History: ASARCO

After a destructive 1914 winter storm, Tacoma boat owners who desired a breakwater in Commencement Bay in Ruston, WA., gave the Asarco smelter's owners a place to get rid of the heavy-metal byproducts of smelting copper. Beneath the smelter's 571-foot smokestack, kettles of industrial waste were carted along rails to the peninsula's edge, where it was dumped, still glowing, into Puget Sound and the peninsula was created. This work continued for 71 years and was one of Pierce County's largest employers.

Asarco closed in 1985 and the smokestack was demolished in 1993. Due to the toxic lead and arsenic that was used to create the peninsula, it required a multicounty clean up and Superfund designation that is still continuing today.

The 67-acre ASARCO smelter site was listed as one of the country's most polluted sites and was one of the first Superfund sites in the nation. The Environmental Protection Agency (EPA) called for an eight-stage cleanup that included demolishing structures, excavating soil and slag from the most contaminated locations, disposing of the contaminates, plugging or removing surface water drainage, capping the project area, protecting the site from erosion, continuing monitoring impacts on groundwater and marine sediments and integrating cleanup with future land use plans.

Waterfront Phase 1 was designed, Metro Parks as lead agency, with the assistance of OAC Services, and Site Workshop as designer, to build a pedestrian bridge that finally connects Ruston Way Waterfront to Point Defiance Park, and convert the slag peninsula into a safe, welcoming park. The work involved moving 400,000 cubic yards of dirt – that's 22,000 truck-and-trailer loads – and installing a woven geotextile cap. All of this work was managed by general contractor Guy F Atkinson Construction, LLC (Atkinson) under the watchful eyes of the U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology.

It's considered the largest project in Metro Parks history as the park district and the numerous partners guided a multi-faceted approach to enhance the park experience and honor its character. The new features include:

- **Wilson Way bridge**: The 605-foot-long bridge is the missing link between Point Defiance and Ruston Way. The bridge, which towers above a new parking lot for park users and boat trailers, includes a section in the middle that designers call "The Moment" because visitors can't help but stop and take in the expansive views. The Park Board named the bridge after Jack C. Wilson, who retired in 2016 after 17 years as executive director of Metro Parks.

- **Slides**: Affectionately described by staff as a real-life "Chutes and Ladders" experience, this series of six slides next to the east end of the bridge is the fun way to quickly get down to the marina complex below. Each slide has a set of stairs next to it for those who prefer a slower route.

- **Dune Peninsula**: Eleven acres of the peninsula created by ASARCO slag were covered with tons of dirt and the artificial cap, and then beautifully sculpted and landscaped. The results speak for themselves: the Cambia Event Lawn for concerts and other events, as well as raised "sail mounds" for spectacular views, and lots of benches and tables to take in all of that nature. A small pavilion features restrooms and rentable space.

- **Frank Herbert Trail**: This paved pedestrian trail, named for the Tacoma native and famed author of the groundbreaking science fiction novel "Dune," loops around the peninsula and connects to the Ruston Way Waterwalk as well as the trail that crosses Wilson Way and heads into Point Defiance Park. Medallions containing Herbert and "Dune"-based quotations will be embedded in the path later this year.

Construction began in June 2016. The $74.8 million cost was shared in the following ways: $36.6 million from Metro Parks' voter-approved park bonds, $25.4 million from the EPA, $5 million from the state Department of Ecology, $4 million from the state Recreation and Conservation Office, and the remaining $3.8 million from the state Department of Transportation, the City of Tacoma, the Asarco settlement fund, and the Tacoma Yacht Club.

"People won't just see this park," said Metro Parks Project Manager Roger Stanton, "they will experience it. And they won't forget what they've experienced."

The 40-acre project, which includes other amenities such as a series of slides down a 60-foot slope, is destined to become one of the most photographed places in the South Sound. It opened on July 6, 2019, and remakes the city's industrial past into a beautiful and serene recreation destination on the water.

Activity:

Metro Parks entered into A133-2009 contract (2015150J) with Atkinson on November 6th, 2015 using the GC/CM method. With OAC Services GC/CM project oversight, notice to proceed was provided to Atkinson on June 9th, 2016 for early earthwork with the completion date of 12/05/2017.

Due to the design changes requested by, and other requirements imposed by the EPA, 27 change orders were processed and Substantial Completion was obtained on June 24, 2019.

Weekly stakeholders meetings were conducted every Thursday, in which the construction schedule, control techniques used and the schedule of values was discussed thoroughly. Plan of action was also set in place for the following week's work. After the schedule of values was reviewed and approved by all, Atkinson would provide an invoice to Metro Parks within the next seven days. Metro Parks would then review for accuracy and request corrections to be made. Once final invoice was accepted, many funding sources were used to process the payment, to include: Metro Parks' voter-approved park bonds, the EPA, WA State Department of Ecology, State Recreation and Conservation Office, State Department of Transportation, the City of Tacoma, the Asarco settlement fund, and the Tacoma Yacht Club.

Atkinson had a health and safety plan in affect throughout the project. The project was known to contain concentrations of lead and arsenic materials, or slag material, well above the MTCA Method A regulator cleanup levels of 20 mg/kg for arsenic. Access was restricted to essential construction personnel with proper hazwoper training, qualifications and approval. They also kept track of dust emissions and made sure that the dust control was mandatory. Onsite environmental inspectors were observing the daily activities to insure that best management practices were adhered to. Atkinson had 292,511 man hours with no lost time injuries on the project.

Today the massive slag pile is the heart of the Point Defiance waterfront. In partnership with the EPA, Metro Parks Tacoma has redeveloped the peninsula as a new recreational amenity for the greater park. The peninsula's embankment was stabilized and "armored" with large stones to protect the slag from being broken down by ocean currents and released into Puget Sound. Contaminated soil from the park's upland areas was also excavated, relocated to the peninsula, and capped with clean earth harvested from lower depths.

Moving so much soil around the site provided opportunities to meet other long-term goals for Point Defiance. This included stabilizing the bluff above the marina, providing ADA connections from the waterfront to the park, improving boat access and parking, redesigning the Pearl Street entrance, and creating a range of new park amenities.

The final design for the peninsula emerged from a concept plan that Site Workshop developed for the site in 2004, collaborating with the local community, Metro Parks Tacoma and other stakeholders. A primary feature of the park are the sculpted landforms that embrace the panoramic, 270-degree views of Mount Rainier, Vashon Island and Puget Sound. Three sail-like mounds are built up with contaminated fill and a clean soil cap that reaches towering heights to shape the visitor experience and frame views.

Emphasizing passive recreation, the site design integrated a variety of gathering areas, art installations, and paths for strolling or jogging. The north end of the peninsula serves as a flexible, outdoor events venue. Artful elements were woven throughout the site, expressing the site's ecological and cultural legacy in engaging ways. The redevelopment also accommodated the Tacoma Yacht Club, which has leased part of the slag peninsula for their clubhouse since 1971.

Connecting the peninsula to the shoreline, the project adds a key segment of the Dome to Defiance Trail, a planned 8.5-mile, multi-modal trail that leads from downtown Tacoma to Point Defiance Park. Before continuing along the waterfront, the trail will fork off from Ruston Way to provide the only ADA-accessible link between the shoreline and

the upland park. The trail design also incorporated a variety of place making elements, including a new park entry, overlook areas, and unstructured, nature-based play opportunities. One fun surprise along the trail is 60-feet of slides running parallel to a hillside stairway.

Planting on the peninsula evokes a rapidly disappearing part of our region's natural history with expansive native prairie. Once common throughout Puget Sound, only 3% of our native prairies remain. The prairie planting will provide valuable urban habitat, as well as educational opportunities to support awareness and conservation. In addition to expanding an endangered eco-system, the prairie allows us to inexpensively cover large areas with interesting, beautiful and low maintenance plants.

Given the scale of the new park space, the prairie concept brought additional benefits to the project. Since the chosen plant palette thrives on well-drained, low-nutrient soils, we were able to use excavated subsoils from the bluff as planting soil with minimal imported amendments. And not least, the prairie will require significantly lower maintenance resources over the long-term, compared to traditional lawn and shrub planting.

The project has been complex in both scope and scale. In addition to managing a diverse consultant team, multiple funding sources with various requirements, and a GC/CM delivery method, work involved extensive coordination with two cities, WSDOT, Washington State Ferries, EPA, the Department of Ecology, Point Ruston LLC, and the Tacoma Yacht Club.

PROJECT TEAM

Owner: Metro Parks Tacoma, Roger Stanton, 4702 S. 19th St., Tacoma, WA 98405 253.305.1096
Landscape Designer, Clayton Beaudoin, 3800 Woodland Park Ave.N.,Ste#: 200, Seattle, WA 98103, 206.285.3026
EPA Designer / Remediation: CH2M Hill, Evan Griffiths,1100 112th Ave. NE., Ste#: 500, Bellevue, WA 98004, 425.453.5000
Bridge Engineering: COWI, 1191 2nd Ave.,Ste#: 1110, Seattle, WA 98101 206.216.3933
Geotechnical / Environmental: GeoEngineers, Morgan McArthur, 1101 Fawcett Ave.,Ste#: 200, Tacoma, WA 98402, 253.383.4940
Architecture: BOE Architects, 1130 Broadway Ste#: 207, Tacoma, WA 98402, 253.383.7762
Artist: Adam Kuby, 7019 SE Morrison St., Portland, WA 97215 503.752.5241
Owner's Representative: OAC Services, Chris Heger 2200 1st Ave.S. Ste#: 200, Seattle, WA 98134, 206.285.4300
Electrical: Cross Engineering, 6509 6th Ave.,Se#: 2025, Tacoma, WA 98406, 253.759.0118
Civil Engineering: Parametrix, Kevin House, 710 Pacific Ave.,Ste#: 100, Tacoma, WA 98402, 253.604.6600
GC/CM: Atkinson Construction, Jim Zusy, 707 S. Grady Way, Ste#: 500, Renton, WA 98057 425.255.7551