

**FLOOD CONTROL PROJECT
 PLANNING LEVEL COST ESTIMATE
 NORTH BRANCH ECORSE CREEK DRAIN
 WAYNE COUNTY, MICHIGAN**

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
<u>NBEC OPEN CHANNEL IMPROVEMENTS</u>					
<u>Channel Improvements</u>					
1.	2,500	Lin Ft.	80' Wide Bottom Channel Dredging (Sta. 0+00 to Sta. 25+00) (Approx. 20,000 Cu Yds)	\$40.00	\$100,000.00
2.	10,550	Lin Ft.	64' Wide Bottom Channel Dredging (Sta. 25+00 to Sta. 130+50) (Approx. 215,000 Cu Yds)	\$100.00	\$1,055,000.00
3.	2,550	Lin Ft.	64' Wide Bottom Channel Excavation (Sta. 130+50 to Sta. 156+00) (Approx. 82,000 Cu Yds)	\$95.00	\$242,250.00
4.	8,200	Lin. Ft.	45' Wide Greenway Excavation (Sta. 156+00 to Sta. 238+00) (Approx. 125,000 Cu Yds)	\$45.00	\$369,000.00
5.	2,500	Lin. Ft.	132' Wide Greenway Excavation (Sta. 254+00 to Sta. 279+00) (Approx. 90,000 Cu Yds)	\$115.00	\$287,500.00
6.	600	Lin. Ft.	109' Wide Greenway Excavation (Sta. 279+00 to Sta. 285+00) (Approx. 10,000 Cu Yds)	\$75.00	\$45,000.00
7.	11,800	Lin. Ft.	92' Wide Greenway Excavation (Sta. 285+00 to Sta. 308+00)70000 (Sta. 331+00 to Sta. 410+00)155000 (Approx. 225,000 Cu Yds)	\$70.00	\$826,000.00
8.	2,300	Lin. Ft.	87' Wide Greenway Excavation (Sta. 308+00 to Sta. 331+00) (Approx. 50,000 Cu Yds)	\$70.00	\$161,000.00
9.	7,700	Lin. Ft.	74' Wide Greenway Excavation (Sta. 410+00 to Sta. 487+00) (Approx. 130,000 Cu Yds)	\$55.00	\$423,500.00
10.	4,700	Lin. Ft.	70' Wide Greenway Excavation (Sta. 487+00 to Sta. 534+00) (Approx. 55,000 Cu Yds)	\$45.00	\$211,500.00

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
11.	1,600	Lin. Ft.	65' Wide Greenway Excavation (Sta. 534+00 to Sta. 550+00) (Approx. 16,000 Cu Yds)	\$45.00	\$72,000.00
12.	1,700	Lin. Ft.	50' Wide Greenway Excavation (Sta. 550+00 to Sta. 567+00) (Approx. 21,000 Cu Yds)	\$45.00	\$76,500.00
13.	1,000	Lin. Ft.	35' Wide Greenway Excavation (Sta. 567+00 to Sta. 577+00) (Approx. 10,000 Cu Yds)	\$35.00	\$35,000.00
14.	5,700	Lin. Ft.	25' Wide Greenway Excavation (Sta. 577+00 to Sta.614+00) (Approx. 30,000 Cu Yds)	\$20.00	\$114,000.00
15.	7,300	Lin. Ft.	8' Wide Channel Excavation (Sta. 614+00 to Sta. 687+00) (Approx. 32,000 Cu Yds)	\$15.00	\$109,500.00
16.	6,400	Lin. Ft.	6' Wide Channel Excavation (Sta. 687+00 to Sta. 751+00) (Approx. 10,000 Cu Yds)	\$7.00	\$44,800.00
17.	9,000	Lin. Ft.	4' Wide Channel Excavation (Sta. 803+00 to Sta.893+00) (Approx. 20,000 Cu Yds)	\$7.00	\$63,000.00
18.	13,050	Lin. Ft.	Spoil Dewatering, Disposal and Hauling (Sta. 0+00 to Sta. 130+50) (Approx. 235,000 Cu Yds at \$15/cu yd)	\$270.00	\$3,523,500.00
19.	55,850	Lin. Ft.	Spoil Hauling (Sta.130+50 to Sta. 600+25) (Approx. 832,000 Cu. Yds x 1.2 at \$6/ Cu. Yd.) (Sta. 600+25 to Sta. 689+00) (Approx. 46,000 Cu. Yds. X 1.2 at \$6/ Cu. Yd.)	\$112.00	\$6,255,200.00
20.	20,400	Lin. Ft.	Spoil Leveling (Sta. 689+00 to Sta. 893+00) (Approx. 28,000 Cu. Yds. at \$1.75/ Cu Yd.)	\$2.50	\$51,000.00

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
21.	33,100	Lin Ft.	Environmental Cleanup (Sta. 0+00 to Sta. 156+00) (Approx. 317,000 Cu. Yds. At \$8/Cu. Yd.) (Sta. 156+00 to Sta. 331+00) (Approx. 345,000 Cu. Yds. At \$7/Cu. Yd.) (Sta. 331+00 to Sta. 893+00) (Approx. 479,000 Cu. Yds. At \$0/Cu. Yd.)	\$155.00	\$5,130,500.00
22.	89,300	Lin Ft.	Site Clearing (Sta. 130+50 to Sta. 238+00) (10,750 ft at \$65/Ft.) (Sta. 238+00 to Sta. 430+00) (19,200 ft at \$80/Ft.) (Sta. 430+00 to Sta. 567+00) (13,700 ft at \$75/Ft.) (Sta. 567+00 to Sta. 893+00) (32,600 ft at \$10/Ft.)	\$40.00	\$3,572,000.00
23.	89,300	Lin Ft.	Erosion Control (Sta. 130+50 to Sta. 238+00) (10,750 ft at \$65/Ft.) (Sta. 238+00 to Sta. 430+00) (19,200 ft at \$80/Ft.) (Sta. 430+00 to Sta. 567+00) (13,700 ft at \$70/Ft.) (Sta. 567+00 to Sta. 893+00) (32,600 ft at \$35/Ft.)	\$45.00	\$4,018,500.00
24.	89,300	Lin Ft.	Seeding and Site Restoration (Sta. 130+50 to Sta. 238+00) (10,750 ft at \$100/Ft.) (Sta. 238+00 to Sta. 430+00) (19,200 ft at \$120/Ft.) (Sta. 430+00 to Sta. 567+00) (13,700 ft at \$110/Ft.) (Sta. 567+00 to Sta. 893+00) (32,600 ft at \$25/Ft.)	\$65.00	\$5,804,500.00
25.	1	Lump Sum	Utility Relocations - City of Ecorse	Lump Sum	\$115,000.00
26.	1	Lump Sum	Utility Relocations - City of Lincoln Park	Lump Sum	\$1,665,000.00
27.	1	Lump Sum	Utility Relocations - City of Melvindale	Lump Sum	\$325,000.00
28.	1	Lump Sum	Utility Relocations - City of Allen Park	Lump Sum	\$3,500,000.00
29.	1	Lump Sum	Utility Relocations - City of Dearborn Heights	Lump Sum	\$4,850,000.00

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
30.	1	Lump Sum	Utility Relocations - City of Westland	Lump Sum	\$100,000.00
31.	1	Lump Sum	Utility Relocations - City of Romulus	Lump Sum	\$785,000.00
SUB-TOTAL					\$43,930,750.00

Right-of-Way Acquisition

32.	1	Lump Sum	Parcel Acquisition (467 Parcels - Current SEV x 2.0 x 1.25)	Lump Sum	\$42,500,000.00
33.	1	Lump Sum	Easement Acquisition (274 Parcels - 100 ac. x \$35,000)	Lump Sum	\$3,450,000.00
34.	1	Lump Sum	Infrastructure Improvements needed for Easements	Lump Sum	\$1,210,000.00
SUB-TOTAL					\$47,160,000.00

Drain Crossing Improvements

No. 1 - W. Jefferson Avenue

35.	1	Lump Sum	No Work	Lump Sum	\$0.00
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No. 2a - Railroad Tracks

36.	1	Lump Sum	No Work	Lump Sum	\$0.00
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No. 2b - Railroad Tracks

37.	1	Lump Sum	No Work	Lump Sum	\$0.00
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No. 2c - Railroad Tracks

38.	1	Lump Sum	No Work	Lump Sum	\$0.00
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No. 2d - Railroad Tracks

39.	1	Lump Sum	Increase Bridge Span (Increase open waterway area)	Lump Sum	\$1,500,000.00
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No. 3 - Southfield Road

40.	1	Lump Sum	New Bridge	Lump Sum	\$2,230,000.00
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No. 4 - Austin Avenue

41.	1	Lump Sum	New Bridge	Lump Sum	\$1,245,000.00
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No. 5 - Victoria Avenue

42.	1	Lump Sum	Remove Crossing	Lump Sum	\$100,000.00
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No. 6a - Fort Street (85)

43.	1	Lump Sum	New Bridge	Lump Sum	\$1,830,000.00
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Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
<u>No. 6b - Fort Street (85)</u>					
44.	1	Lump Sum	New Bridge	Lump Sum	\$1,830,000.00
<u>No. 7 - Lafayette Blvd.</u>					
45.	1	Lump Sum	New Bridge	Lump Sum	\$915,000.00
<u>No. 8 - Fisher Freeway (I-75)</u>					
46.	1	Lump Sum	New Bridge	Lump Sum	\$5,150,000.00
<u>No. 9 - John A Papalas Drive</u>					
47.	1	Lump Sum	New Bridge	Lump Sum	\$1,345,000.00
<u>No. 10 - Railroad Tracks</u>					
48.	1	Lump Sum	New Bridge	Lump Sum	\$3,300,000.00
<u>No. 11 - Private Drive</u>					
49.	1	Lump Sum	New Bridge	Lump Sum	\$1,100,000.00
<u>No. 12 - Porter Avenue</u>					
50.	1	Lump Sum	New Bridge	Lump Sum	\$750,000.00
<u>No. 13 - Dix Highway</u>					
51.	1	Lump Sum	New Bridge	Lump Sum	\$1,830,000.00
<u>No. 14 - Footbridge</u>					
52.	1	Lump Sum	Remove Crossing	Lump Sum	\$10,000.00
<u>No. 15 - Frank Avenue</u>					
53.	1	Lump Sum	New Bridge	Lump Sum	\$675,000.00
<u>No. 16 - Stanley Avenue</u>					
54.	1	Lump Sum	Remove Crossing	Lump Sum	\$25,000.00
<u>No. 17 - Allen Road - New Location</u>					
55.	1	Lump Sum	New Bridge	Lump Sum	\$1,715,000.00
<u>No. 18 - Footbridge</u>					
56.	1	Lump Sum	Remove Crossing	Lump Sum	\$10,000.00
<u>No. 19 - Railroad Tracks</u>					
57.	1	Lump Sum	New Bridge	Lump Sum	\$1,000,000.00
<u>No. 20 - Railroad Tracks</u>					
58.	1	Lump Sum	New Bridge	Lump Sum	\$1,000,000.00
<u>No. 21 - Railroad Tracks</u>					
59.	1	Lump Sum	New Bridge	Lump Sum	\$1,500,000.00

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
<u>No. 22 - Baker College</u>					
60.	1	Lump Sum	Remove Crossing	Lump Sum	\$5,000.00
<u>No. 23a - E. I-94 - New Location</u>					
61.	1	Lump Sum	New Bridge	Lump Sum	\$3,525,000.00
<u>No. 23b - W. I-94 - New Location</u>					
62.	1	Lump Sum	New Bridge	Lump Sum	\$3,525,000.00
<u>No. 23c - E. I-94 - Existing Location</u>					
63.	1	Lump Sum	Sediment Removal	Lump Sum	\$10,000.00
<u>No. 23b - W. I-94 - Existing Location</u>					
64.	1	Lump Sum	Sediment Removal	Lump Sum	\$10,000.00
<u>No. 24 - Shenandoah Avenue</u>					
65.	1	Lump Sum	New Bridge	Lump Sum	\$3,560,000.00
<u>No. 25 - Larme Avenue</u>					
66.	1	Lump Sum	New Bridge	Lump Sum	\$1,155,000.00
<u>No. 27 - Watson Avenue</u>					
67.	1	Lump Sum	New Bridge	Lump Sum	\$1,180,000.00
<u>No. 28 - Euclid Avenue</u>					
68.	1	Lump Sum	Remove Bridge	Lump Sum	\$15,000.00
<u>No. 29 - Southfield Road (M-39)</u>					
69.	1	Lump Sum	New Bridge	Lump Sum	\$7,840,000.00
<u>No. 30 - Bedford Street</u>					
70.	1	Lump Sum	Retrofit Footbridge	Lump Sum	\$20,000.00
<u>No. 31 - Edgewood Street</u>					
71.	1	Lump Sum	New Bridge	Lump Sum	\$1,350,000.00
<u>No. 32 - Kingston Street</u>					
72.	1	Lump Sum	New Bridge	Lump Sum	\$730,000.00
<u>No. 33 - Pelham Street</u>					
73.	1	Lump Sum	New Bridge	Lump Sum	\$2,520,000.00
<u>No. 34 - Jackson Street</u>					
74.	1	Lump Sum	New Bridge	Lump Sum	\$810,000.00
<u>No. 35 - Hanover Street</u>					
75.	1	Lump Sum	New Bridge	Lump Sum	\$1,785,000.00

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
<u>No. 36 - Hipp Street</u>					
76.	1	Lump Sum	New Bridge	Lump Sum	\$1,420,000.00
<u>No. 37 - Polk Street</u>					
77.	1	Lump Sum	New Bridge	Lump Sum	\$1,350,000.00
<u>No. 38 - Hanover Street</u>					
78.	1	Lump Sum	New Bridge	Lump Sum	\$1,280,000.00
<u>No. 39 - Harding Avenue</u>					
79.	1	Lump Sum	Retrofit Footbridge	Lump Sum	\$20,000.00
<u>No. 40 - Gertrude Avenue</u>					
80.	1	Lump Sum	Retrofit Footbridge	Lump Sum	\$20,000.00
<u>No. 41 - Campbell Street</u>					
81.	1	Lump Sum	New Bridge	Lump Sum	\$3,280,000.00
<u>No. 42 - Hanover Street</u>					
82.	1	Lump Sum	Remove Bridge (New Bridge Included with Campbell)	Lump Sum	\$55,000.00
<u>No. 43 - Williams Street</u>					
83.	1	Lin. Ft.	New Bridge	Lump Sum	\$1,195,000.00
<u>No. 45 - Monroe Street</u>					
84.	1	Lump Sum	New Bridge	Lump Sum	\$1,320,000.00
<u>No. 46 - Pardee Avenue</u>					
85.	1	Lump Sum	New Bridge	Lump Sum	\$970,000.00
<u>No. 47 - Parker Avenue</u>					
86.	1	Lump Sum	Retrofit Footbridge	Lump Sum	\$20,000.00
<u>No. 48 - Madison Avenue</u>					
87.	1	Lump Sum	New Bridge	Lump Sum	\$680,000.00
<u>No. 49a - Telegraph Road North</u>					
88.	1	Lump Sum	New Bridge	Lump Sum	\$1,605,000.00
<u>No. 49b - Telegraph Road South</u>					
89.	1	Lump Sum	New Bridge	Lump Sum	\$1,605,000.00
<u>No. 50 - Banner Avenue</u>					
90.	1	Lump Sum	Retrofit Footbridge	Lump Sum	\$20,000.00

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
<u>No. 51 - Gulley Street</u>					
91.	1	Lump Sum	New Bridge	Lump Sum	\$1,020,000.00
<u>No. 52 - Beech Daly Road</u>					
92.	1	Lump Sum	New Bridge	Lump Sum	\$1,595,000.00
<u>No. 53 - Old Driveway</u>					
93.	1	Lump Sum	Remove Crossing	Lump Sum	\$5,000.00
<u>No. 54 - Private Footbridge</u>					
94.	1	Lump Sum	New Footbridge	Lump Sum	\$100,000.00
<u>No. 55 - Bayham Street</u>					
95.	1	Lump Sum	New Box Culvert	Lump Sum	\$370,000.00
<u>No. 56 - Inkster Road</u>					
96.	1	Lump Sum	New Box Culvert	Lump Sum	\$530,000.00
<u>No. 57 - Van Born Road</u>					
97.	1	Lump Sum	New Box Culvert	Lump Sum	\$645,000.00
<u>No. 58 - Beverly Road</u>					
98.	1	Lump Sum	New Box Culvert	Lump Sum	\$380,000.00
<u>No. 58b - Private Drive</u>					
99.	1	Lump Sum	New Box Culvert	Lump Sum	\$180,000.00
<u>No. 59 - Ecorse Road</u>					
100.	1	Lump Sum	New Box Culvert	Lump Sum	\$370,000.00
<u>No. 60 - Middlebelt Road</u>					
101.	1	Lump Sum	New Box Culvert	Lump Sum	\$300,000.00
<u>No. 61 - Private Drive</u>					
102.	1	Lump Sum	Remove Crossing	Lump Sum	\$3,000.00
<u>No. 62 - Smith Road</u>					
103.	1	Lump Sum	New Box Culvert	Lump Sum	\$315,000.00
<u>No. 63 - Existing Drain Enclosure - Parking Lot, Flynn Drive, Merriman Road, and Smith Road</u>					
104.	4,916	Lin. Ft.	Clean out existing enclosure	\$10.00	\$49,160.00
<u>No. 64 - Venoy Road</u>					
105.	1	Lump Sum	Remove Crossing	Lump Sum	\$12,000.00
<u>No. 65 - Henry Ruff Road</u>					
106.	1	Lump Sum	Remove Crossing	Lump Sum	\$7,000.00

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
<u>No. 66 - Sargent Road</u>					
107.	1	Lump Sum	New Box Culvert	Lump Sum	\$105,000.00
<u>No. 67 - Private Drive</u>					
108.	1	Lump Sum	Sediment Removal	Lump Sum	\$3,000.00
<u>No. 68 - Private Footbridge</u>					
109.	1	Lump Sum	Remove Crossing	Lump Sum	\$6,000.00
<u>No. 69 - Private Drive</u>					
110.	1	Lump Sum	New Box Culvert	Lump Sum	\$50,000.00
<u>No. 70 - Private Footbridge</u>					
111.	1	Lump Sum	Sediment Removal	Lump Sum	\$1,500.00
<u>No. 71 - Private Drive</u>					
112.	1	Lump Sum	New Box Culvert	Lump Sum	\$30,000.00
<u>No. 72 - Private Drive</u>					
113.	1	Lump Sum	Remove Crossing	Lump Sum	\$3,000.00
<u>No. 73 - Private Drive</u>					
114.	1	Lump Sum	Sediment Removal	Lump Sum	\$1,500.00
<u>No. 74 - Private Drive</u>					
115.	1	Lump Sum	Remove Crossing	Lump Sum	\$3,000.00
<u>No. 75 - Ecorse Road</u>					
116.	1	Lump Sum	New Box Culvert	Lump Sum	\$125,000.00
SUB-TOTAL					\$78,149,160.00

DRAIN ENCLOSURES

Allen Park Enclosure # 1

117.	1,000	Lin. Ft.	Enclosure of abandoned drain ROW	\$250.00	\$250,000.00
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Allen Park Enclosure # 2

118.	2,500	Lin. Ft.	Enclosure of abandoned drain ROW	\$300.00	\$750,000.00
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Smith Road/Merriman Road Enclosure

119.	4,460	Lin. Ft.	Proposed Parallel Drain Enclosure	\$1,250.00	\$5,575,000.00
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SUB-TOTAL **\$6,575,000.00**

DETENTION BASIN CONSTRUCTION

Site No. 10 - Park adjacent west of M-39

120.	7,900	Cu. Yds.	Excavation	\$3.00	\$23,700.00
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Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
121.	9,480	Cu. Yds.	Spoil Hauling (German Drain Site)	\$5.00	\$47,400.00
122.	1	Lump Sum	Site Clearing, Seeding and Site Restoration	Lump Sum	\$25,000.00
<u>Site No. 19 - Lukas & Buttler Drain Outlet</u>					
123.	45,400	Cu. Yds.	Excavation	\$3.00	\$136,200.00
124.	54,480	Cu. Yds.	Spoil Hauling (Beverly Site)	\$5.00	\$272,400.00
125.	1	Lump Sum	Site Clearing, Seeding and Site Restoration	Lump Sum	\$59,000.00
126.	1	Lump Sum	Hydraulic Structure	Lump Sum	\$15,000.00
<u>Site No. 31 - Romulus (near Smith)</u>					
127.	132,294	Cu. Yds.	Excavation	\$3.00	\$396,882.00
128.	158,753	Cu. Yds.	Spoil Hauling (Beverly Site)	\$5.00	\$793,764.00
129.	1	Lump Sum	Pump Station	Lump Sum	\$1,000,000.00
130.	1	Lump Sum	Hydraulic Structure	Lump Sum	\$200,000.00
131.	1	Lump Sum	Site Clearing, Seeding and Site Restoration	Lump Sum	\$500,000.00
SUB-TOTAL					\$3,469,346.00
 <u>SPOIL DEPOSITION SITES</u>					
<u>German Drain Site</u>					
132.	1	Lump Sum	Methane Venting System and Impermeable Ca	Lump Sum	\$1,500,000.00
133.	957,235	Cu. Yds.	Spoil Leveling	\$2.00	\$1,914,469.20
<u>Beverly Site</u>					
134.	1	Lump Sum	Methane Venting System and Impermeable Ca	Lump Sum	\$500,000.00
135.	319,078	Cu. Yds.	Spoil Leveling	\$2.00	\$638,156.40
SUB-TOTAL					\$4,552,625.60
SUB-TOTAL					\$183,836,881.60
Total Channel Construction Cost -----					\$43,930,750.00
Total Drain Crossing Cost-----					\$78,149,160.00
Total Drain Enclosure Cost-----					\$6,575,000.00
Total Detention Basin Construction Cost -----					\$3,469,346.00
Total Spoil Deposition Sites Construction Cost -----					\$4,552,625.60
TOTAL CONSTRUCTION COST -----					\$136,676,881.60

Item No.	Estimated Quantity	Unit	Description	Unit Price	Amount
Total ROW Acquisition Cost -----					\$47,160,000.00
TOTAL LAND ACQUISITION COST -----					\$47,160,000.00
Engineering Study -----					\$1,200,000.00
Engineering Design (8.5% of construction) -----					\$11,617,534.94
Construction Administration, Staking and Inspection (7.5% of construction) -----					\$10,250,766.12
Professional Services Related to Acquisition (Appraisals / Realtor / Survey) (\$4,000/parcel) -----					\$2,960,000.00
Administration, Financing and Legal (4%) -----					\$7,353,475.26
TOTAL CONSTRUCTION AND PROFESSIONAL SERVICES-----					\$217,218,657.92
Contingencies (10% +/-) -----					\$21,781,342.08
TOTAL PRELIMINARY ESTIMATE OF COST -----					\$239,000,000.00