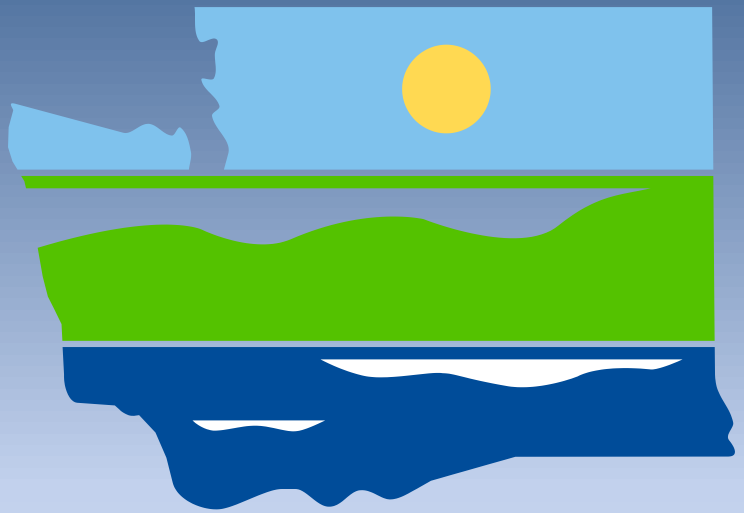

DEPARTMENT OF
ECOLOGY
State of Washington

Kenmore Industrial Park Site and Kenmore Area Public Meeting

Washington Department of Ecology
Unit Supervisor & Facilitator

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Washington Department of Ecology
Site Manager

Maura S. O'Brien
Northwest Toxics Cleanup Program
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Phone: (425) 649-7249

Kenmore Industrial Park Site

- Welcome
- Revised Public Participation Plan

- Site Update
  - 45 acre waterfront site
  - Consent Decree signed - August 2001
  - Compliance Monitoring Events

- Deferred Industrial Maintenance-14 acre west area and Kiewit General Manson 520 Bridge Work

- Site Results & Next Steps

Public Participation Plan

- KIP Revised Public Participation Plan – 2012
  - Future public involvement opportunities
  - Possible grant funding for local citizen group

  - Ecology website

Public Participation Grants

- Funding to not-for-profit public organizations
- Information at Waste 2 Resources Public Participation Grants Website

http://www.ecy.wa.gov/programs/swfa/grants/ppg.html

- Public Participation Grant Availability
  - -Updated Guidelines & forms – October 2012
  - -Public outreach – October-November
  - -Application – Nov 1, 2012-Jan 7, 2013

KIP Site Timeline

ESTIMATED TIMELINE KENMORE INDUSTRIAL PARK SITE UNDER MODEL TOXICS CONTROL AC

		Public						Public
Public		Comment						Comment
		Period for						Period for
Outreach &		Consent Decree,				Public Meetings		Engineering Design
		MTCA Cleanup Action Plan,						Proposed Development
Involvement		SEPA checklist & DNS for Cleanup Phase &				Revised		MTCA CAP
		Public Participation Plan-2001				Public		Public Participation Plan
Elements		Draft Documents				Participation		Draft Documents
						Plan-2012		
							//	
1984*	**91-2001****	**8/2001**	**2002-03**	**2001-Present**	**2009-2010**	**2012*****	**//**	**Future**
Landfill & Reported Soil & Groundwater Contamination	Remedial Investigations 1991 1992 1996 1999-2000	CD, CAP, SEPA & PPP final	Lakepointe Development Plans Withdrawn	Industrial Uses Continue with Compliance Monitoring & Environmental Covenant-2001	Groundwater Compliance Monitoring ***Results - No chemicals Above Cleanup Level***	Groundwater Compliance Monitoring ***Results - No chemicals Above Cleanup Level***		MTCA Cleanup CAP & Development To Be Completed & Compliance Monitoring To BeCompleted

Draft 071312

* Former landfill with demolition debris with possible other wastes including restaurant, medical and transformers reported 1981, 1982 & 1984.

** Remedial investigations in 1991, 92, 96, 98, 99, 00 & 01 completed extensive soil & groundwater testing with additional testing of surface water, sediment and landfill gases. Results show known chemicals of concern are petroleum diesel, oil, arsenic, barium and lead in soil and groundwater above MTCA clenaup levels. Note PCBs and pesticides were tested and showed no detection or very low levels significantly below MTCA cleanup level.

*** Groundwater Compliance Monitoring for Deferred Industrial Maintenance tested known chemicals of concern for petroleum, arsenic, barium and lead in addition to copper, cadmium, zinc, priority pollutant metals, and semi-volatile organic compounds. All results showed no detection or very low levels significantly below MTCA cleanup level. PCB testing showed no detection.

Kenmore Industrial Park Area

November 2011

April 2012

Photo credit: Aequalis Photography

Harbour Village Marina Timeline

ESTIMATED TIMELINE HARBOUR VILLAGE MARINA SITE UNDER MODEL TOXICS CONTROL ACT

Public Involvement & Outreach Elements

Public Meeting

//

2011	Oct 2011	2012	Late 2012	//	Future
Preliminary Dredge Sediment Sampling	DMMP* Dredge Characterization Elevated levels PCBs & dioxins	Proposed Sediment Sampling & Analysis Plans - Ecology	Sediment Results		To Be Determined

Draft 071312

* DMMP Dredge Material Management Program memorandum for Harbour Village Dredging 2011 Characterization dated October 6, 2011.

KIP Deferred Industrial Maintenance

- Request October 2011
- Tasks
- Ecology approval - Deferred Industrial Maintenance is consistent with CD

- Ecology letter to the City –Nov 28, 2011
- Results

FLOYD | SNIDER
strategy • science • engineering

Kenmore Industrial Park
Stockpile and Baseline Soil Sampling
Kenmore, Washington

Sample Location Map

F:\projects\KG-520 BRIDGE\GIS\Other\Figure 1 (Sample Location Map).mxd
1/14/2011

KIP Soil Testing Results

- **Stockpile & Baseline Soil Results - Jan 2011**
  - 14 soil samples
  - Analyses – metals, petroleum, organic compounds, PCBs and Pesticides

- **KGM Soil Results – May 2012**
  - 6 samples -2 composites
  - Analyses – metals, petroleum, organic compounds, PCBs and pesticides

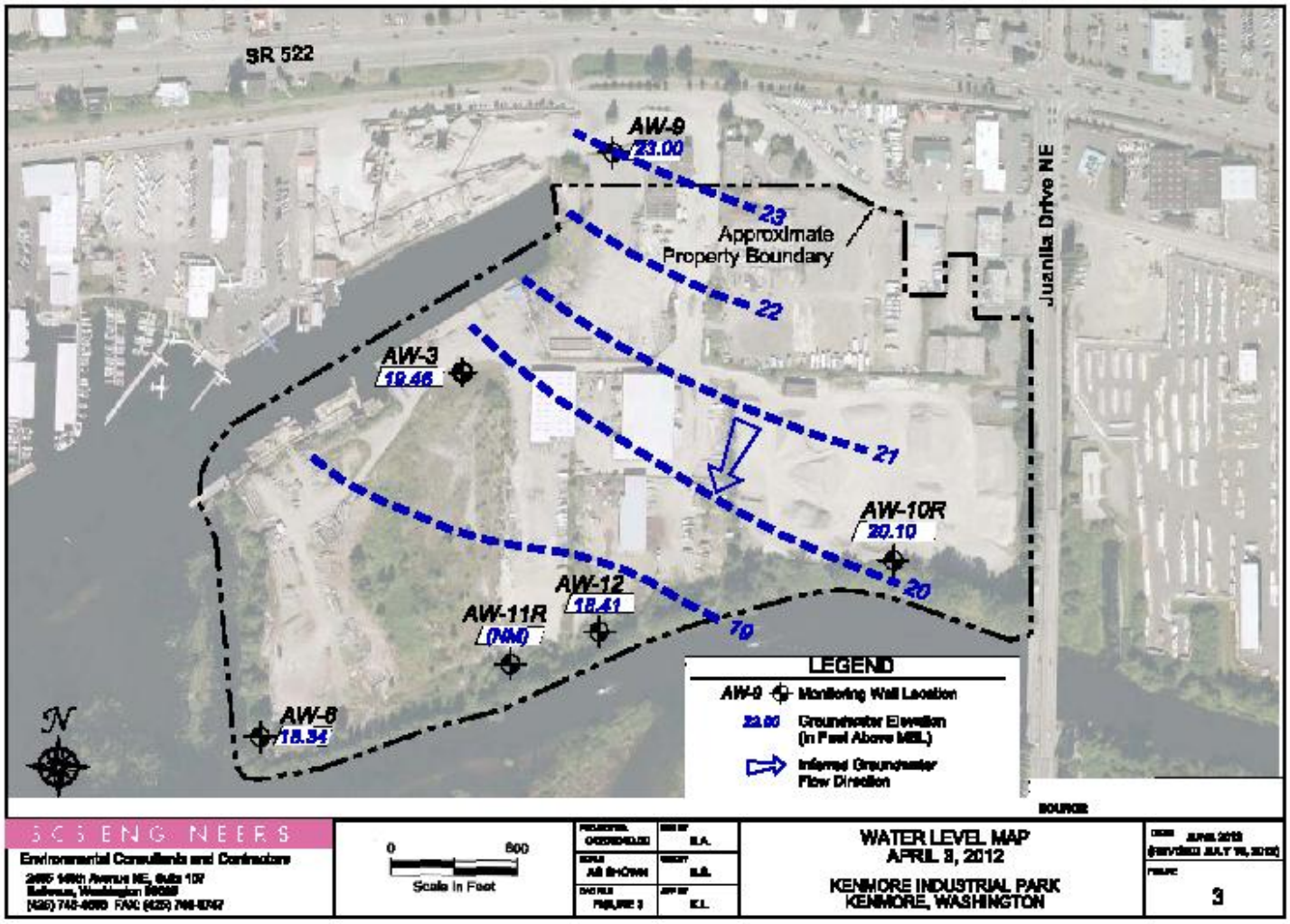
- **All results –below cleanup level**

KIP Groundwater Flow

- Groundwater flow direction – SW
- Seasonal lake level changes
- Location of compliance monitoring wells

- New storm water drainage system
  - 3 drainage basins at west 14 acre area
  - 100 year storm capacity
  - Perimeter berm to protect shoreline & wetlands

KIP Groundwater Flow



KIP Groundwater Compliance Results

- Groundwater Compliance Results
  - 2009 and 2010
  - April 2012 plus additional chemicals tested

  - All results show no detection or low levels & significantly below MTCA cleanup level.

  - No known chemicals migrating from Site to adjacent waterways.

KIP Groundwater Results for Deferred Industrial Maintenance

- April 2012 Results
  - TPH-diesel & oil – all no detection
  - Arsenic, Barium & Lead – all below Cleanup Levels
  - Copper, Cadmium & Zinc – all no detection
  - Semi-Volatile Organics – all below Cleanup Levels

  - All in Compliance
  - Deferred Maintenance has not caused change to subsurface causing chemicals to migrate from Site to adjacent waterways.

KIP Priority Pollutant Metal Results

- Priority Pollutant Dissolved Metal Results
  - As, Ba, lead – low levels below cleanup levels
  - Ca, Cu, Zn – no detection or low levels bcl
  - Ch, Ni, Antimony low levels below cleanup levels
  - Mercury, Selenium, Silver – no detection

  - All priority pollutant metals are below cleanup level. Deferred maintenance has not caused change to subsurface causing chemicals to migrate to adjacent waterways.

KIP Site PCB Results Summary

- 2001 soil 12 samples – no detection*
- 2001 groundwater 20 samples – no detection*
- 1996 Navigation Channel sediment 15 samples – no detection to low levels ~20 ppb
- 2011 soil 14 samples – no detection
- 2012 KGM soil 6 samples-2 composites – no detection

No dioxin/furan testing at KIP site.

*one exception-result determined poor quality.

KIP & Area Next Steps

- New NPDES storm water permit to KGM
- Ecology overview KIP site activities
- Groundwater Compliance Monitoring
  September 2012

- Area Proposed Sediment Sampling Plans by City and Ecology – summer 2012

Kenmore Industrial Park Area

November 2011

April 2012

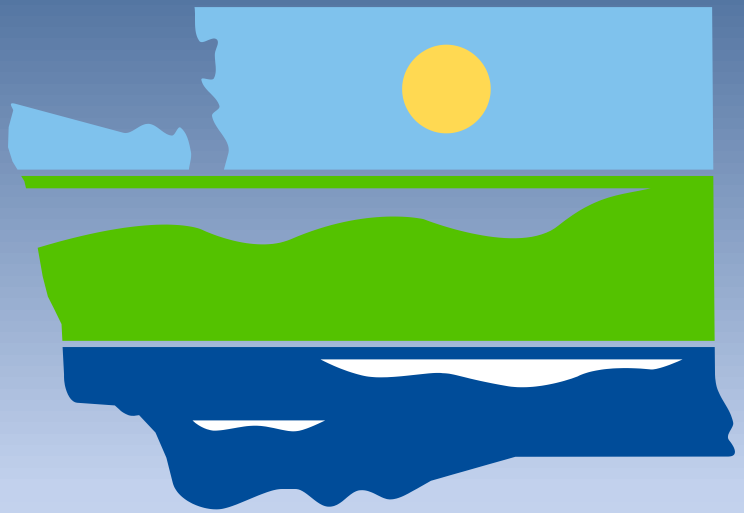
Photo credit: Aequalis Photography

Harbour Village Marina

- Dredge Preliminary Sediment Results
  - High Total Organic Carbon
  - Elevated PCBs
  - Elevated Dioxin/furan

  - Next Steps – Sediment Sampling & Analysis Plans by City and Ecology

  - Webpage



DEPARTMENT OF
ECOLOGY
State of Washington

Washington Department of Ecology

Laura Inouye

Headquarters Shorelands & Environmental Assistance Program

Dredge Material Management Program Representative

laura.inouye@ecy.wa.gov

Phone: (360) 407-6165

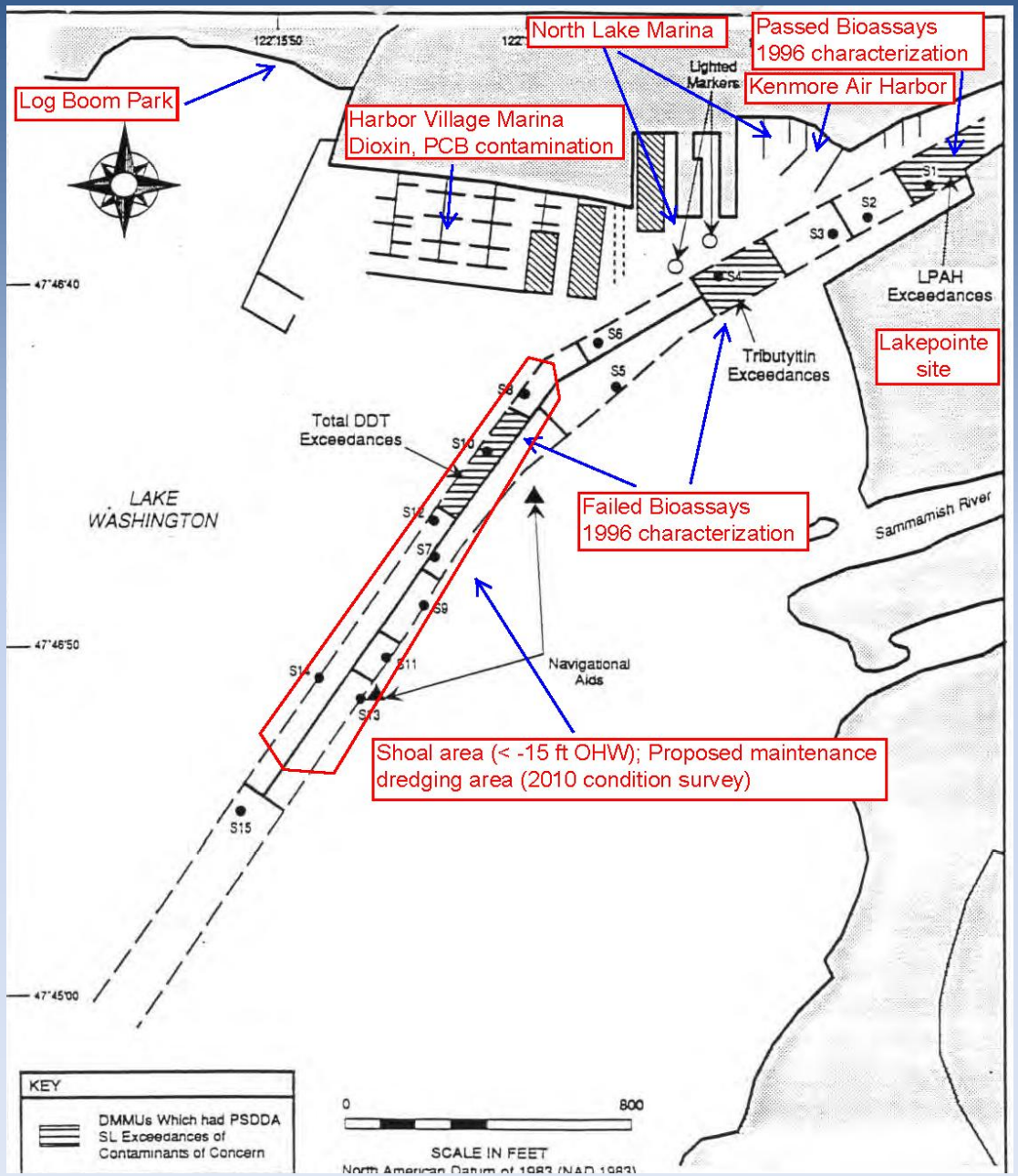
DMMP basics

- Dredged Material Management Program (DMMP)
- Four agency workgroup (Corps, EPA, Ecology, Department of Natural Resources).
- Evaluate sediments for open water disposal, and for "antidegradation" associated with dredging activities.
  - Screening levels based on protection of organisms living in sediments
  - Bioaccumulation thresholds
  - Dioxin value based on background

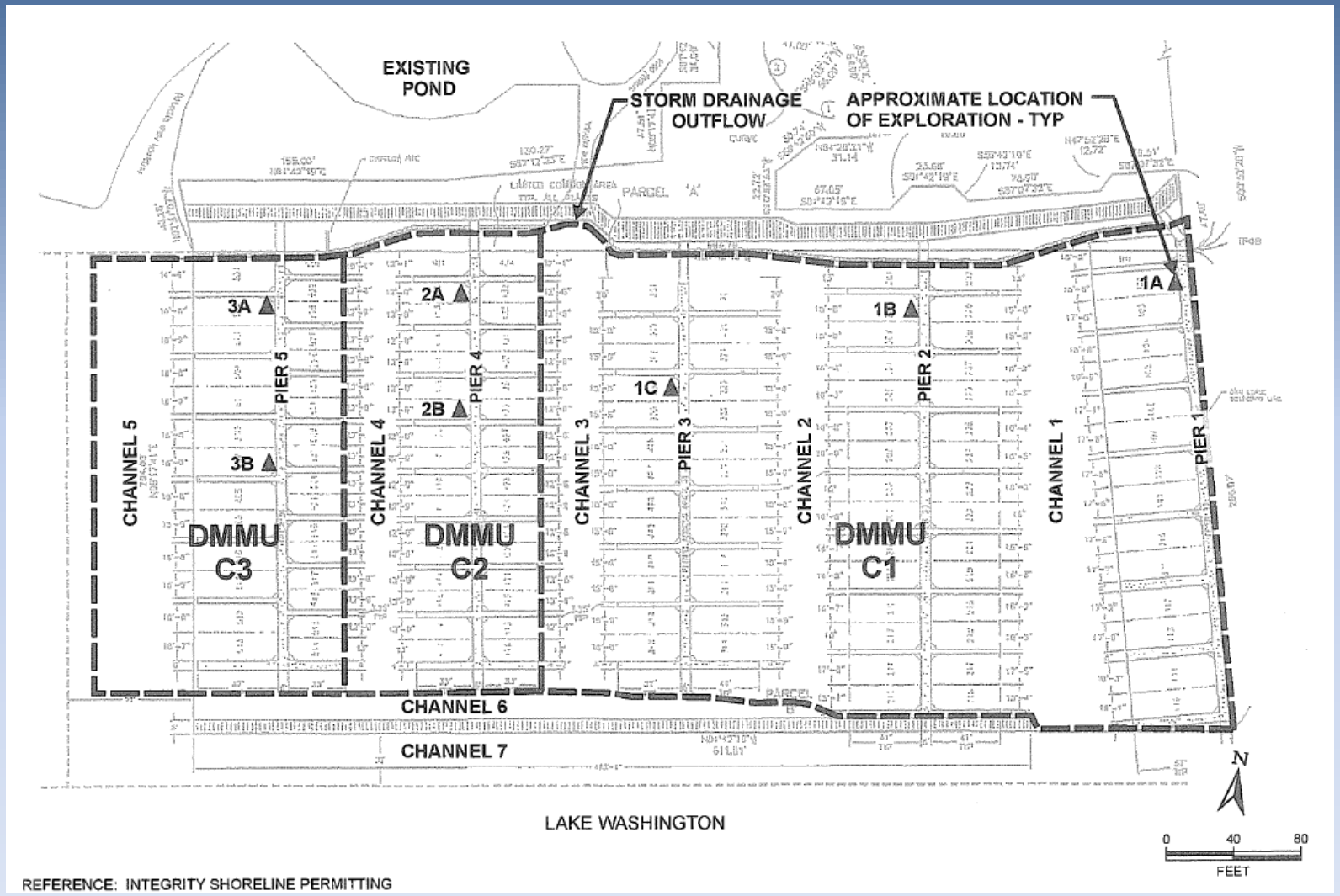
DMMP basics

- Harbour Village Marina pre-application 2011 sediment sampling
- City of Kenmore contacted Corps RE Kenmore Navigational Channel maintenance dredging Fall 2011.

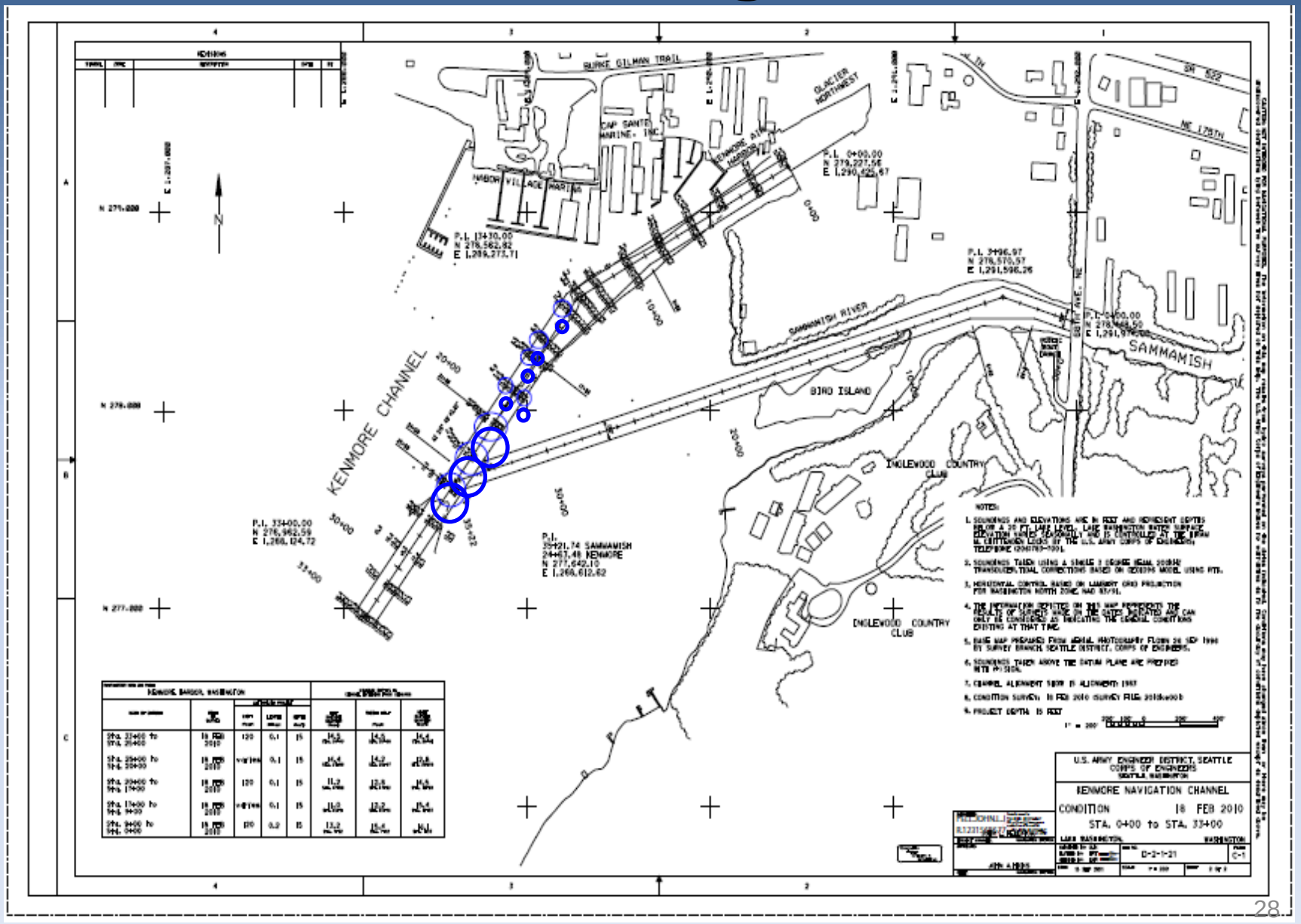
Area maps


North Lake Marina
Passed Bioassays
1996 characterization
Kenmore Air Harbor
Lighted Markers
Log Boom Park
Harbor Village Marina
Dioxin, PCB contamination
LPAH
Exceedances
Lakepointe
site
Tributyltin
Exceedances
Total DDT
Exceedances
LAKE
WASHINGTON
Failed Bioassays
1996 characterization
Sammamish River
Navigational
Aids
Shoal area (< -15 ft OHW); Proposed maintenance
dredging area (2010 condition survey)
KEY
DMMUs Which had PSDDA
SL Exceedances of
Contaminants of Concern
0
800
SCALE IN FEET

DMMP Harbour Village Marina



DMMP Kenmore Navigational Channel



Sediment chemistry

DMMP Screening Values

PCBs
- 120 ppb screening value
- 12 ppm *OC* normalized bioaccumulation threshold

Dioxin:
- average 4 pptr TEQ
- maximum 10 pptr TEQ

Harbour Village Marina (2011)

DMMU	%TOC	DDT (ppb)	PCB (ppb/ppmOC normalized)	dioxin sum TEQ (pptr)
1	6.5	*nd*	**227/4.3**	**92.1**
2	7.2	*nd*	**196/2.7**	**77.3**
3	6.0	*nd*	**237/4.0**	**43.2**
Z1	*NA*	*NA*	**126**	**64.3**
Z2	*NA*	*NA*	**104**	**0.9**
Z3	*NA*	*NA*	**237**	**11.1**

Concentrations are equal or lower in deeper sediments as compared to dredge prism

Project failed antidegradation due to exceedances of DMMP SL2 values

Sediment chemistry

DMMP Screening Values

PCBs
- 120 ppb screening value
- 12 ppm OC normalized bioaccumulation threshold

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- average 4 pptr TEQ
- maximum 10 pptr TEQ

Kenmore Navigational Channel (1996)

DMMU	%TOC	PCB (ppb/ppmOC normalized)	Other CoCs
1	3.7	**17/0.46**	PAHs (failed 1996 SL, passed existing SLs, passed bioassays)
4	2.1	*nd*	**TBT**, failed 1996 and existing SLs, failed bioassays
6	3.6	**18/0.50**	
8	4.1	**27/0.66**	
9	4.0	**15/0.38**	
10	5.3	**26/0.49**	**DDT** failed 1996 and existing SLs, failed bioassays.
11	4.4	**23/0.52**	

DMMUs 2,3,5,7,12-15- TOC range 1.2 to 6.2, DDT/PCBs non-detect, no exceedances of other CoCs

Sediment chemistry

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DMMP GUIDANCE

Dioxin:

- average 4 pptr TEQ
- maximum 10 pptr TEQ

PCBs

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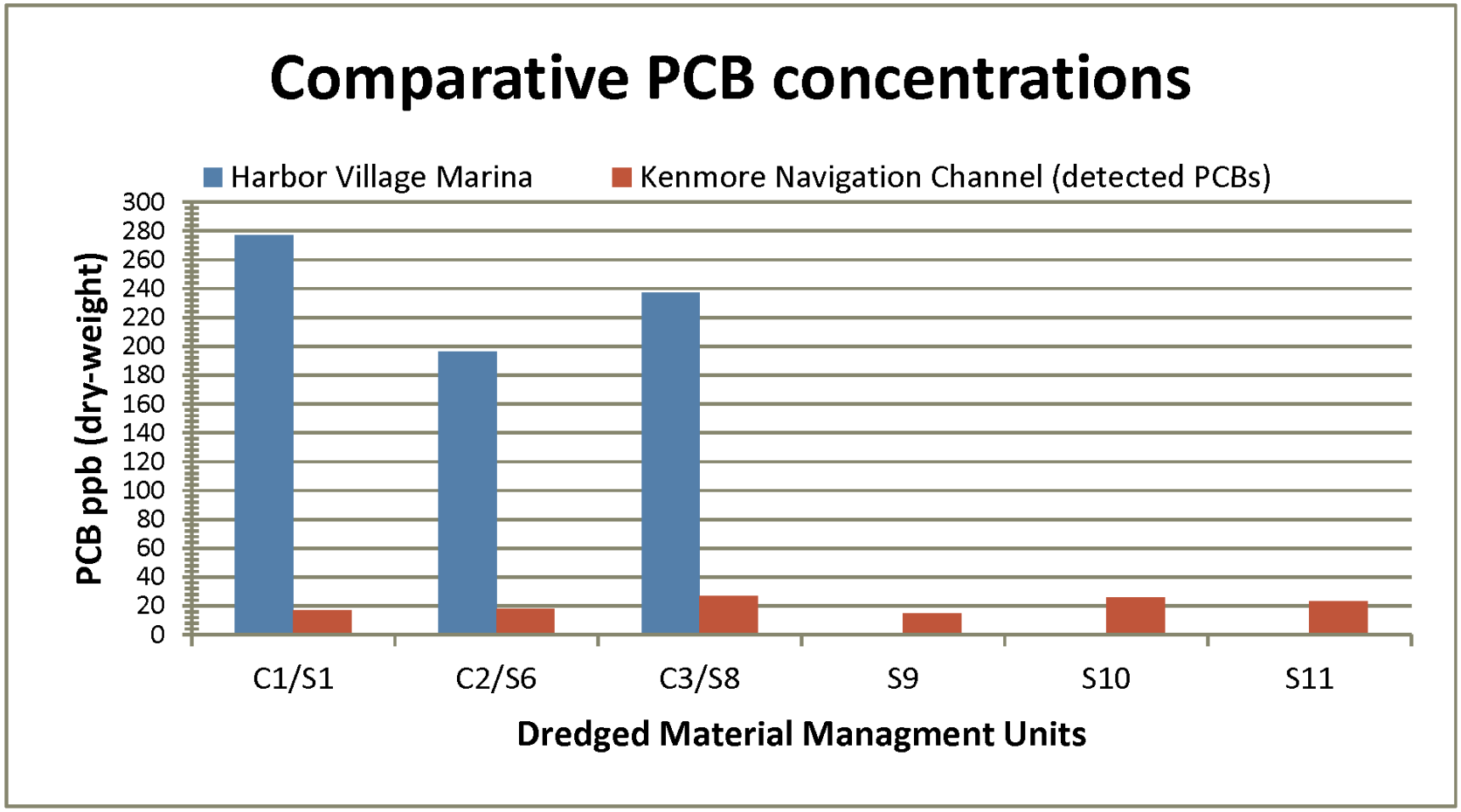
Sediment chemistry



Sediment chemistry

- Important items, Harbour Village Marina:
  - Marina sediments failed both open water disposal and antidegradation evaluations, based on PCBs and dioxins.
  - TCP coordination followed shortly after data receipt.
- Important items, Kenmore Navigational Channel
  - 1996 failed material was not dredged; material remains in place (may be buried under new sediments)
  - Failures were associated with TBT and DDT, not dioxins; failure associated with benthic toxicity (no human health assessment).
  - No dioxin testing was conducted at that time, since dioxins were not a chemical of concern at that time.

Sediment chemistry

- Important items, comparison of projects
  - Organic compounds associate with organic carbon. Total organic carbon (TOC) normalization adjusts concentration for the amount of organic carbon present in a sediment.
  - Both raw data and organic carbon normalized PCB data indicate that concentrations are greater at the marina than they are in the Navigational channel. (Channel is not likely the source).
  - Marina sediments did not have elevated DDT or TBT, also indicating different contaminant sources.

DMMP summary

- Harbour Village Marina
  - no dredging permit applications have been submitted.
  - Elevated levels resulted in coordination with Toxics Cleanup Program for next steps.

- PCB concentrations, project comparisons:
  - Contaminants associate with organic carbon.
  - OC normalized data show the Navigational channel had lower concentrations than the marina (source is likely nearshore, not the channel).

Putting chemistry in context

- What do these concentrations look like compared data from the rest of the state?

- Data is from Ecology's Environmental Information Management system
  - Marine surface sediment samples only

- Includes 2008 DMMP OSV Bold sediment survey

DMMP OSV Bold 2008 Sediment Survey Locations

Figure 1. 2008 OSV *Bold* Sampling Locations and Greater PS Strata

2008 DMMP OSV Bold sediment survey

- Samples away from urban embayments.
- Samples away from known point sources.
- Samples away from cleanup projects.
- 70 total samples plus 5 field replicates analyzed for 43 standard sediment chemical analytes plus high resolution PCB analysis and dioxin analysis.

PCBs around Puget Sound

PCB concentrations around Washington (ppb)	Sound-wide data	DMMP OSV Bold survey	notes
Number of samples	3966	75	
minimum	*non-detect (<10)*	0.24	
maximum	110,000	11.6	
90 percentile	672	2.6	90% of data below this value
75 percentile	190	1.3	75% of data below this value
50 percentile	64	0.7	50% of data below this value
25 percentile	6.2	0.3	25% of data below this value

Marina dioxin in in the top 25% of PCB data for the Puget Sound region

Marina dioxin exceeds the maximal DMMP background sample (OSV Bold survey)

HARBOUR VILLAGE MARINA DATA

196 to 237 ppb sum PCB

2.7 to 4.3 ppm OC normalized sum PCBs

PCB GUIDANCE AND REGULATORY VALUES

DMMP PCB Sediment Screening Value for open-water non-dispersive disposal sites

- 120 ppb sum PCBs
- 12 ppm OC normalized sum PCB bioaccumulation threshold

Sediment Management Standards PCB sediment regulatory values

- 12 ppm OC normalized sum PCB Sediment Quality Objective
- 65 ppm OC normalized sum PCB Cleanup Screening Level

Putting chemistry in context

- Dioxins concentrations around Puget Sound and the Greater Seattle Area
  - SOIL samples
  - SEDIMENT samples

Greater Seattle area SOIL dioxins

Ecology 2011 soil study (not sediments)

- Range: 1.7 to 114 pptr dioxin TEQ
- Neighborhood averages ranged 7.5 tp 35.5 pptr dioxin TEQ

HARBOUR VILLAGE MARINA DATA

- 43 to 92 pptr sum dioxin TEQ

Greater Seattle area SEDIMENT dioxins

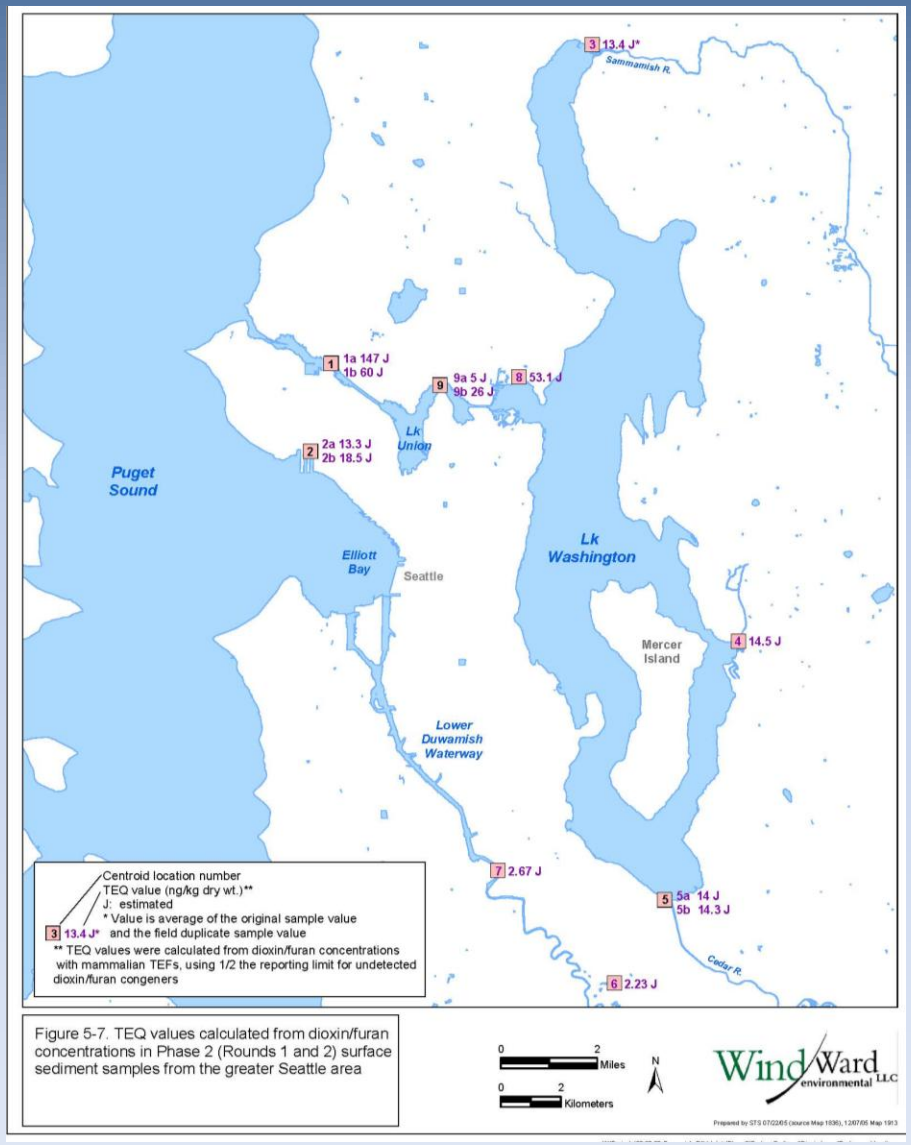
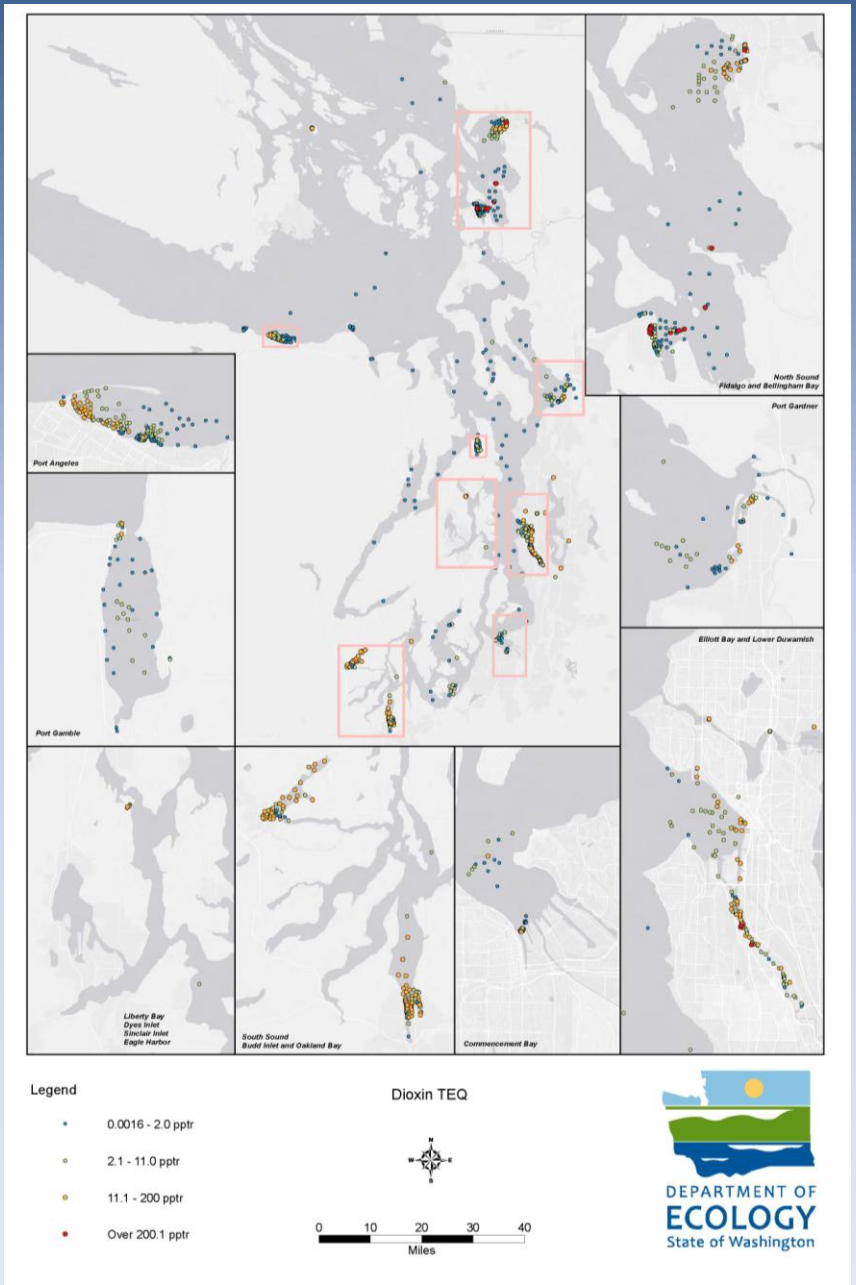


Figure 5-7. TEQ values calculated from dioxin/furan concentrations in Phase 2 (Rounds 1 and 2) surface sediment samples from the greater Seattle area

Lower Duwamish Remedial Investigation Phase 2 sediment dioxin data

- Range: 5 to 147 pptr dioxin TEQ
- Sample location # 3 located in the Kenmore vicinity, 13 pptr dioxin TEQ

EIM marine surface sediment dioxin data



Statewide dioxin sediment data

Dioxin concentrations around Washington (pptr TEQ)	Sound-wide data	DMMP OSV Bold survey	LDWG Greater Seattle area survey	notes
Number of samples	965	75	14	
minimum	0.001	0.24	2.23	
maximum	6300	11.6	147	
90 percentile	39.6	2.3	59.3	90% of data below this value
75 percentile	15	1.6	32.8	75% of data below this value
50 percentile	5	1.1	14.2	50% of data below this value
25 percentile	1.3	0.6	11.2	25% of data below this value

Marina dioxin is in the top 10% of dioxin data for the Puget Sound region

Marina dioxin exceeds the maximal DMMP background sample (OSV Bold survey)

Marina dioxin is in the top 10% of dioxin data for the Greater Seattle Area sediments

HARBOUR VILLAGE MARINA DATA

- 43 to 92 pptr sum dioxin TEQ

DIOXIN GUIDANCE AND REGULATORY VALUES:

DMMP Dioxin Sediment Screening Value for open-water non-dispersive disposal sites

- 4 pptr TEQ average
- 10 pptr TEQ maximum

MTCA Dioxin SOIL Regulatory Values (no established sediment regulatory values)

- 11 pptr unrestricted use
- 1460 pptr Industrial use

Putting chemistry in context

- What does this mean to humans using the area?
  - Sampling was conducted to support dredging, not human health assessments (composites, depths, etc.).
  - City of Kenmore/Ecology upcoming sampling plan (next up) to support health evaluation.


Washington State Department of
Health

Washington Department of Health
Office of Environmental Health, Safety, and Toxicology
Site Assessment Program

Barbara Trejo

barbara.trejo@doh.wa.gov

(360) 236-3373

Washington State Department of Health

Site Assessment Program

- Determines the potential health threat posed by environmental contaminants
- Conducts community education and outreach to inform Washington residents about potential exposures

Environmental Contaminants

- Sources
  - Industrial or commercial releases
  - Naturally occurring releases
- Can be found in:
  - Soil
  - Sediment
  - Air
  - Water
  - Food (e.g., shellfish, finfish)

Health Assessment Process

- Determine whether someone might come into contact with environmental contaminants:
  - Eating or drinking
  - Inhaling (breathing in)
  - Skin contact
- If there is a potential exposure, we look at the
  - **Type and amount** of the contaminant
  - **How long and how often** a person might be exposed
- Identify the potential health hazards
- If the contaminants pose a health hazard, we recommend actions that agencies and the public can take to reduce or eliminate exposures

Kenmore Industrial Park Site

- We received a request from some members of the community to assess if the site poses health threat to swimmers and boaters in nearby Lake Washington and along the Sammamish River.
- Currently evaluating the available data
- A report summarizing our findings will be prepared and made available in the future


KENMORE
BY THE LAKE

City of Kenmore

Nancy Ousley

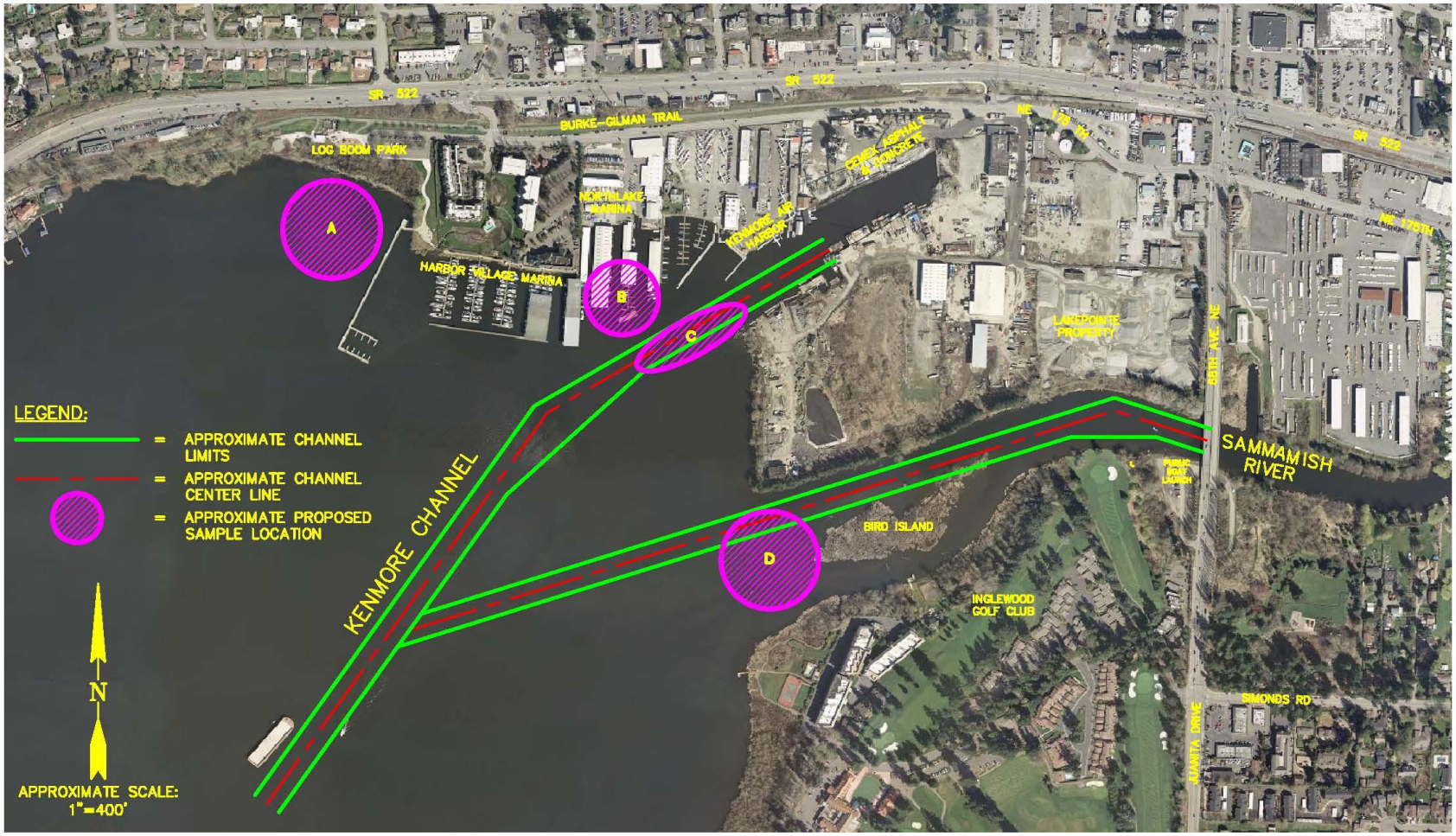
Assistant City Manager

nousley@kenmorewwa.gov

(425) 398-8900

Kenmore Navigation Channel Sediment Sampling

- The City Council approved a contract with Anchor QEA on May 14, 2012 to conduct sediment sampling and analysis;
- Sampling and analysis will occur in the navigation channel, near the shore at Log Boom Park, and near the mouth of the Sammamish River;
- Dredged Material Management Program to receive sampling and analysis plan by July 27th;
- Field sampling anticipated for end of August;
- Sampling and Analysis Report completed October 2012.

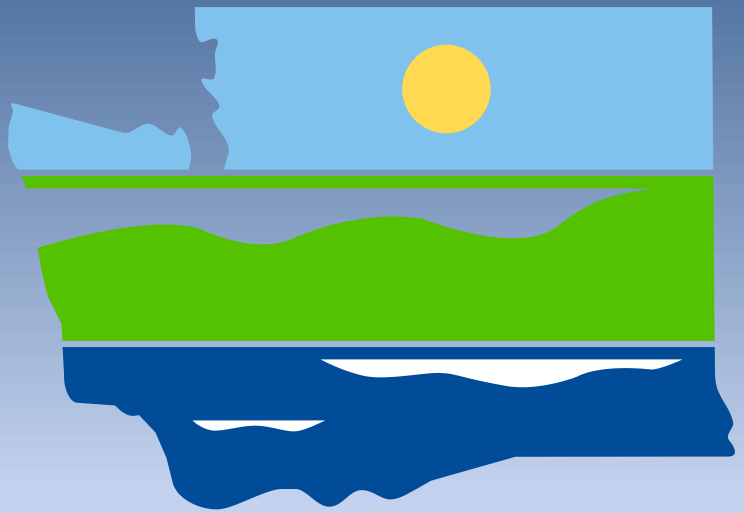


NOTES

City of Kenmore
ENGINEERING DEPARTMENT
18020 68th Ave NE - PO Box 82607, Kenmore WA 98028
425-398-8900 - Fax: 425-481-3236

KENMORE NAVIGATION CHANNEL
SAMPLE LOCATION EXHIBIT

Sheet No. 1 of 1 Total



DEPARTMENT OF
ECOLOGY
State of Washington

Washington Department of Ecology
Site Manager

Maura S. O'Brien
Northwest Toxics Cleanup Program
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(425) 649-7249

Kenmore Industrial Park Area

November 2011

April 2012

Photo credit: Aequalis Photography

Proposed Sediment Sampling & Analysis Plans

- City of Kenmore – 12 samples
- Ecology – Anchor QEA LLC with King County Dept Natural Resources

  10 samples
- SSAPs are independent & parallel
- Purpose - estimate lateral extent

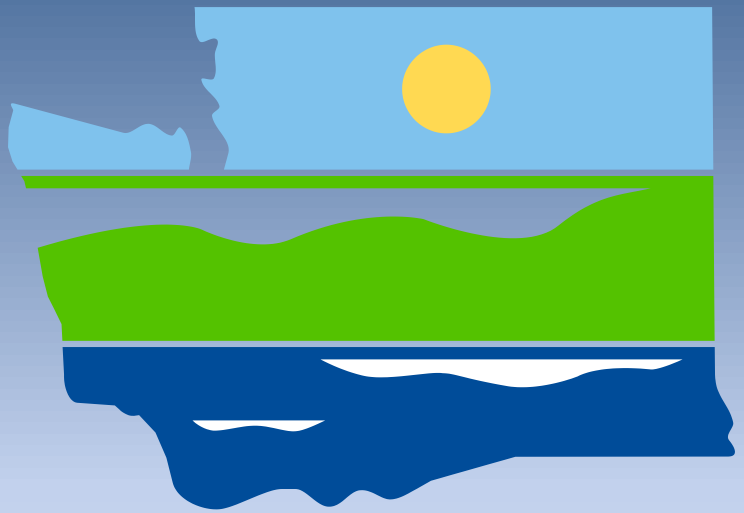
Ecology Sediment Sampling & Analysis Plan – Anchor QEA LLC with KCDNR

- Ecology Proposed locations – 10 samples:
  - -Harbour Village Marina area
  - – Nearby locations
- Proposed sample analyses:
  - – Petroleum & TBT
  - – Metals
  - – Volatile & Semi-Volatile Organic Compounds
  - – PCBs & Pesticides
  - – Dioxins & Furans

Sediment Sampling & Analysis Steps

- Draft Sediment SAP review
- Finalize SSAP – August 2012
- Sediment Sampling –Aug-Sept 2012
- Sediment Results – Nov 2012
- SSAP Report – Dec 2012

- Q & A and visit Information Booths



DEPARTMENT OF
ECOLOGY
State of Washington

Washington Department of Ecology

Water Quality Program

Greg Stegman

Construction Stormwater General Permit Inspector

Greg.stegman@ecy.wa.gov

(425) 649-7019

Construction Stormwater General Permit (CSGP)

- National Pollutant Discharge Elimination System (NPDES) permit
- For storm water discharges associated with construction activity
- General Permit
- The Kenmore Industrial Park site is designed to discharge all storm water to ground, but the site does have a surface water outfall if the site is overwhelmed with storm water.
- On July 12, 2012 the Pioneer Towing CSGP was terminated and a new CSGP was issued to Kiewit/General/Manson (KGM)

Questions and answers concerning the Construction Stormwater General Permit

Q - Is it legal to issue the CSGP on a Model Toxics Control Act (MTCA) site?

A - There are no state laws or rules that prohibit Ecology from issuing a CSGP on a MTCA site. When a CSGP application is submitted to Ecology for a construction project on a MTCA site, Ecology carefully evaluates if a CSGP is appropriate for the MTCA site. If Ecology determines that a CSGP is not the appropriate permit for the MTCA site Ecology may require individual National Pollution Discharge Elimination System (NPDES) permit coverage for the site.

Questions and answers concerning the Construction Stormwater General Permit

Q - Does the disturbance of sediment from vessel traffic in the Kenmore navigation channel concern Ecology and what will be Ecology's response if it occurs?

A – Ecology is concerned about the issue of disturbance of sediment from vessel traffic in the Kenmore navigation channel. Ecology will follow-up on any concerns submitted to Ecology and on a case by case basis determine if further action is necessary under Washington State's environmental statutes.

Q – What is the reason for terminating the Pioneer Towing CSGP and issuing a new CSGP to Kiewit/General/Manson (KGM)?

A – To assign liability for CSGP requirements to KGM.

Questions and answers concerning the Construction Stormwater General Permit

Q - Is it legal to manufacture concrete anchors under the Construction Stormwater General Permit (CSGP)?

A - It is legal to construct concrete anchors or conduct concrete work under the CSGP. The CSGP authorizes stormwater discharge from support activities (e.g. concrete work) related to the construction site, provided the support activity is not a commercial operation serving multiple unrelated construction projects, and does not operate beyond the completion of the construction activity. The CSGP also contains permit conditions and best management practices related to concrete work.


Washington State
Department of Transportation

SR 520 Bridge Replacement and HOV Program

Floating Bridge and Landings Project

John White, P.E.
Project Director

Paula Hammond, P.E.
Secretary of Transportation

Julie Meredith, P.E.
SR 520 Program Director

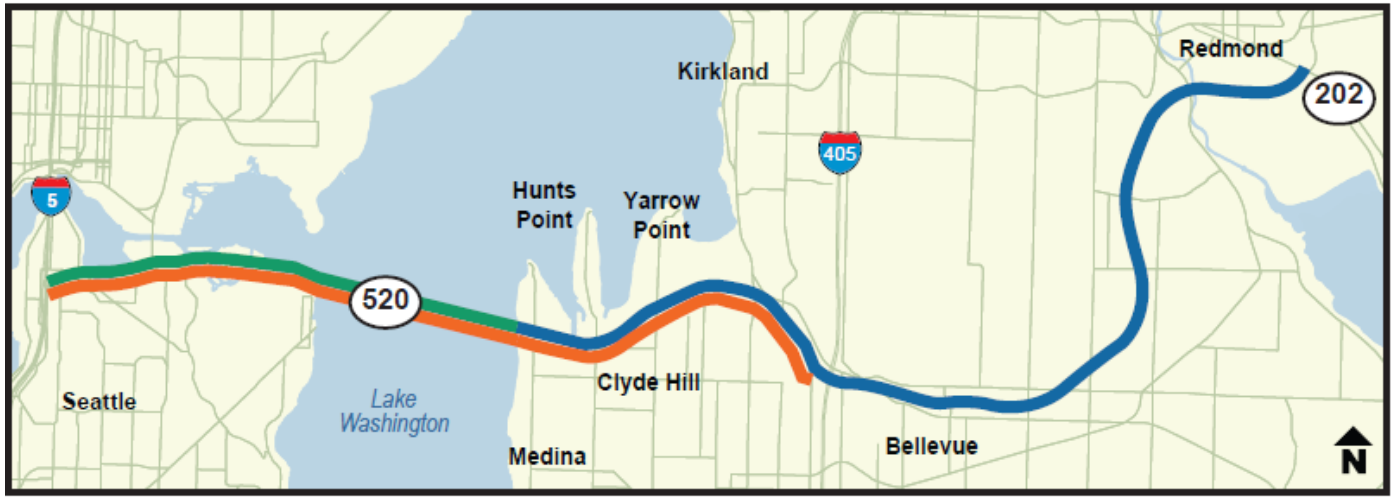
Washington State Department of Transportation

City of Kenmore Open House
Kenmore, WA
July 18, 2012

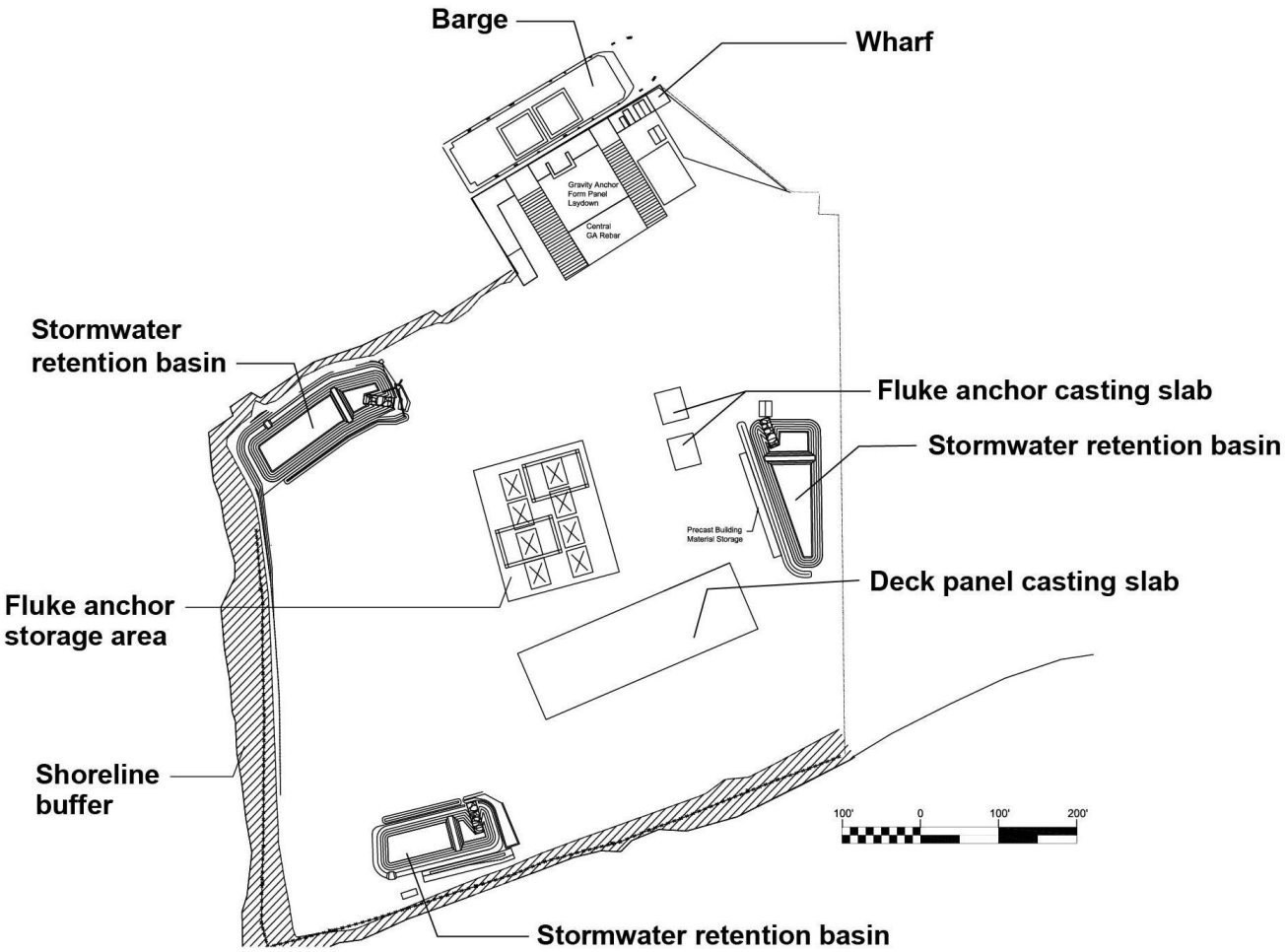
SR 520 Program Description

The SR 520 Bridge Replacement and HOV Program will replace the Portage Bay and Evergreen Point bridges and improve the existing roadway between I-5 in Seattle and SR 202 on the Eastside.

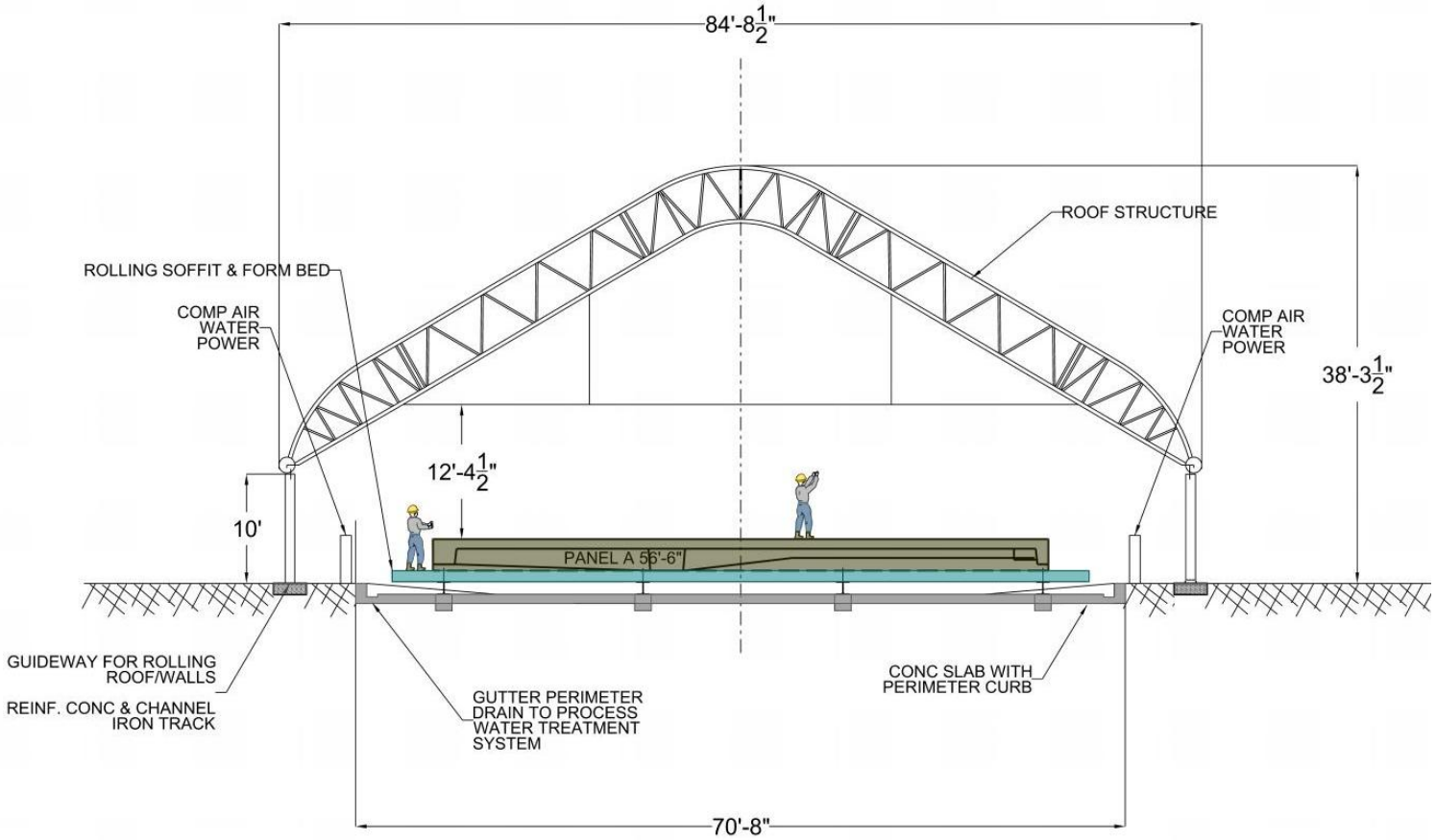
- **I-5 to Medina: Bridge Replacement and HOV Project** – Replaces the SR 520 floating bridge and landings, and interchanges and roadway between I-5 and the eastern shore of Lake Washington.
- **Medina to SR 202:** Eastside Transit and HOV Project – Completes and improves the transit and HOV system from Evergreen Point Road in Medina to the SR 202 interchange in Redmond.
- **Lake Washington Congestion Management Project** – Implements tolls on the existing SR 520 floating bridge, and activates Smarter Highways features from I-5 to I-405.
- **Pontoon Construction Project** – Advances pontoon construction to restore the floating section of the SR 520 bridge in the event of a catastrophic failure and to store those pontoons until needed.



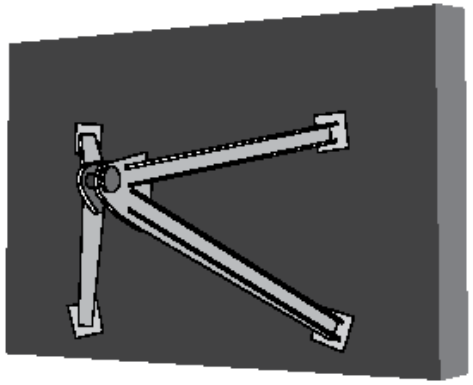
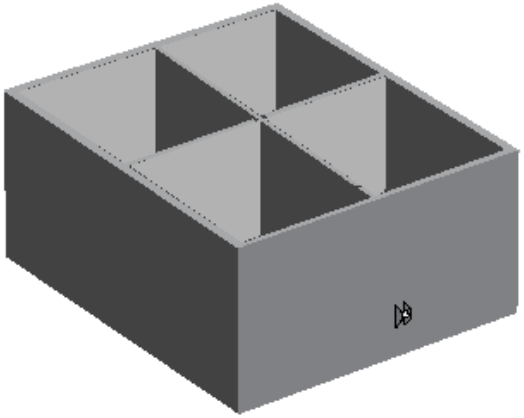
Kenmore Construction Site Layout



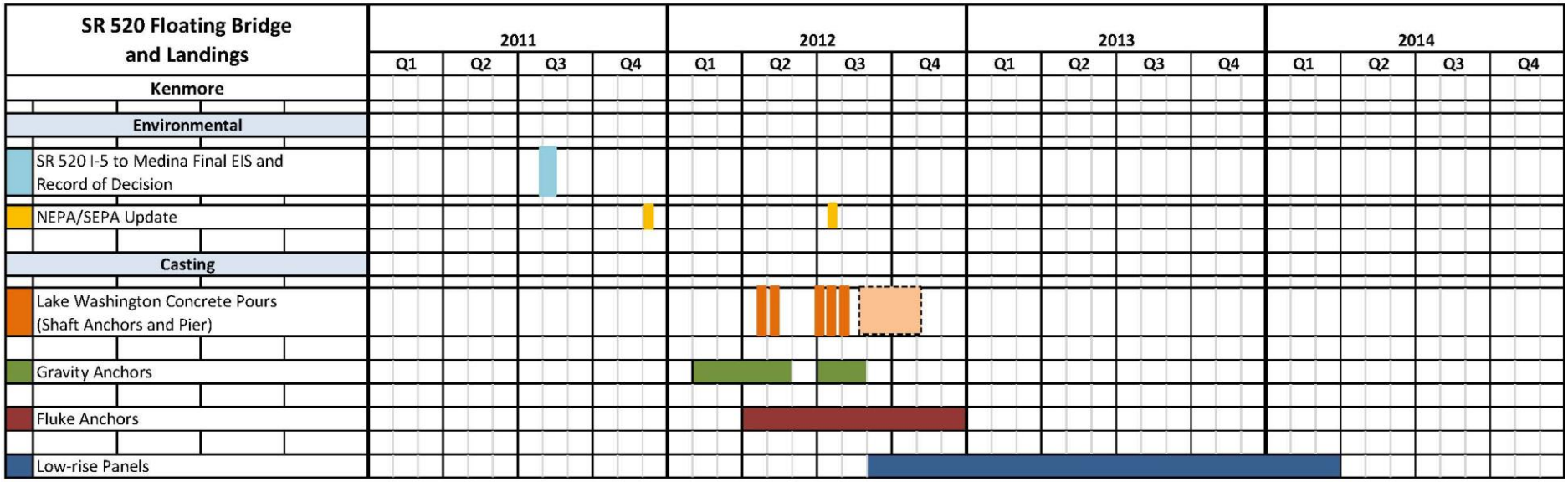
Bridge Components: Deck Panels



Bridge Components: Anchors

FLUKE ANCHORS	GRAVITY ANCHORS	DRILLED SHAFT ANCHORS
		
Dimensions: 35' X 26' X 17.5'	**Dimensions:** 40' X 40' X 23'	**Dimensions:** 10' diameter drilled shaft, 79'-92' long
Weight: 100 tons	**Weight:** 420 tons as built; 587 tons fully loaded	
Quantity: 45	**Quantity:** 8	**Quantity:** 5
Locations: Deep, soft soils of the lakebed and flat areas.	**Locations:** Solid soils with sloped topography, typically near shore. Underwater grading and installation of gravel creates a level footing for anchor placement.	**Locations:** Solid soils near shore where gravity anchors may cause navigation hazard.
Manufactured: Kenmore	**Manufactured:** Kenmore	**Manufactured:** Concrete cast in place from a barge on Lake Washington

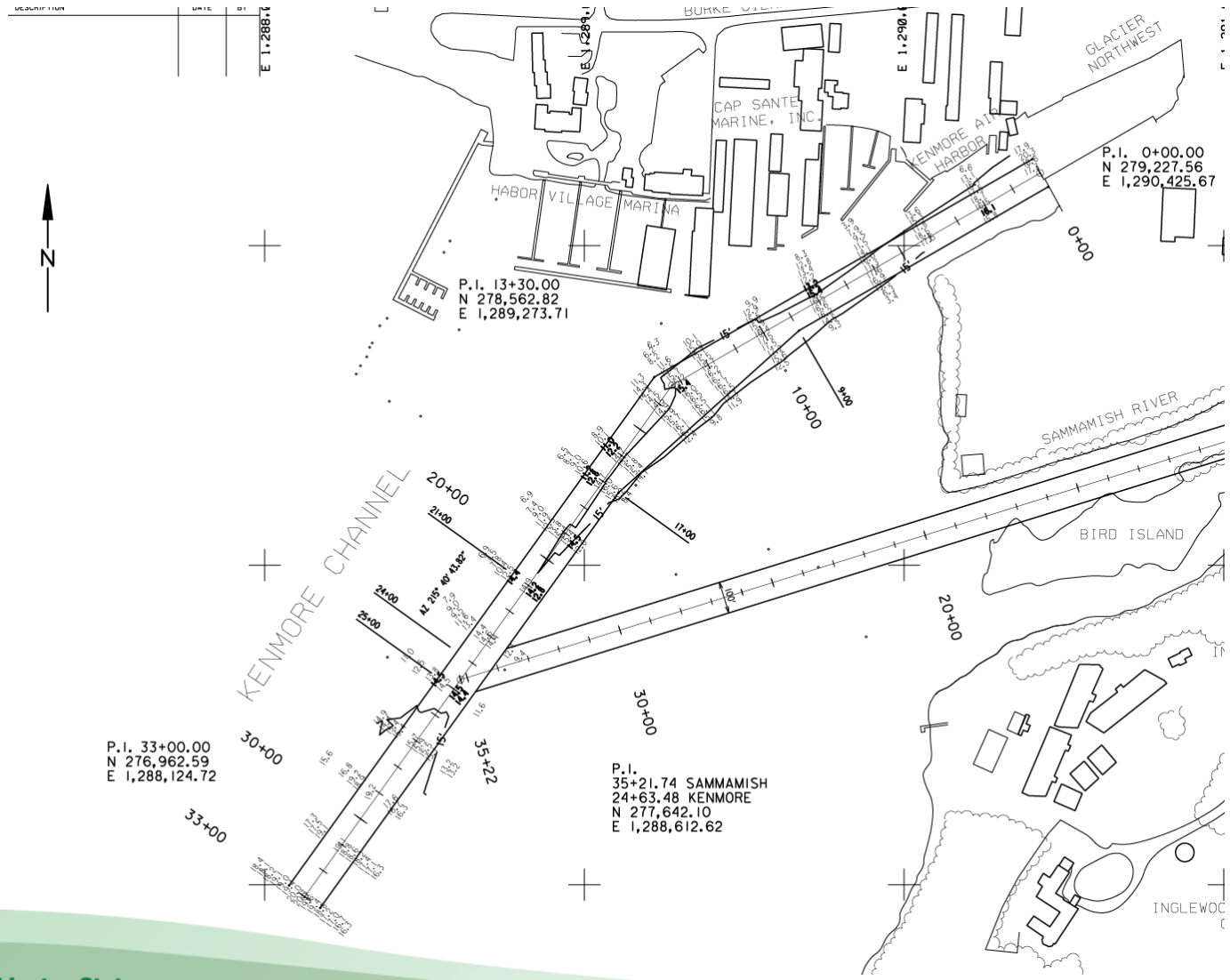
Kenmore Construction Schedule Overview



Barge Activity & Operation

April 2012

Barge Activity & Operation



Barge Activity & Operation

Best Management Practices (BMPs)

(1) Using the anchorage area in north Lake Washington to minimize the level of congestion and concurrent vessel activity within the channel.

(2) Operating barges through the deepest part of the navigation channel.

(3) Lowering vessel speeds and minimizing vessel thrust.

(4) Using small assist-boats to reduce tug propeller use and thrust.

(5) Use of radio communications to coordinate vessel activities with Kenmore Air flights.

(6) Installation of land-based crane to reduce use of derrick barges.

Questions?

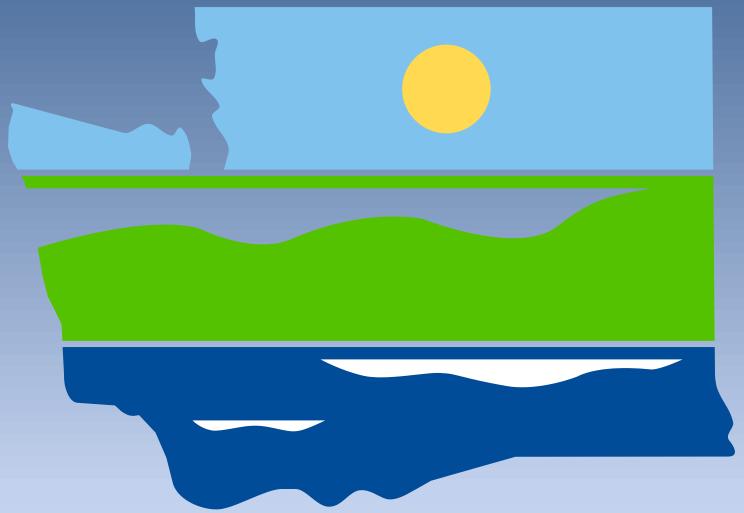
For more information:

Visit: www.wsdot.wa.gov/projects/SR520Bridge

E-mail: SR520Bridge@wsdot.wa.gov

Call: 1-888-520-NEWS (6397)

Mail: Washington State Department of Transportation
SR 520 Bridge Replacement and HOV Program
600 Stewart Street, Suite 520
Seattle, WA 98101



DEPARTMENT OF
ECOLOGY
State of Washington

Next Steps for KIP

- **Provide results of sampling results to all interested parties.**
  - ❖ **What do the results tell us?**
  - ❖ **Work with owners, operators, City, and communities for future actions.**
- **Public meeting for information sharing.**

Questions and Answers

Opportunity for further discussions at information stands.