

**STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY**

In the Matter of Remedial Action by:

**Sea-Tac Investments LLC, a  
Washington limited liability  
company; ANSCO Properties, LLC,  
a Washington limited liability  
company; and Scarsella Bros. Inc., a  
Washington corporation.**

**AGREED ORDER**

**No. DE 6844**

**TO: ANSCO Properties, LLC  
Attn: Mr. Kevin J. Collette  
Ryan Swanson & Cleveland  
1201 Third Avenue, Suite 3400  
Seattle, WA 98101**

**Scarsella Bros. Inc.  
Attn: Ms. Tamarah Knapp Hancock, P.E.  
General Counsel  
PO Box 68697  
Seattle, WA 98168-0697**

**Sea-Tac Investments LLC  
Attn: Mr. Doug Rigoni  
2003 Western Avenue, Suite 500  
Seattle, WA 98121-2106**

## TABLE OF CONTENTS

I.	INTRODUCTION .....	4
II.	JURISDICTION .....	4
III.	PARTIES BOUND.....	4
IV.	DEFINITIONS .....	4
V.	FINDINGS OF FACT .....	5
VI.	ECOLOGY DETERMINATIONS.....	8
VII.	WORK TO BE PERFORMED .....	9
VIII.	TERMS AND CONDITIONS OF ORDER.....	10
	A. Public Notice.....	10
	B. Remedial Action Costs .....	10
	C. Implementation of Remedial Action.....	10
	D. Designated Project Coordinators .....	11
	E. Performance .....	12
	F. Access .....	13
	G. Sampling, Data Submittal, and Availability .....	13
	H. Public Participation.....	14
	I. Retention of Records.....	15
	J. Resolution of Disputes .....	15
	K. Extension of Schedule.....	16
	L. Amendment of Order .....	17
	M. Endangerment .....	18
	N. Reservation of Rights.....	19
	O. Transfer of Interest in Property.....	19
	P. Compliance with Applicable Laws.....	19
	Q. Indemnification .....	21

IX. SATISFACTION OF ORDER.....21

X. ENFORCEMENT .....21

EXHIBIT A.  
EXHIBIT B.

Site Diagram  
Remedial Investigation / Feasibility Study (RI/FS) Work Plan for  
the SeaTac Development Site, SeaTac, Washington

## **I. INTRODUCTION**

The mutual objective of the State of Washington, Department of Ecology (Ecology), Sea-Tac Investments LLC, a Washington limited liability company, Scarsella Bros. Inc. and ANSCO Properties, LLC, the latter three being potentially liable parties (PLPs) under this Agreed Order (Order), is to provide for remedial action, as specifically set forth below, at a facility where there has been a release or threatened release of hazardous substances. This Order requires PLPs to complete a remedial investigation/feasibility study (RI/FS) in conformity with an RI/FS work plan and applicable regulations; to complete an RI/FS report (RI/FS Report) and to submit a draft cleanup action plan (DCAP) to Ecology for review and technical evaluation by Ecology. Ecology believes the actions required by this Order are in the public interest.

## **II. JURISDICTION**

This Agreed Order is issued pursuant to the Model Toxics Control Act (MTCA), RCW 70.105D.050(1).

## **III. PARTIES BOUND**

This Agreed Order shall apply to and be binding upon the Parties to this Order, their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into this Order and to execute and legally bind such party to comply with this Order. PLPs agree to undertake all actions required by the terms and conditions of this Order. No change in ownership or corporate status shall alter PLPs' responsibility under this Order. PLPs shall provide a copy of this Order to all agents, contractors, and subcontractors retained to perform work required by this Order, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Order.

## **IV. DEFINITIONS**

Unless otherwise specified herein, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms in this Order.

A. Site: The Site is referred to as the SeaTac Development Site and is generally located at 16025 International Boulevard, SeaTac, Washington. The Site is defined by the extent

of contamination caused by the release of hazardous substances at the Site. Based upon factors currently known to Ecology, the Site is more particularly described in the Site Diagram (Exhibit A). The Site constitutes a Facility under RCW 70.105D.020(5).

B. Parties: Refers to the State of Washington, Department of Ecology, Sea-Tac Investments LLC, ANSCO Properties, LLC, and Scarsella Bros. Inc.

C. Potentially Liable Person (PLPs): Refers to Sea-Tac Investments LLC, ANSCO Properties, LLC, and Scarsella Bros. Inc.

D. Agreed Order or Order: Refers to this Order and each of the exhibits to this Order. All exhibits are integral and enforceable parts of this Order. The terms "Agreed Order" or "Order" shall include all exhibits to this Order.

## V. FINDINGS OF FACT

Ecology makes the following findings of fact, without any express or implied admissions of such facts by PLPs:

A. The SeaTac Development Site is located generally at 16025 International Boulevard, SeaTac, Washington and is defined by the extent of contamination caused by the release of hazardous substances at the Site. The presently known extent of contamination (Site) includes properties owned by ANSCO Properties, LLC, property to the north thereof, Washington Memorial Park Cemetery; and also the right of way (South 160<sup>th</sup> Street).

B. ANSCO Properties, LLC (ANSKO), a Washington limited liability company is a current owner of real property at the Site. At this time the primary source of the contamination appears to be located on property owned by ANSCO. SeaTac Investments LLC (SeaTac Investments) is a lessee of this property at the Site where it operates a short and medium term valet parking business (serving primarily airline passengers using Seattle-Tacoma International Airport) known as MasterPark Lot C. Previously, the ANSCO property had been a base for construction and heavy equipment operations by Scarsella Bros. Inc. (Scarsella) and other companies. Small industrial and manufacturing activities and some residential and commercial uses also took place on the property. At all relevant times that SeaTac Investments has operated its valet parking business, the property (MasterPark Lot C) has been covered by a paved asphalt

cap. The area of the Site and the property owned by ANSCO and leased by SeaTac Investments is shown on attached Exhibit A. On or about May 16, 2003 a Declaration of Restrictive Covenant was recorded with respect to the property owned by ANSCO and operated as MasterPark Lot C.

C. From approximately 1946 to 1985, the ANSCO property served as the former location of, among other things, a construction company's heavy equipment yard and operations base, and of various small industrial and manufacturing businesses. Since approximately 2001, MasterPark Lot C has been an asphalt capped parking lot with a single administrative building to support valet parking operations. Since 2001, Sea-Tac Investments has operated its valet parking business at the Site on the capped asphalt surface and has not provided fueling or petroleum waste disposal services.

D. During 2001 and 2002, soil and groundwater sampling, conducted on behalf of SeaTac Investments indicated releases or threatened releases of hazardous substances at MasterPark Lot C and its vicinity in soil and groundwater. The sampling was conducted in conjunction with the closure of several underground fuel storage tanks and other remedial actions at the property. In particular, the sampling indicated high levels of groundwater contamination from gasoline in the regional unconfined aquifer QVA (Vashon Advance Outwash), which extended outside property boundaries.

E. On September 17, 2003 Ecology issued SeaTac Investments an Interim No Further Action determination pertaining to total petroleum hydrocarbons as diesel and gasoline and to benzene, toluene, ethyl benzene and xylene contamination in soil, but not in groundwater.

F. On January 6, 2006, the Washington State Department of Health, acting pursuant to a cooperative agreement with the United States Department of Health and Human Services and the Agency for Toxic Substances and Disease Registry (ATSDR) issued a Health Consultation identifying potentially harmful human health effects resulting from possible exposure to hazardous substances at the Site, particularly focusing on the groundwater contamination in the QVA regional aquifer. The Health Consultation identified a general class of historic activities at the Site that used or handled petroleum products or generated wastes

containing petroleum, but concluded that none of the environmental investigations done near the site indicates they are the source of petroleum contamination discovered in the regional aquifer. The Health Consultation concluded, however, that the Site posed an "indeterminate public health hazard" because there was inadequate information to determine whether the groundwater contaminant plume posed a health threat to nearby drinking water wells or to indoor air.

G. Effective May 9, 2007, Ecology rescinded the Interim No Further Action determination that it had previously issued on September 17, 2003 for the Site because of a later decision by the Attorney Generals that media-specific No Further Action determinations were not appropriate. Ecology issued an opinion that further remedial action was necessary at the Site pursuant to the provisions of MTCA. In its May 9, 2007 Partial Sufficiency and Further Action Determination, Ecology stated its opinion that further action was required at the Site because quarterly groundwater monitoring results showed an ongoing groundwater impact at the Site above applicable MTCA standards for hazardous substances of concern and that the gasoline and related hazardous substance plumes at the Site required an active cleanup. Ecology stated that quarterly groundwater monitoring would not be sufficient to mitigate the groundwater contamination at the Site.

H. On March 25, 2008 after Sea-Tac Investments submitted an Independent Remedial Action Report to Ecology, Ecology's Toxics Cleanup Program determined that the independent remedial actions performed at the Site were not sufficient to meet the substantive requirements of MTCA and its implementing regulations for characterizing and addressing the contamination at the Site. Ecology issued an opinion that further remedial action was necessary at the Site under MTCA. Ecology stated that the gasoline range petroleum hydrocarbons in the northwest quadrant of the Site had not been fully characterized; that remedial action previously performed was not protective of the QVA aquifer and that the soil and groundwater impacts extended beyond the property boundary. In issuing this opinion, Ecology further stated, "therefore, the current Partially Sufficient Determination letter dated May 5, 2007 [sic] is no longer appropriate for this Site."

I. Recent on-Site sampling by SeaTac Investments has identified more precisely the source and extent of both soil and groundwater impacts from hazardous substances, primarily gasoline range petroleum hydrocarbons and associated constituents that appear to impact the regional aquifer, as a result of historic releases at the Site.

## VI. ECOLOGY DETERMINATIONS

A. PLPs are an "owner or operator" as defined in RCW 70.105D.020(17) of a "facility" as defined in RCW 70.105D.020(5).

B. Based upon all factors known to Ecology, a "release" or "threatened release" of "hazardous substance(s)" as defined in RCW 70.105D.020(25) and RCW 70.105D.020(10), respectively, has occurred at the Site.

C. Based upon credible evidence, Ecology issued a PLP status letter to SeaTac Investments and ANSCO dated June 17, 2008, pursuant to RCW 70.105D.040.020(21) and WAC 173-340-500. After providing for notice and opportunity for comment, those two PLPs did not comment, and concluding that credible evidence supported a finding of potential liability, Ecology issued a determination that Sea-Tac Investments and ANSCO are PLPs under RCW 70.105D.040 and notified those PLPs of this determination by letter dated September 4, 2008. On credible evidence, Ecology issued a PLP status letter to Scarsella dated March 12, 2009, pursuant to RCW 70.105D.040.020(21) and WAC 173-340-500. Thereafter, following notice and an opportunity for comment, Ecology issued a determination that Scarsella is a PLP under RCW 70.105D.040 and notified Scarsella of this determination.

D. Pursuant to RCW 70.105D.030(1) and -.050(1), Ecology may require PLPs to investigate or conduct other remedial actions with respect to any release or threatened release of hazardous substances, whenever it believes such action to be in the public interest. Based on the foregoing facts, Ecology believes the remedial actions required by this Order are in the public interest.



## **VII. WORK TO BE PERFORMED**

Based on the Findings of Fact and Ecology Determinations, it is hereby ordered that PLPs take the following remedial actions at the Site and that these actions be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein:

A. PLPs shall conduct the remedial actions more specifically defined in the Remedial Investigation/Feasibility Study Work Plan for the SeaTac Development Site, SeaTac, Washington, attached hereto and incorporated herein as Exhibit B, and shall submit to Ecology for approval each deliverable called for under Exhibit B. Each deliverable, once approved by Ecology, shall become an integral and enforceable part of this Order.

B. The schedule for performance and/or deliverables shall conform with the Schedule set forth in Exhibit B. at Section 6.0 and shall include review by Ecology.

C. The PLPs shall submit a sampling and analysis plan (SAP) for Ecology's review and approval, and a health and safety plan for Ecology's review and comment, per WAC 173-340-350(7)(c)(iv). The SAP will be prepared in accordance with requirements of WAC 173-340-820 and 830. The health and safety plan will be in accordance with provisions and requirements of WAC 173-340-810.

D. Within sixty (60) days after completion and approval by Ecology of the Remedial Investigation/Feasibility Study report required pursuant to Exhibit B, PLPs shall prepare a draft cleanup action plan and shall submit the draft cleanup action plan to Ecology for review and approval. The draft cleanup action plan shall comply with the requirements of WAC 173-340-380. Preparation of a final CAP is not part of this Order. The process for completing the final CAP and implementation of cleanup actions will be established subsequent to completion of the draft CAP.

E. If, at any time after the first exchange of comments on drafts, Ecology determines that insufficient progress is being made in the preparation of any of the deliverables required by this Section, Ecology may complete and issue the final deliverable.

## **VIII. TERMS AND CONDITIONS OF ORDER**

### **A. Public Notice**

RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that this Order is inadequate or improper in any respect.

### **B. Remedial Action Costs**

PLPs shall pay to Ecology costs incurred by Ecology pursuant to this Order and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Site under Chapter 70.105D RCW, including remedial actions and Order preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the issuance of this Order. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). PLPs shall pay the required amount within thirty (30) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of Ecology's work performed will be provided by Ecology upon request. Itemized statements shall be prepared quarterly by Ecology. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within thirty (30) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

Pursuant to RCW 70.105D.055, Ecology has authority to recover unreimbursed remedial action costs by filing a lien against real property subject to the remedial actions.

### **C. Implementation of Remedial Action**

If Ecology determines that PLPs have failed without good cause to implement the remedial action, in whole or in part, Ecology may, after notice to PLPs, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of

the remedial action because of PLPs' failure to comply with its obligations under this Order, PLPs shall reimburse Ecology for the costs of doing such work in accordance with Section VIII. B (Remedial Action Costs), provided that PLPs are not obligated under this Section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of this Order.

Except where necessary to abate an emergency situation, PLPs shall not perform any remedial actions at the Site outside those remedial actions required by this Order, unless Ecology concurs, in writing, with such additional remedial actions.

**D. Designated Project Coordinators**

The project coordinator for Ecology is:

**Jerome Cruz**  
Northwest Regional Office  
3190 160th Avenue SE  
Bellevue, WA 98008-5452  
(425) 649-7094

The project coordinators for PLPs are:

**Doug Rigoni**  
SeaTac Investments LLC  
2003 Western Avenue, Suite 500  
Seattle, WA 98121-2106  
(206) 826-2715

**Mr. Kevin J. Collette**  
ANSCO Properties, LLC  
Ryan Swanson & Cleveland  
1201 Third Avenue, Suite 3400  
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(206) 583-0359

**Ms. Tamarah Knapp Hancock, P.E.**  
General Counsel  
Scarsella Bros. Inc.  
PO Box 68697  
Seattle, WA 98168-0697  
(253) 872-7173

Each project coordinator shall be responsible for overseeing the implementation of this Order. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and PLPs, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Decree.

Any party may change its respective project coordinator. Written notification shall be given to the other party at least ten (10) calendar days prior to the change.

**E. Performance**

All geologic and hydrogeologic work performed pursuant to this Order shall be under the supervision and direction of a geologist licensed in the State of Washington or under the direct supervision of an engineer registered in the State of Washington, except as otherwise provided for by Chapters 18.220 and 18.43 RCW.

All engineering work performed pursuant to this Order shall be under the direct supervision of a professional engineer registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

All construction work performed pursuant to this Order shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

Any documents submitted containing geologic, hydrologic or engineering work shall be under the seal of an appropriately licensed professional as required by Chapter 18.220 RCW or RCW 18.43.130.

PLPs shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Order, in advance of their involvement at the Site.

**F. Access**

Ecology or any Ecology authorized representative shall have the full authority to enter and freely move about all property at the Site that PLPs either own, control, or have access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing PLPs' progress in carrying out the terms of this Order; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by PLPs. PLPs shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by PLPs where remedial activities or investigations will be performed pursuant to this Order. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by PLPs unless an emergency prevents such notice. All persons who access the Site pursuant to this Section shall comply with any applicable Health and Safety Plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

**G. Sampling, Data Submittal, and Availability**

With respect to the implementation of this Order, PLPs shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section VII (Work to be Performed), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, PLPs shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by PLPs pursuant to implementation of this Order. PLPs shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow PLPs and/or its authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to

the implementation of this Order, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section VIII. F (Access), Ecology shall notify PLPs prior to any sample collection activity unless an emergency prevents such notice.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under Chapter 173-50 WAC for the specific analyses to be conducted, unless otherwise approved by Ecology.

#### **H. Public Participation**

A Public Participation Plan is required for this site. Ecology shall develop a Public Participation Plan alone or in conjunction with PLPs. Ecology shall maintain the responsibility for public participation at the Site. However, PLPs shall cooperate with Ecology, and shall:

1. If agreed upon with Ecology, develop appropriate mailing list, prepare drafts of public notices and fact sheets at important stages of the remedial action, such as the submission of work plans, remedial investigation/feasibility study reports, cleanup action plans, and engineering design reports. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.

2. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings with the interested public and local governments. Likewise, Ecology shall notify PLPs prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments. For all press releases, fact sheets, meetings, and other outreach efforts by PLPs that do not receive prior Ecology approval, PLPs shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.

3. When requested by Ecology, participate in public presentations on the progress of the remedial action at the Site. Participation may be through attendance at public meetings to assist in answering questions or as a presenter.

4. When requested by Ecology, arrange and/or continue information repositories to be located at the following locations:

- a. Valley View Library

17850 Military Rd. S.  
SeaTac, WA 98188

- b. Ecology's Northwest Regional Office  
3190 160th Avenue SE  
Bellevue, WA 98008-5452

At a minimum, copies of all public notices, fact sheets, and press releases; all quality assured monitoring data; remedial action plans and reports, supplemental remedial planning documents, and all other similar documents relating to performance of the remedial action required by this Order shall be promptly placed in these repositories.

**I. Retention of Records**

During the pendency of this Order, and for ten (10) years from the date of completion of work performed pursuant to this Order, PLPs shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Order and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, PLPs shall make all records available to Ecology and allow access for review within a reasonable time.

**J. Resolution of Disputes**

1. In the event a dispute arises as to an approval, disapproval, proposed change, or other decision or action by Ecology's project coordinator, or an itemized billing statement under Section VIII. B (Remedial Action Costs), the Parties shall utilize the dispute resolution procedure set forth below.

a. Upon receipt of Ecology's project coordinator's written decision or the itemized billing statement, PLPs have fourteen (14) days within which to notify Ecology's project coordinator in writing of its objection to the decision or itemized statement.

b. The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days, Ecology's project coordinator shall issue a written decision.

c. PLPs may then request regional management review of the decision. This request shall be submitted in writing to the Northwest Region Toxics Cleanup Section Manager within seven (7) days of receipt of Ecology's project coordinator's written decision.

d. The Section Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of PLPs' request for review. The Section Manager's decision shall be Ecology's final decision on the disputed matter.

2. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used.

3. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Order, unless Ecology agrees in writing to a schedule extension.

#### **K. Extension of Schedule**

1. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least thirty (30) days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify:

- a. The deadline that is sought to be extended;
- b. The length of the extension sought;
- c. The reason(s) for the extension; and
- d. Any related deadline or schedule that would be affected if the extension were granted.

2. The burden shall be on PLPs to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but may not be limited to:

- a. Circumstances beyond the reasonable control and despite the due diligence of PLPs including delays caused by unrelated third parties or Ecology, such as



(but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by PLPs;

b. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty; or

c. Endangerment as described in Section VIII. M (Endangerment).

However, neither increased costs of performance of the terms of this Order nor changed economic circumstances shall be considered circumstances beyond the reasonable control of PLPs.

3. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give PLPs written notification of any extensions granted pursuant to this Order. A requested extension shall not be effective until approved by Ecology. Unless the extension is a substantial change, it shall not be necessary to amend this Order pursuant to Section VIII. L (Amendment of Order) when a schedule extension is granted.

4. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:

a. Delays in the issuance of a necessary permit which was applied for in a timely manner;

b. Other circumstances deemed exceptional or extraordinary by Ecology; or

c. Endangerment as described in Section VIII. M (Endangerment).

#### **L. Amendment of Order**

The project coordinators may verbally agree to minor changes to the work to be performed without formally amending this Order. Minor changes will be documented in writing by Ecology within seven (7) days of verbal agreement.

Except as provided in Section VIII. N (Reservation of Rights), substantial changes to the work to be performed shall require formal amendment of this Order. This Order may only be formally amended by the written consent of both Ecology and PLPs. PLPs shall submit a written request for amendment to Ecology for approval. Ecology shall indicate its approval or

disapproval in writing and in a timely manner after the written request for amendment is received. If the amendment to this Order represents a substantial change, Ecology will provide public notice and opportunity to comment. Reasons for the disapproval of a proposed amendment to this Order shall be stated in writing. If Ecology does not agree to a proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section VIII. J (Resolution of Disputes).

**M. Endangerment**

In the event Ecology determines that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment on or surrounding the Site, Ecology may direct PLPs to cease such activities for such period of time as it deems necessary to abate the danger. PLPs shall immediately comply with such direction.

In the event PLPs determine that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment, PLPs may cease such activities. PLPs shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction PLPs shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with PLPs' cessation of activities, it may direct PLPs to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to Section VIII. M (Endangerment), PLPs' obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended in accordance with Section VIII. K (Extension of Schedule) for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Order shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

**N. Reservation of Rights**

This Order is not a settlement under Chapter 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any of Ecology's rights or authority. Ecology will not, however, bring an action against PLPs to recover remedial action costs paid to and received by Ecology under this Order. In addition, Ecology will not take additional enforcement actions against PLPs regarding remedial actions required by this Order, provided PLPs comply with this Order.

Ecology nevertheless reserves its rights under Chapter 70.105D RCW, including the right to require additional or different remedial actions at the Site should it deem such actions necessary to protect human health and the environment, and to issue orders requiring such remedial actions. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at the Site.

**O. Transfer of Interest in Property**

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by PLPs without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to PLPs' transfer of any interest in all or any portion of the Site, and during the effective period of this Order, PLPs shall provide a copy of this Order to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least thirty (30) days prior to any transfer, PLPs shall notify Ecology of said transfer. Upon transfer of any interest, PLPs shall restrict uses and activities to those consistent with this Order and notify all transferees of the restrictions on the use of the property.

**P. Compliance with Applicable Laws**

1. All actions carried out by PLPs pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain

necessary permits, except as provided in RCW 70.105D.090. At this time, no federal, state or local requirements have been identified as being applicable to the actions required by this Order.

2. Pursuant to RCW 70.105D.090(1), PLPs are exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals. However, PLPs shall comply with the substantive requirements of such permits or approvals. At this time, no state or local permits or approvals have been identified as being applicable but procedurally exempt under this Section.

PLPs have a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order. In the event either Ecology or PLPs determine that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order, it shall promptly notify Ecology of its determination. Ecology shall determine whether Ecology or PLPs shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, PLPs shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by PLPs and on how PLPs must meet those requirements. Ecology shall inform PLPs in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Order. PLPs shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

3. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the State to administer any federal law, the exemption shall not apply and PLPs shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

**Q. Indemnification**

PLPs agree to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action for death or injuries to persons or for loss or damage to property to the extent arising from or on account of acts or omissions of PLPs, their officers, employees, agents, or contractors in entering into and implementing this Order. However, PLPs shall not and do not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State in entering into or implementing this Order.

**IX. SATISFACTION OF ORDER**

The provisions of this Order shall be deemed satisfied upon PLPs' receipt of written notification from Ecology that PLPs have completed the remedial activity required by this Order, as amended by any modifications, and that PLPs have complied with all other provisions of this Agreed Order.

**X. ENFORCEMENT**

Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

C. In the event PLPs refuse, without sufficient cause, to comply with any term of this Order, PLPs will be liable for:


a. Up to three (3) times the amount of any costs incurred by the State of Washington as a result of its refusal to comply; and

b. Civil penalties of up to twenty-five thousand dollars (\$25,000) per day for each day it refuses to comply.

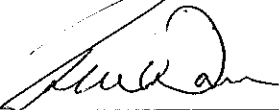
D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70.105D.060.

Effective date of this Order: JULY 10, 2009

SEA-TAC INVESTMENTS LLC,  
a Washington limited liability company

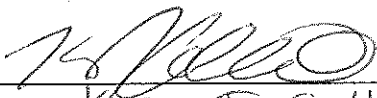
  
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Effective date of this Order: July 10, 2009

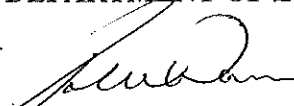
SEA-TAC INVESTMENTS LLC,  
a Washington limited liability company

By: \_\_\_\_\_  
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ANSCO PROPERTIES LLC,



By: \_\_\_\_\_  
Its: \_\_\_\_\_  
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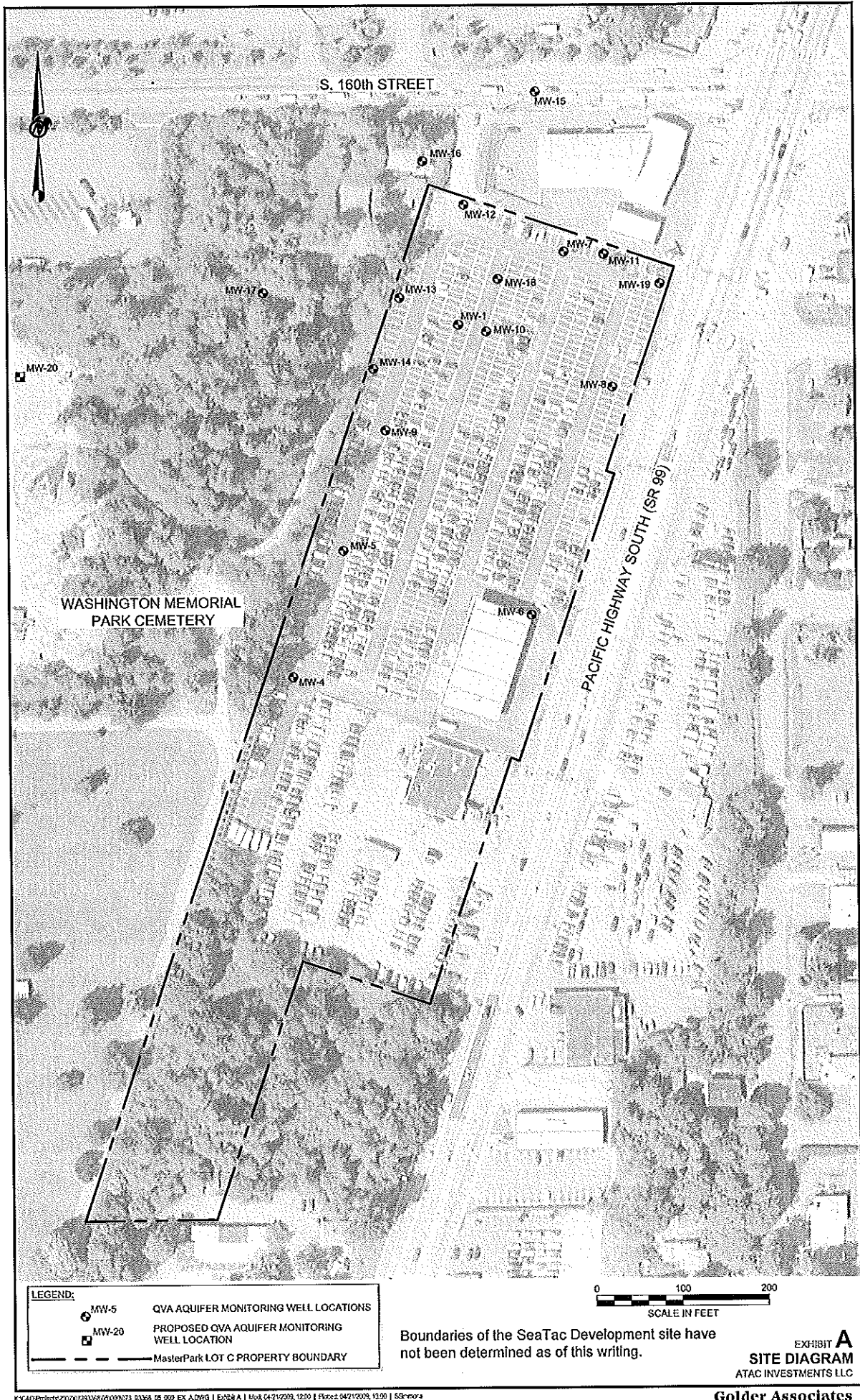
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Agreed Order No. DE 6844

**EXHIBIT A**  
**SITE DIAGRAM**





Agreed Order No. DE 6844

**EXHIBIT B**  
**RI/FS WORK PLAN**



**Golder Associates Inc.**  
18300 NE Union Hill Road, Suite 200  
Redmond, Washington 98052  
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**REMEDIAL INVESTIGATION / FEASIBILITY STUDY (RI/FS) WORK PLAN  
FOR SEA-TAC DEVELOPMENT SITE  
SEATAC, WASHINGTON**

*Submitted to:*

*Riddell Williams P.S.  
1001 Fourth Avenue, Suite 4500  
Seattle, Washington 98154*

*Submitted by:*

*Golder Associates Inc.  
18300 NE Union Hill Road, Suite 200  
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April 21, 2009

073-93368-05.000

## TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	Statement of Purpose.....	1
1.2	Objectives for an RI/FS.....	1
2.0	SITE BACKGROUND AND PREVIOUS INVESTIGATIONS .....	3
3.0	RI INVESTIGATION APPROACH.....	5
4.0	RI INVESTIGATION TASKS.....	7
4.1	Soil Vapor Investigation.....	7
4.1.1	Soil Vapor Sampling.....	7
4.1.2	Soil Vapor Analysis .....	8
4.2	Phase I Hydrogeologic Investigation.....	8
4.2.1	Monitoring Well(s) Installation.....	8
4.2.2	Surveying .....	8
4.2.3	Water Level Measurement .....	8
4.2.4	Groundwater Quality Sampling.....	9
5.0	REPORTING.....	10
5.1	Remedial Investigation.....	10
5.2	Feasibility Study.....	10
6.0	SCHEDULE .....	11
7.0	REFERENCES.....	12

## LIST OF FIGURES

Figure 1	Sea-Tac Development Site Location
Figure 2	Sea-Tac Development Site Property Boundaries
Figure 3	Source Area Cross Section
Figure 4	Qva Aquifer Monitoring Well Locations and Gasoline Isoconcentration Contours
Figure 5	Benzene Isoconcentration Contours
Figure 6	Qva Aquifer Monitoring Well Locations and Groundwater Elevation Contours
Figure 7	Locations of Local Groundwater Supply Wells
Figure 8	Phase I Well Locations
Figure 9	Monitoring Well Installation Schematic Diagram

## 1.0 INTRODUCTION

This Remedial Investigation/Feasibility Study (RI/FS) Work Plan has been developed by Golder Associates Inc. (Golder) for SeaTac Investments LLC (SeaTac Investments), Scarsella Bros. Inc. and ANSCO Properties, LLC pursuant to the an Agreed Order under the Model Toxics Control Act (MTCA). SeaTac Investments is entering into an Agreed Order with the Washington State Department of Ecology (Ecology) to complete a RI/FS and Draft Cleanup Action Plan (DCAP) for the Sea-Tac Development Site (Site). The Facility is approximately 7 acres, located at 16025 International Boulevard, SeaTac, Washington within Section 28, Township 23 North, Range 4 East (Figure 1). SeaTac Investments is currently operating the Facility as a public valet parking lot, doing business as MasterPark Lot C (Facility). SeaTac Investments leases the majority of the property from AnSCO Properties LLC (current land owner of the north portion of the Facility) under the terms of a long-term lease agreement. Current data indicate the known soil contamination, the highest levels of groundwater contamination, and possible primary source of contamination are located on the ANSCO Property at the Facility, but groundwater impacts extend beyond the Facility property boundaries.

### 1.1 Statement of Purpose

This document outlines the scope of work for conducting and completing the Site RI/FS. The RI portion of the RI/FS is a data gathering phase that will collect, develop and evaluate sufficient information regarding Site releases to define the extent and magnitude of the contamination and evaluate the risk to human health and the environment. RI information will be used to support the FS, which will evaluate applicable cleanup alternatives and recommend a cleanup action in accordance with the MTCA rules, Sections WAC 173-340-350 through WAC 173-340-390 of the Washington State Administrative Code (WAC). Ecology will use the RI information and FS evaluation to select a cleanup action. The cleanup action selected by Ecology will be proposed in the Draft CAP document for public review and comment. The following public review period, a cleanup action will be formally selected in the Final CAP.

### 1.2 Objectives for an RI/FS

The primary objective of the RI is to complete the assessment of the nature and extent of hazardous substance [gasoline range petroleum hydrocarbons (gasoline) and associated constituents] impacts to groundwater in the regional (Qva) aquifer from the Facility. The extent of contamination in the soil has been characterized in previous investigations at the Facility. However, if necessary, Ecology may identify areas of further characterization of contaminated soil to adequately evaluate risk, remedial alternatives, and compliance under MTCA. The RI will evaluate the risk of exposure to releases from the Site to appropriate human and ecological receptors. Specific objectives of the remedial investigation include the following:

- A compilation of historical uses and operations at the Facility and surrounding area
- A classification of the types of materials stored and used on the Facility and surrounding area
- An evaluation of previous investigations and cleanup actions conducted at the Facility and surrounding area
- A characterization of the nature, extent, and potential sources of hazardous substance releases at the Facility and surrounding area that have impacted or have the potential to impact groundwater

- A hydrogeologic investigation of the regional and Facility-specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the Facility
- An assessment of the groundwater impacts from the Site releases, including the lateral and vertical extent of the dissolved contaminant plume
- An evaluation of the potential routes of exposure and risks to human and ecological receptors associated with releases or threatened releases of hazardous substances

The objectives of the FS include the following:

- Define cleanup objectives specific to the Facility
- Identify and screen (initially) applicable treatment technologies
- Develop potential cleanup alternatives (assemblage of applicable remedial technologies) for the Site
- Estimate the cost of each potential cleanup alternative
- Evaluate potential cleanup alternatives with respect to MTCA requirements
- Recommend a preferred cleanup alternative for the Facility

The FS will be conducted according to the MTCA regulations, specifically WAC 173-340-350 and WAC 173-340-360. The FS will comprehensively evaluate likely cleanup alternatives, and propose a recommended cleanup action that provides the most practical and achievable results for the Facility. The remedy selected from the FS will be protective of human health and the environment; comply with cleanup standards; satisfy applicable, relevant, or appropriate requirements (ARARs); provide for compliance monitoring; be permanent to the maximum extent practicable; and be able to be implemented within a reasonable time frame.

## 2.0 SITE BACKGROUND AND PREVIOUS INVESTIGATIONS

The Site showed the first development in a 1946 aerial photograph with a single building. Major development of the Site was evident in a 1954 aerial photograph. Since the 1960s, the property was mainly a construction staging area that supported the construction of Interstate 5. More recently a number of small manufacturing and warehousing facilities operated including public parking. Today, the entire Facility is a paved parking lot with a single administrative building supporting the business.

Many investigations and remedial actions were conducted at the Site in the early 2000s and were reported in the following documents:

- Golder Associates Inc., 2000. Phase I Environmental Site Assessment, SunReal Inc., SeaTac Airport Site, SeaTac, Washington, October 12.
- Golder Associates Inc., 2001a. Final Phase II Environmental Site Assessment Report, SeaTac Parking Garage Development Site, SeaTac, Washington, March 31.
- Golder Associates Inc., 2001b. Final Report for Extended Phase II Extended Environmental Site Assessment, SeaTac Parking Garage Development Site, SeaTac, Washington, March 31.
- Golder Associates Inc., 2001c. Final Report for the Phase III Environmental Site Assessment, SeaTac Parking Garage Development Site, SeaTac, Washington, March 31.
- Golder Associates Inc., 2001d. Final Field Sampling Plan for Limited Remedial Actions at the Sea-Tac Parking Lot Development Site, 16000 Block International Boulevard, Sea-Tac, Washington (Rev.0), June 25.
- Golder Associates Inc., 2001e. Collection and Analytical Results of Groundwater Sample from Washington Memorial Park Cemetery, Private Well Letter Report Addressed to SeaTac Investments, Attention Mr. Douglas Rigoni, September 7.
- Golder Associates Inc., 2001f. Site Assessment Conducted for the Closure of a 3,000- and 10,000-Gallon Underground Storage Tank, Master Park Lot C, 16000 Block International Boulevard, SeaTac, Washington, October 4.
- Golder Associates Inc., 2001g. Site Assessment Conducted for the Closure of a 1,000-Gallon Underground Storage Tank, Master Park Lot C, 16000 Block International Boulevard, SeaTac, Washington, October 4.
- Golder Associates Inc., 2001h. Site Assessment for the Closure of a 300-Gallon Underground Storage Tank, Master Park Lot C 16000 Block International Boulevard, SeaTac, Washington, October 24.
- Golder Associates Inc. 2002. Final Independent Remedial Action Report SeaTac Parking Garage Development Site SeaTac, Washington (MasterPark Lot C). Prepared for: SeaTac Investments LLC. January 24.

The investigations and remedial actions completed were reported to Ecology who issued a "no further action" letter for soils at the Facility (Ecology, 2003), but did not include groundwater. Groundwater in the underlying regional aquifer (called the Qva Aquifer) contained elevated levels of petroleum contamination - including benzene, toluene, ethylbenzene, and xylenes (BTEX) under the northwestern portion of the Facility. At that time, it was suspected that the probable source of the contamination in the aquifer was located outside the Facility.

In May 2007, Ecology required additional remedial actions (Ecology, 2007) for the groundwater impacts under the Facility. Several studies conducted during 2003 through 2006 on neighboring sites did not reveal a source for the groundwater impacts to the Qva aquifer. In June 2007 through January 2008, additional investigations were conducted at the Site and adjacent properties to determine the source and extent of groundwater impacts. These investigations were reported in the following documents:

- Golder Associates Inc. 2008a. On-Site Source and Groundwater Investigation Summary – June to November 2007. Prepared for Riddell Williams P.S. January 14.
- Golder Associates Inc. 2008b. Addendum to On-Site Source and Groundwater Investigation Summary – June to November 2007 Report (Dated January 14, 2008). Prepared for Riddell Williams P.S. March 13.

All referenced documents are on file at Ecology's Northwest Regional Office in Bellevue, Washington.



### 3.0 RI INVESTIGATION APPROACH

This section describes the rational and approach that will be conducted as part of the RI for the Site. The Facility and known area of the Site is shown on Figure 2.

Because many investigations and data have been obtained regarding the Facility, the RI will focus on data gaps that exist for completing the RI/FS Report. The data gaps will be identified with respect to the major potential exposure pathways for the Site releases and groundwater.

The potential exposure pathways that exist for the Site include:

- **Direct exposure to subsurface soils by humans or terrestrial ecology:** The known subsurface contaminated soils are located at the Facility. Because the Site's known or potential contaminated media are below pavement, covered by buildings, or greater than 15 feet below land surface and are within commercial/industrial land, direct contact by humans and terrestrial ecological receptors are currently not operative. The Site will remain in the foreseeable future as commercial/industrial and has a restrictive covenant on the deed (submitted to Ecology) that requires the pavement to remain in place as a protective cap for underlying soils. However, Ecology has not approved this as a remedy and therefore evaluation of remediation alternatives and compliance of soil under MTCA will be accomplished in the RI/FS. In accordance with WAC 173-340-7491 (1) (b), the site should meet the criteria for an exemption from a terrestrial ecological evaluation. Therefore no data gaps exist for direct contact by human or terrestrial ecological receptors to Site soils.
- **Vapor intrusion to buildings:** The hazardous substances at the site are volatile organic compounds. Vapors from these compounds in soil and groundwater have the potential to migrate and intrude inside of nearby buildings. The Facility and neighbors to the east, north, and south are also commercial land uses. The land to the west is a cemetery, but has an occupied residential dwelling near the northwest corner of the Facility that appears to be over impacted groundwater. Soil vapors have been sampled in soils on the Facility to find potential source areas. The results were reported in the Golder report (2008a). The detection limits for the soil vapor analyses for benzene for these samples were not set low enough to allow for comparison with MTCA residential inhalation risk-based concentrations; therefore, a data gap for additional soil vapor concentrations near the residential dwelling will be addressed in the RI.
- **Site Soil to Groundwater Pathway:** This potential pathway addresses the potential for impacted Site soils to impact underlying groundwater in the future. An extensive investigation was conducted during 2007 and 2008 to find sources of gasoline at the Facility. These efforts complemented the investigations and remedial actions conducted during the early 2000s. Together the investigations identified a contributing source of gasoline within the Facility soils. The source is likely from a removed underground gasoline storage tank (UST) that was removed allegedly during the late 1970s (Golder, 2000). The residuals are at concentrations that may still be migrating and impacting underlying groundwater. The source area within the Facility of soils has been adequately delineated for the completion of the RI/FS (Figure 3). Therefore, data gaps do not exist for the Facility soil to groundwater pathway.
- **Groundwater Pathway to Humans:** Groundwater is impacted at the Site with gasoline containing BTEX as shown in Figures 4 and 5. The concentrations are greater than MTCA cleanup levels and drinking water maximum contaminant levels (MCLs). The

aquifer is the regional Qva aquifer that is potentially a drinking water resource for humans. The groundwater in the Qva aquifer is migrating toward the west, but varies toward the southwest and northwest (Figure 6). There are currently no existing groundwater supply wells that are impacted by the gasoline plume. The nearest groundwater supply wells are:

1. The Washington Memorial Park Cemetery irrigation well located about 0.25 miles south (side gradient) of the gasoline plume (see Figure 7). The cemetery well has been sampled twice in the last seven years (Golder, 2001e, and by Ecology). Neither gasoline nor BTEX were detected in the samples from either monitoring events.
2. The City of Seattle Water District has a backup groundwater supply well located upgradient to the east about 0.5 miles (Figure 7). This well is tested regularly by the City of Seattle without detections of gasoline or BTEX and will likely not become impacted in the future by releases from the Site.

Previous investigations have delineated the extent of the groundwater gasoline plume on the Facility (Golder, 2008a and 2008b). The delineation of the downgradient extent of the gasoline plume for the entire Site (outside the Facility) is not complete. The land west (and hydraulically downgradient) of the Facility includes the Washington Memorial Park Cemetery, Port of Seattle commercial buildings, the north entry drive freeway and SeaTac Airport. There are no water supply wells in the downgradient direction for over a mile.

Although no current risk to groundwater users exists, the potential for future use of groundwater resources could expose humans. Therefore, the downgradient extent of the gasoline plume in the Qva aquifer represents a data gap for the completion of the RI/FS. The most cost effective and best manner to define the downgradient groundwater plume is to install and sample monitoring wells in a phased approach. The first phase should install a monitoring well directly west of the center portion of the gasoline plume. The results of groundwater analysis for the first well will be evaluated and a decision will be made in consultation with Ecology on whether an additional well(s) is needed and the location of an additional well(s).

MTCA requires that gasoline releases be tested for the presence of potential additives and other constituents that influence the exposure risks to humans. Table 830-1 in WAC 173-340 lists the required additional additives and constituents that may be associated with a gasoline release. Previous investigations analyzed for BTEX and lead in selected samples, but naphthalene and potential additives; 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC) and methyl tertiary-butyl ether (MTBE) have not been previously tested. Because the gasoline release allegedly occurred during the 1970s or possibly the 1960s, these additives may not be present. This uncertainty is considered a data gap that needs to be determined during the RI on selected groundwater samples. The RI will identify two wells (MW-18 and MW-13) in the high concentration portion of the groundwater plume and two wells (MW-17 and the RI Phase 1 well) in the downgradient lower concentration portion of the plume (see Figure 6) for groundwater sample analysis of lead, naphthalene, EDB, EDC, and MTBE. These selected groundwater samples represent the source area and progressively downgradient groundwater from the Facility.

## 4.0 RI INVESTIGATION TASKS

The RI will include a soil vapor investigation and a hydrogeologic investigation. The soil vapor investigation will consist of obtaining soil vapor samples along the perimeter of the house on the Washington Memorial Park Cemetery property and may also include an atmospheric sample from a crawl space (if suitable). The hydrogeologic investigations will consist of four field tasks: (1) Monitoring Well Installation; (2) Geodetic Surveying; (3) Water Level Measurements; and (4) Groundwater Quality Sampling. During this investigation, selected groundwater samples will be obtained and analyzed for chemical constituents of concern per MTCA Table 830-1 "Required Testing for Petroleum Releases". Detailed procedures for the field activities and measurements are in the relevant Golder Technical Procedures that will be provided upon request. As required by the Agreed Order for the Site, a Sampling and Analysis Plan (SAP), Quality Assurance Project Plan (QAPP), and Health and Safety Plan (HASP) will be submitted along with the final RI/FS Work Plan. Brief descriptions of the major data generating activities are presented below.

### 4.1 Soil Vapor Investigation

#### 4.1.1 Soil Vapor Sampling

To assess potential vapor intrusion into the nearby residence, a soil vapor investigation will be completed. Soil vapor sampling is a useful method to screen for potential vapor intrusion of BTEX or related volatile petroleum hydrocarbon compounds. Golder will advance four temporary soil vapor survey probes into exterior soils directly adjacent to each side of the residence building located on the Washington Memorial Park Cemetery property (as shown on Figure 8). The probes will extend to a depth of 10 feet, about 45 feet above the water table at this location. Soil vapor samples will be collected into 6-liter SUMMA canisters, supplied by the air analytical laboratory, Air Toxics Ltd. We will follow Golder Technical Procedure TP 2.2-4, Sampling and Analysis of Soil Gases – Revision 7.

A crawl space exists at the property. It will be examined for potential artifacts that could bias results and crawlspace air evaluated for suitability as a soil vapor sampling point. If the results of the soil vapor analyses shows groundwater contaminants at levels that can potentially cause a risk for indoor air (consultation with Ecology), various options for moving forward with the assessment will be considered, such as sampling indoor air, modeling (Johnson & Ettinger if there is no crawlspace), collecting sub-slab gas, or mitigation.

Background atmospheric air will be obtained during the soil vapor sampling period in a 6-liter SUMMA canister for analysis of compounds that will be determined based on groundwater analyses of wells at this area. Three ambient air samples will be collected around the site at 4 feet above ground level that would represent ambient air around the site with changing wind directions. The ambient air concentrations will be compared with soil gas sample results and crawlspace air sample results. A capillary port to the SUMMA canister will be used to control the sample collection period to obtain the sample during the same approximate period that the soil vapor samples are being collected (about 6 to 8 hours).

#### 4.1.2 Soil Vapor Analysis

The Summa canisters will be sent to and analyzed by Air Toxics Ltd. using EPA Method TO-15 Selective Ion Mode (SIM).

Further soil vapor investigations or further work may occur with Ecology concurrence pending analytical results and preliminary assessment of data.

### 4.2 Phase 1 Hydrogeologic Investigation

#### 4.2.1 Monitoring Well(s) Installation

The RI Phase 1 monitoring well will be drilled and installed in accordance with Golder Technical Procedures TP-1.2-5 Drilling, Sampling and Logging of Soils, TP-1.2-6 Field Identification of Soils and TP-1.2-12 Monitoring Well Drilling and Installation. The monitoring well will be designated MW-20 constructed in accordance with resource evaluation wells (WAC 173-160) as shown in Figure 9. The proposed location for monitoring well MW-20 is shown on Figure 8. The Golder field engineer/scientist will collect cutting samples to document the encountered stratigraphy and to ensure the proper depth has been reached and correct installation has been completed for each monitor well.

The boring for MW-20 or any additional borings that may be required will be drilled using hollow-stem (nominal 4-inch diameter) auger drilling methods during Phase 1. Each borehole will be completed as a single-completion well with 2.0-inch diameter PVC screens and risers casing. The anticipated screen length for each monitoring well is 10 feet. The screened intervals will be gravel packed with silica sand. The borehole annulus above each screen section will be sealed with bentonitic grout to land surface. A protective lockable steel monument will be installed for secured access at each monitoring well port. The actual completion intervals will be determined in the field based on the results of the drilling. Soil samples will be collected at 5-foot intervals and at lithology changes during drilling and described in the borehole log. Following installation, each monitoring well will be developed using bailers, airlift pumping, or other means to remove soil fragments entrained within the well casing. Each newly installed monitoring well will be and surveyed for location and elevation as described below.

#### 4.2.2 Surveying

A Washington State licensed land surveyor will conduct the geodetic survey. Each monitoring well will be surveyed for horizontal position (x- and y-coordinates) and elevation (z-coordinate) to the same benchmarks established for the existing monitoring wells at the Facility. After monitoring well installation, the horizontal location of each monitoring well will be obtained and the elevation (z-coordinate) of land surface, top of protective monument and top of well casing will be taken.

#### 4.2.3 Water Level Measurement

Groundwater levels will be measured for each groundwater sampling period in all relevant new and existing monitoring wells in the vicinity of the Facility. Groundwater levels will be measured using an electric water level tape. Groundwater levels will be obtained in triplicate for precision evaluations and will be converted to groundwater elevation based on the surveyed wellhead elevations. Water level measurements will be obtained in accordance with Golder Technical Procedure TP-1.4-6a Manual Groundwater Level Measurement.

#### 4.2.4 Groundwater Quality Sampling

Groundwater will be sampled for analysis from each existing well and the newly installed Phase 1 well, MW-20 or any subsequent monitoring wells deemed necessary by Ecology. Each well will be sampled in accordance with the Golder Technical Procedures document TP-1.2-20 "Collection of Groundwater Quality Samples (Golder, 1997)." A down-hole impeller driven pump (GrunFos pump) will be used to purge groundwater from each well and collect environmental samples. The waste purge water will be captured in a DOT approved, steel 55 gallon drum.

Each sampled monitoring well will be purged using a "low flow" technique before sample collection. Sample containers were cleaned, prepared, and provided by the participating commercial analytical laboratory for groundwater samples that are specific to the analytes being tested. Appropriate preservatives for analyses will also be provided by the participating analytical laboratory. A summary of the well volume data, the total volume purged for each well, and the sample collection bottles and preservatives required are provided on the Sample Integrity Data Sheets (TP-1.2-20).

Water chemistry parameters tested in the field will be recorded repeatedly before and once at the end of sample collection to ensure steady state conditions of the groundwater for sampling purposes. Field testing included pH, temperature, conductivity, dissolved oxygen and turbidity measurements using Golder instruments calibrated in the field. A log of repeated field test data recorded during the purge process for each well are maintained in the project files. However, measurements recorded after the sample collection process, are provided on the Sample Integrity Data Sheets (TP-1.2-20). The field parameter test data shall reflect near steady state conditions (within 10%) in the purged groundwater before sample collection.

The participating analytical laboratory will be State of Washington certified for water quality analyses. Groundwater samples will be analyzed for gasoline range petroleum hydrocarbons and BTEX using the NWTPH-gas (BTEX) analytical method. Groundwater samples from MW-12, MW-16, MW-18, MW-13, MW-17, and MW-20 will also be analyzed for potential gasoline constituents and additives lead, naphthalene, EDB, EDC, VPH, and MTBE per MTCA Table 830-1 "Required Testing for Petroleum Releases".

Historic groundwater sampling at the Site occurred during: the winter of 2001 (January); summer of 2006 (June); summer of 2007 (August); and fall of 2007 (November). Monitoring wells were installed at different times from 2001 to 2008; therefore, the groundwater monitoring periods do not have analytical results for groundwater at all wells for each past monitoring period. Groundwater will be monitored quarterly for the RI from site-wide wells to characterize seasonal concentration fluctuations. If groundwater concentrations are similar to or lower than historic data for the first couple of groundwater monitoring events during the RI, the Feasibility Study and draft Cleanup Action Plan will be initiated to expedite remedial actions.

## 5.0 REPORTING

After the Phase I groundwater investigation is completed, the results will be compiled and provided to Ecology. A decision will be made on whether Phase 2 groundwater investigation is warranted and the location of Phase 2 well(s), if required. A combined draft RI/FS Report will be prepared. If groundwater concentrations are similar to or lower than historic data for the first couple of groundwater monitoring events during the RI, the Feasibility Study and draft Cleanup Action Plan will be initiated to expedite remedial actions. The remaining groundwater sampling events will be amended to the RI/FS Report.

### 5.1 Remedial Investigation

A report documenting the remedial investigations as required by WAC 173-340-350 will be prepared. Golder will formally evaluate and compile relevant data for all previous investigations and this RI investigation. This will include reviewing and summarizing field activities, establishing the history and environmental setting for the Facility, describing the Site geology and hydrogeology, establishing a set of contaminants of concern for each area (or sampling zone) at the Site, identifying applicable or relevant and appropriate requirements (ARARs) relative to the Site, and defining the nature and extent of on-site and off-site soil and groundwater conditions. The potential for vapor intrusion will be evaluated in the report based on the analytical results of the soil gas, crawl space atmosphere, and ambient atmosphere sample analyses. The Johnson and Ettinger (1991) vapor intrusion model may be used for this evaluation with consultation and approval from Ecology. Points of Compliance for the Site will also be established, as outlined in MTCA.

### 5.2 Feasibility Study

After completion of the RI field work and interpretation, the FS shall be conducted. The FS shall establish appropriate Remedial Action Objectives (RAOs) for Site cleanup. Subsequently, a set of cleanup alternatives will be developed that achieve the RAOs for the Site. The alternatives shall be described and rated based on their relative merits and adherence to MTCA guidelines, specifically WAC 173-340-350(8) and WAC 173-340-360. Cost of each cleanup alternative will be estimated to an accuracy sufficient to conduct a disproportionate cost analysis [WAC 173-340-360 (3)(e)]. After this, a recommended remedial alternative will be proposed that best meets the selection criteria for the Site. A draft RI/FS report will be submitted for Ecology approval. Upon Ecology approval the Draft RI/FS report will be finalized.

The FS will be performed in the following stages:

- Identification of ARARs
- Development of RAOs
- Identification and screening of cleanup technologies
- Treatability studies if needed to provide sufficient information to develop and evaluate cleanup action alternatives for the site, which could be conducted during RI activities
- Assembly and screening of cleanup alternatives
- Development and description of cleanup alternatives
- Detailed Evaluation of Alternatives
- FS Report preparation

## 6.0 SCHEDULE

The RI/FS will begin upon approval by Ecology of this Work Plan and within 30 days after the effective date of the Order. Once approval has been received, the following schedule is anticipated:

- Subcontractor bids received and contracts established.....1 week
- Drilling subcontractor mobilization .....2 weeks
- Soil Vapor Survey.....2 days
- Monitoring well installation .....3 days
- Final survey and water level measurements .....2 days
- Groundwater sampling .....1 year
- Groundwater and soil vapor analyses.....3 weeks
- Results reporting and decision for Phase 2 well(s).....2 weeks
- Phase 2 groundwater investigation including analysis.....6 weeks
- Draft RI/FS Report to SeaTac Investments .....2 months
- Draft RI/FS Report to Ecology .....1 month

## 7.0 REFERENCES

- Ecology, Washington State Department of. 2003. Letter from Roger Nye of Ecology to Douglas Rigoni of SeaTac Investments LLC. Independent Remedial Action. September 17.
- Ecology, Washington State Department of. 2007. Letter from Nnandi Madakor of Ecology to Douglas Rigoni of SeaTac Investment LLC. Partial Sufficiency and Further Action Determination under WAC 173-340-515 (5) for the Following Hazardous Waste Site. May 9.
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- Golder Associates Inc., 2001b. Final Report for Extended Phase II Extended Environmental Site Assessment, SeaTac Parking Garage Development Site, SeaTac, Washington, March 31.
- Golder Associates Inc., 2001c. Final Report for the Phase III Environmental Site Assessment, SeaTac Parking Garage Development Site, SeaTac, Washington, March 31.
- Golder Associates Inc., 2001d. Final Field Sampling Plan for Limited Remedial Actions at the Sea-Tac Parking Lot Development Site, 16000 Block International Boulevard, Sea-Tac, Washington (Rev.0), June 25.
- Golder Associates Inc., 2001e. Collection and Analytical Results of Groundwater Sample from Washington Memorial Park Cemetery, Private Well Letter Report Addressed to SeaTac Investments, Attention Mr. Douglas Rigoni, September 7.
- Golder Associates Inc., 2001f. Site Assessment Conducted for the Closure of a 3,000- and 10,000-Gallon Underground Storage Tank, Master Park Lot C, 16000 Block International Boulevard, SeaTac, Washington, October 4.
- Golder Associates Inc., 2001g. Site Assessment Conducted for the Closure of a 1,000-Gallon Underground Storage Tank, Master Park Lot C, 16000 Block International Boulevard, SeaTac, Washington, October 4.
- Golder Associates Inc., 2001h. Site Assessment for the Closure of a 300-Gallon Underground Storage Tank, Master Park Lot C 16000 Block International Boulevard, SeaTac, Washington, October 24.
- Golder Associates Inc. 2002. Final Independent Remedial Action Report SeaTac Parking Garage Development Site SeaTac, Washington (MasterPark Lot C). Prepared for: SeaTac Investments LLC. January 24.
- Golder Associates Inc. 2008a. On-Site Source and Groundwater Investigation Summary – June to November 2007. Prepared for Riddell Williams P.S. January 14.
- Golder Associates Inc. 2008b. Addendum to On-Site Source and Groundwater Investigation Summary – June to November 2007 Report (Dated January 14, 2008). Prepared for Riddell Williams P.S. March 13.
- Johnson, P. C, and R. A. Ettinger. 1991. Heuristic Model for Predicting the Intrusion Rate of Contaminant Vapors in Buildings. Environ. Sci. Technol. 25: 1445-1452.



## **FIGURES**

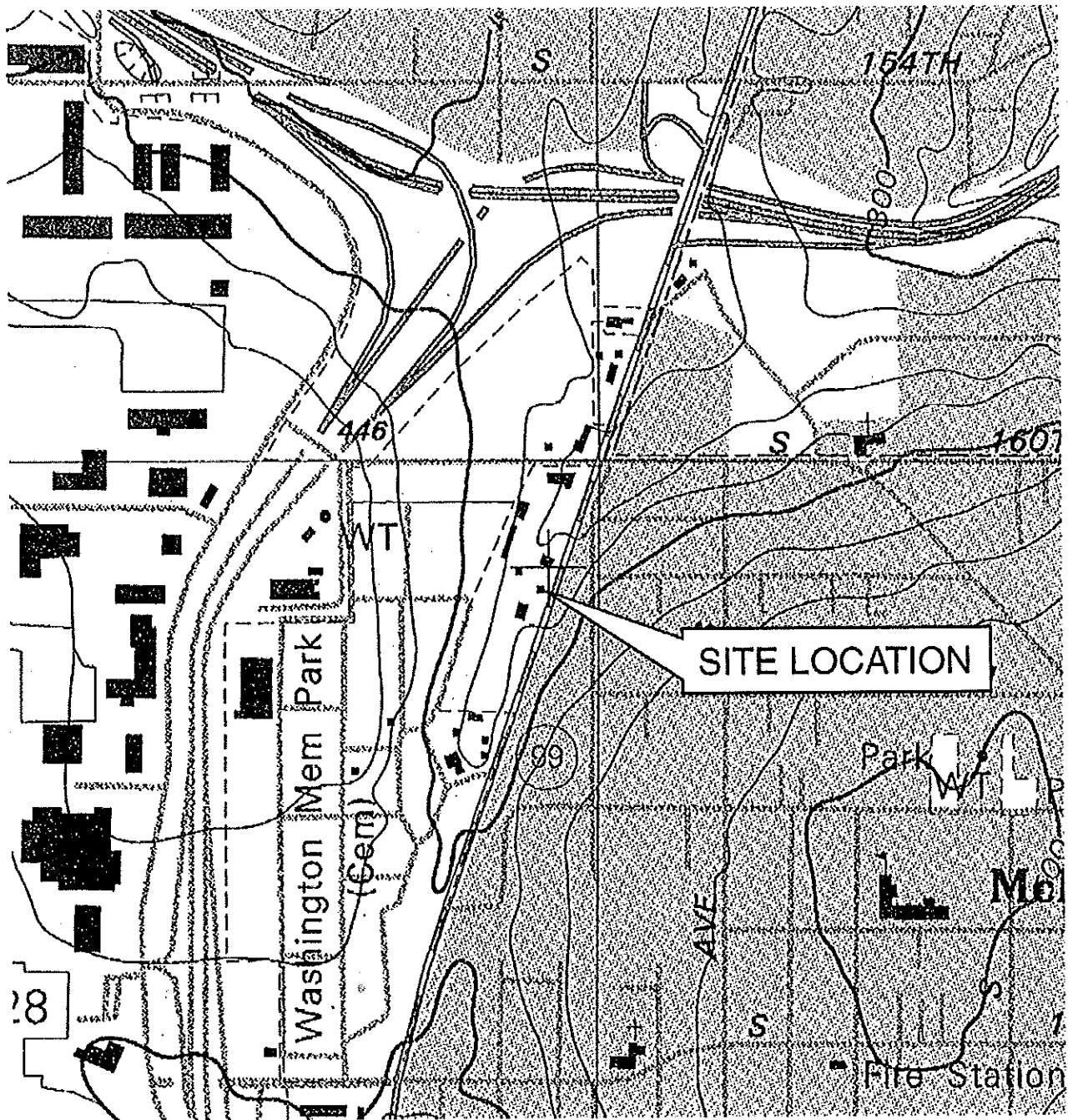
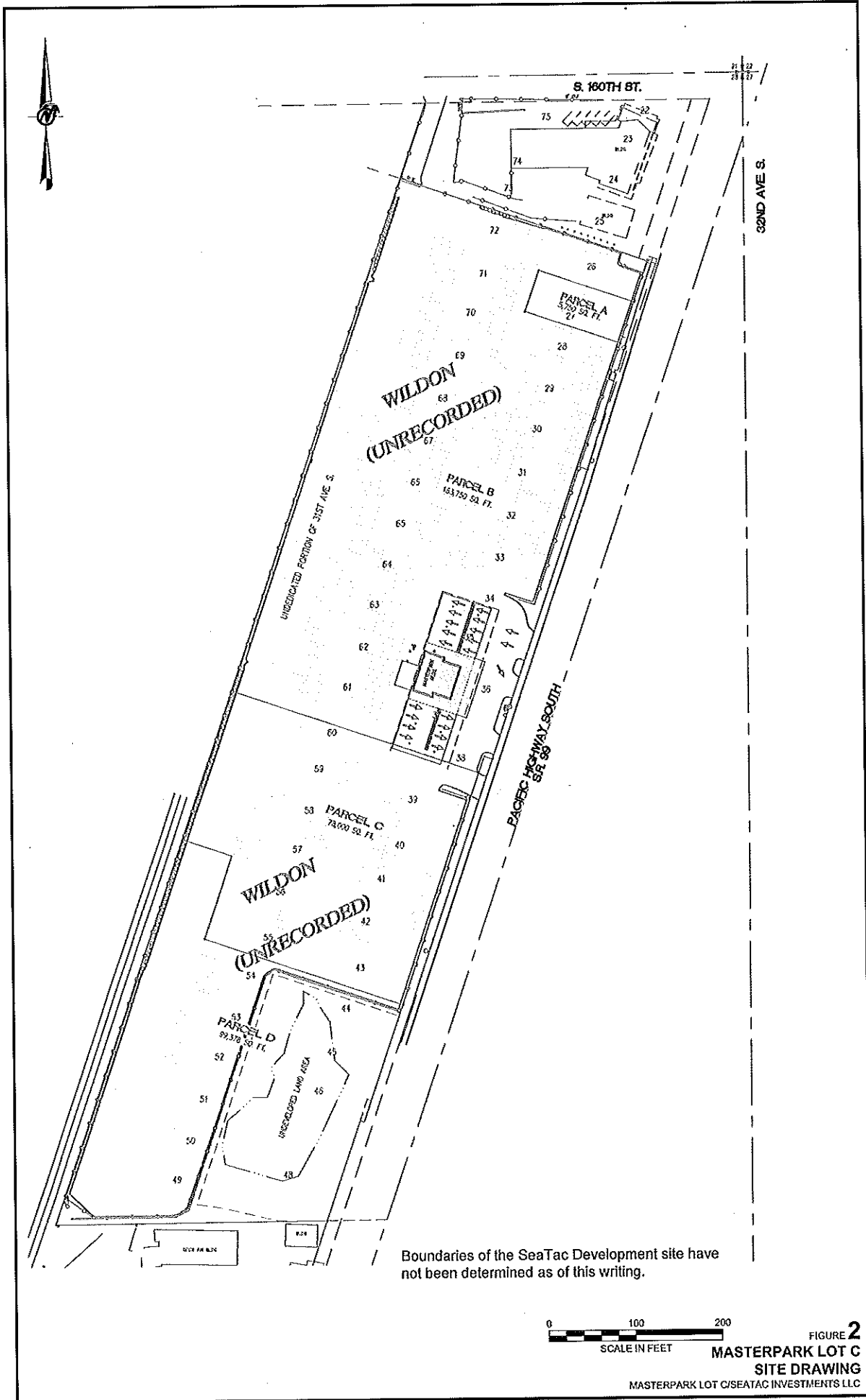


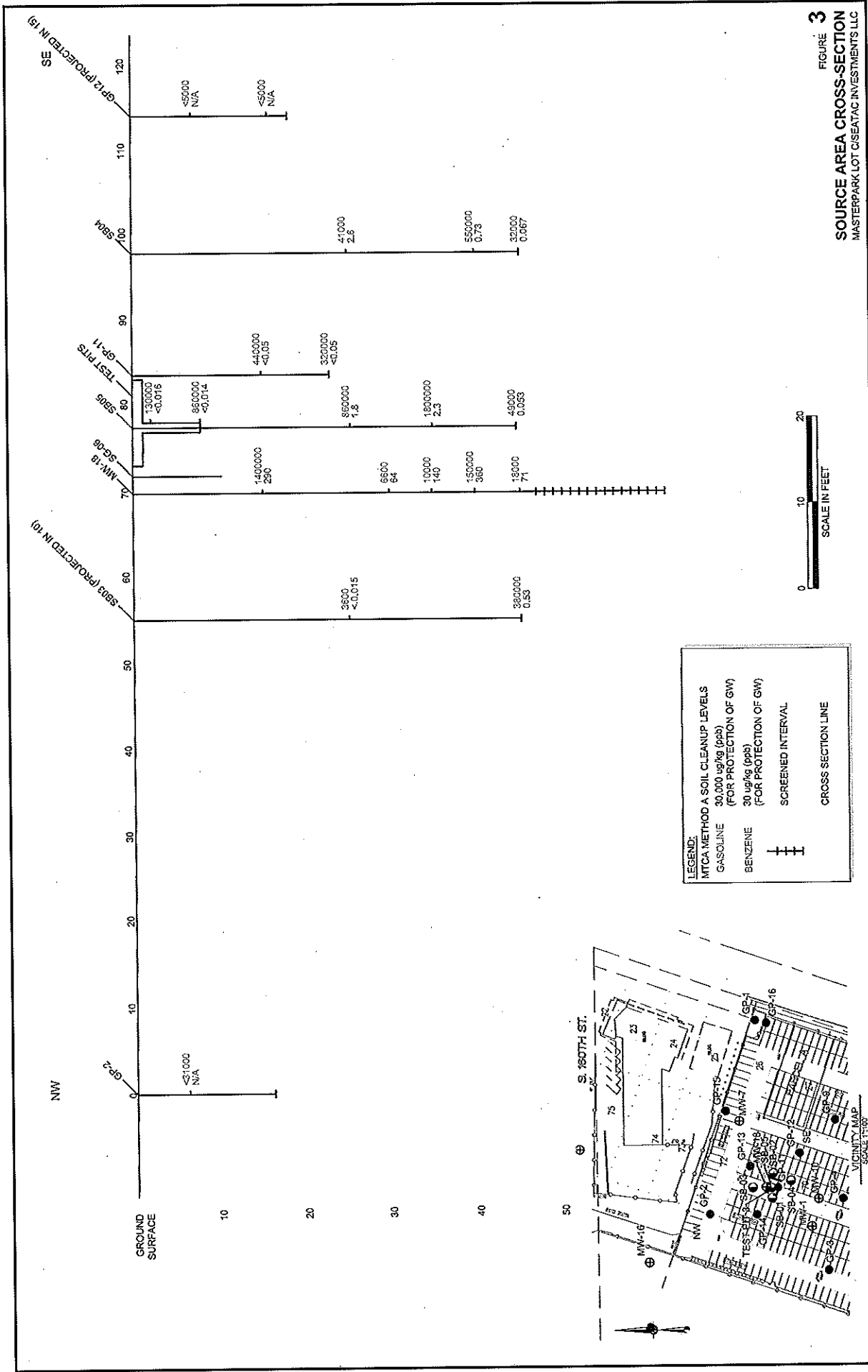
FIGURE 1  
**SITE VICINITY MAP**  
 LOT C/SEATAC INVESTMENT LLC

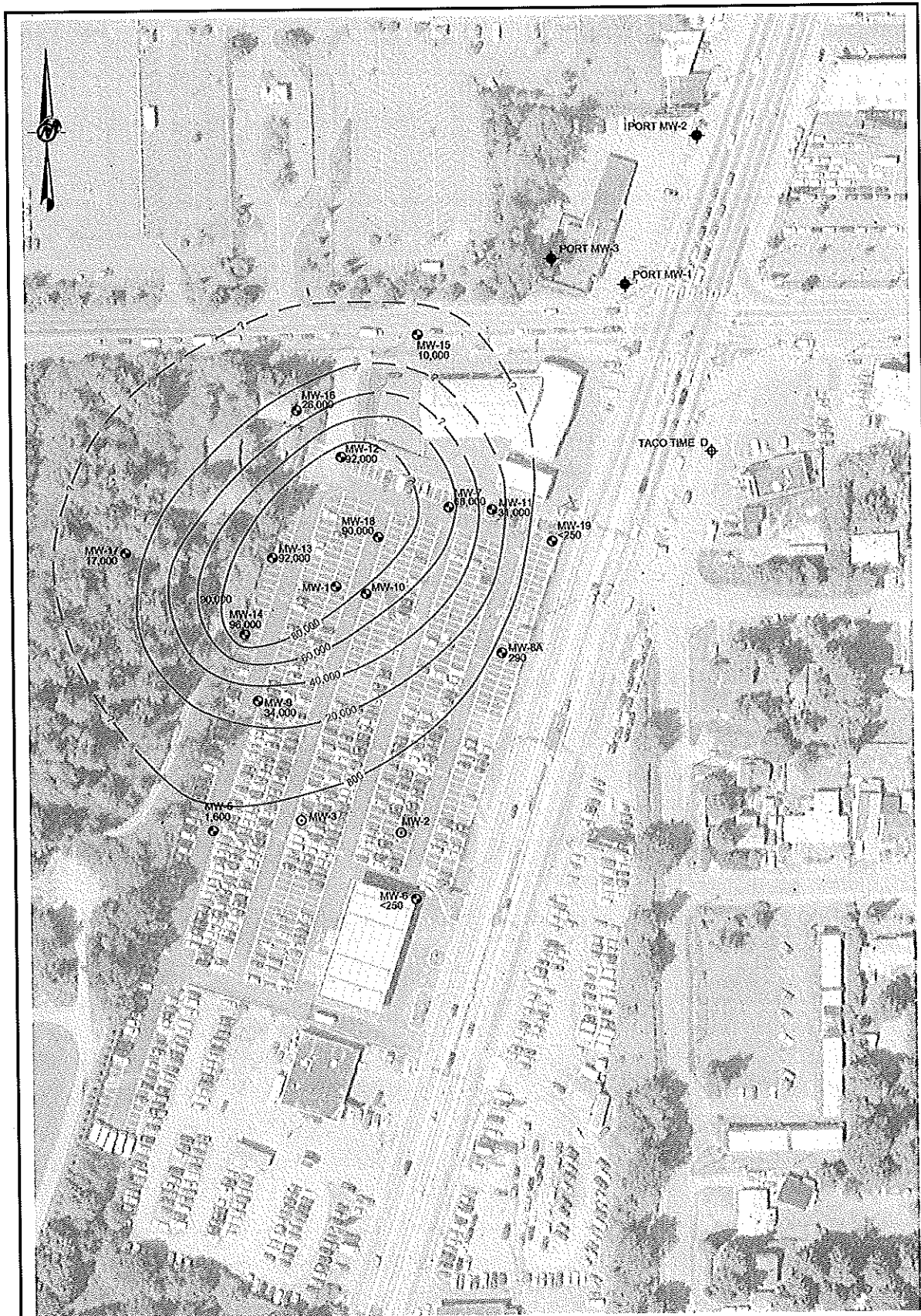


0 100 200  
SCALE IN FEET

FIGURE 2  
MASTERPARK LOT C  
SITE DRAWING  
MASTERPARK LOT C/SEATAC INVESTMENTS LLC

Golder Associates



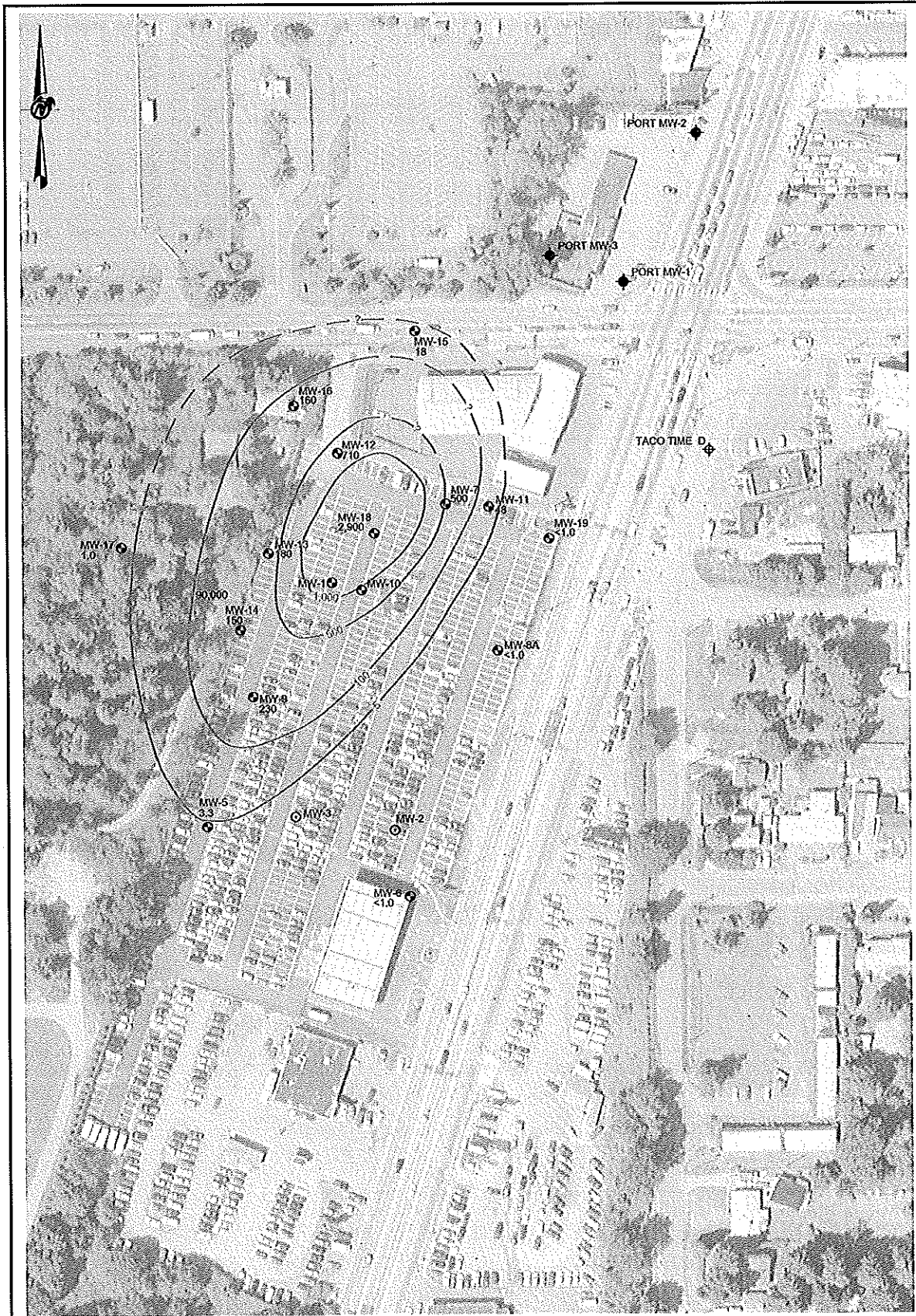


**LEGEND:**

- 600 GASOLINE CONCENTRATION CONTOUR (µg/L)
- MW-5 QVA AQUIFER MONITORING WELL LOCATIONS
- MW-2 MONITORING WELLS SCREENED IN PERCHED AQUIFER
- PORT MW-1 PORT OF SEATTLE (QVA) MONITORING WELLS (ABANDONED)
- TACO TIME D TACO TIME (QVA) MONITORING WELL (ABANDONED)

0 100 200  
SCALE IN FEET

**FIGURE 4**  
**QVA AQUIFER MONITORING WELL LOCATIONS AND**  
**GASOLINE ISOCONCENTRATION CONTOURS**  
MASTERPARK LOT C/SEATAC INVESTMENTS LLC

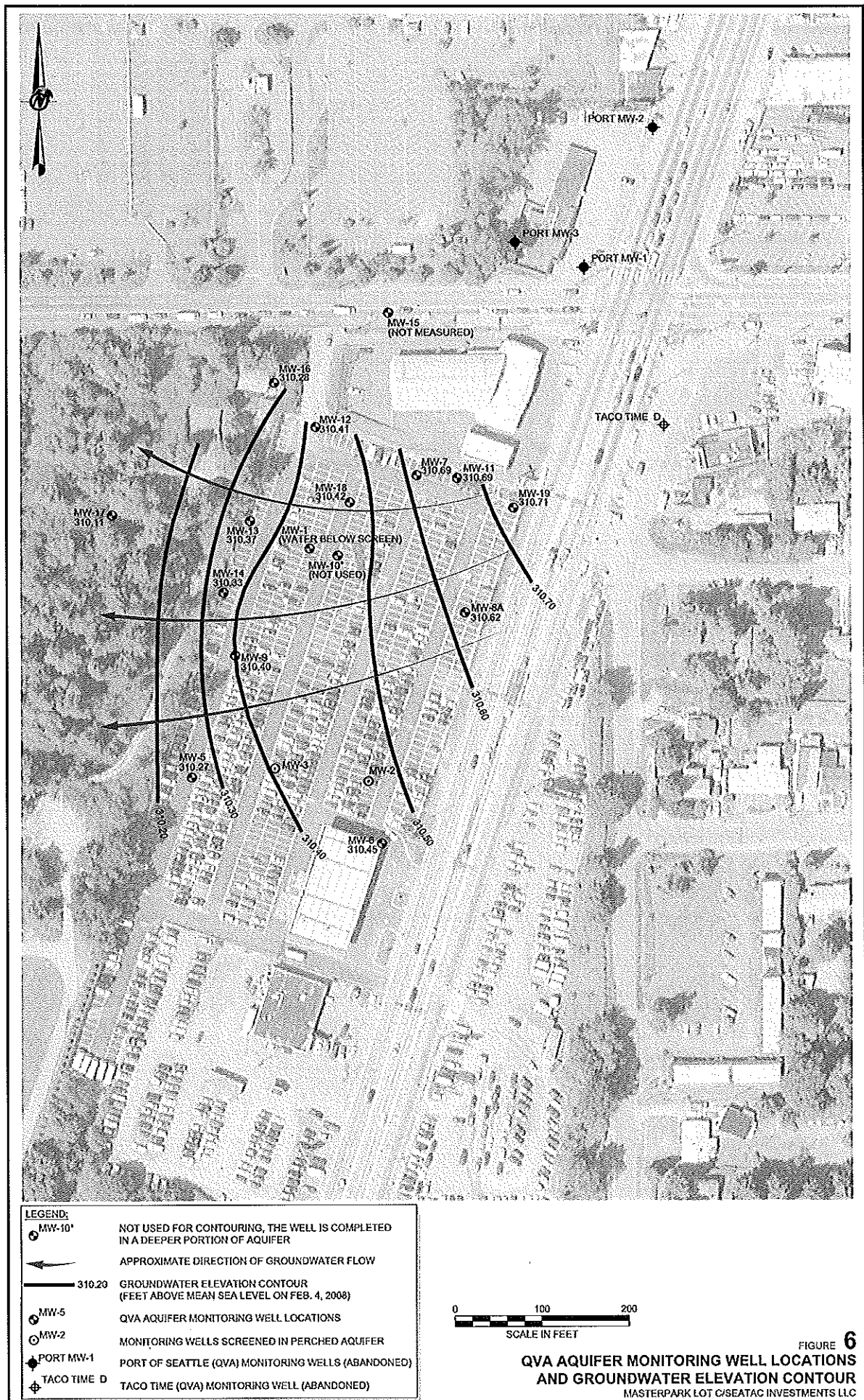


— 310.20	BENZENE CONCENTRATION CONTOUR (ug/L)
○ MW-5	QVA AQUIFER MONITORING WELL LOCATIONS
○ MW-2	MONITORING WELLS SCREENED IN PERCHED AQUIFER
◆ PORT MW-1	PORT OF SEATTLE (QVA) MONITORING WELLS (ABANDONED)
◆ TACO TIME D	TACO TIME (QVA) MONITORING WELL (ABANDONED)

0 100 200  
SCALE IN FEET

FIGURE 5  
**BENZENE ISOCONCENTRATION CONTOURS**  
MASTERPARK LOT C/SEATAC INVESTMENTS LLC





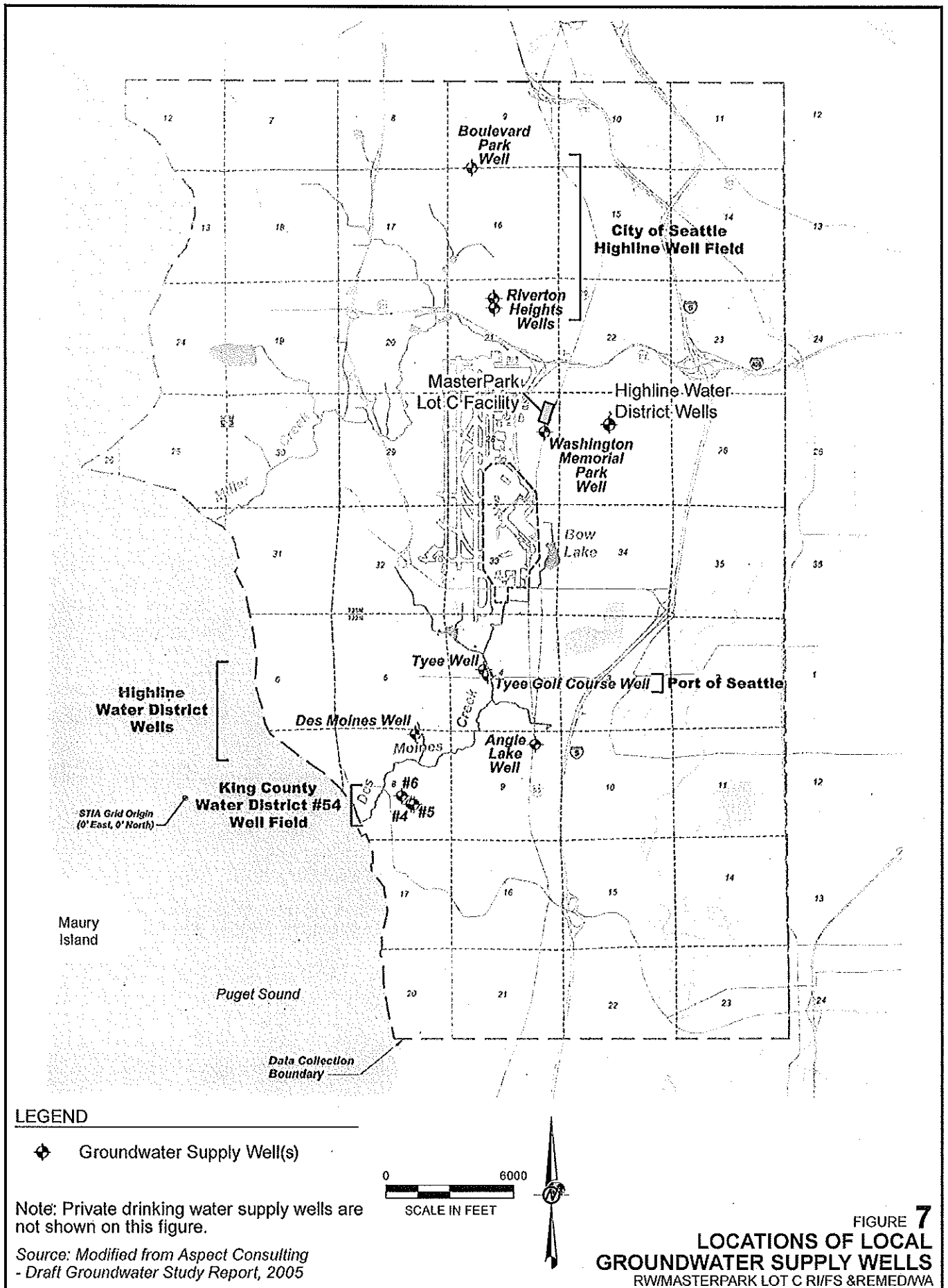
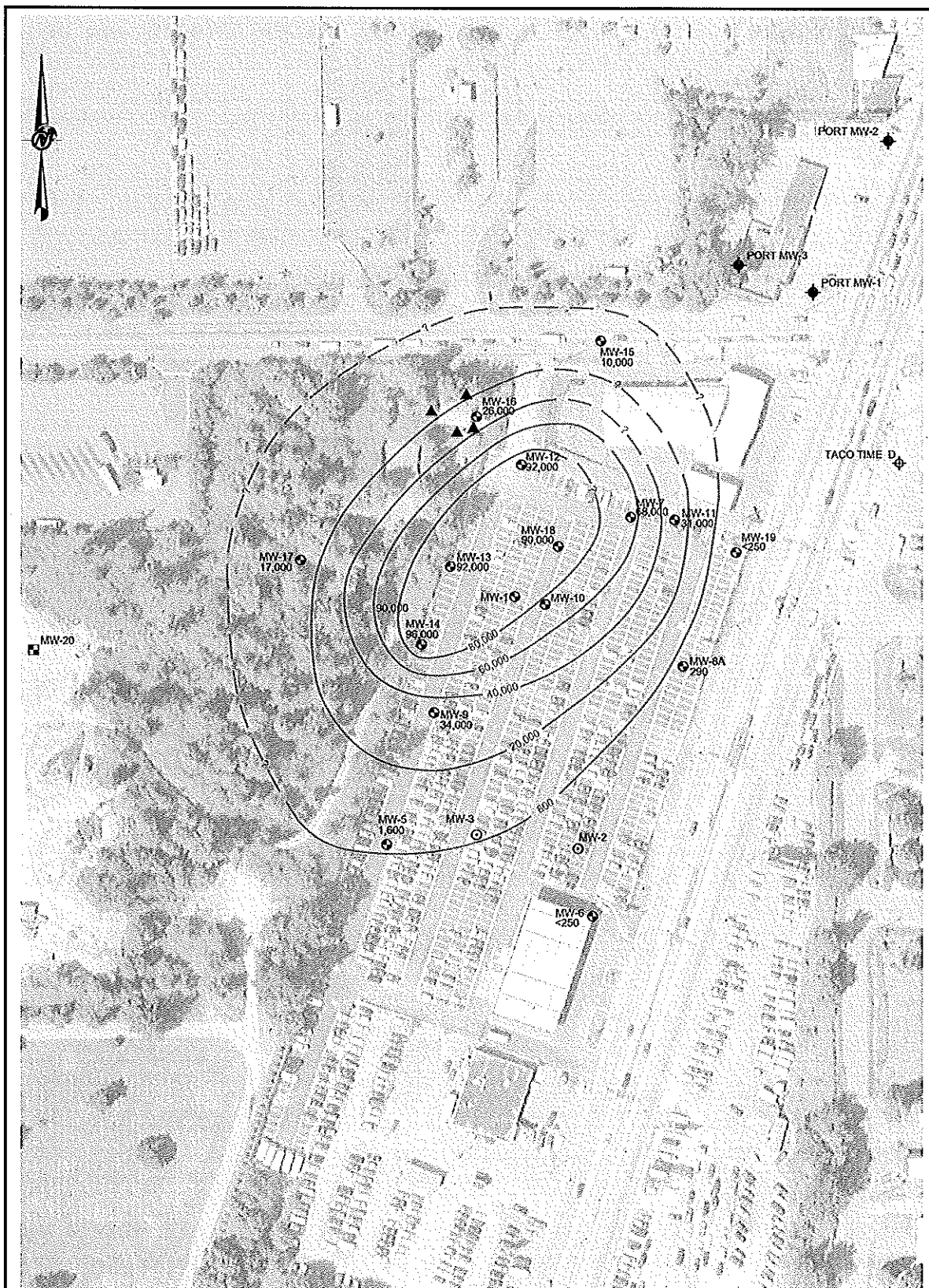


FIGURE 7  
LOCATIONS OF LOCAL  
GROUNDWATER SUPPLY WELLS  
RW/MASTERPARK LOT C RI/FS & REMED/WA





LEGEND:	
800	GASOLINE CONCENTRATION CONTOUR (ug/L)
MW-5	QVA AQUIFER MONITORING WELL LOCATIONS
MW-2	MONITORING WELLS SCREENED IN PERCHED AQUIFER
PORT MW-1	PORT OF SEATTLE (QVA) MONITORING WELLS (ABANDONED)
TACO TIME D	TACO TIME (QVA) MONITORING WELL (ABANDONED)
MW-20	PROPOSED PHAS 1 MONITORING WELL
▲	SOIL VAPOR PROBE LOCATION

0 100 200  
SCALE IN FEET

FIGURE 8  
PHASE 1 WELL LOCATION  
MASTERPARK LOT C/SEATAC INVESTMENTS LLC

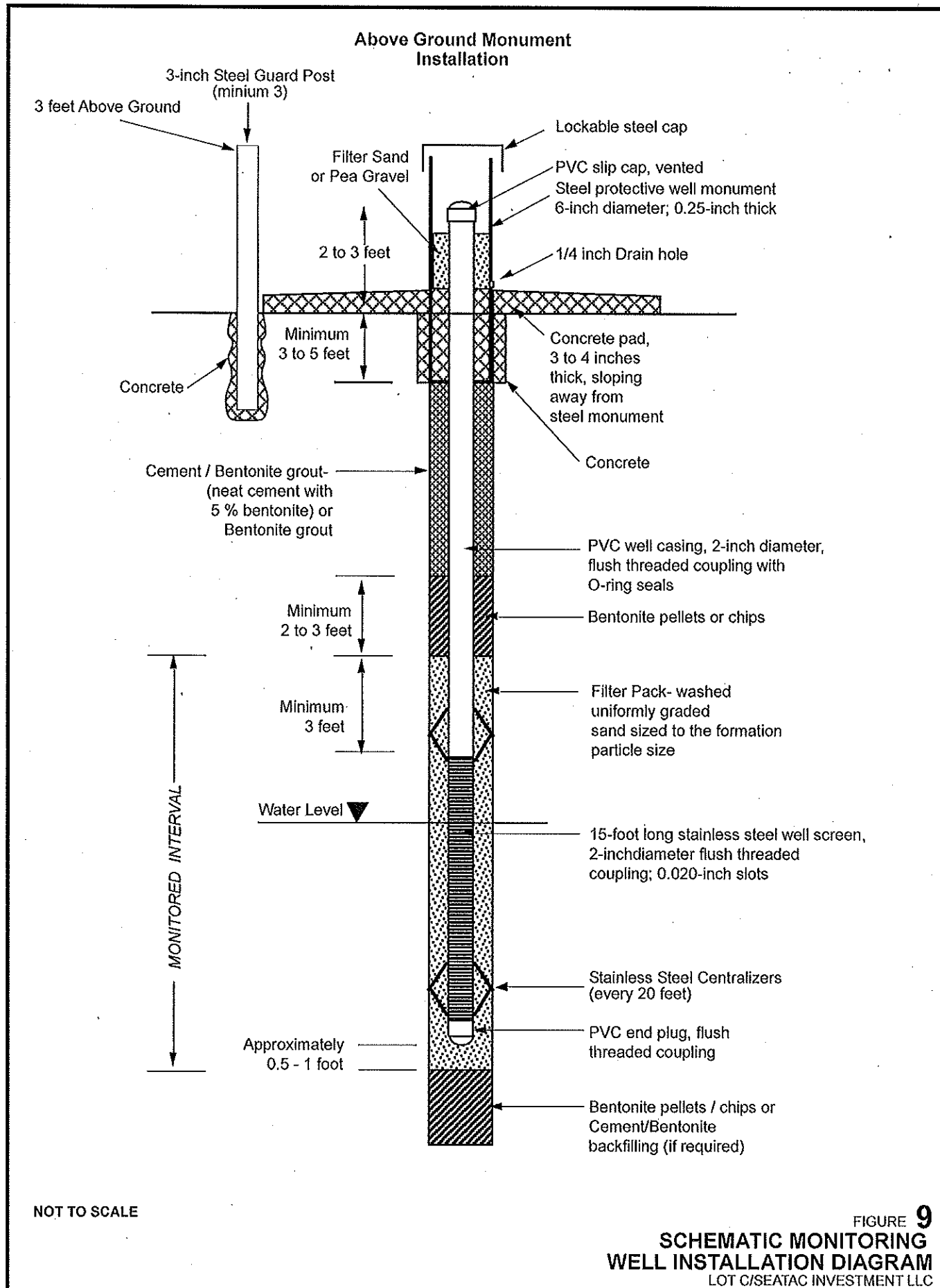


FIGURE 9  
**SCHEMATIC MONITORING  
WELL INSTALLATION DIAGRAM**  
LOT C/SEATAC INVESTMENT LLC




Agreed Order No. DE \_\_\_\_\_

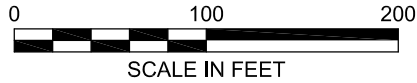
**EXHIBIT A**  
**SITE DIAGRAM**





LEGEND:

- |   |       |   |
|---|-------|---|
|  | MW-5  | QVA AQUIFER MONITORING WELL LOCATIONS         |
|  | MW-20 | PROPOSED QVA AQUIFER MONITORING WELL LOCATION |
|  |       | MasterPark LOT C PROPERTY BOUNDARY            |



Boundaries of the SeaTac Development site have not been determined as of this writing.

EXHIBIT **A**  
**SITE DIAGRAM**  
ATAC INVESTMENTS LLC



Agreed Order No. DE \_\_\_\_\_

**EXHIBIT B**  
**RI/FS WORK PLAN**



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**REMEDIAL INVESTIGATION / FEASIBILITY STUDY (RI/FS) WORK PLAN  
FOR SEA-TAC DEVELOPMENT SITE  
SEATAC, WASHINGTON**

*Submitted to:*

*Riddell Williams P.S.  
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Seattle, Washington 98154*

*Submitted by:*

*Golder Associates Inc.  
18300 NE Union Hill Road, Suite 200  
Redmond, Washington 98052*

April 21, 2009

073-93368-05.000

## TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	Statement of Purpose.....	1
1.2	Objectives for an RI/FS.....	1
2.0	SITE BACKGROUND AND PREVIOUS INVESTIGATIONS.....	3
3.0	RI INVESTIGATION APPROACH.....	5
4.0	RI INVESTIGATION TASKS.....	7
4.1	Soil Vapor Investigation.....	7
4.1.1	Soil Vapor Sampling.....	7
4.1.2	Soil Vapor Analysis.....	8
4.2	Phase 1 Hydrogeologic Investigation.....	8
4.2.1	Monitoring Well(s) Installation.....	8
4.2.2	Surveying.....	8
4.2.3	Water Level Measurement.....	8
4.2.4	Groundwater Quality Sampling.....	9
5.0	REPORTING.....	10
5.1	Remedial Investigation.....	10
5.2	Feasibility Study.....	10
6.0	SCHEDULE.....	11
7.0	REFERENCES.....	12

## LIST OF FIGURES

Figure 1	Sea-Tac Development Site Location
Figure 2	Sea-Tac Development Site Property Boundaries
Figure 3	Source Area Cross Section
Figure 4	Qva Aquifer Monitoring Well Locations and Gasoline Isoconcentration Contours
Figure 5	Benzene Isoconcentration Contours
Figure 6	Qva Aquifer Monitoring Well Locations and Groundwater Elevation Contours
Figure 7	Phase 1 Well Locations
Figure 8	Monitoring Well Installation Schematic Diagram

## **APPENDICES**

Appendix A    Sampling and Analysis Plan  
Appendix B    Health and Safety Plan



## **1.0 INTRODUCTION**

This Remedial Investigation/Feasibility Study (RI/FS) Work Plan has been developed by Golder Associates Inc. (Golder) for SeaTac Investments LLC (SeaTac Investments), Scarsella Bros. Inc. and ANSCO Properties, LLC pursuant to the an Agreed Order under the Model Toxics Control Act (MTCA). SeaTac Investments is entering into an Agreed Order with the Washington State Department of Ecology (Ecology) to complete a RI/FS and Draft Cleanup Action Plan (DCAP) for the Sea-Tac Development Site (Site). The Facility is approximately 7 acres, located at 16025 International Boulevard, SeaTac, Washington within Section 28, Township 23 North, Range 4 East (Figure 1). SeaTac Investments is currently operating the Facility as a public valet parking lot, doing business as MasterPark Lot C (Facility). SeaTac Investments leases the majority of the property from AnSCO Properties LLC (current land owner of the north portion of the Facility) under the terms of a long-term lease agreement. Current data indicate the known soil contamination, the highest levels of groundwater contamination, and possible primary source of contamination are located on the ANSCO Property at the Facility, but groundwater impacts extend beyond the Facility property boundaries.

### **1.1 Statement of Purpose**

This document outlines the scope of work for conducting and completing the Site RI/FS. The RI portion of the RI/FS is a data gathering phase that will collect, develop and evaluate sufficient information regarding Site releases to define the extent and magnitude of the contamination and evaluate the risk to human health and the environment. RI information will be used to support the FS, which will evaluate applicable cleanup alternatives and recommend a cleanup action in accordance with the MTCA rules, Sections WAC 173-340-350 through WAC 173-340-390 of the Washington State Administrative Code (WAC). Ecology will use the RI information and FS evaluation to select a cleanup action. The cleanup action selected by Ecology will be proposed in the Draft CAP document for public review and comment. The following public review period, a cleanup action will be formally selected in the Final CAP.

### **1.2 Objectives for an RI/FS**

The primary objective of the RI is to complete the assessment of the nature and extent of hazardous substance [gasoline range petroleum hydrocarbons (gasoline) and associated constituents] impacts to groundwater in the regional (Qva) aquifer from the Facility. The extent of contamination in the soil has been characterized in previous investigations at the Facility. However, if necessary, Ecology may identify areas of further characterization of contaminated soil to adequately evaluate risk, remedial alternatives, and compliance under MTCA. The RI will evaluate the risk of exposure to releases from the Site to appropriate human and ecological receptors. Specific objectives of the remedial investigation include the following:

- A compilation of historical uses and operations at the Facility and surrounding area
- A classification of the types of materials stored and used on the Facility and surrounding area
- An evaluation of previous investigations and cleanup actions conducted at the Facility and surrounding area
- A characterization of the nature, extent, and potential sources of hazardous substance releases at the Facility and surrounding area that have impacted or have the potential to impact groundwater

- A hydrogeologic investigation of the regional and Facility-specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the Facility
- An assessment of the groundwater impacts from the Site releases, including the lateral and vertical extent of the dissolved contaminant plume
- An evaluation of the potential routes of exposure and risks to human and ecological receptors associated with releases or threatened releases of hazardous substances

The objectives of the FS include the following:

- Define cleanup objectives specific to the Facility
- Identify and screen (initially) applicable treatment technologies
- Develop potential cleanup alternatives (assemblage of applicable remedial technologies) for the Site
- Estimate the cost of each potential cleanup alternative
- Evaluate potential cleanup alternatives with respect to MTCA requirements
- Recommend a preferred cleanup alternative for the Facility

The FS will be conducted according to the MTCA regulations, specifically WAC 173-340-350 and WAC 173-340-360. The FS will comprehensively evaluate likely cleanup alternatives, and propose a recommended cleanup action that provides the most practical and achievable results for the Facility. The remedy selected from the FS will be protective of human health and the environment; comply with cleanup standards; satisfy applicable, relevant, or appropriate requirements (ARARs); provide for compliance monitoring; be permanent to the maximum extent practicable; and be able to be implemented within a reasonable time frame.

## 2.0 SITE BACKGROUND AND PREVIOUS INVESTIGATIONS

The Site showed the first development in a 1946 aerial photograph with a single building. Major development of the Site was evident in a 1954 aerial photograph. Since the 1960s, the property was mainly a construction staging area that supported the construction of Interstate 5. More recently a number of small manufacturing and warehousing facilities operated including public parking. Today, the entire Facility is a paved parking lot with a single administrative building supporting the business.

Many investigations and remedial actions were conducted at the Site in the early 2000s and were reported in the following documents:

- Golder Associates Inc., 2000. Phase I Environmental Site Assessment, SunReal Inc., SeaTac Airport Site, SeaTac, Washington, October 12.
- Golder Associates Inc., 2001a. Final Phase II Environmental Site Assessment Report, SeaTac Parking Garage Development Site, SeaTac, Washington, March 31.
- Golder Associates Inc., 2001b. Final Report for Extended Phase II Extended Environmental Site Assessment, SeaTac Parking Garage Development Site, SeaTac, Washington, March 31.
- Golder Associates Inc., 2001c. Final Report for the Phase III Environmental Site Assessment, SeaTac Parking Garage Development Site, SeaTac, Washington, March 31.
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- Golder Associates Inc., 2001f. Site Assessment Conducted for the Closure of a 3,000- and 10,000-Gallon Underground Storage Tank, Master Park Lot C, 16000 Block International Boulevard, SeaTac, Washington, October 4.
- Golder Associates Inc., 2001g. Site Assessment Conducted for the Closure of a 1,000-Gallon Underground Storage Tank, Master Park Lot C, 16000 Block International Boulevard, SeaTac, Washington, October 4.
- Golder Associates Inc., 2001h. Site Assessment for the Closure of a 300-Gallon Underground Storage Tank, Master Park Lot C 16000 Block International Boulevard, SeaTac, Washington, October 24.
- Golder Associates Inc. 2002. Final Independent Remedial Action Report SeaTac Parking Garage Development Site SeaTac, Washington (MasterPark Lot C). Prepared for: SeaTac Investments LLC. January 24.

The investigations and remedial actions completed were reported to Ecology who issued a “no further action” letter for soils at the Facility (Ecology, 2003), but did not include groundwater. Groundwater in the underlying regional aquifer (called the Qva Aquifer) contained elevated levels of petroleum contamination - including benzene, toluene, ethylbenzene, and xylenes (BTEX) under the northwestern portion of the Facility. At that time, it was suspected that the probable source of the contamination in the aquifer was located outside the Facility.

In May 2007, Ecology required additional remedial actions (Ecology, 2007) for the groundwater impacts under the Facility. Several studies conducted during 2003 through 2006 on neighboring sites did not reveal a source for the groundwater impacts to the Qva aquifer. In June 2007 through January 2008, additional investigations were conducted at the Site and adjacent properties to determine the source and extent of groundwater impacts. These investigations were reported in the following documents:

- Golder Associates Inc. 2008a. On-Site Source and Groundwater Investigation Summary – June to November 2007. Prepared for Riddell Williams P.S. January 14.
- Golder Associates Inc. 2008b. Addendum to On-Site Source and Groundwater Investigation Summary – June to November 2007 Report (Dated January 14, 2008). Prepared for Riddell Williams P.S. March 13.

All referenced documents are on file at Ecology's Northwest Regional Office in Bellevue, Washington.

### 3.0 RI INVESTIGATION APPROACH

This section describes the rational and approach that will be conducted as part of the RI for the Site. The Facility and known area of the Site is shown on Figure 2.

Because many investigations and data have been obtained regarding the Facility, the RI will focus on data gaps that exist for completing the RI/FS Report. The data gaps will be identified with respect to the major potential exposure pathways for the Site releases and groundwater.

The potential exposure pathways that exist for the Site include:

- **Direct exposure to subsurface soils by humans or terrestrial ecology:** The known subsurface contaminated soils are located at the Facility. Because the Site's known or potential contaminated media are below pavement, covered by buildings, or greater than 15 feet below land surface and are within commercial/industrial land, direct contact by humans and terrestrial ecological receptors are currently not operative. The Site will remain in the foreseeable future as commercial/industrial and has a restrictive covenant on the deed (submitted to Ecology) that requires the pavement to remain in place as a protective cap for underlying soils. However, Ecology has not approved this as a remedy and therefore evaluation of remediation alternatives and compliance of soil under MTCA will be accomplished in the RI/FS. In accordance with WAC 173-340-7491 (1) (b), the site should meet the criteria for an exemption from a terrestrial ecological evaluation. Therefore no data gaps exist for direct contact by human or terrestrial ecological receptors to Site soils.
- **Vapor intrusion to buildings:** The hazardous substances at the site are volatile organic compounds. Vapors from these compounds in soil and groundwater have the potential to migrate and intrude inside of nearby buildings. The Facility and neighbors to the east, north, and south are also commercial/industrial land uses. The land to the west is a cemetery, but has an occupied residential dwelling near the northwest corner of the Facility that appears to be over impacted groundwater. Soil vapors have been sampled in soils on the Facility to find potential source areas. The results were reported in the Golder report (2008a). The detection limits for the soil vapor analyses for benzene for these samples were not set low enough to allow for comparison with MTCA residential inhalation risk-based concentrations; therefore, a data gap for additional soil vapor concentrations near the residential dwelling will be addressed in the RI.
- **Site Soil to Groundwater Pathway:** This potential pathway addresses the potential for impacted Site soils to impact underlying groundwater in the future. An extensive investigation was conducted during 2007 and 2008 to find sources of gasoline at the Facility. These efforts complemented the investigations and remedial actions conducted during the early 2000s. Together the investigations identified a contributing source of gasoline within the Facility soils. The source is likely from a removed underground gasoline storage tank (UST) that was removed allegedly during the late 1970s (Golder, 2000). The residuals are at concentrations that may still be migrating and impacting underlying groundwater. The source area within the Facility of soils has been adequately delineated for the completion of the RI/FS (Figure 3). Therefore, data gaps do not exist for the Facility soil to groundwater pathway.
- **Groundwater Pathway to Humans:** Groundwater is impacted at the Site with gasoline containing BTEX as shown in Figures 4 and 5. The concentrations are greater than MTCA cleanup levels and drinking water maximum contaminant levels (MCLs). The

aquifer is the regional Qva aquifer that is potentially a drinking water resource for humans. The groundwater in the Qva aquifer is migrating toward the west, but varies toward the southwest and northwest (Figure 6). There are currently no existing groundwater supply wells that are impacted by the gasoline plume. The nearest groundwater supply wells are:

1. The Washington Memorial Park Cemetery irrigation well located about 0.25 miles south (side gradient) of the gasoline plume (see Figure 6). The cemetery well has been sampled twice in the last seven years (Golder, 2001e, and by Ecology). Neither gasoline nor BTEX were detected in the samples from either monitoring events.
2. The City of Seattle Water District has a backup groundwater supply well located upgradient to the east about 0.5 miles. This well is tested regularly by the City of Seattle without detections of gasoline or BTEX and will likely not become impacted in the future by releases from the Site.

Previous investigations have delineated the extent of the groundwater gasoline plume on the Facility (Golder, 2008a and 2008b). The delineation of the downgradient extent of the gasoline plume for the entire Site (outside the Facility) is not complete. The land west (and hydraulically downgradient) of the Facility includes the Washington Memorial Park Cemetery, Port of Seattle commercial buildings, the north entry drive freeway and SeaTac Airport. There are no water supply wells in the downgradient direction for over a mile.

Although no current risk to groundwater users exists, the potential for future use of groundwater resources could expose humans. Therefore, the downgradient extent of the gasoline plume in the Qva aquifer represents a data gap for the completion of the RI/FS. The most cost effective and best manner to define the downgradient groundwater plume is to install and sample monitoring wells in a phased approach. The first phase should install a monitoring well directly west of the center portion of the gasoline plume. The results of groundwater analysis for the first well will be evaluated and a decision will be made in consultation with Ecology on whether an additional well(s) is needed and the location of an additional well(s).

MTCA requires that gasoline releases be tested for the presence of potential additives and other constituents that influence the exposure risks to humans. Table 830-1 in WAC 173-340 lists the required additional additives and constituents that may be associated with a gasoline release. Previous investigations analyzed for BTEX and lead in selected samples, but naphthalene and potential additives; 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC) and methyl tertiary-butyl ether (MTBE) have not been previously tested. Because the gasoline release allegedly occurred during the 1970s or possibly the 1960s, these additives may not be present. This uncertainty is considered a data gap that needs to be determined during the RI on selected groundwater samples. The RI will identify two wells (MW-18 and MW-13) in the high concentration portion of the groundwater plume and two wells (MW-17 and the RI Phase 1 well) in the downgradient lower concentration portion of the plume (see Figure 6) for groundwater sample analysis of lead, naphthalene, EDB, EDC, and MTBE. These selected groundwater samples represent the source area and progressively downgradient groundwater from the Facility.

## 4.0 RI INVESTIGATION TASKS

The RI will include a soil vapor investigation and a hydrogeologic investigation. The soil vapor investigation will consist of obtaining soil vapor samples along the perimeter of the house on the Washington Memorial Park Cemetery property and may also include an atmospheric sample from a crawl space (if present). The hydrogeologic investigations will consist of four field tasks: (1) Monitoring Well Installation; (2) Geodetic Surveying; (3) Water Level Measurements; and (4) Groundwater Quality Sampling. During this investigation, selected groundwater samples will be obtained and analyzed for chemical constituents of concern per MTCA Table 830-1 "Required Testing for Petroleum Releases". Detailed procedures for the field activities and measurements are in the relevant Golder Technical Procedures that will be provided upon request. As required by the Agreed Order for the Site, a Sampling and Analysis Plan (SAP), Quality Assurance Project Plan (QAPP), and Health and Safety Plan (HASP) will be submitted along with the final RI/FS Work Plan. Brief descriptions of the major data generating activities are presented below.

### 4.1 Soil Vapor Investigation

#### 4.1.1 Soil Vapor Sampling

To assess potential vapor intrusion into the nearby residence, a soil vapor investigation will be completed. Soil vapor sampling is a useful method to screen for potential vapor intrusion of BTEX or related volatile petroleum hydrocarbon compounds. Golder will advance four temporary soil vapor survey probes into exterior soils directly adjacent to each side of the residence building located on the Washington Memorial Park Cemetery property (as shown on Figure 7). The probes will extend to a depth below land surface to be specified at a later time. Soil vapor samples will be collected into 6-liter SUMMA canisters, supplied by the air analytical laboratory, Air Toxics Ltd. We will follow Golder Technical Procedure TP 2.2-4, Sampling and Analysis of Soil Gases – Revision 7.

The residence building has a crawl space. If the results of the soil vapor analyses shows groundwater contaminants at potential levels of concern for indoor air impacts (consultation with Ecology), an air sample of the crawl space will be considered. The crawl space will be inspected for possible storage of chemicals, paints, solvents and fuels. If no storage is evident of volatile organic materials, an atmospheric sample of the crawl space at an appropriate access location will be obtained in a SUMMA canister for analysis.

Background atmospheric air quality can influence the concentrations of volatile organic compounds in the soil vapor. Background atmospheric air will be obtained during the soil vapor sampling period in a 6-liter SUMMA canister for analysis of compounds that will be determined based on groundwater analyses of wells at this area. The background atmospheric air samples will be collected outside (20 feet to the west) of the house at 4 feet above ground level. A capillary port to the SUMMA canister will be used to control the sample collection period to obtain the sample during the same approximate period that the soil vapor samples are being collected (about 6 to 8 hours).

#### 4.1.2 Soil Vapor Analysis

The Summa canisters will be sent to and analyzed by Air Toxics Ltd. using EPA Method TO-15 Selective Ion Mode (SIM).

Further soil vapor investigations or further work may occur with Ecology concurrence pending analytical results and preliminary assessment of data.

### 4.2 **Phase 1 Hydrogeologic Investigation**

#### 4.2.1 Monitoring Well(s) Installation

The RI Phase 1 monitoring well will be drilled and installed in accordance with Golder Technical Procedures TP-1.2-5 Drilling, Sampling and Logging of Soils, TP-1.2-6 Field Identification of Soils and TP-1.2-12 Monitoring Well Drilling and Installation. The monitoring well will be designated MW-20 constructed in accordance with resource evaluation wells (WAC 173-160) as shown in Figure 8. The proposed location for monitoring well MW-20 is shown on Figure 7. The Golder field engineer/scientist will collect cutting samples to document the encountered stratigraphy and to ensure the proper depth has been reached and correct installation has been completed for each monitor well.

The boring for MW-20 or any additional borings that may be required will be drilled using hollow-stem (nominal 4-inch diameter) auger drilling methods during Phase 1. Each borehole will be completed as a single-completion well with 2.0-inch diameter PVC screens and risers casing. The anticipated screen length for each monitoring well is 10 feet. The screened intervals will be gravel packed with silica sand. The borehole annulus above each screen section will be sealed with bentonitic grout to land surface. A protective lockable steel monument will be installed for secured access at each monitoring well port. The actual completion intervals will be determined in the field based on the results of the drilling. Soil samples will be collected at 5-foot intervals and at lithology changes during drilling and described in the borehole log. Following installation, each monitoring well will be developed using bailers, airlift pumping, or other means to remove soil fragments entrained within the well casing. Each newly installed monitoring well will be and surveyed for location and elevation as described below.

#### 4.2.2 Surveying

A Washington State licensed land surveyor will conduct the geodetic survey. Each monitoring well will be surveyed for horizontal position (x- and y-coordinates) and elevation (z-coordinate) to the same benchmarks established for the existing monitoring wells at the Facility. After monitoring well installation, the horizontal location of each monitoring well will be obtained and the elevation (z-coordinate) of land surface, top of protective monument and top of well casing will be taken.

#### 4.2.3 Water Level Measurement

Groundwater levels will be measured for each groundwater sampling period in all relevant new and existing monitoring wells in the vicinity of the Facility. Groundwater levels will be measured using an electric water level tape. Groundwater levels will be obtained in triplicate for precision evaluations and will be converted to groundwater elevation based on the surveyed wellhead elevations. Water level measurements will be obtained in accordance with Golder Technical Procedure TP-1.4-6a Manual Groundwater Level Measurement.



#### 4.2.4 Groundwater Quality Sampling

Groundwater will be sampled for analysis from each existing well and the newly installed Phase 1 well, MW-20 or any subsequent monitoring wells deemed necessary by Ecology. Each well will be sampled in accordance with the Golder Technical Procedures document TP-1.2-20 "Collection of Groundwater Quality Samples (Golder, 1997)." A down-hole impeller driven pump (GrunFos pump) will be used to purge groundwater from each well and collect environmental samples. The waste purge water will be captured in a DOT approved, steel 55 gallon drum.

Each sampled monitoring well will be purged using a "low flow" technique before sample collection. Sample containers were cleaned, prepared, and provided by the participating commercial analytical laboratory for groundwater samples that are specific to the analytes being tested. Appropriate preservatives for analyses will also be provided by the participating analytical laboratory. A summary of the well volume data, the total volume purged for each well, and the sample collection bottles and preservatives required are provided on the Sample Integrity Data Sheets (TP-1.2-20).

Water chemistry parameters tested in the field will be recorded repeatedly before and once at the end of sample collection to ensure steady state conditions of the groundwater for sampling purposes. Field testing included pH, temperature, conductivity, dissolved oxygen and turbidity measurements using Golder instruments calibrated in the field. A log of repeated field test data recorded during the purge process for each well are maintained in the project files. However, measurements recorded after the sample collection process, are provided on the Sample Integrity Data Sheets (TP-1.2-20). The field parameter test data shall reflect near steady state conditions (within 10%) in the purged groundwater before sample collection.

The participating analytical laboratory will be State of Washington certified for water quality analyses. Groundwater samples will be analyzed for gasoline range petroleum hydrocarbons and BTEX using the NWTPH-gas (BTEX) analytical method. Groundwater samples from MW-12, MW-16, MW-18, MW-13, MW-17, and MW-20 will also be analyzed for potential gasoline constituents and additives lead, naphthalene, EDB, EDC, VPH, and MTBE per MTCA Table 830-1 "Required Testing for Petroleum Releases".

Historic groundwater sampling at the Site occurred during: the winter of 2001 (January); summer of 2006 (June); summer of 2007 (August); and fall of 2007 (November). Monitoring wells were installed at different times from 2001 to 2008; therefore, the groundwater monitoring periods do not have analytical results for groundwater at all wells for each past monitoring period. Groundwater will be monitored quarterly for the RI from site-wide wells to characterize seasonal concentration fluctuations. If groundwater concentrations are similar to or lower than historic data for the first couple of groundwater monitoring events during the RI, the Feasibility Study and draft Cleanup Action Plan will be initiated to expedite remedial actions.

## **5.0 REPORTING**

After the Phase I groundwater investigation is completed, the results will be compiled and provided to Ecology. A decision will be made on whether Phase 2 groundwater investigation is warranted and the location of Phase 2 well(s), if required. A combined draft RI/FS Report will be prepared. If groundwater concentrations are similar to or lower than historic data for the first couple of groundwater monitoring events during the RI, the Feasibility Study and draft Cleanup Action Plan will be initiated to expedite remedial actions. The remaining groundwater sampling events will be amended to the RI/FS Report.

### **5.1 Remedial Investigation**

A report documenting the remedial investigations as required by WAC 173-340-350 will be prepared. Golder will formally evaluate and compile relevant data for all previous investigations and this RI investigation. This will include reviewing and summarizing field activities, establishing the history and environmental setting for the Facility, describing the Site geology and hydrogeology, establishing a set of contaminants of concern for each area (or sampling zone) at the Site, identifying applicable or relevant and appropriate requirements (ARARs) relative to the Site, and defining the nature and extent of on-site and off-site soil and groundwater conditions. The potential for vapor intrusion will be evaluated in the report based on the analytical results of the soil gas, crawl space atmosphere, and ambient atmosphere sample analyses. The Johnson and Ettinger (1991) vapor intrusion model may be used for this evaluation with consultation and approval from Ecology. Points of Compliance for the Site will also be established, as outlined in MTCA.

### **5.2 Feasibility Study**

After completion of the RI field work and interpretation, the FS shall be conducted. The FS shall establish appropriate Remedial Action Objectives (RAOs) for Site cleanup. Subsequently, a set of cleanup alternatives will be developed that achieve the RAOs for the Site. The alternatives shall be described and rated based on their relative merits and adherence to MTCA guidelines, specifically WAC 173-340-350(8) and WAC 173-340-360. Cost of each cleanup alternative will be estimated to an accuracy sufficient to conduct a disproportionate cost analysis [WAC 173-340-360 (3)(e)]. After this, a recommended remedial alternative will be proposed that best meets the selection criteria for the Site. A draft RI/FS report will be submitted for Ecology approval. Upon Ecology approval the Draft RI/FS report will be finalized.

The FS will be performed in the following stages:

- Identification of ARARs
- Development of RAOs
- Identification and screening of cleanup technologies
- Treatability studies if needed to provide sufficient information to develop and evaluate cleanup action alternatives for the site, which could be conducted during RI activities
- Assembly and screening of cleanup alternatives
- Development and description of cleanup alternatives
- Detailed Evaluation of Alternatives
- FS Report preparation

## 6.0 SCHEDULE

The RI/FS will begin upon approval by Ecology of this Work Plan and authorization by SeaTac Investments. Once authorization has been received, the following schedule is anticipated:

- Subcontractor bids received and contracts established.....1 week
- Drilling subcontractor mobilization .....2 weeks
- Soil Vapor Survey.....2 days
- Monitoring well installation .....3 days
- Final survey and water level measurements .....2 days
- Groundwater sampling .....1 year
- Groundwater and soil vapor analyses.....3 weeks
- Results reporting and decision for Phase 2 well(s).....2 weeks
- Phase 2 groundwater investigation including analysis .....6 weeks
- Draft RI/FS Report to SeaTac Investments .....2 months
- Draft RI/FS Report to Ecology .....1 month

## 7.0 REFERENCES

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- Golder Associates Inc. 2008b. Addendum to On-Site Source and Groundwater Investigation Summary – June to November 2007 Report (Dated January 14, 2008). Prepared for Riddell Williams P.S. March 13.
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## **FIGURES**



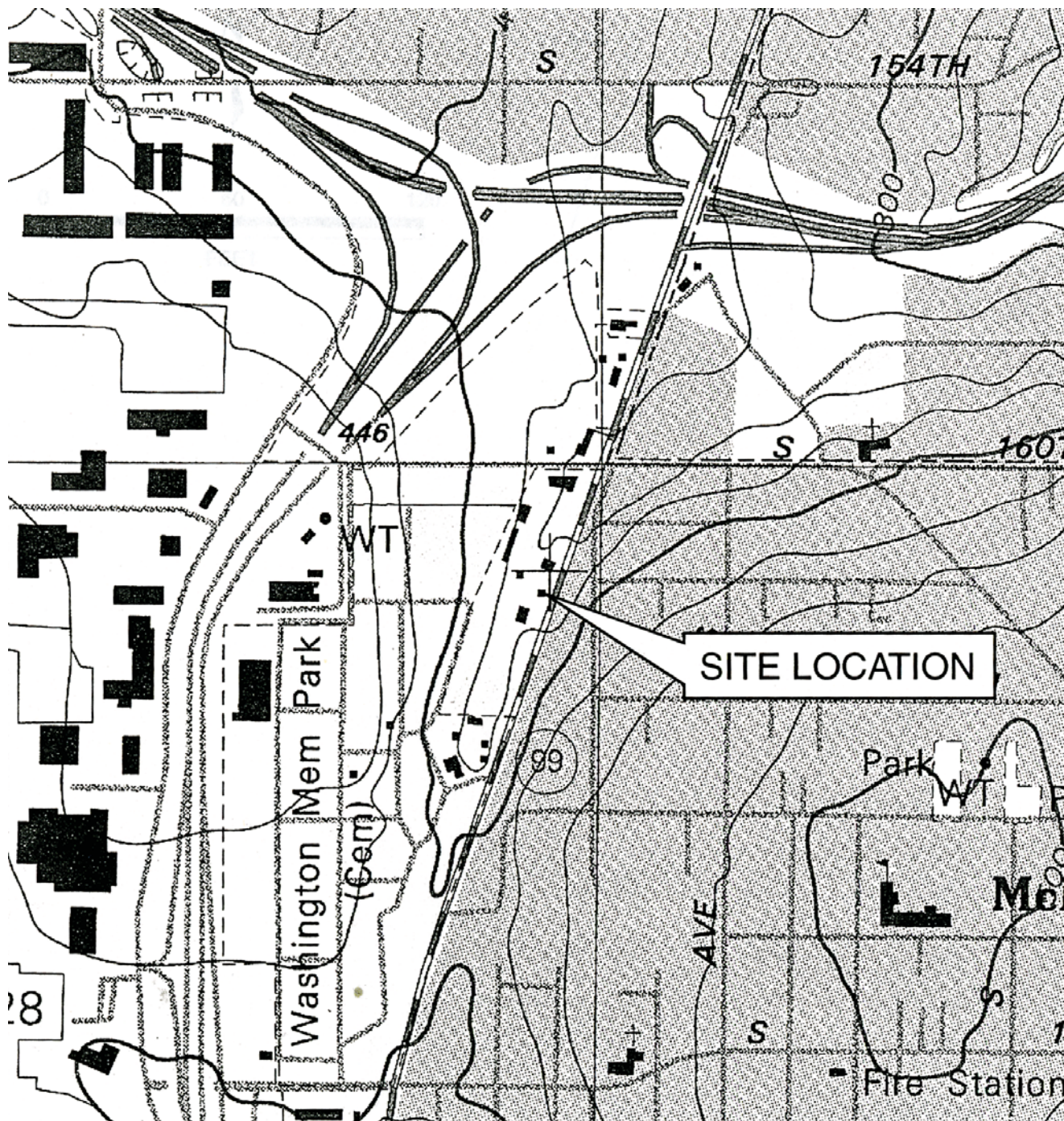


FIGURE 1  
**SITE VICINITY MAP**  
 LOT C/SEATAC INVESTMENT LLC

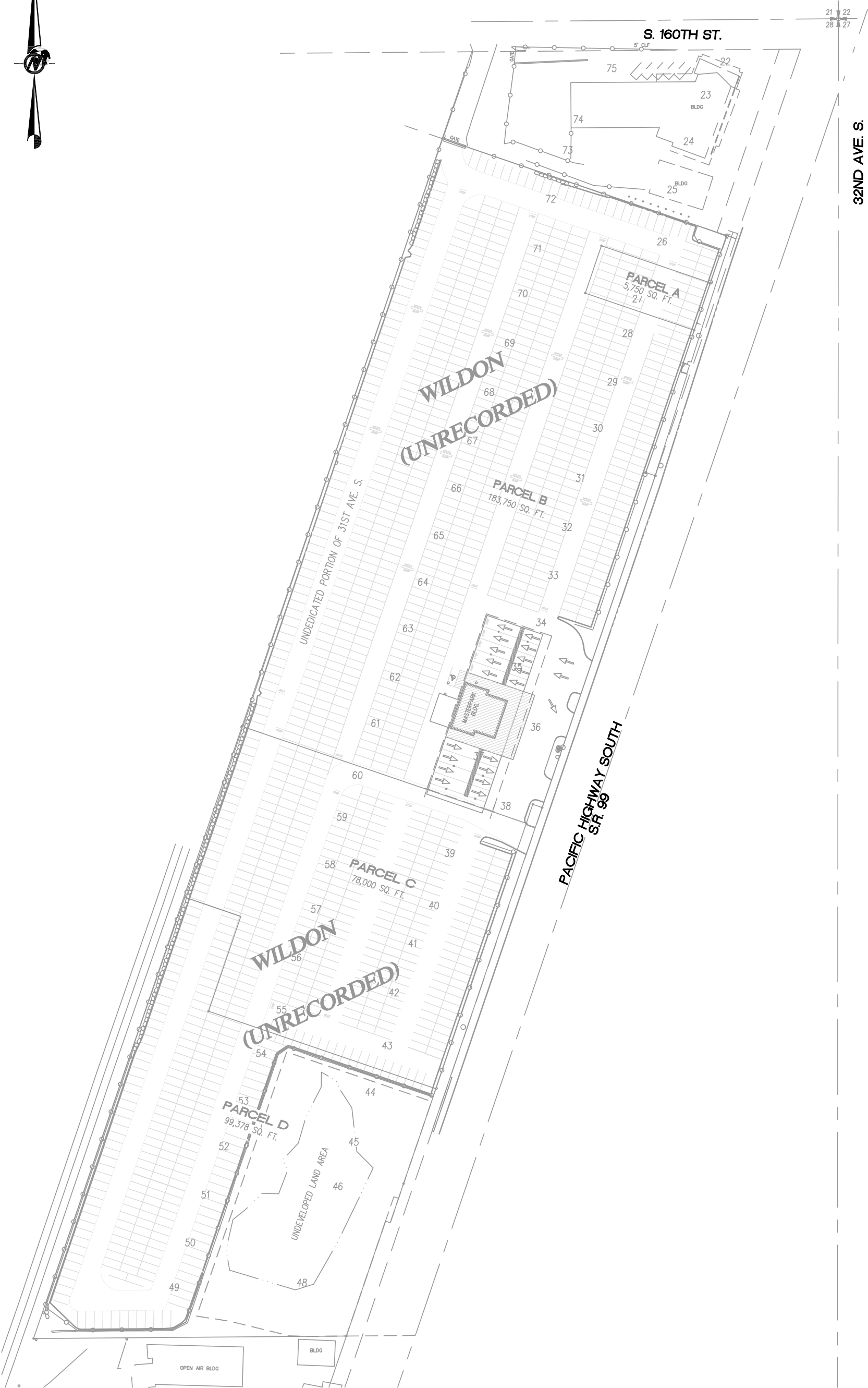
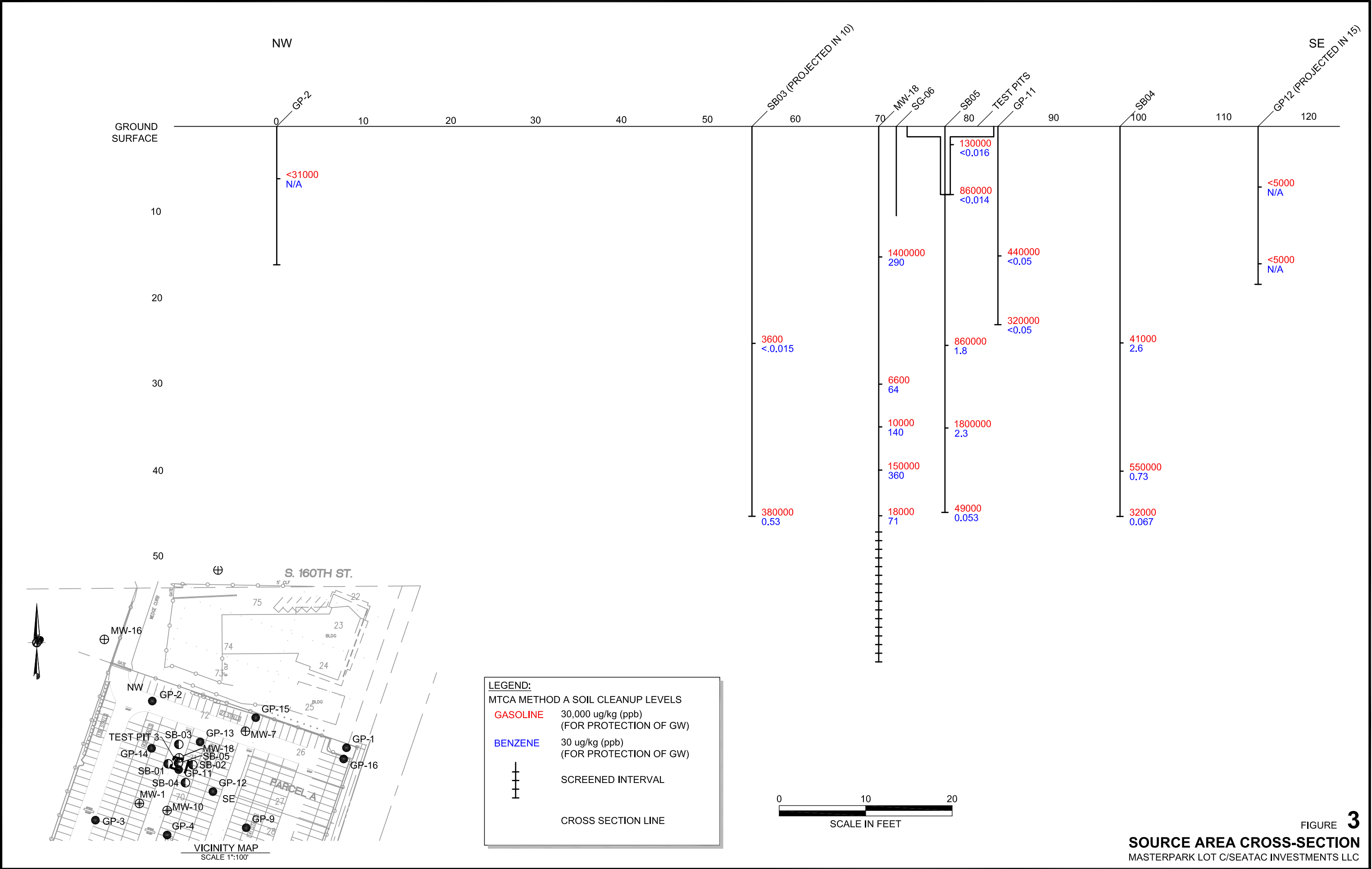


FIGURE **2**  
**MASTERPARK LOT C**  
**SITE DRAWING**  
MASTERPARK LOT C/SEATAC INVESTMENTS LLC







LEGEND:

800

MW-5

MW-2

PORT MW-1

TACO TIME D

GASOLINE CONCENTRATION CONTOUR (ug/L)

QVA AQUIFER MONITORING WELL LOCATIONS

MONITORING WELLS SCREENED IN PERCHED AQUIFER

PORT OF SEATTLE (QVA) MONITORING WELLS (ABANDONED)

TACO TIME (QVA) MONITORING WELL (ABANDONED)

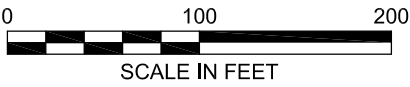
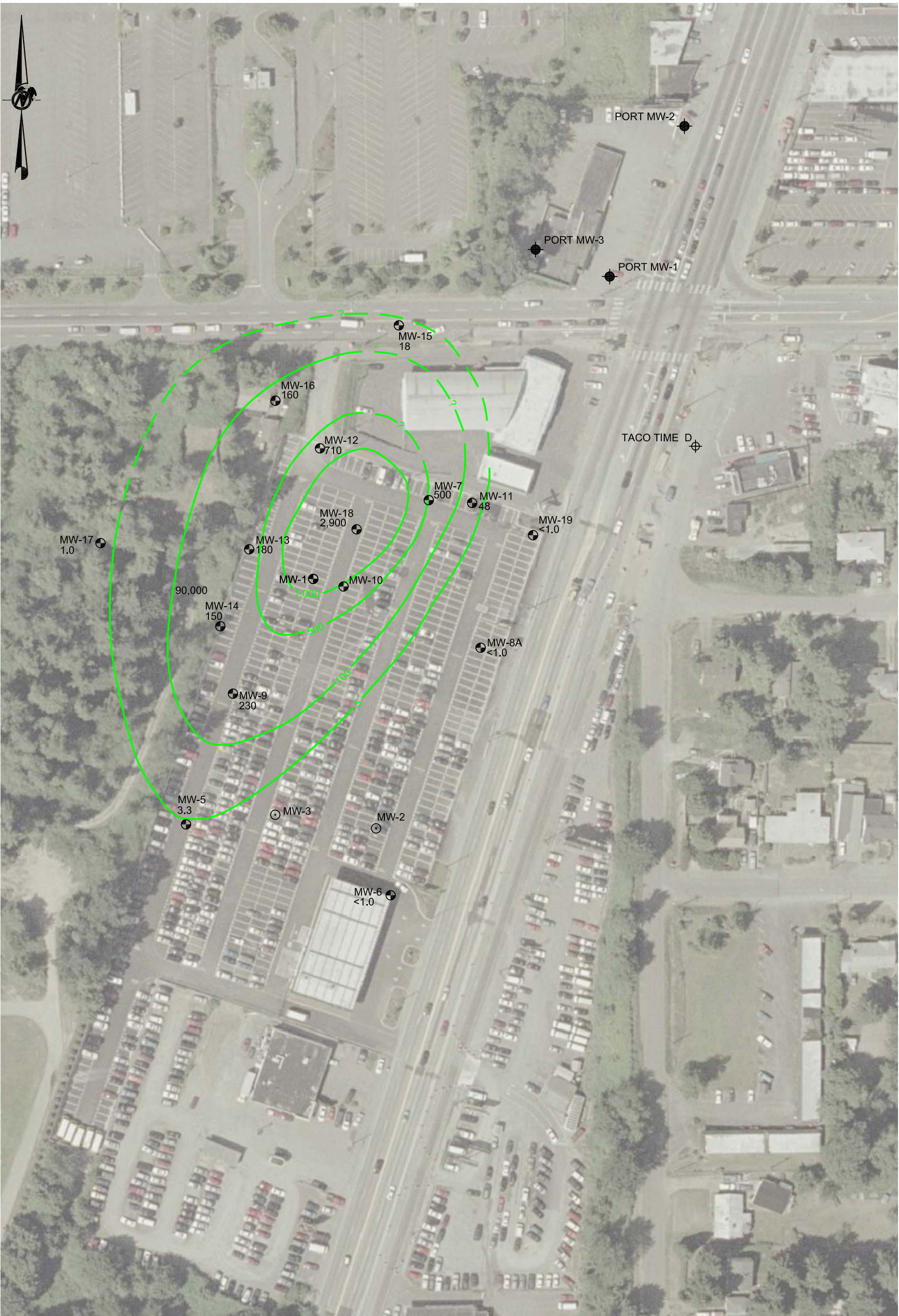


FIGURE 4

QVA AQUIFER MONITORING WELL LOCATIONS AND  
GASOLINE ISOCONCENTRATION CONTOURS

MASTERPARK LOT C/SEATAC INVESTMENTS LLC





LEGEND:

310.20

BENZENE CONCENTRATION CONTOUR (ug/L)

MW-5

QVA AQUIFER MONITORING WELL LOCATIONS

MW-2

MONITORING WELLS SCREENED IN PERCHED AQUIFER

PORT MW-1

PORT OF SEATTLE (QVA) MONITORING WELLS (ABANDONED)

TACO TIME D

TACO TIME (QVA) MONITORING WELL (ABANDONED)

FIGURE 5

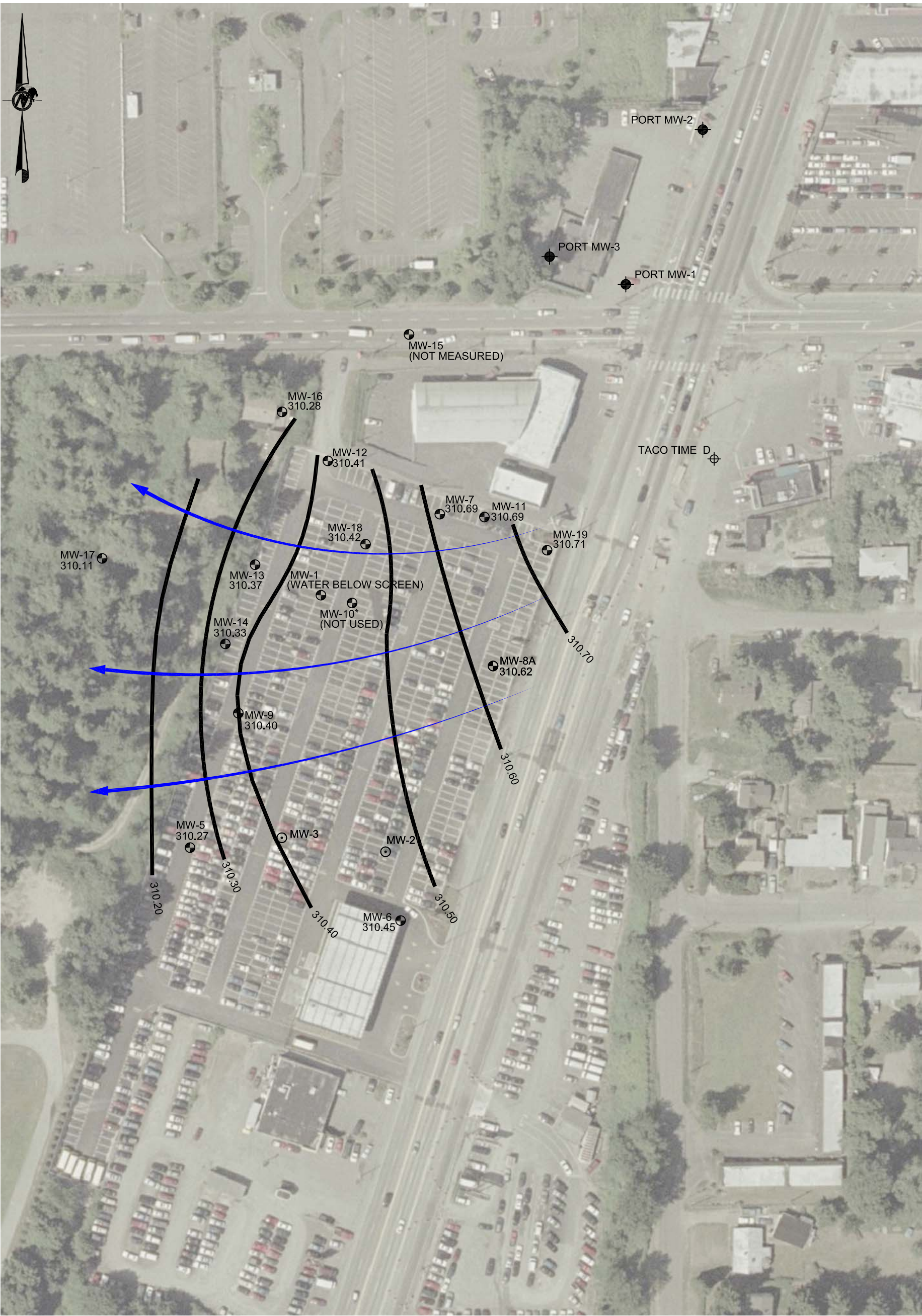
BENZENE ISOCONCENTRATION CONTOURS

MASTERPARK LOT C/SEATAC INVESTMENTS LLC

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Golder Associates





LEGEND:

MW-10\*

NOT USED FOR CONTOURING, THE WELL IS COMPLETED IN A DEEPER PORTION OF AQUIFER

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

310.20

GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL ON FEB. 4, 2008)

MW-5

QVA AQUIFER MONITORING WELL LOCATIONS

MW-2

MONITORING WELLS SCREENED IN PERCHED AQUIFER

PORT MW-1

PORT OF SEATTLE (QVA) MONITORING WELLS (ABANDONED)

TACO TIME D

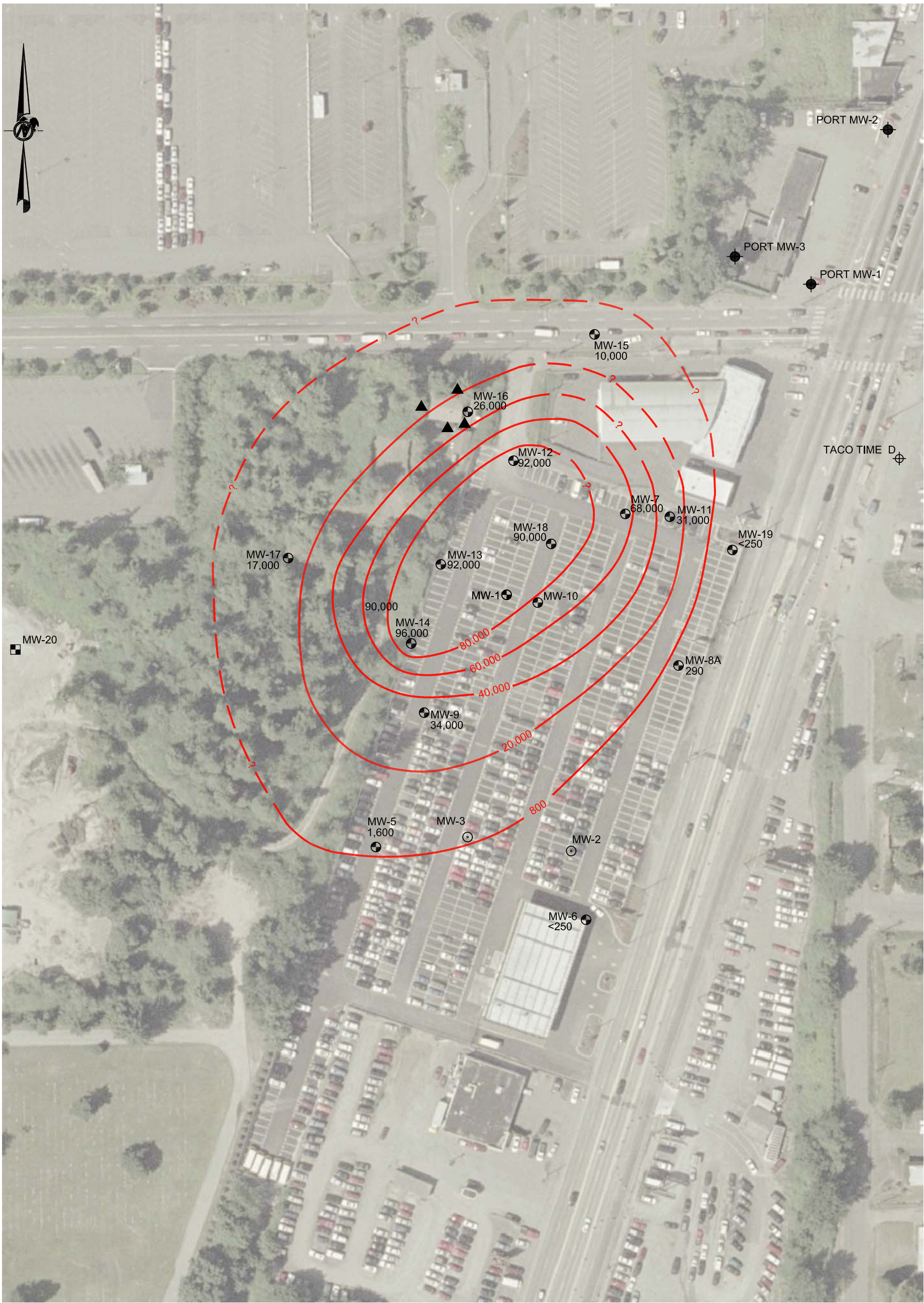
TACO TIME (QVA) MONITORING WELL (ABANDONED)

FIGURE 6  
**QVA AQUIFER MONITORING WELL LOCATIONS  
AND GROUNDWATER ELEVATION CONTOUR**  
MASTERPARK LOT C/SEATAC INVESTMENTS LLC

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LEGEND:

MW-5

MW-2

PORT MW-1

TACO TIME D

MW-20

GASOLINE CONCENTRATION CONTOUR (ug/L)

QVA AQUIFER MONITORING WELL LOCATIONS

MONITORING WELLS SCREENED IN PERCHED AQUIFER

PORT OF SEATTLE (QVA) MONITORING WELLS (ABANDONED)

TACO TIME (QVA) MONITORING WELL (ABANDONED)

PROPOSED PHAS 1 MONITORING WELL

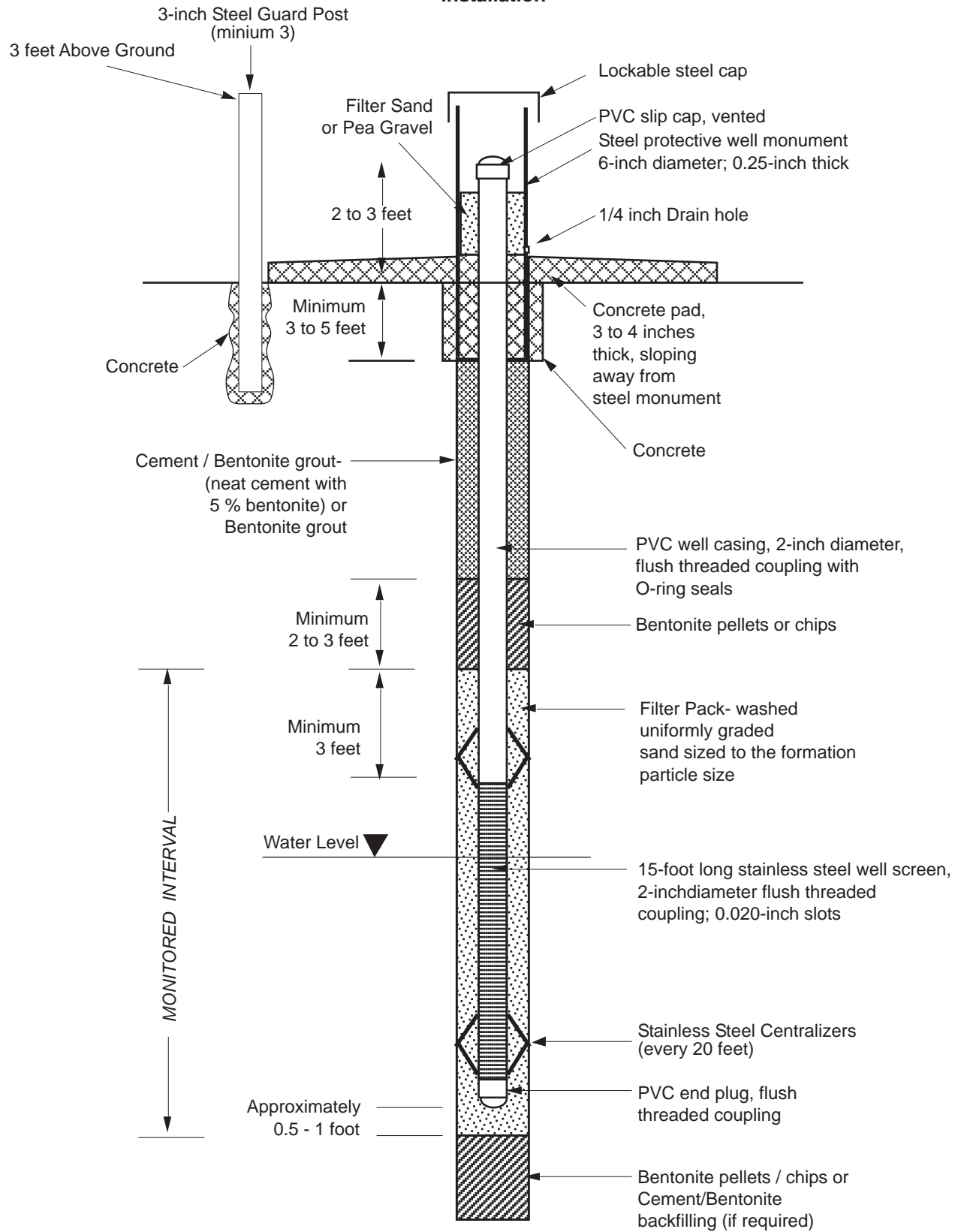
SOIL VAPOR PROBE LOCATION

FIGURE 7  
PHASE 1 WELL LOCATION  
MASTERPARK LOT C/SEATAC INVESTMENTS LLC

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Golder Associates

## Above Ground Monument Installation



NOT TO SCALE

FIGURE **8**  
**SCHEMATIC MONITORING  
WELL INSTALLATION DIAGRAM**  
LOT C/SEATAC INVESTMENT LLC