CENWS-OD-TS-DM

MEMORANDUM FOR RECORD 9 November 2005

SUBJECT: DETERMINATION OF THE SUITABILITY OF THE PROPOSED DREDGED MATERIAL AT THE CITY OF MERCER ISLAND'S MERCER ISLAND LAKE LINE REPLACEMENT PROJECT (2005-00980) AS EVALUATED UNDER SECTION 404 OF THE CLEAN WATER ACT FOR PLACEMENT AT A PSDDA UNCONFINED OPEN-WATER DISPOSAL SITE.

1. The following summary reflects the consensus determination of the Agencies that comprise the regional Dredged Material Management Program (DMMP) for the State of Washington. The agencies include the Corps of Engineers, Department of Ecology, Department of Natural Resources, and the Environmental Protection Agency. The City of Mercer Island plans to replace sewer lake lines along the north and west shores of the Island in Lake Washington (see Figure 1, Vicinity Map). The DMMP agencies are charged with determining the suitability of the estimated 28,000 cubic yards of dredged material from the proposed Mercer Island Lake Line Replacement Project, located in Lake Washington, Mercer Island, Washington for open-water disposal at the Elliott Bay disposal site.

2. The project was ranked moderate for testing purposes, and seven vibracore sampling locations were occupied and samples extracted and composited into three surface DMMUs as follows: Two cores (S1 and S2) were composited for DMMU C-1, three cores (S3, S4, S5) were composited for DMMU C-2, and two cores (S6, S7) were composited for DMMU C-3. Figures 2-3 depict the DMMU sampling locations and DMMU boundaries within the proposed dredging prism.

3. Relevant dates for regulatory tracking purposes are included in Table 1.

Table 1. Regulatory Tracking Information and Dates

Corps Permit #:	2005-00980
SAP submittal date:	July 5, 2005
SAP approval letter date:	July 15, 2005
Sampling date(s):	July 25, 2005
Sediment data characterization report submittal date:	November 7, 2005
Volume Tested:	28,000 cy (3 DMMUs)
DAIS Tracking Number	MILLR-1-A-F-221
Recency Determination Date: Moderate (5 years)	July 2010

4. The Sampling and Analysis Plan was submitted to the DMMP agencies on July 5, 2005, and approved on July 15, 2005. The vibracore sampling was initiated and completed on July 25, 2005. The qualiity assurance/quality control guidelines specified by the PSDDA Users Manual were generally complied with. The data gathered were deemed sufficient and acceptable for decision-making by the DMMP agencies based on best professional judgment.

5. Table 2 provides a complete analysis summary of the results of the conventional and chemical analyses for the three DMMUs. Chemical analysis of the three DMMU's indicated that from a DMMP perspective there were no SL exceedances (detected or undetected) of DMMP chemicals of concern Guidelines. See Table 2 for a complete chemical testing summary. Based on the chemical analysis results, no biological testing was required for the three DMMUs.

6. The chemical analysis results for the three composited DMMUs indicated that all 28,000 cy of proposed dredged material from the City of Mercer Island's Mercer Island Lake Line Replacement Project is suitable for open-water disposal at the Elliott Bay disposal site.

7. This memorandum documents the suitability of material proposed for dredging from the City of Mercer Island's Mercer Island Lake Line Replacement Project, for open-water disposal. However, this suitability determination does not constitute final agency approval of the project. A dredging plan for this project must be completed as part of the final project approval process. A final decision will be made after full consideration of agency input, and after an alternatives analysis is done under Section 404(b)(1) of the Clean Water Act.

Concur:

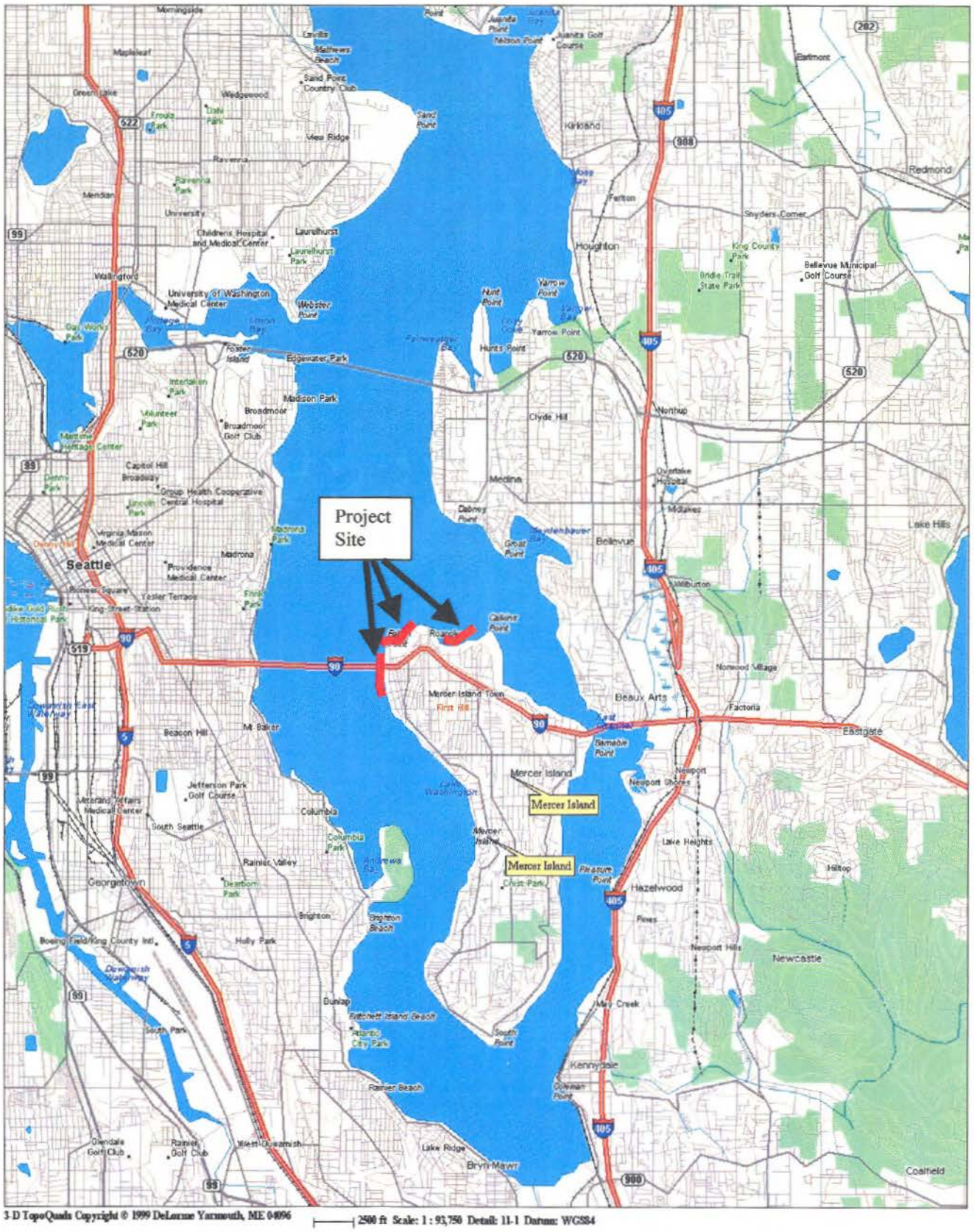
12/1/2005
Date — David Kendall, Ph.D., Seattle District Corps of Engineers

Date — Cinde Donoghue/Tom Gries, Washington Department of Ecology

Dec. 1, 2005
Date — Jonathan Freedman/John Malek, Environmental Protection Agency, Region 10

Dec. 1, 2005
Date — Peter Leon, Washington Department of Natural Resources

Copies Furnished:
Susan Powell, Corps Regulatory Project Manager
Jonathan Freedman/John Malek, EPA
Cinde Donoghue/Tom Gries, Ecology
Peter Leon, DNR
DMMO File



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 — 2500 ft Scale: 1 : 93,750 Detail: 11-1 Datum: WGS84

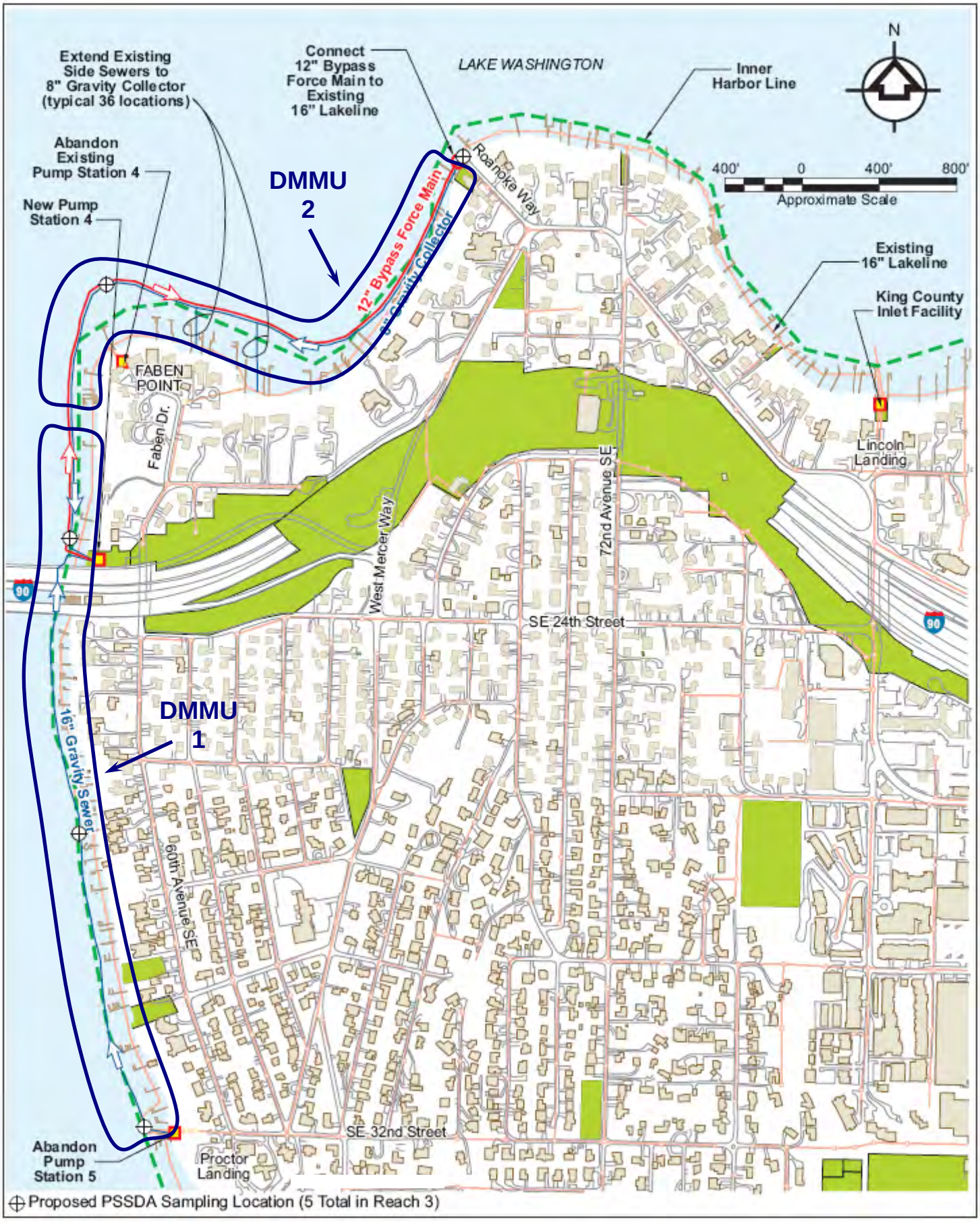
HWA GeoSciences Inc.

SITE VICINITY

MERCER ISLAND
LAKE LINE REPLACEMENT
PSDDA SAMPLING

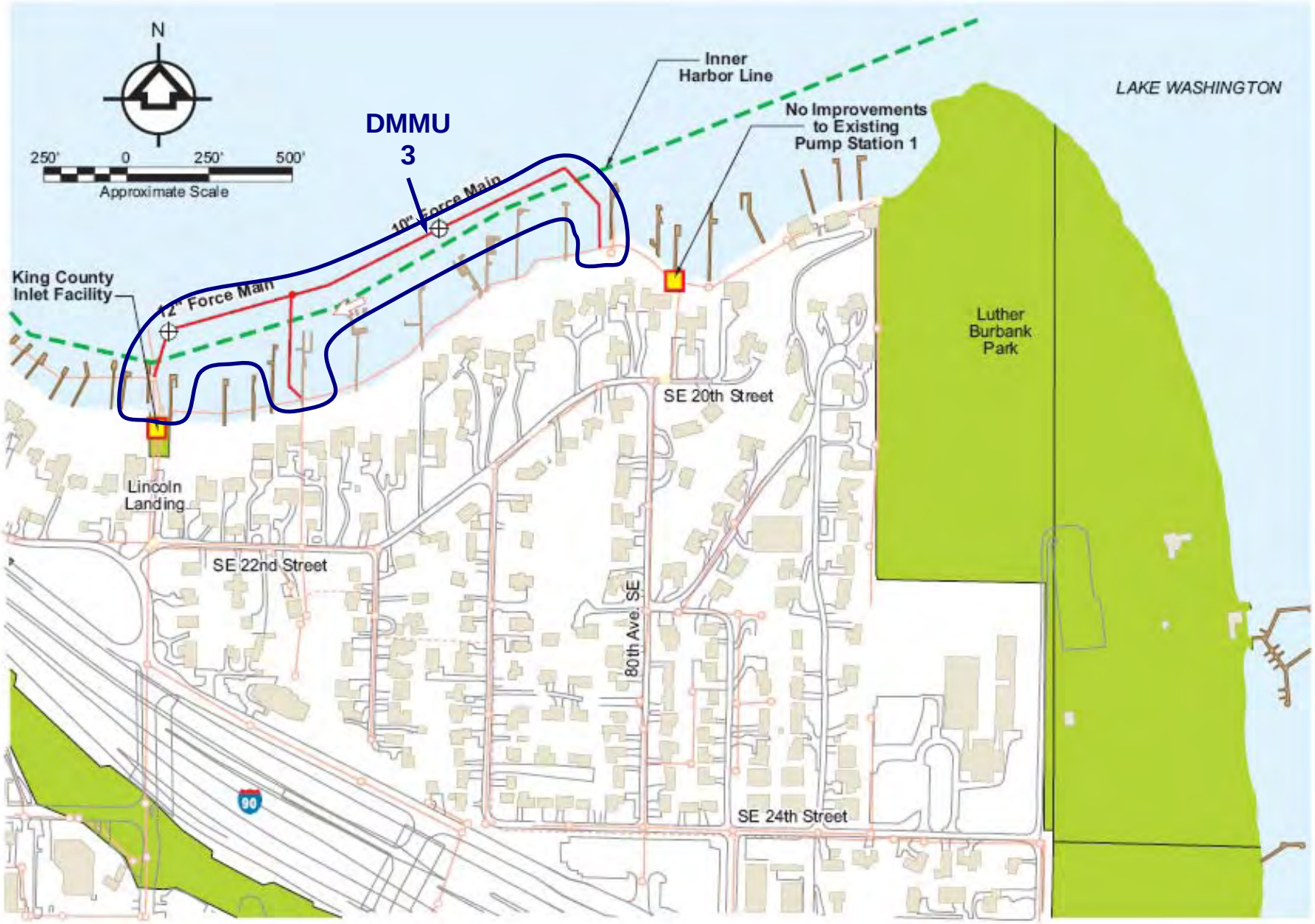
FIGURE NO.
1

PROJECT NO.
2004-051



City of Mercer Island
SEWER LAKE LINE REPLACEMENT PROJECT

Figure 2
REACH 3 – PUMP STATION 5 TO KING COUNTY INLET FACILITY



City of Mercer Island
SEWER LAKE LINE REPLACEMENT PROJECT

Figure 3.
REACH 4 – PUMP STATION 1 TO KING COUNTY INLET FACILITY

Table 2. Mercer Island Lake Line Project, Mercer Island, Washington DMMP Characterization Summary

					C-1 (S1,S2)		C-2 (S3,S4,S5)		C-3 (S6,S7)	
		DMMP			dry wgt	VQ	dry wgt	VQ	dry wgt	VQ
CHEMICAL NAME	Units	SL	BT	ML	DMMU		DMMU		DMMU	
Antimony	mg/kg	150		200	6	u	6	u	20	u
Arsenic	mg/kg	57	507.1	700	**7**		6	u	20	u
Cadmium	mg/kg	5	11.3	14	0.2	u	0.2	u	0.7	u
Chromium	mg/kg	(2)	267	(2)	**40.7**		**31.4**		**105**	
Copper	mg/kg	390	1,027	1,300	**29**		**19.4**		**71.4**	
Lead	mg/kg	450	975	1,200	**5**		**3**		**15**	
Mercury	mg/kg	0.41	1.5	2.3	0.05	u	**0.15**		0.06	u
Nickel	mg/kg	140	370	370	**43**		**26**		**119**	
Selenium	mg/kg	(2)	3	(2)	0.2	u	0.2	u	0.3	u
Silver	mg/kg	6.1	6.1	8.4	0.4	u	0.3	u	0.1	u
Zinc	mg/kg	410	2,783	3,800	**42.5**		**32.3**		**125**	
Tributyltin (porewater)	ug/L	0.15	0.15	--	0.029	u	0.022	u	0.022	u
Naphthalene	ug/kg	2,100		2,400	19	u	**320**		**300**	
Acenaphthylene	ug/kg	560		1,300	19	u	19	u	20	u
Acenaphthene	ug/kg	500		2,000	19	u	19	u	20	u
Fluorene	ug/kg	540		3,600	19	u	**91**		**37**	
Phenanthrene	ug/kg	1,500		21,000	19	u	**45**		20	u
Anthracene	ug/kg	960		13,000	19	u	19	u	20	u
2-Methylnapthalene	ug/kg	670		1,900	19	u	**270**		20	u
Total LPAH	ug/kg	5,200		29,000	19	u	**726**		**337**	
Fluoranthene	ug/kg	1,700	4,600	30,000	19	u	19	u	20	u
Pyrene	ug/kg	2,600	11,980	16,000	19	u	19	u	20	u
Benzo(a)anthracene	ug/kg	1,300		5,100	19	u	19	u	20	u
Chrysene	ug/kg	1,400		21,000	19	u	19	u	20	u
Benzofluoranthenes (b+k)	ug/kg	3,200		9,900	19	u	19	u	20	u
Benzo(a)pyrene	ug/kg	1,600		3,600	19	u	19	u	20	u
Indeno(1,2,3-cd)pyrene	ug/kg	600		4,400	19	u	19	u	20	u
Dibenzo(a,h)anthracene	ug/kg	230		1,900	19	u	19	u	20	u
Benzo(g,h,I)perylene	ug/kg	670		3,200	19	u	19	u	20	u
Total HPAH	ug/kg	12,000		69,000	19	u	19	u	20	u
1,3-Dichlorobenzene	ug/kg	170		--	1.2	u	1.2	u	1.5	u
1,4-Dichlorobenzene	ug/kg	110		120	1.2	u	1.2	u	1.5	u
1,2-Dichlorobenzene	ug/kg	35		110	1.2	u	1.2	u	1.5	u
1,2,4-Trichlorobenzene	ug/kg	31		64	6	u	6.1	u	7.3	u
Hexachlorobenzne (HCB)	ug/kg	22	168	230	19	u	19	u	20	u
Dimethylphthalate	ug/kg	1,400		--	19	u	19	u	20	u
Diethylphthalate	ug/kg	1,200		--	19	u	19	u	20	u
Di-n-butylphthalate	ug/kg	5,100		--	19	u	19	u	20	u
Butylbenzylphthalate	ug/kg	970		--	19	u	19	u	20	u
Bis(2-ethylhexyl)phthalate	ug/kg	8,300		--	19	u	19	u	32	B
Di-n-octylphthalate	ug/kg	6,200		--	19	u	19	u	20	u
Phenol	ug/kg	420		1,200	19	u	19	u	20	u
2-Methylphenol	ug/kg	63		77	19	u	19	u	20	u
4-Methylphenol	ug/kg	670		3,600	19	u	19	u	20	u
2,4-Dimethylphenol	ug/kg	29		210	19	u	19	u	20	u
Pentachlorophenol	ug/kg	400	504	690	97	u	97	u	99	u
Benzyl alcohol	ug/kg	57		870	19	u	19	u	20	u
Benzoic acid	ug/kg	650		760	190	u	190	u	200	u
Dibenzofuran	ug/kg	540		1,700	19	u	**21**		20	u
Hexachloroethane	ug/kg	1,400		14,000	19	u	19	u	20	u
Hexachlorobutadiene	ug/kg	29		270	19	u	19	u	20	u
N-Nitrosodiphenylamine	ug/kg	28		130	19	u	84	Y	38	Y
Trichloroethene	ug/kg	160		1,600	1.2	u	1.2	u	1.5	u
Tetrachloroethene	ug/kg	57		210	1.2	u	1.2	u	1.5	u
Ethylbenzene	ug/kg	10		50	1.2	u	1.2	u	1.5	u
Total Zylene (sum of o-,m-,p-)	ug/kg	40		160	1.2	u	1.2	u	1.5	u
Total DDT (sum of 4,4'-DDD, 4,4'-DDE and 4,4'-DDT)	ug/kg	6.9	50	69	1.9	u	2	u	2	u
Aldrin	ug/kg	10			0.95	u	0.97	u	0.99	u
Chlordane	ug/kg	10	37		0.95	u	0.97	u	0.99	u
Dieldrin	ug/kg	10			1.9	u	2	u	2	u
Heptachlor	ug/kg	10			0.95	u	0.97	u	0.99	u
Alpha-BHC	ug/kg	NA	10		0.95	u	0.97	u	0.99	u
Gamma-BHC (Lindane)	ug/kg	10			0.96	u	0.97	u	0.99	u
Total PCBs	ug/kg	130		3,100	19	u	19	u	20	u

Table 2. Mercer Island Lake Line Project, Mercer Island, Washington DMMP Characterization Summary

CHEMICAL NAME	Units	DMMP SL	DMMP BT	DMMP ML	C-1 (S1,S2) dry wgt DMMU	VQ	C-2 (S3,S4,S5) dry wgt DMMU	VQ	C-3 (S6,S7) dry wgt DMMU	VQ
Total PCBs (TOC - normalized)	mg/kg-oc		38***		6.38	u	6.38	u	2.23	u
Total Solids	%				73.6		82.3		68.3	
Total Volatile Solids	%				3.31		1.59		4.36	
Total Organic Carbon	%				0.298		0.298		0.896	
Total Ammonia	mg/kg				14.2		13.4		15.6	
Total Sulfides	mg/kg				1	U	1.2	U	2.6	U
Gravel	%				7.5		17		0.1	
Sand	%				46.7		58.9		3.58	
Silt	%				28.8		15.1		35.4	
Clay	%				17		9		61	
Fines (percent silt + clay)	%				45.8		24.1		96.4	
Eohaustorius estuarius hits:										
Mytilus galloprovincialis hits:										
Neanthes arenaceodentata hits:										
Bioassay Determination: (P/F)					NC		NC		NC	
BTs exceeded:					no		no		no	
Bioaccumulation conducted:					no		no		no	
Bioaccumulation Determination:										
ML Rule exceeded:					no		no		no	
PSDDA Determination:					PASS		PASS		PASS	
DMMU Volume:	cy				9,000		10,000		9,000	
Rank					M		M		M	
Mean vibracorer sampling depth	ft				4.7		2.2		4.7	
Maximum vibracorer sampling depth (mudline)	ft				6		3.7		7	
DMMU ID:					C-1 (S1,S2)		C-2 (S3,S4,S5)		C-3 (S6,S7)	

Legend:

SL = Screening Level exceedance

P = Pass (Suitable for UCOWD)

VQ = Validation Qualifier

UCOWD = Unconfined open-water disposal

U = Undetected at the method detection limit

Y = Raised reporting limit due to chromatographic interference

B = Analyte detected in blank

NC = Not Conducted

Total Volume: 28,000 cy