



**ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY**

**TRAINING SUBJECT:**

---

## **Appendix E**

**Field Book Example**



ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

**FIELD BOOK**

FIELD BOOKS LABEL	NO. OF BOOK 1 OF 1
TYPE OF BOOK TRANSIT-LEVEL	LENGTH IN MILES 0.1
PROJECT NUMBER SMH-3-281(086)127	
LOCATION RANSF RR SEPARATION AT NEW ROCKFORD	
COUNTY EDDY	
DATE OF SURVEY JAN 2006	TYPE OF SURVEY AERIAL
SFN 50016 PCN 15913	

V AL IN  
-PG 18  
EMP R

MADE IN U.S.A. PRINTED IN U.S.A. NEW HAVEN, CT 06510



ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

**PLEASE RETURN THIS BOOK TO:**  
 ND DEPT. OF TRANSPORTATION  
 SURVEYS & PHOTOGRAMMETRY  
 608 EAST BLVD AVE  
 BISMARCK, ND 58505-0700  
 OR CALL  
 SURVEYS & PHOTOGRAMMETRY  
 701-328-2640  
 701-328-2149

20

**CURVE FORMULAS**

$$T = R \tan \frac{1}{2} I$$

$$T = \frac{50 \tan \frac{1}{2} I}{\text{Sin. } \frac{1}{2} D}$$

$$\text{Sin. } \frac{1}{2} D = \frac{50}{R}$$

$$\text{Sin. } \frac{1}{2} D = \frac{50 \tan \frac{1}{2} I}{T}$$

$$R = T \cot. \frac{1}{2} I$$

$$R = \frac{50}{\text{Sin. } \frac{1}{2} D}$$

$$E = R \text{ ex. sec } \frac{1}{2} I$$

$$E = T \tan \frac{1}{2} I$$

$$\text{Chord def.} = \frac{\text{chord}^2}{R}$$

$$\text{No. chords} = \frac{I}{D}$$

$$\text{Tan. def.} = \frac{1}{2} \text{ chord def.}$$

The square of any distance, divided by twice the radius, will equal the distance from tangent to curve, very nearly.

To find angle for a given distance and deflection.

Rule 1. Multiply the given distance by .01745 (def. for 1° for 1 ft.) and divide given deflection by the product.

Rule 2. Multiply given deflection by 57.3, and divide the product by the given distance.

To find deflection for a given angle and distance. Multiply the angle by .01745, and the product by the distance.

**GENERAL DATA**

**RIGHT ANGLE TRIANGLES.** Square the altitude, divide by twice the base. Add quotient to base for hypotenuse.

Given Base 100, Alt. 10.10<sup>2</sup> ÷ 200 = .5. 100 + .5 = 100.5 hyp.

Given Hyp. 100, Alt. 25.25<sup>2</sup> ÷ 200 = 3.125. 100 - 3.125 = 96.875 = Base.

Error in first example, .002; in last, .045.

To find Tons of Rail in one mile of track: multiply weight per yard by 11, and divide by 7.

**LEVELING.** The correction for curvature and refraction, in feet and decimals of feet is equal to 0.574 d<sup>2</sup>, where d is the distance in miles. The correction for curvature alone is closely,  $\frac{1}{2} d^2$ . The combined correction is negative.

**PROBABLE ERROR.** If d<sub>1</sub>, d<sub>2</sub>, d<sub>3</sub>, etc. are the discrepancies of various results from the mean, and if  $\sum d^2$  = the sum of the squares of these differences and n = the number of observations, then the probable error of the mean =  $\pm 0.6745 \sqrt{\frac{\sum d^2}{n(n-1)}}$

**MINUTES IN DECIMALS OF A DEGREE**

1°	.0167	11	.1853	21	.5000	31	.5107	41	.5833	51	.8500
2	.0334	12	.2017	22	.5163	32	.5267	42	.6000	52	.8667
3	.0501	13	.2181	23	.5327	33	.5431	43	.6167	53	.8833
4	.0667	14	.2345	24	.5491	34	.5595	44	.6333	54	.9000
5	.0833	15	.2509	25	.5655	35	.5759	45	.6500	55	.9167
6	.1000	16	.2673	26	.5819	36	.5923	46	.6667	56	.9333
7	.1167	17	.2837	27	.5983	37	.6087	47	.6833	57	.9500
8	.1333	18	.3001	28	.6147	38	.6251	48	.7000	58	.9667
9	.1500	19	.3165	29	.6311	39	.6415	49	.7167	59	.9833
10	.1667	20	.3329	30	.6475	40	.6579	50	.7333	60	1.0000

**INCHES IN DECIMALS OF A FOOT**

1-16	.3125	3-16	.4688	5-16	.6250
2-16	.6250	4-16	.9375	6-16	.1125
3-16	.9375	5-16	.1250	7-16	.4375
4-16	.1250	6-16	.4375	8-16	.5625
5-16	.4375	7-16	.5625	9-16	.6875
6-16	.5625	8-16	.6875	10-16	.8125
7-16	.6875	9-16	.8125	11-16	.9375
8-16	.8125	10-16	.9375	12-16	.1000
9-16	.9375	11-16	.1000	13-16	.4167
10-16	.1000	12-16	.4167	14-16	.5417
11-16	.4167	13-16	.5417	15-16	.6667
12-16	.5417	14-16	.6667	16-16	.7917
13-16	.6667	15-16	.7917	17-16	.9167
14-16	.7917	16-16	.9167	18-16	.0417
15-16	.9167	17-16	.0417	19-16	.3583
16-16	.0417	18-16	.3583	20-16	.4833
17-16	.3583	19-16	.4833	21-16	.6083
18-16	.4833	20-16	.6083	22-16	.7333
19-16	.6083	21-16	.7333	23-16	.8583
20-16	.7333	22-16	.8583	24-16	.9833
21-16	.8583	23-16	.9833	25-16	.1083
22-16	.9833	24-16	.1083	26-16	.4250
23-16	.1083	25-16	.4250	27-16	.5500
24-16	.4250	26-16	.5500	28-16	.6750
25-16	.5500	27-16	.6750	29-16	.8000
26-16	.6750	28-16	.8000	30-16	.9250
27-16	.8000	29-16	.9250	31-16	.0500
28-16	.9250	30-16	.0500	32-16	.3667
29-16	.0500	31-16	.3667	33-16	.4917
30-16	.3667	32-16	.4917	34-16	.6167
31-16	.4917	33-16	.6167	35-16	.7417
32-16	.6167	34-16	.7417	36-16	.8667
33-16	.7417	35-16	.8667	37-16	.9917
34-16	.8667	36-16	.9917	38-16	.1167
35-16	.9917	37-16	.1167	39-16	.4333
36-16	.1167	38-16	.4333	40-16	.5583
37-16	.4333	39-16	.5583	41-16	.6833
38-16	.5583	40-16	.6833	42-16	.8083
39-16	.6833	41-16	.8083	43-16	.9333
40-16	.8083	42-16	.9333	44-16	.0583
41-16	.9333	43-16	.0583	45-16	.3750
42-16	.0583	44-16	.3750	46-16	.5000
43-16	.3750	45-16	.5000	47-16	.6250
44-16	.5000	46-16	.6250	48-16	.7500
45-16	.6250	47-16	.7500	49-16	.8750
46-16	.7500	48-16	.8750	50-16	.0000
47-16	.8750	49-16	.0000	51-16	.3167
48-16	.0000	50-16	.3167	52-16	.4417
49-16	.3167	51-16	.4417	53-16	.5667
50-16	.4417	52-16	.5667	54-16	.6917
51-16	.5667	53-16	.6917	55-16	.8167
52-16	.6917	54-16	.8167	56-16	.9417
53-16	.8167	55-16	.9417	57-16	.0667
54-16	.9417	56-16	.0667	58-16	.3833
55-16	.0667	57-16	.3833	59-16	.5083
56-16	.3833	58-16	.5083	60-16	.6333
57-16	.5083	59-16	.6333	61-16	.7583
58-16	.6333	60-16	.7583	62-16	.8833
59-16	.7583	61-16	.8833	63-16	.0083
60-16	.8833	62-16	.0083	64-16	.3250
61-16	.0083	63-16	.3250	65-16	.4500
62-16	.3250	64-16	.4500	66-16	.5750
63-16	.4500	65-16	.5750	67-16	.7000
64-16	.5750	66-16	.7000	68-16	.8250
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89-16	.4667	91-16	.5917	93-16	.7167
90-16	.5917	92-16	.7167	94-16	.8417
91-16	.7167	93-16	.8417	95-16	.9667
92-16	.8417	94-16	.9667	96-16	.0917
93-16	.9667	95-16	.0917	97-16	.4083
94-16	.0917	96-16	.4083	98-16	.5333
95-16	.4083	97-16	.5333	99-16	.6583
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107-16	.1000	109-16	.4167	111-16	.5417
108-16	.4167	110-16	.5417	112-16	.6667
109-16	.5417	111-16	.6667	113-16	.7917
110-16	.6667	112-16	.7917	114-16	.9167
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115-16	.4833	117-16	.6083	119-16	.7333
116-16	.6083	118-16	.7333	120-16	.8583
117-16	.7333	119-16	.8583	121-16	.9833
118-16	.8583	120-16	.9833	122-16	.1083
119-16	.9833	121-16	.1083	123-16	.4250
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147-16	.4417	149-16	.5667	151-16	.6917
148-16	.5667	150-16	.6917	152-16	.8167
149-16	.6917	151-16	.8167	153-16	.9417
150-16	.8167	152-16	.9417	154-16	.0667
151-16	.9417	153-16			



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TRAINING SUBJECT: DATA COLLECTION

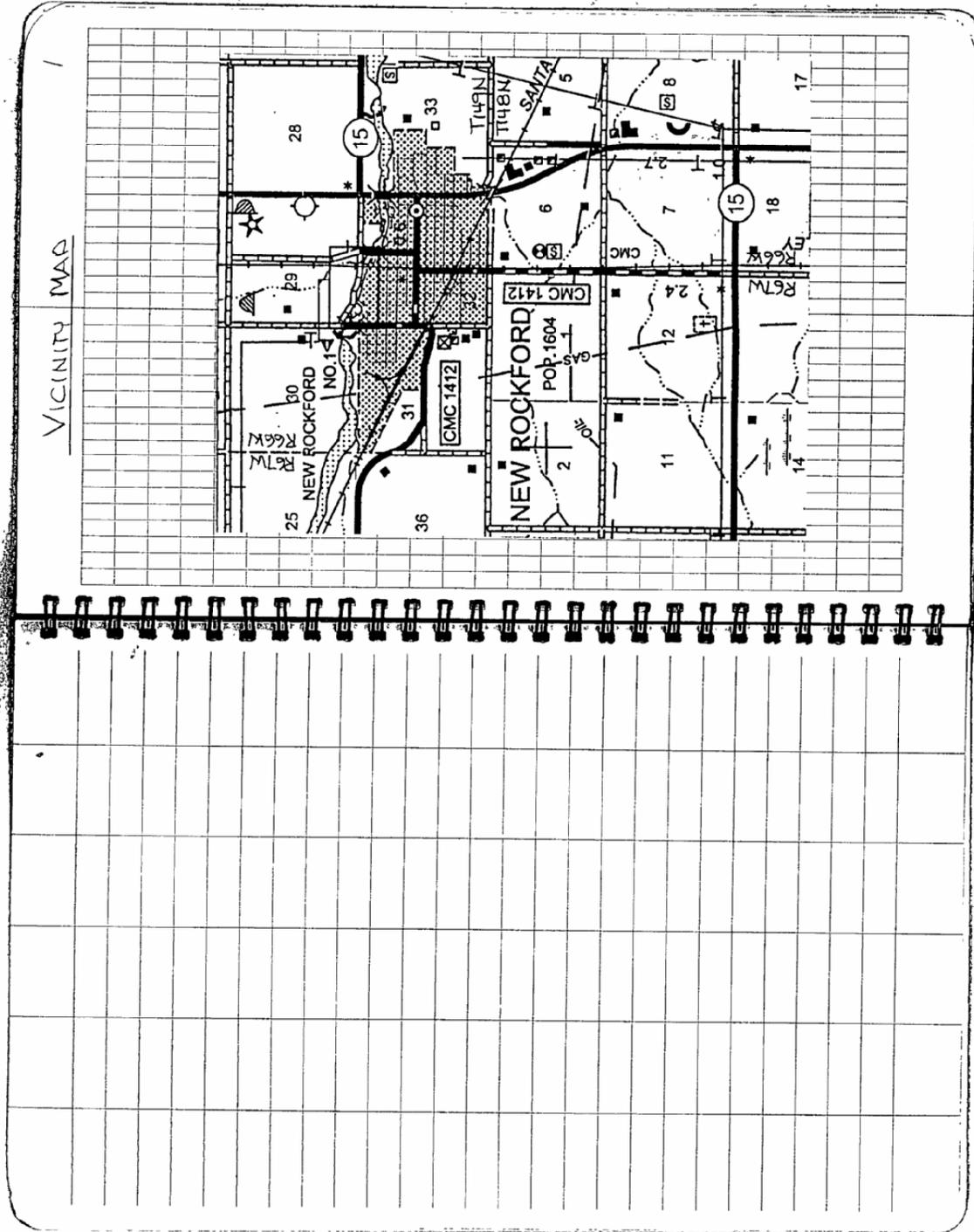
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EDDY COUNTY - NORTH ZONE		4
cf= 0.9998765		5-6
1/cf= 1.0001235153		7-10
SURVEY DATES: APRIL, 2005 - JAN 2006		11
		12
		13
		14
		14
		15
		15
		16
		17
		18-19
		20
SURVEY CREW:	EQUIPMENT:	
G. LATTIMORE	TRIMBLE 4800	
R. ZEIT	TRIMBLE 5700	
M. LANGR	TRIMBLE 5800	
D. STOPPLER	NIKON DTM 750	
N. PATRICK	GEODIMETER 440	
	ZEISS NI.2	



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SURVEYS & PHOTOGRAMMETRY**

**TRAINING SUBJECT: DATA COLLECTION**

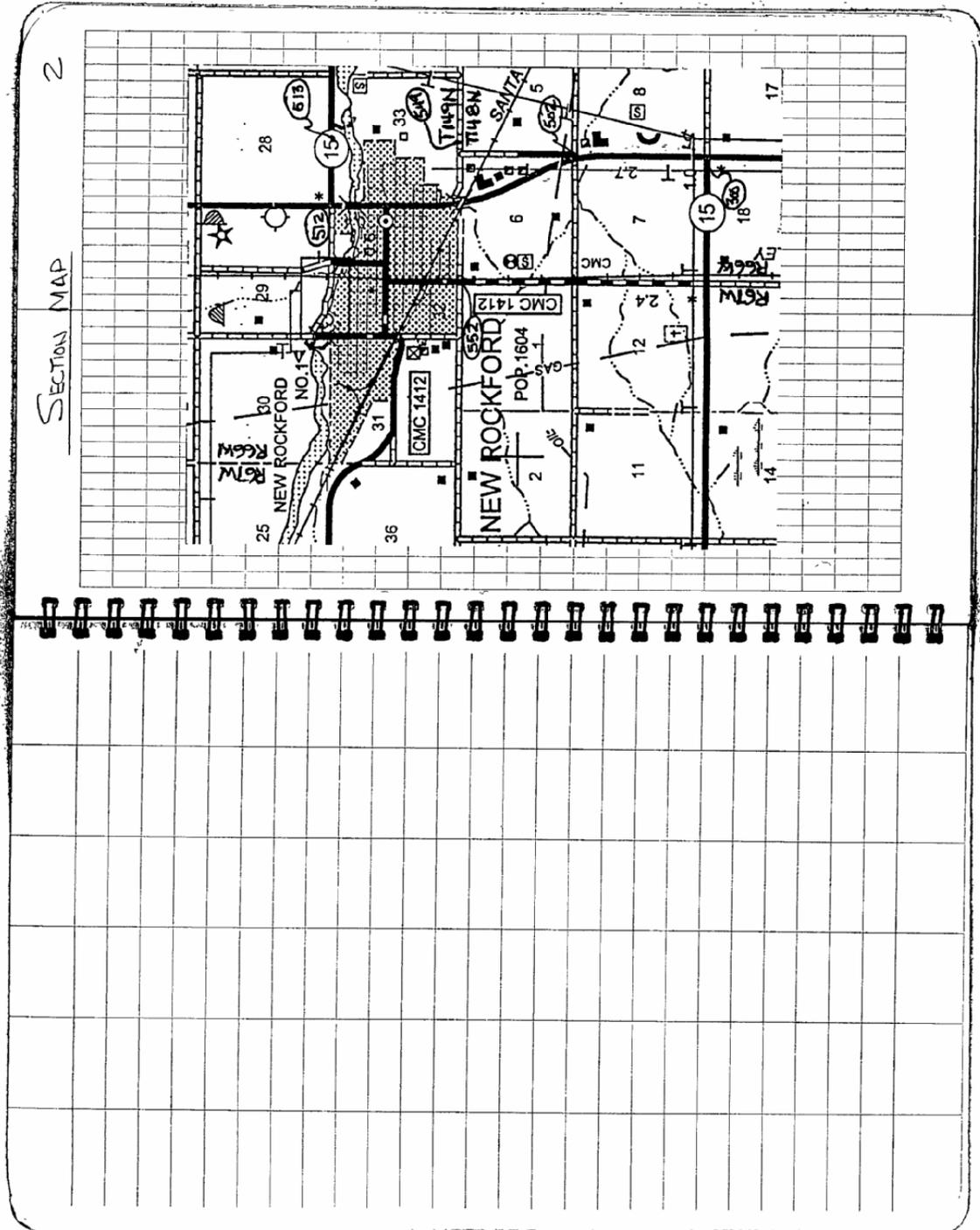
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TRAINING SUBJECT: DATA COLLECTION





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SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

3

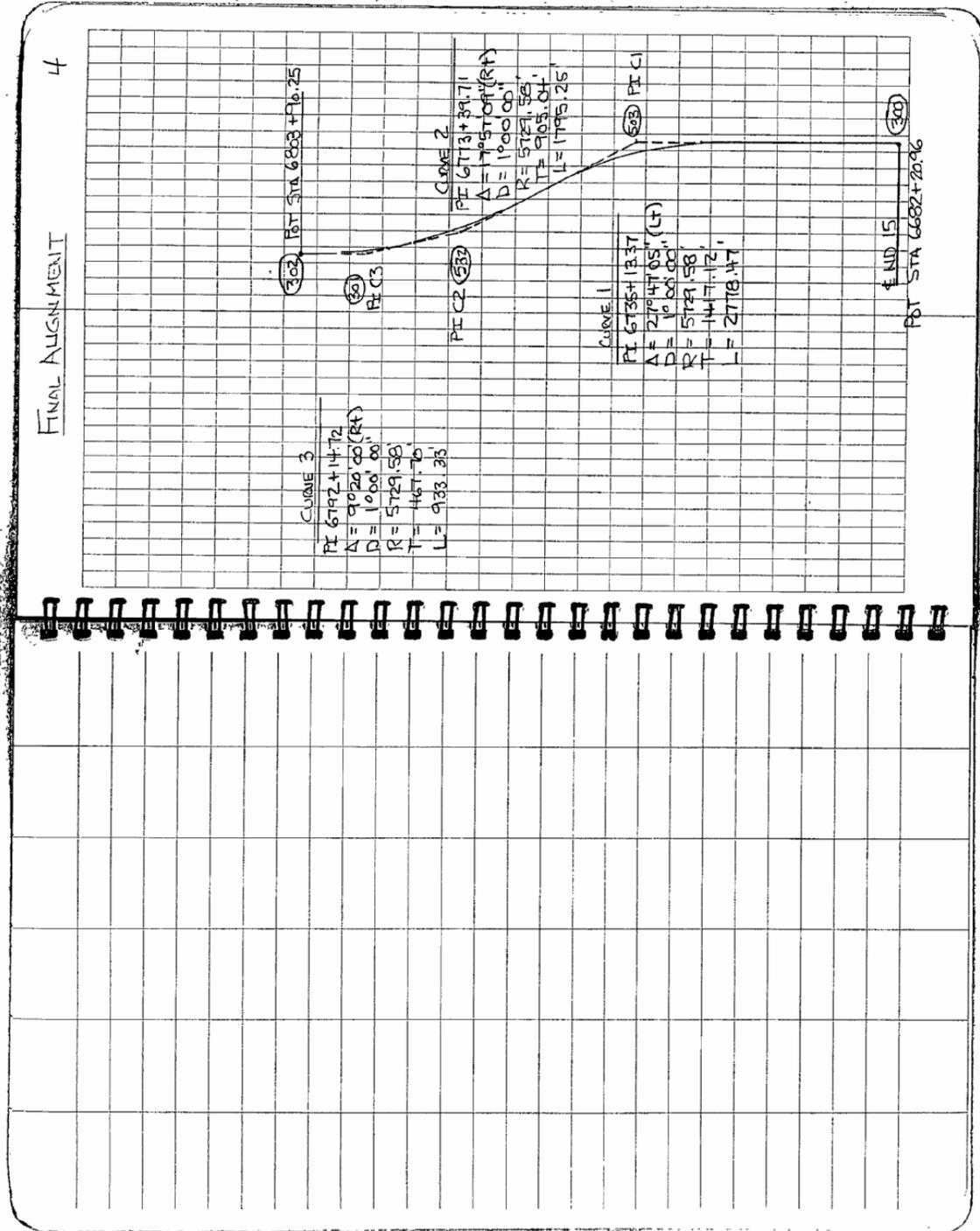
CONTROL COORDINATES

Ground Coordinates SNH-3-281(086)127 RR Separation Eddy County 1/CF= 1.0001235153 : 0.9998765 5/2/2005		1, 245307.2935, 2308711.1823, 1525.0394, GPS1 2, 254422.7893, 2307290.0062, 1523.2185, GPS2
NH-3-281(086)127 New Rockford RR Separation State Plane Coordinates 4/28/05		1, 245276.9980, 2308426.0564, 1525.0394, GPS 1 2, 254391.3681, 2307005.0558, 1523.2185, GPS 2



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TRAINING SUBJECT: DATA COLLECTION

UTILITY LOCATE INFO.

5

<p>Request #: 507604 LORQ ROUTINE Send To: C-EMAIL Seq No: 138 Map Ref:</p> <p>Original Call Date: 10/10/05 Time: 11:56 AM CT Op: fxiren Work to Begin Date: 10/12/05 Time: 12:00 PM CT Transmit Date: 10/10/05 Time: 12:00 PM CT Op: fxiren</p> <p>County: EDDY Address: Street: US HWY 281 Place: NEW ROCKFORD CITY Nearest Intersecting Street: 2ND AVE S</p> <p>Type of work: PLANNING FOR HIGHWAY IMPROVEMENTS Work Being Done For: NDDOT Depth: UNKNOWN Extent of work: FROM THE INTERSECTION OF US HWY 281 AND 2ND AVE S, IN NEW : ROCKFORD, LOCATE UTILITIES SOUTH TO THE NORTH END OF THE RR OVERPASS AT : THE SOUTH END OF NEW ROCKFORD. LOCATE UTILITIES WITHIN 100 FEET EAST AND : 100 FEET WEST OF THE CENTERLINE OF US HWY 281. WE WOULD APPRECIATE A Remarks: PHONE CALL FROM LOCATORS INFORMING US OF THE STATUS OF CONCERNED UTILITIES, WHETHER THEY ARE CLEAR OR NOT. EMAIL LOCATE REQUEST</p> <p>Twp: 149N Rng: 66W Sect-Qt: 32-SW, 33-SW Ex. Coord NM Lat: 47.6783770Lon: -99.1278010 SE Lat: 47.6727470Lon: -99.1239680</p> <p>Company : NDDOT Contact Name: GREGORY LATTIMORE Alt. Contact: SAME Caller Address: 608 EAST BOUTEVARD AVE BISMARCK, ND 58505 MIDCON48 NDTELE01 NEMRCK01 NORTHN01 OTTER02 Call Back:</p>	<p>Request #: 507619 LORQ ROUTINE Send To: C-EMAIL Seq No: 140 Map Ref:</p> <p>Original Call Date: 10/10/05 Time: 12:43 PM CT Op: fxiren Work to Begin Date: 10/12/05 Time: 12:45 PM CT Transmit Date: 10/10/05 Time: 12:46 PM CT Op: fxiren</p> <p>County: EDDY Address: Street: US HWY 281 Place: NEW ROCKFORD CITY Nearest Intersecting Street: 3RD AVE S</p> <p>Type of work: PLANNING FOR HIGHWAY IMPROVEMENTS Work Being Done For: NDDOT Depth: UNKNOWN Extent of work: FROM THE NORTH END OF THE RR OVERPASS AT THE SOUTH END OF NEW ROCKFORD, LOCATE UTILITIES SOUTH FOR A DISTANCE OF 3600 FEET. LOCATE UTILITIES WITHIN 120 FEET EAST AND 120 FEET WEST OF THE CENTERLINE OF US : HWY 281. WE WOULD APPRECIATE A PHONE CALL FROM LOCATORS INFORMING US OF Remarks: THE STATUS OF CONCERNED UTILITIES, WHETHER THEY ARE CLEAR OR NOT. EMAIL LOCATE REQUEST</p> <p>Twp: 148N Rng: 66W Sect-Qt: 6-NE-SE Ex. Coord NM Lat: 47.6730320Lon: -99.1263650 SE Lat: 47.6602450Lon: -99.1172750</p> <p>Company : NDDOT Contact Name: GREGORY LATTIMORE Alt. Contact: SAME Caller Address: 608 EAST BOUTEVARD AVE BISMARCK, ND 58505 MIDCON48 NDTELE01 NEMRCK01 NORTHN01 OTTER02 Call Back:</p>
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ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

UTILITY LOCATE INFO. 6

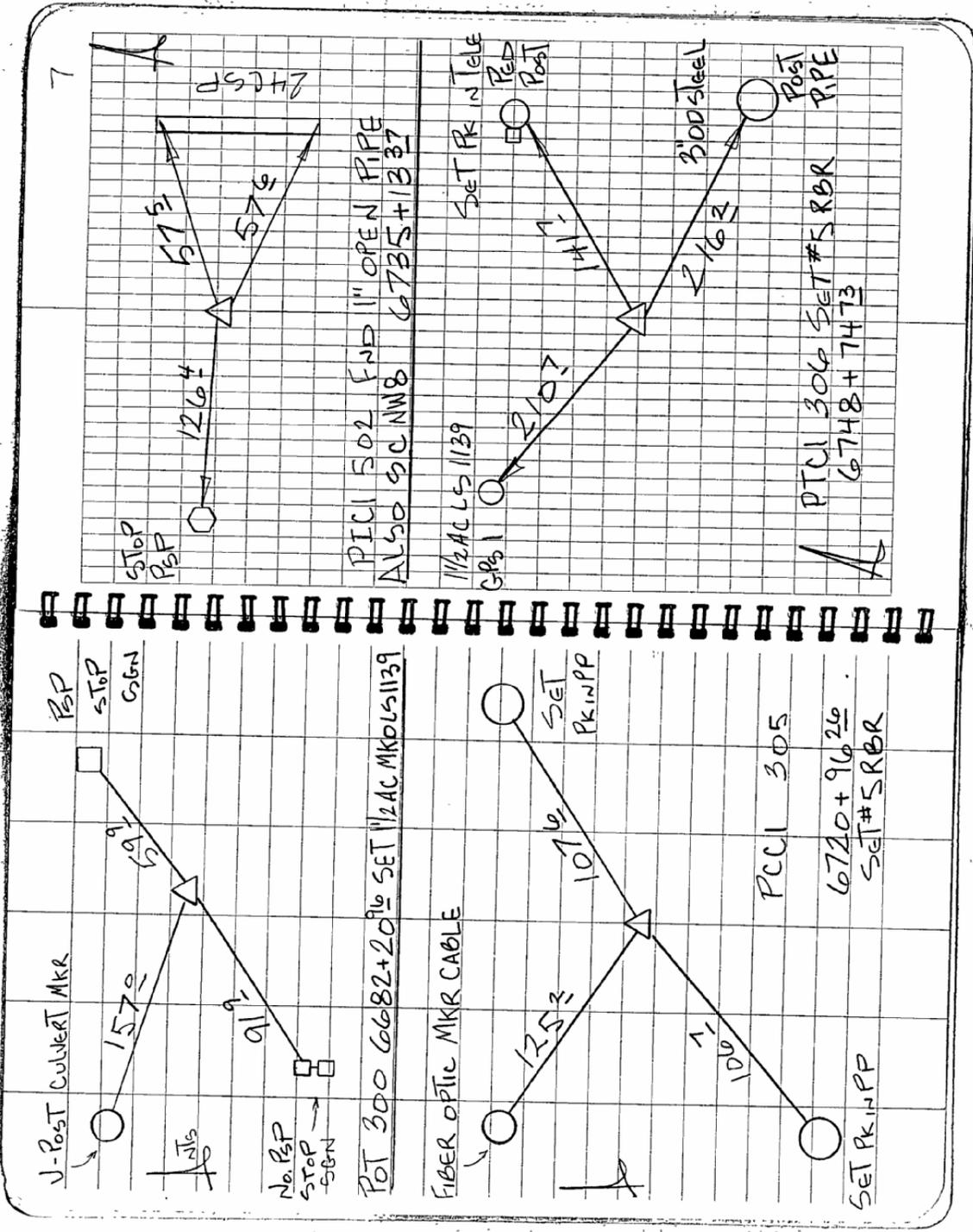
7) Spoke with Ryan from NID Telephone (office # 701-662-1800/cell # 701-351-2770) because we were thoroughly confused as to underground markings. He said he would stop by & talk to us but he never made it. Over the phone, I was able to discern that we had erroneously tracked his lines. According to Ryan, the lines 'T', 'TH', 'T5', & 'T7' are actually TFO lines that should be connected to utility poles. This single line does not enter any utility poles. It was described to me as the northmost & westmost tele. line. It begins as 'T', connects directly to 'TH' (which does not connect to pole, as orig. shot), 'TH' then disappears into the slough in the NW quad of the RR overpass. It reappears on the south side of the RR tracks as 'T5' (thus 'T5' does not stem from the utility pole, as orig. shot). 'T5' then continues south along the field edge to connect with 'T7' (again, not entering pole at Sta 6764 + 46.3 - 1377) + as orig. shot). It then continues south as 'T7' + as orig. shot). I'm not sure what lines stem from the utility pole. At Sta 6784 + 14.9 - 2192, it is?

- 1) Ceoex Pipeline (Steve Klein) called on 10/10 PM. He thought they were clear as they had only 1 pipeline crossing a few hundred feet N. of the S. line of Section 6. I told him that would be outside of our request area.
- 2) InterTail Pup. (Brad?) called on 10/10 P.M. & stated they were clear except for street light circuits which they are not responsible for without \$ compensation.
- 3) NO TELEPHONE (Ryan?) called on 10/11 PM & stated that he was marking lines.
- 4) ELM LOCATING (Cody?) called on 10/12 A.M. & stated that he had marked 1 GAS MAIN <sup>main</sup> on the E. side of the E. Frontage Road; 1 GAS MAIN XING SOUTH OF THE OVERPASS AT THE VETERINARY CLINIC; & 2 MIDCO. TV CABLES XING JUST SOUTH OF 2ND AVE S.
- 5) CALLED CENTRAL PLAINS WATER DIST. & Spoke with Robert on 10/17 at 1520 HRS. HE STATED THAT THEY WERE CLEAR. ONLY HAD LINES AT THE GRAVEL ROAD, N. OF THE BISON PLANT.
- 6) CALLED NORTHERN PLAINS ELECT. COOP & Spoke with Mark on 10/17 at 1600 HRS. HE STATED THAT THEY WERE CLEAR. HAD NO UNDERGROUND UNITS - THE BISON PLANT WERE A COUPLE OF BLOCKS OFF HIGHWAY THROUGH NEW ROCKFORD.



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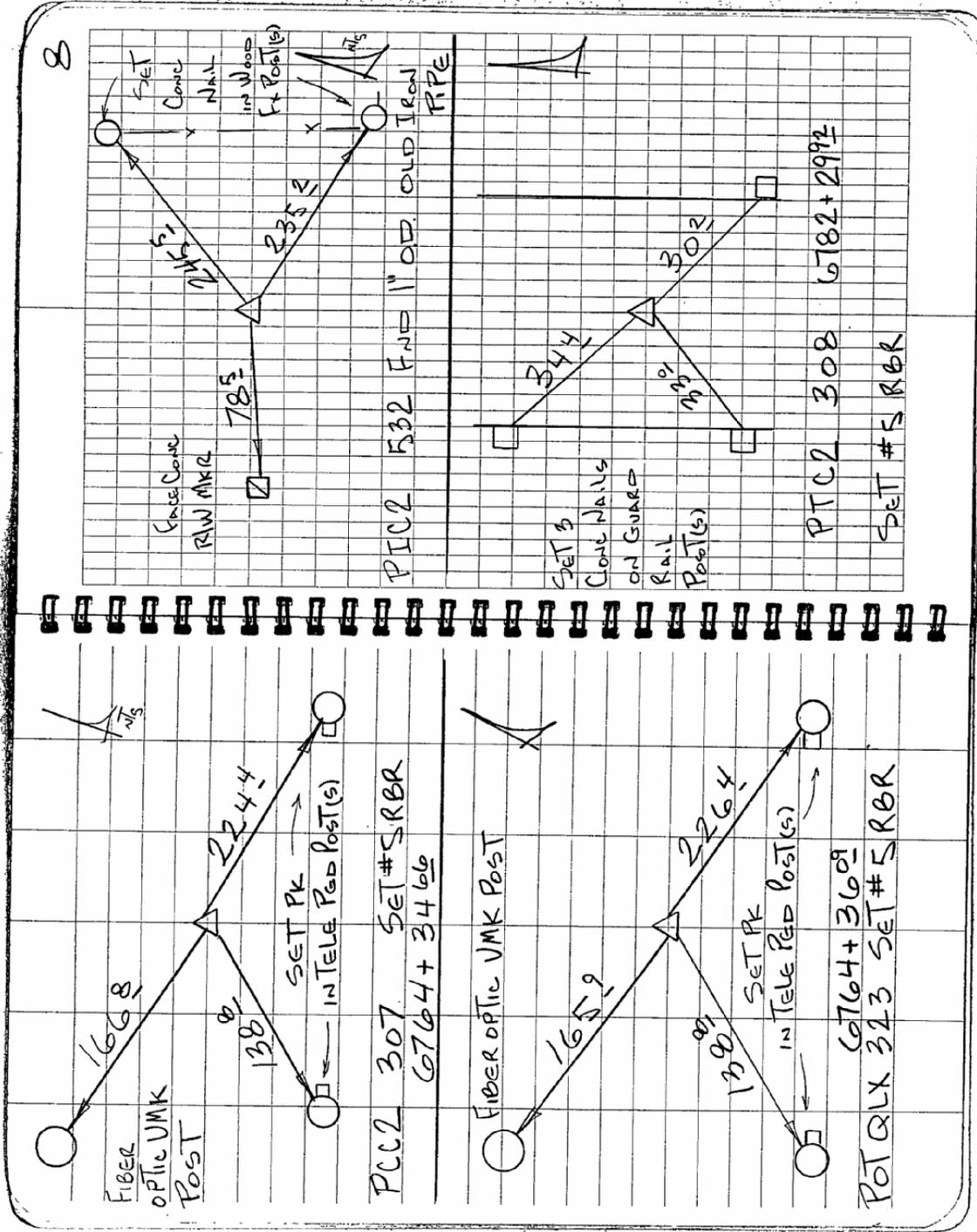
TRAINING SUBJECT: DATA COLLECTION





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SURVEYS & PHOTOGRAMMETRY

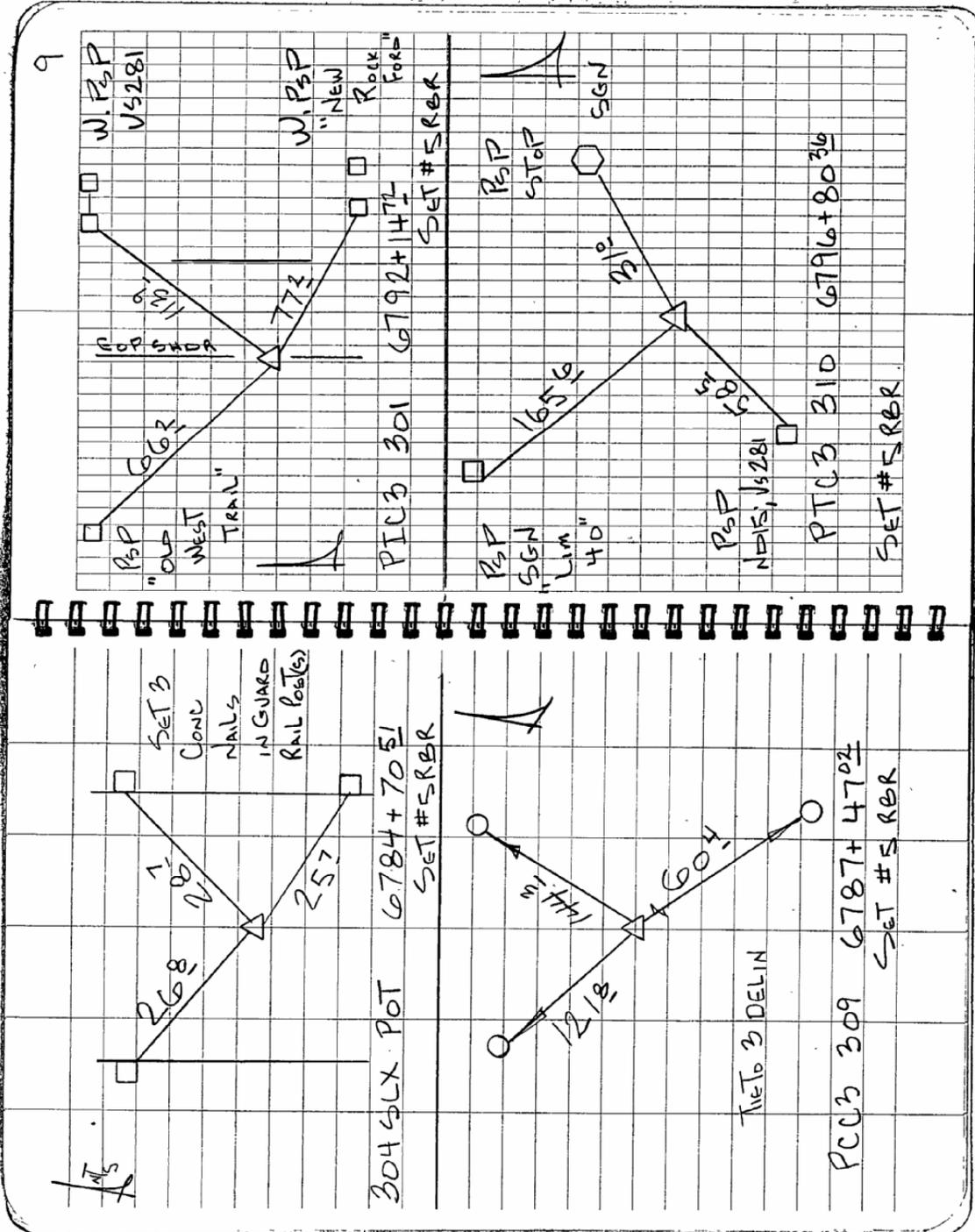
TRAINING SUBJECT: DATA COLLECTION





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SURVEYS & PHOTOGRAMMETRY

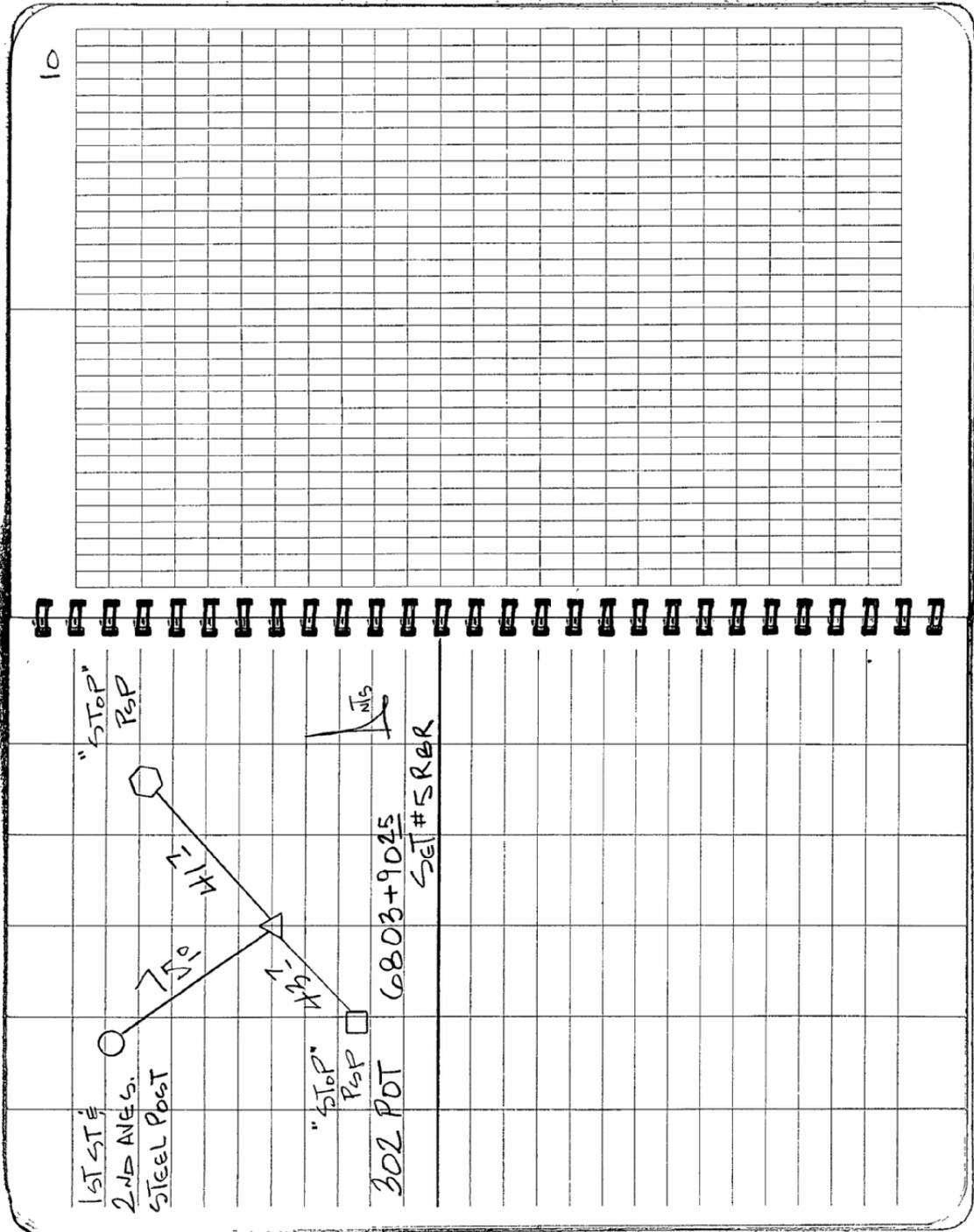
TRAINING SUBJECT: DATA COLLECTION





ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

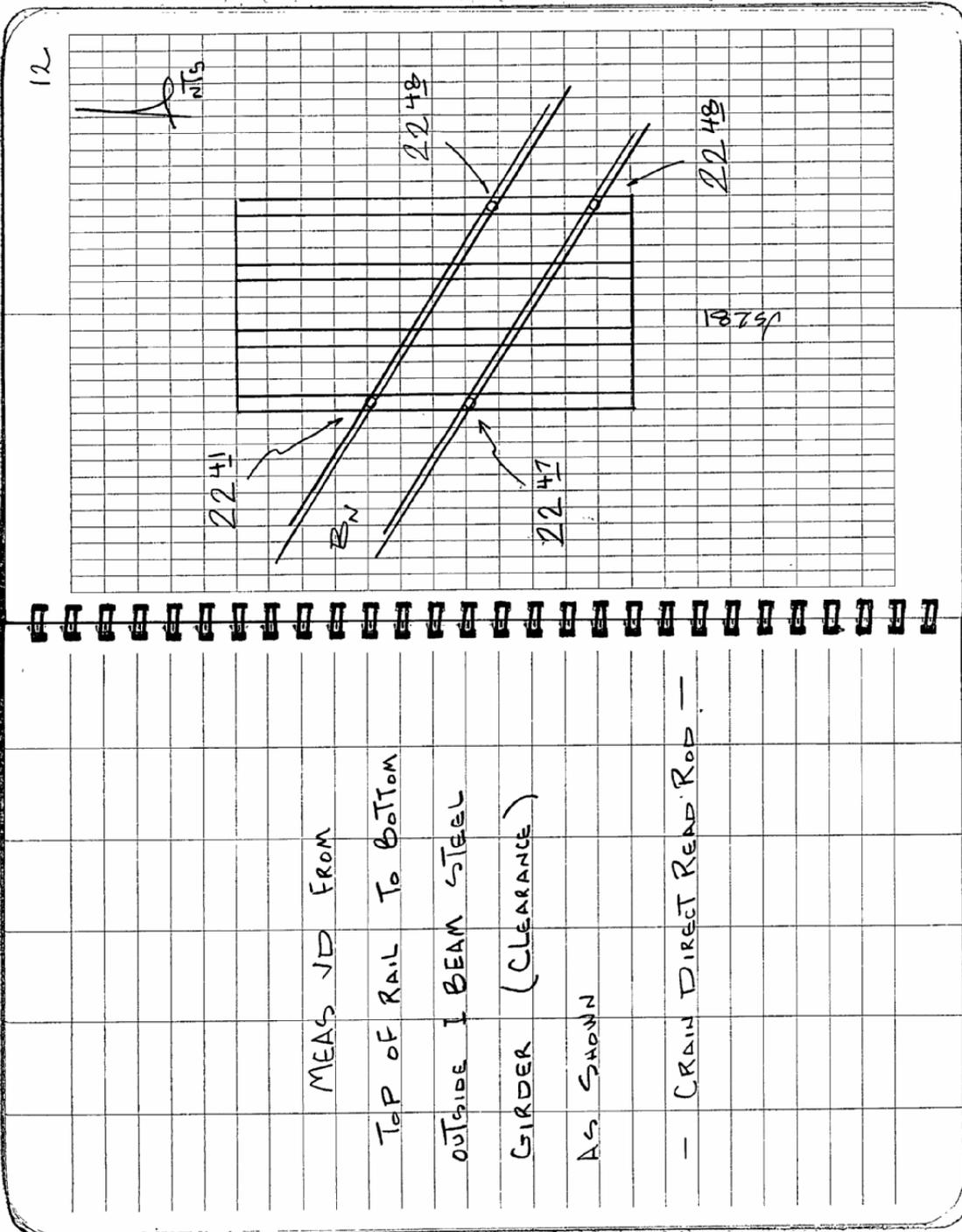






ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

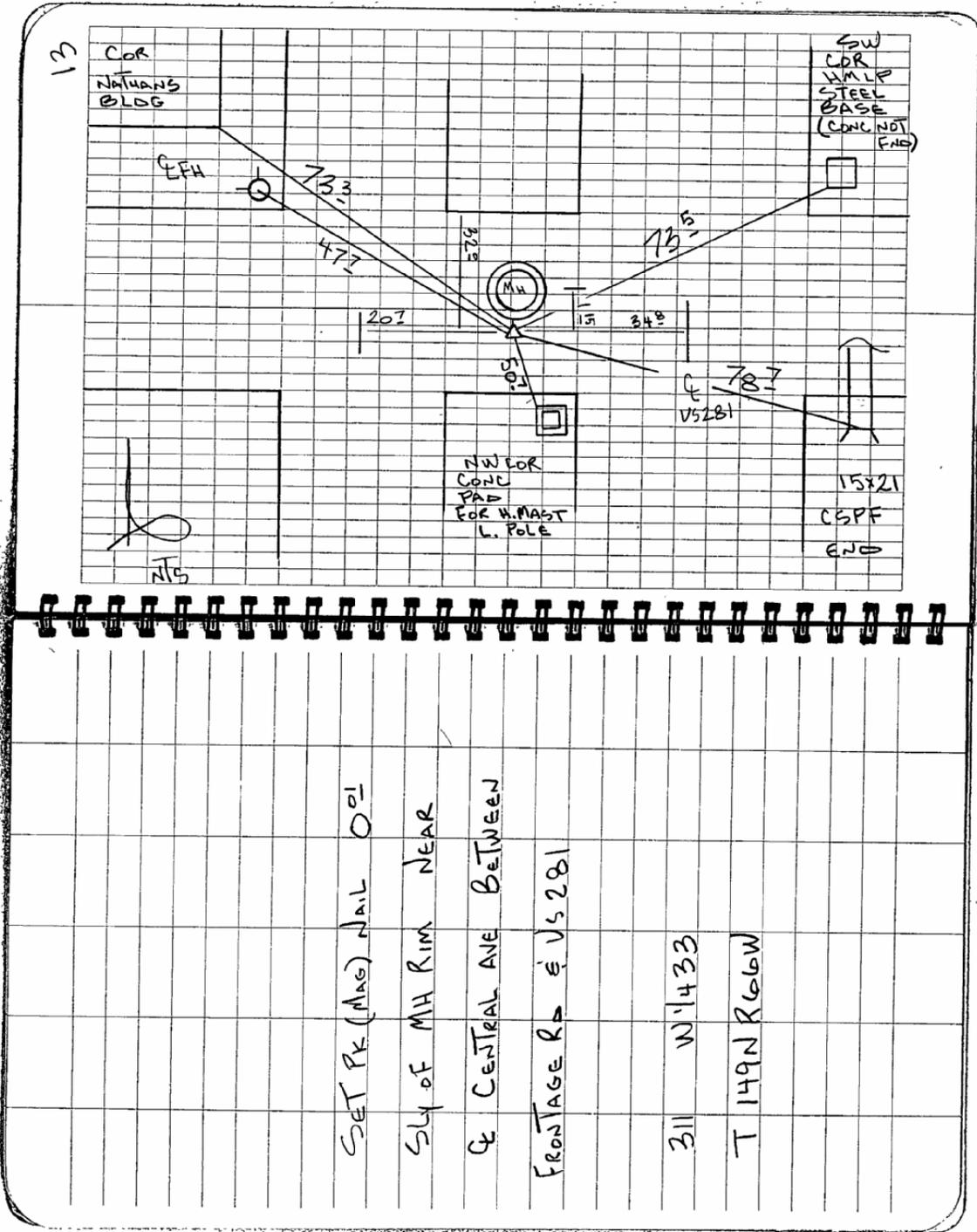
TRAINING SUBJECT: DATA COLLECTION





ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

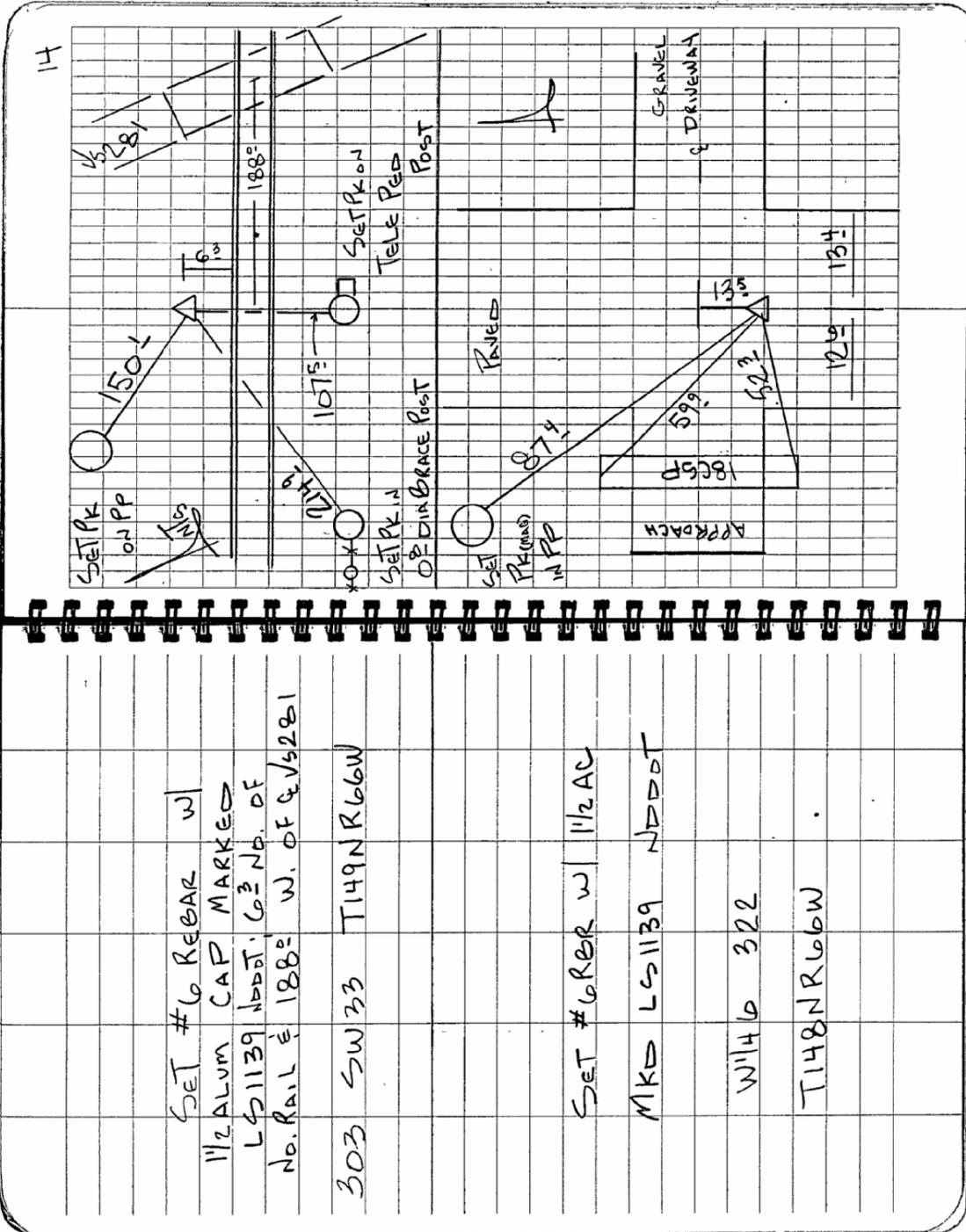
TRAINING SUBJECT: DATA COLLECTION





ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION



SET # 6 REBAR w/  
1 1/2 ALUM CAP MARKED  
LS 1139 NDDOT. 6<sup>3</sup> NO. OF  
NO. RAIL & 188° W. OF & V6281

303 SW 33 T149NR66W

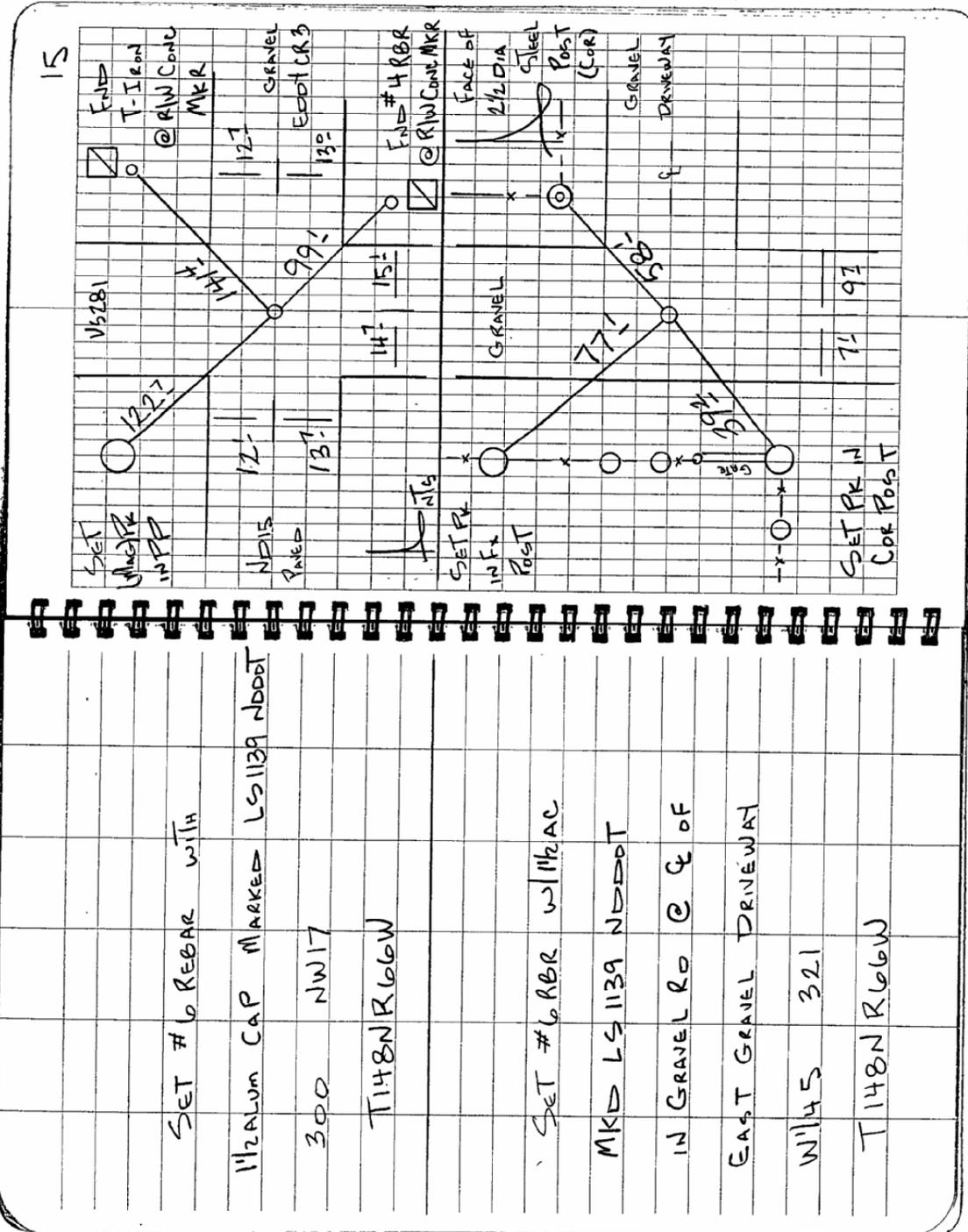
SET # 6 REBAR w/ 1 1/2 AC  
MKD LS 1139 NDDOT

W146 322  
T148NR66W



ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION







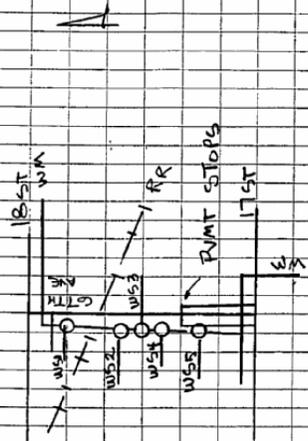


ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

18

MISC UTILITY NOTES BYPASS  
1/2 MILE AWAY ON GASE 1 MILE  
AWAY ON MIDCONTINENT  
CABLE. 2 TICKETS 6095196, 6095120  
CENTRAL PLAINS WATER  
DISTRICT 701-547-3751  
FESSENDEN - ROBERT  
KREUGER - RURAL WATER-  
MARKED LINE - ON 11/28/06  
+ MARKED 5 SERVICES  
+ SOME MARKING FOR  
TICKET 6095860



MON 11/27/06 KAYLA - JAMESTOWN  
OTTERTAIL POWER 2:15 PM  
1-800-257-4044 TICKETS  
6095196 & 6095120 CALLED  
SHE WILL CALL SERVICE REP  
TO ASK ABOUT UTILITIES IN  
AREA - TUES 11/28 10:08 AM  
BRAD 652-2206 OTTERTAIL  
POWER (652-2206) CALLED  
ADVISED CLEAR -  
TRANSMISSION LINE ONLY.  
HE SAID NORTHERN PLAINS  
HAS UNDERGROUND IN AREA  
TUES 11/28/06 10AM COOP  
ELM LOCATING - SERVICE OUT  
OF JAMESTOWN 701-730-0815  
ADVISED MDU (GAS) - GOES  
NORTH ALONG 281 (E. SIDE)  
TOWARD NEW ROCKFORD  
ALSO GOES SOUTH & ENDS  
@ BISON COOP PLANT  
E. SIDE - ADVISED CLEAR  
2 TICKETS 6095120 & 6095196  
(NEAREST CABLE IS WEST  
SIDE OF 66 AVE, PER COOP,



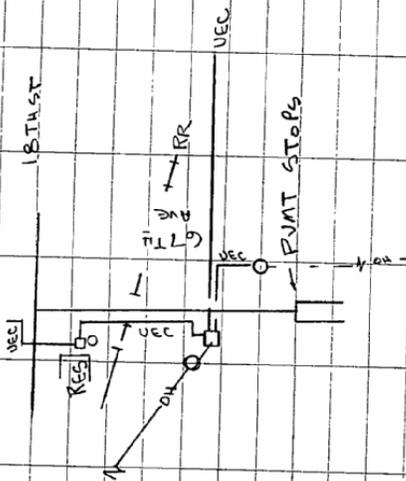
ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

19

TUES 12/05/06 9:20 AM  
 RYAN NDTC 350-2870  
 CALLED - WILL MEET  
 ON SITE - MET @ 9:30 AM  
 WILL MARK FOR ALL 3 TICKETS  
 12/05/06 10 AM CENTRAL  
 PLAINS WATER DISTRICT  
 ROBERT KRUEGER, NEED  
 ADDITIONAL FLAGS, TICKET  
 6095860 547-3751  
 WILL LOCATE TODAY  
 CODY ELM 12/05/06  
 CALLED LEFT MESSAGE  
 10 AM 730-0815 MDU  
 UTILITIES GAS LINE  
 E OF V5281 FOR 1 TICKET  
 6095860. CALLED  
 BACK 10:10 AM 12/05/06  
 WILL MARK THIS PM  
 12/5/06 9 AM MARK FRDST  
 NORTHERN PLAINS ELEC  
 STOPPED OUT TO ADVISE  
 CLEAR ON TICKET 6095860  
 SAID I FEED (SERVICE)

NORTHERN PLAINS ELEC  
 (CARRINGTON) 1-800-882-2500  
 MARK FROST LOCATED  
 11/28/06 11:30 AM



CENEX PIPELINE 8:30 AM  
 12/04/06 STEVE CALLED  
 LEFT MESSAGE 852-1660  
 OR 720-4433 (701) CELL PH  
 CALLED ON 12/05/05 WILL  
 MARK THIS P.M. - NDTC  
 10 AM MESSAGE 12/04/06  
 RYAN 701-350-2870



# ND DEPT OF TRANSPORTATION SURVEYS & PHOTOGRAMMETRY

## TRAINING SUBJECT: DATA COLLECTION

20

Lattimore, Greg L.

From: oncall\_concepts [redacted]  
Sent: Monday, November 27, 2006 10:02 AM  
To: Lattimore, Greg L.  
Subject: Ticket 6055120

NORTH DAKOTA ONE-CALL  
Request # 6055120 LCRQ ROUTINE  
Send To: C\_EMAIL Seq No 47 Map Ref:  
Original Call Date: 11/27/06 Time 9:04 AM CT Op: webuser  
Work to Begin Date: 11/27/06 Time 9:15 AM CT  
Transmit Date: 11/27/06 Time 10:01 AM CT Op: webuser  
County: EDDY Place: SUPERIOR TOWNSHIP  
Address: Street: 47TH AVE NE  
Nearest Intersecting Street: 18TH ST NE  
Type of Work: ROAD RECONSTRUCTION  
Work Being Done For: RSDOT  
Depth: UNKNOWN Explosives: N Tying/Boring: N  
Extent of Work: FROM THE INTERSECTION OF 47TH AVE NE & 18TH ST NE, LOCATE UTILITIES & FOR A DISTANCE OF 1/2 MILE TO THE BEGINNING OF THE DRIVEWAY OF ASPHALT ROAD SURFACE. LOCATE UTILITIES TO 100 FEET S. & W. OF THE CENTRALLINE OF 47TH AVE NE  
Remarks: CALLER STATES CREW IS ON SITE  
Top: 148M Hgt: 65W Sect-Ctr: 5-W, 6-W  
Ex Coord N/E Lat: 47.473014010N -99.1187210 W/Lat: 47.465447010N -99.1192910

Company: RSDOT  
Contact Name: GREG L.  
Alt. Contact: WILL PATRICK  
Caller Address: 606 EAST BOULEVARD AVE  
BISMARCK, ND 58105-0700  
FAX: (701)328-5118  
Phone: (701)391-4132  
Phone: (701)391-3832  
Call Back: 6800-1600  
DISTRICT: COMPANY NAME PHONE NUMBER  
CENPLA1 CENTRAL PLAINS WATER DISTRICT (701)547-3761  
MND02 MONTANA DAKOTA UTILITIES CO (701)252-4945  
NDC0044 NIDOCOUNTERTY CABLE (605)229-3779  
NUTL001 NORTH DAKOTA TELEPHONE CO (701)482-2866  
NUTL002 NORTH DAKOTA TELEPHONE CO (701)482-2866  
NUTL003 CITY OF NEW ROCKFORD (701)847-8413  
NUTL004 NORTHERN PLAINS ELECTRIC COOP (701)482-2246  
NUTL005 OTTER TAIL POWER COMPANY (701)252-2640

Lattimore, Greg L.

From: oncall\_concepts [redacted]  
Sent: Monday, November 27, 2006 1:28 PM  
To: Lattimore, Greg L.  
Subject: Ticket 6055196

NORTH DAKOTA ONE-CALL  
Request # 6055196 LCRQ ROUTINE  
Send To: C\_EMAIL Seq No: 46 Map Ref:  
Original Call Date: 11/27/06 Time: 1:05 PM CT Op: webuser  
Work to Begin Date: 11/29/06 Time: 1:15 PM CT  
Transmit Date: 11/27/06 Time: 1:37 PM CT Op: webuser  
County: EDDY Place: SUPERIOR TOWNSHIP  
Address: Street: 18TH ST NE  
Nearest Intersecting Street: 47TH AVE NE  
Type of Work: ROAD RECONSTRUCTION  
Work Being Done For: RSDOT  
Depth: UNKNOWN Explosives: N Tying/Boring: N  
Extent of Work: FROM THE INTERSECTION OF 18TH ST NE & 47TH AVE NE LOCATE UTILITIES TO THE W ALONG 18TH ST NE FOR A DISTANCE OF 300 FEET & N ALONG 18TH ST NE FOR A DISTANCE OF 300 FEET. LOCATE UTILITIES 100 FEET ON EACH SIDE OF THE CENTRALLINE OF 18TH ST NE  
Remarks: CALLER STATES CREW IS ON SITE  
Top: 148M Hgt: 65W Sect-Ctr: 5-W, 6-W  
Ex Coord N/E Lat: 47.478161010N -99.1218150 W/Lat: 47.468441010N -99.1141120

Company: RSDOT  
Contact Name: GREG L.  
Alt. Contact: WILL PATRICK  
Caller Address: 606 EAST BOULEVARD AVE  
BISMARCK, ND 58105-0700  
FAX: (701)328-5118  
Phone: (701)391-4132  
Phone: (701)391-3832  
Call Back: 6800-1600  
DISTRICT: COMPANY NAME PHONE NUMBER  
CENPLA1 CENTRAL PLAINS WATER DISTRICT (701)547-3761  
MND02 MONTANA DAKOTA UTILITIES CO (701)252-4945  
NDC0044 NIDOCOUNTERTY CABLE (605)229-3779  
NUTL001 NORTH DAKOTA TELEPHONE CO (701)482-2866  
NUTL002 CITY OF NEW ROCKFORD (701)847-8413  
NUTL004 NORTHERN PLAINS ELECTRIC COOP (701)482-2246  
NUTL005 OTTER TAIL POWER COMPANY (701)252-2640

-CONTINUED -  
TO BISON PLANT FROM SO. ONLY  
(OUT OF LIMITS) (THE DOUBLE "D"  
BAR & RESIDENCE ARE OVERHEAD)  
12/05/06 STEVE - CENEX PETRO  
PLINE 11AM MET ON SITE -  
MKD LING XING SEC LINER  
(67TH AVE SO. END), TUE 6 12/05/06  
C.D.W.D. MET ROBERT ON SITE  
DISCUSSED MKG 11:30AM  
TICKET 6095860 MKD WM + ISERV  
THAT FEEDS BOTH BAR + RESIDENCE

Lattimore, Greg L.

From: oncall\_concepts [redacted]  
Sent: Monday, December 04, 2006 8:08 AM  
To: Lattimore, Greg L.  
Subject: Ticket 6055650

NORTH DAKOTA ONE-CALL  
Request # 6055650 LCRQ ROUTINE  
Send To: C\_EMAIL Seq No 4 Map Ref:  
Original Call Date: 12/04/06 Time 7:50 AM CT Op: webuser  
Work to Begin Date: 12/04/06 Time 8:00 AM CT  
Transmit Date: 12/04/06 Time 8:08 AM CT Op: webuser  
County: EDDY Place: SUPERIOR TOWNSHIP  
Address: Street: 17TH ST NE  
Nearest Intersecting Street: 17TH ST NE  
Type of Work: ROAD RECONSTRUCTION  
Work Being Done For: RSDOT  
Depth: UNKNOWN Explosives: N Tying/Boring: N  
Extent of Work: FROM THE INTERSECTION OF 17TH ST NE & 47TH AVE NE, WHICH IS LIES ON AN EXTENSION OF THE CENTRALLINE OF US HWY 281, LOCATE UTILITIES, ALONG SAID EXTENSION, FOR A DISTANCE OF 1600 FEET TO THE SOUTH. LOCATE UTILITIES TO 100 FEET EAST OF SAID EXTENSION & ON THE WEST, BETWEEN THE EDGE OF ASPHALT & SAID EXTENSION  
Remarks: CALLER STATES CREW IS ON SITE  
Top: 148M Hgt: 66W Sect-Ctr: 7-W, 8-W  
Ex Coord N/E Lat: 47.463355010N -99.1195710 W/Lat: 47.465649010N -99.1247120

Company: RSDOT  
Contact Name: GREG L.  
Alt. Contact: WILL PATRICK  
Caller Address: 606 EAST BOULEVARD AVE  
BISMARCK, ND 58105-0700  
FAX: (701)328-5118  
Phone: (701)391-4132  
Phone: (701)391-3832  
Call Back: 6800-1600  
DISTRICT: COMPANY NAME PHONE NUMBER  
CENPLA1 CENTRAL PLAINS WATER DISTRICT (701)547-3761  
MND02 MONTANA DAKOTA UTILITIES CO (701)252-4945  
NDC0044 NIDOCOUNTERTY CABLE (605)229-3779  
NUTL001 NORTH DAKOTA TELEPHONE CO (701)482-2866  
NUTL002 NORTHERN PLAINS ELECTRIC COOP (701)482-2246



ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

18

PERF.PP 18  
PERF.PP 12  
18 RCP INV S = 604  
18 RCP INV N = 608

5390 CBS  
5389 CBS  
5320 CI  
5319 STMH

23 RD

18 RCP INV S = 604  
18 RCP INV N = 608

5390 CBS  
12 PERF PLASTIC PIPE INV IN W = 519  
18 PERF P. PIPE INV IN N = 530  
18 RCP INV OUT S = 526

18

CER (5370)  
BORCP  
5370  
RIM To INV OUT W = 494  
RIM To INV IN NE = 486

5598  
RIM To 12 RCP INV OUT W = 141

NOTE: 5389 CI Goes To 5802 (15 RCP)

5671  
5672  
5803 (15 RCP)

5824  
5825

5802 (15 RCP)

5803



ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

19

**A**

5568  
15RCP 6Rc

5568 CI  
15RCP INV OUT W = 5 78  
6Rc INV IN E = 3 71  
6Rc INV IN S = 3 81

5545  
CI 6Rc 15Rc

5545  
6Rc INV IN N = 1 64  
15Rc INV OUT S = 2 83

5522  
6Rc 15Rc

5522 CI  
6Rc INV IN W = 1 95  
15Rc INV OUT SE = 3 01

5664  
30x20 CBS GRATE  
W/ CONC PRECAST  
SR. INLET BOX  
RIM TO INV OUT 18RCP NW = 5 74

5549  
CBS 10Rc

5549  
10Rc INV N = 4 63  
10Rc INV E = 4 66

5563  
24RCP PLUGGED = 5 42 (INV No.)  
15RCP INV OUT W = 5 11  
6Rc INV IN W = 3 11  
6Rc INV IN E = 3 04



ND DEPT OF TRANSPORTATION  
SURVEYS & PHOTOGRAMMETRY

TRAINING SUBJECT: DATA COLLECTION

20

5464 MHST  
12 RCP INV OUT W = 8.72  
18 RCP INV IN E = 6.95  
PRECAST CONC BARREL  
NO RINGS  
2 1/4 DIA LID

5463 MHST  
18 RCP INV OUT W = 6.49  
18 RCP INV IN E = 6.38  
PRECAST CONC BARREL  
NO RINGS  
2 1/4 DIA LID

5434 MHST  
6 D.I.F. DROP INV IN E = 2.57  
6 D.I.F. DROP INV IN E = 2.87  
18 RCP INV OUT W = 7.26  
PRECAST CONC BARREL  
NO RINGS  
2 1/4 DIA LID

5433 MHST  
30 RCP INV IN SE = 12.35  
30 RCP INV IN NE = 13.38  
30 RCP INV OUT SW = 13.47  
PRECAST CONC BARREL  
1 CONC RING  
2 1/4 DIA LID

5432 MHST  
30 RCP INV IN SE = 7.16  
30 RCP INV OUT NW = 7.33  
PRECAST CONC BARREL  
4 CONC RINGS  
2 1/4 DIA LID