

BK 33 Dr. 14

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

_____ Drainage Survey

_____ Birch Lake Ave. _____

W. City Limits
From Co Ditch _____ To Bald Eagle Ave

Road Acc't. No. _____ White Bear City

Date Filed _____

File _____

BK 33 Dr 14

Birch Lake Ave.
Profile & Ditch Rt - Lt.

from Co. Ditch
to
Bald Eagle Ave.

6 Pages

4/17/40

R. Pease
A. Moeschter
L. Goldberg
C. Fewer

Drawn up
4/20/40

Sta.	+	∇	-	Elev.
B.M.	2.56	102.56		100.00
0+00			4.8	97.80
+03	F.L. 2-12" C.M.			
+20	F.L. 15" C.M.			
+17.	F.L. 2-12" C.M.			
+50			4.7	97.9
+54	F.L. 15" C.M.			
+90	F.L. 15" C.M.			
+89	F.L. 15" C.M.			
+109	F.L. 15" C.M.			
+10.	F.L. 15" C.M.			
+50			5.3	97.3
+98	F.L. 15" C.M.			
2			4.8	97.8
+28	F.L. 15" C.M.			
+20	F.L. 15" C.M.			
+48	F.L. 15" C.M.			
+50				98.0
3			4.6	98.0
+50			4.6	98.0
+94	F.L. 15" C.M.			
4			4.5	98.1
+12	F.L. 15" C.M.			
+50			4.4	98.2
5				98.3

Top Hyd.

10.9 10.9 11.0 11.1 12.01 5.93 5.5 6.23 11.95 11.6 11.7 11.6
200 150 100 50 18 17 48 14 18 18 50 100 120

90.55
FL 36 "C.M.
96.63
Top Feedwall
Top Headwall 96.33
FL 36 "C.M. 90.61

95.22
7.34
19
93.46 9.10 9.09 93.47
26 27

95.26 47
7.30
20

7.14 95.42
23

95.25
7.31
24

6.9
26 5.3

95.35
7.21
25 95.48
7.08
25

7.4
25 95.32
7.34
25

6.9
27 48
7.00 95.56
26

7.00 95.56
25

95.58
6.98
26
7.0
26

6.7
25
6.8
25

6.7
26 46
6.8
26 46

95.62

6.94
25

6.8
25

95.79

6.77
25

6.8
25

6.5
25 44
6.5
24 43

6.8
24

6.5
25

Sta.	+	π	-	E/cr.
		102.56		
T.P.	5.10	103.17	4.49	98.07
+ 50			4.9	98.3
+ 74	F.L. 15" C.M.			
6			4.9	98.3
+ 14	F.L. 15" C.M.			
+ 34	F.L. 15" C.M.			
+ 50				98.3
+ 76	F.L. 15" C.M.			
+ 98	F.L. 15" C.M.			
7 + 00	F.L. 15" C.M.		4.8	98.4
T.P.	2.21	103.15	2.23	100.94
+ 28	F.L. 15" C.M.			
+ 48	F.L. 15" C.M.			
+ 50			4.9	98.3
8			5.0	98.2
+ 04	F.L. 15" C.M.			
+ 24	F.L. 15" C.M.			
+ 50			4.8	98.4
+ 97	F.L. 15" C.M.			
9			4.8	98.4
+ 17	F.L. 15" C.M.			
+ 50			4.8	98.4
10			4.8	98.4

$$\frac{7.2}{25}$$

4.9

$$\frac{7.2}{24}$$

$$\frac{7.1}{24}$$

4.9

$$\frac{7.32}{23}$$

95.85

$$\frac{7.26}{23}$$

95.91

96.12

$$\frac{7.05}{25}$$

4.9

$$\frac{6.9}{24}$$

$$\frac{7.47}{23}$$

95.70

$$\frac{7.44}{23}$$

95.73

96.15

$$\frac{7.02}{22}$$

4.8

$$\frac{7.2}{24}$$

Top. Hyd. N.E. Cor. Kresch Ave.

$$\frac{7.33}{24}$$

95.82

$$\frac{7.36}{24}$$

95.79

$$\frac{6.9}{22}$$

4.9

$$\frac{7.0}{24}$$

$$\frac{6.9}{23}$$

5.0

$$\frac{7.1}{23}$$

$$\frac{7.33}{23}$$

95.82

$$\frac{7.23}{23}$$

95.92

$$\frac{6.8}{22}$$

4.8

$$\frac{6.7}{23}$$

96.53

$$\frac{6.62}{23}$$

$$\frac{6.6}{22}$$

4.8

96.68

$$\frac{6.47}{24}$$

$$\frac{6.5}{22}$$

4.8

$$\frac{6.6}{24}$$

$$\frac{6.5}{22}$$

4.8

$$\frac{6.4}{24}$$

Sta	+	π	-	Elev.
		103.15		
10+ 11	F.L. 15" C.M.			
+ 31	F.L. 15" C.M.			
+ 50			4.7	98.5
+ 69	F.L. 15" C.M.			
+ 75	F.L. 15" C.M.			
+ 84	F.L. 15" C.M.			
11			4.6	98.6
+ 24	F.L. 15" C.M.			
+ 29	F.L. 15" C.M.			
+ 49	F.L. 15" C.M.			
+ 50			4.8	98.4
12			4.7	98.5
T.P.	4.83	103.27	4.71	98.44
+ 22	F.L. 12" C.M.			
+ 36	F.L. 12" C.M.			
+ 50			4.8	98.5
13			4.8	98.5
+ 50			4.9	98.4
14			4.9	98.4
+ 50			4.8	98.5
15			4.7	98.6
+ 50			4.6	98.7
+ 94	F.L. 15" C.M.			
16			4.5	98.8

96.11

$$\begin{array}{r} 7.04 \\ 24 \\ \hline 6.95 \\ 23 \end{array}$$

96.20

$$\begin{array}{r} 6.3 \\ 21 \end{array}$$

47

$$\begin{array}{r} 6.3 \\ 22 \end{array}$$

96.34

$$\begin{array}{r} 6.81 \\ 22 \end{array}$$

96.75

$$\begin{array}{r} 6.90 \\ 22 \end{array}$$

$$\begin{array}{r} 6.84 \\ 23 \end{array}$$

96.31

$$\begin{array}{r} 6.2 \\ 21 \end{array}$$

46

$$\begin{array}{r} 6.76 \\ 23 \end{array}$$

96.39

96.67

$$\begin{array}{r} 6.48 \\ 17 \end{array}$$

96.95

$$\begin{array}{r} 6.20 \\ 17 \end{array}$$

$$\begin{array}{r} 6.2 \\ 17 \end{array}$$

48

$$\begin{array}{r} 5.6 \\ 17 \end{array}$$

$$\begin{array}{r} 5.9 \\ 18 \end{array}$$

47

$$\begin{array}{r} 5.5 \\ 17 \end{array}$$

97.20

$$\begin{array}{r} 6.07 \\ 18 \end{array}$$

97.45

$$\begin{array}{r} 5.82 \\ 18 \end{array}$$

$$\begin{array}{r} 5.9 \\ 18 \end{array}$$

48

$$\begin{array}{r} 5.5 \\ 18 \end{array}$$

$$\begin{array}{r} 5.9 \\ 17 \end{array}$$

48

$$\begin{array}{r} 5.6 \\ 18 \end{array}$$

$$\begin{array}{r} 5.8 \\ 17 \end{array}$$

49

$$\begin{array}{r} 5.6 \\ 18 \end{array}$$

$$\begin{array}{r} 5.7 \\ 17 \end{array}$$

49

$$\begin{array}{r} 5.7 \\ 18 \end{array}$$

$$\begin{array}{r} 5.8 \\ 17 \end{array}$$

48

$$\begin{array}{r} 5.6 \\ 17 \end{array}$$

$$\begin{array}{r} 5.5 \\ 17 \end{array}$$

47

$$\begin{array}{r} 5.6 \\ 17 \end{array}$$

$$\begin{array}{r} 5.4 \\ 18 \end{array}$$

46

$$\begin{array}{r} 5.5 \\ 18 \end{array}$$

$$\begin{array}{r} 6.22 \\ 18 \end{array}$$

97.05

$$\begin{array}{r} 5.2 \\ 17 \end{array}$$

Sta.	+	π	-	Elev.
		103.85 ²⁷		
16 + 34	F.L. 15" C.M.			
+ 50			4.6	98.7
17			4.7	98.6
+ 50			4.7	98.6
18			4.5	98.8
+ 50			4.5	98.8
+ 54	F.L. 15" C.M.			
+ 94	F.L. 15" C.M.			
19			4.3	99.0
T.P.	4.89	103.78 ⁵	4.41	98.84 ⁶
+ 50			5.0	98.8
20			5.1	98.7
+ 50			5.1	98.7
21			4.9	98.9
+ 06	F.L. 15" C.M.			
+ 46	F.L. 15" C.M.			
+ 50			4.9	98.9
22			4.9	98.9
+ 50			4.8	99.0
23			4.7	99.1
+ 50			4.7	99.1
24			4.7	99.1
+ 50			4.7	99.1
25			4.7	99.1

$$\begin{array}{r} 97.17 \\ 6.10 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 5.2 \\ 17 \end{array}$$

$$4.6$$

$$\begin{array}{r} 5.6 \\ 18 \end{array}$$

$$\begin{array}{r} 5.2 \\ 17 \end{array}$$

$$4.7$$

$$\begin{array}{r} 5.4 \\ 18 \end{array}$$

$$\begin{array}{r} 5.2 \\ 17 \end{array}$$

$$4.7$$

$$\begin{array}{r} 5.3 \\ 18 \end{array}$$

$$\begin{array}{r} 5.2 \\ 18 \end{array}$$

$$4.5$$

$$\begin{array}{r} 5.2 \\ 17 \end{array}$$

$$\begin{array}{r} 5.5 \\ 18 \end{array}$$

$$4.5$$

$$\begin{array}{r} 5.0 \\ 18 \end{array}$$

$$97.45 \begin{array}{r} 5.82 \\ 18 \end{array}$$

$$97.59 \begin{array}{r} 5.68 \\ 18 \end{array}$$

$$\begin{array}{r} 5.5 \\ 18 \end{array}$$

$$4.3$$

$$\begin{array}{r} 5.1 \\ 18 \end{array}$$

$$\begin{array}{r} 5.7 \\ 17 \end{array}$$

$$5.0$$

$$\begin{array}{r} 5.7 \\ 18 \end{array}$$

$$\begin{array}{r} 5.6 \\ 17 \end{array}$$

$$5.1$$

$$\begin{array}{r} 5.6 \\ 18 \end{array}$$

$$\begin{array}{r} 5.6 \\ 17 \end{array}$$

$$5.1$$

$$\begin{array}{r} 5.6 \\ 18 \end{array}$$

$$\begin{array}{r} 5.4 \\ 17 \end{array}$$

$$4.9$$

$$\begin{array}{r} 6.0 \\ 18 \end{array}$$

$$\begin{array}{r} 6.43 \\ 18 \\ \hline 6.29 \\ 18 \end{array} \begin{array}{l} 97.32 \\ 97.46 \end{array}$$

$$\begin{array}{r} 5.4 \\ 17 \end{array}$$

$$4.9$$

$$\begin{array}{r} 6.0 \\ 18 \end{array}$$

$$\begin{array}{r} 5.5 \\ 17 \end{array}$$

$$4.9$$

$$\begin{array}{r} 5.7 \\ 18 \end{array}$$

$$\begin{array}{r} 5.5 \\ 17 \end{array}$$

$$4.8$$

$$\begin{array}{r} 5.7 \\ 18 \end{array}$$

$$\begin{array}{r} 5.5 \\ 17 \end{array}$$

$$4.7$$

$$\begin{array}{r} 5.6 \\ 18 \end{array}$$

$$\begin{array}{r} 5.4 \\ 17 \end{array}$$

$$4.7$$

$$\begin{array}{r} 5.6 \\ 18 \end{array}$$

$$\begin{array}{r} 5.4 \\ 17 \end{array}$$

$$4.7$$

$$\begin{array}{r} 5.5 \\ 18 \end{array}$$

$$\begin{array}{r} 5.4 \\ 17 \end{array}$$

$$4.7$$

$$\begin{array}{r} 5.5 \\ 18 \end{array}$$

$$\begin{array}{r} 5.3 \\ 17 \end{array}$$

$$4.7$$

$$\begin{array}{r} 5.3 \\ 18 \end{array}$$

Sta.	+	π	-	Elev.
		103.7 ⁵ 8		
25 + 50			4.6	99.2
26			4.5	99.3
T.P.	5.39	104. ⁶¹ 58	4.53	99.2 ² 8
+ 52	M.H. - Storm Sewer			

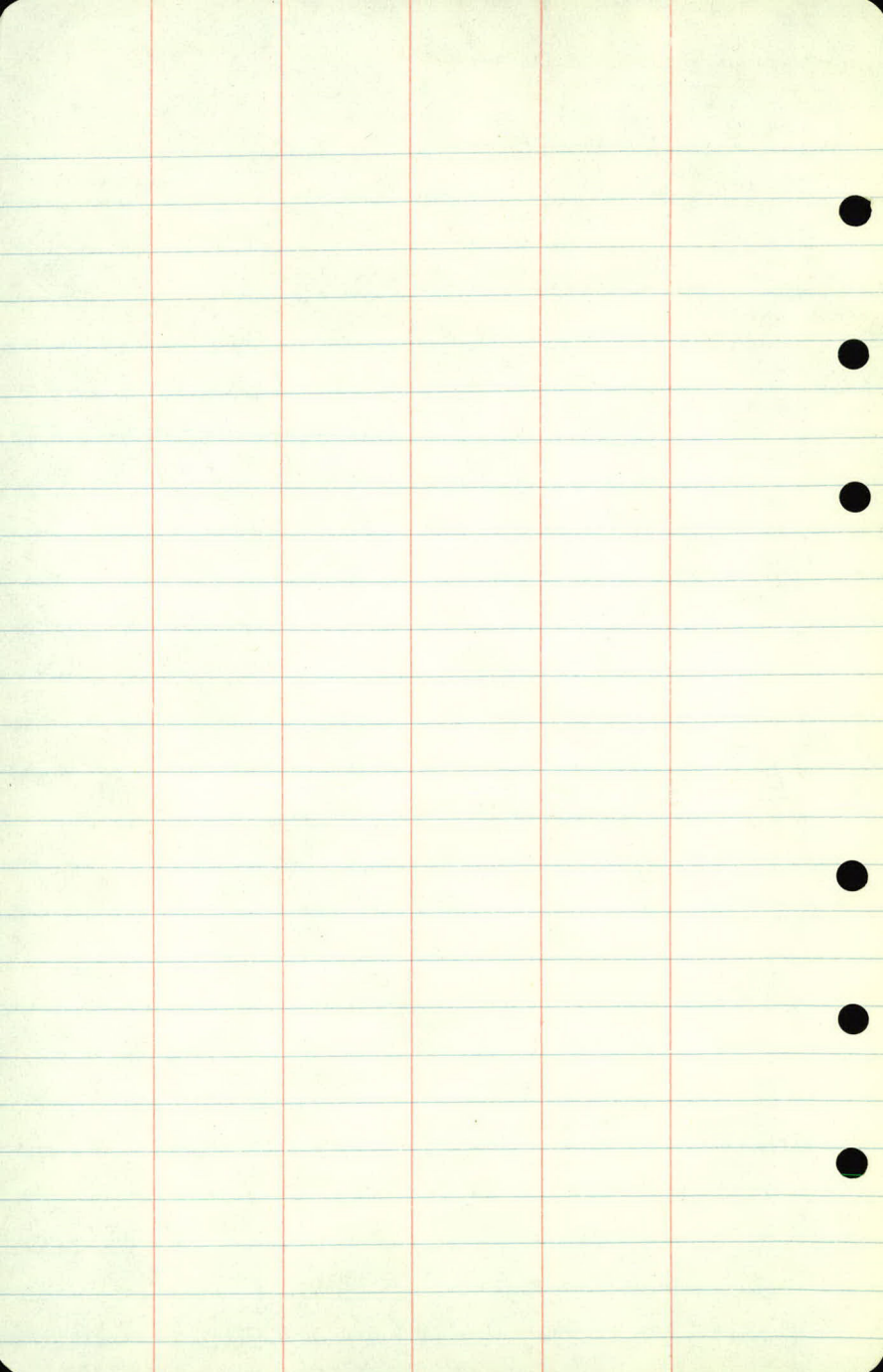
$$\frac{5.2}{17}$$
$$\frac{4.8}{17}$$

$$\frac{4.6}{4.5}$$

$$\frac{5.1}{18}$$

$$\frac{4.9}{18}$$

$$97.96$$
$$\frac{6.65}{45}$$



Elev Storm Sewer

Bald Eagle Ave

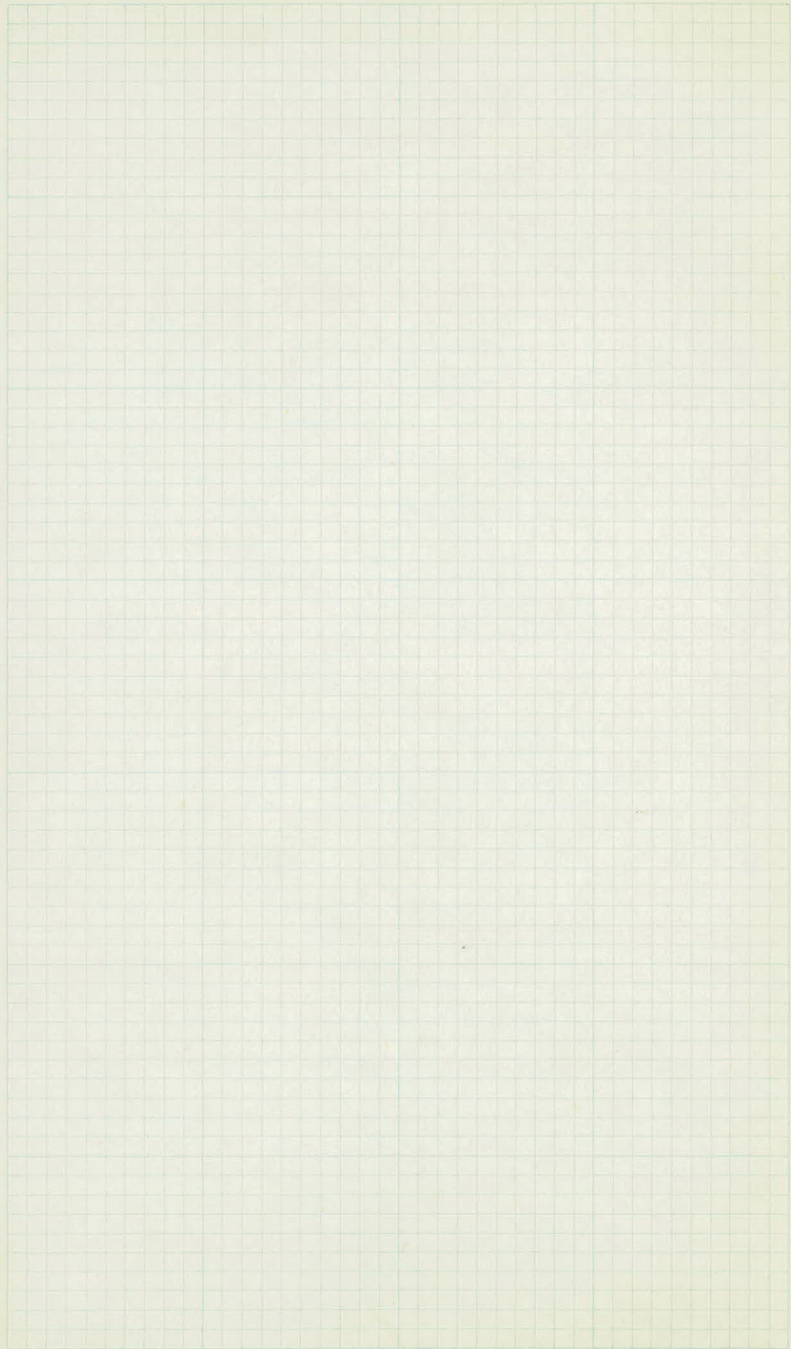
2nd S No To 1st No

8-5-42

HAW

LC

C.F



Second Str

1st

Bald Eagle Ave

Birch Lake Ave



M.H

18" d.i.7

21.5" CB

M.H

15" CM

18" V.1

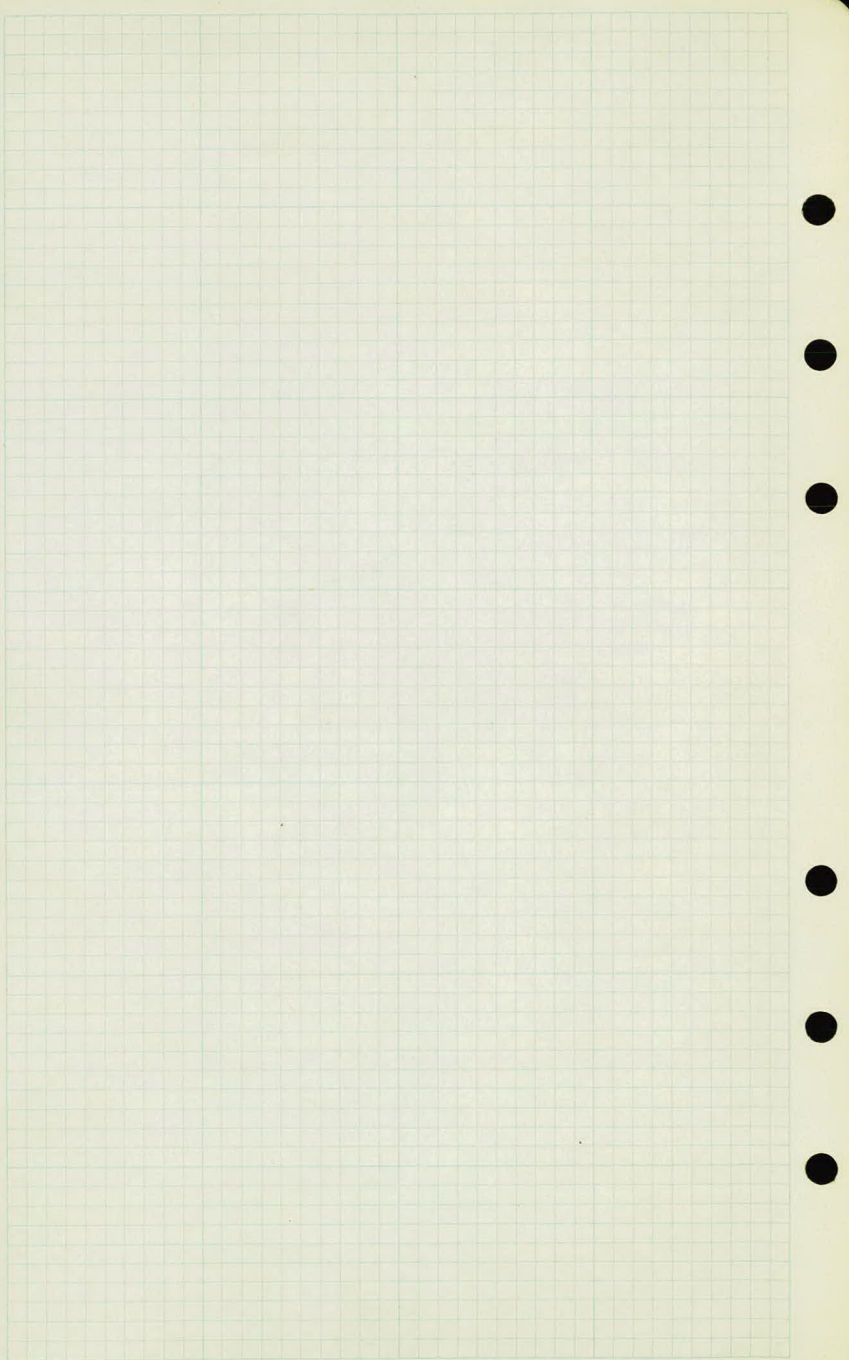
M.H

12"

M.H

CB

18" V.1



Elev. of Drains

	+	π	-	Elev
B.M	4.94	938.23		933.29

5.09

11.22

4.97

11.77

9.93

7.90

11.40

5.22

7.23

5.82

11.70

11.20

Top U.S.G.S. Man in St Mary School Yard

① M.H. N.E. Cor Second & Bald Eagle Ave

①A Inv Flow line 18" V.t

2 Top M.H. N.W. Cor Birch Lake & B.E. Ave

2A Inv. 18" V.t Flows So

2B Inv. 15" C.M. Flows Sd A

2C Inv 15" V.t From No East

2D Inv. 12" V.t From West.

3 Top C.B. East of Bald Eagle Ave

3A Inv 12" V.t

4 Top M.H.C.B West Side B.E. Ave 1st. Int.

4a Inv 18" Flows So.

4b Inv 12" V.t From N.E Int.

$+$	π	$-$	Elev
-----	-------	-----	------

		11.10	
--	--	-------	--

		11.70	
--	--	-------	--

		5.25	
--	--	------	--

		11.91	
--	--	-------	--

		11.73	
--	--	-------	--

		5.5	
--	--	-----	--

		9.2	
--	--	-----	--

4C Inv 18" Flows No

4D Inv 18" Flows East

5A Top. M.H. S.E Cor 1st + BE Ave

5B Inv 18" V.1 Flows South

5B Inv 18" V.1 " East

6A Top MH N.E Cor First + BE

6A Inv 12" V.1 Flows S.West

