



DEPARTMENT OF
ECOLOGY
State of Washington

**Lora Lake Apartments Site
(Cleanup ID#: 2800)
Burien, Washington**

**Responsiveness Summary for the
Proposed First Amendment to
Agreed Order No. 6703**

April 2013

**Washington State Department of Ecology
Northwest Regional Office – 3190 160th Avenue S.E.
Bellevue, WA 98008**

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Introduction

This Responsiveness Summary presents Ecology's responses to comments received during the public comment period regarding the First Amendment to Ecology Agreed Order No. 6703 between Port of Seattle (Port) and the Washington State Department of Ecology (Ecology). The public comment period was from December 21, 2012, to January 31, 2013.

The Order required the Port of Seattle to assess the nature and extent of contamination resulting from industrial operations at the Lora Lake Apartments site and evaluate alternative approaches to cleaning up the contamination. This investigation is called a Remedial Investigation and Feasibility Study.

The Lora Lake Apartments cleanup site is located at 15001 Des Moines Memorial Drive South in Burien, Washington. Figure 1 (following text) shows a map of the site.

The Proposed Amendment added additional soil sampling to be performed to expedite cleanup of the site and required the Port to complete a draft Cleanup Action Plan. The draft Cleanup Action Plan will propose Ecology's selected cleanup remedy for the site. Ecology anticipates the plan will be issued for public comment in Fall 2013.

Revisions to Order

As a result of public comments the proposed amendment has been revised. Ecology will remove the proposed soil sampling from the amendment to accommodate the City of Normandy Park's concern regarding pre-establishing a bias toward a specific numeric level of remedy.

The Port is also continuing to assess how to best integrate the cleanup with future site development. This is taking longer than was anticipated when the amendment was drafted. The amendment will be revised to require the draft Cleanup Action Plan be submitted to Ecology on June 11, 2013.

We anticipate that a public comment period will be held on the draft Cleanup Action Plan in Fall 2013. The draft Cleanup Action Plan will present Ecology's proposed cleanup actions for the site. The Plan will include a proposed cleanup schedule.

Cleanup construction is currently anticipated to begin in Spring 2016. The projected date is based upon the time necessary for design data collection and for preparation and review of cleanup construction plans and bid documents.

Background

The Lora Lake Apartments cleanup site includes three areas: The Lora Lake Apartments Parcel, the Lora Lake Parcel, and the Dredged Material Containment Area. These areas are shown on Figure 1.

The Lora Lake Apartments Parcel was an orchard and private residence prior to 1940. During the 1940s and 1950s the Lora Lake Apartments Parcel was used by Novak Barrel Cleaning Company to clean barrels for reuse. Novak cleaned barrels that had contained chemicals from various industrial facilities. Burien Auto Wrecking operated at the site from approximately 1960 to 1981. A developer purchased the site during the 1980s and built the Lora Lake Apartment complex in 1987. In 1998 the Port bought the site, part of which was required for the Runway Protection Zones, where residences are prohibited. The Runway Protection Zones were required for the Third Runway at Sea-Tac Airport. Figure 1 shows the Runway Protection Zones. The portion of the site that was not required for the Runway Protection Zone is to be redeveloped. The buildings at the Lora Lake Apartments have been demolished. Building foundations, asphalt roadways, and parking areas remain.

Past activities at the Lora Lake Apartments Parcel released hazardous chemicals into the soil, ground water, and may have contributed to contaminants found in lake sediment. The chemicals included polycyclic aromatic hydrocarbons, petroleum products, pentachlorophenol, dioxin, lead, and arsenic. Remedial investigations at the site assessed the concentration and distribution of contamination in soil, sediment, groundwater, and stormwater.

The hazardous substances were released on the Lora Lake Apartments Parcel. There was concern they may have migrated to Lora Lake, a small lake formed in an abandoned peat mine. The peat mining occurred in the 1940s and 1950s. During the investigations, it was discovered that sediment dredged from Lora Lake in 1982 was placed on nearby airport land to the north of Lora Lake. The area where the dredged sediment was placed is called the Dredged Material Containment Area.

Ecology will request public comment for the site-wide RI/FS and proposed draft Cleanup Action Plan to request your review and comments. The comment period is estimated to occur in Fall 2013.

Comments Received and Ecology's Responses

The original comments are included in Attachment A.

Mr. Jon Orwig

COMMENT:

Mr. Orwig expressed concern regarding recontamination of the site by future users.

RESPONSE:

The Port plans to lease or sell the southwest portion of the Lora Lake Apartments Parcel for commercial use. The northeast portion of the Lora Lake Apartments Parcel as well as the Lora Lake Apartments Parcel and the Dredged Material Containment Area are within the Runway Protection Zone for Sea-Tac International Airport. Ownership of these areas will be retained by the Port.

The type of commercial use for southwest portion of the Lora Lake Apartments Parcel has not been identified. Whatever future business occupies the property will be required to maintain cleanup structures such as a cap. An Environmental Covenant will be attached to the property deed to require that future owners of the land maintain the cleanup structures.

Release of hazardous substances from today's commercial operations are much less common compared to past practices. However, if releases do occur, additional cleanup will be required.

Mr. Jaime H. Munana and Ms. Cintya Beristain-Munana

COMMENTS:

Mr. Munana and Ms. Beristain-Munana indicated support for re-establishing a wetland in the lake area to return it to the habitat that existed prior to creation of the lake while peat mining. They expressed concern regarding the release of toxic substances into the air during cleanup. They asked if the area would be open to the public for a walk. They also asked if cleanup could begin sooner and if there would be a meeting regarding cleanup plans.

RESPONSES:

Re-establishing a wetland offers several advantages and is the cleanup option selected by Ecology to be proposed in the draft Cleanup Action Plan. There will be a public meeting during the public comment period for the draft Cleanup Action Plan and we anticipate this to be in the Fall 2013. We would like to begin cleanup as soon as feasible, and the final Cleanup Action Plan will include a detailed schedule.

Whatever the cleanup activities are, a safety plan will be developed requiring that hazardous substances not be released into the air. Monitoring will be conducted to be sure that releases are either not occurring or are identified rapidly so that the releases can be stopped. The hazardous substances at this site are not volatile. Preventing air release may be as simple as providing that no visible dust be generated by cleanup activities. Dust is usually controlled with a water spray, and this water is not allowed to run off the site.

The area occupied by the former apartment complex is planned to be used for commercial activity and will be open to the public to the extent the commercial operations are open to the public. The remainder of the area is within secured airport property and cannot be open to the public. This includes the wetland area.

City of Normandy Park

COMMENTS:

The City of Normandy Park has four concerns. The City's letter stated that the site is surrounded by residential uses on three sides and is adjacent to a federal and state designated natural area. The City indicated this argued for a stringent cleanup level to be established, with removal of dioxin as a key goal.

The City is concerned that the proposed excavation limit of 100 parts per trillion (ppt) dioxin in soil is not protective for soils in the vicinity of the storm drain.

The City indicated they believe sampling conducted in Miller Creek for the remedial investigation was not adequate to determine the historic discharge of dioxin from this site to the downstream environment. The City also does not believe this sampling was sufficient to determine the future risk of mobilization of dioxin to the downstream environment.

The City noted that the public has not yet had the opportunity to have a public meeting with Ecology to comment on the Remedial Investigation/Feasibility Study. The City indicated they believed it was not appropriate to issue an order, or amendment to an order, that pre-establishes a bias to a specific numeric level of limit of remedy, in addition to the issue of this selected level/action being too permissive.

RESPONSES:

First, clarification on surrounding land use is needed. The site is not surrounded by residential uses on three sides. There is a residential area across 8th Avenue South to the west of the site. The land to the south is a vacant commercial lot owned by the Port of Seattle and slated to stay in commercial use as part of the City of Burien's Northeast Redevelopment Area. State Route 518 lies to the north. A Natural Resource Mitigation Area is on secured Port property to the east, across Des Moines Memorial Drive. The Port manages the Natural Resource Mitigation Area under the oversight of the federal U.S. Army Corps of Engineers, Washington State Department of Fish and Wildlife, and Ecology, and this area will remain in protected use.

Ecology recognizes the concern for stringent cleanup levels to apply at the site to protect nearby residential areas. The residential **cleanup level** for dioxin is 11 ppt. This is the cleanup level planned for the Lora Lake Apartments Parcel of the site. This cleanup level is based on preventing an excess cancer risk exceeding one-in-one-million for a child playing in a residential yard for six years.

The Model Toxics Control Act Cleanup (MTCA) regulations include various means of meeting cleanup levels. Per MTCA, the use of engineering controls, such as capping and containment, are permissible for sites or portions of sites that contain large volumes of materials with relatively low levels of hazardous substances where treatment is impracticable. This is the approach the Port proposes to use at the Lora Lake Apartments Parcel. The Port's proposed remedy is to excavate soil to a **remediation level** of 100 ppt dioxin and send it for off-site disposal. This amounts to about 19,000 cubic yards of soil.

Soil with dioxin concentrations between the cleanup level of 11 ppt and a remediation level of 100 ppt dioxin is proposed to be capped and contained and have appropriate institutional controls to prevent direct contact. There are approximately 30,000 cubic yards of this soil with lower concentrations of dioxin, which is about 1.6 times the volume of the soil above the remediation level. The 100 ppt dioxin concentration corresponds to an excess cancer risk of one-in-one-hundred thousand for a child playing in a residential yard for six years. Again, the soil that will be capped has dioxin concentrations **less than** 100 ppt.

In the area to be capped, soil samples collected within four feet of the ground surface had an average dioxin concentration of 10 ppt dioxin, with a maximum concentration of 59 ppt. Soil samples collected below four feet of the ground surface in the area to be capped had an average dioxin concentration of 18 ppt with a maximum value of 87 ppt. The maximum depth sampled was about 20 feet.

The proposed remedy uses capping with a barrier of material suitable to the commercial use of the property to prevent direct contact with contaminated soil. An Environmental Covenant will be placed on the property deed to keep the site in commercial use and to ensure the cap is maintained. Periodic Reviews will be performed, as required by MTCA, to ensure the institutional controls remain in place and the Environmental Covenant is being followed to protect the integrity of the cleanup.

Note that all of the soil with dioxin contamination exceeding 11 ppt on the Lora Lake Apartments Parcel will be addressed pursuant to MTCA with a cleanup technology that will result in a cleanup protective of human health and the environment for future uses and conditions at the site.

Excavation of the soil with dioxin concentrations exceeding 100 ppt will remove 96% of the mass of dioxin currently on site. Capping the soil with dioxin concentrations between 11 and 100 ppt saves about \$2 million compared to excavation and off-site disposal of this soil. Excavation and off-site disposal of soil with dioxin concentrations between 11 and 100 ppt dioxin would incur an additional cost that is disproportionate to the environmental benefit gained compared to capping this soil and maintenance of the area in commercial use.

Second, with regard to whether the proposed excavation limit of 100 ppt dioxin in soil is protective for soils in the vicinity of the storm drain, Ecology notes that there are no chemical standards for storm drain sediment, or indeed for marine or fresh water sediments. In such cases, sediment contamination is assessed by performing bioassays. A bioassay assesses the effects of contamination on organisms by placing the organisms in various levels of contamination and observing the effect on their growth and mortality. Bioassay tests were performed on sediment samples from Lora Lake with dioxin concentrations over 100 ppt. All samples passed.

Third, with regard to sampling in Miller Creek, Ecology is well aware of the City of Normandy Park's concerns regarding Miller Creek. Sediment sampling in Miller Creek immediately upstream and immediately downstream of Lora Lake's outlet to Miller Creek found the sediment was not contaminated. Broader Miller Creek water and sediment quality issues are beyond the scope of the Lora Lake Apartments Cleanup Site investigations. Ecology has defined the site based on investigations determining where the hazardous substances associated with the historical activities at the Lora Lake Apartments site have come to be located. The sampling done in Miller Creek was sufficient for Ecology to establish the current site boundary and adequately characterize the site for the purpose of developing and evaluating cleanup action alternatives. Lora Lake Apartments cleanup site activities are tasked with cleaning up the industrial contamination at the Lora Lake Apartments Cleanup Site, which includes the Lora Lake Apartments Parcel, the Lora Lake Parcel, and the Dredged Material Containment Area. At this time, based on the RI/FS data, Ecology has determined that the Port of Seattle will not be required to undertake broader studies outside the site that are not necessary to select a cleanup

action at the site. The studies performed to date permit Ecology to select a preliminary cleanup action to advance to public comment.

In addition, the City of Normandy Park indicated that additional sampling should be done downstream in Miller Creek to determine the future risk of mobilization of dioxin to the downstream environment. While not a part of the remedial investigation at the Lora Lake Apartment Cleanup Site, As an alternative, Ecology offered to propose an Ecology-funded study of the contaminant-loading issues the community is interested in. The City of Normandy Park, however, declined the offer on November 15, 2012, citing liability concerns should contamination be found on City-owned property.

Fourth, the City of Normandy Park is concerned that the proposed soil sampling to define the volume of soil with dioxin concentrations exceeding 100 ppt pre-establishes a bias to a specific numeric level or limit of remedy, in addition to the issue of this selected level/action being too permissive. Ecology understands the City of Normandy Park's concerns in this regard and will not include this work in the Agreed Order amendment.

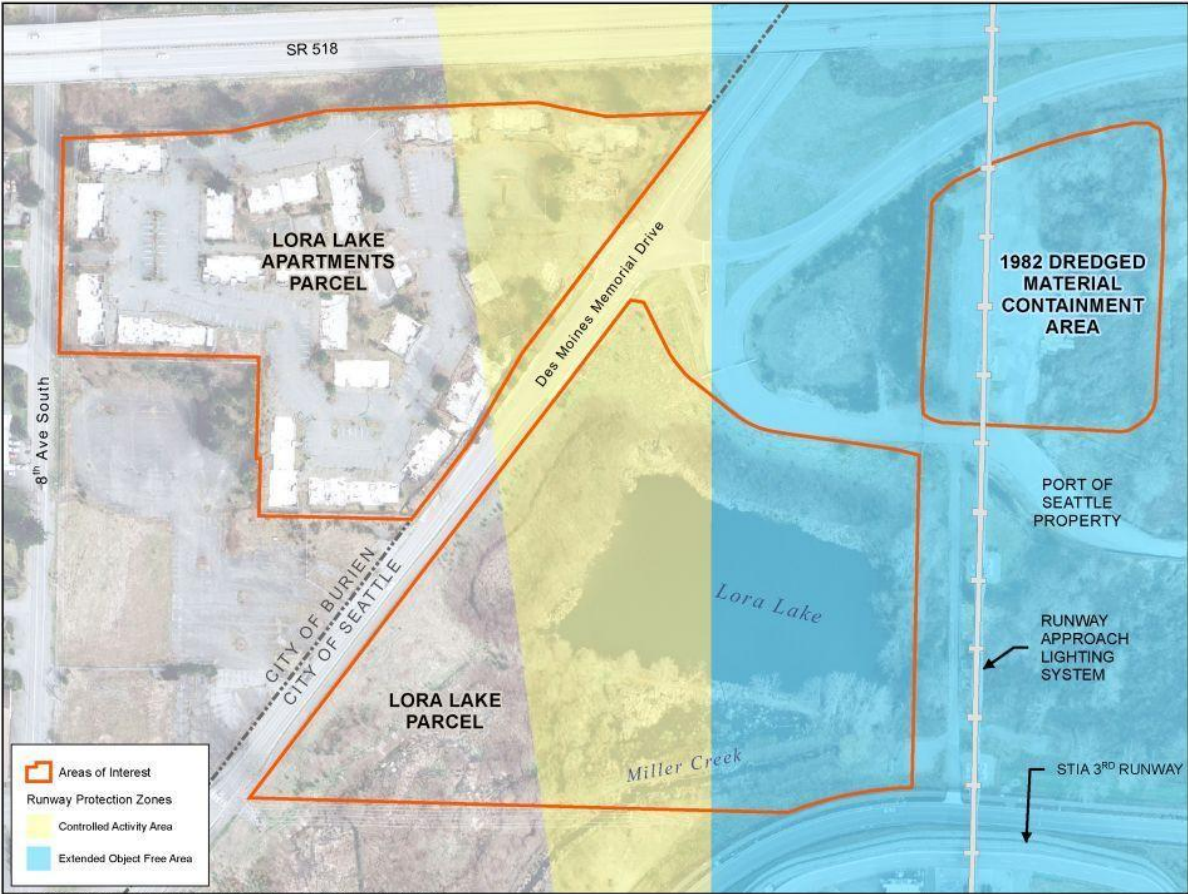


Figure 1. Site Map. North is up.

Attachment A – Original comments

South, David (ECY)

From: JON Orwig [jsconceptions@msn.com]
Sent: Monday, December 17, 2012 8:11 PM
To: South, David (ECY)
Subject: Lora Lake

RECEIVED AND READ THE DEPARTMENT OF ECOLOGY NEWS LETTER ON LORA LAKE. ITS NICE TO SEE SOMETHING WILL START TO BE DONE WITH LAND. MY QUESTION IS WITH THE CLEAN UP WILL ANYTHING BE SET UP AT THIS TIME TO CLEAN UP THE POLLUTION THE CITY OF BURIEN PLANS TO DUMP INTO THE AREA? THERE PLAN TO USE ALL THE VACANT LAND FOR NEW AND USED CAR LOTS.

WITH HUNDREDS OF AUTOS LEAKING OIL, GAS, BATTERY ACID, AND OTHER POLLUTION OUT ONTO ACERS OF ASPHALT, WOULD SEAMS TO BE POLLUTING WHAT IS GOING TO BE CLEANED UP. THIS OF COURSE WILL EVENTFULLY GET INTO THE MILLER CREEK WATER SHED. ANYWAY SOMETHING TO THINK OF.

South, David (ECY)

From: cintya beristain [xunandriade@gmail.com]
Sent: Thursday, January 10, 2013 8:33 PM
To: South, David (ECY)
Subject: Regarding Lora Lake Apartments site

Dear Mr. South,

My husband and I live at 15045 5th Lane South in Burien, a new development called Highline Village, so we received information in our mail a couple of weeks ago regarding the Lora Lake apartments site. We want to give you our input, questions and concerns. First, for the cleaning options we want and would love to see that the project option 3 be implemented. According to the print out we received, Option 3 is about re-establishing a wetland in the lake area to return it to the habitat that once existed prior to the creation of the lake by Peat Mining in the 1940s and 1950s. Second, while performing the cleanup; is there any chance that more toxic substances be released into the air? And third, after the cleanup, would the area be open to the public for a walk or something like that? Fourth, is there any way you can begin the cleanup process sooner. Finally, we would like to have at least one meeting, so we could hear the opinions of other people, this way, we can do what is best for everyone. We would really appreciate being informed and updated on the progress and final decision regarding the outcome of these options.

Thank you, respectfully:

Jaime H. Munana and Cintya Beristain-Munana

206-931-1967

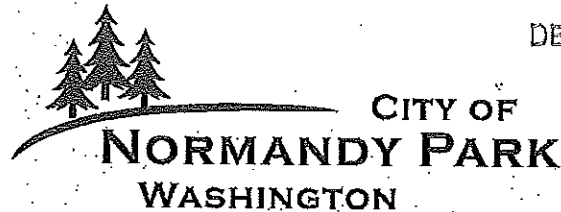
munana1@gmail.com

xunandriade@gmail.com

RECEIVED

JAN 31 2013

DEPT OF ECOLOGY
TCP - NWRO



Mr. David South,
Senior Engineer
Washington State Department of Ecology
Toxics Cleanup Program, NWRO
3190 – 160th Avenue SE
Bellevue, WA 98008-5452

January 14, 2013

Re: Public Comment, First Amendment to Agreed Order #DE 6703, Lora Lake Apartments Site

Dear Mr. South:

Thank you for the information you provided on the draft amendment to the Lora Lake Apartments site Agreed Order. We have the following comments.

The City of Normandy Park is concerned the Agreed Order amendment appears to be premised on the assumption that excavation and removal of soil contaminated with dioxin will be limited to 100 parts per trillion, TEQ, nearly ten times the Model Toxics Control Act residential limit of 11 ppt TEQ.

It is our position that this implied limit is far too permissive, and not in the long-term interest of our community.

The public has not yet had the opportunity to have a public meeting with Ecology, or comment on the Remedial Investigation/Feasibility Study for this site. It does not appear to be appropriate to issue an order, or amendment to an order that pre-establishes a bias to a specific numeric level or limit of remedy, in addition to the issue of this selected level/action being too permissive.

Site-specific conditions and the surrounding area argue for more complete removal than what this order contemplates.

There is a storm water system on the site, which acts as a hydraulic conduit for contaminated storm water and soil/sediment from the site to Lora Lake. This storm water system is in direct hydraulic connection with Miller Creek. An inspection of the storm drain system by Port of Seattle contractors found numerous defects in the on-site system structures/piping. This included the intrusion of roots, and other defects, which could allow contaminated soil particles surrounding the storm water system infrastructure to migrate through the storm water system to Lora Lake, and Miller Creek.

It is our opinion that an excavation limit of 100 ppt dioxin TEQ, is not protective for soils in the vicinity of the defective storm water system, or even a replaced storm water system given the propensity of such systems to break down over time, as compared to the primary contaminant at this site.

Dioxin is a very long-lived organic contaminant, which bio-accumulates and concentrates as it moves up the food chain.

The site is surrounded by residential uses on three sides, and on the fourth is adjacent to a federal and state designated natural area with a variety of critical habitat types. These types of habitat (on the Lora Lake parcel), and the variety of species that make use of such habitat also argue for a stringent cleanup level to be established, with removal of the dioxin as a key goal for this site.

Although there has been some limited sediment sampling of Miller Creek, we are concerned that the sampling was not representative, or adequate to determine the historic discharge of dioxin from this site to the downstream environment, including Miller Creek, and Puget Sound. As a result, we do not believe the sampling was sufficient to determine the future risk of mobilization of dioxin to the downstream environment. This argues for a more complete excavation and removal of dioxin contaminated soil from the Lora Lake Apartment parcel.

This cleanup needs to be effective and permanent.

Normandy Park is mindful that the current cleanup activity is actually the second cleanup of this site, and that the previous cleanup was approved as being complete and effective by Ecology.

While standards for cleanup were different at the time of the previous Ecology approval, the decision that further action was not necessary, still leaves us wary of a cleanup proposal, which will leave alarmingly elevated levels of dioxin, almost ten times the residential MTCA standard, in place at the site in perpetuity.

We want this cleanup to be effective, complete and permanent, so no future generation has to come back to this site down the road and wonder why we didn't effectively advocate for, and do a complete cleanup while we were at it.

We appreciate your time, and attention to these comments and thank you for the notification and opportunity to comment.

Sincerely,



Clarke Brant,
Council Member/Mayor
City of Normandy Park

cc: Cherie Gibson, Interim City Manager, Members of the Council