FORMER SCOTT PAPER MILL SITE REMEDIATION AND RESTORATION

Summary

Award Category: Environmental Dredging
Nominating Entity: GeoEngineers, Inc.

The Former Scott Paper Mill site at the Port of Anacortes was the location of lumber and paper manufacturing facilities for nearly 100 years. Industrial activities at the site had contaminated soil, groundwater, and sediments with hydrocarbons, dioxin, PCBs, metals and wood waste. A large part of the site is a public park, and the Port sought to go well beyond meeting the basic cleanup requirements for the site by increasing the public value of the land and providing significant improvements to the shoreline public access and habitat.

The project restored an undeveloped contaminated site, adding a new esplanade, shoreline habitat, dock and public amenities.

GeoEngineers worked with the Port of Anacortes to develop an integrated cleanup strategy that included a creative cost-recovery approach to provide funding, agency partnership to provide dedicated project oversight and an aggressive schedule to minimize overall project cost and risk. Under the integrated project strategy, the Port of Anacortes utilized GeoEngineers as the technical leader for the three-year, $37 million Former Scott Paper Mill cleanup and restoration project. The Port completed work on the project in partnership with Ecology and the Kimberly-Clark Corporation, the mill's former owner.

The project resulted in the cleanup and restoration of the site, enabling the Port to contribute significantly to their environmental stewardship efforts within Fidalgo Bay and return a popular section of the waterfront to safe public use.

The Port of Anacortes' project team included:

- GeoEngineers – Environmental Consultant and Engineer (John Herzog, Project Lead – WEDA member)
- Coast and Harbor – Coastal Engineering
- Grette Associates – Marine Habitat Biology
- WHPacific – Civil Engineering
- HBB Landscape Architecture – Landscape Architects
- Stoel Rives – Environmental Law
- Chmelik, Sitkin and Davis - General Counsel
- Pacific Pile and Marine - Marine Contractor

Environmental Benefits

The 41-acre Former Scott Paper Mill site is located on the west shore of Fidalgo Bay in downtown Anacortes. The site, which has approximately 2,000 feet of waterfront frontage, was used for industrial purposes from around 1890 to 1979, contaminating the soil, groundwater, and sediments with hydrocarbons, dioxin, PCBs, metals and wood waste. Though industrial activities had been discontinued for decades, the property remained contaminated and the potential costs of complete remediation and lingering technical and legal issues stalled any efforts to redevelop the site.

Sediments at the site were contaminated with metals, PCBs, dioxin and wood waste.

In 2007, the Port began working with GeoEngineers to determine how it could remediate the site and recover the costs associated with the project. The project is part of the Port's Focus Fidalgo environmental program, which takes an integrated approach to removing contaminants, restoring aquatic habitat and improving public facilities along the waterfront on five different sites on Port property. The Former Scott Paper Mill site was the largest of the Port's Focus Fidalgo projects and the largest shoreline and sediment cleanup completed in Washington under MTCA and Ecology's Puget Sound Initiative.

The Former Scott Paper Mill project resulted in the cleanup and restoration of the site, enabling the Port to improve the environmental health of the region, return the site to safe public use and provide an unmatched example of how to effectively and efficiently expedite major cleanup projects.

The Port achieved the following environmental outcomes for the project:

- Cleaned up the site soil, groundwater, sediment and wood debris to the highest environmental standard required by Washington State regulations to ensure protection of human health and the environment.
- Successfully dredged and disposed of contaminated sediment at the site and backfilled with dredged material from an adjoining channel to create eelgrass habitat (see dredging details under "Innovation" below)
- Created new shoreline habitat in a formerly degraded portion of the bay
- Replaced an existing failing federal breakwater with a new structure that will facilitate better water circulation while protecting the newly remediated shoreline and adjacent marina facility

The project's innovative combination of cost recovery, aggressive schedule and collaborative approach advances the state of the art for remediation efforts throughout Puget Sound and inland waterways elsewhere in the country.

Innovation

The Former Scott Paper Mill site is the largest of five projects that integrate remediation, habitat restoration, redevelopment and public access improvements into a single and coordinated effort. The project was divided into four phases to accommodate ongoing site uses and construction sequencing and included the following technical highlights:

Complex disposal logistics

- Dredged approximately 37,000 cubic yards of material from the Swinomish Channel for use as backfill and to construct eelgrass beds at the site
- Approximately 21,000 cubic yards of material were eligible for open-water disposal at the Port Gardner, Washington open water disposal site – by barge about a 12 hour round trip from the site.
- Transported approximately 37,000 tons of contaminated sediment and wood debris by truck for landfill disposal

Restoring the shoreline required complex dredging to remove contaminated sediments and rebuild eelgrass habitat.

Creative waste-stream management

- Contractors excavated approximately 93,000 cubic yards of contaminated soil, wood and debris from upland areas for landfill disposal.
- Crews offloaded the upland material and parts of the dredged material to a sorting facility at a nearby marine terminal where they used screening machines to separate the wood and rock from the fine-grain sediments and amended the contaminated material for shipment.
- Rock reclaimed from the materials-sorting process was returned to the site for use as backfill, effectively lowering the overall disposal and materials purchase costs.
- Contaminated wood debris was separated and dried prior to transport to the landfill, saving on overall disposal costs.

Habitat elements

- Created a multi-acre offshore eelgrass habitat using dredged material from an adjacent channel
- Softened the beach for fish habitat by backfilling dredged areas with clean sand and gravel
- Created a shoreline riparian area of native plants to enhance fish spawning habitat

Overcoming site constraints

- Required extensive shoring to allow the shoreline excavations to be completed outside of the in-water work window and to assist dewatering.
- Constructed wave attenuation structures offshore to control future erosion at the site
- Crews kept the project on schedule and on budget by running 24 hours a day, seven days a week, when necessary.

Data management and sharing

- GeoEngineers developed an internet-based GIS system that was accessible by the multiple involved parties and allowed the project team to view data in real time, enabling efficient and sound decision making capabilities throughout the life of the project.

Economic Benefits

The Former Scott Paper Mill project is notable for the creative and efficient strategy that the Port, GeoEngineers and Ecology used to address the cleanup challenge. This successful approach included the following economic, cost-saving and community benefits:

Cost-recovery

The Port had envisioned cleaning up the Former Scott Paper Mill site for many years, but the cost of fully remediating the contamination was prohibitive. The Port was successful at recovering the majority of its costs for the Former Scott Paper Mill cleanup through third-party funding and Ecology grants while maintaining desired land uses and redevelopment plans.

Aggressive Schedule

One of the greatest threats to the health of Puget Sound is contamination that leaches into the water and sediments from historical industrial sites. This has been a pressing issue for decades, but most landowners lacked the financial and technical resources to clean up and redevelop these properties.

In parts of the open water dredge prism, wood debris prevented the barge from opening. As a result, some loads were returned to the site where the wood was separated and the sediment reloaded for disposal

The project team and Ecology set an aggressive schedule for the site cleanup with the goal of creating a new model for cost and administrative efficiency on large cleanup projects. GeoEngineers led the efforts to successfully complete the Remedial Investigation, Feasibility Study, Draft Cleanup Action Plan, remedial design, permits and contract bid packages for this approximately $37 million cleanup project in about 36 months. By comparison, the Department of Ecology had reported that the average cleanup project of this nature can take up to 15 years to complete.

Community Impact

In addition to the environmental benefits of this major cleanup effort, the Former Scott Paper Mill project has had tremendous positive impact on the Port and City of Anacortes. The Port went beyond the basic cleanup requirements and made significant improvements to the public access to the waterfront via the Seafarers Memorial Park, which includes a shoreline esplanade, restored beach, shoreline habitat areas, a pier and dock for small boats. Businesses were able to operate without disruption throughout the project and now benefit from improved infrastructure and access. Additionally, construction activities contributed millions of dollars to the local economy through purchase of goods and services and provided employment to a number of local workers.

Transferability

This combination of cost recovery, aggressive timeframe and collaborative approach resulted in a successful model that is transferable to other sites, advancing the state of the art for upland and nearshore remediation efforts throughout Puget Sound and inland waterways elsewhere in the country.

Community Outreach

Throughout the project, the Port participated in an educational outreach program that provided training and study areas for the Anacortes School District and undergraduates attending Western Washington University, as well as providing a summer engineering intern position at the site. During the project, the Port provided workshops to multiple regulatory agencies to show the in-field application of innovative stormwater management and other best management practices. In addition, the Port held regular community tours and other community interest updates, and has provided educational interpretive signage along the new esplanade.

As a result of the Scott Paper Mill project and related cleanup efforts on Focus Fidalgo, the Port has embraced environmental stewardship as central to its mission, and the agency now enjoys a highly favorable relationship with the Anacortes community and is developing a regional and national reputation as an environmental leader.

Crews processed upland material and part of the dredged materials, screening wood debris and reclaiming rock for use as backfill.

Why is this Project Worthy of Recognition?

The Former Scott Paper Mill project resulted in the cleanup and restoration of this large site, enabling the Port to improve the environmental health of the region, return the site to safe public use and provide an unmatched example of how to effectively and efficiently expedite major cleanup projects.

The project achieved the following key outcomes:

- Revitalized part of the Anacortes waterfront, delivering environmental, recreational and economic benefits to the Anacortes community.
- Cleaned up contaminated soil, groundwater, sediment and wood debris
- Used sophisticated dredging techniques to both remove contaminated material and create new marine habitat
- Successfully recovered the majority of the project costs
- Completed the project on a very accelerated schedule, helping to reduce overall costs and achieve regulatory approval
- Provided significant economic stimulus to the local economy