State of Oregon
Department of
Environmental
Quality

Application for a

Solid Waste Beneficial Use Determination

DEQ USE ONLY – BUSINESS OFFICE
Date Received: _____
Amount Received: _____
Check No.: _____
Deposit No.: _____
Forward confirmation of fee payment for: Eastern Region to DEQ, The Dalles Northwestern Region to DEQ-NWR, Portland Western Region to DEQ, Salem

A. REFERENCE INFORMATION *(Please type or print clearly.)*

Portland Guild Loft Partners, LLC			
Legal name of applicant		Business name of applicant if different	
c/o Fore Property 1741 Village Center Circle		Las Vegas	NV	89134
Mailing address		City	State	Zip
702-405-1267	702-468-1349	lnovak@ForeProperty.com; jsakamoto@ForeProperty.com; ktoynton@golder.com	702-405-1252
Phone	Mobile	E-mail	Fax

Same as applicant			
Generator of solid waste (may be same as applicant)			
Mailing address		City	State	Zip
Phone	Mobile	E-mail	Fax

B. TYPE OF BENEFICIAL USE DETERMINATION REQUESTED

Beneficial Use Determination applications are categorized based on the type of information and potential amount of work required by DEQ staff to review application materials and render a decision. A tiered review and fee system has been established in rule. The tiers are:

Tier 1 For a beneficial use of a solid waste that does not contain hazardous substances significantly exceeding the concentration in a comparable raw material or commercial product and that will be used in a manufactured product;

Tier 2 For a beneficial use of a solid waste that contains hazardous substances significantly exceeding the concentration in a comparable raw material or commercial product, or involves application on the land;

Tier 3 For a beneficial use of a solid waste that requires research, such as a literature review or risk assessment, or for a demonstration project to demonstrate compliance with this rule.

I am applying for a ☐ Tier 1 ☒ Tier 2 ☐ Tier 3 determination.

C. DOES THIS PROPOSED BENEFICIAL USE INVOLVE LAND APPLICATION OF ANY MATERIAL?

☒ Yes ☐ No

D. SIGNATURE

I hereby certify by my signature below that the information contained in this application, and the documents I have attached, are true and correct to the best of my knowledge and belief.

Lee Novak — Vice President of Development — 3/5/19

Signature of legally authorized representative	Print name	Title	Date

E. REQUIRED ATTACHMENTS TO THIS APPLICATION *(For an application to be complete, it must provide the required information for each listed item of the tier which is being applied for.)*

Tier 1

- ☐ A description of the material, manner of generation, and estimated quantity to be used each year;
- ☐ A description of the proposed use;
- ☐ A comparison of the chemical and physical characteristics of the material proposed for use with the material it will replace;
- ☐ A demonstration of compliance with the performance criteria in OAR 340-093-0280 based on knowledge of the process that generated the material, properties of the finished product, or testing; and
- ☐ Any other information that DEQ may require to evaluate the proposal.

Tier 2

- ☒ The information required for a Tier 1 application;
- ☒ Sampling and analysis that provides chemical, physical, and biological characterization of the material and that identifies potential contaminants in the material or the end product, as applicable;
- ☒ A risk screening comparing the concentration of hazardous substances in the material to existing, DEQ approved, risk-based screening level values, and demonstrating compliance with acceptable risk levels;
- ☒ Location or type of land use where the material will be applied, consistent with the risk scenarios used to evaluate risk;
- ☒ Contact information of property owner(s) if this is a site-specific land application proposal, including name, address, phone number, e-mail, site address and site coordinates (latitude and longitude); and
- ☒ A description of how the material will be managed to minimize potential adverse impacts to public health, safety, welfare, or the environment.

Tier 3

- ☐ The information required for a Tier 1 & 2 application;
- ☐ A discussion of the justification for the proposal;
- ☐ An estimate of the expected length of time that would be required to complete the project, if it is a demonstration; and
- ☐ If it is a demonstration project, the methods proposed to ensure safe and proper management of the material.

F. PERFORMANCE CRITERIA *(For all tiers - An application for a beneficial use determination must demonstrate satisfactory compliance with the following performance criteria.)*

The use is productive, including:

- There is an identified or reasonably likely use for the material that is not speculative;
- The use is a valuable part of a manufacturing process, an effective substitute for a valuable raw material or commercial product, or otherwise authorized by DEQ, and does not constitute disposal; and
- The use is in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices.

The use will not create an adverse impact to public health, safety, welfare, or the environment, including:

- The material is not a hazardous waste under ORS 466.005;
- Until the time the material is used in accordance with a beneficial use determination, the material will be managed, including any storage, transportation, or processing, to prevent releases to the environment or nuisance conditions;
- Hazardous substances in the material do not significantly exceed the concentration in a comparable raw material or commercial product, or do not exceed naturally occurring background concentrations, or do not exceed acceptable risk levels, including evaluation of persistence and potential bioaccumulation, when the material is managed according to a beneficial use determination.

The use will not result in the increase of a hazardous substance in a sensitive environment.

The use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions.

The use will comply with all applicable federal, state, and local regulations.

G. FEES *(Must accompany the application for it to be considered complete)*

☐	Tier 1 beneficial use determination	$1,000
☒	Tier 2 beneficial use determination	$2,000
☐	Tier 3 beneficial use determination	$5,000

Make checks out to: **Oregon DEQ**

Total fees included: $2,000

H. APPLICATION PROCEDURE

Step 1
Contact a DEQ staff person for assistance with the preparation of the application. DEQ staff will help with: 1) Determination of the eligibility for a beneficial use determination of a particular waste or process; and, 2) If eligible, establish the tier of beneficial use determination review required and associated fee to submit with the application.

Step 2
Mail the original signed application, all attachments, including the fee payment plus one extra copy to the appropriate regional office (see listing below.) Note that DEQ review work will not begin until a complete application packet is received. Incomplete applications may be returned. DEQ recommends the applicant keep a full copy of all application materials to guard against possible loss in transit.

Step 3
DEQ will contact the applicant, acknowledging receipt of the application, and will identify the staff person assigned to carryout the review. This staff person will contact the applicant if any additional information is needed.

Region	Counties Served	Address & Phone
Eastern Region	Baker, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler	Eastern Region Department of Environmental Quality 400 E Scenic Drive, Ste 2.307 The Dalles, OR 97058 (541) 298-7255 ext. 221
Northwest Region	Clatsop, Clackamas, Columbia, Multnomah, Tillamook, and Washington	Northwest Region DEQ Solid Waste Programs 2020 SW Fourth Ave. Ste 400 Portland, OR 97201 (503) 229-5353
Western Region	Benton, Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Linn, Marion, Polk, and Yamhill	Western Region DEQ Solid Waste Programs 750 Front St. NE Suite 120 Salem, OR 97301 (503) 378-5047

March 5, 2015 1303036.004

Audrey O'Brien
Northwest Region
DEQ Solid Waste Program
2020 SW Fourth Ave. Suite 400
Portland, OR 97201

RE: BENEFICIAL USE DETERMINATION APPLICATION: REQUIRED ATTACHMENTS FOR THE RIVERSCAPE LOT 1 PROPERTY, NORTHWEST PORTLAND

Dear Ms. O'Brien:

Fore Property Company (Fore) is applying for a Solid Waste Beneficial Use Determination (BUD) for approximately 40,000[1] cubic yards of soil which will be removed from the Riverscape Lot 1 site in northwest Portland (Lot 1). Fore is requesting to transfer the soil to the Port of Portland (Port) Troutdale Reynolds Industrial Park (TRIP) for use as fill and/or surcharge material. The required attachments for the Tier 2 BUD application are included in the sections below. This application has been prepared by Golder Associates Inc. (Golder) on behalf of Fore.

The primary purpose of this request is to provide fill soil needed to create shovel ready large industrial lots that are rough graded, stubbed with utilities, and with associated mitigation already in place. This approach will provide more certainty for a prospective developer to select the site, purchase the property and subsequently develop the site with as little down time as possible. For a detailed discussion of land use authorizations, zoning, and plats and plot figures, see Attachment 2.

1.0 DESCRIPTION OF THE MATERIAL, MANNER OF GENERATION, AND ESTIMATED QUANTITY

Fore proposes to place approximately 40,000[1] cubic yards of soil at the Port's TRIP site for use as fill and/or surcharge material. The source of soil is Lot 1 of the Riverscape property, approximately 1.49 acres of vacant land bordered by the Willamette River, the Shoreline Condominiums, the Fremont Bridge (Interstate 405) and NW Front Ave, see Figure 1. Riverscape was formerly part of the Port's Terminal 1 South (T1S) property, which was created by adding dredged material as fill to the shoreline of the Willamette River in the early 1900's. Residual soil contamination was discovered at T1S and suspected to be from surface spills and a former dry well northwest of Lot 1. DEQ determined the low levels of contamination present on Lot 1 did not pose an unacceptable risk to human health or the environment. Lot 1 was included in a No Further Action Determination (NFA) granted on August 27, 2002 (DEQ 2002, Golder 2014).

Observations during recent sampling events indicate the soil is primarily gravel with trace silty sand, sometimes concrete debris, for the upper 1 to 5 feet below ground surface (bgs) and medium brown silty sand with trace gravel from 5 to 18 feet bgs. Thin layers with trace amounts of gravel, concrete debris or black charred material were occasionally encountered in some borings. Two large pieces of wood were encountered in one boring, GP-10, at 12 and 16 feet below ground surface (bgs) (Golder 2015a).

Fore plans to develop Lot 1 into a multi-unit residential building with both surface and underground parking. The underground parking structure will require excavation to a maximum of approximately 18

[1] All volume estimates account for a 30% bulking (swell) factor.

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feet below ground surface (bgs). Piers will be installed around the perimeter to a maximum depth of 60 feet bgs. Utility corridors will primarily be adjacent to the building and will vary from 2 to 18 feet in depth. Excavation for underground parking will include approximately 25,800 cubic yards of soil, pier installation will remove approximately 700 cubic yards of soil and utility installation will remove approximately 1,500 cubic yards of soil for a total of 28,000 cubic yards in situ (SERA 2014). Allowing for an estimated 30% swelling of the soil during excavation, this will generate approximately 36,500 cubic yards of soil. A portion of this soil will most likely be reused on site as backfill, however, this BUD application requests placement of a full 40,000 cubic yards as a conservative estimate.

Fore anticipates initiating excavation in April 2015, and completing excavation, soil removal and soil placement and stockpiling at TRIP during the remainder of calendar year 2015.

2.0 DESCRIPTION OF THE PROPOSED USE

TRIP consists of approximately 693 acres located within the city of Troutdale. The facility formerly contained an aluminum reduction plant, which was demolished in 2006. Due to soil and groundwater contamination from plant operations, the Environmental Protection Agency (EPA) placed the site on the Superfund National Priorities List (NPL) in December 1994. Contaminants associated with most areas of the site included fluoride, cyanide, and polycyclic aromatic hydrocarbons (PAHs). Additional contaminants, including heavy metals (arsenic, beryllium, lead and mercury) volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), semivolatile organic compounds, and asbestos were present in areas where aluminum manufacturing related activities resulted in localized releases into the ground.

Between 1995 and 2006, the facility's soils were cleaned up to acceptable risk-based standards for industrial use under the oversight of the EPA and DEQ with the understanding that certain areas of soil with residual contaminated media would require additional management. Groundwater-contaminated media is present onsite and an ongoing groundwater contamination treatment remedy is being implemented. Consequently, areas of both soil and groundwater with residual hazardous materials contamination remain at the facility subject to use and activity restrictions and specific management requirements.

The owners and operators of the facility are under ongoing obligations in connection with residual onsite contamination. EPA's Record of Decision (ROD), dated September 29, 2006, sets forth the requirements that must be complied with, including but not limited to, specific contaminated media management requirements. The commitment to implement the ROD is contained in a United States/Reynolds Metals Company Consent Decree, dated September 10, 2008, and its attached Scope of Work and a State of Oregon/Reynolds Consent Judgment, dated October 10, 2008. Any activities at the facility are also subject to and restricted by a recorded DEQ Easement and Equitable Servitude dated December 19, 2007, which includes a requirement to comply with a Contaminated Media Management Plan (CH2M Hill and Alcoa, 2007).

The Port has completed Phase I development improvements of TRIP. FedEx Ground has become the anchor tenant for this phase. The soil from the Lot 1 site will be used for Phase II development improvements, such as building infrastructure and bringing the lots up to grade. This phase of development is supported and being fast-tracked by the Governor's Regional Solutions Team. Bringing in this fill is part of the initiative to ensure readily available industrial sites in East Multnomah County as soon as possible. To that end, and in order to prepare the land for development, the Port must raise the grade to create 'shovel-ready' lots suitable for industrial development. In addition, this fill may be used by developers for surcharging their site for many months prior to building. This is necessary when building sites contain soils that are compressible, often found in low lying areas such as TRIP. It is proposed to use the excavated soil from Lot 1, along with soil from other sources, to meet these needs. All soil entering the TRIP facility will be managed in accordance with the Contaminated Media Management Plan (CMMP) for the Former Reynolds Metals Company Facility (Attachment 1, CH2M Hill and Alcoa 2007). Soils brought on-site may be used to fill jurisdictional waters; however, prior to placement of these materials in or near jurisdictional areas, all appropriate authorizations will be obtained. At this time, the state natural resource permit (Department of State Land for removal fill authorization) has been received

and the Federal natural resources permit (Army Corps of Engineers for 404 authorization) is pending for development of TRIP Phases II and III. The stockpiled material will be used in construction of Phase II and III development starting upon approval of the permits mentioned above along with City and County building permits.

The primary purpose of this request is to provide fill soil needed to create shovel ready large industrial lots that are rough graded, stubbed with utilities and associated mitigation already in place. This approach will provide more certainty for a prospective developer to select the site, purchase the property and subsequently develop the site with as little down time as possible. For a detailed discussion of land use authorizations, zoning, and plats and plot figures, see Attachment 2.

3.0 COMPARISON OF THE CHEMICAL AND PHYSICAL CHARACTERISTICS OF THE MATERIAL PROPOSED FOR USE WITH THE MATERIAL IT WILL REPLACE

3.1 Chemical Characteristics

The Riverscape Lot 1 soil is similar to soil at the TRIP site which has been left in place following remedial activities at TRIP. Soil used at TRIP from offsite sources must meet occupational human health risk criteria for direct contact (i.e. soil ingestion, dermal contact, or inhalation) for the state of Oregon, hereafter referred to as occupational screening levels (EPA 2011, DEQ 2012). Regional background concentrations are substituted as screening levels for metals when the regional background level is higher than the occupational screening level or when no occupational screening level is provided. Regional background concentrations apply to antimony, arsenic, chromium, selenium, thallium, and zinc (DEQ 2013).

Golder has collected historical and new data to characterize the material and compare it with regional background levels for selected metals and occupational screening levels for all other contaminants. The data are presented in the attached Table 1. Comparisons of the data to occupational screening levels and regional background levels are detailed in Section 7.0. Occupational screening levels and regional background levels are included in the attached data table.

Based on the data, the soil sampled appears to meet the requirements set forth by DEQ and the Port for fill from offsite sources which can be used at the TRIP facility. Soil will be field screened during excavation to address any unexpected contamination in accordance with the Soil Management Plan for the Riverscape Property (Golder 2015b). Should Fore encounter soils which do not meet the constituent requirements for TRIP, these soils will not be taken to TRIP.

3.2 Physical Characteristics

Based on physical characteristics, the Lot 1 soil is similar to soil the at the TRIP site which has been left in place following remedial activities. As per the Port's requirements, Fore will segregate and manage separately any strippings, organic or other putrescible material; asphalt or asphalt debris, construction debris, and any concrete over four inches in diameter.

4.0 DEMONSTRATION OF COMPLIANCE WITH THE PERFORMANCE CRITERIA IN OAR 340-093-0280

The proposed use is considered productive since the material is equivalent to fill that is needed to raise the grade for future development. Raising the grade is necessary at this site due to levels set by the Sandy Drainage District for Base Flood Evaluation. Compliance with the Sandy Drainage District standards will allow for the future development of the property which, in turn, will stimulate local economy.

The intended use of the material will not create an adverse impact to public health, safety, welfare or the environment. The material is not classified as a hazardous waste under ORS 466.005. At Lot 1, the

material will be managed according to a DEQ-approved Soil Management Plan (Golder 2015b). The site will be fenced off to prevent public access. Soil will be loaded directly from the excavation to the haul trucks on site. If stockpiling becomes necessary, stockpiles will be covered and bermed to avoid movement of soil offsite. Material will be transported to TRIP in covered trucks to avoid release of soil to the environment (Golder 2015b). Once it arrives at TRIP, the material will be managed in accordance with the CMMP, as approved by DEQ and EPA, and with the Stormwater General Permit 1200-CA. Stockpiles will be managed to properly contain soil and avoid erosion by wind or stormwater (CH2M Hill and Alcoa 2007). Overall, the soil at Lot 1 is not expected to pose an unacceptable risk to human health or the environment.

The intended use will not result in the increase of a hazardous substance in a sensitive environment because it will be managed properly to avoid movement of soils offsite, in accordance with the CMMP (CH2M Hill and Alcoa 2007). Also, the soil generally meets the necessary screening levels for use at TRIP and is similar to soils containing residual contamination from Reynolds Metals Company's former operations. Because the Lot 1 soil does not contain constituents at levels greater than what is prevalent across the TRIP superfund site, placement of the material will not result in a significant increase of hazardous substances at the facility. Sensitive environments within one mile of the proposed stockpile location include the Sandy River, Salmon Creek and several jurisdictional wetlands. The stockpile area at TRIP is over 2,000 feet from the Sandy River and 3,300 feet from Salmon Creek. The nearest jurisdictional wetland at TRIP is approximately 400 feet away from the stockpile location. The material will be managed according to the CMMP and the General Stormwater Permit 1200-CA, to minimize the potential for soil from entering the nearby sensitive areas by wind or in runoff. Stockpile management is described in Section 10.0.

The intended use of Lot 1 soil at TRIP is not anticipated to create objectionable odors, dust, unsightliness, fire, or other nuisance conditions. No significant odor was observed in association with the material during 2015 sampling efforts and volatile contaminants are well below the occupational screening levels, therefore no objectionable odors are anticipated. Dust control will be implemented during excavation and the stockpiles will be managed to avoid release of fugitive dust into the environment. The material is similar in appearance to soils used at TRIP and does not pose any fire or other nuisance condition risks.

The intended use will comply with applicable federal, state, and local regulations. The excavation, transport, and placement of material will be conducted in accordance with the Riverscape Lot 1 Soil Management Plan, Oregon Department of Transportation regulations and the TRIP Contaminated Media Management Plan.

5.0 ANY OTHER INFORMATION THAT DEQ MAY REQUIRE TO EVALUATE THE PROPOSAL

In 2013, DEQ approved a BUD application allowing for transport of soil from nearby Riverscape Lots 9 through 12 to the TRIP facility. For the purpose of this similar application, DEQ requested new soil samples be collected and analyzed to supplement the existing soil characterization data and confirm the condition of the soil. In anticipation of this request, soil samples were collected in January 2015 from various depths throughout the planned excavation area at Lot 1. DEQ and the Port also requested additional sampling and analysis for total petroleum hydrocarbons (TPH), metals, PAHs, PCBs, VOCs, organochlorine pesticides and their related metabolites (OCs), fluoride and cyanide. The PCBs, VOCs, OCs, fluoride and cyanide were not considered contaminants of concern in the 2001 Terminal 1 South Remedial Investigation (Hahn 2001); they were analyzed in select samples because they are of concern to the Port, DEQ and EPA at the TRIP site. Figure 2 provides a site map of the Lot 1 property indicating locations and depths of recent and historical soil samples. To facilitate review, the historical data has been tabulated with the 2015 data and is provided in Table 1.

6.0 SAMPLING AND ANALYSIS OF THE MATERIAL

Soil samples have been collected from the Lot 1 site both in 1998 for the original characterization and in 2015 for further confirmation. Golder reviewed the available data in DEQ's Cleanup file (Environmental

Cleanup Site Information System site # 2642) and compiled data for comparison to occupational screening levels and regional background levels. Historical data includes samples collected from investigational borings in 1998. Golder conducted additional sampling by geoprobe in 2015.

Data are provided in Table 1 including sample depths, maximum detections, occupational screening levels, and regional background levels for selected metals. For all analytes, Method Detection Limits (MDLs) were below the relevant screening levels. Sample locations are provided in Figure 2.

A total of 13 samples were analyzed for gasoline, diesel and oil range petroleum hydrocarbons. Twelve samples were analyzed for a variety of metals. Ten samples were analyzed for PAHs. Four samples were analyzed for PCBs, VOCs, OCs, fluoride, and cyanide. All soil data are provided in Table 1.

7.0 COMPARISON OF ANALYTICAL RESULTS TO OCCUPATIONAL RISK BASED SCREENING LEVELS (OR REGIONAL BACKGROUND LEVEL)

Table 1 lists the analytical results for all relevant soil samples. Soil used at TRIP from offsite sources must not exceed occupational human health risk criteria for direct contact (i.e. soil ingestion, dermal contact, or inhalation) for the state of Oregon, hereafter referred to as occupational screening levels (EPA 2011, DEQ 2012). Regional background concentrations are substituted as screening levels for metals when the regional background level is higher than the occupational screening level or when no occupational screening level is provided. These levels apply to antimony, arsenic, chromium, selenium, and zinc (DEQ 2013). Any result above the occupational screening level, or naturally occurring background level for selected metals, is highlighted in yellow. In all cases, MDLs were below the occupational screening levels.

A total of 13 samples were analyzed for gasoline, diesel, and oil-range petroleum hydrocarbons. Gasoline-range hydrocarbons were not detected in any of the samples. Diesel-range petroleum hydrocarbons were detected in one sample and oil-range petroleum hydrocarbons were detected in six samples. None of these detections exceeded the occupational screening levels (Hahn 2001, Golder 2015a).

Twelve samples were analyzed for the presence of selected metals. All 2015 samples were analyzed for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. One 1998 sample was analyzed for metals including antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, and silver. There were no detections of antimony, beryllium, selenium, or silver. Other metals were detected in some or all samples; however, no metals were detected above the relevant screening levels (occupational or regional background) (Hahn 2001, Golder 2015a).

Ten samples were analyzed for the presence of PAHs. PAHs were not detected above occupational screening levels with the exception of benzo(a)pyrene. Benzo(a)pyrene was detected above the occupational screening level in 3 of the 10 samples with a maximum detection of 0.832 mg/kg compared to the 0.27 mg/kg occupational screening level. This maximum detection was encountered in Comp9-12_12-18 which was a composite from borings GP-9, GP-10, GP-11, and GP-12 all taken from depth 12 to 18 feet bgs. All other benzo(a)pyrene detections were below 0.35 mg/kg. The average benzo(a)pyrene detection across Lot 1 was 0.192 mg/kg, below the occupational screening level (Golder 2015a).

Five samples were analyzed for the presence of the 7 most common PCB Aroclors. No PCB Aroclors were detected in the soil samples. Four samples were analyzed for a broad spectrum of common VOCs. No VOCs were detected in any of the soil samples (Hahn 2001, Golder 2015a).

Cyanide, fluoride, and OCs were analyzed in 4 randomly selected samples in 2014 because they are of concern at the TRIP site. Cyanide was detected in one of the samples at a concentration of 0.165 micrograms per kilogram (µg/kg), well below the occupational screening level of 610 µg/kg. Fluoride was

not detected in any of the samples. OCs were typically not detected and were never detected above the occupational screening levels (Golder 2015a).

Based on these data, there are no significant exceedances of occupational screening levels or regional background levels within the planned extent of excavation for the Lot 1 project. Overall, the soil appears to meet the requirements for fill from offsite sources which can be used at the TRIP facility.

8.0 LOCATION/TYPE OF LAND USE WHERE THE MATERIAL WILL BE APPLIED

The TRIP site is located within the city of Troutdale in Multnomah County, Oregon. The facility lies just north of the Troutdale Airport and Interstate 84, south of the Columbia River levee, east of 223rd, and west of the Sandy River. The Port will initially place the soil in the areas noted as Stockpile E and Stockpile F on Figure 3. The soil is proposed to be stored at this location along with soil from other sources. Final placement of the soil will occur within the TRIP site boundaries, at the discretion of the Port and in compliance with the CMMP. According to the Port and based on City of Troutdale zoning, future land use will be General Industrial (GI). Based on the future use of the site, the occupational worker standards were selected by DEQ and EPA as the relevant screening levels for all contaminants except for selected metals which will be compared to regional background levels, see Table 1 for details. Attachment 2 provides additional detail regarding land use approvals and future development of TRIP.

9.0 CONTACT INFORMATION OF PROPERTY OWNER

Stan Jones
Port of Portland
7200 NE Airport Way
Portland, OR 97208
Phone: 503-415-6679
Fax: 503-548-5575
Stan.Jones@portofportland.com

Placement Site Address: Troutdale Reynolds Industrial Park, Troutdale, Oregon
Approximate Coordinates: 45° 33' 13" N, 122° 23' 56" W

10.0 DESCRIPTION OF HOW MATERIAL WILL BE MANAGED TO MINIMIZE POTENTIAL ADVERSE IMPACTS TO PUBLIC HEATLH, SAFETY, WELFARE, OR THE ENVIRONMENT

At Lot 1, the material will be managed according to a DEQ-approved Soil Management Plan. The construction zone will be fenced to prevent public access. Dust control measures, including misting with water, will be employed as necessary to prevent soil from moving offsite. Erosion control measures will be taken as needed in accordance with a stormwater construction permit, to be obtained. Soil will be loaded directly from the excavation to the haul trucks on site. If stockpiling becomes necessary, stockpiles will be covered and bermed to avoid movement of soil offsite. The soil will be transported to TRIP in covered trucks to avoid release to the environment (Golder 2015b).

Once it arrives at TRIP, the soil will be managed in accordance with the CMMP as approved by DEQ and EPA and in accordance with the Stormwater General Permit 1200-CA. Stockpiles will be managed to properly contain soil and avoid erosion by wind or stormwater. The Port will follow standard operating procedures for preventing erosion, as described in the TRIP On-Call Services for Receiving and Stockpiling Soil (Port of Portland 2010 and as updated periodically). When necessary to prevent soil from becoming airborne, the Port will employ best management practices such as covering stockpiles with tarps or misting water over the soil (CH2M Hill and Alcoa 2007).

The TRIP placement site is not easily accessible to the public and residential use of the site is prohibited through a 2007 Easement and Equitable Servitude. As demonstrated in Section 4.0 above, the material does not pose an unacceptable risk to human health or the environment.

11.0 REFERENCES

The following references were used to develop this application and are available in electronic form upon request.

CH2M Hill and Alcoa 2007. Contaminated Media Management Plan (CMMP) for the Former Reynolds Metals Company Facility in Troutdale, Oregon. October 2007.

Oregon Department of Environmental Quality (DEQ). 2002. Letter Re: Parcel C (Parcel 1) – No Further Action Determination Marine Terminal 1 South ECSI No. 2642, to Joe Mollusky from Rod Struck, dated August 27, Portland, OR.

DEQ 2012. Environmental Cleanup and Tanks Program Risk-Based Concentrations for Individual Chemicals. Revision June 7, 2012.

DEQ 2013. Development of Oregon Background Metals Concentrations in Soil. Technical Report. March.

United States Environmental Protection Agency (EPA) 2011. Letter to David J. Breen (Port) from Chip Humphrey (EPA) regarding use of material at TRIP. January 28.

Golder Associates, Inc. (Golder) 2014. Phase I Environmental Site Assessment: Riverscape Lot 1 NW Front Avenue and NW 15th Avenue, dated June 25, Portland, OR.

Golder 2015a. Riverscape Lot 1 – Pre-Construction Soil Sampling Analytical Results Technical Memorandum. Prepared by Golder Associates, Inc. for Fore Property Company, dated February 17, 2015.

Golder 2015b. Draft Soil Management Plan; Riverscape Lot 1; Portland, Oregon. Prepared by Golder Associates, Inc. for Fore Property Company, dated February 2015.

Hahn and Associates, Inc. (Hahn). 2001. Terminal 1 South Remedial Investigation Report. Prepared by Hahn and Associates, Inc., for The Port of Portland, dated July 12. Portland, OR.

SERA 2014. Riverscape Lot 1 Preliminary Schematic Design. Prepared by SERA for Fore Property Inc. Dated June 9.

12.0 CLOSING

Thank you for your time and consideration of this application. Please don't hesitate to call if you have any questions or concerns.

GOLDER ASSOCIATES INC.

Kelly Toynton, PE
Staff Environmental Engineer

Dave Seluga
Practice Leader, Associate

cc: Bill Mason, Oregon DEQ
Lee Novak, Fore Property
PJ Christopher, Port of Portland
Stan Jones, Port of Portland

Attachments and Enclosures:

Table 1. Soil Analytical Results for Riverscape Lot 1

Figure 1. Site Vicinity Map
Figure 2. Soil Sample Locations
Figure 3. Riverscape TRIP Material Placement Map

Attachment 1. Contaminated Media Management Plan (CMMP) for the Former Reynold's Metals Company Facility in Troutdale, Oregon
Attachment 2. TRIP Land Use Approvals, Existing Conditions and Zoning Description (provided by the Port of Portland)

KT/DS

TABLE

Table 1. Soil Analytical Results for Riverscape Lot 1

	Sample Location		B-1	B-2	B-2	Composite A	Comp1-4_0-6	Comp1-4_6-12	Comp1-4_12-18	Comp1-4_Ext	Dup (at 1-4_Ext)	Comp5-8_0-6	Comp5-8_6-12	Comp5-8_12-18	Comp9-12_0-6	Comp9-12_6-12	Comp9-12_12-18
	Sample Date		3/26/1998	3/26/1998	3/26/1998	3/26/1998	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015
	Sample Depth in Feet		9 to 11	4 to 6	9 to 11	0 to 2	0 to 6	6 to 12	12 to 18	20 to 60	20 to 60	0 to 6	6 to 12	12 to 18	0 to 6	6 to 12	12 to 18
	Occupational Screening Level[a]	Max															
Total Petroleum Hydrocarbons in mg/kg																	
Gasoline	20,000	U	20 U	20 U	NA	20 U	6.79 U	6.34 U	6.75 U	8.47 U	NA	6.48 U	6.72 U	6.42 U	6.7 U	6.65 U	6.61 U
Diesel	14,000	29.2	50 U	50 U	NA	50 U	25 U	25 U	25 U	27.9 U	NA	25.9 U	26.1 U	25.1 U	25 U	25 U	29.2 J
Oil	36,000	136	100 U	100 U	NA	100 U	136	50 U	50 U	55.8 U	NA	93.1	52.1 U	111	65.2	90.1	52.2 J
Metals in mg/kg																	
Antimony	0.56[b]	U	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	8.8[b]	3.69	NA	NA	2.72	NA	2.95	1.84	2.41	1.53	1.39	2.61	2.16	2.44	2.56	3.69	1.47
Barium	190,000[c]	121	NA	NA	NA	NA	74.4	67.7	70.8	121 J-	92.2	63.3	73.5	90.1	79.2	112	101
Beryllium	2,000[c]	U	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	510[c]	0.666	NA	NA	0.666	NA	0.244	0.245	0.277	0.272 U	0.264 U	0.248 U	0.233	0.226 U	0.294	0.435	0.248 U
Chromium	76[b]	18.1	NA	NA	18.1	NA	11.6	9.40	10.9	14.9	12.3	9.38	9.24	10.0	8.30	11.7	8.96
Copper	41,000[c]	12.4	NA	NA	12.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	800[c]	83.7	NA	NA	10 U	NA	21.2	6.50	34.9	9.71	10.2	17.8	7.83	83.7	6.53	17.4	13.7
Mercury	310[c]	0.148	NA	NA	0.05 U	NA	0.0888 U	0.0935 U	0.0963 U	0.109 U	0.106 U	0.0991 U	0.0934 U	0.0903 U	0.0939 U	0.0941 U	0.148
Nickel	20,000[c]	18.9	NA	NA	18.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	0.71[b]	U	NA	NA	0.5 U	NA	0.555 U	0.584 U	0.602 U	0.681 U	0.661 U	0.620 U	0.583 U	0.654 J	0.587 U	0.588 U	0.621 U
Silver	5,100[c]	U	NA	NA	1.0 U	NA	0.222 U	0.234 U	0.241 U	0.272 U	0.264 U	0.248 U	0.233 U	0.226 U	0.235 U	0.235 U	0.248 U
Polycyclic Aromatic Hydrocarbons (PAHs) in mg/kg																	
Acenaphthene	61,000	0.065	NA	NA	NA	NA	0.0213	0.00914 U	0.0392	0.0251	NA	0.00997 U	0.0101 U	0.0583	0.0104 U	0.0105 U	0.065
Acenaphthylene	-	0.134	NA	NA	NA	NA	0.0114	0.00914 U	0.0456	0.0195	NA	0.00997 U	0.0149	0.0492	0.0104 U	0.0105 U	0.134
Anthracene	310,000	0.255	NA	NA	NA	NA	0.0493	0.00931	0.175	0.0384	NA	0.00997 U	0.0128	0.137	0.0104 U	0.0156	0.255
Benzo(a)anthracene	2.7	0.863	NA	NA	NA	NA	0.113	0.0397	0.329	0.0964	NA	0.0329	0.0665	0.323	0.0266	0.0569	0.863 J
Benzo(a)pyrene	0.27	0.832	NA	NA	NA	NA	0.0937	0.0325	0.300	0.0793	NA	0.0334	0.109	0.346	0.0256	0.067	0.832 J
Benzo(b+k)fluoranthene	2.7, 27	1.12	NA	NA	NA	NA	0.156	0.066	0.412	0.125	NA	0.0556	0.178	0.492	0.0451	0.122	1.12 J
Benzo(ghi)perylene	-	0.328	NA	NA	NA	NA	0.0675	0.0214	0.136	0.0366	NA	0.0254	0.102	0.186	0.0242	0.0527	0.328
Chrysene	250	1.04	NA	NA	NA	NA	0.139	0.0461	0.402	0.108	NA	0.0391	0.0809	0.4	0.034	0.0742	1.04 J
Dibenz(a,h)anthracene	0.27	0.0952	NA	NA	NA	NA	0.011	0.00914 U	0.0348	0.0112 U	NA	0.00997 U	0.0181	0.0417	0.0104 U	0.0105 U	0.0952
Dibenzofuran	-	0.0191	NA	NA	NA	NA	0.0191	0.00914 U	0.0129	0.0112 U	NA	0.00997 U	0.0101 U	0.0154	0.0104 U	0.0105 U	0.0167
Fluoranthene	29,000	1.41	NA	NA	NA	NA	0.27	0.0502	0.613	0.147	NA	0.0572	0.0869	0.586	0.0442	0.0948	1.41 J
Fluorene	41,000	0.077	NA	NA	NA	NA	0.0162	0.00914 U	0.052	0.0206	NA	0.00997 U	0.0101 U	0.0517	0.0104 U	0.0105 U	0.077
1-Methylnaphthalene	-	0.358	NA	NA	NA	NA	0.0563	0.0207	0.143	0.0395	NA	0.0221	0.1	0.19	0.0186	0.0503	0.358
2-Methylnaphthalene	-	0.0251	NA	NA	NA	NA	0.0101 U	0.00914 U	0.0172	0.0131	NA	0.00997 U	0.0101 U	0.0153	0.0104 U	0.0105 U	0.0251
Indeno(1,2,3-cd)pyrene	2.7	0.0389	NA	NA	NA	NA	0.0153	0.00914 U	0.026	0.0222	NA	0.00997 U	0.0101 U	0.02	0.0104 U	0.0126	0.0389
Naphthalene	23	0.068	NA	NA	NA	NA	0.0221	0.00914 U	0.0366	0.0445	NA	0.0107	0.0124	0.0357	0.0104 U	0.0222	0.068
Phenanthrene	-	0.823	NA	NA	NA	NA	0.2	0.0367	0.585	0.106	NA	0.0423	0.0375	0.426	0.0351	0.0671	0.823 J
Pyrene	21,000	1.81	NA	NA	NA	NA	0.275	0.0646	0.746	0.181	NA	0.0679	0.11	0.703	0.0556	0.114	1.81 J
Polychlorinated Biphenyls (PCBs) in mg/kg																	
Aroclor 1016	-	U	NA	NA	NA	0.05 U	0.0112 U	NA	NA	0.0132 U	NA	NA	NA	0.0111 U	NA	0.0113 U	NA
Aroclor 1221	-	U	NA	NA	NA	0.1 U	0.0112 U	NA	NA	0.0132 U	NA	NA	NA	0.0111 U	NA	0.0113 U	NA
Aroclor 1232	-	U	NA	NA	NA	0.05 U	0.0112 U	NA	NA	0.0132 U	NA	NA	NA	0.0111 U	NA	0.0113 U	NA
Aroclor 1242	-	U	NA	NA	NA	0.05 U	0.0112 U	NA	NA	0.0132 U	NA	NA	NA	0.0111 U	NA	0.0113 U	NA
Aroclor 1248	-	U	NA	NA	NA	0.05 U	0.0112 U	NA	NA	0.0132 U	NA	NA	NA	0.0111 U	NA	0.0113 U	NA
Aroclor 1254	-	U	NA	NA	NA	0.05 U	0.0112 U	NA	NA	0.0132 U	NA	NA	NA	0.0111 U	NA	0.0113 U	NA
Aroclor 1260	-	U	NA	NA	NA	0.05 U	0.0112 U	NA	NA	0.0132 U	NA	NA	NA	0.0111 U	NA	0.0113 U	NA
Total PCBs	0.56	U	NA	NA	NA	0.4 U	0.0784 U	NA	NA	0.0924 U	NA	NA	NA	0.0777 U	NA	0.0791 U	NA
Volatile Organic Compounds (VOCs) in µg/kg																	
Acetone	-	U	NA	NA	NA	NA	1360 U	NA	NA	1690 U	NA	NA	NA	1280 U	NA	1330 U	NA
Benzene	34,000	U	NA	NA	NA	NA	17 U	NA	NA	21.2 U	NA	NA	NA	16.1 U	NA	16.6 U	NA
Bromobenzene	-	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Bromochloromethane	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA

Table 1. Soil Analytical Results for Riverscape Lot 1 - continued

		Sample Location	B-1	B-2	B-2	Composite A	Comp1-4_0-6	Comp1-4_6-12	Comp1-4_12-18	Comp1-4_Ext	Dup (Comp1-4_Ext	Comp5-8_0-6	Comp5-8_6-12	Comp5-8_12-18	Comp9-12_0-6	Comp9-12_6-12	Comp9-12_12-18
		Sample Date	3/26/1998	3/26/1998	3/26/1998	3/26/1998	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015
		Sample Depth in Feet	9 to 11	4 to 6	9 to 11	0 to 2	0 to 6	6 to 12	12 to 18	20 to 60	20 to 60	0 to 6	6 to 12	12 to 18	0 to 6	6 to 12	12 to 18
	Occupational Screening Level[a]	Max															
VOCs in µg/kg - continued																	
Bromodichloromethane	15,000	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
Bromoform	240,000	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
Bromomethane	710,000	U	NA	NA	NA	NA	679 U	NA	NA	847 U	NA	NA	NA	642 U	NA	665 U	NA
2-Butanone (MEK)	-	U	NA	NA	NA	NA	1360 U	NA	NA	1690 U	NA	NA	NA	1280 U	NA	1330 U	NA
n-Butylbenzene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
sec-Butylbenzene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
tert-Butylbenzene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
Carbon tetrachloride	31,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Chlorobenzene	8,300,000.00	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Chloroethane	-	U	NA	NA	NA	NA	679 U	NA	NA	847 U	NA	NA	NA	642 U	NA	665 U	NA
Chloroform	25,000.00	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
Chloromethane	25,000,000	U	NA	NA	NA	NA	340 U	NA	NA	424 U	NA	NA	NA	321 U	NA	333 U	NA
2-Chlorotoluene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
4-Chlorotoluene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
1,2-Dibromo-3-chloropropan	-	U	NA	NA	NA	NA	340 U	NA	NA	424 U	NA	NA	NA	321 U	NA	333 U	NA
Dibromochloromethane	16,000	U	NA	NA	NA	NA	136 U	NA	NA	169 U	NA	NA	NA	128 U	NA	133 U	NA
1,2-Dibromoethane (EDB)	680.00	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Dibromomethane	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
1,2-Dichlorobenzene	290,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
1,3-Dichlorobenzene	-	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
1,4-Dichlorobenzene	63,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Dichlorodifluoromethane	-	U	NA	NA	NA	NA	136 U	NA	NA	169 U	NA	NA	NA	128 U	NA	133 U	NA
1,1-Dichloroethane	250,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
1,2-Dichloroethane (EDC)	15,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
1,1-Dichloroethene	2,000,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
cis-1,2-Dichloroethene	2,000,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
trans-1,2-Dichloroethene	9,200,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
1,2-Dichloropropane	-	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
1,3-Dichloropropane	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
2,2-Dichloropropane	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
1,1-Dichloropropene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
cis-1,3-Dichloropropene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
trans-1,3-Dichloropropene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
Ethylbenzene	140,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Hexachlorobutadiene	-	U	NA	NA	NA	NA	136 U	NA	NA	169 U	NA	NA	NA	128 U	NA	133 U	NA
2-Hexanone	-	U	NA	NA	NA	NA	1360 U	NA	NA	1690 U	NA	NA	NA	1280 U	NA	1330 U	NA
Isopropylbenzene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
4-Isopropyltoluene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
4-Methyl-2-pentanone (MIBK	-	U	NA	NA	NA	NA	679 U	NA	NA	847 U	NA	NA	NA	642 U	NA	665 U	NA
Methyl tert-butyl ether (MTBE	1,000,000	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
Methylene chloride	-	U	NA	NA	NA	NA	340 U	NA	NA	424 U	NA	NA	NA	321 U	NA	333 U	NA
Naphthalene	23,000	U	NA	NA	NA	NA	136 U	NA	NA	169 U	NA	NA	NA	128 U	NA	133 U	NA
n-Propylbenzene	-	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Styrene	120,000,000	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
1,1,1,2-Tetrachloroethane	-	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
1,1,2,2-Tetrachloroethane	-	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Tetrachloroethene (PCE)	940,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Toluene	77,000,000	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
1,2,3-Trichlorobenzene	-	U	NA	NA	NA	NA	340 U	NA	NA	424 U	NA	NA	NA	321 U	NA	333 U	NA

Table 1. Soil Analytical Results for Riverscape Lot 1 - continued

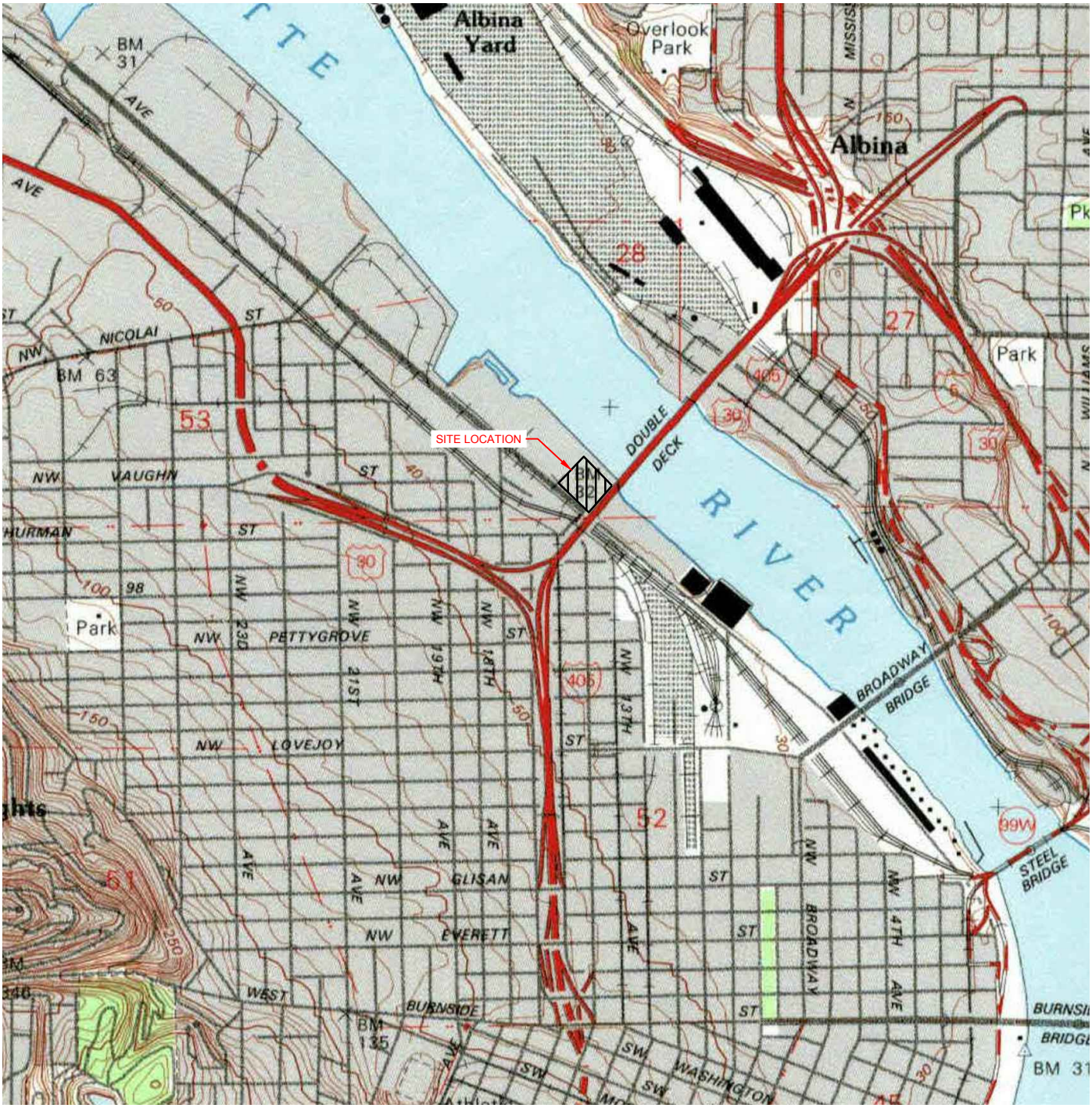
		Sample Location	B-1	B-2	B-2	Composite A	Comp1-4_0-6	Comp1-4_6-12	Comp1-4_12-18	Comp1-4_Ext	Dup (Comp1-4_Ext	Comp5-8_0-6	Comp5-8_6-12	Comp5-8_12-18	Comp9-12_0-6	Comp9-12_6-12	Comp9-12_12-18
		Sample Date	3/26/1998	3/26/1998	3/26/1998	3/26/1998	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015	1/28/2015
		Sample Depth in Feet	9 to 11	4 to 6	9 to 11	0 to 2	0 to 6	6 to 12	12 to 18	20 to 60	20 to 60	0 to 6	6 to 12	12 to 18	0 to 6	6 to 12	12 to 18
	Occupational Screening Level[a]	Max															
VOCs in µg/kg - continued																	
1,2,4-Trichlorobenzene	-	U	NA	NA	NA	NA	340 U	NA	NA	424 U	NA	NA	NA	321 U	NA	333 U	NA
1,1,1-Trichloroethane	830,000,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
1,1,2-Trichloroethane	25,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Trichloroethene (TCE)	46,000	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Trichlorofluoromethane	120,000,000	U	NA	NA	NA	NA	136 U	NA	NA	169 U	NA	NA	NA	128 U	NA	133 U	NA
1,2,3-Trichloropropane	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
1,2,4-Trimethylbenzene	2,000,000	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
1,3,5-Trimethylbenzene	10,000,000	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
Vinyl chloride	3,900	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
m,p-Xylene	-	U	NA	NA	NA	NA	67.9 U	NA	NA	84.7 U	NA	NA	NA	64.2 U	NA	66.5 U	NA
o-Xylene	-	U	NA	NA	NA	NA	34 U	NA	NA	42.4 U	NA	NA	NA	32.1 U	NA	33.3 U	NA
Total Xylenes	25,000,000	U	NA	NA	NA	NA	101.9 U	NA	NA	127.1 U	NA	NA	NA	96.3 U	NA	99.8 U	NA
Organochlorine Pesticides in µg/kg																	
Aldrin	110	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
alpha-BHC	310	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
beta-BHC	-	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
delta-BHC	-	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
gamma-BHC (Lindane)	1,700	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
cis-Chlordane	-	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
trans-Chlordane	-	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
4,4'-DDD	1,100	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
4,4'-DDE	7,600	2.20	NA	NA	NA	NA	2.20 J+	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
4,4'-DDT	7,700	2.59	NA	NA	NA	NA	2.59 J+	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
Dieldrin	130	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
Endosulfan I	-	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
Endosulfan II	-	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
Endosulfan (alpha-beta)[d]	4,600	U	NA	NA	NA	NA	3.06 U	NA	NA	3.62 U	NA	NA	NA	2.98 U	NA	3.06 U	NA
Endosulfan sulfate	-	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
Endrin	230,000	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
Endrin aldehyde	-	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
Endrin ketone	-	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.64 U	NA	1.53 U	NA
Heptachlor	460	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
Heptachlor epoxide	240	U	NA	NA	NA	NA	1.53 U	NA	NA	1.81 U	NA	NA	NA	1.49 U	NA	1.53 U	NA
Methoxychlor	-	U	NA	NA	NA	NA	4.6 U	NA	NA	5.43 U	NA	NA	NA	4.48 U	NA	4.6 U	NA
Chlordane (Technical)	7,000	U	NA	NA	NA	NA	46 U	NA	NA	54.3 U	NA	NA	NA	44.8 U	NA	46 U	NA
Toxaphene (Total)	2,000	U	NA	NA	NA	NA	46 U	NA	NA	54.3 U	NA	NA	NA	44.8 U	NA	46 U	NA
Selected Inorganics in mg/kg																	
Fluoride	-	U	NA	NA	NA	NA	11.2 U	NA	NA	13.3 U	NA	NA	NA	11.0 U	NA	11.4 U	NA
Cyanide	610	0.165	NA	NA	NA	NA	0.109 U	NA	NA	0.131 U	NA	NA	NA	0.165	NA	0.111 U	NA

Notes

mg/kg = Milligrams per kilogram (ppm)
µg/kg = Micrograms per kilogram (ppb)
U = Not detected above the indicated method reporting limit (MRL) (detection limit for selenium)
Max is the highest detected value
Yellow indicates the sample result is above the listed screening level
- = No screening level listed
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethene
DDT = Dichlorodiphenyltrichloroethane
BHC = Beta-hexachlorocyclohexane (also called HCH or Hexachlorocyclohexane)
NA = Not analyzed

Comp = Composite sample from selected borings at selected depth (example: Comp1-4_0-6 is a composite from GP-1, GP-2, GP-3, and GP-4, each collected from 0-6 feet below ground)
Composite A includes soil from B-1 and B-2
Urban Residential Screening Level is for the direct contact exposure pathway (ingestion, dermal, inhalation) from DEQ Risk Based Concentrations June 2012
Total PCBs are reported as the sum of PCB detections plus MRLs for PCBs which were not detected
[a] = Screening levels vary for metals and are either the regional background concentration or the occupational screening level, as noted
[b] = This screening level is the regional background concentration in the Portland Basin (DEQ 2013) and replaces the occupational screening level for the TRIP site (EPA 2011, Port)
[c] = Urban Residential Screening Level is for the direct contact exposure pathway (ingestion, dermal, inhalation) from DEQ Risk Based Concentrations for Individual Chemicals June 2012
[d] = Endosulfan (alpha-beta) is reported as the sum of Endosulfan I and II detections (MDLs are substituted for non-detects)
J = Result is estimated due to variations in analyte peaks or matrix spike recovery, see Attachment 2
J+ = Result may be biased high due to poor calibration certification verification performance
J- = Result may be biased low due to matrix spike recovery below control limits

FIGURES



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAP, PORTLAND, OREGON, 1990.

0 1000 2000
SCALE FEET

CLIENT
FORE PROPERTY COMPANY

PROJECT
BUD APPLICATION
RIVERSCAPE LOT 1
PORTLAND, OREGON

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-02-13
PREPARED	KT
DESIGN	BMS
REVIEW	KT
APPROVED	DS

TITLE
SITE VICINITY MAP

PROJECT No.	PHASE	Rev.	FIGURE
1303036	004	000	001

Path: \\portland\Geomatics\Fore Property Company\Riverscape Lot 1\99_PROJECTS\1303036\Phase 004\02_PRODUCTION\DWG\ | File Name: 1303036.004 - 001 - Site Vicinity Map.dwg

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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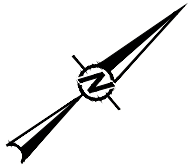

LEGEND

- PROPERTY BOUNDARY
- PLANNED EXCAVATION
- PLANNED UTILITIES
- 20-FT CONCRETE SEAWALL
- HISTORICAL RAILROAD TRACKS
- EXCAVATION AREA
- B-1 — B-1 AND B-2 ARE 1998 SOIL SAMPLE LOCATIONS (HAHN AND ASSOCIATES, 2001)
- GP-1 — GP-1 THROUGH GP-12 ARE 2015 SAMPLE LOCATIONS (GOLDER 2015)

NOTES

ALL LOCATIONS ARE APPROXIMATE.

0 30 60
SCALE FEET

CLIENT
FORE PROPERTY COMPANY

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-02-13
PREPARED	KT
DESIGN	BMS
REVIEW	KT
APPROVED	DS

PROJECT
BUD APPLICATION
RIVERSCAPE LOT 1
PORTLAND, OREGON

TITLE
SAMPLE LOCATIONS

PROJECT No.	PHASE	Rev.	FIGURE
1303036	004	000	002

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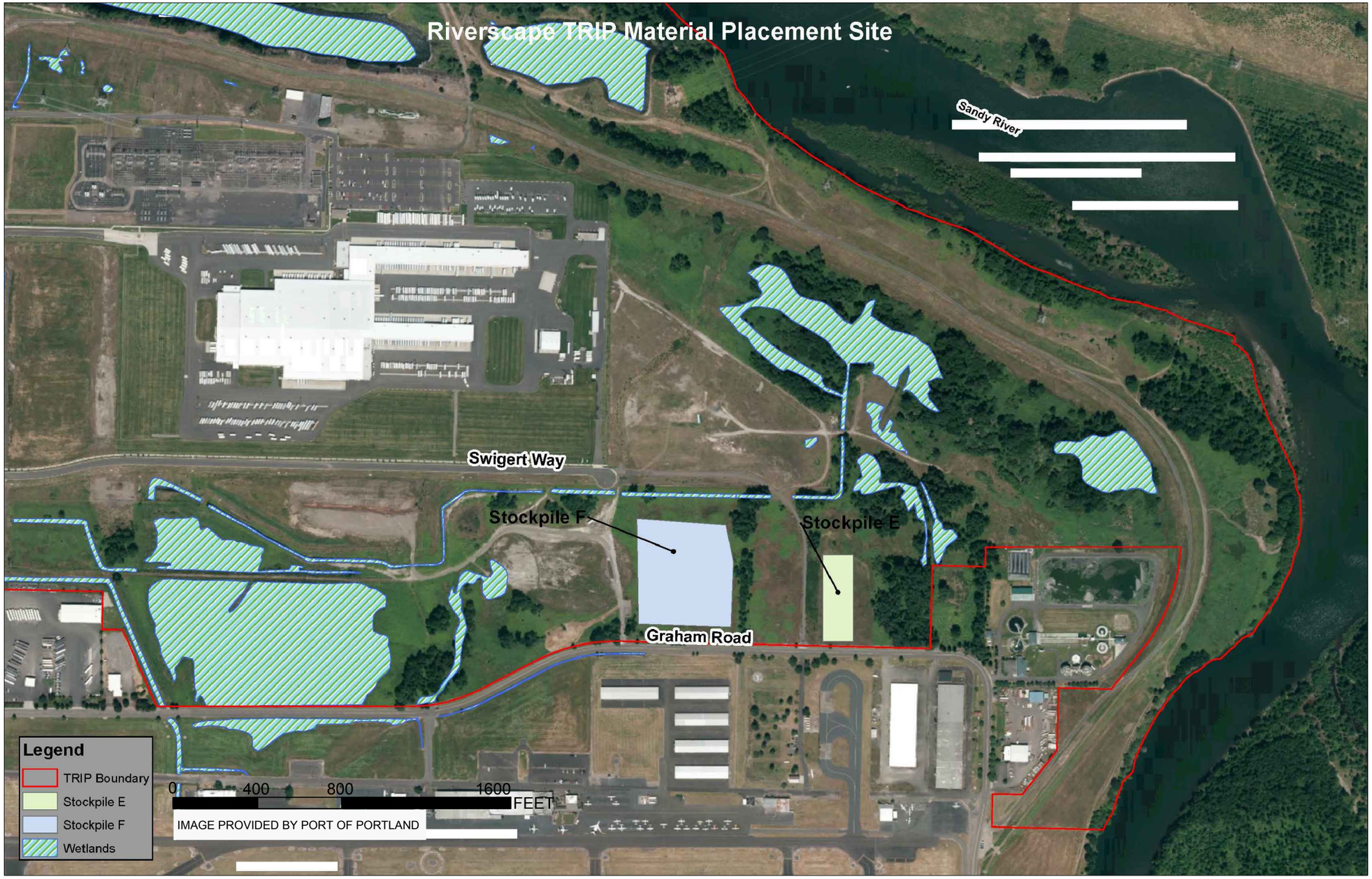
1 in
0



SITE LOCATION - NTS
SOURCE: GOOGLE EARTH, 2013.

CLIENT
FORE PROPERTY COMPANY

CONSULTANT

YYYY-MM-DD	2015-02-16
PREPARED	BMS
DESIGN	BMS
REVIEW	KT
APPROVED	DS

PROJECT
BUD APPLICATION
RIVERSCAPE LOT 1
PORTLAND, OREGON

TITLE
RIVERSCAPE TRIP MATERIAL PLACEMENT MAP

PROJECT No.	PHASE	Rev.	FIGURE
1303036	004	000	3

Path: \\Pn1-vfs1\Geomatics\Fore Property Company\Riverscape Lot 1\09_PROJECTS\1303036\Phase 004\02_PRODUCTION\DWGs | File Name: 1303036.004 - 003 - Trip Material Placement.dwg
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ATTACHMENT

ATTACHMENT 1

CONTAMINATED MEDIA MANAGEMENT PLAN (CMMP) FOR THE FORMER REYNOLDS METALS COMPANY FACILITY IN TROUTDALE, OREGON

Final Report

Contaminated Media Management Plan (CMMP)

for the Former Reynolds Metals Company Facility in Troutdale, Oregon

October 2007

Prepared by

CH2MHILL
and Alcoa, Inc.

Printed on Recycled and Recyclable Paper

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Appendixes

A DEQ Contained In Determination for Soil
B DEQ Contained In Determination for Groundwater

Tables (located at the end of the text)

1 Analytical Results for Soil and Sediment Samples Taken from the South Wetlands
2 Analytical Results for Sediment Samples Normalized for PAHs and Pesticides
3 Pipeline Soil Samples in the East Potliner Area

Figures (located at the end of the text, after the tables)

1 Site Map
2 South Wetlands
3 East Potliner
4 Fluoride Concentration Contour Map (August 1997, June and August 1998), Silt Unit
5 Fluoride Concentration Contour Map (August 1997, June and August 1998), Upper Gray Sand
6 Fluoride Concentration Contour Map (August 1997, June and August 1998), Intermediate-Depth Sand
7 Fluoride Concentration Contour Map (August 1997, June and August 1998), Deep Sand/Gravel

SECTION 1

Introduction

Although significant remediation efforts have taken place, contaminated soil or groundwater (contaminated media) remains at the former Reynolds Metals Company (RMC) facility in Troutdale, Oregon. This Contaminated Media Management Plan (CMMP) summarizes the proper management of any contaminated media in the event that they are encountered during future development of the site. This CMMP is intended to communicate methods and practices to future developers that are (a) consistent with recent remediation efforts employed to protect human health and the environment and (b) approved by the Oregon Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (EPA). This CMMP will become part of the institutional controls for the site.

The environmental media management procedures set forth in this CMMP do not prevent any party from seeking pre-approval of an alternative procedure allowed by law for managing environmental media on the property. Such pre-approval shall be obtained from the appropriate governmental agency after consultation with the DEQ and EPA project coordinators identified in paragraph 107 of the Final Consent Decree.

1.1 Purpose

This CMMP has been developed to ensure that future developers at the site manage contaminated media consistent with approved handling and disposal methods for the RMC-Troutdale facility. This CMMP presents the processes and procedures that are required to handle contaminated material encountered during construction or future use of the site. The final version of this CMMP will be referenced in the approved institutional controls for the site.

1.2 Limitations

This document is intended only to provide procedures for identification and handling of contaminated media encountered during redevelopment of the former RMC-Troutdale facility. It is not intended to suggest or provide health and safety level information for the protection of construction workers. Individuals and parties who are tasked with conducting construction activities at this site should read this document and the documents referenced herein. They should also consult an Industrial Hygienist and/or Environmental Professional regarding performance of their own hazard assessments to determine appropriate health and safety measures.

1.3 Organization

Subsequent sections of this CMMP are organized as follows:

- **Section 2** provides site description and background information on the facility. It also identifies general soil and groundwater conditions in the project area.
- **Section 3** describes contaminated media management for the South Wetlands area.
- **Section 4** describes contaminated media management for the east potliner area.
- **Section 5** describes procedures for unanticipated materials that might be discovered during construction.

Tables and figures (located at the end of the text) present a summary of analytical data and show the site layout, as well as the locations of the areas of concern.

SECTION 2

Site Overview

2.1 Project Area Setting and History

The RMC-Troutdale facility, consisting of approximately 693 acres, is located just north of the city of Troutdale, in Multnomah County, Oregon (see Figure 1). The facility was originally constructed in 1941 for wartime operations as an aluminum reduction plant. Environmental investigation and sampling started in 1994. Since that time, RMC has undertaken a number of remedial actions to address the environmental concerns at this facility. In 2006, the demolition of the plant was completed and a final risk assessment was conducted to ensure that contaminants that have been left onsite do not present an elevated risk to future tenants or the environment. Two specific areas of concern on this site are the South Wetlands and the east potliner area. These areas are described in more detail in Sections 3 and 4, respectively.

2.2 Geology

Situated in a historic flood plain and river delta, the site is relatively flat. The general site geologic profile consists of well-graded sands with layers or lenses of silt, silty sands, and sandy silts to approximately 40 feet below ground surface (bgs), followed by well-graded sands to about 170-feet bgs. Layers of silt and sands are found below this area of well-graded sands. Well-graded gravels have been encountered at approximately 281 feet bgs to more than 400-feet bgs.

2.3 Groundwater

During the course of the investigations conducted since 1994, the facility was divided into four water-bearing zones. The four zones are defined by the site stratigraphy and the depths at which monitoring wells have been constructed. These four zones and their nomenclature are as follows:

- **Silt Unit.** Where present, the silt unit extends from ground surface to between 20 and 40 feet bgs.
- **Upper Gray Sand (UGS).** The UGS extends to a depth of approximately 50 feet bgs. It is present at the ground surface north of the U.S. Army Corps of Engineers flood control dike and lies beneath the silt unit south of the dike.
- **Intermediate Sand.** The intermediate sand extends from the base of the UGS to a depth of about 100 feet bgs.
- **Deep Sand/Gravel.** The deep sand/gravel extends from the base of the intermediate sand to a depth of 200 feet bgs.

Groundwater can be encountered at approximately 12 to 18 feet bgs throughout the site.

2.4 Soil Conditions

Potentially developable areas where contaminants in waste and soil remain onsite include the South Wetlands and the east potliner area (described in Sections 3 and 4, respectively). The site cleanup process that was approved by EPA and DEQ for this facility was based on both cleanup goals and a visual cleanup standard, followed by confirmation sampling and a sitewide risk assessment. The results of the risk assessment show that the remaining soils currently onsite may contain contaminants but do not pose an unacceptable risk to construction workers or for industrial use and, in general, can be reused at the site as needed, except that soils that exceed ecological criteria may not be placed in areas outside the U.S. Army Corps of Engineers levee. Unless otherwise specified in this document, soils across the entire site can be reused at the site without further testing.

2.5 Groundwater Conditions

Environmental investigations show that groundwater in some areas of this site has elevated levels of fluoride (see Figures 4 through 7 for the approximate locations of contaminated groundwater). Groundwater within or near the identified contaminated areas must be characterized for proper management. A groundwater focused extraction system is currently operating in the southeast quarter of the facility. This system is designed to capture and dispose of groundwater containing high concentrations of fluoride in the UGS beneath a former soil source area.

For the majority of the site, the groundwater could in the future be disposed of in (a) the city of Troutdale's sanitary sewer system, under the terms of a City of Troutdale Industrial Batch Discharge Permit (provided the facility is first annexed into the city of Troutdale), or (b) the Columbia River, under the terms of a National Pollutant Discharge Elimination System (NPDES) permit, which is being renewed and modified under an application pending before DEQ, or (c) in any other manner allowable under applicable laws, after obtaining approval from the appropriate government agency and in consultation with the DEQ and EPA project coordinators identified in Section 1.

The groundwater around the former east potliner area may require special handling and is discussed in Section 4.5.

SECTION 3

South Wetlands

3.1 Description and History of South Wetlands

South Wetlands is located south of the former RMC reduction plant and is shown on Figure 2. The approximately 23-acre South Wetlands area includes a small portion to the northwest that is covered by sand from the former Building 97 wet scrubber subarea and the railroad embankment that traverses the northern third of the wetlands from east to west.

Between 1941 and 1965, the South Wetlands area was used as a settling pond for discharged wastewater from the processing facilities. According to aerial photographs, the former discharge pond extended just south of the current Graham Road and north into the existing Building 97 subarea. After 1965, the discharge water was diverted and sand fill was placed in the Building 97 subarea so that a wet scrubber system could be installed. The wet scrubber and its foundations have since been removed.

Currently, the South Wetlands supports primarily wetland-type plants, such as reed canary grass, and is densely vegetated. The U.S. Fish and Wildlife Service (USFWS) has classified South Wetlands as a Palustrine Emergent Wetland as part of its National Wetland Inventory (NWI). The U.S. Army Corps of Engineers (COE) has made no jurisdictional determination of South Wetlands. Surface water forms ponds in this area only during the rainy season, when groundwater elevations are high. The primary sources of water flowing into South Wetlands are listed below:

- Direct precipitation
- Groundwater discharge
- Stormwater/groundwater flows from the overflow of the old Salmon Creek channel east of the wetlands
- Stormwater from the culvert connected to the ditch south of Graham Road
- Stormwater from a street catch basin near the eastern edge of the wetlands, north of Graham Road
- Stormwater from South Ditch via an overflow weir (prior to plant demolition, these waters were pumped to Company Lake)

Surface water currently discharges from South Wetlands through the west drainage into Salmon Creek and ultimately to the Columbia River.

3.2 Environmental Activities in South Wetlands

This section summarizes the environmental investigations and removals conducted at South Wetlands from 1994, when RMC began its pre- Remedial Investigation/Feasibility Study

(RI/FS) evaluations, through 2006. These investigations are documented in the following reports:

- *Removal Site Assessment Report, Volume 1, Technical Report, and Volume 2, Technical Appendixes* (CH2M HILL, January 1995)
- *Technical Memorandum DS No. 8: South Wetlands Study Area Supplemental Data-Gathering Summary* (CH2M HILL, January 3, 1996)
- Draft Current Situation Summary (CH2M HILL, April 5, 1996)
- *Technical Memorandum DS No. 14: Data Summary for the South Wetlands Addendum to the RI/FS Work Plan, Part 1 – Soil, Surface Water, and Groundwater Quality* (CH2M HILL, February 12, 1997)
- *Technical Memorandum No. 8: South Wetlands PCB Area Excavation Final Summary* (CH2M HILL, January 4, 2000)
- *Draft Final Focused Feasibility Study* (CH2M HILL, June 2000)
- *Technical Memorandum No. 21: Data Report – South Plant RR Fill Embankment Investigation, Post-Demolition RI/RA* (CH2M HILL, January 10, 2005)
- *Post-Demolition Residual Risk Assessment* (CH2M HILL, June 2006)

Figure 2 shows the locations of all representative samples of remaining soils collected in the South Wetlands.

3.3 Contaminants of Concern

Environmental investigations in the South Wetlands over the years have included collection and analysis of surface and subsurface soil samples in South Wetlands, the railroad embankment, and the Building 97 subarea. Table 1 presents a summary of the analytical results representative of the soils remaining within the South Wetlands area. Sections 3.3.1 and 3.3.3 focus on the contaminants of concern in the wetlands proper and in the railroad embankment, respectively. Remedial actions within the South Wetlands area have been limited and focused solely on hot spots.

3.3.1 South Wetlands

The primary source of contaminants in the main South Wetlands area is process residue solids deposited from past wastewater discharges. Because wastewater flows consisted of varying concentrations of contaminants, the contaminants are widely distributed with variable concentrations. The process residue exists in a layer approximately 4 to 17 inches thick in near-surface soil, except in the Building 97 subarea and the southern portion of South Wetlands, where it is thinner or nonexistent. The estimated volume of process residue is approximately 48,000 cubic yards. The contaminant distribution is generally within the elevation line of the historical operating water level in the old discharge pond (approximately 18 feet National Geodetic Vertical Datum [NGVD] 29), with high concentrations in the historical “low” spots and lower concentrations and thinner layers at the perimeters.

Four soil layers were noted in the shallow subsurface soil: process residue, a silt layer, organically rich material, and silt with clay. Constituent concentrations were greatest in the top (process residue) layer. The silt layer underlying the process residue was not consistently analyzed; therefore, it is uncertain how much leaching into this layer may have occurred. The two bottom layers showed low to nondetectable concentrations of contaminants. However, in areas with no visible process residue, there were still low but detectable concentrations of some constituents (such as cyanide, polychlorinated biphenyls [PCBs], and polynuclear aromatic hydrocarbons [PAHs]) in surface soils.

Constituents detected at elevated levels in South Wetlands include the following:

- Fluoride
- PCBs
- PAHs
- Metals (copper, mercury, vanadium)
- Cyanide

3.3.2 Visual Description of Process Residue

Process residue in this area is a fine material that has a bluish-gray to black coloration, often with streaks or thin lenses of lighter gray material running through it. The process residue is distinctly darker than the native silty soils in this area.

3.3.3 Railroad Embankment

The railroad embankment is a fill area constructed primarily of used refractory brick, which was staged with other waste on the south landfill prior to use as fill in the wetlands. The fines in the fill materials contain constituents similar to those found in the South Wetlands. The west portion of the railroad embankment was removed in January 2006; this removed portion is outside the South Wetlands boundary indicated in Figure 2. The rest of the embankment remains in place. A summary of the results of samples collected along the remaining portion of the railroad embankment is included in Table 1.

Constituents detected at elevated levels along the railroad embankment include the following:

- Fluoride
- PAHs

3.4 Management of Contaminated Soil

Any activities conducted within the South Wetlands that disturb soil could affect contaminated soils. All soil-disturbing activities (for example, constructing utilities, buildings, or foundations) shall follow the management practices below:

- Clean, cut vegetation may be removed from the South Wetlands at the owner's discretion. Grubbed vegetation materials containing contaminated soil from within the wetlands may be stockpiled and allowed to decompose within the wetland provided the decomposed stockpiled materials are finish graded to an elevation no higher than 18 feet NGVD.

- Excavated contaminated surface soil may be disposed of offsite in a Subtitle D landfill.
- Excavated contaminated surface soil may be placed back into the South Wetlands if placed adjacent to the excavation and finish graded to an elevation no higher than 18 feet NGVD.
- Excavated contaminated surface soil may be backfilled into the same excavation from which it was taken, provided the excavation has not penetrated through the layer of contaminated soil into the clean subsurface soil such that contaminated soil would end up at a lower elevation than currently exists or be mixed with clean soil. If an excavation penetrates the contaminated surface layer into the clean subsurface layer, then backfill may be accomplished only with clean backfill materials or with material taken from other areas of the former RMC facility. (See last bullet item.)
- Excavated contaminated surface soil from the South Wetlands may not be placed back into the wetlands in any area that has been covered with a layer of clean soil or in other areas of the property that are known to be free of contamination.
- The former railroad embankment may be graded into the wetlands area provided that the finished elevation of such materials does not exceed 18 feet NGVD.
- Before occupational use of South Wetlands may occur, the wetlands must be covered by a minimum of one foot of clean backfill or backfill material from other areas of the former RMC facility. Prior to such backfilling, Oregon DEQ shall be notified of the source of the backfill material and confirmation shall be made that the requirements of the Record of Decision, including this CMMP, will be followed.

3.5 Management of Groundwater and Surface Water

Any surface water or groundwater that must be managed due to construction or redevelopment activities within the South Wetlands boundary may be impounded within the South Wetlands boundary and allowed to reinfiltrate or, after evaluation for proper management, may be discharged under either a future DEQ-issued NPDES permit or a future City of Troutdale Industrial Batch Discharge Permit. The NPDES permit renewal application submitted to DEQ requests the addition of construction dewatering water to allow for this type of discharge, provided it is performed within the constraints of the permit. The renewed permit is expected to be finalized before the end of 2007. This permit is transferable to a new owner.

SECTION 4

Former East Potliner Area

4.1 Description and History of the Former East Potliner Area

The former east potliner area ("Former EPL Area") lies east of the former RMC-Troutdale plant and inside the COE flood control dike (see Figure 3). The area encompasses about 3 acres, and it is bisected by a Northwest Pipeline Corporation right-of-way containing two buried 18-inch-diameter, high-pressure natural gas pipelines. A former railroad spur passed along the southern perimeter of this area.

Aerial photographs indicate that, from the early days of plant operation, this area was used for temporary storage of plant solid waste. This waste is believed to have consisted primarily of spent potliner, but it also may have included rodding room waste, carbon plant waste, cryolite, demolition waste, and used refractory brick.

4.2 Environmental Activities in the Former EPL Area

This section summarizes the environmental investigations and removals conducted in the Former EPL Area from 1994 (when RMC began its pre-RI/FS evaluations) through 1997.

These investigations are documented in the following reports:

- *Removal Site Assessment Report, Volume 1, Technical Report, and Volume 2, Technical Appendixes* (CH2M HILL, January 1995)
- *Technical Memorandum DS No. 3: East Potliner Area: Supplemental Data-Gathering Summary* (CH2M HILL, June 15, 1995)
- *Final East Potliner Removal Action Report* (CH2M HILL, April 3, 1997)

4.2.1 Former East Potliner Area Removal Action

The objective of the removal action was to excavate spent potliner, a listed hazardous waste (Waste Code K088) per 40 *Code of Federal Regulations* (CFR) 261.32 (a). The cleanup goal for the EPL removal action was visual removal of "primary source materials" (spent potliner materials and mixed wastes). After receiving a favorable "contained in" determination from DEQ, RMC successfully screened a significant amount of spent potliner waste from soil by running the material through a 1-inch screen. Material retained by the 1-inch screen was considered to be K088 waste and was disposed of in a Subtitle C landfill. Material passing the 1-inch screen that also contained cyanide levels of less than 590 milligrams per kilogram (mg/kg) was considered to be solid waste and was disposed of in a Subtitle D landfill. If material passing the 1-inch screen also contained cyanide levels greater than 590 mg/kg, these materials would have been considered to be K088 waste and disposed of at a subtitle C landfill.

RMC completed the removal of spent potliner and other waste material from the Former

EPL Area in March 1996 and disposed of this material in an offsite landfill.

4.2.2 Exception: Natural Gas Pipelines

An exception to the remedial action described above was the natural gas pipeline trench that bisected the site. The initial electromagnetic conductivity (EM) survey indicated the presence of spent potliner material near the existing high-pressure natural gas pipelines. Excavation activities near the pipelines found spent potliner in the material used to backfill the eastern pipeline trench. The western pipeline trench appeared to be backfilled primarily with soil; however, there is a chance some spent potliner may be found mixed in this backfill as well. EPA approved RMC's request to leave potliner in place in the pipeline trench because the risk of excavation adjacent to the high-pressure pipelines was not justified by the amount of potliner remaining in the trench. Excavation along the length of the pipelines was limited to removal of material within about 1.5 to 2 feet of either pipeline. The pipeline trench area potentially containing spent potliner wastes is depicted on Figure 3 and is referred to herein as the "Pipeline Trench in the Former EPL Area."

Portions of the pipeline trench were backfilled immediately after excavation, at the request of the Northwest Pipeline Corporation, to maintain minimum cover over the pipes. Samples of the remnant spent potliner were collected, and measurements were taken to estimate the nature and extent of material that was left in place, as described in Section 4.3.

4.3 Contaminants of Concern

Characterization and quantification of remnant spent potliner left in the pipeline trench were performed in accordance with *Memorandum No. 14: East Potliner Remediation Revised Sampling Plan* (CH2M HILL, November 1, 1995). The mass of remnant spent potliner left in the pipeline trench in the Former EPL Area was estimated by observation and measurement of the contaminated areas of the pipeline trench in the Former EPL Area while it was open. On the basis of this work, it was determined that the remnant spent potliner existed primarily in concentrated pockets but was also found mixed with soil. EPA and RMC agreed to estimate the quantities of each material and to collect representative samples of the spent potliner, the potliner mixed with soil, and the soil itself.

Concentrated spent potliner was sampled directly. Samples of the potliner mixed with soil and the soil itself were collected, and the mix of soil and potliner was then screened with a 1-inch soil sieve. The screened fines (1-inch-minus) and the oversized material (1-inch-plus) were collected and analyzed separately. From this information, it was estimated that approximately 90 cubic yards of spent potliner with the characteristics of samples EP-PIPE-HIGH01 and EP-PIPE-PLUS01 remain in the trench. It was also estimated that the pipeline trench contains approximately 500 cubic yards of soil with the characteristics of the Sample EP-PIPE-MINUS01. The locations of these samples are shown in Figure 3. The test results for these samples are presented in Table 2. A favorable "contained in" determination now requires that the soils meet the current land disposal restrictions (LDRs), where none existed at the time of DEQ's 1995 "contained in" determination. On the basis of the test results presented in Table 2, it is believed that the soil with the characteristics of Sample EP-PIPE-MINUS01 would support a determination that it is no longer a K088 waste and could be managed as nonhazardous waste. RMC received confirmation from DEQ in a letter dated July 17, 2006, that the 1995 DEQ-approved "contained in" determination is still valid for

waste encountered in the pipeline trench in the Former EPL Area subject to meeting current LDRs. Copies of the 1995 DEQ-approved "contained in" determination and the July 17, 2006, letter are provided in Appendix A.

Constituents detected at elevated levels in the Former EPL Area are as follows:

- Fluoride
- PAHs
- Metals (aluminum, arsenic, iron)
- Cyanide
- Spent potliner (K088)

4.3.1 Visual Description of Spent Potliner

Spent potliner in this area is a hard, dense, carbon-based material that occurs in chunks and/or granular size. It has a dark-gray to black coloration, often with thin marbling of lighter gray/white material running through the chunks. The spent potliner is distinctly darker than the native brown sands and silty soils in this area.

4.4 Management of Contaminated Soil

As part of the agreement with EPA and DEQ, clean soil was placed over the contaminated fill inside the pipeline trench. Any activities that are conducted within the pipeline trench in the Former EPL Area that are expected to result in removal of the clean soil and to penetrate into the contaminated soil shall be managed in the following manner:

- Clean overburden shall be set aside and may be reused as backfill in the pipeline trench in the Former EPL Area.
- Materials removed from the pipeline trench in the Former EPL Area that are mixed with spent potliner shall be disposed of offsite by either of the following options:
  - All materials may be managed and disposed of as spent potliner, a K088 listed hazardous waste. These materials may be excavated and loaded directly into containers or transport trucks, or they may be stockpiled prior to loading. If the latter, they shall be stockpiled in a lined and covered cell designed to prevent stormwater run-on and runoff.
  - Alternatively, the materials may be screened using a 1-inch screen to separate K088 waste from the soil media. The soil passing a 1-inch screen may be disposed of offsite in a Subtitle D landfill as nonhazardous waste, provided that representative samples of the screened soil contain constituent levels below the maximum level for land disposal restrictions as a K088 waste. Materials retained by the 1-inch screen shall be disposed of offsite in a Subtitle C landfill as K088 listed hazardous waste.
  - The pipeline trench in the Former EPL Area shall be backfilled with clean imported materials or other backfill materials from elsewhere on the former RMC facility.

4.5 Management of Groundwater and Surface Water

RMC has received a favorable "contained in" determination for all groundwater beneath the Former EPL Area. This determination letter is provided in Appendix B. Groundwater extracted from beneath the Former EPL Area has been determined not to contain Resource Conservation and Recovery Act (RCRA) K088 waste. Thus, any groundwater that is encountered or removed from beneath the Former EPL Area will not require management as K088 waste, provided the free cyanide level is below the maximum contaminant level (MCL) for safe drinking water (0.2 milligram per liter [mg/L]), and may be discharged under either a future NPDES permit (issued by DEQ) or a future City of Troutdale Industrial Batch Discharge Permit. The NPDES permit renewal application submitted to DEQ requests the addition of construction dewatering water to allow for this type of discharge, provided it is performed within the constraints of the permit. The renewed permit is expected to be finalized before the end of 2007. This permit is transferable to a new owner.

Additional "contained in" waste profiling may be required for the management of stormwater runoff if derived from the removal of the spent potliner remaining in place in the natural gas pipeline trench. A "contained in" determination for such media will be made on the basis of risk for the intended use. Appropriate risk-based human health and ecological exposure criteria appropriate for the site for free cyanide include: MCL of 0.2 mg/L, EPA Region 6 preliminary remediation goal for tap water of 0.730 mg/L, and direct contact for industrial workers of 62 mg/L.

SECTION 5

Procedures for Unanticipated Materials

5.1 General

In the event that materials that appear to be contaminated are encountered in areas of the site where they were not anticipated, the practices identified below shall apply:

- A representative sample of the materials shall be collected and analyzed, at a minimum, for the following constituents: fluoride, cyanide, PAHs, and PCBs. Other constituents may be added to the analyte list based on observation of the encountered material. Such additional constituents include total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), and semivolatile organic compounds (SVOCs).
- Materials with concentrations less than DEQ's risk-based concentrations (RBCs) (Oregon Administrative Rule [OAR] 340-122-0205 through 340-122-0360) for residential cleanup standards may be managed and disposed of as clean fill onsite or offsite.
- Materials with concentrations that exceed ecological criteria may not be placed in areas outside the COE levee.
- Materials with concentrations less than DEQ's RBCs (OAR 340-122-0205 through 340-122-0360) for construction workers may be managed onsite.
- Materials with concentrations greater than DEQ's RBCs (OAR 340-122-0205 through 340-122-0360) for construction workers shall be managed onsite if the exposure pathway is effectively eliminated through site development, or if it can be demonstrated that future exposure to these materials will not exceed DEQ's RBCs (OAR 340-122-0205 through 340-122-0360) for excavation workers. If these conditions cannot be met, the material shall be disposed of in an appropriate offsite landfill.

5.2 Future Discoveries of Furnace Brick

Spent furnace brick from the former reduction facility has been used extensively as fill material, riprap, and road base aggregate. Known brick locations include but are not limited to the following: along the COE levee south of Company Lake, along portions of the Company Lake outfall ditch and the Columbia and Sandy Rivers, along backfill in the South Ditch stormwater pump forebay, and along several former facility aggregate roads. RMC has demonstrated to EPA's and DEQ's satisfaction that the brick does not pose an unacceptable risk and, consequently, no special management requirements will be applicable to future discoveries onsite of buried furnace brick.

5.3 Future Discovery of Spent Potliner

In the event that spent potliner is discovered outside the Former EPL Area, note that the current DEQ "contained in" determinations referenced in Section 4 will not apply. In this event, the spent potliner (K088) must be managed as a hazardous waste. Any soil, groundwater, or stormwater associated with the K088 waste is subject to the requirements of 40 CFR Part 262.

A "contained in" determination for soil will be made on the basis of the LDR treatment standards for total cyanide, because the risk-based level for residential soil ingestion is higher. The LDR for total cyanide is 590 mg/kg. There are currently 25 LDR constituents for K088 waste that also apply in the management of these soils.

A "contained in" determination for such water will be made on the basis of risk for the intended use. Appropriate risk-based human health and ecological exposure criteria appropriate for the site for free cyanide include: MCL of 0.2 mg/L, EPA Region 6 preliminary remediation goal for tap water of 0.730 mg/L, and direct contact for industrial workers of 62 mg/L.

A visual description of spent potliner is provided in Section 4.3.1. However, there are several other carbon-based waste materials originating from past smelter operations, the remnants of which look very similar to spent potliner. These materials include: carbon anodes, carbon anode butt returns, carbon anode butt cleaning scrap, green mill carbon scrap, and graphite elements such as flux tubes, arc furnace electrodes, and molten metal filter elements. Several of the examples provided may also contain low levels of cyanide. Therefore, unless it is known that spent potliner once existed in an area, such as the Former EPL Area, it should not be assumed that material matching the description in 4.3.1 is spent potliner. If the cyanide level in the carbon material matching the description in 4.3.1 is greater than 590 mg/kg, then the material is most likely spent potliner.

Tables

Table 1
Analytical Results for Soil and Sediment Samples Taken from the South Wetlands
RMC/Alcoa - Troutdale, OR

				General Chemistry (mg/Kg)					Total Metals (mg/Kg)								
Station	Sample ID	Date Sampled	Depth	Cyanide, Total	Fluoride by 340.1/340.2	Fluoride by 340.2 Mod	Fluoride, GI Extraction	Total Organic Carbon	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt
BLD971	BLD971-0035-0	07/25/95	3.5	1.0 U	1,100			50 U	6,270	2.5 U	0.91	18	0.50 U	0.50 U	4,500	22	7.0
	BLD971-0090-0	07/25/95	9	1.0 U	1,700			50 U	8,150	2.5 U	2.3	44	0.50 U	0.50 U	3,230	7.8	3.0
	BLD971-0110-0	07/25/95	11	1.0 U	1,200			50 U	11,900	2.5 U	0.98	41	0.50 U	0.50 U	5,360	8.0	3.8
BLD972	BLD972-0090-0	07/25/95	9	1.0 U	880			50 U	8,130	2.5 U	0.89	22	0.50 U	0.50 U	4,410	6.2	2.6
	BLD972-0110-0	07/25/95	11	1.0 U	820			60	9,230	2.5 U	1.6	21	0.50 U	0.50 U	4,810	6.6	4.5
MW04-019	RM-MW04-10.0	07/12/94	10	0.10 L		200											
	RM-MW04-7.5	07/12/94	7.5	0.10 L		210											
MW36-006	MW36S-0035-0	10/22/96	3.5					32,500									
	MW36S-0060-0	10/22/96	6					12,200									
	MW36S-0080-0	10/22/96	8					15,000									
MW37-012	MW37S-0040-0	10/23/96	4					18,100									
	MW37S-0055-0	10/23/96	5.5					79,100									
	MW37S-0075-0	10/23/96	7.5					2,780									
	MW37S-0100-0	10/23/96	10					4,560									
SA1	SP5-SA1-C	07/26/94	0.1 - 3	0.10 U		5.0 U				2.5 U	1.0 U		1.0 U	1.0 U		6.1	
SA2	SP5-SA2-C	07/26/94	0.1 - 3	0.10 U		500 RC				2.5 U	5.7		1.0 U	1.0 U		10	
SD27	WD-SD27-0001-0 [2]	02/23/95	0.1	0.057 U	3,600 J			26,000 RC	13,000 RC	1.3 U	10	130	1.0 U	1.0 U	4,300 LRC	25	23
SD28	WD-SD28-0001-0 [2]	02/23/95	0.1	0.24	1,600 J			20,000 RC	19,000 RC	1.3 U	5.9	120	1.0 U	1.0 U	6,300 LRC	24	14
	WD-SD28-0001-1 [1,2]	02/23/95	0.1	0.39	2,200 J			18,000 RC	11,000 RC	1.3 U	5.9	110	1.0 U	1.0 U	4,500 LRC	16	9.5
SW2	SW2-C	07/26/94	0.1 - 3	0.10 U		500 RC				2.5 U	14		2.6	1.0 U		12	
SW3	SW3-C	07/26/94	0.1 - 3	0.10 U		500 RC				2.5 U	8.6		3.0	1.0 U		11	
SW4	SW4-C	07/26/94	0.1 - 3	2.9 RC		500 RC				2.5 U	13		2.3	1.0 U		56	
SW5	SW5-C	07/26/94	0.1 - 3	0.17		600 RC				2.5 U	5.9		1.0 U	1.0 U		44	
SW-6	SW-6-S	08/04/94	0.1	0.36		450											
SW-SB03	SW-SB03-0005-0	07/24/95	0.3 - 0.5	11	29,000			63	76,800	4.0	32	139	4.4	0.53	22,300	159	61
	SW-SB03-0010-0	07/24/95	0.9 - 1.2	1.0 U	2,300			110	14,400	2.5 U	3.9	75	0.50 U	0.50 U	5,240	18	8.4
	SW-SB03-0020-0	07/24/95	2 - 2.2	1.0 U	270			55	7,820	2.5 U	1.7	23	0.50 U	0.50 U	4,930	6.1	3.8
SW-SB05	SW-SB05-0005-0	07/24/95	0.3 - 0.5	52	14,000			120	44,000	4.0	26	110	1.1	0.50 U	14,600	105	70
	SW-SB05-0015-0	07/24/95	1.4 - 1.6	1.0 U	830			150	15,100	2.5 U	4.2	106	0.98	0.50 U	5,940	19	12
	SW-SB05-0020-0	07/24/95	2 - 2.2	1.0 U	550			106	14,700	2.5 U	2.3	89	0.50 U	0.50 U	4,740	12	6.5
SW-SB06	SW-SB06-0005-0	07/24/95	0.3 - 0.5	1.0 U	16,000			50 U	83,700	2.5 U	21	70	2.3	0.50 U	11,300	90	46
	SW-SB06-0015-0	07/24/95	1.5 - 1.7	1.0 U	1,300			400	23,600	2.5 U	4.9	145	0.83	0.50 U	7,900	23	8.4
	SW-SB06-0020-0	07/24/95	2 - 2.2	1.0 U	590			250	19,100	2.5 U	2.9	108	0.50 U	0.50 U	5,390	15	5.7
SW-SB07	SW-SB07-0005-0	07/24/95	0.3 - 0.5	55	8,400			50 U	118,000	2.5 UL	24	63	3.1	0.50 U	7,810	65	43
	SW-SB07-0015-0	07/24/95	1.4 - 1.6	1.0 U	1,000			50 U	15,300	2.5 UL	5.8	129	0.81	0.50 U	6,890	20	11
	SW-SB07-0015-1 [1]	07/24/95	1.4 - 1.6	1.0 U	1,400			50 U	15,800	2.5 UL	6.5	137	0.99	0.50 U	7,730	21	12
	SW-SB07-0020-0	07/24/95	2 - 2.2	1.0 U	370			50 U	14,300	2.5 UL	2.0	84	0.50 U	0.50 U	5,090	11	4.0
SW-SB08	SW-SB08-0005-0	07/24/95	0.3 - 0.5	1.0 U	13,000			50 U	66,400	2.5 UL	17	48	2.2	0.50 U	8,120	173	30
	SW-SB08-0015-0	07/24/95	1.3 - 1.5	1.0 U	700			57	16,100	2.5 UL	4.3	97	0.52	0.50 U	6,150	16	6.0
	SW-SB08-0020-0	07/24/95	2 - 2.2	1.0 U	330			50 U	16,100	2.5 UL	2.8	99	0.50 U	0.50 U	4,870	16	5.2
SW-SB09	SW-SB09-0005-0	07/24/95	0.4 - 0.6	1.0 U	12,000			50 U	179,000	2.5 UL	9.8	31	3.6	0.50 U	4,830	18	25
	SW-SB09-0020-0	07/24/95	2 - 2.2	1.0 U	1,400			101	11,000	2.5 UL	3.7	92	1.1	0.50 U	7,010	16	12
	SW-SB09-0030-0	07/24/95	2.8 - 3	1.0 U	630			66	19,200	2.5 UL	3.0	112	0.50 U	0.50 U	5,120	14	5.7
SW-SB10	SW-SB10-0005-0	07/24/95	0.3 - 0.5	20	35,000			50 U	111,000	2.5 UL	29	167	5.8	0.50 U	23,700	50	69
	SW-SB10-0020-0	07/24/95	2 - 2.2	1.0 U	370			480	16,200	2.5 UL	3.5	125	0.92	0.50 U	6,440	19	5.8
	SW-SB10-0030-0	07/24/95	3 - 3.2	1.0 U	170			160	23,300	2.5 UL	3.9	136	0.50 U	0.50 U	4,360	19	6.5
SW-SB11	SW-SB11-0005-0	07/24/95	0.3 - 0.5	9.2	150 U			50 U	16,200	2.5 UL	4.2	97	0.50 U	0.50 U	5,490	17	4.4
	SW-SB11-0015-0	07/24/95	1.3 - 1.5	2.0	150 U			115	13,700	2.5 UL	3.0	99	0.64	0.50 U	4,040	18	3.1
	SW-SB11-0020-0	07/24/95	2 - 2.2	1.0 U	220			97	21,800	2.5 UL	3.3	130	0.50 U	0.50 U	3,980	13	4.7
SW-SB12	SW-SB12-0005-0	07/24/95	0.3 - 0.5	9.5	3,800			270	43,500	2.5 UL	19	85	1.5	0.53	6,950	85	48
	SW-SB12-0015-0	07/24/95	1.3 - 1.5	1.0 U	380			600	15,200	2.5 UL	3.6	108	0.71	0.50 U	7,900	20	9.2
	SW-SB12-0020-0	07/24/95	2 - 2.2	1.0 U	200			410	22,900	2.5 UL	3.8	136	0.50 U	0.50 U	5,120	16	8.2

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RMC/Alcoa - Troutdale, OR

				General Chemistry (mg/Kg)					Total Metals (mg/Kg)								
Station	Sample ID	Date Sampled	Depth	Cyanide, Total	Fluoride by 340.1/340.2	Fluoride by 340.2 Mod	Fluoride, GI Extraction	Total Organic Carbon	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt
SW-SB13	SW-SB13-0005-0	07/24/95	0.2 - 0.4	2.7	740			210	44,200	2.5 UL	9.6	92	1.7	0.50 U	5,230	94	15
	SW-SB13-0015-0	07/24/95	1.4 - 1.6	1.2 L	650 L			640	8,720	2.5 UL	3.7	91	0.75	0.50 U	5,570	14	5.1
	SW-SB13-0020-0	07/24/95	1.9 - 2.1	1.0 R	450 L			230	8,310	2.5 UL	2.2	87	0.50 U	0.50 U	3,430	9.1	3.7
SW-SB14	SW-SB14-0002-0	08/04/95	0.1 - 0.3	12	3,300 L			110	20,000	2.5 UR	7.8	108	0.62	0.50 U	7,840	66	27
	SW-SB14-0007-0	08/04/95	0.6 - 0.8	1.0	690 L			50 U	12,700	2.5 UR	5.1	89	0.50 U	0.50 U	4,780	14	4.2
	SW-SB14-0014-0	08/04/95	1.3 - 1.5	1.0 U	480 L			50 U	21,500	2.5 UL	5.2	135	0.54	0.50 U	5,590	23	6.0
	SW-SB14-0020-0	08/04/95	1.9 - 2.1	1.0 U	310 L			50 U	19,400	2.5 UL	4.3	120	0.50 U	0.50 U	5,080	21	5.2
SW-SB15	SW-SB15-0002-0	08/04/95	0.1 - 0.2	3.9	1,800 L			50 U	23,500	2.5 UR	5.6	110	1.1	11	3,670	75	14
	SW-SB15-0006-0	08/04/95	0.5 - 0.7	1.0 U	550 L			66	14,800	2.5 UR	4.1	86	0.50 U	0.50 U	5,460	15	5.5
	SW-SB15-0015-0	08/04/95	1.4 - 1.6	1.0 U	700 L			130	11,900	2.5 UR	3.5	82	0.73	1.1	5,610	18	5.4
	SW-SB15-0020-0	08/04/95	1.9 - 2.1	1.0 U	530 L			160	14,100	2.5 UR	2.4	117	0.50 U	0.50 U	4,120	15	4.0
SW-SB16	SW-SB16-0003-0	08/04/95	0.1 - 0.3	114 R	1,200 L			100	13,500	2.5 UR	5.2	81	0.52	0.50 U	5,950	41	14
	SW-SB16-0008-0	08/04/95	0.6 - 0.8	1.0 UR	400 L			71	16,100	2.5 UR	2.9	96	0.50 U	0.50 U	5,350	15	3.4
	SW-SB16-0012-0	08/04/95	1.1 - 1.3	1.0 UR	1,000 L			260	9,550	2.5 UR	2.3	58	0.50 U	0.50 U	2,910	12	2.5 U
	SW-SB16-0018-0	08/04/95	1.7 - 1.9	1.0 UR	370 L			260	18,200	2.5 UR	2.8	83	0.50 U	0.50 U	3,770	13	3.9
SW-SB17	SW-SB17-0004-0	08/04/95	0.1 - 0.3	1.0 UR	390 L			130	15,300	2.5 UR	3.1	92	0.50 U	0.59	4,390	22	5.8
	SW-SB17-0008-0	08/04/95	0.6 - 0.8	1.3 R	940 L			105	17,700	2.5 UR	4.9	95	0.50 U	0.96	5,490	57	8.9
	SW-SB17-0012-0	08/04/95	1.1 - 1.3	1.0 UR	530 L			78	15,800	2.5 UR	3.6	95	0.50 U	0.50 U	5,610	16	5.0
	SW-SB17-0015-0	08/04/95	1.5 - 1.7	1.0 UR	1,000 L			270	15,200	2.5 UR	2.6	105	0.66	0.50 U	5,000	20	4.7
	SW-SB17-0020-0	08/04/95	1.9 - 2.1	1.0 UR	420 L			98	12,200	2.5 UR	3.6	76	0.50 U	0.50 U	2,230	9.1	2.8
SW-SB18	SW-SB18-0003-0	08/04/95	0.2 - 0.4	1.0 U	460 L			50 U	11,500	2.5 UR	2.7	64	0.50 U	0.50 U	3,880	13	5.4
	SW-SB18-0005-0	08/04/95	0.4 - 0.6	4.7	1,300 L			50 U	9,340	2.5 UR	4.4	95	0.50 U	0.50 U	4,520	23	8.0
	SW-SB18-0010-0	08/04/95	0.9 - 1.1	1.0 U	620 L			50 U	10,800	2.5 UR	4.7	87	0.50 U	0.50 U	4,690	13	4.3
	SW-SB18-0015-0	08/04/95	1.4 - 1.6	1.0 U	780 L			150	16,100	2.5 UR	3.4	96	0.60	0.50 U	4,870	18	3.9
	SW-SB18-0018-0	08/04/95	1.8 - 2	1.0 U	650 L			230	13,500	2.5 UR	2.0	72	0.50 U	0.50 U	3,640	12	3.4
SW-SB19	SW-SB19-0007-0	07/22/96	0.7 - 0.9														
	SW-SB19-0020-0	07/22/96	2 - 2.2														
	SW-SB19-0030-0	07/22/96	3 - 3.2														
SW-SB20	SW-SB20-0005-0	07/22/96	0.5 - 0.7														
	SW-SB20-0020-0	07/22/96	1 - 1.2														
	SW-SB20-0030-0	07/22/96	3 - 3.2														
SW-SB21	SW-SB21-0005-0	07/22/96	0.5 - 0.7														
	SW-SB21-0020-0	07/22/96	2 - 2.2														
	SW-SB21-0030-0	07/22/96	3 - 3.2														
SW-SB22	SW-SB22-0005-0	07/22/96	0.5 - 0.7														
	SW-SB22-0013-0	07/22/96	1.3 - 1.5														
	SW-SB22-0024-0	07/22/96	2.4 - 2.6														
SW-SB23	SW-SB23-0007-0	07/22/96	0.7 - 0.9														
	SW-SB23-0020-0	07/22/96	2 - 2.2														
	SW-SB23-0030-0	07/22/96	3 - 3.2														
SW-SB24	SW-SB24-0008-0	07/22/96	0.8 - 1														
	SW-SB24-0014-0	07/22/96	1.2 - 1.4														
	SW-SB24-0030-0	07/22/96	2.8 - 3														
SW-SB25	SW-SB25-0006-0	07/22/96	0.6 - 0.8														
	SW-SB25-0015-0	07/22/96	1.5 - 1.7														
	SW-SB25-0026-0	07/22/96	2.6 - 2.8														
SW-SB26	SW-SB26-0010-0	07/22/96	1 - 1.2														
	SW-SB26-0017-0	07/22/96	1.7 - 1.9														
	SW-SB26-0033-0	07/22/96	3.3 - 3.5														
SW-SB27	SW-SB27-0007-0	07/23/96	0.5 - 0.7		660	41											
	SW-SB27-0007-1 [1]	07/23/96	0.5 - 0.7		700	42											
SW-SB28	SW-SB28-0003-0	07/23/96	0.2 - 0.4		320	5.3											
SW-SB29	SW-SB29-0003-0	07/23/96	0.2 - 0.4		820	39											
	SW-SB29-0007-0	07/23/96	0.7 - 0.8		350	24											

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				General Chemistry (mg/Kg)					Total Metals (mg/Kg)								
Station	Sample ID	Date Sampled	Depth	Cyanide, Total	Fluoride by 340.1/340.2	Fluoride by 340.2 Mod	Fluoride, GI Extraction	Total Organic Carbon	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt
SW-SB30	SW-SB30-0004-0	07/23/96	0.4 - 0.6		**10,000**	**120**											
SW-SB31	SW-SB31-0003-0	07/23/96	0.2 - 0.4		**11,000**	**440**											
SW-SB32	SW-SB32-0002-0	07/23/96	0.1 - 0.3		**14,000**	**72**											
SW-SB33	SW-SB33-0002-0	07/23/96	0.1 - 0.3		**20,000**	**62**											
	SW-SB33-0002-1 [1]	07/23/96	0.1 - 0.3		**19,000**	**410**											
SW-SB34	SW-SB34-0004-0	07/23/96	0.3 - 0.5		**1,200**	**100**											
SW-SB35	SW-SB35-0001-0	07/23/96	0.1 - 0.3		**16,000**	**350**											
SW-SB36	SW-SB36-0003-0	07/23/96	0.2 - 0.4		**13,000**	**140**											
SW-SB37	SW-SB37-0040-0	07/24/96	3.8 - 4														
	SW-SB37-0050-0	07/24/96	4.8 - 5														
	SW-SB37-0060-0	07/24/96	6 - 6.2														
SW-SB38	SW-SB38-0009-0	07/24/96	0.9 - 1.1														
	SW-SB38-0020-0	07/24/96	2 - 2.2														
	SW-SB38-0028-0	07/24/96	2.8 - 3														
SW-SB39	SW-SB39-0050-0	08/26/96	5 - 5.3														
	SW-SB39-0060-0	08/26/96	6 - 6.3														
SW-SB40	SW-SB40-0050-0	08/26/96	4.7 - 5														
	SW-SB40-0070-0	08/26/96	7 - 7.3														
SW-SB41	SW-SB41-0003-0	08/26/96	0.3 - 0.5														
SW-SB42	SW-SB42-0005-0	08/26/96	0.5 - 0.7														
SW-SB49	SW-SB49-0005-0	11/19/97	0			**2,880**	**1,570**		**25,800**								
SW-SB50	SW-SB50-0005-0	11/19/97	0			**17,000**	**6,360**		**96,500**								
SW-SB51	SW-SB51-0005-0	11/19/97	0			**6,720**	**1,580**		**32,200**								
SW-SB52	SW-SB52-0005-0	11/19/97	0			**16,000**	**2,710**		**56,300**								
SW-SB53	SW-SB53-0005-0	11/19/97	0			**893**	**1,340**		**20,900**								
	SW-SB53-0005-0-R2	11/19/97	0			**1,070**	**697**										
SW-SB54	SW-SB54-0005-0	11/19/97	0			**15,500**	**2,960**		**40,400**								
SW-SB55	SW-SB55-0005-0	11/19/97	0			**16,200**	**3,910**		**48,200**								
SW-SB56	SW-SB56-0005-0	11/19/97	0			**26,900**	**8,080**		**65,800**								
SW-SB57	SW-SB57-0005-0	11/19/97	0			**12,700**	**4,940**		**96,400**								
SW-SB58	SW-SB58-0005-0	11/19/97	0			**12,100**	**2,160**		**41,100**								
SW-SC01	SW-SC01-0002-0	09/20/99	2														
SW-SC02	SW-SC02-0001-0	09/20/99	1														
SW-SC03	SW-SC03-0001-0	09/20/99	1														
SW-SC04	SW-SC04-0002-0	09/20/99	2														
SW-SC05	SW-SC05-0002-0	09/20/99	2														
SW-SC05	SW-SC05-0002-1 [1]	09/20/99	2														
SW-SC06	SW-SC06-0002-0	09/20/99	2														

Notes:
Bold values indicate analyte detected.
[1] Duplicate Sample
[2] Sediment Sample
J = Indicates an estimated value.
K = The analyte concentration is biased high; the result may actually be lower.
L = The analyte concentration is biased low; the result may actually be higher.
R = The analyte concentration is rejected due to serious deficiencies in the ability to anlayze the analyte and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RC =
U = Indicates the compound was analyzed for, but not detected.

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

				Total Metals (mg/Kg)													
Station	Sample ID	Date Sampled	Depth	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
BLD971	BLD971-0035-0	07/25/95	3.5	9.9	20,100	5.0 U	1,560	155	0.20 U	25	322	1.0 U	1.0 U	1,540	1.0 U	87	36
	BLD971-0090-0	07/25/95	9	15	11,000	5.0 U	1,100	71	0.84 K	7.9	293	1.0 U	1.0 U	2,300	1.0 U	35	16
	BLD971-0110-0	07/25/95	11	29	8,830	5.0 U	1,660	80	0.20 U	7.8	465	1.0 U	1.0 U	3,630	1.0 U	33	21
BLD972	BLD972-0090-0	07/25/95	9	16	6,430	5.0 U	987	70	1.3 K	6.8	247	1.0 U	1.0 U	2,450	1.0 U	27	18
	BLD972-0110-0	07/25/95	11	25	6,240	5.0 U	1,110	61	0.20 U	6.1	295	1.0 U	1.0 U	3,040	1.0 U	41	20
MW04-019	RM-MW04-10.0	07/12/94	10														
	RM-MW04-7.5	07/12/94	7.5														
MW36-006	MW36S-0035-0	10/22/96	3.5														
	MW36S-0060-0	10/22/96	6														
	MW36S-0080-0	10/22/96	8														
MW37-012	MW37S-0040-0	10/23/96	4														
	MW37S-0055-0	10/23/96	5.5														
	MW37S-0075-0	10/23/96	7.5														
	MW37S-0100-0	10/23/96	10														
SA1	SP5-SA1-C	07/26/94	0.1 - 3	7.8		10 U			0.25 U	5.8		1.0 U	1.0 U		1.0 U		17
SA2	SP5-SA2-C	07/26/94	0.1 - 3	15		10 U			0.25 U	72		1.0 U	1.0 U		1.0 U		28
SD27	WD-SD27-0001-0 [2]	02/23/95	0.1	390	11,000 RC	36	1,500 L	110 L	0.23 U	190	3,600 RC	1.0 U	1.0 U	780	0.20 U	140 L	96
SD28	WD-SD28-0001-0 [2]	02/23/95	0.1	610 RC	14,000 RC	35	2,100 L	120 L	0.23 U	220 RC	590 RC	1.0 U	1.0 U	1,400	1.0 U	150 L	80
	WD-SD28-0001-1 [1,2]	02/23/95	0.1	590 RC	8,900 RC	34	1,400 L	91 L	0.14 U	150	320 RC	1.0 U	1.0 U	680	1.0 U	130 L	73
SW2	SW2-C	07/26/94	0.1 - 3	96		46			0.25 U	830 RC		1.0 U	1.0 U		1.0 U		56
SW3	SW3-C	07/26/94	0.1 - 3	190		46			0.25 U	780 RC		1.0 U	1.0 U		1.0 U		64
SW4	SW4-C	07/26/94	0.1 - 3	400		49			0.68	670 RC		1.0 U	1.0 U		1.0 U		70
SW5	SW5-C	07/26/94	0.1 - 3	19		29			0.25 U	590 RC		1.0 U	1.0 U		1.0 U		47
SW-6	SW-6-S	08/04/94	0.1														
SW-SB03	SW-SB03-0005-0	07/24/95	0.3 - 0.5	1,010	15,600	65	691	138	1.5 K	1,940	255	9.0	3.8	1,950	1.0 U	702	110
	SW-SB03-0010-0	07/24/95	0.9 - 1.2	37	17,200	6.7	2,370	179	0.20 U	28	717	1.0 U	1.0 U	1,110	1.0 U	69	92
	SW-SB03-0020-0	07/24/95	2 - 2.2	20	6,500	5.0 U	956	61	0.20 U	9.1	238	1.0 U	1.0 U	1,570	1.0 U	28	22
SW-SB05	SW-SB05-0005-0	07/24/95	0.3 - 0.5	599	12,800	70	331	102	2.1 K	3,240	180	1.0 U	1.8	933	1.0 U	1,450	60
	SW-SB05-0015-0	07/24/95	1.4 - 1.6	37	9,840	22	1,620	140	0.20 U	339	728	1.0 U	1.0 U	622	1.0 U	86	50
	SW-SB05-0020-0	07/24/95	2 - 2.2	23	7,990	5.0 U	2,200	96	0.20 U	57	562	1.0 U	1.0 U	1,260	1.0 U	33	42
SW-SB06	SW-SB06-0005-0	07/24/95	0.3 - 0.5	419	8,000	43	302	60	1.1 K	1,920	140	1.0 UJ	1.3	844	1.0 U	894	59
	SW-SB06-0015-0	07/24/95	1.5 - 1.7	35	16,100	5.0 U	3,190	120	0.20 U	135	660	1.0 UJ	1.0 U	1,450	1.0 U	96	39
	SW-SB06-0020-0	07/24/95	2 - 2.2	32	9,860	5.0 U	2,910	95	0.26 K	31	787	1.0 U	1.0 U	1,740	1.0 U	46	45
SW-SB07	SW-SB07-0005-0	07/24/95	0.3 - 0.5	457	8,140	33	257	69	0.54	1,800	110	7.1 K	1.4	1,040	1.0 U	1,010	99
	SW-SB07-0015-0	07/24/95	1.4 - 1.6	51	12,900	5.9	1,930	149	0.20 U	267	643	1.2 K	1.0 U	766	1.0 U	121	58
	SW-SB07-0015-1 [1]	07/24/95	1.4 - 1.6	53	14,000	5.0 U	1,900	163	0.20 U	298	666	1.5 K	1.0 U	853	1.0 U	126	60
	SW-SB07-0020-0	07/24/95	2 - 2.2	21	7,660	5.0 U	1,960	84	0.20 U	16	551	1.0 U	1.0 U	1,460	1.0 U	29	33
SW-SB08	SW-SB08-0005-0	07/24/95	0.3 - 0.5	356	6,830	31	307	61	0.47	1,320	87	3.7 K	1.7	737	1.0 U	718	70
	SW-SB08-0015-0	07/24/95	1.3 - 1.5	30	13,700	5.0 U	1,860	81	0.20 U	75	348	1.0 U	1.0 U	430	1.0 U	71	16
	SW-SB08-0020-0	07/24/95	2 - 2.2	33	8,330	5.0 U	2,610	80	0.20 U	37	623	1.0 U	1.0 U	936	1.0 U	41	47
SW-SB09	SW-SB09-0005-0	07/24/95	0.4 - 0.6	456	3,290	12	214	28	0.20 U	1,190	97	12 K	1.0	1,330	1.0 U	366	115
	SW-SB09-0020-0	07/24/95	2 - 2.2	29	8,710	5.0 U	1,200	108	0.20 U	446	465	1.1 K	1.0 U	1,090	1.0 U	82	24
	SW-SB09-0030-0	07/24/95	2.8 - 3	43	9,510	5.0 U	2,970	88	0.20 U	18	766	1.0 U	1.0 U	1,520	1.0 U	40	40
SW-SB10	SW-SB10-0005-0	07/24/95	0.3 - 0.5	359	12,000	60	659	132	3.2	2,960	307	6.7 K	1.5	1,550	1.0 UJ	1,000	70
	SW-SB10-0020-0	07/24/95	2 - 2.2	31	11,000	5.0 U	1,960	110	0.20 U	64	563	1.0 K	1.0 U	1,420	1.0 U	73	35
	SW-SB10-0030-0	07/24/95	3 - 3.2	39	11,700	5.0 U	3,480	100	0.20 U	39	868	1.0 U	1.0 U	1,540	1.0 U	46	50
SW-SB11	SW-SB11-0005-0	07/24/95	0.3 - 0.5	35	13,700	13	3,420	95	0.20 U	16	720	1.0 UJ	1.0 U	1,270	1.0 U	54	46
	SW-SB11-0015-0	07/24/95	1.3 - 1.5	44	7,330	5.0 U	1,670	56	0.20 U	15	415	1.0 U	1.0 U	459	1.0 U	48	22
	SW-SB11-0020-0	07/24/95	2 - 2.2	27	9,750	5.0 U	2,710	72	0.20 U	15	504	1.0 U	1.0 U	1,090	1.0 U	30	36
SW-SB12	SW-SB12-0005-0	07/24/95	0.3 - 0.5	474	7,720	67	528	106	1.7	2,040	227	3.6 K	1.6	705	1.0 U	843	68
	SW-SB12-0015-0	07/24/95	1.3 - 1.5	41	9,840	5.0 U	1,430	134	0.20 U	119	598	1.1 K	1.0 U	616	1.0 U	70	29
	SW-SB12-0020-0	07/24/95	2 - 2.2	42	12,000	5.0 U	3,250	113	0.20 U	45	805	1.0 U	1.0 U	1,260	1.0 U	46	54

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

Station	Sample ID	Date Sampled	Depth	Total Metals (mg/Kg)													
				Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
SW-SB13	SW-SB13-0005-0	07/24/95	0.2 - 0.4	169	8,590	68	1,770	85	0.46	505	432	1.0 UJ	1.0 U	962	1.0 U	242	90
	SW-SB13-0015-0	07/24/95	1.4 - 1.6	43	7,340	9.8	1,030	76	0.20 U	92	291	1.0 U	1.0 U	382	1.0 U	72	48
	SW-SB13-0020-0	07/24/95	1.9 - 2.1	22	4,940	5.0 U	1,540	56	0.20 U	17	256	1.0 U	1.0 U	439	1.0 U	27	37
SW-SB14	SW-SB14-0002-0	08/04/95	0.1 - 0.3	218	9,720	259	1,780	152	1.9	1,040	828	1.2 K	1.0 U	969	1.0 UJ	354	59
	SW-SB14-0007-0	08/04/95	0.6 - 0.8	28	11,700	11	2,710	70	0.20 U	37	553	1.0 U	1.0 U	862	1.0 U	56	41
	SW-SB14-0014-0	08/04/95	1.3 - 1.5	37	12,300	5.1	2,850	89	0.20 U	58	766	1.0 U	1.0 U	678	1.0 U	71	46
	SW-SB14-0020-0	08/04/95	1.9 - 2.1	29	10,900	5.0 U	2,560	85	0.20 U	39	638	1.0 U	1.0 U	828	1.0 UJ	58	43
SW-SB15	SW-SB15-0002-0	08/04/95	0.1 - 0.2	146	7,700	57	1,580	147	0.81	508	392	1.0 U	1.0 U	897	1.0 U	237	274
	SW-SB15-0006-0	08/04/95	0.5 - 0.7	32	11,500	13	2,600	92	0.20 U	33	483	1.0 U	1.0 U	1,300	1.0 UJ	44	40
	SW-SB15-0015-0	08/04/95	1.4 - 1.6	40	7,770	5.0 U	1,020	66	0.20 U	93	354	1.0 K	1.0 U	519	1.0 U	66	53
	SW-SB15-0020-0	08/04/95	1.9 - 2.1	32	7,480	5.0 U	2,350	66	0.20 U	17	362	1.0 U	1.0 U	773	1.0 U	33	43
SW-SB16	SW-SB16-0003-0	08/04/95	0.1 - 0.3	210	7,970	103	1,640	61	1.1	602	448	1.3 K	1.0 U	926	1.3	205	91
	SW-SB16-0008-0	08/04/95	0.6 - 0.8	30	10,100	11	3,180	67	0.20 U	15	532	1.0 U	1.0 U	1,230	1.0 U	43	39
	SW-SB16-0012-0	08/04/95	1.1 - 1.3	25	4,160	5.0 U	1,080	19	0.20 U	16	253	1.0 U	1.0 U	426	1.0 U	31	11
	SW-SB16-0018-0	08/04/95	1.7 - 1.9	18	6,650	5.0 U	1,970	46	0.20 U	15	359	1.0 U	1.0 U	1,060	1.0 U	23	27
SW-SB17	SW-SB17-0004-0	08/04/95	0.1 - 0.3	40	10,200	10	2,240	90	0.20 U	66	396	1.0 U	1.0 U	1,020	1.0 U	63	50
	SW-SB17-0008-0	08/04/95	0.6 - 0.8	60	13,300	23	3,780	126	0.21	181	529	1.0 U	1.0 U	1,350	1.0 UJ	118	72
	SW-SB17-0012-0	08/04/95	1.1 - 1.3	33	12,200	9.1	2,980	92	0.20 U	34	542	1.0 U	1.0 U	1,240	1.0 U	51	40
	SW-SB17-0015-0	08/04/95	1.5 - 1.7	44	9,070	5.0 U	1,800	63	0.20 U	31	463	1.0 U	1.0 U	761	1.0 U	50	28
	SW-SB17-0020-0	08/04/95	1.9 - 2.1	14	5,800	5.0 U	1,380	40	0.20 U	10	223	1.0 U	1.0 U	563	1.0 U	18	20
SW-SB18	SW-SB18-0003-0	08/04/95	0.2 - 0.4	28	12,100	12	1,970	127	0.20 U	43	460	1.0 U	1.0 U	911	1.0 U	55	36
	SW-SB18-0005-0	08/04/95	0.4 - 0.6	88	6,340	69	1,490	86	0.66	273	325	1.0 U	1.0 U	670	1.0 U	134	37
	SW-SB18-0010-0	08/04/95	0.9 - 1.1	28	11,000	9.6	2,450	78	0.20 U	22	316	1.0 U	1.0 U	713	1.0 U	51	34
	SW-SB18-0015-0	08/04/95	1.4 - 1.6	32	10,300	5.0 U	1,870	59	0.20 U	19	365	1.0 U	1.0 U	638	1.0 U	58	17
	SW-SB18-0018-0	08/04/95	1.8 - 2	19	5,900	5.0 U	1,570	47	0.20 U	14	230	1.0 U	1.0 U	763	1.0 U	24	16
SW-SB19	SW-SB19-0007-0	07/22/96	0.7 - 0.9														
	SW-SB19-0020-0	07/22/96	2 - 2.2														
	SW-SB19-0030-0	07/22/96	3 - 3.2														
SW-SB20	SW-SB20-0005-0	07/22/96	0.5 - 0.7														
	SW-SB20-0020-0	07/22/96	1 - 1.2														
	SW-SB20-0030-0	07/22/96	3 - 3.2														
SW-SB21	SW-SB21-0005-0	07/22/96	0.5 - 0.7														
	SW-SB21-0020-0	07/22/96	2 - 2.2														
	SW-SB21-0030-0	07/22/96	3 - 3.2														
SW-SB22	SW-SB22-0005-0	07/22/96	0.5 - 0.7														
	SW-SB22-0013-0	07/22/96	1.3 - 1.5														
	SW-SB22-0024-0	07/22/96	2.4 - 2.6														
SW-SB23	SW-SB23-0007-0	07/22/96	0.7 - 0.9														
	SW-SB23-0020-0	07/22/96	2 - 2.2														
	SW-SB23-0030-0	07/22/96	3 - 3.2														
SW-SB24	SW-SB24-0008-0	07/22/96	0.8 - 1														
	SW-SB24-0014-0	07/22/96	1.2 - 1.4														
	SW-SB24-0030-0	07/22/96	2.8 - 3														
SW-SB25	SW-SB25-0006-0	07/22/96	0.6 - 0.8														
	SW-SB25-0015-0	07/22/96	1.5 - 1.7														
	SW-SB25-0026-0	07/22/96	2.6 - 2.8														
SW-SB26	SW-SB26-0010-0	07/22/96	1 - 1.2														
	SW-SB26-0017-0	07/22/96	1.7 - 1.9														
	SW-SB26-0033-0	07/22/96	3.3 - 3.5														
SW-SB27	SW-SB27-0007-0	07/23/96	0.5 - 0.7	60					0.20 U							63	
	SW-SB27-0007-1 [1]	07/23/96	0.5 - 0.7	62					0.20 U							55	
SW-SB28	SW-SB28-0003-0	07/23/96	0.2 - 0.4	25					0.20 U							48	
SW-SB29	SW-SB29-0003-0	07/23/96	0.2 - 0.4	294					0.22							79	
	SW-SB29-0007-0	07/23/96	0.7 - 0.8	211					0.20 U							91	

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

Station	Sample ID	Date Sampled	Depth	Total Metals (mg/Kg)													
				Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
SW-SB30	SW-SB30-0004-0	07/23/96	0.4 - 0.6	**505**					0.20 U							**364**	
SW-SB31	SW-SB31-0003-0	07/23/96	0.2 - 0.4	**194**					**0.21**							**58**	
SW-SB32	SW-SB32-0002-0	07/23/96	0.1 - 0.3	**568**					**0.66**							**458**	
SW-SB33	SW-SB33-0002-0	07/23/96	0.1 - 0.3	**651**					**1.2**							**359**	
	SW-SB33-0002-1 [1]	07/23/96	0.1 - 0.3	**689**					**1.1**							**409**	
SW-SB34	SW-SB34-0004-0	07/23/96	0.3 - 0.5	**86**					0.20 U							**123**	
SW-SB35	SW-SB35-0001-0	07/23/96	0.1 - 0.3	**662**					**1.5**							**259**	
SW-SB36	SW-SB36-0003-0	07/23/96	0.2 - 0.4	**442**					**1.0**							**748**	
SW-SB37	SW-SB37-0040-0	07/24/96	3.8 - 4														
	SW-SB37-0050-0	07/24/96	4.8 - 5														
	SW-SB37-0060-0	07/24/96	6 - 6.2														
SW-SB38	SW-SB38-0009-0	07/24/96	0.9 - 1.1														
	SW-SB38-0020-0	07/24/96	2 - 2.2														
	SW-SB38-0028-0	07/24/96	2.8 - 3														
SW-SB39	SW-SB39-0050-0	08/26/96	5 - 5.3														
	SW-SB39-0060-0	08/26/96	6 - 6.3														
SW-SB40	SW-SB40-0050-0	08/26/96	4.7 - 5														
	SW-SB40-0070-0	08/26/96	7 - 7.3														
SW-SB41	SW-SB41-0003-0	08/26/96	0.3 - 0.5														
SW-SB42	SW-SB42-0005-0	08/26/96	0.5 - 0.7														
SW-SB49	SW-SB49-0005-0	11/19/97	0	**155**												**143**	
SW-SB50	SW-SB50-0005-0	11/19/97	0	**621**												**1,340**	
SW-SB51	SW-SB51-0005-0	11/19/97	0	**328**												**672**	
SW-SB52	SW-SB52-0005-0	11/19/97	0	**700**												**2,260**	
SW-SB53	SW-SB53-0005-0	11/19/97	0	**202**												**435**	
	SW-SB53-0005-0-R2	11/19/97	0														
SW-SB54	SW-SB54-0005-0	11/19/97	0	**325**												**533**	
SW-SB55	SW-SB55-0005-0	11/19/97	0	**880**												**1,960**	
SW-SB56	SW-SB56-0005-0	11/19/97	0	**581**												**1,230**	
SW-SB57	SW-SB57-0005-0	11/19/97	0	**576**												**1,120**	
SW-SB58	SW-SB58-0005-0	11/19/97	0	**744**												**1,970**	
SW-SC01	SW-SC01-0002-0	09/20/99	2														
SW-SC02	SW-SC02-0001-0	09/20/99	1														
SW-SC03	SW-SC03-0001-0	09/20/99	1														
SW-SC04	SW-SC04-0002-0	09/20/99	2														
SW-SC05	SW-SC05-0002-0	09/20/99	2														
SW-SC05	SW-SC05-0002-1 [1]	09/20/99	2														
SW-SC06	SW-SC06-0002-0	09/20/99	2														

Notes:

Bold values indicate analyte detected.

[1] Duplicate Sample

[2] Sediment Sample

J = Indicates an estimated value.

K = The analyte concentration is biased high; the result may actually be lower.

L = The analyte concentration is biased low; the result may actually be higher.

R = The analyte concentration is rejected due to serious deficiencies in the ability to anlayze the analyte and meet quality control criteria. The presence or absence of the analyte cannot be verified.

RC =

U = Indicates the compound was analyzed for, but not detected.

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

Station	Sample ID	Date Sampled	Depth	Polunuclear Aromatic Hydrocarbons (mg/Kg)												
				Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene
BLD971	BLD971-0035-0	07/25/95	3.5	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	BLD971-0090-0	07/25/95	9	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	BLD971-0110-0	07/25/95	11	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
BLD972	BLD972-0090-0	07/25/95	9	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	BLD972-0110-0	07/25/95	11	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
MW04-019	RM-MW04-10.0	07/12/94	10													
	RM-MW04-7.5	07/12/94	7.5													
MW36-006	MW36S-0035-0	10/22/96	3.5													
	MW36S-0060-0	10/22/96	6													
	MW36S-0080-0	10/22/96	8													
MW37-012	MW37S-0040-0	10/23/96	4													
	MW37S-0055-0	10/23/96	5.5													
	MW37S-0075-0	10/23/96	7.5													
	MW37S-0100-0	10/23/96	10													
SA1	SP5-SA1-C	07/26/94	0.1 - 3													
SA2	SP5-SA2-C	07/26/94	0.1 - 3													
SD27	WD-SD27-0001-0 [2]	02/23/95	0.1	**0.22**	0.034 U	**0.30**	**2.4 RC**	**3.1 RC**	**5.0 RC**	**2.2 JRC**	**1.4**	**3.1 RC**	**0.61**	**3.6 RC**	0.034 U	**1.8 RC**
SD28	WD-SD28-0001-0 [2]	02/23/95	0.1	**0.41**	0.034 U	**0.61**	**5.4 RC**	**6.1 RC**	**8.9 RC**	**3.9 JRC**	**3.0 RC**	**6.1 RC**	**1.1**	**6.5 RC**	**0.21**	**3.5 RC**
	WD-SD28-0001-1 [1,2]	02/23/95	0.1	**0.45**	0.034 U	**0.64**	**5.9 RC**	**6.6 RC**	**9.3 RC**	**3.9 JRC**	**3.2 RC**	**7.3 RC**	**0.98**	**7.0 RC**	**0.23**	**3.4 RC**
SW2	SW2-C	07/26/94	0.1 - 3													
SW3	SW3-C	07/26/94	0.1 - 3													
SW4	SW4-C	07/26/94	0.1 - 3													
SW5	SW5-C	07/26/94	0.1 - 3													
SW-6	SW-6-S	08/04/94	0.1													
SW-SB03	SW-SB03-0005-0	07/24/95	0.3 - 0.5	0.30 U	0.30 U	0.30 U	**2.3**	**0.40**	**2.0**	0.30 U	**0.50**	**4.9**	0.30 U	**12**	0.30 U	0.30 U
	SW-SB03-0010-0	07/24/95	0.9 - 1.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB03-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB05	SW-SB05-0005-0	07/24/95	0.3 - 0.5	0.30 U	0.30 U	0.30 U	**1.0**	0.30 U	**2.1**	**0.40**	**0.50**	**5.0**	0.30 U	**5.0**	0.30 U	0.30 U
	SW-SB05-0015-0	07/24/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB05-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB06	SW-SB06-0005-0	07/24/95	0.3 - 0.5	0.30 U	0.30 U	0.30 U	**0.40**	0.30 U	**0.60**	0.30 U	0.30 U	**2.8**	0.30 U	**4.4**	0.30 U	0.30 U
	SW-SB06-0015-0	07/24/95	1.5 - 1.7	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB06-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB07	SW-SB07-0005-0	07/24/95	0.3 - 0.5	0.30 U	0.30 U	0.30 U	**0.80**	0.30 U	**1.3**	0.30 U	**0.40**	**4.9**	0.30 U	**5.4**	0.30 U	0.30 U
	SW-SB07-0015-0	07/24/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB07-0015-1 [1]	07/24/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB07-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB08	SW-SB08-0005-0	07/24/95	0.3 - 0.5	0.30 U	0.30 U	0.30 U	**0.70**	0.30 U	**1.3**	0.30 U	**0.30**	**4.5**	0.30 U	**3.1**	0.30 U	0.30 U
	SW-SB08-0015-0	07/24/95	1.3 - 1.5	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB08-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB09	SW-SB09-0005-0	07/24/95	0.4 - 0.6	0.30 U	0.30 U	0.30 U	**0.60**	0.30 U	**0.70**	0.30 U	0.30 U	**2.5**	0.30 U	**1.2**	0.30 U	0.30 U
	SW-SB09-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB09-0030-0	07/24/95	2.8 - 3	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB10	SW-SB10-0005-0	07/24/95	0.3 - 0.5	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	**0.70**	0.30 U	0.30 U	**4.7**	0.30 U	**5.0**	0.30 U	0.30 U
	SW-SB10-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB10-0030-0	07/24/95	3 - 3.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB11	SW-SB11-0005-0	07/24/95	0.3 - 0.5	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB11-0015-0	07/24/95	1.3 - 1.5	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB11-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB12	SW-SB12-0005-0	07/24/95	0.3 - 0.5	0.30 U	0.30 U	0.30 U	**2.3**	**0.70**	**5.1**	**0.60**	**1.2**	**7.8**	0.30 U	**8.2**	0.30 U	**0.50**
	SW-SB12-0015-0	07/24/95	1.3 - 1.5	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB12-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

				Polunuclear Aromatic Hydrocarbons (mg/Kg)												
Station	**Sample ID**	**Date Sampled**	**Depth**	**Acenaphthene**	**Acenaphthylene**	**Anthracene**	**Benzo (a) anthracene**	**Benzo (a) pyrene**	**Benzo (b) fluoranthene**	**Benzo (g,h,i) perylene**	**Benzo (k) fluoranthene**	**Chrysene**	**Dibenzo (a,h) anthracene**	**Fluoranthene**	**Fluorene**	**Indeno (1,2,3-cd) pyrene**
SW-SB13	SW-SB13-0005-0	07/24/95	0.2 - 0.4	0.30 U	0.30 U	0.30 U	**0.70**	**0.50**	**1.7**	**0.50**	**0.50**	**2.6**	0.30 U	**1.3**	0.30 U	**0.30**
	SW-SB13-0015-0	07/24/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB13-0020-0	07/24/95	1.9 - 2.1	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB14	SW-SB14-0002-0	08/04/95	0.1 - 0.3	0.30 U	0.30 U	0.30 U	**0.80**	**0.40**	**2.5**	0.30 U	**0.50**	**4.9**	0.30 U	**2.1**	0.30 U	0.30 U
	SW-SB14-0007-0	08/04/95	0.6 - 0.8	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB14-0014-0	08/04/95	1.3 - 1.5	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB14-0020-0	08/04/95	1.9 - 2.1	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB15	SW-SB15-0002-0	08/04/95	0.1 - 0.2	0.30 U	0.30 U	0.30 U	**1.3**	**0.90**	**3.6**	**0.80**	**0.90**	**3.9**	0.30 U	**2.1**	0.30 U	**0.60**
	SW-SB15-0006-0	08/04/95	0.5 - 0.7	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB15-0015-0	08/04/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB15-0020-0	08/04/95	1.9 - 2.1	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB16	SW-SB16-0003-0	08/04/95	0.1 - 0.3	0.30 U	0.30 U	**0.30**	**2.0**	**2.0**	**9.8**	**3.4**	**1.9**	**3.8**	**0.90**	**3.2**	0.30 U	**2.5**
	SW-SB16-0008-0	08/04/95	0.6 - 0.8	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB16-0012-0	08/04/95	1.1 - 1.3	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB16-0018-0	08/04/95	1.7 - 1.9	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB17	SW-SB17-0004-0	08/04/95	0.1 - 0.3	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB17-0008-0	08/04/95	0.6 - 0.8	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	**0.50**	0.30 U	0.30 U	**0.60**	0.30 U	**0.40**	0.30 U	0.30 U
	SW-SB17-0012-0	08/04/95	1.1 - 1.3	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB17-0015-0	08/04/95	1.5 - 1.7	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB17-0020-0	08/04/95	1.9 - 2.1	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB18	SW-SB18-0003-0	08/04/95	0.2 - 0.4	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB18-0005-0	08/04/95	0.4 - 0.6	0.30 U	0.30 U	0.30 U	**0.40**	0.30 U	**1.2**	**0.30**	0.30 U	**1.8**	0.30 U	**0.90**	0.30 U	0.30 U
	SW-SB18-0010-0	08/04/95	0.9 - 1.1	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB18-0015-0	08/04/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
	SW-SB18-0018-0	08/04/95	1.8 - 2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
SW-SB19	SW-SB19-0007-0	07/22/96	0.7 - 0.9													
	SW-SB19-0020-0	07/22/96	2 - 2.2													
	SW-SB19-0030-0	07/22/96	3 - 3.2													
SW-SB20	SW-SB20-0005-0	07/22/96	0.5 - 0.7													
	SW-SB20-0020-0	07/22/96	1 - 1.2													
	SW-SB20-0030-0	07/22/96	3 - 3.2													
SW-SB21	SW-SB21-0005-0	07/22/96	0.5 - 0.7													
	SW-SB21-0020-0	07/22/96	2 - 2.2													
	SW-SB21-0030-0	07/22/96	3 - 3.2													
SW-SB22	SW-SB22-0005-0	07/22/96	0.5 - 0.7													
	SW-SB22-0013-0	07/22/96	1.3 - 1.5													
	SW-SB22-0024-0	07/22/96	2.4 - 2.6													
SW-SB23	SW-SB23-0007-0	07/22/96	0.7 - 0.9													
	SW-SB23-0020-0	07/22/96	2 - 2.2													
	SW-SB23-0030-0	07/22/96	3 - 3.2													
SW-SB24	SW-SB24-0008-0	07/22/96	0.8 - 1													
	SW-SB24-0014-0	07/22/96	1.2 - 1.4													
	SW-SB24-0030-0	07/22/96	2.8 - 3													
SW-SB25	SW-SB25-0006-0	07/22/96	0.6 - 0.8													
	SW-SB25-0015-0	07/22/96	1.5 - 1.7													
	SW-SB25-0026-0	07/22/96	2.6 - 2.8													
SW-SB26	SW-SB26-0010-0	07/22/96	1 - 1.2													
	SW-SB26-0017-0	07/22/96	1.7 - 1.9													
	SW-SB26-0033-0	07/22/96	3.3 - 3.5													
SW-SB27	SW-SB27-0007-0	07/23/96	0.5 - 0.7													
	SW-SB27-0007-1 [1]	07/23/96	0.5 - 0.7													
SW-SB28	SW-SB28-0003-0	07/23/96	0.2 - 0.4													
SW-SB29	SW-SB29-0003-0	07/23/96	0.2 - 0.4	**0.80**	**0.40**	**1.4**	**11**	**18**	**28**	**28**	**5.6**	**19**	**4.9**	**19**	**0.50**	**17**
	SW-SB29-0007-0	07/23/96	0.7 - 0.8	3.0 U	3.0 U	3.0 U	**61**	**58**	**140**	**67**	**26**	**180**	**15**	**440**	3.0 U	**42**

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

Station	Sample ID	Date Sampled	Depth	Polunuclear Aromatic Hydrocarbons (mg/Kg)												
				Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene
SW-SB30	SW-SB30-0004-0	07/23/96	0.4 - 0.6													
SW-SB31	SW-SB31-0003-0	07/23/96	0.2 - 0.4													
SW-SB32	SW-SB32-0002-0	07/23/96	0.1 - 0.3													
SW-SB33	SW-SB33-0002-0	07/23/96	0.1 - 0.3													
	SW-SB33-0002-1 [1]	07/23/96	0.1 - 0.3													
SW-SB34	SW-SB34-0004-0	07/23/96	0.3 - 0.5													
SW-SB35	SW-SB35-0001-0	07/23/96	0.1 - 0.3													
SW-SB36	SW-SB36-0003-0	07/23/96	0.2 - 0.4													
SW-SB37	SW-SB37-0040-0	07/24/96	3.8 - 4													
	SW-SB37-0050-0	07/24/96	4.8 - 5													
	SW-SB37-0060-0	07/24/96	6 - 6.2													
SW-SB38	SW-SB38-0009-0	07/24/96	0.9 - 1.1													
	SW-SB38-0020-0	07/24/96	2 - 2.2													
	SW-SB38-0028-0	07/24/96	2.8 - 3													
SW-SB39	SW-SB39-0050-0	08/26/96	5 - 5.3													
	SW-SB39-0060-0	08/26/96	6 - 6.3													
SW-SB40	SW-SB40-0050-0	08/26/96	4.7 - 5													
	SW-SB40-0070-0	08/26/96	7 - 7.3													
SW-SB41	SW-SB41-0003-0	08/26/96	0.3 - 0.5													
SW-SB42	SW-SB42-0005-0	08/26/96	0.5 - 0.7													
SW-SB49	SW-SB49-0005-0	11/19/97	0													
SW-SB50	SW-SB50-0005-0	11/19/97	0													
SW-SB51	SW-SB51-0005-0	11/19/97	0													
SW-SB52	SW-SB52-0005-0	11/19/97	0													
SW-SB53	SW-SB53-0005-0	11/19/97	0													
	SW-SB53-0005-0-R2	11/19/97	0													
SW-SB54	SW-SB54-0005-0	11/19/97	0													
SW-SB55	SW-SB55-0005-0	11/19/97	0													
SW-SB56	SW-SB56-0005-0	11/19/97	0													
SW-SB57	SW-SB57-0005-0	11/19/97	0													
SW-SB58	SW-SB58-0005-0	11/19/97	0													
SW-SC01	SW-SC01-0002-0	09/20/99	2													
SW-SC02	SW-SC02-0001-0	09/20/99	1													
SW-SC03	SW-SC03-0001-0	09/20/99	1													
SW-SC04	SW-SC04-0002-0	09/20/99	2													
SW-SC05	SW-SC05-0002-0	09/20/99	2													
SW-SC05	SW-SC05-0002-1 [1]	09/20/99	2													
SW-SC06	SW-SC06-0002-0	09/20/99	2													

Notes:

Bold values indicate analyte detected.

[1] Duplicate Sample

[2] Sediment Sample

J = Indicates an estimated value.

K = The analyte concentration is biased high; the result may actually be lower.

L = The analyte concentration is biased low; the result may actually be higher.

R = The analyte concentration is rejected due to serious deficiencies in the ability to anlayze the analyte and meet quality control criteria. The presence or absence of the analyte cannot be verified.

RC =

U = Indicates the compound was analyzed for, but not detected.

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

				Polunuclear Aromatic Hydrocarbons (mg/Kg)				Pesticides/Polychlorinated Biphenyls (mg/Kg)									
Station	Sample ID	Date Sampled	Depth	Naphthalene	Phenanthrene	Pyrene	Total PAH	4,4-DDD	4,4-DDE	4,4-DDT	4,4-Methoxychlor	Aldrin	Alpha-BHC	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
BLD971	BLD971-0035-0	07/25/95	3.5	0.30 U	0.30 U	0.30 U											
	BLD971-0090-0	07/25/95	9	0.30 U	0.30 U	0.30 U											
	BLD971-0110-0	07/25/95	11	0.30 U	0.30 U	0.30 U											
BLD972	BLD972-0090-0	07/25/95	9	0.30 U	0.30 U	0.30 U											
	BLD972-0110-0	07/25/95	11	0.30 U	0.30 U	0.30 U											
MW04-019	RM-MW04-10.0	07/12/94	10				0.20 U										
	RM-MW04-7.5	07/12/94	7.5				0.20 U										
MW36-006	MW36S-0035-0	10/22/96	3.5											0.051 U	0.10 U	0.051 U	0.051 U
	MW36S-0060-0	10/22/96	6											0.046 U	0.093 U	0.046 U	0.046 U
	MW36S-0080-0	10/22/96	8											0.060 U	0.12 U	0.060 U	0.060 U
MW37-012	MW37S-0040-0	10/23/96	4														
	MW37S-0055-0	10/23/96	5.5														
	MW37S-0075-0	10/23/96	7.5														
	MW37S-0100-0	10/23/96	10														
SA1	SP5-SA1-C	07/26/94	0.1 - 3				0.20 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U				
SA2	SP5-SA2-C	07/26/94	0.1 - 3				**0.25**	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U				
SD27	WD-SD27-0001-0 [2]	02/23/95	0.1	0.034 U	**1.4**	**3.1 RC**								0.050 U	0.10 U	0.050 U	0.050 U
SD28	WD-SD28-0001-0 [2]	02/23/95	0.1	0.034 U	**2.6 RC**	**5.6 RC**								0.050 U	0.10 U	0.050 U	0.050 U
	WD-SD28-0001-1 [1,2]	02/23/95	0.1	0.034 U	**2.7 RC**	**6.1 RC**								0.050 U	0.10 U	0.050 U	0.050 U
SW2	SW2-C	07/26/94	0.1 - 3				0.20 U	**0.080**	**0.050**	**0.28**	0.025 U	0.025 U	0.025 U				
SW3	SW3-C	07/26/94	0.1 - 3				0.20 U	**0.030**	**0.013**	0.0050 U	0.0050 U	0.0050 U	0.0050 U				
SW4	SW4-C	07/26/94	0.1 - 3				0.20 U	**0.073**	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U				
SW5	SW5-C	07/26/94	0.1 - 3				0.20 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U				
SW-6	SW-6-S	08/04/94	0.1				**19**										
SW-SB03	SW-SB03-0005-0	07/24/95	0.3 - 0.5	0.30 U	**2.5**	**9.0**											
	SW-SB03-0010-0	07/24/95	0.9 - 1.2	0.30 U	0.30 U	0.30 U											
	SW-SB03-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U											
SW-SB05	SW-SB05-0005-0	07/24/95	0.3 - 0.5	0.30 U	**1.5**	**2.7**											
	SW-SB05-0015-0	07/24/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U											
	SW-SB05-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U											
SW-SB06	SW-SB06-0005-0	07/24/95	0.3 - 0.5	0.30 U	**0.70**	**1.4**											
	SW-SB06-0015-0	07/24/95	1.5 - 1.7	0.30 U	0.30 U	0.30 U											
	SW-SB06-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U											
SW-SB07	SW-SB07-0005-0	07/24/95	0.3 - 0.5	0.30 U	**1.2**	**2.2**											
	SW-SB07-0015-0	07/24/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U											
	SW-SB07-0015-1 [1]	07/24/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U											
	SW-SB07-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U											
SW-SB08	SW-SB08-0005-0	07/24/95	0.3 - 0.5	0.30 U	**0.90**	**1.6**											
	SW-SB08-0015-0	07/24/95	1.3 - 1.5	0.30 U	0.30 U	0.30 U											
	SW-SB08-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U											
SW-SB09	SW-SB09-0005-0	07/24/95	0.4 - 0.6	0.30 U	**0.30**	**0.70**											
	SW-SB09-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U											
	SW-SB09-0030-0	07/24/95	2.8 - 3	0.30 U	0.30 U	0.30 U											
SW-SB10	SW-SB10-0005-0	07/24/95	0.3 - 0.5	0.30 U	**0.90**	**1.8**											
	SW-SB10-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U											
	SW-SB10-0030-0	07/24/95	3 - 3.2	0.30 U	0.30 U	0.30 U											
SW-SB11	SW-SB11-0005-0	07/24/95	0.3 - 0.5	0.30 U	0.30 U	0.30 U											
	SW-SB11-0015-0	07/24/95	1.3 - 1.5	0.30 U	0.30 U	0.30 U											
	SW-SB11-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U											
SW-SB12	SW-SB12-0005-0	07/24/95	0.3 - 0.5	0.30 U	**1.6**	**4.9**											
	SW-SB12-0015-0	07/24/95	1.3 - 1.5	0.30 U	0.30 U	0.30 U											
	SW-SB12-0020-0	07/24/95	2 - 2.2	0.30 U	0.30 U	0.30 U											

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

				Polunuclear Aromatic Hydrocarbons (mg/Kg)				Pesticides/Polychlorinated Biphenyls (mg/Kg)									
Station	Sample ID	Date Sampled	Depth	Naphthalene	Phenanthrene	Pyrene	Total PAH	4,4-DDD	4,4-DDE	4,4-DDT	4,4-Methoxychlor	Aldrin	Alpha-BHC	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
SW-SB13	SW-SB13-0005-0	07/24/95	0.2 - 0.4	0.30 U	**0.60**	**1.2**											
	SW-SB13-0015-0	07/24/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U											
	SW-SB13-0020-0	07/24/95	1.9 - 2.1	0.30 U	0.30 U	0.30 U											
SW-SB14	SW-SB14-0002-0	08/04/95	0.1 - 0.3	0.30 U	**0.70**	**1.4**											
	SW-SB14-0007-0	08/04/95	0.6 - 0.8	0.30 U	0.30 U	0.30 U											
	SW-SB14-0014-0	08/04/95	1.3 - 1.5	0.30 U	0.30 U	0.30 U											
	SW-SB14-0020-0	08/04/95	1.9 - 2.1	0.30 U	0.30 U	0.30 U											
SW-SB15	SW-SB15-0002-0	08/04/95	0.1 - 0.2	0.30 U	**0.80**	**1.8**											
	SW-SB15-0006-0	08/04/95	0.5 - 0.7	0.30 U	0.30 U	0.30 U											
	SW-SB15-0015-0	08/04/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U											
	SW-SB15-0020-0	08/04/95	1.9 - 2.1	0.30 U	0.30 U	0.30 U											
SW-SB16	SW-SB16-0003-0	08/04/95	0.1 - 0.3	0.30 U	**1.0**	**3.2**											
	SW-SB16-0008-0	08/04/95	0.6 - 0.8	0.30 U	0.30 U	0.30 U											
	SW-SB16-0012-0	08/04/95	1.1 - 1.3	0.30 U	0.30 U	0.30 U											
	SW-SB16-0018-0	08/04/95	1.7 - 1.9	0.30 U	0.30 U	0.30 U											
SW-SB17	SW-SB17-0004-0	08/04/95	0.1 - 0.3	0.30 U	0.30 U	0.30 U											
	SW-SB17-0008-0	08/04/95	0.6 - 0.8	0.30 U	0.30 U	0.30 U											
	SW-SB17-0012-0	08/04/95	1.1 - 1.3	0.30 U	0.30 U	0.30 U											
	SW-SB17-0015-0	08/04/95	1.5 - 1.7	0.30 U	0.30 U	0.30 U											
	SW-SB17-0020-0	08/04/95	1.9 - 2.1	0.30 U	0.30 U	0.30 U											
SW-SB18	SW-SB18-0003-0	08/04/95	0.2 - 0.4	0.30 U	0.30 U	0.30 U											
	SW-SB18-0005-0	08/04/95	0.4 - 0.6	0.30 U	**0.30**	**0.70**											
	SW-SB18-0010-0	08/04/95	0.9 - 1.1	0.30 U	0.30 U	0.30 U											
	SW-SB18-0015-0	08/04/95	1.4 - 1.6	0.30 U	0.30 U	0.30 U											
	SW-SB18-0018-0	08/04/95	1.8 - 2	0.30 U	0.30 U	0.30 U											
SW-SB19	SW-SB19-0007-0	07/22/96	0.7 - 0.9														
	SW-SB19-0020-0	07/22/96	2 - 2.2														
	SW-SB19-0030-0	07/22/96	3 - 3.2														
SW-SB20	SW-SB20-0005-0	07/22/96	0.5 - 0.7														
	SW-SB20-0020-0	07/22/96	1 - 1.2														
	SW-SB20-0030-0	07/22/96	3 - 3.2														
SW-SB21	SW-SB21-0005-0	07/22/96	0.5 - 0.7														
	SW-SB21-0020-0	07/22/96	2 - 2.2														
	SW-SB21-0030-0	07/22/96	3 - 3.2														
SW-SB22	SW-SB22-0005-0	07/22/96	0.5 - 0.7														
	SW-SB22-0013-0	07/22/96	1.3 - 1.5														
	SW-SB22-0024-0	07/22/96	2.4 - 2.6														
SW-SB23	SW-SB23-0007-0	07/22/96	0.7 - 0.9														
	SW-SB23-0020-0	07/22/96	2 - 2.2														
	SW-SB23-0030-0	07/22/96	3 - 3.2														
SW-SB24	SW-SB24-0008-0	07/22/96	0.8 - 1														
	SW-SB24-0014-0	07/22/96	1.2 - 1.4														
	SW-SB24-0030-0	07/22/96	2.8 - 3														
SW-SB25	SW-SB25-0006-0	07/22/96	0.6 - 0.8														
	SW-SB25-0015-0	07/22/96	1.5 - 1.7														
	SW-SB25-0026-0	07/22/96	2.6 - 2.8														
SW-SB26	SW-SB26-0010-0	07/22/96	1 - 1.2														
	SW-SB26-0017-0	07/22/96	1.7 - 1.9														
	SW-SB26-0033-0	07/22/96	3.3 - 3.5														
SW-SB27	SW-SB27-0007-0	07/23/96	0.5 - 0.7														
	SW-SB27-0007-1 [1]	07/23/96	0.5 - 0.7														
SW-SB28	SW-SB28-0003-0	07/23/96	0.2 - 0.4														
SW-SB29	SW-SB29-0003-0	07/23/96	0.2 - 0.4	**0.40**	**6.1**	**21**											
	SW-SB29-0007-0	07/23/96	0.7 - 0.8	3.0 U	**9.8**	**400**											

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

				Polunuclear Aromatic Hydrocarbons (mg/Kg)				Pesticides/Polychlorinated Biphenyls (mg/Kg)									
Station	Sample ID	Date Sampled	Depth	Naphthalene	Phenanthrene	Pyrene	Total PAH	4,4-DDD	4,4-DDE	4,4-DDT	4,4-Methoxychlor	Aldrin	Alpha-BHC	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242
SW-SB30	SW-SB30-0004-0	07/23/96	0.4 - 0.6														
SW-SB31	SW-SB31-0003-0	07/23/96	0.2 - 0.4														
SW-SB32	SW-SB32-0002-0	07/23/96	0.1 - 0.3														
SW-SB33	SW-SB33-0002-0	07/23/96	0.1 - 0.3														
	SW-SB33-0002-1 [1]	07/23/96	0.1 - 0.3														
SW-SB34	SW-SB34-0004-0	07/23/96	0.3 - 0.5														
SW-SB35	SW-SB35-0001-0	07/23/96	0.1 - 0.3														
SW-SB36	SW-SB36-0003-0	07/23/96	0.2 - 0.4														
SW-SB37	SW-SB37-0040-0	07/24/96	3.8 - 4														
	SW-SB37-0050-0	07/24/96	4.8 - 5														
	SW-SB37-0060-0	07/24/96	6 - 6.2														
SW-SB38	SW-SB38-0009-0	07/24/96	0.9 - 1.1														
	SW-SB38-0020-0	07/24/96	2 - 2.2														
	SW-SB38-0028-0	07/24/96	2.8 - 3														
SW-SB39	SW-SB39-0050-0	08/26/96	5 - 5.3														
	SW-SB39-0060-0	08/26/96	6 - 6.3														
SW-SB40	SW-SB40-0050-0	08/26/96	4.7 - 5														
	SW-SB40-0070-0	08/26/96	7 - 7.3														
SW-SB41	SW-SB41-0003-0	08/26/96	0.3 - 0.5														
SW-SB42	SW-SB42-0005-0	08/26/96	0.5 - 0.7														
SW-SB49	SW-SB49-0005-0	11/19/97	0														
SW-SB50	SW-SB50-0005-0	11/19/97	0														
SW-SB51	SW-SB51-0005-0	11/19/97	0														
SW-SB52	SW-SB52-0005-0	11/19/97	0														
SW-SB53	SW-SB53-0005-0	11/19/97	0														
	SW-SB53-0005-0-R2	11/19/97	0														
SW-SB54	SW-SB54-0005-0	11/19/97	0														
SW-SB55	SW-SB55-0005-0	11/19/97	0														
SW-SB56	SW-SB56-0005-0	11/19/97	0														
SW-SB57	SW-SB57-0005-0	11/19/97	0														
SW-SB58	SW-SB58-0005-0	11/19/97	0														
SW-SC01	SW-SC01-0002-0	09/20/99	2											0.043 U	0.043 U	0.043 U	0.043 U
SW-SC02	SW-SC02-0001-0	09/20/99	1											0.043 U	0.043 U	0.043 U	0.043 U
SW-SC03	SW-SC03-0001-0	09/20/99	1											0.043 U	0.043 U	0.043 U	0.043 U
SW-SC04	SW-SC04-0002-0	09/20/99	2											0.042 U	0.042 U	0.042 U	0.042 U
SW-SC05	SW-SC05-0002-0	09/20/99	2											0.043 U	0.043 U	0.043 U	0.043 U
SW-SC05	SW-SC05-0002-1 [1]	09/20/99	2											0.043 U	0.043 U	0.043 U	0.043 U
SW-SC06	SW-SC06-0002-0	09/20/99	2											0.043 U	0.043 U	0.043 U	0.043 U

Notes:

Bold values indicate analyte detected.

[1] Duplicate Sample

[2] Sediment Sample

J = Indicates an estimated value.

K = The analyte concentration is biased high; the result may actually be lower.

L = The analyte concentration is biased low; the result may actually be higher.

R = The analyte concentration is rejected due to serious deficiencies in the ability to anlayze the analyte and meet quality control criteria. The presence or absence of the analyte cannot be verified.

RC =

U = Indicates the compound was analyzed for, but not detected.

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

				Pesticides/Polychlorinated Biphenyls (mg/Kg)														
Station	**Sample ID**	**Date Sampled**	**Depth**	**Aroclor-1248**	**Aroclor-1254**	**Aroclor-1260**	**Aroclor-1262**	**Aroclor-1268**	**beta-BHC**	**Chlordane**	**delta-BHC**	**Dieldrin**	**Endosulfan I**	**Endosulfan II**	**Endosulfan Sulfate**	**Endrin**	**Endrin Aldehyde**	**Heptachlor**
BLD971	BLD971-0035-0	07/25/95	3.5															
	BLD971-0090-0	07/25/95	9															
	BLD971-0110-0	07/25/95	11															
BLD972	BLD972-0090-0	07/25/95	9															
	BLD972-0110-0	07/25/95	11															
MW04-019	RM-MW04-10.0	07/12/94	10															
	RM-MW04-7.5	07/12/94	7.5															
MW36-006	MW36S-0035-0	10/22/96	3.5	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U										
	MW36S-0060-0	10/22/96	6	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U										
	MW36S-0080-0	10/22/96	8	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U										
MW37-012	MW37S-0040-0	10/23/96	4															
	MW37S-0055-0	10/23/96	5.5															
	MW37S-0075-0	10/23/96	7.5															
	MW37S-0100-0	10/23/96	10															
SA1	SP5-SA1-C	07/26/94	0.1 - 3						0.0050 U	0.15 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
SA2	SP5-SA2-C	07/26/94	0.1 - 3						0.0050 U	0.15 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
SD27	WD-SD27-0001-0 [2]	02/23/95	0.1	0.050 U	**0.43**	**2.8 RC**												
SD28	WD-SD28-0001-0 [2]	02/23/95	0.1	0.050 U	**0.41**	**1.8 RC**												
	WD-SD28-0001-1 [1,2]	02/23/95	0.1	0.050 U	**0.48**	**2.0 RC**												
SW2	SW2-C	07/26/94	0.1 - 3						0.025 U	0.75 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
SW3	SW3-C	07/26/94	0.1 - 3						0.0050 U	0.15 U	0.0050 U	0.0050 U	0.0050 U	**0.0078**	0.0050 U	0.0050 U	0.0050 U	0.0050 U
SW4	SW4-C	07/26/94	0.1 - 3						0.050 U	1.5 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
SW5	SW5-C	07/26/94	0.1 - 3						0.0050 U	0.15 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
SW-6	SW-6-S	08/04/94	0.1															
SW-SB03	SW-SB03-0005-0	07/24/95	0.3 - 0.5															
	SW-SB03-0010-0	07/24/95	0.9 - 1.2															
	SW-SB03-0020-0	07/24/95	2 - 2.2															
SW-SB05	SW-SB05-0005-0	07/24/95	0.3 - 0.5															
	SW-SB05-0015-0	07/24/95	1.4 - 1.6															
	SW-SB05-0020-0	07/24/95	2 - 2.2															
SW-SB06	SW-SB06-0005-0	07/24/95	0.3 - 0.5															
	SW-SB06-0015-0	07/24/95	1.5 - 1.7															
	SW-SB06-0020-0	07/24/95	2 - 2.2															
SW-SB07	SW-SB07-0005-0	07/24/95	0.3 - 0.5															
	SW-SB07-0015-0	07/24/95	1.4 - 1.6															
	SW-SB07-0015-1 [1]	07/24/95	1.4 - 1.6															
	SW-SB07-0020-0	07/24/95	2 - 2.2															
SW-SB08	SW-SB08-0005-0	07/24/95	0.3 - 0.5															
	SW-SB08-0015-0	07/24/95	1.3 - 1.5															
	SW-SB08-0020-0	07/24/95	2 - 2.2															
SW-SB09	SW-SB09-0005-0	07/24/95	0.4 - 0.6															
	SW-SB09-0020-0	07/24/95	2 - 2.2															
	SW-SB09-0030-0	07/24/95	2.8 - 3															
SW-SB10	SW-SB10-0005-0	07/24/95	0.3 - 0.5															
	SW-SB10-0020-0	07/24/95	2 - 2.2															
	SW-SB10-0030-0	07/24/95	3 - 3.2															
SW-SB11	SW-SB11-0005-0	07/24/95	0.3 - 0.5															
	SW-SB11-0015-0	07/24/95	1.3 - 1.5															
	SW-SB11-0020-0	07/24/95	2 - 2.2															
SW-SB12	SW-SB12-0005-0	07/24/95	0.3 - 0.5															
	SW-SB12-0015-0	07/24/95	1.3 - 1.5															
	SW-SB12-0020-0	07/24/95	2 - 2.2															

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

Station	Sample ID	Date Sampled	Depth	Pesticides/Polychlorinated Biphenyls (mg/Kg)														
				Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Heptachlor
SW-SB13	SW-SB13-0005-0	07/24/95	0.2 - 0.4															
	SW-SB13-0015-0	07/24/95	1.4 - 1.6															
	SW-SB13-0020-0	07/24/95	1.9 - 2.1															
SW-SB14	SW-SB14-0002-0	08/04/95	0.1 - 0.3															
	SW-SB14-0007-0	08/04/95	0.6 - 0.8															
	SW-SB14-0014-0	08/04/95	1.3 - 1.5															
	SW-SB14-0020-0	08/04/95	1.9 - 2.1															
SW-SB15	SW-SB15-0002-0	08/04/95	0.1 - 0.2															
	SW-SB15-0006-0	08/04/95	0.5 - 0.7															
	SW-SB15-0015-0	08/04/95	1.4 - 1.6															
	SW-SB15-0020-0	08/04/95	1.9 - 2.1															
SW-SB16	SW-SB16-0003-0	08/04/95	0.1 - 0.3															
	SW-SB16-0008-0	08/04/95	0.6 - 0.8															
	SW-SB16-0012-0	08/04/95	1.1 - 1.3															
	SW-SB16-0018-0	08/04/95	1.7 - 1.9															
SW-SB17	SW-SB17-0004-0	08/04/95	0.1 - 0.3															
	SW-SB17-0008-0	08/04/95	0.6 - 0.8															
	SW-SB17-0012-0	08/04/95	1.1 - 1.3															
	SW-SB17-0015-0	08/04/95	1.5 - 1.7															
	SW-SB17-0020-0	08/04/95	1.9 - 2.1															
SW-SB18	SW-SB18-0003-0	08/04/95	0.2 - 0.4															
	SW-SB18-0005-0	08/04/95	0.4 - 0.6															
	SW-SB18-0010-0	08/04/95	0.9 - 1.1															
	SW-SB18-0015-0	08/04/95	1.4 - 1.6															
	SW-SB18-0018-0	08/04/95	1.8 - 2															
SW-SB19	SW-SB19-0007-0	07/22/96	0.7 - 0.9															
	SW-SB19-0020-0	07/22/96	2 - 2.2															
	SW-SB19-0030-0	07/22/96	3 - 3.2															
SW-SB20	SW-SB20-0005-0	07/22/96	0.5 - 0.7															
	SW-SB20-0020-0	07/22/96	1 - 1.2															
	SW-SB20-0030-0	07/22/96	3 - 3.2															
SW-SB21	SW-SB21-0005-0	07/22/96	0.5 - 0.7															
	SW-SB21-0020-0	07/22/96	2 - 2.2															
	SW-SB21-0030-0	07/22/96	3 - 3.2															
SW-SB22	SW-SB22-0005-0	07/22/96	0.5 - 0.7															
	SW-SB22-0013-0	07/22/96	1.3 - 1.5															
	SW-SB22-0024-0	07/22/96	2.4 - 2.6															
SW-SB23	SW-SB23-0007-0	07/22/96	0.7 - 0.9															
	SW-SB23-0020-0	07/22/96	2 - 2.2															
	SW-SB23-0030-0	07/22/96	3 - 3.2															
SW-SB24	SW-SB24-0008-0	07/22/96	0.8 - 1															
	SW-SB24-0014-0	07/22/96	1.2 - 1.4															
	SW-SB24-0030-0	07/22/96	2.8 - 3															
SW-SB25	SW-SB25-0006-0	07/22/96	0.6 - 0.8															
	SW-SB25-0015-0	07/22/96	1.5 - 1.7															
	SW-SB25-0026-0	07/22/96	2.6 - 2.8															
SW-SB26	SW-SB26-0010-0	07/22/96	1 - 1.2															
	SW-SB26-0017-0	07/22/96	1.7 - 1.9															
	SW-SB26-0033-0	07/22/96	3.3 - 3.5															
SW-SB27	SW-SB27-0007-0	07/23/96	0.5 - 0.7															
	SW-SB27-0007-1 [1]	07/23/96	0.5 - 0.7															
SW-SB28	SW-SB28-0003-0	07/23/96	0.2 - 0.4															
SW-SB29	SW-SB29-0003-0	07/23/96	0.2 - 0.4															
	SW-SB29-0007-0	07/23/96	0.7 - 0.8															

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

Station	Sample ID	Date Sampled	Depth	Pesticides/Polychlorinated Biphenyls (mg/Kg)														
				Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Heptachlor
SW-SB30	SW-SB30-0004-0	07/23/96	0.4 - 0.6															
SW-SB31	SW-SB31-0003-0	07/23/96	0.2 - 0.4															
SW-SB32	SW-SB32-0002-0	07/23/96	0.1 - 0.3															
SW-SB33	SW-SB33-0002-0	07/23/96	0.1 - 0.3															
	SW-SB33-0002-1 [1]	07/23/96	0.1 - 0.3															
SW-SB34	SW-SB34-0004-0	07/23/96	0.3 - 0.5															
SW-SB35	SW-SB35-0001-0	07/23/96	0.1 - 0.3															
SW-SB36	SW-SB36-0003-0	07/23/96	0.2 - 0.4															
SW-SB37	SW-SB37-0040-0	07/24/96	3.8 - 4															
	SW-SB37-0050-0	07/24/96	4.8 - 5															
	SW-SB37-0060-0	07/24/96	6 - 6.2															
SW-SB38	SW-SB38-0009-0	07/24/96	0.9 - 1.1															
	SW-SB38-0020-0	07/24/96	2 - 2.2															
	SW-SB38-0028-0	07/24/96	2.8 - 3															
SW-SB39	SW-SB39-0050-0	08/26/96	5 - 5.3															
	SW-SB39-0060-0	08/26/96	6 - 6.3															
SW-SB40	SW-SB40-0050-0	08/26/96	4.7 - 5															
	SW-SB40-0070-0	08/26/96	7 - 7.3															
SW-SB41	SW-SB41-0003-0	08/26/96	0.3 - 0.5															
SW-SB42	SW-SB42-0005-0	08/26/96	0.5 - 0.7															
SW-SB49	SW-SB49-0005-0	11/19/97	0															
SW-SB50	SW-SB50-0005-0	11/19/97	0															
SW-SB51	SW-SB51-0005-0	11/19/97	0															
SW-SB52	SW-SB52-0005-0	11/19/97	0															
SW-SB53	SW-SB53-0005-0	11/19/97	0															
	SW-SB53-0005-0-R2	11/19/97	0															
SW-SB54	SW-SB54-0005-0	11/19/97	0															
SW-SB55	SW-SB55-0005-0	11/19/97	0															
SW-SB56	SW-SB56-0005-0	11/19/97	0															
SW-SB57	SW-SB57-0005-0	11/19/97	0															
SW-SB58	SW-SB58-0005-0	11/19/97	0															
SW-SC01	SW-SC01-0002-0	09/20/99	2	0.043 U	0.043 U	0.043 U												
SW-SC02	SW-SC02-0001-0	09/20/99	1	0.043 U	0.043 U	0.043 U												
SW-SC03	SW-SC03-0001-0	09/20/99	1	**0.036 J**	0.043 U	0.043 U												
SW-SC04	SW-SC04-0002-0	09/20/99	2	0.042 U	0.042 U	0.042 U												
SW-SC05	SW-SC05-0002-0	09/20/99	2	0.043 U	0.043 U	0.043 U												
SW-SC05	SW-SC05-0002-1 [1]	09/20/99	2	0.043 U	0.043 U	0.043 U												
SW-SC06	SW-SC06-0002-0	09/20/99	2	0.043 U	0.043 U	0.043 U												

Notes:
Bold values indicate analyte detected.
[1] Duplicate Sample
[2] Sediment Sample
J = Indicates an estimated value.
K = The analyte concentration is biased high; the result may actually be lower.
L = The analyte concentration is biased low; the result may actually be higher.
R = The analyte concentration is rejected due to serious deficiencies in the ability to anlayze the analyte and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RC =
U = Indicates the compound was analyzed for, but not detected.

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

				Pesticides/Polychlorinated Biphenyls (mg/Kg)				Total Petroleum Hydrocarbons (mg/Kg)			
Station	**Sample ID**	**Date Sampled**	**Depth**	**Heptachlor Epoxide**	**Lindane**	**Polychlorinated Biphenyls (PCBs)**	**Toxaphene**	**Diesel by HCID**	**Gas by HCID**	**Heavy Oil by HCID**	**TPH by 418.1**
BLD971	BLD971-0035-0	07/25/95	3.5			0.30 U					
	BLD971-0090-0	07/25/95	9			0.30 U					
	BLD971-0110-0	07/25/95	11			0.30 U					
BLD972	BLD972-0090-0	07/25/95	9			0.30 U					
	BLD972-0110-0	07/25/95	11			0.30 U					
MW04-019	RM-MW04-10.0	07/12/94	10			0.20 U		50 U	20 U	100 U	
	RM-MW04-7.5	07/12/94	7.5			0.20 U		50 U	20 U	100 U	
MW36-006	MW36S-0035-0	10/22/96	3.5								
	MW36S-0060-0	10/22/96	6								
	MW36S-0080-0	10/22/96	8								
MW37-012	MW37S-0040-0	10/23/96	4								
	MW37S-0055-0	10/23/96	5.5								
	MW37S-0075-0	10/23/96	7.5								
	MW37S-0100-0	10/23/96	10								
SA1	SP5-SA1-C	07/26/94	0.1 - 3	0.0050 U	0.0050 U	0.20 U	0.15 U				
SA2	SP5-SA2-C	07/26/94	0.1 - 3	0.0050 U	0.0050 U	0.20 U	0.30 U				
SD27	WD-SD27-0001-0 [2]	02/23/95	0.1					50 U	20 U	100 U	
SD28	WD-SD28-0001-0 [2]	02/23/95	0.1					50 U	20 U	100 U	
	WD-SD28-0001-1 [1,2]	02/23/95	0.1					50 U	20 U	100 U	
SW2	SW2-C	07/26/94	0.1 - 3	0.025 U	0.025 U	0.20 U	0.75 U	50 U	20 U	100 U	
SW3	SW3-C	07/26/94	0.1 - 3	0.0050 U	0.0050 U	0.20 U	0.15 U	50 U	20 U	100 U	
SW4	SW4-C	07/26/94	0.1 - 3	0.050 U	0.050 U	0.20 U	3.0 U	50 U	20 U	**260**	
SW5	SW5-C	07/26/94	0.1 - 3	0.0050 U	0.0050 U	0.20 U	0.70 U				
SW-6	SW-6-S	08/04/94	0.1								
SW-SB03	SW-SB03-0005-0	07/24/95	0.3 - 0.5			**10**					**178**
	SW-SB03-0010-0	07/24/95	0.9 - 1.2			0.30 U					
	SW-SB03-0020-0	07/24/95	2 - 2.2			0.30 U					
SW-SB05	SW-SB05-0005-0	07/24/95	0.3 - 0.5			**5.8**					**246**
	SW-SB05-0015-0	07/24/95	1.4 - 1.6			0.30 U					
	SW-SB05-0020-0	07/24/95	2 - 2.2			0.30 U					
SW-SB06	SW-SB06-0005-0	07/24/95	0.3 - 0.5			**5.2**					
	SW-SB06-0015-0	07/24/95	1.5 - 1.7			0.30 U					
	SW-SB06-0020-0	07/24/95	2 - 2.2			0.30 U					
SW-SB07	SW-SB07-0005-0	07/24/95	0.3 - 0.5			**4.7**					**76**
	SW-SB07-0015-0	07/24/95	1.4 - 1.6			0.30 U					50 U
	SW-SB07-0015-1 [1]	07/24/95	1.4 - 1.6			0.30 U					**133**
	SW-SB07-0020-0	07/24/95	2 - 2.2			0.30 U					
SW-SB08	SW-SB08-0005-0	07/24/95	0.3 - 0.5			**3.7**					50 U
	SW-SB08-0015-0	07/24/95	1.3 - 1.5			0.30 U					50 U
	SW-SB08-0020-0	07/24/95	2 - 2.2			0.30 U					
SW-SB09	SW-SB09-0005-0	07/24/95	0.4 - 0.6			**3.0**					50 U
	SW-SB09-0020-0	07/24/95	2 - 2.2			0.30 U					
	SW-SB09-0030-0	07/24/95	2.8 - 3			0.30 U					
SW-SB10	SW-SB10-0005-0	07/24/95	0.3 - 0.5			**11**					**68**
	SW-SB10-0020-0	07/24/95	2 - 2.2			0.30 U					50 U
	SW-SB10-0030-0	07/24/95	3 - 3.2			0.30 U					
SW-SB11	SW-SB11-0005-0	07/24/95	0.3 - 0.5			0.30 U					**129**
	SW-SB11-0015-0	07/24/95	1.3 - 1.5			0.30 U					50 U
	SW-SB11-0020-0	07/24/95	2 - 2.2			0.30 U					
SW-SB12	SW-SB12-0005-0	07/24/95	0.3 - 0.5			**4.2**					
	SW-SB12-0015-0	07/24/95	1.3 - 1.5			0.30 U					
	SW-SB12-0020-0	07/24/95	2 - 2.2			0.30 U					

Table 1
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RMC/Alcoa - Troutdale, OR

				Pesticides/Polychlorinated Biphenyls (mg/Kg)				Total Petroleum Hydrocarbons (mg/Kg)			
Station	Sample ID	Date Sampled	Depth	Heptachlor Epoxide	Lindane	Polychlorinated Biphenyls (PCBs)	Toxaphene	Diesel by HCID	Gas by HCID	Heavy Oil by HCID	TPH by 418.1
SW-SB13	SW-SB13-0005-0	07/24/95	0.2 - 0.4			**1.8**					50 U
	SW-SB13-0015-0	07/24/95	1.4 - 1.6			0.30 U					
	SW-SB13-0020-0	07/24/95	1.9 - 2.1			0.30 U					50 U
SW-SB14	SW-SB14-0002-0	08/04/95	0.1 - 0.3			**2.6**					**280**
	SW-SB14-0007-0	08/04/95	0.6 - 0.8			0.30 U					50 U
	SW-SB14-0014-0	08/04/95	1.3 - 1.5			0.30 U					**140**
	SW-SB14-0020-0	08/04/95	1.9 - 2.1			0.30 U					
SW-SB15	SW-SB15-0002-0	08/04/95	0.1 - 0.2			**2.0**					**130**
	SW-SB15-0006-0	08/04/95	0.5 - 0.7			0.30 U					50 U
	SW-SB15-0015-0	08/04/95	1.4 - 1.6			0.30 U					**95**
	SW-SB15-0020-0	08/04/95	1.9 - 2.1			0.30 U					
SW-SB16	SW-SB16-0003-0	08/04/95	0.1 - 0.3			**3.3**					**1,300**
	SW-SB16-0008-0	08/04/95	0.6 - 0.8			0.30 U					
	SW-SB16-0012-0	08/04/95	1.1 - 1.3			0.30 U					
	SW-SB16-0018-0	08/04/95	1.7 - 1.9			0.30 U					
SW-SB17	SW-SB17-0004-0	08/04/95	0.1 - 0.3			0.30 U					
	SW-SB17-0008-0	08/04/95	0.6 - 0.8			**0.34**					
	SW-SB17-0012-0	08/04/95	1.1 - 1.3			0.30 U					
	SW-SB17-0015-0	08/04/95	1.5 - 1.7			0.30 U					
	SW-SB17-0020-0	08/04/95	1.9 - 2.1			0.30 U					
SW-SB18	SW-SB18-0003-0	08/04/95	0.2 - 0.4			0.30 U					**820**
	SW-SB18-0005-0	08/04/95	0.4 - 0.6			**0.84**					
	SW-SB18-0010-0	08/04/95	0.9 - 1.1			0.30 U					
	SW-SB18-0015-0	08/04/95	1.4 - 1.6			0.30 U					
	SW-SB18-0018-0	08/04/95	1.8 - 2			0.30 U					
SW-SB19	SW-SB19-0007-0	07/22/96	0.7 - 0.9			**2.6**					
	SW-SB19-0020-0	07/22/96	2 - 2.2			0.30 U					
	SW-SB19-0030-0	07/22/96	3 - 3.2			0.30 U					
SW-SB20	SW-SB20-0005-0	07/22/96	0.5 - 0.7			**2.4**					
	SW-SB20-0020-0	07/22/96	1 - 1.2			0.30 U					
	SW-SB20-0030-0	07/22/96	3 - 3.2			0.30 U					
SW-SB21	SW-SB21-0005-0	07/22/96	0.5 - 0.7			**3.6**					
	SW-SB21-0020-0	07/22/96	2 - 2.2			0.30 U					
	SW-SB21-0030-0	07/22/96	3 - 3.2			0.30 U					
SW-SB22	SW-SB22-0005-0	07/22/96	0.5 - 0.7			**0.30**					
	SW-SB22-0013-0	07/22/96	1.3 - 1.5			**5.5**					
	SW-SB22-0024-0	07/22/96	2.4 - 2.6			0.30 U					
SW-SB23	SW-SB23-0007-0	07/22/96	0.7 - 0.9			**2.2**					
	SW-SB23-0020-0	07/22/96	2 - 2.2			0.30 U					
	SW-SB23-0030-0	07/22/96	3 - 3.2			0.30 U					
SW-SB24	SW-SB24-0008-0	07/22/96	0.8 - 1			**2.8**					
	SW-SB24-0014-0	07/22/96	1.2 - 1.4			0.30 U					
	SW-SB24-0030-0	07/22/96	2.8 - 3			0.30 U					
SW-SB25	SW-SB25-0006-0	07/22/96	0.6 - 0.8			**4.8**					
	SW-SB25-0015-0	07/22/96	1.5 - 1.7			0.30 U					
	SW-SB25-0026-0	07/22/96	2.6 - 2.8			0.30 U					
SW-SB26	SW-SB26-0010-0	07/22/96	1 - 1.2			**1.6**					
	SW-SB26-0017-0	07/22/96	1.7 - 1.9			0.30 U					
	SW-SB26-0033-0	07/22/96	3.3 - 3.5			0.30 U					
SW-SB27	SW-SB27-0007-0	07/23/96	0.5 - 0.7			**0.80**					
	SW-SB27-0007-1 [1]	07/23/96	0.5 - 0.7			**1.1**					
SW-SB28	SW-SB28-0003-0	07/23/96	0.2 - 0.4			0.30 U					
SW-SB29	SW-SB29-0003-0	07/23/96	0.2 - 0.4			**4.6**					**15,000**
	SW-SB29-0007-0	07/23/96	0.7 - 0.8			**6.1**					**93,000**

Table 1
Analytical Results for Soil and Sediment Samples Tak
RMC/Alcoa - Troutdale, OR

				Pesticides/Polychlorinated Biphenyls (mg/Kg)				Total Petroleum Hydrocarbons (mg/Kg)			
Station	**Sample ID**	**Date Sampled**	**Depth**	**Heptachlor Epoxide**	**Lindane**	**Polychlorinated Biphenyls (PCBs)**	**Toxaphene**	**Diesel by HCID**	**Gas by HCID**	**Heavy Oil by HCID**	**TPH by 418.1**
SW-SB30	SW-SB30-0004-0	07/23/96	0.4 - 0.6			**2.3**					
SW-SB31	SW-SB31-0003-0	07/23/96	0.2 - 0.4			**1.5**					
SW-SB32	SW-SB32-0002-0	07/23/96	0.1 - 0.3			**5.9**					
SW-SB33	SW-SB33-0002-0	07/23/96	0.1 - 0.3			**6.6**					
	SW-SB33-0002-1 [1]	07/23/96	0.1 - 0.3			**7.1**					
SW-SB34	SW-SB34-0004-0	07/23/96	0.3 - 0.5			**0.30**					
SW-SB35	SW-SB35-0001-0	07/23/96	0.1 - 0.3			**11**					
SW-SB36	SW-SB36-0003-0	07/23/96	0.2 - 0.4			**4.7**					
SW-SB37	SW-SB37-0040-0	07/24/96	3.8 - 4			0.30 U					
	SW-SB37-0050-0	07/24/96	4.8 - 5			0.30 U					
	SW-SB37-0060-0	07/24/96	6 - 6.2			0.30 U					
SW-SB38	SW-SB38-0009-0	07/24/96	0.9 - 1.1			**4.9**					
	SW-SB38-0020-0	07/24/96	2 - 2.2			0.30 U					
	SW-SB38-0028-0	07/24/96	2.8 - 3			0.30 U					
SW-SB39	SW-SB39-0050-0	08/26/96	5 - 5.3			**0.40**					
	SW-SB39-0060-0	08/26/96	6 - 6.3			**0.70**					
SW-SB40	SW-SB40-0050-0	08/26/96	4.7 - 5			0.30 U					
	SW-SB40-0070-0	08/26/96	7 - 7.3			0.30 U					
SW-SB41	SW-SB41-0003-0	08/26/96	0.3 - 0.5			**1.9**					
SW-SB42	SW-SB42-0005-0	08/26/96	0.5 - 0.7			**1.6**					
SW-SB49	SW-SB49-0005-0	11/19/97	0								
SW-SB50	SW-SB50-0005-0	11/19/97	0								
SW-SB51	SW-SB51-0005-0	11/19/97	0								
SW-SB52	SW-SB52-0005-0	11/19/97	0								
SW-SB53	SW-SB53-0005-0	11/19/97	0								
	SW-SB53-0005-0-R2	11/19/97	0								
SW-SB54	SW-SB54-0005-0	11/19/97	0								
SW-SB55	SW-SB55-0005-0	11/19/97	0								
SW-SB56	SW-SB56-0005-0	11/19/97	0								
SW-SB57	SW-SB57-0005-0	11/19/97	0								
SW-SB58	SW-SB58-0005-0	11/19/97	0								
SW-SC01	SW-SC01-0002-0	09/20/99	2								
SW-SC02	SW-SC02-0001-0	09/20/99	1								
SW-SC03	SW-SC03-0001-0	09/20/99	1								
SW-SC04	SW-SC04-0002-0	09/20/99	2								
SW-SC05	SW-SC05-0002-0	09/20/99	2								
SW-SC05	SW-SC05-0002-1 [1]	09/20/99	2								
SW-SC06	SW-SC06-0002-0	09/20/99	2								

Notes:
Bold values indicate analyte detected.
[1] Duplicate Sample
[2] Sediment Sample
J = Indicates an estimated value.
K = The analyte concentration is biased high; the result may actually be lower.
L = The analyte concentration is biased low; the result may actually be higher.
R = The analyte concentration is rejected due to serious deficiencies in the ability to anlayze the analyte and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RC =
U = Indicates the compound was analyzed for, but not detected.

Table 2
Analytical Results for Sediment Samples Normalized for PAHs and Pesticides
RMC/Alcoa - Troutdale, OR

Station:	SD27		SD28		SD28	
Sample ID:	WD-SD27-0001-0		WD-SD28-0001-0		WD-SD28-0001-1 [1]	
Date Sampled:	02/23/95		34753		34753	
Class/Analyte/Units *Depth:*	0.1		0.1		0.1	
Polynuclear Aromatic Hydrocarbons - TOCN (mg/Kg):						
Acenaphthene	**8.5**		**21**		**25**	
Acenaphthylene	1.3	U	1.7	U	1.9	U
Anthracene	**12**		**31**		**36**	
Benzo (a) anthracene	**92**	**RC**	**270**	**RC**	**328**	**RC**
Benzo (a) pyrene	**119**	**RC**	**305**	**RC**	**367**	**RC**
Benzo (b) fluoranthene	**192**	**RC**	**445**	**RC**	**517**	**RC**
Benzo (g,h,i) perylene	**85**	**RC**	**195**	**RC**	**217**	**RC**
Benzo (k) fluoranthene	**54**		**150**	**RC**	**178**	**RC**
Chrysene	**119**	**RC**	**305**	**RC**	**406**	**RC**
Dibenzo (a,h) anthracene	**23**		**55**		**54**	
Fluoranthene	**138**	**RC**	**325**	**RC**	**389**	**RC**
Fluorene	1.3	U	**11**		**13**	
Indeno (1,2,3-cd) pyrene	**69**	**RC**	**175**	**RC**	**189**	**RC**
Naphthalene	1.3	U	1.7	U	1.9	U
Phenanthrene	**54**		**130**	**RC**	**150**	**RC**
Pyrene	**119**	**RC**	**280**	**RC**	**339**	**RC**
Pesticides - TOCN (mg/Kg):						
Aroclor-1016	1.9	U	2.5	U	2.8	U
Aroclor-1221	3.8	U	5.0	U	5.6	U
Aroclor-1232	1.9	U	2.5	U	2.8	U
Aroclor-1242			2.5	U	2.8	U
Aroclor-1248	1.9	U	2.5	U	2.8	U
Aroclor-1254	**17**		**21**		**27**	
Aroclor-1260	**108**	**RC**	**90**	**RC**	**111**	**RC**

Notes:
Bold values indicate analyte detected.
[1] Duplicate Sample
RC =
U = Indicates the compound was analyzed for, but not detected.

Table 3
Pipeline Soil Samples in the East Potliner Area

Sample ID:	**EP-PIPE-HIGH01**	**EP-PIPE-PLUS01**	**EP-PIPE-MINUS01**
Date Sampled:	**9/21/1995**	**9/21/1995**	**9/21/1995**
Sample Type:	**discrete**	**composite of A, B, C locations-see figure**	**composite of A, B, C locations see figure**
Sample Depth (ft.):	**0**	**0**	**0**
Inorganic Compounds (mg/Kg):			
Cyanide, Total	410 K	10.2 L	5.1 K
Fluoride by 340_1/340_2	7700	21000 K	2000
Metals (mg/Kg):			
Aluminum	56300	45900	14400
Antimony	2.5 UL	2.5 UL	2.5 UL
Arsenic	4.8	4.1	1.2
Barium	232	126	50.2
Beryllium	2.36	11.2	0.57
Cadmium	0.5 U	0.5 U	0.5 U
Chromium	29.8	17.6	8.51
Copper	43.4	23.2	13.4
Lead	16	6.9	5 U
Mercury	0.2 U	0.2 U	0.2 U
Nickel	21.8	14.5	7.34
Selenium	1 UJ	1 U	1 UJ
Silver	1 U	1 U	1 U
Thallium	1 U	1 U	1 U
Zinc	49.9	39.2	25.3
PAHs (mg/Kg):			
Acenaphthene	0.3 U	0.3 U	0.3 U
Acenaphthylene	0.3 U	0.3 U	0.3 U
Anthracene	0.3 U	0.3 U	0.3 U
Benzo (a) anthracene	1.5	0.3 U	0.3 U
Benzo (a) pyrene	0.3 U	0.3 U	0.3 U
Benzo (b) fluoranthene	1.9	0.3 U	0.3 U
Benzo (g,h,i) perylene	0.3 U	0.3 U	0.3 U
Benzo (k) fluoranthene	0.5	0.3 U	0.3 U
Chrysene	3.9	0.3 U	0.3 U
Dibenzo (a,h) anthracene	0.3 U	0.3 U	0.3 U
Fluoranthene	3	0.3 U	0.3 U
Fluorene	0.3 U	0.3 U	0.3 U
Indeno (1,2,3-cd) pyrene	0.3 U	0.3 U	0.3 U
Naphthalene	0.3 U	0.3 U	0.3 U
Phenanthrene	0.7	0.3 U	0.3 U
Pyrene	1.8	0.3 U	0.3 U
Total PCBs (mg/Kg):	0.3 U	0.3 U	0.3 U

D = Samples diluted because of matrix interference
J = Estimated value
K = Estimated value. May be biased high on the basis of spike recovery results.
L = Estimated value. May be biased low on the basis of spike recovery results.
U = Undetected

Figures

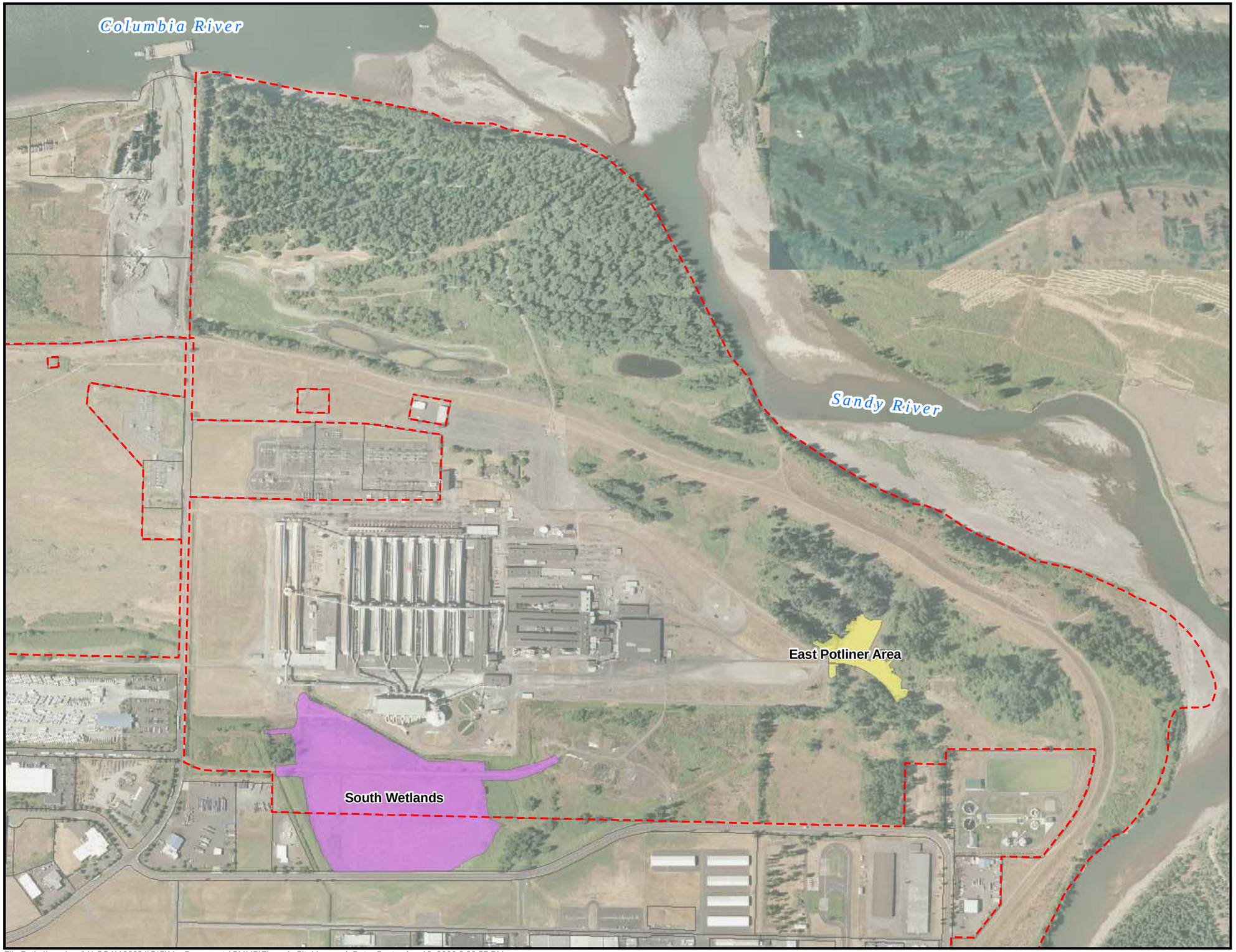

Figure 1
Site Map

RMC-Troutdale Facility
Troutdale, Oregon

Legend

- RMC-Troutdale Property Boundary
- Other Tax Lots
- East Potliner Area
- South Wetlands

N
W E
S

0 300 600 900 1,200
Feet

CH2MHILL

File Path: \\rosa\proj\ALCOA\166034\GIS\MapDocuments\CMMP\Figure1_SiteMap.mxd, Date: September 12, 2006 3:20:57 PM

Figure 2
South Wetlands

RMC-Troutdale Facility
Troutdale, Oregon

Legend

- Monitoring Well
- Sample Location
- South Wetlands

N
W E
S

0 75 150 225 300
Feet

CH2MHILL

File Path: \\rosa\proj\ALCOA\166034\GIS\MapDocuments\CMMP\Figure2_SouthWetlands.mxd, Date: September 13, 2006 9:39:50 AM

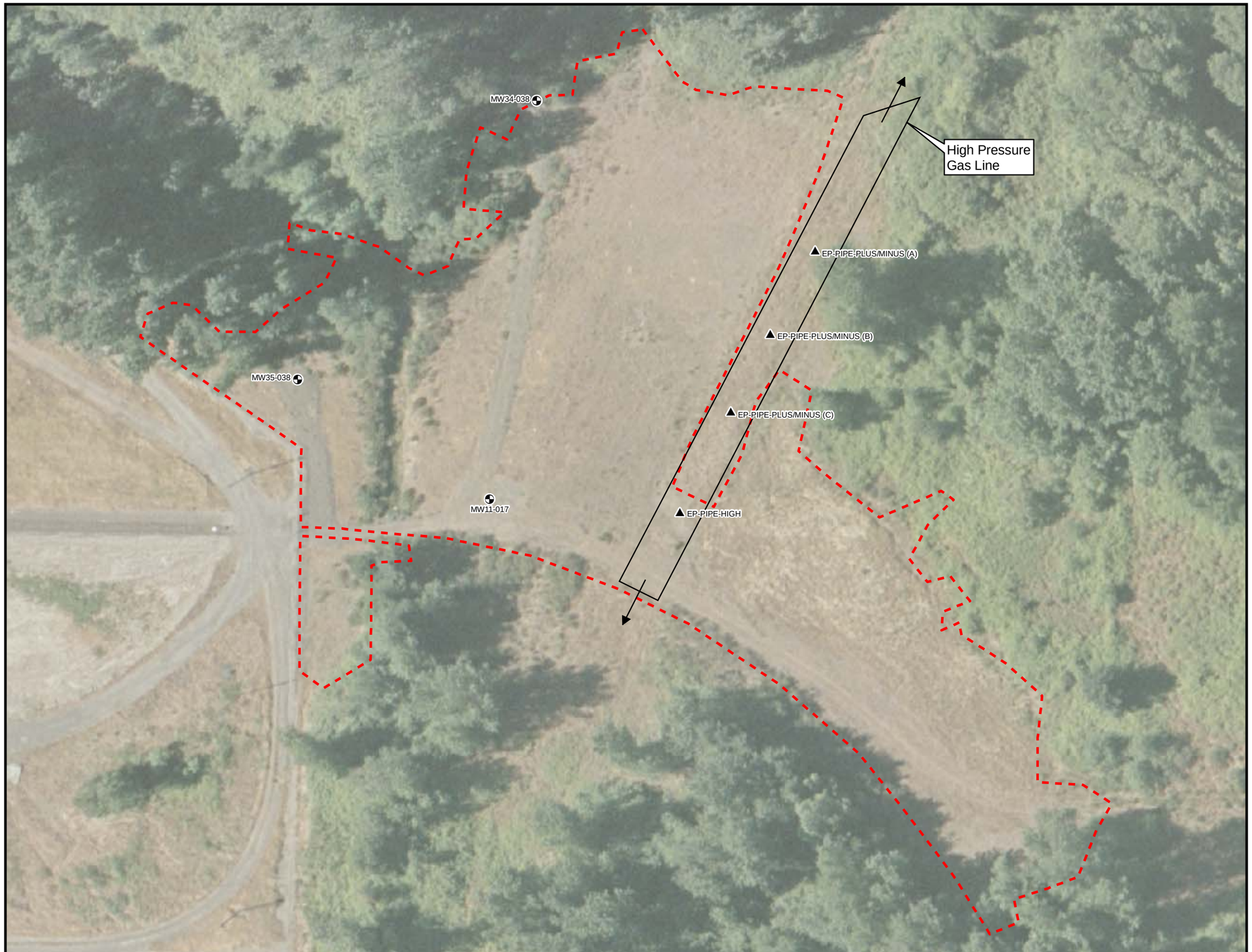

Figure 3

East Potliner

RMC-Troutdale Facility
Troutdale, Oregon

Legend

- Monitoring Well
- Approximate Existing Grab Sample
- East Potliner Area

N
W E
S

0 30 60 90 120
Feet

CH2MHILL

File Path: \\rosa\proj\ALCOA\166034\GIS\MapDocuments\CMMP\Figure3_EastPotliner.mxd, Date: September 12, 2006 11:48:23 AM

15-Mar-2004

NOTE:
MONITORING WELLS NORTH OF COMPANY LAKE PRIMARILY SCREEN GRAY SAND. LITTLE SILT IS OBSERVED IN THE SHALLOW SUBSURFACE NORTH OF THE COE FLOOD CONTROL DIKE.

FLUORIDE VALUE (mg/L) IS FROM FIELD MEASUREMENT. IF LABORATORY FLUORIDE CONFIRMATION IS HIGHER, THAT VALUE IS POSTED AS INDICATED BY [ ].

FLUORIDE VALUES ARE GIVEN FOR GEOPROBE BORINGS DRILLED IN THE SILT. OTHER GEOPROBE LOCATIONS ARE SHOWN ONLY TO INDICATE THEIR ARRANGEMENT ACROSS THE SITE.

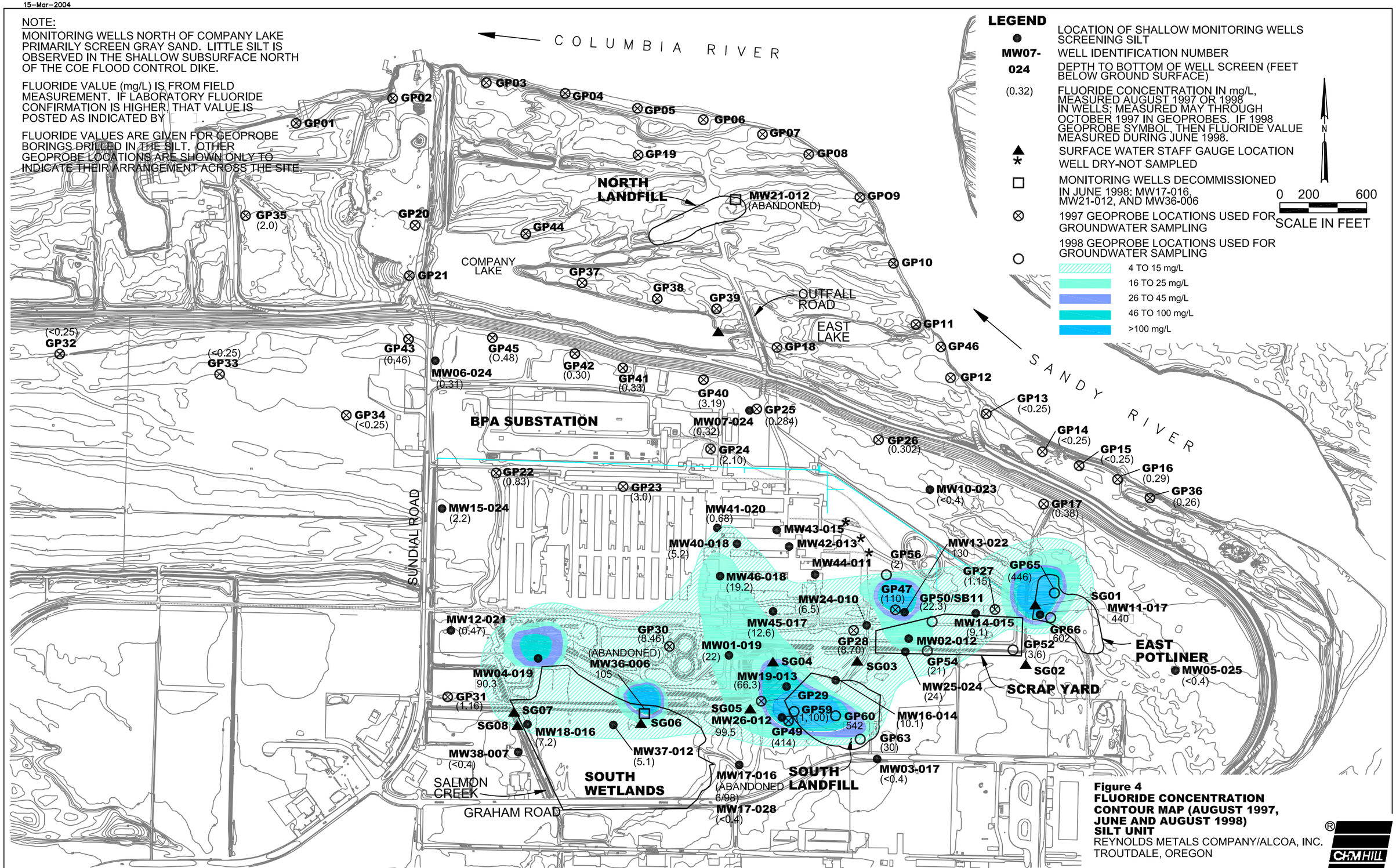

Figure 4
FLUORIDE CONCENTRATION CONTOUR MAP (AUGUST 1997, JUNE AND AUGUST 1998) SILT UNIT
REYNOLDS METALS COMPANY/ALCOA, INC.
TROUTDALE, OREGON

CH2M HILL

P:\ALCOA\166034\CAD 166034_COLOR6D.dwg

15-Mar-2004

NOTE:

FLUORIDE VALUE (mg/L) IS FROM FIELD MEASUREMENT. IF LABORATORY FLUORIDE CONFIRMATION IS HIGHER, THAT VALUE IS POSTED AS INDICATED BY [ ].

FLUORIDE VALUES ARE GIVEN FOR GEOPROBE BORINGS DRILLED IN THE UPPER GRAY SAND. OTHER GEOPROBE LOCATIONS ARE SHOWN ONLY TO INDICATE THEIR ARRANGEMENT ACROSS THE SITE.

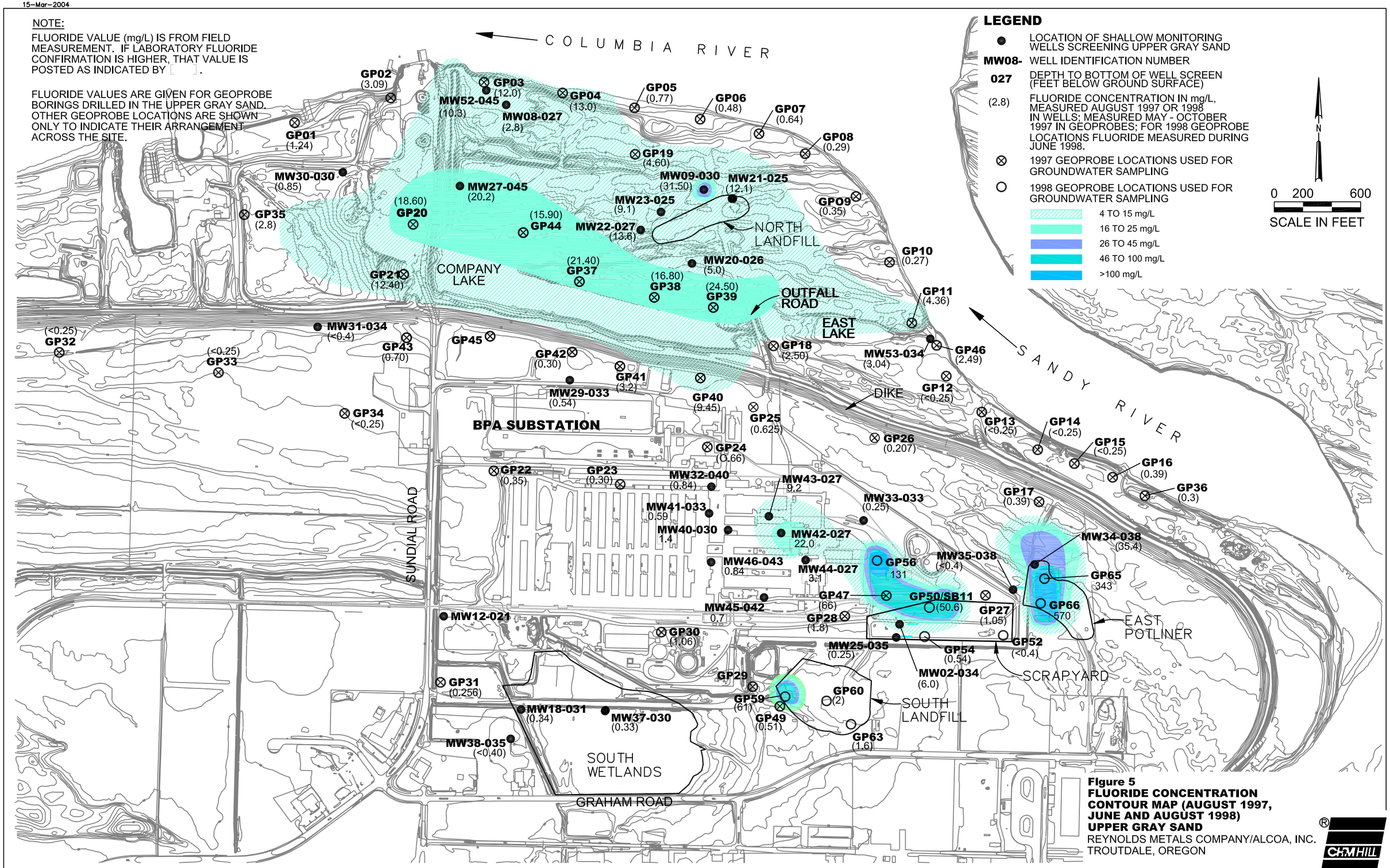

Figure 5
FLUORIDE CONCENTRATION CONTOUR MAP (AUGUST 1997, JUNE AND AUGUST 1998) UPPER GRAY SAND
REYNOLDS METALS COMPANY/ALCOA, INC.
TROUTDALE, OREGON

CH2M HILL

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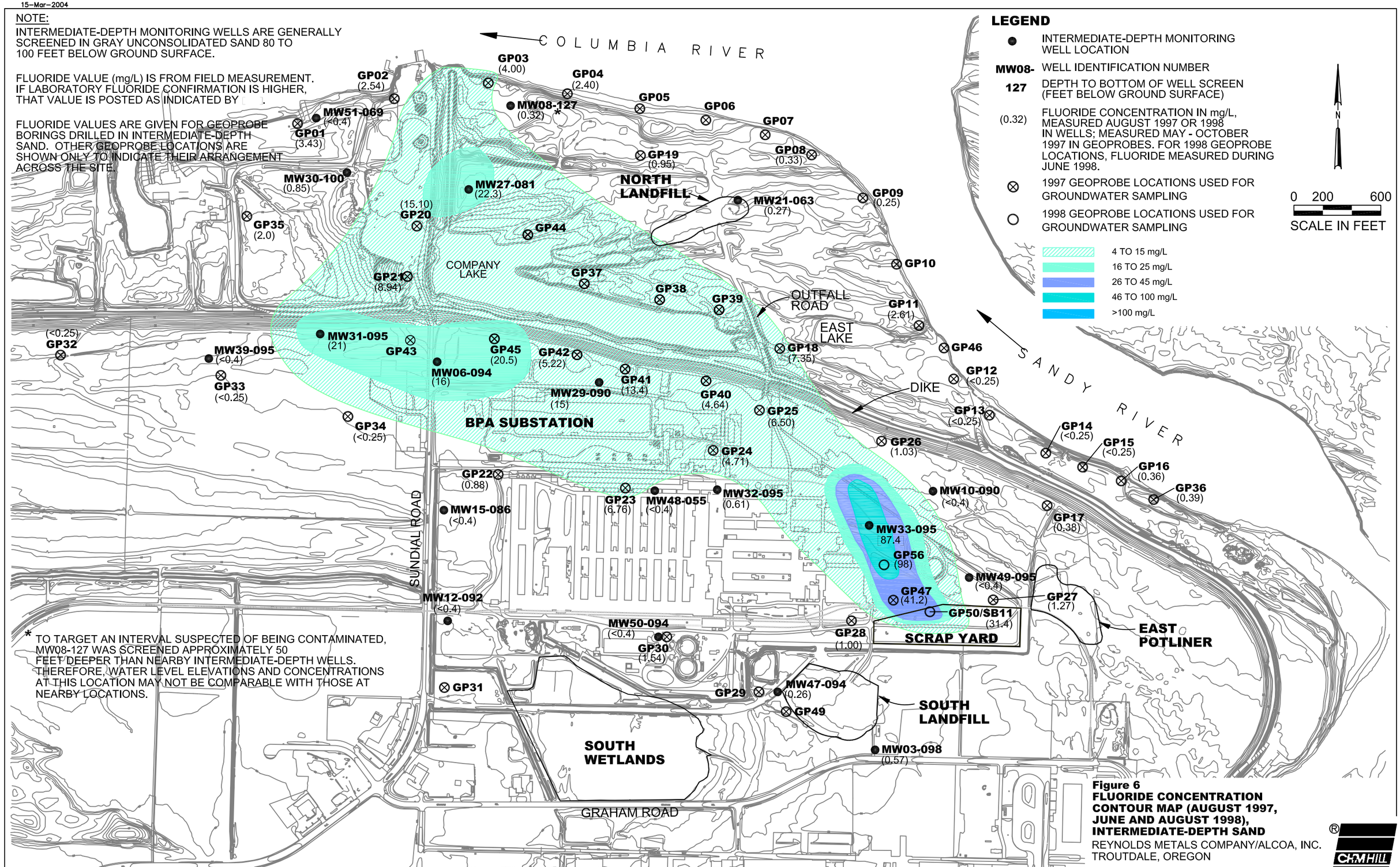
15-Mar-2004

NOTE:

INTERMEDIATE-DEPTH MONITORING WELLS ARE GENERALLY SCREENED IN GRAY UNCONSOLIDATED SAND 80 TO 100 FEET BELOW GROUND SURFACE.

FLUORIDE VALUE (mg/L) IS FROM FIELD MEASUREMENT. IF LABORATORY FLUORIDE CONFIRMATION IS HIGHER, THAT VALUE IS POSTED AS INDICATED BY [illegible].

FLUORIDE VALUES ARE GIVEN FOR GEOPROBE BORINGS DRILLED IN INTERMEDIATE-DEPTH SAND. OTHER GEOPROBE LOCATIONS ARE SHOWN ONLY TO INDICATE THEIR ARRANGEMENT ACROSS THE SITE.



* TO TARGET AN INTERVAL SUSPECTED OF BEING CONTAMINATED, MW08-127 WAS SCREENED APPROXIMATELY 50 FEET DEEPER THAN NEARBY INTERMEDIATE-DEPTH WELLS. THEREFORE, WATER LEVEL ELEVATIONS AND CONCENTRATIONS AT THIS LOCATION MAY NOT BE COMPARABLE WITH THOSE AT NEARBY LOCATIONS.

Figure 6
FLUORIDE CONCENTRATION CONTOUR MAP (AUGUST 1997, JUNE AND AUGUST 1998), INTERMEDIATE-DEPTH SAND
REYNOLDS METALS COMPANY/ALCOA, INC.
TROUTDALE, OREGON

CH2M HILL

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15-Mar-2004

NOTE:
DEEP MONITORING WELLS ARE SCREENED 150 TO 180 FEET BELOW GROUND SURFACE. SCREENED MATERIALS ARE PRIMARILY GRAY SAND TO THE SOUTH, SAND AND GRAVEL TO THE NORTH.

FLUORIDE VALUE (mg/L) IS FROM FIELD MEASUREMENT. IF LABORATORY FLUORIDE CONFIRMATION IS HIGHER, THAT VALUE IS POSTED AS INDICATED BY [ ].

FLUORIDE VALUES ARE GIVEN FOR GEOPROBE BORINGS DRILLED IN THE DEEP SAND. OTHER GEOPROBE LOCATIONS ARE SHOWN ONLY TO INDICATE THEIR ARRANGEMENT ACROSS THE SITE.

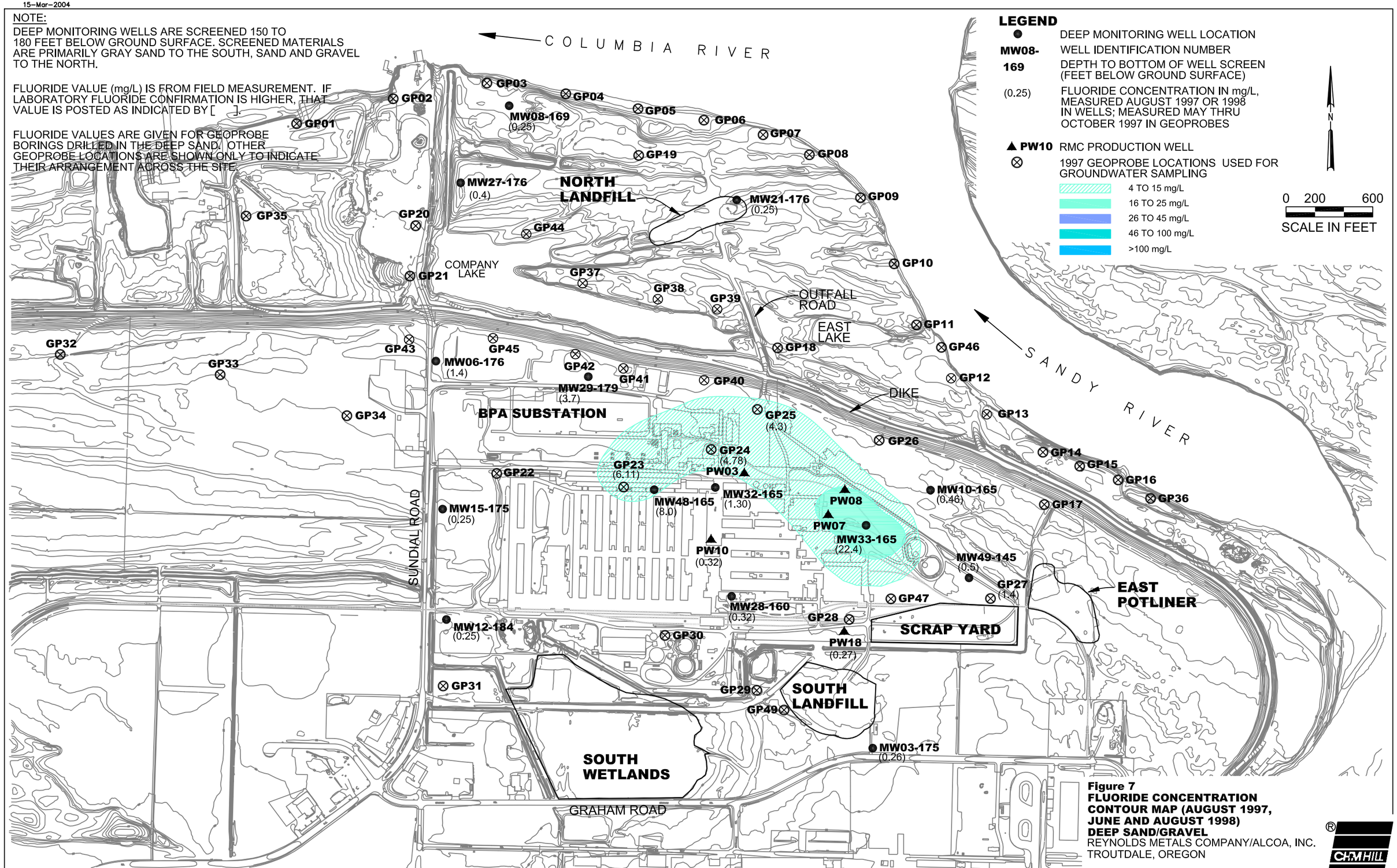

Figure 7
FLUORIDE CONCENTRATION CONTOUR MAP (AUGUST 1997, JUNE AND AUGUST 1998) DEEP SAND/GRAVEL
REYNOLDS METALS COMPANY/ALCOA, INC.
TROUTDALE, OREGON

CH2M HILL

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APPENDIX A

DEQ Contained In Determination for Soil

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region-Eastside Office
1550 NW Eastman Parkway, Suite 290
Gresham, OR 97030-3832
(503) 667-8414
FAX (503)674-5148

July 17, 2006

Mr. Steve Shaw
Reynolds Metals Company/Alcoa
2240 NW Perimeter Way
Troutdale OR 97060

RE: Contaminated Media Management Plan, Contained-In Determination (1995), Reynolds Metals Company Site, Troutdale, DEQ File #154

Dear Mr. Shaw:

The Department of Environmental Quality (DEQ) has reviewed your email request dated June 7, 2006, to manage certain K088 wastes that exist in the East Potliner area of the Reynolds Metals facility using an existing contained-in determination. Reynolds is preparing a Contaminated Media Management Plan that would address management of the K088 waste left in place from a 1995 removal by reference to the contained-in determination.

The existing contained-in determination was approved by DEQ in a letter dated October 5, 1995, and referred to K088-contaminated soil in the East Potliner area. The contained-in determination was based upon a US Environmental Protection Agency (EPA), Region 10, memo dated September 8, 1995, and a letter from the EPA Region 10 RCRA Compliance Section requesting the determination. DEQ's approval of the contained-in determination also indicated that it is site, waste and media specific and should not be used for other circumstances. Further, DEQ pointed out that the Phase III Land Disposal Restrictions (LDR) would become final in January 1996 and would become effective for the 25 constituents associated with K088 waste.

DEQ concurs with your assessment that the K088 waste that remains in the East Potliner area, surrounding the existing natural gas pipeline is virtually the same as the original K088 waste that was evaluated for the existing contained-in determination. The criteria used for the K088 contained-in determination remain the same as in 1995, where the risk-based criteria for residential ingestion of soil contaminated with free cyanide is higher than the LDR treatment standard for total cyanide in K088 non-wastewaters. The 1995 contained-in determination provided that all soil passing a 1-inch screen and containing less than 590 mg/kg of total cyanide could be managed as a non-hazardous waste, or a solid waste, provided that these soils were disposed in a landfill that met RCRA Subtitle D requirements.

DEQ therefore concludes that the existing 1995 DEQ-approved contained-in determination may be used in the Contaminated Media Management Plan for management of the K088 waste that has been left in place in the East Potliner area should the natural gas pipeline ever be abandoned and removed. Be advised that this use of the 1995 contained-in determination cannot be applied elsewhere on site and that other LDR requirements may apply in management of these soils.

If you have any questions you may contact me at 503-667-8414 X55008 or by email at kent.mavis.d@deq.state.or.us.

Sincerely,

Mavis D. Kent
DEQ Project Manager

pc: Barb Puchy, Bruce Gilles, DEQ-NWR

DEQ-DC1

Oregon

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

NORTHWEST REGION

October 5, 1995

MR STEVE SHAW
REYNOLDS METALS COMPANY
SUN DIAL ROAD
TROUTDALE OR 97060

Re: Contained-In Determination Approval
HW - Reynolds Metals Company
Multnomah County

Dear Mr. Shaw:

The Department has received your letter dated September 18, 1995, requesting that a determination be made that certain soils at the Reynolds Metals facility in Troutdale do not need to be managed as hazardous waste. Based on the information provided by the Environmental Protection Agency (EPA) in a letter from Marcia Bailey to the Department and in a memo from Chris Field, both dated September 8, 1995 (attached), the Department is hereby granting a favorable contained-in determination for specific soils contaminated with K088 listed hazardous waste at the Reynolds Metal Company.

This determination is granted only for those soils specifically described in the EPA correspondence cited above. These soils have been determined by the Department and EPA to contain hazardous constituents at concentrations which do not warrant management of the soils as hazardous waste, provided they are managed as solid waste and are disposed of in a landfill which meets the RCRA Subtitle D requirements. Any other disposition of the soils will void this favorable contained-in determination.

Please note that this application of the contained-in policy, like any such application, is particular only to the site-, waste-, and media-specific conditions for which the determination is rendered. No inference of the explicit or implicit inclusion in this determination of other contaminated soils or other media at the Reynolds facility or any other facility would be legitimate.

You should be aware that the federal Phase III Land Disposal Restrictions rules, proposed on March 2, 1995, are due to become final in January, 1996. At that time, specific treatment standards for K008 wastes will become effective in all states. Those standards include treatment levels for 25 constituents associated with K088. Remedial actions at Reynolds Metals after the effective date of those rules may trigger treatment requirements for at least some remediation wastes at the facility.

John A. Kitzhaber
Governor

2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5263 Voice
TTY (503) 229-5471

Should you have any questions on this contained-in determination, please do not hesitate to contact me at 229-5532.

Sincerely,

Dave St. Louis

Dave St. Louis., P.E.
Manager, Hazardous Waste Permits and
Site Response

Attachments
EPA Letter of Sept. 8, 1995
EPA Memo of Sept. 8, 1995

cc: (w/o atts)
Marcia Bailey:EPA Region 10
Chris Field:EPA Region 10
Chip Humphrey:EPA Oregon Operations
Chuck Donaldson:SW Salem
Chuck Clinton:HW Northwest Region
Barbara Puchy:HW Northwest Region

cc: (w/atts)
Gerry Preston:SW The Dalles
Mavis Kent:Site Response Northwest Region

REYNOLDS ALUMINUM

PRIMARY METALS DIVISION

September 18, 1995

Mr. David St. Louis
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland OR 97201-4987

Subject: Request for "Contained-In" Policy Determination

Dear Mr. David St. Louis,

In a response action taken under CERCLA, Reynolds Metals Company has proposed a plan to the U.S. EPA for managing waste soils excavated from a former potliner (listed hazardous waste K088) storage area. The proposed plan requests that soils screened from the potliner be managed as non-hazardous waste under the contained-in policy if the cyanide level is less than 590 mg/kg and the soils are not otherwise a characteristic waste.

I understand the Oregon Department of Environmental Quality has jurisdiction in determining this mater. I respectfully request a favorable determination of the contained-in policy and reference two supporting letters from Marcia L. Bailey and Chris Field of the U.S. EPA, which are enclosed.

I appreciate your attention to this mater and look forward to your response. If you have any questions, please call me at (503) 666-0201.

Sincerely,

REYNOLDS METALS COMPANY

Steven M. Shaw
Troutdale Remediation Project Manager

Enclosures

cc : Chris Field/United States EPA (w/o encl.)
Chip Humphrey/United States EPA (w/o encl.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: HW-104

September 8, 1995

Dave St. Louis
Oregon Department of Environmental Quality
2020 SW Fourth
Suite 400
Portland, Oregon 97201-4987

Re: Reynolds Metals Company
ORD 00941 2672

Dear Dave:

Enclosed is a memo that Chris Field and I put together to present a case for a contained-in decision by DEQ for soil contaminated with potliner (hazardous waste K088) at the Reynolds Metals facility in Troutdale, Oregon. Chris is the On-Scene Coordinator for the Superfund removal action at the site. Chip Humphrey will eventually take over as the Remedial Project Manager.

This demonstration is somewhat different from other contained-in determinations I have worked on, such as the soil pile at Taylor Lumber, inasmuch as the sampling was conducted while the soil was still in place, and additional sampling will occur after soil excavation. However, after reviewing the available data, I believe that the level of cyanide in the soil has been sufficiently demonstrated to exist at concentrations well below levels which would pose an unacceptable risk, assuming a human ingestion exposure scenario. In addition, as this is a removal action, the contaminated soil (if determined by DEQ not to have to be managed as hazardous waste) will be taken to a RCRA Subtitle D facility where it will pose minimal risk to human health and the environment.

For your preliminary review, I am enclosing a technical report and pertinent pages from a second report which document the levels of cyanide in the soil. (When copies of the second document are available I will forward one for your records.) I am very willing to work with you or your staff on this

Printed on Recycled Paper

determination, whether or not you decide to wait for further analytical results before rendering your decision. Please call me at (206) 553-0684 any time during the week of September 11; I plan to be on annual leave the week of September 18. Thank you in advance for your cooperation in making a determination in this matter.

Sincerely,

Marcia

Marcia L. Bailey, D.Env.
Environmental Scientist
RCRA Compliance Section

Enclosures

cc: Chris Field (w/o enc.)
Chip Humphrey, OOO (w/memo only)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

MEMORANDUM

DATE: September 8, 1995

TO: Marcia Bailey, Environmental Scientist
RCRA Compliance Section (HW-104)

FROM: Chris Field, EPA On-Scene Coordinator
Superfund

SUBJECT: Request for a "contained-in" policy determination for soil contaminated with K088 at the Reynolds Metals Superfund site, Troutdale, OR

Region 10 Superfund is currently overseeing a PRP-lead, time-critical removal action of potliner debris from an approximate three acre area on the east side of the Reynolds Metals facility. Potliner characteristically contains elevated concentrations of cyanide and is a listed hazardous waste (K088), with cyanide (complexes) as the only hazardous constituent for which it was listed (40 CFR Part 261 Appendix VII). As a consequence of temporary storage of potliner during the 1960's, there remains a thin layer of potliner debris scattered across and within the soil at the east side of the Reynolds facility.

Surficial scraping/excavation of 1 to 3 feet of the soil in the potliner area commenced on August 28, 1995, and we would like to move forward with off-site disposal at the earliest date possible. Excavated soil is screened, with potliner remnants which do not escape the 1-in. screen being accumulated for shipment as K088 hazardous waste to a commercial hazardous waste facility. After being screened, the K088-contaminated soil, which is the subject of this request, is being placed in a segregated pile which is underlain and covered by Visqueen to minimize run-off and wind dispersal.

Sampling and analysis of the contaminated soil was conducted in 1994 while the soil was still in place (see Technical Memorandum, attached). Samples were obtained from areas where cyanide would be expected to be found at maximum levels, e.g., immediately beneath potliner remnants. Nevertheless, the highest value of total cyanide (which includes free and complexed cyanide) was only 3.8 mg/kg. The maximum value found in samples of residual potliner was 35 mg/kg. Risk-based residential cleanup levels for incidental ingestion of soil contaminated with free cyanide utilized by EPA and Oregon DEQ are 1600 and 5000 mg/kg, respectively. The proposed land disposal treatment standard for total cyanide in K088 nonwastewaters is 590 ppm,

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which is technology-based, not risk-based. Therefore, under both risk and LDR standards, the soil is well within acceptable levels for this constituent.

In addition to the above sampling and analysis, the soil which is being accumulated after the screening process will be additionally sampled and analyzed for fluoride, PAHs, PCBs, certain metals, and total cyanide, to provide a complete characterization of the soil, primarily to provide a profile for the receiving Subtitle D facility. Fluoride, which was found at a level of 1600 mg/kg, is of concern in the site clean-up as it has a potential to contaminate drinking water. PAHs and PCBs were found at maximum levels of 19 mg/kg and 1.1 mg/kg, respectively. The only regulated hazardous waste present, however, is K088. One three-point composite sample per 100 yd^3 of soil will be taken for analysis. It is anticipated that several thousand yd^3 of soil will ultimately be excavated in this effort.

To minimize disposal costs we request that a favorable "contained- in" determination be made at this time for the soil which has been and which will be excavated, screened and placed in the pile. All segregable potliner debris (as well as any soils found to exceed 590 ppm total cyanides) would be disposed of at the Chem Waste Management commercial hazardous waste facility in Arlington, Oregon. Soil determined not to have to be managed as hazardous waste pursuant to a contained-in decision would be disposed of at Oregon Waste Systems, a subtitle D facility also located in Arlington, OR.

Although we understand that it is somewhat unusual to request a contained-in determination prior to the completion of the overall characterization of the soil, we believe that the previous sampling and analysis of "hot spots" for cyanide was sufficient to render a contained-in determination for the K088-contaminated soil, in terms of not having to manage the soil as a regulated hazardous waste. We suggest that the contained-in determination be worded such that it excludes any soil containing total cyanide at a concentration greater than 590 mg/kg, even though we fully expect that no levels approaching that concentration will be found.

We understand that DEQ is the regulatory entity responsible for making this contained-in determination, and that you will work with DEQ in this effort. If DEQ feels that it must wait until all analyses have been conducted on the soil before a determination can be rendered, that can be arranged. However, we are confident that the evidence which is already available demonstrates that the hazardous constituent for which K088 was listed does not approach levels which present unacceptable risks. In addition, securing a favorable contained-in determination now

would expedite the clean-up process and would eliminate any potential regulatory problems associated with having a RCRA-regulated soil pile on site. In either case, DEQ will be provided with a copy of final sampling and analysis results when they become available, to complete its files on this matter.

I am available at (206) 553-1674 to discuss this matter further with you or DEQ representatives should there be any questions. Thank you for your assistance.

APPENDIX B

DEQ Contained In Determination for Groundwater

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region-Eastside Office
1550 NW Eastman Parkway, Suite 290
Gresham, OR 97030-3832
(503) 667-8414
FAX (503)674-5148

November 28, 2006

Mr. Steve Shaw
Reynolds Metals Company/Alcoa
2240 NW Perimeter Way
Troutdale OR 97060

RE: Contained-In Determination, Groundwater Extracted in Final Remedy Implementation, Reynolds Metals Company Site, Troutdale, DEQ File #154

Dear Mr. Shaw:

The Department of Environmental Quality (DEQ) has reviewed your letter, dated November 7, 2006, that requested a contained-in determination for cyanide in groundwater at the Reynolds Metals site. The final site remedy requires extraction of groundwater from two focused extraction wells (FE-02 and FE-03) and other former production wells. The groundwater is transported from the well heads to a treatment unit where the groundwater is combined, then discharged to the Columbia River under an existing National Pollutant Discharge Elimination System (NPDES) Permit. The Permit established discharge limitations for cyanide in the extracted groundwater of 0.025 mg/l as a monthly average and 0.05 mg/l as a daily maximum. This contained-in determination pertains to potential spills that may occur along the transport pipeline from the well head to the treatment unit.

Potentially Listed Wastes

Groundwater extracted from well FE-03 may contain a hazardous waste because the water has been contaminated with constituents including cyanide that originate from the East Potliner Landfill that contained K-088 listed waste. Groundwater extracted from well FE-02 and the former production wells contain cyanide but the groundwater does not originate from an area that contained K-088 listed waste. Therefore, only groundwater extracted from FE-03 would be considered to be subject to applicable hazardous waste generator standards specified in 40 CFR Part 262.

The DEQ has adopted the U.S. Environmental Protection Agency's (EPA) "contained-in" policy, which requires that "soil (and other environmental media), although not wastes themselves, be managed as if they were hazardous waste if they contain hazardous waste or exhibit a characteristic of hazardous waste" (Federal Register, Volume 63, page 28621 [63 FR 28261]). EPA considers contaminated environmental media to no longer contain hazardous waste: (1) when they no longer exhibit a characteristic of hazardous waste; and (2) when concentrations of hazardous constituents from listed hazardous wastes are below health-based levels (EPA 1998).

The DEQ, as a policy, uses DEQ health-based levels for comparison with constituent concentrations in environmental media. Water containing concentrations of contaminants less than Federal and State Maximum Contaminant Levels (MCLs) for drinking water systems will be determined to not contain hazardous waste. If MCLs have not been promulgated for the hazardous substance, then DEQ applies

DEQ-DC1

either EPA preliminary remediation goals (PRGs) or DEQ risk-based concentrations (RBCs). The applicable MCLs and RBCs are summarized below.

Groundwater is monitored through regular sampling of the extraction and production wells according to an approved groundwater monitoring plan for remedy performance. Groundwater is analyzed for cyanide by a variety of methods to determine an accurate measure of free cyanide for comparison to human health risk-based criteria and ecological exposure criteria appropriate for the site. Through evaluation of site cyanide analytical data, Reynolds has concluded that the cyanide present in groundwater consists mainly of non-toxic iron cyanide with very low concentrations of free cyanide. Analytical methods used to measure cyanide include method OIA 1677 for amenable cyanide which was approved by EPA in 1999, and method ASTM 4282.02 for free cyanide which is under review by EPA. Groundwater extraction from FE-03 began in January 2006.

Data from cyanide analyses indicate that groundwater from FE-03 contains cyanide at concentrations ranging from 0.0066 to 0.009 mg/l, and free cyanide at concentrations that range from 0.00076 to 0.0026 mg/l. Appropriate risk-based human health and ecological exposure criteria appropriate for the site include: maximum contaminant level (MCL) of 0.2 mg/l, EPA Region 9 preliminary remediation goal for tapwater of 0.730 mg/l, direct contact for industrial workers of 62 mg/l. Measured concentrations of amenable cyanide are below drinking water and direct contact criteria.

Based upon our application of the contained in rule, DEQ has determined that cyanide concentrations in groundwater beneath the site do not contain a K088 hazardous waste.

Limitations and Additional Conditions

This determination is limited only to the water identified in this letter. Additional waste profiling will be necessary for soil/water generated from any future site development activity.

If you have additional questions or concerns regarding the information contained in this letter, please contact me at (503) 667-8414, extension 55008.

Sincerely,

Mavis D. Kent

Mavis D. Kent, Project Manager
Cleanup & Emergency Response Section

pc: Chip Humphrey, EPA-OOO; Bruce Gilles, DEQ-NWR-ESO

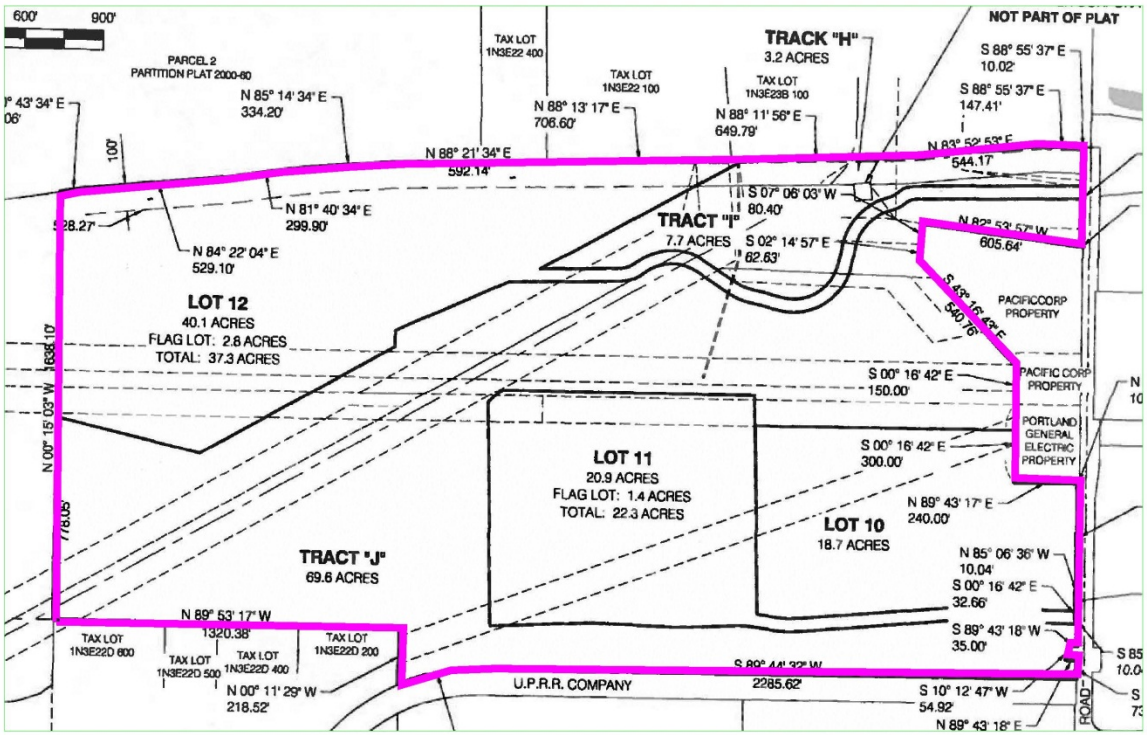
DEQ-DC1

ATTACHMENT 2

TRIP LAND USE APPROVALS, EXISTING CONDITIONS AND ZONING DESCRIPTION

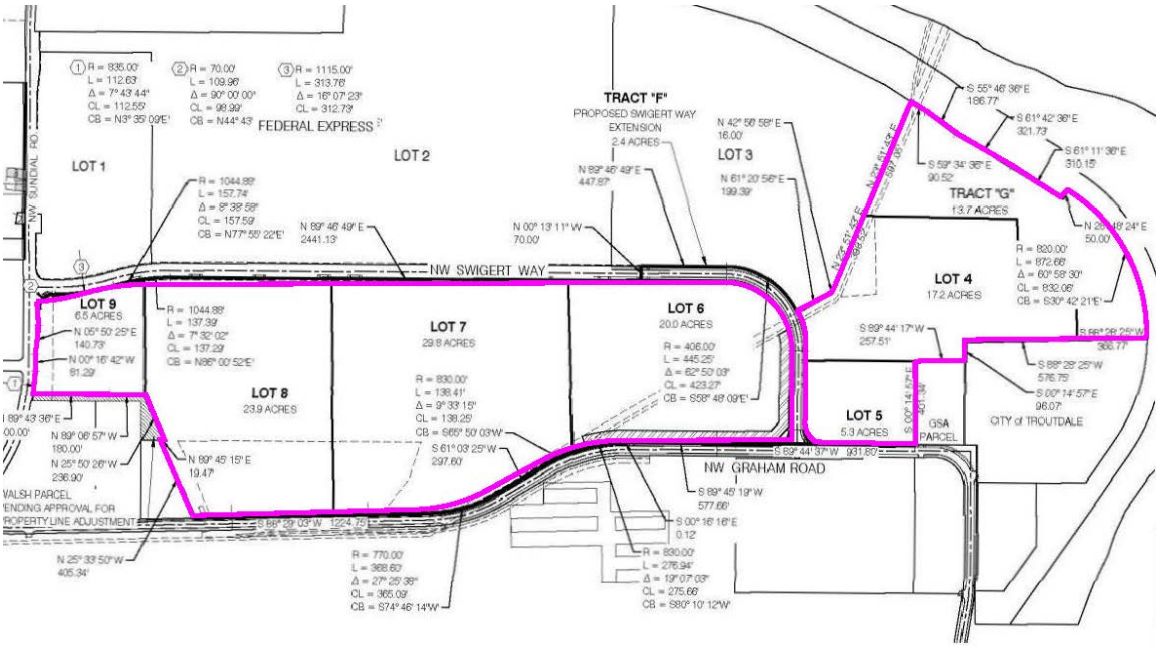
Attachment 2:

TRIP Land Use Approvals, Existing Conditions and Zoning Description



Property Description Phase III West of Sundial Road: Multnomah County Assessor's Maps 1N-3E-23B, Tax Lot 200; 1N-3E-22, Tax Lots 200 & 302

The Port Of Portland (the Port) received tentative Subdivision Plat approval on October 17, 2012 per case file number 12-032 for Phase III of Troutdale Reynolds Industrial Park (TRIP). The site is specifically identified as tax lots 200 and 400 of Multnomah County Tax Assessors Map 1N 3E 23B and tax lots 200 and 302 of Tax Assessors Map 1N 3E 22. The gross area of the project site is approximately 161+ acres. Approval allows for the creation of Lots 10, 11, 12 and Open Space Tracts H, I and J. The land area proposed for the 3rd phase of this subdivision is identified in the above graphic. It is located west of Sundial Road, and directly south of the levee. No new public streets will be created as a result of the proposed land division. All lots will have immediate public street frontage via individual driveways onto NW Sundial Road.



Property Description Phase II East of sundial Road: Tract D of Troutdale Reynolds Industrial Park - Multnomah County Assessor's Maps 1N-3E-23, Tax Lot 106 and 1N-3E-24, Tax Lot 403

The Port of Portland (the Port) received tentative Subdivision Plat approval for Phase II of TRIP (east of sundial Road) on October 17, 2012 per case file number 12-031. Six large industrial lots (4-9) will be created by replatting Tract D, which was platted as a future development tract during the first Phase of Troutdale Reynolds Industrial Park (TRIP) Partition Plat.

Tract D is identified as tax lot 106 of Multnomah County Tax Assessors Map 1N 3E 23 and tax lot 403 of Tax Assessors Map 1N 3E 24. The gross area of the site is 119.26 acres. Subdivision applications are reviewed as Type III procedures per TDC 7.030.F of the City of Troutdale Development code. In addition to the subdivision request this proposal includes the following concurrent land use approvals:

Zoning:

The entire site is zoned General Industrial. The purpose of the GI zoning district is primarily intended for manufacturing industries, large-scale fabricators, freight and trucking firms, primary metals, and lumber, etc., that usually require highway access and/or rail service. These firms usually have a high degree of process visibility and need outdoor storage of materials and products. These industries are likely to create minor air and water pollution, as well as nuisance factors such as noise and odor, and the generation of truck, shipping, or rail traffic. Non-industrial uses of a commercial nature are permitted in compliance with Title 4 of the Metro Urban Growth Management Functional Plan.

DEPARTMENT OF COMMUNITY DEVELOPMENT

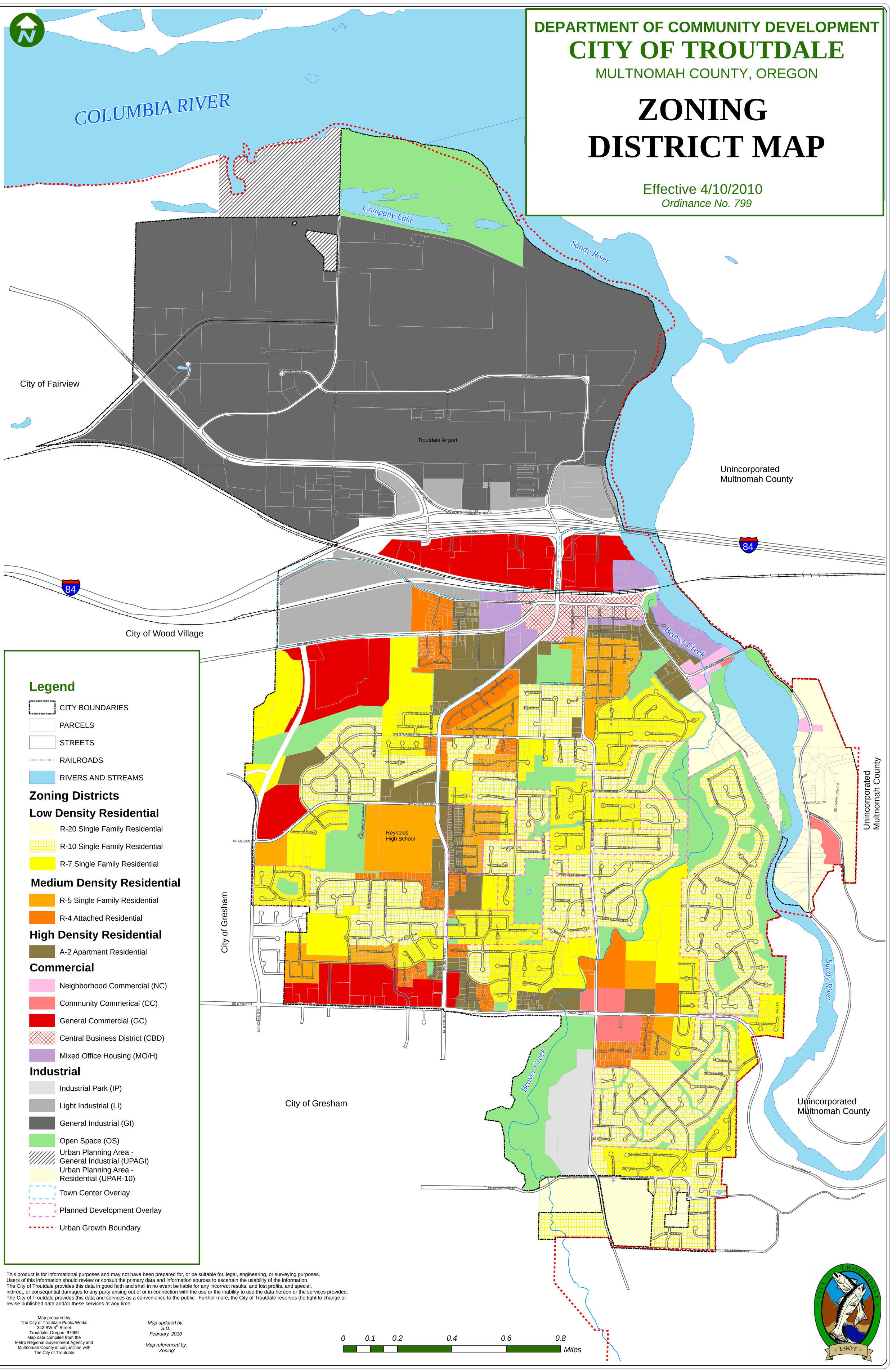
CITY OF TROUTDALE

MULTNOMAH COUNTY, OREGON

ZONING DISTRICT MAP

Effective 4/10/2010

Ordinance No. 799

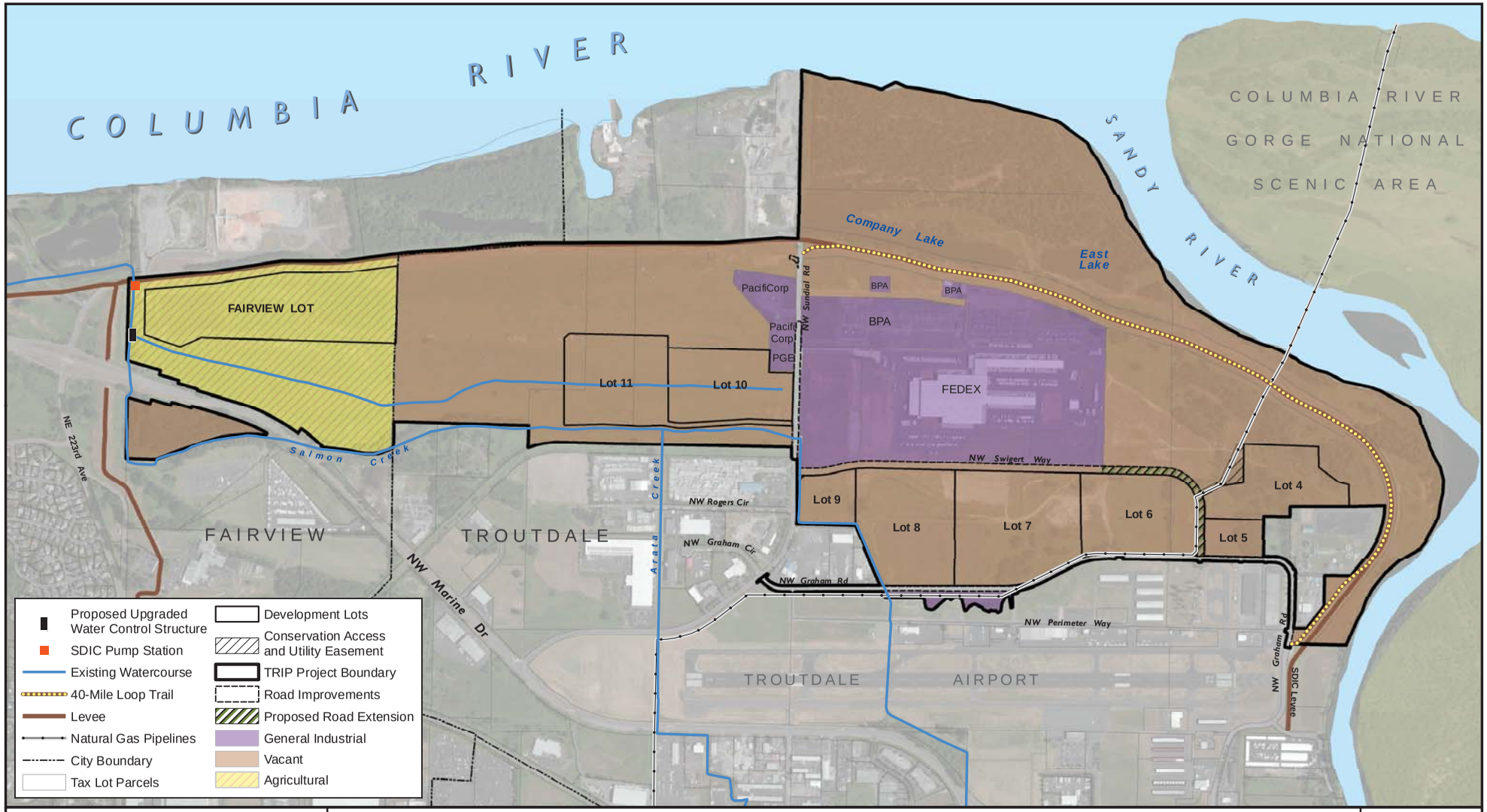


This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information. The City of Troutdale provides this data in good faith and shall in no event be liable for any incorrect results, and lost profits, and special, indirect, or consequntial damages to any party arising out of or in connection with the use or the inability to use the data hereon or the services provided. The City of Troutdale provides this data and services as a convenience to the public. Further more, the City of Troutdale reserves the tight to change or revise published data and/or these services at any time.

Map prepared by
The City of Troutdale Public Works
342 SW 4th Street
Troutdale, Oregon 97060
Map data compiled from the
Metro Regional Government Agency and
Multnomah County in conjunction with
The City of Troutdale

Map updated by:
S.D.
February, 2010

Map referenced by:
'Zoning'



PORT OF PORTLAND

ENVIRON

8440 SE Sunnybrook Blvd | Clackamas, Oregon

Data Sources:
2007 RLIS Tax Lot Data
2012 Port of Portland Lot Bndry
2006 USFS NSA Ownership Bndry
2012 FEMA Levee Data
2010 ODOT City Limits
2013 ESRI Imagery

Troutdale Reynolds Industrial Park, Phase II and III Development
Existing Land Use

0 0.25 0.5 1 Mile

N

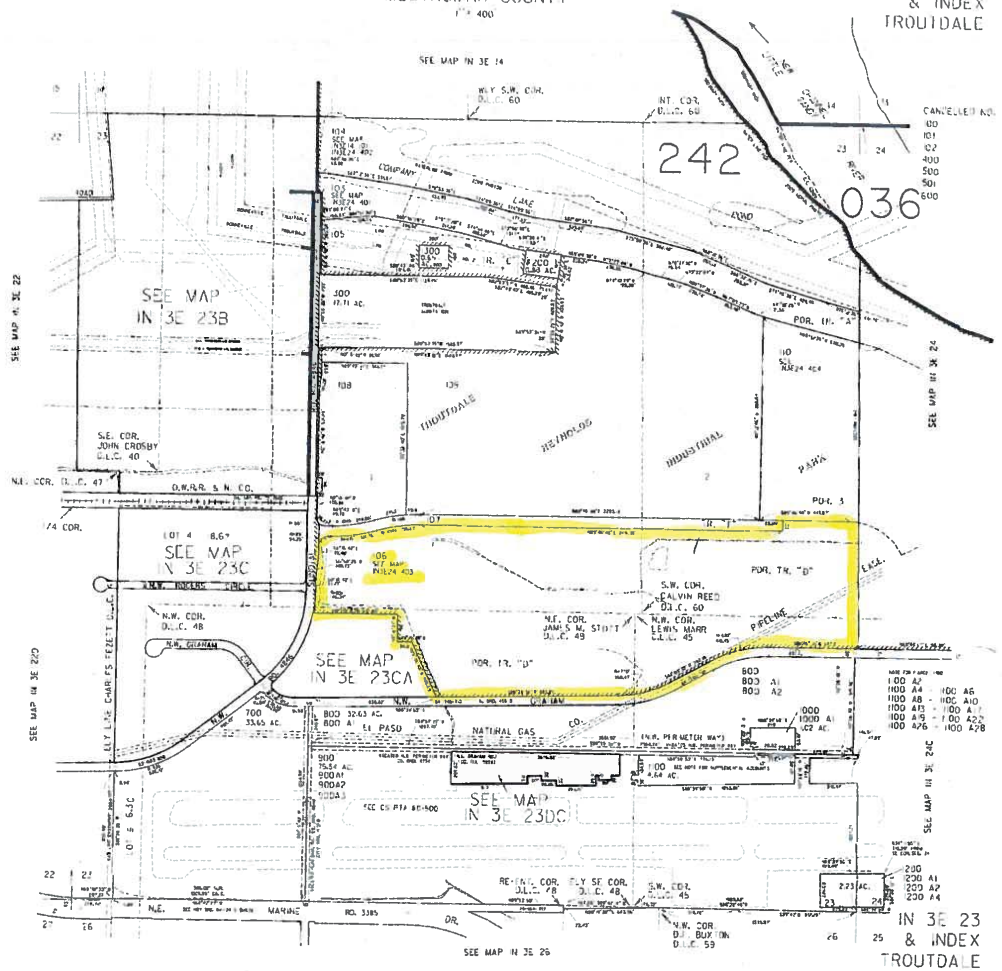
Figure B-13

Prepared By: E. McCormick | Checked By: J. Krieter | Scale: 1:11,000 | Prepared For: Port of Portland | Date: 4/9/2013

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

SECTION 23 T.1N. R.3E. W.M.
MULTNOMAH COUNTY
1" = 400

IN 3E 23 & INDEX TROUTDALE



IN 3E 23 & INDEX TROUTDALE

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THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

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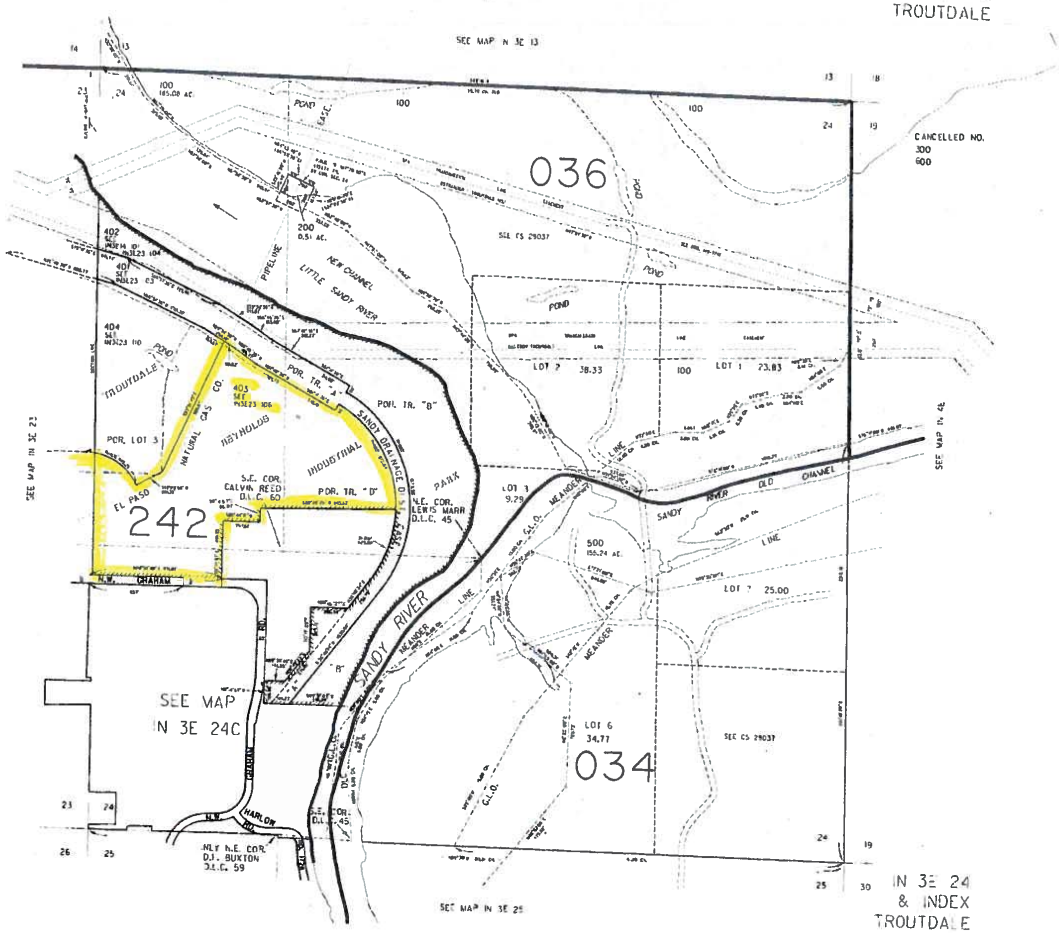
MULTNOMAH COUNTY
1" = 400'

IN 3E 24
& INDEX
TROUTDALE



IN 3E 24
& INDEX
TROUTDALE

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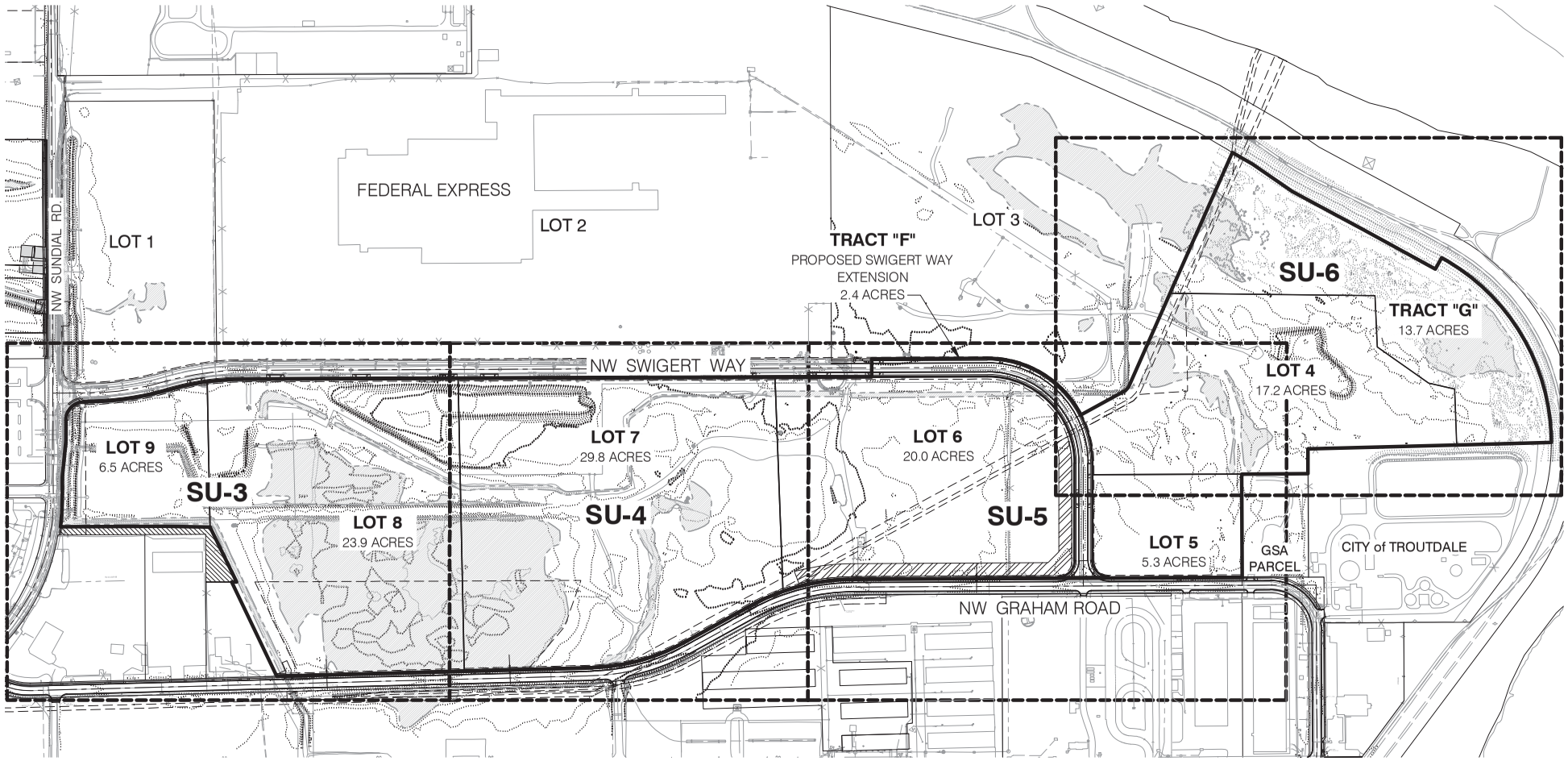
TROUTDALE REYNOLDS INDUSTRIAL PARK No. 2

BEING A PORTION OF THE LEWIS MARR D.L.C. NO. 45, JAMES M. STOTT D.L.C. NO. 48, AND THE CALVIN REED D.L.C. NO. 60. SITUATED IN THE SOUTHEAST AND SOUTHWEST QUARTERS OF SECTION 14, NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 23 AND THE NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 24, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON.



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NO.	DATE	BY	REVISIONS	CK'D	APPV'D

PORT OF PORTLAND
PORTLAND, OREGON

2011D019 & 2011D020 — DESIGN NUMBER
101659 & 101660 — PROJECT NUMBER

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 25, 1995
CHRISTOPHER VANDERWERF
2719
SIGNED:
EXP: 6/30/2012

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY C. VANDERWERF
DATE MAR 2012
SCALE 1" = 300'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE NO. 2
OVERALL SITE - EXISTING CONDITIONS

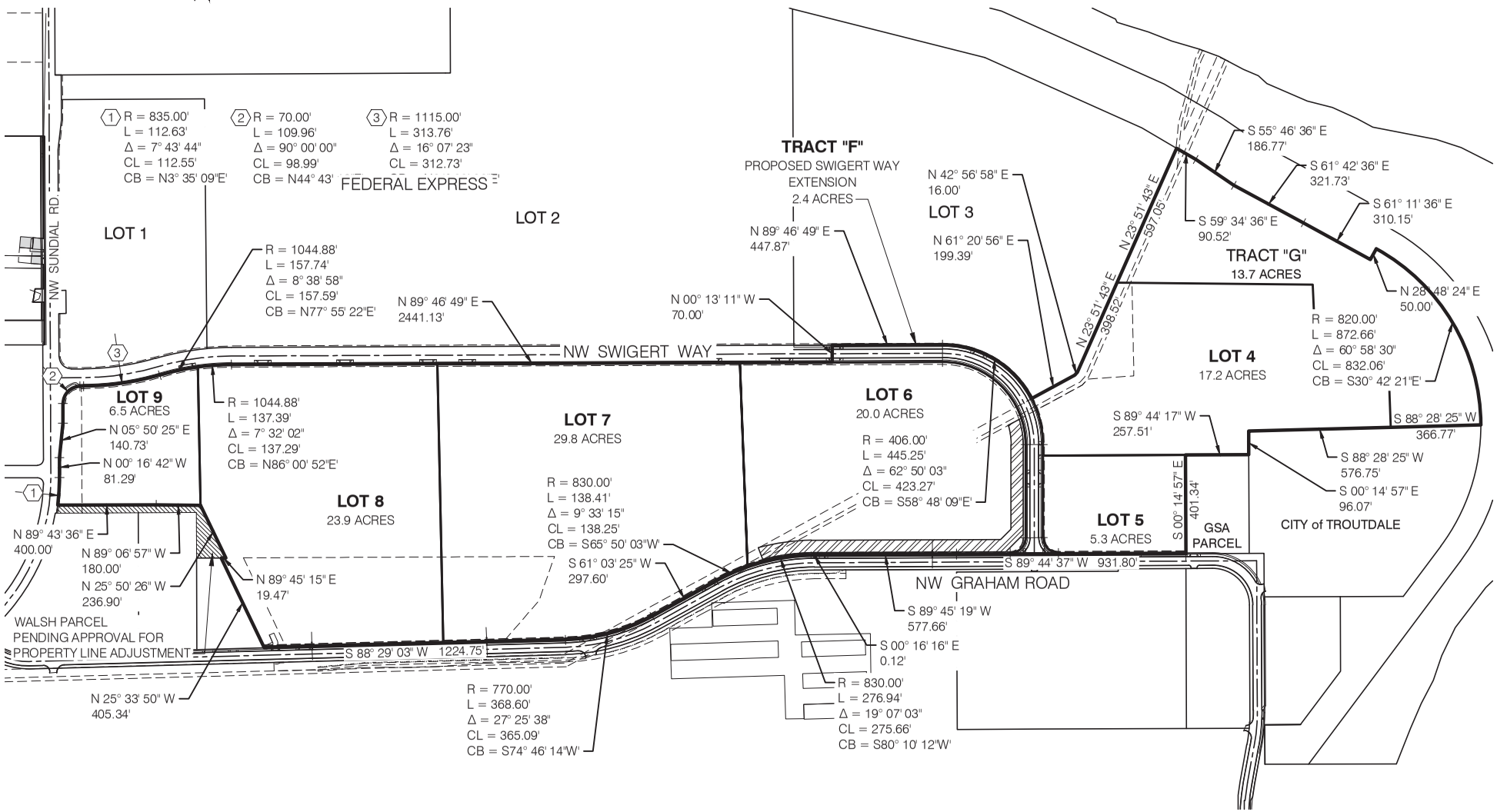
SUBMITTED BY CHRIS VANDERWERF
PROJECT SURVEYOR

TYPE EP

DRAWING NO. TRIP 2012-1 1/36 (SU-1)

TROUTDALE REYNOLDS INDUSTRIAL PARK No. 2

BEING A PORTION OF THE LEWIS MARR D.L.C. NO. 45, JAMES M. STOTT D.L.C. NO. 48, AND THE CALVIN REED D.L.C. NO. 60. SITUATED IN THE SOUTHEAST AND SOUTHWEST QUARTERS OF SECTION 14, NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 23 AND THE NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 24, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON.



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OREGON JULY 25, 1995 CHRISTOPHER VANDERWERF 2719
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EXP: 6/30/2012

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY C. VANDERWERF
DATE MAR 2012
SCALE 1" = 300'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE NO. 2
EXTERIOR BOUNDARY

SUBMITTED BY CHRIS VANDERWERF — PROJECT SURVEYOR
TYPE EP
DRAWING NO. TRIP 2012-1 2/36 (SU-2)

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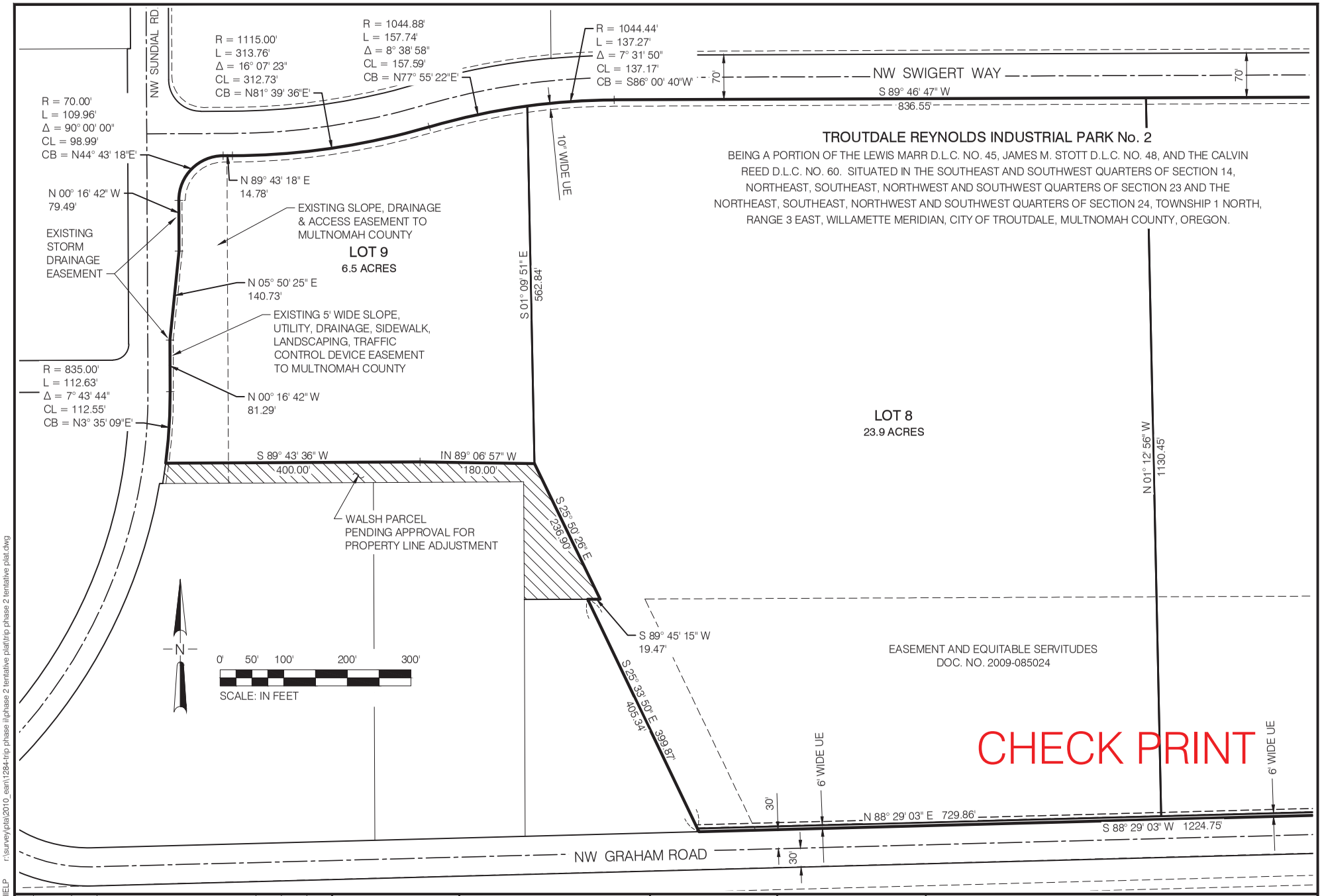

TROUTDALE REYNOLDS INDUSTRIAL PARK No. 2

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PORTLAND, OREGON

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REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 25, 1995
CHRISTOPHER VANDERWERF
2719
SIGNED:
EXP: 6/30/2012

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY C. VANDERWERF
DATE MAR 2012
SCALE 1" = 100'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE NO. 2
TENTATIVE PLAT - LOTS 8 & 9

SUBMITTED BY CHRIS VANDERWERF — PROJECT SURVEYOR
TYPE EP
DRAWING NO. TRIP 2012-1 3/36 (SU-3)

NW SWIGERT WAY

S 89° 46' 47" W

836.55'

70'

NW SWIGERT WAY

S 89° 46' 49" W

1229.49'

S 89° 46' 49" W

375.20'

10' WIDE UE

TROUTDALE REYNOLDS INDUSTRIAL PARK No. 2

BEING A PORTION OF THE LEWIS MARR D.L.C. NO. 45, JAMES M. STOTT D.L.C. NO. 48, AND THE CALVIN REED D.L.C. NO. 60. SITUATED IN THE SOUTHEAST AND SOUTHWEST QUARTERS OF SECTION 14, NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 23 AND THE NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 24, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON.

N

0' 50' 100' 200' 300'

SCALE: IN FEET

LOT 8
23.9 ACRES

N 01° 12' 56" W
1130.45'

LOT 7
29.8 ACRES

N 02° 05' 52" W
825.55'

LOT 6
20.0 ACRES

R = 835.00'
L = 277.05'
Δ = 19° 00' 39"
CL = 275.79'
CB = N80° 13' 24"E'

R = 835.00'
L = 277.05'
Δ = 19° 00' 39"
CL = 275.79'
CB = N80° 13' 24"E'

R = 835.00'
L = 140.80'
Δ = 9° 39' 40"
CL = 140.63'
CB = N65° 53' 15"E'

30'

EASEMENT AND EQUITABLE SERVITUDES
DOC. NO. 2009-085024

R = 830.00'
L = 276.94'
Δ = 19° 07' 03"
CL = 275.66'
CB = S80° 10' 12"W'

R = 765.00'
L = 366.20'
Δ = 27° 25' 38"
CL = 362.72'
CB = N74° 46' 14"E'

N 61° 03' 25" E 297.60'

S 61° 03' 25" W 297.60'

6' WIDE UE

58'

N 88° 29' 03" E 497.13'

N 88° 29' 03" E 729.86'

S 88° 29' 03" W 1224.75'

NW GRAHAM ROAD

30'

R = 770.00'
L = 368.60'
Δ = 27° 25' 38"
CL = 365.09'
CB = S74° 46' 14"W'

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PORTLAND, OREGON

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CHECKED BY C. VANDERWERF
DATE MAR 2012
SCALE 1" = 100'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE NO. 2
TENTATIVE PLAT - LOT 7

SUBMITTED BY CHRIS VANDERWERF — PROJECT SURVEYOR
TYPE EP
DRAWING NO. TRIP 2012-1 4/36 (SU-4)

TROUTDALE REYNOLDS INDUSTRIAL PARK No. 2

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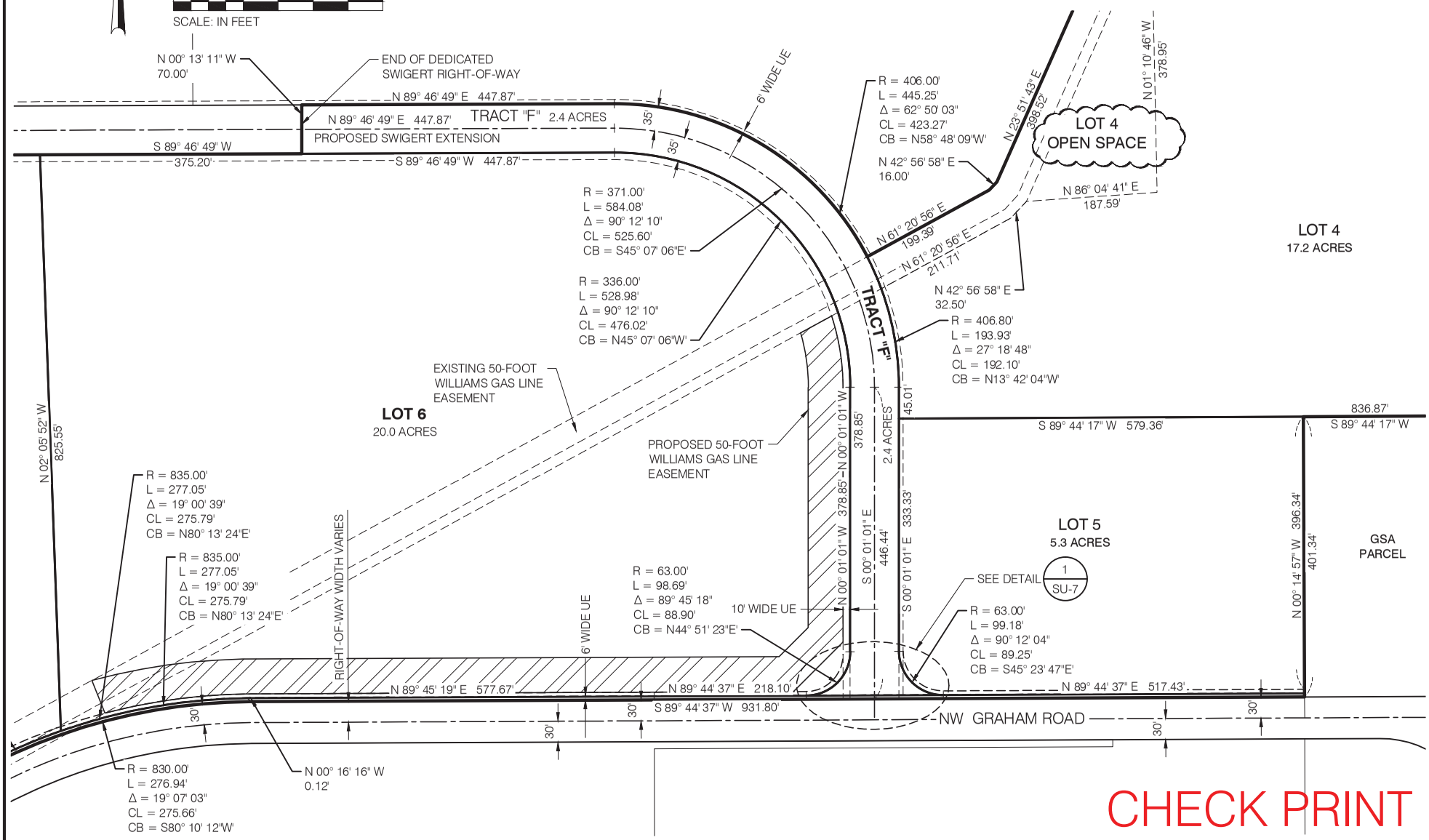

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PORTLAND, OREGON

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101659 & 101660 — PROJECT NUMBER

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JULY 25, 1995 CHRISTOPHER VANDERWERF 2719
SIGNED:
EXP: 6/30/2012

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY C. VANDERWERF
DATE MAR 2012
SCALE 1" = 100'

TROUTDALE REYNOLDS INDUSTRIAL PARK

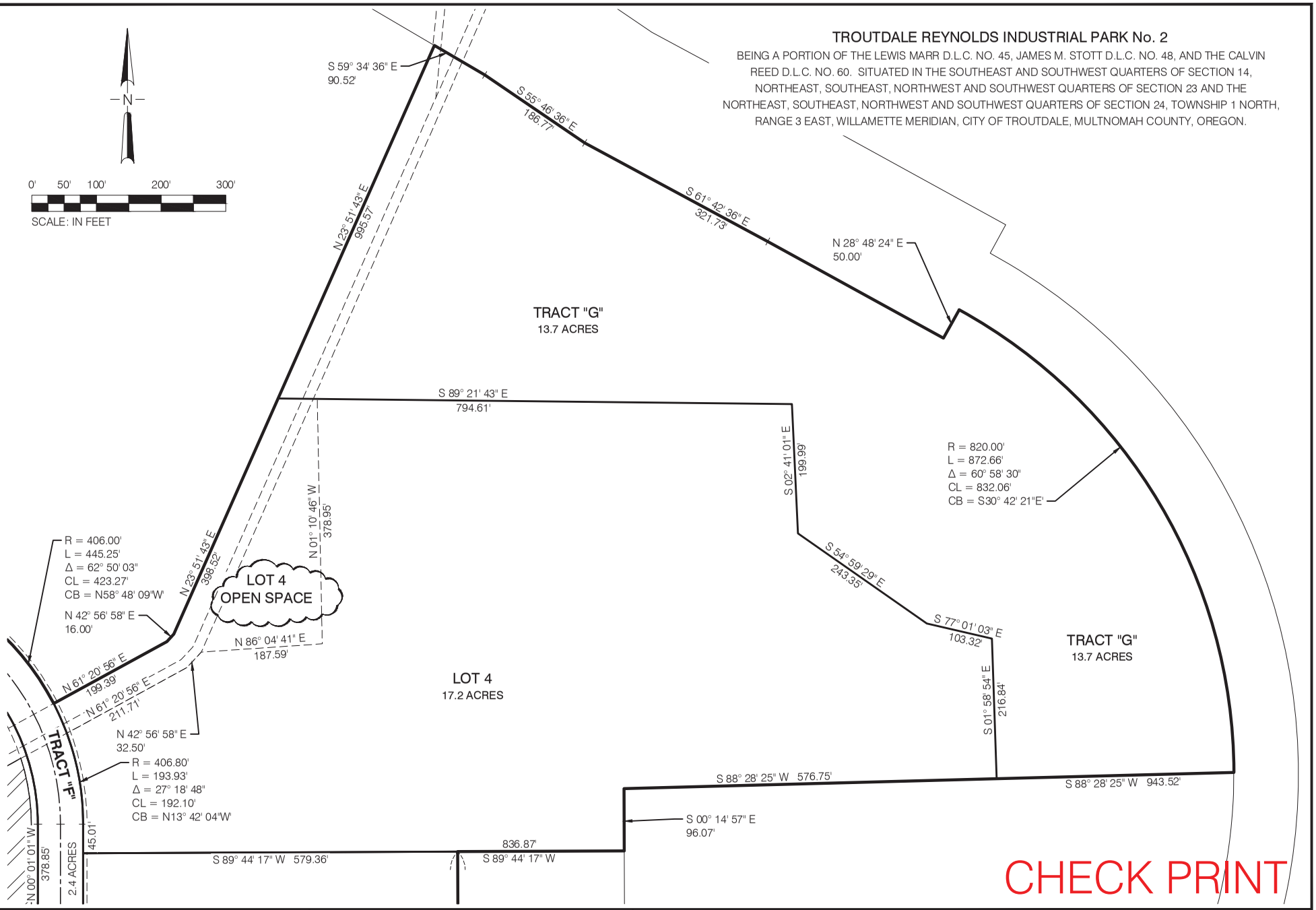
TENTATIVE PLAT PHASE NO. 2
TENTATIVE PLAT - LOTS 5 & 6

SUBMITTED BY CHRIS VANDERWERF — PROJECT SURVEYOR
TYPE EP
DRAWING NO. TRIP 2012-1 5/36 (SU-5)

SHIELP r:\survey\pta\2010_ean\1284-trip phase ii\phase 2 tentative plat\trip phase 2 tentative plat.dwg
4/13/2012 10:50:14 AM
0 1/4" 1/2" 1" 2"

TROUTDALE REYNOLDS INDUSTRIAL PARK No. 2

BEING A PORTION OF THE LEWIS MARR D.L.C. NO. 45, JAMES M. STOTT D.L.C. NO. 48, AND THE CALVIN REED D.L.C. NO. 60. SITUATED IN THE SOUTHEAST AND SOUTHWEST QUARTERS OF SECTION 14, NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 23 AND THE NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 24, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON.



NO.	DATE	BY	REVISIONS	CK'D	APPV'D

PORT OF PORTLAND
PORTLAND, OREGON

2011D019 & 2011D020 — DESIGN NUMBER
101659 & 101660 — PROJECT NUMBER

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 25, 1995
CHRISTOPHER VANDERWERF
2719
SIGNED:
EXP: 6/30/2012

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY C. VANDERWERF
DATE MAR 2012
SCALE 1" = 100'

TROUTDALE REYNOLDS INDUSTRIAL PARK

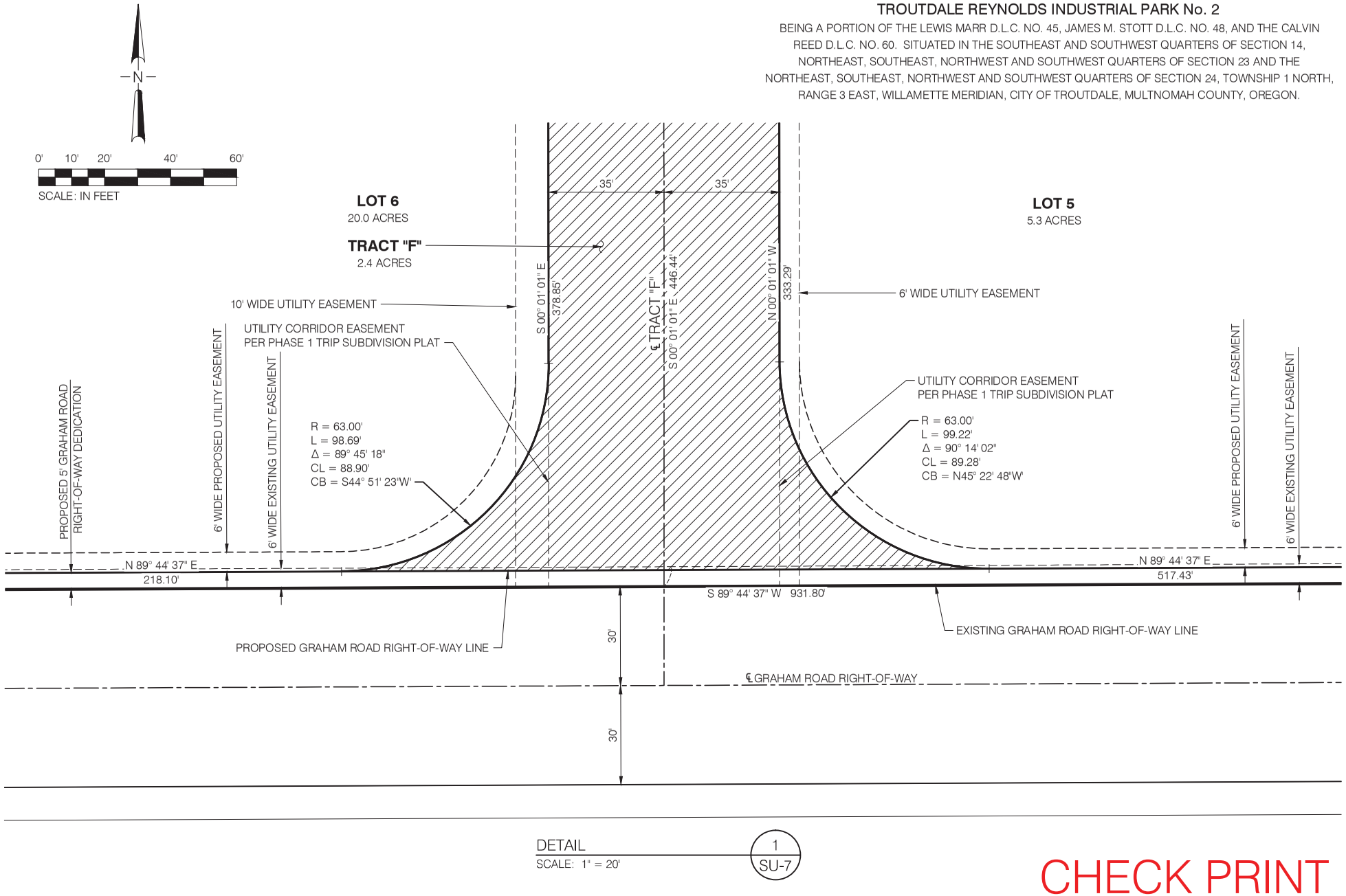
TENTATIVE PLAT PHASE NO. 2
TENTATIVE PLAT - LOT 4 & OPEN SPACE

SUBMITTED BY CHRIS VANDERWERF — PROJECT SURVEYOR
TYPE EP
DRAWING NO. TRIP 2012-1 6/36 (SU-6)

4/13/2012 10:50:30 AM SHIELP r:\survey\pta\2010_ean\1284-trip phase ii\phase 2 tentative plat\trip phase 2 tentative plat.dwg

TROUTDALE REYNOLDS INDUSTRIAL PARK No. 2

BEING A PORTION OF THE LEWIS MARR D.L.C. NO. 45, JAMES M. STOTT D.L.C. NO. 48, AND THE CALVIN REED D.L.C. NO. 60. SITUATED IN THE SOUTHEAST AND SOUTHWEST QUARTERS OF SECTION 14, NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 23 AND THE NORTHEAST, SOUTHEAST, NORTHWEST AND SOUTHWEST QUARTERS OF SECTION 24, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON.



DETAIL 1 / SU-7

SCALE: 1" = 20'

CHECK PRINT

NO.	DATE	BY	REVISIONS	CK'D	APPV'D

PORT OF PORTLAND
PORTLAND, OREGON

2011D019 & 2011D020 — DESIGN NUMBER
101659 & 101660 — PROJECT NUMBER

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JULY 25, 1995 CHRISTOPHER VANDERWERF 2719
SIGNED:
EXP: 6/30/2012

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY C. VANDERWERF
DATE MAR 2012
SCALE 1" = 20'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE NO. 2
GRAHAM ROAD & SWIGERT WAY DETAIL

SUBMITTED BY CHRIS VANDERWERF — PROJECT SURVEYOR
TYPE EP
DRAWING NO. TRIP 2012-1 7/36 (SU-7)

SHIELP r:\survey\pta\2010_ean\1284-trip phase ii\phase 2 tentative plat\trip phase 2 tentative plat.dwg
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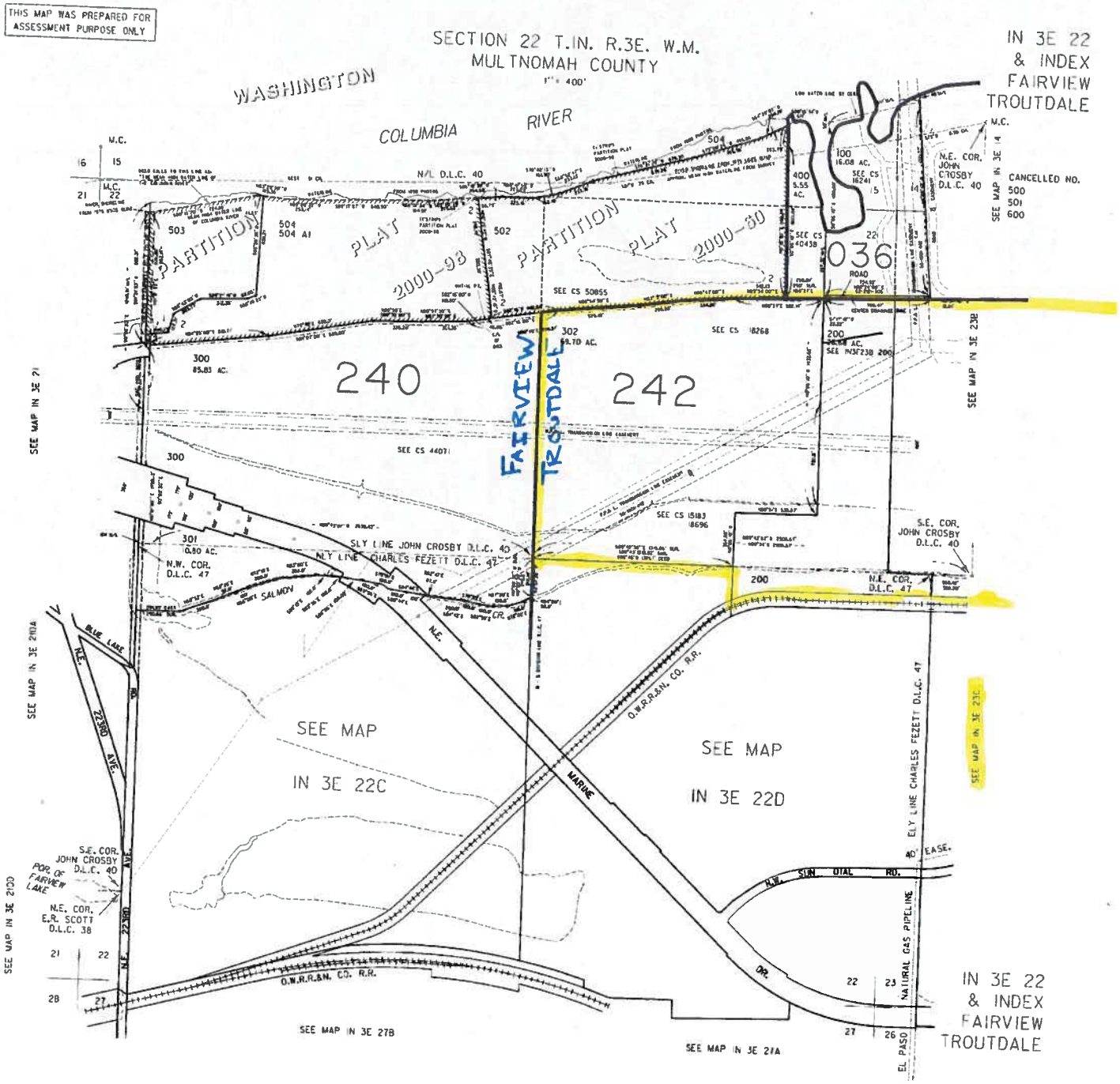

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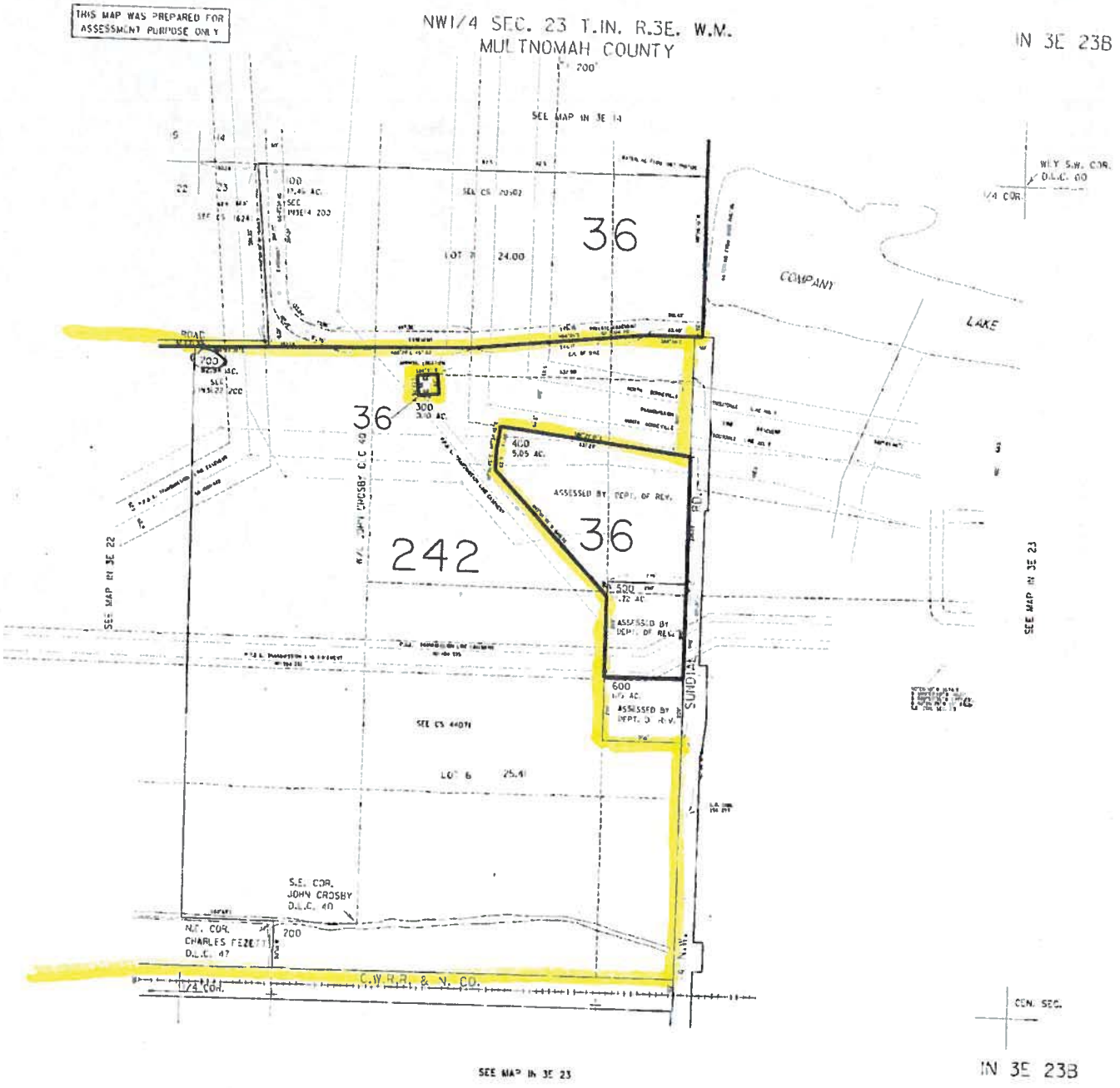
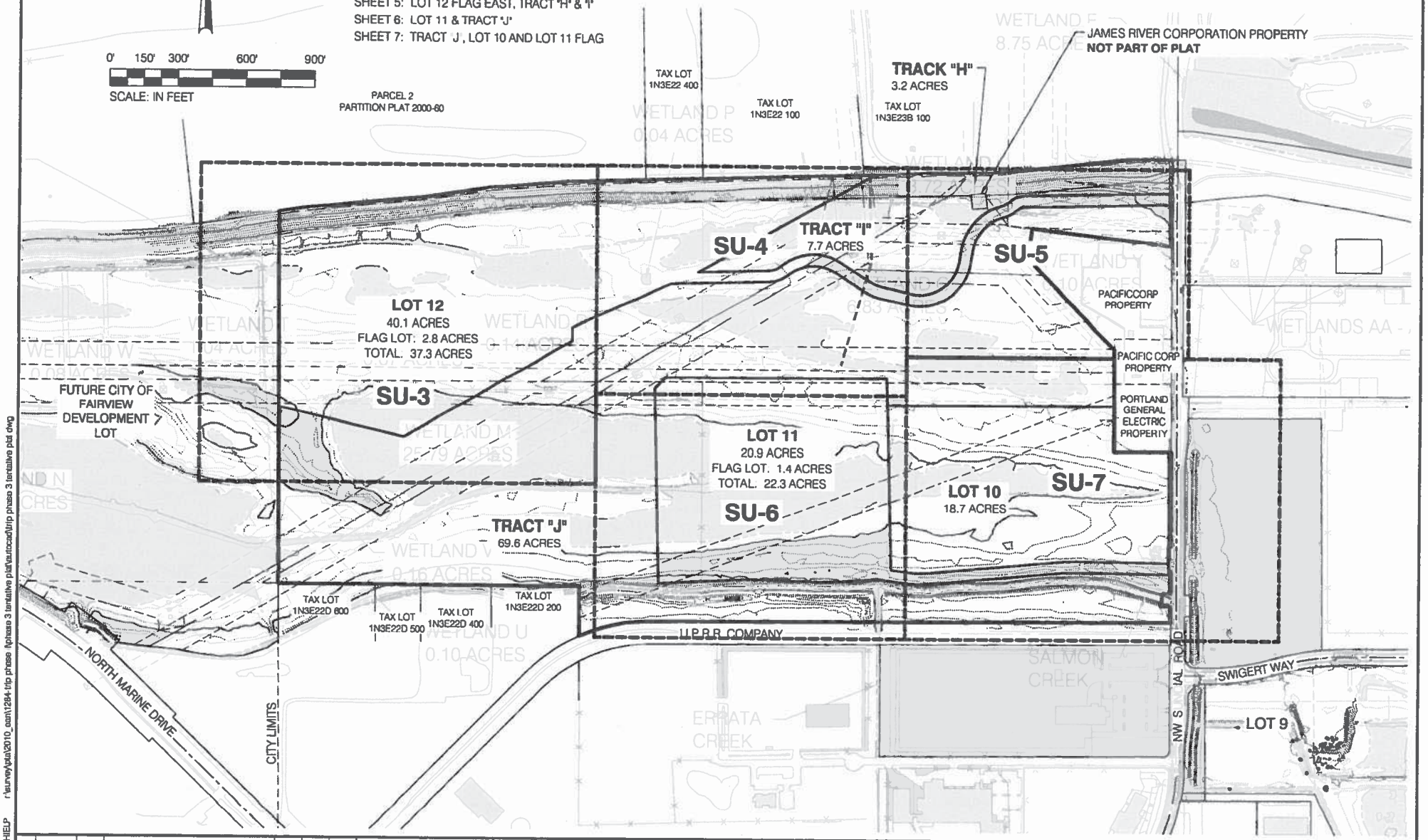

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY
NW1/4 SEC. 23 T.1N. R.3E. W.M.
MULTNOMAH COUNTY
1N 3E 23B
SEE MAP IN 3E 14
36
LOT 7 24.00
COMPANY
LAKE
ROAD
700
36
300
400
5.05 AC.
ASSESSED BY DEPT. OF REV.
36
242
500
ASSESSED BY DEPT. OF REV.
600
ASSESSED BY DEPT. OF REV.
SUNDIAL RD.
SEE MAP IN 3E 22
SEE MAP IN 3E 23
SEE CS 4409
LOT 6 25.41
S.E. COR. JOHN CROSBY D.L.C. 40
N.E. COR. CHARLES FEZETT D.L.C. 47
200
1/4 COR.
C.W.R.R. & N. CO.
CEN. SEC.
SEE MAP IN 3E 23
1N 3E 23B

SHEET INDEX:

SHEET 1: OVERALL SITE - EXISTING CONDITIONS
SHEET 2: EXTERIOR BOUNDARY
SHEET 3: LOT 12, TRACT "I" & "J"
SHEET 4: LOT 12 FLAG WEST, TRACT "H", "I" & "J"
SHEET 5: LOT 12 FLAG EAST, TRACT "H" & "I"
SHEET 6: LOT 11 & TRACT "J"
SHEET 7: TRACT "J", LOT 10 AND LOT 11 FLAG

TROUTDALE REYNOLDS INDUSTRIAL PARK No. 3

BEING A PORTION OF THE JOHN CROSBY D.L.C. No. 40 AND THE CHARLES FEZETT D.L.C. No. 47, SITUATED IN THE NORTHEAST QUARTER OF SECTION 22 AND THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON



NO.	DATE	BY	REVISIONS	CK'D	APPV'D

PORT OF PORTLAND
PORTLAND, OREGON

2011D019 — DESIGN NUMBER
101659 — PROJECT NUMBER

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
CHRISTOPHER VANDERWERF
2719
SIGNED: 7/26/12
EXP: 6/30/2014

DESIGNED BY
DRAWN BY: P. SHIELDS
CHECKED BY: R. ALDERSEBAES
DATE: MAR 2012
SCALE: 1" = 300'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE No. 3
OVERALL SITE - EXISTING CONDITIONS

SUBMITTED BY: CHRIS VANDERWERF, PROJECT SURVEYOR
TYPE: BS
DRAWING NO.: TRIP 2012-2 1/11 (SU-1)

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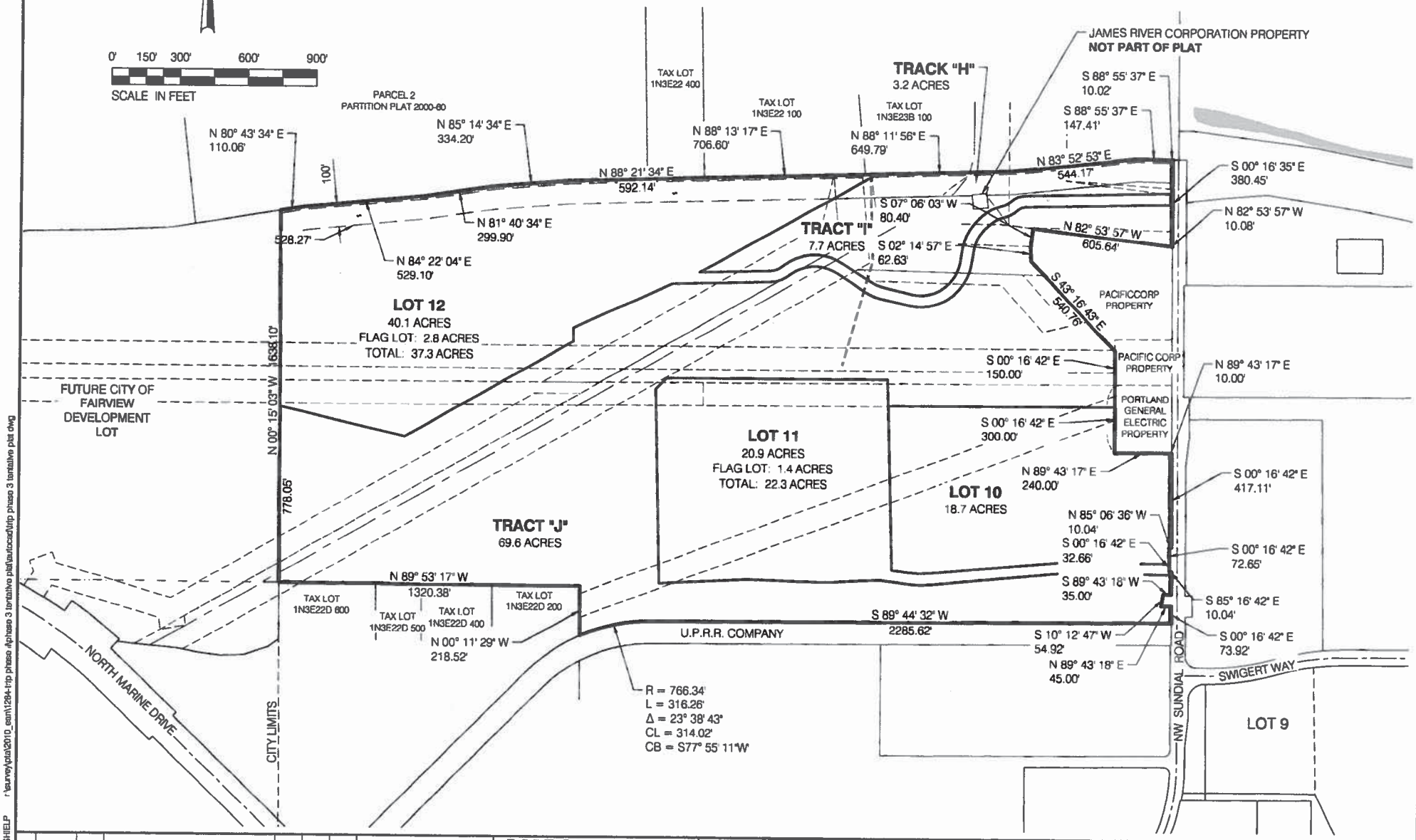
TROUTDALE REYNOLDS INDUSTRIAL PARK No. 3

BEING A PORTION OF THE JOHN CROSBY D.L.C. No. 40 AND THE CHARLES FEZETT D.L.C No. 47, SITUATED IN THE NORTHEAST QUARTER OF SECTION 22 AND THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON



NO	DATE	BY	REVISIONS	CKD	APPVD

PORT OF PORTLAND
PORTLAND, OREGON

2011D019 — DESIGN NUMBER
101659 — PROJECT NUMBER

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
CHRISTOPHER VANDERWERF
2719
SIGNED: 7/26/12
EXP: 6/30/2013

DESIGNED BY	
DRAWN BY	P. SHIELDS
CHECKED BY	R. ALDERSEBAES
DATE	MAR 2012
SCALE	1" = 300'

TROUTDALE REYNOLDS INDUSTRIAL PARK

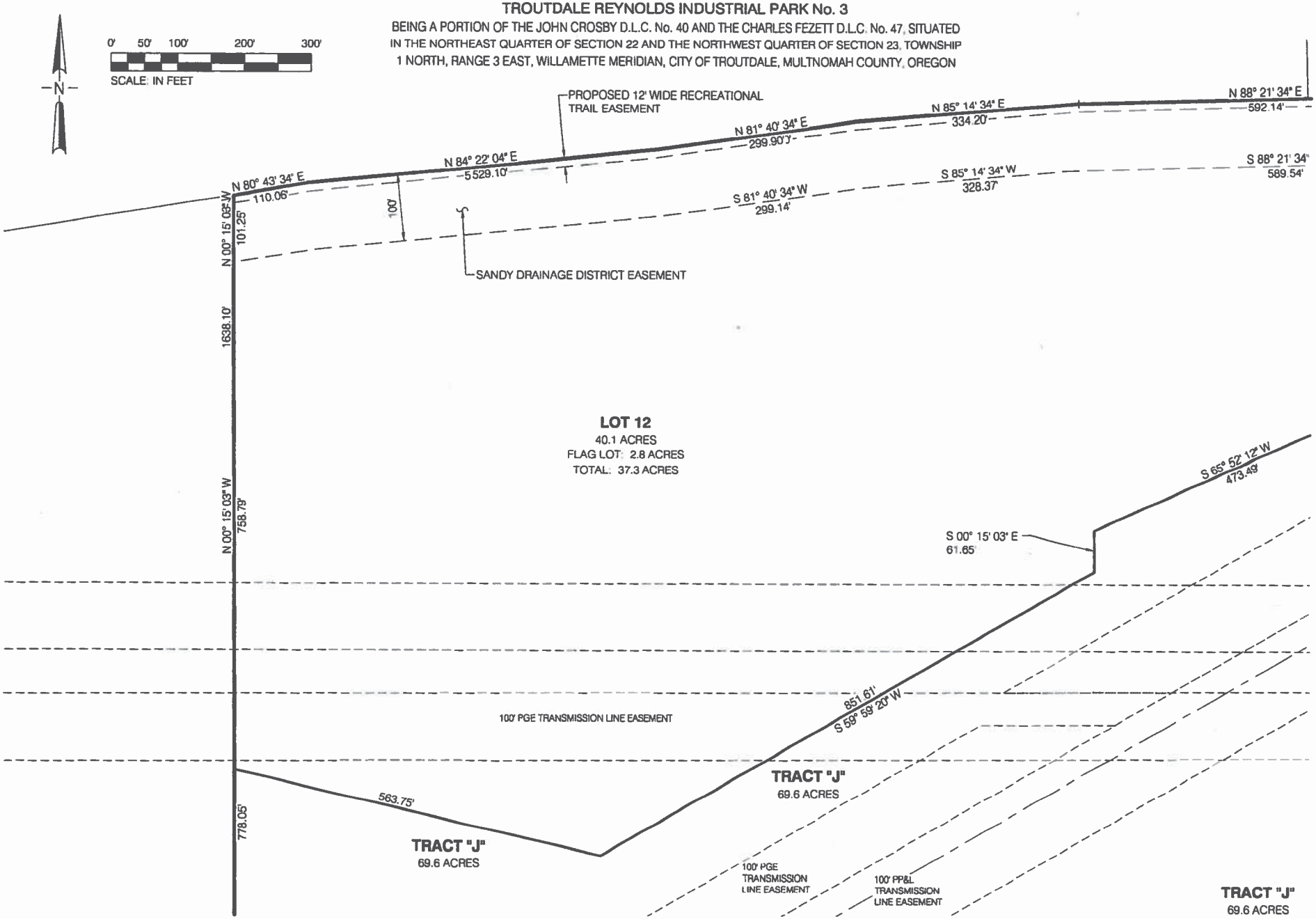
TENTATIVE PLAT PHASE No. 3
EXTERIOR BOUNDARY

SUBMITTED BY: CHRIS VANDERWERF, PROJECT SURVEYOR
TYPE: BS
DRAWING NO: TRIP 2012-2 2/11 (SU-2)

7/6/2012 8:44:50 AM SHIELP r:\survey\pta\2010_ecn\1284-trip phase 4\phase 3 tentative plat\autocad\trip phase 3 tentative plat.dwg

TROUTDALE REYNOLDS INDUSTRIAL PARK No. 3

BEING A PORTION OF THE JOHN CROSBY D.L.C. No. 40 AND THE CHARLES FEZETT D.L.C. No. 47, SITUATED IN THE NORTHEAST QUARTER OF SECTION 22 AND THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON



NO.	DATE	BY	REVISIONS	CKD	APPVD

PORT OF PORTLAND
PORTLAND, OREGON

2011D019 — DESIGN NUMBER
101659 — PROJECT NUMBER

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 25, 1986
CHRISTOPHER VANDERWERF
2719
SIGNED: 7/06/12
EXP: 6/30/2014

DESIGNED BY
DRAWN BY: P. SHIELDS
CHECKED BY: R. ALDERSEBAES
DATE: MAR 2012
SCALE: 1" = 100'

TROUTDALE REYNOLDS INDUSTRIAL PARK

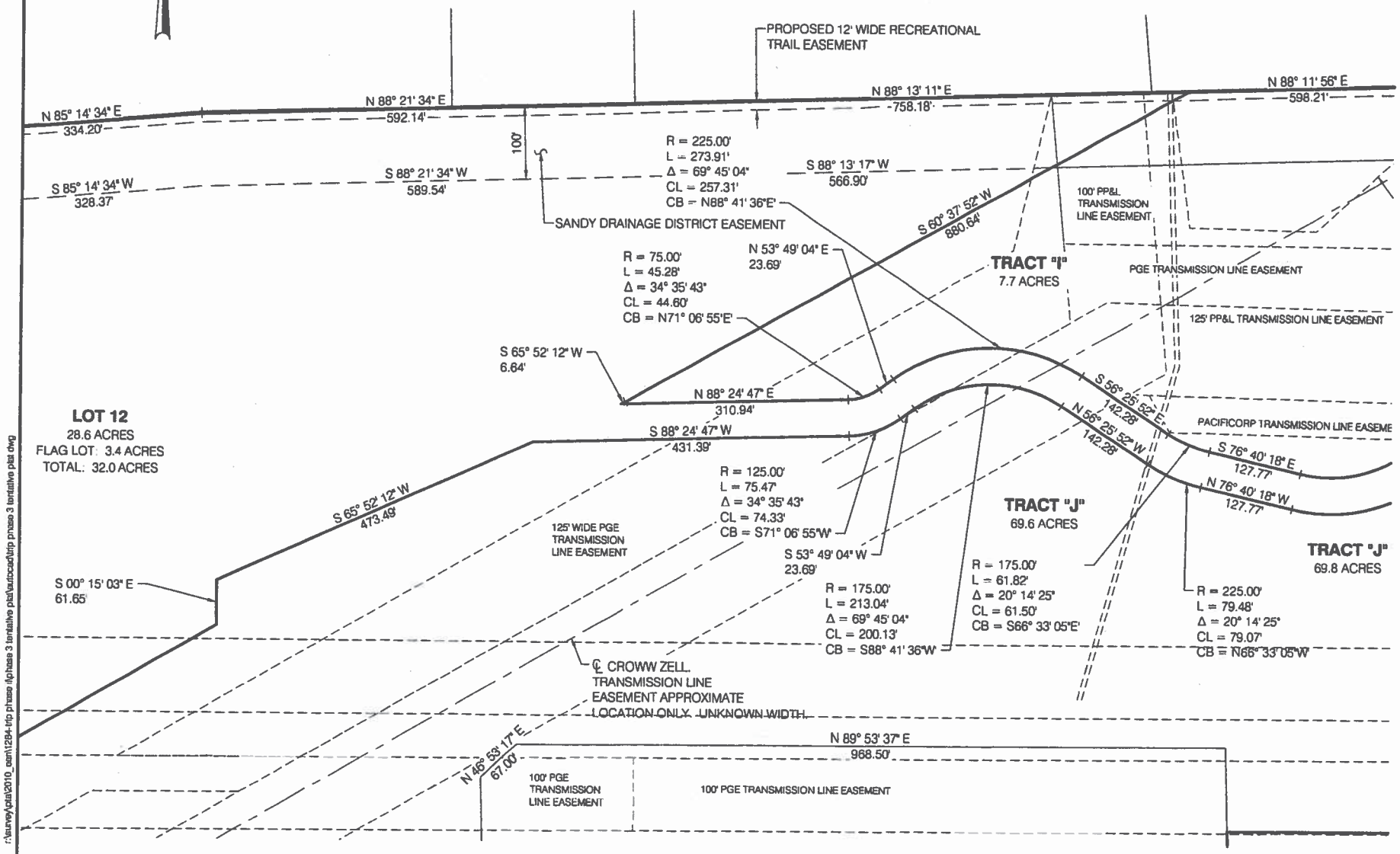
TENTATIVE PLAT PHASE No. 3
LOT 12, TRACT "I" & "J"

SUBMITTED BY: CHRIS VANDERWERF — PROJECT SURVEYOR
TYPE: BS
DRAWING NO.: TRIP 2012-2 3/11 (SU-3)

7/6/2012 8:44:56 AM SHIELP r:\survey\plts\2010_esm\1284-trip phase 1\phase 3 tentative plat\autocad\trip phase 3 tentative plat.dwg

TROUTDALE REYNOLDS INDUSTRIAL PARK No. 3

BEING A PORTION OF THE JOHN CROSBY D.L.C. No. 40 AND THE CHARLES FEZETT D.L.C. No. 47, SITUATED IN THE NORTHEAST QUARTER OF SECTION 22 AND THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON



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PORT OF PORTLAND
PORTLAND, OREGON

2011D019 — DESIGN NUMBER
101659 — PROJECT NUMBER

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
CHRISTOPHER VANDERWERF
2719
SIGNED: 7/26/12
EXP: 6/30/2014

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY R. ALDERSEBAES
DATE MAR 2012
SCALE 1" = 100'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE No. 3
LOT 12 FLAG WEST, TRACT "H", "I" & "J"

SUBMITTED BY CHRIS VANDERWERF — PROJECT SURVEYOR
TYPE BS
DRAWING NO. TRIP 2012-2 4/11 (SU-4)

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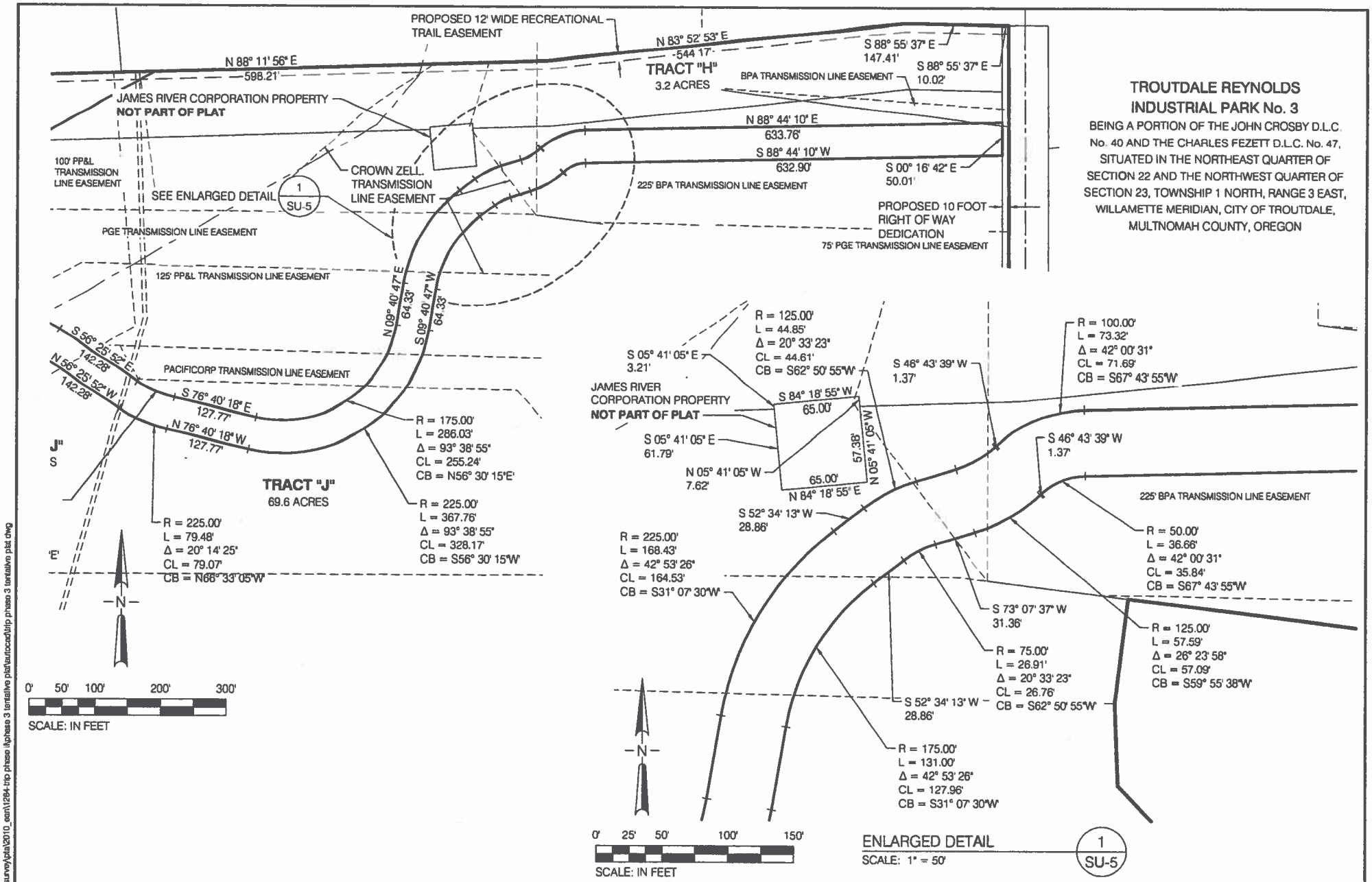

NO.	DATE	BY	REVISIONS	CKD	APPVD

PORT OF PORTLAND
PORTLAND, OREGON

2011D019 (DESIGN NUMBER) | 101659 (PROJECT NUMBER)

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 26, 1996
CHRISTOPHER VANDERWERF
2719
SIGNED: 7/06/12
EXP: 6/30/2014

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY R. ALDERSEBAES
DATE MAR 2012
SCALE 1" = 100'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE No. 3
LOT 12 FLAG EAST, TRACT "H" & "I"

SUBMITTED BY CHRIS VANDERWERF (PROJECT SURVEYOR)
TYPE BS
DRAWING NO. TRIP 2012-2 5/11 (SU-5)

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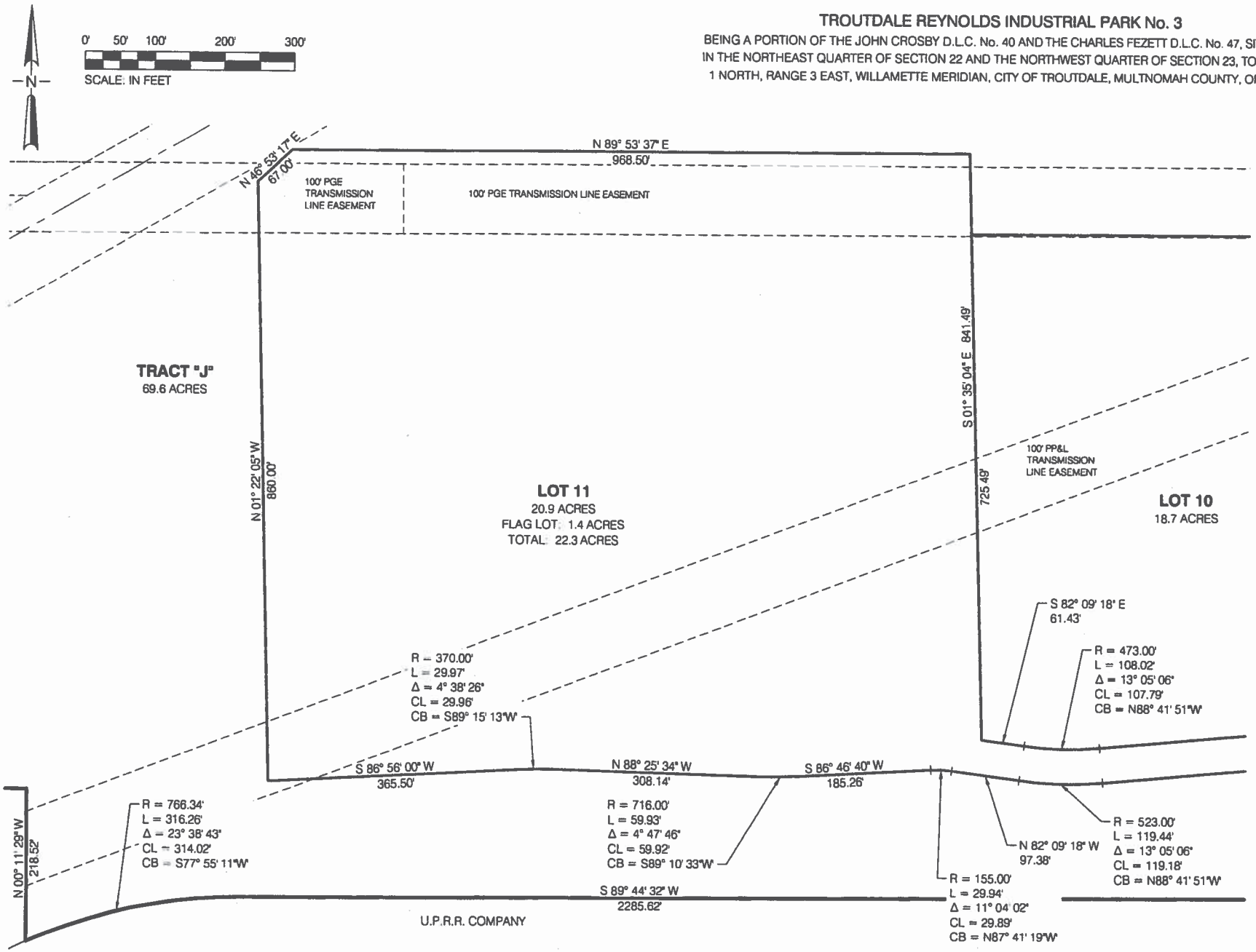
TROUTDALE REYNOLDS INDUSTRIAL PARK No. 3

BEING A PORTION OF THE JOHN CROSBY D.L.C. No. 40 AND THE CHARLES FEZETT D.L.C. No. 47, SITUATED IN THE NORTHEAST QUARTER OF SECTION 22 AND THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON



NO.	DATE	BY	REVISIONS	CKD	APPVD

PORT OF PORTLAND
PORTLAND, OREGON

2011D019 (DESIGN NUMBER) | 101659 (PROJECT NUMBER)

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 26, 1990
CHRISTOPHER VANDERWERF
2719
SIGNED 7/26/12
EXP: 6/30/2014

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY R. ALDERSEBAES
DATE MAR 2012
SCALE 1" = 100'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE No. 3
LOT 11 & TRACT "J"

SUBMITTED BY CHRIS VANDERWERF (PROJECT SURVEYOR) | TYPE BS | DRAWING NO TRIP 2012-2 6/11 (SU-6)

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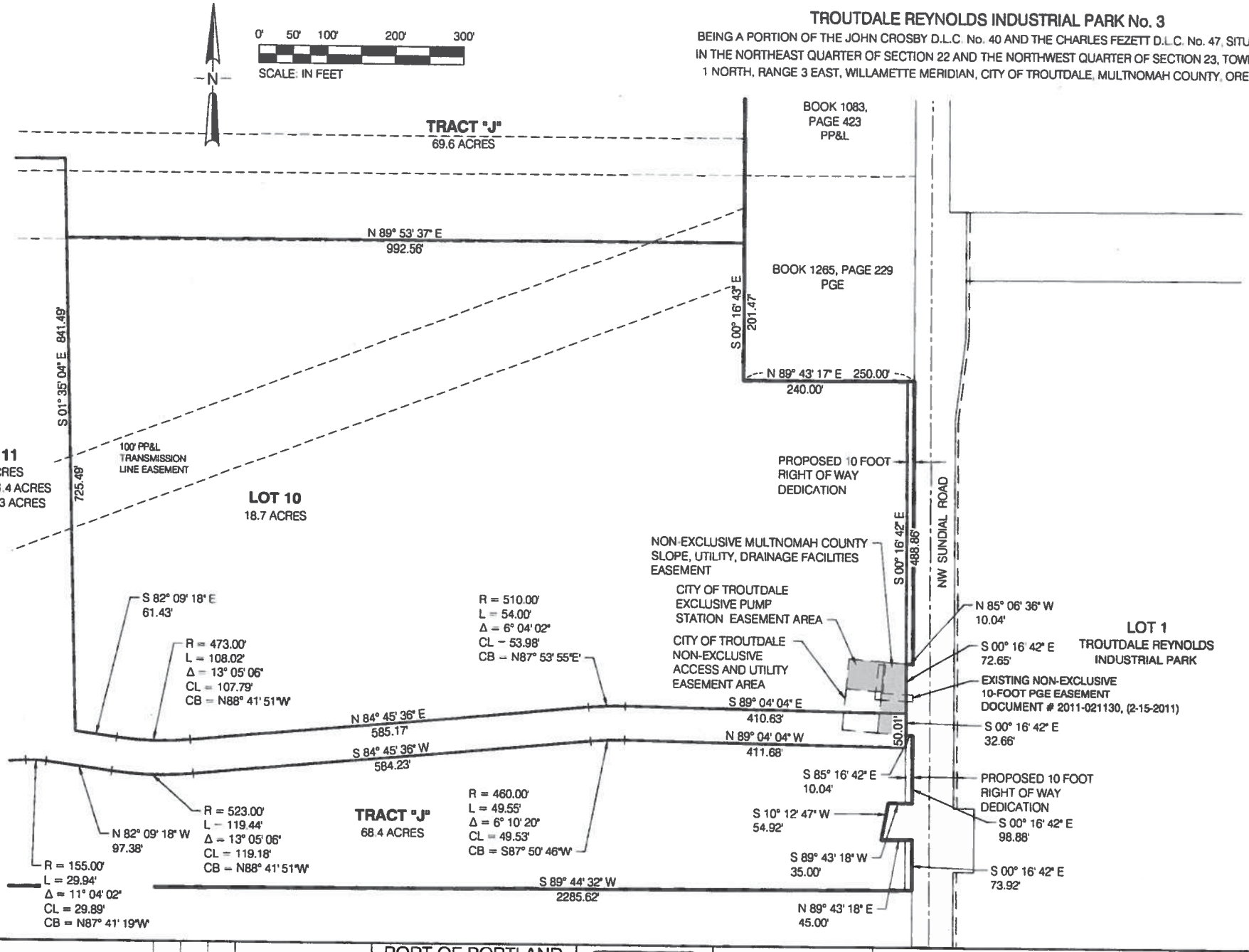
TROUTDALE REYNOLDS INDUSTRIAL PARK No. 3

BEING A PORTION OF THE JOHN CROSBY D.L.C. No. 40 AND THE CHARLES FEZETT D.L.C. No. 47, SITUATED IN THE NORTHEAST QUARTER OF SECTION 22 AND THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 1 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CITY OF TROUTDALE, MULTNOMAH COUNTY, OREGON



NO	DATE	BY	REVISIONS	CKD	APPVD

PORT OF PORTLAND
PORTLAND, OREGON

2011D019 (DESIGN NUMBER) | 101659 (PROJECT NUMBER)

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 26, 1988
CHRISTOPHER VANDERWERF
2719
SIGNED: 7/26/12
EXP: 6/30/2014

DESIGNED BY
DRAWN BY P. SHIELDS
CHECKED BY R. ALDERSEBAES
DATE MAR 2012
SCALE 1" = 100'

TROUTDALE REYNOLDS INDUSTRIAL PARK

TENTATIVE PLAT PHASE No. 3
TRACT "J", LOT 10 AND LOT 11 FLAG

SUBMITTED BY CHRIS VANDERWERF (PROJECT SURVEYOR) | TYPE BS | DRAWING NO. TRIP 2012-2 7/11 (SU-7)

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