# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan
# Total Conceptual Cost Report

| | |
|---|---|
| **Alternative Name** | NBCR_MF_LV_01 |
| **Problem Description** | Middle Fork overbank flooding at the Fair Acres subdivision. |
| **Strategy** | MF-04: Construct flood wall and compensatory storage to eliminate overbank flooding in this area. |
| **District Minimum Criteria for Funding:** | Met |
| **Recommended** | Yes |

| | Unit | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Channel treatment: Excavation | yd3 | 750 | $10.68 | $8,010.00 | $0 | $0 | Assumes 4 ft avg depth, 4 ft avg bottom width, 1.5H:1V side slopes, app. 500 ft length. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 750 | $11.75 | $8,812.50 | $0 | $0 | Assume all excavated material will be hauled offsite |
| Concrete: Cast in place | yd3 | 120 | $250.00 | $30,000.00 | $0 | $0 | Concrete wall footing, 3 ft avg width, 2 ft avg thickness, app. 500 ft length |
| Concrete: Cast in place | yd3 | 260 | $250.00 | $65,000.00 | $0 | $0 | Flood wall, app. 500 ft length, app. 9 ft total height, 1.5 ft width |
| Channel treatment: Excavation | yd3 | 8070 | $10.68 | $86,187.60 | $0 | $0 | 5 acre-ft of compensatory storage on FPD land. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 8070 | $11.75 | $94,822.50 | $0 | $0 | Assume all excavated material to be removed from the site. |
| Land Acquisition: Permanent Easement * | dollar | 450000 | $1.00 | $450,000.00 | $0 | $0 | 3 acres at $150,000 per acre for permanent easement |
| Channel treatment: Soil stabilization and vegetative cover | yd2 | 14520 | $13.88 | $201,537.60 | $187,427 | $48,259 | Soil stab. and vegetative cover for 3 acres at comp. storage site. |

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

| | |
|---|---|
| **Alternative Name** | NBCR_MF_LV_01 |
| **Problem Description** | Middle Fork overbank flooding at the Fair Acres subdivision. |
| **Strategy** | MF-04: Construct flood wall and compensatory storage to eliminate overbank flooding in this area. |
| **District Minimum Criteria for Funding:** | Met |
| **Recommended** | Yes |

| | Unit | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| * Indicates item excluded from subtotal (e.g. land acquisition, buyouts) | | | | | | | |
| **Subtotal (direct costs)** | | | | **$494,370** | **$187,427** | **$48,259** | |
| Utility Relocation | | | 4 % | $19,775 | | | |
| Mobilization \ General Conditions | | | 5% | $24,719 | | | |
| **Subtotal with Percent Allowances** | | | | **$538,864** | | | |
| Contingency | | | 30% | $161,659 | | | |
| Profit | | | 5% | $35,026 | | | |
| **Probable Construction Cost Estimate** | | | | **$735,549** | | | |
| Design Engineering, Geotechnical, and Construction Management | | | 10% | $73,555 | | | |
| Property Acquisition Cost: | | | | $450,000 | | | |
| **Total Conceptual Cost Estimate** | | | | **$1,494,789** | | | |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan
# Total Conceptual Cost Report

| | |
|---|---|
| **Alternative Name** | NBCR_MF_SC_03 |
| **Problem Description** | Streambank erosion along MF at Willow Road and Northfield Road. |
| **Strategy** | MF-06: Hard armor both streambanks at Willow Road and the east streambank at Northfield Road. |
| **District Minimum Criteria for Funding:** | Met |
| **Recommended** | Yes |

| | Unit | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Channel treatment: Reinforced one sided concrete wall | yd3 | 820 | $587.35 | $481,627.00 | $447,906 | $115,327 | From plan area, app. 33,221 sq ft, 8 inch thickness, both banks |
| Channel treatment: Excavation | yd3 | 1230 | $10.68 | $13,136.40 | $0 | $0 | Excavation of both banks to allow for construction of concrete slope wall embedded in banks, app. 33,221 sq ft, 1 ft depth, on both banks. Quantity assumes no bulking/expansion of material upon excava |
| Channel treatment: Material to be hauled offsite | yd3 | 1230 | $11.75 | $14,452.50 | $0 | $0 | Assume all excavated material to be hauled offsite |
| Channel treatment: Reinforced one sided concrete wall | yd3 | 125 | $587.35 | $73,418.75 | $68,278 | $17,580 | From plan area, app. 5,015 sq ft, 8 inch thickness, east bank only along Northfield Rd. |
| Channel treatment: Excavation | yd3 | 190 | $10.68 | $2,029.20 | $0 | $0 | Excavation of east bank, adjacent to Northfield Road, to allow for construction of concrete slope wall embedded in bank, app. 5,015 sq ft, 1 ft. Quantity assumes no bulking/expansion of material upon |
| Channel treatment: Material to be hauled offsite | yd3 | 190 | $11.75 | $2,232.50 | $0 | $0 | Assume all excavated material to be hauled offsite |

* Indicates item excluded from subtotal (e.g. land acquisition, buyouts)

| | | | | |
|---|---|---|---|---|
| **Subtotal (direct costs)** | | **$586,896** | **$516,184** | **$132,907** |
| Utility Relocation | 4 % | $23,476 | | |
| Mobilization \ General Conditions | 5% | $29,345 | | |
| **Subtotal with Percent Allowances** | | **$639,717** | | |
| Contingency | 30% | $191,915 | | |
| Profit | 5% | $41,582 | | |
| **Probable Construction Cost Estimate** | | **$873,214** | | |
| Design Engineering, Geotechnical, and Construction Management | 10% | $87,321 | | |
| Property Acquisition Cost: | | $0 | | |
| **Total Conceptual Cost Estimate** | | **$1,609,626** | | |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan
# Total Conceptual Cost Report

| | |
|---|---|
| **Alternative Name** | NBCR_MF_SC_01 |
| **Problem Description** | Streambank erosion of Middle Fork at Meadowbrook Drive |
| **Strategy** | MF-07: Hard armor both streambanks |
| **District Minimum Criteria for Funding:** | Met |
| **Recommended** | Yes |

| | Unit | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Channel treatment: Reinforced one sided concrete wall | yd3 | 570 | $587.35 | $334,789.50 | $311,349 | $80,166 | From total plan area, app. 22,951 sq ft, 8 inch thickness, both banks |
| Channel treatment: Excavation | yd3 | 850 | $10.68 | $9,078.00 | $0 | $0 | App. 22,951 sq ft, 1 ft depth, both banks. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 850 | $11.75 | $9,987.50 | $0 | $0 | Assume all excavated material will be removed from site |

* Indicates item excluded from subtotal (e.g. land acquisition, buyouts)

| | | | | |
|---|---|---|---|---|
| **Subtotal (direct costs)** | | **$353,855** | **$311,349** | **$80,166** |
| Utility Relocation | 4 % | $14,154 | | |
| Mobilization \ General Conditions | 5% | $17,693 | | |
| **Subtotal with Percent Allowances** | | **$385,702** | | |
| Contingency | 30% | $115,711 | | |
| Profit | 5% | $25,071 | | |
| **Probable Construction Cost Estimate** | | **$526,483** | | |
| Design Engineering, Geotechnical, and Construction Management | 10% | $52,648 | | |
| Property Acquisition Cost: | | $0 | | |
| **Total Conceptual Cost Estimate** | | **$970,647** | | |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan

## Total Conceptual Cost Report

**Alternative Name** NBCR_MAIN_DV_02

**Problem Description** Albany Park overbank flooding

**Strategy** MS-07: Construct 18 ft diameter tunnel diversion from Foster Road and Pulaski Road to Foster Road and the

**District Minimum Criteria for Funding:** Not Met

**Recommended** No

| | Uni | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Tunnel Excavation (rock): In tunnel (20 ft diameter) | yd3 | 63050 | $437.84 | $27,605,812.00 | $0 | $0 | App. 5,700 ft length, App. 19.5 ft diam. overall tunnel opening, rock material identified in MWH feasibility study, assumes unit price includes app. 1.5 ft thick concrete lining. Quantity assumes no bulking of excavated material. |
| Pump Station: 10ac-ft per day interior drainage | each | 1 | $800,000.00 | $800,000.00 | $743,988 | $0 | Proposed in MWH report. Total cost assumes no replacement of pumps within 50 years. |
| Tunnel Excavation (mix rock & earth): In tunnel (20 ft diameter) | yd3 | 1400 | $720.83 | $1,009,162.00 | $0 | $0 | Upstream dropshaft, app. 120 ft length, app. 20 ft diameter, assumes unit price includes app. 1.5 ft thick concrete lining. Quantity assumes no bulking/expansion of material upon excavation. |
| Tunnel Excavation (mix rock & earth): In tunnel (20 ft diameter) | yd3 | 3150 | $720.83 | $2,270,614.50 | $0 | $0 | Downstream riser shaft, app. 120 ft length, app. 30 ft diameter, assumes unit price includes app. 1.5 ft thick concrete lining. Quantity assumes no bulking/expansion of material upon excavation. |
| Concrete: Cast in place | yd3 | 2200 | $250.00 | $550,000.00 | $0 | $0 | Inlet structure estimated from MWH report |
| Concrete: Cast in place | yd3 | 2200 | $250.00 | $550,000.00 | $0 | $0 | Outlet structure estimated from MWH report |
| Channel treatment: Material to be hauled offsite | yd3 | 67600 | $11.75 | $794,300.00 | $0 | $0 | Assume all excavated material from tunnel and shafts will be hauled offsite. |
| Land Acquisition: Permanent Easement * | dollar | 1 | $1.00 | $1.00 | $0 | $0 | easement for the dropshafts on City property and for tunnel on Foster Avenue. Based on past deep tunnel projects using public right-of-way, the easement was practically |

no cost.

* Indicates item excluded from subtotal (e.g. land acquisition, buyouts)

| | | | | |
|---|---|---|---|---|
| **Subtotal (direct costs)** | | **$33,579,889** | **$743,988** | **$0** |
| Utility Relocation | 4 % | $1,343,196 | | |
| Mobilization \ General Conditions | 5% | $1,678,994 | | |
| **Subtotal with Percent Allowances** | | **$36,602,078** | | |
| Contingency | 30% | $10,980,624 | | |
| Profit | 5% | $2,379,135 | | |
| **Probable Construction Cost Estimate** | | **$49,961,837** | | |
| Design Engineering, Geotechnical, and Construction Management | 10% | $4,996,184 | | |
| Property Acquisition Cost: | | $1 | | |
| **Total Conceptual Cost Estimate** | | **$55,702,010** | | |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan

## Total Conceptual Cost Report

**Alternative Name** NBCR_MAIN_LV_01

**Problem Description** Floodwall

**Strategy** MS-10: Construct floodwall through Albany Park neighborhood.

**District Minimum Criteria for Funding:** Met

**Recommended** Yes

| | Uni | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Floodproofing: Industry | 2,500 ft2 | 2 | $21,358.02 | $42,716.04 | $39,725 | $16,472 | Bohemia National Cemetery dome building. Protect half of the building. |
| Floodproofing: Residence | each | 6 | $21,358.02 | $128,148.12 | $119,176 | $49,415 | 6 condos of the North Riversedge Terrace building. |
| Floodproofing: Industry | 2,500 ft2 | 1 | $21,358.02 | $21,358.02 | $19,863 | $8,236 | Bohemia National Cemetery maintenance building. |
| Floodproofing: Industry | 2,500 ft2 | 2 | $21,358.02 | $42,716.04 | $39,725 | $16,472 | Bohemia National Cemetery residence |
| Channel treatment: Material to be hauled offsite | yd3 | 9340 | $11.75 | $109,745.00 | $0 | $0 | Assume all excavated material to be hauled offsite. |
| Concrete: Cast in place | yd3 | 1400 | $250.00 | $350,000.00 | $0 | $0 | Concrete wall footing, 3 ft avg width, 2 ft avg thickness, app. 6,300 ft length. |
| Land Acquisition: Permanent Easement * | dollar | 5200000 | $1.00 | $5,200,000.00 | $0 | $0 | App. 13 acres of flood easement at $400,000 per acre. |
| Land Acquisition: Purchase of Property * | dollar | 3600000 | $1.00 | $3,600,000.00 | $0 | $0 | 8 single family homes at 450,000 per home. |
| Land Acquisition: Purchase of Property * | dollar | 2700000 | $1.00 | $2,700,000.00 | $0 | $0 | 1 apartment building, assumes 6 units at 450,000 per unit. |
| Concrete: Cast in place | yd3 | 7670 | $250.00 | $1,917,500.00 | $0 | $0 | App. 138,000 sq ft profile/elevation area, 1.5 ft avg. width. |
| Channel treatment: Excavation | yd3 | 18200 | $10.68 | $194,376.00 | $0 | $0 | Assume average excavation depth of 6 ft, avg width of 4 ft, 1.5H:1V side slopes, app. 6,300 ft length. Quantity assumes no bulking/expansion of material upon excavation. |

* Indicates item excluded from subtotal (e.g. land acquisition, buyouts)

| | | | | |
|---|---|---|---|---|
| **Subtotal (direct costs)** | | **$2,806,559** | **$218,489** | **$90,595** |
| Utility Relocation | 4 % | $112,262 | | |
| Mobilization \ General Conditions | 5% | $140,328 | | |
| **Subtotal with Percent Allowances** | | **$3,059,150** | | |
| Contingency | 30% | $917,745 | | |
| Profit | 5% | $198,845 | | |

| | | |
|---|---|---|
| **Probable Construction Cost Estimate** | | **$4,175,739** |
| Design Engineering, Geotechnical, and Construction Management | 10% | $417,574 |
| Property Acquisition Cost: | | $11,500,000 |
| **Total Conceptual Cost Estimate** | | **$16,402,397** |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan

## Total Conceptual Cost Report

**Alternative Name** NBCR_MAIN_ST_01

**Problem Description** Main Stem overbank flooding.

**Strategy** MS-12: Construct new reservoir at Wilmette Public Golf Course.

**District Minimum Criteria for Funding:** Not Met

**Recommended** No

| | Uni | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Channel treatment: Excavation | yd3 | 4581870 | $10.68 | $48,934,371.60 | $0 | $0 | App. 2,840 acre-ft excavation calculated from HEC-RAS. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 4581870 | $11.75 | $53,836,972.50 | $0 | $0 | Assume all excavated material to be hauled offsite. |
| Pipe in earth (city): 72 to 84 inches / box culvert (28 to 38 ft2) | lf | 1500 | $303.28 | $454,920.00 | $423,069 | $0 | Inlet barrels, 3-72" RCPs, app. 500 ft length each. |
| Concrete: Cast in place | yd3 | 1600 | $250.00 | $400,000.00 | $0 | $0 | Inlet overflow weir, app. 200 ft wide x app. 215 ft length (which includes ramp along side slope), 1 ft thickness. |
| Land Acquisition: Purchase of Property * | dollar | 34400000 | $1.00 | $34,400,000.00 | $0 | $0 | App. 86 acres for aquisition at $400,000 per acre. |
| Channel treatment: Vegetative cover only | yd2 | 416240 | $8.54 | $3,554,689.60 | $3,305,807 | $851,180 | Assume new reservoir will require seeding. |
| Wetland: Construct / Mitigate wetland outside Des Plaines watershed | acre | 4 | $60,000.00 | $240,000.00 | $223,196 | $0 | Approximate size of existing wetlands on golf course. Assume wetland could be built within project limits. |
| Pump Station: 300 cfs Pump Station with Flap Gate | each | 1 | $3,970,000.00 | $3,970,000.00 | $2,215,224 | $0 | Assume 1 pump station with a capacity of 300 cfs. Total cost assumes no replacement of pumps within 50 years. |

* Indicates item excluded from subtotal (e.g. land acquisition, buyouts)

| | | | | |
|---|---|---|---|---|
| **Subtotal (direct costs)** | | **$111,390,954** | **$6,167,295** | **$851,180** |
| Utility Relocation | 4 % | $4,455,638 | | |
| Mobilization \ General Conditions | 5% | $5,569,548 | | |
| **Subtotal with Percent Allowances** | | **$121,416,140** | | |
| Contingency | 30% | $36,424,842 | | |
| Profit | 5% | $7,892,049 | | |
| **Probable Construction Cost Estimate** | | **$165,733,030** | | |
| Design Engineering, Geotechnical, and Construction Management | 10% | $16,573,303 | | |
| Property Acquisition Cost: | | $34,400,000 | | |
| **Total Conceptual Cost Estimate** | | **$223,724,809** | | |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan

## Total Conceptual Cost Report

**Alternative Name** NBCR_MAIN_ST_02

**Problem Description** Main Stem overbank flooding.

**Strategy** MS-14: Construct new reservoir at Wilmette Public Golf Course along with channel widening from Middle

**District Minimum Criteria for Funding:** Met

**Recommended** Yes

| | Uni | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Channel treatment: Excavation | yd3 | 4581870 | $10.68 | $48,934,371.60 | $0 | $0 | App. 2,840 acre-ft excavation calculated from HEC-RAS. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 4581870 | $11.75 | $53,836,972.50 | $0 | $0 | Assume all excavated material to be hauled offsite. |
| Pipe in earth (city): 72 to 84 inches / box culvert (28 to 38 ft2) | lf | 1500 | $303.28 | $454,920.00 | $423,069 | $0 | Inlet barrels, 3-72" RCPs, App. 500 ft length each. |
| Concrete: Cast in place | yd3 | 1600 | $250.00 | $400,000.00 | $0 | $0 | Inlet overflow weir, app. 200 ft width x app. 215 ft length (which includes ramp down side slope), 1 ft thickness. |
| Land Acquisition: Purchase of Property * | dollar | 34400000 | $1.00 | $34,400,000.00 | $0 | $0 | App. 86 acres for Golf Course aquisition at $400,000 per acre. |
| Channel treatment: Excavation | yd3 | 440800 | $10.68 | $4,707,744.00 | $0 | $0 | Channel widening of app. 100 ft wide x app. 18,500 ft in length along Main Stem from Middle Fork to West Fork. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 440800 | $11.75 | $5,179,400.00 | $0 | $0 | Assume all material will be hauled offsite. |
| Channel treatment: Vegetative cover only | yd2 | 367840 | $8.54 | $3,141,353.60 | $2,921,411 | $752,205 | Assume all channel widening will require seeding. |
| Channel treatment: Vegetative cover only | yd2 | 416240 | $8.54 | $3,554,689.60 | $3,305,807 | $851,180 | Assume new reservoir will require seeding. |
| Wetland: Construct / Mitigate wetland outside Des Plaines watershed | acre | 4 | $60,000.00 | $240,000.00 | $223,196 | $0 | Approximate size of existing wetlands on golf course. Assume wetland could be built within project limits. |
| Land Acquisition: Permanent Easement * | dollar | 11400000 | $1.00 | $11,400,000.00 | $0 | $0 | App. 76 acres of Cook Co FPD land at $150,000 per acre. |
| Pump Station: 300 cfs Pump Station with Flap Gate | each | 1 | $3,970,000.00 | $3,970,000.00 | $2,215,224 | $0 | Assume 1 pump station with a capacity of 300 cfs. Total cost assumes no replacement of pumps within 50 years. |

* Indicates item excluded from subtotal (e.g. land acquisition, buyouts)

| | | | | |
|---|---|---|---|---|
| **Subtotal (direct costs)** | | **$124,419,451** | **$9,088,706** | **$1,603,385** |
| Utility Relocation | 4 % | $4,976,778 | | |
| Mobilization \ General Conditions | 5% | $6,220,973 | | |

| | | |
|---|---|---|
| **Subtotal with Percent Allowances** | | **$135,617,202** |
| Contingency | 30% | $40,685,161 |
| Profit | 5% | $8,815,118 |
| **Probable Construction Cost Estimate** | | **$185,117,481** |
| Design Engineering, Geotechnical, and Construction Management | 10% | $18,511,748 |
| Property Acquisition Cost: | | $45,800,000 |
| **Total Conceptual Cost Estimate** | | **$260,121,320** |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan
# Total Conceptual Cost Report

| | |
|---|---|
| **Alternative Name** | SR-08 |
| **Problem Description** | I-94 at Winnetka Road overbank flooding |
| **Strategy** | SR-08: Construct levees on west and east sides of I-94 to block overbank flooding of I-94 at Winnetka Road. |
| **District Minimum Criteria for Funding:** | Met |
| **Recommended** | Yes |

| | Unit | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Embankment construction, grading and restoration: Material hauled from offsite | yd3 | 600 | $10.68 | $6,408.00 | $0 | $0 | East levee construction assuming app. 2ft height, app. 10 ft top width, and 5:1 side slopes. Length of app. 400 ft. Quantity assumes no shrinkage upon placement. |
| Embankment construction, grading and restoration: Compaction of fill | yd3 | 600 | $5.34 | $3,204.00 | $0 | $0 | Place fill for levee on east side of I-94. Quantity assumes no shrinkage upon placement. |
| Embankment construction, grading and restoration: Compaction of fill | yd3 | 600 | $5.34 | $3,204.00 | $0 | $0 | Compact levee material for levee on east side of I-94. Quantity assumes no shrinkage upon placement. |
| Channel treatment: Vegetative cover only | yd2 | 1350 | $8.54 | $11,529.00 | $10,722 | $2,761 | Seed east levee surface; app. 400 ft L x (app. 10ft + app. 10ft + app. 10ft) W |
| Pipe in earth (city): 36 inches or less | lf | 50 | $216.78 | $10,839.00 | $10,080 | $0 | Pipe through levee to maintain I-94 ditch drainage |
| Outlet structures (Headwall): 36 inches or less | each | 1 | $2,600.34 | $2,600.34 | $2,418 | $0 | East side levee. Includes flap gate on stream side. |
| Land Acquisition: Permanent Easement * | dollar | 750000 | $1.00 | $750,000.00 | $0 | $0 | East side levee. Permenant drainage easment from CCFPD for levee and compensatory storage. App. 5 acres at $150,000/acre. |
| Embankment construction, grading and restoration: Material hauled from offsite | yd3 | 3860 | $10.68 | $41,224.80 | $0 | $0 | West side levee construction assuming app. 2ft height, app. 30 ft top width, and 5:1 side slopes. Length of app. 1,300 ft |
| Embankment construction, grading and restoration: Compaction of fill | yd3 | 3860 | $5.34 | $20,612.40 | $0 | $0 | Place fill for levee on west side of I-94. Quantity assumes no shrinkage upon placement. |

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

| | |
|---|---|
| **Alternative Name** | SR-08 |
| **Problem Description** | I-94 at Winnetka Road overbank flooding |
| **Strategy** | SR-08: Construct levees on west and east sides of I-94 to block overbank flooding of I-94 at Winnetka Road. |
| **District Minimum Criteria for Funding:** | Met |
| **Recommended** | Yes |

| | Unit | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Embankment construction, grading and restoration: Compaction of fill | yd3 | 3860 | $5.34 | $20,612.40 | $0 | $0 | Compact levee material for levee on west side of I-94. Quantity assumes no shrinkage upon placement. |
| Channel treatment: Vegetative cover only | yd2 | 2900 | $8.54 | $24,766.00 | $23,032 | $5,930 | Seed west levee surface; app. 1,300 ft L x (app. 10ft +app. 10ft) W |
| Pipe under pavement (city): 36 inches or less | lf | 100 | $304.35 | $30,435.00 | $28,304 | $0 | Pipe under frontage road to maintain I-94 west ditch drainage |
| Inlet structures (Headwall): 36 inches or less | each | 1 | $2,600.34 | $2,600.34 | $2,418 | $0 | West side levee. |
| Outlet structures (Headwall): 36 inches or less | each | 1 | $2,600.34 | $2,600.34 | $2,418 | $0 | West side levee. Includes flap gate on stream side. |
| Inlet structures (Headwall): 36 inches or less | each | 1 | $2,600.34 | $2,600.34 | $2,418 | $0 | East side levee. |
| Land Acquisition: Permanent Easement * | dollar | 300000 | $1.00 | $300,000.00 | $0 | $0 | West side levee. Permenant drainage easement. App. 2 acres at $150,000/acre. |
| Paving: Asphalt Pavement Installation (24 ft wide, 2 ft C&G, 1 ft Excavation | lf | 1500 | $148.47 | $222,705.00 | $207,112 | $0 | West side levee. Frontage road reconstruction to raise roadway to create levee. |
| Channel treatment: Excavation | yd3 | 66150 | $10.68 | $706,482.00 | $0 | $0 | App. 41 ac-ft of compensatory storage through CCFPD property.Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 66150 | $11.75 | $777,262.50 | $0 | $0 | Assume all excavated material to be hauled offsite. |
| Channel treatment: Soil stabilization and vegetative cover | yd2 | 33900 | $13.88 | $470,532.00 | $437,588 | $112,670 | Soil stab. and vegetative cover for app. 7 acres of compensatory storage site. |

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

| | |
|---|---|
| **Alternative Name** | SR-08 |
| **Problem Description** | I-94 at Winnetka Road overbank flooding |
| **Strategy** | SR-08: Construct levees on west and east sides of I-94 to block overbank flooding of I-94 at Winnetka Road. |
| **District Minimum Criteria for Funding:** | Met |
| **Recommended** | Yes |

| | Unit | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| * Indicates item excluded from subtotal (e.g. land acquisition, buyouts) | | | | | | | |
| **Subtotal (direct costs)** | | | | **$2,360,217** | **$726,511** | **$121,361** | |
| Utility Relocation | | | 4 % | $94,409 | | | |
| Mobilization \ General Conditions | | | 5% | $118,011 | | | |
| **Subtotal with Percent Allowances** | | | | **$2,572,637** | | | |
| Contingency | | | 30% | $771,791 | | | |
| Profit | | | 5% | $167,221 | | | |
| **Probable Construction Cost Estimate** | | | | **$3,511,650** | | | |
| Design Engineering, Geotechnical, and Construction Management | | | 10% | $351,165 | | | |
| Property Acquisition Cost: | | | | $1,050,000 | | | |
| **Total Conceptual Cost Estimate** | | | | **$5,760,686** | | | |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan
# Total Conceptual Cost Report

| | |
|---|---|
| **Alternative Name** | NBCR_WF_SC_01 |
| **Problem Description** | Streambank erosion WF east bank along Metra Milwaukee North District RR and Fair |
| **Strategy** | WF-03: Hard armor left bank, from toe of bank to top of bank, to protect existing railroad. |
| **District Minimum Criteria for Funding:** | Met |
| **Recommended** | Yes |

| | Unit | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Channel treatment: Reinforced one sided concrete wall | yd3 | 520 | $587.35 | $305,422.00 | $284,038 | $73,134 | App. 970 ft length, App. 21.5 ft width on east bank at 1V:2.5H slope, 8 inch thickness |
| Channel treatment: Excavation | yd3 | 775 | $10.68 | $8,277.00 | $0 | $0 | Excavation of east bank to allow construction of sloped wall embedded in east bank. App. 970 ft length, App. 21.5 ft width, 1 ft depth. Quantity assumes no bulking/expansion of material upon excavati |
| Channel treatment: Material to be hauled offsite | yd3 | 775 | $11.75 | $9,106.25 | $0 | $0 | Assume all excavated material will be removed from site. |
| Channel treatment: Reinforced one sided concrete wall | yd3 | 667 | $587.35 | $391,762.45 | $364,333 | $93,809 | App. 450 ft length by app. 60 ft width by 8 inch thickness on east bank |
| Channel treatment: Excavation | yd3 | 1000 | $10.68 | $10,680.00 | $0 | $0 | App. 450 ft length by app. 60 ft width by 1 ft depth on east bank. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 1000 | $11.75 | $11,750.00 | $0 | $0 | Assume all excavated material will be removed from site. |

* Indicates item excluded from subtotal (e.g. land acquisition, buyouts)

| | | | | |
|---|---|---|---|---|
| **Subtotal (direct costs)** | | **$736,998** | **$648,371** | **$166,943** |
| Utility Relocation | 4 % | $29,480 | | |
| Mobilization \ General Conditions | 5% | $36,850 | | |
| **Subtotal with Percent Allowances** | | **$803,327** | | |
| Contingency | 30% | $240,998 | | |
| Profit | 5% | $52,216 | | |
| **Probable Construction Cost Estimate** | | **$1,096,542** | | |
| Design Engineering, Geotechnical, and Construction Management | 10% | $109,654 | | |
| Property Acquisition Cost: | | $0 | | |
| **Total Conceptual Cost Estimate** | | **$2,021,510** | | |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan

## Total Conceptual Cost Report

**Alternative Name** NBCR_WF_ST_01

**Problem Description** Techny 32A Anetsberger Extension

**Strategy** WF-06: Expand Techny 32A reservoir into Anetsberger Golf Course and steepen existing reservoir side

**District Minimum Criteria for Funding:** Met

**Recommended** Yes

| | Uni | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Channel treatment: Excavation | yd3 | 2355467 | $10.68 | $25,156,387.56 | $0 | $0 | 1,460 acre-ft additional volume generated from HEC-RAS. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 2355467 | $11.75 | $27,676,737.25 | $0 | $0 | Assume no excavation could be wasted onsite since entire area is being utilized for expansion. |
| Concrete: Cast in place | yd3 | 408 | $250.00 | $102,000.00 | $0 | $0 | Concrete inlet weir expansion. |
| Channel treatment: Vegetative cover only | yd2 | 188760 | $8.54 | $1,612,010.40 | $1,499,145 | $386,000 | Approximate 110 ft 39 acre site would require vegetative cover. |
| Wetland: Construct / Mitigate wetland outside Des Plaines watershed | acre | 4 | $60,000.00 | $240,000.00 | $223,196 | $0 | Approximate size of existing wetland on golf course. Assume wetland could be built within project limits. |
| Land Acquisition: Purchase of Property * | dollar | 15600000 | $1.00 | $15,600,000.00 | $0 | $0 | Based on Cook Co. Assessors data of a similar sized private GC. |
| Pump Station: 300 cfs Pump Station with Flap Gate | each | 1 | $3,970,000.00 | $3,970,000.00 | $2,215,224 | $0 | Additional pump station to accommodate expanded reservoir. Total cost assumes no replacement of pumps within 50 years. |

* Indicates item excluded from subtotal (e.g. land acquisition, buyouts)

| | | | | |
|---|---|---|---|---|
| **Subtotal (direct costs)** | | **$58,757,135** | **$3,937,565** | **$386,000** |
| Utility Relocation | 4 % | $2,350,285 | | |
| Mobilization \ General Conditions | 5% | $2,937,857 | | |
| **Subtotal with Percent Allowances** | | **$64,045,277** | | |
| Contingency | 30% | $19,213,583 | | |
| Profit | 5% | $4,162,943 | | |
| **Probable Construction Cost Estimate** | | **$87,421,804** | | |
| Design Engineering, Geotechnical, and Construction Management | 10% | $8,742,180 | | |
| Property Acquisition Cost: | | $15,600,000 | | |
| **Total Conceptual Cost Estimate** | | **$116,087,549** | | |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan

## Total Conceptual Cost Report

**Alternative Name** NBCR_WF_ST_02

**Problem Description** Techny 32C expansion into Sunset Village Mobile Home Park and "Lot 16"

**Strategy** WF-19: Expand Techny 32C into Sunset Village Mobile Home Park and "Lot 16".

**District Minimum Criteria for Funding:** Not Met

**Recommended** No

| | Uni | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Land Acquisition: Purchase of Property * | dollar | 11000000 | $1.00 | $11,000,000.00 | $0 | $0 | Total assessed value from Cook Co Assessors data |
| Channel treatment: Excavation | yd3 | 1855334 | $10.68 | $19,814,967.12 | $0 | $0 | App. 1,150 acre-ft additional volume generated from HEC-RAS. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 1854084 | $11.75 | $21,785,487.00 | $0 | $0 | Assume only app. 1,250 CY retained onsite. no additional excavation could be wasted onsite since entire area is being utilized for expansion. |
| Pipe under pavement (city): 42 to 66 inches / box culvert (15 to 27 ft2) | lf | 630 | $291.54 | $183,670.20 | $170,810 | $0 | RCP connecting two expanded portions of reservoir (Mobile Home Park and Lot 16). Est. at higher unit price since it is assumed to be jacked in place. |
| Channel treatment: Compaction | yd3 | 1250 | $7.48 | $9,350.00 | $0 | $0 | On-site fill compaction required to raise app. 800 ft of outlet weir access road app. 3 ft. Assume app. 14 ft. width. Quantity assumes no shrinkage upon compaction. |
| Channel treatment: Vegetative cover only | yd2 | 145200 | $8.54 | $1,240,008.00 | $1,153,188 | $296,923 | App. 30 acre site would require vegetative cover. |
| Pipe in tunnel: 42 to 66 inches | lf | 630 | $1,495.06 | $941,887.80 | $875,941 | $0 | Jacked in place RCP connecting two expanded portions of reservoir (Mobile Home Park and Lot 16). Est. at higher unit price since it is assumed to be jacked in place, not in tunnel. |
| Embankment construction, grading and restoration: Additional fill | yd3 | 1250 | $13.88 | $17,350.00 | $0 | $0 | On-site fill placement required to raise app. 800 ft of outlet weir access road app. 3 ft. Assume app. 14 ft. width. Quantity assumes no shrinkage upon placement. |
| Pump Station: 300 cfs Pump Station with Flap Gate | each | 1 | $3,970,000.00 | $3,970,000.00 | $2,215,224 | $0 | Total cost assumes no replacement of pumps within 50 years. |

* Indicates item excluded from subtotal (e.g. land acquisition, buyouts)

| | | | | |
|---|---|---|---|---|
| **Subtotal (direct costs)** | | **$47,962,720** | **$4,415,164** | **$296,923** |
| Utility Relocation | 4 % | $1,918,509 | | |
| Mobilization \ General Conditions | 5% | $2,398,136 | | |
| **Subtotal with Percent Allowances** | | **$52,279,365** | | |
| Contingency | 30% | $15,683,809 | | |
| Profit | 5% | $3,398,159 | | |
| **Probable Construction Cost Estimate** | | **$71,361,333** | | |
| Design Engineering, Geotechnical, and Construction Management | 10% | $7,136,133 | | |
| Property Acquisition Cost: | | $11,000,000 | | |
| **Total Conceptual Cost Estimate** | | **$94,209,553** | | |

**Additional Comments**

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding

# Metropolitan Water Reclamation District of Greater Chicago
# NBCR Watershed Detailed Watershed Plan

## Total Conceptual Cost Report

**Alternative Name** NBCR_WF_ST_04

**Problem Description** West Fork overbank flooding

**Strategy** WF-21: Techny 32B expansion of in-line storage.

**District Minimum Criteria for Funding:** Not Met

**Recommended** No

| | Uni | Quantity | Unit Cost | Base Cost | Maint. Cost | Replacement Cost | Notes/Issues |
|---|---|---|---|---|---|---|---|
| Channel treatment: Excavation | yd3 | 688800 | $10.68 | $7,356,384.00 | $0 | $0 | Quantity derived from HEC-RAS cross sections. Quantity assumes no bulking/expansion of material upon excavation. |
| Channel treatment: Material to be hauled offsite | yd3 | 688800 | $11.75 | $8,093,400.00 | $0 | $0 | Assume all excavated material will be hauled offsite |
| Wetland: Construct / Mitigate wetland outside Des Plaines watershed | acre | 45 | $60,000.00 | $2,700,000.00 | $2,510,959 | $0 | Wetland pods measured in GIS |
| Land Acquisition: Purchase of Property * | dollar | 18200000 | $1.00 | $18,200,000.00 | $0 | $0 | Based on Cook Co Assessors data of nearby parcels. 45.5 total acres at $400,000 per acre |
| * Indicates item excluded from subtotal (e.g. land acquisition, buyouts) | | | | | | | |
| **Subtotal (direct costs)** | | | | **$18,149,784** | **$2,510,959** | **$0** | |
| Utility Relocation | | | 4 % | $725,991 | | | |
| Mobilization \ General Conditions | | | 5% | $907,489 | | | |
| **Subtotal with Percent Allowances** | | | | **$19,783,265** | | | |
| Contingency | | | 30% | $5,934,979 | | | |
| Profit | | | 5% | $1,285,912 | | | |
| **Probable Construction Cost Estimate** | | | | **$27,004,156** | | | |
| Design Engineering, Geotechnical, and Construction Management | | | 10% | $2,700,416 | | | |
| Property Acquisition Cost: | | | | $18,200,000 | | | |
| **Total Conceptual Cost Estimate** | | | | **$50,415,530** | | | |
| **Additional Comments** | | | | | | | |

Note: Small differences between the base cost and the reported product of quantity and unit cost due to rounding