



Denison Park Stormwater and Green Infrastructure Plan

PUBLIC MEETING

May 10, 2023

Denison Park Stormwater and Green Infrastructure Plan

This project is supported by the U.S. Environmental Protection Agency (Assistance Agreement No.CB96358101) and the National Fish and Wildlife Foundation's Chesapeake Bay Stewardship Fund, which promotes community-based efforts to develop conservation strategies to protect and restore the diverse natural resources of the Chesapeake Bay.



Additional EPA and NFWF funds are available for project implementation.



Agenda

- I. Project Team Introductions
- II. Project Overview & Background
- III. Project Approach
- IV. Project Schedule
- V. Public Participation Opportunities


THE CITY OF CORNING INVITES YOU TO A
PUBLIC MEETING


DENISON PARK STORMWATER & GREEN
INFRASTRUCTURE PLAN

  **City Public Works Garage**
(381 E Market St Ext, Corning, NY 14830)

 **Wednesday, May 10, 2023**  **5:00 pm**

Learn about the project, meet the project team, and provide your input! The meeting will begin with a presentation and end with a park walk-about and the launch of a **Community Survey and Interactive Map** (accessible via the project website).

 Scan the QR Code (or use the link) to visit the project website!



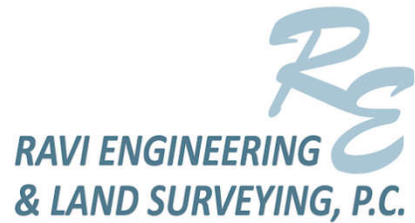
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The Experience to **Listen**.
The Power to **Solve**.

Project Team Introductions



Project Team Introductions

- City of Corning
- Barton & Loguidice, D.P.C.
- Ravi Land Surveying & Engineering
- CME Associates
- Stake Holders

Project Overview & Background

Project Background

- I. 2020 Parks Strategy Plan
- II. Denison Park Drainage History
- III. Denison Park Existing Conditions



Project Goals

- I. Address issues identified in 2020 Parks Strategy Plan
 - I. Improve Water Quality & Drainage

- II. Further evaluate existing conditions at Denison Park

- III. Identify opportunities for green infrastructure



Green Infrastructure

- Mimics Natural Hydrology
 - Capture and treat runoff at its source
- Promotes Sustainability
- Water Quality, Air Quality, Habitat, and Aesthetic Benefits



Green Infrastructure





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The Power to **Solve**.

Project Approach

Project Approach

- I. Public Outreach
- II. Data Collection & Field Verification
- III. Hydrologic & Hydraulic Modeling
- IV. Nutrient Pollutant Loading Analysis
- V. Development and Evaluation of Mitigation Alternatives
- VI. Stormwater and Green Infrastructure plan



Public Outreach

- Provide opportunities for input from stake holders
 - Existing conditions information
 - Identification of stake holder preferences



Data Collection & Field Verification

- Quality Assurance Project Plan
- Desktop and Record Drawing Review
- Drainage Area Delineation
- Bathymetric & Drainage Infrastructure Survey
- Feasibility Infiltration Testing



Hydrologic & Hydraulic Modeling

- HydroCAD evaluation of existing drainage conditions
- Identify capacity of existing drainage system
- Identify areas with potential flood risk
- Determine pond inflow and outflow volumes



Nutrient Pollutant Loading Analysis

- Model nutrient loads (i.e. phosphorus and nitrogen) to Denison Park Pond
- Evaluate existing water quality conditions
- Inform mitigation alternative ranking and selection
- Expand on 2020 Parks Strategy Findings



Nutrient Pollutant Loading Analysis – Model My Watershed

Model My Watershed
Denison Park ▾ Details Analyze Monitor **Model**

Current Conditions Export GMS

Hydrology Water Quality

Average annual loads from 30-years of daily fluxes
Related Layer: Weather Stations used in this model. Turn on
Weather Source: USEPA National Climate Data ⓘ
Simulated by the GWLF-E (MapShed) model ⓘ

Sources	Sediment	Total Nitrogen	Total Phosphorus
Total Loads (lb)	1,917.3	164.5	12.5
Loading Rates (lb/ac)	34.03	2.92	0.22
Mean Annual Concentration (mg/L)	10.23	0.88	0.07
Mean Low-Flow Concentration (mg/L)	30.93	2.23	0.33

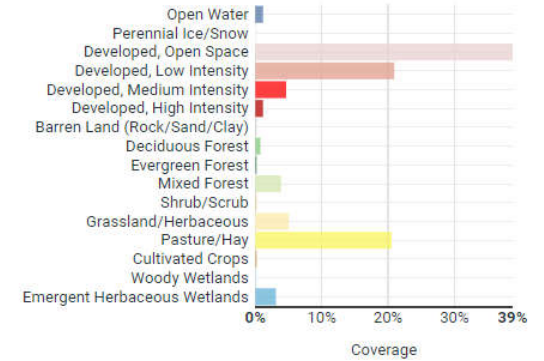
Mean Flow: 3,000,886 (ft³/year) and 0.1 (ft³/s)

Download this data

Land Use/Cover 2019 (NLCD19)

Related Layer: Land Use/Cover 2019 (NLCD19) Turn on

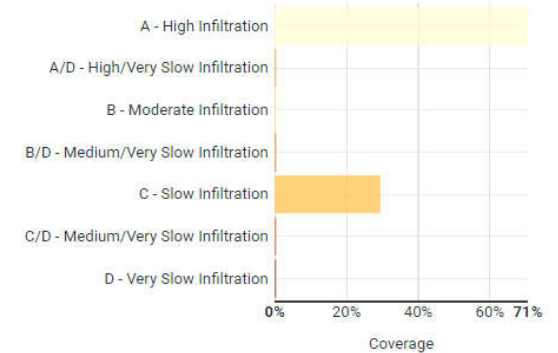
Source: National Land Cover Database (NLCD 2019) ⓘ



Hydrologic soil group distribution

Related Layer: Hydrologic Soil Groups From gSSURGO Turn on

Source: USDA (gSSURGO 2016) ⓘ



Development and Evaluation of Mitigation Alternatives

- Modifications to existing drainage system
- Installation of green infrastructure stormwater retrofits
- Water quality improvements



Development and Evaluation of Mitigation Alternatives

- Develop Ranking Matrix of Potential Alternatives
- Select Prioritized Alternatives
- **Additional funds are available through the EPA and NFWF for project implementation**



Mitigation Alternative Matrix - Prioritization

RANKING

- Stormwater Benefits (total 55 out of 100 points)
 - Flood reduction (45 points)
 - Nutrient reduction – water quality benefit (10 points)
- Constructability (total 20 out of 100 points)
 - Ownership: public or private (10 points)
 - Known constraints (5 points)
 - Permitting (5 points)
- Cost (total 20 out of 100 points)
 - Construction Cost – (10 points)
 - Maintenance Cost (5 points)
 - Fundability (5 points)
- Co-Benefits (total 5 out of 100 points)
 - Energy and air quality impacts (1 point)
 - Habitat and biodiversity (1 point)
 - Community and aesthetic benefits (1 point)
 - Human health benefits (1 point)
 - Educational opportunities/visibility (1 point)



Stormwater and Green Infrastructure Plan

- Summarize Process
- Report Findings
- Alternatives Matrix
- Overview of Prioritized Alternatives



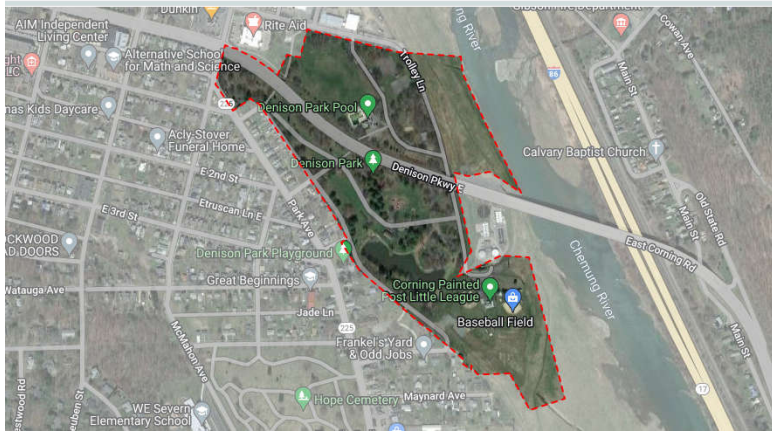


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Public Participation

Public Participation Resources

Drag to comment >  Poor Water Quality  Potential Drainage Problems  Enhancement Opportunity  Landscaping Opportunity



- Interactive Mapper - Identify problem areas or potential opportunities for drainage improvements / green infrastructure
- Community Survey – Identify stakeholder priorities and perceptions of Denison Park drainage and water quality



- [City of Corning Website](#)
- [Interactive Mapper](#)
- [Community Survey](#)



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Project Schedule

Project Schedule

Milestone	Date
TASK 1. Quality Assurance Project Plan Development	April – May 2023
TASK 2. Public Participation	May – June 2023
TASK 3. Data Collection and Field Verification	May – July 2023
TASK 4. Hydrologic and Hydraulic Modeling	June – July 2023
TASK 5. Nutrient Pollutant Loading Analysis	June – July 2023
TASK 6. Development and Evaluation of Mitigation Alternatives	June – August 2023
TASK 7. Stormwater and Green Infrastructure Plan Development	May – August 2023

Contact Information

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Project Information **(Survey and Interactive Mapper)**

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Project Information



Questions & Open Discussion?



Project Information **(Survey and Interactive Mapper)**

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