

Appendices

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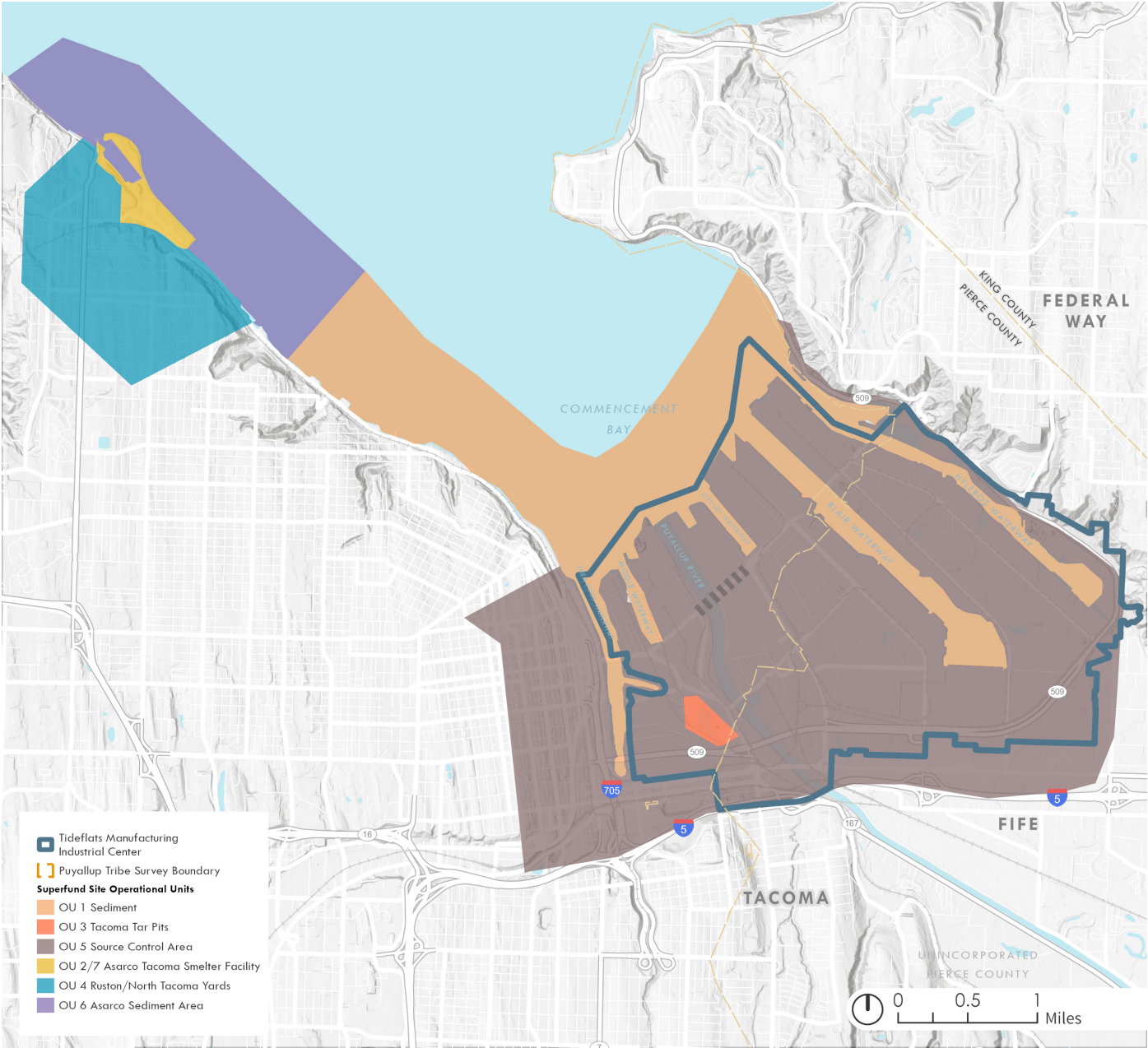
A. HISTORY OF CLEANUP IN THE TACOMA TIDEFLATS

Commencement Bay sediment remediation (OU 1) consisted of nine sediment problem areas including the Thea Foss Waterway, the Wheeler-Osgood Waterway, the Middle Waterway, the St. Paul Waterway, the Milwaukie Waterway, the Sitcum Waterway, and the head and mouth of the Hylebos Waterway. The Blair Waterway wasn’t identified as a separate problem area, as it was thought to be less contaminated than the other waterways. Further, the Port was planning to dredge the waterway in association with the Puyallup Land Claims Settlement.

The remedy objectives were to control sources early, achieve specified sediment concentrations, reduce fish tissue relative to the reference area, and maintain functional habitat and enhance fisheries. The remedy components included

Figure 78. Commencement Bay Superfund Cleanup Site

Source: EPA, 2024; Seva Workshop, 2024



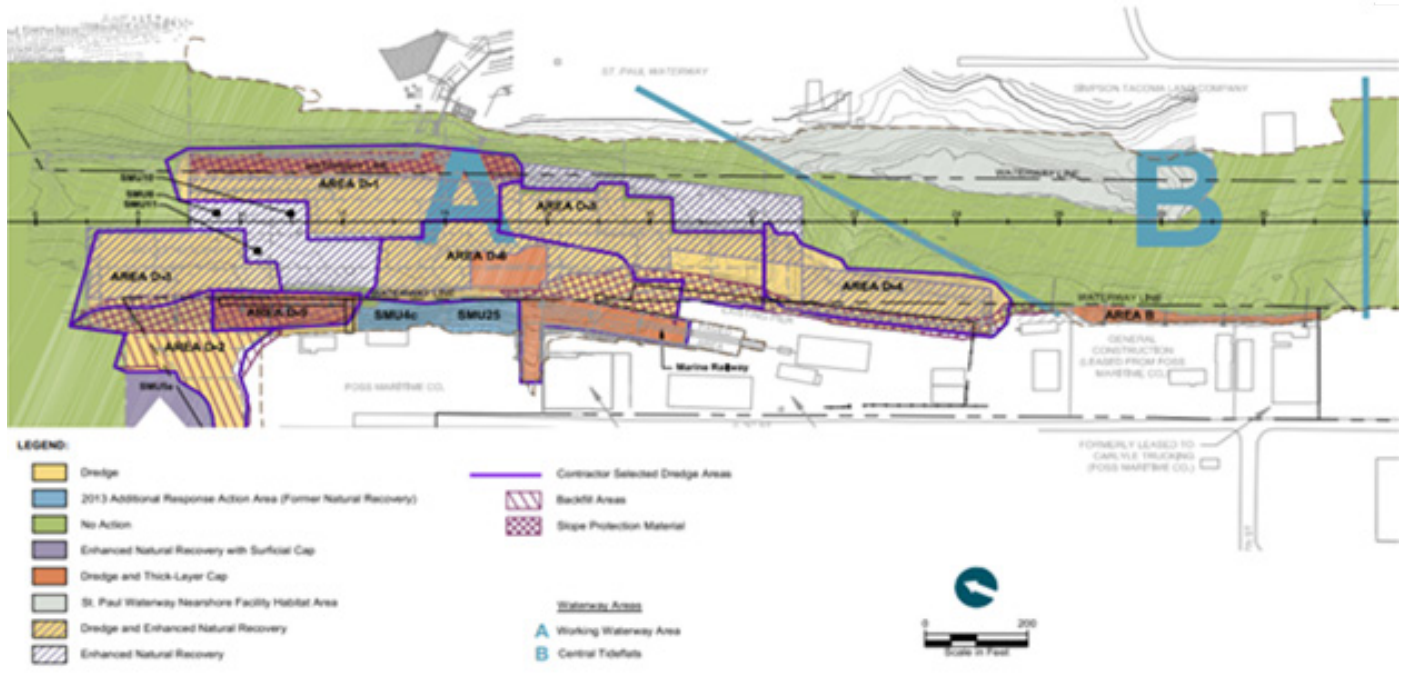


Figure 79. St. Paul Waterway Cleanup Site

Source: EPA, 2020

implementing a fish consumption advisory (since 1985), upland source control efforts lead by Ecology, dredging and capping above remedial action levels, and monitoring natural recovery 10 years post construction. Each problem waterway was addressed by different groups of performing parties at different times.

St. Paul Waterway: The cleanup involved improving wastewater treatment at the nearby paper mill in 1988 and capping 25 acres of contaminated sediment with 180,000 cubic meters of clean sand. The cap, which ranged from 1 to 7 meters thick, also created a healthy intertidal beach habitat as part of a joint Natural Resource Damage Assessment (NRDA) consent decree settlement. After seven years of monitoring, the EPA and the Commencement Bay Natural Resource Trustees confirmed that sediment and habitat objectives had been met. The EPA removed the St. Paul Waterway from the Superfund: National Priorities List (NPL) in 1996.

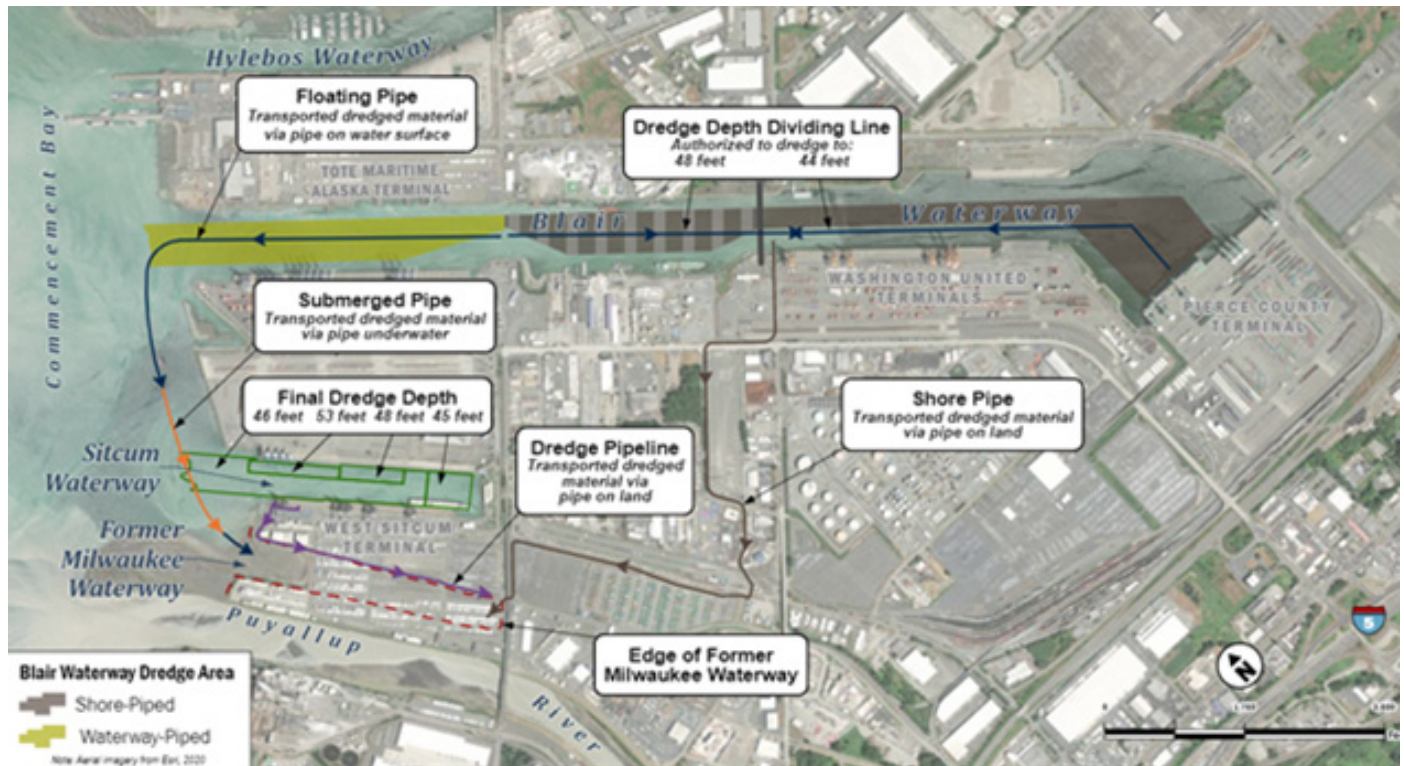


Figure 80. Blair Waterway Dredge Area

Source: Port of Tacoma, 2020

Blair, Milwaukie, and Sitcum Waterways: The Port of Tacoma lead the remedial action efforts to address these Waterways. In 1995, the Port of Tacoma completed dredging of the Blair and Sitcum Waterways along with construction of the confined disposal facility and habitat site in the Milwaukee Waterway using about 1,225,400 cubic yards of clean, dredged material. Additionally, approximately 875,600 cubic yards of contaminated sediments were removed from the Blair Waterway, while 396,000 cubic yards of contaminated sediments were removed from the Sitcum Waterway. The Port also constructed the 9.5-acre Clear Creek Habitat Improvement Site. The EPA deleted the Blair Waterway from the National Priorities List (NPL) in 1996.

Site Plan
Middle Waterway Problem Area C

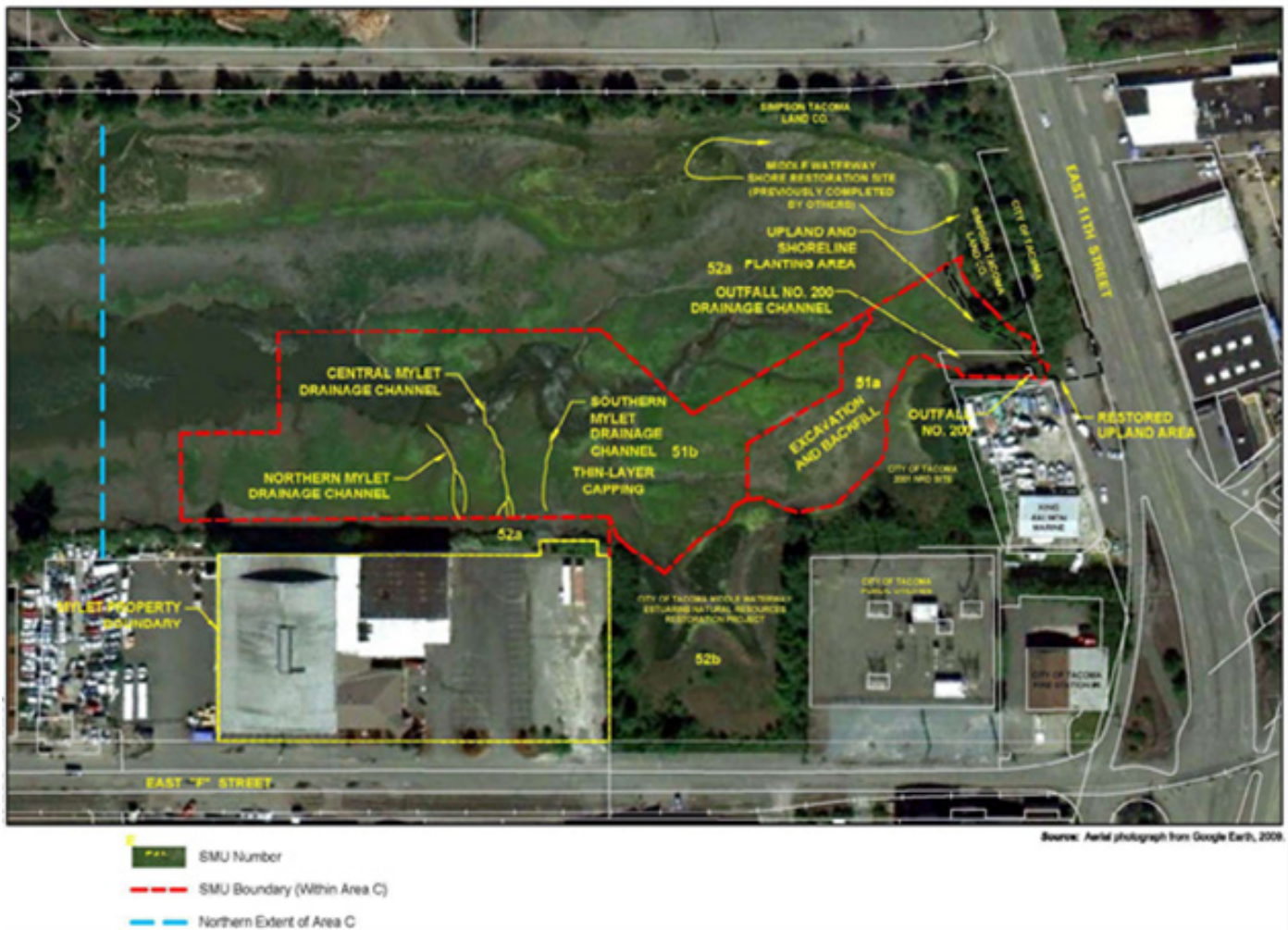
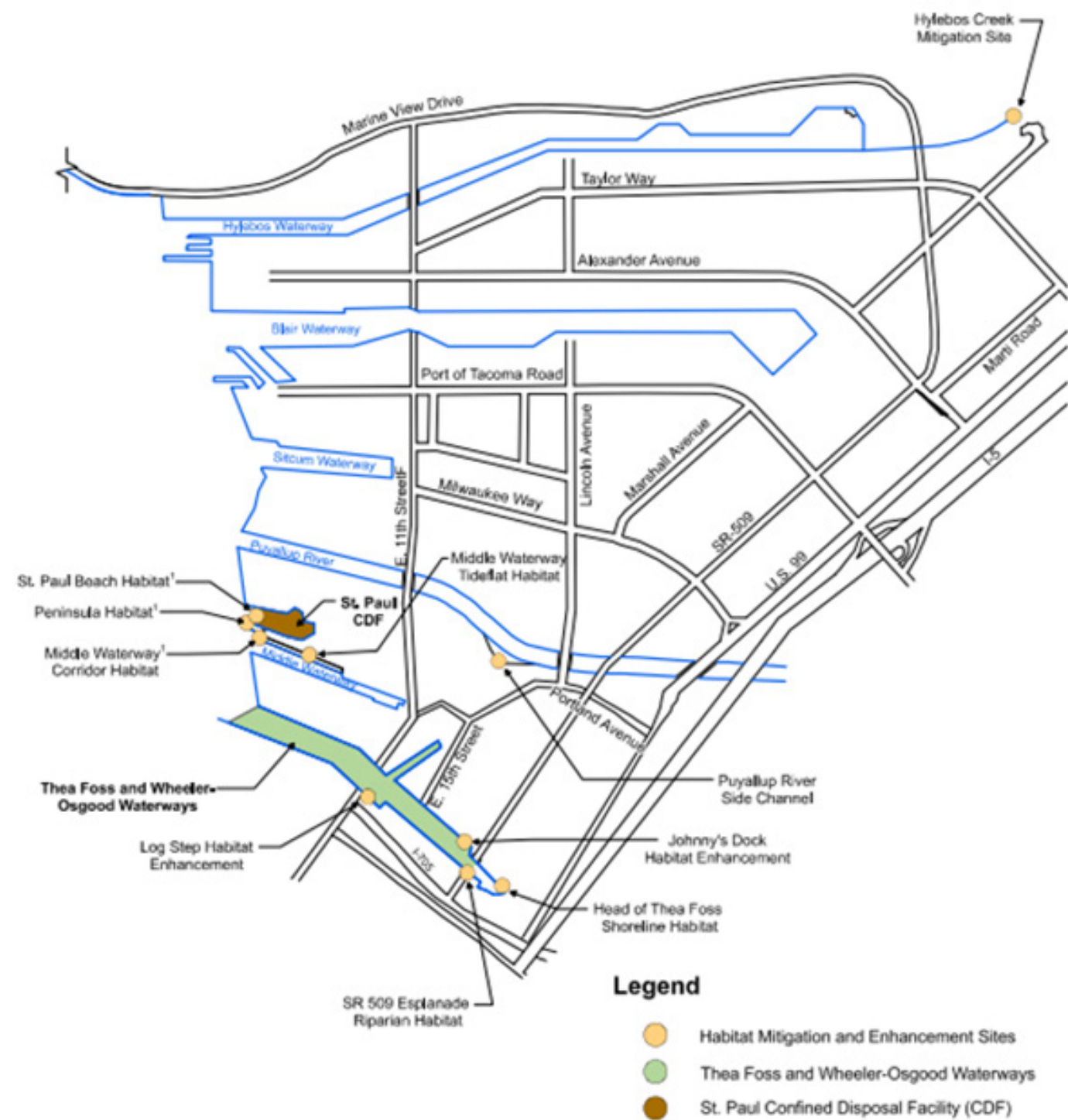


Figure 81. Middle Way Cleanup Site Plan

Source: EPA, Fifth 5-year Review Report for Commencement Bay Nearshore/Tideflats Superfund Site, Pierce County, WA

Middle Waterway: From Areas A and B, approximately 109,500 cubic yards of dredged sediments from the Middle Waterway were placed in the Blair Slip 1 Nearshore Confined Disposal Facility (NCDF). In August 2004, additional dredging, enhanced natural recovery, and pile removal and replacement was proposed in Areas A and B to address unanticipated post-remediation issues. This work was completed by January 2005. An additional response action to place enhanced natural recovery material and shoreline stabilization was conducted in 2013 to address mercury contamination in sediment in a Natural Recovery area that did not recover as originally anticipated. The remedial action was completed in 2018.

From Area C, approximately 3,125 cubic yards of contaminated sediment was excavated and disposed in the County's LRI Landfill. The dredged area was subsequently backfilled with clean material. In Area 51a, monitored natural recovery (MNR) was the selected remedial approach. In Area 51b, a thin layer cap (also known as Enhanced Natural Recovery [ENR]) was placed over approximately 1.5 acres.



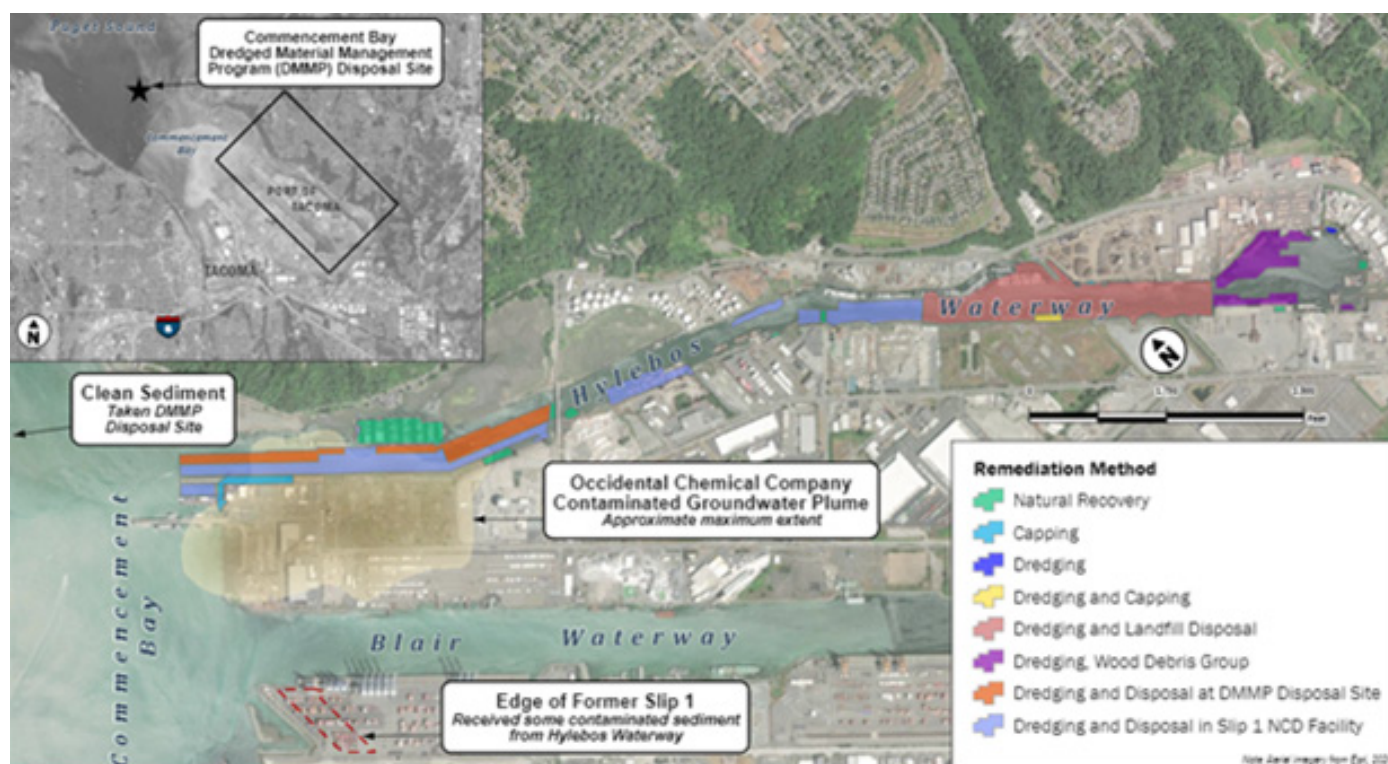
Thea Foss and Wheeler Osgood Waterways: Remedial action at the mouth of the Thea Foss and Wheeler Osgood Waterways included constructing the 11-acre St. Paul Waterway Confined Disposal Facility (St. Paul CDF; see [Figure 80](#)) dredging 425,674 cubic yards of contaminated sediment with disposal in the St. Paul CDF, capping 24 acres, four acres of ENR, and designating 21 acres for MNR. Remedial action at the head of the Thea Foss consisted of constructing an 8.8-acre cap, completed in 2004, and removal of the City Pier in 2016. The City has been monitoring natural recovery areas since 2006.

Figure 82. Thea Foss and Wheeler-Osgood Habitat Sites

Source: EPA, 2020

Hylebos Waterway: Remedial construction at the head of the Hylebos Waterway was completed in 2006, which included addressing contamination from multiple embankment areas and dredging 405,000 cubic yards of sediment over 42 acres. Dredged sediments were disposed in the Roosevelt Regional Landfill. Post-dredging sampling results indicated that sediment quality objectives were met throughout the approximately 45-acre subtidal area.

Remedial construction at the mouth of the Hylebos Waterway was completed in 2004 by the Port of Tacoma and Occidental Chemical Corporation. A 10-acre nearshore confined disposal facility (NCDF) was constructed in the Blair Slip 1, with a disposal capacity of 650,000 cubic yards. In 2003 and 2004, dredged sediments were transported to either the Commencement Bay open-water disposal site (receiving approximately 190,000 cubic yards of uncontaminated sediment) or the Blair Slip 1 NCDF (receiving approximately 450,000 cubic yards of contaminated sediment). Additional actions included monitored natural recovery in select areas, and habitat construction.



In summary, the OU1 Sediment Remedy included:

- > 500 acres dredged
- > 2,400,000 cubic yards to three confined disposal facilities (CDFs)
- > 400,000 cubic yards to off-site landfills
- > 200,000 cubic yards to open-water disposal
- > 40 acres capped
- > 60 acres monitored or enhanced natural recovery
- > Coordinated with restoration, navigation, and urban renewal

Currently, the responsible parties working with the EPA continue to monitor remedy effectiveness including sediment quality conditions, environmental cap integrity.

Figure 83. Hylebos Waterway Remediation

Source: Port of Tacoma files, 2020

MTCA actions

Ecology led the Upland and Nearshore Source Controls efforts for Commencement Bay, starting before 1990 and completed in 2001. These efforts consisted of a series of milestone reports focused on each problem waterway; Milestone 1 – Ongoing Confirmed Sources Identified, Milestone 2 – Essential Administrative Actions in place for Major Sources, Milestone 3 – Essential Remedial Action Implemented for Major Sources, Milestone 4 – Administrative Actions in Place for All Confirmed Sources, and Milestone 5 – Remedial Implementation for all Source. The remedial action could proceed following Ecology’s completion and EPA’s approval of Milestone 5 report.

Ecology’s identified sources largely focused on shoreline industrial properties, except for the Thea Foss, where upland stormwater was identified with the potential to re-contaminate the Waterway. The identified upland sources were also addressed through Ecology’s cleanup process.



Head of the Thea Foss, Twin 96-inch outfalls

B. REAL ESTATE MARKET INFORMATION

Building Area

Figure 84 provides a breakdown of rentable building area information. The dominant type of real estate located within the Port of Tacoma MIC is industrial/flex properties, with the largest amount of rentable building area in warehousing and logistics (with over 10.8 million square feet of space), and manufacturing (2.6 million square feet). The 1.3 million square feet of other uses include:

- > Oil and chemical refining
- > Resource uses, including cement and gravel plants
- > Marinas and shipyards
- > Lumberyards
- > Railroad yards
- > The federal Northwest Detention Center

There are minor amounts of other uses in this area, including retail and office uses. No multifamily residential development is located within this area, although some non-residential uses do include accessory caretaker units.

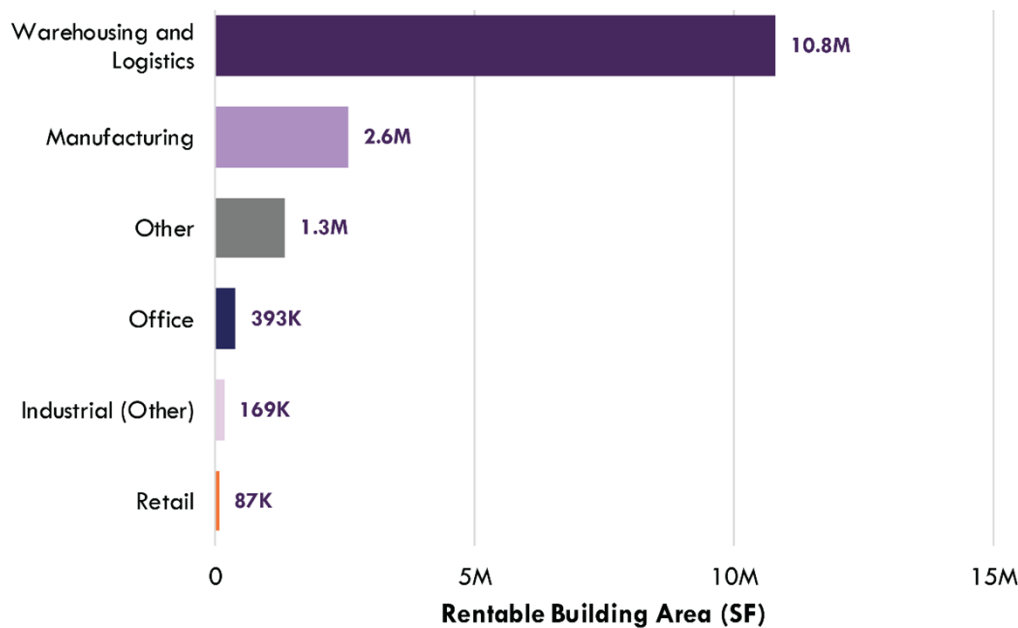


Figure 84. Breakdown of Rentable Building Area in the Port of Tacoma MIC, 2020

Source: CoStar, 2020; BERK, 2020

The MIC includes both old and new buildings. **Figure 86** categorizes the rentable building area in the study area. About 10%, or approximately 1.6 million SF, of the identified floor area was built pre-war, and 57% or roughly 5.8 million SF of total rentable building area is 50 years old or older.

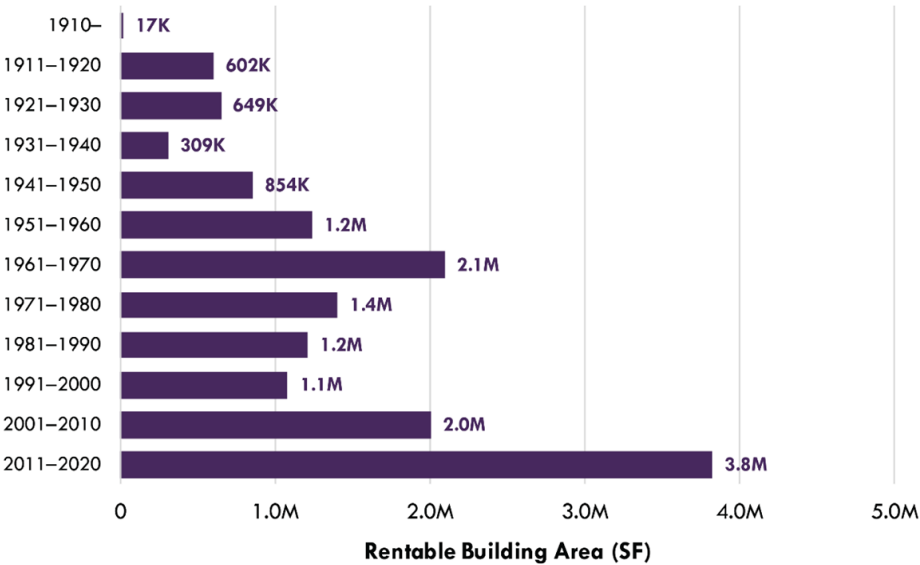


Figure 85. Rentable Building Area by Building Age, Port of Tacoma MIC, 2006-2020
 Source: CoStar, 2020; BERK, 2020

A significant amount of development in the study area is newer, with about 3.8 million SF of building area constructed since 2011. **Figure 87** shows the characteristics of these projects, including the building locations and owners. Note that all these uses are in warehousing and distribution. Despite the large amount of development by area, only three property owners have had new construction on their sites: Prologis (5 buildings, 2.3 million SF), Black Creek Group (2 buildings, 1.1 million SF), and the Port of Tacoma (three buildings, 428,000 SF).

Figure 88 provides the amount of rentable building area in the study area categorized by the top 10 owners in this area. Most notably, Prologis holds the largest amount of floor area, and this almost completely consists of new construction. Similarly, Black Creek Group is the third-largest holder of floor area, with most of this space built in 2018.

Overall, the construction of new warehousing and distribution facilities by large logistics real estate investment companies such as Prologis and the Black Creek Group indicates the market perception of the study area as an attractive location for such facilities. It will likely continue to see a trend of national and international real estate firms investing capital for larger logistics facilities in this area.

PROPERTY	BUILDING	ADDRESS	RBA	YEAR	OWNER
CenterPoint Properties		1651 Lincoln Ave	106,764	2021*	LBA Realty
Portside 55	Building A	1514 Taylor Way	155,100	2019	Port of Tacoma
	Building B	1614 Taylor Way	51,900	2019	Port of Tacoma
	Building C	3401 Lincoln Ave	221,010	2019	Port of Tacoma
Prologis Blair Distribution Center	Building A	2340 Taylor Way	542,750	2018	Prologis, Inc.
	Building B	2600 Taylor Way	428,228	2019	Prologis, Inc.
Prologis Park Tacoma	Building A	5015 8th St E	222,925	2017	Prologis, Inc.
	Building B	5101 E 12th St E	770,195	2017	Prologis, Inc.
	Building D	4801 E 8th St E	319,806	2018	Prologis, Inc.
Tacoma Logistics Center	Building A	927 E 11th St	280,525	2018	Black Creek Group
	Building B	917 E 11th St	828,620	2018	Black Creek Group

Figure 86. New Rentable Building Area, Tacoma MIC, 2011–2021

*Proposed.

Sources: CoStar, 2020; BERK, 2020

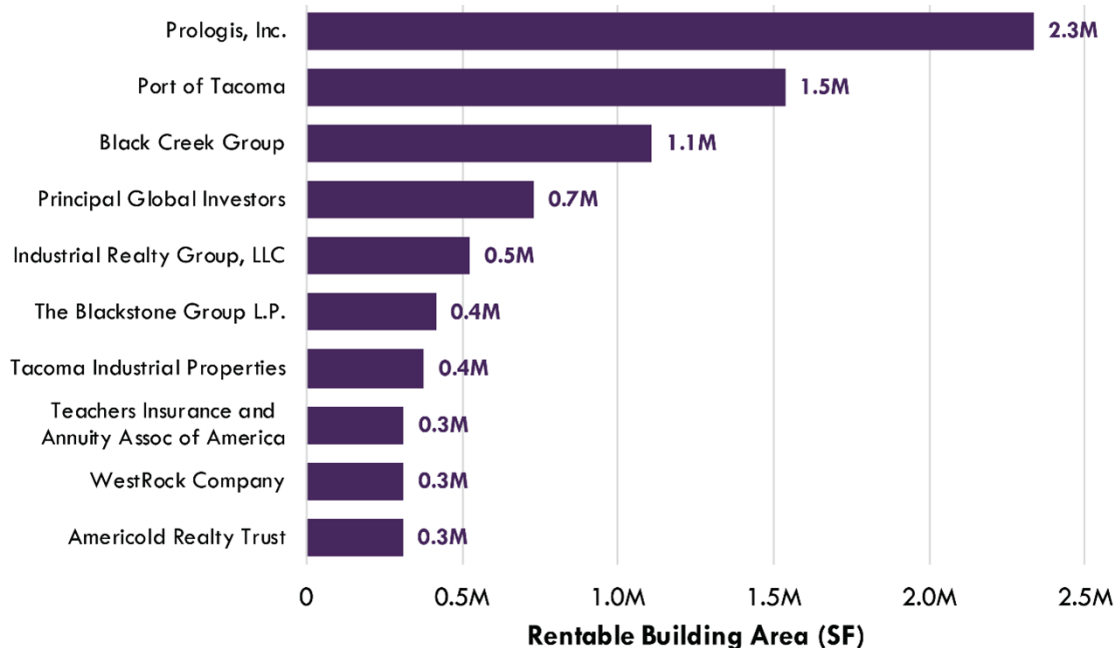


Figure 87. Top Owners of Rentable Building Area in Tacoma MIC, 2020

Sources: CoStar, 2020; BERK, 2020

There is a very small amount of retail space in the study area. Primarily, this development supports the industrial and logistics uses in this area. A larger district of highway-oriented commercial uses is located directly to the south of the study area in the city of Fife, which provides a greater local and regional draw for retail demand with more direct access from I-5.

The office market in this area is also relatively small, with a total of about 393,000 SF. The largest office building in this area is the Port of Tacoma's mulP-tenant Fabulich Center at 72,000 SF. Other significant buildings in the area include the Center for Urban Waters building (48,341 SF), the Former Salvation Army building currently owned by Summit Public Schools (45,000 SF), and the Port of Tacoma administration building (42,100 SF). Other office buildings are smaller, mostly providing support functions for industrial and warehousing activities in the study area.

Current office vacancies are around zero with projected rents of approximately \$25/SF/year. There has been some notable growth in office rents in the area, with year-over-year rent growth reaching 9% in all four quarters of 2017. The smaller amount of space in the area, as well as greater draw of office uses to downtown Tacoma directly to the west, means that this area is not competitive for higher-end office uses, but could be a location for Class B/C office space.

Data about local and regional real estate markets for warehousing, logistics, and manufacturing between 2006 and 2020 are provided in the following figures:

- > **Rents per square foot** for the Port of Tacoma MIC and King and Pierce Counties are included for warehousing and logistics (**Figure 89**) and manufacturing (**Figure 90**).
- > **Rent changes year-over-year** (YOY) for the MIC and region are provided in **Figure 91** (warehousing and logistics) and **Figure 92** (manufacturing).
- > **Vacancy rates** for warehousing and logistics and manufacturing are provided in **Figure 93** and **Figure 94**, respectively.
- > **Net deliveries** of new rentable building area for warehousing and logistics and manufacturing are given in **Figure 95**.
- > **Net absorption** of rentable building area for warehousing and logistics and manufacturing are provided in **Figure 96**.

Properties in the Port of Tacoma MIC have industrial rents that are largely below regional averages for King and Pierce Counties. For warehousing, local rents are estimated to be around 75% of the regional average, with 70% of regional rents for local manufacturing uses. In part, this reflects the high pricing of manufacturing and warehousing space elsewhere in the region, such as in the Duwamish area close to the Port of Seattle.

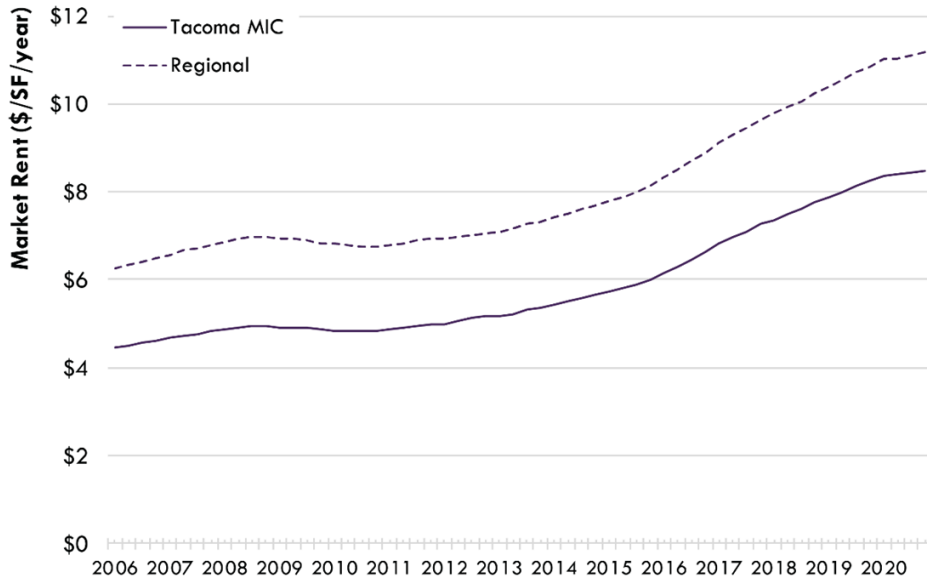


Figure 88. Warehousing and Logistics Rent per SF, Port of Tacoma MIC and Region, 2006–2020
Sources: CoStar, 2020; BERK, 2020

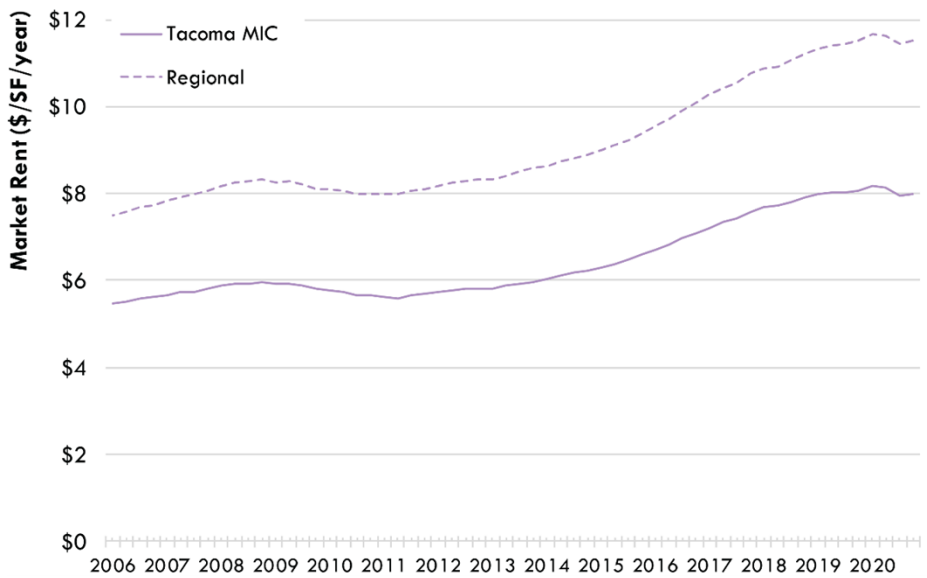


Figure 89. Manufacturing Rent per SF, Port of Tacoma MIC and Region, 2006–2020
Sources: CoStar, 2020; BERK, 2020

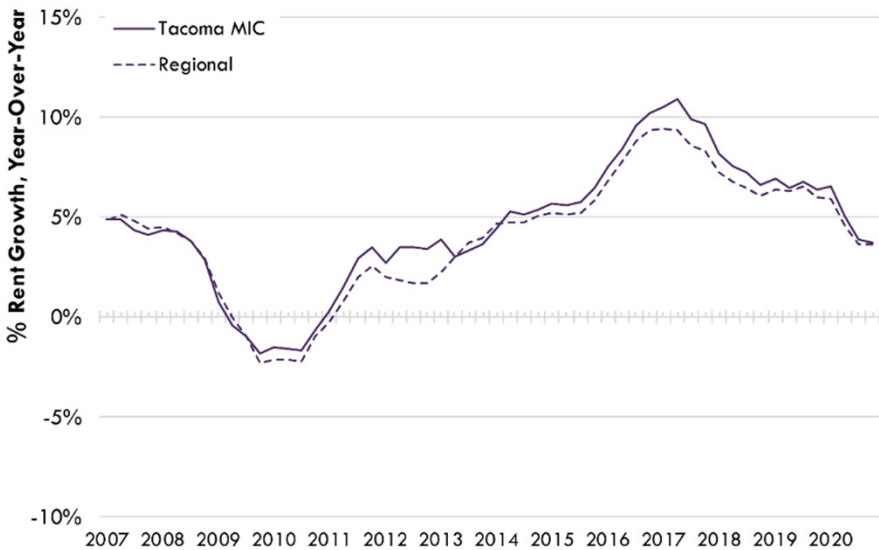


Figure 90. Warehousing and Logistics Rent Growth, Port of Tacoma MIC and Region, 2006–2020
 Sources: CoStar, 2020; BERK, 2020

After a brief downturn in rents in 2009–2011, rents for warehousing and logistics uses have increased, with up to 10–11% from 2016 Q3 to 2017 Q4. Note that this was also a period of very low vacancies in this area, with less than 1% vacancy during this period. These increases in rents have stabilized but are still positive even in 2020 Q3. See [Figure 91](#).

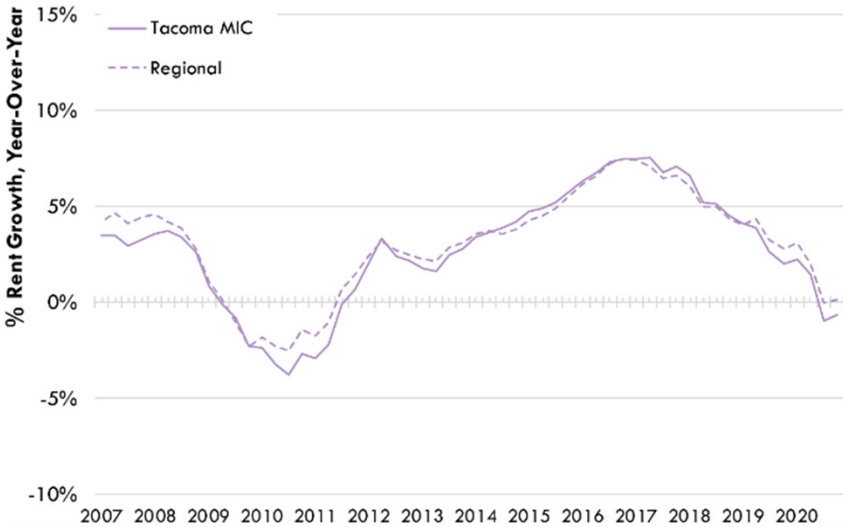


Figure 91. Manufacturing Rent Growth, Port of Tacoma MIC and Region, 2006–2020
 Sources: CoStar, 2020; BERK, 2020

Rent increases for manufacturing spaces have been lower in this area, with only 7–8% rent increases during the same peak in 2016–2017. Manufacturing rents have also experienced slight declines in 2020, with a 0.6–0.9% year-over-year decline in Q2 and Q3. Vacancies in manufacturing spaces have been consistent with regional averages, largely below 5% except for brief peaks due to major tenants moving. See [Figure 92](#).

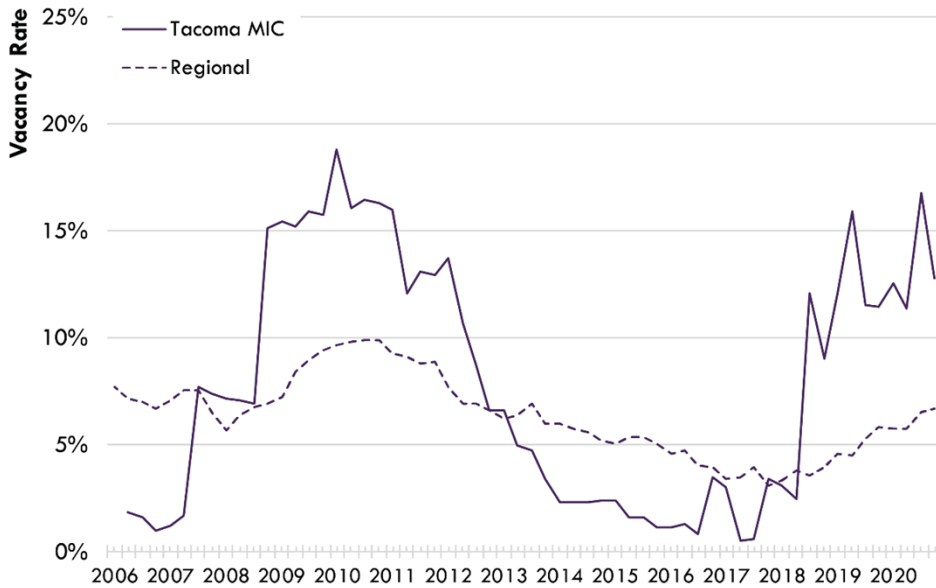


Figure 92. Warehousing and Logistics Vacancy Rates, Port of Tacoma MIC and Region, 2006–2020

Sources: CoStar, 2020; BERK, 2020

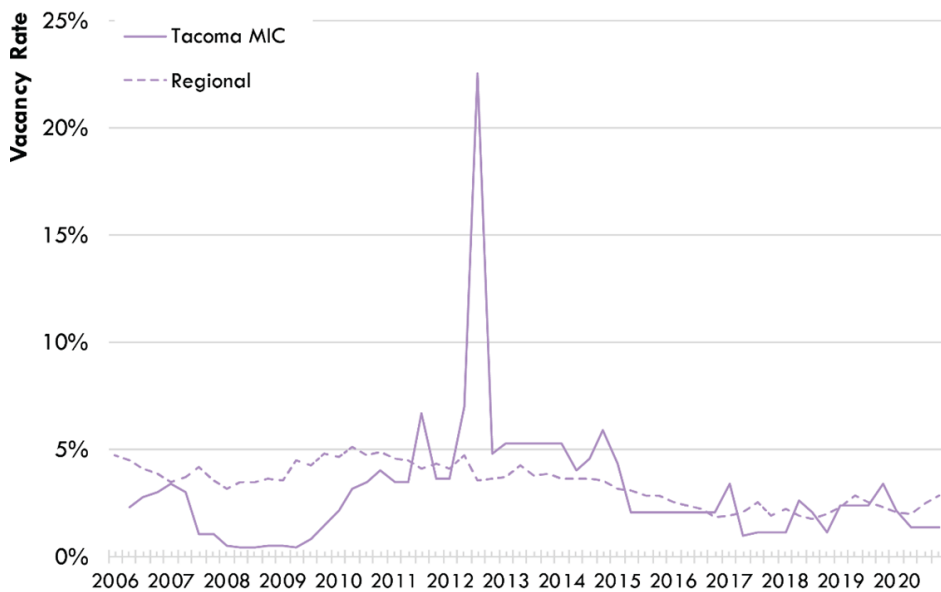


Figure 93. Manufacturing Vacancy Rates, Port of Tacoma MIC and Region, 2006–2020

Sources: CoStar, 2020; BERK, 2020

There have been distinct peaks in warehousing and logistics vacancy rates which have lagged the construction and delivery of new warehousing and logistics floor space. Delivery of floor space refers to when a building completes construction and receives a certificate of occupancy. During the last recession, this resulted in extended vacancies for new warehousing and logistics space in 2007–2008, which was not leased up until 2013. As of 2020, warehousing and logistics vacancy rates are largely around 12–13%. This elevated rate of vacancies for warehousing and logistics space is likely related to the significant amount of new floor space delivered in from 2017 to 2019. See [Figure 93](#) and [Figure 94](#).

There have been no net positive deliveries of space for manufacturing since 2007, and the area has lost about 824,000 SF of space in manufacturing uses since 2007. Manufacturing space in the Port of Tacoma MIC is typically more than a decade old, less expensive, and more depreciated. See [Figure 95](#) and [Figure 96](#).

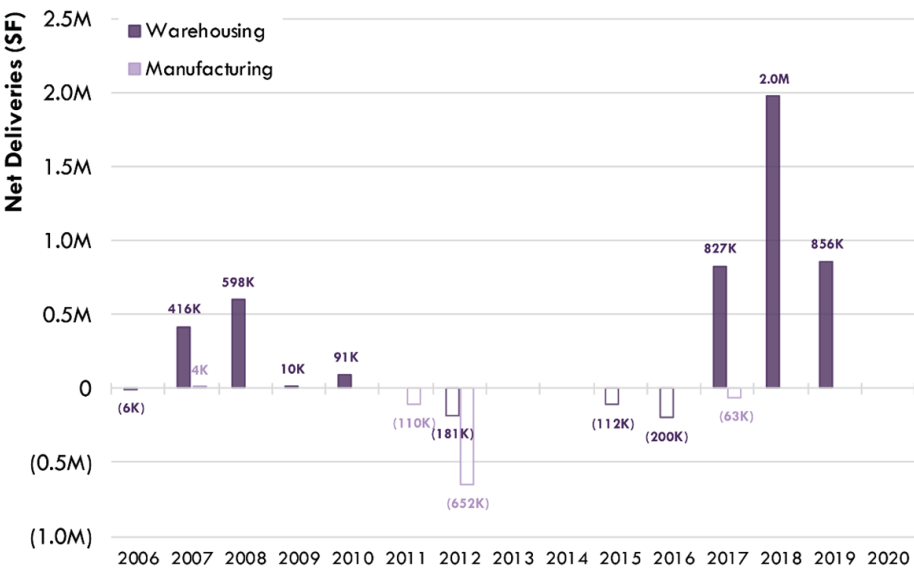


Figure 94. Deliveries of Rentable Building Area in Tacoma MIC, 2006–2020
 Sources: CoStar, 2020; BERK, 2020

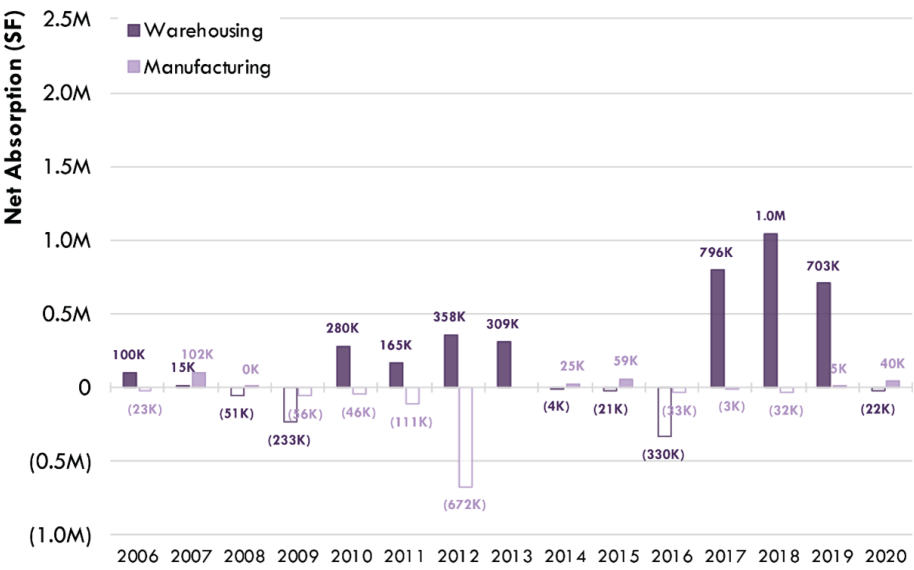


Figure 95. Absorption of Rentable Building Area in Tacoma MIC, 2006–2020
 Sources: CoStar, 2020; BERK, 2020