



Dineen Park

Copernicus Park

Project Overview



Project Origins

Dineen Park


- Repeated surface flooding and basement backups
- Dineen Park Neighborhood Association along with local alderman and supervisors worked to create awareness
- MMSD, City, and County commissioned the 2013 Dineen Park Neighborhood Stormwater Study
 - Developed alternatives for flood mitigation.

Copernicus Park

- Repeated surface flooding and basement backups
- Residents and Alderman created awareness
- City of Milwaukee conducted a preliminary study of alternatives

Outcome:

Potential solutions for the flooding proposed within Dineen and Copernicus Parks. Stakeholders of the projects identified the need for Master Plans to be created for both parks to summarize and study existing and potential park amenities and uses.



Master Plan

Principal Stakeholders

- Milwaukee County Supervisors
- Milwaukee County Parks
- City of Milwaukee Aldermen
- City of Milwaukee Department of Public Works
- Neighborhood Residents and Parks Enthusiasts

Supporting Cast

- Milwaukee Metropolitan Sewerage District
- Terra Engineering, LTD
- Multiple meetings held for public input



Master Plan Goals and Objectives

- Create a long term vision for the development of Dineen and Copernicus Park
- Mitigate localized flooding in the neighborhood.
- Enhance park programming to provide activities and event spaces for all age and interest groups.
- Improve existing park community buildings.
- Preserve and strengthen the park's natural environmental features.
- Promote park safety and etiquette.
- Enhance park circulation and surrounding connections.



Design Concepts

Education

Activities and Programming

Hamilton County PARKS
City of DAYTON

Design Concepts

Park Amenities

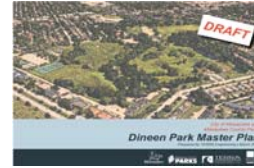
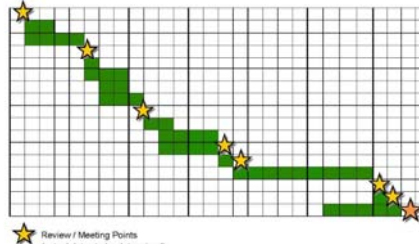
Access and Circulation

Natural Areas

Hamilton County PARKS
City of DAYTON

Master Plan Development Process

1. Research and Analysis
 - Analyze resources and stakeholder interests
 - Develop Project Goals
2. Concept Alternatives
 - Stakeholders developed concept alternatives
 - Conduct public open house
 - Consolidate ideas into concepts
 - Review with stakeholders and public
3. Develop Final Master Plan
 - Finalize recommendations
 - Present to County and City officials
 - Submit Final Master Plan






Existing Conditions – Dineen Park

- Area has repeated surface flooding and basement back-ups during heavy storm events
 - Historical events of 2008, 2009, and 2010
- 2013 Dineen Park Neighborhood Stormwater Study investigated and analyzed causes of and solutions to area flooding
- Topography results in surface flooding through residential and commercial properties from lack of an overland flow path

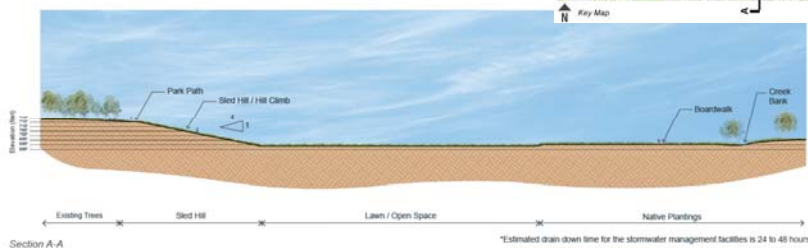


Design Alternatives - Dineen Park

Alternative A	Alternative B	Alternative C
<ul style="list-style-type: none"> • Upgrade storm sewer segments from Dineen Park to Lincoln Creek • Level of Service/Protection <ul style="list-style-type: none"> • Up to 5-Year Storm Event • Constraints <ul style="list-style-type: none"> • LOS restricted to 5-year storm event. • Cannot increase surface water elevations in Lincoln Creek during the 100-Year event by more than 0.01 feet. • Specifics <ul style="list-style-type: none"> • Build an approximate 3' high floodwall along north and east park boundaries • Enlarge 744 feet of storm sewer • Estimated Cost <ul style="list-style-type: none"> • \$1.97M 	<ul style="list-style-type: none"> • Construct detention basin within Dineen Park • Level of Service/Protection <ul style="list-style-type: none"> • alternatives analyzed for the 5-, 10-, 25-, and 50-Year Storm Events. • Constraints <ul style="list-style-type: none"> • Pond requires large open area • Specifics <ul style="list-style-type: none"> • Detention pond footprint within Dineen park varies based on desired LOS from 6.0 to 10.8 acres • Estimated Costs <ul style="list-style-type: none"> • Varies based on LOS • 5-Year: \$0.96M • 10-Year: \$1.32M • 25-Year: \$2.07M — Selected Alternative • 50-Year: \$2.53M 	<ul style="list-style-type: none"> • Combination of Dineen Park Detention basin facilities, channel improvements, permanent floodwalls, and downstream conveyance upgrades. • Level of Service/Protection <ul style="list-style-type: none"> • Alternatives analyzed for the 5-, 10-, and 25- Storm Events. • Constraints <ul style="list-style-type: none"> • Constraints from Alternatives A and B both apply. • Specifics • Estimated Costs <ul style="list-style-type: none"> • Varies based on LOS • 5-Year: \$0.45M • 10-Year: \$2.73M • 25-Year: \$3.30M
<p>Conveyance Improvements</p> 	<p>Detention Improvements</p> 	<p>Combination</p> 

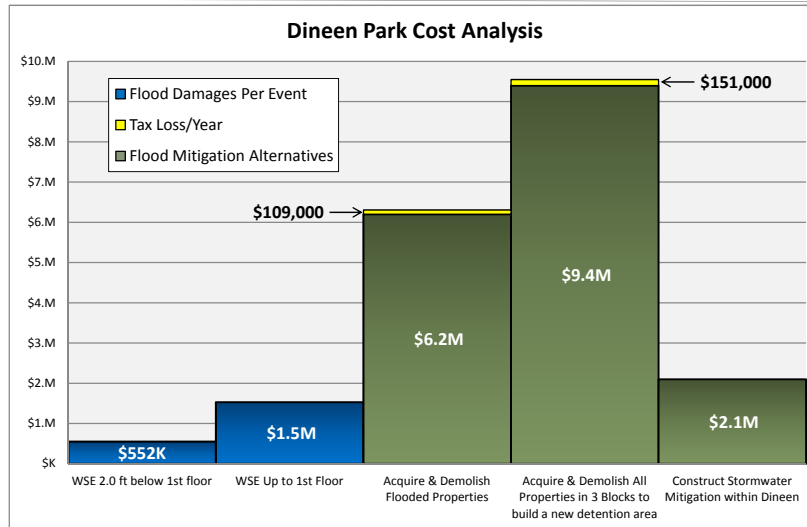
Design of Storm Water Improvements – Dineen Park

- Construct a 8.75 acre dry pond capable of detaining the 25-Year storm event in Dineen Park
 - Located in non-programmed open grass areas
- Facility is incorporated into the Master Plan and will be programmable space to promote park activities



*Estimated drain down time for the stormwater management facilities is 24 to 48 hours.

Design of Storm Water Improvements – Dineen Park



Impacts of Storm Water Mitigation Area on Existing Park Uses – Dineen Park

Existing Conditions

- Open grass area
- 4 Holes of disc golf course

Proposed Conditions

- Open grass area with plantings
- Rerouted disc golf holes
- Included additional amenities:
 - Sled hill with climb paths
 - New tree and native plantings
 - Boardwalk



Added Amenities – Dineen Park

- Dineen Park Storm Water Mitigation Project (per MOU) - \$4.8M
 - Water channel and lagoon improvements including fishing dock
 - Shade trees, ornamental trees, and native plantings throughout park
 - Boardwalks, walking paths, and entry plazas with signage and educational spots along routes
 - Council Ring
 - 18-hole championship disc golf holes
 - Stormwater mitigation facilities
 - Sledding hill with hill climb paths
 - Festival plaza
 - Picnic Shelter
 - Site furnishings and features



Existing Conditions – Copernicus Park

- Area has a history of repeated surface flooding and basement back-ups during heavy storm events
 - Historical events of 2008, 2009, and 2010
- Topography results in surface flooding through residential properties at the intersection of S. 20th St. and W. Klein Ave.
- 3 houses (5664, 5674 and 5710 S. 20th St.) have been demolished to diminish flooding concerns



Design Alternatives – Copernicus Park

Alternatives Considered

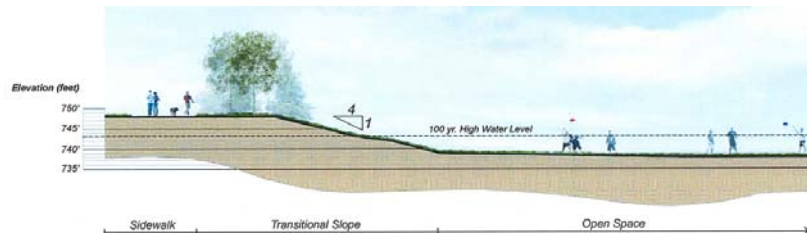
- Construct 1.7 Acre detention pond in Copernicus Park (\$1,320,000) – 100 year event protection
 - This alternative is no longer being considered as the two homes have already been purchased and the land is proposed to be used as detention
- Construct 1.7 Acre In-Line storage in Copernicus Park (\$3,100,000) – 50 year event protection
 - Very costly without meeting the 100 year protection levels that were requested by residents
- Purchase 2 homes, construct 0.5 acre pond within acquired property areas and build an in-line storage system in Copernicus Park (\$3,096,000) – 50 year event protection
 - Very costly without meeting the 100 year protection levels that were requested by residents
- Purchase 2 homes, construct 0.5 acre detention on properties and 1.0 acre detention pond in Copernicus Park (\$1,818,000) – 50 year event protection
 - Does not meet the 100 year protection levels that were requested by residents.
- Purchase 2 homes and construct 0.5 acre pond on properties (\$1,374,000) – 25 year event protection
 - Does not meet the 100 year protection levels that were requested by residents.
- **Purchase 2 homes, construct 0.5 acre pond on these properties and construct 1.2 acre detention pond in Copernicus Park (\$2,114,000) – 100 year event protection**
 - This is the preferred alternative as it provides 100 year protection and minimizes the impact to the park by utilizing land acquired from the razed properties.

Selected Alternative



Design of Storm Water Improvements – Copernicus Park

- Construct a 1.7 acre dry pond capable of detaining the 100-Year storm event in Copernicus Park.
- Located in non-programmed open grass areas.
- Re-route existing storm sewers into the proposed detention pond.
- Facility is incorporated into the Master Plan and be programmable space to promote park activities.



Impacts of Storm Water Mitigation Area on Existing Park Uses – Copernicus Park

Existing Conditions

- Open grass area
- Low lying area near Oak Creek
- No current programmed activities in the area of the proposed pond

Proposed Conditions

- Open grass area with plantings
- Included additional amenities:
 - Sled hill with climb paths
 - New tree and native plantings
 - Soccer field



Open Space And Low Lying Area



Added Amenities – Copernicus Park

- Copernicus Park Storm Water Mitigation Project Phases 1 & 2 (per MOU) - \$5.4M.
 - Stormwater mitigation facilities
 - Sports field/ open space
 - Picnic shelter
 - Educational signage and entry gateway
 - Park sidewalks and multi-use trail with exercise stations and lighting
 - Amphitheater
 - Sled hill
 - Solar system interpretive feature and labyrinth
 - Copernicus Plaza with interpretive paving and signage
 - Park shelter and pergola
 - Playground and tot lot
 - Reconfigured basketball court



County Benefits – Dineen & Copernicus Parks

- Park Improvements included with construction of detention facility.
- All structures, roads, playgrounds, or bridges impacted by the detention facility will be replaced to County specifications.
- Improves the quality of life in the surrounding neighborhood.
- The County will become a partner in mitigating flooding in the community.
- Supports the City and County tax base.



Maintenance – Dineen & Copernicus Parks

- The City performs long term maintenance of the detention facilities and outlet structures.
 - The City will be responsible for repair and restoration of the detention facilities.
- The City will perform dredging maintenance, care, and repair of the park lagoon (Dineen).
- The County shall assume regular and general maintenance of the stormwater detention facilities including mowing and litter removal.
 - Similar to maintenance activities the County already performs on the sites.
- The park improvements shall be owned and maintained by the County.
- The City will be granted an easement to operate and maintain the detention facilities.
 - Modifications to design or easements must be agreed to by all parties in writing.
 - Easement will define responsibilities in the event the detention facility is determined to no longer be necessary
- The detention facilities are located in currently non-programmed open grass areas.
 - Disc golf course will be modified at Dineen.



Memorandum Of Understanding (MOU) Conditions

- Any work on the project will support County EBE requirements.
- County has final approval over plans and specifications for storm water mitigation areas as well as park amenities.
- The City will be responsible for compliance with all applicable laws and regulations.
- The City will perform environmental remediation if necessary.
- The City shall design and let the Storm Water Project and park improvements at the City's cost.
- The contract will be awarded to the lowest responsible bidder.
- The City has the right to reject all bids.
- Allows for City & County to revise scope of work if necessary.

