

Kenny, Ann

From: Yee, Chung K.
Sent: Tuesday, June 26, 2001 1:07 PM
To: Fitzpatrick, Kevin
Cc: Thompson, Craig E.; Kenny, Ann
Subject: Acceptable Fill Criteria Language for Draft 401 Certification

DELIBERATIVE DOCUMENT CURRENTLY EXEMPT FROM PUBLIC DISCLOSURE

Attached is the draft fill criteria language. I have made major modifications to the initial draft. However, I did not change the soil sampling schedule because I don't have the proper basis. The TCP's recommended sampling schedule for petroleum-contaminated soil may too excessive for this project given the quantity of the fill.

The fill criteria are based on: Method A table, 3-phase model protection of ground water, 3-phase model protection of surface water, PQL, natural background in Puget Sound, and/or Terrestrial Ecological Evaluation table

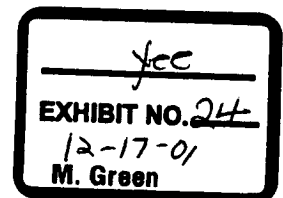
Please review and comment. After your comments, I will forward the revised draft to the HQ TCP Policy for review.

Things-to-do: I will need to double check the calculations and put together a supporting document for the above draft.

Please note, because of the work load, I have shot pass the initial 3-day projection.



Clean Fill Criteria
for 401 Ce...



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Draft

E6. Borrow Sites

The use of imported fill for the proposed Third Runway embankment may result in impacts to wetlands or other waters of the state. To ensure compliance with measures designed to minimize potential impacts, the Port of Seattle shall submit borrow site clean fill certification documentation described in the following sections to the Department of Ecology for review and approval prior to fill placement.

E7. Fill Source/Documentation/Fill Criteria

The Port of Seattle shall adhere to the following conditions to ensure that the fill placed for the proposed Third Runway embankment does not contain toxic materials in toxic amounts.

E7a. Fill Sources

Fill materials for the proposed Third Runway embankment shall be limited to the following three sources:

- State-certified borrow pits
- Contractor-certified construction sites
- Port of Seattle-owned properties.

E7b. Documentation

No later than two (2) business days prior to the acceptance of fill materials for the proposed Third Runway embankment, the Port of Seattle shall submit to the Department of Ecology's Northwest Regional Office Water Quality Program for review and approval clean fill certification documentation for the proposed fill source. The documentation shall contain an environmental assessment of the fill source and shall verify the proposed fill source complies with the fill criteria. The environmental assessment shall be conducted by an environmental professional in general conformance with the American Society for Testing and Materials Standard (ASTM) E 1527-00 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, and E 1903-97 Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process. At minimum, the document shall contain the followings:

1. **Fill Source Description:** Provide a description/location of the fill source, general characteristics of the fill source and vicinity, current use, and a site plan identifying the extent of the excavation, project schedule and the estimated quantity of fill to be transported to the proposed Third Runway embankment.

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2. **Records Review:** Obtain and review environmental records of the proposed fill source site and adjoining properties. In addition to the standard federal and local environmental record sources, the following Department of Ecology environmental databases shall be reviewed:

- Confirmed & Suspected Contaminated Site Report
- No Further Action Site List
- Underground Storage Tank List
- Leaking Underground Storage Tank List
- Site Register.

Records review shall also contain historical use information of the fill source and surrounding area to help identify the likelihood of environmental contamination.

3. **Site Reconnaissance:** Conduct a site visit to identify current site use and site conditions to help identify the likelihood of environmental contamination and/or the potential migration of hazardous substances onto the site from adjoining properties.

4. **Fill Source Sampling:** Collect and analyze fill materials for the potential contaminant(s) identified in the Phase I Environmental Site Assessment. At a minimum, fill materials from each fill source shall be analyzed for the following hazardous substances.

- Total Antimony
- Total Arsenic
- Total Beryllium
- Total Cadmium
- Total Chromium¹
- Total Copper
- Total Lead
- Total Mercury
- Total Nickel
- Total Selenium
- Total Silver
- Total Thallium
- Total Zinc
- NWTPH-HCID

¹ Chromium (+6) shall be analyzed if the results of the Phase I Environmental Site Assessment show a likelihood of Chromium (+6) contamination.

For fill sources characterization, the following table presents the minimum sampling schedule for fill sources with no likelihood of environmental contamination.

Cubic Yards	Minimum Number
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of Soil	of Samples
<1,000	2
1,000 - 10,000	3
10,000 - 50,000	4
50,000 - 100,000	5
>100,000	6

Samples shall be collected at locations that are representative of the fill destined for the proposed Third Roadway embankment.

For fill sources with suspected contamination or with complex conditions, please consult with the Department of Ecology Northwest Regional Office, Water Quality Program, for the appropriate sampling requirements.

E7b. Fill Criteria

The results of the Phase II sampling and testing shall be compared to the fill criteria to determine the suitability of the fill source for the proposed Third Roadway Embankment. Presented in the following table is the fill criteria established for hazardous substances contained in Section E7b.4.

Hazardous Substances	Fill Criteria mg/kg ²
Antimony	6
Arsenic	20
Beryllium	2
Cadmium	2
Chromium ³	42/2000
Copper ⁴	36
Lead	22/25
Mercury	2
Nickel	38
Selenium	5
Silver	5
Thallium	2
Zinc	6000
Gasoline	30
Diesel	2000
Heavy Oils	2000

² mg/kg = milligrams per kilogram

- 3 Fill with total chromium concentration greater than 42 mg/kg and less than 2000 mg/kg may be placed to within six feet of the ground surface. No fill with total chromium concentration greater than 42 mg/kg may be placed on the first six feet of the embankment. No fill with chromium (+6) concentration greater than 19 mg/kg may be placed in the embankment.
- 4 Fill with total lead concentration greater than 22 mg/kg and less than 25 mg/kg may be placed to within six feet of the ground surface. No fill with total lead concentration greater than 22 mg/kg may be placed on the first six feet of the embankment.

For hazardous substances other than those identified in the above fill criteria table that have been identified in the Phase II Environmental Site Assessment, please consult with the Department of Ecology Northwest Regional Office, Water Quality Program, for the applicable fill criteria.

E8. As-Built Documentation

The Port of Seattle shall provide to the Department of Ecology for review quarterly summaries of:

- Fill sources placed for the previous quarter
- Quantities of fill materials from these fill sources
- Locations and elevations of fill source materials placed within the embankment.

The Department of Ecology may require additional fill conditions and/or corrective actions upon Ecology's review of the as-built documents.

E9. Post Construction Monitoring

In order to minimize the potential for migration of hazardous substances, the Department of Ecology expects the Port of Seattle to take appropriate measures to minimize precipitation and subsequent runoff coming into contact with the fill material. Furthermore, the department expects that runoff and seepage from the fill area shall be monitored for compliance with applicable Washington State surface water criteria. Ground water down-gradient from the fill area shall be monitored for compliance with applicable ground water criteria.

Within 180 days after the issuance of the 401 Water Quality Certification for the Master Plan Update Improvements for the Seattle-Tacoma International Airport, the Port of Seattle shall submit to the Department of Ecology for review and approval a surface water and ground water monitoring plan. The monitoring plan shall be designed to detect impacts of the fill embankment to the receiving water and to the ground water during fill placement and post fill placement. In the event monitoring detected adverse impacts to the receiving water/ground water, the Department of Ecology may revise the fill criteria and may also institute corrective actions to address these impacts.

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