

City of Portland
Hayden Island Existing Conditions Reports

September 7, 2007

Prepared by:



Table of Contents

Hayden Island Existing Conditions Reports by Memorandum Number

1.	State Rules Regarding Floating Homes and Moorages	1-1
2.	Real Estate Values (ED Hovee)	2-1
3.	Site Design and Building Characteristics	3-1
4.	Potentially Contaminated Sites	4-1
5.	Drinking Water	5-1
6.	Emergency Services	6-1
7.	Sanitary and Storm Sewer Infrastructure	7-1
8.	Natural Hazards	8-1
9.	Natural Resources Inventory, the Quality/Quantity of Natural Resources, and Federal and State Permitting	9-1
10.	Airport Noise Issues	10-1

Figures

Floating Homes and Moorages Map	1-5
Hayden Island Building Types Map	3-2
Sanitary Sewer Map	7-5
Storm Sewer Map	7-6
Relative Earthquake Hazards Map	8-5
FEMA 100 Yr Floodplain Map	8-7
1996 Flood Area Map	8-9
Hayden Island Zoning Map	9-6
Environmental Zone Map	9-7
Noise Exposure Map	10-5

Memorandum 1



Date: August 30, 2007

To: Joe Zehnder, City of Portland Planning Bureau
John Gillam, City of Portland Department of Transportation
Patrick Sweeney, City of Portland Department of Transportation

From: Sharon Kelly, Senior Transportation Planner, URS Corporation

Subject: **Hayden Island Existing Conditions Report**
State Rules Regarding Floating Homes and Moorages

Introduction:

The people of Oregon are the owners of the submerged and submersible land underlying most navigable, tidally-influenced waters, non-tidally-influenced beds, banks and lakes in Oregon. In most cases, this ownership, which was granted by the federal government when Oregon became a state, extends to the line of ordinary high water or high tide. The federal government did not specify which rivers should be publicly-owned, and over the ensuing years, portions of the beds and banks of 12 rivers have been determined to be publicly-owned through: court cases; legislatively directed studies; acts of the Oregon Legislature; and, since 1995, a study process established in Oregon law (ORS 274.400 to ORS 274.412) and the department's rules governing this process (OAR 141-121-0000 through 141-121-0040).

Most of Oregon's submerged and submersible land is held and managed by the State Land Board, which consists of the Governor, Secretary of State, and State Treasurer. As the Land Board's administrative arm, the Oregon Department of State Lands (DSL) is responsible for most of the day-to-day management of publicly-owned submerged and submersible land. In administering this land, DSL must consider Constitutional and statutory requirements, Land Board directives, and the public trust interests of all Oregonians.

In many places throughout Oregon, marinas, wharves, docks, floating homes, log rafts, and ship repair facilities have been constructed on publicly-owned submerged and submersible waterway land. Often, because of its desirability, restaurants, hotels, and tourist facilities are situated next to or on submerged and submersible land. This land is also sometimes dredged by privately-owned companies to produce commercial grade sand and gravel. Given the high public demand for the state's submerged and submersible land, it is critical that this resource be carefully managed and the citizens of Oregon be fairly compensated for its use. DSL issues leases, licenses, temporary-use permits and registrations for uses of state-owned submerged and submersible land. Other public agencies have responsibility for water quality, safety, and public access (e.g., the Oregon Department of Environmental Quality and the Oregon State Marine Board).

The following uses of state-owned submerged and submersible lands **require** a lease from DSL:

- Industrial and/or commercial business areas
- Houseboats and houseboat moorages
- Commercial and workboat moorages

- Log storage and booming areas, including millside boom makeup and breakdown areas
- Historical vessels
- Combination boat houses and combination boat house moorages
- Marinas
- Private non-commercial docks/floats and boat houses larger than 2,500 square feet (excluding gangways, dolphins, pilings and protective booms)
- Floating recreational cabins larger than 1,500 square feet (excluding gangways, dolphins, pilings and protective booms)
- Aquaculture of plants and animals for domestic or commercial use (excluding oysters, clams and mussels)
- Other structures not qualifying for registration
- Sand and gravel removal
- Other uses not exempted by law

The following uses on or over state-owned submerged and submersible lands **may require** a license, easement or right-of-way from DSL:

- Water ditches for irrigation, manufacturing, mining
- Water ditches or pipes for domestic use or fire extinguishments
- Domestic and industrial water supply mains and sanitary pressure mains
- Outfall structures, including storm water, sewer, cooling water outfalls and other structures that discharge material
- Water gas, electric, or communication service lines, fixtures and facilities
- Railroad tracks, bridges and related facilities
- Roadways and bridges for motor traffic, bicycles, and pedestrians
- Skylines, logging lines, ferry skylines and cable footbridges
- Boat ramps, landing, transient docks/floats and viewing structures owned by a public agency

Regulations:

Floating homes and moorages are regulated by the State of Oregon and local jurisdictions. The state regulations are defined in state law and administrative rules. The primary applicable State of Oregon regulations include:

1. ***Oregon Revised Statutes (ORS) Chapter 274*** defines state law regarding submersible and submerged lands, including moorage and floating home uses on waters of the state. A copy can be at the following web link: <http://www.leg.state.or.us/ors/274.html> . This statute defines submerged lands as below the line of ordinary low water, and submersible lands as between ordinary high water and ordinary low water. It defines that jurisdiction of these lands is vested in the State of Oregon. It states that no person can acquire any right, title or interest in these lands except as provided by statute. The statute defines the Department of State Lands (DSL) as the regulatory authority over these lands and makes provisions for DSL to lease, sell or grant easements over the lands, with the approval of the State Land Board.
2. ***Oregon Revised Statutes (ORS) Chapter 90.680*** defines state law regarding residential land lords and tenants, and includes rights related to rental of moorage space for floating homes. A copy can be at the following web link: <http://www.leg.state.or.us/ors/090.html> . Floating home structures are typically owed by the residents, but are frequently located in moorages in leased or rented

spaces. In this statute floating homes and manufactured homes located on leased space are treated similarly.

3. ***Oregon Revised Statutes (ORS) Chapter 830.700*** defines state law regarding the floating home and boathouse registration and titling system. A copy can be at the following web link: <http://www.paperadvantage.org/ORS/830.html> . This statute defines the regulations for registering and recording ownership of floating homes and boathouses, and defines the processes for transferring security interest in floating homes. Ownership of Floating homes is treated differently than homes sited on land.
4. ***Oregon Administrative Rules (OAR) Division 82 (OAR 141-082-000)*** implements ORS 274 and governs the management of, and issuing of leases, licenses, temporary use permits and registrations for structures on, and uses of state-owned submersible land. A copy can be at the following web link: http://arcweb.sos.state.or.us/rules/OARS_100/OAR_141/141_082.html . These rules govern the management of state owned submerged and submersible land for a wide variety of commercial and non-commercial uses and structures, including floating homes and moorages.
5. ***Oregon Administrative Rules Division 10 (OAR 250-010-0300)*** implements ORS 830.700 and defines the statewide floating home/boathouse registration and titling system.

The City of Portland also regulates floating homes within the city. The primary City of Portland regulations for Floating Homes and Moorages include:

- ***Title 28 Floating Structures.*** A copy of Title 28 can be at the following web link: <http://www.portlandonline.com/auditor/index.cfm?c=28192>
- ***Title 33 Planning and Zoning.*** A copy of the title 33 regulations related to floating structures can be found at the following link: <http://www.portlandonline.com/shared/cfm/image.cfm?id=53311>

Following are selected questions and answers from Oregon DSL regarding the management of submerged and submersible land. Additional information can be found on the DSL web link below. (<http://www.oregonstatelands.us/DSL/LW/leaseqa.shtml>)

Question: How does the Land Board and DSL manage this publicly owned submerged and submersible land?

Answer: The Land Board and DSL hold these lands in trust for the public (under the "Public Trust Doctrine"). DSL works to clarify title and manage uses of these lands in the public's best interests to ensure that any uses (for example, marinas, docks, sand and gravel mining, and log rafts) are authorized and pay their fair share as compensation to the public for the use of public land.

Question: What is the Public Trust Doctrine?

Answer: This doctrine of law provides that the State of Oregon holds submerged and submersible land in trust for the benefit of all the people. The general public has a right to fully enjoy these resources for a wide variety of public uses including commerce, navigation, fishing, and recreation.

Question: Did the state ever grant any of its submerged and submersible land to private owners?

Answer: Yes. In the late 1870s, the Oregon State Legislature granted parcels of submersible land (between ordinary low and high water) to certain upland owners along the Willamette, Umpqua, Coquille, and Coos Rivers. This program ceased in 1878. As a result of the grants, some present upland owners along these particular rivers do have ownership down to the line of ordinary low water. In addition, along some other rivers, the state sold tideland and other submersible land to private owners. Even where the state granted or sold title to its submerged and submersible land to private individuals, the courts say that the granted lands are still subject to some public use rights under the Public Trust Doctrine. However, it is not legally clear what these rights may be in practice or whether later state action may limit such rights.

Question: When must I obtain a lease or other form of authorization from DSL to use or occupy state-owned submerged and submersible land?

Answer: You must obtain a lease or other form of authorization from DSL to undertake a wide variety of activities on state-owned submerged and submersible land such as aquaculture; industrial and/or commercial business areas; floating homes and floating home moorages; some residential uses; commercial and workboat moorages; and log storage and booming areas. DSL currently has about 400 waterway leases on over 30 waterways.

If you own a non-commercial, private use dock, float and/or boat house; floating recreational cabin; or water sport structure located on state-owned submerged and submersible land, you may not have to obtain a lease from DSL. Instead, the structure may qualify for a registration with DSL.

DSL also issues temporary use permits and public facility licenses. Temporary use permits are granted upon application to DSL for uses usually less than one (1) year in duration. Public facility licenses are issued by DSL to public agency owned, operated and maintained transient use docks, floats, boat ramps, and other similar structures where no or minimal entry or use fees are charged.

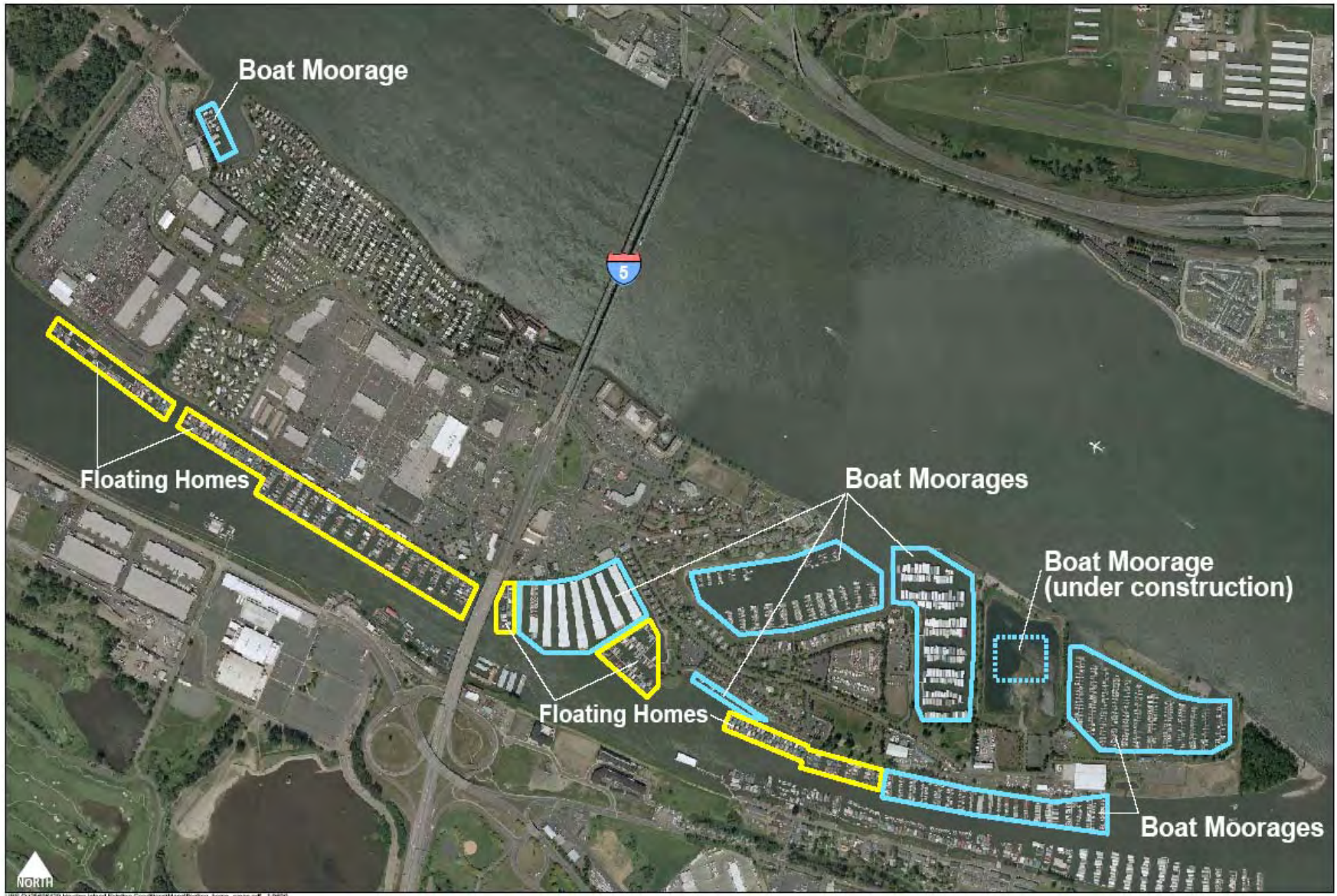
Question: Why do some people along the same waterway have to obtain a lease and others do not?

Answer: There are several reasons why you or your neighbors may have to obtain a lease and other persons living along the same waterway may not be required to do so. As already mentioned, not all submerged and submersible land is state-owned, even along the same waterway. In some areas, the state may have granted or sold its ownership; in others, the state may own only to the ordinary low water line. In some areas, dredging has created privately owned submerged land.

The type of use and size of structure also affect whether a lease is required. Oregon law and/or Land Board rules exempt from lease a number of uses such as wharves; navigation aids placed by public agencies; and structures, piers, docks/floats owned, operated by, or under contract to a government agency under certain circumstances; and non-commercial, private-use docks, floats, floating recreational cabins, and water sport structures.

An Air Photo showing the locations of Floating Homes and Moorages accessed from Hayden Island is on the following page.

Memorandum 1



Photos of Hayden Island Houseboats, Boathouses and Marinas:

Looking southwest to the North Portland Harbor houseboats with Railroad Bridge in the background.



Looking southeast from the mobile home park to the North Portland Harbor houseboats and boathouses with I-5 Bridge in the distant background.



Looking southwest toward slough from public park to Houseboats.



Looking southeast from the public park and public beach across the slough to boathouses and marina.



View of private moorages in the slough from the public park, with houseboats in the background.



View of houseboats and marina along the slough from the public park.

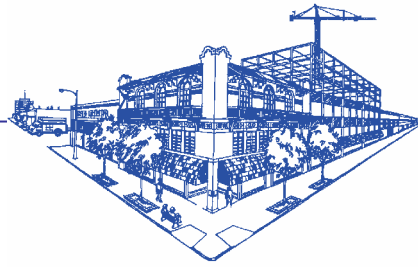


Typical access to docks for boathouses and marinas limit public access.



Typical upland parking along the slough for boathouses and marinas.





MEMORANDUM 2

To: Ruth Cullen, URS Corporation
From: Eric Hovee and Andrea Logue
Subject: Recent Real Estate Transactions & Values for Hayden Island
for the City of Portland
Date: July 11, 2007 (Revised)

E. D. Hovee & Company, LLC is assisting URS Corporation to complete Task 2c for the Hayden Island Existing Conditions Report. Task 2c involves preparation of a draft and final memorandum to the City of Portland on the recent real estate transactions and values for Hayden Island. This revised report responds to questions and comments received from City Staff.

The remainder of this memorandum is organized to cover the methodology of our analysis detailing each step taken to compile and analyze recent real estate transactions and values for Hayden Island. This is followed by subsequent observations from the data analysis to portray Hayden Island's existing real estate conditions.

Detailed statistical data tables are attached as an appendix to this memorandum.

METHODOLOGY

To compile recent real estate transactions, RLIS Lite data from Metro Data Resource Center was employed. Using geographic information system (GIS) software, taxlots within the Hayden Island neighborhood were selected. A total of 744 taxlots are within the Hayden Island neighborhood boundaries. As a point of comparison, taxlots within the City of Portland boundaries were also selected – for a total of 213,922 taxlots reviewed.

Revisions with this Updated Memorandum. This city-wide comparison is provided in response to comments on the initial draft report. We have also reviewed the question of obtaining data for mobile home and houseboats – which does not appear to be possible with the RLIS Lite data base. This is because mobile homes and houseboats are taxed as personal rather than real property.

Methodology for Hayden Island Real Property Transactions. The initial data set of 744 Hayden Island taxlots was separated according to land use: residential, commercial, or vacant.

Then, taxlots with a sale date within the last five years (or 2002-2006) were selected and the other taxlots without transaction activity were removed from the data set. These remaining 234 taxlots in the Hayden Island neighborhood boundaries represent the real estate transactions and associated values considered for analysis. It is noted that land area was available for single-family transactions but not multi-family residential units.

Methodology for City of Portland Real Property Transactions. For purposes of comparison, taxlots within the City of Portland boundaries were processed in essentially the same manner as the Hayden Island taxlots. First, the taxlots were identified as residential, commercial or vacant land use. Only taxlots with a sale date with the last five years, from 2002-2006, were selected. Taxlots without transaction activity were removed from the data set. This resulted in a total of 64,655 taxlots in the City of Portland boundaries with a real estate transaction recorded in the last five years. This much larger set of city-wide transactions is intended to serve as a frame of reference for the Hayden Island neighborhood transactions.

OBSERVATIONS

The Hayden Island and Portland real estate transactions are characterized as follows:

Residential

- 225 total Hayden Island residential taxlots have sold between 2002 and 2006, comprising 0.4% of the 59,431 residential taxlots sold throughout Portland during this time period.
- 94% of the Hayden Island real estate transactions have been for single-family attached residential, with the remaining 6% for single-family detached residential. By comparison, Portland residential transactions break down to 13% single-family attached versus 87% single-family detached.
- The most recent Hayden Island transactions are in 2006, averaging \$251,250 in sales price of attached product and \$659,750 for detached product. In contrast, the average sales price of transactions throughout Portland in 2006 for attached product is just slightly higher (at \$362,760) than for detached product (\$309,210).
- Hayden Island average 2006 sales prices represent an increase of 51% for attached and 18% for detached over 2002 sales prices. Price appreciation on Hayden Island has been below that of the entire city; sales prices in Portland increased 60% for attached and 56% for detached product from 2002-2006.
- On a per square foot of building area basis, 2006 attached product pricing is \$220 versus \$251 for detached residential product in the Hayden Island neighborhood. City-wide attached housing is price above Hayden Island at \$292 per square foot, whereas detached product is below Hayden Island at \$191 per square foot.
- The increase in per square foot pricing from 2002 to 2006 is 65% for attached and 45% for detached on Hayden Island, below the appreciation of 66% for attached and 58% for detached product experienced throughout Portland.
- Over the 2002-2006 time period on Hayden Island, year-to-year square foot pricing exhibited only positive gains. The most significant increase in sales price per square foot from one year to the next was 36% from 2005-2006 for attached and 22% from 2004-

2005 for detached units. During this same five year span, Portland's year-to-year square foot pricing also indicates year-to-year increases, except for a decline of 3% from 2003-2004 for attached residential product.

- Tax assessed valuation of all Hayden Island transactions is \$46.3 million, which equates to \$169 per square foot of building area. Approximately 94% of assessed value is assigned to the building (equating to \$159 per square foot). Total sales pricing of the residential transactions from 2002-2006 equal more than \$47 million, or \$172 per square foot of building area.
- Portland transactions total \$16 billion in tax assessed value, also averaging \$169 per square foot of building area. Nearly 64% of assessed value is assigned to the building (equating to \$108 per square foot) – with more assigned to land value than is the case on Hayden Island. Total sales pricing of the residential transactions from 2002-2006 equal more than \$15.6 billion, or \$164 per square foot of building area.

Commercial

- 7 Hayden Island and 2,194 Portland commercial taxlots are identified as having been sold between 2002 and 2006.
- Tax assessed valuation of all 7 Hayden Island transactions is at \$45.6 million, which equates to \$75 per square foot of building area. Over half (54%) of assessed value is assigned to the land (equaling \$40 per square foot). Total sales pricing of the commercial transactions from 2002-2006 equates to \$34.5 million, or just under \$57 per square foot of building area. In contrast with residential use, total sales value for commercial property for the 2002-2006 period was below the 2007 tax assessed valuation.
- Portland transactions have a tax assessed value of \$3.5 billion, equating to \$102 per square foot of building area – a figure substantially above that of Hayden Island. Over 67% of assessed value is attributed to the building (equaling \$68 per square foot). Total sales pricing of the commercial transactions from 2002-2006 equates to \$3 billion, or just over \$88 per square foot of building area.

Vacant Land

- 3 Hayden Island vacant taxlots, segmented into 2 transactions, sold between 2002 and 2006. In Portland, 3,030 vacant taxlots sold during the same time period.
- Tax assessed valuation of these 2 Hayden Island transactions is at \$1.1 million, which equates to \$13 per square foot of land area. All of the assessed value is assigned to the land. Total sales pricing of the vacant transactions from 2002-2006 equates to \$1.02 million, for \$12 per square foot of land area (about 8% below assessed valuation).
- Tax assessed valuation of the Portland transactions is \$387.7 million, which equals \$7 per square foot of land area. Over 97% of the assessed value is assigned to the land. Total sales pricing of the vacant transactions from 2002-2006 equates to \$954.9 million, close to \$17 per square foot of land area. Unlike Hayden Island, sales value for vacant property for the 2002-2006 period city-wide exceeded the 2007 tax assessed valuation.

E. D. Hovee & Company, LLC appreciates the opportunity to provide this draft memorandum. Questions and comments regarding any aspect of this analysis are appreciated.

APPENDIX. STATISTICAL DATA TABLES

Figure 1. Summary of Hayden Island Residential Transactions (2002-06)

Year	Building Type	# of Sales/Year	Avg Sales Price	Avg Bldg SF	Avg Price/Bldg SF	Avg Year Built
2002	Single Family	1	\$560,000	3,234	\$173	1987
	Attached	32	\$166,880	1,251	\$133	1978
	Total	33	\$178,790	1,311	\$136	1979
2003	Single Family	3	\$471,000	2,570	\$183	1985
	Attached	30	\$149,860	1,062	\$141	1982
	Total	33	\$179,050	1,200	\$149	1982
2004	Single Family	3	\$545,000	2,664	\$205	1985
	Attached	49	\$161,300	1,054	\$153	1982
	Total	52	\$183,430	1,147	\$160	1982
2005	Single Family	2	\$579,750	2,319	\$250	1984
	Attached	53	\$186,270	1,149	\$162	1979
	Total	55	\$200,580	1,192	\$168	1979
2006	Single Family	4	\$659,750	2,626	\$251	1983
	Attached	48	\$251,250	1,143	\$220	1981
	Total	52	\$282,680	1,257	\$225	1982

Source: Metro Data Resource Center - RLIS Lite February 2007 and E. D. Hovee & Company, LLC.

Figure 2. Hayden Island Residential Transactions (2002-06)

Parcel #	Owner	Land Area (SF)	Building Area (SF)	Land Use	Assessed Valuation (2007)			Last Sale	
					Land	Building	Total	Year	Amount
R426901800	ANSBOURY SARAH J	NA	1,184	MFR	\$0	\$128,400	\$128,400	2006	\$175,500
R173111980	SOROS CHARLOTTE	NA	889	MFR	\$0	\$161,520	\$161,520	2006	\$269,000
R368200560	JOHNSON MORGAN &	NA	1,663	MFR	\$0	\$349,710	\$349,710	2006	\$545,000
R173120720	SAWDY MICHAEL L	NA	858	MFR	\$0	\$146,610	\$146,610	2006	\$188,000
R173110840	GHAZIMAHALLEH CARRIE	NA	771	MFR	\$0	\$135,990	\$135,990	2006	\$225,000
R173111140	COOPER JOANNE E	NA	875	MFR	\$0	\$211,920	\$211,920	2006	\$340,000
R173122310	WHITE DARALYN	NA	1,023	MFR	\$0	\$205,300	\$205,300	2006	\$259,900
R173121440	ROSS RANDY	NA	858	MFR	\$0	\$146,610	\$146,610	2006	\$219,000
R708930220	BENDER FRED H-80.12% &	NA	2,091	MFR	\$0	\$308,580	\$308,580	2006	\$415,000
R173112160	ADAMS JOHN T &	NA	728	MFR	\$0	\$131,100	\$131,100	2006	\$188,000
R173111020	WIMER COURTNEY	NA	729	MFR	\$0	\$131,180	\$131,180	2006	\$195,000
R173112310	HEINEMANN JOHN C JR &	NA	728	MFR	\$0	\$131,100	\$131,100	2006	\$180,000
R173122430	ERICSON GLEN &	NA	858	MFR	\$0	\$157,170	\$157,170	2006	\$279,000
R510700430	OGDEN JUDITH D	6,534	2,209	SFR	\$214,000	\$281,300	\$495,300	2006	\$744,000
R426900300	TAKACS LAURIE L	NA	1,120	MFR	\$0	\$130,610	\$130,610	2006	\$175,250
R539700420	NELSON MICHAEL M	NA	1,448	MFR	\$0	\$173,600	\$173,600	2006	\$239,950
R173110150	WHITE CHARLES L TR	NA	844	MFR	\$0	\$162,290	\$162,290	2006	\$289,000
R173111740	SATY MICHAEL P &	NA	728	MFR	\$0	\$131,100	\$131,100	2006	\$135,000
R173111620	SEMINARA ERIC	NA	724	MFR	\$0	\$132,310	\$132,310	2006	\$219,785
R173121410	WEBER PROPERTIES	NA	1,230	MFR	\$0	\$234,360	\$234,360	2006	\$279,777
R173120570	WILLIAMS BRIGHAM TR &	NA	1,230	MFR	\$0	\$183,590	\$183,590	2006	\$295,000
R708900460	COONS PAM &	NA	1,772	MFR	\$0	\$289,420	\$289,420	2006	\$380,000
R426900440	DAWSON LINDA L	NA	1,120	MFR	\$0	\$129,060	\$129,060	2006	\$161,500
R426902880	BOUWMEESTER RENATA	NA	576	MFR	\$0	\$77,170	\$77,170	2006	\$115,500
R539700330	JARVIS HARRY A III	NA	1,448	MFR	\$0	\$173,600	\$173,600	2006	\$215,000
R426902100	CARROLL MICHAEL D &	NA	1,184	MFR	\$0	\$122,570	\$122,570	2006	\$148,000
R539700110	CHRISTENSEN CHRISTOPHER C	NA	2,018	MFR	\$0	\$213,760	\$213,760	2006	\$279,000
R173112370	WESTERN STATES DEVELOPMENT	NA	844	MFR	\$0	\$155,830	\$155,830	2006	\$235,000

Parcel #	Owner	Land	Building	Land	Assessed Valuation (2007)			Last Sale	
		Area (SF)	Area (SF)	Use	Land	Building	Total	Year	Amount
R173122640	STILLEY LINDA	NA	858	MFR	\$0	\$157,170	\$157,170	2006	\$203,000
R368301030	WESTERN STATES DEVELOPMENT	4,792	3,525	SFR	\$241,000	\$398,800	\$639,800	2006	\$662,000
R426900580	FRANCIS JASON K	NA	1,120	MFR	\$0	\$123,030	\$123,030	2006	\$154,950
R426901840	MICHALEC DAVID	NA	1,184	MFR	\$0	\$122,570	\$122,570	2006	\$134,000
R173112010	LANG RYAN C	NA	889	MFR	\$0	\$152,640	\$152,640	2006	\$268,400
R173112220	BANDY MICHEAL J	NA	728	MFR	\$0	\$131,100	\$131,100	2006	\$196,405
R708930290	THORNTON ROGER L &	NA	2,015	MFR	\$0	\$302,160	\$302,160	2006	\$440,000
R539700210	CONNELL DALROY A	NA	2,067	MFR	\$0	\$215,980	\$215,980	2006	\$287,000
R173112100	BENDER FRED H	NA	844	MFR	\$0	\$158,660	\$158,660	2006	\$290,000
R173111560	BENDER FRED H	NA	889	MFR	\$0	\$274,600	\$274,600	2006	\$240,000
R173112040	RAGEN CAROLYN O	NA	728	MFR	\$0	\$131,100	\$131,100	2006	\$213,000
R173122670	HESSICK KRISTIN	NA	858	MFR	\$0	\$157,170	\$157,170	2006	\$212,000
R173121020	CHURCHILL DAVID A &	NA	1,230	MFR	\$0	\$152,980	\$152,980	2006	\$287,777
R368300170	GROSMICK CHRISTOPHER A	4,792	2,512	SFR	\$238,000	\$311,440	\$549,440	2006	\$660,000
R708900350	TORFASON INGOLFUR R &	NA	1,917	MFR	\$0	\$299,000	\$299,000	2006	\$434,950
R708900310	HOWELL WOODROW H &	NA	2,015	MFR	\$0	\$304,070	\$304,070	2006	\$349,750
R708930100	TALLEY JAMES E	NA	2,078	MFR	\$0	\$308,790	\$308,790	2006	\$405,000
R173121230	SELVA JOSEPH A &	NA	1,023	MFR	\$0	\$249,770	\$249,770	2006	\$239,900
R173120390	PINTO CHRISTOPHER	NA	1,023	MFR	\$0	\$205,650	\$205,650	2006	\$283,500
R426900900	SMITH MATTHEW A	NA	1,120	MFR	\$0	\$123,030	\$123,030	2006	\$147,450
R173122040	FREEMAN DIANA B	NA	858	MFR	\$0	\$200,900	\$200,900	2006	\$189,900
R173121260	CHANDLER ANDY J	NA	1,023	MFR	\$0	\$249,770	\$249,770	2006	\$234,000
R368300200	BALLARD ROBERT J &	4,792	2,256	SFR	\$238,000	\$288,020	\$526,020	2006	\$573,000
R173122610	KHAW LU LU	NA	858	MFR	\$0	\$203,390	\$203,390	2006	\$203,000
R426900520	RUSSELL DUANA L	NA	1,120	MFR	\$0	\$118,730	\$118,730	2005	\$133,500
R708900050	FINNEMORE BRIAN L &	NA	2,217	MFR	\$0	\$322,970	\$322,970	2005	\$419,000
R426902260	WRIGHT ESTHER E TR	NA	1,184	MFR	\$0	\$122,570	\$122,570	2005	\$143,000
R173122130	SHELBY BARBARA Y	NA	1,023	MFR	\$0	\$203,030	\$203,030	2005	\$200,000
R173120660	BENZ DEBRA C	NA	858	MFR	\$0	\$188,450	\$188,450	2005	\$174,000
R368300790	PUTNAM MALCOLM GTR &	4,792	2,913	SFR	\$238,000	\$387,310	\$625,310	2005	\$601,000
R173110900	WOLGAMOTT ROBERT C	NA	899	MFR	\$0	\$258,030	\$258,030	2005	\$267,900
R173120510	AYLWARD THOMAS J &	NA	1,023	MFR	\$0	\$274,200	\$274,200	2005	\$265,000
R708930210	GILBERT MELVYN M	NA	2,015	MFR	\$0	\$302,160	\$302,160	2005	\$280,000
R426901420	RAMSUM HARVEY TR	NA	1,184	MFR	\$0	\$126,870	\$126,870	2005	\$135,000
R426901900	GILBERT MELVYN M	NA	576	MFR	\$0	\$75,500	\$75,500	2005	\$70,000
R426902540	METRO HOUSING & REDEVEL LLC &	NA	576	MFR	\$0	\$75,500	\$75,500	2005	\$77,000
R426900820	WELLMAN LINDA K	NA	544	MFR	\$0	\$73,510	\$73,510	2005	\$65,000
R708930360	PADDOCK JAMES J &	NA	2,015	MFR	\$0	\$296,650	\$296,650	2005	\$392,000
R539700270	PINTO CHRISTOPHER	NA	1,876	MFR	\$0	\$248,980	\$248,980	2005	\$272,000
R539700230	CHERRY ROBERT G &	NA	2,067	MFR	\$0	\$227,070	\$227,070	2005	\$208,000
R173110360	KIEF RICHARD F TR-1/2 &	NA	889	MFR	\$0	\$256,030	\$256,030	2005	\$264,777
R173110180	HODGINS JAMES	NA	724	MFR	\$0	\$136,330	\$136,330	2005	\$185,000
R173122760	LEVANGER JENNIFER "CARI"	NA	1,023	MFR	\$0	\$228,110	\$228,110	2005	\$239,000
R173121380	GRAY SANDRA K	NA	858	MFR	\$0	\$162,910	\$162,910	2005	\$162,600
R510700220	FOSSI JON &	7,405	1,724	SFR	\$226,000	\$326,850	\$552,850	2005	\$558,500
R426900140	BARNARD KENNETH R &	NA	576	MFR	\$0	\$78,850	\$78,850	2005	\$72,600
R426900340	JULIAN KIMBERLY A	NA	1,120	MFR	\$0	\$123,030	\$123,030	2005	\$110,000
R426901940	ALLWINE ERIN Q G	NA	1,184	MFR	\$0	\$122,570	\$122,570	2005	\$105,000
R173121740	CHEN FANG KUN	NA	858	MFR	\$0	\$155,240	\$155,240	2005	\$135,000
R173120060	BUEL STEPHEN K	NA	858	MFR	\$0	\$158,880	\$158,880	2005	\$165,000
R708900420	BUSH ROBERT E &	NA	2,078	MFR	\$0	\$310,700	\$310,700	2005	\$298,000
R426900600	MAZOUR RODNEY V &	NA	1,120	MFR	\$0	\$125,610	\$125,610	2005	\$115,000
R708930230	WELCH STEVEN A &	NA	2,078	MFR	\$0	\$397,520	\$397,520	2005	\$398,777
R426901620	WOODS CRAIG	NA	1,184	MFR	\$0	\$126,870	\$126,870	2005	\$122,000
R539700070	WALKER JUDI C	NA	1,669	MFR	\$0	\$243,400	\$243,400	2005	\$229,950
R173110930	LITTLEFIELD VANESSA	NA	844	MFR	\$0	\$241,670	\$241,670	2005	\$265,000
R173121920	MAURRY JASON P	NA	858	MFR	\$0	\$155,240	\$155,240	2005	\$147,900
R426900160	MAZOUR KENNETH G	NA	1,120	MFR	\$0	\$118,730	\$118,730	2005	\$114,000
R708930340	LINDSEY EDWARD D &	NA	2,078	MFR	\$0	\$398,300	\$398,300	2005	\$400,000
R426901560	DICKEY CAROLYN A	NA	608	MFR	\$0	\$77,560	\$77,560	2005	\$66,250
R426902740	RUCKER DANE L	NA	1,184	MFR	\$0	\$122,570	\$122,570	2005	\$112,500
R173121680	HUYNH YEN K	NA	858	MFR	\$0	\$155,240	\$155,240	2005	\$130,000
R173121170	SIMPSON MARTHA	NA	1,023	MFR	\$0	\$205,650	\$205,650	2005	\$179,900
R173120150	CRISPO SALLY R	NA	858	MFR	\$0	\$146,660	\$146,660	2005	\$156,900

Parcel #	Owner	Land	Building	Land	Assessed Valuation (2007)			Last Sale	
		Area (SF)	Area (SF)	Use	Land	Building	Total	Year	Amount
R708900470	SLAPIKAS MARTIN G &	NA	2,356	MFR	\$0	\$418,270	\$418,270	2005	\$349,900
R708930170	LAMPE RICHARD C &	NA	1,927	MFR	\$0	\$387,400	\$387,400	2005	\$425,000
R426902500	WARD SUSAN K	NA	1,184	MFR	\$0	\$126,870	\$126,870	2005	\$20,000
R173111650	LOTER DONNA L	NA	844	MFR	\$0	\$192,510	\$192,510	2005	\$229,000
R173111470	LIEPA ERVINS &	NA	771	MFR	\$0	\$220,980	\$220,980	2005	\$199,900
R173121710	CARNAHAN JUDITH W	NA	858	MFR	\$0	\$155,240	\$155,240	2005	\$130,000
R173122280	KNIGHT DA VID B &	NA	1,023	MFR	\$0	\$205,300	\$205,300	2005	\$174,500
R426901860	LARSON-HUNTER EILEEN G	NA	576	MFR	\$0	\$75,500	\$75,500	2005	\$70,000
R708900320	BOTKIN JACK K &	NA	1,464	MFR	\$0	\$253,100	\$253,100	2005	\$235,000
R426901360	ROMINE JEANNE	NA	576	MFR	\$0	\$75,500	\$75,500	2005	\$65,500
R426900920	OLSEN CHERIE A	NA	544	MFR	\$0	\$74,160	\$74,160	2005	\$75,000
R426902140	FOLKERTS JAMES	NA	576	MFR	\$0	\$75,500	\$75,500	2005	\$73,000
R173120540	ANSBOURY NANCY D	NA	1,023	MFR	\$0	\$205,650	\$205,650	2005	\$220,000
R426902080	LILLA RICHARD J &	NA	1,184	MFR	\$0	\$122,570	\$122,570	2005	\$108,000
R426901440	COHEN BARBARA D	NA	1,184	MFR	\$0	\$143,370	\$143,370	2005	\$121,000
R426902400	LE VASSEUR ROBERT J	NA	1,184	MFR	\$0	\$122,570	\$122,570	2004	\$102,000
R173110960	MAIZE RUSSELL	NA	899	MFR	\$0	\$161,110	\$161,110	2004	\$174,000
R173122190	PINTO JONATHAN	NA	1,023	MFR	\$0	\$203,030	\$203,030	2004	\$164,000
R173121800	PINSLER MARIANNE I &	NA	858	MFR	\$0	\$125,000	\$125,000	2004	\$119,250
R708900060	SCHMAUDER JAN	NA	2,078	MFR	\$0	\$318,280	\$318,280	2004	\$299,900
R426902120	HILL VANESSA T	NA	1,184	MFR	\$0	\$126,010	\$126,010	2004	\$110,000
R173110810	FINE PHILLIP L &	NA	728	MFR	\$0	\$157,320	\$157,320	2004	\$155,777
R173122250	MAHLAU CYNTHIA M	NA	1,023	MFR	\$0	\$205,300	\$205,300	2004	\$167,000
R173120480	DEL CAMPO ALICIA M &	NA	1,023	MFR	\$0	\$219,260	\$219,260	2004	\$215,000
R173120600	HUNTER FRANCIS &	NA	858	MFR	\$0	\$146,610	\$146,610	2004	\$143,900
R173120270	BROOKS PHILLIP W &	NA	858	MFR	\$0	\$146,610	\$146,610	2004	\$158,250
R173110990	PRIEST ROGER &	NA	724	MFR	\$0	\$132,370	\$132,370	2004	\$130,000
R173120360	KNIGHT WARREN S &	NA	1,230	MFR	\$0	\$283,120	\$283,120	2004	\$267,900
R510701590	WEISENSEE LLOYD &	9,583	1,863	SFR	\$139,000	\$251,510	\$390,510	2004	\$305,000
R708900260	THOMPSON MARIANNE G	NA	1,816	MFR	\$0	\$285,420	\$285,420	2004	\$295,000
R426901000	HEROLD GEORGE D	NA	1,120	MFR	\$0	\$146,260	\$146,260	2004	\$125,000
R173111710	WILKINS BRADLEY D &	NA	889	MFR	\$0	\$181,610	\$181,610	2004	\$249,000
R510700160	BUCKLEY KIM T &	7,405	2,805	SFR	\$216,000	\$323,960	\$539,960	2004	\$680,000
R708900180	VOLTZ MARY R TR	NA	2,015	MFR	\$0	\$304,070	\$304,070	2004	\$260,000
R426902160	RUSHING CASEY J	NA	608	MFR	\$0	\$77,560	\$77,560	2004	\$75,000
R173120180	COUCH ELIZABETH A TR	NA	1,230	MFR	\$0	\$260,070	\$260,070	2004	\$255,000
R426900460	SOBALLE DAVID M &	NA	1,120	MFR	\$0	\$123,030	\$123,030	2004	\$105,500
R426901220	HECHT EVELYN	NA	1,120	MFR	\$0	\$121,310	\$121,310	2004	\$110,500
R708930310	DOBBINS WENDY J	NA	2,078	MFR	\$0	\$316,370	\$316,370	2004	\$205,000
R173110090	SMITH CUMA H &	NA	728	MFR	\$0	\$249,080	\$249,080	2004	\$150,000
R173111380	ALEXANDER JANICE E	NA	899	MFR	\$0	\$161,110	\$161,110	2004	\$162,000
R173122850	SANDBERG COLLEEN K	NA	1,023	MFR	\$0	\$203,030	\$203,030	2004	\$188,000
R173122700	FITZPATRICK FRANK J TR &	NA	1,230	MFR	\$0	\$248,030	\$248,030	2004	\$229,000
R173121590	GOLDSTEIN ELFRIEDE	NA	1,023	MFR	\$0	\$205,650	\$205,650	2004	\$177,000
R426901540	EARL ROBERT J &	NA	576	MFR	\$0	\$75,500	\$75,500	2004	\$67,000
R539700030	LA UGHLIN JOHN	NA	1,434	MFR	\$0	\$215,120	\$215,120	2004	\$205,000
R173111770	VAN DEN BERG AMILIE M	NA	724	MFR	\$0	\$132,370	\$132,370	2004	\$159,777
R173111050	PUPPO ANNE M	NA	728	MFR	\$0	\$131,100	\$131,100	2004	\$128,000
R173120930	SHEEHAN JULIA R	NA	858	MFR	\$0	\$146,610	\$146,610	2004	\$126,500
R173120450	TESSIORE LERESH L	NA	1,023	MFR	\$0	\$205,650	\$205,650	2004	\$187,000
R173112070	GAMES ROSALIE A TR	NA	724	MFR	\$0	\$132,370	\$132,370	2004	\$127,500
R368300910	GILL RICHARD M TR-1/2 &	7,405	3,325	SFR	\$238,000	\$436,300	\$674,300	2004	\$650,000
R426901260	TOBIAS KATHLEEN M	NA	1,120	MFR	\$0	\$121,310	\$121,310	2004	\$106,000
R426900680	WAGNER ALYCE	NA	1,120	MFR	\$0	\$123,030	\$123,030	2004	\$106,000
R539700310	SNEDEKER PATRICK J	NA	1,434	MFR	\$0	\$171,500	\$171,500	2004	\$160,000
R173111950	SCOVILLE-WRIGHT CHENNIE	NA	728	MFR	\$0	\$131,100	\$131,100	2004	\$119,000
R173110030	ENGELN MICHAEL J	NA	724	MFR	\$0	\$132,370	\$132,370	2004	\$124,000
R173121320	LIVELY BONNIE	NA	858	MFR	\$0	\$146,610	\$146,610	2004	\$127,000
R426900220	BERGERON KARLA A	NA	1,120	MFR	\$0	\$118,730	\$118,730	2004	\$103,000
R173112250	WANG ASHLEY	NA	889	MFR	\$0	\$144,460	\$144,460	2004	\$136,777
R173111170	MELLOW JUDITH	NA	724	MFR	\$0	\$132,370	\$132,370	2004	\$125,000
R173111410	GRUBE DENNIS R &	NA	899	MFR	\$0	\$182,700	\$182,700	2004	\$150,000
R173122730	HOSOI MASAAKI &	NA	1,023	MFR	\$0	\$205,300	\$205,300	2004	\$190,000
R426902240	DENTINO A VA J R	NA	1,184	MFR	\$0	\$122,570	\$122,570	2004	\$114,000

Parcel #	Owner	Land Area (SF)	Building Area (SF)	Land Use	Assessed Valuation (2007)			Last Sale	
					Land	Building	Total	Year	Amount
R17311860	LEA CAROLE A	NA	728	MFR	\$0	\$131,100	\$131,100	2004	\$121,000
R173110510	WARILA JEFFERY W	NA	728	MFR	\$0	\$131,100	\$131,100	2004	\$128,000
R368200110	GROSS ROBERT J	NA	1,740	MFR	\$0	\$358,030	\$358,030	2004	\$300,000
R708930080	WRIGHT GARY J &	NA	1,927	MFR	\$0	\$319,490	\$319,490	2003	\$325,000
R17311230	KLAAR MICHAEL &	NA	889	MFR	\$0	\$135,950	\$135,950	2003	\$118,000
R173110480	DORMANDY THOMAS	NA	724	MFR	\$0	\$251,500	\$251,500	2003	\$143,500
R426901380	MAZOUR RODNEY V &	NA	608	MFR	\$0	\$87,110	\$87,110	2003	\$67,500
R173111830	HORCHHEIMER ANGELA	NA	724	MFR	\$0	\$132,370	\$132,370	2003	\$118,000
R510701500	DIEHL ELIZABETH T	9,583	2,306	SFR	\$139,000	\$234,030	\$373,030	2003	\$308,000
R426900540	WELLING MARGARET J	NA	1,120	MFR	\$0	\$130,610	\$130,610	2003	\$115,500
R708900170	LLEWELLYN MARLEAH C	NA	2,015	MFR	\$0	\$304,070	\$304,070	2003	\$238,300
R173112340	SIMPSON CHARLENE A	NA	724	MFR	\$0	\$132,370	\$132,370	2003	\$110,900
R173120780	EVERETT GREGORY C &	NA	1,230	MFR	\$0	\$168,290	\$168,290	2003	\$161,300
R368300350	JOLY CHRISTIAN H &	5,227	2,881	SFR	\$241,000	\$436,520	\$677,520	2003	\$660,000
R173111530	FIORE GABRIELLA &	NA	724	MFR	\$0	\$132,310	\$132,310	2003	\$118,000
R173111590	PAPADOPOULOS DEBORAH B	NA	728	MFR	\$0	\$131,040	\$131,040	2003	\$120,000
R510700370	CHURCHILL RICHARD A JR &	5,663	2,528	SFR	\$224,000	\$311,450	\$535,450	2003	\$445,000
R173111080	BARRY JUDY	NA	771	MFR	\$0	\$135,990	\$135,990	2003	\$136,900
R173110570	BUSH ROBERT E &	NA	728	MFR	\$0	\$131,100	\$131,100	2003	\$115,000
R173122160	JOHNSON DAVID C	NA	1,023	MFR	\$0	\$203,030	\$203,030	2003	\$145,000
R173120030	NPR MANAGEMENT L L C	NA	1,230	MFR	\$0	\$257,800	\$257,800	2003	\$200,000
R173120210	WILLIAMS SHANE	NA	1,230	MFR	\$0	\$292,960	\$292,960	2003	\$213,000
R426900380	BASH GAIL S TR &	NA	1,120	MFR	\$0	\$118,730	\$118,730	2003	\$90,000
R368200530	PALMER ROBERT A	NA	1,740	MFR	\$0	\$358,030	\$358,030	2003	\$295,000
R173111260	124 COLUMBIA LLC	NA	729	MFR	\$0	\$131,180	\$131,180	2003	\$141,000
R173121650	KAADY MARNA R TR	NA	1,230	MFR	\$0	\$245,510	\$245,510	2003	\$138,500
R426901680	HALMAGYI DAVID E &	NA	608	MFR	\$0	\$77,560	\$77,560	2003	\$64,000
R173121890	BERRY ROBERT S &	NA	1,230	MFR	\$0	\$155,880	\$155,880	2003	\$149,385
R173122400	ELLIS JULIE A	NA	858	MFR	\$0	\$196,470	\$196,470	2003	\$130,000
R173121620	MATTHEWS CAROL	NA	1,023	MFR	\$0	\$205,650	\$205,650	2003	\$170,000
R708900290	YOUNG ANNE N &	NA	1,917	MFR	\$0	\$299,000	\$299,000	2003	\$269,000
R426901400	MILTON ZALIKA M	NA	1,184	MFR	\$0	\$122,570	\$122,570	2003	\$103,000
R173122220	MCCORMACK WILLIAM W	NA	1,023	MFR	\$0	\$223,330	\$223,330	2003	\$142,475
R173122790	GRAPER VIRGINIA V	NA	1,023	MFR	\$0	\$205,300	\$205,300	2003	\$162,500
R426901780	REICH JENNIE W TR	NA	1,184	MFR	\$0	\$126,870	\$126,870	2003	\$125,000
R426902900	GRIESSER BETTY	NA	608	MFR	\$0	\$84,050	\$84,050	2003	\$69,900
R708900440	DAPP KARI E	NA	2,015	MFR	\$0	\$304,070	\$304,070	2002	\$194,000
R173111890	KLAAR MICHAEL &	NA	844	MFR	\$0	\$165,880	\$165,880	2002	\$174,000
R708930180	JARMER CAROL	NA	2,078	MFR	\$0	\$308,790	\$308,790	2002	\$245,000
R426902200	JENKINS GLEN E &	NA	608	MFR	\$0	\$77,560	\$77,560	2002	\$62,500
R368200230	BENDER FRED H &	NA	2,027	MFR	\$0	\$390,370	\$390,370	2002	\$389,000
R426901020	MAZOUR RODNEY V &	NA	1,120	MFR	\$0	\$121,310	\$121,310	2002	\$90,000
R708930110	GREEN LAURA J	NA	2,091	MFR	\$0	\$402,100	\$402,100	2002	\$250,500
R173112280	MAZOUR RODNEY V &	NA	889	MFR	\$0	\$144,460	\$144,460	2002	\$130,000
R173110870	HUGHBANKS ANDREA E	NA	724	MFR	\$0	\$132,370	\$132,370	2002	\$125,000
R426900120	JAMES TIMOTHY	NA	544	MFR	\$0	\$73,510	\$73,510	2002	\$59,900
R173110210	BRAUNLE COLLEEN P	NA	728	MFR	\$0	\$131,100	\$131,100	2002	\$130,000
R173121110	CONWELL GLORIA H	NA	1,023	MFR	\$0	\$205,650	\$205,650	2002	\$163,500
R426901760	TOCCI MARTIN &	NA	1,184	MFR	\$0	\$126,870	\$126,870	2002	\$103,000
R539700190	DOWSETT STEPHEN J	NA	1,448	MFR	\$0	\$175,460	\$175,460	2002	\$149,665
R173122550	HILGENBERG E JEAN	NA	1,230	MFR	\$0	\$248,030	\$248,030	2002	\$225,000
R173121830	BYER MARY C	NA	858	MFR	\$0	\$155,240	\$155,240	2002	\$113,950
R173121860	NPR MANAGEMENT L L C	NA	1,230	MFR	\$0	\$245,510	\$245,510	2002	\$166,000
R510700190	EVANS CHRISTOPHER A &	7,405	3,234	SFR	\$214,000	\$379,580	\$593,580	2002	\$560,000
R539700400	SMITH HORTON &	NA	1,448	MFR	\$0	\$176,880	\$176,880	2002	\$135,000
R173110750	BEACHELL RICHARD J &	NA	889	MFR	\$0	\$161,290	\$161,290	2002	\$172,000
R173111440	NEWMAN CAROLYN S	NA	729	MFR	\$0	\$131,180	\$131,180	2002	\$122,000
R426902760	MILLER SUSANNE M	NA	1,184	MFR	\$0	\$122,570	\$122,570	2002	\$105,000
R708930090	WHITE KARLA K	NA	1,927	MFR	\$0	\$296,910	\$296,910	2002	\$287,000
R426902840	BOTOFAN VICTORIA A	NA	1,184	MFR	\$0	\$122,570	\$122,570	2002	\$108,000
R173121140	PETTIGREW H FRAN &	NA	1,023	MFR	\$0	\$205,650	\$205,650	2002	\$139,500
R708900120	SHAFFER FRANK K &	NA	1,816	MFR	\$0	\$285,420	\$285,420	2002	\$275,000
R426901500	BEST AARON	NA	1,184	MFR	\$0	\$122,570	\$122,570	2002	\$111,977
R426902680	JENKINS GLEN E &	NA	608	MFR	\$0	\$77,560	\$77,560	2002	\$65,000

E.D. Hovee & Company, LLC for URS Corporation:

Recent Real Estate Transactions & Values for Hayden Island for the City of Portland

Page 7

Parcel #	Owner	Land Area (SF)	Building Area (SF)	Land Use	Assessed Valuation (2007)			Last Sale	
					Land	Building	Total	Year	Amount
R708900210	RICHARDSON LEONA TR	NA	2,078	MFR	\$0	\$310,700	\$310,700	2002	\$310,000
R539700150	HUTCHINS CLIFTON M &	NA	1,448	MFR	\$0	\$173,600	\$173,600	2002	\$154,000
R368200350	ANDERSON JOHN A &	NA	2,027	MFR	\$0	\$390,370	\$390,370	2002	\$356,000
R173111920	TOWN LYNNAE E	NA	724	MFR	\$0	\$132,370	\$132,370	2002	\$122,500
R426900200	ZAMBRANO DAVID	NA	1,120	MFR	\$0	\$123,030	\$123,030	2002	\$106,000
Totals		85,378	273,421		\$2,806,000	\$43,496,130	\$46,302,130		\$47,078,181
Per Building SF			225 units		\$10.26	\$159.08	\$169.34		\$172.18

Note: MFR = multi-family residential, in this case owner-occupied as in condominiums and townhouses.
SFR = single-family residential.

Source: Metro Data Resource Center - RLIS Lite February 2007 and E. D. Hovee & Company, LLC.

Figure 3. Hayden Island Commercial Transactions (2002-06)

Parcel #	Owner	Land Area (SF)	Building Area (SF)	Land Designation & Use		Assessed Valuation (2007)			Last Sale	
				Zoning	Use	Land	Building	Total	Year	Amount
R951340260	PORTARTHUR LLC	22,651	7,856	COM	Office supply store	\$248,800	\$1,732,100	\$1,980,900	2006	\$500,000
R951330600	VIDEO ONLY INC	74,923	21,080	COM	Electronics Store	\$1,636,200	\$3,279,840	\$4,916,040	2005	\$3,250,000
R951340360	RBC PROPERTIES LLC	34,412	6,802	COM	Multi-tenant office/ retail building	\$682,960	\$621,430	\$1,304,390	2005	\$760,000
R951340510	HAYDEN ISLAND ASSOCIATES	116,741	41,760	COM	Multi-tenant office building	\$1,738,020	\$1,741,400	\$3,479,420	2005	\$113,000
R951340140	THUNDERBIRD HOTEL LLC	597,208	247,408	COM	Hotel	\$9,597,090	\$5,291,220	\$14,888,310	2004	\$21,083,250
R951340340	JBH PROPERTY ACQUISITIONS LLC	601,999	280,708	COM	Hotel	\$9,717,670	\$8,110,380	\$17,828,050	2004	\$7,666,750
R951340170	ECO CAR WASH INC	27,443	2,380	COM	Car Wash	\$829,600	\$325,750	\$1,155,350	2004	\$1,100,000
Totals		1,475,377	607,994			\$24,450,340	\$21,102,120	\$45,552,460		\$34,473,000
Per Building SF			7 units			\$40.21	\$34.71	\$74.92		\$56.70

Source: Metro Data Resource Center - RLIS Lite February 2007 and E. D. Hovee & Company, LLC.

Figure 4. Hayden Island Vacant Land Transactions (2002-06)

Parcel #	Owner	Land Area (SF)	Land Designation & Use		Assessed Valuation (2007)			Last Sale	
			Zoning	Zone Class	Land	Building	Total	Year	Amount
R368301170	HUTCHINS JIMMY &	4,792	CG	MUR5	\$226,000	\$0.00	\$226,000	2005	\$318,500
R649774990 & R649774980*	NILI INVESTMENTS LLC	80,586	CG	MUR5	\$875,350	\$0.00	\$875,350	2003	\$700,000
Totals		85,378			\$1,101,350	\$0.00	\$1,101,350		\$1,018,500
Per Land SF		1.96 acres			\$12.90	\$0.00	\$12.90		\$11.93

*Note: When these two taxlots were sold in 2003, the land was designated vacant and there was no building value. In 2004, a commercially zoned building was built on R649774990. For purposes of comparison, the 2007 assessed building value has been removed.

CG = general commercial.

MUR5 = Mixed use commercial and residential with FAR maximum of about 1.5.

Source: Metro Data Resource Center - RLIS Lite February 2007 and E. D. Hovee & Company, LLC.

Figure 5. Summary of Portland Residential Transactions (2002-06)

Year	Building Type	# of Sales/Year	Avg Sales Price	Avg Bldg SF	Avg Price/SF Bldg	Avg Year Built
2002	Single Family	7,137	\$198,570	1,643	\$121	1947
	Attached	558	\$227,090	1,294	\$176	1969
	Total	7,695	\$200,640	1,616	\$124	1949
2003	Single Family	8,854	\$214,070	1,656	\$129	1948
	Attached	823	\$309,670	1,292	\$240	1979
	Total	9,677	\$222,200	1,625	\$137	1951
2004	Single Family	10,641	\$237,300	1,673	\$142	1950
	Attached	1,575	\$295,160	1,266	\$233	1975
	Total	12,216	\$244,760	1,621	\$151	1953
2005	Single Family	13,389	\$274,120	1,668	\$164	1950
	Attached	2,294	\$307,150	1,168	\$263	1979
	Total	15,683	\$278,950	1,595	\$175	1954
2006	Single Family	11,846	\$309,210	1,619	\$191	1948
	Attached	2,314	\$362,760	1,243	\$292	1977
	Total	14,160	\$317,960	1,557	\$204	1952

Source: Metro Data Resource Center - RLIS Lite February 2007 and E. D. Hovee & Company, LLC.

Figure 6. Portland Real Estate Transactions (2002-06)

Totals	Land Building		Assessed Valuation (2007)			Last Sale Price
	Area (SF)	Area (SF)	Land	Building	Total	
Residential	436,649,796	95,123,165	\$5,798,314,520	\$10,245,100,810	\$16,043,415,330	\$15,561,266,385
Per Building SF		59,431 units	\$60.96	\$107.70	\$168.66	\$163.59
Commercial	94,726,012	34,284,022	\$1,144,349,750	\$2,341,398,530	\$3,485,748,280	\$3,023,451,389
Per Building SF		2,194 units	\$33.38	\$68.29	\$101.67	\$88.19
Vacant Land Classifications:						
Residential	27,779,083	51,590	\$188,113,258	\$3,060,640	\$191,173,898	\$507,717,547
Commercial	20,007,108	114,199	\$156,838,170	\$6,885,140	\$163,723,310	\$339,867,512
Industrial	1,528,956	0	\$8,204,830	\$0	\$8,204,830	\$63,666,856
Tract	3,325,370	0	\$1,826,069	\$110,800	\$1,936,869	\$1,892,660
Multi-family	1,855,220	0	\$21,943,370	\$72,300	\$22,015,670	\$39,966,981
Recreation	3,260,902	0	\$659,560	\$0	\$659,560	\$1,766,477
Total Vacant Land	57,756,640	165,789	\$377,585,257	\$10,128,880	\$387,714,137	\$954,878,033
Per Land SF		1,326 acres	\$6.54	\$0.18	\$6.71	\$16.53

Source: Metro Data Resource Center - RLIS Lite February 2007 and E. D. Hovee & Company, LLC.

Memorandum 3



Date: September 5, 2007

To: Joe Zehnder, City of Portland Planning Bureau
John Gillam, City of Portland Department of Transportation
Patrick Sweeney, City of Portland Department of Transportation

From: David Zagel, Senior Transportation Planner, URS Corporation

Subject: **Hayden Island Existing Conditions Report
Site Design and Building Characteristics**

Task Purpose

The purpose of this memo is to generally characterize the overall layout of Hayden Island and to inventory and describe the general characteristics of the existing buildings on the island. In general, the Island is divided into the following sub-areas:

- West Island, the large undeveloped part of the island, owned by the Port of Portland, that is west of the BNSF Railway alignment
- Central West Island, the developed part of the island east of the BNSF Railway route and west of Interstate 5
- Central East Island, the developed part of the island east of Interstate 5 and west of the former Tomahawk Island
- East Island, the developed part of the island located on the former Tomahawk Island



Figure 1: Overall Layout of Hayden Island

Overall Site Layout of Hayden Island

The overall layout of Hayden Island is most mostly influenced by its geographic features and by the transportation infrastructure that has literally shaped the island. Being an island, the area is of course formed and defined by the channels of the Columbia River on the north shoreline and the North Portland Harbor along the south shoreline. Today's four-mile long shape of the island is the result of two formerly separate islands (Hayden and Tomahawk), being joined together by a short, narrow land mass.

Site Design Characteristics

The nature of how properties are laid out on Hayden Island is mainly influenced by the nature of the access to those properties. And the predominant type of access to island properties, whether they are commercial, industrial or residential, is single-point, auto access. Interstate 5, for automobiles (and to a limited extent bicycles and pedestrians), and the Columbia River and North Portland Harbor, for boat traffic, provide the only access to the island.

For autos, the network of streets on Hayden Island can be likened to the structure of a tree: the on- and off-ramps to and from I-5 form the trunk of the tree and North Hayden Island Drive and North Tomahawk Drive form the main stems of the tree from which only a few other smaller public and private streets branch.

Building Characteristics on Hayden Island



Figure 2: Building Characteristics by Land Use

Commercial Buildings

The commercial buildings on the island are primarily clustered into roughly three areas:

- The commercial area adjacent to the I-5 interchange west of the freeway (the easternmost section of the “West Central Island” area)
- The commercial area adjacent to the I-5 interchange east of the freeway (the westernmost section of the “East Central Island” area), and
- The Jantzen Beach SuperCenter

Auto-oriented businesses comprise the commercial development adjacent to the I-5 interchange west of the freeway. These businesses include an auto service station, numerous fast-food and sit-down restaurants, multi-tenant commercial buildings and a now-closed hotel.

Auto-oriented businesses also comprise the commercial development adjacent to the I-5 interchange on the east side of the freeway. These businesses include: an auto fuel station/convenience store; multiple fast-food and sit-down restaurants; a multi-tenant, multi-floor office building; multi-tenant commercial buildings; both an operating grocery store and a vacant grocery store; and two motels.

Originally developed as a single, enclosed mall, the Jantzen Beach Super Center complex has recently expanded west into a multiple-building conglomeration of large-foot-print (big box) retail stores with external entrances for each tenant. This revised layout, with the 350,000 square foot mall remaining as the center's largest structure on its eastern side and the new big box retail stores clustered toward the west, has resulted in a landscape that is dominated by the parking areas sited adjacent to these stores.

Industrial Buildings

Industrial buildings on the island are roughly grouped into two areas:

- The relatively large industrial area just east of the railroad line, and
- The smaller industrial area on the island's south shore towards its eastern tip that is devoted to marine services

The large industrial area near the railroad has three main uses and several building types. A large auto auction business has both single-story wood-framed and pre-engineered steel buildings that provide both office space and car service areas respectively. Also in this area both north and south of N. Hayden Island Drive, multiple light-industrial tenants and warehouse uses are housed in single-level, non-descript buildings that appear to be constructed of concrete tilt-up panels with internal steel support columns. The final industrial use in this area, marine services, uses both a single-level, engineered steel building and a single-level, concrete panel building.

The small industrial area on the island's south shore towards its eastern tip provides marine services and is mainly comprised of approximately a half-dozen pre-engineered steel structures. These buildings provide space for sales, service and storage functions for marine related businesses.

Residential Buildings

Residential buildings on the island are roughly organized into the following areas:

- The two floating home communities west of I-5
- The three floating home communities east of I-5
- The manufactured home and recreational vehicle park west of I-5 and north of N. Hayden Island Drive
- The manufactured home park west of I-5 and south of N. Hayden Island Drive
- The condominium homes east of I-5 and north of N. Tomahawk Island Drive
- The condominium homes east of I-5 and south of N. Tomahawk Island Drive

- The single-family detached homes east of I-5 just off of N. Tomahawk Island Drive

On the north shore of the island, the manufactured home and recreational vehicle (RV) park west of I-5 and north of N. Hayden Island Drive (Hayden Island Mobile Home Park) forms the largest residential area on the island. Most of this development is made up of older (more than 20 years old) manufactured homes that are semi-permanently secured to their lots. While there are some newer “double-wide” manufactured homes interspersed throughout, the park mostly contains “single-wide” homes. Each space has a relatively simple wood-frame constructed carport that provides some weather protection for vehicles and small storage areas. These wooden car ports also provide one element of cohesiveness throughout the park. The age of the park also means that the landscaping surrounding the homes is relatively mature; landscaping around the homes appears to be relatively well-maintained.

A section of the manufactured home/RV park closest to N. Hayden Island Drive provides an area for both overnight and longer term stays for RVs. Due to the smaller space sizes (compared to those for the manufactured home section) and the relatively high proportion of each space devoted to asphalt concrete to park the RV, this area has an overall setting that is more open but less tranquil than the rest of the park. Since carports are not provided in this section, no permanent structures are present that might give a cohesive quality to the area beyond the general grouping of the RVs and residents’ automobiles. Temporary hook up facilities for water and power are included at each RV site.

The manufactured home park west of I-5 and south of N. Hayden Island Drive, which also features manufactured homes that mostly appear to be more than 20 years old, is accessed via a short private drive (“South Shore”) and enjoys a fairly tranquil setting. This tranquility is derived mainly from several factors: the park’s distance away from Hayden Island Drive; its position near the back (less active) portions of adjacent properties and its position on the North Portland Harbor; narrow, gently meandering private streets with little traffic; and relatively mature landscaping. The repetition of fairly simple, wooden carports provides some continuity from one space to the next along each street.

The condominium homes east of I-5 are mainly clustered near N. Tomahawk Island Drive as it stretches east from the freeway and are sited along the south shore line (North Portland Harbor) and the marina situated on the island’s north shore. Most of these condominium units are semi-attached wood-frame, two-story structures that have been built over the last 30 years. While the units on the south side of Tomahawk Island Dr. have direct (driveway) access to this street, the units on the north side of the street have access via private streets or via shared vehicle courtyards.

Two new large-scale, multiple-story condominiums are under construction in this area: the first, which is nearing completion, is being built around two U-shaped courtyards that front the Columbia River just east of the Red Lion Hotel on the River; the second multiple-story development (Salpare Bay) is being built around a new marina toward the eastern end of the island on the Columbia River shoreline.

Just east of the semi-attached wood-frame condominiums are a cluster of single-family detached homes. On the south side of Tomahawk Island Dr., a group of homes line a private

lane (N. Lotus Isle Drive); these homes all feature southern views toward the North Portland Harbor and were designed at different times with various, unrelated floor plans. Similarly, on the north side of Hayden Island Drive, a group of homes line another private lane (N. Lotus Beach Drive) and all feature northerly views toward the Hayden Bay Marina.

Memorandum 3

Photos of Hayden Island: Residential/Manufactured Home/RV Parks

Looking west within manufactured home park along the island's south shore.



Looking west along the island's south shore within manufactured home park.



View down one of the internal streets within the Hayden Island Mobile Home Park.



Looking east along the island's north shore from Hayden Island Mobile Home Park.



Photos of Hayden Island: Residential/Condominiums

View looking into shared area for vehicle parking for condominiums.



Looking west adjacent to attached condominium units along the north side of N. Tomahawk Dr.



Looking west along north shore of Hayden Island at new multi-story condominium building.



Illustration of new multiple-level condominium buildings and marina (Salpare Bay) being constructed along the north shore.



Photos of Hayden Island: Residential/Single Unit Detached Homes

Looking west at single detached homes along N. Lotus Isle Dr.



Looking east at single detached homes along N. Lotus Isle Dr.



Looking at exit from private lane (N. Lotus Isle Dr.) along south side of N. Tomahawk Dr.





URS | Hayden | IslandMap_Projects\Hayden_ILU.mxd | 1.9.00

Memorandum 4



Date: August 30, 2007

To: Joe Zehnder, City of Portland Planning Bureau
John Gillam, City of Portland Department of Transportation
Patrick Sweeney, City of Portland Department of Transportation

From: Jennifer Renninger, URS Corporation

Subject: **Hayden Island Existing Conditions Report
Potentially Contaminated Sites/Hazardous Materials**

URS has prepared this memo to document existing conditions and to perform a preliminary assessment of hazardous materials on Hayden Island within the City of Portland area. In addition, areas of concern or potential issues associated with hazardous materials were identified for consideration of future projects. For the purpose of this preliminary assessment, the project area was defined as the eastern portion of Hayden Island extending to the railroad that lies west of I-5.

Subject Property Description and General Use

The area consists primarily of commercial/industrial and residential properties. To the west of I-5 and along the southern boundary of the island lies the Jantzen Beach Retail Center and includes Home Depot, Safeway, Target as well as many other retail chain stores. West of the retail center is a commercial business park, a mobile home park and the Portland Auto Auction. Floating homes and private boat docks are located along the southern shore of the island. The western most boundary of the subject property is the Burlington Northern Railroad. Schooner Creek Boat Works is located directly north of the Auction site and is directly adjacent to Canoe Bay, an embayment of the Columbia River. Directly east of Canoe Bay lies a large mobile home park and RV park. Several vacant buildings that are part of the Red Lion Hotel complex lie between the Mobile Home Park and I-5. Directly east of I-5 is the main Red Lion Hotel complex and other commercial properties including a gas station, dry cleaners and a motel. Single family residences and condominiums are located to the east of the commercial area. Boat docks and a marina are located in a small embayment on the east side of the island as well as additional commercial and industrial properties on the southeastern end of the island. Floating homes and boat moorages are located along the south shore of the island.

Based on zoning records obtained from the City of Portland, approximately 15-20% of the island is zoned for residential use, 60-65% for commercial use and 20-25% for industrial use. Hazardous material and petroleum use is primarily limited to boat or marine related activities, one dry cleaner, the auto auction lot located on the western side of the area, and gas stations located near I-5. Chemicals or contaminants of concern include petroleum products at the gas station and marinas, fiberglass, paint and solvents at the boat works and auto auction, and TCE from the dry cleaners.

Environmental Database Preliminary Results

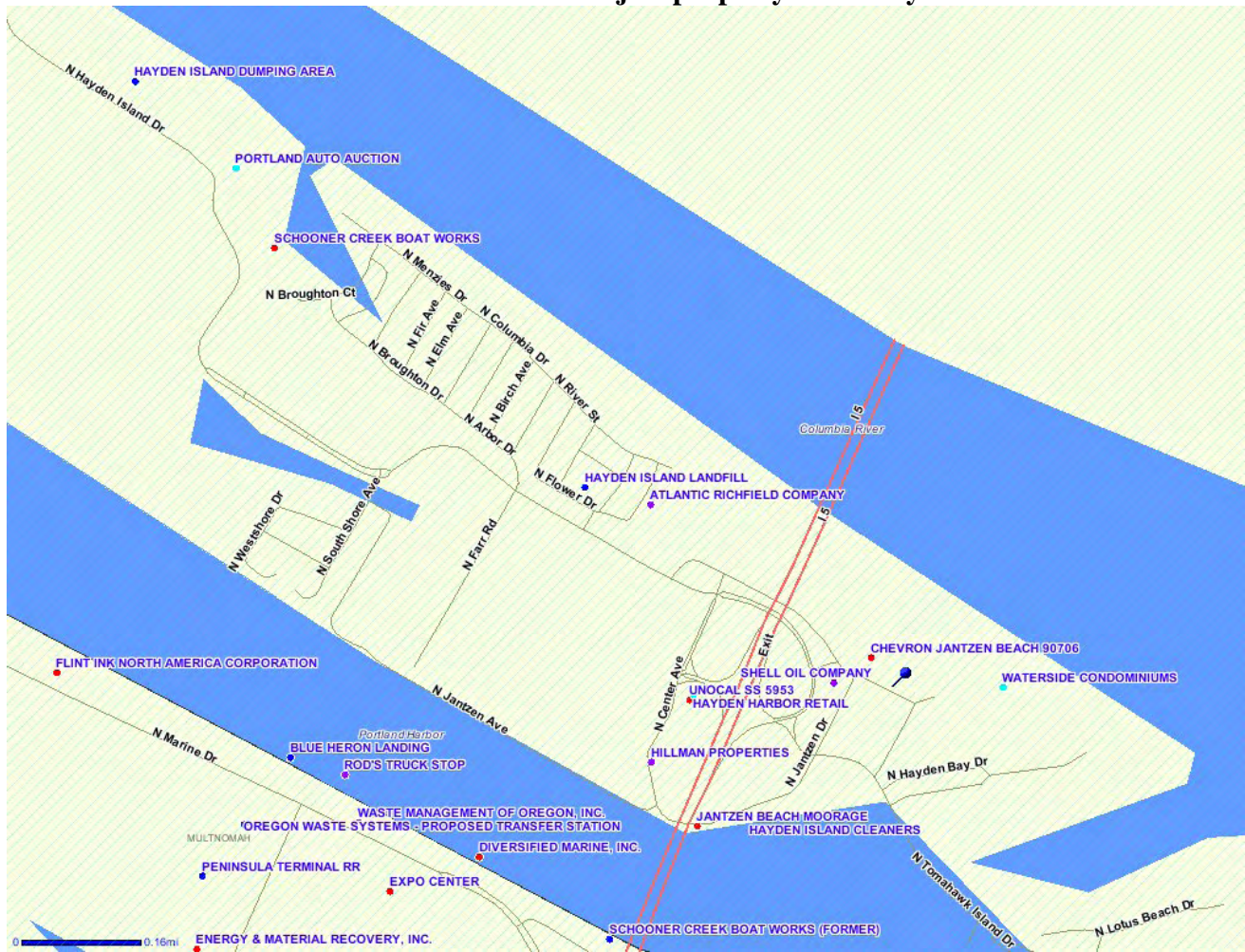
A search of DEQ's online environmental databases was performed to identify sites within the subject property. Results were returned from five databases including the Environmental Contaminated Site Inventory (ECSI), Leaking Underground Storage Tanks (LUST), Underground Storage Tank (UST),

Hazardous Waste Management Sites (HWMS), and SIS databases. Forty two sites were listed within the defined area including five ECSI sites, 15 Hazardous Waste Management Sites, ten LUST sites, five SIS sites and seven UST sites. Below is a list of the facility name and address for each of the sites as well as the database listing information. Figures 1 and 2 show the database listing locations.

**Figure 1 – DEQ Facility Profiler Site Locations Map
East of I-5 within subject property boundary**



**Figure 2 – DEQ Facility Profiler Site Locations Map
West of I-5 within subject property boundary**



Two of the five ECSI sites have received a No Further Action status from DEQ. The remaining three are summarized below:

- Hayden Island Drum is located east of the I-5 bridge along the Columbia River is listed as a contaminated site requiring additional site investigation. No further information was available regarding the site on DEQ’s online database. The two remaining ECSI sites are also listed on the Confirmed Release Inventory (CRL).
- Hayden Island Landfill is identified on the ECSI database (#1559) for metals and gasoline impacted groundwater. The site was formerly an unregulated landfill located in a seasonal lake basin and operated approximately from 1950 to 1970. In 1970, approximately 7-8 feet of clean fill was placed at the site. An ARCO facility opened at the site later in 1971 at the eastern edge of the former landfill. A site investigation was initiated by ARCO in 1989 and identified gasoline contamination in groundwater. The site was added to DEQ’s Leaking Underground Storage Tanks (LUST) program (LUST #26-89-0149) in 1989 related to this contamination and received a Cleanup Completed Status in 1998 with conditional groundwater monitoring requirements.
- Schooner Creek Boat Works is identified on the ECSI database (#3333) for contaminated sediments. Contaminants include PCBs, PAHs, PCP, phenols, DDTs, chlordane, metals and

low concentrations of diesel fuel and oil. The source of the contaminants and extent of the contamination has not been defined as of this report writing. Sediment sampling is ongoing and DEQ is providing further guidance on the investigation.

Of the ten LUST sites listed within the subject property, all but two have been cleaned up and closed in accordance with DEQ guidelines.

- Shell Oil Company (LUST #26-89-0267) located at 12235 N Jantzen Drive, is listed for gasoline and waste oil contaminated soils and groundwater that was discovered during a tank decommissioning in 1990. Groundwater monitoring is currently being conducted at the site.
- Chevron Jantzen Beach (LUST #26-97-0505) located 12105 N Jantzen Drive, is listed for gasoline contaminated soils and groundwater that was discovered during a tank decommissioning in 1993. Groundwater monitoring conducted at the site was last reported in 2005.

Seven active USTs were listed on the DEQ database and include the Chevron site referenced above, the Columbia River Yacht Club and the Jantzen Beach Moorage. The contents of the USTs are reported as gasoline and diesel fuels.

Fifteen HWMS sites were reported on DEQ's on line database with one Large Quantity Generator, four Small Quantity Generators, and ten Conditionally Exempt Generators. Three of these sites are no longer active, including the LQG. Waste materials of the one large quantity generator generally include paints, paint thinners, aerosols, batteries, acids, and fuels.

Five Industrial stormwater permits (NPDES) were identified within the subject property boundaries as listed in Table 1. No violations were note for the sites.

Areas of Concern/Conclusions

Based on the preliminary research and a review of DEQ's online databases, the following sites or issues have been identified for further assessment:

- The former landfill west of I-5 has been documented with known groundwater contamination. Soil instability is also a known issue in this general area and should be considered for future development.
- Schooner Creek Boat Works and the associated sediment contamination. Schooner Creek and Portland Auto Auction each have 1200Z Stormwater General permits that require the owners to comply with stormwater quality regulations.
- The two open LUST cases should be assessed to identify concerns at the time of the proposed project.
- Sites with hazardous material usage within adjacent to I-5 would likely include the gas stations and dry cleaners.
- Alternative alignments of I-5 could be impacted by the marinas.

Attachment:

- **Table 1 – Hazardous Materials Sites**

Related web links for additional information:

- **DEQ Facility Profiler:** <http://deq12.deq.state.or.us/fp20/StartPage.aspx>
- **DEQ LUST database:** <http://www.deq.state.or.us/lq/tanks/lust/LustPublicLookup.asp>

Memorandum 5



Date: August 30, 2007

To: Joe Zehnder, City of Portland Planning Bureau
John Gillam, City of Portland Department of Transportation
Patrick Sweeney, City of Portland Department of Transportation

From: Ela Whelan, Project Water Resources Engineer, URS Corporation
Sharon Kelly, Senior Transportation Planner, URS Corporation

Subject: **Hayden Island Existing Conditions Report**
Infrastructure Systems Condition - Drinking Water

The Portland Water Bureau (PWB) was contacted for information on the existing water system on Hayden Island. City staff¹ provided anecdotal information as well as a water system summary, a map of existing systems, and portions of a 1988 Portland Water Bureau Public Facilities Plan to inform this technical memo. Multnomah County was the governing jurisdiction for the study area prior to annexation into the City of Portland. The water system was annexed by the Portland Water Bureau in the late 1980's.

Originally put in as a private system and the water distribution pipe was run as a private water district by the Jantzen Beach Water Company (JBWC). With no water source on the Island, JPWC maintained the distribution system and purchased water from the Portland Water Bureau. The PWB has made a number of improvements over the years, but some of the old pipe still remain including some transite (asbestos) pipe and 2-inch mains in some of the older residential areas of the island.

A 16-inch Ductile Iron (DI) pipe, installed in 1984 across the I-5 Bridge, provided the main source of water to the island for a number of years until a new, 20-inch High Density Polyethylene Pipe (HDPE), was constructed in 1997, on the far east end of the island. This additional line provides a supplemental source of water to the Island, strengthening the overall water system and reducing the risk of relying on a single supply line. The HDPE line was tunneled under the North Portland Harbor and ties in to a 12-inch DI pipe on Marine Dr.

Attached is a PWB map showing the water supply and distribution system on Hayden Island. PWB has systematically upgraded the water system on the Island since annexing the system. A new 16-inch diameter DI transmission line was installed in 1997 to connect the new 20-inch supply line with the existing 16-inch line that serves the island at the I-5 Bridge. Twelve-inch diameter DI transmission main line, constructed between 1989 and 1992, increased the capacity of water service to the west parts of the developed areas of Hayden Island.

Some of the old original piping still exists on the Island. Eight inch to twelve inch diameter transite pipe is in use behind the Jantzen Beach Center. Asbestos pipe is not a hazard when it is

¹ Personal telephone communication with Greg Drechsler, Principal Engineer, and Chad Talbot, Senior Engineer, on April 23, 2007.

wet. Per the PWB, these pipe are safe to use and currently adequate in size. As needs change and new development occurs, pipe would be upgraded to DI pipe per PWB standards. Old cast iron (CI) pipe and polyvinyl chloride (PVC) pipe serve some of the older residential areas throughout the Island. Likewise, these are currently adequate and would be upgraded as necessary.

The PWB 1988 Public Facilities Plan discussed a second supply line to the Island on the west part of the developed area, in conjunction with a new bridge accessing the Island. The bridge was never installed and the supply line was built on the eastern edge of the Island. Future plans for the Island include annexation of the west side of the Island for industrial purposes. At that time, the PWB would evaluate the need for upgrading the water supply network to the Island and strengthening the main distribution system.

The water system on the Island, per PWB assessment, is adequate for current development and Fire Bureau established fire flow requirements. Changes to development or new development would need to be evaluated on a case by case basis by the PWB.

Attachment:

Map of Hayden Island Water Distribution System

Memorandum 6



Date: August 30, 2007

To: Joe Zehnder, City of Portland Planning Bureau
John Gillam, City of Portland Department of Transportation
Patrick Sweeney, City of Portland Department of Transportation

From: Ela Whelan, Project Water Resources Engineer, URS Corporation
Sharon Kelly, Senior Transportation Planner, URS Corporation

Subject: **Hayden Island Existing Conditions Report
Emergency Services**

Emergency services for fire, police, and medical services are provided for Hayden Island by the City of Portland.

Portland Fire and Rescue

A City of Portland fire station is located on the Island, at 848 North Tomahawk Drive, just east of the freeway exit. The fire personnel at this station respond to a variety of emergencies including medical first aid and water related emergencies. Water related issues include removal of navigational and environmental hazards, keeping beaches safe, and responding to life and safety emergencies. In fiscal year 2005-2006 (July, 2005 through June, 2006), the fire station responded to 1,053 calls, of which 161 were River emergencies.

Built in 1994, the fire station has five personnel on duty including a company officer, a harbor pilot, an engineer and a Firemedic. Equipment available at the fire station includes a fire engine and two boats, one a fire boat and the other a rescue boat.

Police Emergencies

Hayden Island is located in the North East Precinct of the City of Portland and is served by the police station at 449 NE Emerson St. The City of Portland police website indicates the majority of crimes committed on Hayden Island are theft related. Crime listings on the City of Portland Police website provide various terminologies for theft including burglaries (thefts out of buildings, structures), larceny (thefts from people such as pickpockets), theft from auto, and vehicle theft.

Medical Emergencies

Immediate response for medical emergencies is by the Fire Stations' Firemedic. Portland Fire and Rescue provide one paramedic with each fire engine and work with the American Medical Response (AMR) as first responder for medical emergencies. Further assistance is provided at hospitals, the closest is about 4 miles away in Vancouver Washington, the Southwest Washington Medical Center. Portland hospitals include Legacy Good Samaritan Hospital at 1015 NW 22nd Ave., and Legacy Emmanuel Hospital, located at 2801 N.

Gantenbein Ave. Both hospitals are about 7 miles away from the I-5 Freeway on Hayden Island. Additional hospitals in Portland are located within 10 – 15 miles away, including Woodland Park Hospital and Providence Portland Medical Center. Legacy Salmon Hospital is located about 9 miles away in Vancouver, at 2525 NE 139th St.

Emergency Response

Todd Kiethley¹, Battalion Chief, assigned to Hayden Island, responded to questions with regard to response times, backup strategies, ability to respond, and I-5 traffic concerns. Response times are highly variable and not readily available, depending on the location of the incident, the type of incident and access for the fire department. Hayden Island includes a large number of marinas with locked gates. If additional keys are required for entrance, it may take some time to access the location of the emergency.

The Fire Department participates in all meetings and discussions related to major construction projects including options for the I-5 Bridge crossing. Stressing the need for access to emergencies, the Fire Department requests advance notice of any potential limits to their mobility. In addition to servicing Hayden Island, the Fire Station responds to calls from North Portland and to problems on the I-5 Bridge. For issues with advance warning, such as traffic jams related to July 4th traffic, or for major construction projects, the Fire Station makes sure that one company (staff of 4) does not leave the Island. If there is further concern, they can assign a second company to the Fire Station. Reconfiguration of resources, involving additional personnel or equipment, is the main strategy for addressing potential problems with emergency response.

The Hayden Island Fire Station is unique in that they have cross trained personnel and equipment. They have the ability to respond to emergencies with either a fire boat or a fire engine. Previous policies provided for a dedicated crew each to the fire boat and the fire engine. Current policies and training provide for the ability of staff to use either piece of equipment. With a marine fire, it is often faster to respond from the water due to accessibility of the emergency. If there is reason to believe there will be a significant delay in response, the fire station will send out the on-site crew with the fire boat and bring in a second crew to use the fire engine. The Fire Department can also send out a second fire engine if needed.

Current policies appear to be working well. There have not been any recent problems with resources to address emergencies. Highway I-5 can slow traffic, particularly during rush hour. For highway emergencies, the policy is to send a company in each direction as it is not always clear where the emergency is located, and in which direction of traffic. The company that does not wind up responding returns to the fire station, and in non-emergency mode, this can take up to an hour during heavy traffic.

Multnomah County Sheriff is generally responsible for water related emergencies, and is backed up by the US Coast Guard, if required.

¹ Telephone Conversation between Ela Whelan and Todd Kiethly, Portland Fire Battalion Chief, on July 19, 2007.

Memorandum 7



Date: August 30, 2007

To: Joe Zehnder, City of Portland Planning Bureau
John Gillam, City of Portland Department of Transportation
Patrick Sweeney, City of Portland Department of Transportation

From: Ela Whelan, Senior Project Water Resources Engineer, URS Corporation
Sharon Kelly, Senior Transportation Planner, URS Corporation

Subject: **Hayden Island Existing Conditions Report
Infrastructure Systems Condition – Sanitary and Storm Sewers**

Introduction

Prior to annexation by the City of Portland in the late 1980's, utility services were provided by the Hayden Corporation, a private company that at one time owned the developed portion of the Island. In the late 1980's, the City of Portland annexed the east area of the Island into the City limits and purchased parts of the sanitary and storm system. The Bureau of Environmental Services (BES) owns and maintains the majority of the main lines and trunk system for the sanitary sewer system. BES declined to accept parts of the sanitary system that belongs to trailer parks or gated communities that do not permit open access. BES insisted on having access to sanitary or stormwater systems in the event of an emergency.

The majority of the stormwater system on the Island is privately owned. BES is currently working on identifying the existing drainage infrastructure, particularly the elements that they own and are responsible for maintaining. Existing plans, transfer documents, agreements, and easements, are tools being used to identify the storm drainage system.

A 102 inch diameter pipe crosses Hayden Island west of the Railroad Bridge; it then divides into three 84-inch lines at the northern part of the island and discharges into the Columbia River. These are the discharge lines for the Columbia Boulevard Wastewater Treatment Plant, and as treated effluent, the water quality is considered equivalent to that of stormwater, rather than sewage, and therefore shows up on the stormwater layer of the GIS map. These are not local stormwater pipes and are not accessible to individual landowners.

Information for this memo came from GIS maps provided by the City of Portland; the City's online mapping system, and discussions with staff¹ at BES.

¹ Telephone conversations between Ela Whelan, URS, and:
Steve Hawkins, Senior Maintenance Engineer, BES, on May 2, 2007, and
Craig Rosborough, Mapping Manager for BES, on May 15, 2007.

Sanitary Sewer Facilities

A number of public and private lines flow to 12 pump stations before being pumped to a 20-inch diameter concrete cylinder pipe (CCP) that takes the effluent to the Columbia Boulevard Wastewater Treatment Plant for treatment and disposal. Five of the pump stations are private facilities and seven are owned and maintained by BES. Not all of the private, or public, lines are identified at this time.

Private gravity lines vary from 4-inch to 24-inch in diameter and include PVC (plastic – polyvinyl chloride), CSP (concrete sewer pipe) and unknown materials. Pressure lines vary from 4-inch PVC to 18-inch HDPE (plastic – high density polyethylene). Public sewer gravity lines varied from 8-inch diameter to 24-inch. Pipe materials included CSP, PVC, RCP (reinforced concrete pipe), and some unknown materials. Old asbestos lines appear to have been abandoned. Public pressure lines include 6-inch to 15-inch PVC, and 10-inch HDPE. A pump station at the end of the bridge collects all of the sewage on the Island and transports it through a 20-inch CCP across the I-5 bridge to tie into gravity lines that flow to the Columbia Boulevard Wastewater Treatment Facility.

From the mapping provided by the City, it appears the majority of the gravity lines are privately owned and maintained, Bureau of Environmental Services owns five pump stations and the majority of the pressure lines are publicly owned and maintained. All of the remaining pump stations are privately owned. In discussions with City staff, the existing system appears adequate and there are no current plans for upgrades. The biggest maintenance issue for sanitary systems on the Island is grease in the sanitary lines from the restaurants on the Island. This is a typical issue for urban sanitary systems. There are few other requests for service, an indication that the system is adequate and functioning appropriately for current needs.

Stormwater Facilities

Greater unknowns exist with stormwater facilities on Hayden Island. A combination of inlets, catch basins, manholes, and pipe with outfalls to the River or Harbor, comprise the drainage system on the Island. Catch basins typically include baffles to separate oil and sediment from the stormwater prior to draining to the River or Harbor. The majority of the system is privately owned and maintained, particularly the system that drains the Jantzen Beach Shopping Center.

Of the pipe that has been identified, pipe sizes for PVC (plastic) pipe vary from 10-inch to 15-inch diameter. A twenty-four inch diameter CMP (Corrugated metal pipe) and one 12-inch Reinforced Concrete Sewer Pipe (RCP) are shown on the GIS map of the storm drainage system. Concrete sewer pipe (CSP) ranges in size from 12-inch to 36-inch diameter. Unspecified pipe materials are shown for pipe and range between 8-inch and 24-inch diameter. An 18-inch DIP (ductile iron pipe) is shown on the east end of Tomahawk Island. DIP is often used when the pipe is very shallow and there is concern for damage from heavy loads.

Much of the stormwater system is shallow and flat due to the minimal elevation of the Island above sea level and the flat topography. As such, there is flooding when there are heavy rains.

Roadways on the Island, particularly private roads, show signs of water damage indicative of chronic flooding of the roadway or underground movement of water. BES maintenance department does not receive more than occasional complaints and very few requests for service, indicating the flooding is likely not severe, nor prolonged in duration.

There are no major improvements planned at this time with the exception of better identification and clarification of the existing drainage system.

Attachments:

Hayden Island Sanitary System Map
Hayden Island Storm System Map

Memorandum 8



Date: August 30, 2007

To: Joe Zehnder, City of Portland Planning Bureau
John Gillam, City of Portland Department of Transportation
Patrick Sweeney, City of Portland Department of Transportation

From: Ela Whelan, Senior Water Resources Project Engineer, URS Corporation
Sharon Kelly, Senior Transportation Planner, URS Corporation

Subject: **Hayden Island Existing Conditions Report
Natural Hazards and 100 Year Floodplain**

Introduction

Natural hazards are occasional serious events that occur in the environment including earthquakes, landslides, volcanic eruption, wildfire, extreme weather, and floods. These events can be problematic for developments that neither expect any changes to the local environment nor incorporate mitigating measures for these potential hazards. Earthquakes relieve pressure underneath the earth's surface, but can be devastating to structures not designed to handle major earth movements. Likewise, floodplains provide areas of storage for large volumes of runoff from major storms, and replenish nutrients in the soils that get flooded, however, buildings in floodplains can be destroyed if not properly designed, built or protected. Understanding natural hazards is an important component to planning to minimize damage to life, health and property during these events.

This memo provides a brief overview of natural hazards that could apply to Hayden Island. While we cannot control these events we can plan to minimize their impacts, such as building earthquake resistant structures, and limiting construction in floodplains, or provide adequate warning for evacuation, such as in the event of severe weather or volcanic eruption. As the planning agency for the Portland area, Metro developed a regional policy and planning guide for natural hazards¹ in 1999, using Federal Emergency Management Agency (FEMA) funding. In collaboration with other agencies, Metro has also developed a series of Natural Hazards Maps that depict hazards on different map layers for the region.

Earthquake and Liquefaction zone:

Earthquake hazards are a factor in the Portland region for several reasons. On a regional level, a subduction zone is at work along the coast, which stretches from Vancouver Island to California, with the plate that the Pacific Ocean is resting on gradually moving underneath the North American plate. Known as the Cascadia subduction zone, this movement has the potential to generate large earthquakes. In addition, there are a number of faults that run through Portland, such as the Portland Hills fault, which may produce earthquakes that range from undetectable to large enough to cause damage.

¹ Regional Hazard Mitigation Policy and Planning Guide, Reducing Disaster Losses, Metro, June 1999

Metro collaborated with the Oregon Department of Geology and Mineral Industries (DOGAMI) to identify, and map, areas of potential earthquake hazard and the relative risk of each area for associated potential damages. Several factors contribute to the risk associated with an earthquake including: liquefaction of soils, landslides, and extent of ground movement. Liquefaction zones are a hazard created when an earthquake causes soil to change its structure and the soil behaves as a liquid, destabilizing the ground within the zone and any structures on it. Liquefaction may occur in sandy soils that are not well compacted, as is the case with the soil structure in the urban area of Hayden Island^{2,3}. The soil on the east side of the Island is classified as 33A, Pilchuck urban land complex, a sandy alluvium typically found in floodplains.

Figure 1⁴ is a Seismic Hazard map for Hayden Island, showing the study area largely in red, with some orange areas near the freeway and on Tomahawk Island. Areas shown on the map as red have the potential to be impacted by two or more of the risk factors (as described in the previous paragraph) associated with earthquakes. Lighter colors have less relative risk, such as orange and paler shades of red and orange.

Landslides:

Landslides are not considered a potential hazard on Hayden Island due to the low elevations and relatively flat terrain. The highest elevation of the island is at 30' above sea level, sloping down to 20 ft. and 10 ft. around the outer edges of the Island.

Volcanic Eruption:

Nearby volcanoes include not only Mt. St. Helens, but also Mt. Hood, Mt. Adams and farther away, but also in the vicinity, is Mt. Rainier. The Portland area has experienced ash deposition from several occurrences of eruptions of Mt. St. Helens. Potential damage⁵ from ash fall and acid rain would be the likely impacts to Hayden Island from nearby volcanic eruptions.

Wildfire:

Wildfire is also not a major concern due to the lack of natural forested and/or grassland on the east end of the island. The western, unincorporated part of the Island is heavily vegetated, and wildfires could occur.

Extreme Weather:

Extreme weather can include high winds, ice storms, thunderstorms, and tornadoes. Thunderstorms and tornadoes are rare, but have been known to occur in the Portland area. Wind storms and ice storms are a more likely. High winds can occur through the Columbia Gorge, bringing cold weather as well as high east winds. High winds are also caused by hurricanes from the Pacific. Winds of 90 mph can occur as the weather moves north. A rare

² NRCS Soil Survey, August, 1983;

³ http://en.wikipedia.org/wiki/Earthquake_liquefaction

⁴ Metro website for all figures in this report: <http://mica.metro-region.org/servlet/com.esri.esrimap.Esrimap?ServiceName=hazard&ClientVersion=4.0&Form=True&Encode=...> 9/5/2007

⁵ Regional Hazard Mitigation Policy and Planning Guide, p. 17.

event the Columbus Day 1962 storm recorded winds of 119 mph⁶. Heavy winds can damage trees, power lines, and other utilities, particularly when accompanied by ice. Per Metro's Natural Hazard Map, there are a number of electrical substations and electrical transmission lines on the Island that could be affected by extreme weather events.

100 Year Floodplain:

Floods occur when sufficient rain, or rain and snowmelt, cause water to overtop the banks of streams and rivers. Natural channels usually form naturally to contain up to two year storm events, typical rainfall for the area. Larger rainfall, for storms that occur less frequently, such as once in ten years, or once in 25 years, will often cause water to rise and fill the adjacent floodplains for the waterways. Although not very frequent, 100 year storms are capable of filling wide swaths of floodplain adjacent to streams and rivers and can cause extensive property damage and risk of loss of lives. To protect life and property, FEMA requires both delineation of the 100 year floodplain and development restrictions within the floodplain. The 100 year floodplain identifies the flooding that is expected to occur during a storm event that would statistically occur once every 100 years.

Flooding from storm events and resulting flooding can be impacted by a number of things, including snowmelt and frozen ground. Prolonged rainfall, over a number of days, may also increase flooding during heavy rainfall events. As an example, a large storm in February, 1996, an unclassified storm event, caused extensive flooding in the Portland area and was the result of prolonged rainfall, frozen ground and snowmelt.

Hayden Island is bordered on the north by the Columbia River and the south by the North Portland Harbor. Figure 2 is the FEMA floodplain map for Hayden Island. The 1996 flood was apparently higher than the 100 year floodplain since more areas on the Island flooded during this event, per Figure 3, the 1996 Flood Map. Flood elevations in the Columbia River at Vancouver were recorded to be 28.8⁷ ft. FEMA floodplain mapping shows large areas of Tomahawk Island in the 100 year floodplain area, fringes of the boundaries of the island, with the exception of the levy on the north side of the island, and all of the undeveloped western part of the island. All of these areas were flooded in the 1996 flood and some additional low lying areas throughout the island flooded as well.

Flooding in the Willamette and Columbia Rivers have been recorded since June, 1894⁴. The highest elevations of recorded historical flooding occurred in June, 1948, at 32.8 ft., and June, 1894, at 36.0 ft. Eight floods have occurred between 1894 and 1996, six of which have recorded elevations, ranging from 21.5 ft. to 29.5 ft.

One caution should be noted regarding the elevations listed for the 1996 flood as well as the FEMA floodplain and the United States Geological Survey (USGS) mapping: elevations between different maps, including FEMA mapping, 1996 River Gauge Elevations, and USGS maps are not the same. Different datum (starting elevations for vertical measurements, level zero is different for each datum) are used for each set of measurements. The elevations can

⁶ Regional Hazard Mitigation Policy and Planning Guide, p. 12.

⁷ Regional Hazard Mitigation Policy and Planning Guide, p. 10.

only be used in comparison with other information from the same data set. For example, recorded elevations for flooding, in Metro's report, can be compared with one another, but should not be compared to USGS elevations on their topography maps.

The levies, along the northern part of Hayden Island, are privately owned, and appear to keep the northern part of the island out of the 100 year floodplain. Although it is unknown what level of protection these levies provide, it is worth noting that the 100 year floodplain is based on statistics resulting from a rain event that has a one percent chance of occurring in any given year. A large event, statistically greater than the 100 year storm, could overtop the levies and place the entire island under water.

Erosion along the island river banks, and in particular on the levies, occurs continually with tidal fluctuations, storms, and wave action by passing watercraft. Large storms, particularly of the magnitude of 100 year storms or greater, have the potential to have a significant impact on erosion and structural stability of the levies. Current maintenance efforts of the levies are unknown, but regular inspection, particularly after major storms, should be a minimum level of effort. Reinforcement of sections of the levy may be necessary after major storms.

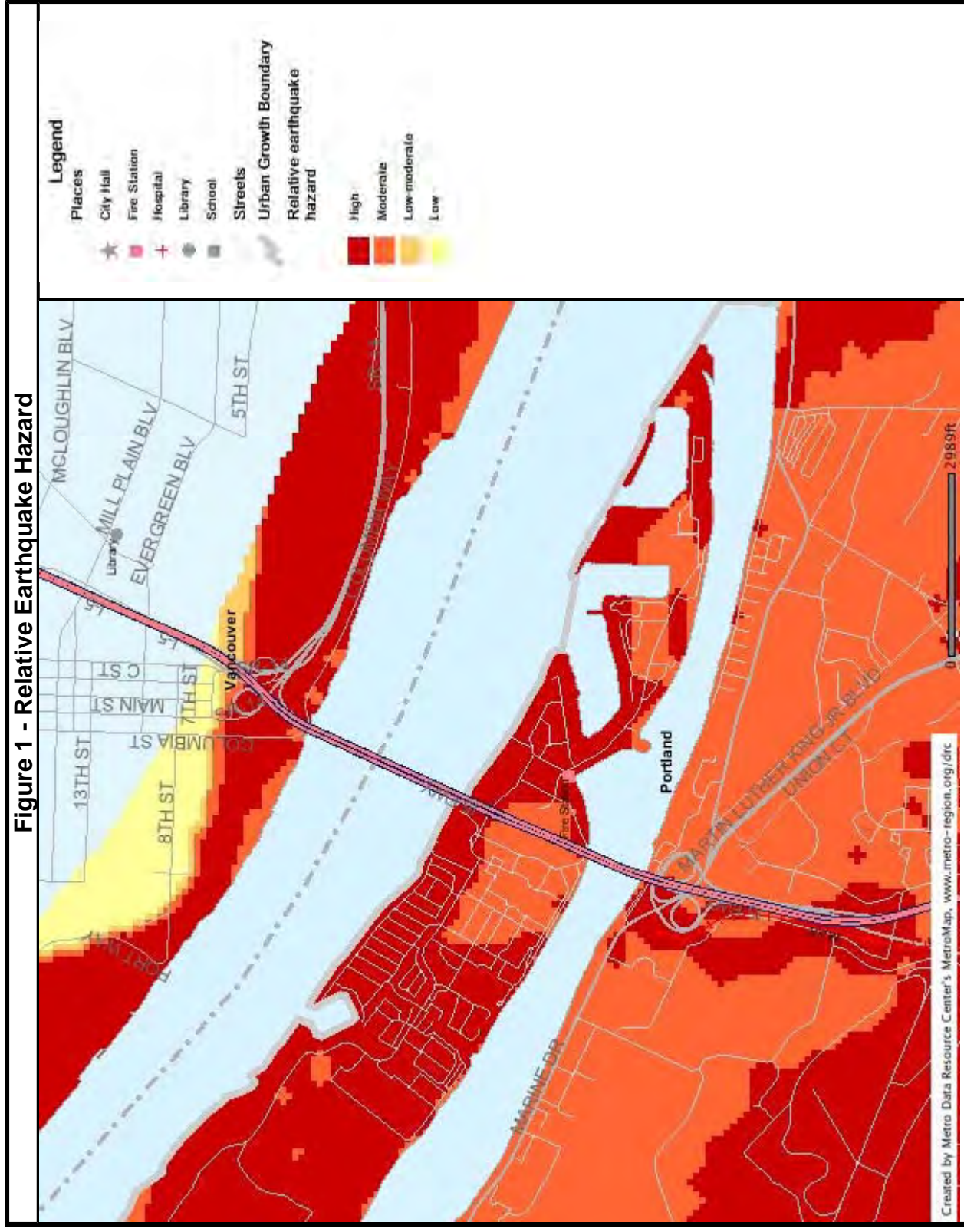
Dredging of the Columbia River is being pursued by the Corps of Engineers to deepen the River for maintenance of the river channel and to accommodate the ever increasing size of vessels hauling goods along the River. Dredging is currently occurring at River Mile 105.5, about 1 mile downstream of the I-5 bridge. Previous dredging has taken place, in previous years, from River Mile 91 to 104.

Tidal influences have an impact on the Columbia River up to the Bonneville Dam. Changing with the seasons, river level high tide to low tide fluctuations vary from about 3 feet to 5 feet, per the National Oceanic Atmospheric Administration (NOAA) Tides and Current Website⁸.

Attachments:

- Figure 1 – Relative Earthquake Hazard
- Figure 2 – FEMA 100 Yr. Floodplain Map
- Figure 3 – 1996 Flood Area Map

⁸ NOAA Tides and Currents Website:
www.tidesandcurrents.noaa.gov/station_retrieve.shtml?type=Tide%20Data&sort=A.STATION_ID&state=&id1=

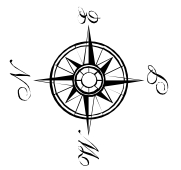


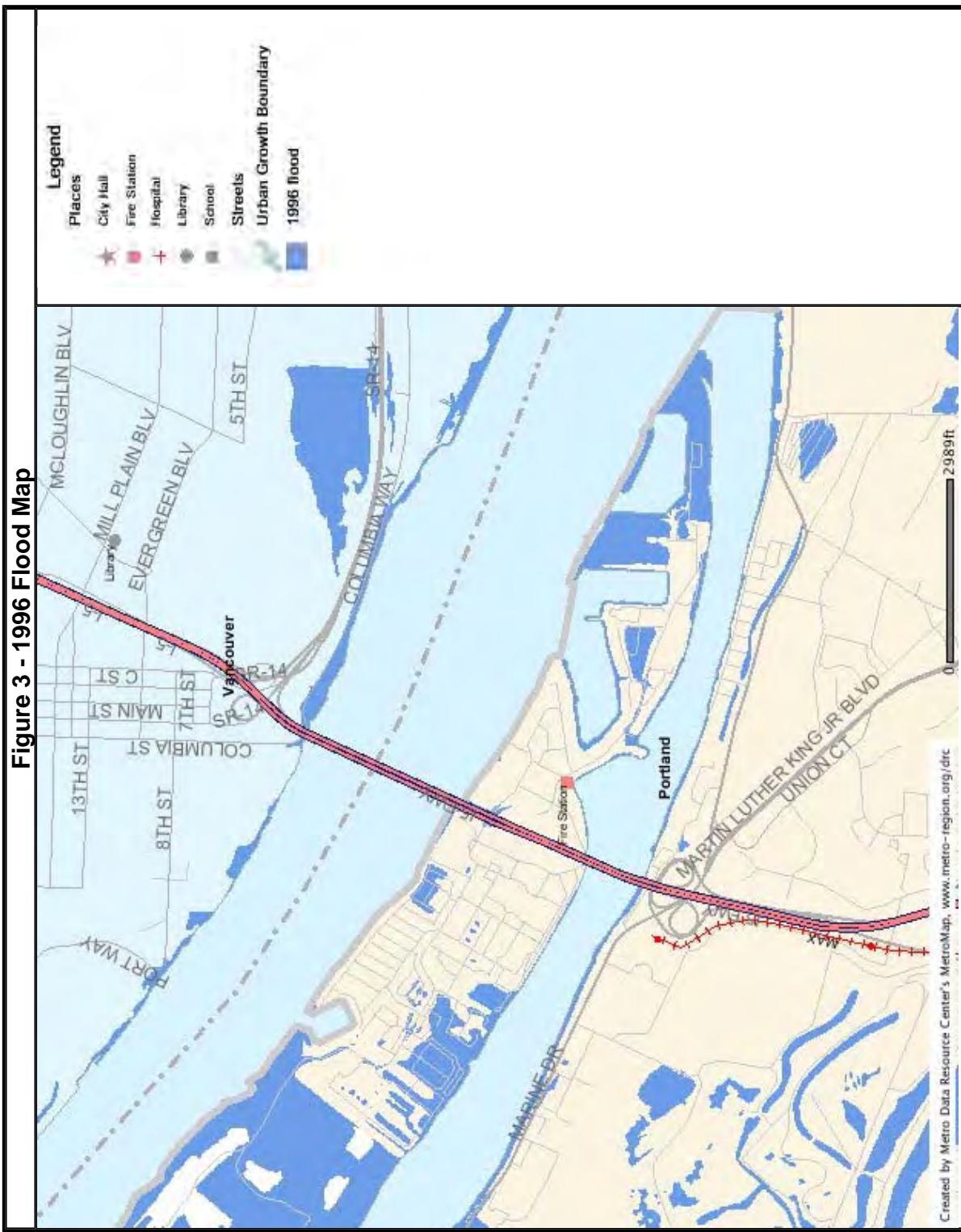


Legend

- STREETS
- 100YR FLDPLAIN
- VACANT LAND
- RIVER FILL

FIGURE 2 - HAYDEN ISLAND 100-YEAR FLOODPLAIN
Data Source: RLIS 2003





Memorandum 9



Date: August 30, 2007

To: Joe Zehnder, City of Portland Planning Bureau
John Gillam, City of Portland Department of Transportation
Patrick Sweeney, City of Portland Department of Transportation

From: Dautis Pearson, URS Environmental Planner

Subject: **Hayden Island Existing Conditions Report
Natural Resources Inventory, the Quality/Quantity of Natural Resources,
and Federal and State Permitting Requirements**

Introduction:

This memo assesses the quality and quantity of the shorelines habitat and conditions, vegetation types and function, and wildlife and fisheries species that occupy those habitats and their diversity. This memo is based on information from City of Portland, review of information from National Marine Fisheries Service, Corp of Engineers, U.S. Fish and Wildlife, Northwest Wetland Inventory (NWI), and a site visit. This report will outline the existing conditions for vegetation, wildlife, fisheries, and shorelines and discuss permitting requirements development or requested changes in these natural resource elements, and provide any conclusions appropriate for this type of review.

Hayden Island is a sandy island, located in the Columbia River between Vancouver, Washington and Portland, Oregon. The Columbia River is on the northern border with a smaller channel of the Columbia on the south side. This smaller channel is known as North Portland Harbor. The eastern half of Hayden Island is within the City of Portland and forms one of its 95 neighborhoods, known as Hayden Island. The half of the Island west of the BNSF railroad tracks is not within the City of Portland, but is within the Metro Urban Growth Boundary.

The east end of the island has extensive development including retail, hotels, industry and offices, manufactured housing, condominium complexes and single family houses (Figure 1, Zoning). Additionally, along the south side of the island there is extensive build out of houseboat moorages and marinas. Interstate 5 crosses the island and connects the island to Portland south and Vancouver north.

The island has a rich history including its ferries and streetcar service to its amusement parks. Most of the eastern end of the island has been or is under development or redevelopment.

Throughout its history Hayden Island has been filled with dredge spoils including the area between Hayden Bay and North Portland Harbor. This area was the original shipping channel and now connects what was Tomahawk Island with Hayden Island. The west side of the island is undeveloped and included in the urban growth boundary. The Port of Portland purchased the land with the intention of Port facilities expansion. This portion of Hayden Island is not considered in this assessment.

Existing Conditions

Vegetation, Wildlife Habitat and Species

The eastern end of Hayden Island has been extensively developed and is currently experiencing redevelopment along Tomahawk and Hayden Dr. Vegetation and habitat for wildlife species throughout the Island is minimal on the western portion of the island do to the extensive industrial, residential and commercial development. Vegetation in these areas are dominantly planted species such as grasses, ornamental trees, and shrubs. This vegetation supplies habitat for some wildlife species including birds and some small mammals but is limited by the ability to migrate to and from the island. The Port of Portland properties provide a greater abundance of habitat that provide functioning habitat for most species but again are limited due to the ability to migrate any distance.



Hayden Island is a unique island habitat in an urbanized area of the Columbia River corridor. It serves as a fringe habitat and is an important regional and local wildlife/bird corridor.

NWI wetland mapping has a record of one existing wetland in the northwest corner of the developed area next to the railroad bridge (Figure 2, Environmental Zones). This area and an extended area along and beneath the railroad bridge are considered an environmental zone by the City (Figure 2, Environmental Zones). Environmental zones protect resources and functional values that have been identified by the City as providing benefits to the public. The environmental regulations encourage flexibility and innovation in site planning and provide for development that is carefully designed to be sensitive to the site's protected resources. The shorelines buffers are part of the environmental conservation zone or "c" zone classification and are 25 feet in width. These areas provide some habitat function for birds and wildlife but is considered minimal based on past shoreline diking and shoreline modification to prevent flooding.

Small mammals and migratory birds use the existing habitat and landscaping for foraging and some small birds for nesting and fledging. The diversity of mammals is minimal in the environmental zones due to the isolation of the island and the amount of habitat. Species that have the potential to occur in such areas include raccoon, opossum, deer mouse, house mouse (non-native), gopher snake, common garter snake, red-tailed hawk, Steller's jay, and a large number of songbirds, particularly swallows and chickadees, may be found in developed areas. Many bats rely on residential and commercial structures for roosting and rearing sites. No bald eagle nests are recorded in the area (Isaacs & Anthony, 2005) however eagles and other raptors may use the area for



foraging.

The eastern portion of the island provides minimal vegetation and habitat for most wildlife species. Avian species (birds) and avian migratory species exist in the trees, shrubs, and shoreline environmental areas that provide a moderate degree of diversity and habitat function. Other areas of landscaping also provide some habitat function for avian species.

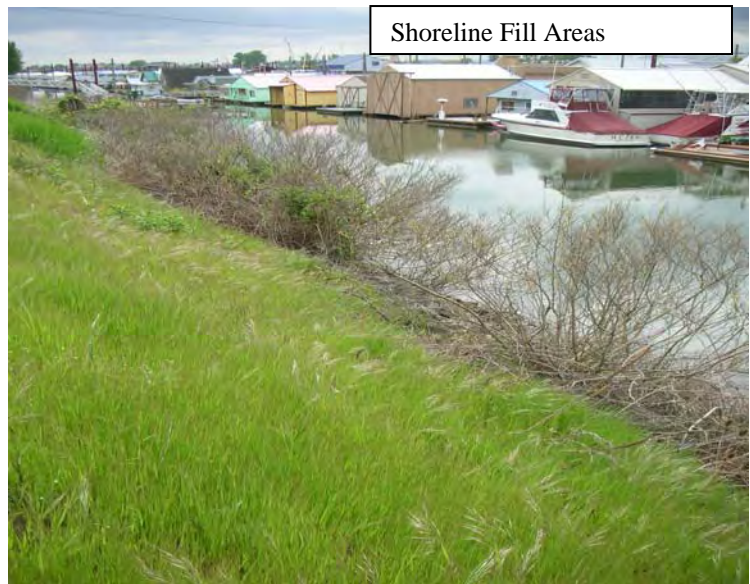
Aquatic Habitat and Species

Aquatic species use the Columbia as a migratory route. This includes Lower Columbia River Chinook salmon (*Oncorhynchus tshawytscha*), Columbia River chum salmon (*Oncorhynchus keta*), Lower Columbia River coho salmon (*Oncorhynchus kisutch*), Lower Columbia River steelhead trout (*Oncorhynchus mykiss*), and Bull trout (*Salvelinus confluentus*). This area is also identified as critical habitat for salmon, coho, and steelhead. The North Portland Harbor portion or the southern shores of the Island is lined with boat and house moorings close to the shorelines. The shoreline riparian habitat is mostly non-native vegetation or landscape vegetation which provides shoreline stability but minimal value for the shoreline waterway interaction and function. Although specific aquatic habitat (cove or irregular shallow water) is minimal water quality is of importance for migratory species moving through this area. It is also unknown what effect, if any, the houseboats moored along the southern portion of the island have on migrating species.

Fish species use the waterways around Hayden Island for migration. Minimal or no habitat exists for spawning, rearing, or juvenile use along or in close proximity to the shorelines. Development in these riparian areas would have to consider the environmental “c” zones for protection of those aquatic and terrestrial resources.

Shorelines

The shorelines on Hayden Island consist of a variety of fill materials that have armored and elevated the shoreline to prevent flooding. There is minimal riparian habitat within the 25 foot “c” zone buffer and these areas do not provide any channel conditions and dynamics (cove habitat or irregular shorelines that produce pools and estuaries) that are of higher quality. Most of the East Hayden Island shorelines have been or are in the process of being altered mostly for marine storage areas or moorings. The exception is the eastern tip of the Island that is in its natural state. It is this eastern end of the Island that provides the higher quality riparian and upland habitat. The Port of Portland lands to the west have more natural shorelines.



The environmental overlay for the environmental zones are a Conservation Overlay Zone or “c” zone where environmental resources and functional values can be protected while allowing environmentally sensitive development. (Figure 2, Environmental Zones).

For Development within Environmental Conservation Zone:

If the project complies with the permitting requirements, applicant can choose to go through discretionary environmental review process or to meet objective standards.

If the proposed project does not meet General Development Standards: (33.430.140)

“The proposed development must be set back at least 50 feet from...the top of bank of any identified water body within the Columbia Corridor, or any identified water body within a protection zone on lots zoned R10, R20, or RF”

Environmental Review (33.430.210) is required if project does not meet development standards. This would also be required if applicant wishes to fine-tune the zone boundary location.

Type II procedure (required for development within conservation zone):

Impact evaluation must demonstrate that all of the following are met:

- Proposed development minimizes loss of resources and functional values, consistent with allowing those uses generally permitted or allowed in the base zone without a land use review.
- Proposed development locations, designs, and construction methods are less detrimental to identified resources and functional values than other practicable and significantly different alternatives.
- There will be no significant detrimental impact on resources and functional values in areas designated to be left undisturbed.
- The mitigation plan demonstrates that all significant impacts will be compensated for.
- Mitigation will occur within same watershed as proposed use or development and within Portland city limits except when purpose of mitigation could be better provided elsewhere.
- Applicant owns mitigation site; possesses legal instrument that is approved by City sufficient to carry out and ensure success of mitigation program; can demonstrate legal authority to acquire property through eminent domain.

Permitting Requirements

Federal and State regulations typically do not require permits specific to local land use planning activities. Typically permitting requirements are triggered when specific development proposals are made. During the planning phase of this project no federal or state permits are required. However, coordination with Federal and State regulatory agencies may be appropriate during the planning process to ensure that Federal and State regulations are taken into account and anticipated for future development.

If future development is proposed within the area, permitting would likely be required, depending on the specific development proposal. The type of permitting that would be required would vary, depending on the nature of the specific proposal and the project proponent. For example, the Columbia River Crossing Project that is examining alternative improvements to I-5 would be required to obtain a broad set of permits from Federal, state and local agencies, and the requirements

would be different than the permits required for a proposal to redevelop a portion of the Jantzen Beach Mall.

A list of the types of potential permits that could be required for development in this area is included below by category (Federal, State, or Local).

Federal

- Consultation with National Marine Fisheries Service and US Fish and Wildlife Service is required if a federal nexus exists through federal funding or federal lead agency.
- Joint Permit Application and attendant documentation for the Corps, DSL, and DEQ in support of regulatory compliance requirements of §404 and §401 of the Clean Water Act, §10 of the Rivers and Harbors Act, and the State Removal-Fill Law. This would be required for any cut and fill permit application triggering ESA and Cultural consultation. Depending on the extent or intensity of the project the Corp through the 404 (b)(1) guidelines could federalize the project and trigger the NEPA process.
- If federal funding or oversight is a component of the project it may be necessary to initiate the National Environmental Policy Act (NEPA) to assess impacts to the natural and physical environment. The NEPA process would also “umbrella” consistency with all other federal laws mentioned above.
- NPDES Compliance at Federal and State levels for any additional water discharge including stormwater compliance for any addition impervious surface.
- Federal Air Quality and Noise Compliance (if applicable).
- Compliance with the Endangered Species Act.

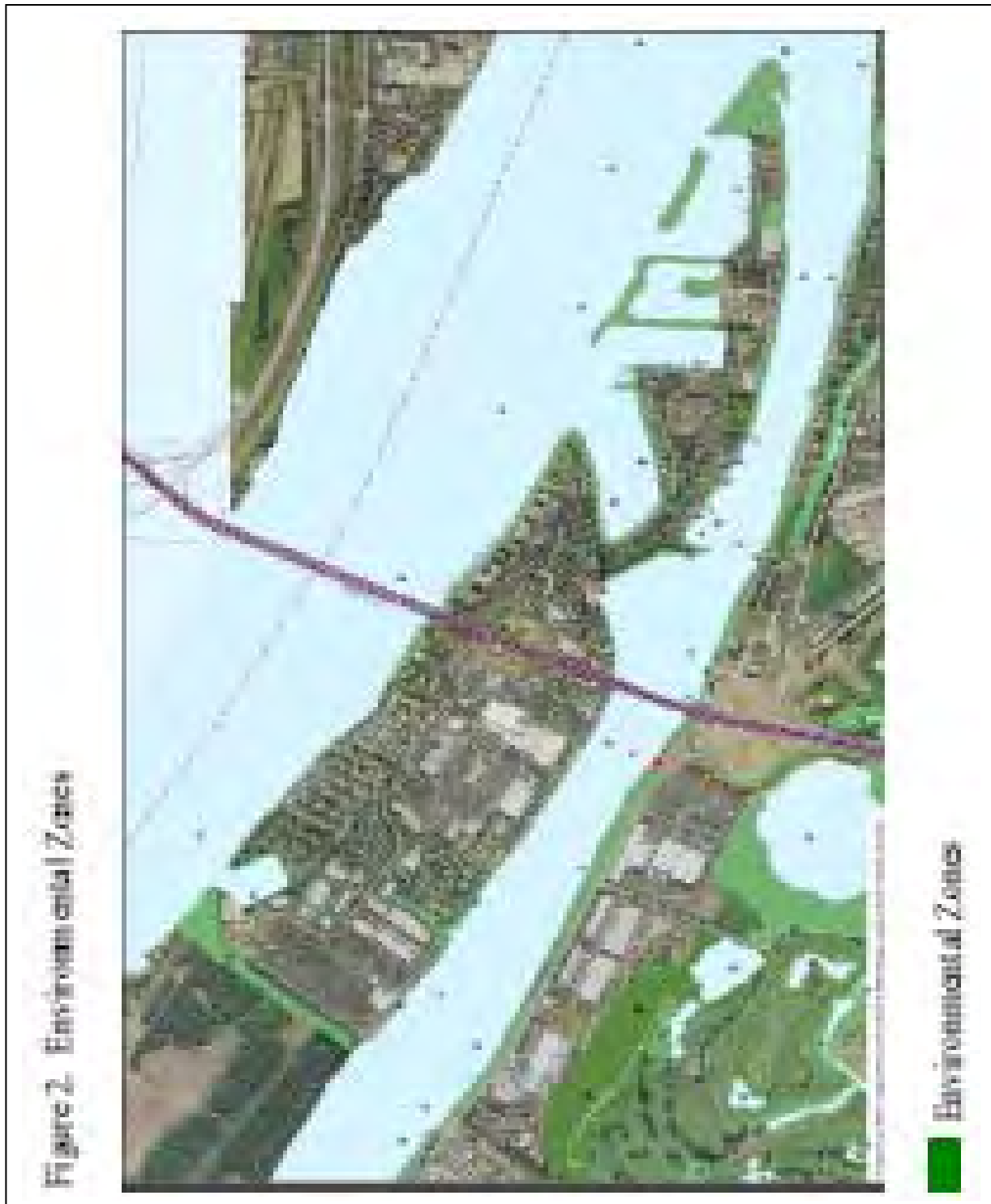
State

- Submerged/Submersible Lands Lease Application if any land would be converted to marinas or lost to waterways from DSL.
- Access Agreement for Fill/Removal Action would be required if fill material is to be move to another site for disposal.
- State Goal Requirements for land use and conservation areas and waterways would have to be reviewed for consistency where adopted by the county and city.
- State Historic Preservation Office compliance (Section 106 of the Antiquities Act) would be required of all ground disturbing activities.
- NPDES requirements for changes in water discharge, use, and storage.
- State Air and Noise requirements (if applicable).

Attachments:

Figure 1 is Hayden Island Zoning
Figure 2 is Environmental Zones

Figure 2, Environmental Zones are the green highlighted areas and are considered “c” zones or “conservation zones” for protection. The wetland area is on the left hand corner of the text box.



Memorandum 10



Date: August 30, 2007

To: Joe Zehnder, City of Portland Planning Bureau
John Gillam, City of Portland Department of Transportation
Patrick Sweeney, City of Portland Department of Transportation

From: Sharon Kelly, Senior Transportation Planner, URS Corporation

Subject: **Hayden Island Existing Conditions Report**
Airport Noise Issues

The purpose of this memorandum is to provide a brief overview of airport noise related issues and regulations to inform the City of Portland's land use planning effort for East Hayden Island. Portland International Airport (PDX) is located approximately 1.5 miles southeast of Hayden Island, and Hayden Island is within the flight path of the airplanes taking off from, and/or landing at the airport. Land uses and activities on Hayden Island periodically experience noise related to aircraft takeoffs and landings at PDX.

Existing airport noise contours for PDX are shown on the attached map. The map is located at the following web link: <http://www.boeing.com/commercial/noise/portlandcontour.pdf>. For an explanation of how to better understand aircraft noise, refer to the following web link: http://www.fican.org/pdf/aircraft_noise.pdf

The noise contours on the map indicate that the north side of East Hayden Island is within the 65 DNL noise contour. Because a portion of the island is within this noise contour, additional specific City of Portland development regulations would apply to new development and redevelopment in the area.

Airport Noise Regulations

Airport related noise is managed and/or regulated by the Federal Aviation Administration (FAA), the City of Portland, and the Port of Portland. In general federal regulations defined by the FAA regulate the noise environment around airports. The City of Portland also has noise regulations, but cannot supersede the federal regulations. The Port of Portland, as the owner of the airport manages compliance of airport related noise.

FAA noise related regulations can be found at the following web link: http://www.faa.gov/regulations_policies/

The **City of Portland** regulates impacts of airport noise through its land use planning and regulatory processes. The city has adopted the "Portland International Airport Noise Impact Zone" as one mechanism for reducing the impact of noise on development within the noise impact area surrounding the Portland International Airport (for the full details of the City of Portland regulations, refer to [Chapter 33.470](#) of the Portland City Code). The city code limits residential densities and

requires noise insulation, noise disclosure statements, and noise easements in certain areas. The Ldn 65 noise contour (as defined in the *1990 Portland International Airport Noise Abatement Plan Update*) is the boundary for the PDX Noise Zone. All lands within the Ldn 65 noise contour are subject to the city's regulations. New residential uses are prohibited within the Ldn 68 noise corridor.

The **Port of Portland**, as the owner of the airport, is responsible for the airport's compliance with FAA noise regulations. The *Portland International Airport (PDX) Noise Compatibility Study*¹ (Part 150 Study - http://www.flypdx.com/Prj_PDX_Part_150_Home.aspx) is part of the Port of Portland's ongoing effort to reduce aircraft noise impacts while operating a vital international airport and regional asset in a growing metropolitan community. Details of the study can be found at the following web link: http://www.flypdx.com/Prj_PDX_Part_150_Doc.aspx

The goal of the study was to evaluate and recommend measures that will aid in reducing aircraft noise impacts to residential communities and other noise-sensitive areas. These measures must be safe, realistic and legal in order to gain FAA approval. The Port had tremendous participation in this effort by airport stakeholders, including the airlines and pilots, business and environmental groups, as well as surrounding community members when the Noise Compatibility Program was in developmental stages.

The Port of Portland Commission approved the Part 150 Study recommendations on August 10th, 2005. The study was then submitted to the FAA for review. In December, 2006, the FAA issued a notice—which was posted in local newspapers—giving the general public 60 days for comments. The comment period ended on February 15, 2007 and the FAA had 180 days to reach a decision on the PDX Noise Compatibility Program.

In June 2007, the FAA completed their review of the Part 150 Update. The Port has received the Record of Approval dated June 7, 2007. The Noise Management Department is beginning development of an implementation plan for approved recommendations. For more information about the PDX Part 150 Study, aircraft noise impacts or flight operations, contact the Noise Management Department at 503.460.4100 or 800.938.6647.

Following are some frequently asked questions and answers from the Port of Portland regarding PDX noise issues²:

What is a Noise Abatement Procedure?

A noise abatement procedure is a recommended flight path aircraft follow to minimize noise over a populated area. An example of this type of procedure is the recommendation that commercial jets follow the Columbia River on departures and arrivals. Because this is a recommended procedure, pilots may decline to follow it due to safety concerns or operating limitations. For some noise abatement procedures, a pilot must be able to see specific visual cues. If the visual cues are not visible, the pilot will not be able to safely follow the noise abatement procedure. Other procedures rely on navigational equipment capabilities.

Why do planes fly over my house?

Depending on where you live, you may have small aircraft or large jets flying overhead. Airplanes land and take-off into the wind and must be safely aligned with the runway. Arriving jets typically

¹ http://www.flypdx.com/Prj_PDX_Part_150_Home.aspx

² http://www.flypdx.com/Noise_Mgmt_FAQ.aspx

lineup with the runway several miles away. Their angle of approach is about three degrees. This translates to about 300 ft. of altitude for every mile from the arrival end of the runway. In other words, if an aircraft is three miles from the arrival end of the runway, its altitude will be approximately 900 ft. Because they are slower and more maneuverable, smaller aircraft will typically fly a designated pattern that allows them to approach mid-field from the north or south.

Why do some planes fly lower than others?

Aircraft arriving at PDX will generally have an approach altitude assigned by Air Traffic Control several miles before landing. These assigned altitudes vary depending on other air traffic and weather conditions. As aircraft get closer to the airport, pilots will either visually adjust their approach altitude or use a radio beacon. A large aircraft will appear closer to the ground than a smaller one at the same altitude. Wind and weather, in addition to the aircraft type and weight, will also affect the speed and altitude of ascending or descending aircraft.

What happens when I submit a noise complaint?

The noise office will log your complaint in the complaint database. First-time callers will receive an information packet in the mail. Your complaint will be researched and any necessary action will be taken. If it is determined that the aircraft in question was not following an established FAA procedure, the FAA and/or the airline will be notified. This information is also shared with the [Citizen Noise Advisory Committee \(CNAC\)](#).

Can the noise office change flight paths?

No. The FAA controls and regulates the airspace. Any change in departure or arrival flight paths must be approved and implemented by the FAA.

What can I do to make a change in flight paths?

The FAA will only consider recommendations from the CNAC. These recommendations are then thoroughly researched and evaluated. The FAA is committed to reducing noise, but will not consider moving the noise from one neighborhood to another.

Why don't all aircraft fly over the river during departures and arrivals?

The airport uses two parallel runways. Typically, departing commercial jet aircraft will turn to intercept a navigational signal that will take them out over the river. However, from time to time this signal is not available for navigation, and as a result, commercial jets will fly straight out from the runway. Smaller, slower aircraft are usually turned north or south by air traffic control to keep them out of the way of faster jet aircraft.

Can the Port of Portland restrict noisier aircraft from flying over a particular neighborhood?

The Port cannot restrict access to "noisier" aircraft or dictate departure or arrival routes. The airport may advocate for a certain noise abatement procedure to reduce noise, but it must be approved and implemented by the FAA.

What is the 'Mill Visual Approach'?

This is a noise abatement approach that most jet aircraft arriving from the east and landing to the west will follow. Its intent is to keep aircraft over the Columbia River as long as possible before aligning with the runway for their final approach. The entry to the approach is between the Camas pulp mill on the north shore of the Columbia River and the Reynolds Aluminum plant just north of Troutdale Airport on the south shore of the Columbia River. Not all aircraft will follow this route. During

periods of peak traffic both parallel runways will be used. Aircraft landing on the north runway will follow the river while aircraft landing on the south runway will be assigned a straight-in approach. The pilot must be able to see visual landmarks on the ground in order to execute this approach. For safety reasons or other operational requirements, the pilot may request a straight-in approach.

Will aircraft become quieter?

Newer aircraft currently being manufactured are much quieter than older aircraft. For example, the new Boeing 777 is one-tenth quieter than the older Boeing 727-200, yet it can carry twice the number of passengers. Horizon Air has replaced most of its older, noisier, F28 jet aircraft with new, quieter, regional jets. Because aircraft typically have life expectancies of about 20 years, it could take years before airlines can update their fleet with the newer, quieter aircraft.

Why do aircraft sound louder at night than they do during the day?

Nighttime noise events seem louder because the ambient noise is lower. More noise events may be noticed at night compared to daytime hours when there exists a higher ambient noise level.

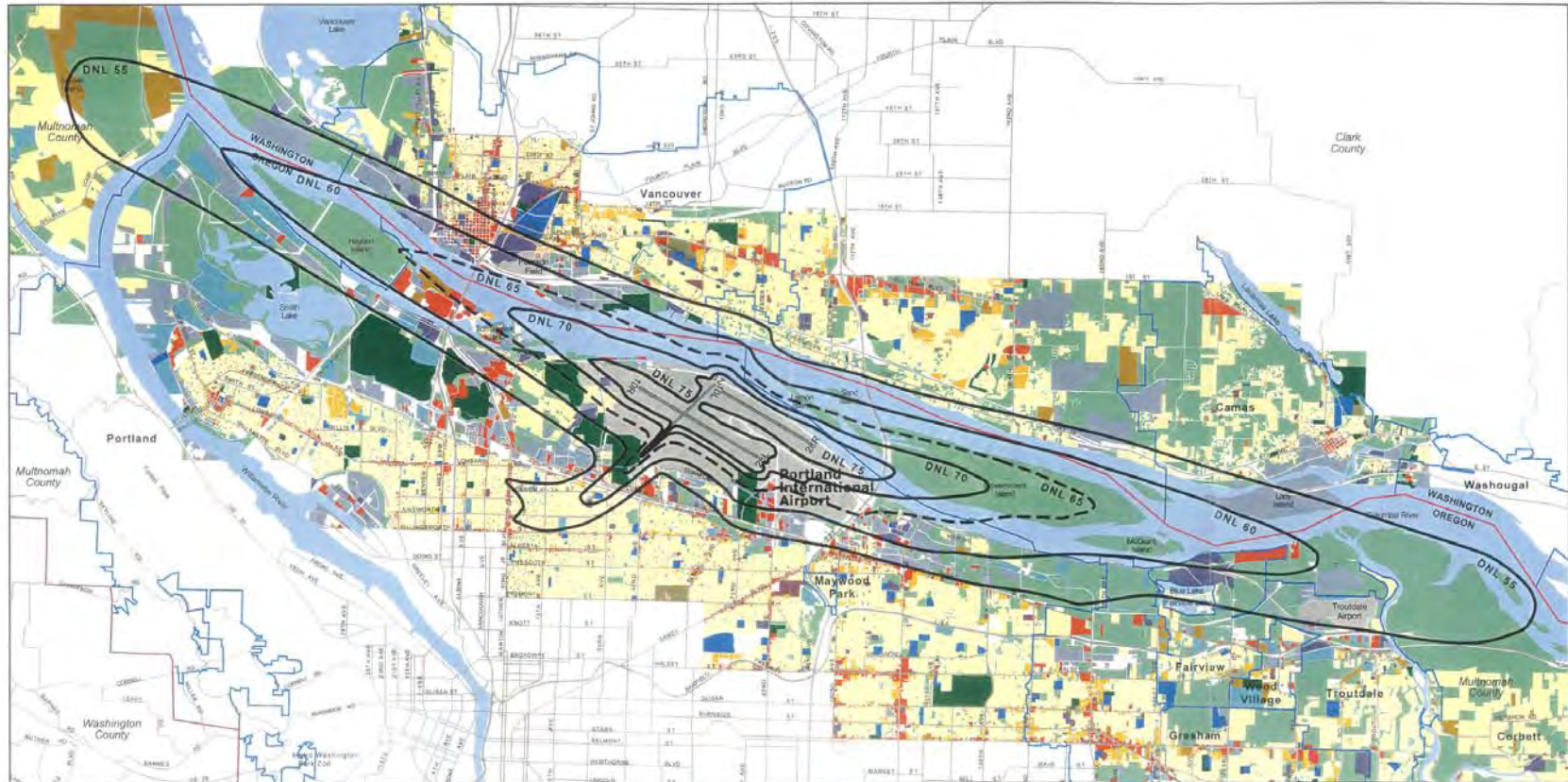
Who controls the aircraft?

The FAA is solely responsible for the movement of aircraft on the ground and in the air. Air traffic controllers work for the FAA. The FAA is also responsible for the lateral and vertical separation between aircraft as well as determining hazards such as tall buildings or mountains.

What is ANOMS and for what is it used?

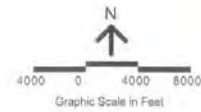
ANOMS stands for Airport Noise and Operations Monitoring System. This system collects noise data from 10 community monitoring sites in addition to flight track data from the FAA. It is the main tool used by the noise office to research complaints and to monitor noise abatement procedures.

Memorandum 10



LEGEND

- State boundary
- City boundary
- County boundary
- Noise exposure contour
- - - DNL 65 noise exposure contour
- DNL**
Day-night average sound level, in decibels. Refer to text for definition.
- Single family residential/condominiums
- Multifamily residential
- Mobile homes/houseboats
- Commercial
- Industrial/manufacturing
- Airports
- Public/semipublic
- Parks/recreation
- Agricultural/open space/vacant
- Religious facilities
- Educational facilities
- Medical facilities
- Cemeteries
- Miscellaneous compatible



Note: The specific land use for some parcels was not provided. According to Metro staff, none of these parcels is known to be developed in noise-sensitive uses.
 Sources: Base map—Gambrell Urban, Inc., on the basis of data provided by Metro.
 Noise exposure contours—Brown-Buntin Associates.

Exhibit A
NOISE EXPOSURE MAP: 1994
 Noise Abatement Plan
 Portland International Airport
 August 1996

LEIGH FISHER ASSOCIATES

