

222



LEVEL BOOK  
222

No. 3502



3 LORIN W. ROSS ET AL EX PARTE DRAIN  
CAUSE NO. 18547

Hendricks & Boone Counties.  
1953

Stanley Shartle, Engineer  
Robt. Hutchinson, Viewer.  
Glenn Groover, Viewer.

Shartle-Burrows-Saunders 1/27/53

Levels from B.M. P-80 (near Cen. NW 1/4 3-18-1W) to upper terminus Ross Dr. & return.

Sta.	B.S.	H.I.	F.S.	EL.	Corrected
P-80	2.96			946.23	946.23
	6.68		0.68		
	3.59		11.86		
	8.10		4.63		
	10.55		0.48		
	3.53		6.45		
	5.72		6.78		
	2.43		5.03		
	5.78		4.52		
	5.72		6.79		
	8.06		3.19		
	5.88		4.90		
	5.82		5.40		
	4.48		4.69		

EL.	B.S.	H.I.	F.S.	
	4.39		6.30	
	4.10		4.13	
	6.34		4.74	
	4.60		6.44	
953.92'	(B.M. #14)		4.07	End S wall culvert
953.88'				
951.75'	(B.M. #13)		6.24	" " top of hdwl.
951.71'				
946.90'			11.09	F.L. 24" Drain tile
946.86'				
	6.90		4.64	
	4.73		6.63	
	4.12		4.10	
	6.43		4.57	
	4.62		4.59	
	4.45		4.96	
	3.43		5.35	
	4.20		8.42	
	7.50		5.24	
	5.23		6.43	
	7.12		3.80	
	6.10		7.47	
	9.58		4.14	
	0.74		10.60	
	2.45		7.79	
	9.81		5.04	
	0.57		0.61	
946.23			5.40	On B.M. P-80
946.15				



The foregoing line was 2.8 miles in length one way and had a circuit length of 5.6 miles. Utilizing a 3-man crew with two cars, the leveling was done in excellent weather conditions over gently rolling land in 3 hours for complete circuit closure. Sights were hastily but carefully made and the average sight distance was about 420'. 18" wye used.

Total F.S. (except extras) 186.79'

" B.S. 186.71'

Error of closure, 5.6 miles = 0.08'

Probable error per mile =  $\frac{0.08}{\sqrt{5.6}} = 0.034'$

∴ Expected precision for levels run under conditions similar to those above  
=  $0.034 \sqrt{\text{miles}}$

Shartle } 1/27/53  
Burrows }

Levels from B.M. Z-75 to 0+00 Ross Dr.  
@ U.S. Rd. 136. - Length of circuit 1 Mile  
when returned.

EL.	B.S.	H.I.	F.S.	Sta.
942.27'	9.31	951.58		U.S.C. & G.S. B.M. Z-75
951.32	3.73	955.05	0.26	⊙
954.55	1.89	956.44	0.50	⊙
949.35			7.09	Top W. end N. rail
946.60	10.95	957.55	9.84	B.M. #1 Top NW wing @ abut.
950.01	3.64	953.65	7.54	⊙
		942.27	11.38	On B.M. Z-75
		<u>942.27</u>		
		0.00'		No closing error.



Shartle }  
Burrows } 1/27/53

Levels from U.S.C. & G.S. B.M. K-80 (near Cen. Sec. 21-17-1W) to point near Cen. NE<sup>4</sup> Sec. 21 & return - Circuit 0.9 Mile long.

Sta.	B.S.	H.I.	F.S.	EL.
K-80	6.71	957.91'		951.20
⊙	0.28	952.48	5.71	952.20
B.M. #3	4.23	953.25	3.46	949.02
⊙	5.14	958.01	0.38	952.87
K-80			6.82	951.19

951.20

0.01' error

Top E. end N rail bridge



Levels from U.S.C. & G.S. B.M. M-80 South  
near NW cor. SW4 SE4 9-17-1W.

Sta.	B.S.	H.I.	F.S.	EL.
M-80	3.51	958.04		954.53
B.M.			4.77	953.27

COMPARISON WITH LEVELS

From N. end Ross Dr. to U.S.#136-7.8 mi.  
" " " " " " Cen. NE4 21-17-1W-6 mi.

Shartle }  
Burrows } 1/27/53

0.15 mile to upper terminous of Trib.#2.

SE cor. w. wall culvert on S.R.#39

OF C.C.C. IN 1937:

Diff. in elev. of B.M.'s.

4.91' (c.c.c.) 5.15' (Shartle & C&G.S.)  
2.51' (c.c.c.) 2.73' ( " " ).



## Trib. #1 (Higgins Ditch)

Beg. at Sta. 158+40 on the main  
Drain at a point about 169' S. and 15' W.  
of the Center of Section 15-17-1W, and running  
thence up-stream, first North 87°; thence  
N45°E 2770'; thence N87°E 340'; thence  
N65°E 1870'; thence N54°E 810' and  
terminating at the outlet of the Newton, K.  
Brownlee tile Drain, being 6660' long.

0+00	☒ Main Drain	Shartle	} 1/28/53
1+69	fence W	Burrows	
9+03	1/2 E. Rd. N & S.		
13+00	" " E & W.	Saunders	
17+04	☒ private bridge		
36+88	fence N.		
39+90	} pond		
42+20			
43+90	fence N & S.		
66+60	headwall		

## Trib. #2 (Pounds Ditch)

Beg. at Sta. 108+00 on the main  
Drain at a point about 1390' E. & about  
975' N. of the SW. cor. of the NW<sup>4</sup> NE<sup>4</sup>  
Sec. 21-17-1W, and running thence up-  
stream, first N12°W 380'; thence N.  
1090'; thence N38°W 360'; N4°E 900';  
N. 850'; N4°E 800'; N13°E 860'; N20°W  
760'; N. 950'; thence curve <sup>pt.</sup> left 157' on  
a radius of 100'; thence <sup>E</sup> 1016' to the  
upper terminus at the east rubble headwall  
of a culvert under State Highway #39, being  
<sup>8474</sup> 8123' long. •

0+00	☒ Main Drain @ 108+00	1/28/53
3+17	fence	Shartle
30+42	☒ E & W road (private)	Burrows
43+86	" " (public)	Saunders
51+35	☒ private bridge	
81+23	E. wall culvert	
81+42	☒ S.R. #39	
8474	Headwall	



## Profile on Main Ditch //

Sta	B.S.	T	Top Stake	Stk. Elev
0+00			10.68	939.49
1+00	T.P. 3.57	<u>945.79</u>	9.75	940.42
2			5.13	940.66
3			4.63	941.16
4			4.99	940.80
5			4.25	941.54
6	T.P. 6.34	<u>946.96</u> <del>946.96</del>	5.17	940.62
7			5.91	941.05
8			5.90	941.06
9			5.44	941.52
10	T.P. 4.43	<u>944.95</u> <del>944.93</del>	6.46	940.50
11			10.33	934.62
12			3.13	941.82
13			2.00	942.95
14	T.P. 3.37	<u>945.59</u> <del>945.57</del>	2.73	942.22
15			3.25	942.34
16			5.74	939.85
17			2.39	943.20
18	T.P. 4.18	<u>947.69</u> <del>947.68</del>	2.09	943.50

H.I.'s in ink are corrected  
for closure.1-30-53  
SCHERSCHEL  
SUTTON  
BARBER  
REED

Bottom Ditch	Elev.	Sta.
19.9	925.89	0
17.0	928.79	2
16.7	929.09	4
15.4	930.39	6
15.6	931.36	8
15.8	931.16	10
14.6	930.35	12
14.8	930.79	15
15.4	930.19	18



Sta	B.S.	$\Sigma$	Top	STK	Elv.
		947.69			
		<del>947.66</del>			
19			5.54		942.15
20			8.18		939.51
21			4.89		942.80
22			5.78		941.91
23			6.02		941.67
24	T.P. 11.27	953.66	5.31		942.38
		<del>953.62</del>			
25			12.35		941.31
26+27			4.36		949.30
B.M. #2 N.W. cor of old Traction R/W Bridge 26+43					
			2.78		950.88 ←
27			10.76		942.90
28			11.00		942.66
29	T.P. 6.28	950.16	9.78		943.88
		<del>950.12</del>			
30			12.32		937.84
31			7.74		942.42
32			7.45		942.71
33			4.50		945.66
34			13.22		936.94
35			10.50		939.66
36	T.P. 12.46	950.17	12.47		937.69
		<del>950.11</del>			
37			6.97		943.20
38			6.12		944.05
39			5.78		944.39

Bot. Ditch

17.1	930.59	21
17.1	930.59	24
21.6	932.06	28
	.13	
	.21	
	.28	
17.8	932.36	32
	.53	
	.70	
17.3	932.86	35
	2.96	
	3.07	
17.0	933.17	38
	3.04	



Sta	B.S	<u>A</u> 950.17 <del>950.11</del>	Top	STK
40			5.47	944.70
41			6.00	944.17
42			5.32	944.85
43	T.P. 5.04	948.79 <del>948.72</del>	6.43	943.74
44			5.38	943.41
45			3.90	944.89
46			4.70	944.09
47			4.23	944.56
48			5.00	943.79
49			4.58	944.21
50	T.P. 4.62	950.03 <del>949.95</del>	3.39	945.40
51			4.59	945.44
52			4.92	945.11
53			4.76	945.27
54			4.62	945.41
55			5.10	944.93
56			4.74	945.29
57	T.P. 5.59	951.71 <del>951.62</del>	3.92	946.11
58+25			5.80	945.91
59			4.47	947.24
60			3.80	947.91
61			3.60	948.11
62			5.44	946.27

Bottom	Ditch
	2.91
17.4	932.77 41
	.84
	.91
15.8	932.99 44
	.79
	.59
16.4	932.39 47
	2.72
	3.06
15.4	933.39 50
	2.97
	2.55
17.9	932.13 53
	.19
	.26
17.7	932.33 56
	.36
	.39
19.3	932.41 59
	2.68
	2.95
18.5	933.21 62



STA.	B.S.	$\pi$	TOP	STK
63			4.18	947.53
64 T.P.	2.23	<del>949.97</del> <u>949.87</u>	3.98	947.73
65			2.30	947.67
66			2.62	947.35
67			3.31	946.66
68			2.36	947.61
69			2.81	947.16
70			3.40	946.57
71 T.P.	4.32	<del>950.78</del> <u>950.67</u>	3.52	946.45
72			3.58	947.20
73			3.20	947.58
74			3.80	946.98
75			3.34	947.44
76			2.89	947.89
77			3.60	947.18
78 T.P.	3.64	<del>949.90</del> <u>949.78</u>	4.53	946.25
79			3.43	946.47
80			2.94	946.96
81			3.18	946.72
82			2.75	947.15
83			1.54	948.36
84 T.P.	3.78	<del>951.84</del> <u>951.71</u>	1.85	948.05
85			3.31	948.53
86			3.21	948.63

BOTTOM	DITCH	
		3.36
		3.51
16.3	933.67	65
		3.80
		3.93
15.9	934.07	68
		3.87
		3.67
16.5	933.47	71
		.44
		.41
17.4	933.38	74
		.41
		.44
17.3	933.48	77
		3.79
		4.10
15.5	934.40	80
		.60
		.80
14.9	935.00	83
		4.78
		4.56
17.5	934.34	86



Sta.	BS	IK	Top STR.	Bottom Ditch	E/V.
87			4.04	947.80	4.41
88			3.89	947.95	4.48
89			4.54	947.30	934.54 89
90			4.34	947.50	4.77
91 T.P.	4.66	952.81 952.67	3.70	948.14	5.00
92			5.15	947.66	935.21 92
93			4.13	948.68	.28
94			3.96	948.85	.35
95			4.14	948.67	935.41
96			3.88	948.93	.51
97			4.19	948.62	.61
98 T.P.	5.23	950.30 950.15	7.75	945.06	935.71 98
B.M.#3	97+67				
N.E. Cor. N. Bridge Rail			12.8	949.02 ✓	
99			5.58	944.72	.68
100			5.61	944.69	.64
101			4.42	945.88	935.60 101
102			3.52	946.78	5.83
103			3.45	946.85	6.06
104			2.44	947.86	936.30 104
105 T.P.	4.80	952.36 952.36	2.74	947.56	6.10
106			3.98	948.38	5.88
107			3.80	948.56	935.66 107
108			5.41	946.95	5.80

Bottom Ditch	E/V.
17.3	934.54 89
17.6	935.21 92
17.4	935.41
	.51
	.61
17.1	935.71 98
	.68
	.64
14.7	935.60 101
	5.83
	6.06
14.0	936.30 104
	6.10
	5.88
16.7	935.66 107
	5.80

B.M.#3:

949.02 Shortle

948.87 Scherschel

0.15 error to  
be prorated



STA	B.S.	T	Top	STK.	Bottom Ditch		
109			2.07	950.29		5.93	109
110			3.07	949.29	16.3	936.06	110
111			2.21	950.15		.16	
112			2.78	949.58		.26	
113	T.P.	2.72	<del>952.67</del> <del>952.66</del>	2.42 949.94	16.0	936.36	113
114			3.28	949.39		6.23	
115			3.71	948.96		6.10	
116			3.26	949.41	16.7	935.97	116
117			3.91	948.76		6.24	
118			4.37	948.30		6.51	
119	T.P.	3.77	<del>952.07</del> <del>952.06</del>	4.37 948.30	15.9	936.77	119
120			5.04	947.03		.80	
121			4.50	947.57		.83	
122			4.29	947.78	15.2	936.87	122
123			3.99	948.08		.67	
	B.M. #4 (123+28 E) N.W. Cor. Bridge slab			4.72	947.35 ✓		
124			3.00	949.07		.47	
125	T.P.	3.04	<del>952.54</del> <del>952.52</del>	2.58 949.49	15.8	936.27	125
126			2.97	949.57		6.59	
127			2.85	949.69		6.91	
128			3.97	948.57	15.3	937.24	128
129			4.05	948.49		.27	
130			4.03	948.51		.30	
131	T.P.	3.64	<del>953.01</del> <del>952.99</del>	3.17 949.37	15.2	937.34	131



STA	B.S.	T	Top	STK	Bottom Ditch	
132			3.62	949.39		7.30
133			3.94	949.05		7.26
134			4.31	948.70	15.8	937.21 134
135			4.63	948.38		.31
136			4.16	948.85		.41
137 T.P.	3.94	952.42 <del>952.39</del>	4.54	948.47	15.5	937.51 137
138			4.95	947.47		.48
139			4.64	947.78		.45
140			4.04	948.38	15.0	937.42 140
141			4.50	947.92		.48
142			3.56	948.86		.55
143 T.P.	4.63	953.19 <del>953.16</del>	3.96	948.56	14.8	937.62 143
144			3.62	943.57		.61
145			3.81	949.38		.60
146			2.70	950.49	15.6	937.59 146
147			3.36	949.83		7.76
148			2.73	950.46		7.93
149 T.P.	3.53	953.36 <del>953.32</del>	3.37	949.82	15.1	938.09 149
150			3.06	950.30		8.01
151			2.66	950.70		7.94
152			2.88	950.48	15.5	937.86 152
153			2.47	950.89		.93



STA	B.S.	T	Top STK	Bottom Ditch
154			3.47 949.89	8.00
155 T.P.	5.76	<u>954.76</u> <u>954.72</u>	4.36 949.00	15.3 938.06 155
156			6.03 948.73	.26
157			4.33 950.23	.46
158			4.63 950.13	16.1 938.66 158
B.M. #5 158+83				
N.E. Wing wall Next to Handrail of Bridge 5.20				949.56
B.M. #6				
Junct. S.E. wing & Abut. 5.10				949.66
159			2.58 946.18	.56
160			6.14 948.62	.46
161 T.P.	3.48	<u>951.81</u> <u>951.76</u>	6.44 948.32	16.4 938.36 161
162			3.90 947.91	.41
163			4.10 947.71	.46
164			4.36 947.45	13.3 938.51 164
165			4.28 947.53	.51
166			4.06 947.75	.51
167 T.P.	4.27	<u>952.14</u> <u>952.09</u>	3.94 947.87	13.3 938.51 167
168			4.48 947.66	8.72
169			3.70 948.44	8.93
170			3.70 948.44	13.0 939.14 170
171			4.57 947.57	.17
172			6.67 945.47	.21
173			3.61 948.53	12.9 939.24 173
174 T.P.	3.26	<u>952.09</u> <u>952.03</u>	3.32 948.82	.32



Sta	B.S.	T	Top	STK
13 175			3.89	948.20
13 176			3.66	948.43
13 177			3.15	948.94
13 178			3.46	948.63
13 179			3.60	948.49
N. 180			3.55	948.54
E				
13 181 T.P.	2.58	<del>951.56</del> 951.50	3.11	948.98
13 182			3.30	948.26
14 183			2.81	948.75
14 184			2.94	948.62
14 185			2.36	949.20
14 186			2.01	949.55
14 187			2.35	949.21
14 188 T.P.	2.84	952.40 <del>952.33</del>	2.01	949.55
14 189			2.62	949.78
14 190			4.82	947.58
14 191			2.75	949.65
14 192			2.65	949.75
1 193			2.80	949.60
1 194			2.70	949.70
1 195 T.P.	1.96	952.64 <del>952.56</del>	1.73	950.67
1 196			2.84	949.80
1 197			2.95	949.69

Bottom  
Ditch

		.40
12.6	939.49	176
	.66	
	.83	
12.1	939.99	179
	.94	
	.90	
11.7	939.86	182
	40.19	
	40.52	
10.7	940.86	185
	.69	
	.52	
11.2	940.36	188
	.37	
	.38	
12.0	940.40	191
	.50	
	.60	
11.7	940.70	194
	.58	
	.46	
12.3	940.34	197



Sta	B.S.	I	Top Stk	
198			3.54	949.10
199			5.69	946.95
200			2.52	950.12
201			2.55	950.09
202	2.61	953.30 <del>953.22</del>	1.95	950.69
203			2.41	950.89
204			2.38	950.92
205			2.34	950.96
206			2.18	951.12
207			2.61	950.69
208		954.51	2.74	950.56
209 T.R.	3.85	<del>954.42</del>	2.65	950.65
210			4.11	950.40
211			5.16	949.35
212			5.15	949.06
#7 212+33				
B.M. N.E. wing wall Next to Handrail			3.73	950.78 ✓
#8				
B.M. Junct. S.W. wing wall & Handrail			3.76	950.75 ✓
213			5.40	949.11
214			4.12	950.39
215		953.58	3.77	950.73
216 T.R.	2.73	<del>953.49</del>	3.66	950.85
217			2.98	950.60
218			2.73	950.85
219			2.26	951.32

Bottom  
Ditch

				.44	
				.54	
			12.0	940.64	200
				.69	
				.75	
			12.5	940.80	203
				.70	
				.60	
			12.8	940.50	206
				.67	
				.84	
			12.3	941.00	209
				0.80	
				0.60	
			14.1	940.41	212
				.51	
				.61	
			13.8	940.71	215
				40.93	
				41.15	
			12.2	941.38	218
				.48	



STA	B.S.	T	Top	STK
15 220			2.31	951.27
15 221			2.47	951.11
15 222			2.35	951.23
15 223 T.P.	3.01	954.33 954.23	2.27	951.31
15 224			3.17	951.16
15 225			2.30	952.03
15 226			2.18	952.15
15 227			2.20	951.73
10 228			3.75	950.58
10 229			3.74	950.59
10 230 T.P.	364	954.07 953.97	3.90	950.43
10 231			2.95	951.12
10 232			4.26	949.81
10 233			4.14	949.93
10 234			4.08	949.99
10 235			3.74	950.33
10 236			3.15	950.32
1 237 TP	3.48	953.54 953.43	4.02	950.05
1 238			3.22	950.32
1 239			3.32	950.22
1 240			3.78	949.76
1 241			3.98	949.56
1 242			3.92	949.62

Bottom	Ditch
	.58
11.9	941.68 221
	.73
	.78
12.5	941.83 224
	.77
	.70
12.7	941.63 227
	.66
	.59
12.8	941.53 230
	.48
	.42
12.7	941.37 233
	.50
	.63
12.3	941.77 236
	1.89
	2.01
11.4	942.14 239
	2.08
	2.01
11.6	941.94 242



	Sta	RS	T	Top STR.	
	243			4.01	949.53
			<u>953.44</u>		
15	244 T.P.	3.47	<u>953.33</u>	3.57	949.97
15	245			3.11	950.33
15	246			2.10	951.34
15	247			2.03	951.41
15	248			2.14	951.30
8	249		<u>955.13</u>	2.26	951.18
N.			<u>955.01</u>		
E	T.P.	5.22		3.54	949.90
15	250			4.30	950.83
16	251			4.45	950.68
16	252			5.10	950.03
16	253			5.12	950.01
16	254		<u>956.33'</u>	5.14	949.99
16	255 T.P.	5.64	<u>956.21</u>	4.44	950.69
16	256			6.48	949.85
16	257			6.43	949.90
16	258			4.74	951.59
16	259			5.24	951.09
11	260		<u>955.49'</u>	6.30	950.03
11	261 T.P.	5.47	<u>955.36</u>	6.32	950.01
1	262			4.93	950.56
1	263			4.76	950.73
1	264			4.46	951.03

Bottom  
Ditch

					.91
					.87
				11.6	941.84
					245
					.84
					.84
				11.6	941.84
					248
					.87
					.90
				13.2	941.93
					251
					2.03
					2.13
				12.9	942.23
					254
					2.09
					1.96
				14.5	941.83
					257
					1.96
					2.09
				14.1	942.23
					260
					.38
					.54
				12.8	942.69
					263
					.59



Sta	B.S.	T	Top	STK	Bottom Ditch
265			4.04	951.45	.49
15 266			5.39	950.10	13.1 942.39 266
15 267			5.46	950.03	.39
15 268 T.P.	4.10	954.68' <del>954.55</del>	4.91	950.58	.38
15 269			4.10	950.58	12.3 942.38 269
15 270			4.48	950.20	.41
8 N. 271			4.19	950.49	.44
8 J. 272			4.44	950.24	12.2 942.48 272
15 273			3.72	950.96	.61
16 274			3.45	951.23	.74
16 275			4.15	950.53	11.8 942.88 275
16 276 T.P.	3.23	954.95' <del>954.81</del>	2.97	951.71	.73
16 277			3.63	951.32	.59
16 278			3.43	951.52	12.5 942.45 278
16 279			3.93	951.02	.58
16 280			3.52	951.43	.71
16 281			2.70	952.25	12.1 942.85 281
16 282			3.08	951.87	2.28
16 283			2.20	952.75	1.71
15 284 T.P.	4.65	956.46 <del>956.31</del>	3.15	951.80	13.9 941.15 284
15 285			4.60	951.86	1.69
15 286			5.19	951.27	2.23
15 287			4.84	951.62	13.7 942.76 287



Sta	BS	T	Top	Stk.	Bottom Ditch		
288			4.95	951.51		942.68	
289			4.58	951.88		2.60	
<del>290 T.P.</del>			<del>5.72</del>				
B.M. #9	290+10						
S.E. Cor. S.E. Wingwall of Bridge		5.16	951.30	✓			
T.P.							
289+90	5.79	<del>956.53</del> <del>956.38</del>	5.72	950.74		2.52	290
291			4.61	951.92	14.1	942.43	291
292			4.21	952.32		.53	
293			4.42	952.11		.63	
294			4.80	951.73	13.8	942.73	294
295			4.95	951.58		.76	
296			3.59	952.94		.79	
297 T.P.	3.17	955.00' <del>954.84</del>	4.71	951.82	13.7	942.83	297
298			3.15	951.85		3.12	
299			2.64	952.36		3.41	
300			1.90	953.10	14.3	943.70	300
301			2.28	952.72		.70	
302			4.51	950.49		.70	
303			2.01	952.99	11.3	943.70	303
304 T.P.	5.38	957.78' <del>957.62</del>	2.60	952.40		.67	
305			4.51	953.27		.64	
306			4.44	953.34		.61	
307			4.41	953.37	14.2	943.58	307
308			5.32	952.46		.61	
309			5.18	952.60		.65	



STA	BS	T	Top	STK
310 T.P.	4.37	956.89' <del>956.72</del>	5.27	952.51
311			3.98	952.91
312			3.87	953.01
313			3.75	953.14
314			3.61	953.28
315		956.89'	4.07	952.82
316 T.P.	4.54	<del>956.72</del>	4.54	952.35
317			3.60	953.29
318			3.68	953.21
319			3.90	952.99
320			3.78	953.11
321		956.89'	3.37	953.52
322	3.47	<del>956.71</del>	3.48	953.41
323			3.63	953.26
324			3.65	953.24
325			3.37	953.52
326			3.50	953.39
327			3.43	953.46
328		958.11'	3.12	953.77
329 T.P.	4.44	<del>957.93</del>	3.22	953.67
330			5.54	952.57
331			4.18	953.93
332			3.90	954.21

14.1	943.68	310
	.72	
	.75	
13.1	943.79	313
	.82	
	.85	
13.0	943.89	316
	.92	
	.95	
12.9	943.99	319
	4.02	
	4.06	
12.8	944.09	322
	4.02	
	3.96	
13.0	943.89	325
	.89	
	.89	
13.0	943.89	328
	.79	
	.70	
14.5	943.61	331
	.71	



Sta	B.S.	T	Top	STK
333			3.98	954.13
334			3.88	954.23
335			6.86	951.25
B.M. #10 335+44				
N.E. cor. N.E. wing wall of Bridge 498				
				953.13
336 T.P.	4.83	<del>957.81</del>	4.95	953.16
		958.00'		
337			4.46	953.54
338			4.38	953.62
339			4.06	953.94
340			4.31	953.69
341			3.71	954.29
342			3.37	954.63
343 T.P.	5.58	<del>959.44</del>	3.95	954.05
		959.63'		
344			5.35	954.28
345			4.80	954.83
346			4.63	955.00
347			4.90	954.73
348			5.00	954.63
349			6.12	953.51
350 T.P.	4.73	<del>958.22</del>	5.95	953.68
		958.42'		
351			4.13	954.29
352			4.31	954.11
353			3.82	954.60
354			3.83	954.59

Bottom  
Ditch

					.81	
					14.2	943.91 334
						4.10
						4.30
					13.5	944.50 337
						.60
						.70
					13.2	944.80 340
						.77
						.73
					13.3	944.70 343
						4.94
						5.18
					14.2	945.43 346
						.36
						.30
					14.4	945.23 349
						5.09
						4.95
					13.6	944.82 352
						.69
						.56



Sta	B.S	T	Top STK
355			4.18 954.29
356			3.26 955.16
357 T.P.	4.02	<del>958.67</del> 958.47	3.77 954.65
358			4.24 954.43
359			4.52 954.15
360			4.15 954.52
361			4.55 954.12
B.M. #11	361 + 38		
NE. Cor. S. Wall Bridge			5.06 953.61 ✓
B.M. #12			
NE. Cor. S. Hand Rail			2.54 956.13 ✓
362			5.17 953.50
363			5.22 953.45
364 T.P.	4.24	<del>957.89</del> 957.68	5.03 953.64
365			4.34 953.55
366			5.17 952.72
367			4.76 953.22
368			5.14 952.75
369			5.15 952.74
370 T.P.	4.67	<del>957.23</del> 957.02	5.33 952.56
371			5.27 951.96
372			4.64 952.59
373			4.89 952.34
374			4.50 952.73
375 T.P.	5.36	<del>957.60</del> 957.38	5.00 952.23
376			5.66 951.94

Bottom  
Ditch

14.0	944.42	355
	.57	
	.72	
13.8	944.87	358
	4.97	
	5.07	
13.5	945.17	361
	.21	
	.27	
13.3	945.37	364
	5.25	
	5.12	
12.9	944.99	367
	5.06	
	5.12	
12.7	945.19	370
	.17	
	.15	
12.1	945.13	373
	.22	
	.32	
12.1	945.50	376



STA	BS	T	Top STR
377			4.97 952.63
378			5.01 952.59
379			4.48 953.12
380			3.53 954.07
381			4.03 953.57
382 T.P.	4.26	957.34' <del>957.12</del>	4.52 953.08
383			4.13 953.21
384			4.09 953.25
385			4.17 953.17
386			4.18 953.16
387			4.18 953.16
388			4.90 952.44
389 T.P.	3.16	956.61' <del>956.28</del>	3.90 953.44
390			2.92 953.79
391			2.86 953.75
392			2.70 953.91
393			3.00 953.61
394			2.76 953.85
395			2.48 954.13
396 T.P.	3.86	957.33' <del>957.12</del>	3.14 953.47
397			4.25 953.08
398			4.34 952.99
399			3.92 953.41

Bottom  
Ditch

					.40	
					.30	
				12.4	945.20	379
					.27	
					.34	
				12.2	945.40	382
					.34	
					.29	
				12.1	945.24	385
					.87	
					.50	
				11.7	945.64	388
					.66	
					.68	
				10.9	945.71	391
					.74	
					.78	
				10.8	945.81	394
					5.92	
					6.02	
				11.2	946.13	397
					6.00	
					5.87	



Sta	BS	T	Top str	
400			4.10	953.23
401			4.04	953.29
402			4.00	953.33
403 T.P.	4.99	958.31' 958.07	3.92	953.41
404			4.07	954.24
405			4.36	953.95
406			3.67	954.64
407			5.00	953.31
408			5.71	952.60
409			4.99	953.32
410 T.P.	3.87	957.64' 957.39	4.55	953.76
411			4.30	953.34
412			4.24	953.40
413			4.20	953.44
414			4.56	953.08
Instr. Cont. 414+16			10.70	946.94 946.90
B.M. #13			5.84	951.80 951.75
N.E. Cor. Headwall 414+16			3.72	953.92
B.M. #14				
E. End S. Rail of Culvert				

Bottom  
Ditch

11.6	945.73	400
	5.83	
	5.93	
11.3	946.03	403
	.12	
	.21	
12.0	946.31	406
	.24	
	.18	
12.2	946.11	409
	.15	
	.19	
11.4	946.24	412
	6.74	
10.4	947.24	414

} See p. 4.

953.92' By Shartle (see p. 4)  
 953.67' By Scherschel  
 0.25 error to be prorated



## Fence &amp; Rd Plus' on Main Ditch

15+24 Fence E. & W.  
 25+73  $\frac{1}{2}$  R.R.  
 35+19 Fence E. & W.  
 37+31 " "  
 43+50 " "  
 57+78  $\frac{1}{2}$  Rd.  
 84+36 Fence E. & W.  
 91+60  $\frac{1}{2}$  Bridge  
 97+67  $\frac{1}{2}$  Rd.  
 109+00 Lateral # 2  
 123+28  $\frac{1}{2}$  Bridge  
 128+75 Fence N & S  
 143+30 " "  
 158+40 Trib. No. 1  
 158+83  $\frac{1}{2}$  Rd.  
 162+45 Fence N  
 165+50 " S.  
 167+60 " N  
 172+12 " S  
 179+65 " N  
 185+85 " S  
 185+65 Lateral # 3  
 189+62 Fence N  
 199+11 " "  
 212+33  $\frac{1}{2}$  Rd.

232+03 Fence W.  
 235+88 " "  
 240+53 " W  
 245+30 " E. & W.  
 262+30 " "  
 273+88 " W  
 276+74 " W  
 " 290+10  $\frac{1}{2}$  Rd.  
 302+52 Fence E. & W.  
 304+60 " W  
 309+00 " W & N  
 322+20 " N & S  
 335+44  $\frac{1}{2}$  Rd.  
 357+15 Tributary No. 4 (proposed tile)  
 364+38  $\frac{1}{2}$  Rd.  
 369+60 Fence E.  
 414+16 Headwall  
 414+69  $\frac{1}{2}$  Rd.



Lateral #1 B.M. on N.E. wing wall  
of bridge (B.M. #5) E.V. 949.56

Sta	BS	T	Top STK	Bottom Ditch	Sta.
B.M. #5	4.47	<u>954.03</u>			938.62 0
1+00			3.73 950.30		38.86
2			3.72 950.31		39.10
3			2.95 951.08	14.7	939.33 3
4			3.01 951.02		39.57
5			2.73 951.30		39.81
6 T.P.	2.88	<u>953.29</u>	3.62 950.41	14.0	940.03 6
7			2.18 951.11		40.15
8			2.42 950.87		40.27
9			4.02 949.27	12.9	940.39 9
B.M. #15 N.E. cor E handrail			2.60 950.69 ✓		
10			4.41 948.88		40.59
11			4.81 948.48		40.79
12 T.P.	4.36	<u>952.89</u>	4.76 948.53	12.3	940.99 12
13			5.10 947.79		41.23
14			4.47 948.42		41.46
15			3.96 948.93	11.2	941.69 15
16			4.44 948.45		41.75
17			3.72 949.17		41.82
18 T.P.	6.58	<u>952.30</u>	7.14 945.72	11.0	941.89 18
19			6.24 946.06		42.06
20			4.22 948.08		42.23



Sta	BS	$\Sigma$	Top	STK
21			4.28	948.02
22			4.98	947.32
23			4.14	948.16
24	T.P. 5.17	953.18	4.29	948.01
25			4.68	948.50
26			4.55	948.63
27			5.08	948.10
28			3.67	949.51
29			3.77	949.41
30			3.42	949.76
31	T.P. 1.50	951.52	3.16	950.02
32			2.28	949.24
33			4.20	947.32
34			3.48	948.04
35			3.80	947.72
36			3.36	948.16
37			3.67	947.85
38	T.P. 5.11	953.34	3.29	948.23
39			3.70	949.64
40			4.70	948.64
41			3.37	949.97
42			5.03	948.31
43			4.92	948.52

Bottom	Sta.
9.9	21
42.40	
42.40	
9.9	24
42.49	
42.58	
10.5	27
.65	
.61	
10.6	30
.59	
.61	
9.9	33
.69	
.75	
8.7	36
.82	
.83	
10.5	39
.86	
.89	
.91	
10.4	43



Sta	BS	IK	Top	STK
44			6.52	946.82
45 T.P.	3.94	952.67	4.61	948.73
46			3.50	949.17
47			3.80	948.87
48			3.94	948.83
49			4.27	948.40
50			5.08	947.59
51			4.34	948.33
52 T.P.	4.45	952.80	4.32	948.35
53			4.10	948.70
54			4.67	948.13
55			4.05	948.75
56			3.90	948.90
57			3.67	949.13
58			3.73	949.07
59 T.P.	4.34	953.87	3.27	949.53
60			4.17	949.70
61			4.12	949.75
62			3.94	949.93
63			4.13	949.74
64			4.67	949.20
65				
B.M. #16				
Top Headwall above Pipe			6.68	947.19

Bottom Ditch	Sta.
	2.85
	2.76
10.0	942.67 46
	2.80
	2.93
9.6	943.07 49
	.17
	.27
9.3	943.37 52
	.38
	.39
9.4	943.40 55
	.40
	.40
9.4	943.40 58
	.39
	.38
10.5	943.37 61
	.47
	.57
10.2	943.67 64



Lateral # 2 0+00 at 108+00  
on Main Ditch

Sta	BS	T	Top STK	Bottom Ditch	
108+00 Main Ditch	5.69	952.64 952.64	946.95		935.80 0+00
1+0.0			4.80 947.84		6.55
2			4.70 947.94		7.29
3			4.12 948.52	14.6	938.04 3
4			4.13 948.21		.04
5			3.58 949.06		.04
6		953.02 953.02	3.62 949.02	14.6	938.04 6
7 T.P.	4.28		3.90 948.74		.33
8			4.07 948.95		.62
9			3.79 949.23	14.1	938.92 9
10			3.98 949.04		.82
11			4.66 948.36		.72
12			5.31 947.71	14.4	938.62 12
13		955.20 955.20	5.01 948.01		8.78
14 T.P.	4.50		5.31 947.71		8.94
15			7.35 947.85	16.1	939.10 15
16			6.57 948.63		.27
17			5.51 949.69		.44
18			7.57 947.63	15.6	939.60 18
19			5.63 949.57		.67
20		957.20 957.20	5.67 949.53		.73
21 T.P.	7.28		5.28 949.92	15.4	939.80 21
22			10.88 946.32		.83



Sta	B.S.	+	Top stk	
23			5.70	951.50
24			4.66	952.54
25			3.69	953.51
26 T.P.	3.48		<del>4.17</del>	952.73
			4.76	951.44
27			3.59	952.61
28			3.62	952.58
29			4.51	951.69
30			3.53	952.67
31			2.52	953.68
32 T.P.	3.31		1.60	955.39
			3.50	953.49
33			4.37	952.62
34			4.96	952.03
35			4.63	952.36
36			5.12	951.87
37 T.P.	4.46		4.76	952.23
			4.18	952.51
38			3.22	953.47
39			3.28	953.41
40			3.73	952.96
41			4.04	952.65
42			4.01	952.68
43				
B.M.#17				
SE cor. SE wing wall				
B.M.#18				
NE cor. Wing at Abutment				

Bottom  
Ditch

	9.86	
17.3	939.90	24
	40.20	
	40.50	
15.4	940.80	27
	1.27	
	1.74	
14.0	942.20	30
	.26	
	.32	
14.6	942.39	33
	.42	
	.45	
14.5	942.49	36
	.49	
	.49	
14.5	942.49	39
	.46	
	.43	
14.3	942.39	42
	2.66	



Sta	BS	X	Top	STK
44			3.79	952.90
45			4.36	952.33
46	5.77		<del>959.52</del> <del>959.55</del> 2.93	953.76
47			6.05	953.47
48			4.45	955.07
49			2.87	956.65
50			4.77	954.75
51			5.80	953.72
52			5.68	953.84
53	T.P. 3.17		<del>958.22</del> <del>958.25</del> 4.47	955.05
54			4.30	953.92
55			4.14	954.08
56			4.27	953.95
57			3.64	954.58
58			4.18	954.04
59	T.P. 2.60		<del>957.40</del> <del>957.44</del> 3.41	954.81
60			3.02	954.38
61			5.69	951.71
62			2.44	954.96
63			2.61	954.79
64			2.77	954.63
65	T.R. 3.67		<del>957.94</del> <del>957.98</del> 3.13	954.27
66			3.77	954.17

Bottom  
Ditch

		2.93	
13.5	943.19	45	
	.27		
	.35		
16.1	943.42	48	
	3.72		
	4.02		
15.2	944.32	51	
	.19		
	.06		
14.3	943.92	54	
	.86		
	.80		
14.5	943.72	57	
	3.88		
	4.04		
13.2	944.20	60	
	.40		
	.60		
12.6	944.80	63	
	.81		
	.82		
	.83		



Sta	BS	X	Top	STK
67			3.64	954.30
68			3.48	954.46
69			3.62	954.32
70			3.04	954.90
71			2.30	955.64
72			3.57	954.37
73	T.P. 4.03	958.49' 958.54	3.47	954.47
74			3.98	954.51
75			4.21	954.28
76			4.43	954.06
77			4.10	954.39
78			4.28	954.21
79	T.P. 4.03	958.04' 958.09	4.48	954.01
80			3.87	954.17
81			4.14	953.90
Inv 48" culv B.M. # 19			10.77	947.27
S.E. cor. w. Culv wall			4.77	953.27

Very strong winds, ground thawing

Bottom  
Ditch

13.1 944.84 67

45.00

45.17

13.4 944.54

13.4 944.54

11.7 946.79

13.1 945.39

WITHDRAWN  
see p. 73

953.32 Scherschel

953.27 Shartle

0.05 error to be prorated



Lateral #3 0+00 at 195+70  
on Main Ditch

Sta	B.S.	I	Top	STK
Main Ditch 186+00	2.97	952.52		949.55
1+00			4.26	948.06
2			4.06	948.46
3			3.87	948.65
4			3.64	948.88
5 T.P.	4.32	953.41	3.43	949.09
6			4.20	949.21
7			4.57	948.84
8			4.45	948.96
9			4.31	949.10
10			4.22	949.19
T.P. B.M. #20 N.E. COR. S. Wing Wall Bridge			3.55	949.86
	5.30	955.16		
11			4.62	950.54
12			3.93	951.23
13			3.90	951.26
14			4.34	950.82
15			5.11	950.05
16 T.P.	4.14	954.84	4.46	950.70
17			4.20	950.64
18			4.23	950.61
19			4.38	951.36

+30

Left  
BankBottom  
DitchRight  
Bank

5.2	947.32	11.4	941.12	4.8	947.72
4.5	947.72	11.2	941.32	4.8	947.72
4.6	947.92	10.8	941.72	4.4	948.12
4.1	948.42	10.4	942.12	4.3	948.22
3.6	948.92	10.1	942.42	3.6	948.92
4.7	948.71	10.3	943.11	5.4	948.01
4.3	948.61	10.1	943.31	5.3	948.11
5.1	948.31	10.0	943.41	6.0	947.41
5.1	948.31	10.0	943.41	5.5	947.91
4.9	948.51	9.7	943.71	4.3	949.11
5.4	949.76	11.4	943.76	5.5	949.66
4.7	950.46	11.3	943.86	6.0	949.16
4.7	950.46	11.1	944.06	5.4	949.76
5.1	950.06	10.2	944.36	5.0	950.16
5.9	949.26	10.6	944.56	5.2	949.96
5.3	949.86	10.9	944.56	5.3	949.86
5.0	949.84	10.2	944.64	5.4	949.44
4.9	949.94	9.8	945.04	5.2	949.64
5.1	949.74	9.6	945.24	5.2	949.64

EN. F.L. Graham Arm (16" tile) = 945.3'±



STA	BS	T	Top	STK	
20			4.20	949.94	
21			4.60	950.24	
22	T.P.	4.79	954.96	4.67	950.17
23			4.44	950.52	
24			4.54	950.42	
25			4.28	950.68	
26			4.25	950.71	
27			4.52	950.44	
28			4.73	950.23	
29			4.40	950.56	
30			4.75	950.21	
T.P.	4.47	954.96	4.47	950.49	

B.M. # 20  
NE Cor. S. Wingwall Bridge  
Between 10+00 & 11+00

## Notes

Bottom of Ditch will average 4' wide  
Top will average 20' from 0+00 to 5+00  
and 14' from 5+00 to 30+00

Left Bank	Bottom Ditch	Right Bank			
5.0	949.24	9.7	945.14	5.1	949.74
5.2	949.54	9.7	945.14	4.7	950.14
5.2	949.64	9.7	945.14	4.7	950.14
5.3	949.66	9.8	945.16	4.4	950.56
5.1	949.86	9.7	945.26	5.5	949.46
5.1	949.86	9.6	945.36	5.3	949.66
5.2	949.76	9.4	945.56	5.5	949.46
5.4	949.56	9.3	945.66	5.8	949.16
5.5	949.46	9.1	945.86	5.7	949.26
5.3	949.66	8.9	946.16	5.5	949.46
5.6	949.36	8.7	946.26	5.7	949.26

Elv. FL. 16" Drain tile = 945.1 ±



73

Spur on Lateral = 2 69+50 of spur

= 69+50 on Lat # 2

Sta	BS	X	Top stk	Elev.
70+00 on Lat # 2				954.90
B.M.	7.00	961.90		

Bottom  
Ditch

70+00			6.10	955.80		945.34	70	
71			4.76	957.14		5.50		
72			7.06	954.84		5.66		
73			8.05	953.85		5.83		
74	T.P.	5.86	960.29	7.47	954.43	15.9	946.00	74
75			6.20	954.09		.05		
76			5.85	954.44		.09		
77			4.72	955.57		0.14		
78			3.58	956.71	14.1	946.19	78	
79			4.16	956.13		6.52		
80			5.34	954.95		6.84		
81			5.65	954.64		7.16		
82			6.07	954.22	12.5	947.49	82	
83			7.02	953.27		7.78		
84			6.62	953.67		948.08	84	
Inv. Bottom 18" tile			11.15	949.14		948.20	84+74	
B.M. # 21								
Top Headwall 84+74			8.03	952.26				
over 18" tile								

874



Trib #4 0+00 at 357+15 Main Ditch

BM NE cor S. Bridge Wall BM # 11 Sta BS.  $\pi$  ground

Sta	BS	$\pi$	ground
BM	3.78	957.39	953.61
0+10			3.4 954.0
0+30			3.1 954.3
0+55			5.1 952.3
1+00			5.4 952.0
2			5.4 952.0
3			5.0 952.4
4			5.2 952.2
5			4.2 953.2
6			3.4 954.0
7			2.6 954.8
T.P.	4.18	959.29 <del>959.30</del>	2.27 955.12
8			4.1 955.2
9			2.7 956.6
10			4.3 955.0
11			5.2 954.1
12			5.1 954.2
13			5.6 953.7
14			5.7 953.6
T.P.	4.90	958.75 <del>958.77</del>	5.43 953.86
15			5.3 953.4
16			5.3 953.4

VOID  
see p. 81

Sta	BS	$\pi$	ground
		958.75 <del>958.77</del>	
17			5.0 953.8
18			5.0 953.8
19			5.1 953.7
20			5.2 953.6
21			5.4 953.4
22			5.6 953.6
T.P.	6.18	959.35 <del>959.38</del>	5.57 953.18
23			6.4 953.0
24			6.6 952.8
25			6.2 953.2
& Rd			5.0 954.4
Bottom E. Ditch			7.1 952.25
26			6.2 953.2
27			6.1 953.3
28			6.3 953.1
29			6.2 953.2
30			5.7 953.6
31			5.1 954.2
32			4.9 954.4
32+34 Fence			4.2 955.2
B.M. #22			
U.S.G. BM (Stamped Elev. 954')			5.43 953.92
T.P.	5.14	959.48 <del>959.52</del>	5.00 954.35



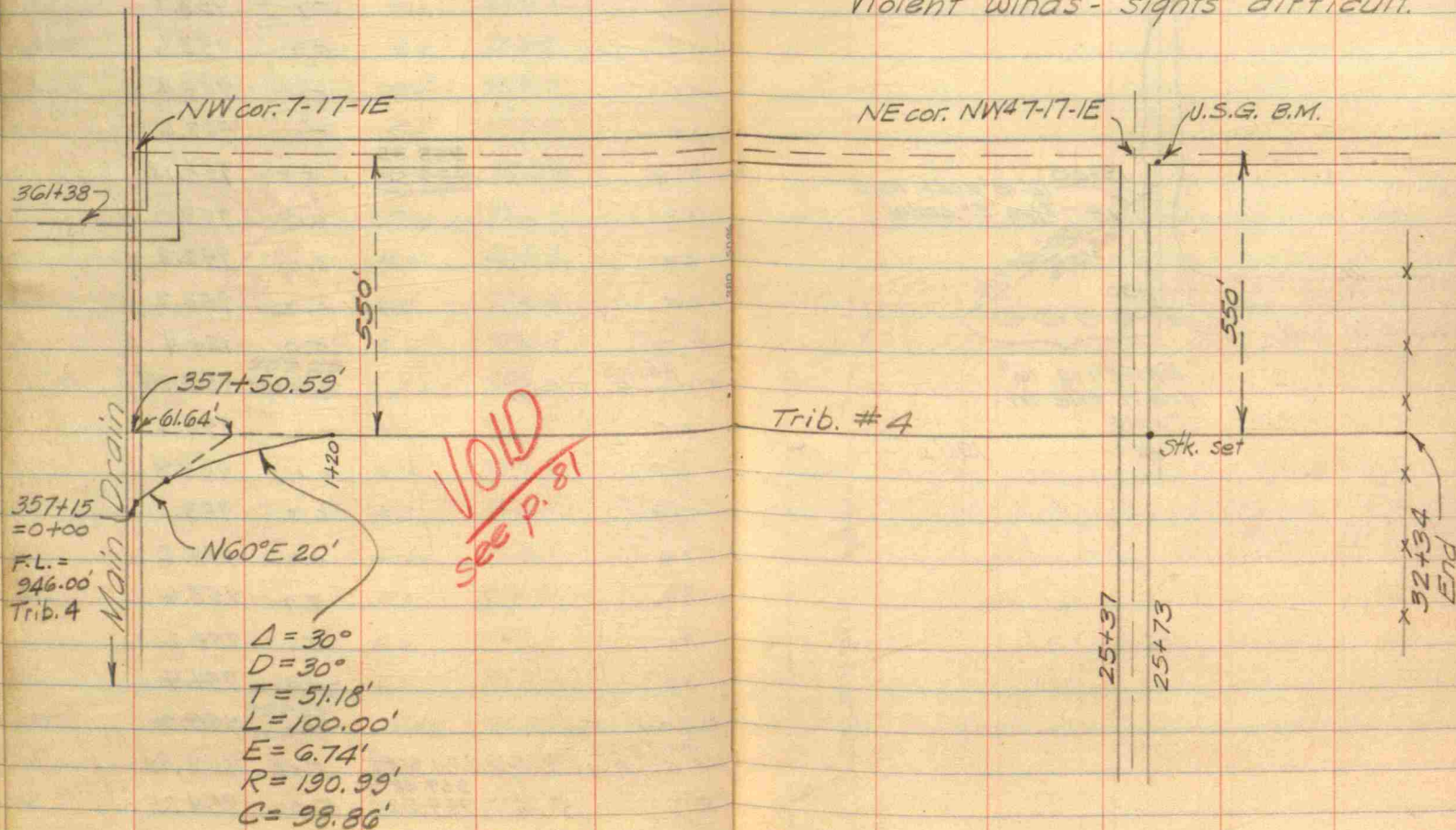
Sta.	B.S.	T	F.S.	
T.P.	4.18	761.60 761.65	2.05	957.43
T.P.	4.81	757.05 757.13	9.33	952.27
B.M.#11			3.44	953.61

B.M.#11: 953.61 See p. 47

953.69

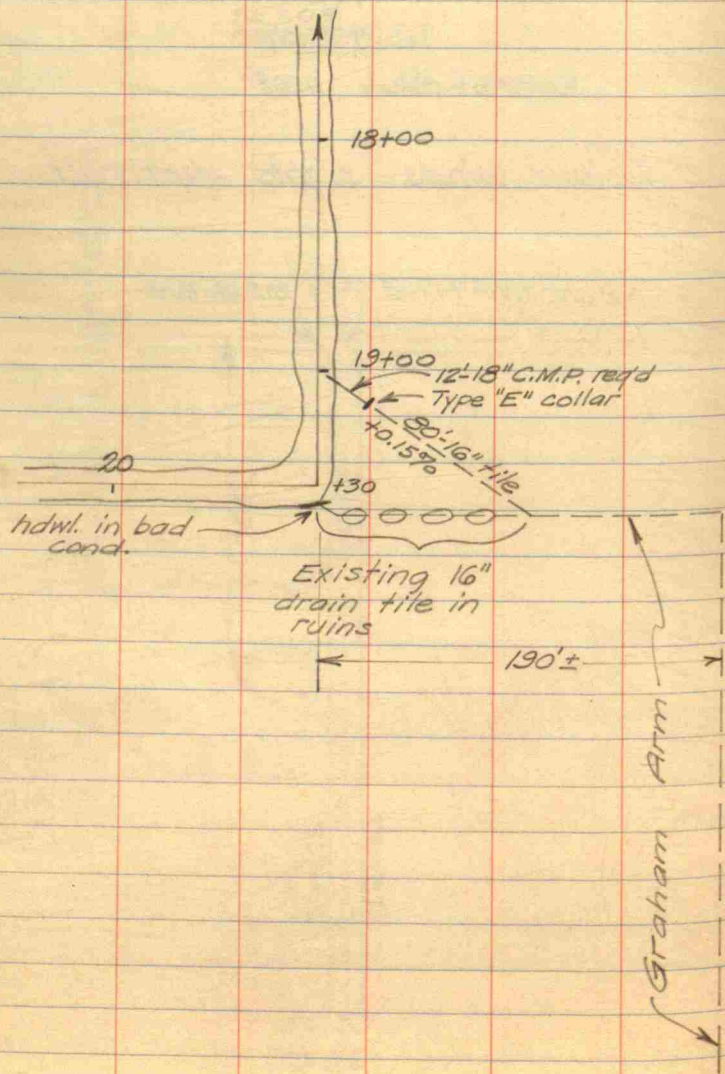
Error of closure 0.08

Violent winds - sights difficult.





TRIB. # 3





2881

Trib. No 4 (Relocation)

7-17-1E

Shartle

Burrans

Watson

7/9/53

Sta.	B.S.	H.I.	F.S.	EL.	Proposed
347+00	4.24	958.97		954.73	
346+00			3.94	955.03	
⊙	0.78	958.14	1.61	957.36	
B.M.#23			7.36	950.78	
			12.41	945.73	
0+00			8.30	949.84	945.7
2			6.20	951.94	945.9
⊙ (see above)	0.63	957.99		957.36	
4			5.90	952.09	946.1
6			5.10	952.89	946.3
8			5.20	952.79	946.5
10			5.20	952.79	946.7
⊙	6.06	958.67	5.38	952.61	
12			4.50	954.17	946.9
14			5.30	953.37	947.1
16			5.10	953.57	947.3
18			5.20	953.47	947.5

Top NE. cor. conc. hdwl 346+00

F.L. 15" tile

On ground at overflow

6'

6'

6.6'

6.3'

6.1'

7.3'

6.3'

6.3'

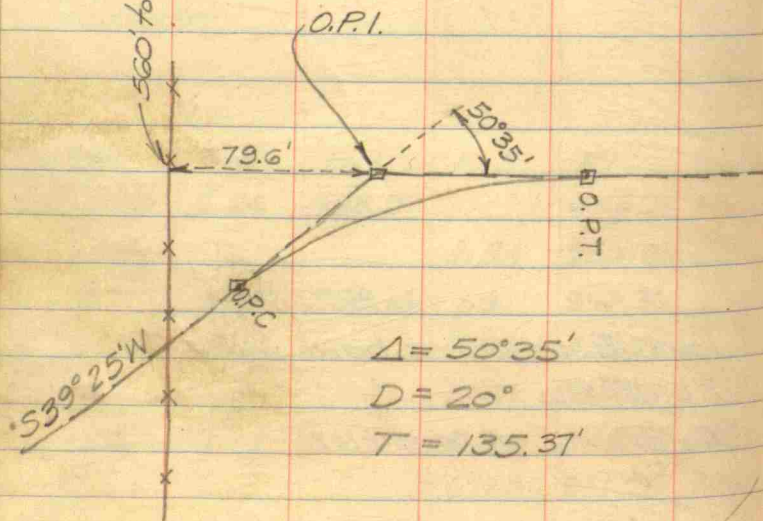
6.0'

2882



#883

Sta	B.S.	H.I.	F.S.	EL.	Proposed
20			5.30	953.37	947.7
0	4.60	957.96	5.31	953.36	
			4.45	953.51	



$$\Delta = 50^\circ 35'$$

$$D = 20^\circ$$

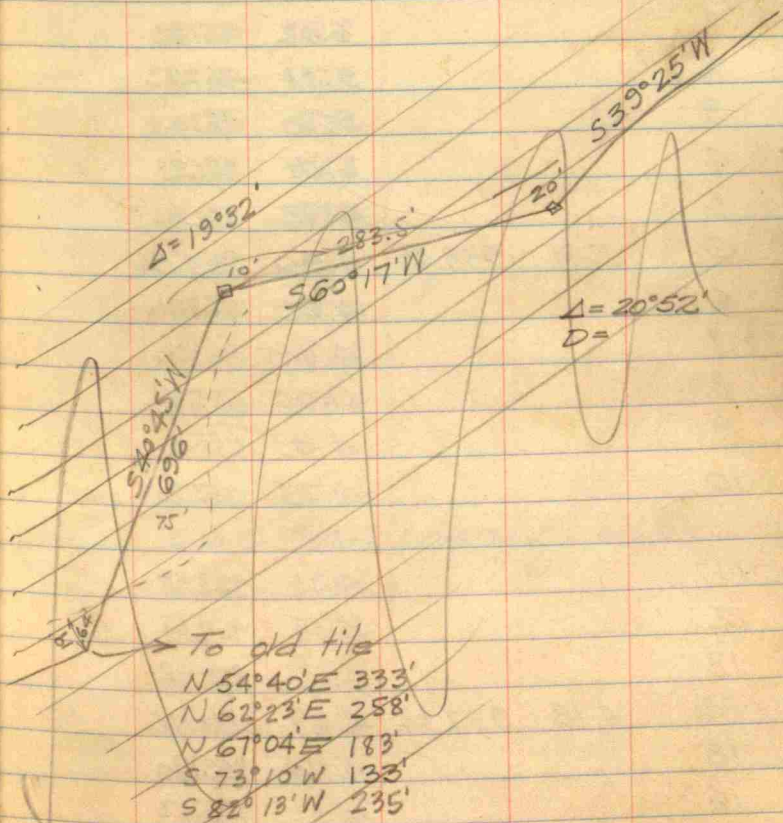
$$T = 135.37'$$

~~N62°21'W 10'~~  
~~Relat. 270°~~

~~581°~~  
~~234'~~

49 77  
 19 32  
 ---  
 30 45

8884



$\Delta = 19^\circ 32'$

283.5'  
 $S60^\circ 17' W$

$\Delta = 20^\circ 52'$   
 $D =$



Sta.	B.S.	H.I.	stk. F.S.	stk. E.L.
B.M.#23	7.16	957.94		950.78
0+15				
0+25				
0+50				
1			6.02	951.92
2			5.71	952.23
3			5.70	952.24
4			6.01	951.93
5			4.98	952.96
0	5.41	958.45	4.90	953.04
6			4.69	953.76
7			4.69	953.76
8			5.00	953.45
9			4.99	953.46
10			4.75	953.70
11			4.46	953.99
12			4.36	954.09
13			4.17	954.28
14	4.18	957.94	4.69	953.76
15			4.24	953.70
16			4.31	953.63
17			4.28	953.66

Ground  
F.S.Shartle  
Burrows  
Watson  
7/13/53  
Fair-Hot

5.50 952.4

4.40 953.5

5.80 952.1

6.10 951.8

5.50 952.4

5.30 952.6

5.00 952.9

4.70 953.2

4.80 953.6

4.90 953.5

5.30 953.2

5.30 953.2

5.20 953.3

10.8± 947.65

4.60 953.8

4.50 953.9

4.50 953.9

5.00 953.4

4.20 953.7

4.40 953.5

4.50 953.4

Approx. F.L. old tile



87

Sta.	B.S.	H.I.	Stk. F.S.	Stk. EL.	Ground F.S.
18			4.29	953.65	4.30 953.6
19			4.20	953.74	4.50 953.4
20					4.90 953.0
21					4.50 953.4
22					4.70 953.2
23					4.70 953.2
24					4.60 953.3
25					4.30 953.6
⊙	1.42	958.24	1.12	956.82	
26					5.00 953.2
27					5.00 953.2
28					5.10 953.1
29					5.20 953.0
30					5.30 952.9
31					6.10 952.1
32					5.30 952.9
33					4.00 954.2
B.M.			4.35	953.89	

88

32+73.5 W. fence Rd.  
 32+91.5  
 33+09.5 E. " "



89

TRIB. NO. 4

Jan. 21, 1954 Windy  
Shurtle  
Bender  
McIntyre

90

Sta.	B.S.	H.I.	Stake F.S.	Stake EL.	Proposed EL.	cut below stk.
B.M.#23	7.58	958.36		950.78		
0+10			7.60	950.76	945.71	5.05
1			6.97	51.39	45.80	5.59
2			6.49	51.87	45.90	5.97
2+25			6.29	52.07	45.92	6.15
+50			6.37	51.99	45.95	6.04
+75			6.39	51.97	45.98	5.99
3			6.35	52.01	46.00	6.01
+25			6.24	52.12	46.02	6.10
+50			6.02	52.34	46.05	6.29
+75			6.12	52.24	46.08	6.16
A			6.21	52.15	46.10	6.05
+25			6.27	52.09	46.12	5.97
+50			6.25	52.11	46.15	5.96
+75			6.18	52.18	46.18	6.00
5			6.57	51.79	46.20	5.59
5+25			6.30	52.06	46.22	5.84
6			6.25	52.11	46.30	5.81
7			6.28	52.08	46.40	5.68
8			6.37	51.99	46.50	5.49
9	5.35	957.49	6.22	952.14	946.60	5.54
10			5.52	51.97	46.70	5.27
11			5.35	52.14	46.80	5.34



11+50			5.21	52.28	46.85	5.43
12			4.65	52.84	46.90	5.94
12+50			4.28	53.21	46.95	6.26
13			4.48	53.01	47.00	6.01
13+50			4.52	52.97	47.05	5.92
14			4.90	52.59	47.10	5.49
14+50			4.66	52.83	47.15	5.68
15			4.50	52.99	47.20	5.79
16			4.12	53.37	47.30	6.07
17			4.06	53.43	47.40	6.03
18	4.48	958.13	3.84	953.65	947.50	6.15
19			4.45	53.68	47.60	6.08
20			4.70	53.43	47.70	5.73
+25			3.93	54.20	47.72	6.48
+50			3.96	54.17	47.75	6.42
+75			3.92	54.21	47.78	6.43
21			3.84	54.29	47.80	6.49
+25			3.75	54.38	47.82	6.56
+50			4.02	54.11	47.85	6.26
+75			4.28	53.85	47.88	5.97
22			4.16	53.97	47.90	6.07
+25			4.19	53.94	47.92	6.02
+48			4.12	54.01	47.95	6.06
23			4.18	53.95	48.00	5.95



## Monthly Estimates Ross Drain

For	Payable	Waterway Excavation	Clearing & Grubbing
Oct. 1953	Nov.	0+00 to 54+00 (Main) 1068.7 cys.	20% (Main)
Nov.	Dec.	54 to 164 (Main) 4616.1 cys. (t.)	} 55% (Main & Trib. 2)
		0 to 50 (Tr. 2) 1135.9 cys.	
Dec.	Dec.	164+00 to 185+00 1487.4	} 5% Main & Tribs.
		Trib. 1 - 0+00 to 17+00 722.3	
		" 2 - 50+00 to 84+74 480.8	
		" 3 - 0+00 to 15+00 <u>1522.2</u>	
		4212.7 cys.	

1954

Jan.	Feb.	185+00 to 210+00 1996.0	} 5% Main & Tribs.
		Trib. 1 - 17+00 to 66+60 4152.1*	
		*includes 2067 cys. extra work ordered	
Feb.	Mar.	210+00 to 300+00 6250.0**	} Clearing & grubbing 5%
		Trib. 3 - 15+00 to 30+20 1115.0	
		Trib. 3 - Sta. 19+00 26' of 18" C.M.P. } ‡ 100' 16" D.T.	
		Trib. 3 - Sta. 30+20 24' of 18" C.M.P. } Str. 1, 2 & 3	

\*\* incl. 1500 cys. extra ordered 2/4/1954 - 3450 cys. to be paid later

† incl. extra ordered 2/5/1954



24			3.95	54.18	48.10	6.08
25			3.72	54.41	48.20	6.21
26			4.13	54.00	48.30	5.70
27			4.28	53.85	48.40	5.45
28	5.30	959.13	4.30	953.83	948.50	5.33
29			5.44	53.69	48.60	5.09
30			5.57	53.56	48.70	4.86
31			6.33	52.80	48.80	4.00
32			5.44	53.69	48.90	4.79
34			5.54	53.59	49.10	4.49
35			5.62	53.51	49.20	4.31
36			5.38	53.75	49.30	4.45
37			5.22	53.91	49.40	4.51
38			4.72	54.41	49.50	4.91
39			4.47	54.66	49.60	5.06
39+70			3.44	55.69	49.67	6.02
B.M. #22			5.23	953.90		

no stake at 33+00

U.S.G.S. B.M.



Catch basin to be a prefab. unit made  
from R.C. Pipe A.S.T.M. Specs C75-41 and  
Bell-end cone pipe Specs C14-41 mfg. to  
engineers spec of measurement and suggests plan  
to be accepted by him before mfg. & delivery.



Stk. 19+00	4.58	958.26	953.68	947.60	
" 20+50			4.09	954.17	947.75 6.42
" 20+25			4.08	954.18	947.72 6.46
" 20+75			4.04	954.22	947.78 6.44
" 21+00			3.98	954.28	947.80 6.48
+25			3.90	954.36	947.82 6.54
+50			4.14	954.12	947.85 6.27
+75			4.39	953.87	947.88 5.99
22+00			4.30	953.96	947.90 6.06
+25			4.32	953.94	947.92 6.02
+48			4.23	954.03	947.95 6.08
23+00			4.27	953.99	948.00 5.99