Old Upper Mountain Road

State Superfund Site No. 932112

Project Background

From about 1921 through the 1950s, the Old Upper Mountain Road Site was operated as a municipal dump by the City of Lockport. A combined storm and sanitary gravity sewer (identified as the Gulf Interceptor) was installed in the vicinity of the site in 1941. Garbage and other wastes were dumped at the site, burned, and pushed into the ravine, burying the sewer, as well as the headwaters of Gulf Creek. The first phase of the Old Upper Mountain Road Site remediation included the relocation of the sewer out of the inactive hazardous waste site to allow for a more complete remediation of contaminated sediments and floodplain soils and reduce the damaging environmental impacts the degraded sewer currently has on the Gulf Creek system. The second phase of the site remediation includes excavation, consolidation, and capping of contaminated fill, floodplain soil, and sediments, a passive seep treatment system, and an extensive floodplain and wetland restoration program. The remedial design and remedy implementation has been developed and conducted with green and sustainable remediation and climate resiliency guidance in mind, in accordance with other existing and developing NYS goals.

This project has been an excellent example of a complex site where diverse emerging NYS initiatives are being tested and implemented in a comprehensive effort.

LOCAL SOURCING

For both phases of the Old Upper Mountain Road remediation in Lockport, NY, the selected contractors effectively sourced materials from local suppliers limiting greenhouse gas emissions from trucking and supporting local businesses, all while reducing costs for material transportation.

Distance from site to material sources:

0.5 MILES – Pipe materials and supplies

1 MILE – Stone/backfill materials

1.25 MILES – Precast concrete structures

6 MILES – Topsoil for restoration

COMMUNITY FOCUSED

These local sourcing efforts helped to minimize the disproportionate impact of air quality emissions and overall community disruption to the surrounding area, which has been identified as a disadvantaged community by DEC's Climate Justice Working Group.

Recognition of potential project impacts to the surrounding community and engagement with neighbors and stakeholders for ways to mitigate those impacts has led to effective implementation with reduced disruption to day-to-day activities.

Remedial Action Objective

The primary objective of any environmental cleanup is to reduce the toxicity, mobility, volume, and extent of released hazardous substances.

The Old Upper Mountain Road Site remediation has addressed the following potential threats to human health and the environment:

- Contaminated sediment and floodplain soil;
- Extensive trash and debris;
- Sanitary sewerage overflow; and
- Invasive species.

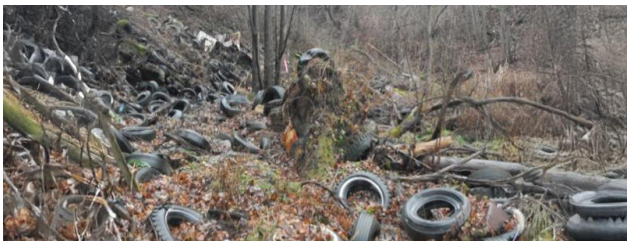
A Complex Cleanup

Based on the size of the Old Upper Mountain Road Site (one mile long and over 30 acres in total size) and the number of discrete elements of the selected remedy, the remediation was broken into two sequential remedial contracts for implementation. The sewer project was conducted from August 2021 through September 2022, while the main site remediation, which includes sediment and soil excavation and consolidation, seep repair and treatment, cap construction, and site restoration, started in March of 2023 and is expected to be complete in June 2025.

Topography and existing infrastructure made sewer relocation challenging. Three existing railroad crossings, aging water distribution infrastructure, and shallow bedrock were encountered.

Limited access to the site required construction of an improved access road for completion of the remedy. This included earth work, slope stabilization, and regular inspections to ensure work could progress safely.

Consolidation of amended sediment occurred in one of two on-site containment cells. The southern cell was located within the footprint of the former Gulf and constructed on a grade to minimize impacts to pre-existing wetlands.



Pre-remediation condition of the Gulf (debris, trash)

Pre-remediation Lockport City Landfill seep

Construction access roadway with pile reinforcement

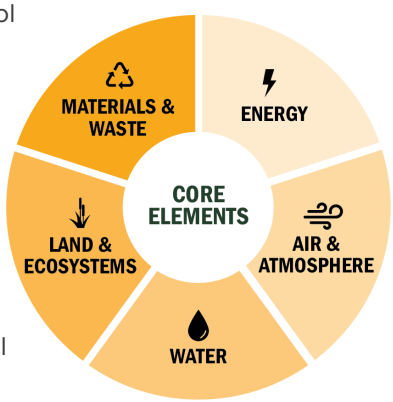
Sediment amendment and consolidation on steep slope

By the Numbers:

- **~50,000 cubic yards** of contaminated sediment and floodplain soil consolidated and capped.
- **+10 acres** of wetlands remediated and pending restoration with native plants
- **~5,000 linear feet** of new sewer was installed
- **+54,000 labor hours** expended during site work and no reportable safety incidents to date

A Greener Cleanup

The approach for remediation at the Old Upper Mountain Road Site was designed in accordance with existing New York State Department of Environmental Conservation (DEC) guidance on green remediation, climate resiliency, and sustainability. DEC revised the proposed remedy prior to implementation to utilize the adjacent Lockport City Landfill for sediment consolidation. This approach had significant reductions in greenhouse gas (GHG) emissions and impacts to the local community as evaluated using SiteWise, a tool used to calculate the environmental footprint and estimate GHG emissions. The following items related to each DEC guidance document were influential in the final remedy approach:



- DER-31: Division of Environmental Remediation Green Remediation Policy
  - — Minimize total energy use and direct and indirect carbon dioxide/
  - — GHG emissions to the atmosphere;
  - — Reduce emissions of air pollutants (particulate matter);
  - — Minimize habitat disturbance; and
  - — Minimize truck travel for disposal to save energy, reduce emissions, reduce localized noise, vibration, and wear and tear on roads.
- CP-49: Climate Change and DEC Action Policy
  - — Consideration of Climate Leadership and Community Protection Act (CLCPA) emissions limits in DEC decisions;
  - — Consideration of future physical risk due to climate change in remedy selection; and
  - — Reduction of floodplain impacts and flood storage/capacity of an existing system.

DEC considered beneficial reuse of materials in both phases of the site remediation to further the reduction of project-related GHG emissions.

GREEN & SUSTAINABLE REMEDIATION

During site work, various green remediation best management practices were implemented to reduce the environmental footprint of cleanup activities, including:

- Biodegradable wattles and matting were used for erosion and sedimentation controls during construction and restoration;
- Stone, backfill materials, topsoil, and other construction supplies were sourced locally to reduce GHG emissions from transportation;
- Clean topsoil and/or fill material excavated from portions of the site reused in future steps of the remediation to reduce volume of imported material;
- Utilization of a lower-carbon footprint Portland cement (PLC Type 1L);
- Implementation of idle reduction policy; and
- Sizing of debris for on-site disposal to eliminate need for off-site transportation and disposal.

Climate Resiliency and Adaptability

Restoration design considerations:

- Planting of native species and
- Sizing of stream channel to accommodate future anticipated precipitation events and frequency.

Site Restoration and Future Site Management

Restoration Design

Restoration plans developed to restore wetlands within the Gulf Creek floodplain with climate resiliency in mind, utilizing native plant species, accounting for potential future increased precipitation severity, and increasing floodplain utilization and wetland habitat heterogeneity within the floodplain limits.

Future Site Management

- Wetland restoration inspections, includes evaluation of wetland functions and values, invasive species management, and planting success;
- Containment cell inspections and associated sampling of groundwater, surface water, and sediment, in accordance with an approved Site Management Plan; and
- Coordination with City of Lockport for transition of future Site Management activities.

Team Effort

- Multi-agency and Municipality Cooperation
- Project design and implementation conducted with collaborative effort between DEC Division of Environmental Remediation, DEC Division of Water, DEC Division of Fish and Wildlife, NYS Department of Health, US Army Corps of Engineers, City of Lockport, and Town of Lockport.

Additional Resources

Project Documents are Available at These Locations:

- The DEC Website at: extapps.dec.ny.gov/cfmx/extapps/derexternal/haz/details.cfm?ProgNo=932112
- Through the DEC InfoLocator: www.dec.ny.gov/data/DecDocs/932112
- DEC's GSR and Climate Resiliency in Environmental Cleanups: www.dec.ny.gov/environmental-protection/site-cleanup/brownfield-and-state-superfund-programs/decs-gsr-and-climate-resiliency-in-environmental-cleanups

Restoration Progress, Summer 2024

Drone photos used in this project highlight were obtained using a DEC unmanned aircraft piloted by Division of Law Enforcement staff from Region 9 as well as part of contract-required aerial photographic documentation.