State of Oregon  
Department of Environmental Quality  

Memorandum  

Date:  February 12, 2007

To:  Keith Johnson, Manager, NWR Cleanup & Lower Willamette Section

From:  Tom Roick, Project Manager, NWR Cleanup & Lower Willamette Section

Subject:  Conditional No Further Action Recommendation for two parcels of the South Waterfront Redevelopment Area [ECSI # 602]:

1) South Waterfront Park, Lot #7 [ECSI # 4422]  
2) South Waterfront Parcel 1, RiverPlace or The Strand [ECSI # 4419]

Purpose

This Staff Memorandum provides a summary of the remedial actions conducted by the Portland Development Commission (PDC) for two parcels of the South Waterfront Redevelopment Area. We have completed our review of the work conducted through implementation of the remedial action and have prepared this Staff Memo for your consideration. The remedial action was selected for the site in a Department of Environmental Quality (DEQ) Record of Decision (ROD) signed by Director Langdon Marsh on August 24, 1998, and was revised to account for site redevelopment in an Explanation of Significant Differences dated November 17, 2004. We are recommending conditional No Further Action determinations (NFAs) for both South Waterfront Park (Lot 7) and South Waterfront Parcel 1 (also known as SWP Parcel 1 or RiverPlace Parcel 1 - The Strand). Attached is a public notice for the proposed NFAs.

An Easement & Equitable Servitudes (E&ES) for South Waterfront Park was previously signed by DEQ and recorded with Multnomah County on December 15, 2006. The E&ES for South Waterfront Parcel 1 is attached and will be a component of the Parcel 1 remedial action to ensure that site use restrictions, engineering controls, and maintenance and reporting requirements are implemented by current and future property owners.

Background

In 1989 the PDC entered into a Voluntary Agreement with DEQ under which they began a remedial investigation and feasibility study (RI/FS) for the South Waterfront Redevelopment Area (SWRA). The SWRA is located adjacent to the Willamette River north of the Marquam Bridge in downtown Portland (see attached Figures 1 and 2). SWRA encompasses South Waterfront Parcel 1 and South Waterfront Park as well as adjacent Parcels 3B (Lots 8 and 9) and Parcel 2 composed of the RiverPlace condominiums and Standfords Restaurant west of River Drive. Since 1989, DEQ has made cleanup decisions for Parcels 2 and 3B of SWRA, and the original Agreement has been revised and amended through seven addenda. DEQ oversight for
the work described in this Staff Memo pertaining to South Waterfront Parcel 1 and South Waterfront Park continues under the amended 1989 Agreement with the PDC.

Historic sources of contamination at SWRA date back to 1917 with construction of the Lincoln Steam Plant. The plant generated steam and electricity to serve Portland’s downtown and was powered initially by wood by-products from the adjacent Portland Lumber Company until 1947, followed by Bunker C and diesel fuel oil until 1958, and finally by natural gas until the plant was decommissioned in 1985. Contamination on the site from steam plant operations includes Bunker C and diesel released during fuel transfers from rail and barge to the former underground concrete fuel tanks. The site contaminants include total petroleum hydrocarbons (TPH) and polynuclear aromatic hydrocarbons (PAHs) in soil and groundwater.

Remedial Investigation and Remedy Selection

The PDC conducted several phases of soil and groundwater investigation at the site and completed the remedial investigation/feasibility study (RI/FS) for SWRA in 1997. Petroleum hydrocarbons were detected in soil and groundwater at the perimeter of the steam plant and were highest near one of the former concrete tanks, known as the Field Constructed Tanks. The risk assessment for soil showed that two areas of contamination had PAH concentrations exceeding DEQ’s 1 x 10-6 excess cancer risk acceptable risk level based on potential human health residential exposure. The exceedances were identified as Area of Concern #1 at the Filling Operations Area and Area of Concern #2 at the Basement Tank Area (AOC #1 and AOC #2, see attached Figure 3). The AOCs are located within portions of both South Waterfront Parcel 1 and South Waterfront Park.

Groundwater contamination was identified in the vicinity of the former steam plant including sporadic observations of free-phase oil in one monitoring well near the field constructed tanks. The heavy oil contaminants present have low solubility and groundwater monitoring indicated that contamination was not detected at concentrations of concern beyond the immediate vicinity of the steam plant. Potential downgradient impacts to the adjacent Willamette River were determined to not be a concern due to the limited extent and mobility of the contamination present under existing site conditions. Additionally, a subsurface layer of silt and clay at approximately 40 feet below grade appears to limit vertical migration of contamination to the extent that deeper water bearing zones with potential beneficial uses such as irrigation or heating/cooling supply have not been impacted.

The selected remedy for SWRA is detailed in DEQ’s 1998 ROD [note that parcel designations and boundaries have changed since the ROD was signed and Parcel 3 in the ROD is now identified as Parcel 1]. The remedy consists of several components including capping the two PAH-contaminated AOCs, stabilization of the Willamette River bank, groundwater monitoring, and institutional controls. The following is a summary of the remedial measures identified in the ROD.

Capping. A permanent cap is required to prevent migration and human contact with AOC #1 and AOC #2 contaminated soil.

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Bank Stabilization. In 1996, a portion of the river bank adjacent to the steam plant eroded during flooding of the Willamette River. River bank stabilization was required in the SWRA ROD to ensure that further erosion did not allow contaminated soils to impact the river. The Screen Chamber, a feature of the steam plant connected to the river, was required to be abandoned to prevent migration of enclosed contaminated sediments to the Willamette River.

Groundwater Monitoring. Two years of quarterly groundwater monitoring were required to confirm that groundwater contamination was stable, not increasing, and did not pose a threat to deeper groundwater zones or the adjacent Willamette River. DEQ was also to be provided with a demonstration that property development activities would not exacerbate site groundwater conditions. This required a study of development related pile installation methods and potential impacts, including documentation of how any disturbance of the subsurface silt/clay layer that limits vertical migration of contamination or the designated AOC caps would be addressed. Monitoring of groundwater after construction was required to confirm that pile installation did not exacerbate the extent of groundwater contamination at the site.

Institutional Controls. Institutional controls in the form of an E&ES were to be filed with Multnomah County. The E&ES would be attached to the property deed and describe property use conditions and general design and maintenance criteria for the future management of South Waterfront Park and South Waterfront Parcel 1 and for restrictions on the use of groundwater on this and the adjacent SWRA parcels. The conditions included prohibitions on extraction of groundwater without a demonstration that it will not cause further migration of contamination; prohibitions on disturbance of site soils without prior notification of DEQ; proof that property development activities will not exacerbate site contaminant conditions; and general standards for the design, construction, and continued maintenance of the surface cap and bank stabilization system. The E&ES was also to include the requirement that PDC or future site owners submit annual maintenance reports documenting the continued integrity of the surface cap and bank stabilization system.

Remedial Actions

South Waterfront Park. Portions of SWRA adjacent to the Willamette River bank were redeveloped as South Waterfront Park and included filling of the Lincoln Steam Plant screen chamber, capping of a portion of AOC #1 and AOC #2, and river bank stabilization. Portions of the upper four to five feet of the steam plant structure, including areas with asbestos-containing paint, were demolished to accommodate the park development. Asbestos abatement was conducted prior to demolition. Soil with varying degrees of petroleum hydrocarbon contamination was managed on-site or disposed of off-site during construction. Soil management included the construction of a grassy knoll within the park, and the removal of approximately 3,000 cubic yards of sediment from the toe of the Willamette River embankment. Over 8,000 cubic yards of soil were disposed of at a Rocky Butte fill site under a DEQ-approved Solid Waste Letter of Authorization. The AOC caps consist of a demarcation fabric, imported soil and sand/rock, and concrete depending on whether the caps were landscaped with vegetation or functioned as sidewalks. Park construction was completed between 1998 and 2000 and is
described in a May 2000 Closure Report, South Waterfront Park, South Waterfront Redevelopment Area, prepared by AMEC Earth & Environmental, Inc.

An E&ES for the park requiring long-term maintenance, inspections, and reporting on the integrity of the cap and bank stabilization was signed by the PDC and DEQ’s Northwest Region Division Administrator, Dick Pedersen, in December 2006 and recorded with Multnomah County on December 15, 2006. The City of Portland Parks & Recreation Department will assume the E&ES obligations and DEQ’s long-term oversight of annual inspections are addressed through cost recovery language in the E&ES. The first annual inspection was conducted in 2000 following construction of the park, and subsequent inspections are to be conducted and annual reports submitted to DEQ in September of each year.

South Waterfront Parcel 1. The elements of the SWRA remedy that apply to Parcel 1 were implemented by PDC and by RiverPlace Partners, Inc. under agreement with PDC and as part of their development of The Strand. The Strand consists of a restaurant and three multi-story condominium towers constructed over a sub-grade parking garage. The selected remedy in the ROD was based on the assumption that development would involve building on grade with only shallow soil disturbance. However, the proposed development for Parcel 1 included a one-story sub-grade parking garage, involving removal of soil across the entire property including the AOCs to a depth of 10 feet or more. Excavated AOC soil was to be transported off-site for disposal at a permitted landfill. To document and provide an opportunity for public comment on the development-related changes to the remedy, DEQ prepared an Explanation of Significant Differences (ESD) in November 2004 and issued a public notice. The two primary differences between the ROD and the proposed development were the removal and off-site disposal of contaminated soil and the depth of the AOC caps, which were changed to approximately 10 feet below ground surface rather than at grade.

Excavation for The Strand development was completed between February and May 2005. Over 80,000 cubic yards of soil were excavated from the site and disposed of at either Hillsboro Landfill or Tigard Sand & Gravel, depending on the level of contamination in the soil. URS collected 127 soil confirmation samples to characterize contaminant concentrations in the soil that now remains beneath the cap created by the new construction. The floor slab for the parking structure is at a finished depth of approximately 10 feet below grade and is constructed of approximately 10 inches of reinforced concrete. The concrete floor covers remaining AOC soil and TPH-contaminated soil beneath the new parking structure, acting as the cap to restrict direct contact of workers and residents to the contamination. Additionally, the north and east sidewalls of the parking structure act as barriers to portions of the underlying AOC soil beneath the adjacent South Waterfront Park. A small portion of the Parcel 1 AOC cap includes a sidewalk/landscaped area to the north of The Strand towers that functions as part of South Waterfront Park.

Asbestos-Containing Debris. As part of the steam plant demolition conducted previously in 1990, concrete debris with asbestos-bearing paint was buried in an area that included a portion of Parcel 1. A Deed Notice to the property was filed in 1994, requiring that the asbestos-containing material (ACM) be managed in accordance with Air Quality asbestos abatement rules if the
material were to be disturbed. When Parcel 1 construction activities began in February 2005, excavation for the sub-grade parking structure involved the removal and off-site disposal of ACM from Parcel 1. Although most of the ACM was removed from Parcel 1, a small area of ACM beneath an adjacent access road remains in place. The draft E&ES for Parcel 1 will supersede the prior Deed Notice and includes provisions for future management of the remaining ACM if it is ever disturbed.

**Post-Construction Groundwater Monitoring.** After excavation of ACM and soil for the sub-grade parking structure, wooden pilings formerly supporting the Lincoln Steam Plant foundation were removed and new grouted pilings were installed to support the three condominium towers. Holes resulting from the removal of wooden piles were filled with grout to prevent vertical migration of petroleum hydrocarbon contamination. DEQ required a method of new pile construction (groutcéd piles) that would limit the potential for downward vertical migration of petroleum contamination. 700 driven grout piles were installed to an average depth of 76.8 feet below ground surface. DEQ also required post-construction groundwater monitoring to ensure that the subsurface development activities did not exacerbate the extent of existing groundwater contamination. Monitoring wells within the construction area were abandoned and three replacement wells were installed downgradient of the parking structure. Post-construction semi-annual monitoring of the wells began in June 2005 and to date there has been no apparent charge in groundwater contaminant concentrations. Monitoring will continue into 2007 as part of the site remedy.

**Methane Gas.** Due to the presence of up to 15 feet of wood waste fill in the vicinity of the former steam plant, DEQ requested that the potential for subsurface methane gas be addressed as part of the site development. Because of the nature of the wood waste and presence of shallow groundwater at the site, the likelihood that methane is generated above atmospheric pressures that would cause the gas to migrate along utility corridors or into the Parcel 1 building foundation is low. Nevertheless, adjacent groundwater monitoring wells at South Waterfront Park were monitored in February 2006 with methane detections in three of four wells. As an alternative to more extensive subsurface methane investigation, DEQ requested methane monitoring at utilities in South Waterfront Park and within the Parcel 1 parking structure prior to occupancy of the buildings. The results were non-detect for methane at all locations. As a precautionary, long-term measure, methane detectors were installed within the Parcel 1 parking structure. If methane is detected above 1.25 percent by volume in air, the ventilation system will automatically increase air flow until concentrations decline. Methane monitoring will be conducted manually in confined spaces. Methane monitoring information and response actions taken, if any, will be reported annually to DEQ along with AOC cap inspections.

All of the remedial activities summarized above for Parcel 1 including those specifically required under the ROD and ESD are documented in an August 31, 2006 Final Closure Report, Riverplace Parcel 1 prepared by URS with a February 9, 2007 Methane Monitoring and Contingency Plan addendum prepared by GeoDesign. The last element of the Parcel 1 remedial action is finalization of the attached E&ES for the parcel.
**Recommendation**

The remedy implementation has been completed consistent with the 1998 ROD and 2004 ESD, and Oregon Administrative Rules 340-122-305 through 360. Remedial measures were implemented as part of site development. Engineering and institutional controls are in place to ensure that site conditions remain protective of human health and the environment. We recommend a conditional No Further Action determination for South Waterfront Park and South Waterfront Parcel 1.

The next steps, with your approval, are to issue a public notice regarding the proposed NFAs and finalize the E&ES for Parcel 1. DBQ will issue an NFA letter for South Waterfront Park after the public notice and comment period, and for Parcel 1 after the public notice and comment period and recording of the E&ES.

**Attachments:**
Public Notice
Figures
Parcel 1 Easement and Equitable Servitude
PROPOSED APPROVAL OF ENVIRONMENTAL CLEANUP

PUBLICATION: Secretary of State's Bulletin, The Oregonian
PUBLISHING DATE: March 1, 2007
PROJECT LOCATION: South Waterfront Park and RiverPlace Parcel 1, Portland, Oregon. South Waterfront Park runs adjacent to the Willamette River between the Marquam Bridge to the south and the RiverPlace Esplanade on the north in downtown Portland. RiverPlace Parcel 1, also known as The Strand condominium towers, is immediately east of SW River Drive and west of South Waterfront Park.

PROPOSAL: As required by ORS 465.320, the Department of Environmental Quality (DEQ) invites public comment on its proposal to approve the completion of remedial action at these two parcels of the South Waterfront Redevelopment Area.

HIGHLIGHTS: Fuel oil contamination is present in soil and groundwater beneath the site as a result of historic activities of the former Lincoln Steam Plant, which operated at the site until 1985. With DEQ oversight, the Portland Development Commission completed a remedial investigation in 1997 to characterize the extent of contamination and evaluate cleanup options. In 1998 DEQ issued a Record of Decision which describes DEQ's selected remedial action to address contaminated soil and groundwater. The selected remedy consisted of capping two contaminated soil Areas of Concern, stabilization of the Willamette River bank, groundwater monitoring, and institutional controls. South Waterfront Park was constructed between 1998 and 2000. The recent Parcel 1 development includes a sub-grade parking structure, which involved removal of soil across the entire property to an average depth of 10 feet. Soil excavated from the petroleum-contaminated Areas of Concern was transported off-site for disposal at DEQ approved locations. Asbestos containing materials were excavated and disposed of off-site at a permitted landfill. Subsurface methane gas was identified as a potential concern and has been addressed through air monitoring. Post-development groundwater monitoring has not detected elevated petroleum hydrocarbon contamination. An Easement and Equitable Servitude has been finalized for both the South Waterfront Park and RiverPlace Parcel 1 properties in order to ensure that site use restrictions, engineering controls, and maintenance and reporting requirements are implemented by current and future property owners.

To review project records, contact DEQ at 503-229-6729; toll free at 1-800-452-4011; or TTY at 503-229-5471. Questions about the project should be directed to the DEQ Project Manager, Tom Roick, at 503-229-5502 or email roick.tom@deq.state.or.us. Written comments should be sent to the project manager at DEQ's Northwest Region office, 2020 SW Fourth Avenue, Suite 400, Portland, OR 97201 by March 31, 2007.
EASEMENT AND EQUITABLE SERVITUDES

This grant of Easement and acceptance of Equitable Servitudes (E&ES) is made on February 12, 2007 among the RiverPlace Partners LLC ("Grantor"), The Strand Condominium Owners' Association (the "Association") and the State of Oregon, acting by and through the Oregon Department of Environmental Quality ("Grantee").

RECITALS

A. Grantor is the owner of a certain portion of certain real property located at 1852 SW River Drive, Portland Oregon 97201, known as "The Strand or SWF Parcel 1" State Tax Lot ID Number 181E03CD 101, Property Tax Lot Number R589751 (R64979-5131) thru R589754 (R64979-5134), the location of which is more particularly described in Attachment A Legal Description and further shown on Attachment B Plot Plan or Legal Survey to this E&ES and has received the consent of all other Condominium Unit Owners who own the other portions of SWF Parcel 1 to enter into and record this E&ES. Association is the association organized to operate the condominium of which the SWF Parcel 1 is a part. SWF Parcel 1 is part of a larger site referenced under the name of South Waterfront Redevelopment Area ("Site"), DEQ Environmental Cleanup Site Information ("ESCI") No. 602 in the files of DEQ’s Environmental Cleanup Program, Northwest Region office, 2020 SW Fourth Avenue, Suite 400, Portland OR 97201. Interested parties may contact DEQ’s Northwest Region Office at 503-229-5263 to make an appointment to review reports regarding the investigation and cleanup of contaminated soil and groundwater present at SWF Parcel 1. Residual risks present at SWF Parcel 1 are documented in the final DEQ approved Remedial Action Closure Report ("Closure Report") dated August 31, 2006 prepared by URS Corporation.

B. In 1988, the Portland Development Commission ("PDC") entered into a Voluntary Agreement with DEQ referenced as Environmental Cleanup Site Response ("ECSR") Northwest Region ("NWR") No. NWR-88-04, which was amended by subsequent addenda (Agreement and addenda collectively hereinafter "Voluntary Agreement"), under which PDC agreed to perform a remedial investigation and feasibility study, negotiate implementation of the selected remedial action, and undertake interim or additional measures necessary to fulfill the purposes of the Voluntary Agreement at the Site. The investigations revealed soil and groundwater contamination at the Site. The contamination is associated with the historical handling of fuel oil including storage in a 295,000-gallon concrete tank in the basement of the Lincoln Steam Plant and a 210,000-gallon field-constructed tank adjacent to the steam plant. The steam plant was located near the west center of the Site and included a screen chamber with an intake pipe from the Willamette River. Primary soil contaminants include total petroleum
hydrocarbons and carcinogenic and non-carcinogenic polynuclear aromatic hydrocarbons (PAHs), such as benzo(a)pyrene and naphthalene from fuel oil associated with the steam plant operations. Groundwater is also contaminated with petroleum hydrocarbons and carcinogenic and non-carcinogenic PAHs.

C. On August 24, 1998, the Director of the DEQ selected the remedial action for the Site as set forth in the Record of Decision Selected Remedial Action for South Waterfront Redevelopment Area, Parcel 3 ("ROD"). The ROD included the area now described as SWF Parcel 1. The ROD requires, among other things:

- Capping to prevent human contact with and prevent migration of contamination.
- Recordation and implementation of Institutional Controls on all applicable lots with provisions including but not limited to inspection and maintenance of the soil cap, prohibitions on groundwater use, notification to DEQ of disturbance of site soils, and demonstration that development activities will not exacerbate site conditions.
- Groundwater monitoring of wells MW-8, MW-9, MW-10, MW-12, and MW-18 for two years from June 1997 to June 1999, and a determination of the post-construction need for additional monitoring.

D. On October 11, 2004 DEQ issued an Explanation of Significant Difference documenting its acceptance of modifications to the ROD’s selected remedy that DEQ deemed appropriate in light of the proposed development for SWF Parcel 1. The proposed development for SWF Parcel 1 included a sub-grade parking garage, which involved removal of soil across the entire property to an average depth of 10 feet. Soil excavated from the petroleum contaminated Areas of Concern (AOCs) was transported off-site for disposal at a permitted landfill. The primary difference between the remedy set forth in the ROD and the modified remedy was the excavation and off-site disposal of contaminated soil. Additionally, the sub-grade parking structure acts as a cap, preventing exposure to the remaining contaminated soil beneath the development.

E. Due to the depth of the excavation and the large amount of piling being installed, DEQ required additional groundwater monitoring to demonstrate that development activities did not exacerbate the extent of groundwater contamination. The monitoring was undertaken concurrent with construction using six monitoring wells located on the adjacent property to the east, South Waterfront Park - Lot 7. These wells are down gradient of SWF Parcel 1. The groundwater monitoring will be conducted at a minimum semi-annually (March and October) until DEQ determines that monitoring is no longer required.

F. A Deed Notice was recorded in 1994 and identifies the presence of asbestos-contaminated demolition debris at the Site. Asbestos-Contaminated Materials (ACM) were buried on site during the demolition of the former Lincoln Steam Plant building. During site excavation for the development of SWF Parcel 1 all known asbestos-containing paint on exterior walls of the former Lincoln Steam Plant was removed and/or abated. In addition, previously buried ACM coated concrete rubble debris was removed to the extent practicable. A small area of ACM coated concrete rubble debris remains beneath the private roadway on the southern boundary of SWF Parcel 1 and poses no hazard as long as it is not disturbed. The location is described in Section Seven addendum to the Closure Report.

G. Buried sawdust and wood chips in fill material at the site may have resulted in elevated subsurface methane levels. Post construction methane monitoring was performed and methane detectors were installed in the basement parking garage. An elevated level of methane will trigger an increase in the parking garage ventilation rate. A recording will be generated if
such elevated detections occur. The location, operation, and maintenance requirements of the detectors is described in the Methane Monitoring and Contingency Plan, dated February 9, 2007 prepared by GeoDesign addendum to the Closure Report.

H. The majority of remedial activities identified in the ROD and the ESD were subsequently completed at SWF Parcel 1 under an August 2004, DEQ approved Remedial Action Work Plan ("RAP") and a December 2004, Addendum to the Remedial Action Work Plan prepared by AMBC Earth and Environmental Inc. The RAP included an Inspection and Maintenance Plan, Soil and Groundwater Management Plan, and Worker Notification and Protection Plan. Completion of the work is documented in the Closure Report dated August 31, 2006 by URS Corporation, a summary of which is provided in Attachment C Closure Report Summary. This E&ES is the institutional controls portion of the remedial action that applies to the Property.

I. The provisions of this E&ES are intended to further the implementation of the ROD and the selected remedial action, and thereby protect human health and the environment.

1. DEFINITIONS

1.1 "Acceptable risk level" has the meaning set forth in Oregon Revised Statute ("ORS") 465.315 (1)(b)(A) and (B) and Oregon Administrative Rule ("OAR") 340-122-0115.

1.2 "Common Interest Community" means either (a) an association of Condominium Unit Owners or (b) other cooperative of owners who each own either individual units in a multiple-unit building or a single real property parcel, with all the unit owners having (i) a right in common to use the Common Elements of a particular development with separate ownership confined to the individual units which are serially designated and (ii) an obligation by virtue of recorded covenants creating such form of ownership to contribute a payment of its share of property taxes, insurance premiums, maintenance costs, improvements costs and other expenses of administration, maintenance, repair or replacement of Common Elements, as represented by a percentage of such owner's undivided ownership interest in, or right to use, such Common Elements. For purposes of this Agreement, the following terms shall have the meanings ascribed below:

1.2.1 (1) "Common Elements" means all portions of a development (other than the individual units owned through separate ownership) which all unit owners have a right in common to use.

1.2.2 (2) "Condominium Unit" means a part of the property which is subject to the condominium form of ownership, as described in ORS 100.005 of the Oregon Condominium Act.

1.2.3 (3) "Condominium Unit Owners" means either (A) the person owning fee simple interest in a Condominium Unit or (B) the holder of a vendee's interest in a Condominium Unit under a recorded installment contract of sale.

1.3 "DEQ" means the Grantee, the Oregon Department of Environmental Quality and its employees, agents, and authorized representatives. DEQ also means any successor or assign of DEQ under the laws of Oregon, including but not limited to any entity or instrumentality of the State of Oregon authorized to perform any of the functions or to exercise any of the powers currently performed or exercised by DEQ.
1.4 "Ecological receptor" means a population of plants or animals (excluding domestic animals and cultivated plants) or an individual member of any species listed as threatened or endangered pursuant to 16 U.S.C. 1532 et seq. or ORS 496.172. See OAR 340-122-0115.

1.5 "Engineering control" means a remedial method used to prevent or minimize exposure to hazardous substances, including technologies that reduce the mobility or migration of hazardous substances. Engineering controls may include, but are not limited to, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies. See OAR 340-122-0115.

1.6 "Hazardous substance" and hazardous waste (as defined in ORS 466.005); means any substance defined as a hazardous substance pursuant to section 101(14) of the federal Comprehensive Environmental Response, Compensation and Liability Act, P.L. 96-510, as amended, and P.L. 99-499; oil; and, any substance designated as such by the Environmental Quality Commission under ORS 465.400.

1.7 "Owner" means any person or entity, including Grantor, who at any time owns, occupies, or acquires any right, title, or interest in or to any portion of the Property or a vendee's interest of record to any portion of the Property, including any successor, heir, assign or holder of title or a vendee's interest of record to any portion of the Property, excluding any entity or person who holds such interest solely for the security for the payment of an obligation and does not possess or control use of the Property. For purposes of real property that is held in common by a Common Interest Community (e.g. Common Elements), "Owner" means the Common Interest Community, not the Condominium Unit Owner(s).

1.8 "Property" means the real property described in Attachment A to this E&ES, together with the improvements thereon, but expressly excludes the areas defined as Commercial Units, Residential Units, Retail Units or Storage Units as set forth in that certain Declaration of Condominium Ownership for Strand Condominiums recorded in the Official Records of Multnomah County, Oregon as Document No. 2006-232322, as supplemented from time to time to annex additions to property to the Strand Condominiums.

1.9 "Remedial Action" means those actions consistent with a permanent remedial action taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of a hazardous substance so that it does not migrate to cause substantial danger to present or future public health, safety, welfare or the environment and may include investigations, treatment, excavation and offsite disposal, engineering controls, institutional controls or any combination thereof, as more fully set forth in ORS 465.200 and OAR 340-122-0115.

2. GENERAL DECLARATION

2.1 Grantor and the Association, in consideration of Grantee’s anticipated issuance of a Conditional No Further Action letter for the SWF Parcel 1 the Strand, grant to DEQ an Easement for access to such portions of the Property as are necessary for conducting the activities contemplated herein and accept the Equitable Servitudes described in this instrument and, in so doing, declare that the Property is now subject to and shall in future be conveyed, transferred, leased, encumbered, occupied, built upon, or otherwise used or improved, in whole or in part, subject to this E&ES.
2.2 Each condition and restriction set forth in this E&ES touches and concerns the Property and the equitable servitudes granted in Paragraph 3 and easement granted in Paragraph 4 below, shall run with the land for all purposes, shall be binding upon all current and future owners of the Property as set forth in this E&ES, and shall inure to the benefit of DEQ acting by and for the State of Oregon. Grantor further conveys to DEQ the perpetual right to enforce the conditions and restrictions set forth in this E&ES unless otherwise modified in writing by DEQ as provided herein or as documented in a subsequent easement and environmental servitude between the Owner and DEQ, recorded as provided in that subsequent easement and environmental servitude.

3. EQUITABLE SERVITUDES
(REQUIRED ACTIONS AND RESTRICTIONS ON USE)

3.1 Engineering Control Maintenance. Owner shall maintain the Area of Concern (AOC) 1 and 2 caps, comprised of 2 feet of clean fill for landscape areas above a demarcation layer or hardscape material cap such as asphalt or concrete as shown in the Attachment D AOC and Cap Plan and Typical Section Drawing. Except upon prior written approval from DEQ, Owner shall not conduct or allow operations on the Property or use or maintain the Property in any way that will or likely will penetrate the caps for AOC 1 or 2 or otherwise disturb the ACM concrete rubble. Owner shall operate and maintain the methane detectors in accordance with the requirements described in the Methane Monitoring and Contingency Plan, dated February 9, 2007 prepared by GeoDesign addendum to the Closure Report, which is incorporated herein by this reference.

3.2 Notification of Disturbance. Owner shall provide DEQ a minimum of thirty (30) days advance written notice of any activity contemplated by Owner, including without limitation any excavation, drilling, scraping, blasting or erosion that will or likely will penetrate below a cap or jeopardize an AOC cap’s functional integrity, impact the demarcation layer, impact the ACM concrete rubble, or expose human or ecological receptors to contaminants. Owner shall provide details of the planned work, worker protection, handling and disposal of soil and/or ACM concrete rubble, dewatering and other measures as well as the means by which Owner intends to restore the integrity of the cap, replace or restore the demarcation layer, as applicable, consistent with the requirements set forth in the RAP and Closure Report. Owner shall not conduct such work without prior written approval by DEQ. Any penetration of the AOC caps and removal of underlying contaminated soil, ACM concrete rubble, or groundwater is subject to both the Worker Notification and Protection Plan and Soil and Groundwater Management Plan as set forth in the RAP. Owner shall manage removal of any ACM concrete rubble consistent with the General Management Plan of Asbestos Contaminated Concrete Debris, South Waterfront Redevelopment Area prepared by Portland Development Commission dated June 4, 2004 in accordance with Oregon Administrative Rules 340-248-0005 through 340-248-0290 and subsequent amendments. For SWF Parcel 1, this provision of the E&ES supersedes the 1994 Deed Notice for asbestos-contaminated demolition debris.

3.3 Annual Engineering Inspection and Maintenance Report. Owner shall perform an annual inspection of the AOC cap system and methane sensors starting on or before September 1 of each year and submit an annual inspection report to DEQ by October 1 of each year. The annual inspection report will: (a) document and confirm that the restrictions and prohibitions of this E&ES are being complied with and that the engineering controls continue to protect public health and the environment, (b) report on any actions that may have compromised the AOC caps, disturbed ACM concrete rubble or interfered with the methane detection system, and the measures taken to address these issues consistent with the E&ES, and (c) confirm that the
methane sensors are working properly and document any methane detections and actions taken over the past year. Upon acceptance by DEQ of five (5) years of annual inspection reports, Owner may request in writing that DEQ reevaluate the scope and frequency of inspections based in part on reasonable documentation of Owner’s efforts to inspect and maintain the engineering controls for protection of public health and the environment. No change in the scope or frequency of the inspections or reports shall be made without written approval by DEQ.

3.4 **Groundwater Use Restrictions.** Owner shall not extract through wells or by other means groundwater at the Property for consumption or other beneficial use by humans or ecological receptors, unless documentation demonstrating that groundwater use will not exacerbate the extent of groundwater contamination at the Property is provided to and approved in writing by DEQ. This prohibition shall not apply to extraction of groundwater associated with groundwater treatment or monitoring activities approved by DEQ or to temporary dewatering activities related to construction, development, or the installation of sewers or utilities at the Property. Owner shall conduct a waste determination on any groundwater that is extracted during such monitoring, treatment, or dewatering activities and handle, store and manage waste water according to applicable laws.

3.5 **Groundwater Monitoring and Reporting.** Owner shall perform monitoring well sampling and prepare reports according to the following schedule and frequency as specified in the ROD and in accordance with the Closure Report except as may be otherwise described below. Monitoring Wells #9, 12B, 18, 19, 20, and 21 are located on the adjacent property to the east, South Waterfront Park Lot 7 by separate agreement with landowner. The location of the wells is shown on [Attachment D](#). Semi-annual groundwater monitoring commenced in October 2004. Owner shall provide semi-annual monitoring reports to DEQ and DEQ will make a determination whether the monitoring is complete or further monitoring is required. Upon completion of the groundwater monitoring activities, Owner will decommission the monitoring wells in accordance with applicable state and local regulations.

3.6 **Use of the Property.** Owner shall not occupy or allow other parties to occupy or use the Property for any purpose except in full compliance with all conditions and restrictions in Article 3 of this E&ES.

3.7 **Notice of Transfer/Change of Use.** Owner shall notify DEQ a minimum of ten (10) days prior to the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of Owner’s interest in or occupancy of the Property. Such notice shall include the full name and address of the Party to whom Owner intends to transfer an interest or right of occupancy. If Owner is a Common Interest Community, Owner need only provide such notice prior to removal of the Property from Condominium Unit Ownership pursuant to ORS 100.600 to 100.620. Notice is not required upon transfer of individual units having rights in the Property. In addition, Owner shall notify DEQ a minimum of ten (10) days prior to the effective date of any change in use of the Property that might expose human or ecological receptors to hazardous substances. Such notice shall include complete details of any planned development activities or change in use.

3.8 **Zoning Changes.** Owner shall notify DEQ a minimum of thirty (30) days prior to the Owner’s petitioning for or filing of any document initiating a rezoning of the Property that would change the base zone of the Property under the City of Portland zoning code or any successor code. As of the date of this E&ES, the base zone of the Property is CX – Central Commercial.
3.9 Cost Recovery. Owner shall pay DEQ’s costs for review and oversight of the provisions in this E&ES in accordance with the eligible cost recovery requirements as set forth in ORS 465.255. This E&ES shall constitute the binding agreement by the Owner and DEQ to reimburse DEQ for all such eligible review and oversight costs. DEQ will establish a cost recovery account for tracking and invoicing DEQ project costs. DEQ will provide the Owner with a monthly statement and direct labor summary. DEQ costs will include direct and indirect costs. Direct costs include site-specific expenses and legal costs. Indirect costs are those general management and support costs of the State of Oregon and DEQ allocable to DEQ oversight of this E&ES and not charged as direct site-specific costs. Indirect charges are based on actual costs and are applied as a percentage of direct personnel services costs. DEQ shall not charge any costs provided in this Section 3.9 to individual Condominium Unit Owners.

4. EASEMENT
(RIGHT OF ENTRY)

4.1 During reasonable hours and subject to reasonable security requirements, DEQ shall have the right to enter upon and inspect any portion of the Property as reasonably necessary to determine whether the requirements of this E&ES have been or are being complied with. To the extent reasonably possible, DEQ will provide the Owner a minimum of twenty-four (24) hour advance notice prior to entering into any building, fenced or other enclosed portion of the Property.

4.2 DEQ shall have the right, privilege, and license to enter upon the Property at any time to abate, mitigate, or cure at the expense of Owner the violation of any condition or restriction contained in this E&ES, provided (a) DEQ first gives written notice of the violation to Owner describing the action necessary to correct the violation and (b) the time in which the Owner must correct the violation. If the Owner either refuses or fails to cure the violation within the time specified in the DEQ notice, DEQ upon notice to the Owner may enter the Property and take such action to abate, mitigate, or cure a violation. Any such entry by DEQ shall not be deemed a trespass, and, DEQ shall not be subject to liability to Owner for such entry or action except to the extent attributable to the gross negligence or intentional acts of DEQ or its authorized agents.

5. GENERAL PROVISIONS

5.1 Within fifteen (15) days of the execution by the Grantor and Grantee, Grantor shall record this E&ES in the records of Deeds of Real Property in Multnomah County, Oregon where the Property is located, such recordation being expressly authorized by statute including without limitation, ORS 93.710. Recording costs shall be solely borne by the Grantor. Grantor shall provide DEQ with a file stamped copy of the recorded E&ES within ten (10) days of recording.

5.2 This E&ES is expressly senior to any interest in the Property that is not in existence and of record as of the date this E&ES is recorded. Owner warrants that Owner will provide notice to Grantee of any default arising under any such superior security interest and will cure any such default prior to the initiation of any proceeding to foreclose such interest. Owner further warrants that, if Owner fails to cure any such default, Grantee may do so and recover the expense of such cure from Owner.

5.3 Upon recording of this E&ES, DEQ intends to issue public notice, respond to any comments and subsequently issue a Conditional No Further Action letter to Grantor for this
Property documenting removal and remedial actions taken to date; that the residual risk is below acceptable risk levels provided that property engineering and institutional controls are maintained in accordance with this E&ES; and that all obligations for this Property as set forth in Agreement ECSR No. NWR-88-04 and subsequent addenda are fully satisfied, except as otherwise provided for in this E&ES.

5.4. A reference to this E&ES, including its location in the public records, shall be recited in any deed conveying the Property or any portion of the Property. Each condition and restriction contained in this E&ES shall run with the land so burdened until such time as the condition or restriction is removed by written certification from DEQ, recorded in records of Deeds of Real Property in Multnomah County, Oregon, certifying that the condition or restriction is no longer required in order to protect human health or the environment. DEQ shall give prompt and reasonable consideration to any petition to remove any such condition or restriction.

5.5. Upon the recording of this E&ES, Grantor and all future Owners shall be conclusively deemed to have consented and agreed to every condition and restriction contained in this E&ES, whether or not any reference to this E&ES is contained in an instrument by which such person or entity occupies or acquires an interest in the Property.

5.6. Upon any violation of any condition or restriction contained in this E&ES, Grantor and/or Owner, as applicable, may seek all remedies available at law or in equity to enforce this E&ES. Upon any violation of any condition or restriction contained in this E&ES, Grantee, in addition to the remedies described in Article 4 above, may seek available legal or equitable remedies to enforce this E&ES, including civil penalties as set forth in ORS 465.900. The parties mutually agree that venue for any legal action or lawsuit with respect to this E&ES shall be filed and heard in the Circuit Court of Multnomah County, unless otherwise determined by a court of competent jurisdiction.

[Following Section Left Intentionally Blank]
IN WITNESS WHEREOF Grantor and Grantee have executed this E&ES as of the date and year first set forth above.

GRANTOR: RiverPlace Partners, LLC

By: _________________________________ Date: __________

Printed Name: ______________________________

Title: _________________________________

STATE OF OREGON)

County of ____________________________

) ss.

The foregoing instrument is acknowledged before me this ___ day of __________, 20___, by _______________ of __________________, on its behalf.

ASSOCIATION: The Strand Condominiums Owners’ Association

By: _________________________________ Date: __________

Printed Name: ______________________________

Title: President

Printed Name: ______________________________

Title: Secretary

STATE OF OREGON)

County of ____________________________

) ss.

The foregoing instrument is acknowledged before me this ___ day of __________, 20___, by _______________ of __________________, on its behalf.

NOTARY PUBLIC FOR OREGON

My commission expires: ____________________________
STATE OF OREGON)

County of ____________ ) ss.

The foregoing instrument is acknowledged before me this ___ day of ________, 20__, by __________________ of __________________, on its behalf.

________________________
NOTARY PUBLIC FOR OREGON
My commission expires:________________________

GRANTEE: State of Oregon, Department of Environmental Quality

By: ________________________ Date: 2/20/07
Dick Pedersen, Administrator, Northwest Region

STATE OF OREGON)

County of ____________ ) ss.

The foregoing instrument is acknowledged before me this 20 day of February, 2007 by Dick Pedersen of the Oregon Department of Environmental Quality, on its behalf.

________________________
SUSAN L. CURRY
NOTARY PUBLIC FOR OREGON
My commission expires: March 17, 2009

OFFICIAL SEAL

Basement and Equitable Servitudes
The Strand – SWF Parcel I
STRAND CONDOMINIUMS
PARCEL 1, PARTITION PLAT NO. 129-122 AND A PORTION OF PARCELS 1 AND 2, PARTITION PLAT NO. 1694-55
SITUATED IN THE SOUTHWEST QUARTER OF SECTION 3, TOWNSHIP 1 SOUTH, RANGE 1 EAST, WILLOUGHBY MERIDIAN,
CITY OF PORTLAND, MULTNOMAH COUNTY, OREGON
OCTOBER 27, 2006

SURVEYOR’S CERTIFICATE

I, Gary R. Johnson, a registered professional land surveyor, hereby certify that the plan of

STRAND CONDOMINIUMS
PARCEL 1, PARTITION PLAT NO. 129-122 AND A PORTION OF PARCELS 1 AND 2, PARTITION PLAT NO. 1694-55
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OCTOBER 27, 2006

SURVEYOR’S CERTIFICATE

I, Gary R. Johnson, a registered professional land surveyor, hereby certify that the plan of
ATTACHMENT B

Plot Plan or Legal Survey of the Property
ATTACHMENT C

Closure Report Summary

Background

South Waterfront Parcel 1 (SWF Parcel 1, also known as RiverPlace Parcel 1 - The Strand) encompasses an area of 2.368 acres. The site is bounded to the north, east, and southeast by the South Waterfront Park (SWP) Lot 7, to the south by vacant Lot 8 and the David Evans and Associates (DEA) building (Lot 9), and to the west by SW River Drive (see attachment D). The property had formerly been the site of the Lincoln Steam Plant; a steam generating facility whose long term use had resulted in significant contamination from storage of large quantities of Oil and Diesel fuel. In addition, during the demolition of the steam plant and neighboring buss house in the late 1980’s it was discovered that the olive green and tan masonry surfacing material on the exterior of the buildings contained Asbestos fibers.

Because of the contamination at this and several adjoining sites, in December 1988, the Portland Development Commission (PDC) entered into a voluntary “Agreement” with the Department of Environmental Quality (DEQ) under which PDC agreed to conduct a Remedial Investigation/Feasibility Study (RI/FS) of property bounded by Montgomery Street to the north, Moody Avenue and SW River Parkway to the south, the trolley tracks to the west, and the Willamette River to the east. After extensive investigation, the Oregon Department of Environmental Quality (DEQ) stipulated remedial actions for soil and groundwater for Parcel 3 (includes the Subject Property) in the Record of Decision (ROD) dated August 24, 1998. The selection of the remedial alternative was based on the following reports prepared by AGRA Earth & Environmental, Inc. (AGRA) on behalf of the PDC:


Feasibility Study (FS), South Waterfront Redevelopment Area, Portland, Oregon, dated October 4, 1996.


The remedial action stipulated by the DEQ for Parcel 3 includes capping, groundwater monitoring, and institutional controls on the subject property. In October 2004, the DEQ issued an Explanation of Significant Difference (ESD), which provided a description of modifications to the ROD for the Subject Property due to finalization of a development plan that included the construction of a sub-grade parking garage (DEQ, 2004). Construction activities at the Subject Property began in February 2005 and are scheduled for completion in May 2007. The planned development, The Strand, consists of a single-level restaurant and three condominium towers constructed on a single level sub-grade parking garage. The 10-inch thick concrete floor of the parking garage serves as the remedial cap for the site in order to restrict direct contact of workers and residents to the contaminants of concern located in the soil and groundwater. A Closure Report titled, Final Closure Report, RiverPlace Parcel 1 by URS, dated June 23, 2006, details the implementation of the required actions under the ROD and ESD.
Site Contamination

Primary contaminants of concern (COC) at the site are total petroleum hydrocarbons (TPH) and polynuclear-aromatic hydrocarbons (PAHs) associated with petroleum contaminated fill soils placed on the property beginning during the late 1800s, and fuel storage tanks associated with the Lincoln Steam Plant. The Lincoln Steam plant was constructed in 1917, and generated electricity and steam for heat from hog fuel supplied by the nearby Portland Lumber Company sawmill. During a portion of its operational history, the steam plant boilers were fired by Bunker C heating oil and later by diesel #2 heating oil. Fuel storage for the boilers was provided by two field constructed concrete tanks with a combined capacity of approximately 210,000 gallons and a 294,000-gallon basement storage tank in the southwest corner of the steam plant building. Fuel for the boilers was transported to the site by train, truck, and river barge. Operation of the steam plant ended in 1985.

The DEQ ROD identifies two Areas of Concern (AOC 1 and AOC 2) (Attachment D) associated with the former steam plant operation that “presents an unacceptable risk based on the presence of carcinogenic PAHs,” and should therefore be capped. These AOCs are partly on River Place Parcel 1 and partly on the adjoining parcel to the east and north of the site boundary. The portion of AOC #1 remaining on the site is capped by the concrete floor slab and walls of the subgrade parking garage. Nearly all of AOC #2 was removed during construction of the parking garage. Closure sampling after construction indicated that a minor amount of contaminated soil remained about 12 ft. below ground surface near the property line in the area of the former AOC #2. Anyone planning to excavate deeper than 10 ft. below ground surface in the area of the former AOC #2 should notify DEQ prior to any such excavation. Soils containing TPH and PAH concentrations that exceed acceptable levels may be present at depths greater than 15 feet below ground surface outside the AOCs. These soils are currently capped by the floor and walls of the parking garage.

Asbestos containing materials (ACM)

In November 1990, demolition of the steam plant began using a wrecking ball. The debris was then broken down to 12 inch minus pieces. The asbestos-contaminated concrete debris was deposited to an average thickness of three feet on top of gravel and dirt within the fenced confines of the site. In 1992 and 1994, the asbestos-contaminated concrete debris was capped with a two to three foot thick layer of non-asbestos concrete debris from interior walls of the steam plant, followed by a one-foot layer of clean fill. In 1994, the PDC also recorded the environmental hazard notice provided by the DEQ which notifies any potential purchaser that regulated asbestos-contaminated concrete debris was disposed of on Parcel 3B and directs questions to the DEQ.

During excavation for the sub grade parking garage in 2005 approximately 4,305 tons of asbestos-contaminated debris was removed from Parcel 1 except for approximately 700 tons remaining behind the H-pile wall along the eastern half of the southern boundary of the Subject Property as shown on Attachment D. DEQ must be notified prior to any activities that would disturb the ACM. Any disturbance of the ACM must be done in accordance with the General Plan for Management of Asbestos-Contaminated Concrete Debris, South Waterfront Redevelopment Area, Parcel 3, Portland, OR by Portland Development Commission dated June 4, 2004.
Soil Capping

In order to meet the remedial action goals of the ROD capping of the contaminated soils, particularly AOC-1 and AOC-2, was implemented by building of the subgrade parking structure. The concrete floor slab and concrete walls of the structure serve as a cap of the contaminated soils. A Site Inspection and Maintenance Plan is included in the Final Site Closure Report. If damaged this protective cover should be repaired to meet the design intent of the original construction. The repairs should be documented in the site inspection report to DEQ.

Groundwater Monitoring

The semi-annual groundwater monitoring is to assess whether groundwater conditions have been exacerbated as a result of pile installation and other excavation activities associated with the site development activities. Monitoring is to be conducted according to the plan outlined in the URS, Monitoring Well Sampling and Analysis Plan, RiverPlace Parcel 1 dated July 22, 2005.

Five monitoring wells located on a separate parcel to the east of the property line are to be read semi-annually until October 2007. A separate offsite monitoring well letter agreement outlines the required groundwater well monitoring responsibilities for well numbers MW-9, MW-12B, MW-18, MW-19B, MW-20, and MW-21.

Upon acceptance of groundwater monitoring reports DEQ will determine whether monitoring can be stopped, continue or otherwise modify the frequency of sampling based on the results. When use of the five wells is concluded they shall be decommissioned in accordance with applicable state and local regulations.

Site Closure

As of the writing of the closure report in June 2006, the remedial activities had been completed, fulfilling the requirements of the ROD, ESD, and RAP, with the exception of an institutional control providing for groundwater use restrictions and long-term maintenance of the AOC caps.

ACM Rubble Debris Addendum

A small area of ACM coated concrete rubble debris remains beneath the private roadway on the southern boundary of SWF Parcel 1 and poses no hazard as long as it is not disturbed. The location is described in the revised Closure Report, Section Seven by URS.

Methane Monitoring Addendum

Buried sawdust and wood chips may result in elevated methane levels in the subsurface at the site. Post construction methane monitoring was performed and methane detectors were installed in the basement parking garage. Location and operation of methane monitoring is set forth in Methane Monitoring and Contingency Plan, dated February 9, 2007 prepared by GeoDesign Addendum to the Closure Report. An elevated level of methane will trigger an increase in the parking garage ventilation rate. The methane monitoring plan will outline monitoring of confined space entry areas and outline contingency actions should elevated methane levels be detected.
ATTACHMENT D
AOC and Cap Plan and Typical Section Drawing

[Diagram of a site plan with various designated areas and notes.]

Easement and Equitable Servitudes
The Strand — SWF Parcel 1

Page 16 of 17
X-Section of Layback Area Along East
120 ft. of North Boundary. AOC 1

Sidewalk

Backfill Soil

Demarcation Fabric

Area of Concern 1 Soil

Garage Concrete Wall

Garage Floor

X-Section for AOC 2 and West 60 ft.
of AOC 1 along North Boundary

Sidewalk

Area of Concern Soil

Garage Concrete Wall

Pile Wall (Shoring)

Garage Floor Slab

* Drawings Not to Scale