

60% Remedial Design Basis of Design Report

Appendix C

LDW Middle Reach Applicable or Relevant and Appropriate Requirements

LDW Middle Reach Applicable or Relevant and Appropriate Requirements

Topic	Standard or Requirement	Regulatory Citation		Project-Specific Comments	Substantive Compliance Crosswalk
		Federal	State		
Hazardous Substance Cleanup; Sediment Quality	Washington State Cleanup Standards; Marine Sediment Cleanup Standards; SCOs; CSLs	--	MTCA (RCW 70.105D; WAC 173-340); MTCA SMS (RCW 70.105D; WAC 173-204)	Substantive MTCA requirements that are more stringent than CERCLA requirements are ARARs. A combination of sediment dredging, capping, ENR, MNR, and potentially in situ amendment as treatment, along with the minimally necessary use of fish and shellfish consumption advisories as ICs to reduce fish and shellfish consumption, will be employed to meet the substantive requirements of SCO compliance for the protection of human health, marine benthic invertebrates, and higher trophic level species, as set forth in WAC 173-204-560-562, 564, to the extent technically possible, or without a net adverse environmental impact, and at a minimum, the substantive requirements of CSL compliance. ICs will be required as set forth in WAC 173-340-440(4)(a).	BODR Section 3
Surface Water Quality	Surface WQSs; federal recommended AWQC; NTR; state WQSs	AWQC per CWA Section 304(a), 33 USC 1314(a)); NTR at 40 CFR 131.36(b)(1) as applied to Washington, 40 CFR 131.36(d)(14)	Water Pollution Control Act (RCW 90.48); WQSs (WAC 173-201A); ALC numerical criteria (WAC 173-201A-240)	Sediment remediation described immediately above will improve surface water quality to an unknown degree in combination with source control implementation under state-led authority. Surface water concentrations will be at least as stringent as all of the following: 1) all WQSs in WAC 173-201A; 2) AWQC unless it can be demonstrated that such criteria are not relevant and appropriate for the LDW or for a specific hazardous substance; and 3) the NTR. See WAC 173-340-730(3)(b), consistent with Sections 121(d)(2)(A)(ii) and (B)(i) of CERCLA and 40 CFR 300.430(e).	BODR Sections 3 and 10 Crosswalk to Water Quality Monitoring Plan and Specifications will be developed at a later design stage.
Solid Waste Disposal	Requirements for solid waste-handling management and disposal	Solid Waste Disposal Act (42 USC 6901-6992K; 40 CFR 257-258)	Solid Waste Management (RCW 70.95; WAC 173-350)	Substantive requirements will be complied with for nondangerous or nonhazardous waste generated during remedial activities, unless the waste meets recycling or other exemptions.	Phase II DER BODR Section 3 Crosswalk to Specifications will be developed at a later design stage.
Waste Treatment, Storage, and Disposal	Dangerous or Hazardous Waste Management	Resource Conservation and Recovery Act, Hazardous Waste (42 USC 6901-6992K, 40 CFR 260-279)	Dangerous Waste Management (RCW 70.105; WAC 173-303)	Dredged materials contain solid waste subject to solid waste-handling requirements above. Based on the PDI, some LDW middle reach sediments may be characterized as hazardous/dangerous waste. Sediments would be considered hazardous/dangerous waste if they contained a listed waste or displayed a hazardous waste characteristic (e.g., per Toxicity Characteristic Leaching Procedure). If it is encountered, 40 CFR 262 generator rules in Washington at WAC 173-303 would be complied with for accumulating or managing such waste on site for up to 90 days. Unanticipated circumstances could require compliance with other hazardous/dangerous waste requirements. State dangerous waste is defined more broadly than federal hazardous waste.	Phase II DER BODR Section 3 Crosswalk to Preliminary Waste Determination and Specifications will be developed at a later design stage.
Land Disposal of Waste	Management and disposal of materials containing PCBs	Toxic Substances Control Act (15 USC 2605; 40 CFR 761.61(c))	Dangerous Waste Management (RCW 70.105; WAC 173-303-140, 141)	Sediment with PCB concentrations greater than 50 mg/kg dry weight have been identified in the LDW middle reach. Risk-based disposal of PCB remediation wastes must not pose unreasonable risk of injury to health or the environment.	Phase II DER BODR Sections 3 and 9.2 Crosswalk to Preliminary Waste Determination and Specifications will be developed at a later design stage.
	Hazardous waste	Resource Conservation and Recovery Act Land Disposal Restrictions (42 USC 6901-6992K; 40 CFR 268)		See Dangerous or Hazardous Waste Management project-specific comments above. Any dangerous or hazardous waste land disposal shall meet substantive land disposal requirements.	Phase II DER BODR Section 3 Crosswalk to Preliminary Waste Determination will be developed at a later design stage.

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Dredge/Fill and Other In-Water Construction Work	Discharge of dredged/fill material into navigable waters or wetlands	CWA Sections 401, 404 (33 USC 1341, 1344; 40 CFR 121.2 (content of 401 certifications), 230 (disposal sites/mitigation), 232 (definitions/exemptions); 33 CFR 320, 322-3, 328-30 (USACE 404 Permitting)	Hydraulic Code Rules (RCW 77.65; WAC 220–110) DMMP (RCW 79.105.500; WAC 332-30-166 (3))	CWA Section 401: EPA will issue the equivalent of state certification, assuring WQs will not be violated by remedial action discharges along with necessary conditions, including any mixing zone parameters consistent with WAC 173-201A-400, as developed in RD. CWA Section 404: Substantive dredge or fill criteria and requirements for discharges will be met, along with substantive mitigation requirements for unavoidable loss of aquatic habitat; mitigation will be assessed and defined as necessary in RD. The Washington State Hydraulic Code provide construction criteria, requirements, and limitations, including for dredging, piers, piles, docks, bulkheads and bank protection, specified technical provisions, and special concerns. The RD does not anticipate open-water disposal or beneficial reuse of sediments. Therefore, there are no specific requirements set forth in WAC 332-30-166(3) or by the USACE Dredged Material Management Program that are currently incorporated into the design.	BODR Sections 3 and 10 Crosswalk to Water Quality Monitoring Plan; report to document compliance with federal permit requirements, 404(b)(1) Alternatives Analysis, Section 401 Compliance Memorandum, Biological Assessment, and Specifications will be developed at a later design stage.
	Navigation and commerce	Rivers and Harbors Act Section 10 (33 USC 403)		Unauthorized obstruction or alteration of navigable waterways is prohibited. Dredging/capping residual elevations will be designed to preserve navigation and commerce. In-water disposal is not anticipated; any in-water disposal site will not obstruct or alter navigation upon completion.	BODR Section 3 Crosswalk to Specifications will be developed at a later design stage.
Endangered Species and Critical Habitat	Taking or jeopardy to endangered or threatened species; adverse modification of critical habitat	Endangered Species Act (16 USC 1531–1544; 50 CFR 17 (listings, prohibitions), 402 (interagency consultations), 222–224 (endangered and threatened marine species), 226.212 (critical habitat for Northwest salmon and steelhead)	--	It is unlawful to take (or possess, deliver, carry, transport, or ship) any endangered species or violate any regulation (promulgated pursuant to Section 4) regarding endangered or threatened species. EPA, in consultation with the Services, will ensure that any authorized action is not likely to jeopardize endangered or threatened species or adversely modify critical habitat, absent an exemption. EPA will submit a Biological Assessment and a conservation calculator (or equivalent) for formal consultation with the Services, which will produce a biological opinion including any reasonable and prudent alternatives or measures to be taken, which will guide remedy implementation, including within specified time periods (“fish windows”) for specified activities.	BODR Section 3 Crosswalk to Biological Assessment and Water Quality Monitoring Plan will be developed at a later design stage.
Migratory Birds	Taking or adversely affecting migratory birds	Migratory Bird Treaty Act, (16 USC 703–712; 50 CFR 10 and 21)	--	The remedy will be carried out in a manner to avoid adversely affecting migratory bird species as defined in federal regulations, including individual birds and their nests.	BODR Section 3 Crosswalk to Biological Assessment and Report to document compliance with federal permit requirements will be developed at a later design stage.
Eagles	Taking or harming eagles	Bald and Golden Eagle Protection Act (16 USC 668; 50 CFR 22)	Bald Eagle Protection Rules (RCW 77.12.655; WAC 232-12-292)	Taking or harming of eagles, their eggs, nests, or young is prohibited; substantive requirements for the protection of bald eagle habitat including nesting, perching, and roosting sites will be met through the application of design and construction BMPs.	BODR Section 3 Crosswalk to Biological Assessment will be developed at a later design stage.
Floodplain Protection	Adverse impacts; potential harm	Floodplain Management Procedures (40 CFR 6, Appendix A, Section 6; see also Executive Order 11988)	--	The required evaluation of potential effects of authorized remedial action, to avoid adverse impacts and to minimize impacts for which no practicable alternative exists, followed as necessary by the development of avoidance and/or minimization plans, will be undertaken during RD.	BODR Sections 3 and 9

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Shoreline Management	Construction and development	--	Shoreline Management Act (WAC 173-26)	The project includes allowed uses within the shoreline environment and will avoid, minimize, or mitigate for potential adverse impacts to the shoreline environment. The project supports the Shoreline Management Act goal of protecting and restoring shoreline ecological functions through cleanup of contaminated sediments and soils, removal of contaminated debris and piles, and implementation of long-term sediment management measures.	BODR Section 3 Crosswalk to Biological Assessment and Section 404(b)(1) Alternatives Analysis will be developed at a later design stage.
Air Emissions	Ambient air quality standards; fugitive emission/fugitive dust	Clean Air Act (42 USC 7401–7671q; 40 CFR 50)	Washington Clean Air Act (RCW 70.94; WAC 173-400)	Any source of fugitive emissions or fugitive dust must take reasonable precautions to do the following: 1) prevent the release of air contaminants; 2) prevent fugitive dust from becoming airborne; and 3) maintain and operate the source to minimize emissions. See WAC 173-400-040(4) and (9).	BODR Sections 3 and 10.3.1 Crosswalk to Specifications will be developed at a later design stage.
Native American Graves and Sacred Sites	Protections	Native American Graves Protection and Repatriation Act (25 USC 3001 et seq.); American Indian Religious Freedom Act (42 USC 1196 et seq.)	--	Requirements for the protection of Native American remains, funerary objects, and associated cultural artifacts when burial sites are encountered and protection of Tribal exercise of traditional Tribal religions, including traditional cultural properties, sites, and archaeological resources. See also Executive Order 13007, which requires federal agencies to avoid physical damage to Tribal sacred sites and interfering with access of Tribes thereto. Compliance will be maintained throughout remedy implementation.	BODR Section 3 Crosswalk to Archaeological Monitoring and Inadvertent Discovery Plan and Specifications will be developed at a later design stage.
Noise	Permissible noise levels	--	Noise Control Act (RCW 70.107; WAC 173-60-040-050)	Maximum levels at specified times for specified durations are in WAC 173-60-040, subject to exemptions in WAC 173-60-050, including 050(3)(a) (sounds originating from temporary construction sites as a result of construction activity) and (3)(f) (sounds created by emergency equipment and work necessary in the interests of law enforcement or for health, safety, or welfare of the community).	BODR Sections 3 and 10.3.1 Crosswalk to Specifications will be developed at a later design stage.
Historic Preservation	--	National Historic Preservation Act Section 106 (16 USC 470; 36 CFR 800)	--	The effect of any remedial activity on any district, site, building, structure or object included or eligible for inclusion in the National Register of Historic Places will be evaluated in consultation with the State Historic Preservation Officer during RD.	BODR Section 3 Crosswalk to Archaeological Monitoring and Inadvertent Discovery Plan will be developed at a later design stage.

Notes:
Section 408 is not included in the Record of Decision Table 26 and is therefore not listed in this table. A report demonstrating substantive compliance with Section 408 will be prepared and provided at a later design stage.
--: not applicable
ALC: Aquatic Life Criteria
ARAR: Applicable or Relevant and Appropriate Requirements
AWQC: ambient water quality criteria
BMP: best management practice
BODR: *Basis of Design Report*
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CFR: *Code of Federal Regulations*
CSL: cleanup screening level
CWA: Clean Water Act
DER: Data Evaluation Report
DMMP: Dredged Material Management Program
ENR: enhanced natural recovery
EPA: U.S. Environmental Protection Agency
IC: institutional control
LDW: Lower Duwamish Waterway
mg/kg: milligram per kilogram
MNR: monitored natural recovery
MTCA: Model Toxics Control Act
NTR: National Toxics Rule
PCB: polychlorinated biphenyl
PDI: pre-design investigation
RCW: Revised Code of Washington
RD: remedial design
RI: remedial investigation
SCO: sediment cleanup objective
Services: National Marine Fisheries Service and U.S. Fish and Wildlife Service
SMS: Sediment Management Standards
USACE: U.S. Army Corps of Engineers
USC: *United States Code*
WAC: Washington Administrative Code
WQS: water quality standard