4,5,8,9,16,17,20,21,28,29,32,33-16-1W COUNTY

Type 8 Mon't, found or other mark Restore by surveying Search for stone WEST BOONE CO. BOONE CO. PENN - CENTRAL R.R WEST CREST ROSS HEND RICKS CREEK BR. 8 28 RIVER 800 N 775 N 25 doep CEN POSTER DE FIELDS PARTT DRAW CREEK THARP BIG WALNUT 450 N 15 search -made, BCEN Too indefinite DCEM 21 350 N STATE RD. "S 300 N 425 W FOX RUN HARDWICK HORTH-RIDGE

LOCATION OF MONUMENT: SECTION 32, T. 16 N., R. 1 W. Found: V Set: Depth: Flush Description: Type B Monument Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. Q P-K nail in power pole COL. 359°57'32" 2,681.11' to sec. Rebar in conc. witness post 39 set flush with the ground œ S Rebar in conc. witness post Q set flush with the ground Cor. of R/W marker 55.00' x = 14,601.87', y = 30,841.96', basedon a local system of plane rectangular coordinates at ground level with x = 20,000.00' and y = 20,000.00' at 14.2' 10.6 the East Quarter Corner of Section 9-15-1W and the azimuth from the 179°55'06" 2,675.14' to sec. cor. stone Hendricks County Magnetic Station to its meridian mark (mire) assumed to 0°00'00."0. Azimuths on this sys-Rebar in conc. witness post set flush with the ground tem are reckoned clockwise from the north through 360°. Stanley M. Chartle, P.E. May 19, 1994

NO SURVE

LOCATION OF MONUMENT: SECTION 32, T. 16 N., R. 1 W. Found: V Set: Depth: Flush Description: Type B Monument Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. Ind. Gas Co. 1/4 COr. Face of steel post 2 359*51'29" 2,673.15' Face of steel post Ind. Gas Co. N89W 43.46'. Base of conc. cor. post COUNTY ROAD 200 NORTH 90°06'19" 2,650.41' to 1/4 cor. stone S75°E 73.98' Cor. of R/W marker x = 14,599.94', y = 33,523.07', basedon a local system of plane rectangu-Cor. of R/W marker lar coordinates at ground level with 15.9 x = 20,000.00' and y = 20,000.00' at the East Quarter Corner of Section 9-15-1W and the azimuth from the Hendricks County Magnetic Station 79°57'32" 2,681.11' to 1/4 cor to its meridian mark (mire) assumed S61/2W 239.265 to 0°00'00"0. Azimuths on this system are reckoned clockwise from the north through 360°. 0 3 2 S U.S.C.& G.S. B.M. G86 1946 6

SURVE

May 19, 1994

| | LOCATION OF MONUMENT: SECT | TION <u>29</u> , T. <u>16</u> N., R. <u>1 W</u> . | |
|----|---|--|--------------------------------|
| | Found: V Set: Depth: Flush | | - |
| | Description: Type B Monument | | |
| | Bearings to reference objects are magness a contrary mode is shown. References taken prior to the adjunction and the state of Transportation monument to the finished grade of S. 1994 resurfacing project. | justment by the on of the corner R. 39 during its $x = 14,593.31', y = 36,196.21'$, bas | gu- ith at ion the ion ned ys- |
| ST | Cor. of R/W marker M. SHARALLE S. 3431 ATE OF DIANA OR OTHER DIANA OR DIANA OR | Rebar in conc. witness post set flush with the ground Stanley M. Shartle, P.E. & L.S. | |
| | SURVEY | Date: May 19, 1994 | |

LOCATION OF MONUMENT: SECTION 29, T.16 N., R.1 W. Found: V Set: Depth: Flush Description: Type B Monument Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. x = 14,590.19', y = 37,522.61', based on a local system of plane rectangular coordinates at ground level with x = 20,000.00' and y = 20,000.00' at the East Quarter Corner of Section COL. 9-15-1W and the azimuth from the 346.68' to sec. + cut atop conc. header Hendricks County Magnetic Station to its meridian mark (mire) assumed to 0°00'00."0. Azimuths on this system are reckoned clockwise from the north through 360°. 39 ď S 23.14 40.77 + cut atop conc. header P-K nail in power pole 10.6' - -14.0' 179°51'55" 1,326.40' to 1/4 cor Date: May 19, 1994

LOCATION OF MONUMENT: SECTION 29, T. 16 N., R. 1 W. Found: V Set: Depth: Flush Description: Type B Monument Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. P-K nail in power pole Rebar in conc. witness post set flush with the ground 13.5' 10.6' Face of steel post N89W 44.04' * F.F.T.F. Rebar in conc. witness post set flush with the ground S10W 225.90' 39 回Rebar in conc. witness post set flush with the ground C Cor. of R/W marker S No. 3431 Stanley M. Shartle, STATE OF Date: May 19, 1994 NO SURVE

LOCATION OF MONUMENT: SECTION 20, T. 16 N., R.1 W. Found: Set: V Depth: Flush Description: Type B Monument This lost corner was restored by a single proportionate measurement between the southeast and the northeast corners of the section. Bearings to reference objects are magnetic. Rebar in conc. witness post set flush with the ground S85°E 51.93' Rebar in conc. witness post set flush with the ground 14.45 10.25 Rebar in conc. witness post 39 set flush with the ground œ

Date: June 8, 1994

| LOCATION OF MONUMENT: SECTION 20, T. 16 N., R. 1 W. | |
|--|---|
| Found: V Set: Depth: Flush | |
| Description: Type B Monument | |
| Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. Rebar in conc. witness post set flush with the ground | |
| Cor. of R/W marker **Single Strain Marker** **Cor. of R/W marker** **N58°E 25.78' | |
| Rebar in conc. witness post set flush with the ground | |
| Cor. of R/W marker No. 3431 STATE OF NO SURVEY Date: May 19, 1994 | 2 |

LOCATION OF MONUMENT: SECTION 17, T. 16 N., R. 1 W. Found: Set: / Depth: Flush Description: Type B Monument This lost corner was restored by a single proportionate measurement between the southeast and the northeast corners of the section. Bearings to reference objects are magnetic. 10.7 13.9' Rebar in conc. witness post SE cor. of chamfer set flush with the ground of conc. cor. post 2,664.52' to sec. cor. mon't 2,664.52' to sec. cor. mon't. 39 2 E Rebar in conc. witness post set flush with the ground Rebar in conc. witness post set flush with the ground Date: June 8, 1994 NO SURVE

LOCATION OF MONUMENT: SECTION 17, T. 16 N., R. 1 W. Found: V Set: Depth: 19 inches Description: Stone Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. Block building 2-sty. frame house O P-K nail in power pole Cor. of conc. porch floor N60W 149.505 Cor. of R/W marker COUNTY ROAD 500 NORTH S753/4W 78.97 Cor. of chamfer conc. cor. post + atop conc. cor. post Cor. of R/W marker 11.2 12.8 No. 3431 Date: May 19, 1994 NO SURVEY

LOCATION OF MONUMENT: SECTION 8, T. 16 N., R. 1 W. Found: V Set: Depth: 11 inches Description: Stone Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. Rebar in conc. witness post set flush with the ground N63°E 37.66' OP-K nail in power pole P-K nail in wood cor. post-43.34' Rebar in conc. witness post set flush with the ground 15.3' 9.5' PK nail in power pole No. 3431 MOIANA TO SUDVEYO Date: May 19, 1994

| LOCATION OF MON | NUMENT: SECTION 8, T. 16N., R. 1 W. |
|--|--|
| Found: V Set: Depth | : Flush |
| Description: Type I | B Monument |
| Indiana Department of Tr | or to the adjustment by the ransportation of the corner lagrade of S. R. 39 during its |
| | Rebar in conc. witness post set flush with the ground |
| Rebar in conc. witness post set flush with the ground N797 | P-K nail in power pole N87°E 33.59' N87°E 33.59' |
| | Rebar in conc. witness post set flush with the ground |
| NO. 3431 STATE OF | P-K nail in power pole Stanley M. Shartle, P.E. & L.S. Date: May 19, 1994 |

| LOCATION OF MONUMENT: SECTION 5, | T. <u>16 N., R. 1 W.</u> |
|--|---|
| Found: V Set: Depth: See below | |
| Description: Type B Monument | |
| The top of the corner stone, found 23 inches was necessarily cut off to make room for the T Monument set to replace it. Bearings to reference o are magnetic. | ype B |
| Rebar in conc. witness post set flush with the ground | Rebar in conc. witness post a set flush with the ground |
| P-K nail in power pole N891/2W 44.15' 41.53' | Conc. post |
| + cut atop conc. header Private drive Private drive S555W 146.05 | cut atop conc. header Private drive |
| WO No. 3431 STATE OF AND SURVEYOR SURVEYOR STATE OF SURVEYOR STATE OF SURVEYOR SURVEYOR STATE OF SURVEYOR STATE OF SURVEYOR SURVEYOR STATE OF SURVEYOR SURVEYOR | Stanley M. Shartle, P.E. & L.S. Date: June 8, 1994 |

LOCATION OF MONUMENT: SECTION _ 5, T. 16 N., R. 1 W.

| | Found: V Set: Depth: F | ush | |
|-----|--|-----------------|---|
| | Description: Type B Monume | ent | |
| | Bearings to reference objects are less a contrary mode is shown. References taken prior to the a Indiana Department of Transporta monument to the finished grade of 1994 resurfacing project. | adjustnation of | nent by the the corner |
| | | S. R. 39 | P-K nail in power pole Rebar in conc. witness post set flush with the ground |
| | SE Cor. Sec. 32-17-1W | 1000 | |
| | | 43.80 | 1. |
| | Rebar in conc. witness post S871/2°W set flush with the ground NE Cor. Sec. 5-16-1W | | Rebar in conc. witness post |
| EVI | M. SHA | | set flush with the ground P-K nail in power pole |
| | 3431 | - 24.7' | Stanley M. Shartle, P.E. & L.S. |
| No | SURVEYOR | 1 | Date: May 19, 1994 |

| LOCATION OF MONUMENT: SECTION 32, T. 17 N., R. 1 W. |
|---|
| Found: V Set: Depth: Flush |
| Description: Type B Monument |
| Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. |
| SE Cor. Sec. 32-17-1W OP-K nail in power pole Rebar in conc. witness post set flush with the ground |
| Rebar in conc. witness post = 27.15 set flush with the ground |
| NE Cor. Sec. 5-16-1W Rebar in conc. witness post set flush with the ground Rebar in conc. witness post set flush with the ground P-K nail in power pole Stanley M. Shartle, P.E. & L.S. Date: May 19, 1994 |

LOCATION OF MONUMENT: SECTION 32, T. 17 N., R. 1 W. Found: V Set: Depth: Flush Description: Type B Monument Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. Brick shed Brick & frame house COL. prop. Rebar in conc. witness post set flush with the ground to 1,234.77" House Cor. of brick + cut atop conc. header-Private drive Private drive + cut atop conc. header S62°W 45.44 Rebar in conc. witness post cor. set flush with the ground Sec. 2 2,647.81' No. 3431 Stanley M. Shartle, P.E. & L.S. Date: May 19, 1994 9NO SURVE

| LOCATION OF MONUMENT: | SECTION 32 | , T. 17 N.,R. | 1 W. | |
|--|------------------------|-----------------------------|---------------------------------------|---|
| Found: V Set: Depth: Flu | ısh | | | |
| Description: Type B Monume | ent | | | 1 |
| Bearings to reference objects are less a contrary mode is shown. References taken prior to the Indiana Department of Transports monument to the finished grade of 1994 resurfacing project. | adjustment | by the | 32 | |
| P-K nail in wood cor. post- | 1,405.35' to sec. cor. | set flush | conc. witness post with the ground | |
| P-K nail in wood end post | | | | |
| Private drive S73°W 93.08' + cut atop conc. header | SOT | | | |
| 1-sty. frame house | 1.3' 12.3' | 7 | | |
| EY M. SHAP | . R. 39 | Rebar in con set flush w | nc. witness post ith the ground | |
| No. 3431 STATE OF | 8 | Stanley M. A | hy M. Shartle Shartle, P.E. & L.S. | , |
| AND SURVEYOR | | Date: N | Iay 19, 1994 | |

LOCATION OF MONUMENT: SECTION 32, T. 17 N., R.1 W. Found: V Set: Depth: About 3 inches Description: + on steel rod in conc. monument Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. 21.5' 39 P-K nail in power pole œ S Private drive COUNTY ROAD 800 NORTH P-K nail in power pole Cor. of R/W marker 405.35' to prop. cor. stone Cor. of R/W marker -Cor. of R/W marker Dept. of Highways B.M. C-53 on bridge Stanley M. Shartle, Date: May 19, 1994 WO SURVE

LOCATION OF MONUMENT: SECTION 20, T. 16 N., R. 1 W.

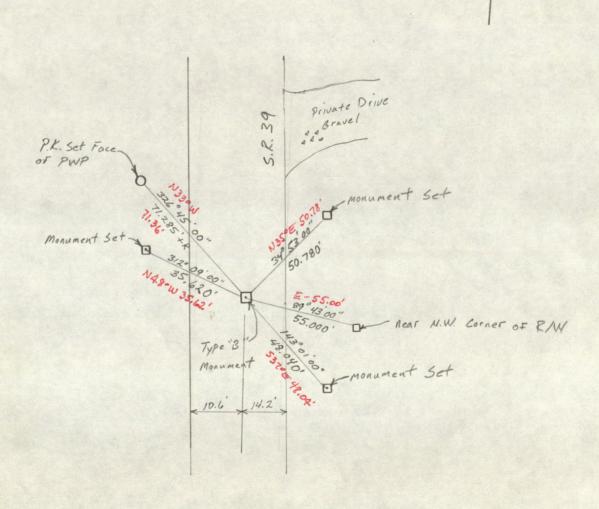
| Found: Set: Depth: | | |
|--|--|----------------|
| Description: | | |
| Bearings to reference objects are magnetic un- less a contrary mode is shown. | | - |
| References taken prior to the adjustment by the | | 1 8 |
| Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its | | |
| 1994 resurfacing project. | | |



Stanley M. Shartle, P.E. & L.S.

Date:

S.E. Corner of the N.E. 1/4 Section 32 Twp. 16 North, R.IW.



STANLEY M. SHARTLE

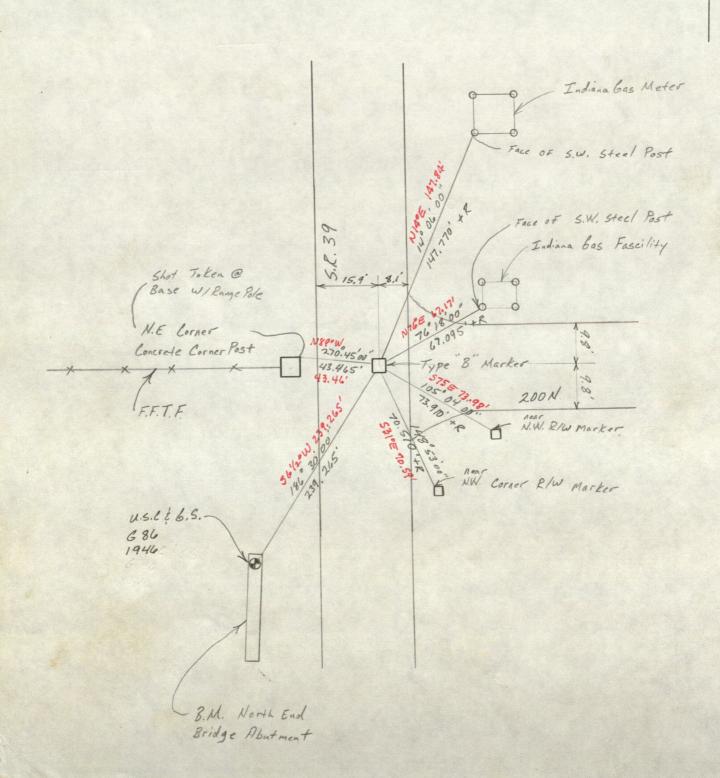
under an appointment by the Surveyor of Hendricks County pursuant to \$5 of the Perpetual Corner Records Act of 1965 (Ch. 319) to administer said act.

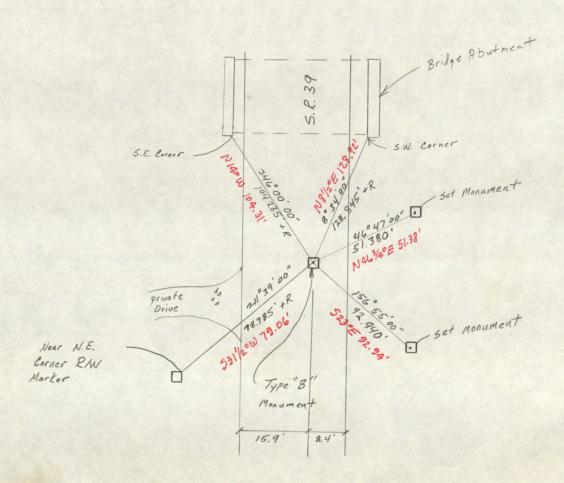
LOCATION OF MONUMENT: SECTION 33, T. 16 N., R.1 W.

| | Found: Set: Depth: 3/4 inc | ch | | | |
|----|---|---|---|--------------------|---------------|
| | Description: pipe set in concrete | | | | |
| | x= 14,601.87', y= 30,841.96' on a local system of plane rectang ordinates at ground level with x=2 and y=20,000.00' at East Qtr.Cor. and the azimuth from Hend.Cor.Magn to its meridian mark (mire) assum 0000'00". Azimuths on this sy reckoned clockwise from the north Bearings to reference objects are unless the contrary is shown. | _, bacular 0,000 9-15 netic ed to stem thru | co- 0.00' -1W Sta. be are 360°. | | |
| | Naggow 11:51. | | 359°57'32" 2681.11' to sec. corner pipe | | |
| | | 1 | 2 | <i>55.08</i> | R/W marker |
| M. | SHAR | 179°55'06" 2675.14"to sec. cor. stone | & pavement 5. R. 39 | Stalin | Startles |
| 1 | 3431) ^[m] | | | Stanley M. Shartle | , P.E. & L.S. |

Date: April 7, 1978

S.E. Corner Section 29





STANLEY M. SHARTLE

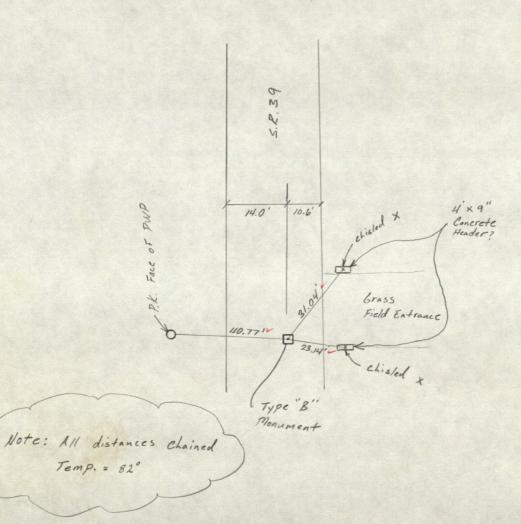
under an appointment by the Surveyor of Hendricks County pursuant to \$5 of the Perpetual Corner Records Act of 1965 (Ch. 319) to administer said act.

LOCATION OF MONUMENT: SECTION 28 , T.16 N., R.1 W.

Found: 1978 Set: 1977 Depth: flush Description: railroad spike x = 14,593.31', y = 36,196.21, based on a local system of plane rectangular coordinates at ground level with x=20,000.00' and y=20,000.00' at East Qtr.Cor. 9-15-1W and the azimuth from Hend.Co.Magnetic Sta. to its meridian mark (mire) assumed to be 0°00'00"0 . Azimuths on this system are reckoned clockwise from the north thru 360° Bearings to reference objects are magnetic unless the contrary is shown. conc.curb on structure cor.pipe center railroad spike power pole 3580°W42.0' -2.30 179°51'29" 2673.15 sec.cor.pipe Stanley M. Shartle, P.E.

Date: April 26, 1978

S.E. Corner of the N.E. 14 of the N.E. 14 of Section 29-16-1W



STANLEY M. SHARTLE

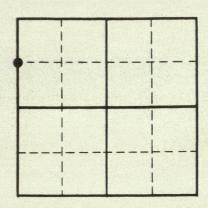
under an appointment by the Surveyor of Hendricks County pursuant to \$5 of the Perpetual Corner Records Act of 1965 (Ch. 319) to administer said act.

LOCATION OF MONUMENT: SECTION 28, T. 16 N., R. 1 W.

Found: 1978 Set: 1977 Depth: 1.5 inches

Description: pipe set April 25, 1977

x= 14,590.19', y= 37,522.61', based on a local system of plane rectangular coordinates at ground level with x=20,000.00' and y=20,000.00' at East Qtr.Cor. 9-15-1W and the azimuth from Hend.Co.Magnetic Sta. to its meridian mark (mire) assumed to be $0^{\circ}00'00''0$. Azimuths on this system are reckoned clockwise from the north thru 360°. Bearings to reference objects are magnetic unless the contrary is shown.



179°51'55" 1326.40"

bibe

do qtr.cor. spike

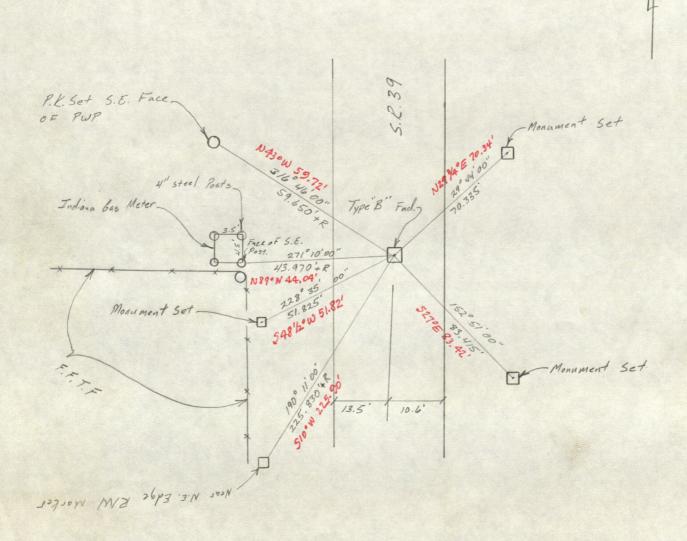
to qtr.cor. spike

center line S. R. 39

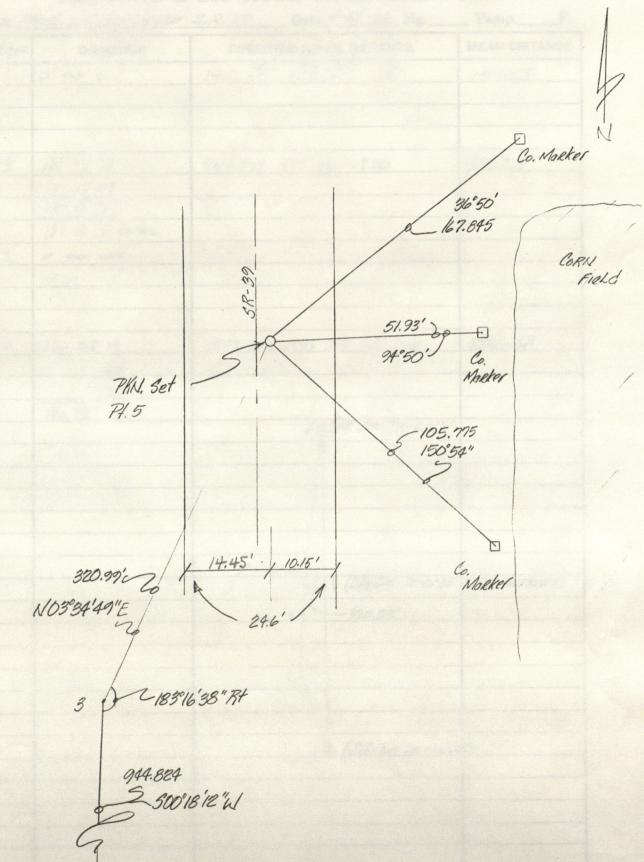
wood cor.post

Stanley M. Shartle, P.E. & L.S.

Date: April 26, 1978



II G. Niemeyer



SHEET_OF_

Chester A. Parsons, PE

Stanley M. Shartle, PE LS

PARSONS & SHARTLE ENGINEERS, INC.

Job Hend. Co. aor. stones S.R. 39 Date 4-25-94 Hg. Temp. F.

| POINT | DIRECTION | OBSERVED HORIZ. DISTANCE | MEAN DISTANCE | |
|---------------------|----------------|--------------------------------------|--|--|
| 1 | 00000 | 1407, 395 .375 ,375 ,395 | 1407.379 | |
| | | | | |
| | | | | |
| | | | | |
| 3 | 181 18 13 | 944.825 .825 .825 .820 | 944.824 | |
| | 181 18 09 | 177.063 .0-0 1076 .00 | 1.1.021 | |
| | 181 18 15 | | | |
| | 181 18 12 mean | | | |
| 0 | | 2017 | | |
| 2 | 0 00 00 | 1-7.0 | | |
| | | | | |
| | | | | |
| - 1 | 10 | 222 11 211 | 2000 710 | |
| 4 | 180 05 19 | 2992-840-,745.775.785,770 | 2992.769 | |
| | 24 | | | |
| | 26 | | | |
| | 180 05 23 | 4 P (NE Car. 20-16-1W) | | |
| | • | 4 (1 - 60, 00 16 10) | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | 3°11'14" - 3,4 5 (E/4 Car. 20-16-10) | 44-1-1-1 | |
| | | 1 5 (E14-CGT, 20-16-10) | 10 DE PESICIES) | |
| | | 3 - 320.99' | | |
| | | | | |
| | | | | |
| | | 2 4 | | |
| | | | | |
| | | | | |
| | | 1 to (SE Care 20-16-1 | (V) | |
| Alternative Control | | | | |
| | | | A RESIDENCE OF THE PROPERTY OF | |
| | | | | |
| | | | | |
| | | | | |

**** COORDINATE FILE SYSTEM ****

FILE CREATED:

COORDINATE FILE: 2061WA LENGTH= 24 POINTS; TIME ON FILE: 0 00 00.00

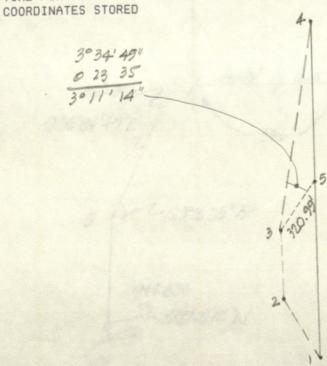
COUNTY AT S. R. 39: ***** JOB #1994

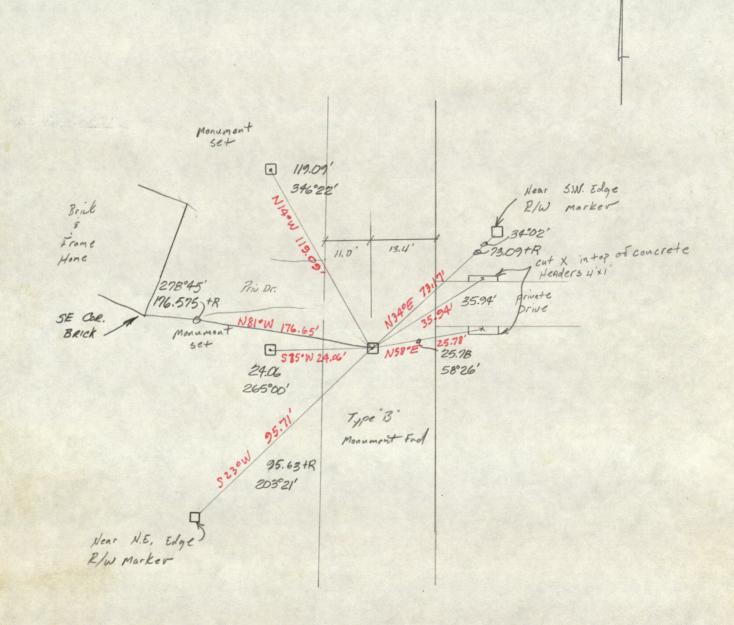
COORDINATE FILE: 2061WA LENGTH = 24 POINTS; TIME ON FILE: 0 00 00.00 COUNTY AT S. R. 39: ***** JOB #1994

********** COGO *********

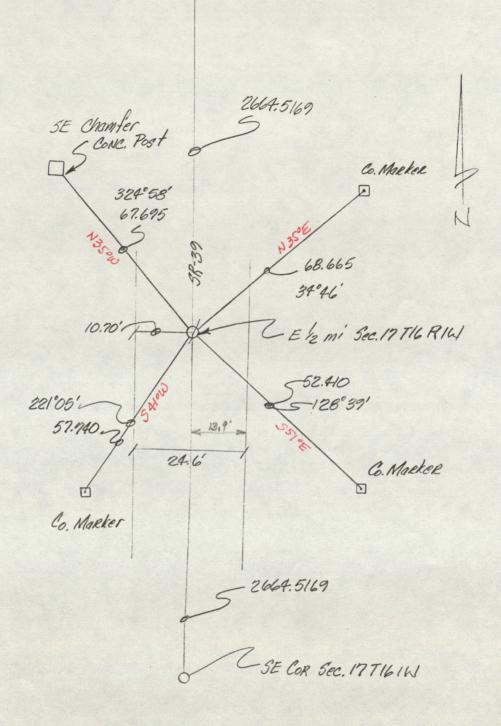
| FROM TYPE | BEARING | DISTANCE | то | NORTHING | EASTING |
|-------------------------------------|----------------------|--|--|--|--|
| 4 TRAU SE Ø | 23 35.00 00 37.45 | 1407.37900 944.82400 2992.76900 1727.53214 1727.53214 944.82400 2992.76900 2672.33704 2672.33704 | 1 1 2 3 4 5 1 2 3 4 5 1 | 1,000.00000 1,000.00000 2,407.16465 1,462.35389 4,455.05247 2,727.52623 1,000.00000 2,407.16465 3,351.97541 6,344.67399 3,672.33699 1,000.00000 | 1,000.00000 1,000.00000 975.43785 970.43582 980.96639 995.48320 1,000.00000 975.43785 980.43988 1,000.97046 1,000.48523 1,000.00000 |
| START 3 S.S. NE 0 3 S.S. NE 3 | 23 35.00 34 49.39 | 2992.76900 320.98810 | 3 4 5 | 3,351.97541 6,344.67399 3,672.33699 | 980.43988 1,000.97046 1,000.48523 |

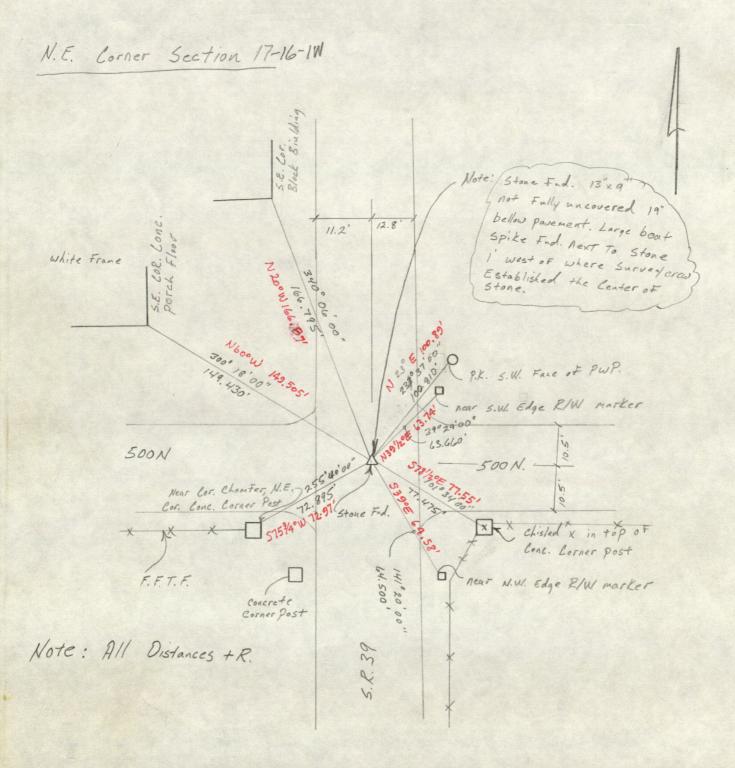
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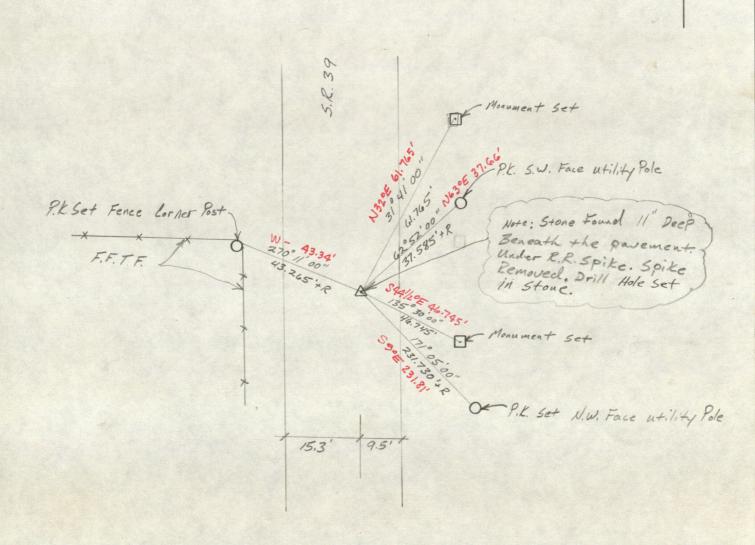


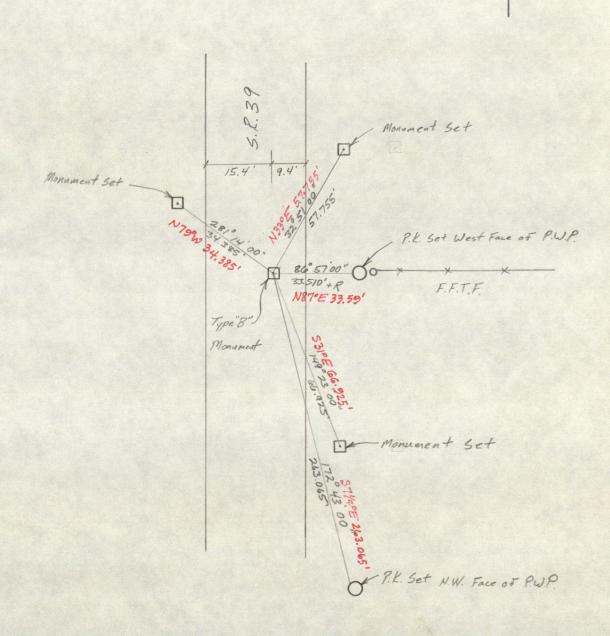


OZ SE COR Sec. 8 TIGINI







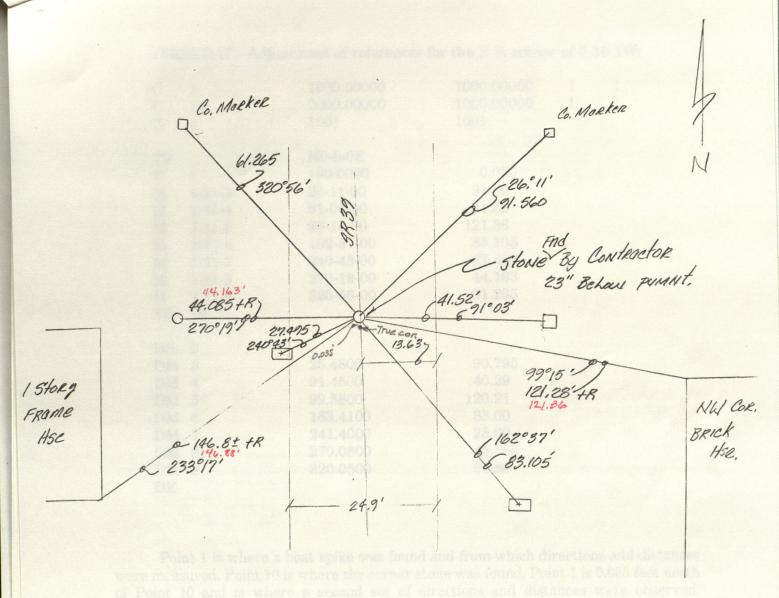


RECORD OF CORNER

| | LOCATION OF MONUMENT: | : SECTION <u>5</u> , T. <u>16</u> N., R. <u>1 W</u> . | |
|--------------------|--|--|---|
| | Found: V Set: Depth: 23 | 3" to stone | |
| | Description: | 6 Notes | |
| | Bearings to reference objects a less a contrary mode is shown. References taken prior to the Indiana Department of Transport monument to the finished grade 1994 resurfacing project. | he adjustment by the corner | l |
| | Rebar in conc. witness post set flush with the ground | Rebar in conc. witness post p set flush with the ground 12.5' 12.4" = Conter of plug 2 = bout of the found 10 = punch mark in plug over stone o.dos' 5 B 1 | |
| 1-sty. frame house | + cut atop conc. header. | ecut atop conc. header Private drive | |
| ST | M. SHAP | Stanley M. Shartle, P.E. & L.S. Date: | ف |

RECORD OF CORNER

SE COR NEW 5-2-14



24.9 13.6

Note: Dist. WILL Need Revised to
this Location "punch mark"

Brogs Plug

DIRECTLY 5. of ORIG. Ref. Point

- punch MORK

#SR39.DAT - Adjustment of references for the E 1/4 corner of 5-16-1W:

| C C C | 1 11 2 | 1000.00000 2000.00000 1001 | 1000.00000 ! ! 1000.00000 ! ! 1001 |
|--|--------------------------------------|---|--|
| TB T M M | 1 1-11-3 1-11-4 1-11-5 | N0-0-0E 180.0000 26-11-00 91-03-00 99-15-00 | 0.035 91.56 41.52 121.36 |
| M M M M TE | 1-11-6 1-11-7 1-11-8 1-11-9 | 162-37-00 240-43-00 270-19-00 320-56-00 | 83.105 27.495 44.163 61.265 |
| DB DM DM DM DM DM DM DM | 2 3 4 5 6 7 8 9 | 25.4800 91.4500 99.5800 163.4100 241.4000 270.0800 320.0500 | 90.795 40.29 120.21 83.00 28.69 45.385 61.86 |

Point 1 is where a boat spike was found and from which directions and distances were measured. Point 10 is where the corner stone was found. Point 1 is 0.035 feet north of Point 10 and is where a second set of directions and distances were observed. Distances from Point 10 to the reference objects are to be computed.

| | | | ersion 5.040 | ment rrogram | | | |
|---|--|--|--|---|--|--|--|
| | Copyright 1998 STARPLUS SOFTWARE, INC. | | | | | | |
| Licensed for Use by Shartle Engineering | | | | | | | |
| Serial Number 10270 | | | | | | | |
| Run Date : Wed Jun 08 1994 10:36:43 | | | | | | | |
| | | | | | | | |
| | 1 | Default Inst | rument Stan | dard Error Settings | | | |
| | Distances | (Constant |) : | 0.0160000 US Feet 3.0000000 | | | |
| | | (PPM) | | 3.0000000 | | | |
| | Angles | | : 2 | 2.0000000 Seconds 2.0000000 Seconds | | | |
| | Direction | 9 | : : | 2.0000000 Seconds | | | |
| | Azimuth | Bearings | | 2.0000000 Seconds | | | |
| | Centering | Error Inst | rument | 2.0000000 Seconds : 0.0080000 US Feet : 0.0050000 US Feet | | | |
| | Centering | Error Larg | (et | . 0.0000000 OS Feet | | | |
| | | Adjuste | d Coordinate | (US Feet) | | | |
| Stat | tion | N | E D 1000.0000 1000.0000 1001.2520 1040.3855 | escription | | | |
| 1 | | 1000,0000 | 1000.0000 | | | | |
| 11 | | 2000.0000 | 1000.0000 | | | | |
| 2 | | 1000.3729 | 1001.2520 | | | | |
| 3 | | 1082.2347 | 1040.3855 | | | | |
| 4 | | | | | | | |
| 5 | | 980.3863 | 1119.7746 | | | | |
| 6 | | 980.3863 920.7538 986.5826 1000.2417 | 1024.8857 | | | | |
| 7 | | 986.5826 | 976.0481 | | | | |
| 8 | | 1000.2417 | 955.8525 | | | | |
| 9 | | 000 0650 | 961.3536 1000.0000 | | | | |
| 10 | | 888.8030 | 1000.0000 | | | | |
| | | Stati | stical Summa | ry | | | |
| | | | ======== | | | | |
| | | Number o | f Stations | = 11 | | | |
| | | | f Observation | | | | |
| | | Number o | f Unknowns | = 19 | | | |
| | | Number o | f Redundant | Obs = 11 | | | |
| | | | | | | | |
| | Obser | vation Cou | unt Sum Sq | uares Error | | | |
| | | ngles 8 | of StdRes | ractor 1900 | | | |
| | | etions 7 | 574.48 1085.85 | 20.09 | | | |
| | | | 64.15 | | | | |
| | Disc | ances 10 | | | | | |
| | Т | otal 30 | 1674.47 | 12.34 | | | |
| | | | | | | | |
| | Adjus | tment Fails | the Chi Squa | are Test at 5% Level | | | |
| | | Adjuste | d Angle Obse | ervations | | | |
| At | From | | | | | | |
| 1 | 11 | 3 | 26-09-20.57 | -0-01-39.43 13.06 7.6* | | | |
| 1 | 11 | 4 | 90-59-34.90 | -0-03-25.10 29.07 7.1* | | | |
| 1 | 11 | 6 | 169 99 59 10 | 0-02-59.84 10.23 17.5* | | | |
| 1 | 11 | 7 | 240-44-36.10 | 0.01.8610 48.96 2.2 | | | |
| 1 | *** | | | 0-01-0010 40.00 22 | | | |
| | | 8 | 270-18-49-40 | -0-00-10-60 27.33 0.4 | | | |
| 1 | 11 | 8 9 | 270-18-49.40 320-55-16.22 | -0-00-10.60 27.33 0.4 -0-00-43.78 19.52 2.2 | | | |
| 1 1 | 11 DUMI | 8 9 (Y0001 10 | 270-18-49.40 820-55-16.22 180-00 | gre Reminual Statist's Statist's -0-01-38.48 13.06 7.6* -0-01-38.48 13.06 7.6* -0-03-25.10 29.07 7.1* -0-02-59.94 10.23 17.6* -0-03-56.10 43.96 2.2* -0-00-10.60 27.83 0.4* -0-00-48.78 19.52 2.2* -0-00-00.00 0.900.00 0.9488.75 0.0* -0-00-00.00 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.0* 0.9488.75 0.9488.75 0.0* 0.9488.75 | | | |
| | 11 DUM | 110001 10 | 100-00 | 0.00 0.00 0.00 0.00 0.00 | | | |
| | 11 DUM | Adjusted | Direction Ob | servations | | | |
| | 11 11 DUM1 | Adjusted | Direction Ob | servations | | | |
| | From 2 | Adjusted To 3 | Direction Ob Adj Direction 25-51-15-21 | servations on Residual StdErr StdRes 0-03-15.21 18.40 10.6* | | | |
| | From 2 | Adjusted To 3 | Direction Ob Adj Direction 25-51-15-21 91-51-30.95 | servations n Residual StdErr StdRes 0-08-15.21 18.40 10.6* 0-05-30.95 40.74 9.6* | | | |
| | From 2 2 2 2 | Adjusted To 3 | Direction Ob Adj Direction 25-51-15-21 91-51-30.95 | servations on Residual StdErr StdRes 0.03-15.21 18.40 10.6* 0.06-30.95 40.74 9.6* | | | |
| | From 2 2 2 2 2 2 | Adjusted To 3 | Direction Ob Adj Direction 25-51-15-21 91-51-30.95 | servations on Residual StdErr StdRes 0.03-15.21 18.40 10.6* 0.06-30.95 40.74 9.6* | | | |
| | From 2 2 2 2 2 2 2 | Adjusted To 3 4 5 6 1 7 2 | Direction Ob Adj Direction 25-51-15-21 91-51-30.95 99-52-34.36 .63-46-18.19 241-37-09.02 | servations on Residual StdErr StdRes 0-08-1521 18.40 10.6* 0-06-30.95 40.74 9.6* 0-06-52.54 18.88 23.5* 0-06-18.19 19.80 16.1* 0-02-50.98 57.21 3.0 | | | |
| | From 2 2 2 2 2 2 2 2 2 | Adjusted To 3 4 5 6 1 7 2 | Direction Ob Adj Direction 25-51-15-21 91-51-30.95 99-52-34.36 .63-46-18.19 241-37-09.02 | servations on Residual StdErr StdRes 0-08-1521 18.40 10.6* 0-06-30.95 40.74 9.6* 0-06-52.54 18.88 23.5* 0-06-18.19 19.80 16.1* 0-02-50.98 57.21 3.0 | | | |
| | From 2 2 2 2 2 2 2 | Adjusted To 3 4 5 6 1 7 2 | Direction Ob Adj Direction 25-51-15-21 91-51-30.95 99-52-34.36 .63-46-18.19 241-37-09.02 | servations on Residual StdErr StdRes 0.03-15.21 18.40 10.6* 0.06-30.95 40.74 9.6* | | | |
| | From 2 2 2 2 2 2 2 2 2 2 2 | Adjusted To 3 4 5 6 1 7 2 8 2 9 3 | Direction Ob Adj Direction 25-51-15.21 91-51-80.95 99-52-84.36 68-46-18.19 441-37-09.02 70-08-19.65 120-06-24.25 | servations 0.09.15.21 18.40 10.5* 0.06-30.95 40.74 9.6* -0.05-25.44 18.89 23.5* -0.05-28.64 18.80 16.1* -0.02-50.98 57.21 3.0 0.00.19.65 36.59 0.5 0.01-24.25 27.07 3.1* | | | |
| | From 2 2 2 2 2 2 2 2 2 2 | Adjusted Tb 3 4 5 6 1 7 2 8 2 9 3 Adjusted Dis | Direction Ob Adj Direction 25-51-15.21 91-51-30.95 99-52-34.36 63-46-18.19 41-37-09.02 270-08-19.65 120-06-24.25 | servations m Residual StdErr StdRes 0-03-15.21 18.40 10.6* 0-05-25.64 18.38 23.5* 0-05-18.19 19.80 16.1* 0-02-50.98 57.21 8.0 0-01.94.65 36.59 0.5 0-01-24.25 27.07 3.1* vations (US Feet) | | | |
| | From 2 2 2 2 2 2 2 2 2 2 2 | Adjusted Tb 3 4 5 6 1 7 2 8 2 9 3 Adjusted Dis | Direction Ob Adj Direction 25-51-15-21 91-51-30.95 99-52-34.36 68-46-18.19 41-37-09.02 70-08-19.65 120-06-24.25 stance Observ Adj Dist | servations on Residual StdErr StdRes 0.08-15.21 18.40 10.5* 0.08-30.95 40.74 9.5* -0.05-25.64 13.88 23.5* 0.06-13.19 13.80 16.1* -0.02-50.98 57.21 3.0 0.00-19.65 36.59 0.5 0.01-24.25 27.07 3.1* valuins (US Feet) Residual StdErr StdRes | | | |
| | From 2 2 2 2 2 2 2 2 From | Adjusted Tb 3 4 5 6 1 7 2 8 2 9 3 Adjusted Dis | Direction Ob Adj Direction 25-51-15.21 91-51-30.95 99-52-34.36 63-46-18.19 41-37-09.02 270-08-19.65 120-06-24.25 | servations on Residual StdErr StdRes 0.08-15.21 18.40 10.5* 0.08-30.95 40.74 9.5* -0.05-25.64 13.88 23.5* 0.06-13.19 13.80 16.1* -0.02-50.98 57.21 3.0 0.00-19.65 36.59 0.5 0.01-24.25 27.07 3.1* valuins (US Feet) Residual StdErr StdRes | | | |
| | From 2 2 2 2 2 2 2 2 1 1 1 1 1 | Adjusted To 3 4 5 6 1 7 2 8 2 9 8 Adjusted Dis Tb 3 4 4 5 | Direction Ob Adj Direction 25:51-15:21 91-51-30.95 99-52-94.36 63-46-18.19 41-37-09.02 470-08-19.65 120-06-24.25 stance Observ Adj Dist 91.6162 41.5295 121.3699 | servations on Residual StdErr StdRes 0.05-15.21 18.40 10.5* 0.06-30.95 40.74 9.5* 0.06-25.64 18.83 23.5* 0.06-18.19 18.80 16.1* 0.02-60.98 57.21 8.0 0.00-19.465 36.59 0.5 0.01-24.25 27.07 3.1* rations (US Feet) Residual StdErr StdRes 0.0682 0.0173 3.3* 0.0085 0.0171 0.5 0.0099 0.0174 0.5 | | | |
| | From 2 2 2 2 2 2 2 2 1 From 1 1 1 1 1 | Adjusted Tb 3 4 5 6 17 2 8 2 9 8 2 9 3 4 4 5 5 6 6 1 Tb 3 4 5 5 6 6 | Direction Ob Adj Directic 25-51-15.21 91-51-80.95 90-52-84.86 63-46-18.19 41-37-90.02 770-08-19.65 20-06-24.25 ttance Observ Adj Disi 91.6162 41.5285 121.3699 88.0617 | servations m Residual StdErr StdRes 0.08-15.21 18.40 10.6* 0.06-5.09.5 40.74 9.6* 0.05-25.64 18.89 23.5* 0.05-18.10 18.89 23.5* 0.05-18.10 18.90 16.1* 0.00-19.65 36.59 0.5 0.01-24.25 27.07 3.1* rations (US Feet) Residual StdErr StdRes 0.0562 0.0173 3.3* 0.0085 0.0171 0.5 0.0099 0.0173 0.5 | | | |
| | From 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 | Adjusted Tb 3 3 4 5 6 1 7 2 8 2 9 3 3 Adjusted Dis Tb 8 4 5 6 6 7 | Direction Ob Adj Direction 25-51-15-21 91-51-80.95 99-52-84.86 63-46-18.19 141-87-09.02 70-08-19.65 20-06-24.25 ttance Observ Adj Disi 91-6162 41.5285 121.9699 83.0617 27.4540 | servations on Residual StdErr StdRes 0-03-15.21 18.40 10.6* 0-05-25.64 18.38 25.5* 0-05-18.19 19.80 16.1* 0-02-50.98 57.21 8.0 0-00-19.65 36.59 0.5 0-01-24.25 27.07 8.1* various (US Feet) Residual StdErr StdRes 0.0562 0.0173 3.5* 0.0095 0.0171 0.5 0.0099 0.0174 0.5 -0.0438 0.0173 2.5 -0.0410 0.0171 2.4 | | | |
| | From 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 | Adjusted Tb 3 4 5 17 2 2 8 2 9 3 Adjusted Dis Tb 3 4 5 6 6 7 8 | Direction Ob Adj Directic Ob Adj Directic 25-51-15-21 91-51-80.95 99-52-84-36 63-46-18.19 41-37-09.02 77-08-19.6 520-06-24-25 520-06-24-25 521:13699 83.0617 27.4540 | servations n Residual StdErr StdRes 0.05-15.21 18.40 10.5* 0.05-20.95 40.74 9.5* 0.05-25.44 13.83 23.5* 0.05-13.19 18.80 15.1* 0.06-00.95 57.21 3.0 0.00-19.45 36.59 0.5 0.01-24.25 27.07 3.1* rations (US Feet) Residual StdErr StdRes 0.0682 0.0173 3.3* 0.0085 0.0171 0.5 0.0099 0.0174 0.5 0.0040 0.0174 0.5 0.0410 0.0171 2.4 0.0149 0.0172 0.9 | | | |
| | From 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 | Adjusted To 3 4 5 6 17 7 2 8 2 9 8 Adjusted Dis To 3 4 5 6 7 7 8 9 | Direction Ob Adj Directi 25-51-15-21 9-51-80,95 99-52-84-36 663-46-18-19 414-37-09.02 (770-08-19.65 20-06-24-25 trance Observ Adj Dist 91.6162 41.5289 121,3699 88.0617 27.4540 44.1481 61.8056 | servations m Residual StdErr StdRes 0.08-15.21 18.40 10.6* 0.06-5.09.5 40.74 9.6* 0.06-25.04 18.38 23.5* 0.06-18.19 18.80 16.1* 0.02-50.98 57.21 3.0 0.00-19.65 38.59 0.5 0.01-24.25 27.07 3.1* rations (US Feet) Residual StdErr StdRes 0.0652 0.0173 3.3* 0.0065 0.0171 0.5 0.0099 0.0174 0.6 0.0438 0.0173 2.5 0.0048 0.0172 0.9 0.0406 0.0172 2.4 | | | |
| | From 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 | Adjusted To 3 4 5 6 17 2 9 3 8 2 2 9 3 4 4 5 5 6 7 7 8 9 9 10 | Direction Ob Adj Direction 25-51-15-21 91-51-80.95 99-52-94.36 68-46-18.19 441-87-09.02 770-08-19.65 20-06-24.25 ttance Observ Adj Dist 91-6162 41.5285 121.8595 121.8596 441.481 61.9056 0.0850 | servations m Residual StdErr StdRes 0.08.15.21 18.40 10.6* 0.06.9.05 40.74 9.6* 0.06.25.64 11.83 23.5* 0.06.18.19 19.80 16.1* 0.06.90.90 87.21 8.0 0.00.19.65 86.59 0.5 0.01.24.25 27.07 8.1* rations (US Feet) Residual StdErr StdRes 0.062 0.0173 3.3* 0.0085 0.0171 0.5 0.0099 0.0174 0.6 0.0438 0.0173 2.5 0.0410 0.0171 2.4 0.0140 0.0172 2.4 0.0000 0.0172 0.9 0.0408 0.0172 0.9 0.0408 0.0172 0.9 0.0408 0.0172 0.9 | | | |
| | From 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 | Adjusted To 3 4 5 6 17 2 9 3 Adjusted Dis To 3 4 5 6 7 8 9 9 10 3 | Direction Ob Adj Direction 25-51-15-21 91-51-80.95 99-52-84.96 63-46-18.19 441-97-09.02 770-08-10.65 20-06-24.25 ttance Obserr Adj Dist 91.6162 41.5285 121.3699 83.0617 27.4540 44.1481 61.3056 0.0850 90.7346 | servations on Residual StdErr StdRes 0-03-15.21 18.40 10.6* 0-05-30.95 40.74 9.8* 0-06-25.64 13.83 23.5* 0-05-18.19 19.80 16.1* 0-02-50.98 57.21 3.0 0-01.94.55 86.59 0.5 0-01-24.25 27.07 3.1* rations (US Feet) Residual StdErr StdRes 0.0682 0.0173 3.3* 0.0095 0.0171 0.5 0.0099 0.0174 0.5 0.0099 0.0174 0.5 0.0099 0.0174 0.5 0.0410 0.0173 2.5 0.0410 0.0172 2.4 0.0406 0.0172 0.9 0.0406 0.0172 0.9 0.0406 0.0170 0.0 0-0.0604 0.0173 3.5* | | | |
| | From 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 2 2 2 | Adjusted To 3 4 5 6 17 2 9 3 Adjusted Dis Tb 3 4 5 6 6 7 8 9 9 10 3 4 4 | Direction Ob Adj Direction 25-51-15-21 91-51-80.95 99-52-84.96 63-46-18.19 441-97-09.02 770-08-10.65 20-06-24.25 ttance Obserr Adj Dist 91.6162 41.5285 121.3699 83.0617 27.4540 44.1481 61.3056 0.0850 90.7346 | servations on Residual StdErr StdRes 0-03-15.21 18.40 10.6* 0-05-30.95 40.74 9.8* 0-06-25.64 13.83 23.5* 0-05-18.19 19.80 16.1* 0-02-50.98 57.21 3.0 0-01.94.55 86.59 0.5 0-01-24.25 27.07 3.1* rations (US Feet) Residual StdErr StdRes 0.0682 0.0173 3.3* 0.0095 0.0171 0.5 0.0099 0.0174 0.5 0.0099 0.0174 0.5 0.0099 0.0174 0.5 0.0410 0.0173 2.5 0.0410 0.0172 2.4 0.0406 0.0172 0.9 0.0406 0.0172 0.9 0.0406 0.0170 0.0 0-0.0604 0.0173 3.5* | | | |
| | From 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 2 2 2 2 | Adjusted To 3 4 5 6 17 2 9 3 8 2 2 9 3 4 4 5 6 6 7 7 8 9 10 3 4 4 5 5 | Direction Ob Adj Direction 25-51-15-21 91-51-80.95 99-52-94.95 68-46-18.19 41-37-09.02 770-08-19.65 220-06-24.25 stance Obserr Adj Dist 91.5162 41.5295 121.3699 83.0617 27.4540 40.2850 90.7346 40.2850 | servations on Residual StdErr StdRes 0-03-15.21 18.40 10.6* 0-05-30.95 40.74 9.6* 0-06-25.64 18.38 25.5* 0-06-18.19 19.80 16.1* 0-02-50.98 57.21 8.0 0-00-19.65 36.59 0.5 0-01-24.25 27.07 8.1* vations (US Feet) Residual StdErr StdRes 0.0562 0.0173 3.3* 0.0085 0.0171 0.5 0.0099 0.0174 0.5 0.0099 0.0174 0.5 0.019 0.0172 2.4 0.0406 0.0172 2.4 0.0406 0.0172 2.4 0.0406 0.0172 2.4 0.0000 0.0170 0.0 0.0504 0.0173 3.5* 0.0064 0.0173 3.5* 0.0069 0.0171 0.3 0.0071 0.3 | | | |
| | From 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 2 2 2 | Adjusted To 3 4 5 6 17 2 9 3 Adjusted Dis Tb 3 4 5 6 6 7 8 9 9 10 3 4 4 | Direction Ob Adj Direction Ob Adj Direction Ob Adj Direction Ob Adj Direction 25-51-15.21 91-51-80.95 99-52-94.85 63-46-18.19 41-87-0.02 20-06-24.25 vitance Observ Adj Diai 91-6162 41.5285 121.3509 05-52-617 27.4540 44.1481 61.3056 0.0850 90.7346 40.2550 120.1958 83.0527 | servations on Residual StdErr StdRes 0.08-15.21 18.40 10.6* 0.06-30.95 40.74 9.6* 0.06-25.64 13.83 23.5* 0.06-18.19 18.80 16.1* 0.02-50.98 57.21 3.0 0.00-19.65 38.59 0.5 0.01-24.25 27.07 3.1* rations (US Feet) Residual StdErr StdRes 0.0652 0.0173 3.3* 0.0095 0.0174 0.5 0.0099 0.0174 0.5 0.0099 0.0174 0.5 0.0090 0.0172 0.9 0.0406 0.0172 2.4 0.0000 0.0172 0.9 0.0406 0.0173 3.5* 0.0060 0.0173 3.5* 0.0060 0.0173 3.5* 0.0060 0.0173 3.5* 0.0060 0.0173 3.5* 0.0060 0.0174 0.8 0.0071 0.8 0.0071 0.8 0.0071 0.9 0.0071 0.9 | | | |
| | From 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 | Adjusted To 3 4 5 6 11 7 2 8 2 2 9 3 Adjusted Dis Tb 3 4 5 6 6 7 7 8 9 10 3 4 4 5 6 6 6 7 8 9 10 5 6 6 | Direction Ob Adj Direction 25-51-15-21 91-51-80.95 99-52-94.95 68-46-18.19 41-37-09.02 770-08-19.65 220-06-24.25 stance Obserr Adj Dist 91.5162 41.5295 121.3699 83.0617 27.4540 40.2850 90.7346 40.2850 | servations on Residual StdErr StdRes 0.08.15.21 18.40 10.6* 0.06.50.95 40.74 9.6* 0.06.52.64 11.83 23.5* 0.06.18.19 18.80 16.1* 0.07.00.98 57.21 3.0 0.00.19.65 36.59 0.5 0.01.24.25 27.07 3.1* rations (US Feet) : Residual StdErr StdRes 0.0682 0.0173 3.3* 0.0085 0.0171 0.5 0.0099 0.0174 0.5 0.0099 0.0173 2.5 0.0408 0.0171 2.4 0.0140 0.0172 2.4 0.0000 0.0172 2.4 0.0000 0.0173 3.5* 0.0406 0.0172 2.4 0.0000 0.0173 3.5* 0.0406 0.0173 3.5* 0.0407 0.0173 3.5* 0.0408 0.0171 0.3 0.0414 0.0174 0.8 0.0527 0.0173 3.1* 0.0407 0.0173 3.1* | | | |
| | From 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 2 | Adjusted To 3 4 5 6 17 2 9 8 2 2 9 8 Adjusted Distribus 3 4 5 6 6 7 8 8 9 10 3 3 4 5 5 6 6 7 | Direction Ob Adj Direction Ob Adj Direction Ob Adj Direction 25-51-15-21 91-51-80.95 99-52-94-36 68-46-18-19 441-87-09.02 770-08-19-65 20-06-24-25 41.5285 121.95699 88.9617 27.4540 441.481 61.9056 0.0350 90.7346 40.2850 120.1959 88.80627 22.87800 | servations on Residual StdErr StdRes 0-03-15.21 18.40 10.6* 0-05-30.95 40.74 9.6* 0-06-25.94 18.38 23.5* 0-06-18.19 19.80 16.1* 0-02-50.98 57.21 8.0 0-00-19.65 36.59 0.5 0-01-24.25 27.07 3.1* vations (US Feet) Residual StdErr StdRes 0.0562 0.0173 3.3* 0.0095 0.0171 0.5 0.0099 0.0174 0.5 0.0099 0.0174 0.5 0.019 0.0172 2.4 0.0406 0.0172 2.4 0.0406 0.0172 2.4 0.0006 0.0171 0.3 0.0057 0.0173 3.5* 0.0069 0.0174 0.5 0.0090 0.0174 0.5 0.0000 0.0171 0.0 0.0000 0.0171 0.3 0.0007 0.0171 0.3 0.0057 0.0173 3.1* 0.0000 0.0171 0.3 0.0577 0.0173 3.1* 0.0400 0.0171 2.3 0.0577 0.0173 2.3 | | | |
| | From 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 2 | Adjusted Tb 3 4 5 6 7 7 8 9 10 3 4 5 6 6 7 8 8 | Direction Ob Adj Direction Ob Adj Direction 25-51-15-21 91-51-80.95 99-52-94.95 68-46-18.19 441-97-09.02 77-08-19.65 20-06-24-25 441.9295 121.3699 83.0617 27.45-40 0.0850 90.7346 40.2850 90.7346 40.2850 90.7346 40.2850 90.7346 44.5395 83.0527 28.7309 | servations on Residual StdErr StdRes 0.08.15.21 18.40 10.6* 0.06.50.95 40.74 9.6* 0.06.52.64 11.83 23.5* 0.06.18.19 18.80 16.1* 0.07.00.98 57.21 3.0 0.00.19.65 36.59 0.5 0.01.24.25 27.07 3.1* rations (US Feet) : Residual StdErr StdRes 0.0682 0.0173 3.3* 0.0085 0.0171 0.5 0.0099 0.0174 0.5 0.0099 0.0173 2.5 0.0408 0.0171 2.4 0.0140 0.0172 2.4 0.0000 0.0172 2.4 0.0000 0.0173 3.5* 0.0406 0.0172 2.4 0.0000 0.0173 3.5* 0.0406 0.0173 3.5* 0.0407 0.0173 3.5* 0.0408 0.0171 0.3 0.0414 0.0174 0.8 0.0527 0.0173 3.1* 0.0407 0.0173 3.1* | | | |
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Adjusted Bearings and Horizontal Distances (US Feet)

Bearing Distance N26-09-20.57E 91.6162

From To

STAR*NET Adjustment Program

S89-00-25.10E

S80-42-00.16E

S17-26-01.81E

S60-44-36.10W N89-41-10.60W

N39-04-43.78W

S00-00-00.00E

N25-32-59.48E

S88-26-44.79E

S80-25-41.37E S16-31-57.55E S61-18-53.29W

S89-50-03.91W

N40-11-51.49W

N00-00-00.00E 1000.0000 Elapsed Time = 00:00:01

10

2

41.5285

121,3699

83.0617

27.4540 44.1481

61.3056

0.0350

90.7346

40.2850 120.1959

83.0527 28.7300

45.3997

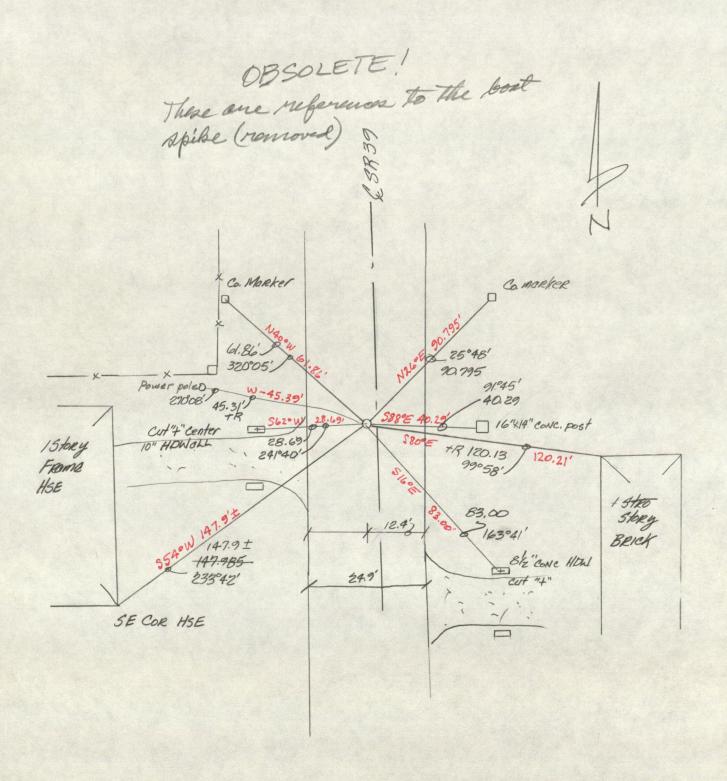
61.8172

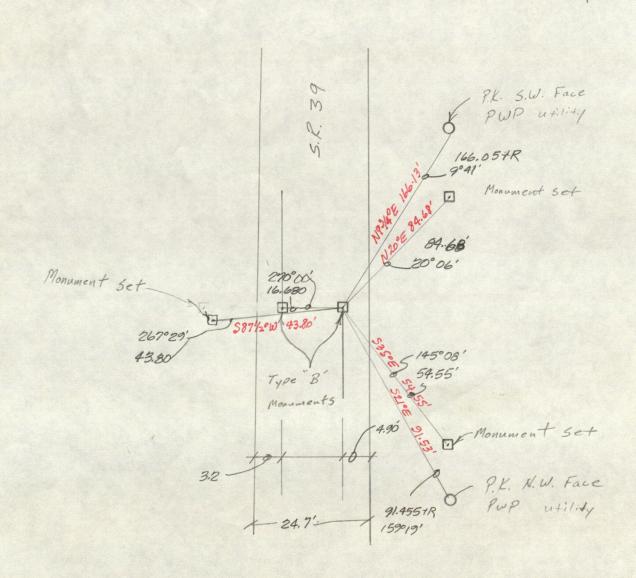
COORDINATE FILE: 1051EB LENGTH = 104 POINTS; TIME ON FILE: 5 48 57.74 MSKTD (GTE'S WESTWOOD SITE) ***** JOB #1994

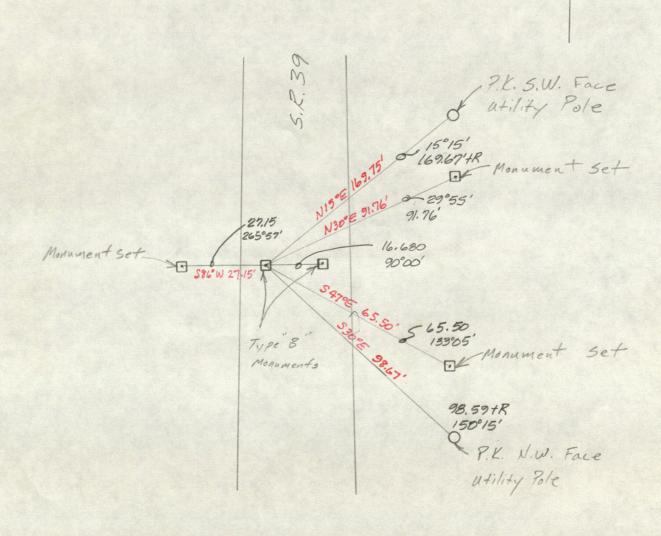
********* COGO ********

| ROM TYPE | | BEARIN | G DISTANCE | ТО | NORTHING | EASTING |
|--------------|-----|---------|--|----|--------------|--------------|
| ENTER & ASSI | GN | | man came come that your sign soul your you say large sign age, cape du | | | |
| | | | | 70 | 999.96500 | 1,000.00000 |
| | | | | 73 | 1,082.23470 | 1,040.38550 |
| | | | | 74 | 999.28030 | 1,041.52220 |
| | | | | 75 | 980.38630 | 1,119.77460 |
| | | | | 76 | 920.75380 | 1,024.88570 |
| | | | | 77 | 986.58260 | 976.04810 |
| | | | | 78 | 1,000.24170 | 955.85250 |
| | | | | 79 | 1,047.59080 | 961.35360 |
| START | | | | 70 | 999.96500 | 1,000.00000 |
| 70 S.S. NE | 26 | 08 45.7 | 91.64765 | 73 | 1,082.23470 | 1,040.38550 |
| 70 S.S. SE | 89 | 03 19.0 | 41.52784 | 74 | 999.28030 | 1,041.52220 |
| 70 S.S. SE | 80 | 42 58.9 | 121.36425 | 75 | 980.38630 | 1,119.77460 |
| 70 S.S. SE | 17 | 26 27.9 | 83.02838 | 76 | 920.75380 | 1,024.88570 |
| 70 S.S. SW | 60 | 48 25.3 | 27.43688 | 77 | 986.58260 | 976.04810 |
| 70 S.S. NW | 89 | 38 27.2 | 3 44.14837 | 78 | 1,000.24170 | 955.85250 |
| 70 S.S. NW | 39 | 03 28.5 | 61.33320 | 79 | 1,047.59080 | 961.35360 |
| 70 INV NE | -51 | 58 11.8 | 30993.36841 | 2 | 20.094.18739 | 25,413,10215 |

PTS 70 THRU 79 CLEARED

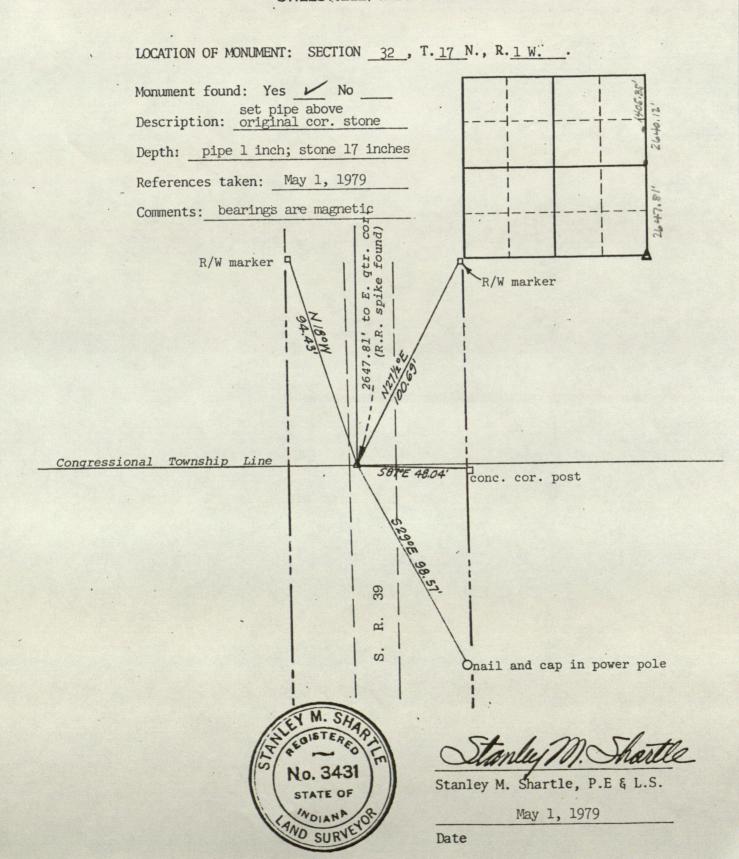




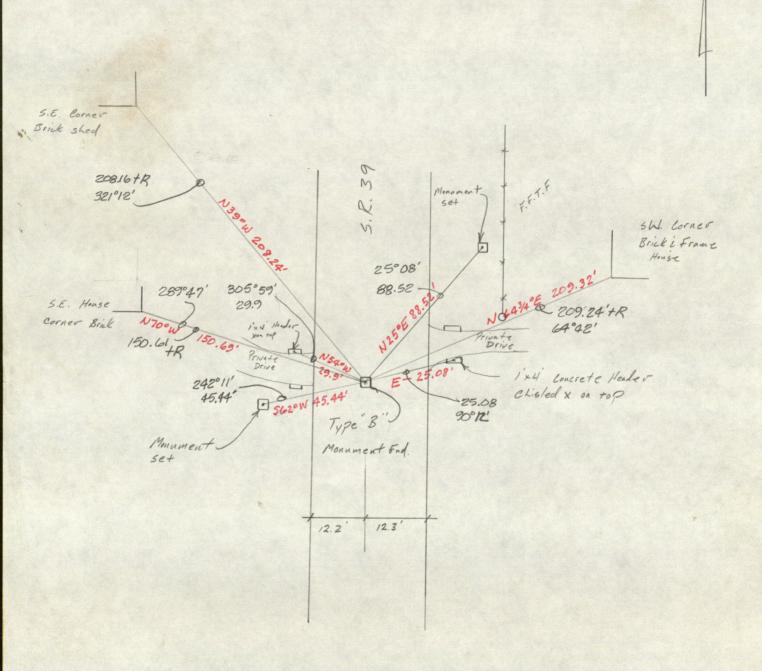


STANLEY M. SHARTLE REGISTERED PROFESSIONAL ENGINEER RURAL ROUTE 1, BOX 33

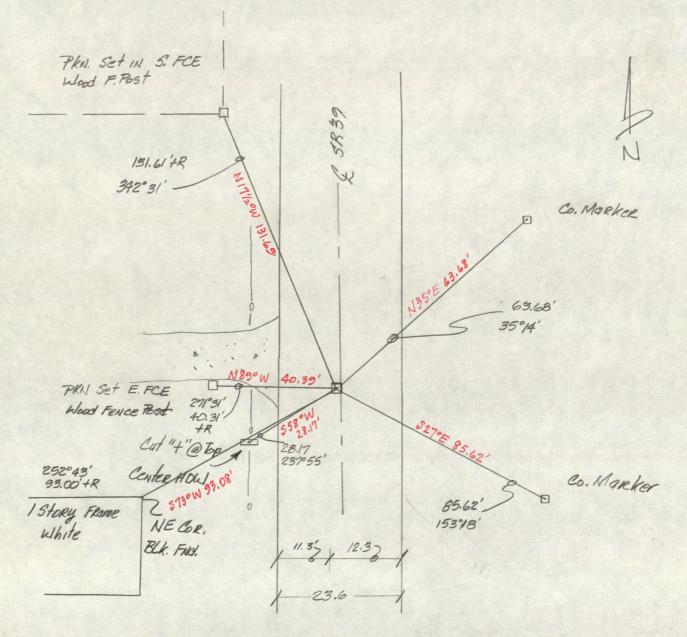
STILESVILLE, IND. 46180



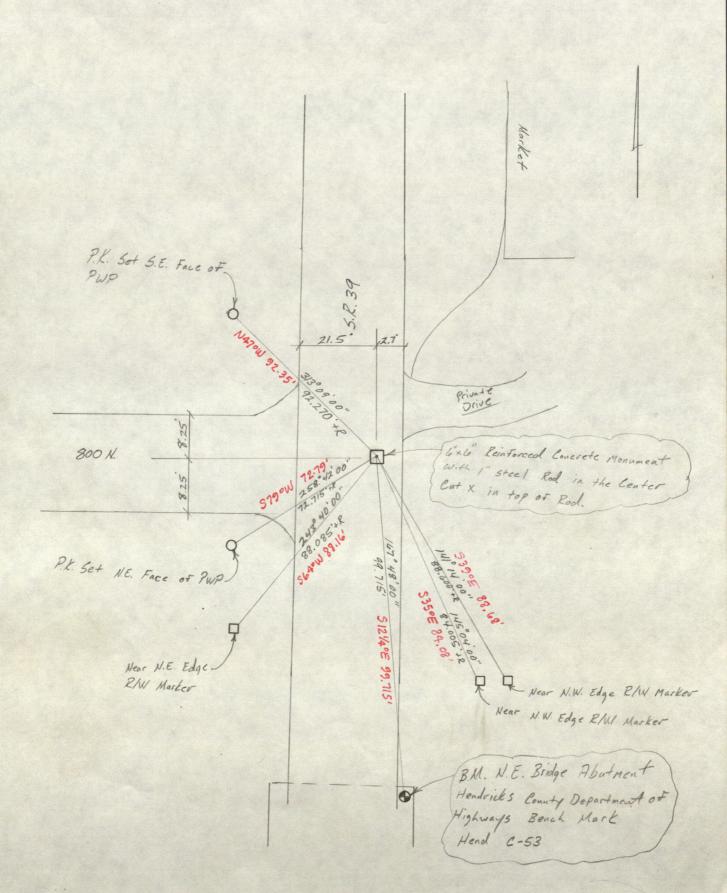
Two 17 North, R. IW.



SE COR NE 14 of NE 14 32-17-14



N.E. Corner Section 32 Twp 17 N., R. I W.



RECORD OF CORNER

| LOCATION OF MONUMENT: SECTION, TN | N.,R |
|---|------|
| Found: Set: Depth: | |
| Description: | |
| Bearings to reference objects are magnetic unless a contrary mode is shown. References taken prior to the adjustment by the Indiana Department of Transportation of the corner monument to the finished grade of S. R. 39 during its 1994 resurfacing project. | |



Stanley M. Shartle, P.E. & L.S.

STANLEY M. SHARTLE REGISTERED PROFESSIONAL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
RURAL ROUTE 1, BOX 33
STILESVILLE, IND. 46180

| LOCATION OF MONTHENES SECTION 28 T 16 N D 1 W |
|---|
| LOCATION OF MONUMENT: SECTION 28, T. 16 N., R. 1 W. |
| Monument found: Yes No No |
| Description: Stone 25 inches deep. |
| Depth: 1" to pipe set over stone |
| References taken: April 17, 1977 |
| Comments: No references taken |
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| |
| 1.48 |
| pipe set over stone found |
| pripe set over scone round |
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| bill t |
| |
| EY M. SA |
| THE QUISTER POPULATION COLUMN |
| No. 3431 M Startle |
| Stanley M. Shartle, P.E & L.S. |
| MOIANA 08 April 17 1977 |

Date

STANLEY M. SHARTLE REGISTERED PROFESSIONAL ENGINEER RURAL ROUTE 1, BOX 33 STILESVILLE, IND. 46180

| LOCATION OF MONUMENT: SECTION 32 , T. 17 N., R. 1 W. |
|---|
| Monument found: Yes No |
| Depth: 10 inches |
| References taken: April 27, 1979 |
| Comments: bearings are magnetic |
| l-sty.brick ho. |
| conc. founda. under brick |
| MARJON PER . |
| - 1/2 |
| The last to |
| 179052'21" |
| X |
| 1328.10' COUNTY ROAD 800 NORTH 1327.69' |
| |
| 90°36'4" 583°W 131.22' 96°29'02" |
| 90°36'41" 583°W 131.22' 30 95°29'02" |
| conc. cor. post bottom cor. alum. siding. l-sty.fr. |
| conc. cor. post bottom cor. alum. siding |
| conc. cor. post bottom cor. alum. siding. l-sty.fr. |
| conc. cor. post bottom cor. alum. sidingr- l-sty.fr. house No. 3431 Stanla M. Shartle Stanla M. Shartle Stanla M. Shartle Stanla M. Shartle Stanla M. Shartle |
| conc. cor. post bottom cor. alum. sidingr- 1-sty.fr. house Stanley M. Shartle |

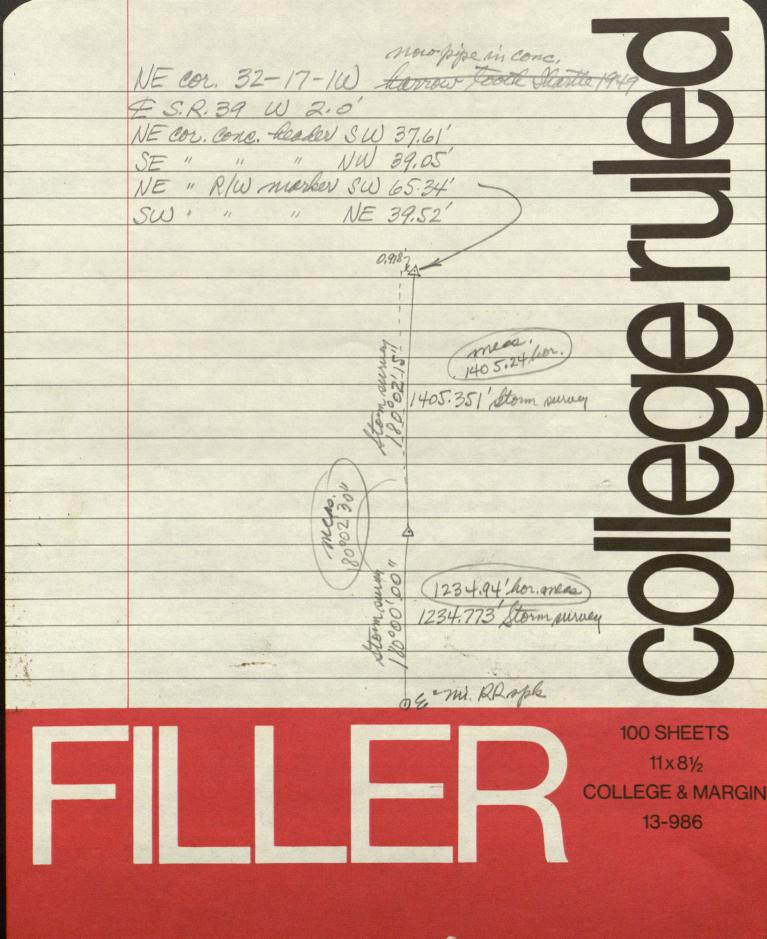
STANLEY M. SHARTLE REGISTERED PROFESSIONAL ENGINEER

REGISTERED PROFESSIONAL ENGINEER RURAL ROUTE 1, BOX 33 STILESVILLE, IND. 46180

| | LOCATION OF MONUMENT: SECTION 32 , T. 17 N., R. 1 W. |
|----|--|
| | Monument found: Yes No D.H. in stone with I.P. set Description: beside and bent over top |
| | Depth: 8 inches |
| | References taken: April 27, 1979 |
| | Comments: bearings are magnetic |
| | |
| | 1-sty.br.hoconc.founda.under brick veneer |
| na | il and cap in power pole. |
| | No. 3431 Stanley M. Shartle, P.E & L.S. April 27, 1979 |

Date

SOON 133+36 4 2614.5 107+21.5, 16 29/38 2718,5 80+03 at live 123+86 dita 20 1342.0 110+44 1338.0 97+05



0-16-1W ELGE FAUT P EDGE 1111. STONE FD B"DEEP ROUND , 16 "-14. " NI TOP THES SET 4-11-75 DRH & SPM

tu

West lythe South Boma of Su. 33. J. 16 MRIM. 40,00 Och a pu lupat from which Work. 18 mi dia tems. 861 En y links det 15 Da 24 4 3 " . A446, 20 4 3 80,00 Oct apost for the in of eur 32 133. from which Beuk. 18 mi nich home A 34 M. 17 the auch; on Lo 141 , , 940 6.29 , , Gernde Sumo, West Outh South Bomes of so. 32011/ ARIN 40,00 Set a Jo Rupot from while JOak. 20 in dear hour. Stlo W. 13 lks dich; to mash 6 a, 3 , 5256,24, 3 80.00 Let april Inthe conten 3/ 32 from whiten Aspen 14 in dia home A266 look oust, do Toplan. 18 " " \$20 6.9 " " Tunde West prick unde good for farming West On the South Brundsgew 31 J. 1. St. IN. 36.00 do glorub, 30 link mily Cones IM. 40,00 Set a / Suport from which Man 9 in dia hour. 94 Mille Mes out ta James 9 1, 1 1 120 11.29 , 3 100 /4 Jutisech the Manyo Din 940 link Anth of the temps Simship lor en a letafist from while Bent 14 mi diat him 932 6. 28 links dist; do Sector 9, " " MINTED ", 80,00 Oct a feet for the curtare 31436. J.17. St. 112 Th Jum while, Wash 10 in die how 936 my the risk andra Auks 9 4 1 . 139 6.44 4 Dend good for farming; good 2. rate. West Doundary. Var. 6. 15. E.

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80.00 Set april for the carpen 35 736. From which,

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South Cast bounds of Su. 25 10.11.21.

22.00 TouBrook 10 links nick, Conser.

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Buch 36 is, A26.20 "

59.00 TouBrook 6 links mia, Come W.

80,00 Set apost for the con of sul 24 125 from which

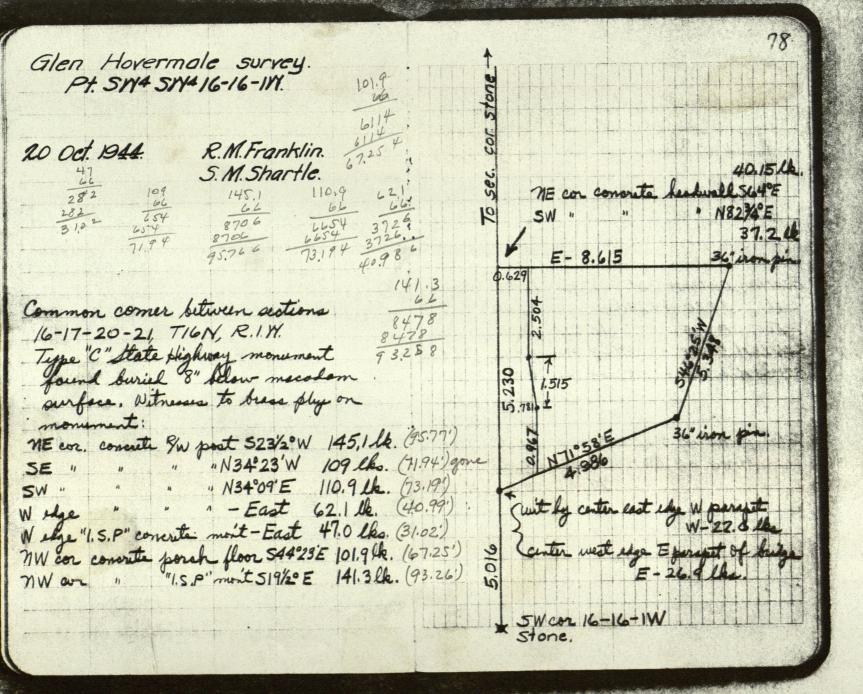
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Buch. 144 is 1111131 "

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Avor Set, a for sufact from which and the suffer of the such of th

North Outh East Bundary of Su. 16 MR



614.05 Method of Measurement. Cement concrete header and reconstructed cement concrete header will be measured by the linear foot (meter).

614.06 Basis of Payment. The accepted quantities of cement concrete header of the type specified will be paid for at the contract price per linear foot (meter) and per linear foot (meter) for reconstructed cement concrete header complete in place.

Payment will be made under:

60

10

Pay Item Header, _____, Cement Concrete Linear Foot (meter) Header Concrete, Reconstruct Linear Foot (meter)

Edge protection, metal chairs, excavation, and other related miscellaneous items will not be paid for separately, but the cost thereof shall be included in the cost of the pay item.

SECTION 615—MONUMENTS, MARKERS AND PARKING BARRIERS

615.01 Description. This work shall consist of furnishing and setting, setting only, or resetting right-of-way markers, monuments for marking section or other lines, bench-mark posts and tablets, and parking barriers in accordance with these specifications and in reasonably close conformance with details shown on the plans or as directed.

MATERIALS

615.02 Materials. Materials shall be in accordance with the following:

| Portland Cement | 901.01(b) |
|---|-----------|
| Fine Aggregate, Size No. 23 | 904.01 |
| Coarse Aggregate, Class A, Size No. 5, No. 8, or No. 91 | 904.02 |
| Reinforcing Steel | |

615.03 Reinforced Cement Concrete Right-of-Way Markers. These markers shall conform with the dimensions and lettering shown on the plans. The reinforcement shall be securely held in place by at least 4 spacers of an approved design. The concrete ingredients shall be graded and proportioned to produce a strong dense concrete.

When tested as hereinafter described, a specimen shall support a total load of at least 2400 pounds (1089 kg) before the first crack appears. The specimen will be tested as a simple beam. The distance between supports shall be exactly 24 inches (610 mm) with the load applied at the rate of approximately 1200 pounds (544 kg) per minute in the center of the span. Loading will continue until the first crack appears.

The cement concrete shall absorb no more than 8 percent water. Specimens for absorption may be taken from the markers tested for strength. The absorption test shall be as described in AASHTO T280 except the specimen tested shall be the full cross section marker.

The markers shall have a smooth workmanlike finish free from cracks, patches, honeycomb, exposed reinforcement, and excessive bubble holes. Each marker shall be plainly marked near the bottom with the trademark or initials of the manufacturer and the date of manufacture. These letters and figures shall be no less than one inch (25 mm) in height and shall be indented 1/8 of an inch (3.2 mm).

Right-of-way markers furnished under this specification shall be covered by a type C certification in accordance with 916.

615.04 Monuments. Monuments shall be of the type specified in the proposal, the details of which are shown on the plans. Any portion extending above the ground shall be finished in accordance with 702.20.

Where concrete is required, it shall be class A in accordance with 702. When placed in the forms it shall be tamped in layers until mortar covers the outer surface. The tops of the monuments shall be floated smooth. Monuments may be cast in place or cast outside and then set.

The pin shall be set perpendicular to and flush with the top of the monument while the concrete is plastic and left undisturbed until the concrete has set. The pin shall be good quality copper and shall be one inch (25 mm) in diameter and 5 inches (127 mm) long. If for type D monuments, it shall be drilled in the center with 1/8 of an inch (3.2 mm) drill for a depth of 1 1/2 inches (38 mm) and this hole filled with lead flush with the end of the pin. Castings for protected monuments shall be in accordance with 910.05(a).

615.05 Bench Mark Posts. Bench mark posts shall be of the dimensions shown on the plans and cast in accordance with applicable provisions of 615.03, except the strength shall be determined by concrete cores taken from the finished product. At least 2 concrete cores will be taken from each unit and the average strength of the unit shall be at least 4000 pounds per square inch (28 MPa) with no individual core strength less than 3600 pounds per square inch (25 MPa). Tablets will be furnished by the Department and shall be set in the posts as indicated on the plans.

615.06 Parking Barriers. Parking barriers shall be of the dimensions shown on the plans. The barriers shall be cast and tested in accordance with the applicable requirements of 615.03, except the strength shall be determined by concrete cores taken from the finished product. At least 2 concrete cores will be taken from each unit and the average strength of the unit shall be at least 4000 pounds per square inch (28 MPa) with no individual core strength less than 3600 pounds per square inch (25 MPa).

CONSTRUCTION REQUIREMENTS

615.07 Setting Right-of-Way Markers. The back face of these markers shall be set on right-of-way lines approximately 1000 feet (305 meter) apart as hereinafter provided. They shall be set at all corners of irregular right-of-way lines, opposite each P.C. and P.T. of curves, and not to exceed 500 feet (152 meter) apart on the inside and outside of curves. Care shall be used in locating markers on tangents so that a marker is plainly visible from each of those adjacent.

Markers shall be set plumb, to the depth required on the plans, and with the letters facing the pavement. Portions of the holes not occupied by markers shall be backfilled and compacted in layers with suitable material

of the original ground. The markers shall not be displaced kfilling.

615.08 Resetting Right-of-Way Markers. When the proposal provides that existing right-of-way markers be reset, the existing markers shall be removed and reset at designated locations in accordance with 615.07.

615.09 Setting Monuments. If the location of a monument falls within the limits of a cement concrete pavement, a copper pin, the details of which are shown on the plans, shall be set perpendicular to and flush with the top of the finished pavement. It shall be placed just before the concrete takes initial set and then left undisturbed until the concrete has set. Other monuments shall be of the type shown on the plans, depending on the type or surface of the pavement in which they are to be placed or if they are to be placed outside the pavement. Necessary excavation shall be to the required depth. The bottom of the excavation shall be firm and true to line and grades given. After a monument is in place, the remaining excavated areas shall be backfilled with suitable material firmly tamped in layers. Care shall be taken not to disturb the monument.

Existing monuments which are not required to be disturbed or reestablished, but which are disturbed during construction operations, shall be re-established with no additional payment.

615.10 Re-Established Monuments. It may be necessary to reestablish existing monuments in pavements or bases which are disturbed unavoidably or covered by operations embraced in the contract.

If the existing monument is, or contains a brass or copper pin, the pin shall be extended to the surface of the new pavement by attaching a brass or copper pin with at least a one inch (25 mm) diameter and of the length required. Such extensions shall be attached by tapping the original pin and providing a necessary screw attachment such that the extension can be fastened securely to the original pin. The tapped hole shall be at least 1/4 of an inch (6.3 mm) in diameter and no less than one inch deep (25 mm). The screw attachment shall have the same diameter as that for the hole in the original pin and shall be no less than one inch (25 mm) in length.

Where an existing monument of the type specified above has not been re-established on a previous contract, the monument shall be re-established in the same manner as set out above.

Where existing monuments are protected and encased in cast iron, such castings shall be adjusted to meet the elevation of the proposed surface by means of an asphalt coated, cast iron, adjustment casting. The size shall be the same as the original casting and of the depth necessary to meet the elevation of the proposed new surface.

615.11 Setting Bench Mark Posts and Tablets. Bench mark posts shall be set at locations indicated on the plans or as directed. Excavation shall be to the depth indicated and to dimensions sufficient to provide for the concrete backfilling. This concrete shall be class A and shall extend for 6 inches around and below the post. The bottom shall be monolithic with the sides. The remainder of the excavation up to the original ground line shall be backfilled with suitable material well tamped in layers. Care shall be taken not to disturb the post. When specified on the

plans, or directed, bench mark tablets furnished by the Department shall be placed in newly constructed or existing drainage structures located within the limits of the contracts.

615.12 Reset Bench Mark Posts. When the proposal provides that existing bench mark posts be reset, the existing bench mark posts shall be removed and reset at designated locations in accordance with 615.11.

615.13 Method of Measurement. Right-of-way markers, reset right-of-way markers, monuments, re-established monuments, castings adjusted to grade monuments, bench mark posts, and reset bench mark posts will be measured by the number of units installed. Parking barriers will be measured by the number of units installed.

615.14 Basis of Payment. The accepted quantities of right-of-way markers, reset right-of-way markers, monuments, reestablished monuments, castings adjusted to grade monuments, bench mark posts, reset bench mark posts, and parking barriers will be paid for at the contract unit price per each complete in place.

Payment will be made under:

| Pay Item | Pay Unit |
|---|----------|
| Right-of-Way Marker | Each |
| Right-of-Way Marker, Reset | Each |
| Right-oi-way Marker, Reset | Each |
| Monument, | |
| Monument, Re-establish | Each |
| Casting Adjusted to Grade, Monument | Each |
| Bench Mark Post | Each |
| Bench Mark Post. Reset | Each |
| Bench Mark Post, Reset Parking Barrier | Each |
| Parking Barrier | Цасп |

Setting tablets in structures or bench mark posts, extensions for monuments, adjustment castings, and other miscellaneous items will not be paid for separately, but the cost thereof shall be included in the cost of the pay items.

SECTION 616—RIPRAP AND SLOPEWALL

616.01 Description. This work shall consist of placing protective coatings of broken stone or concrete which may or may not be grouted, precast slabs, or slopewall in accordance with these specifications and in reasonably close conformance with the grades and thickness shown on the plans or as directed.

MATERIALS

616.02 Materials. Materials shall be in accordance with the following:

| Cement | 901.01(b) |
|---|-----------|
| Fine Aggregate | 904.01 |
| Geotextile | 913.18 |
| Coarse Aggregate, Class A, B, C, D, E, or F | 904.02 |
| Geotextile | 913.18 |
| Geolexine | |

