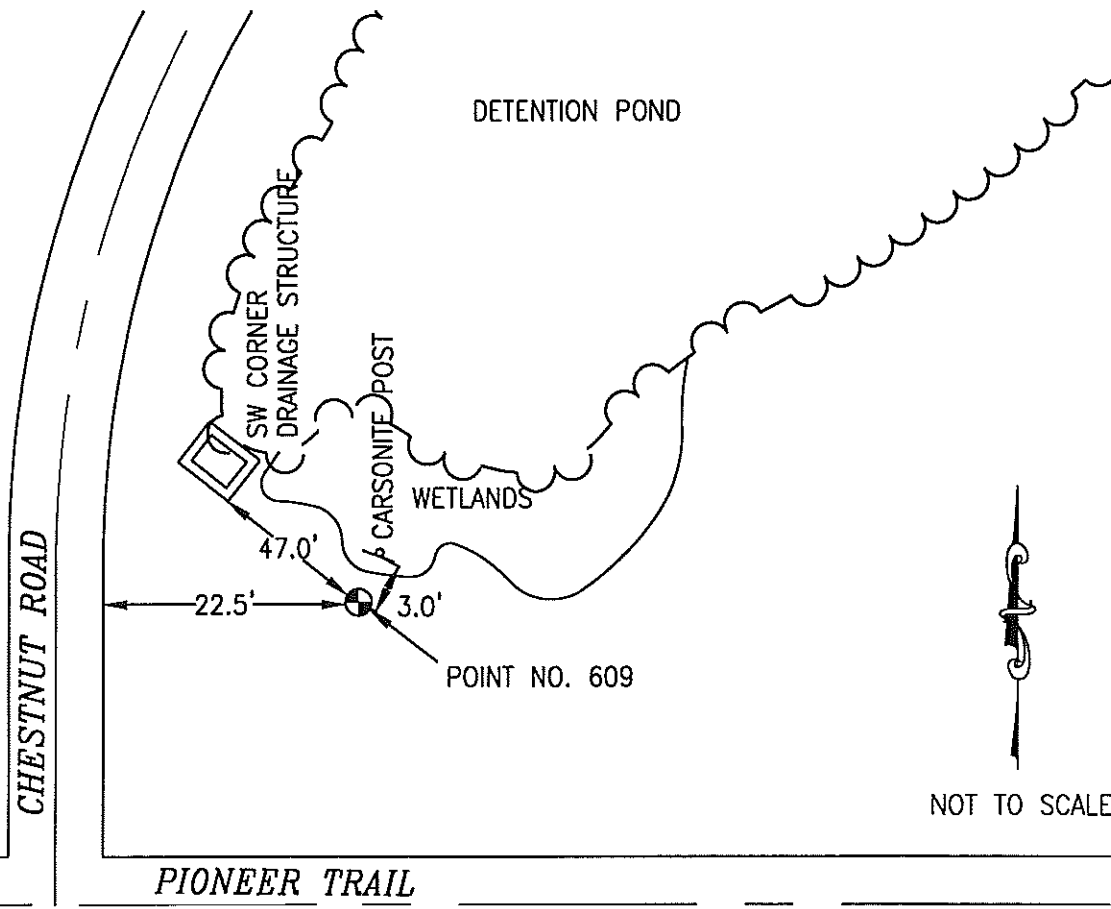
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609 744315-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 609, 744315-1". LOCATED APPROXIMATELY 22.5 FEET EAST OF THE EAST EDGE OF CHESTNUT ROAD, 47 FEET SOUTHEAST OF THE SOUTH CORNER OF A DRAINAGE STRUCTURE, 3 FEET SOUTHWEST OF A ORANGE CARSONITE POST. ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.

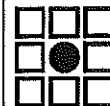


PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
609	744315-1	41 12 50.93906	95 46 30.67985	286.47	137324.702	309229.077	313.94	450539.46	1014529.06	1030.0



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LOCATION DIAGRAM
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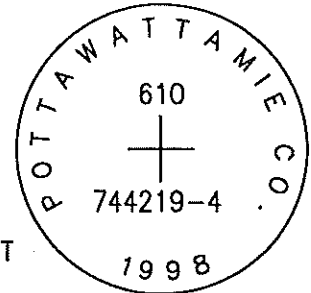
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

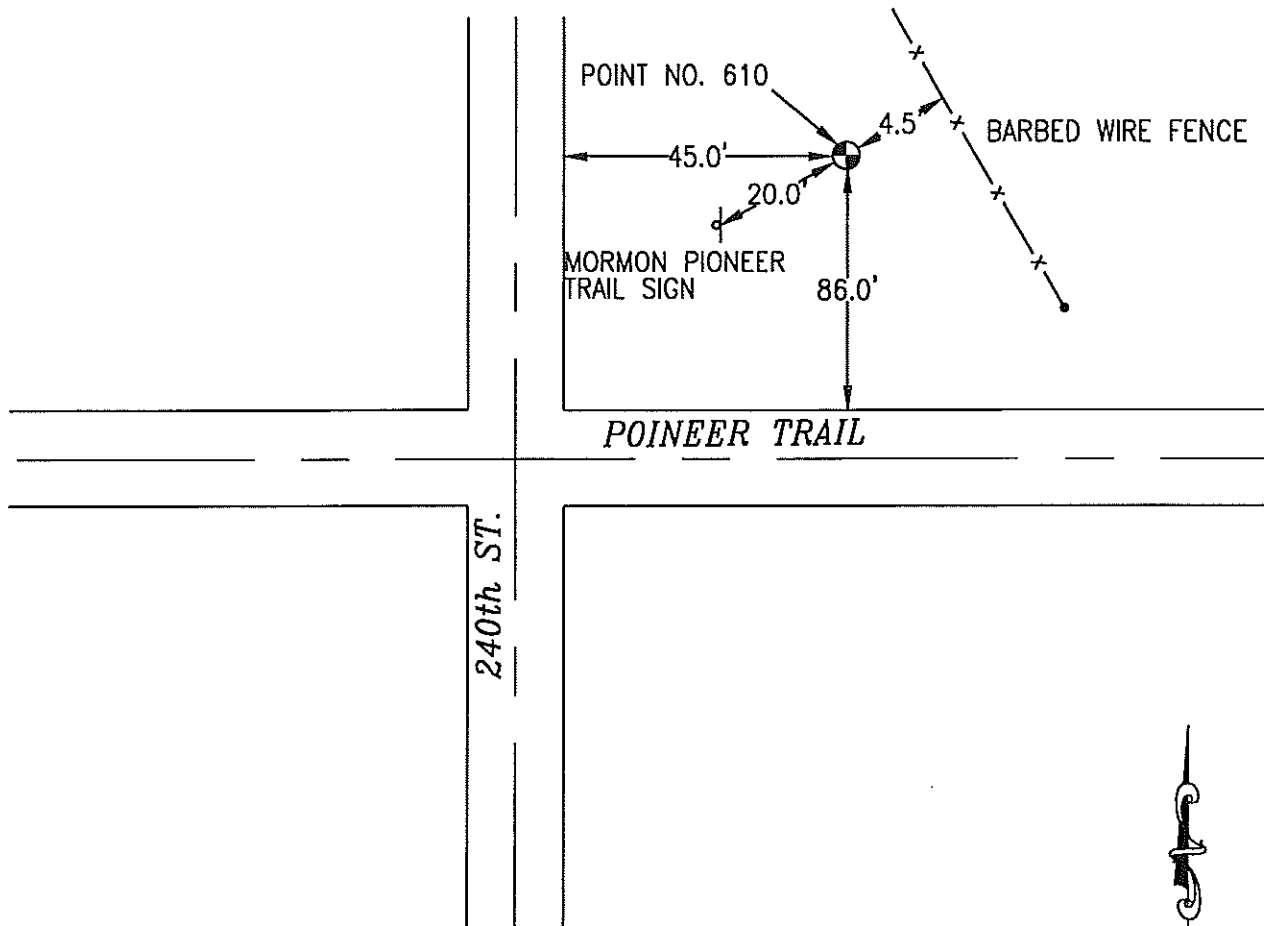
Date: November 4, 1998

610 744219-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 610, 744219-4". LOCATED APPROXIMATELY 45 FEET EAST OF THE EAST EDGE OF 240TH STREET, 86 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 20 FEET NORTHEAST OF "MORMON PIONEER TRAIL" SIGN, 4.5 FEET SOUTHWEST OF NORTHWEST-SOUTHEAST BARBED WIRE FENCE. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
610	744219-4	41 11 46.81251	95 43 37.92017		361.71	135243.047	313201.326	389.20	443709.90	1027561.35	1276.9



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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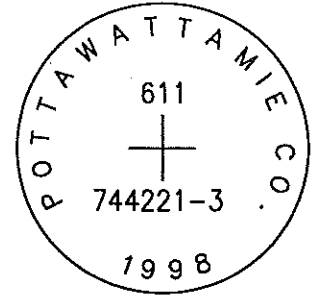
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

Date: November 4, 1998

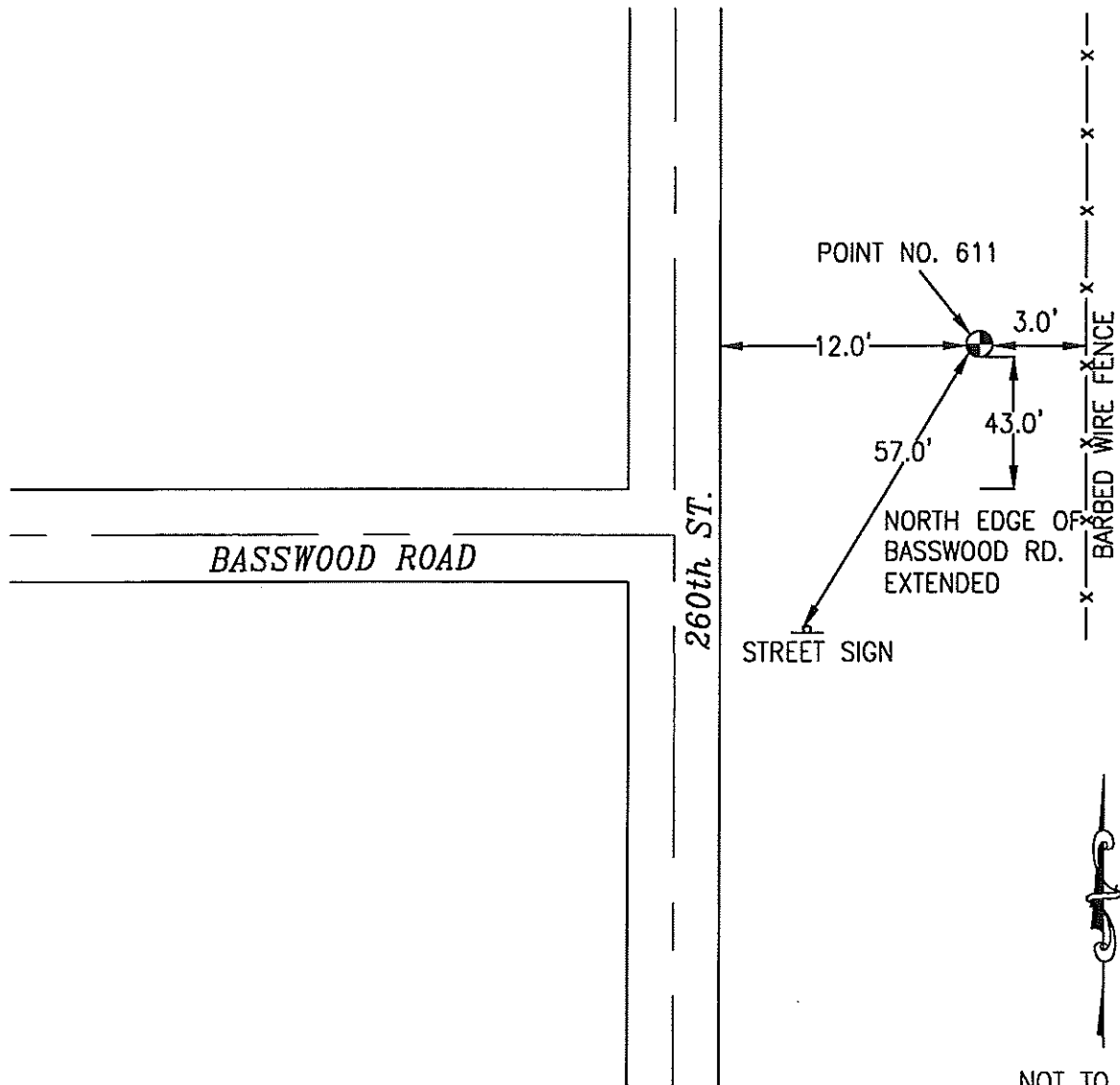
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611 744221-3



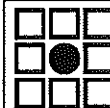
SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 611, 744221-3". LOCATED APPROXIMATELY 12 FEET EAST OF THE EAST EDGE OF 260TH STREET, 43 FEET NORTH OF THE NORTH EDGE OF BASSWOOD ROAD EXTENDED, 57 FEET NORTH OF STREET SIGN, 3 FEET WEST OF NORTH-SOUTH BARBED WIRE FENCE. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVDB8 METERS	NORTHING US FEET	EASTING US FEET	NAVDB8 US FEET
611	744221-3	41 11 32.90590	95 41 22.53866		305.95	134734.117	316343.927	333.48	442040.18	1037871.70	1094.1



NOT TO SCALE

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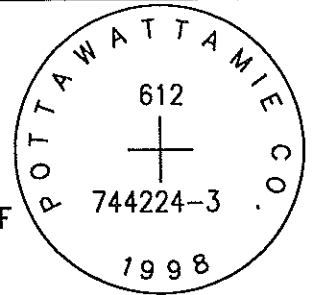
2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

Date: November 4, 1998

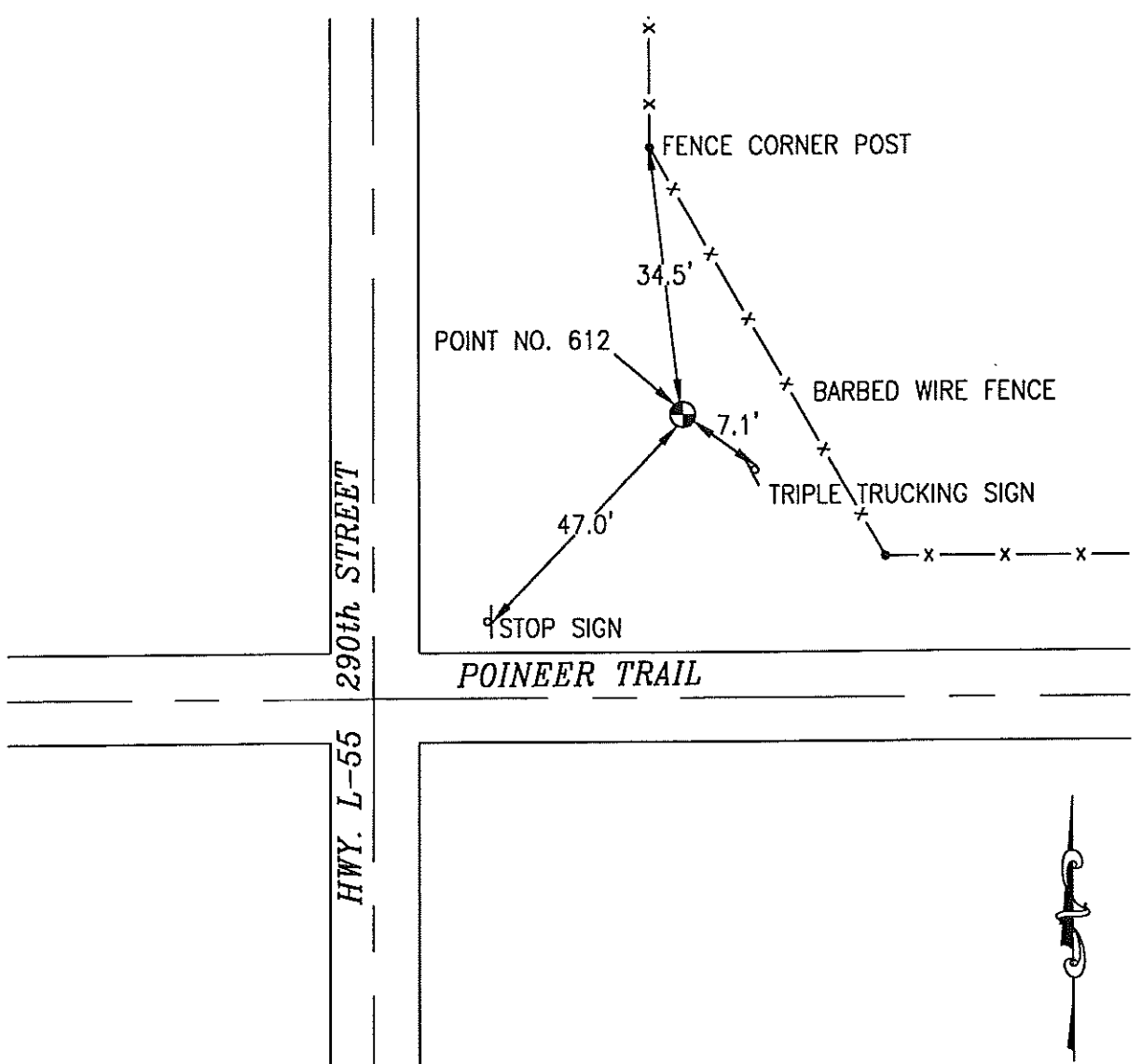
OK

612 744224-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 612, 744224-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF PIONEER TRAIL AND HIGHWAY L55 (290TH STREET), 47 FEET NORTHEAST OF STOP SIGN, 7.1 FEET NORTHWEST OF "TRIPLE TRUCKING" SIGN, 34.5 FEET SOUTHEAST OF FENCE ANGLE POINT. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
612	744224-3	41 11 21.59242	95 37 54.96325	337.64	134265.090	321170.715	365.24	440501.38	1053707.59	1198.3



NOT TO SCALE

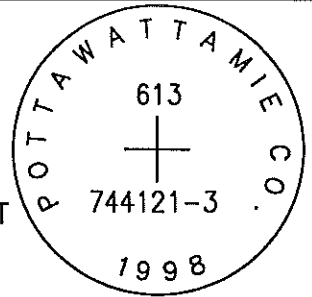
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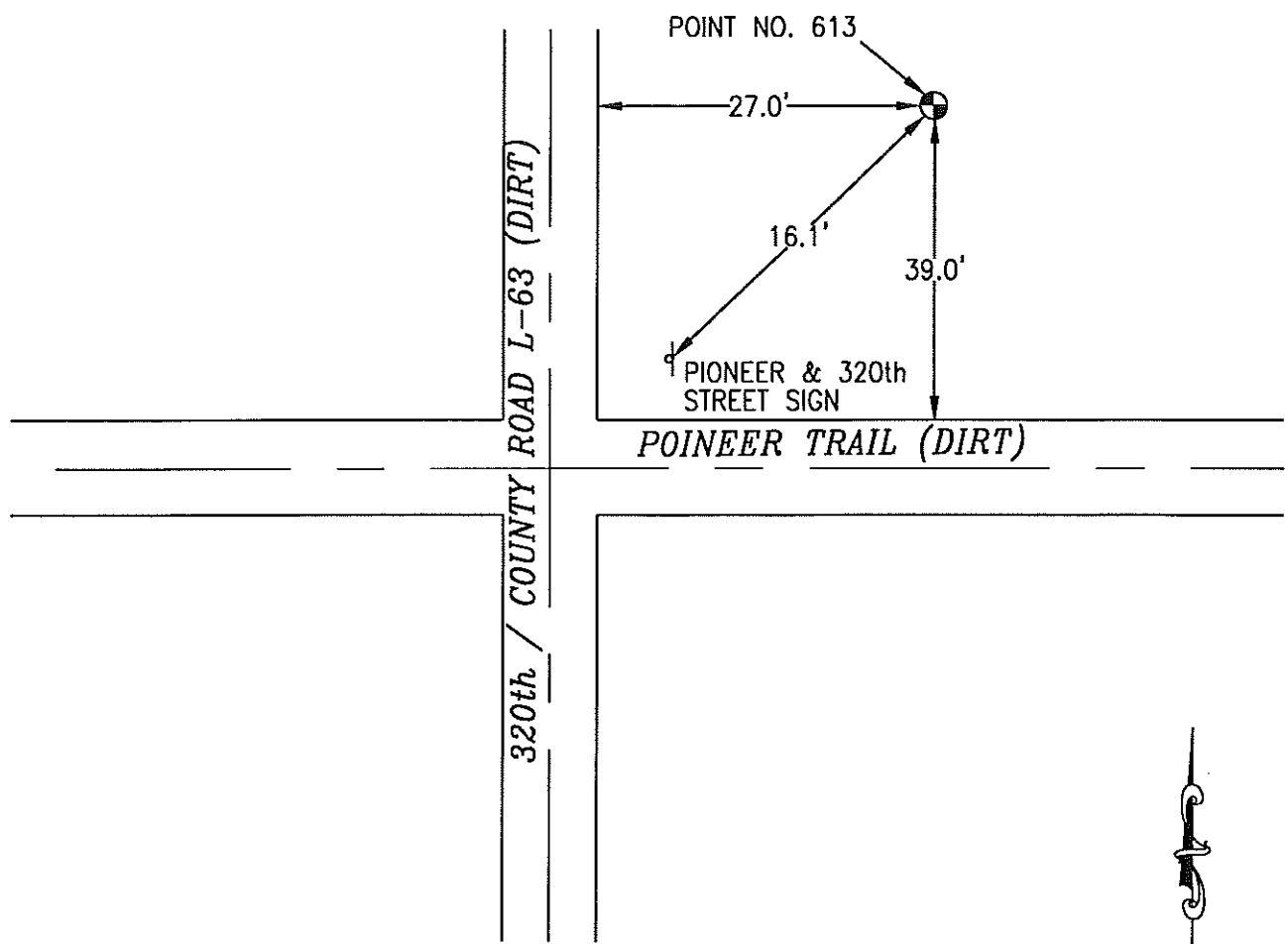
ok

613 744121-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 613, 744121-3". LOCATED APPROXIMATELY 27 FEET EAST OF THE EAST EDGE OF 320TH STREET, 39 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 16.1 FEET NORTHEAST OF STREET INTERSECTION SIGN. ON THE TREYNOR 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
613	744121-3	41 11 21.04099	95 34 32.36328	318.56	134133.905	325890.048	346.24	440070.99	1069190.93	1136.0



NOT TO SCALE

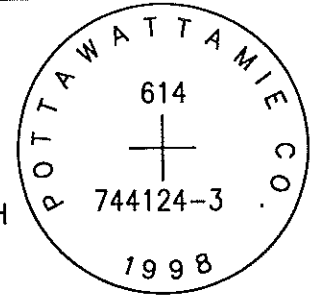
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report

MERRICK
Engineers & Architects
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: November 4, 1998

OK

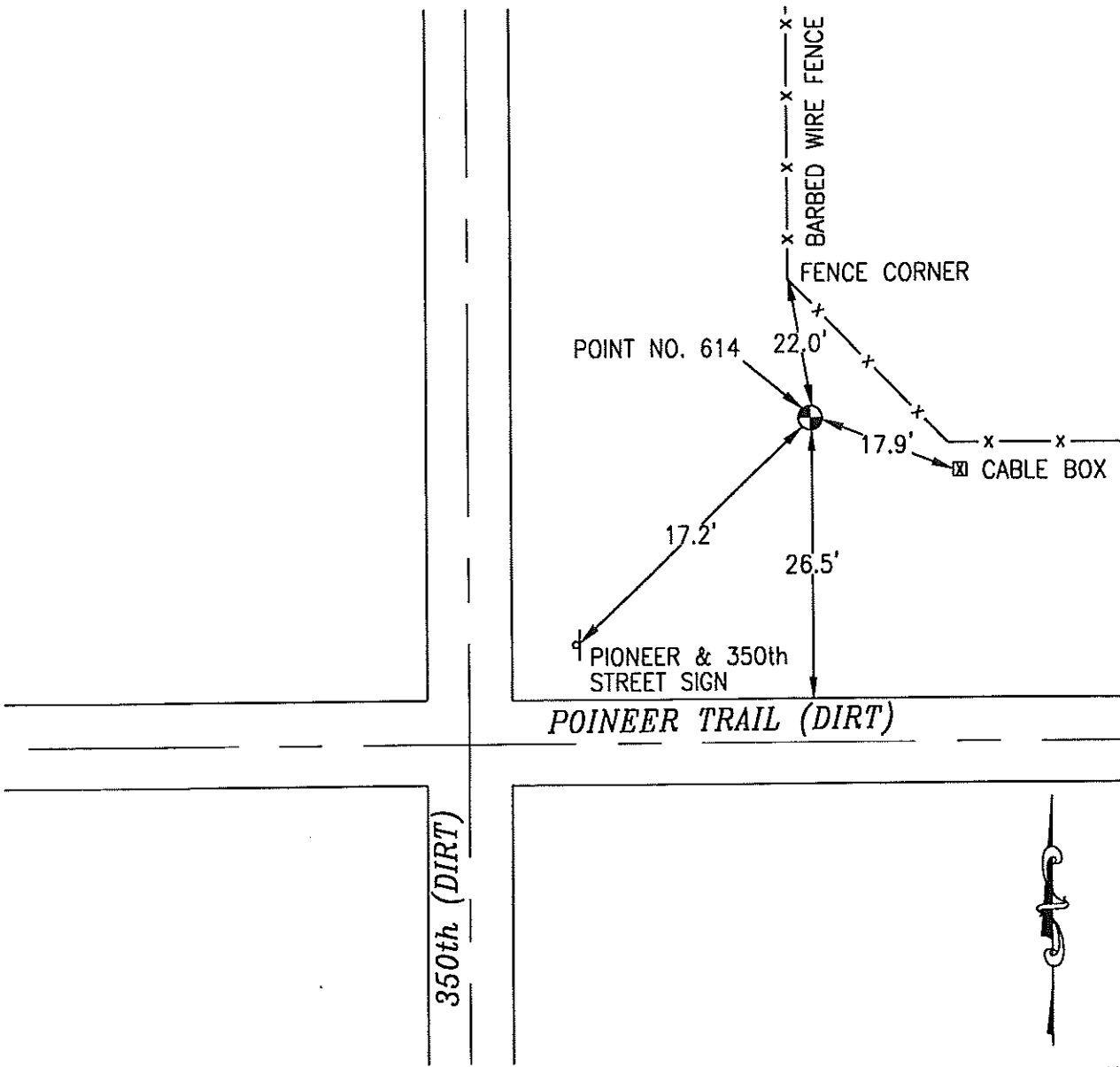
614

744124-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 614, 744124-3". LOCATED APPROXIMATELY 26.5 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 17.2 FEET NORTHEAST OF A STREET INTERSECTION SIGN, ON THE EAST SIDE OF 350TH STREET, 17.9 FEET NORTHWEST OF A CABLE BOX, 22 FEET SOUTHEAST OF A FENCE ANGLE POINT. ON THE TREYNOR 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 US FEET
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS		NORTHING US FEET	EASTING US FEET	
614	744124-3	41 11 21.47118	95 31 05.11620	329.34	134033.538	330718.442	357.10	439741.70	1085032.09	1171.6



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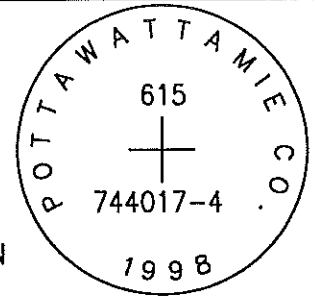
LOCATION DIAGRAM
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 GPS Survey Report

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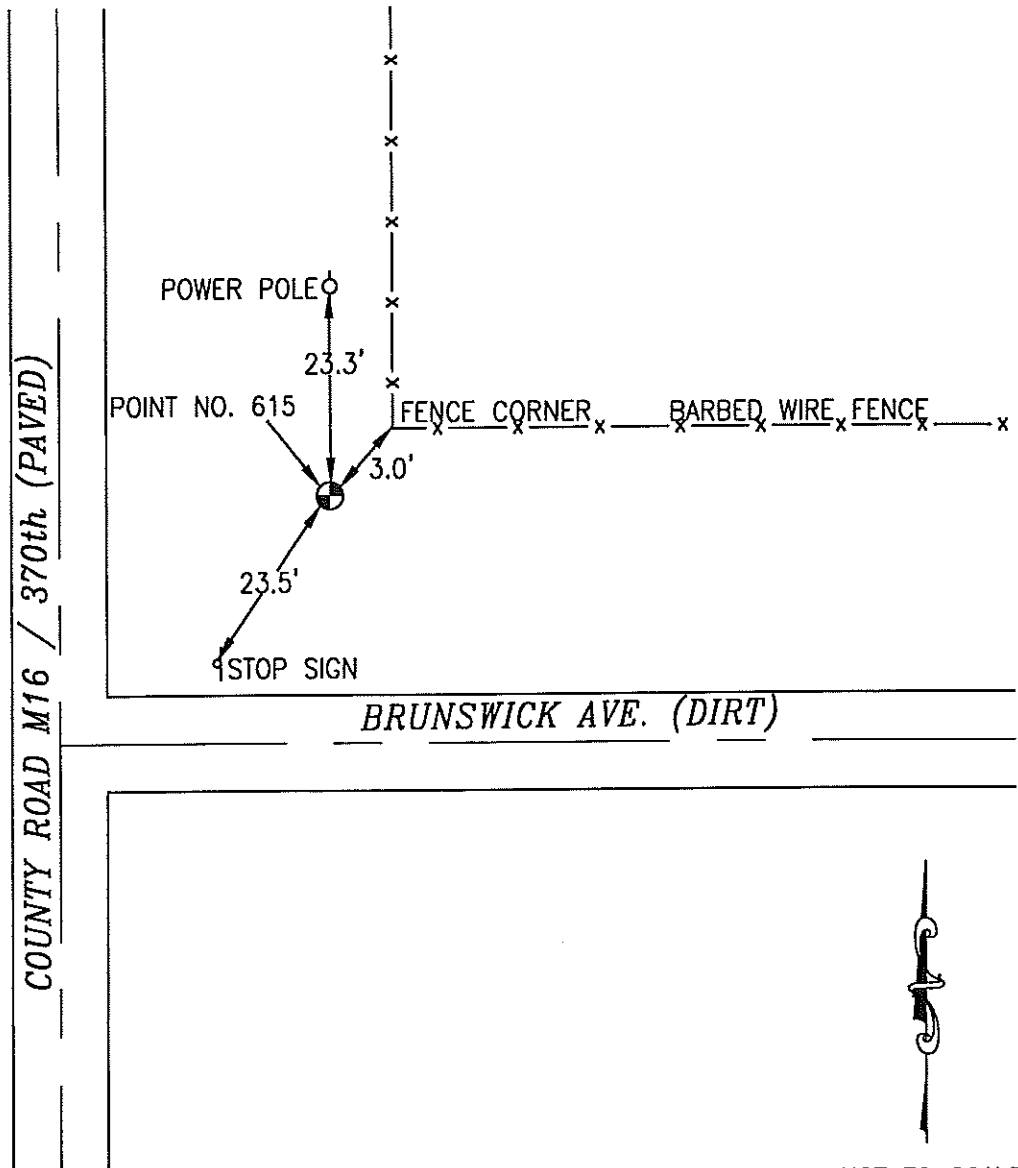
M 1/ be under 2 foot dirt

615 744017-4

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 615, 744017-4". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF COUNTY ROAD M16 (370TH STREET), AND BRUNSWICK AVENUE, 23.5 FEET NORTHEAST OF A STOP SIGN, 3 FEET SOUTHEAST OF A FENCE CORNER, 23.3 FEET SOUTH OF A POWERPOLE. ON THE CARSON 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT					
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS			
615	744017-4	41 12 39.90584	95 28 49.79028	337.30	136379.971	333926.152	365.05	447439.95	1095556.05	1197.7



NOT TO SCALE

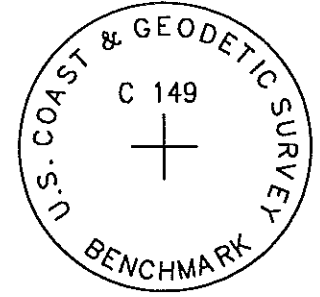
LOCATION DIAGRAM
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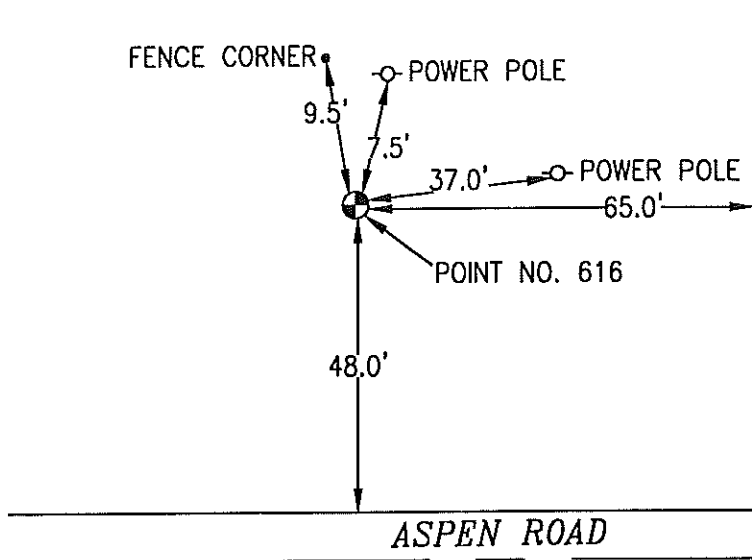
OK

616 C149

FOUND 3.5 INCH DIAMETER BRASS CAP IN 1 FOOT DIAMETER CONCRETE POST 0.55 FEET ABOVE GROUND, STAMPED "U. S. COAST AND GEODETIC SURVEY BENCHMARK, C149 1949". LOCATED APPROXIMATELY 48 FEET NORTH OF THE NORTH EDGE OF ASPEN ROAD, 65 FEET WEST OF THE WEST EDGE OF HIGHWAY 59, 37 FEET WEST OF A POWERPOLE, 7.5 FEET SOUTH OF A POWERPOLE, 9.5 FEET SOUTH OF A FENCE CORNER, IN SECTION 23, TOWNSHIP 74 NORTH, RANGE 40 WEST, SEE NGS CONTROL. ON THE CARSON 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT		SP NAD83 (1996) IOWA SOUTH HEIGHT			
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET	
616	C 149	41 10 42.62513	95 24 14.13307	336.06	132619.620	340266.793	364.00	435102.87	1116358.64	1194.2



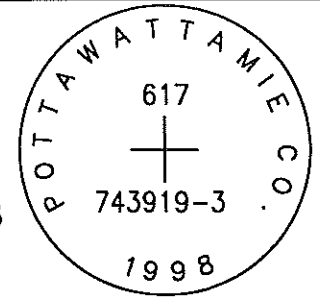
NOT TO SCALE

LOCATION DIAGRAM
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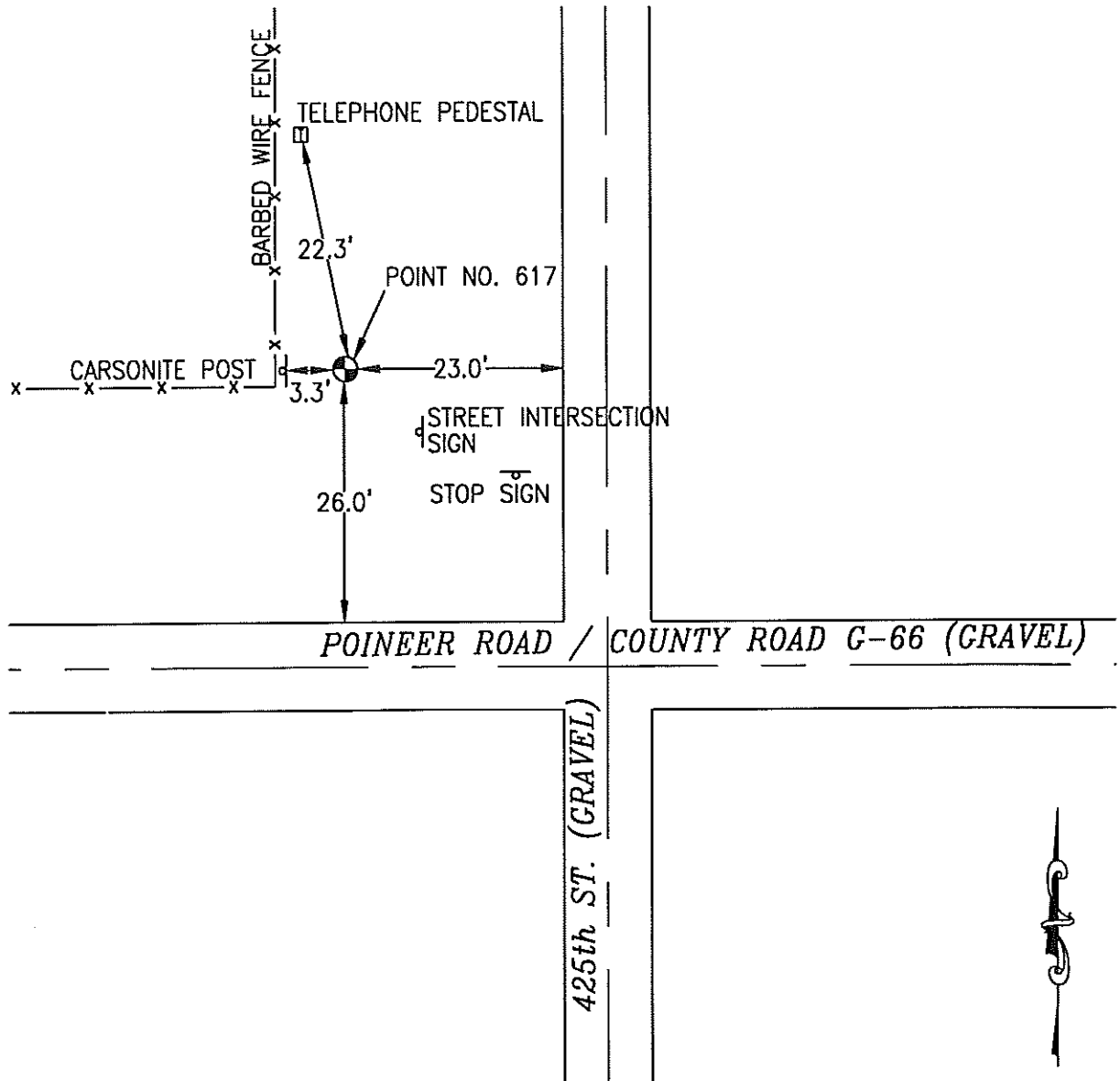
ok

617 743919-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 617, 743919-3". LOCATED APPROXIMATELY 26 FEET NORTH OF THE NORTH EDGE OF GRAVEL PIONEER ROAD (COUNTY ROAD G66), 23 FEET WEST OF THE WEST EDGE OF 425TH STREET, 22.3 FEET SOUTH OF TELEPHONE PEDESTAL B-16, 3.3 FEET EAST OF ORANGE CARSONITE POST AND FENCE. ON THE CARSON 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT					
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	HEIGHT NAVD88 METERS			
617	743919-3	41 11 20.69972	95 22 32.07557	313.00	133742.189	342670.160	340.92	438785.83	1124243.68	1118.5



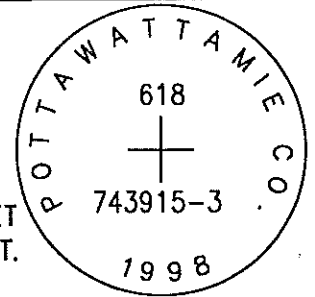
NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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 GPS Survey Report

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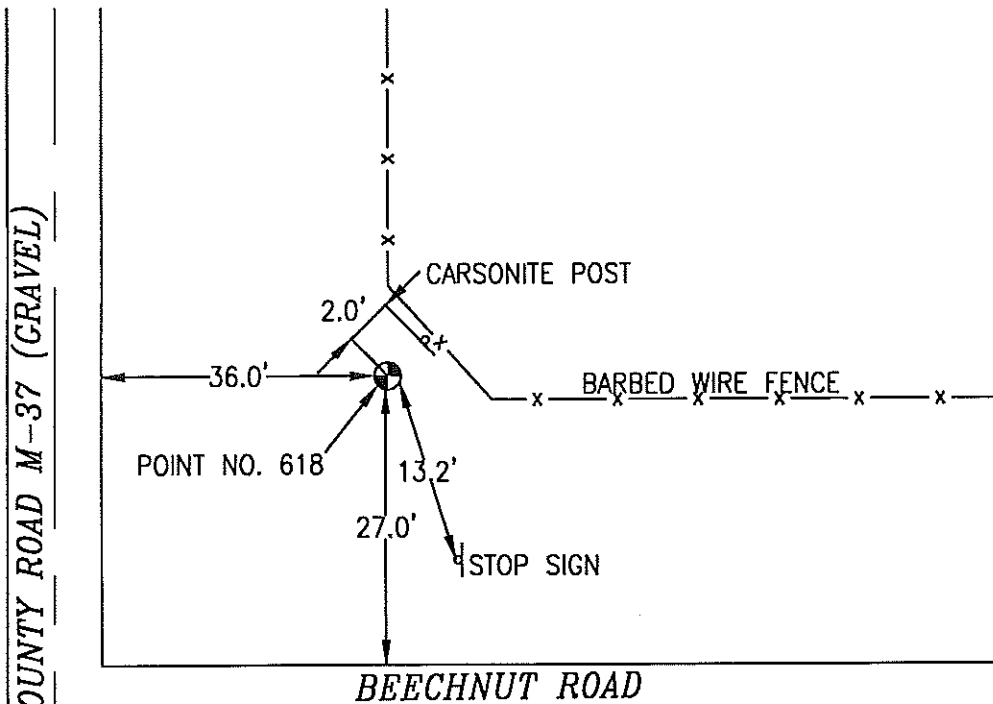
OK

618 743915-3



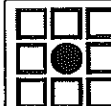
SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 618, 743915-3". LOCATED APPROXIMATELY 27 FEET NORTH OF THE NORTH EDGE OF BEECHNUT ROAD, 36 FEET EAST OF THE EAST EDGE OF 450TH STREET (COUNTY ROAD M37), 13.2 FEET NORTHWEST OF A STOP SIGN, 2 FEET SOUTHWEST OF A ORANGE CARSONITE POST. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV088 METERS	NORTHING US FEET	EASTING US FEET	NAV088 US FEET
618	743915-3	41 12 12.14984	95 19 38.38904	341.92	135242.817	346749.959	369.85	443709.14	1137628.82	1213.4



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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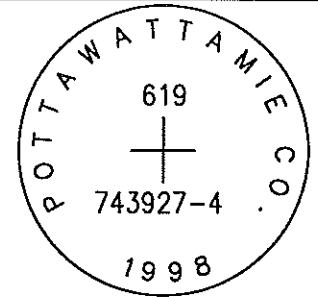
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Date: November 4, 1998

OK

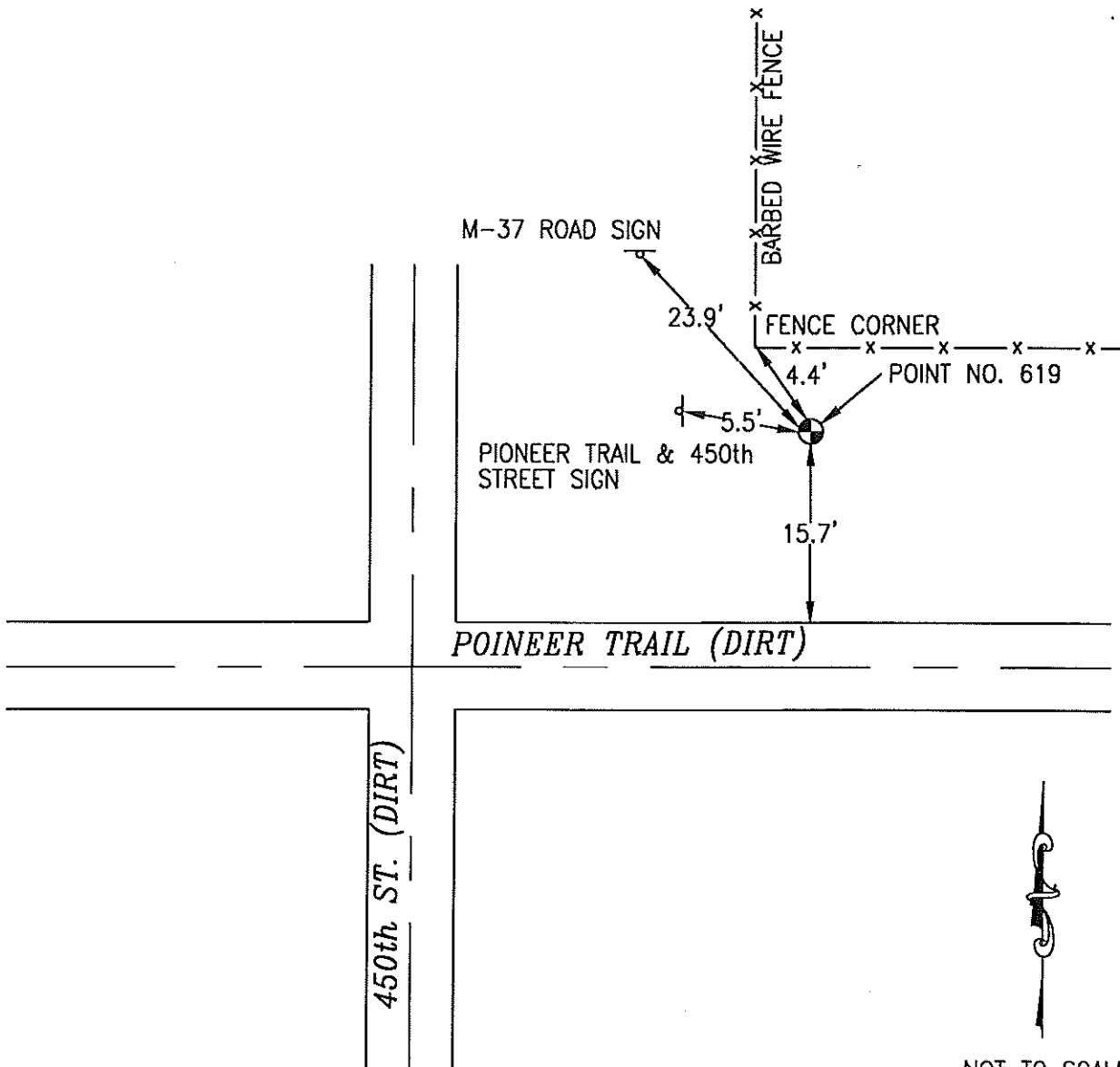
619

743927-4



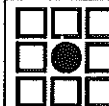
SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 619, 743927-4". LOCATED APPROXIMATELY 15.7 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL ON THE EAST SIDE OF 450TH STREET, 23.9 FEET SOUTHEAST OF ROAD SIGN (M37), 4.4 FEET SOUTH OF CORNER OF BARBED WIRE FENCE, 5.5 FEET EAST OF A STREET INTERSECTION SIGN. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.

PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT					
		LATITUDE (North)		LONGITUDE (West)		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET			
		DEG	MIN	SEC		DEG	MIN	SEC	METERS	METERS	METERS	US FEET	US FEET	US FEET
619	743927-4	41	11	06.85467	95	19	38.56395	345.94	133229.137	346703.572	373.94	437102.59	1137476.64	1226.8



NOT TO SCALE

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 POTTAWATTAMIE COUNTY IOWA
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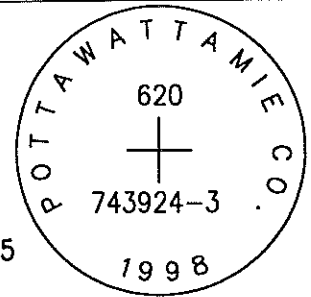
Job Number: 50013142

Date: November 4, 1998

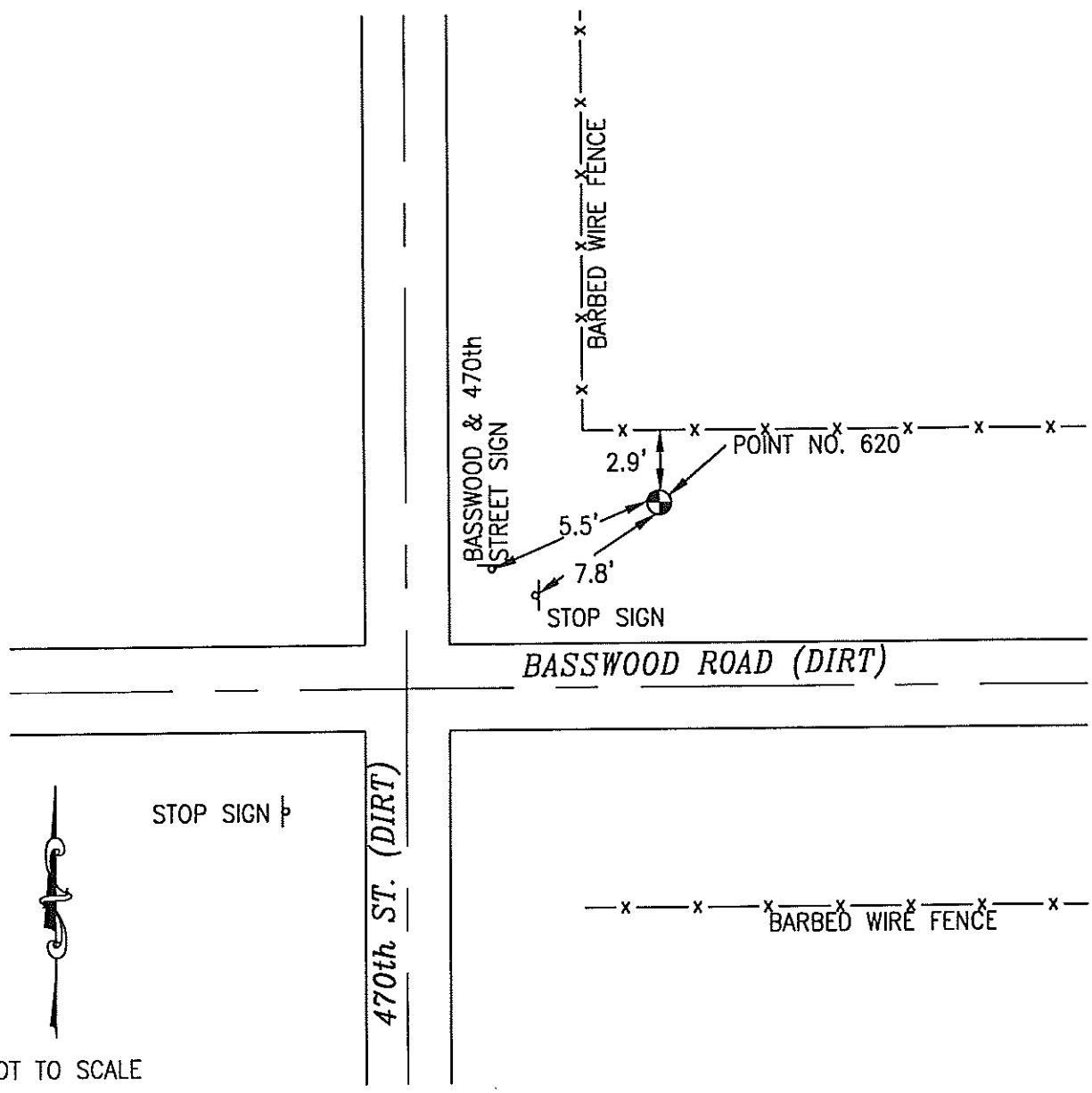
OK

620 743924-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.1 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 620, 743924-3". LOCATED APPROXIMATELY AT THE NORTHEAST CORNER OF 470TH STREET AND BASSWOOD ROAD, 5.5 FEET EAST OF A STREET INTERSECTION SIGN, 7.8 FEET NORTH OF A STOP SIGN, 2.9 FEET SOUTH OF A BARBED WIRE FENCE. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
620	743924-3	41 11 19.35469	95 17 20.31918	343.62	133547.686	349932.480	371.66	438147.70	1148070.14	1219.4



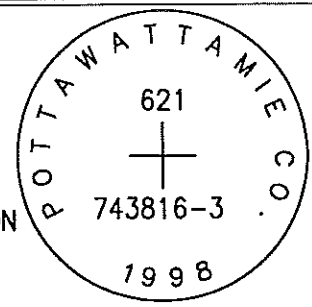
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

MERRICK
 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 4, 1998

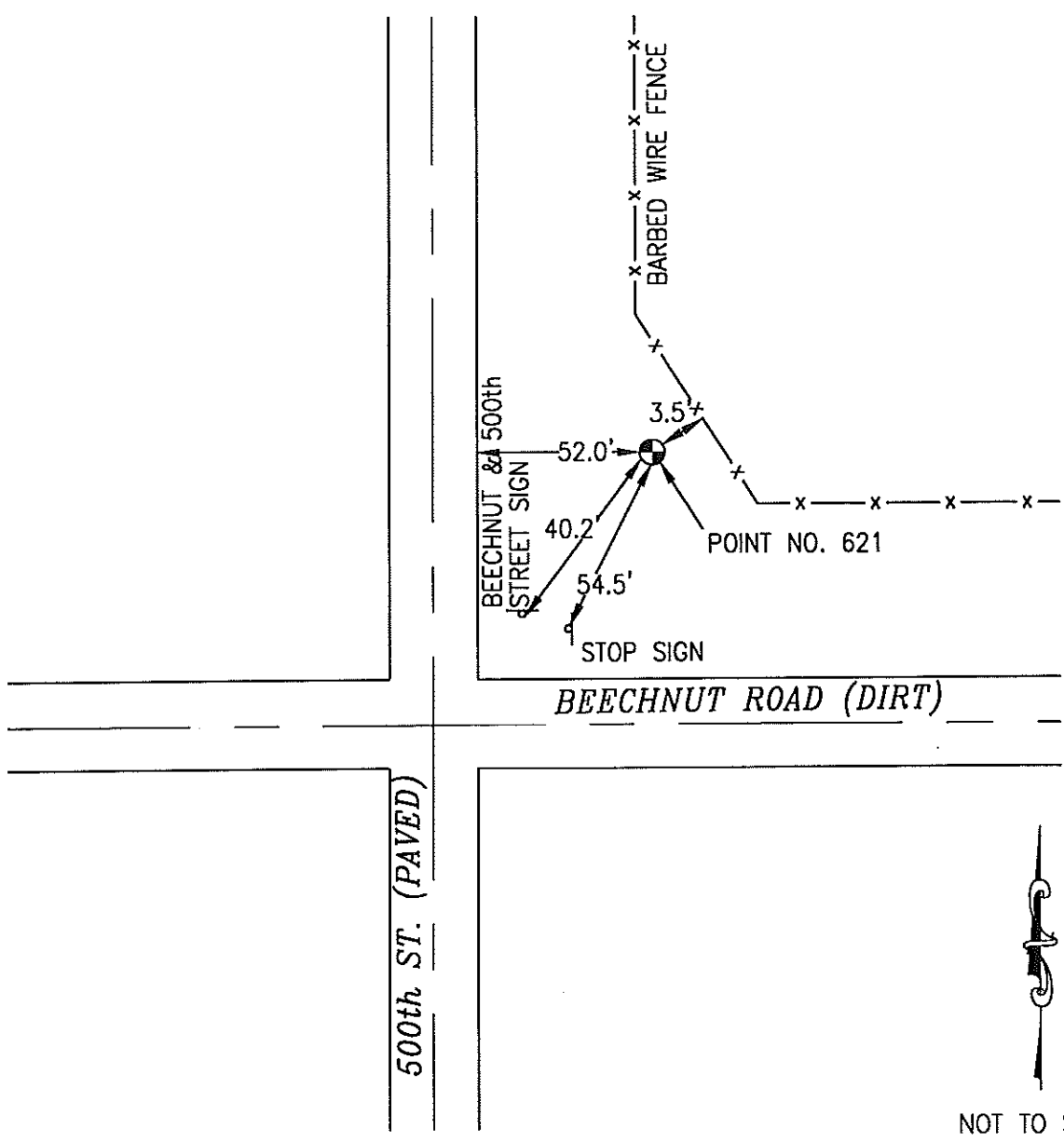
dk

621 743816-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 621, 743816-3". LOCATED APPROXIMATELY 52 FEET EAST OF THE EAST EDGE OF 500TH STREET, ON THE NORTH SIDE OF BEECHNUT ROAD, 40.2 FEET NORTHEAST OF STREET INTERSECTION SIGN, 54.5 FEET NORTH OF STOP SIGN, 3.5 FEET SOUTHWEST OF A FENCE. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
621	743816-3	41 12 11.37166	95 13 55.68837		330.50	135055.470	354731.945	358.56	443094.49	1163816.39	1176.4



NOT TO SCALE

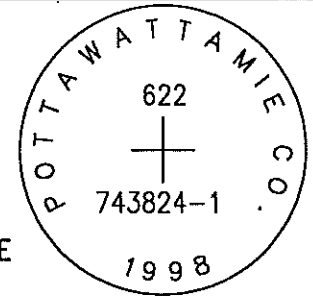
LOCATION DIAGRAM
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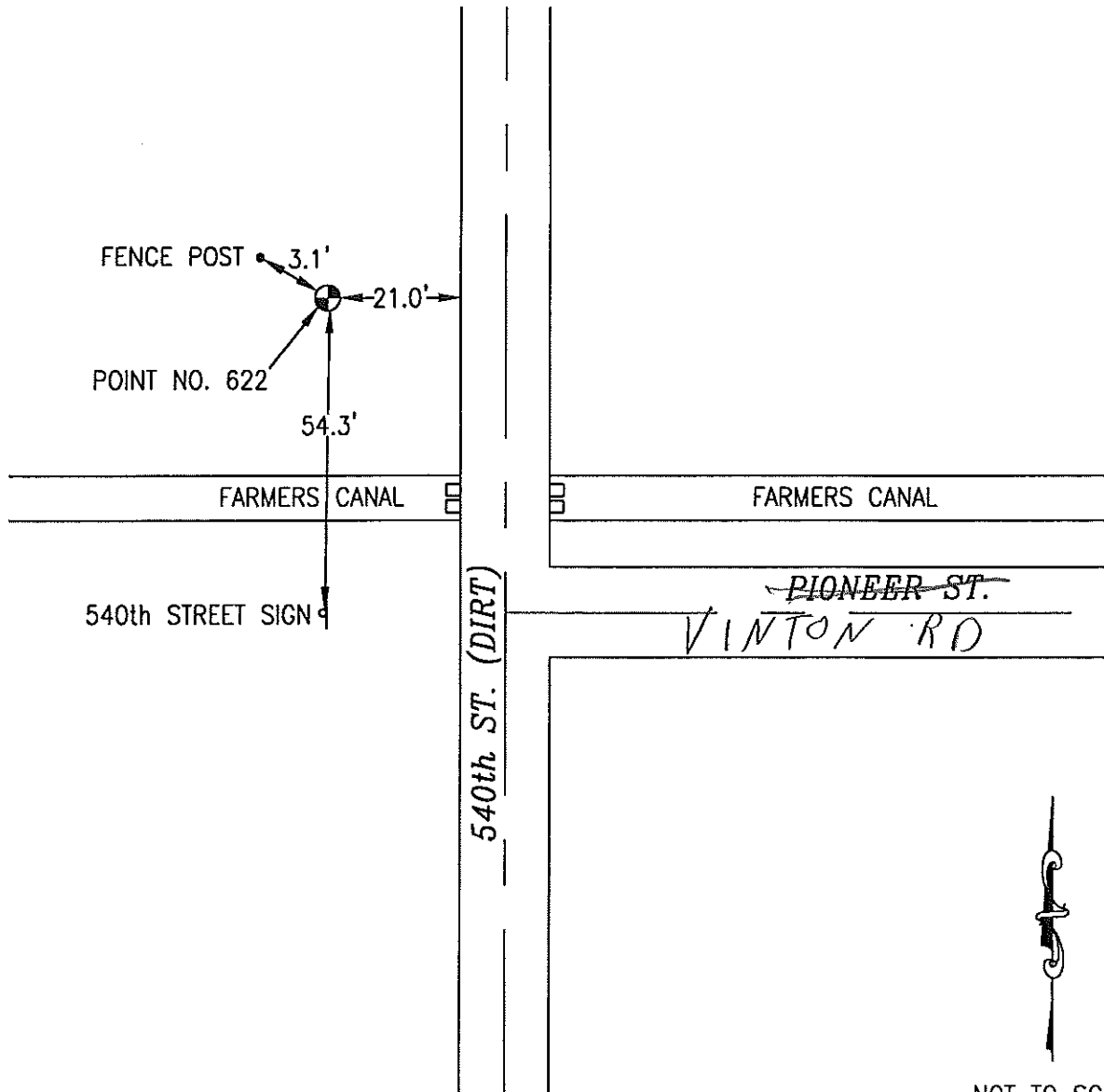
540 St of Vinton Road

622 743824-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 622, 743824-1". LOCATED APPROXIMATELY 21 FEET WEST OF THE WEST EDGE OF 540TH STREET, ON THE NORTH SIDE OF A FARMERS CANAL, 54.3 FEET NORTH OF A STREET SIGN (540TH), 3.1 FEET SOUTHEAST OF A FENCE POST. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
622	743824-1	41 11 44.20010	95 9 20.84518	300.12	134092.743	361118.011	328.38	439935.94	1184768.01	1077.4	



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
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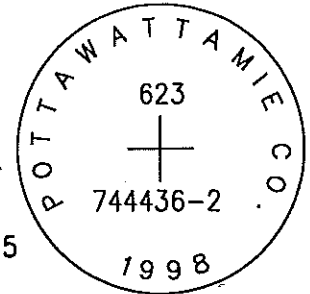
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Date: November 4, 1998

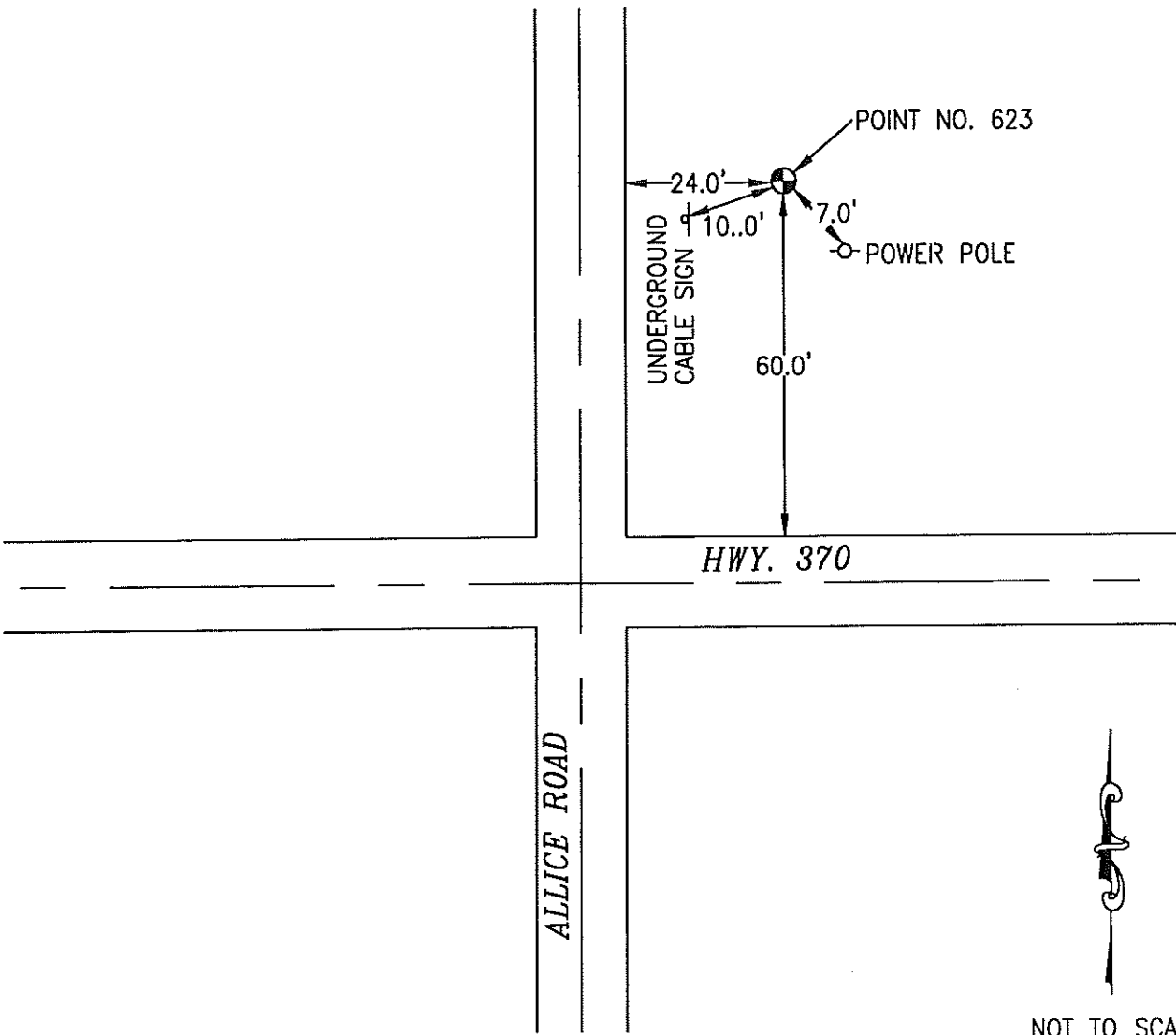
OK out of county

623 744436-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 623, 744436-2". LOCATED APPROXIMATELY 60 FEET NORTH OF THE NORTH EDGE OF HIGHWAY 370, 24 FEET EAST OF THE EAST EDGE OF ALLICE ROAD, 10 FEET EAST OF UNDERGROUND CABLE SIGN, 7 FEET NORTH OF POWERPOLE. ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
623	744436-2	41 08 56.96458	95 51 20.76586	267.07	130289.632	302278.793	294.36	427458.57	991726.34	965.7



NOT TO SCALE

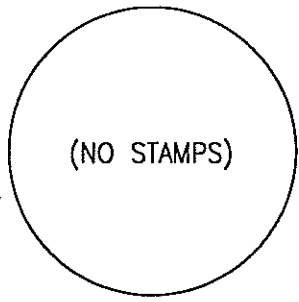
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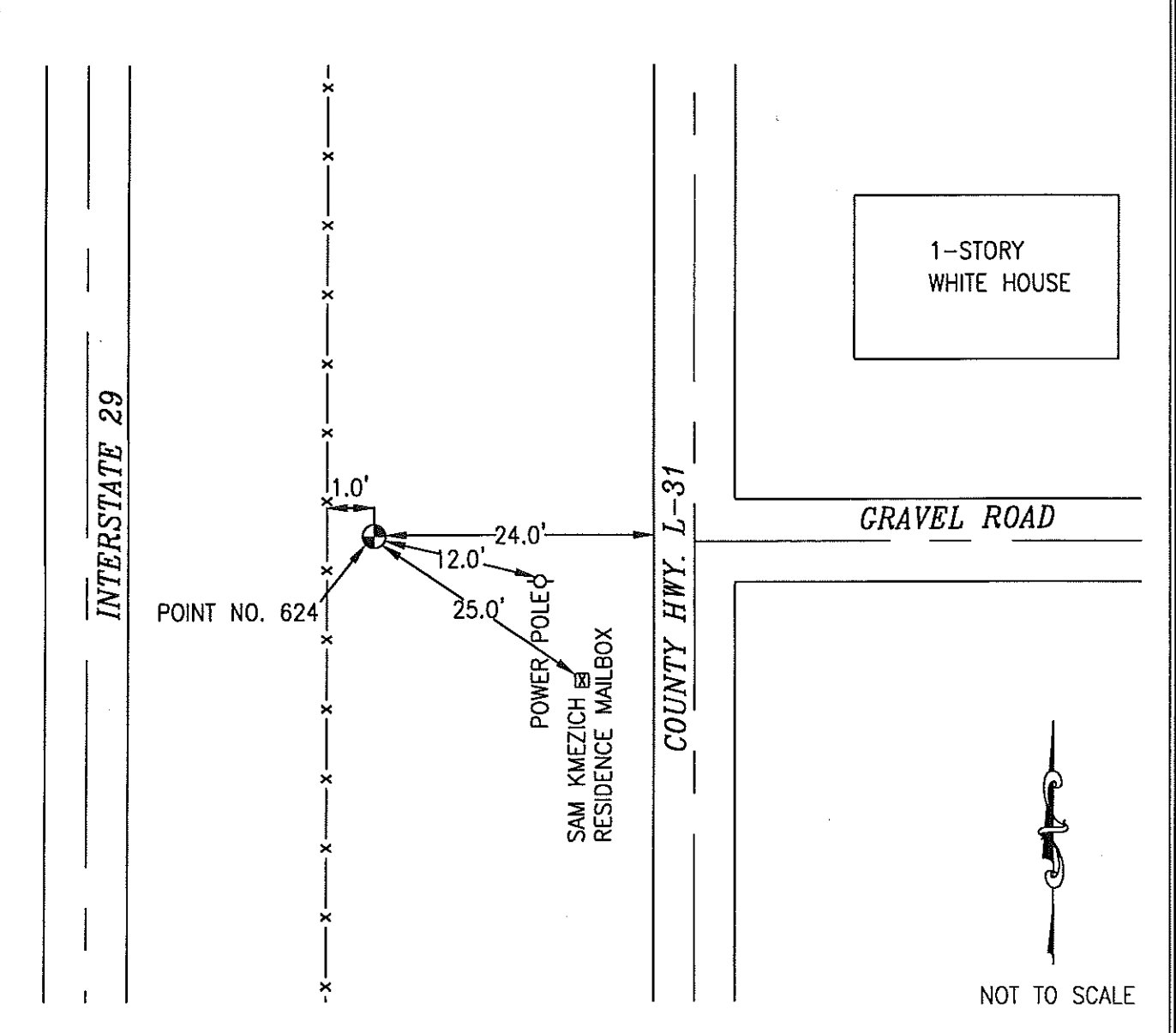
OK

624 T182

FOUND 5/8 INCH DIAMETER STEEL ROD IN MONUMENT BOX, 0.4 FEET BELOW LID AND GROUND, LID IS MARKED WITH T-182 DESIGNATION. LOCATED APPROXIMATELY 1 FOOT EAST OF THE EAST RIGHT OF WAY FENCE FOR I-29, 24 FEET WEST OF THE WEST EDGE OF COUNTY HIGHWAY L31, 12 FEET NORTHWEST OF POWERPOLE WITH 2 GUY WIRES TO THE WEST AND SOUTH, 25 FEET NORTHWEST OF MAILBOX FOR SAM KMEZICH RESIDENCE, IN THE NORTHWEST QUADRANT OF SECTION 32, TOWNSHIP 74 NORTH, RANGE 43 WEST. SEE NGS CONTROL. ON THE COUNCIL BLUFFS SOUTH 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
624	T-182	41 09 49.72946	95 49 22.63961		268.81	131842.652	305075.601	296.16	432553.77	1000902.20	971.7



NOT TO SCALE

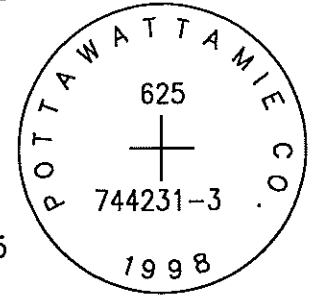
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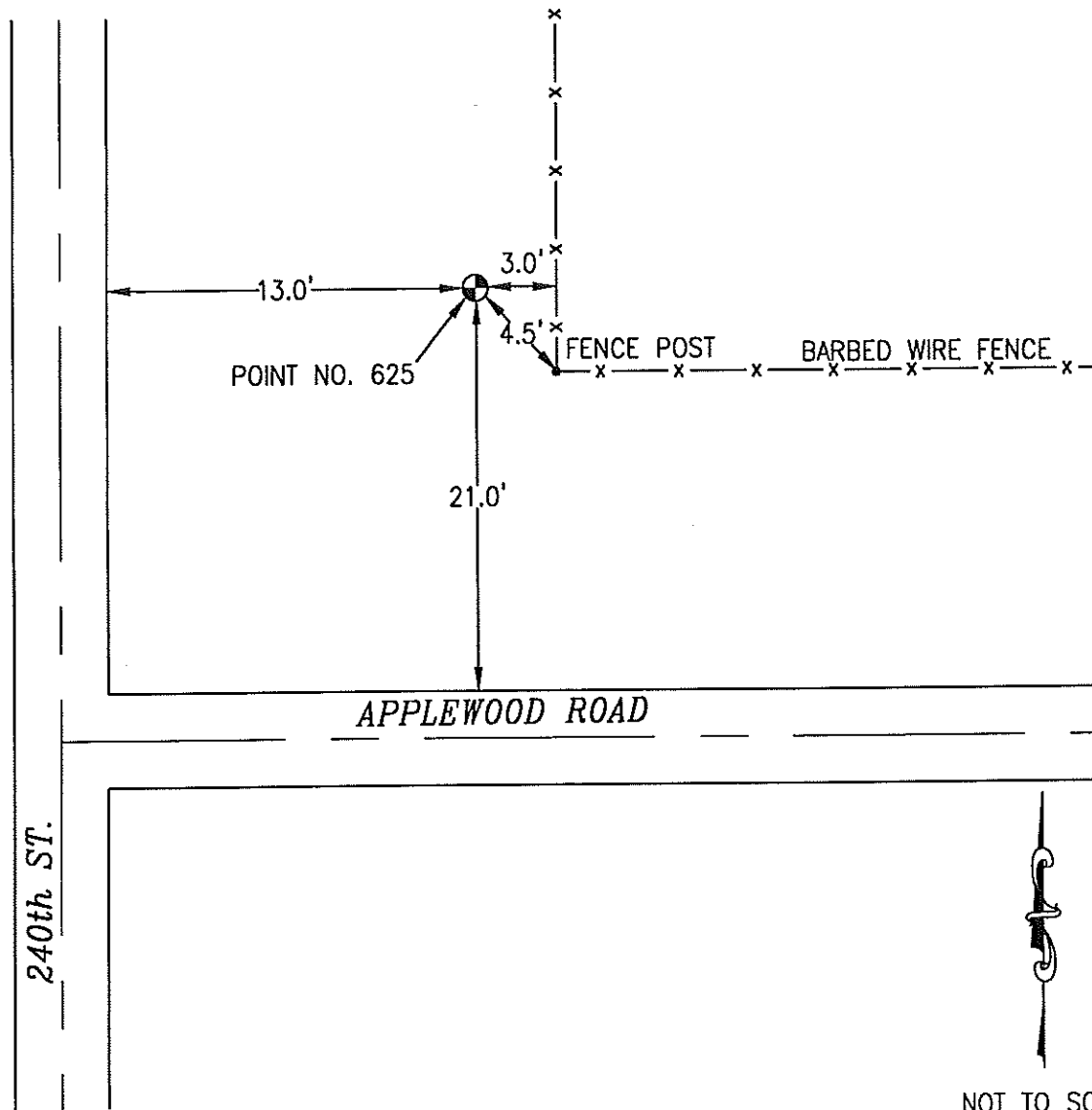
OK

625 744231-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 625, 744231-3". LOCATED APPROXIMATELY 13 FEET EAST OF THE EAST EDGE OF 240TH STREET, 21 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 4.5 FEET NORTHWEST OF A FENCE CORNER, 3 FEET WEST OF A NORTH-SOUTH FENCE. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
625	744231-3	41 09 44.48686	95 43 38.76819	331.39	131471.328	313084.954	358.88	431335.52	1027179.55	1177.4



NOT TO SCALE

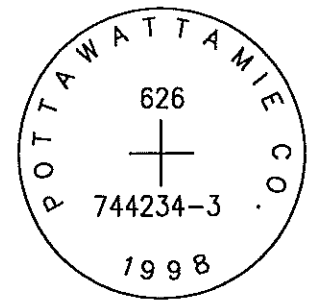
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Job Number: 50013142
Date: November 4, 1998

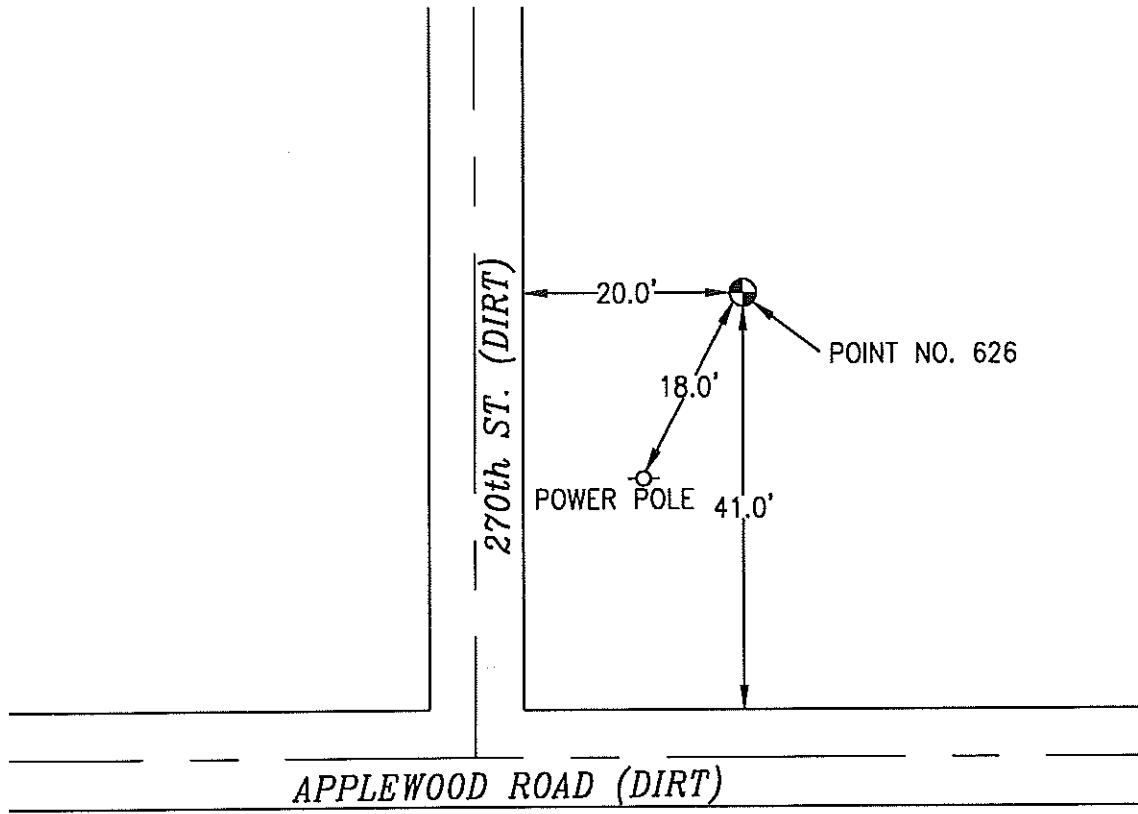
ok

626 744234-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 626, 744234-3". LOCATED APPROXIMATELY 20 FEET EAST OF THE EAST EDGE OF 270TH STREET, 41 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 18 FEET NORTH OF A POWERPOLE. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
626	744234-3	41 09 36.79949	95 40 12.99201	311.79	131113.011	317874.610	339.39	430159.94	1042893.62	1113.5



NOT TO SCALE

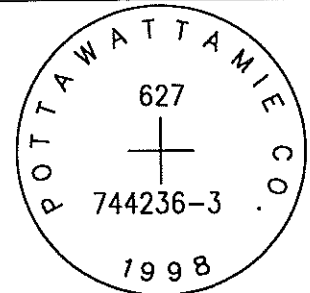
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

MERRICK
 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 4, 1998

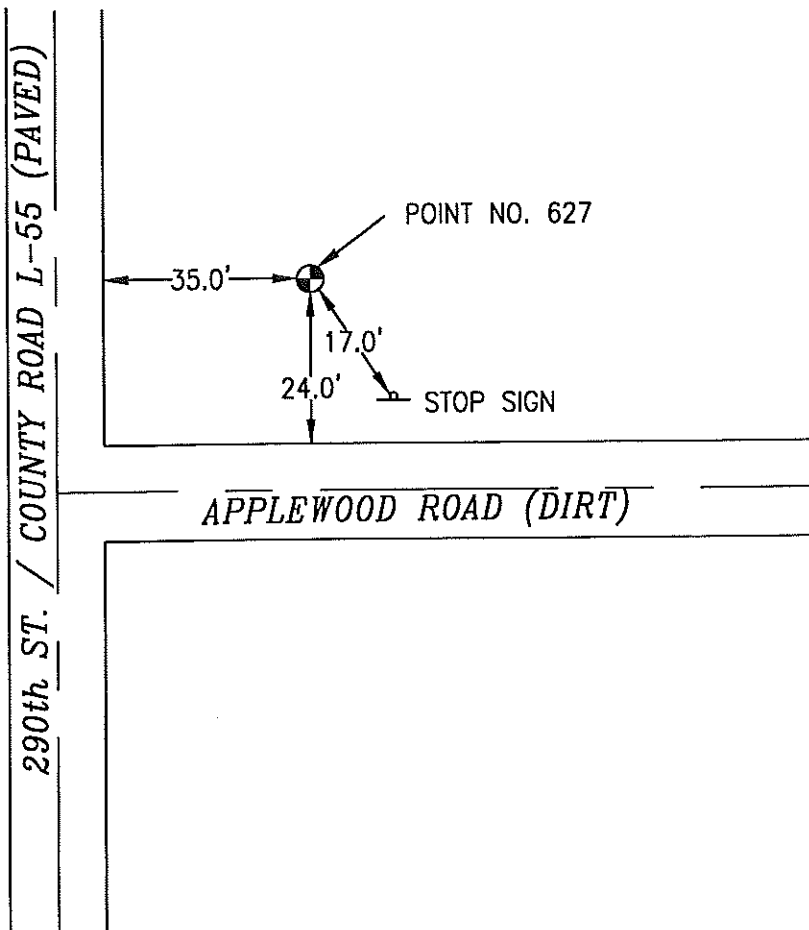
OK

627 744236-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 627, 744236-3". LOCATED APPROXIMATELY 35 FEET EAST OF THE EAST EDGE OF 290TH STREET (COUNTY ROAD L-55), 24 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 17 FEET NORTH OF A STOP SIGN. ON THE MINEOLA 7.5 MINUTE QUADRANGLE.

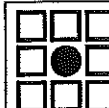


PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
627	744236-3	41 09 38.52422	95 37 57.92522	321.71	131088.321	321023.763	349.37	430078.93	1053225.46	1146.2



NOT TO SCALE

LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
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GPS Survey Report



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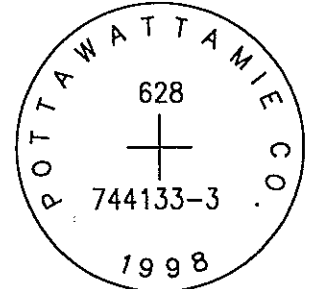
Job Number: 50013142

Date: November 4, 1998

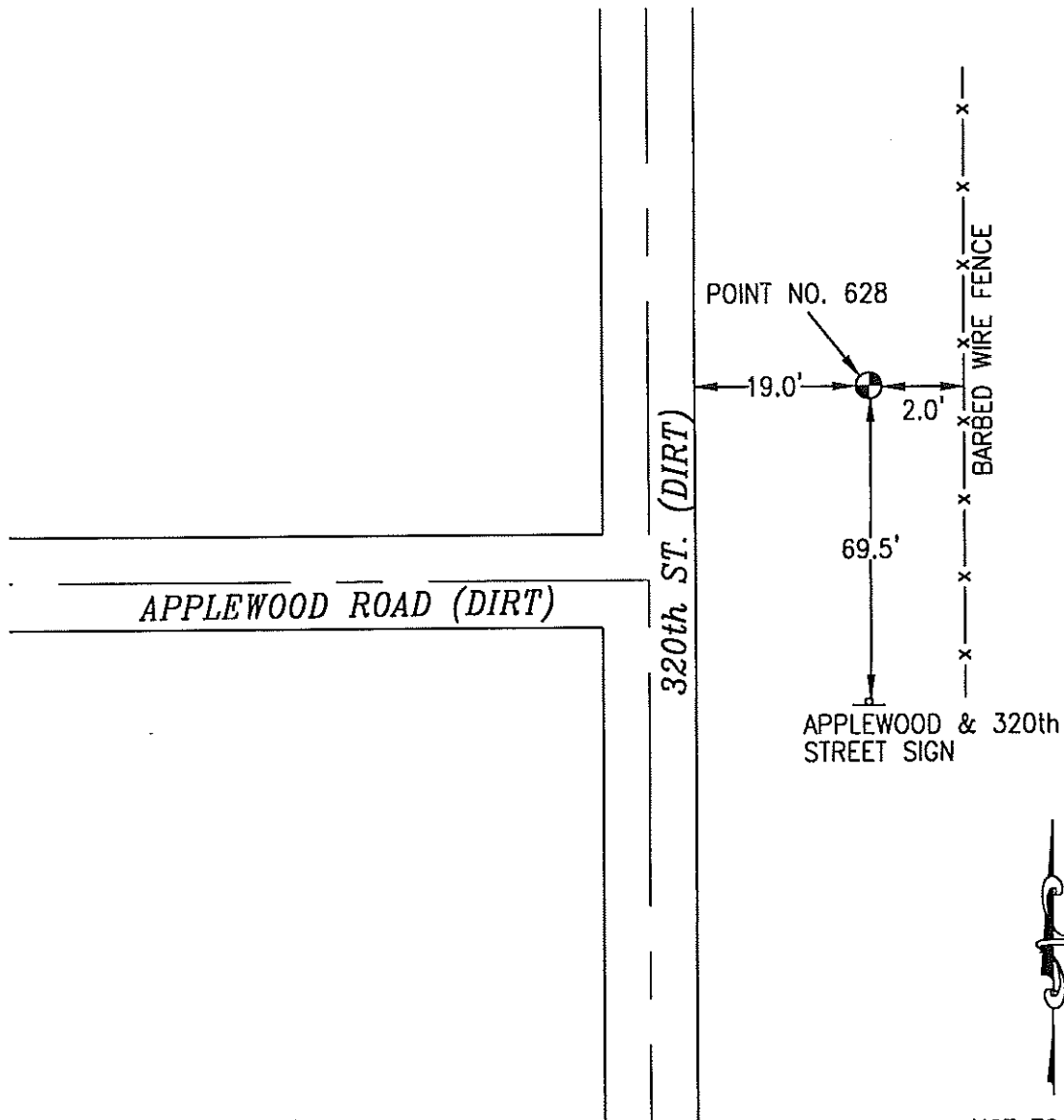
OK

628 744133-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 628, 744133-3". LOCATED APPROXIMATELY 19 FEET EAST OF THE EAST EDGE OF 320TH STREET, 69.5 FEET NORTH OF A STREET INTERSECTION SIGN, 2 FEET WEST OF A NORTH-SOUTH FENCE. ON THE TREYNOR 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
628	744133-3	41 09 45.42919	95 34 31.74001	338.29	131184.998	325834.200	366.02	430396.11	1069007.70	1200.8



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 POTTAWATTAMIE COUNTY IOWA
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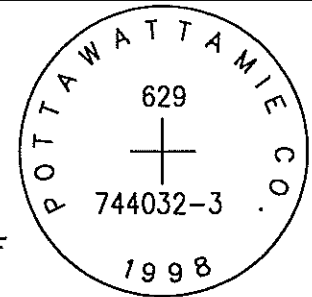
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Date: November 4, 1998

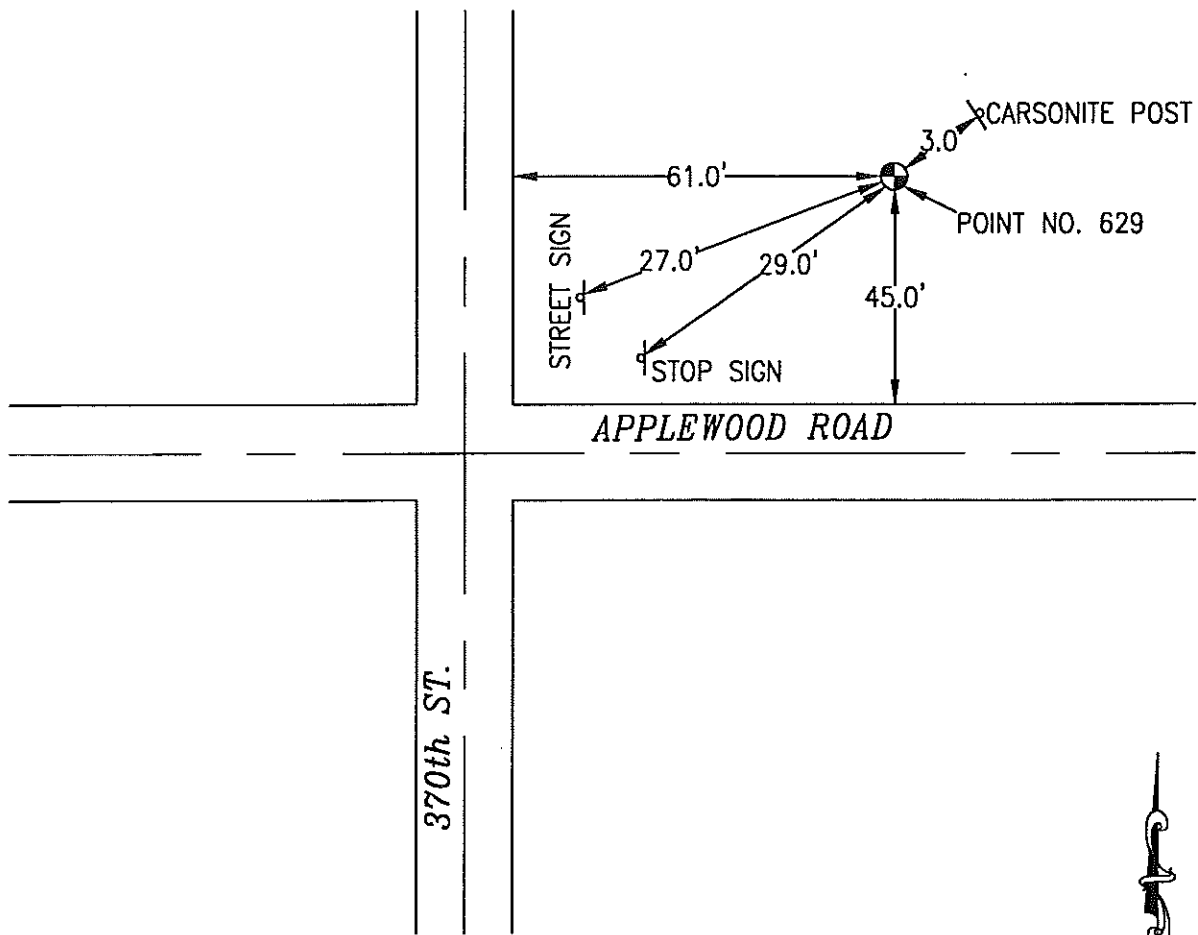
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629 744032-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.2 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 629, 744032-3". LOCATED APPROXIMATELY 61 FEET EAST OF THE EAST EDGE OF 370TH STREET, 45 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 3 FEET SOUTHWEST OF A CARSONITE POST, 27 FEET NORTHEAST OF A STOP SIGN, 29 FEET NORTHEAST OF A STREET SIGN. ON THE CARSON 7.5 MINUTE QUADRANGLE.

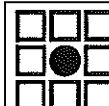


PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
629	744032-3	41 09 37.30699	95 28 47.96900	343.24	130747.707	333840.361	371.12	428961.44	1095274.58	1217.6



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
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2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

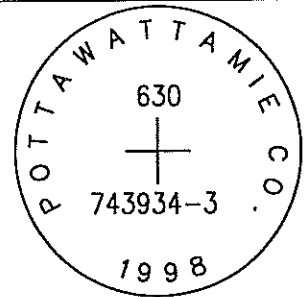
Date: November 4, 1998

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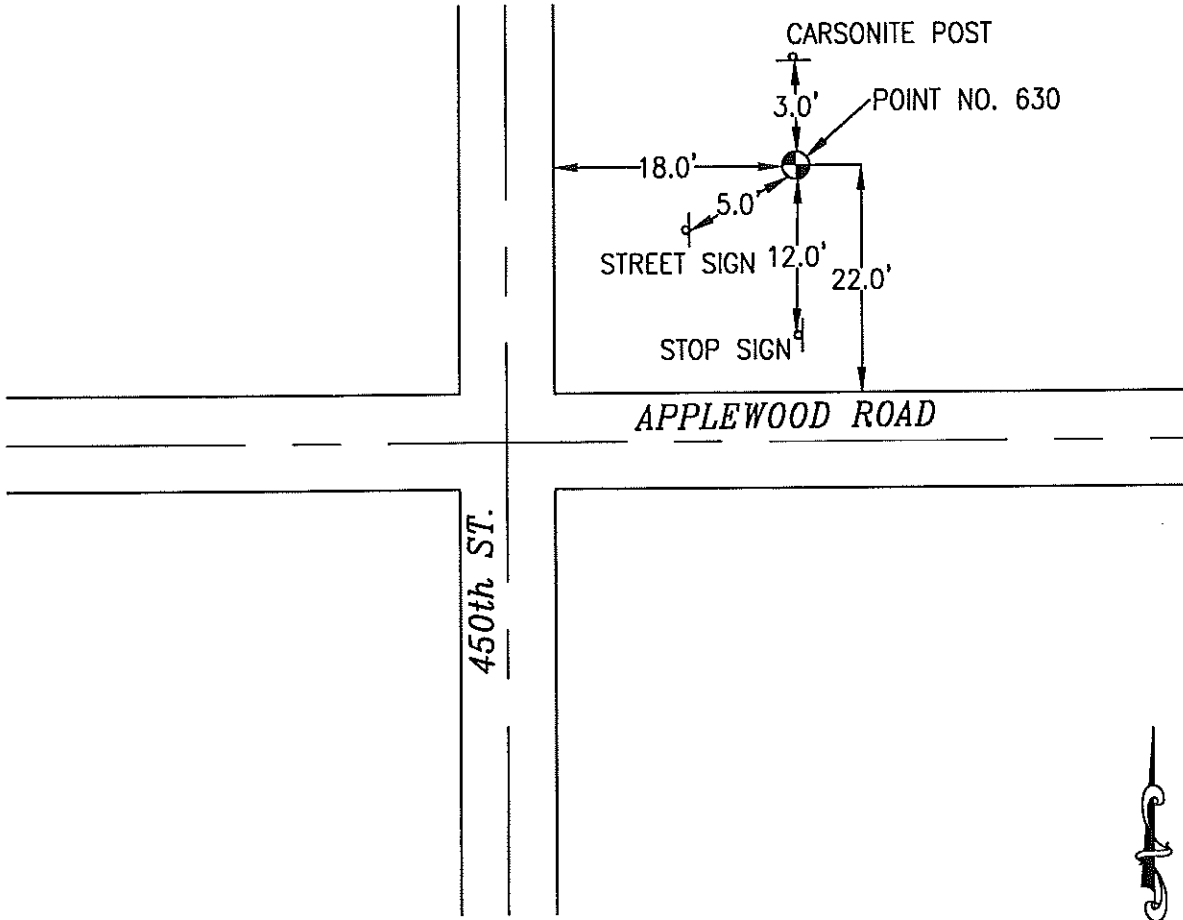
630

743934-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 630, 743934-3". LOCATED APPROXIMATELY 22 FEET NORTH OF THE NORTH EDGE OF APPLEWOOD ROAD, 18 FEET EAST OF THE EAST EDGE OF 450TH STREET, 3 FEET SOUTH OF A ORANGE CARSONITE POST, 5 FEET NORTHEAST OF A STREET SIGN, 12 FEET NORTH OF A STOP SIGN. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.



PT#	NAME OR DESIGNATION	GEODETIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
630	743934-3	41 09 35.86622	95 19 38.85738	335.64	130423.121	346637.771	363.75	427896.52	1137260.75	1193.4



NOT TO SCALE

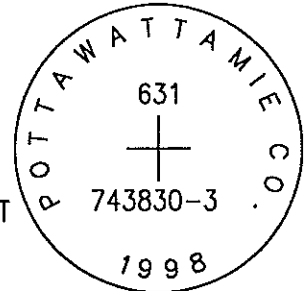
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report

MERRICK
Engineers & Architects
2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: November 4, 1998

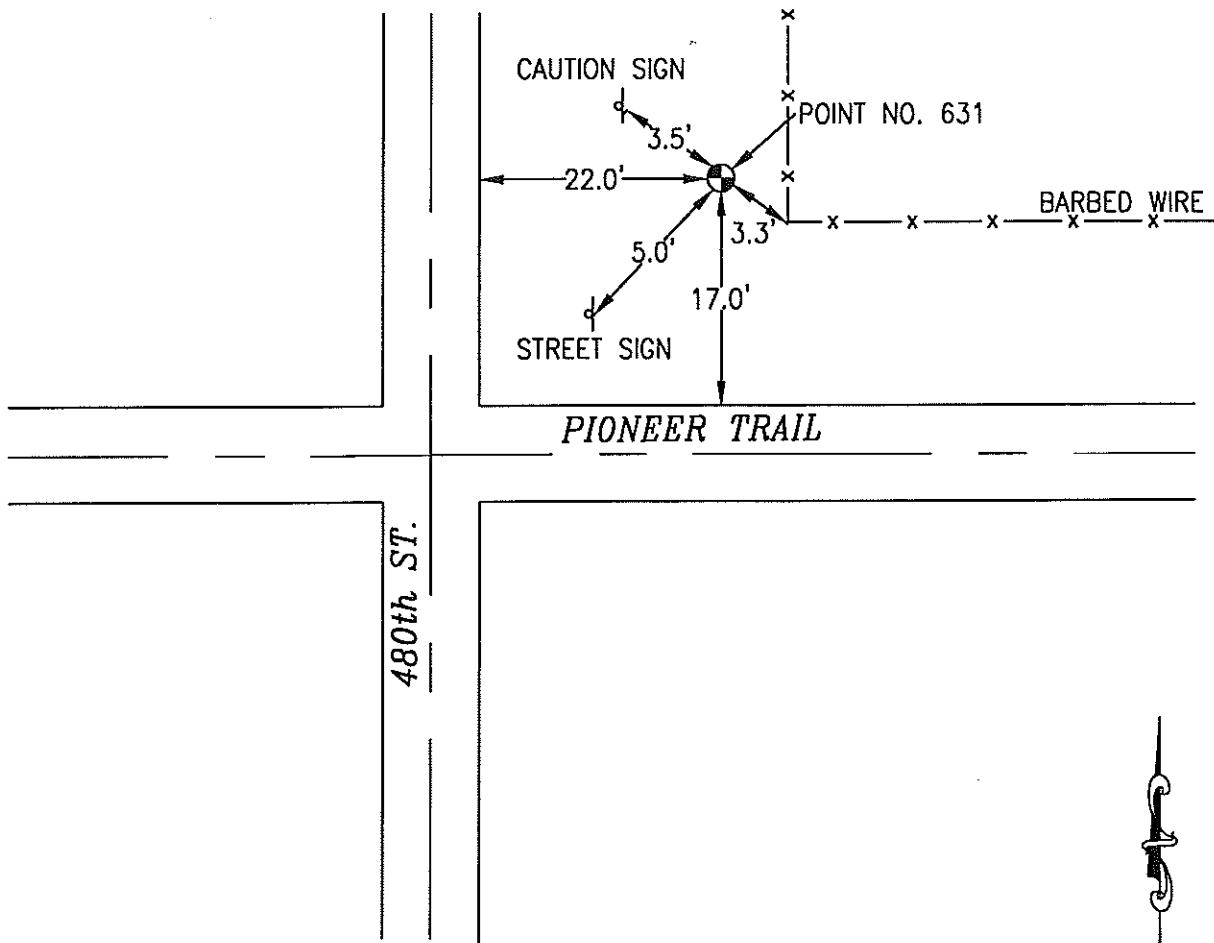
OK

631 743830-3

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.4 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 631, 743830-3". LOCATED APPROXIMATELY 22 FEET EAST OF THE EAST EDGE OF 480TH STREET, 17 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 5 FEET NORTHEAST OF A STREET SIGN, 3.5 FEET SOUTHWEST OF A CAUTION SIGN, 3.3 FEET NORTHWEST OF A FENCE CORNER. ON THE CARSON NE 7.5 MINUTE QUADRANGLE.

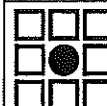


PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH			SP NAD83 (1996) IOWA SOUTH		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	HEIGHT NAVD88 METERS	NORTHING US FEET	EASTING US FEET	HEIGHT NAVD88 US FEET
631	743830-3	41 10 26.86028	95 16 11.27933	364.73	131895.781	351508.027	392.88	432728.07	1153239.25	1289.0



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report



MERRICK

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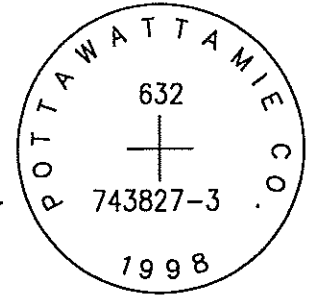
2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

Date: November 4, 1998

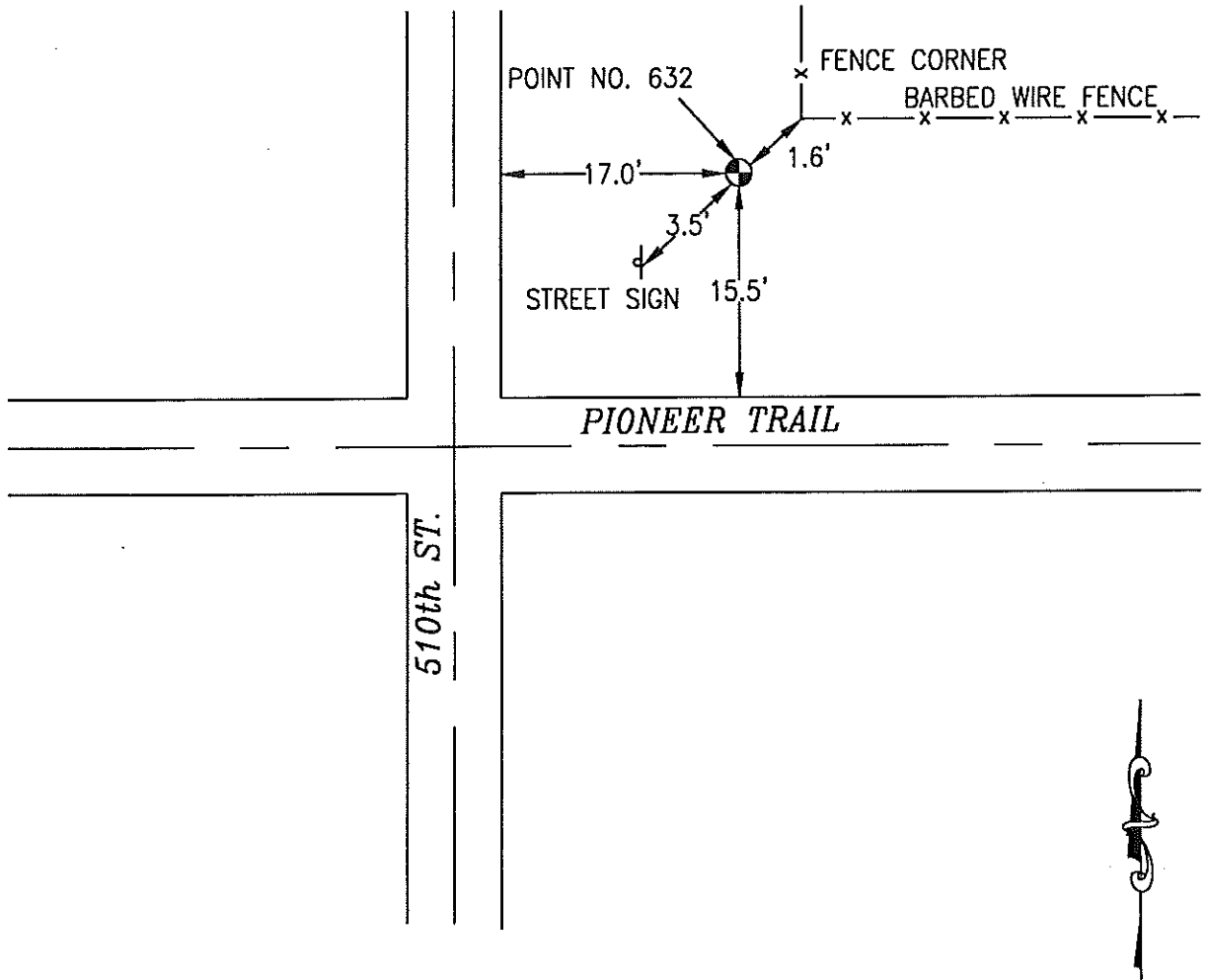
OK

632 743827-3



SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 632, 743827-3". LOCATED APPROXIMATELY 17 FEET EAST OF THE EAST EDGE OF 510TH STREET, 15.5 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 3.5 FEET NORTHEAST OF STREET SIGN, 1.6 FEET SOUTHWEST OF FENCE CORNER. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.

PT.#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
632	743827-3	41 10 26.08466	95 12 46.73312	348.19	131776.420	356274.177	376.46	432336.47	1168876.20	1235.1



NOT TO SCALE

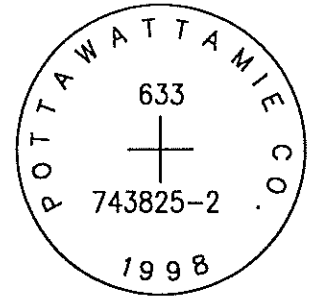
LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report

MERRICK
 Engineers & Architects
 2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 5, 1998

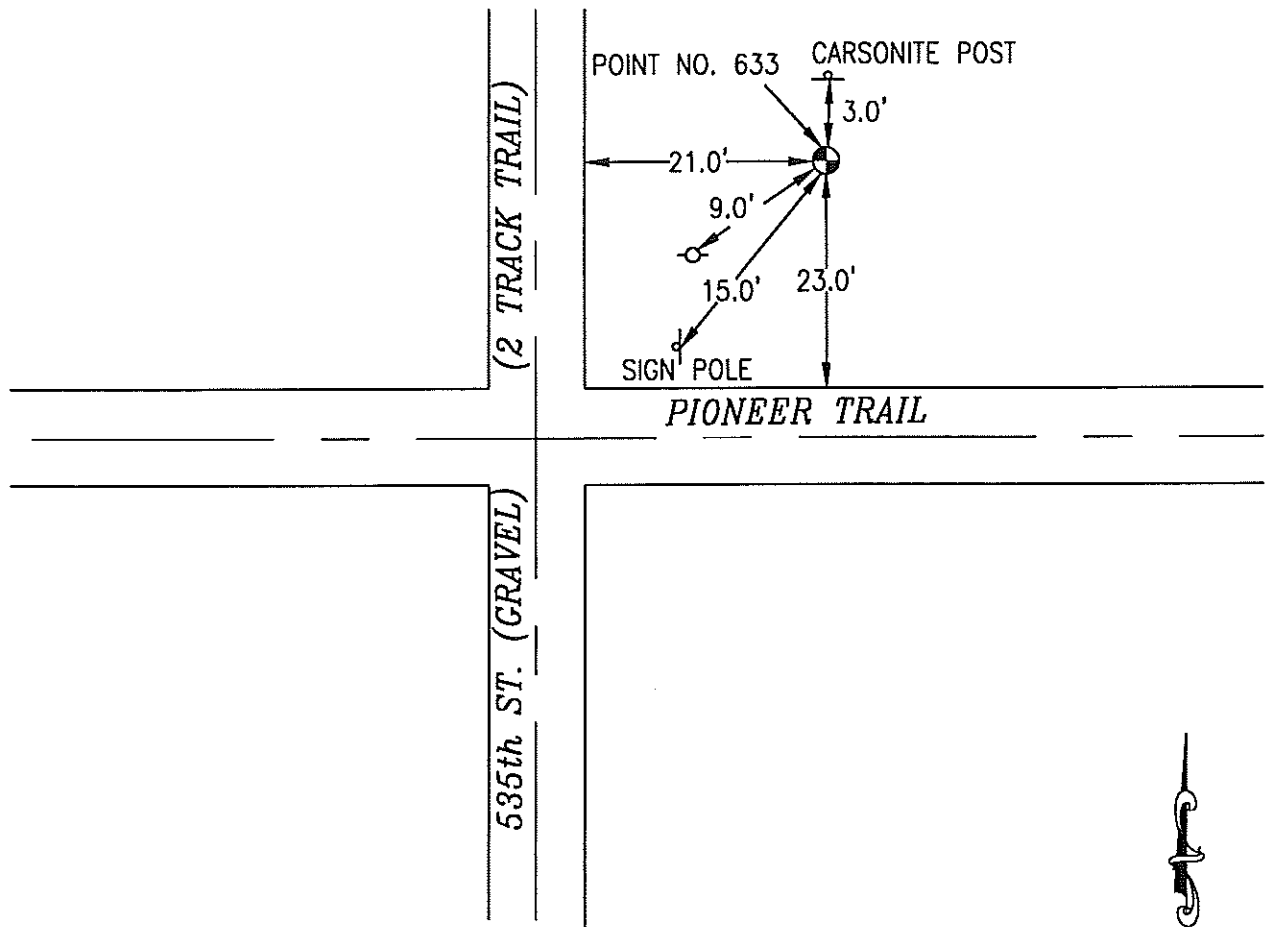
ok

633 743825-2

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.5 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 633, 743825-2". LOCATED APPROXIMATELY 21 FEET EAST OF THE EAST EDGE OF 535TH STREET, 23 FEET NORTH OF THE NORTH EDGE OF PIONEER TRAIL, 3 FEET SOUTH OF A ORANGE CARSONITE POST, 9 FEET NORTHWEST OF A SIGN POLE, 15 FEET NORTHWEST OF A POWERPOLE, 15 FEET NORTHEAST OF A SIGN POLE. ON THE GRISWOLD 7.5 MINUTE QUADRANGLE.

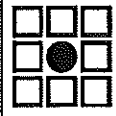


PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
633	743825-2	41 10 25.52712	95 9 54.78644	298.01	131681.403	360280.851	326.39	432024.74	1182021.43	1070.8



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report



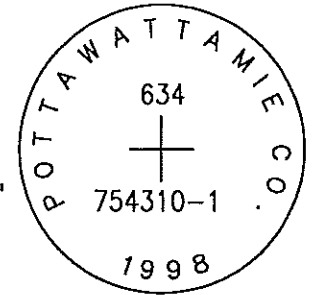
MERRICK
 Engineers & Architects

2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741
 Job Number: 50013142
 Date: November 5, 1998

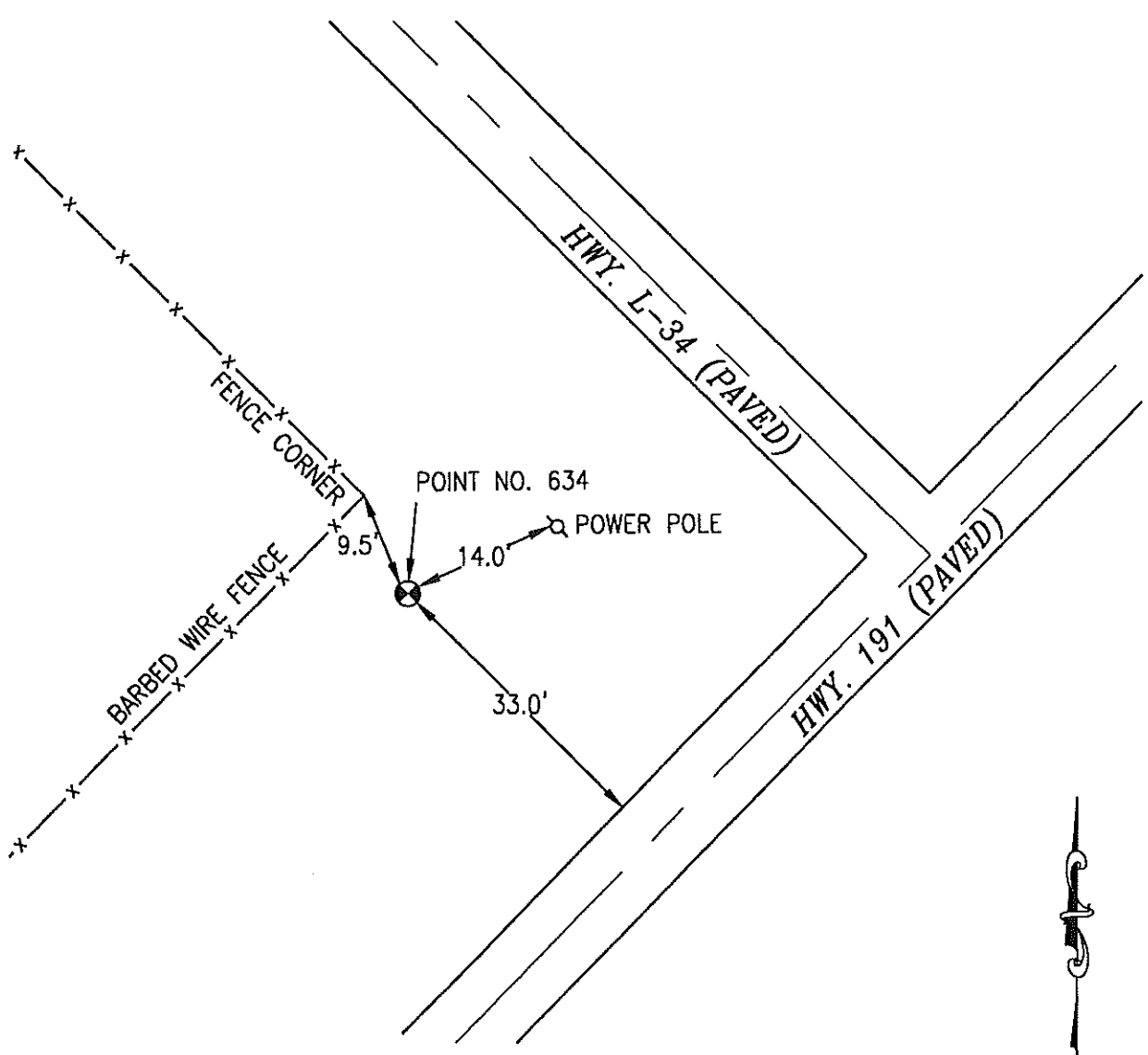
OK

634 754310-1

SET 5/8 INCH DIAMETER ROD WITH 2.5 INCH DIAMETER CAP, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE CO. 1998, 634, 754310-1". LOCATED APPROXIMATELY 33 FEET NORTHWEST OF THE NORTHWEST EDGE OF HIGHWAY 191, ON THE SOUTHWEST SIDE OF HIGHWAY L34, 14 FEET SOUTHWEST OF POWERPOLE, 9.5 FEET SOUTH OF FENCE CORNER. ON THE COUNCIL BLUFFS NORTH 7.5 MINUTE QUADRANGLE.

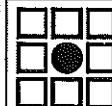


PT#	NAME OR DESIGNATION	GEODEIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAV88 METERS	NORTHING US FEET	EASTING US FEET	NAV88 US FEET
634	754310-1	41 19 03.06026	95 45 50.16058	284.34	148775.447	310471.347	312.11	488107.45	1018604.74	1024.0



NOT TO SCALE

LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
GIS Mapping Project
GPS Survey Report



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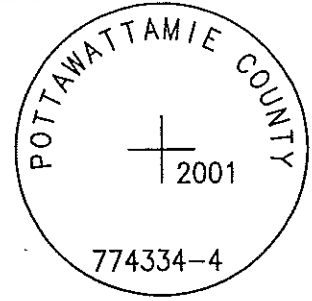
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Date: November 5, 1998

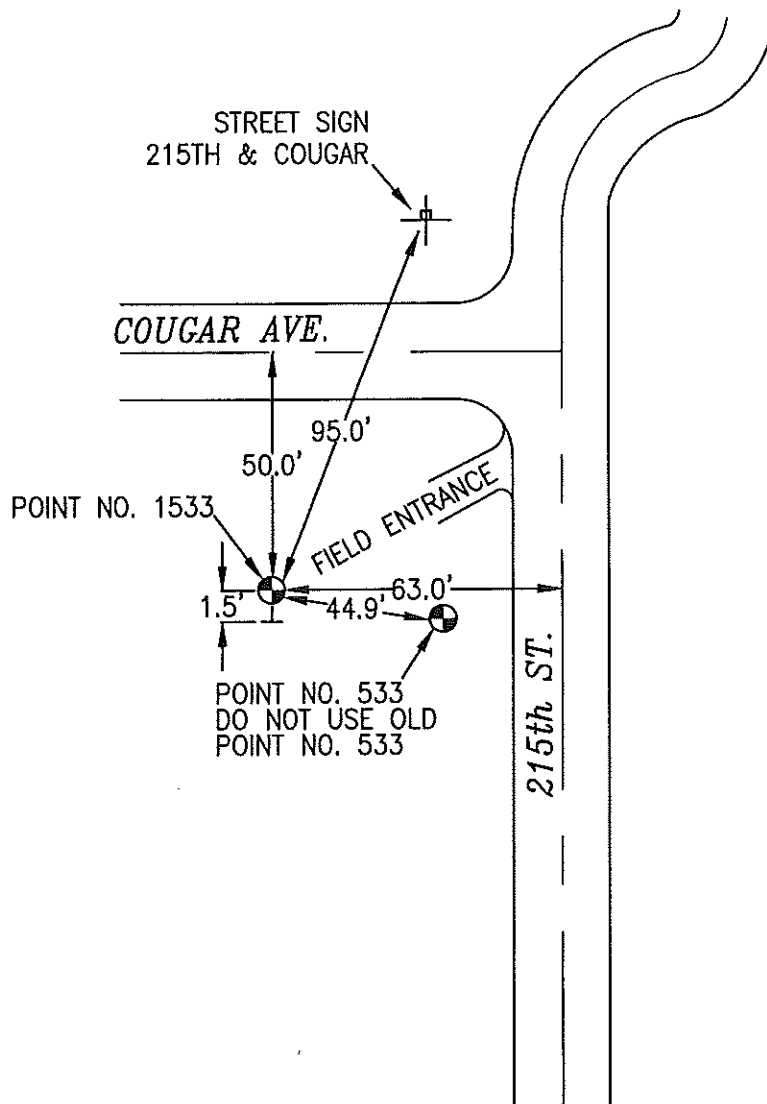
OK

1533 774334-4 2001

SET 3/4 INCH DIAMETER ROD WITH 3-1/4 INCH DIAMETER CAP, IN MONUMENT BOX, 0.1 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE COUNTY, 774334-4 2001". LOCATED APPROXIMATELY AT THE INTERSECTION OF COUGAR AVE. AND 215TH STREET, 95 FEET SW OF STREET INTERSECTION SIGN, 50 FEET SOUTH OF CENTERLINE COUGAR AVE., 63 FEET WEST OF CENTERLINE 215TH STREET, 44.9 FEET NW OF OLD POINT 533, 1.5 FEET NORTH OF CARSONITE POST. ON THE HONEY CREEK 7.5 MINUTE QUADRANGLE.

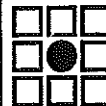


PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)			HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT			SP NAD83 (1996) IOWA SOUTH HEIGHT		
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC			NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
1533	774334-4 2001	41 25 36.02664	95 46 30.17796		293.40	160918.145	309858.002	321.71	527945.61	1016592.46	1055.5



NOT TO SCALE

LOCATION DIAGRAM
 POTTAWATTAMIE COUNTY IOWA
 GIS Mapping Project
 GPS Survey Report



MERRICK

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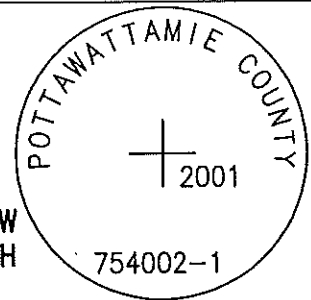
2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

Date: September 11, 2001

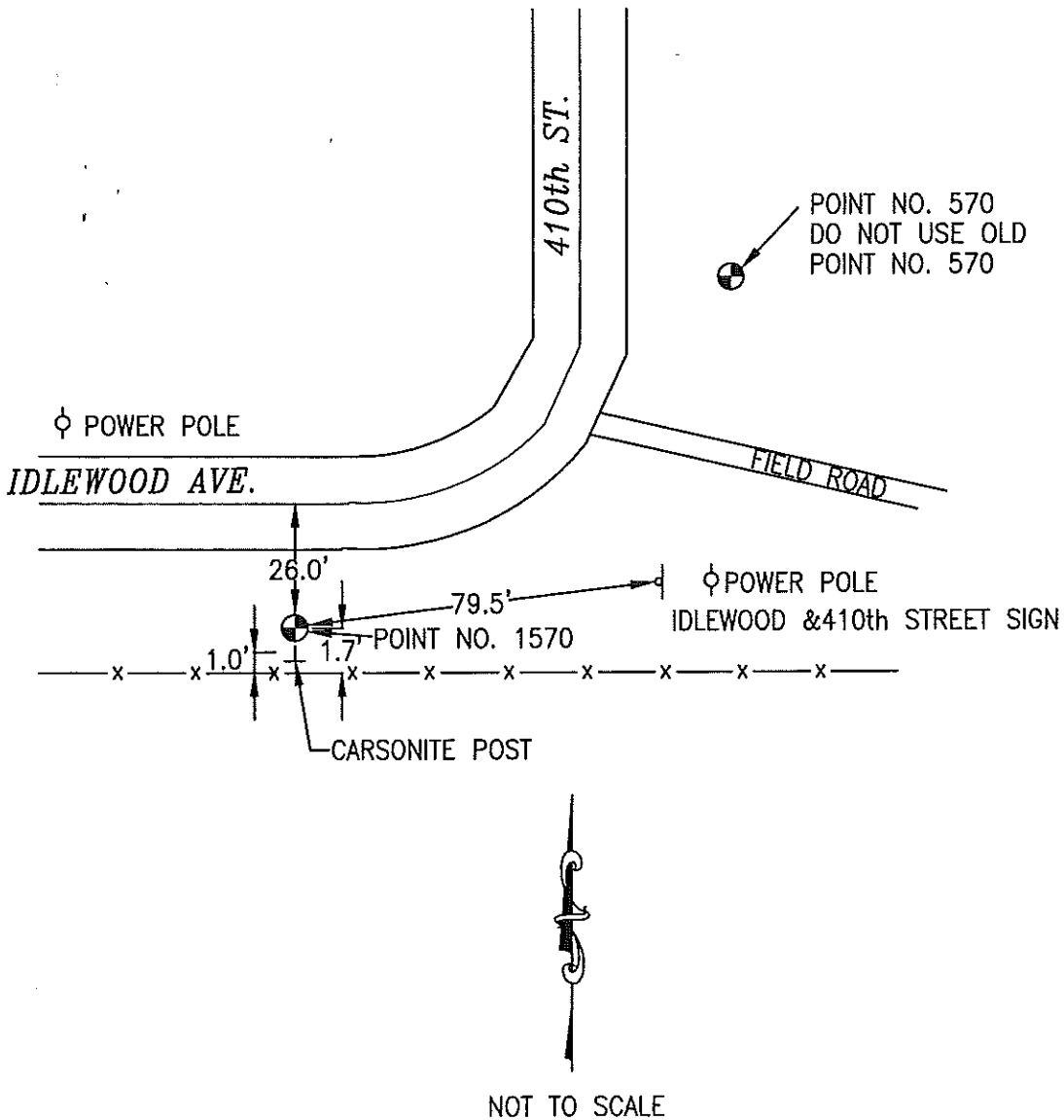
1570

754002-1 2001



SET 3/4 INCH DIAMETER ROD WITH 3-1/4 INCH DIAMETER CAP, IN MONUMENT BOX, 0.3 FEET BELOW GROUND, STAMPED "POTTAWATTAMIE COUNTY, 754002-1 2001". LOCATED APPROXIMATELY AT THE INTERSECTION OF IDLEWOOD AVE. AND 410TH STREET, 26.0 FEET SOUTH OF CENTERLINE IDLEWOOD AVE., 79.5 FEET SW OF STREET INTERSECTION SIGN, 1.7 FEET NORTH OF FENCE LINE, 1.0 FEET NORTH OF CARSONITE POST. ON THE OAKLAND 7.5 MINUTE QUADRANGLE

PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH HEIGHT		SP NAD83 (1996) IOWA SOUTH HEIGHT			
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS	NAVD88 METERS	NORTHING US FEET	EASTING US FEET	NAVD88 US FEET
1570	754002-1 2001	41 19 55.59263	95 24 13.52243	303.69	149673.226	340854.332	331.35	491052.91	1117630.09	1087.1



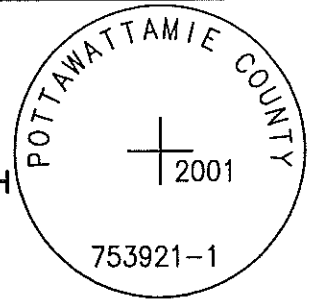
LOCATION DIAGRAM
POTTAWATTAMIE COUNTY IOWA
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GPS Survey Report

MERRICK
Engineers & Architects
2450 S. Pearl Street Aurora, Colorado 80014 (303)751-0741
Job Number: 50013142
Date: September 11, 2001

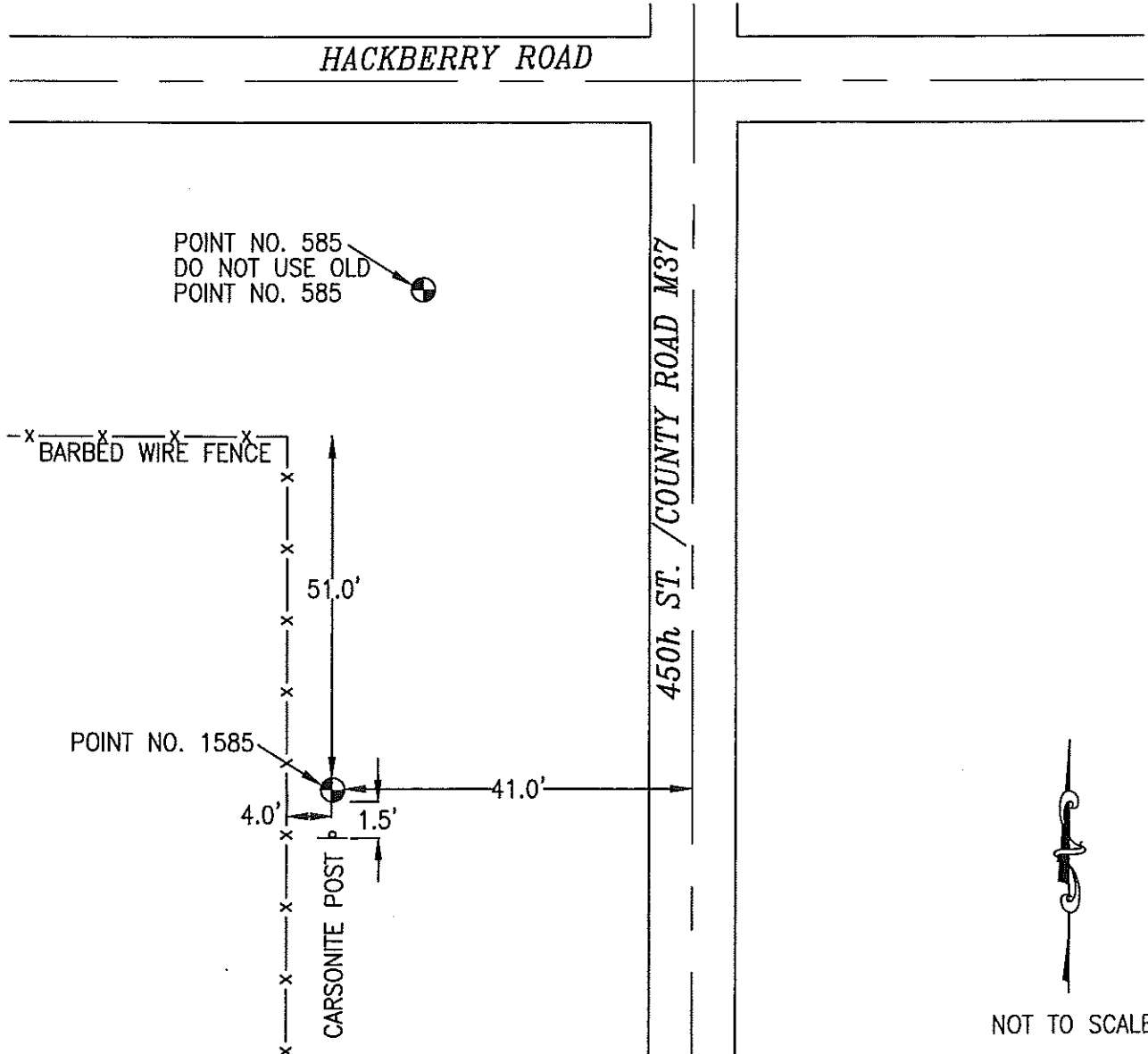
1585

753921-1 2001

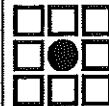
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PT#	NAME OR DESIGNATION	GEODETTIC NAD83 (1996)		HEIGHT ELLIPSOID METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 METERS	SP NAD83 (1996) IOWA SOUTH		HEIGHT NAVD88 US FEET
		LATITUDE (North) DEG MIN SEC	LONGITUDE (West) DEG MIN SEC		NORTHING METERS	EASTING METERS		NORTHING US FEET	EASTING US FEET	
1585	753921-1 2001	41 17 19.57838	95 19 40.08412	360.22	144725.124	346909.743	387.92	474819.01	1138153.05	1272.7



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2450 S. Peoria Street Aurora, Colorado 80014 (303)751-0741

Job Number: 50013142

Date: September 11, 2001

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

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1      National Geodetic Survey,  Retrieval Date = OCTOBER 28, 1998
MJ0562 *****
MJ0562 DESIGNATION - 1072
MJ0562 PID - MJ0562
MJ0562 STATE/COUNTY- IA/POTTAWATTAMIE
MJ0562 USGS QUAD - UNDERWOOD (1984)
MJ0562
MJ0562 *CURRENT SURVEY CONTROL
MJ0562
MJ0562* NAD 83(1986)- 41 23 07. (N) 095 40 46. (W) SCALED
MJ0562* NAVD 88 - 326.956 (meters) 1072.69 (feet) ADJUSTED
MJ0562
MJ0562 GEOID HEIGHT- -27.98 (meters) GEOID96
MJ0562 DYNAMIC HT - 326.816 (meters) 1072.23 (feet) COMP
MJ0562 MODELED GRAV- 980,186.7 (mgal) NAVD 88
MJ0562
MJ0562 VERT ORDER - FIRST CLASS II
MJ0562
MJ0562.The horizontal coordinates were scaled from a topographic map and have
MJ0562.an estimated accuracy of +/- 6 seconds.
MJ0562
MJ0562.The orthometric height was determined by differential leveling
MJ0562.and adjusted by the National Geodetic Survey in June 1991.
MJ0562
MJ0562.The geoid height was determined by GEOID96.
MJ0562
MJ0562.The dynamic height is computed by dividing the NAVD 88
MJ0562.geopotential number by the normal gravity value computed on the
MJ0562.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
MJ0562.degrees latitude (G = 980.6199 gals.).
MJ0562
MJ0562.The modeled gravity was interpolated from observed gravity values.
MJ0562
MJ0562; North East Units Estimated Accuracy
MJ0562;SPC IA S - 156,120. 317,730. MT (+/- 180 meters Scaled)
MJ0562
MJ0562 SUPERSEDED SURVEY CONTROL
MJ0562
MJ0562 NGVD 29 - 326.839 (m) 1072.30 (f) ADJ UNCH 1 2
MJ0562
MJ0562.Superseded values are not recommended for survey control.
MJ0562.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
MJ0562.See file format.dat to determine how the superseded data were derived.
MJ0562
MJ0562_MARKER: DD = SURVEY DISK
MJ0562_SETTING: 30 = SET IN A LIGHT STRUCTURE
MJ0562_STAMPING: ELEV 1072.173 FT
MJ0562_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
MJ0562
MJ0562 HISTORY - Date Condition Recov. By
MJ0562 HISTORY - UNK MONUMENTED USGS
MJ0562 HISTORY - 1948 GOOD NGS
MJ0562

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**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0562	STATION DESCRIPTION
MJ0562	MJ0562'DESCRIBED BY NATIONAL GEODETIC SURVEY 1948
MJ0562	MJ0562'0.2 MI SW FROM UNDERWOOD.
MJ0562	MJ0562'0.15 MILE SOUTHWEST ALONG THE CHICAGO, ROCK ISLAND AND PACIFIC
MJ0562	MJ0562'RAILROAD FROM THE STATION AT UNDERWOOD, SET IN THE SOUTHEAST
MJ0562	MJ0562'CONCRETE HEADWALL FOR A LARGE CONCRETE BOX RAILWAY CULVERT
MJ0562	MJ0562'(SOUTHEAST FACE OF HEADWALL STENCILLED 1900), 1.0 FEET NORTHEAST
MJ0562	MJ0562'OF THE SOUTHWEST END OF THE HEADWALL, 109.4 FEET SOUTHEAST
MJ0562	MJ0562'OF THE CENTER LINE OF STATE HIGHWAY 64, 102.5 FEET SOUTH
MJ0562	MJ0562'SOUTHEAST OF 588 (STATION) STENCILLED ON THE SOUTHEAST EDGE OF
MJ0562	MJ0562'THE HIGHWAY PAVING, 23.5 FEET SOUTHEAST OF THE SOUTHEAST RAIL
MJ0562	MJ0562'OF THE MAIN TRACK.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998
 MJ0409 *****
 MJ0409 DESIGNATION - A 150
 MJ0409 PID - MJ0409
 MJ0409 STATE/COUNTY- IA/POTTAWATTAMIE
 MJ0409 USGS QUAD - WALNUT (1973)
 MJ0409
 MJ0409 *CURRENT SURVEY CONTROL
 MJ0409
 MJ0409* NAD 83(1986)- 41 28 18. (N) 095 10 26. (W) SCALED
 MJ0409* NAVD 88 - 393.153 (meters) 1289.87 (feet) ADJUSTED
 MJ0409
 MJ0409 GEOID HEIGHT- -27.64 (meters) GEOID96
 MJ0409 DYNAMIC HT - 393.001 (meters) 1289.37 (feet) COMP
 MJ0409 MODELED GRAV- 980,223.6 (mgal) NAVD 88
 MJ0409
 MJ0409 VERT ORDER - FIRST CLASS II
 MJ0409
 MJ0409.The horizontal coordinates were scaled from a topographic map and have
 MJ0409.an estimated accuracy of +/- 6 seconds.
 MJ0409
 MJ0409.The orthometric height was determined by differential leveling
 MJ0409.and adjusted by the National Geodetic Survey in June 1991.
 MJ0409
 MJ0409.The geoid height was determined by GEOID96.
 MJ0409
 MJ0409.The dynamic height is computed by dividing the NAVD 88
 MJ0409.geopotential number by the normal gravity value computed on the
 MJ0409.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MJ0409.degrees latitude (G = 980.6199 gals.).
 MJ0409
 MJ0409.The modeled gravity was interpolated from observed gravity values.
 MJ0409
 MJ0409; North East Units Estimated Accuracy
 MJ0409;SPC IA S - 164,770. 360,190. MT (+/- 180 meters Scaled)
 MJ0409
 MJ0409 SUPERSEDED SURVEY CONTROL
 MJ0409
 MJ0409 NGVD 29 - 393.065 (m) 1289.58 (f) ADJ UNCH 1 2
 MJ0409
 MJ0409.Superseded values are not recommended for survey control.
 MJ0409.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 MJ0409.See file format.dat to determine how the superseded data were derived.
 MJ0409
 MJ0409_MARKER: DB = BENCH MARK DISK
 MJ0409_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
 MJ0409_STAMPING: A 150 1949
 MJ0409_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 MJ0409+STABILITY: SURFACE MOTION
 MJ0409
 MJ0409 HISTORY - Date Condition Recov. By
 MJ0409 HISTORY - 1949 MONUMENTED CGS
 MJ0409

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0409	STATION DESCRIPTION
MJ0409	MJ0409'DESCRIBED BY COAST AND GEODETIC SURVEY 1949 MJ0409'2.7 MI E FROM WALNUT. MJ0409'2.7 MILES EAST ALONG THE CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY MJ0409'FROM THE STATION AT WALNUT, 3.9 MILES NORTHWEST ALONG THE RAILROAD MJ0409'FROM THE STATION AT MARNE, 5 RAILS WEST OF A SECTION LINE ROAD MJ0409'OVERPASS NO. 449.8, 49.2 FEET SOUTH OF THE SOUTH RAIL OF THE MJ0409'TRACK, 29.0 FEET WEST OF A CORNER FENCE POST, 35.6 FEET WEST OF MJ0409'A POWER LINE POLE, 1.3 FEET NORTH OF THE SOUTH RIGHT-OF-WAY MJ0409'FENCE, 1.2 FEET EAST OF A REFERENCE POST, ABOUT 1.5 FEET ABOVE MJ0409'TRACK LEVEL, SET IN THE TOP OF A CONCRETE POST PROJECTING 0.4 MJ0409'FOOT ABOVE THE GROUND.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

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1      National Geodetic Survey,  Retrieval Date = OCTOBER 28, 1998
MJ0474 *****
MJ0474 DESIGNATION - C 149
MJ0474 PID - MJ0474
MJ0474 STATE/COUNTY- IA/POTTAWATTAMIE
MJ0474 USGS QUAD - CARSON (1978)
MJ0474
MJ0474 *CURRENT SURVEY CONTROL
MJ0474
MJ0474* NAD 83(1986)- 41 10 41. (N) 095 24 12. (W) SCALED
MJ0474* NAVD 88 - 363.998 (meters) 1194.22 (feet) ADJUSTED
MJ0474
MJ0474 GEOID HEIGHT- -27.90 (meters) GEOID96
MJ0474 DYNAMIC HT - 363.847 (meters) 1193.72 (feet) COMP
MJ0474 MODELED GRAV- 980,196.9 (mgal) NAVD 88
MJ0474
MJ0474 VERT ORDER - SECOND CLASS 0
MJ0474
MJ0474.The horizontal coordinates were scaled from a topographic map and have
MJ0474.an estimated accuracy of +/- 6 seconds.
MJ0474
MJ0474.The orthometric height was determined by differential leveling
MJ0474.and adjusted by the National Geodetic Survey in June 1991.
MJ0474
MJ0474.The geoid height was determined by GEOID96.
MJ0474
MJ0474.The dynamic height is computed by dividing the NAVD 88
MJ0474.geopotential number by the normal gravity value computed on the
MJ0474.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
MJ0474.degrees latitude (G = 980.6199 gals.).
MJ0474
MJ0474.The modeled gravity was interpolated from observed gravity values.
MJ0474
MJ0474; North East Units Estimated Accuracy
MJ0474;SPC IA S - 132,570. 340,320. MT (+/- 180 meters Scaled)
MJ0474
MJ0474 SUPERSEDED SURVEY CONTROL
MJ0474
MJ0474 NGVD 29 - 363.916 (m) 1193.95 (f) ADJ UNCH 2 0
MJ0474
MJ0474.Superseded values are not recommended for survey control.
MJ0474.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
MJ0474.See file format.dat to determine how the superseded data were derived.
MJ0474
MJ0474_MARKER: DB = BENCH MARK DISK
MJ0474_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
MJ0474_STAMPING: C 149 1949
MJ0474_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
MJ0474+STABILITY: SURFACE MOTION
MJ0474
MJ0474 HISTORY - Date Condition Recov. By
MJ0474 HISTORY - 1949 MONUMENTED CGS
MJ0474

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**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0474	STATION DESCRIPTION
MJ0474	MJ0474'DESCRIBED BY COAST AND GEODETIC SURVEY 1949 MJ0474'4 MI NE FROM HENDERSON. MJ0474'1.8 MILES NORTHEAST ALONG STATE HIGHWAY NO. 244 FROM THE CITIZENS MJ0474'BANK AT HENDERSON, THENCE 2.2 MILES NORTH ALONG U.S. HIGHWAY NO. MJ0474'59, IN THE NORTHWEST QUARTER OF A PUBLIC ROAD CROSSING, 103.0 MJ0474'FEET WEST OF THE CENTER LINE OF THE HIGHWAY, 69.0 FEET NORTH MJ0474'OF THE CENTER LINE OF THE EAST-WEST ROAD, 52.8 FEET NORTHWEST MJ0474'OF A POWER LINE POLE, 40.1 FEET NORTH OF A CORNER FENCE POST, MJ0474'1.1 FEET EAST OF THE WEST RIGHT-OF-WAY FENCE, 1.5 FEET SOUTH MJ0474'OF A REFERENCE POST, SET IN THE TOP OF A CONCRETE POST PROJECTING MJ0474'0.4 FOOT ABOVE THE GROUND.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998
 MJ0537 *****
 MJ0537 DESIGNATION - E 150
 MJ0537 PID - MJ0537
 MJ0537 STATE/COUNTY- IA/POTTAWATTAMIE
 MJ0537 USGS QUAD - AVOCA (1964)
 MJ0537
 MJ0537 *CURRENT SURVEY CONTROL
 MJ0537
 MJ0537* NAD 83(1986)- 41 29 04. (N) 095 20 09. (W) SCALED
 MJ0537* NAVD 88 - 349.525 (meters) 1146.73 (feet) ADJUSTED
 MJ0537
 MJ0537 GEOID HEIGHT- -27.96 (meters) GEOID96
 MJ0537 DYNAMIC HT - 349.382 (meters) 1146.26 (feet) COMP
 MJ0537 MODELED GRAV- 980,203.3 (mgal) NAVD 88
 MJ0537
 MJ0537 VERT ORDER - SECOND CLASS 0
 MJ0537
 MJ0537.The horizontal coordinates were scaled from a topographic map and have
 MJ0537.an estimated accuracy of +/- 6 seconds.
 MJ0537
 MJ0537.The orthometric height was determined by differential leveling
 MJ0537.and adjusted by the National Geodetic Survey in June 1991.
 MJ0537
 MJ0537.The geoid height was determined by GEOID96.
 MJ0537
 MJ0537.The dynamic height is computed by dividing the NAVD 88
 MJ0537.geopotential number by the normal gravity value computed on the
 MJ0537.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MJ0537.degrees latitude (G = 980.6199 gals.).
 MJ0537
 MJ0537.The modeled gravity was interpolated from observed gravity values.
 MJ0537
 MJ0537; North East Units Estimated Accuracy
 MJ0537;SPC IA S - 166,470. 346,700. MT (+/- 180 meters Scaled)
 MJ0537
 MJ0537 SUPERSEDED SURVEY CONTROL
 MJ0537
 MJ0537 NGVD 29 - 349.428 (m) 1146.41 (f) ADJ UNCH 2 0
 MJ0537
 MJ0537.Superseded values are not recommended for survey control.
 MJ0537.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 MJ0537.See file format.dat to determine how the superseded data were derived.
 MJ0537
 MJ0537_MARKER: DB = BENCH MARK DISK
 MJ0537_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
 MJ0537_STAMPING: E 150 1949
 MJ0537_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 MJ0537+STABILITY: SURFACE MOTION
 MJ0537
 MJ0537 HISTORY - Date Condition Recov. By
 MJ0537 HISTORY - 1949 MONUMENTED CGS
 MJ0537

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0537	STATION DESCRIPTION
MJ0537	MJ0537'DESCRIBED BY COAST AND GEODETIC SURVEY 1949
MJ0537'AT AVOCA.	
MJ0537'AT AVOCA, 0.7 MILE NORTH ALONG U.S. HIGHWAY 59 FROM THE AVOCA	
MJ0537'WATERWORKS BUILDING, AT THE NORTH EDGE OF THE TOWN, 108 FEET	
MJ0537'NORTHEAST OF THE CENTER LINE OF THE HIGHWAY, 35 FEET EAST OF THE	
MJ0537'CENTER LINE OF A PAVED STREET WHICH LEADS SOUTH, 27 FEET SOUTH OF	
MJ0537'THE CENTER LINE OF A PRIVATE ROAD LEADING EAST, 17.0 FEET NORTHEAST	
MJ0537'OF A 20 INCH WALNUT TREE, 1.0 FOOT WEST OF A FENCE, 1.1 FEET NORTH	
MJ0537'OF A WITNESS POST, SET IN THE TOP OF A CONCRETE POST WHICH PROJECTS	
MJ0537'0.6 FOOT ABOVE THE GROUND.	

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998
 MJ1382 *****
 MJ1382 CBN - This is a Cooperative Base Network Control Station.
 MJ1382 DESIGNATION - E 180
 MJ1382 PID - MJ1382
 MJ1382 STATE/COUNTY- IA/POTTAWATTAMIE
 MJ1382 USGS QUAD - LOVELAND (1977)
 MJ1382
 MJ1382 *CURRENT SURVEY CONTROL
 MJ1382
 MJ1382* NAD 83(1996)- 41 24 05.44242(N) 095 53 38.81424(W) ADJUSTED
 MJ1382* NAVD 88 - 300.733 (meters) 986.65 (feet) ADJUSTED
 MJ1382
 MJ1382 X - -492,033.036 (meters) COMP
 MJ1382 Y - -4,766,092.915 (meters) COMP
 MJ1382 Z - 4,196,153.894 (meters) COMP
 MJ1382 LAPLACE CORR- 0.04 (seconds) DEFLEC96
 MJ1382 ELLIP HEIGHT- 272.49 (meters) GPS OBS
 MJ1382 GEOID HEIGHT- -28.18 (meters) GEOID96
 MJ1382 DYNAMIC HT - 300.599 (meters) 986.22 (feet) COMP
 MJ1382 MODELED GRAV- 980,168.3 (mgal) NAVD 88
 MJ1382
 MJ1382 HORZ ORDER - B
 MJ1382 VERT ORDER - FIRST CLASS II
 MJ1382 ELLP ORDER - FOURTH CLASS I
 MJ1382
 MJ1382.The horizontal coordinates were established by GPS observations
 MJ1382.and adjusted by the National Geodetic Survey in August 1997.
 MJ1382.This is a SPECIAL STATUS position. See SPECIAL STATUS under the
 MJ1382.DATUM ITEM on the data sheet items page.
 MJ1382
 MJ1382.The orthometric height was determined by differential leveling
 MJ1382.and adjusted by the National Geodetic Survey in June 1991.
 MJ1382
 MJ1382.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 MJ1382
 MJ1382.The Laplace correction was computed from DEFLEC96 derived deflections.
 MJ1382
 MJ1382.The ellipsoidal height was determined by GPS observations
 MJ1382.and is referenced to NAD 83.
 MJ1382
 MJ1382.The geoid height was determined by GEOID96.
 MJ1382
 MJ1382.The dynamic height is computed by dividing the NAVD 88
 MJ1382.geopotential number by the normal gravity value computed on the
 MJ1382.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MJ1382.degrees latitude (G = 980.6199 gals.).
 MJ1382
 MJ1382.The modeled gravity was interpolated from observed gravity values.
 MJ1382
 MJ1382;
 MJ1382;SPC IA S - North East Units Scale Converg.
 MJ1382;UTM 15 - 158,391.839 299,832.389 MT 0.99995448 -1 34 37.2
 MJ1382;UTM 15 - 4,587,372.914 258,070.461 MT 1.00032037 -1 54 53.6

POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL

MJ1382
MJ1382 SUPERSEDED SURVEY CONTROL
MJ1382
MJ1382.No superseded survey control is available for this station.
MJ1382
MJ1382_MARKER: I = METAL ROD
MJ1382_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+))
MJ1382_STAMPING: E 180 1989
MJ1382_PROJECTION: FLUSH
MJ1382_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
MJ1382_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
MJ1382+SATELLITE: SATELLITE OBSERVATIONS - 1989
MJ1382_ROD/PIPE-DEPTH: 24.4 meters

MJ1382
MJ1382 HISTORY - Date Condition Recov. By
MJ1382 HISTORY - 1989 MONUMENTED NGS
MJ1382 HISTORY - 19960919 GOOD IADT

MJ1382
MJ1382 STATION DESCRIPTION
MJ1382
MJ1382'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989
MJ1382'8.3 KM (5.15 MI) SOUTHERLY ALONG INTERSTATE HIGHWAY 29 FROM ITS
MJ1382'JUNCTION WITH INTERSTATE HIGHWAY 680 IN LOVELAND, THENCE 2.4 KM
MJ1382'(1.50 MI) SOUTHERLY ALONG COUNTY ROAD L 19, 10.6 M (34.8 FT) EAST OF
MJ1382'THE CENTER OF THE ROAD, 6.7 M (22.0 FT) SOUTH OF THE CENTER OF A
MJ1382'DRIVEWAY, 0.7 M (2.3 FT) SOUTH OF A UTILITY POLE, 0.5 M (1.6 FT) WEST
MJ1382'OF A WITNESS POST AND FENCE, AND LEVEL WITH THE ROAD. NOTE--ACCESS TO
MJ1382'DATUM POINT IS HAD THROUGH A 5-INCH LOGO CAP.

MJ1382
MJ1382 STATION RECOVERY (1996)
MJ1382
MJ1382'RECOVERY NOTE BY IOWA DEPARTMENT OF TRANSPORTATION 1996 (DMO)
MJ1382'RECOVERED AS DESCRIBED. A PINK STATE HARN SURVEY SIGN WAS SET ON THE
MJ1382'UTILITY POLE.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998
 MJ0483 *****
 MJ0483 DESIGNATION - H 149 RESET
 MJ0483 PID - MJ0483
 MJ0483 STATE/COUNTY- IA/POTTAWATTAMIE
 MJ0483 USGS QUAD - CARSON (1978)
 MJ0483
 MJ0483 *CURRENT SURVEY CONTROL
 MJ0483
 MJ0483* NAD 83(1986)- 41 13 56. (N) 095 25 22. (W) SCALED
 MJ0483* NAVD 88 - 325.44 (+/-2cm) 1067.7 (feet) VERTCON
 MJ0483
 MJ0483 GEOID HEIGHT- -27.74 (meters) GEOID96
 MJ0483
 MJ0483 VERT ORDER - THIRD (See Below)
 MJ0483
 MJ0483.The horizontal coordinates were scaled from a topographic map and have
 MJ0483.an estimated accuracy of +/- 6 seconds.
 MJ0483
 MJ0483.The NAVD 88 height was computed by applying the VERTCON shift value to
 MJ0483.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
 MJ0483.The vertical order pertains to the superseded datum.
 MJ0483
 MJ0483.The geoid height was determined by GEOID96.
 MJ0483
 MJ0483;
 MJ0483;SPC IA S - North East Units Estimated Accuracy
 MJ0483; 138,620. 338,820. MT (+/- 180 meters Scaled)
 MJ0483
 MJ0483 SUPERSEDED SURVEY CONTROL
 MJ0483
 MJ0483 NGVD 29 - 325.35 (m) 1067.4 (f) RESET 3
 MJ0483
 MJ0483.Superseded values are not recommended for survey control.
 MJ0483.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 MJ0483.See file format.dat to determine how the superseded data were derived.
 MJ0483
 MJ0483_MARKER: DB = BENCH MARK DISK
 MJ0483_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
 MJ0483_STAMPING: H 149 RESET 1955
 MJ0483_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 MJ0483+STABILITY: SURFACE MOTION
 MJ0483
 MJ0483 HISTORY - Date Condition Recov. By
 MJ0483 HISTORY - 1955 MONUMENTED CGS
 MJ0483 HISTORY - 1956 GOOD NGS
 MJ0483
 MJ0483 STATION DESCRIPTION
 MJ0483
 MJ0483'DESCRIBED BY NATIONAL GEODETIC SURVEY 1956
 MJ0483'AT CARSON.
 MJ0483'AT CARSON, POTTAWATAMIE COUNTY, 0.2 MILE SOUTH ALONG THE CHICAGO,
 MJ0483'BURLINGTON AND QUINCY RAILROAD FROM THE STATION, 47 FEET EAST OF
 MJ0483'THE EAST RAIL, 57 FEET SOUTH OF THE CENTERLINE OF STATE HIGHWAY

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0483'100, 39.2 FEET EAST OF A DRIVEN RAILROAD RAIL PROJECTING 0.6 FOOT
MJ0483'ABOVE GROUND WITH A CROSS CUT IN THE OUTSIDE FLANGE, 24.5 FEET
MJ0483'NORTH OF CROSSED SPIKES ON A 6-INCH MULBERRY TREE (CENTER TREE
MJ0483'OF GROUP OF TREES) 1.0 FOOT NORTHWEST OF A DRIVEN RAILROAD RAIL
MJ0483'PROJECTING 0.6 FOOT ABOVE GROUND, 38 FEET WEST OF CROSSED
MJ0483'SPIKES IN A CORNER POST, AND 1.5 FEET NORTHEAST OF A WHITE
MJ0483'WOODEN WITNESS POST. A STANDARD DISK, STAMPED H 149 RESET 1955
MJ0483'AND SET IN THE TOP OF A CONCRETE POST PROJECTING 0.5 FOOT ABOVE
MJ0483'GROUND.

POTTAWATTAMIE COUNTY, IOWA
 EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL

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MJ1199 |          HANCOCK RM 1                      19.471 METERS 35833 |
MJ1199 |-----|
MJ1199
MJ1199
MJ1199          SUPERSEDED SURVEY CONTROL
MJ1199
MJ1199 NAD 83(1986)- 41 23 07.72175(N)    095 20 49.30028(W) AD(      ) 2
MJ1199 NAD 83(1995)- 41 23 07.72151(N)    095 20 49.29945(W) AD(      ) 2
MJ1199 NAD 27      - 41 23 07.75387(N)    095 20 48.29945(W) AD(      ) 2
MJ1199 NGVD 29     -      381.1      (m)      1250.      (f) VERT ANG
MJ1199
MJ1199.Superseded values are not recommended for survey control.
MJ1199.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
MJ1199.See file format.dat to determine how the superseded data were derived.
MJ1199
MJ1199_MARKER: DD = SURVEY DISK
MJ1199_SETTING: 46 = COPPER-CLAD STEEL ROD W/O SLEEVE (10 FT.+)
MJ1199_STAMPING: HANCOCK 1968
MJ1199_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
MJ1199
MJ1199 HISTORY      - Date      Condition      Recov. By
MJ1199 HISTORY      - 1968      MONUMENTED      USGS
MJ1199 HISTORY      - 19960917 GOOD      IADT
MJ1199
MJ1199          STATION DESCRIPTION
MJ1199
MJ1199'DESCRIBED BY US GEOLOGICAL SURVEY 1968 (JFS)
MJ1199'STATION IS LOCATED 0.8 MI E. OF HANCOCK, IN THE RIGHT-OF-WAY
MJ1199'OF A N.-S. GRAVEL RD., 0.3 MI S. OF ITS INTERSECTION WITH
MJ1199'U.S. HWY. 59 AND 0.3 MI S. OF COR. OF SECS. 8, 9, 16 AND 17,
MJ1199'T. 76 N., R. 39 W.
MJ1199'
MJ1199'TO REACH THE STATION FROM THE POST OFFICE AT HANCOCK, DRIVE S. 0.1
MJ1199'MI TO U.S. HWY. 59, TURN LEFT AND DRIVE E. ON HWY. 59 FOR 0.8 MI
MJ1199'TO A GRAVEL RD. CROSSING, TURN RIGHT AND DRIVE S. ON GRAVEL
MJ1199'RD. FOR 0.3 MI TO STATION ON THE RIGHT.
MJ1199'
MJ1199'STATION MARK AND REFERENCE MARKS ARE STANDARD TABLETS STAMPED
MJ1199'HANCOCK 1968 CRIMPED ON 10 FT LENGTHS OF COPPER COATED ROD, DRIVEN
MJ1199'FLUSH WITH THE GROUND AND SET IN 6 IN. TILE FILLED WITH GRAVEL.
MJ1199'
MJ1199'STATION MARK IS 0.15 MI S. OF CENTER OF A WOODEN BRIDGE OVER A
MJ1199'RR., 30 FT W. OF CENTER OF THE GRAVEL RD., 8 FT N. OF CENTER OF
MJ1199'APPROACH TO FIELD W., 2.7 FT E. OF N. GATE POST OF FIELD ENTRANCE
MJ1199'AND 0.6 FT W. OF A METAL WITNESS POST.
MJ1199'
MJ1199'REFERENCE MARK 1 IS 63.88 FT (19.470 M.) N. OF STATION, 32 FT
MJ1199'W. OF CENTER OF GRAVEL RD., 3.4 FT S. OF A TELEPHONE POLE AND 1
MJ1199'FT E. OF RIGHT-OF-WAY FENCE AND A METAL WITNESS POST.
MJ1199'
MJ1199'REFERENCE MARK 2 IS 62.90 FT (19.172 M.) E. OF STATION, 34
MJ1199'FT E. OF CENTER OF THE RD., 3.6 FT N. OF A POWER LINE POLE AND 1
MJ1199'FT W. OF RIGHT-OF-WAY FENCE AND A METAL WITNESS POST.
MJ1199

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**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ1199

STATION RECOVERY (1996)

MJ1199

MJ1199'RECOVERY NOTE BY IOWA DEPARTMENT OF TRANSPORTATION 1996 (DMO)

MJ1199'RECOVERED AS DESCRIBED. A PINK STATE HARN SURVEY SIGN WAS SET 1.0 M

MJ1199'(3.3 FT) NORTHWEST OF THE MONUMENT.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

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1      National Geodetic Survey,  Retrieval Date = OCTOBER 28, 1998
MJ0506 *****
MJ0506 DESIGNATION - J 147
MJ0506 PID - MJ0506
MJ0506 STATE/COUNTY- IA/POTTAWATTAMIE
MJ0506 USGS QUAD - AVOCA (1964)
MJ0506
MJ0506 *CURRENT SURVEY CONTROL
MJ0506
MJ0506* NAD 83(1986)- 41 22 55. (N) 095 22 04. (W) SCALED
MJ0506* NAVD 88 - 337.925 (meters) 1108.68 (feet) ADJUSTED
MJ0506
MJ0506 GEOID HEIGHT- -27.68 (meters) GEOID96
MJ0506 DYNAMIC HT - 337.791 (meters) 1108.24 (feet) COMP
MJ0506 MODELED GRAV- 980,216.9 (mgal) NAVD 88
MJ0506
MJ0506 VERT ORDER - SECOND CLASS 0
MJ0506
MJ0506.The horizontal coordinates were scaled from a topographic map and have
MJ0506.an estimated accuracy of +/- 6 seconds.
MJ0506
MJ0506.The orthometric height was determined by differential leveling
MJ0506.and adjusted by the National Geodetic Survey in June 1991.
MJ0506
MJ0506.The geoid height was determined by GEOID96.
MJ0506
MJ0506.The dynamic height is computed by dividing the NAVD 88
MJ0506.geopotential number by the normal gravity value computed on the
MJ0506.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
MJ0506.degrees latitude (G = 980.6199 gals.).
MJ0506
MJ0506.The modeled gravity was interpolated from observed gravity values.
MJ0506
MJ0506; North East Units Estimated Accuracy
MJ0506;SPC IA S - 155,140. 343,780. MT (+/- 180 meters Scaled)
MJ0506
MJ0506 SUPERSEDED SURVEY CONTROL
MJ0506
MJ0506 NGVD 29 - 337.840 (m) 1108.40 (f) ADJ UNCH 2 0
MJ0506
MJ0506.Superseded values are not recommended for survey control.
MJ0506.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
MJ0506.See file format.dat to determine how the superseded data were derived.
MJ0506
MJ0506_MARKER: DB = BENCH MARK DISK
MJ0506_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
MJ0506_STAMPING: J 147 1949
MJ0506_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
MJ0506+STABILITY: SURFACE MOTION
MJ0506
MJ0506 HISTORY - Date Condition Recov. By
MJ0506 HISTORY - 1949 MONUMENTED CGS
MJ0506

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**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0506	STATION DESCRIPTION
MJ0506	MJ0506'DESCRIBED BY COAST AND GEODETIC SURVEY 1949 MJ0506'0.8 MI SW FROM HANCOCK. MJ0506'0.8 MILE SOUTHWEST ALONG U.S. HIGHWAY NO. 59 FROM THE HANCOCK MJ0506'SCHOOL AT HANCOCK, 111.0 FEET SOUTHEAST OF THE CENTER LINE OF THE MJ0506'HIGHWAY, 137.0 FEET SOUTH OF THE SOUTH CORNER OF BRIDGE NO. 54, MJ0506'15.0 FEET NORTHEAST OF THE CENTER LINE OF A FIELD ROAD LEADING MJ0506'SOUTHEAST INTO A FIELD, 1.5 FEET NORTHWEST OF THE SOUTHEAST MJ0506'RIGHT-OF-WAY FENCE, 1.5 FEET SOUTHWEST OF A REFERENCE POST, SET MJ0506'IN THE TOP OF A CONCRETE POST PROJECTING 0.5 FOOT ABOVE THE MJ0506'GROUND.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998
 MJ1402 *****
 MJ1402 CBN - This is a Cooperative Base Network Control Station.
 MJ1402 DESIGNATION - J 180
 MJ1402 PID - MJ1402
 MJ1402 STATE/COUNTY- IA/POTTAWATTAMIE
 MJ1402 USGS QUAD - COUNCIL BLUFFS SOUTH (1977)
 MJ1402
 MJ1402 *CURRENT SURVEY CONTROL
 MJ1402
 MJ1402* NAD 83(1996)- 41 08 56.89950(N) 095 48 44.50313(W) ADJUSTED
 MJ1402* NAVD 88 - 297.886 (meters) 977.31 (feet) ADJUSTED
 MJ1402
 MJ1402 X - -487,104.385 (meters) COMP
 MJ1402 Y - -4,785,184.055 (meters) COMP
 MJ1402 Z - 4,175,087.048 (meters) COMP
 MJ1402 LAPLACE CORR- -3.43 (seconds) DEFLEC96
 MJ1402 ELLIP HEIGHT- 270.52 (meters) GPS OBS
 MJ1402 GEOID HEIGHT- -27.32 (meters) GEOID96
 MJ1402 DYNAMIC HT - 297.766 (meters) 976.92 (feet) COMP
 MJ1402 MODELED GRAV- 980,212.2 (mgal) NAVD 88
 MJ1402
 MJ1402 HORZ ORDER - B
 MJ1402 VERT ORDER - FIRST CLASS II
 MJ1402 ELLP ORDER - FOURTH CLASS I
 MJ1402
 MJ1402.The horizontal coordinates were established by GPS observations
 MJ1402.and adjusted by the National Geodetic Survey in August 1997.
 MJ1402.This is a SPECIAL STATUS position. See SPECIAL STATUS under the
 MJ1402.DATUM ITEM on the data sheet items page.
 MJ1402
 MJ1402.The orthometric height was determined by differential leveling
 MJ1402.and adjusted by the National Geodetic Survey in June 1991.
 MJ1402
 MJ1402.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 MJ1402
 MJ1402.The Laplace correction was computed from DEFLEC96 derived deflections.
 MJ1402
 MJ1402.The ellipsoidal height was determined by GPS observations
 MJ1402.and is referenced to NAD 83.
 MJ1402
 MJ1402.The geoid height was determined by GEOID96.
 MJ1402
 MJ1402.The dynamic height is computed by dividing the NAVD 88
 MJ1402.geopotential number by the normal gravity value computed on the
 MJ1402.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MJ1402.degrees latitude (G = 980.6199 gals.).
 MJ1402
 MJ1402.The modeled gravity was interpolated from observed gravity values.
 MJ1402
 MJ1402;
 MJ1402;SPC IA S - North East Units Scale Converg.
 MJ1402;UTM 15 - 130,189.867 305,920.994 MT 0.99994878 -1 31 23.4
 MJ1402;UTM 15 - 4,559,126.062 263,997.122 MT 1.00028554 -1 51 05.2

POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL

MJ1402

MJ1402

SUPERSEDED SURVEY CONTROL

MJ1402

MJ1402.No superseded survey control is available for this station.

MJ1402

MJ1402_MARKER: I = METAL ROD

MJ1402_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

MJ1402_STAMPING: J 180

MJ1402_PROJECTION: FLUSH

MJ1402_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

MJ1402_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

MJ1402+SATELLITE: SATELLITE OBSERVATIONS - 1989

MJ1402_ROD/PIPE-DEPTH: 19.2 meters

MJ1402_SLEEVE-DEPTH : 4.6 meters

MJ1402

MJ1402	HISTORY	- Date	Condition	Recov. By
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MJ1402	HISTORY	- 1989	MONUMENTED	NGS
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MJ1402	HISTORY	- 19960918	GOOD	IADT
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MJ1402

MJ1402

STATION DESCRIPTION

MJ1402

MJ1402'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989

MJ1402'8.1 KM (5.05 MI) SOUTHERLY ALONG INTERSTATE HIGHWAY 29 FROM THE

MJ1402'JUNCTION OF STATE HIGHWAY 92 IN COUNCIL BLUFFS, THENCE 0.8 KM

MJ1402'(0.50 MI) EAST ALONG STATE HIGHWAY 370, 65.5 M (214.9 FT) EAST OF THE

MJ1402'CENTER OF COUNTY ROAD L 31, 17.2 M (56.4 FT) SOUTH OF THE CENTERLINE

MJ1402'OF THE HIGHWAY, 1.8 M (5.9 FT) EAST OF A UTILITY POLE, 0.9 M (3.0 FT)

MJ1402'NORTH OF A WITNESS POST AND FENCE, AND 1.3 M (4.3 FT) BELOW THE LEVEL

MJ1402'OF THE HIGHWAY. NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH

MJ1402'LOGO CAP.

MJ1402

MJ1402

STATION RECOVERY (1996)

MJ1402

MJ1402'RECOVERY NOTE BY IOWA DEPARTMENT OF TRANSPORTATION 1996 (DMO)

MJ1402'RECOVERED AS DESCRIBED. A PINK STATE HARN SURVEY SIGN WAS SET 0.6 M

MJ1402'(2.0 FT) SOUTH OF THE MONUMENT.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

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1      National Geodetic Survey,  Retrieval Date = OCTOBER 28, 1998
MJ0600 *****
MJ0600 DESIGNATION - LEWIS
MJ0600 PID - MJ0600
MJ0600 STATE/COUNTY- IA/POTTAWATTAMIE
MJ0600 USGS QUAD - COUNCIL BLUFFS SOUTH (1977)
MJ0600
MJ0600 *CURRENT SURVEY CONTROL
MJ0600
MJ0600* NAD 83(1995)- 41 11 47.14373(N) 095 49 06.20690(W) ADJUSTED
MJ0600* NAVD 88 - 295.718 (meters) 970.20 (feet) ADJUSTED
MJ0600
MJ0600 LAPLACE CORR- -2.09 (seconds) DEFLEC96
MJ0600 GEOID HEIGHT- -27.36 (meters) GEOID96
MJ0600 DYNAMIC HT - 295.598 (meters) 969.81 (feet) COMP
MJ0600 MODELED GRAV- 980,211.2 (mgal) NAVD 88
MJ0600
MJ0600 HORZ ORDER - SECOND
MJ0600 VERT ORDER - FIRST CLASS II
MJ0600
MJ0600.The horizontal coordinates were established by classical geodetic methods
MJ0600.and adjusted by the National Geodetic Survey in August 1997.
MJ0600
MJ0600.The orthometric height was determined by differential leveling
MJ0600.and adjusted by the National Geodetic Survey in June 1991.
MJ0600.WARNING-Repeat measurements at this control monument indicate possible
MJ0600.vertical movement.
MJ0600
MJ0600.The Laplace correction was computed from DEFLEC96 derived deflections.
MJ0600
MJ0600.The geoid height was determined by GEOID96.
MJ0600
MJ0600.The dynamic height is computed by dividing the NAVD 88
MJ0600.geopotential number by the normal gravity value computed on the
MJ0600.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
MJ0600.degrees latitude (G = 980.6199 gals.).
MJ0600
MJ0600.The modeled gravity was interpolated from observed gravity values.
MJ0600
MJ0600; North East Units Scale Converg.
MJ0600;SPC IA S - 135,453.105 305,555.066 MT 0.99994837 -1 31 37.7
MJ0600;SPC NE - 159,816.841 850,522.537 MT 0.99967310 +2 46 16.1
MJ0600;UTM 15 - 4,564,393.095 263,661.324 MT 1.00028749 -1 51 25.8
MJ0600
MJ0600: Primary Azimuth Mark Grid Az
MJ0600:SPC IA S - LEWIS AZ MK 2 000 39 42.1
MJ0600:SPC NE - LEWIS AZ MK 2 356 21 48.3
MJ0600:UTM 15 - LEWIS AZ MK 2 000 59 30.2
MJ0600
MJ0600|-----|
MJ0600| PID Reference Object Distance Geod. Az |
MJ0600| MJ0601 LEWIS RM 1 20.522 METERS 16222 |

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**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0600	MJ1222 RADIO STA KFMX KSWI RAD MAST	APPROX. 7.5 KM 2793935.7
MJ0600	MJ1224 RADIO STA KOIL TRANS TR C OF 3	APPROX. 5.7 KM 2922501.9
MJ0600	MJ1254 COUNCIL BLUFFS ST FRANCIS CH	APPROX. 7.3 KM 3363551.5
MJ0600	LEWIS RM 3	12.765 METERS 34029
MJ0600	MJ0602 LEWIS RM 2	19.507 METERS 34812
MJ0600	MJ1211 LEWIS AZ MK 2	APPROX. 0.7 KM 3590804.4
MJ0600	MJ0603 LEWIS AZ MK	3591805.7

MJ0600 -----

MJ0600

MJ0600

SUPERSEDED SURVEY CONTROL

MJ0600

MJ0600 NAD 83(1986)- 41 11 47.15295(N) 095 49 06.20650(W) AD() 2

MJ0600 NAD 27 - 41 11 47.15400(N) 095 49 05.16900(W) AD() 2

MJ0600 NGVD 29 - 295.763 (m) 970.35 (f) ADJ UNCH 1 2

MJ0600

MJ0600.Superseded values are not recommended for survey control.

MJ0600.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MJ0600.See file format.dat to determine how the superseded data were derived.

MJ0600

MJ0600_MARKER: DS = TRIANGULATION STATION DISK

MJ0600_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)

MJ0600_STAMPING: LEWIS 1947

MJ0600_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

MJ0600+STABILITY: SURFACE MOTION

MJ0600_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

MJ0600+SATELLITE: SATELLITE OBSERVATIONS - August 12, 1989

MJ0600

MJ0600	HISTORY	- Date	Condition	Recov. By
MJ0600	HISTORY	- 1947	MONUMENTED	CGS
MJ0600	HISTORY	- 1948	GOOD	NGS
MJ0600	HISTORY	- 1953	GOOD	CGS
MJ0600	HISTORY	- 1961	GOOD	CGS
MJ0600	HISTORY	- 1974	GOOD	NGS
MJ0600	HISTORY	- 1975	GOOD	NGS
MJ0600	HISTORY	- 1977	GOOD	NGS
MJ0600	HISTORY	- 19890812	GOOD	NGS

MJ0600'DESCRIBED BY COAST AND GEODETIC SURVEY 1947 (GLS)

MJ0600'THE STATION IS LOCATED ABOUT 4-1/2 MILES SOUTHEAST OF THE

MJ0600'CENTER OF COUNCIL BLUFFS ON THE RIGHT-OF-WAY OF COUNTY ROUTE

MJ0600'G. IT IS 83 FEET WEST OF THE CENTERLINE OF COUNTY ROUTE G,

MJ0600'78 FEET NORTHEAST OF THE NORTHEAST CORNER OF A WHITE FRAME

MJ0600'HOUSE, 13 FEET EAST OF A FENCE LINE, AND 13.7 FEET EAST-SOUTHEAST

MJ0600'OF A WHITE WITNESS POST. THE DISK IS STAMPED LEWIS 1947 AND

MJ0600'PROJECTS 4 INCHES.

MJ0600'

MJ0600'REFERENCE MARK NO. 1 IS 67.33 FEET SOUTH OF THE STATION, 35

MJ0600'FEET EAST OF THE NORTHEAST CORNER OF THE HOUSE AND 1 FOOT EAST

MJ0600'OF THE FENCE LINE. THE DISK IS STAMPED LEWIS NO 1 1947 AND

MJ0600'PROJECTS 4 INCHES.

MJ0600'

POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL

MJ0600'REFERENCE MARK NO. 2 IS 64.00 FEET NORTH OF THE STATION, 74
MJ0600'FEET WEST OF THE CENTER LINE OF COUNTY ROUTE C AND 1 FOOT
MJ0600'EAST OF THE FENCE LINE. THE DISK IS STAMPED LEWIS NO 2 1947
MJ0600'AND PROJECTS 2 INCHES.

MJ0600'

MJ0600'THE AZIMUTH MARK IS APPROXIMATELY 0.5 MILE NORTH OF THE STATION,
MJ0600'40 YARDS SOUTH OF A RAIL ROAD CROSSING, 30 FEET WEST OF THE
MJ0600'CENTER LINE OF COUNTY ROUTE G, 2.7 FEET SOUTH OF A WITNESS
MJ0600'POST AND A TELEPHONE POLE AND 1 FOOT EAST OF A FENCE. THE DISK
MJ0600'IS STAMPED LEWIS 1947 AND PROJECTS 4 INCHES.

MJ0600'

MJ0600'TO REACH STATION FROM THE JUNCTION OF U.S. HIGHWAY 275 AND
MJ0600'STATE ROUTE 375, SOUTHEAST OF COUNCIL BLUFFS, GO WEST ON
MJ0600'U.S. 275 TOWARD THE SOUTH OMAHA BRIDGE FOR 0.25 MILE TO A
MJ0600'T-ROAD LEFT JUST AFTER CROSSING VIADUCT, TURN LEFT ON GRAVEL
MJ0600'ROAD COUNTY ROUTE G AND GO 1.05 MILE TO RAILROAD CROSSING,
MJ0600'AZIMUTH MARK ON RIGHT AS DESCRIBED, CONTINUE STRAIGHT AHEAD
MJ0600'FOR 0.05 MILE TO STATION ON RIGHT AS DESCRIBED.

MJ0600'

MJ0600'HEIGHT OF LIGHT ABOVE STATION MARK 30 METERS.

MJ0600

MJ0600

STATION RECOVERY (1948)

MJ0600

MJ0600'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1948

MJ0600'4.4 MI S FROM COUNCIL BLUFFS.

MJ0600'4.0 MILES SOUTH ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILROAD
MJ0600'FROM THE STATION AT COUNCIL BLUFFS, THENCE 0.4 MILE SOUTH ALONG
MJ0600'A DIRT ROAD, ABOUT ON THE PROJECTED CENTER LINE OF THE TANGENT
MJ0600'OF THE DIRT ROAD LEADING NORTH, 81.0 FEET WEST SOUTHWEST OF THE
MJ0600'CENTER LINE OF THE DIRT ROAD, 78.2 FEET NORTH OF THE NORTHEAST
MJ0600'CORNER OF A FARMHOUSE, 17.4 FEET NORTHEAST OF A CORNER FENCE
MJ0600'POST, 13.6 FEET EAST OF A FENCE, 13.6 FEET SOUTHWEST OF A 4 X 4
MJ0600'REFERENCE POST, SET IN THE TOP OF A CONCRETE POST WHICH PROJECTS
MJ0600'0.2 FOOT ABOVE THE GROUND.

MJ0600

MJ0600

STATION RECOVERY (1953)

MJ0600

MJ0600'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1953 (LWQ)

MJ0600'THE STATION, REFERENCE MARKS AND AZIMUTH MARK WERE RECOVERED IN
MJ0600'GOOD CONDITION. DESCRIPTION ADEQUATE.

MJ0600

MJ0600

STATION RECOVERY (1961)

MJ0600

MJ0600'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1961 (JJC)

MJ0600'THE STATION WAS RECOVERED AS DESCRIBED AND FOUND TO BE IN GOOD
MJ0600'CONDITION. THE ORIGINAL DESCRIPTION PROVED TO BE ADEQUATE.

MJ0600

MJ0600

STATION RECOVERY (1974)

MJ0600

MJ0600'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1974 (CLN)

MJ0600'THE STATION MARK AND REFERENCE MARK 1 WERE RECOVERED IN GOOD
MJ0600'CONDITION. THE AZIMUTH MARK AND REFERENCE MARK 2 WERE FOUND
MJ0600'DESTROYED. A NEW AZIMUTH MARK WAS NOT SET THIS DATE DUE TO

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0600'NO OLD TIE LINES VISIBLE. REFERENCE MARK 3 WAS ESTABLISHED THIS
MJ0600'DATE.
MJ0600'
MJ0600'FOLLOWING IS A NEW COMPLETE DESCRIPTION--
MJ0600'
MJ0600'THE STATION IS LOCATED ABOUT 4.5 MILES SOUTHEAST OF THE CENTER
MJ0600'OF COUNCIL BLUFFS AND ON THE WEST RIGHT-OF-WAY OF COUNTY ROAD
MJ0600'L 31.
MJ0600'
MJ0600'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 275 AND
MJ0600'STATE HIGHWAY 92 AT THE SOUTHEAST EDGE OF COUNCIL BLUFFS, GO
MJ0600'SOUTH ON HIGHWAY 275 FOR 0.65 MILE TO A FORK, BEAR RIGHT AND
MJ0600'GO WEST ON A SURFACED ROAD FOR 0.1 MILE TO TOP OF A VIADUCT,
MJ0600'CONTINUE WEST FOR 0.1 MILE TO COUNTY ROAD L 31 ON THE LEFT,
MJ0600'TURN LEFT AND GO SOUTH ON ROAD L 31 FOR 1.2 MILES TO A
MJ0600'RAILROAD CROSSING, CONTINUE SOUTH ON ROAD L 31 FOR 0.45 MILE
MJ0600'TO A HOUSE AND THE STATION ON THE RIGHT.
MJ0600'
MJ0600'THE STATION MARK IS A STANDARD DISK STAMPED LEWIS 1947, SET IN
MJ0600'THE TOP OF A 12 INCH SQUARE CONCRETE MONUMENT THAT IS FLUSH
MJ0600'WITH THE GROUND SURFACE. IT IS 67.8 FEET NORTH OF THE NORTHEAST
MJ0600'CORNER OF THE HOUSE, 30 FEET NORTH OF A 24-INCH ELM TREE, 17
MJ0600'FEET EAST-NORTHEAST OF A CORNER FENCE POST AND 14 FEET EAST
MJ0600'OF THE CENTER OF A GATE IN A NORTH-SOUTH FENCE. THE UNDERGROUND
MJ0600'MARK WAS NOT INSPECTED.
MJ0600'
MJ0600'REFERENCE MARK 1 IS A STANDARD DISK STAMPED LEWIS NO 1 1947,
MJ0600'SET IN THE TOP OF A 12 INCH SQUARE CONCRETE MONUMENT THAT
MJ0600'PROJECTS 4 INCHES ABOVE THE GROUND SURFACE. IT IS 31.5 FEET
MJ0600'EAST OF THE NORTHEAST CORNER OF THE HOUSE AND 3 FEET SOUTHEAST
MJ0600'OF A 16-INCH ELM TREE.
MJ0600'
MJ0600'REFERENCE MARK 3 IS A STANDARD DISK STAMPED LEWIS NO 3 1947 1974,
MJ0600'CRIMPED TO THE TOP OF A 5/8 INCH COPPER COATED ROD WITH A STEEL
MJ0600'PLATE BOLTED AT THE BOTTOM, ENCASED IN A PLASTIC PIPE WITH
MJ0600'GRAVEL AND FLUSH WITH THE GROUND SURFACE. IT IS 0.8 FOOT
MJ0600'SOUTH OF A METAL WITNESS POST AND 0.8 FOOT EAST OF THE
MJ0600'NORTH-SOUTH FENCE.
MJ0600'
MJ0600'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--4-1/2 MILES
MJ0600'SOUTHEAST OF COUNCIL BLUFFS.
MJ0600'
MJ0600'
MJ0600' STATION RECOVERY (1975)
MJ0600'
MJ0600'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1975 (CLN)
MJ0600'THE STATION MARK, REFERENCE MARK 1 AND REFERENCE MARK 3 WERE
MJ0600'RECOVERED AND FOUND IN GOOD CONDITION AND AS DESCRIBED IN 1974.
MJ0600'THIS DATE A NEW AZIMUTH MARK WAS SET AND THE TIE LINE USED WAS THE
MJ0600'RADIO TOWER MENTIONED ABOVE AS THE AZIMUTH BEARING WAS DETERMINED
MJ0600'FOR THE RADIO TOWER BY A POLARIS OBSERVATION MADE AT THIS STATION
MJ0600'THE 2-19-74 BY HOSKIN, WESTERN, SONDEREGGER ENGINEERING FIRM,
MJ0600'LINCOLN, NEBRASKA.
MJ0600'

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0600'FOLLOWING IS A DESCRIPTION FOR THE AZIMUTH MARK--

MJ0600'

MJ0600'THE AZIMUTH MARK IS A STANDARD DISK STAMPED LEWIS 1947 AZ 2 1974
MJ0600'AND SET FLUSH WITH THE GROUND SURFACE. IT IS 41 FEET WEST OF THE
MJ0600'CENTER OF A GRAVELED ROAD (L 31), 31 FEET SOUTHEAST OF THE SOUTH
MJ0600'RAIL OF A RAILROAD TRACK, 28 FEET SOUTHEAST OF THE CENTER OF A
MJ0600'CONCRETE HEADWALL OF BOX CULVERT UNDER THE RAILROAD AND 1.5 FEET
MJ0600'WEST OF A METAL WITNESS POST.

MJ0600'

MJ0600'TO REACH THE AZIMUTH MARK FROM THE STATION, GO NORTHERLY ON THE
MJ0600'GRAVELED ROAD L 31 FOR 0.4 MILE TO THE RAILROAD CROSSING AND THE
MJ0600'AZIMUTH MARK ON THE LEFT.

MJ0600'

MJ0600'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--4-1/2 MILES
MJ0600'SOUTHEAST OF COUNCIL BLUFFS.

MJ0600

MJ0600

STATION RECOVERY (1977)

MJ0600

MJ0600'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1977 (CLN)

MJ0600'THE STATION MARK, REFERENCE MARK 1 AND REFERENCE MARK 3 WERE
MJ0600'RECOVERED AND FOUND IN GOOD CONDITION. THE AZIMUTH MARK APPEARED
MJ0600'TO BE IN GOOD CONDITION, VIEWED FROM EDGE OF ROAD AS ROAD DITCH WAS
MJ0600'FULL OF WATER THIS DATE. THIS STATION WAS OCCUPIED THIS DATE FOR
MJ0600'AN ANGLE CHECK BETWEEN THE RADIO TOWER AND THE WATER TANK
MJ0600'MENTIONED ABOVE. THE ANGLE THIS DATE CHECKED THE 1975 ANGLE BY
MJ0600'0.8 SECONDS. THE WATER TANK MENTIONED ABOVE WAS INSPECTED THIS
MJ0600'DATE AND THE RED LIGHT ON THE TANK IS NOT AT THE TOP CENTER
MJ0600'VIEWED FROM STATION LEWIS, BUT THE VENT AT THE TOP OF THE TANK IS
MJ0600'AT THE TOP CENTER. THERE IS ABOUT 15 SECONDS DIFFERENCE IN
MJ0600'DIRECTION FROM THE TANK VENT AND THE TANK RED LIGHT OBSERVED
MJ0600'FROM STATION LEWIS.

MJ0600'

MJ0600'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--4-1/2 MILES
MJ0600'SOUTHEAST OF COUNCIL BLUFFS.

MJ0600

MJ0600

STATION RECOVERY (1989)

MJ0600

MJ0600'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1989

MJ0600'5.3 KM (3.30 MI) SOUTHERLY ALONG THE BURLINGTON NORTHERN RAILROAD FROM
MJ0600'THE JUNCTION OF 16TH AVENUE IN COUNCIL BLUFFS, THENCE 0.6 KM
MJ0600'(0.35 MI) SOUTHERLY ALONG COUNTY ROAD L 31, 24.7 M (81.0 FT)
MJ0600'WEST-SOUTHWEST OF THE CENTER OF THE ROAD, 20.6 M (67.6 FT) NORTH OF
MJ0600'THE NORTHEAST CORNER OF A HOUSE, 13.0 M (42.7 FT) SOUTH-SOUTHEAST OF A
MJ0600'WITNESS POST, 4.3 M (14.1 FT) EAST OF THE CENTER OF A GATE, 0.6 M
MJ0600'(2.0 FT) BELOW THE LEVEL OF THE ROAD, AND IN A CONCRETE MONUMENT THAT
MJ0600'IS LEVEL WITH THE GROUND SURFACE.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998
 MJ1383 *****
 MJ1383 DESIGNATION - N 180
 MJ1383 PID - MJ1383
 MJ1383 STATE/COUNTY- IA/POTTAWATTAMIE
 MJ1383 USGS QUAD - LOVELAND (1977)
 MJ1383
 MJ1383 *CURRENT SURVEY CONTROL
 MJ1383
 MJ1383* NAD 83(1986)- 41 25 07. (N) 095 53 56. (W) SCALED
 MJ1383* NAVD 88 - 301.157 (meters) 988.05 (feet) ADJUSTED
 MJ1383
 MJ1383 GEOID HEIGHT- -28.26 (meters) GEOID96
 MJ1383 DYNAMIC HT - 301.020 (meters) 987.60 (feet) COMP
 MJ1383 MODELED GRAV- 980,162.7 (mgal) NAVD 88
 MJ1383
 MJ1383 VERT ORDER - FIRST CLASS II
 MJ1383
 MJ1383.The horizontal coordinates were scaled from a topographic map and have
 MJ1383.an estimated accuracy of +/- 6 seconds.
 MJ1383
 MJ1383.The orthometric height was determined by differential leveling
 MJ1383.and adjusted by the National Geodetic Survey in June 1991.
 MJ1383
 MJ1383.The geoid height was determined by GEOID96.
 MJ1383
 MJ1383.The dynamic height is computed by dividing the NAVD 88
 MJ1383.geopotential number by the normal gravity value computed on the
 MJ1383.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MJ1383.degrees latitude (G = 980.6199 gals.).
 MJ1383
 MJ1383.The modeled gravity was interpolated from observed gravity values.
 MJ1383
 MJ1383;
 MJ1383;SPC IA S - North East Units Estimated Accuracy
 MJ1383; 160,300. 299,490. MT (+/- 180 meters Scaled)
 MJ1383
 MJ1383 SUPERSEDED SURVEY CONTROL
 MJ1383
 MJ1383.No superseded survey control is available for this station.
 MJ1383
 MJ1383_MARKER: I = METAL ROD
 MJ1383_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.)
 MJ1383_STAMPING: N 180 1989
 MJ1383_PROJECTION: FLUSH
 MJ1383_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
 MJ1383+STABILITY: POSITION/ELEVATION WELL
 MJ1383_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 MJ1383+SATELLITE: SATELLITE OBSERVATIONS - 1989
 MJ1383_ROD/PIPE-DEPTH: 13.7 meters
 MJ1383_SLEEVE-DEPTH : 4.6 meters
 MJ1383
 MJ1383 HISTORY - Date Condition Recov. By
 MJ1383 HISTORY - 1989 MONUMENTED NGS

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ1383

MJ1383

STATION DESCRIPTION

MJ1383

MJ1383'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989

MJ1383'8.0 KM (4.95 MI) SOUTHERLY ALONG THE CHICAGO AND NORTHWESTERN RAILROAD

MJ1383'FROM ITS JUNCTION WITH INTERSTATE HIGHWAY 680 IN LOVELAND, 68.9 M

MJ1383'(226.0 FT) SOUTH OF THE CENTER OF COUNTY ROAD L 19, 41.8 M (137.1 FT)

MJ1383'WEST OF THE NEAR RAIL, 21.2 M (69.6 FT) NORTH-NORTHWEST OF A UTILITY

MJ1383'POLE, 19.0 M (62.3 FT) EAST-SOUTHEAST OF THE CENTER OF THE NORTHBOUND

MJ1383'OFF RAMP OF INTERSTATE HIGHWAY 29, 1.5 M (4.9 FT) BELOW THE LEVEL OF

MJ1383'THE OFF RAMP, AND 0.5 M (1.6 FT) EAST OF A WITNESS POST AND FENCE.

MJ1383'NOTE--ACCESS TO DATUM POINT IS HAD THROUGH A 5-INCH LOGO CAP.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

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1      National Geodetic Survey,  Retrieval Date = OCTOBER 28, 1998
MJ0558 *****
MJ0558 DESIGNATION - R 135
MJ0558 PID - MJ0558
MJ0558 STATE/COUNTY- IA/POTTAWATTAMIE
MJ0558 USGS QUAD - MC CLELLAND (1984)
MJ0558
MJ0558 *CURRENT SURVEY CONTROL
MJ0558
MJ0558* NAD 83(1986)- 41 21 23. (N) 095 42 06. (W) SCALED
MJ0558* NAVD 88 - 320.279 (meters) 1050.78 (feet) ADJUSTED
MJ0558
MJ0558 GEOID HEIGHT- -27.86 (meters) GEOID96
MJ0558 DYNAMIC HT - 320.144 (meters) 1050.34 (feet) COMP
MJ0558 MODELED GRAV- 980,194.4 (mgal) NAVD 88
MJ0558
MJ0558 VERT ORDER - FIRST CLASS II
MJ0558
MJ0558.The horizontal coordinates were scaled from a topographic map and have
MJ0558.an estimated accuracy of +/- 6 seconds.
MJ0558
MJ0558.The orthometric height was determined by differential leveling
MJ0558.and adjusted by the National Geodetic Survey in June 1991.
MJ0558
MJ0558.The geoid height was determined by GEOID96.
MJ0558
MJ0558.The dynamic height is computed by dividing the NAVD 88
MJ0558.geopotential number by the normal gravity value computed on the
MJ0558.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
MJ0558.degrees latitude (G = 980.6199 gals.).
MJ0558
MJ0558.The modeled gravity was interpolated from observed gravity values.
MJ0558
MJ0558; North East Units Estimated Accuracy
MJ0558;SPC IA S - 152,960. 315,790. MT (+/- 180 meters Scaled)
MJ0558
MJ0558 SUPERSEDED SURVEY CONTROL
MJ0558
MJ0558 NGVD 29 - 320.164 (m) 1050.40 (f) ADJ UNCH 1 2
MJ0558
MJ0558.Superseded values are not recommended for survey control.
MJ0558.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
MJ0558.See file format.dat to determine how the superseded data were derived.
MJ0558
MJ0558_MARKER: DB = BENCH MARK DISK
MJ0558_SETTING: 30 = SET IN A LIGHT STRUCTURE
MJ0558_STAMPING: R 135 1948
MJ0558_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
MJ0558
MJ0558 HISTORY - Date Condition Recov. By
MJ0558 HISTORY - 1948 MONUMENTED CGS
MJ0558
MJ0558 STATION DESCRIPTION

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**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0558

MJ0558'DESCRIBED BY COAST AND GEODETIC SURVEY 1948

MJ0558'2.6 MI SW FROM UNDERWOOD.

MJ0558'2.55 MILES SOUTHWEST ALONG THE CHICAGO, ROCK ISLAND AND PACIFIC

MJ0558'RAILROAD FROM THE STATION AT UNDERWOOD, SET IN THE SOUTHEAST

MJ0558'CONCRETE HEADWALL FOR A CONCRETE BOX CULVERT UNDER THE RAILROAD,

MJ0558'ABOUT 300.0 FEET SOUTHWEST OF A CURVE IN THE RAILROAD, 1.0 FOOT

MJ0558'SOUTHWEST OF THE NORTHEAST EDGE OF THE HEADWALL, 9.6 FEET SOUTHEAST

MJ0558'OF THE SOUTHEAST RAIL, DIRECTLY ACROSS THE TRACK FROM MILEPOST

MJ0558'486 AND A BOX CULVERT UNDER STATE HIGHWAY 64, 1.0 FOOT BELOW THE

MJ0558'RAILS.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

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1      National Geodetic Survey,  Retrieval Date = OCTOBER 28, 1998
MJ0495 *****
MJ0495 DESIGNATION - R 149
MJ0495 PID - MJ0495
MJ0495 STATE/COUNTY- IA/POTTAWATTAMIE
MJ0495 USGS QUAD - OAKLAND (1964)
MJ0495
MJ0495 *CURRENT SURVEY CONTROL
MJ0495
MJ0495* NAD 83(1986)- 41 17 40. (N) 095 24 12. (W) SCALED
MJ0495* NAVD 88 - 333.246 (meters) 1093.32 (feet) ADJUSTED
MJ0495
MJ0495 GEOID HEIGHT- -27.65 (meters) GEOID96
MJ0495 DYNAMIC HT - 333.114 (meters) 1092.89 (feet) COMP
MJ0495 MODELED GRAV- 980,218.0 (mgal) NAVD 88
MJ0495
MJ0495 VERT ORDER - SECOND CLASS 0
MJ0495
MJ0495.The horizontal coordinates were scaled from a topographic map and have
MJ0495.an estimated accuracy of +/- 6 seconds.
MJ0495
MJ0495.The orthometric height was determined by differential leveling
MJ0495.and adjusted by the National Geodetic Survey in June 1991.
MJ0495
MJ0495.The geoid height was determined by GEOID96.
MJ0495
MJ0495.The dynamic height is computed by dividing the NAVD 88
MJ0495.geopotential number by the normal gravity value computed on the
MJ0495.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
MJ0495.degrees latitude (G = 980.6199 gals.).
MJ0495
MJ0495.The modeled gravity was interpolated from observed gravity values.
MJ0495
MJ0495; North East Units Estimated Accuracy
MJ0495;SPC IA S - 145,490. 340,600. MT (+/- 180 meters Scaled)
MJ0495
MJ0495 SUPERSEDED SURVEY CONTROL
MJ0495
MJ0495 NGVD 29 - 333.165 (m) 1093.06 (f) ADJ UNCH 2 0
MJ0495
MJ0495.Superseded values are not recommended for survey control.
MJ0495.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
MJ0495.See file format.dat to determine how the superseded data were derived.
MJ0495
MJ0495_MARKER: DB = BENCH MARK DISK
MJ0495_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
MJ0495_STAMPING: R 149 1949
MJ0495_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
MJ0495+STABILITY: SURFACE MOTION
MJ0495
MJ0495 HISTORY - Date Condition Recov. By
MJ0495 HISTORY - 1949 MONUMENTED CGS
MJ0495

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**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0495	STATION DESCRIPTION
MJ0495	MJ0495'DESCRIBED BY COAST AND GEODETIC SURVEY 1949 MJ0495'1.1 MI S FROM OAKLAND. MJ0495'1.1 MILES SOUTH ALONG U.S. HIGHWAY 59 FROM THE CITIZENS STATE MJ0495'BANK AT OAKLAND, 0.2 MILE SOUTH OF THE JUNCTION OF U.S. HIGHWAYS MJ0495'59 AND 6, ABOUT 150.0 FEET SOUTH OF A LARGE RED STONE FARMHOUSE MJ0495'ON THE WEST SIDE OF THE HIGHWAY, 143.0 FEET WEST OF PAVING MJ0495'STATION 750, 42.5 FEET WEST OF THE CENTER LINE OF THE HIGHWAY, MJ0495'19.0 FEET NORTHEAST OF THE CENTER LINE OF A GATE, 3.0 FEET MJ0495'WEST OF A CORNER FENCE POST, 3.0 FEET EAST OF A TELEPHONE POLE, MJ0495'1.6 FEET SOUTH OF A FENCE, 1.4 FEET EAST OF A REFERENCE POST, MJ0495'AND SET IN THE TOP OF A CONCRETE POST PROJECTING 0.5 FOOT ABOVE MJ0495'THE GROUND.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998
 MJ1392 *****
 MJ1392 DESIGNATION - T 180
 MJ1392 PID - MJ1392
 MJ1392 STATE/COUNTY- IA/POTTAWATTAMIE
 MJ1392 USGS QUAD - MISSOURI VALLEY (1972)
 MJ1392
 MJ1392 *CURRENT SURVEY CONTROL
 MJ1392
 MJ1392* NAD 83(1986)- 41 30 22. (N) 095 53 25. (W) SCALED
 MJ1392* NAVD 88 - 308.706 (meters) 1012.81 (feet) ADJUSTED
 MJ1392
 MJ1392 GEOID HEIGHT- -28.56 (meters) GEOID96
 MJ1392 DYNAMIC HT - 308.562 (meters) 1012.34 (feet) COMP
 MJ1392 MODELED GRAV- 980,149.4 (mgal) NAVD 88
 MJ1392
 MJ1392 VERT ORDER - FIRST CLASS II
 MJ1392
 MJ1392.The horizontal coordinates were scaled from a topographic map and have
 MJ1392.an estimated accuracy of +/- 6 seconds.
 MJ1392
 MJ1392.The orthometric height was determined by differential leveling
 MJ1392.and adjusted by the National Geodetic Survey in June 1991.
 MJ1392
 MJ1392.The geoid height was determined by GEOID96.
 MJ1392
 MJ1392.The dynamic height is computed by dividing the NAVD 88
 MJ1392.geopotential number by the normal gravity value computed on the
 MJ1392.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MJ1392.degrees latitude (G = 980.6199 gals.).
 MJ1392
 MJ1392.The modeled gravity was interpolated from observed gravity values.
 MJ1392
 MJ1392; North East Units Estimated Accuracy
 MJ1392;SPC IA S - 170,000. 300,470. MT (+/- 180 meters Scaled)
 MJ1392
 MJ1392 SUPERSEDED SURVEY CONTROL
 MJ1392
 MJ1392.No superseded survey control is available for this station.
 MJ1392
 MJ1392_MARKER: I = METAL ROD
 MJ1392_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.)
 MJ1392_STAMPING: T 180 1989
 MJ1392_PROJECTION: FLUSH
 MJ1392_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 MJ1392_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
 MJ1392+SATELLITE: SATELLITE OBSERVATIONS - 1989
 MJ1392_ROD/PIPE-DEPTH: 10.7 meters
 MJ1392
 MJ1392 HISTORY - Date Condition Recov. By
 MJ1392 HISTORY - 1989 MONUMENTED NGS
 MJ1392
 MJ1392 STATION DESCRIPTION

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ1392

MJ1392'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989

MJ1392'5.6 KM (3.50 MI) SOUTHERLY ALONG STATE HIGHWAY 183 FROM ITS JUNCTION
MJ1392'WITH U.S. HIGHWAY 30 IN MISSOURI VALLEY, AT THE POTTAWATTAMIE-HARRISON
MJ1392'COUNTY LINE, 29.4 M (96.5 FT) EAST-SOUTHEAST OF THE CENTERLINE OF THE
MJ1392'HIGHWAY, 12.5 M (41.0 FT) NORTH OF THE CENTER OF A DRIVEWAY, 7.6 M
MJ1392'(24.9 FT) EAST OF THE CENTER OF A GRAVELED ROAD, 7.0 M (23.0 FT) SOUTH
MJ1392'OF THE CENTER OF A GRAVELED ROAD, 1.8 M (5.9 FT) SOUTH OF A FENCE
MJ1392'CORNER, 0.3 M (1.0 FT) WEST OF A WITNESS POST AND FENCE, AND LEVEL
MJ1392'WITH THE GRAVELED ROADS. NOTE--ACCESS TO DATUM POINT IS HAD THROUGH A
MJ1392'5-INCH LOGO CAP.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998
 MJ1399 *****
 MJ1399 DESIGNATION - T 182
 MJ1399 PID - MJ1399
 MJ1399 STATE/COUNTY- IA/POTTAWATTAMIE
 MJ1399 USGS QUAD - COUNCIL BLUFFS SOUTH (1977)
 MJ1399
 MJ1399 *CURRENT SURVEY CONTROL
 MJ1399
 MJ1399* NAD 83(1986)- 41 09 50. (N) 095 49 23. (W) SCALED
 MJ1399* NAVD 88 - 296.129 (meters) 971.55 (feet) ADJUSTED
 MJ1399
 MJ1399 GEOID HEIGHT- -27.31 (meters) GEOID96
 MJ1399 DYNAMIC HT - 296.010 (meters) 971.16 (feet) COMP
 MJ1399 MODELED GRAV- 980,213.9 (mgal) NAVD 88
 MJ1399
 MJ1399 VERT ORDER - FIRST CLASS II
 MJ1399
 MJ1399.The horizontal coordinates were scaled from a topographic map and have
 MJ1399.an estimated accuracy of +/- 6 seconds.
 MJ1399
 MJ1399.The orthometric height was determined by differential leveling
 MJ1399.and adjusted by the National Geodetic Survey in June 1991.
 MJ1399
 MJ1399.The geoid height was determined by GEOID96.
 MJ1399
 MJ1399.The dynamic height is computed by dividing the NAVD 88
 MJ1399.geopotential number by the normal gravity value computed on the
 MJ1399.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MJ1399.degrees latitude (G = 980.6199 gals.).
 MJ1399
 MJ1399.The modeled gravity was interpolated from observed gravity values.
 MJ1399
 MJ1399; North East Units Estimated Accuracy
 MJ1399;SPC IA S - 131,850. 305,070. MT (+/- 180 meters Scaled)
 MJ1399
 MJ1399 SUPERSEDED SURVEY CONTROL
 MJ1399
 MJ1399.No superseded survey control is available for this station.
 MJ1399
 MJ1399_MARKER: I = METAL ROD
 MJ1399_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.)
 MJ1399_STAMPING: T 182 1989
 MJ1399_PROJECTION: FLUSH
 MJ1399_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 MJ1399_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 MJ1399+SATELLITE: SATELLITE OBSERVATIONS - 1989
 MJ1399_ROD/PIPE-DEPTH: 28.0 meters
 MJ1399
 MJ1399 HISTORY - Date Condition Recov. By
 MJ1399 HISTORY - 1989 MONUMENTED NGS
 MJ1399
 MJ1399 STATION DESCRIPTION

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ1399

MJ1399'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989

MJ1399'5.3 KM (3.30 MI) SOUTHERLY ALONG THE BURLINGTON NORTHERN RAILROAD FROM

MJ1399'THE JUNCTION OF 16TH AVENUE IN COUNCIL BLUFFS, THENCE 4.6 KM

MJ1399'(2.85 MI) SOUTHERLY ALONG COUNTY ROAD L 31, 12.1 M (39.7 FT) WEST OF

MJ1399'THE CENTERLINE OF THE ROAD, 3.8 M (12.5 FT) NORTHWEST OF A UTILITY

MJ1399'POLE WITH A GUY WIRE, 0.3 M (1.0 FT) EAST OF A WITNESS POST AND FENCE,

MJ1399'ON THE EXTENDED CENTER OF A DRIVEWAY LEADING EAST TO THE KMEZICH

MJ1399'RESIDENCE, AND LEVEL WITH THE ROAD. NOTE--ACCESS TO THE DATUM POINT IS

MJ1399'THROUGH A 5-INCH LOGO CAP.

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998
 MJ0573 *****
 MJ0573 DESIGNATION - UU 135
 MJ0573 PID - MJ0573
 MJ0573 STATE/COUNTY- IA/POTTAWATTAMIE
 MJ0573 USGS QUAD - NEOLA (1983)
 MJ0573
 MJ0573 *CURRENT SURVEY CONTROL
 MJ0573
 MJ0573* NAD 83(1986)- 41 27 44. (N) 095 34 39. (W) SCALED
 MJ0573* NAVD 88 - 386.183 (meters) 1267.00 (feet) ADJUSTED
 MJ0573
 MJ0573 GEOID HEIGHT- -28.27 (meters) GEOID96
 MJ0573 DYNAMIC HT - 386.015 (meters) 1266.45 (feet) COMP
 MJ0573 MODELED GRAV- 980,175.2 (mgal) NAVD 88
 MJ0573
 MJ0573 VERT ORDER - FIRST CLASS II
 MJ0573
 MJ0573.The horizontal coordinates were scaled from a topographic map and have
 MJ0573.an estimated accuracy of +/- 6 seconds.
 MJ0573
 MJ0573.The orthometric height was determined by differential leveling
 MJ0573.and adjusted by the National Geodetic Survey in June 1991.
 MJ0573
 MJ0573.The geoid height was determined by GEOID96.
 MJ0573
 MJ0573.The dynamic height is computed by dividing the NAVD 88
 MJ0573.geopotential number by the normal gravity value computed on the
 MJ0573.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MJ0573.degrees latitude (G = 980.6199 gals.).
 MJ0573
 MJ0573.The modeled gravity was interpolated from observed gravity values.
 MJ0573
 MJ0573; North East Units Estimated Accuracy
 MJ0573;SPC IA S - 164,450. 326,460. MT (+/- 180 meters Scaled)
 MJ0573
 MJ0573 SUPERSEDED SURVEY CONTROL
 MJ0573
 MJ0573 NGVD 29 - 386.063 (m) 1266.61 (f) ADJ UNCH 1 2
 MJ0573
 MJ0573.Superseded values are not recommended for survey control.
 MJ0573.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 MJ0573.See file format.dat to determine how the superseded data were derived.
 MJ0573
 MJ0573_MARKER: DB = BENCH MARK DISK
 MJ0573_SETTING: 30 = SET IN A LIGHT STRUCTURE
 MJ0573_STAMPING: UU 135 1948
 MJ0573_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
 MJ0573
 MJ0573 HISTORY - Date Condition Recov. By
 MJ0573 HISTORY - 1948 MONUMENTED CGS
 MJ0573
 MJ0573 STATION DESCRIPTION

**POTTAWATTAMIE COUNTY, IOWA
EXISTING NGS (NATIONAL GEODETIC SURVEY) CONTROL**

MJ0573

MJ0573'DESCRIBED BY COAST AND GEODETIC SURVEY 1948

MJ0573'2 MI W FROM MINDEN.

MJ0573'0.65 MILE WEST ALONG THE CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY

MJ0573'FROM THE STATION AT MINDEN, THENCE 1.3 MILES WEST ALONG STATE

MJ0573'HIGHWAY 64, SET IN THE TOP OF THE SOUTH CONCRETE HEADWALL

MJ0573'FOR A 24-INCH CONCRETE PIPE CULVERT UNDER THE HIGHWAY, ABOUT

MJ0573'LEVEL WITH THE HIGHWAY, ABOUT 300.00 FEET WEST OF A TWO STORY

MJ0573'WHITE FARM HOUSE WHICH IS ON THE NORTH SIDE OF THE HIGHWAY,

MJ0573'10.6 FEET SOUTHWEST OF 133 (STATION) STENCILLED ON THE EDGE

MJ0573'OF THE HIGHWAY PAVING, 17.0 FEET SOUTH OF THE CENTER LINE OF

MJ0573'THE HIGHWAY.

1 National Geodetic Survey, Retrieval Date = OCTOBER 28, 1998

POTTAWATTAMIE CO.
 IOWA
 GPS CLOSURE LOG
 MAIN CONTROL

New Closure

From: HANCOCK

To: 774035-2	Slope (m): Total (m):	Iono free fixed 5984.412 5984.412	1/13/99 21:49:00 41°25' 7.65190" N 095°24'11.74817" W 373.0461 m	00014684.SSF 01060131.DAT 05400133.DAT
To: 773936-3	Slope (m): Total (m):	Iono free fixed 9542.387 15526.798	1/13/99 21:32:30 41°25' 7.17818" N 095°17'20.85863" W 366.8951 m	00014744.SSF 05400133.DAT 05420133.DAT
To: U 148	Slope (m): Total (m):	Iono free float 30259.859 45786.657	1/13/99 21:32:30 41°08'46.35718" N 095°17'20.47502" W 360.2499 m	00014756.SSF 01480131.DAT 05420133.DAT
To: 743816-3	Slope (m): Total (m):	Iono free fixed 7924.191 53710.849	1/13/99 15:26:30 41°12'11.37193" N 095°13'55.68848" W 330.5006 m	00014728.SSF 01480131.DAT 06210131.DAT
To: 744006-1	Slope (m): Total (m):	Iono free fixed 21349.782 75060.631	1/13/99 15:12:45 41°14'44.53008" N 095°28'49.54841" W 334.5323 m	00014736.SSF 06210131.DAT 05990131.DAT
To: HANCOCK	Slope (m): Total (m):	Iono free fixed 19125.716 94186.347	1/13/99 15:12:45 41°23' 7.71519" N 095°20'49.28018" W 353.6577 m	00014704.SSF 01060131.DAT 05990131.DAT
To: 764033-3	Slope (m): Total (m):	Iono free fixed 11187.068 105373.415	1/13/99 18:31:45 41°19'57.03456" N 095°27'38.63324" W 330.9776 m	00014796.SSF 01060131.DAT 05690132.DAT
To: U 148	Slope (m): Total (m):	Iono free fixed 25206.185 130579.600	1/13/99 18:31:45 41°08'46.35712" N 095°17'20.47484" W 360.2569 m	00014808.SSF 01480131.DAT 05690132.DAT
To: HANCOCK	Slope (m): Total (m):	Iono free fixed 27014.994 157594.594	1/13/99 14:47:45 41°23' 7.71513" N 095°20'49.28011" W 353.6495 m	00014820.SSF 01060131.DAT 01480131.DAT

Closed

Precision (ppm): 0.0465
 Errors (m) N: -0.0031 E: 0.0066 U: -0.0005

POTTAWATTAMIE CO.
IOWA
GPS CLOSURE LOG
MAIN CONTROL

New Closure

From: E 180

To: 764306-1	Slope (m): Total (m):	Iono free fixed 5887.900 5887.900	1/12/99 16:31:45 41°24'47.20054" N 095°49'31.46775" W 279.3478 m	00014996.SSF 01050121.DAT 05320121.DAT
To: 744224-3	Slope (m): Total (m):	Iono free fixed 29670.034 35557.934	1/12/99 16:53:30 41°11'21.59236" N 095°37'54.96407" W 337.6164 m	00015024.SSF 05320121.DAT 06120121.DAT
To: J 180	Slope (m): Total (m):	Iono free fixed 15786.536 51344.471	1/12/99 16:53:30 41°08'56.89993" N 095°48'44.50362" W 270.5080 m	00015012.SSF 01010121.DAT 06120121.DAT
To: 764204-1	Slope (m): Total (m):	Iono free fixed 32135.058 83479.529	1/12/99 20:13:30 41°25' 3.70924" N 095°40'10.64765" W 304.6011 m	00015004.SSF 01010121.DAT 05350122.DAT
To: 764235-3	Slope (m): Total (m):	Iono free fixed 9640.433 93119.962	1/12/99 20:07:30 41°19'57.92525" N 095°38'45.29878" W 360.2886 m	00015020.SSF 05350122.DAT 05660122.DAT
To: J 180	Slope (m): Total (m):	Iono free fixed 24710.264 117830.225	1/12/99 20:07:30 41°08'56.89996" N 095°48'44.50365" W 270.5183 m	00015008.SSF 01010121.DAT 05660122.DAT
To: E 180	Slope (m): Total (m):	Iono free fixed 28854.363 146684.588	1/12/99 16:01:15 41°24' 5.44239" N 095°53'38.81434" W 272.4819 m	00015000.SSF 01050121.DAT 01010121.DAT

Closed

Precision (ppm): 0.0581
Errors (m) N: -0.0009 E: -0.0024 U: -0.0081

**POTTAWATTAMIE CO.
IOWA
GPS CLOSURE LOG
MAIN CONTROL**

New Closure

From: HANCOCK

To: 773936-3	Slope (m): Total (m):	Iono free fixed 6084.833 6084.833	1/14/99 16:19:45 41°25' 7.17822" N 095°17'20.85859" W 366.8857 m	00018176.SSF 01060141.DAT 05420141.DAT
To: 753913-3	Slope (m): Total (m):	Iono free fixed 14398.143 20482.976	1/14/99 14:52:45 41°17'20.49354" N 095°17'20.33556" W 351.7062 m	00018204.SSF 05420141.DAT 05860141.DAT
To: TURK	Slope (m): Total (m):	Iono free fixed 25721.204 46204.179	1/14/99 14:52:45 41°19'53.01925" N 094°59'13.29202" W 370.8566 m	00018192.SSF 01490141.DAT 05860141.DAT
To: 743816-3	Slope (m): Total (m):	Iono free fixed 24994.785 71198.964	1/14/99 19:06:30 41°12'11.37197" N 095°13'55.68854" W 330.5003 m	00018196.SSF 01490141.DAT 06210142.DAT
To: U 148	Slope (m): Total (m):	Iono free fixed 7924.189 79123.154	1/14/99 19:06:30 41°08'46.35695" N 095°17'20.47443" W 360.2604 m	00018200.SSF 01480142.DAT 06210142.DAT
To: HANCOCK	Slope (m): Total (m):	Iono free fixed 27015.006 106138.160	1/14/99 19:08:30 41°23' 7.71526" N 095°20'49.28041" W 353.6496 m	00018168.SSF 01060141.DAT 01480142.DAT

Closed

Precision (ppm):	0.0096			
Errors (m) N:	0.0009	E:	-0.0002	U: -0.0004

POTTAWATTAMIE CO.
IOWA
GPS CLOSURE LOG
MAIN CONTROL

New Closure

From: HANCOCK

To: E 180		Iono free fixed	1/15/99 21:47:00	00018152.SSF
	Slope (m):	45791.697	41°24' 5.44251" N	01060151.DAT
	Total (m):	45791.697	095°53'38.81418" W	01050153.DAT
			272.4989 m	
To: HNR A		Iono free fixed	1/15/99 21:47:00	00018116.SSF
	Slope (m):	50418.541	41°35' 4.93891" N	01520151.DAT
	Total (m):	96210.238	095°20'30.15754" W	01050153.DAT
			339.5672 m	
To: TURK		Iono free fixed	1/15/99 22:27:30	00018120.SSF
	Slope (m):	40863.609	41°19'53.01933" N	01520151.DAT
	Total (m):	137073.847	094°59'13.29201" W	01490153.DAT
			370.8709 m	
To: HANCOCK		Iono free fixed	1/15/99 22:27:30	00018092.SSF
	Slope (m):	30718.387	41°23' 7.71518" N	01060151.DAT
	Total (m):	167792.234	095°20'49.28036" W	01490153.DAT
			353.6609 m	
To: 774035-2		Iono free fixed	1/15/99 16:08:45	00018104.SSF
	Slope (m):	5984.428	41°25' 7.65231" N	01060151.DAT
	Total (m):	173776.662	095°24'11.74858" W	05400151.DAT
			373.0481 m	
To: HNR A		Iono free fixed	1/15/99 16:08:45	00018132.SSF
	Slope (m):	19131.249	41°35' 4.93899" N	01520151.DAT
	Total (m):	192907.911	095°20'30.15741" W	05400151.DAT
			339.5674 m	
To: 773936-3		Iono free fixed	1/15/99 18:57:00	00018128.SSF
	Slope (m):	18957.987	41°25' 7.17830" N	01520151.DAT
	Total (m):	211865.898	095°17'20.85837" W	05420152.DAT
			366.9015 m	
To: 764306-1		Iono free fixed	1/15/99 19:10:00	00018148.SSF
	Slope (m):	44841.671	41°24'47.20065" N	05420152.DAT
	Total (m):	256707.569	095°49'31.46762" W	05320152.DAT
			279.3972 m	
To: HNR A		Iono free fixed	1/15/99 19:10:00	00018124.SSF
	Slope (m):	44660.227	41°35' 4.93900" N	01520151.DAT
	Total (m):	301367.796	095°20'30.15740" W	05320152.DAT
			339.5706 m	
To: 764204-1		Iono free fixed	1/15/99 15:28:45	00018160.SSF
	Slope (m):	33072.140	41°25' 3.70963" N	01520151.DAT
	Total (m):	334439.935	095°40'10.64720" W	05350151.DAT
			304.6407 m	
To: HANCOCK		Iono free fixed	1/15/99 15:28:45	00018156.SSF
	Slope (m):	27214.481	41°23' 7.71522" N	01060151.DAT
	Total (m):	361654.417	095°20'49.28028" W	05350151.DAT
			353.6571 m	

Closed

Precision (ppm): 0.0209
Errors (m) N: -0.0002 E: 0.0027 U: 0.0071

POTTAWATTAMIE CO.
 IOWA
 GPS CLOSURE LOG
 MAIN CONTROL

 New Closure

From: HANCOCK

To: E 180	Slope (m): Total (m):	Iono free fixed 45791.696 45791.696	1/16/99 21:39:45 41°24' 5.44247" N 095°53'38.81416" W 272.5156 m	00018272.SSF 01060161.DAT 01050163.DAT
To: U 148	Slope (m): Total (m):	Iono free fixed 58090.860 103882.556	1/16/99 21:49:30 41°08'46.35724" N 095°17'20.47519" W 360.2482 m	00018260.SSF 01050163.DAT 01480163.DAT
To: J 180	Slope (m): Total (m):	Iono free fixed 43936.293 147818.849	1/16/99 21:49:30 41°08'56.90022" N 095°48'44.50326" W 270.5588 m	00018284.SSF 01010161.DAT 01480163.DAT
To: 764235-3	Slope (m): Total (m):	Iono free fixed 24710.269 172529.117	1/16/99 15:00:45 41°19'57.92572" N 095°38'45.29845" W 360.3512 m	00018256.SSF 01010161.DAT 05660161.DAT
To: 764033-3	Slope (m): Total (m):	Iono free fixed 15502.849 188031.966	1/16/99 15:00:45 41°19'57.03509" N 095°27'38.63318" W 330.9789 m	00018268.SSF 05690161.DAT 05660161.DAT
To: HANCOCK	Slope (m): Total (m):	Iono free fixed 11187.065 199219.031	1/16/99 15:01:45 41°23' 7.71555" N 095°20'49.28014" W 353.6680 m	00018224.SSF 01060161.DAT 05690161.DAT
To: 744006-1	Slope (m): Total (m):	Iono free fixed 19125.712 218344.743	1/16/99 18:15:45 41°14'44.53059" N 095°28'49.54835" W 334.5530 m	00018216.SSF 01060161.DAT 05990162.DAT
To: 744224-3	Slope (m): Total (m):	Iono free fixed 14164.299 232509.042	1/16/99 18:15:45 41°11'21.59329" N 095°37'54.96274" W 337.6802 m	00018264.SSF 06120162.DAT 05990162.DAT
To: J 180	Slope (m): Total (m):	Iono free fixed 15786.562 248295.604	1/16/99 18:13:45 41°08'56.90051" N 095°48'44.50328" W 270.5782 m	00018292.SSF 01010161.DAT 06120162.DAT
To: HANCOCK	Slope (m): Total (m):	Iono free fixed 47006.082 295301.687	1/16/99 14:02:45 41°23' 7.71559" N 095°20'49.28011" W 353.6759 m	00018232.SSF 01060161.DAT 01010161.DAT

Closed

Precision (ppm): 0.0980
 Errors (m) N: 0.0111 E: 0.0068 U: 0.0259

POTTAWATTAMIE CO.
 IOWA
 GPS CLOSURE LOG
 MAIN CONTROL

 New Closure

From: J 180

To: 744006-1	Slope (m): Total (m):	Iono free fixed 29838.948 29838.948	1/19/99 19:11:15 41°14'44.53041" N 095°28'49.54828" W 334.4967 m	00018757.SSF 01010192.DAT 05990192.DAT
To: 764033-3	Slope (m): Total (m):	Iono free fixed 9781.410 39620.358	1/19/99 19:11:15 41°19'57.03441" N 095°27'38.63313" W 330.9589 m	00018769.SSF 05690192.DAT 05990192.DAT
To: 774035-2	Slope (m): Total (m):	Iono free fixed 10721.659 50342.018	1/19/99 18:01:00 41°25' 7.65197" N 095°24'11.74830" W 373.0407 m	00018773.SSF 05690192.DAT 05400192.DAT
To: J 180	Slope (m): Total (m):	Iono free fixed 45514.709 95856.727	1/19/99 18:01:00 41°08'56.89950" N 095°48'44.50317" W 270.5219 m	00018765.SSF 01010192.DAT 05400192.DAT

Closed

Precision (ppm):	0.0220			
Errors (m) N:	-0.0002	E:	-0.0010	U: 0.0019

POTTAWATTAMIE CO.
 IOWA
 GPS CLOSURE LOG
 MAIN CONTROL

 New Closure

From: 744224-3					
To: 764235-3	Slope (m):	Iono free fixed	1/19/99 14:36:15	00018785.SSF	
	Total (m):	15972.644	41°19'57.92535" N	05660191.DAT	
		15972.644	095°38'45.29872" W	06120191.DAT	
			360.3229 m		
To: 764204-1	Slope (m):	Iono free fixed	1/19/99 14:06:45	00018789.SSF	
	Total (m):	9640.447	41°25' 3.70968" N	05660191.DAT	
		25613.091	095°40'10.64835" W	05350191.DAT	
			304.6453 m		
To: 764306-1	Slope (m):	Iono free fixed	1/19/99 14:40:45	00018793.SSF	
	Total (m):	13034.800	41°24'47.20102" N	05350191.DAT	
		38647.891	095°49'31.46859" W	05320191.DAT	
			279.3770 m		
To: 744224-3	Slope (m):	Iono free fixed	1/19/99 14:40:45	00018801.SSF	
	Total (m):	29670.053	41°11'21.59243" N	06120191.DAT	
		68317.944	095°37'54.96425" W	05320191.DAT	
			337.5896 m		

Closed

Precision (ppm):	0.1342			
Errors (m) N:	-0.0021	E:	-0.0003	U: -0.0089

**POTTAWATTAMIE COUNTY
IOWA
3 MILE GRID CONTROL POINTS
COMPARISONS
FREE FORM**

50013142
JUNE 1999

NOTE: THESE COORDINATES ARE FOR COMPARISON ONLY AND ARE NOT FINAL COORDINATES

PT#	NAME or DESIGNATION	1 FIXED POINT						FIXED POINTS						DIFFERENCES													
		SP NAD83 (1996)		IOWA SOUTH		HEIGHT		PUBLISHED		PUBLISHED		PUBLISHED		DIFF.		DIFF.		DIFF.									
		NORTHING Y	EASTING X	METERS	NAVD88	ELLIPSOID	NAVD88	NORTHING	EASTING	ELLIPSOID	NAVD88	NORTHING	EASTING	METERS	METERS	METERS	METERS	METERS	METERS	ELLIPSOID	NAVD88						
101	J 180	130189.873	305920.978	NA	NA	130189.866	305920.994	270.52	297.886	0.007	-0.016	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007						
105	E 180	158391.846	299832.382	272.522	300.745	158391.839	299832.389	272.49	300.733	0.007	-0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007						
106	HANCOCK	155496.250	345528.113	353.638	381.355	155496.25	345528.113	353.65	381.4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
502	T 180	170047.637	300438.800	280.098	308.708				308.706																		
529	A 150	164804.624	360162.551	365.440	393.129				393.153																		
530	N 180	160314.441	299471.977	272.851	301.162				301.157																		
532	764306-1	159523.736	305609.926	279.370	307.643	159523.737	305609.937	279.374	307.663	-0.001	-0.011	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001						
535	764204-1	159696.984	318642.378	304.644	332.828	159696.374	318642.396	304.631	332.825	0.010	-0.018	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010						
540	774035-2	159296.702	340906.202	373.031	400.897	159296.698	340906.196	373.036	400.896	0.004	0.006	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004						
542	773836-3	159079.583	350445.163	366.892	394.607	159079.583	350445.146	366.893	394.598	0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
548	NGS-1072	156153.750	317712.755	298.901	326.929				326.956																		
554	J 147	155179.819	343738.970	310.201	337.932				337.925																		
564	R 135	152986.314	315763.823	292.358	320.263				320.279																		
569	764033-3	149823.642	335987.241	330.964	358.668	149823.627	335987.266	330.964	358.653	0.015	-0.025	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015						
584	R 149	145624.418	340580.943	305.546	333.246				333.246																		
586	753913-3	144685.775	350161.197	351.710	379.438	144685.750	350161.210	351.713	379.413	0.025	-0.013	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025						
599	744006-1	140223.260	334019.291	334.504	362.211	140223.249	334019.307	334.522	362.205	0.011	-0.016	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011						
600	H 149RESET	138664.505	338815.799	297.648	325.435				325.44																		
608	LEWIS	135453.109	305555.113	268.342	295.751				295.718																		
612	744224-3	134285.092	321170.699	337.653	365.272	134265.09	321170.715	337.639	365.238	0.002	-0.016	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002						
616	C 149	132619.625	340266.781	336.050	363.998				363.998																		
621	743816-3	135055.468	354731.938	330.499	358.595	135055.470	354731.945	330.500	358.555	-0.002	-0.007	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002						
										AVERAGE =										0.006		-0.008		0.001		0.005	

**POTTAWATTAMIE COUNTY
IOWA
MAIN CONTROL POINTS
COMPARISONS
FREE FORM**

50013142
JUNE 1999

NOTE: THESE COORDINATES ARE FOR COMPARISON ONLY AND ARE NOT FINAL COORDINATES

PT#	NAME or DESIGNATION	1 FIXED POINT						6 FIXED (6 HORZ. 6 ELLIP., 3 ORTHOMETRIC)						DIFFERENCES					
		SP NAD83 (1996) NORTHING Y	IOWA SOUTH EASTING X	HEIGHT ELLIPSOID	HEIGHT NAVD88	PUBLISHED NORTHING	PUBLISHED EASTING	PUBLISHED ELLIPSOID	PUBLISHED NAVD88	DIFF. NORTHING	DIFF. EASTING	DIFF. ELLIPSOID	DIFF. NAVD88	DIFF. NORTHING	DIFF. EASTING	DIFF. ELLIPSOID	DIFF. NAVD88		
		METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS		
105	E 180	158391.842	299832.393	272.494	300.701	158391.839	299832.389	272.49	300.733	0.003	0.004	0.004	0.004	0.003	0.004	0.004	-0.032		
106	HANGOCK	155496.250	345528.113	353.638	381.340	155496.25	345528.113	353.65	381.4	0.000	0.000	0.000	0.000	0.015	-0.011	-0.012	0.0		
152	HNR A	177608.020	346440.744	339.550	368.086	177608.005	346440.755	339.53	368.07	0.016	-0.006	0.017	0.020	0.016	-0.006	0.017	0.01		
101	J 180	130189.883	305920.988	270.537	297.886	130189.867	305920.994	270.52	297.886	0.018	-0.014	0.000	0.000	0.018	-0.014	0.000	0.0		
149	TURK	148913.984	375529.734	370.850	398.680	148913.966	375529.748	370.85	398.7	0.015	-0.008	-0.023	0.019	0.015	-0.008	-0.023	0.019		
148	U 148	128829.150	349831.789	360.247	388.533	128829.135	349831.797	360.27	388.514	0.005	-0.004	0.001	-0.031	0.005	-0.004	0.001	-0.031		
532	764306-1	159523.742	305609.933	279.375	307.632	159523.737	305609.937	279.374	307.663	0.007	-0.003	-0.001	-0.027	0.007	-0.003	-0.001	-0.027		
535	764204-1	159696.381	318642.393	304.630	332.798	159696.374	318642.396	304.651	332.825	0.007	-0.004	-0.008	-0.018	0.007	-0.004	-0.008	-0.018		
540	774035-2	159296.705	340906.192	373.028	400.878	159296.698	340906.196	373.036	400.896	0.007	-0.006	-0.008	-0.013	0.007	-0.006	-0.008	-0.013		
542	773936-3	159079.590	350445.140	366.885	394.585	159079.583	350445.146	366.893	394.598	0.007	-0.002	0.000	-0.016	0.007	-0.002	0.000	-0.016		
566	764235-3	150216.991	320391.036	360.323	388.080	150216.984	320391.038	360.323	388.096	0.005	-0.003	-0.008	-0.009	0.005	-0.003	-0.008	-0.009		
569	764033-3	149823.632	335887.263	330.956	358.644	149823.627	335887.266	330.964	358.653	0.008	-0.006	-0.010	0.002	0.008	-0.006	-0.010	0.002		
586	753913-3	144685.758	350161.204	351.703	379.415	144685.750	350161.210	351.713	379.413	0.006	-0.003	-0.008	0.000	0.006	-0.003	-0.008	0.000		
599	744006-1	140223.255	334019.304	334.514	362.205	140223.249	334019.307	334.522	362.205	0.008	-0.002	-0.002	0.001	0.008	-0.002	-0.002	0.001		
612	744224-3	134265.056	321170.713	337.637	365.239	134265.090	321170.715	337.639	365.238	0.008	-0.005	-0.011	0.004	0.008	-0.005	-0.011	0.014		
621	743816-3	135055.478	354731.940	330.489	358.569	135055.470	354731.945	330.500	358.555	AVERAGE	0.008	-0.005	-0.003	0.008	-0.005	-0.003	-0.006		

**POTTAWATAMIE COUNTY
IOWA
3 MILE GRID CONTROL POINTS
COMPARISONS (2)
FREE FORM**

50013142
JUNE 1999

NOTE: THESE COORDINATES ARE FOR COMPARISON ONLY AND ARE NOT FINAL COORDINATES

PT#	1 FIXED POINT				FIXED POINTS												DIFFERENCES				
	NAME or DESIGNATION	SP NAD83 (1996)		HEIGHT NAVD88	IOWA SOUTH		PUBLISHED NORTHING	PUBLISHED EASTING	PUBLISHED EASTING	PUBLISHED EASTING	PUBLISHED EASTING	PUBLISHED EASTING	PUBLISHED EASTING	PUBLISHED EASTING	PUBLISHED EASTING	PUBLISHED EASTING	PUBLISHED EASTING	DIFF. NORTHING	DIFF. EASTING	DIFF. ELLIPSOID	DIFF. NAVD88
		METERS	METERS		METERS	METERS															
101	J 180	130189.873	305920.978	270.565	297.935	130189.866	305920.994	270.524	297.886	300.733	0.007	-0.016	0.041	0.049							
105	E 180	158391.846	299832.382	272.522	300.745	158391.839	299832.389	272.490	300.733		0.007	-0.007	0.032	0.012							
106	HANCOCK	155496.250	345528.113	353.638	381.355	155496.250	345528.113	353.650	381.352		0.000	0.000	-0.012	0.003							
501	774501-4	170243.339	293379.971	275.778	304.272	170243.326	293379.978	275.748	304.284		0.013	-0.007	0.030	-0.012							
502	T 180	170047.637	300438.800	280.098	308.708	170047.627	300438.806	280.073	308.706		0.010	-0.006	0.025	0.002							
503	774401-4	169945.684	303794.862	355.816	384.461	169945.655	303794.867	355.795	384.477		0.009	-0.005	0.021	-0.016							
504	774303-3	168171.700	309302.591	346.448	375.080	168171.692	309302.596	346.429	375.103		0.008	-0.005	0.019	-0.013							
505	774208-3	168088.828	314085.874	303.157	331.801	168088.819	303.139	331.816	331.816		0.009	-0.005	0.018	-0.015							
506	774203-4	169527.740	318872.362	303.131	331.803	169527.731	318872.366	303.116	331.820		0.009	-0.004	0.015	-0.017							
507	774202-1	169401.059	322032.800	336.681	365.322	169401.052	322032.804	336.678	365.340		0.007	-0.004	0.013	-0.018							
508	774103-1	169250.521	329206.820	374.079	402.801	169250.521	329206.822	374.072	402.817		0.006	-0.002	0.007	-0.016							
509	774005-4	169110.508	334729.739	382.957	411.348	169110.504	334729.741	382.953	411.364		0.005	-0.002	0.004	-0.016							
510	774004-3	167466.745	337052.303	364.030	392.293	167466.740	337052.296	364.033	392.304		0.005	0.005	0.005	-0.013							
511	774001-4	166950.919	341162.033	383.768	412.012	166950.914	341162.027	383.774	412.025		0.005	0.006	0.006	-0.006							
512	773904-1	168422.570	347049.171	361.457	389.538	168422.567	347049.168	361.463	389.553		0.003	0.003	0.003	-0.015							
513	773901-4	168762.668	350671.078	352.474	380.479	168762.666	350671.069	352.479	380.492		0.002	0.009	0.005	-0.017							
514	773803-4	168570.758	357044.963	374.694	402.536	168570.758	357044.958	374.706	402.553		0.000	0.005	0.005	-0.016							
515	773801-3	166931.417	360206.824	372.947	400.877	166931.418	360206.819	372.962	400.693		0.013	-0.008	0.028	-0.016							
516	774518-1	166114.721	298399.265	274.214	302.696	166114.708	298399.273	274.186	302.712		0.008	-0.006	0.022	-0.007							
517	774318-2	165283.968	305524.762	356.005	384.538	165283.960	305524.788	355.983	384.544		0.008	-0.005	0.022	-0.006							
518	774321-4	164859.199	308124.065	349.737	378.259	164859.191	308124.070	349.718	378.266		0.003	-0.003	0.008	-0.011							
519	774230-4	163195.635	314322.079	292.894	321.294	163195.632	314322.082	292.886	321.305		0.004	-0.004	0.012	-0.008							
520	774215-3	164717.667	318771.190	357.006	385.441	164717.663	318771.194	356.984	385.448		0.004	-0.004	0.010	-0.008							
521	774224-4	163971.577	322340.800	309.179	337.535	163971.574	322340.803	309.169	337.543		0.003	-0.003	0.010	-0.008							
522	UU 135	164510.553	326424.196	307.816	386.138	164510.547	326424.200	357.807	386.183		0.006	-0.004	0.009	-0.045							
523	774018-3	164322.780	333121.059	381.622	409.814	164322.775	333121.062	381.619	409.824		0.005	-0.003	0.003	-0.010							
524	774016-3	164271.286	336184.370	378.869	407.003	164271.281	336184.370	378.869	407.012		0.005	0.000	0.000	-0.009							
525	774013-3	164129.438	341041.382	371.657	398.695	164129.433	341041.385	371.655	398.701		0.003	0.007	0.002	-0.006							
526	E 150	166520.069	346661.135	321.458	349.473	166520.060	346661.144	321.461	349.525		0.009	-0.009	-0.003	-0.051							
527	773913-1	164693.395	352178.948	351.469	379.300	164693.394	352178.945	351.479	379.312		0.001	0.003	0.003	-0.012							
528	773820-3	162216.872	353691.941	382.469	410.234	162216.871	353691.940	382.509	410.244		0.001	0.001	0.001	-0.010							
529	A 150	164804.624	360162.551	385.440	393.129	164804.625	360162.547	385.455	393.153		-0.001	0.004	0.004	-0.024							
530	N 180	160314.441	299471.977	272.851	301.162	160314.432	299471.985	272.826	301.157		0.009	-0.008	0.025	0.005							
531	774435-1	161806.479	302255.598	279.791	308.174	161806.470	302255.605	279.768	308.177		0.009	-0.007	0.023	-0.003							
532	764306-1	159523.736	305609.926	279.370	307.643	159523.736	305609.930	279.370	307.663		0.000	-0.004	0.000	-0.020							

POTTAWATTOMIE COUNTY
IOWA

3 MILE GRID CONTROL POINTS
COMPARISONS (2)
FREE FORM

50013142

JUNE 1999

NOTE: THESE COORDINATES ARE FOR COMPARISON ONLY AND ARE NOT FINAL COORDINATES

PT#	NAME or DESIGNATION	SP NAD83 (1998)		IOWA SOUTH		HEIGHT		PUBLISHED		PUBLISHED		PUBLISHED		DIFF.		DIFF.		DIFF.	
		NORTHING	EASTING	ELLIPSOID	NAVD88	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS
533	774334-4	160913.827	309870.982	293.754	322.080	160913.821	309870.988	293.736	322.083	0.006	0.008	0.006	-0.008	0.018	-0.003	0.018	-0.003	0.018	-0.003
534	774231-3	160024.730	313904.141	348.290	376.532	160024.721	313904.149	348.273	376.537	0.009	0.009	0.009	-0.015	0.014	-0.005	0.017	-0.005	0.017	-0.005
535	764204-1	159696.384	318642.378	304.644	332.828	159696.375	318642.393	304.630	332.825	0.006	0.006	0.006	-0.009	0.010	-0.006	0.010	-0.006	0.010	-0.006
536	774132-3	159738.431	324976.184	373.781	401.895	159738.425	324976.193	373.771	401.901	0.006	0.006	0.006	-0.005	0.005	-0.004	0.005	-0.003	0.005	-0.003
537	764103-1	159590.652	329776.545	378.669	406.707	159590.646	329776.550	378.664	406.711	0.006	0.006	0.006	-0.014	0.002	-0.003	0.002	-0.003	0.002	-0.003
538	764006-3	157923.216	332983.692	357.112	385.044	157923.211	332983.706	357.110	385.047	0.005	0.005	0.005	-0.003	0.000	-0.005	0.000	-0.005	0.000	-0.005
539	774033-3	159418.274	336113.777	360.181	388.120	159418.269	336113.780	360.181	388.125	0.003	0.003	0.003	-0.003	0.000	-0.001	0.000	-0.001	0.000	-0.001
540	774035-2	159296.702	340906.202	373.031	400.887	159296.699	340906.196	373.040	400.896	0.005	0.005	0.005	-0.002	-0.009	-0.004	-0.002	-0.009	-0.004	-0.004
541	763903-3	158349.134	347222.755	348.504	376.254	158349.129	347222.757	348.509	376.258	0.005	0.005	0.005	-0.002	-0.005	-0.004	-0.002	-0.005	-0.004	-0.004
542	773836-3	159079.583	350445.163	366.892	394.607	159079.583	350445.146	366.890	394.598	0.001	0.001	0.001	0.017	0.013	0.009	0.017	0.013	0.009	0.013
543	773824-3	158928.028	356827.526	365.636	393.280	158928.029	356827.524	365.649	393.287	-0.001	-0.001	-0.001	0.002	-0.013	-0.007	0.002	-0.013	-0.007	-0.007
544	763801-3	157327.413	360031.524	370.784	398.393	157327.415	360031.522	370.799	398.400	0.015	0.015	0.015	-0.009	-0.015	-0.007	-0.009	-0.015	-0.007	-0.007
545	764009-4	158059.005	298710.338	272.585	300.790	158059.995	298710.347	272.560	300.789	0.007	0.007	0.007	-0.009	0.025	0.001	-0.009	0.025	0.001	0.001
546	764308-3	157135.373	305754.979	292.989	321.141	157135.366	305754.987	292.969	321.140	0.007	0.007	0.007	-0.009	0.020	0.001	-0.009	0.020	0.001	0.001
547	764315-2	156114.692	310127.258	365.628	393.703	156114.688	310127.267	365.607	393.704	0.009	0.009	0.009	-0.009	0.019	-0.001	-0.009	0.019	-0.001	-0.001
548	764207-3	156845.505	313810.828	349.660	377.750	156845.497	313810.838	349.644	377.751	0.008	0.008	0.008	-0.010	0.016	-0.001	-0.010	0.016	-0.001	-0.001
549	NGS-1072	156153.750	317712.755	298.901	326.929	156153.743	317712.763	298.887	326.956	0.007	0.007	0.007	-0.008	0.014	-0.027	-0.008	0.014	-0.027	-0.027
550	764213-2	155071.727	322504.561	356.658	384.593	155071.721	322504.567	356.649	384.593	0.006	0.006	0.006	-0.006	0.009	0.000	-0.006	0.009	0.000	0.000
551	764114-3	155607.782	329696.416	369.142	397.031	155607.777	329696.422	369.137	397.031	0.005	0.005	0.005	-0.005	0.005	0.000	-0.005	0.005	0.000	0.000
552	764018-3	154713.889	332892.624	344.129	371.958	154713.884	332892.629	344.127	371.958	0.005	0.005	0.005	-0.008	0.000	-0.001	-0.008	0.000	-0.001	-0.001
553	764009-2	156222.496	337589.515	345.327	373.152	156222.490	337589.523	345.327	373.153	0.006	0.006	0.006	-0.004	0.000	-0.001	-0.004	0.000	-0.001	-0.001
554	J 147	155179.819	343738.970	310.201	337.932	155179.816	343738.974	310.205	337.925	0.003	0.003	0.003	-0.004	0.000	0.007	-0.004	0.000	0.007	0.007
555	763911-3	155966.245	348769.957	350.584	378.252	155966.237	348769.959	350.570	378.252	0.008	0.008	0.008	-0.002	-0.006	0.000	-0.002	-0.006	0.000	0.000
556	763800-3	155849.851	353552.932	363.113	390.755	155849.851	353552.934	363.123	390.759	0.000	0.000	0.000	-0.002	-0.010	-0.004	-0.002	-0.010	-0.004	-0.004
557	763816-2	154176.093	356714.462	376.185	403.802	154176.094	356714.464	376.198	403.805	-0.001	-0.001	-0.001	0.002	-0.013	-0.003	0.002	-0.013	-0.003	-0.003
558	763813-3	154096.796	359955.160	354.502	382.113	154096.798	359955.161	354.517	382.116	0.011	0.011	0.011	-0.011	0.027	0.007	-0.011	0.027	0.007	0.007
559	764432-4	152108.220	296130.618	272.221	300.117	152108.209	296130.629	272.194	300.110	0.007	0.007	0.007	-0.010	0.023	0.004	-0.010	0.023	0.004	0.004
560	764435-2	151109.198	301700.250	305.660	333.521	151109.191	301700.260	305.637	333.514	0.008	0.008	0.008	-0.009	0.022	0.004	-0.009	0.022	0.004	0.004
561	764424-4	154828.855	302742.916	275.927	303.967	154828.847	302742.925	275.905	303.963	0.009	0.009	0.009	-0.011	0.021	0.003	-0.011	0.021	0.003	0.003
562	764329-2	152569.053	306841.970	367.555	395.474	152569.044	306841.981	367.534	395.471	0.009	0.009	0.009	-0.010	0.019	0.004	-0.010	0.019	0.004	0.004
563	764335-4	152052.298	310552.122	332.094	359.988	152052.289	310552.132	332.075	359.984	0.006	0.006	0.006	-0.009	0.015	-0.016	-0.009	0.015	-0.016	-0.016
564	R 135	152986.314	315763.823	292.358	320.263	152986.308	315763.832	292.343	320.279	0.006	0.006	0.006	-0.009	0.015	-0.016	-0.009	0.015	-0.016	-0.016
565	764204-4	150002.207	317092.178	353.630	381.412	150002.201	317092.188	353.616	381.408	0.006	0.006	0.006	-0.022	0.010	0.004	-0.022	0.010	0.004	0.004
566	764235-3	150216.991	320391.014	360.235	388.008	150216.985	320391.036	360.225	388.001	0.006	0.006	0.006	-0.007	0.007	0.006	-0.007	0.007	0.006	0.006
567	764132-3	150106.607	324747.830	338.285	366.030	150106.601	324747.837	338.278	366.024	0.006	0.006	0.006	-0.007	0.003	0.006	-0.007	0.003	0.006	0.006
568	764136-3	149938.482	331155.501	355.248	382.970	149938.477	331155.508	355.245	382.964	0.005	0.005	0.005	-0.007	0.003	0.006	-0.007	0.003	0.006	0.006
569	764033-3	149823.642	335887.241	330.964	358.668	149823.627	335887.265	330.964	358.653	0.015	0.015	0.015	-0.024	0.000	0.015	-0.024	0.000	0.015	0.015
570	764036-3	149690.672	340680.672	304.247	331.934	149690.670	340688.111	304.250	331.930	0.002	0.002	0.002	-0.005	-0.003	0.004	-0.005	-0.003	0.004	0.004
571	763934-3	149549.765	347033.319	325.474	353.131	149549.763	347033.325	325.477	353.124	0.012	0.012	0.012	-0.006	-0.003	0.007	-0.006	-0.003	0.007	0.007

POTTAWATTAMIE COUNTY
IOWA
3 MILE GRID CONTROL POINTS
COMPARISONS (2)
FREE FORM

50013142
 JUNE 1999

NOTE: THESE COORDINATES ARE FOR COMPARISON ONLY AND ARE NOT FINAL COORDINATES

PT#	NAME or DESIGNATION	SP NAD83 (1986)		IOWA SOUTH		HEIGHT		PUBLISHED		PUBLISHED		DIFF.		DIFF.		DIFF.		
		NORTHING	EASTING	EASTING	X	ELLIPSOID	NAVD88	NORTHING	EASTING	ELLIPSOID	NAVD88	NORTHING	EASTING	ELLIPSOID	NAVD88	NORTHING	EASTING	ELLIPSOID
		METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS
572	763891-3	149437.296	351854.027	369.616	397.269	149437.297	351854.030	369.626	397.267	-0.001	-0.003	-0.010	0.002					
573	763834-3	149344.791	356630.489	337.202	364.881	149344.793	356630.502	337.215	364.860	-0.002	-0.003	-0.013	0.001					
574	753811-1	146866.608	359003.276	372.706	400.428	146866.611	359003.279	372.721	400.425	-0.003	-0.003	-0.015	0.003					
575	754421-4	145507.206	297917.913	271.716	299.329	145507.196	297917.926	271.690	299.318	0.010	-0.013	0.026	0.011					
576	754413-3	146201.034	302787.173	290.418	318.083	146201.025	302787.186	290.396	318.073	0.009	-0.013	0.022	0.010					
577	754308-1	148321.985	306322.044	312.295	340.041	148321.985	306322.056	312.275	340.033	0.010	-0.012	0.020	0.008					
578	754314-3	146116.050	310776.629	335.227	362.896	146116.043	310776.640	335.209	362.887	0.007	-0.011	0.018	0.009					
579	754207-1	148024.024	314305.565	352.591	380.319	148024.017	314305.597	352.576	380.312	0.008	-0.012	0.015	0.007					
580	754216-1	147093.050	318277.090	324.975	352.669	147093.042	318277.040	324.964	352.659	0.009	-0.010	0.011	0.010					
581	754108-3	146922.013	324654.566	340.935	368.814	146922.009	324654.575	340.928	368.809	0.006	-0.009	0.009	0.005					
582	754111-3	146791.921	329481.185	346.102	373.777	146791.916	329481.193	346.098	373.768	0.005	-0.008	0.004	0.009					
583	754009-3	146628.574	335800.939	340.193	367.876	146628.568	335800.951	340.192	367.868	0.006	-0.012	0.001	0.008					
584	R 149	145524.418	340580.943	305.546	333.246	145524.417	340580.950	305.549	333.246	0.001	-0.007	-0.003	0.000					
585	753921-1	144745.600	346910.817	357.600	385.319	144745.600	346910.822	357.607	385.310	0.000	-0.005	-0.007	0.009					
586	753913-3	144698.775	350181.197	351.710	379.438	144698.749	350181.209	351.710	379.413	0.026	-0.012	0.000	0.025					
587	753816-3	144579.497	354909.573	352.210	379.962	144579.500	354909.577	352.222	379.956	-0.003	-0.004	-0.012	0.006					
588	753814-2	144458.935	358957.337	348.921	376.711	144458.938	358957.341	348.936	376.705	-0.003	-0.004	-0.015	0.006					
589	754436-4	141016.459	303339.020	274.631	302.333	141016.451	303339.034	274.809	302.318	0.008	-0.014	0.022	0.015					
590	744304-1	140183.562	308068.684	301.844	329.356	140183.554	308068.697	301.826	329.340	0.008	-0.013	0.018	0.016					
591	754326-3	142906.760	310109.440	339.426	367.004	142906.753	310109.452	339.409	366.991	0.007	-0.012	0.017	0.013					
592	754336-2	141149.914	312546.020	306.916	334.466	141149.907	312546.033	306.900	334.452	0.007	-0.013	0.016	0.014					
593	754220-3	144757.077	315539.758	324.323	351.955	144757.072	315539.769	324.309	351.946	0.005	-0.011	0.014	0.009					
594	754234-2	140645.324	318910.294	306.295	333.875	140645.319	318910.305	306.284	333.862	0.005	-0.011	0.011	0.013					
595	754119-3	143741.489	323017.250	351.171	378.798	143741.484	323017.260	351.163	378.786	0.005	-0.010	0.008	0.017					
596	744106-3	139025.271	322881.012	341.401	369.002	139025.267	322881.023	341.393	368.985	0.004	-0.011	0.008	0.012					
597	754123-3	143582.565	329373.159	334.164	361.813	143582.561	329373.167	334.161	361.801	0.004	-0.008	0.003	0.015					
598	754135-3	140371.651	329282.777	305.782	333.439	140371.647	329282.787	305.779	333.424	0.004	-0.010	0.003	0.015					
599	744006-1	140223.260	334019.291	334.504	362.211	140223.247	334019.305	334.520	362.205	0.013	-0.014	-0.016	0.006					
600	H 149RESET	139664.505	338815.799	297.648	325.435	139664.505	338815.808	297.651	325.435	0.000	-0.009	-0.003	0.000					
601	753930-3	141652.102	342121.383	351.101	378.861	141652.102	342121.390	351.105	378.850	0.000	-0.007	-0.004	0.011					
602	753927-3	141545.278	346872.200	348.748	376.533	141545.279	346872.206	348.755	376.523	-0.001	-0.006	-0.007	0.010					
603	743912-3	136786.479	350005.425	339.816	367.768	136786.481	350005.432	339.824	367.749	-0.002	-0.007	-0.008	0.019					
604	753833-3	139763.932	354836.832	339.112	367.015	139763.935	354836.838	339.125	367.004	-0.003	-0.006	-0.013	0.011					
605	753835-1	140424.351	359153.407	363.895	391.834	140424.355	359153.411	363.910	391.824	-0.004	-0.004	-0.015	0.010					
606	744422-3	134891.859	298455.009	287.670	294.968	134891.849	298455.026	287.646	294.945	0.010	-0.017	0.024	0.023					
607	744413-4	137934.370	302888.440	289.912	297.336	137934.362	302888.454	289.891	297.318	0.008	-0.014	0.021	0.018					
608	LEWIS	135453.109	305555.113	288.342	295.751	135453.102	305555.128	288.322	295.718	0.007	-0.015	0.020	0.033					
609	744315-1	137324.709	309229.062	286.484	313.955	137324.702	309229.077	286.467	313.936	0.007	-0.015	0.017	0.019					
610	744219-4	135243.052	313201.312	361.729	389.220	135243.047	313201.326	361.714	389.201	0.005	-0.014	0.015	0.019					
611	744221-3	134734.121	316343.914	305.960	333.500	134734.117	316343.927	305.947	333.481	0.004	-0.013	0.013	0.019					

POTTAWATTAMIE COUNTY
IOWA

3 MILE GRID CONTROL POINTS
COMPARISONS (2)
FREE FORM

50013142
JUNE 1999

NOTE: THESE COORDINATES ARE FOR COMPARISON ONLY AND ARE NOT FINAL COORDINATES

PT#	NAME	SP NAD83 (1996) IOWA SOUTH		HEIGHT		PUBLISHED		PUBLISHED		PUBLISHED		DIFF.		DIFF.		DIFF.	
		NORTHING	EASTING	ELLIPSOID	NAVD88	NORTHING	EASTING	ELLIPSOID	NAVD88	NORTHING	EASTING	ELLIPSOID	NAVD88	METERS	METERS	METERS	METERS
		Y	X	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS	METERS
612	744224-3	134265.092	321170.699	337.653	365.272	134265.086	321170.713	337.640	365.238	0.008	-0.014	0.013	0.034				
613	744121-3	134133.907	325890.036	318.565	346.258	134133.905	325890.048	318.558	346.240	0.002	-0.012	0.007	0.018				
614	744124-3	134033.540	330718.431	329.345	357.117	134033.538	330718.442	329.343	357.096	0.002	-0.011	0.022	0.021				
615	744017-4	136378.979	333926.139	337.291	365.061	136378.971	333926.152	337.300	365.047	0.008	-0.013	-0.009	0.014				
616	C 149	132819.625	340266.781	336.050	363.998	132819.620	340266.793	336.061	363.998	0.005	-0.012	-0.011	0.000				
617	743919-3	133742.168	342870.151	312.989	340.934	133742.189	342870.160	312.995	340.915	-0.001	-0.009	-0.006	0.019				
618	743915-3	135242.815	346749.951	341.907	369.863	135242.817	346749.959	341.915	369.846	-0.002	-0.008	-0.008	0.017				
619	743927-4	133229.135	346703.564	345.931	373.957	133229.137	346703.572	345.939	373.938	-0.002	-0.008	-0.008	0.019				
620	743924-3	133547.683	349932.473	343.806	371.682	133547.686	349932.480	343.617	371.664	0.003	-0.007	-0.011	0.018				
621	743816-3	135055.468	354731.938	330.499	358.595	135055.467	354731.946	330.500	358.555	0.001	-0.008	-0.001	0.040				
622	743824-1	134092.738	361118.005	300.106	328.398	134092.743	361118.011	300.123	328.383	-0.005	-0.006	-0.017	0.015				
623	744436-2	130289.639	302278.776	267.090	294.387	130289.632	302278.793	267.069	294.361	0.007	-0.017	0.021	0.026				
624	T-182	131842.658	305075.585	268.824	296.185	131842.652	305075.601	268.805	296.129	0.006	-0.016	0.019	0.056				
625	744231-3	131471.332	313084.939	331.407	358.907	131471.328	313084.954	331.393	358.884	0.004	-0.015	0.014	0.023				
626	744234-3	131113.014	317874.596	311.804	339.410	131113.011	317874.610	311.792	339.387	0.003	-0.014	0.012	0.023				
627	744236-3	131088.323	321023.749	321.723	349.387	131088.321	321023.763	321.714	349.366	0.002	-0.014	0.009	0.021				
628	744133-3	131184.959	325834.187	338.292	366.040	131184.998	325834.200	338.285	366.019	0.001	-0.013	0.007	0.021				
629	744032-3	130747.708	333840.349	343.234	371.145	130747.707	333840.361	343.235	371.122	0.001	-0.012	-0.001	0.023				
630	743934-3	130423.118	346637.762	335.635	363.776	130423.121	346637.771	335.644	363.754	-0.003	-0.009	-0.009	0.022				
631	743880-3	131895.778	351508.019	364.720	392.904	131895.781	351508.027	364.732	392.894	-0.003	-0.008	-0.012	0.020				
632	743827-3	131776.415	356274.170	348.178	376.480	131776.420	356274.177	348.192	376.460	-0.005	-0.007	-0.014	0.020				
633	743825-2	131681.358	360280.844	297.953	326.411	131681.403	360280.851	298.010	326.392	-0.005	-0.007	-0.017	0.019				
634	754310-1	148775.455	310471.336	284.354	312.119	148775.447	310471.347	284.336	312.112	0.008	-0.011	0.018	0.007				
									AVERAGE =	0.005	-0.007	0.005	0.004				

**POTTAWATTAMIE CO.
IOWA
DUPLICATE BASELINE COMPARISONS
MAIN CONTROL**

From	To	Solution	File	Delta X	Delta Y	Delta Z
743816-3	HANCOCK	22	00020576.WAV	0.000	0.000	0.000
		33	00020628.WAV	-0.003	0.006	-0.005
743816-3	U 148	29	00020604.WAV	0.000	0.000	0.000
		36	00020656.WAV	0.014	-0.015	0.001
744006-1	HANCOCK	15	00020512.WAV	0.000	0.000	0.000
		34	00020632.WAV	0.000	0.005	-0.010
744006-1	J 180	48	00020720.WAV	0.000	0.000	0.000
		69	00020840.WAV	0.002	-0.020	-0.019
744224-3	764306-1	56	00020764.WAV	0.000	0.000	0.000
		79	00020908.WAV	-0.017	-0.020	0.035
744224-3	J 180	46	00020708.WAV	0.000	0.000	0.000
		64	00020796.WAV	0.027	0.007	0.006
753913-3	HANCOCK	24	00020584.WAV	0.000	0.000	0.000
		31	00020620.WAV	-0.012	0.005	0.009
764033-3	HANCOCK	16	00020520.WAV	0.000	0.000	0.000
		32	00020624.WAV	-0.002	-0.006	-0.002
764033-3	J 180	49	00020724.WAV	0.000	0.000	0.000
		66	00020828.WAV	0.004	0.018	-0.016
764204-1	764235-3	47	00020712.WAV	0.000	0.000	0.000
		54	00020752.WAV	-0.018	-0.004	0.020
764235-3	J 180	18	00020552.WAV	0.000	0.000	0.000
		45	00020704.WAV	0.002	0.012	-0.020
773936-3	HANCOCK	3	00020452.WAV	0.000	0.000	0.000
		23	00020580.WAV	-0.003	0.004	-0.002
		71	00020852.WAV	-0.003	-0.011	0.009
774035-2	HANCOCK	4	00020456.WAV	0.000	0.000	0.000
		70	00020844.WAV	0.009	-0.017	-0.005
E 180	HANCOCK	57	00020768.WAV	0.000	0.000	0.000
		60	00020780.WAV	-0.001	-0.013	0.010

POTTAWATTAMIE CO.
IOWA
DUPLICATE BASELINE COMPARISONS
MAIN CONTROL

From	To	Solution	File	Delta X	Delta Y	Delta Z
E 180	J 180	42	00020692.WAV	0.000	0.000	0.000
		62	00020788.WAV	0.000	-0.007	-0.003
HANCOCK	TURK	1	00020444.WAV	0.000	0.000	0.000
		20	00020568.WAV	0.000	0.006	-0.003
HANCOCK	U 148	14	00020508.WAV	0.000	0.000	0.000
		21	00020572.WAV	-0.016	0.019	-0.002
		72	00020856.WAV	0.000	-0.002	0.002

**POTTAWATTAMIE COUNTY
IOWA
NETWORK ADJUSTMENT RESULTS
HORIZONTAL PRECISIONS**

THE HORIZONTAL PRECISION OF THE LINE IS COMPUTED (AS PER FGCC GUIDELINES) BY DIVIDING THE STANDARD ERROR OF THE COMPUTED DISTANCE (INFLATED BY THE THE UNIVARIATE SIGMA SCALAR OF 1.96) INTO THE COMPUTED DISTANCE

FROM PT# - NAME	TO PT#	AZIMUTH COMPUTED	STANDARD ERROR OF COMPUTED AZIMUTH SIGMA SCALAR=1.96	COMPUTED DISTANCE	STANDARD ERROR OF COMPUTED DISTANCE SIGMA SCALAR=1.96	HORIZONTAL PRECISION
106 - HANCOCK	501	284°34'29"	0.06"	54195.514m	0.0093m	1:11433321
106 - HANCOCK	502	286°40'13"	0.06"	47381.208m	0.0123m	1: 7548959
106 - HANCOCK	503	287°52'54"	0.07"	44165.766m	0.0096m	1: 8986953
106 - HANCOCK	504	288°04'09"	0.08"	38380.748m	0.0116m	1: 6467609
106 - HANCOCK	505	290°36'35"	0.05"	33871.794m	0.0054m	1:12181965
106 - HANCOCK	506	296°32'46"	0.06"	30124.551m	0.0058m	1:10232190
106 - HANCOCK	507	299°24'04"	0.06"	27302.857m	0.0057m	1: 9350828
106 - HANCOCK	508	308°54'19"	0.06"	21344.867m	0.0059m	1: 7083795
106 - HANCOCK	509	320°21'48"	0.09"	17377.529m	0.0075m	1: 4533772
106 - HANCOCK	510	323°28'58"	0.10"	14668.012m	0.0099m	1: 2902778
106 - HANCOCK	511	340°48'18"	0.33"	14145.943m	0.0221m	1: 1256308
106 - HANCOCK	512	5°29'40"	0.21"	13016.058m	0.0146m	1: 1745115
106 - HANCOCK	513	19°58'23"	0.11"	14229.023m	0.0123m	1: 2264619
106 - HANCOCK	514	40°09'32"	0.07"	17424.303m	0.0092m	1: 3715865
106 - HANCOCK	515	50°51'48"	0.15"	18607.991m	0.0094m	1: 3868078
106 - HANCOCK	516	280°58'49"	0.10"	50265.460m	0.0153m	1: 6431744
106 - HANCOCK	517	282°31'57"	0.06"	41185.128m	0.0080m	1:10148005
106 - HANCOCK	518	282°48'31"	0.07"	38554.953m	0.0081m	1: 9359563
106 - HANCOCK	519	282°38'37"	0.07"	32143.258m	0.0084m	1: 7457283
106 - HANCOCK	520	287°47'59"	0.11"	28302.613m	0.0107m	1: 5173230
106 - HANCOCK	521	288°51'43"	0.07"	24688.794m	0.0062m	1: 7811216
106 - HANCOCK	522	294°02'39"	0.07"	21124.786m	0.0054m	1: 7707438
106 - HANCOCK	523	304°12'44"	0.28"	15227.049m	0.0128m	1: 2334456
106 - HANCOCK	524	311°59'09"	0.17"	12818.785m	0.0090m	1: 2778630
106 - HANCOCK	525	331°19'20"	0.23"	9729.898m	0.0108m	1: 1767472
106 - HANCOCK	526	4°39'06"	0.19"	11082.370m	0.0145m	1: 1501561
106 - HANCOCK	527	34°39'20"	0.14"	11350.434m	0.0117m	1: 1893606
106 - HANCOCK	528	49°19'17"	0.18"	10574.724m	0.0072m	1: 2886593
106 - HANCOCK	529	56°19'28"	0.04"	17344.707m	0.0030m	1:11270130
106 - HANCOCK	530	274°45'23"	0.02"	46309.584m	0.0032m	1:28632449
106 - HANCOCK	531	277°04'51"	0.05"	43732.158m	0.0065m	1:13094736
106 - HANCOCK	532	274°32'43"	0.07"	40122.676m	0.0104m	1: 7541255
106 - HANCOCK	533	277°25'23"	0.06"	36067.974m	0.0083m	1: 8533276
106 - HANCOCK	534	276°55'59"	0.06"	31948.012m	0.0068m	1: 9191264
106 - HANCOCK	535	277°39'46"	0.05"	27213.071m	0.0051m	1:10496845
106 - HANCOCK	536	280°26'47"	0.10"	20986.136m	0.0078m	1: 5303254
106 - HANCOCK	537	283°21'16"	0.22"	16275.752m	0.0144m	1: 2222528
106 - HANCOCK	538	279°44'00"	0.35"	12777.623m	0.0181m	1: 1383050
106 - HANCOCK	539	291°24'01"	0.18"	10199.091m	0.0067m	1: 2972890
106 - HANCOCK	540	308°12'46"	0.22"	5984.042m	0.0072m	1: 1620688
106 - HANCOCK	541	29°29'39"	0.34"	3318.397m	0.0080m	1: 812965
106 - HANCOCK	542	52°42'01"	0.33"	6084.491m	0.0111m	1: 1072079
106 - HANCOCK	543	71°53'04"	0.17"	11809.885m	0.0091m	1: 2535369
106 - HANCOCK	544	81°35'14"	0.24"	14619.224m	0.0087m	1: 3295284
106 - HANCOCK	545	271°55'02"	0.03"	46890.025m	0.0056m	1:16522541
106 - HANCOCK	546	271°08'38"	0.07"	39808.737m	0.0095m	1: 8171149

**POTTAWATTAMIE COUNTY
IOWA
NETWORK ADJUSTMENT RESULTS
HORIZONTAL PRECISIONS**

FROM PT# - NAME	TO PT#	AZIMUTH COMPUTED	STANDARD ERROR OF COMPUTED AZIMUTH SIGMA SCALAR=1.96	COMPUTED DISTANCE	STANDARD ERROR OF COMPUTED DISTANCE SIGMA SCALAR=1.96	HORIZONTAL PRECISION
106 - HANCOCK	547	269°47'05"	0.10"	35407.904m	0.0111m	1: 6247991
106 - HANCOCK	548	271°13'11"	0.05"	31747.440m	0.0051m	1:12089037
106 - HANCOCK	549	270°08'16"	0.06"	27824.420m	0.0053m	1:10309835
106 - HANCOCK	550	267°43'38"	0.10"	23028.541m	0.0082m	1: 5492628
106 - HANCOCK	551	269°11'14"	0.27"	15832.826m	0.0120m	1: 2585888
106 - HANCOCK	552	265°14'26"	0.15"	12660.279m	0.0063m	1: 3952474
106 - HANCOCK	553	274°00'38"	0.29"	7972.117m	0.0078m	1: 2000093
106 - HANCOCK	554	258°45'13"	0.71"	1816.995m	0.0045m	1: 787804
106 - HANCOCK	555	80°42'27"	0.44"	3274.468m	0.0045m	1: 1421688
106 - HANCOCK	556	86°15'37"	0.20"	8032.978m	0.0058m	1: 2731104
106 - HANCOCK	557	95°30'50"	0.20"	11264.505m	0.0071m	1: 3126524
106 - HANCOCK	558	94°19'25"	0.16"	14495.440m	0.0081m	1: 3495751
106 - HANCOCK	559	264°51'42"	0.03"	49515.831m	0.0057m	1:16956966
106 - HANCOCK	560	263°04'04"	0.08"	44048.983m	0.0124m	1: 6941510
106 - HANCOCK	561	267°53'25"	0.07"	42792.408m	0.0115m	1: 7284884
106 - HANCOCK	562	264°27'25"	0.13"	38798.566m	0.0148m	1: 5138351
106 - HANCOCK	563	263°09'37"	0.06"	35146.807m	0.0073m	1: 9395489
106 - HANCOCK	564	263°57'49"	0.03"	29871.341m	0.0027m	1:21349678
106 - HANCOCK	565	257°50'55"	0.13"	28963.204m	0.0102m	1: 5554549
106 - HANCOCK	566	256°55'22"	0.18"	25686.717m	0.0176m	1: 2862919
106 - HANCOCK	567	254°14'37"	0.20"	21468.873m	0.0126m	1: 3331632
106 - HANCOCK	568	247°38'33"	0.12"	15410.499m	0.0064m	1: 4741827
106 - HANCOCK	569	238°18'41"	0.16"	11186.459m	0.0055m	1: 3969238
106 - HANCOCK	570	218°36'03"	0.16"	7558.827m	0.0056m	1: 2663583
106 - HANCOCK	571	164°34'43"	0.24"	6134.325m	0.0115m	1: 1043714
106 - HANCOCK	572	132°32'54"	0.21"	8759.877m	0.0080m	1: 2133970
106 - HANCOCK	573	117°46'21"	0.21"	12693.259m	0.0077m	1: 3228317
106 - HANCOCK	574	121°25'09"	0.17"	16002.358m	0.0080m	1: 3937530
106 - HANCOCK	575	256°56'05"	0.04"	48649.182m	0.0053m	1:18009590
106 - HANCOCK	576	256°30'52"	0.04"	43742.143m	0.0053m	1:16295335
106 - HANCOCK	577	258°24'51"	0.10"	39858.990m	0.0132m	1: 5922174
106 - HANCOCK	578	253°40'42"	0.08"	35996.941m	0.0088m	1: 8025009
106 - HANCOCK	579	255°19'29"	0.04"	32105.760m	0.0049m	1:12807457
106 - HANCOCK	580	251°38'45"	0.14"	28518.661m	0.0107m	1: 5221128
106 - HANCOCK	581	246°27'08"	0.20"	22567.051m	0.0116m	1: 3816481
106 - HANCOCK	582	240°18'25"	0.09"	18256.547m	0.0061m	1: 5857766
106 - HANCOCK	583	226°25'48"	0.12"	13163.220m	0.0059m	1: 4372654
106 - HANCOCK	584	205°10'12"	0.04"	11132.114m	0.0032m	1: 6790514
106 - HANCOCK	585	171°27'16"	0.15"	10839.732m	0.0108m	1: 1959133
106 - HANCOCK	586	155°35'05"	0.12"	11762.030m	0.0102m	1: 2255685
106 - HANCOCK	587	138°06'31"	0.18"	14394.702m	0.0098m	1: 2878306
106 - HANCOCK	588	128°11'58"	0.14"	17383.781m	0.0084m	1: 4052248
106 - HANCOCK	589	249°50'28"	0.07"	44606.954m	0.0094m	1: 9304017
106 - HANCOCK	590	246°32'58"	0.10"	40469.425m	0.0131m	1: 6048901
106 - HANCOCK	591	249°12'58"	0.08"	37591.441m	0.0122m	1: 6048010
106 - HANCOCK	592	245°16'33"	0.06"	35968.924m	0.0078m	1: 9020223
106 - HANCOCK	593	249°11'21"	0.05"	32024.359m	0.0059m	1:10678233
106 - HANCOCK	594	239°37'30"	0.14"	30481.963m	0.0244m	1: 2451046
106 - HANCOCK	595	241°12'39"	0.08"	25396.387m	0.0089m	1: 5593927
106 - HANCOCK	596	232°45'20"	0.06"	28004.679m	0.0093m	1: 5882147
106 - HANCOCK	597	232°22'34"	0.10"	20073.811m	0.0107m	1: 3690679

POTTAWATTAMIE COUNTY
IOWA
NETWORK ADJUSTMENT RESULTS
HORIZONTAL PRECISIONS

FROM PT# - NAME	TO PT#	AZIMUTH COMPUTED	STANDARD ERROR OF COMPUTED AZIMUTH SIGMA SCALAR=1.96	COMPUTED DISTANCE	STANDARD ERROR OF COMPUTED DISTANCE SIGMA SCALAR=1.96	HORIZONTAL PRECISION
106 - HANCOCK	598	225°49'47"	0.05"	22197.142m	0.0075m	1: 5778766
106 - HANCOCK	599	215°46'59"	0.08"	19124.680m	0.0093m	1: 4026788
106 - HANCOCK	600	200°31'30"	0.13"	18121.683m	0.0148m	1: 2404492
106 - HANCOCK	601	192°36'28"	0.07"	14257.848m	0.0075m	1: 3719615
106 - HANCOCK	602	173°16'49"	0.10"	14016.259m	0.0100m	1: 2736756
106 - HANCOCK	603	165°19'26"	0.07"	19237.042m	0.0105m	1: 3593425
106 - HANCOCK	604	148°10'15"	0.11"	18280.894m	0.0138m	1: 2603655
106 - HANCOCK	605	136°40'08"	0.10"	20318.747m	0.0080m	1: 4991258
106 - HANCOCK	606	245°08'39"	0.08"	51387.568m	0.0137m	1: 7358826
106 - HANCOCK	607	246°23'55"	0.07"	46116.948m	0.0138m	1: 6565605
106 - HANCOCK	608	242°09'14"	0.06"	44718.766m	0.0083m	1:10530853
106 - HANCOCK	609	242°11'27"	0.05"	40595.444m	0.0094m	1: 8444774
106 - HANCOCK	610	236°42'57"	0.08"	38149.174m	0.0101m	1: 7378109
106 - HANCOCK	611	233°21'18"	0.07"	35817.757m	0.0095m	1: 7381564
106 - HANCOCK	612	227°42'24"	0.08"	32313.309m	0.0137m	1: 4630927
106 - HANCOCK	613	221°22'31"	0.06"	29018.752m	0.0113m	1: 5050014
106 - HANCOCK	614	213°23'24"	0.05"	26077.627m	0.0107m	1: 4773740
106 - HANCOCK	615	210°02'16"	0.07"	22362.636m	0.0099m	1: 4436668
106 - HANCOCK	616	191°44'08"	0.09"	23475.029m	0.0134m	1: 3438055
106 - HANCOCK	617	186°16'04"	0.10"	21942.091m	0.0149m	1: 2887212
106 - HANCOCK	618	175°19'52"	0.09"	20291.269m	0.0124m	1: 3197815
106 - HANCOCK	619	175°45'42"	0.10"	22299.234m	0.0164m	1: 2665834
106 - HANCOCK	620	167°26'12"	0.09"	22387.231m	0.0133m	1: 3293751
106 - HANCOCK	621	154°32'34"	0.08"	22418.428m	0.0147m	1: 2979663
106 - HANCOCK	622	142°42'52"	0.06"	26480.656m	0.0093m	1: 5591489
106 - HANCOCK	623	238°32'57"	0.03"	50061.265m	0.0072m	1:13593330
106 - HANCOCK	624	238°28'04"	0.04"	46862.776m	0.0108m	1: 8483837
106 - HANCOCK	625	232°15'46"	0.08"	40372.265m	0.0131m	1: 6048731
106 - HANCOCK	626	227°22'47"	0.07"	36869.984m	0.0095m	1: 7619873
106 - HANCOCK	627	223°53'48"	0.08"	34588.016m	0.0112m	1: 6064284
106 - HANCOCK	628	217°47'37"	0.05"	31288.751m	0.0131m	1: 4681875
106 - HANCOCK	629	204°03'47"	0.05"	27370.959m	0.0103m	1: 5222437
106 - HANCOCK	630	176°14'57"	0.08"	25098.934m	0.0153m	1: 3216590
106 - HANCOCK	631	164°33'54"	0.08"	24347.505m	0.0133m	1: 3590859
106 - HANCOCK	632	154°24'39"	0.09"	26041.818m	0.0190m	1: 2688189
106 - HANCOCK	633	147°00'22"	0.06"	28015.513m	0.0098m	1: 5611873
106 - HANCOCK	634	257°55'52"	0.08"	35696.910m	0.0106m	1: 6617359

