STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by:	AGREED ORDER
City of Kelso	No. DE 9914

TO: **Stephen Taylor, City Manager**
City of Kelso
207 4th Avenue North
Kelso, Washington 98626

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I. INTRODUCTION

The mutual objective of the State of Washington, Department of Ecology (Ecology) and **City of Kelso** under this Agreed Order (Order) is to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances. This Order requires **City of Kelso** to **implement the requirements of the Cleanup Action Plan (Exhibit A)**. 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. **City of Kelso** agrees to undertake all actions required by the terms and conditions of this Order. No change in ownership or corporate status shall alter **City of Kelso**'s responsibility under this Order. **City of Kelso** 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 **Terry's Salvage** and is generally located at **1124 N. Pacific Ave.** The Site is defined by the extent of contamination caused by the release of hazardous substances at the Site. The Site is more particularly described in the Site Diagram (Exhibit B). The Site constitutes a Facility under RCW 70.105D.020(5).

B. Parties: Refers to the State of Washington, Department of Ecology and **City of Kelso.**

C. Potentially Liable Person (PLP): Refers to **City of Kelso**.

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 **City of Kelso**:

A. City of Kelso is the owner of the properties located at 1124 North Pacific Avenue (Parcel Numbers 20476, 20489) as shown on the attached Cowlitz County Parcel Search Record (Exhibit C).

B. A Phase 1 Environmental Site Assessment by Maul Foster & Alongi, Inc. in 2012 found recognized environmental conditions at this Site, which included surface soil impacted with hazardous substances (metals, polycyclic aromatic hydrocarbons [PAHs], polychlorinated biphenyls [PCBs], petroleum, and petroleum-related constituent compounds) above MTCA Method A cleanup levels.

C. A Focused Site Assessment Report by Maul Foster & Alongi, Inc. in October 2012 found these same hazardous substances in the soil above MTCA Method A cleanup levels throughout the property, and metals were found on an adjoining parcel.

D. Based on the presence of these hazardous substances at the facility and all factors known to the Department, there is a release or threatened release of hazardous substances from the facility, as defined at RCW 70.105D.020(19). These hazardous substances present a threat to human health and the environment, and remedial action is thereby required.

VI. ECOLOGY DETERMINATIONS

A. PLP is 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 **City of Kelso** dated **March 27, 2013,** pursuant to RCW 70.105D.040, -.020(21) and WAC 173-340-500. By letter dated April 2, 2013, **City of Kelso** voluntarily waived its rights to notice and comment and accepted Ecology's determination that **City of Kelso** is a PLP under RCW 70.105D.040.

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.

E. Under WAC 173-340-430, an interim action is a remedial action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance, that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed, or that is needed to provide for completion of a site hazard assessment, remedial investigation/feasibility study or design of a cleanup action.

VII. WORK TO BE PERFORMED

Based on the Findings of Fact and Ecology Determinations, it is hereby ordered that **City of Kelso** 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. Within 60 days of the effective date of the final Cleanup Action Plan, the City of Kelso will submit a Draft Remedial Action Plan/Engineering Design Report describing remedial actions to be performed. Ecology comments will be submitted to PLP within 20 days of receipt. Ecology must approve this deliverable, and once approved by Ecology, this report becomes an integral and enforceable part of this Order. PLP will finalize Cleanup Action Completion Report within 20 days of receipt of Ecology's comments and submit to Ecology.

B. Data submittal reports will be submitted to Ecology within 30 days of receipt of final validated environmental data.

C. A draft Cleanup Action Completion Report will be submitted to Ecology 60 days following receipt by PLP of validated confirmation soil samples. Ecology comments will be submitted to PLP within 20 days of receipt of draft Cleanup Action Completion Report. PLP will finalize Cleanup Action Completion Report within 20 days of receipt of Ecology's comments and submit to Ecology.

D. Institutional controls in the form of an environmental covenant will be put in place by the City of Kelso if a contingency plan is necessary and soil contaminated above MTCA cleanup levels remain at the Site. If necessary, an environmental covenant will be drafted by Ecology for review by PLP within 30 days following finalization of the Remedial Action Report. The environmental covenant will be reviewed within 20 days of receipt by PLP, and recorded by the PLP within 30 days of being finalized by Ecology. The status and need for continuing institutional controls will be addressed during the periodic review of the cleanup action, if such review is necessary.

E. A draft Operation and Maintenance (O&M) Plan will be written by PLP within 30 days following the remedial action if a contingency plan is necessary and soil contaminated above MTCA cleanup levels remains at the Site. Ecology will have 20 days to review the draft O&M Plan and the report will be finalized by PLP within 20 days of receipt of Ecology's comments.

F. 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

City of Kelso 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 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). For all costs incurred subsequent to effective date of this agreed order, City of Kelso 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 work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) 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.

In addition to other available relief, pursuant to RCW 19.16.500, Ecology may utilize a collection agency and/or, pursuant to RCW 70.105D.055, file a lien against real property subject to the remedial actions to recover unreimbursed remedial action costs.

C. Implementation of Remedial Action

If Ecology determines that **City of Kelso** has failed without good cause to implement the remedial action, in whole or in part, Ecology may, after notice to **City of Kelso**, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of **City of Kelso**'s failure to comply with its obligations under this Order, **City of Kelso** shall reimburse Ecology for the costs of doing such work in accordance with Section VIII.___ (Remedial Action Costs), provided that **City of Kelso** is 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, **City of Kelso** 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:

Guy Barrett, LHG
PO Box 47775
Olympia, Washington 98504
360-407-7115

The project coordinator for **City of Kelso** is:

Nancy Malone, Planning Manager
City of Kelso
203 South Pacific, Suite 208
Kelso, Washington 98626
360-577-3320

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 **City of Kelso**, 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 Order.

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.

City of Kelso 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 **City of Kelso** either owns, controls, or has 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 **City of Kelso**'s 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 **City of Kelso**. **City of Kelso** shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by **City of Kelso** 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 **City of Kelso** 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, **City of Kelso** 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 ___ (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, **City of Kelso** shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by **City of Kelso** pursuant to implementation of this Order. **City of Kelso** shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow **City of Kelso** 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.___ (Access), Ecology shall notify **City of Kelso** 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 review any existing Public Participation Plan to determine its continued appropriateness and whether it requires amendment, or if no plan exists, Ecology shall develop a Public Participation Plan alone or in conjunction with **City of Kelso**.

Ecology shall maintain the responsibility for public participation at the Site. However, **City of Kelso** shall cooperate with Ecology, and shall:

1. If agreed to by 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 **City of Kelso** 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 **City of Kelso** that do not receive prior Ecology approval, **City of Kelso** 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. Kelso Community Library
351 Three Rivers Drive
Suite 1263
Kelso 98626
360.423.8110

b. Ecology's Southwest Regional Office
PO Box 47775
Olympia, WA 98504

At a minimum, copies of all public notices, fact sheets, and documents relating to public comment periods shall be promptly placed in these repositories. A copy of all documents related to this site shall be maintained in the repository at Ecology's **Southwest** Regional Office in **Olympia**, Washington.

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, **City of Kelso** 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, **City of Kelso** 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.___ (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, **City of Kelso** has 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. **City of Kelso** may then request regional management review of the decision. This request shall be submitted in writing to the **[region]** 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 **City of Kelso**'s 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 **City of Kelso** 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 **City of Kelso** 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 **City of Kelso**;

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

c. Endangerment as described in Section VIII.___ (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 **City of Kelso**.

3. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give **City of Kelso** 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.___ (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.___ (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.___ (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 **City of Kelso**. **City of Kelso** 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.___ (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 **City of Kelso** to cease such activities for such period of time as it deems necessary to abate the danger. **City of Kelso** shall immediately comply with such direction.

In the event **City of Kelso** 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, **City of Kelso** may cease such activities. **City of Kelso** 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 **City of Kelso** shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology

disagrees with **City of Kelso**'s cessation of activities, it may direct **City of Kelso** to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to Section VIII.___ (Endangerment), **City of Kelso**'s 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.___ (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 **City of Kelso** to recover remedial action costs paid to and received by Ecology under this Order. In addition, Ecology will not take additional enforcement actions against **City of Kelso** regarding remedial actions required by this Order, provided **City of Kelso** complies 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 **City of Kelso** 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 **City of Kelso**'s transfer of any interest in all or any portion of the Site, and during the effective period of this Order, **City of Kelso** 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, **City of Kelso** shall notify Ecology of said transfer. Upon transfer of any interest, **City of Kelso** 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 **City of Kelso** 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), **City of Kelso** is 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, **City of Kelso** 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.

City of Kelso has 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 **City of Kelso** determines 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 the other party of its determination. Ecology shall determine whether Ecology or **City of Kelso** shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, **City of Kelso** 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 **City of Kelso** and on how **City of Kelso** must meet those requirements. Ecology shall inform **City of Kelso** in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Order. **City of Kelso** 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 **City of Kelso** 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

City of Kelso agrees 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 **City of Kelso**, its officers, employees, agents, or contractors in entering into and implementing this Order. However, **City of Kelso** shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action to the extent 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 **City of Kelso**'s receipt of written notification from Ecology that **City of Kelso** has completed the remedial activity

required by this Order, as amended by any modifications, and that **City of Kelso** has 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 **City of Kelso** refuses, without sufficient cause, to comply with any term of this Order, **City of Kelso** 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: June 18, 2013

City of Kelso

Stephen Taylor, City Manager
City of Kelso
207 4th Avenue North
Kelso, Washington 98626
(360) 423-1371

**STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY**

Rebecca S. Lawson, P.E., LHG
Section Manager
Toxics Cleanup Program
Southwest Regional Office
Telephone: 360-407-6241

EXHIBIT A

DRAFT CLEANUP ACTION PLAN

Terry's Auto Salvage Site
Facility Site ID: 74599527
Cleanup Site ID: 3111
Kelso, Washington

April 2013
Washington Department of Ecology
Toxics Cleanup Program
Southwest Regional Office
Lacey, Washington

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1.0 INTRODUCTION

This report presents the Washington State Department of Ecology's (Ecology's) proposed cleanup action for the former Terry's Auto Salvage Site ("the Site") (Facility Site # 74599527) located at 1124 North Pacific Avenue in Kelso, Washington (Figure 1). This Cleanup Action Plan (CAP) is required as part of the site cleanup process under the Model Toxics Control Act (MTCA), Ch. 70.105D RCW, implemented by Ecology. The cleanup action decision is based on the Remedial Investigation/Feasibility Study (RI/FS) and other relevant documents in the administrative record.

This CAP outlines the following:

- The history of operations, ownership, and activities at the Site;
- The nature and extent of contamination as presented in the RI;
- Cleanup levels for the Site that are protective of human health and the environment;
- The selected remedial action for the Site; and
- Any compliance monitoring and institutional control requirements.

1.1. DECLARATION

Ecology has selected this remedy because it will be protective of human health and the environment. Furthermore, the selected remedy is consistent with the preference of the State of Washington as stated in RCW 70.105D.030(1)(b) for permanent solutions.

1.2. APPLICABILITY

Cleanup levels specified in this CAP are applicable only to the Terry's Auto Salvage Site. They were developed as a part of an overall remediation process under Ecology oversight using the authority of MTCA, and should not be considered as setting precedents for other sites.

1.3. ADMINISTRATIVE RECORD

The documents used to make the decisions discussed in this CAP are on file in the administrative record for the Site. Major documents are listed in the reference section. The entire administrative record for the Site is available for public review by appointment at Ecology's Southwest Regional Office, located at 300 Desmond Drive, Lacey, WA 98503-1274. Results from applicable studies and reports are summarized herein to provide background information pertinent to the CAP. These studies and reports include:

- Focused Site Assessment (this document meets the substantive requirements of the remedial investigation and feasibility study). Maul Foster & Alongi, Inc. October 2, 2012.
- Memorandum First Phase Site Assessment Results: Terry's Auto Salvage. Maul Foster & Alongi, Inc. May 9, 2012.

- Focused Site Assessment Work Plan: Terry's Auto Salvage. Maul Foster & Alongi, Inc. March 8, 2012.
- Phase I Environmental Site Assessment: Terry's Auto Salvage. Maul Foster & Alongi, Inc. November 6, 2012.
- Site Hazard Assessment: Terry's Auto Salvage. Department of Ecology. July 27, 2004.

1.4. CLEANUP PROCESS

Cleanup conducted under the MTCA process requires the preparation of specific documents either by the Potentially Liable Person (PLP) or by Ecology. These procedural tasks and resulting documents, along with the MTCA section that requires their completion, are listed below with a brief description of each task.

- Remedial Investigation and Feasibility Study - WAC 173-340-350
  The RI/FS documents the investigations and evaluations conducted at the Site from the discovery phase to the RI/FS document. The RI collects and presents information on the nature and extent of contamination, and the risks posed by the contamination. The FS presents and evaluates Site cleanup alternatives and proposes a preferred cleanup alternative. The document is prepared by the PLP, approved by Ecology, and undergoes public comment.
- Cleanup Action Plan - WAC 173-340-380
  The CAP sets cleanup levels and standards for the Site, and selects the cleanup actions intended to achieve the cleanup levels. The document is prepared by Ecology, and undergoes public comment.
- Engineering Design Report, Construction Plans and Specifications - WAC 173-340-400
  The report outlines details of the selected cleanup action, including any engineered systems and design components from the CAP. These may include construction plans and specifications with technical drawings. The document is prepared by the PLP and approved by Ecology. Public comment is optional.
- Operation and Maintenance Plan(s) - WAC 173-340-400
  These plans summarize the requirements for inspection and maintenance of cleanup actions. They include any actions required to operate and maintain equipment, structures, or other remedial systems. The document is prepared by the PLP and approved by Ecology.
- Cleanup Action Report - WAC 173-340-400
  The Cleanup Action Report is completed following implementation of the cleanup action, and provides details on the cleanup activities along with documentation of adherence to or variance from the CAP. The document is prepared by the PLP and approved by Ecology.
- Compliance Monitoring Plan - WAC 173-340-410
  Compliance Monitoring Plans provide details on the completion of monitoring activities required to ensure the cleanup action is performing as intended. It is prepared by the PLP and approved by Ecology.

2.0 SITE BACKGROUND

2.1 SITE HISTORY

The physical address for the Site is 1124 North Pacific Avenue in Kelso, Washington (see Figure 1). The Site comprises two triangular-shaped tax parcels (Cowlitz County parcel numbers 20476 and 20489) bordered by Redpath Street to the north, 1st Avenue North and residential properties to the east, and North Pacific Avenue to the west. The Site is located in section 27 of township 8 north and range 2 west of the Willamette Meridian. The northwest parcel (parcel number 20476) is approximately 0.51 acre and the southeast parcel (parcel number 20489) is approximately 0.21 acre. The parcels are zoned for multifamily housing and are on the edge of a single-family housing neighborhood.

A former garage/office building has been removed and there are no structures on the Site. The ground surface is unpaved, with little vegetation and only a few trees and shrubs. The Site is located approximately 500 feet east of the Cowlitz River. An active Burlington Northern Santa Fe rail line runs north-south between the Site and the river.

The Site was used as an auto salvage yard since the 1950s. The operations left the Site in a degraded condition, with stockpiles of old tires, scrap cars, and automotive parts. By 2005, operations at the Site ceased and the facility was abandoned. As part of a Neighborhood Stabilization Program grant, the City of Kelso (City) removed the derelict garage/office building and debris (e.g., tires, junk cars, auto parts) left on the Site. Demolition of the building was completed in November 2010. The Site was in arrears on taxes and the City initiated foreclosure in 2012.

2.2 SITE INVESTIGATIONS

There is a history of complaints concerning improper handling of hazardous materials and waste on the Site, which resulted in Ecology site visits in 1996, 1999, and 2002. Ecology staff instructed the property owner to clean up contaminated areas; however, concerns with the Site continued and Ecology received further complaints. In response to complaints from neighbors regarding spills of waste motor oil and other automobile fluids, Ecology conducted an initial investigation of the Site in 2002. During that initial investigation, Ecology collected two surface soil samples for petroleum hydrocarbon analysis. Lube oil was identified in both samples at concentrations above the MTCA Method A cleanup level for unrestricted land use.

The Site was subsequently listed on the Washington State Confirmed and Suspected Contaminated Sites list. In 2004, a site hazard assessment was conducted (Ecology, 2004), resulting in a hazard ranking of 2 (with 1 as the highest risk and 5 the lowest risk).

2.3 PHYSICAL SITE CHARACTERISTICS

2.3.1 Topography and Climate

The Site is located near the confluence of the Cowlitz and Columbia Rivers and the surrounding area is characterized by relatively flat alluvial floodplains situated between low, broadly eroded rounded hills that form the foothills of the western Cascade Mountain range. The Site

topography consists of a downward slope from the North Pacific Avenue to the center of the Site and a depression in the location of the former building, but otherwise, the Site is generally flat.

Annual precipitation in the Puget Sound lowlands varies from north to south, and averages approximately 45 inches in the vicinity of Kelso. Temperatures average approximately 40 degrees Fahrenheit in the winter and 63 degrees Fahrenheit in the summer (Western Regional Climate Center, 2013).

2.3.2 Geology and Hydrogeology

The investigations indicate that Site geology generally consists of an approximately 1-foot-thick surficial layer of gravel and gravelly sand with debris. Large debris was removed from the Site during the site demolition and clearing, but trace amounts of auto scrap debris remain scattered across the ground surface and within the first foot of soil, consisting of bits of wire, glass, plastic, and metal, and chunks of wood and tire. Underlying the surficial gravel and debris is a unit consisting of silt and sand extending to approximately 17 feet below ground surface (bgs). During sampling, a layer of dark gray sand was encountered at 17 feet bgs, which generally coarsened with depth and extended to approximately 35 feet bgs. Gravel was encountered at 35 feet bgs. The soil types encountered at the Site are consistent with Quaternary alluvial deposits known to exist in the area, which likely were deposited by the Cowlitz River.

Groundwater was encountered between 0 and 6 feet bgs; the shallowest groundwater was encountered in the depression left by the removal of the building. Soil was fully saturated from the top of the water table to the maximum depth explored (40 feet bgs), suggesting that there is one unconfined and continuous water-bearing zone extending from the ground surface to an unknown depth greater than 40 feet bgs. Based on groundwater data collected during the investigation, deep groundwater appears to be flowing toward the south. Shallow groundwater levels measured in temporary boreholes suggest shallow flow toward the northeast; however, groundwater elevation measurements collected from reconnaissance borings may be unreliable.

3.0 REMEDIAL INVESTIGATION

A Remedial Investigation (*Focused Site Assessment* [MFA, 2012]) was performed to assess the nature and extent of contamination in soil and groundwater.

3.1 SOIL

Concentrations of total petroleum hydrocarbons (TPH), benzene, xylenes, polychlorinated biphenyls (PCBs), and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) are above screening levels in former source areas (locations where former salvaging operations occurred). Metals exceedances were observed in multiple locations throughout the Site and in two samples collected from a neighboring residential property. Metals exceeding screening levels were primarily cadmium and lead, but also included one mercury and four arsenic exceedances. The metals exceedances did not demonstrate any pattern of contamination other than being shallow (0 to 2.0 feet bgs), except for lead at one location to 3.5 feet bgs (GP13). Non-metals chemical exceedances were observed at depths shallower than 2 feet bgs (Figure 2).

In summary, metals are present in soil above screening levels throughout the Site, primarily at depths shallower than 2 feet bgs. Petroleum hydrocarbons and multiple compounds associated with petroleum hydrocarbon releases (benzene, xylenes, cPAHs, PCBs) are present above screening levels in the central area of the northern parcel at depths shallower than 2 feet bgs. The vertical extent of hazardous substances in soil is generally consistent with observations of debris (e.g., bits of glass, plastic, wire, and metal; and chunks of wood and tire).

3.2 GROUNDWATER

No hazardous substances were identified above screening levels in groundwater, and groundwater appears not to be significantly impacted by site-related contaminants.

3.3 RISKS TO HUMAN HEALTH AND THE ENVIRONMENT

The Site is zoned for multi-family residential land use and is located in the middle of a residential area. It is anticipated that the Site will be redeveloped for residential housing. The Site is surrounded by residential uses.

Exposures to human populations could occur through contact with contaminated surface or subsurface soil, dust entrained in air, ingestion of contaminated soil, and inhalation of indoor/outdoor air vapors emanating from soil.

Current or future residents could potentially be exposed to chemicals in groundwater via ingestion of tap water from a drinking water well or inhalation of indoor/outdoor air vapors emanating from groundwater. However, these exposure scenarios are highly unlikely since hazardous substance concentrations in groundwater are relatively low (below screening levels) and drinking water in the City is supplied by a public water supply well that draws groundwater, with contributions from the Cowlitz River, at a location along the River more than two miles downstream from the Site (City of Kelso, 2013).

The Cowlitz River is approximately 500 feet west of the Site. There is very little likelihood of human or ecological exposure to chemically impacted groundwater via the groundwater-to-surface-water exposure scenario, based on the relatively low hazardous substance concentrations observed in groundwater and that groundwater was not observed as flowing towards the River.

Exposure is limited for ecological receptors. There is substantial on-site human disturbance and no important resources for wildlife.

4.0 CLEANUP STANDARDS

MTCA requires the establishment of cleanup standards for individual sites. The two primary components of cleanup standards are cleanup levels and points of compliance. Cleanup levels determine the concentration at which a substance does not threaten human health or the environment. All material that exceeds a cleanup level is addressed through a remedy that prevents exposure to the material. Points of compliance represent the locations on the site where cleanup levels must be met.

4.1 OVERVIEW

The MTCA Cleanup Regulation provides three options for establishing cleanup levels: Methods A, B, and C.

- Method A may be used to establish cleanup levels at routine sites or sites with relatively few hazardous substances.
- Method B is the standard method for establishing cleanup levels and may be used to establish cleanup levels at any site.
- Method C is a conditional method used when a cleanup level under Method A or B is technically impossible to achieve or may cause significantly greater environmental harm. Method C also may be applied to qualifying industrial properties.

The process for establishing cleanup levels involves the following:

- Determining which contaminants contribute the majority of the overall risk in each media (indicator hazardous substances [IHS])
- Determining which method to use;
- Developing cleanup levels for individual contaminants in each media; and
- For cleanup levels established under Method B or C, adjusting the cleanup levels downward based on total site risk.

The MTCA Cleanup Regulation defines the factors used to determine whether a substance should be retained as an IHS for the Site. When defining cleanup levels at a site contaminated with several hazardous substances, Ecology may eliminate from consideration those contaminants that contribute a small percentage of the overall threat to human health and the environment. Relatively few hazardous substances were detected above screening levels at the Site. Therefore, all hazardous substances detected at concentrations above their applicable screening levels were retained as IHS.

MTCA also considers the limits of analytical chemistry. If the practical quantitation limit of a substance is greater than the risk-based cleanup level, then the cleanup level can be set equal to that limit.

At sites with risk-based cleanup levels (Method B or C), cleanup levels may need to be adjusted downward based on total site risk. As discussed in Section 4.3, Method A was selected for the Site; therefore, cleanup levels were not adjusted based on total site risk.

4.2 TERRESTRIAL ECOLOGICAL EVALUATION

WAC 173-340-7490 requires that sites perform a terrestrial ecological evaluation (TEE) to determine the potential effects of soil contamination on ecological receptors. Sites may be removed from further ecological consideration by either documenting an exclusion using the criteria set forth in WAC 173-340-7491 or conducting a simplified TEE procedure as set forth in WAC 173-340-7492. The simplified TEE provides an evaluation process that may be used to identify sites which do not have a substantial potential for posing a threat of significant adverse

effects to terrestrial ecological receptors, and thus may be removed from further ecological consideration during the RI and cleanup process. The simplified TEE exposure analysis procedure set forth under WAC 173-340-749(2)(a)(ii) and in MTCA Table 749-1 was completed as part of the Focused Site Assessment. The simplified TEE results indicate that the Site does not pose a substantial threat to potential ecological receptors and no further ecological evaluation is necessary. Therefore, environmental exposure pathways are deemed incomplete and cleanup levels were not established for ecological receptors.

4.3 Site Cleanup Levels

The Focused Site Assessment and previous investigations have documented the presence of contamination in soil at the Site. Groundwater at the Site appears not to be significantly impacted by site-related contaminants. Hazardous substance concentrations in groundwater were below screening levels. Therefore, no IHSs were identified for groundwater and cleanup levels will be developed for soil only.

Because the Site has relatively few IHSs, limited exposure pathways, and was removed for further ecological consideration based on the results of the simplified terrestrial ecological evaluation, it is considered a "routine cleanup action". Therefore, Method A applies. It is anticipated that the Site be used for residential purposes in the future; therefore, the Method A, unrestricted land use values are appropriate.

The Method A cleanup levels for soil are largely based on protection of groundwater as a drinking water source (leaching-to-groundwater pathway), as appropriate for chemicals that pose a leaching potential. Therefore, even though the empirical groundwater data indicate that the leaching-to-groundwater pathway at the Site is insignificant, the selected cleanup levels will be protective of groundwater.

Soil cleanup level development is shown in Table 1. Standards are evaluated for any state or federal laws and Method A values. The lowest of these standards is set as the preliminary cleanup level, unless that number is below natural background. As stated earlier, the Site was removed from terrestrial ecological evaluation; therefore, ecological standards do not apply.

4.4 Point of Compliance

The MTCA Cleanup Regulation defines the point of compliance as the point or points where cleanup levels shall be attained. Once cleanup levels are met at the point of compliance, the Site is no longer considered a threat to human health or the environment.

WAC 173-340-740(6) gives the point of compliance requirements for soil. The standard point of compliance for direct contact is soil within 15 feet of the ground surface throughout the entire site. This standard point of compliance is applied to soil on the Site.

5.0 CLEANUP ACTION SELECTION

5.1 REMEDIAL ACTION OBJECTIVE

The remedial action objectives describe the actions necessary to protect human health and the environment through eliminating, reducing, or otherwise controlling risks posed through each exposure pathway and migration route. These objectives are developed by evaluating the characteristics of the contaminated media, the characteristics of the hazardous substances present, migration and exposure pathways, and potential receptor points.

Soil has been contaminated as a result of past activities at the Site. People are typically exposed to contaminated soil via dermal contact or inhalation of dust or volatile constituents. Potential receptors include on-site workers, future on-site residents, trespassers, residents of nearby neighborhoods, passersby and nearby off-site workers.

To address these remaining risks, the remedial action objective is to prevent or minimize direct contact or ingestion of contaminated soil by humans.

5.2 CLEANUP ACTION ALTERNATIVES

Cleanup alternatives are evaluated as part of the Focused Site Assessment for the Site. The study included the evaluation of two options for soil cleanup. The alternatives were scored and ranked using relevant criteria as described in WAC 173-340-360. Each of the considered alternatives includes a combination of one or more of the following remedial actions:

- Soil Removal
- Consolidation and Capping
- Institutional Controls / Restrictive Covenant - including site management plan provisions.

These remedial action options were combined to two alternatives, each intended to address all contaminated media exceeding associated cleanup levels at the Site. The following alternatives were developed based on the alternatives proposed in the Focused Site Assessment.

5.2.1 Alternative 1: Excavation and Off-Site Disposal of All Contaminated Soil

Alternative 1 involves excavating and disposing off-site at an appropriate landfill, all soil that is likely to exceed site-specific cleanup levels, which may include surficial soil and debris scraped from the Site as well as soil removed from excavation areas (Figure 3). The remedial action would consist of the following elements:

- Excavate an approximate 12-foot radius around sample locations where metal and/or petroleum impacts have been observed, or to the distance where another sample was collected with concentrations below cleanup levels, whichever is smaller. Excavation depths range from 2 to 4 feet bgs depending on sample data. Excavation extents will be screened with x-ray fluorescence and a photoionization detector (PID) prior to confirmation sampling. Characterization samples will be collected from soil stockpiles for waste profiling prior to off-site disposal. The excavation volume is estimated to be approximately 967 cubic yards.

- Scrape the remainder of the Site to a minimum depth of 8 inches to remove metal, glass, and miscellaneous debris and organics. Debris may be as deep as 24 inches in some areas. The final scrape depth will be based on field observations. The volume of scraped material is estimated to be 803 cubic yards. This material will be stockpiled and composite samples will be collected and analyzed for waste profiling prior to off-site disposal.
- Backfill the Site with clean, imported fill to the recommended ground surface elevation for stormwater management and redevelopment. Hydroseed finished grade to stabilize and prevent soil erosion.
- Decommission existing on-site monitoring wells.
- The objective of the Alternative 1 remedial action is to remove all soil with impacts exceeding MTCA Method A CULs. The estimated volume of material to be removed by excavation and site scraping is 1,770 cubic yards. If the actual volume of soil with impacts exceeding MTCA Method A CULs exceeds the estimated volume, the material will be excavated and disposed of off site, if allowed by the project budget. However, if budget funds are not available, a contingency plan shall be developed with Ecology that may include capping of metals-impacted soils exceeding MTCA Method A CULs. The contingency plan would require all volatile-organic-compound-impacted soils to be removed from the site. Soil with metals impacts would be consolidated and placed under a demarcation fabric and 1-foot cap of clean general fill, which is to be imported to achieve desired site development grades. Institutional controls would be put in place to protect the cap and mitigate exposure and all impacted soils remaining on site would be documented in a soil management plan.
- The estimated cost for Alternative 1 is $617,100 (including 30% contingency).

5.2.2 Alternative 2: Targeted Excavation, Consolidation, and Capping

Alternative 2 includes excavation and off-site disposal of soil impacted by benzene (Figure 4). Remaining soil impacts above MTCA cleanup levels will be excavated and consolidated in an existing depression on the north parcel and capped with soil or impervious surface. Alternative 2 includes the following actions:

- Targeted Benzene Removal. Excavate an approximate 12-foot radius around sample locations where benzene impacts have been observed (MW03, HA11, GP01 and GP13). The excavation extent will be screened with a PID prior to confirmation sampling. The excavation volume is estimated to be approximately 104 cubic yards. Characterization samples will be collected from soil stockpiles for waste profiling.
- Soil stripping. Organics will be stripped from all areas of the Site, excluding the benzene excavation area, and from the soil excavation area on the neighboring property. The northern parcel will be stripped to a depth of 4 inches and the southern parcel to a depth of 8 inches. The volume of stripped material is estimated to be 527 cubic yards. This material will be stockpiled and composite samples will be collected and analyzed for waste profiling.
- Soil Consolidation. After the soil surface has been stripped to remove organics and the benzene-impacted soil has been excavated, the remainder of the Site will be scraped and soil impacts will be excavated from targeted areas, as described below. The scraped and excavated soil will be consolidated in the existing depression on the north parcel at the location of the former building.

- Soil will be scraped to a minimum depth of 8 inches to remove metal, glass, and miscellaneous debris. Debris may be as deep as 24 inches in some areas. The final scrape depth will be based on field observations.
- Metals and/or petroleum impacts in soil that occur at elevations greater than 1 foot above the recommended ground surface elevation for stormwater management and redevelopment will be excavated. An approximate 12-foot radius will be excavated around the impacted areas, or to the distance where another sample was collected with concentrations below cleanup levels, whichever is smaller. Excavation depths range from 2 to 4 feet bgs depending on sample data. Excavation extents will be screened with x-ray fluorescence.
- Capping. Metals and/or petroleum impacts in soil that are left in-place will be capped with a minimum 1 foot of clean soil, asphalt surfacing (ex. parking lot), or concrete surfaces (ex. slabs, walkways). Areas to be capped include soil within the consolidation area and impacted soils left in-place (i.e., metals and/or petroleum soil impacts that occur at least 1 foot below the final recommended ground surface elevation for stormwater management and redevelopment). Clean soil will either be imported or will be redistributed from clean areas of the Site. Cap material will be placed on top of a brightly colored demarcation fabric, which will visually indicate the presence of contaminated soil to future site workers.
- Backfill the Site, as needed, with clean, imported fill to the recommended ground surface elevation for stormwater management and redevelopment. Hydroseed finished grade to stabilize and prevent soil erosion.
- Institutional Controls. A soil management plan will be developed and an environmental covenant placed on the property to protect the engineered cap. The soil management plan will describe the nature and locations of contaminated soil that are left in place, discuss potential worker safety considerations, and will identify the type of demarcation fabric that is placed for future site activities penetrating the soil cap. In addition, a cap inspection plan will be implemented to provide annual inspections by City staff to ensure that the demarcation fabric is not visible in any areas of the property.
- Decommission existing on-site monitoring wells.
- The estimated cost for Alternative 2 is $287,900 (including 30% contingency).

5.3 REGULATORY REQUIREMENTS

The MTCA Cleanup Regulation sets forth the minimum requirements and procedures for selecting a cleanup action. A cleanup action must meet each of the minimum requirements specified in WAC 173-340-360(2), including certain threshold and other requirements. These requirements are outlined below.

5.3.1 Threshold Requirements

WAC 173-340-360(2)(a) requires that the cleanup action shall:

- Protect human health and the environment;
- Comply with cleanup standards (see Section 4.3);
- Comply with applicable state and federal laws (see Section 5.3.4); and

- Provide for compliance monitoring.

5.3.2 Other Requirements

In addition, WAC 173-340-360(2)(b) states that the cleanup action shall:

- Use permanent solutions to the maximum extent practicable;
- Provide for a reasonable restoration time frame; and
- Consider public concerns.

WAC 173-340-360(3) describes the specific requirements and procedures for determining whether a cleanup action uses permanent solutions to the maximum extent practicable. A permanent solution is defined as one where cleanup levels can be met without further action being required at the site other than the disposal of residue from the treatment of hazardous substances. To determine whether a cleanup action uses permanent solutions to the maximum extent practicable, a disproportionate cost analysis is conducted. This analysis compares the costs and benefits of the cleanup action alternatives and involves the consideration of several factors, including:

- Protectiveness;
- Permanent reduction of toxicity, mobility and volume;
- Cost;
- Long-term effectiveness;
- Short-term risk;
- Implementability; and
- Consideration of public concerns.

The comparison of benefits and costs may be quantitative, but will often be qualitative and require the use of best professional judgment.

WAC 173-340-360(4) describes the specific requirements and procedures for determining whether a cleanup action provides for a reasonable restoration time frame. Additional cleanup action requirements apply at sites with contaminated groundwater, in accordance with WAC 173-340-360(2)(c); however, these are not applicable at the Site.

5.3.3 Cleanup Action Expectations

WAC 173-340-370 sets forth the following expectations for the development of cleanup action alternatives and the selection of cleanup actions. These expectations represent the types of cleanup actions Ecology considers likely results of the remedy selection process; however, Ecology recognizes that there may be some sites where cleanup actions conforming to these expectations are not appropriate.

- Treatment technologies will be emphasized at sites with liquid wastes, areas with high concentrations of hazardous substances, or with highly mobile and/or highly treatable contaminants;
- To minimize the need for long-term management of contaminated materials, hazardous substances will be destroyed, detoxified, and/or removed to concentrations below cleanup levels throughout sites with small volumes of hazardous substances;
- Engineering controls, such as containment, may need to be used at sites with large volumes of materials with relatively low levels of hazardous substances where treatment is impracticable;
- To minimize the potential for migration of hazardous substances, active measures will be taken to prevent precipitation and runoff from coming into contact with contaminated soil or waste materials;
- When hazardous substances remain on-site at concentrations which exceed cleanup levels, they will be consolidated to the maximum extent practicable where needed to minimize the potential for direct contact and migration of hazardous substances;
- For sites adjacent to surface water, active measures will be taken to prevent/minimize releases to that water; dilution will not be the sole method for demonstrating compliance;
- Natural attenuation of hazardous substances may be appropriate at sites where 1) source control is conducted to the maximum extent practicable, 2) leaving contaminants on-site doesn't pose an unacceptable risk, 3) there is evidence that natural degradation is occurring and will continue to occur, and 4) appropriate monitoring is taking place; and
- Cleanup actions will not result in a significantly greater overall threat to human health and the environment than other alternatives.

5.3.4 Applicable, Relevant, and Appropriate, and Local Requirements

WAC 173-340-710(1) requires that all cleanup actions comply with all applicable state and federal law. It further states that the term "applicable state and federal laws" shall include legally applicable requirements and those requirements that the department determines "...are relevant and appropriate requirements." This section discusses applicable state and federal law, relevant and appropriate requirements, and local permitting requirements which were considered and were of primary importance in selecting cleanup requirements. If other requirements are identified at a later date, they will be applied to the cleanup actions at that time.

MTCA provides an exemption from the procedural requirements of several state laws and from any laws authorizing local government permits or approvals for remedial actions conducted under a consent decree, order, or agreed order [RCW 70.105D.090]. However, the substantive requirements of a required permit must be met. The procedural requirements of the following state laws are exempted:

- Ch. 70.94 RCW, Washington Clean Air Act;
- Ch. 70.95 RCW, Solid Waste Management, Reduction, and Recycling;
- Ch. 70.105 RCW, Hazardous Waste Management;

- Ch. 75.20 RCW, Construction Projects in State Waters;
- Ch. 90.48 RCW, Water Pollution Control; and
- Ch. 90.58 RCW, Shoreline Management Act of 1971.

WAC 173-340-710(4) sets forth the criteria that Ecology evaluates when determining whether certain requirements are relevant and appropriate for a cleanup action. Table 2 lists the state and federal laws that contain the applicable or relevant and appropriate requirements that apply to the cleanup action at the Site. Local laws, which may be more stringent than specified state and federal laws, will govern where applicable.

5.4 Evaluation of Cleanup Action Alternatives

The requirements and criteria outlined in Section 5.3 are used to conduct a comparative evaluation of the two alternatives and to select a cleanup action from those alternatives. Table 3 provides a summary of the ranking of the alternatives against the various criteria.

5.4.1 Threshold Requirements

5.4.1.1 Protection of Human Health and the Environment

Protectiveness is a factor by which human health and the environment are protected by the cleanup action, including the degree to which existing risks are reduced; time required to reduce risk at the facility and attain cleanup standards; on-site and off-site risks resulting from implementing the cleanup action alternative; and improvement of the overall environmental quality. Alternatives 1 and 2 are equally protective because human and ecological exposure to all soil exceeding cleanup levels are either removed from the site or capped in place with clean material.

5.4.1.2 Compliance with Cleanup Standards

Both Alternatives 1 and 2 comply with the selected cleanup levels and are consistent with MTCA.

5.4.1.3 Compliance with State and Federal Laws

Alternatives 1 and 2 would be in compliance with applicable state and federal laws listed in Table 2. Local laws, which can be more stringent, will govern actions when they are applicable. These will be established during the design phase of the project.

5.4.1.4 Provision for Compliance Monitoring

There are three types of compliance monitoring: protection, performance, and confirmational. Protection monitoring is designed to protect human health and the environment during the construction and operation & maintenance phases of the cleanup action. Performance monitoring confirms that the cleanup action has met cleanup and/or performance standards. Confirmational monitoring confirms the long-term effectiveness of the cleanup action once cleanup standards have been met or other performance standards have been attained. Both cleanup alternatives

require varying levels of all three types of compliance monitoring and therefore will meet this provision.

5.4.2 Other Requirements

5.4.2.1 Use of Permanent Solutions to the Maximum Extent Practicable

As discussed previously, to determine whether a cleanup action uses permanent solutions to the maximum extent practicable, the disproportionate cost analysis specified in the regulation is used. The analysis compares the costs and benefits of the cleanup action alternatives and involves the consideration of several factors. The comparison of costs and benefits may be quantitative, but will often be qualitative and require the use of best professional judgment.

Costs are disproportionate to the benefits if the incremental costs of an alternative are disproportionate to the incremental benefits of that alternative. Based on the analysis described below, it has been determined that Alternatives 1 and 2 have close rankings for use of a permanent solution to the maximum extent practicable. Alternative 1 provides a higher degree of permanence and long-term effectiveness, but the cost is over twice that of Alternative 2.

- Protectiveness

Protectiveness measures the degree to which existing risks are reduced, the time required to reduce risk and attain cleanup standards, on- and off-site risks resulting from implementing the alternative, and improvement of overall environmental quality. Both of the cleanup alternatives are protective. Alternatives 1 and 2 are equally protective because human and ecological exposure to all soil exceeding cleanup levels are either removed from the site or capped in place with clean material.

- Permanent Reduction of Toxicity, Mobility and Volume

Permanence measures the adequacy of the alternative in destroying the hazardous substance(s), the reduction or elimination of releases or sources of releases, the degree of irreversibility of any treatment process, and the characteristics and quantity of any treatment residuals.

Removal of impacted soil would be considered the most permanent soil action because it permanently eliminates the source of releases at the Site. Alternatives that include less soil removal would be equivalently less permanent because they would rely on institutional controls which could be violated or removed from the site in the future. Therefore, Alternative 1 would be ranked higher for permanence than Alternative 2.

- Cleanup Costs

Costs are approximated based on specific design assumptions for each alternative. Although the costs are estimates based on design assumptions that might change, the relative costs can be used for this evaluation. The estimated cost for Alternative 1 ($617,100) is more than twice the cost for Alternative 2 ($287,900). For a detailed description of the costs involved with each alternative, please refer to the Focused Site Assessment.

Alternatives 1 and 2 include anticipated costs for disposing a portion of lead-contaminated soil, at concentrations above 100 milligrams per kilogram (mg/kg), as hazardous waste. If this soil can be stabilized on-site, then costs can be reduced through disposal at a less expensive landfill.

- Long-Term Effectiveness

Long-term effectiveness measures the degree of success, the reliability of the alternative during the period that hazardous substances will remain above cleanup levels, the magnitude of residual risk after implementation, and the effectiveness of controls required to manage remaining wastes.

Soil actions that remove more contaminated soils would have greater long-term effectiveness because they would immediately be successful in achieving cleanup levels, would represent lower residual risk, and would need no site management controls. Soils that remove less contaminated soil would have reduced long-term effectiveness. Therefore, long-term effectiveness of Alternative 1 would be considered slightly higher than Alternative 2 since it removes all contaminated soil.

- Short-Term Risk

Short-term risk measures the risks related to an alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks. Generally, short-term risks are expected to be linearly related to the amount of material handled, treated, and/or transported and disposed of (e.g., worker injury per cubic yard excavated [equipment failure], public exposure per cubic yard-mile transported [highway accident]).

Potential public exposure during transport, handling, and excavation required for both of the alternatives could lead to short-term risks. Alternative 2 requires less off-site transportation and handling of impacted soil so would involve lower short-term risks and is therefore ranked highest.

- Implementability

Implementability considers whether the alternative is technically possible, the availability of necessary off-site facilities, services, and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for operations and monitoring, and integrations with existing facility operations.

The proposed alternatives are both well proven and have been employed at many sites throughout Washington State and the United States; both are readily implementable and rank equivalently.

- Consider Public Concerns

This factor includes considering concerns from individuals; community groups; and local governments, tribes, federal and state agencies, and any other organization that may have an interest in or knowledge of the site and that may have a preferred alternative. Both alternatives provide opportunity for members of the public to review and comment on plans. No major

concerns were raised by the public from informational flyers or during a community meeting held on October 18, 2012 that occurred during the investigation process.

5.4.2.2 Provide a Reasonable Restoration Time Frame

WAC 173-340-360(4) describes the specific requirements and procedures for determining whether a cleanup action provides for a reasonable restoration time frame, as required under subsection (2)(b)(ii). The factors that are used to determine whether a cleanup action provides a reasonable restoration time frame are set forth in WAC 173-340-360(4)(b) and include:

- Potential risks posed by the site to human health & the environment;
- Practicability of achieving a shorter restoration time frame;
- Current site use and nearby resources that are or may be affected by the site;
- Potential future use of the site and nearby resources that are or may be affected by the site;
- Availability of alternative water supplies;
- Likely effectiveness and reliability of institutional controls;
- Ability to control and monitor migration of hazardous substances;
- Toxicity of hazardous substances; and
- Natural processes that reduce contaminant concentrations and are documented to occur.

Alternatives that rely on removal of soil containing contaminants exceeding cleanup levels provide the greatest flexibility for current and future site use, the greatest reduction in risk, and relieve reliance on institutional controls. Alternatives that only cap impacted soil on site rely on institutional controls, have residual risk, and increase the restoration time frame by leaving in place a potential ongoing source of contamination. Therefore, Alternative 1 is ranked higher than Alternative 2.

5.4.3 Cleanup Action Expectations

Specific expectations of cleanup levels are outlined in WAC 173-340-370 and are described in Section 5.3.3. Alternatives 1 and 2 include source control measures through the targeted removal of contaminated soils. Alternative 2 consolidates and caps a portion of impacted soils on site. Soil removal and capping effectively remove or reduce the overall threat to human health and the environment. These actions meet the following cleanup expectations:

- In Alternative 1, to minimize the need for long-term management of contaminated materials, hazardous substances will be removed. Alternative 2 includes consolidation of contaminated material on site; however, this alternative includes minimal management in the form of institutional controls and maintenance of the cap and the containment option is consistent with cleanup expectations associated with engineering controls.
- Engineering controls, such as containment, are appropriate for this Site and included in Alternative 2 because there is a large volume of material with relatively low levels of hazardous substances where treatment is impracticable.

- Consolidation of hazardous substances remaining on site at concentrations which exceed cleanup levels is appropriate for this Site and is included in Alternative 2.
- In both Alternatives 1 and 2, cleanup actions will not result in a significantly greater overall threat to human health and the environment.

The following cleanup expectations are not applicable to the Site:

- Treatment technologies are not necessary since both alternatives include removal of soil with high concentrations of hazardous substances.
- The investigation data indicates that hazardous substances are not impacting groundwater, so active measures are not needed to prevent precipitation and runoff from coming into contact with contaminated soil.
- The investigation data indicates that hazardous substances are not impacting groundwater and groundwater is not flowing towards the nearby Cowlitz River. Therefore, active measures are not needed to prevent/minimize releases to surface water.
- Natural attenuation of hazardous substances is not necessary since both alternatives include removal of soil with high concentrations of hazardous substances, and the consolidation and capping included in Alternative 2 will effectively remove all identified exposure pathways to soil with low concentrations of hazardous substances.

5.5 DECISION

Based on the analysis described above, Alternative 1 has been selected as the proposed remedial action for the Terry's Auto Salvage Site. The alternative meets each of the minimum requirements for remedial actions and provides a potentially shorter timeframe (1 to 2 years) for achieving cleanup objectives.

Alternative 1 meets each of the threshold requirements and uses permanent solutions to the maximum extent practicable. The cost for Alternative 2 is significantly less, but it is less protective in the short term, is less permanent because it includes less soil removal and relies on institutional controls, and requires a potentially longer timeframe because impacted soils would be consolidated and capped on-site. Table 3 provides a summary of the relative ranking of each alternative in the decision process.

6.0 SELECTED REMEDIAL ACTION

The proposed cleanup action for the Site includes the excavation of all soils exceeding cleanup levels for TPH, PCBs, cPAHs, benzene, xylenes, and metals (Figure 3). No groundwater remedial actions are deemed necessary.

Compliance monitoring will take place, and will be established in a Compliance Monitoring Plan to be submitted to and approved by Ecology in conjunction with Engineering Design Plans. Protection monitoring will involve dust control during any work with contaminated soil. Performance monitoring will consist of the evaluation of soil sampling results. Confirmational sampling will be conducted after all soil that fails x-ray fluorescence and PID field screening criteria has been removed.

The objective of the proposed cleanup action is to remove all soil with impacts exceeding MTCA Method A CULs. However, if funds are not available to excavate all material exceeding CULs, a contingency plan shall be developed with Ecology that may include capping of metals-impacted soils. The contingency plan would require all volatile-organic-compound-impacted soils to be removed from the site. Soil with metals impacts would be consolidated and placed under a demarcation fabric and 1-foot cap of clean general fill, which is to be imported to achieve desired site development grades. Institutional controls would be put in place to protect the cap and mitigate exposure and all impacted soils remaining on site would be documented in a soil management plan.

Figure 3 shows preliminary excavation extents based on observed IHS cleanup level exceedances; however, excavation boundaries may change based on field screening.

IHSs were not observed in groundwater at the Site; therefore, no remedial actions are planned for groundwater and groundwater monitoring is not required.

6.1 Institutional Controls

Institutional controls are measures undertaken to limit or prohibit activities that may interfere with the integrity of a cleanup action or result in exposure to hazardous substances at the Site. Such measures are required to assure both the continued protection of human health and the environment and the integrity of the cleanup action whenever hazardous substances remain at the site at concentrations exceeding applicable cleanup levels. Institutional controls can include both physical measures and legal and administrative mechanisms. WAC 173-340-440 provides information on institutional controls, and the conditions under which they may be removed.

No institutional controls are planned for the Site at this time given that the selected remedial alternative includes removal of all material contaminated above cleanup levels. However, if as a contingency impacted soil exceeding MTCA A CULs is capped and remains on-site, a restrictive covenant and institutional controls will be put in place on the affected property and a soil management plan will be developed.

6.2 Financial Assurances

WAC 173-340-440 states that financial assurance mechanisms shall be required at sites where the selected cleanup action includes engineered and/or institutional controls. Financial assurances are not required at this Site because no engineered or institutional controls are planned for the Site. However, if as a contingency impacted soil exceeding MTCA A CULs is capped and remains on-site, financial assurances may be required in to provide financial resources for the long-term effectiveness of the soil cap and institutional controls adopted.

6.3 Periodic Review

WAC 173-340-420 states that at sites where a cleanup action requires an institutional control or financial assurance, a periodic review shall be completed no less frequently than every five years after the initiation of a cleanup action. No institutional controls or financial assurances are planned for the Site; therefore, periodic reviews are not required. However, if as a contingency

impacted soil exceeding MTCA A CULs is capped and remains on-site and institutional controls and financial assurances are adopted, periodic reviews may be required.

7.0 REFERENCES CITED

Ecology. 2004. Letter (re: site hazard assessment—Terry's Salvage, Ecology Facility Site I.D. No. 74599527) to C. G. McGraw, from M. J. Spencer, Washington State Department of Ecology, Olympia, Washington. July 27

MFA. 2012. Focused Site Assessment: Former Terry's Auto Salvage Property. Prepared for City of Kelso. Prepared by Maul Foster & Alongi, Inc. October.

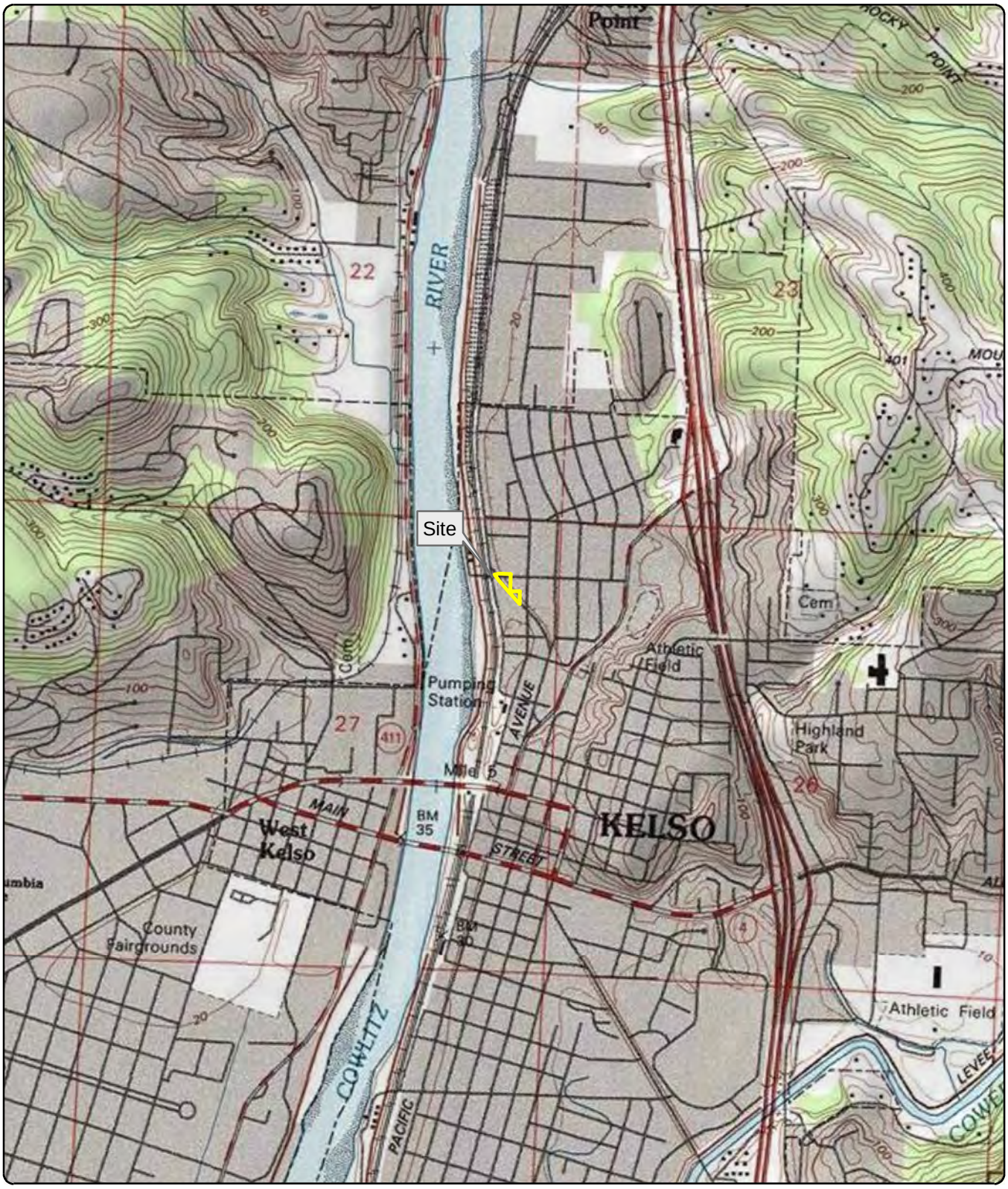
MFA. 2012. Phase I Environmental Site Assessment: Former Terry's Auto Salvage Property. Prepared for City of Kelso. Prepared by Maul Foster & Alongi, Inc. November.

MFA. 2012. Memorandum First Phase Site Assessment Results: Terry's Auto Salvage. Prepared for City of Kelso. Prepared by Maul Foster & Alongi, Inc. May.

MFA. 2012. Focused Site Assessment Work Plan: Former Terry's Auto Salvage Property. Prepared for City of Kelso. Prepared by Maul Foster & Alongi, Inc. March.

Western Regional Climate Center. 2013. Internet site (re: Climate of Washington) http://www.wrcc.dri.edu/narratives/WASHINGTON.htm.

City of Kelso. 2013. Internet site (re: Water Treatment and Supply) http://www.kelso.gov/departments-services/public-works/operations-department/water-treatment-and-supply.



Site Address: 1124 North Pacific Avenue, Kelso, Washington
Source: US Geological Survey (1990) 7.5-minute topographic quadrangle: Kelso
Section 27, Township 8N, Range 2W

Legend

Site

0 750 1,500
Feet

Figure 1
Site Location

Terry's Auto Salvage
Kelso, Washington

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Path: X:\0443.02\Projects\Fig1_Site Location.mxd
Print Date: 8/15/2012
Approved By: H. Hirsch
Produced By: Hines
Project: 0443.02.02

Analyte (mg/kg)	HA01	
Sample Date	3/20/2012	
Sample Depth Interval (ft bgs)	0-1	1-2
Metals		
Cadmium	**2.04**	**0.231**
Lead	**898**	**25.7**

Analyte (mg/kg)	HA04	
Sample Date	3/22/2012	
Sample Depth Interval (ft bgs)	0-1	1-2
Metals		
Cadmium	**4.05**	**0.564**
Lead	**417**	**78.3**

Analyte (mg/kg)	MW03	
Sample Date	5/31/2012	
Sample Depth Interval (ft bgs)	0.7-1.3	1-2
VOCs		
Benzene	**0.056**	0.069 U

Analyte (mg/kg)	HA11	
Sample Date	5/29/2012	
Sample Depth Interval (ft bgs)	0-1	1-2
VOCs		
Benzene	0.07 U	**0.65**

Analyte (mg/kg)	GP13	
Sample Date	5/31/2012	
Sample Depth Interval (ft bgs)	0-2	2-3.5
TPH		
Gasoline	**50.7**	**4.05**
Heavy Oils	**10,910**	**149.4**
Metals		
Cadmium	**19.2**	**0.139**
Lead	**1,480**	**786**
VOCs		
Benzene	**0.44**	0.033 U
PCBs		
Total PCBs	**2.77**	ND

Analyte (mg/kg)	GP01	
Sample Date	3/20/2012	
Sample Depth Interval (ft bgs)	0-1	5-5.8
TPH		
Gasoline	**691**	**5.55**
Heavy Oils	**12,268.15**	**200.7**
Metals		
Cadmium	**14.9**	**0.258**
Lead	**887**	**26.1**
VOCs		
Benzene	**0.111**	0.014 U
Total Xylenes	**11.39**	ND
PCBs		
Total PCBs	**3.89**	**0.093**

Analyte (mg/kg)	GP04
Sample Date	3/20/2012
Sample Depth Interval (ft bgs)	0-2
Metals	
Cadmium	**4.73**
Lead	**838**

Analyte (mg/kg)	HA03
Sample Date	3/20/2012
Sample Depth Interval (ft bgs)	0-1
Metals	
Cadmium	**6.04**
Lead	**2,400**
Mercury	**72.3**
cPAHs	
cPAH TEQ	**0.115**

Analyte (mg/kg)	HA02
Sample Date	3/20/2012
Sample Depth Interval (ft bgs)	0-1
Metals	
Cadmium	**2.7**
Lead	**354**

Analyte (mg/kg)	HA10	
Sample Date	5/29/2012	
Sample Depth Interval (ft bgs)	0-1	1-2
Metals		
Cadmium	**3.97**	**2.4**
Lead	**639**	**203**

Analyte (mg/kg)	HA14	
Sample Date	5/29/2012	
Sample Depth Interval (ft bgs)	0-1	1-2
Metals		
Cadmium	**7.16**	**1.55**

Analyte (mg/kg)	HA13	
Sample Date	5/29/2012	
Sample Depth Interval (ft bgs)	0-1	1-2
Metals		
Cadmium	**2.03**	**0.292**

Analyte (mg/kg)	GP07	
Sample Date	3/20/2012	
Sample Depth Interval (ft bgs)	0-1	1-3.4
Metals		
Arsenic	**22.7**	**2.13**
Cadmium	**2.09**	0.142 U

Analyte (mg/kg)	HA07	
Sample Date	3/22/2012	
Sample Depth Interval (ft bgs)	0-1	1-2
TPH		
Heavy Oils	**226.8**	**2,300**
Metals		
Arsenic	16.4 U	**24.8**
Cadmium	**5.14**	**22**
Lead	**552**	**1,160**
cPAHs		
cPAH TEQ	ND	**0.368**

Analyte (mg/kg)	HA05	
Sample Date	3/22/2012	
Sample Depth Interval (ft bgs)	0-1	1-2
Metals		
Cadmium	**3.63**	**0.302**
Lead	**372**	**32.5**

Analyte (mg/kg)	HA06	
Sample Date	3/22/2012	
Sample Depth Interval (ft bgs)	0-1	1-2
Metals		
Arsenic	**37.3**	**224**
Lead	**238**	**337**

Analyte (mg/kg)	MTCA A CUL, Unrestricted Land Use
TPH	
Gasoline	30
Heavy Oils	2,000
Metals	
Arsenic	20
Cadmium	2
Lead	250
Mercury	2
VOCs	
Benzene	0.03
Total Xylenes	9
cPAHs	
cPAH TEQ	0.1
PCBs	
Total PCBs	1

REDPATH ST

N PACIFIC AVE

N 1ST ST

HA08 HA01 MW02 GP09 GP10 MW01 HA02 GP15 GP04 GP12 HA03 HA04 MW03 GP03 HA11 HA10 GP02 HA12 GP01 GP13 HA07 GP14 GP05 HA14 HA15 HA13 GP08 GP07 HA05 GP11 GP16 HA09 HA06 GP06

Notes
Bold indicates a detected value.
Bold and highlighted indicates a detected value that exceeds the cleanup level.
cPAH = carcinogenic polycyclic aromatic hydrocarbon
CUL = cleanup level
For calculated totals, the maximum reported result from all methods was used (excluding NWTPH-HCID). For non-detects, one-half the lowest method reporting limit was used.
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
MTCA = Model Toxics Control Act
ND = Non-detect
PCB = polychlorinated biphenyl
TEQ = toxic equivalency quotient
TPH = total petroleum hydrocarbons
U = compound not detected at a concentration above the method reporting limit
VOC = volatile organic compound

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps; parcels obtained from Cowlitz County GIS Department; sample location points collected by Minister-Glaeser Surveying, Inc. on 3/21/2012 and by MFA GPS receiver on 3/20/2012, 3/22/2012, 5/29/2012, and 5/30/2012.

Note: Historical site features and locations are approximated from Department of Ecology initial investigation reports and anecdotal evidence.

Legend

- Monitoring Well Location
- Sample Location (Boring)
- Sample Location (Hand Auger)
- Soil Exceedances
- Site Parcels
- Parcels (Cowlitz County)

0 25 50
Feet

Figure 2
Soil Sample Locations and Exceedances

Terry's Auto Salvage
Kelso, Washington

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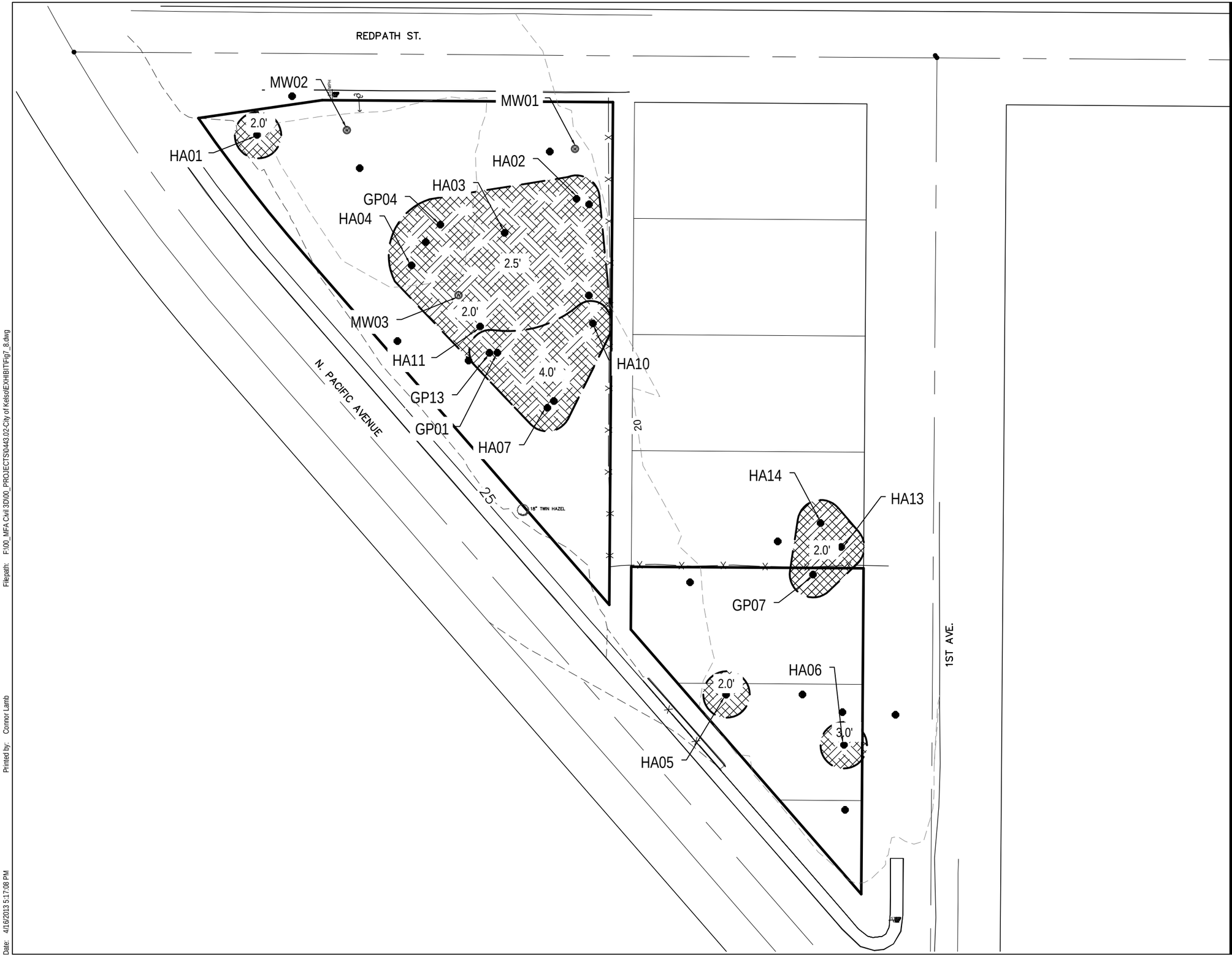
Path: X:\0443.02\Projects\03\Cleanup Action Plan\Fig2_Soil Sample Locations and Exceedances.mxd
Print Date: 4/17/2013
Approved By: H. Hirsch
Produced By: rmaronn
Project: 0443.02.03



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Legend

- APPX. EXCAVATION EXTENT
- X.X' — APPX DEPTH OF EXCAVATION, FT
- MONITORING WELL LOCATION
- SITE PARCELS
- PARCELS (COWLITZ COUNTY)
- FENCE
- MAJOR CONTOUR
- MINOR CONTOUR
- SOIL SAMPLE LOCATION (LOCATIONS WITH LABELS REPRESENT EXCEEDANCES)
- SOIL EXCAVATION AND DISPOSAL

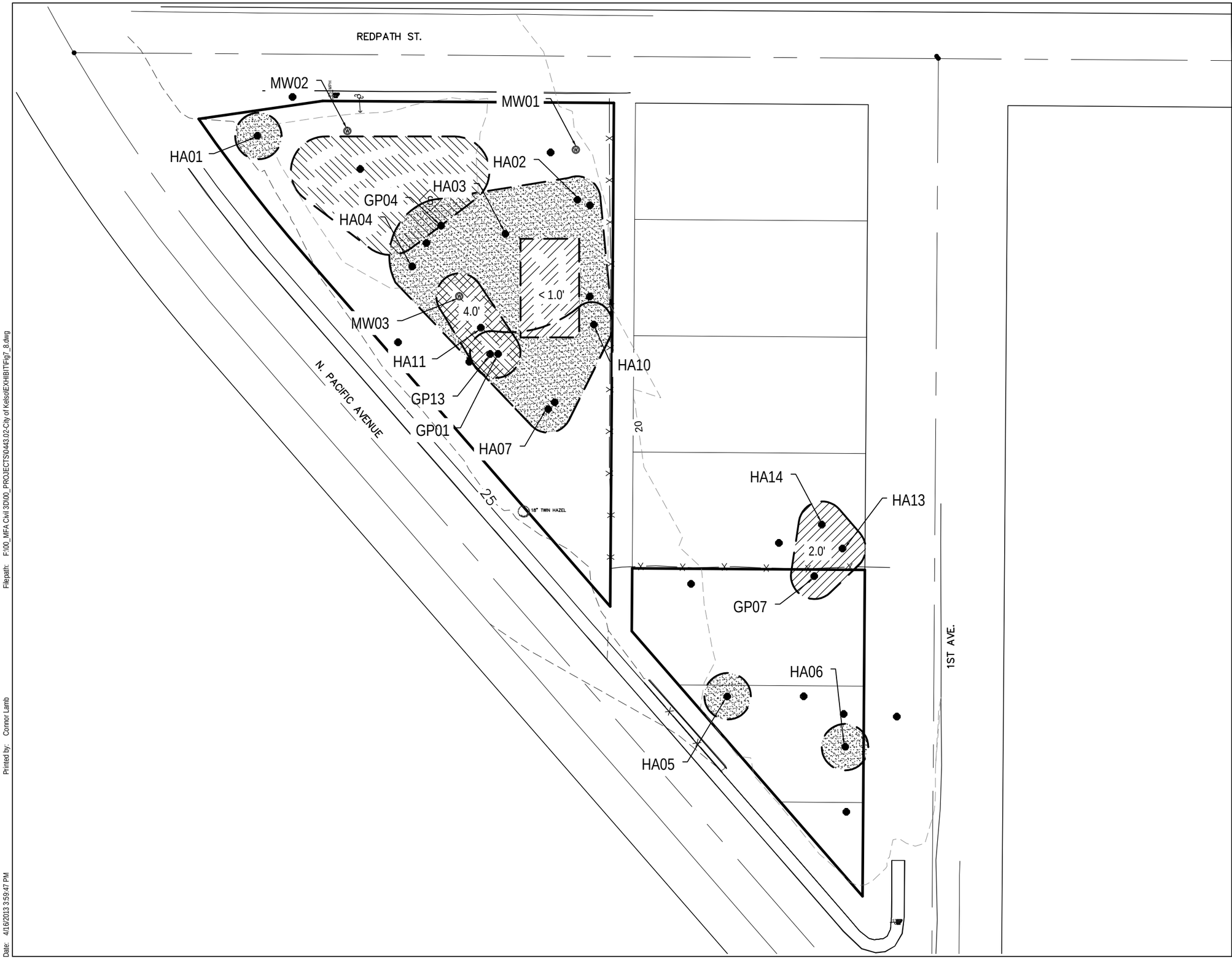
0 40' 80'

NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

Figure 3
Alternative 1 Excavation of All Contaminated Soil

Terry's Auto Salvage
Kelso, WA

Filepath: F:\00_MFA Civil 3D\00_PROJECTS\0443.02-City of Kelso\EXHIBIT\Fig7_8.dwg
Printed by: Connor Lamb
Date: 4/16/2013 5:17:08 PM



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Legend

- APPX. EXCAVATION EXTENT
- X.X' — APPX DEPTH OF EXCAVATION, FT
- MONITORING WELL LOCATION
- SITE PARCELS
- PARCELS (COWLITZ COUNTY)
- FENCE
- MAJOR CONTOUR
- MINOR CONTOUR
- SOIL SAMPLE LOCATION (LOCATIONS WITH LABELS REPRESENT EXCEEDANCES)
- SOIL EXCAVATION AND DISPOSAL
- SOIL CONSOLIDATION AREA, APPX.
- SOIL TO PLACED IN CONSIDATION
- SOIL TO BE CAPPED IN PLACE

0 40' 80'

NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

Figure 4
Alternative 2
Targeted Excavation and Capping

Terry's Auto Salvage
Kelso, WA

Date: 4/16/2013 3:59:47 PM
Printed by: Connor Lamb
Filepath: F:\00_MFA Civil 3D\00_PROJECTS\0443.02-City of Kelso\EXHIBIT\Fig7_8.dwg

Indicator Hazardous Substance*	Maximum Concentration (C_m)	Method A, unrestricted land use	Natural Background**	Final Cleanup Level
	mg/kg	mg/kg	mg/kg	mg/kg
cPAH				
cPAH TEQ	0.37	0.1	--	0.1
Metals				
Arsenic	224	20	7	20
Cadmium	22	2	1	2
Lead	2,400	250	24	250
Mercury	72	2	0.07	2
PCBs				
Total PCBs	3.9	1	--	1
TPH				
Gasoline Range Organics	691	30	--	30
Diesel Range Organics	3,290 J	2,000	--	2,000
Lube Oil Range Organics	8,720	2,000	--	2,000
Heavy Oil Range Organics	12,268	2,000	--	2,000
VOCs				
Benzene	0.65	0.03	--	0.03
Total Xylenes	11.4	9	--	9

Notes:
Shading indicates the selected cleanup level.
*Hazardous substances with a detected concentration above the Method A screening level were selected as indicators.
**Obtained from Natural Background Soil Metals Concentrations in Washington State (Ecology, 1994).
-- indicates no value.
cPAH = carcinogenic polycyclic aromatic hydrocarbon.
cPAH TEQ = cPAH toxic equivalency quotient.
J = Result is an estimated quantity. Associated numerical value is approximate concentration of analyte in sample.
mg/kg = milligrams per kilogram.
PCB = polychlorinated biphenyl.
TPH = total petroleum hydrocarbons.
VOC = volatile organic compound.

Table 1. Soil Cleanup Levels Evaluation

Action	Citation	Comment
Cleanup Action Construction	29 CFR 1910	Occupational Safety and Health Act
	Chapter 43.21 RCW	State Environmental Policy Act
	40 CFR 260	Resource Conservation and Recovery Act
	Chapter 173-303 WAC	Washington Dangerous Waste Regulations
	Chapter 173-160 WAC	Minimum Standards for Construction and Maintenance of Wells
	Chapter 296-155 WAC	Safety Standard for Construction
	Chapter 173-340 WAC	Model Toxics Control Act
	Chapter 173-304 WAC	Minimum Functional Standards for Solid Waste Handling
	Cowlitz County Municipal Code, Title 16	Building and Construction
	Cowlitz County Municipal Code, Title 19	Environmental Protection
Cleanup Standards	Chapter 173-340 WAC	Model Toxics Control Act
Soil Remediation	40 CFR 264	Resource Conservation and Recovery Act
	Chapter 70.95 RCW; Chapter 173-304 WAC	Minimum Functional Standards for Solid Waste Handling
	Chapter 174-50 WAC	Accreditation of Environmental Laboratories

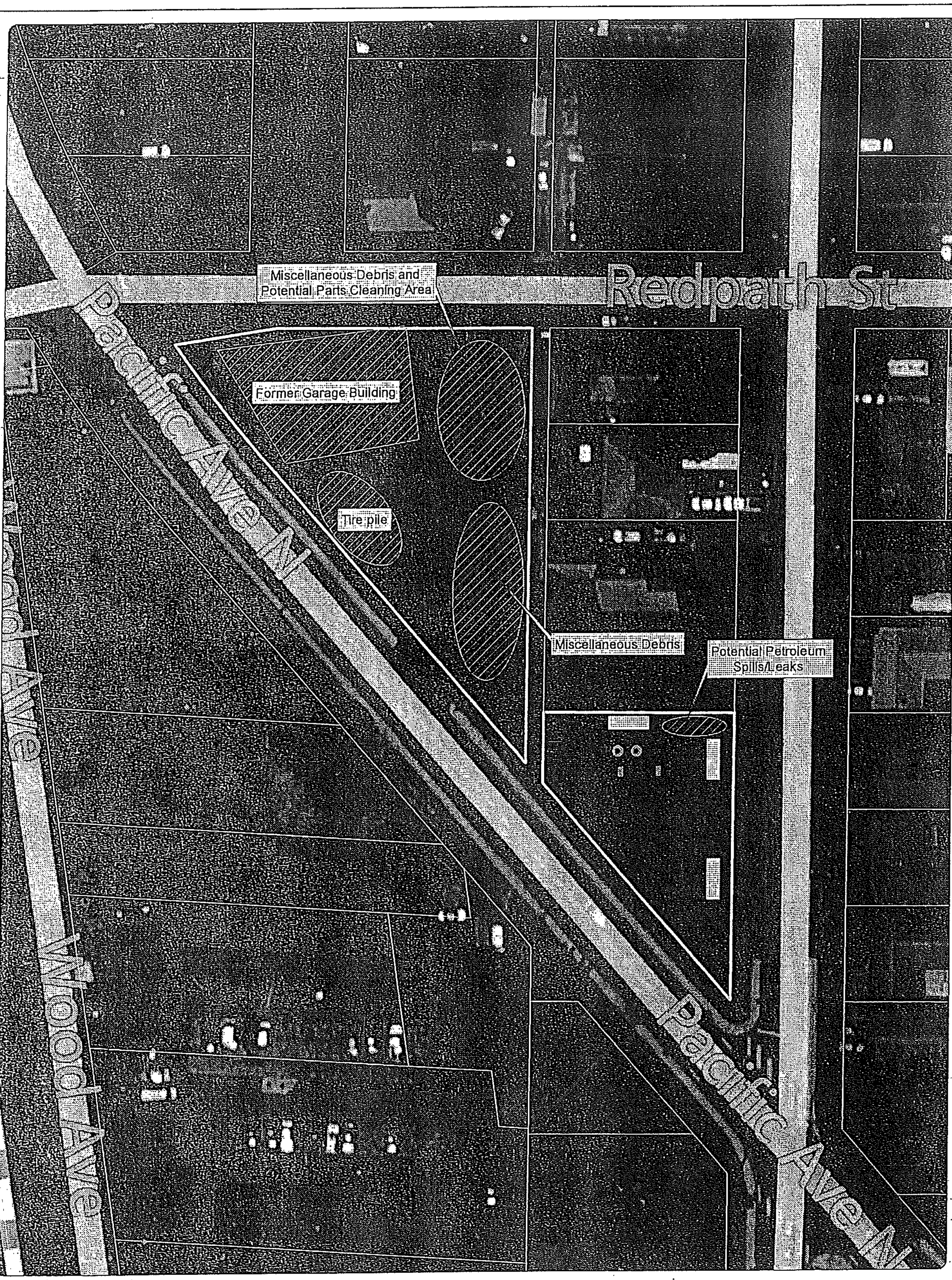
Table 2. Applicable or Relevant and Appropriate Requirements for the Cleanup Action

Alternative	Description	Protectiveness	Permanence	Long-Term Effectiveness	Management of Short-Term Risks	Implementability	**Average**	Public Concerns	**Total Cost**
Alternative 1	Excavation and off-site disposal of all impacted soil.	5	5	5	4	5	**4.8**	TBD	**$ 617,100**
Alternative 2	Targeted excavation of benzene impacted soil. Consolidation and capping of remaining impacted soil.	5	4	4	5	5	**4.6**	TBD	**$ 287,900**

Table 3. Cleanup Action Alternatives Evaluation

EXHIBIT B

EXHIBIT B



Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps; Parcels obtained from Cowlitz County GIS Department.

Note:
Historical site features and locations are approximated from Department of Ecology initial investigation reports and anecdotal evidence.

Legend

- Approximate Former Drum Storage Location
- Approximate 2002 Ecology Surface Soil Sample Location
- Approximate Scrap Car Storage Location
- Site Parcels
- Parcels (Cowlitz County)

DRAFT

Figure 2
Historical Site Features

Terry's Auto Salvage
Kelso, Washington

0 25 50
Feet

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Print Date: 3/2/2012
Approved By: H. Hirsch
Produced By: wshea

EXHIBIT C

Cowlitz County Assessor's Parcel Search

4/26/2013 11:05 AM

Parcel: 20476 Site Address: 1124 N PACIFIC AVE , KELSO 98626

Account: R034636

Owner: KELSO CITY OF
Mailing Address: PO BOX 819
KELSO, WA 98626

Jurisdiction: CITY OF KELSO

Abbr Property Ref: SUB:BIXBYS TO KELSO BLK:11 DESC: E OF HWY SECT,TWN,RNG:27-8N-2W PARCEL: 20476

Neighborhood: KELSO

Tax District: 800 Kelso City Limits

Levy Code: 800 = KEL-458-LV-#2

Current Assessed Value

Assess Year	Tax Year	Type	Actual Value	Assess Value	Acres
2012	2013	PUBLIC EX LAND	96,000	96,000	0

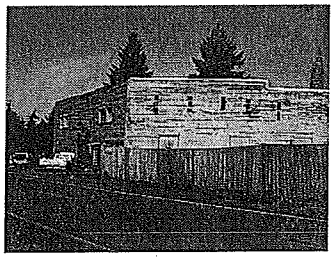
Conveyance History:

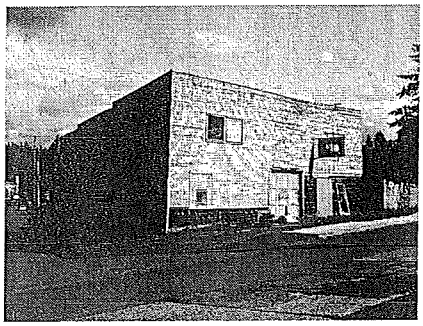
Reception	Book	Page	Grantor
3472405			COWLITZ COUNTY SHERIFF
3220218			MCGRAW PATRICK K/CORRINE G
920330083	3	113	MCGRAW PATRICK K/CORRINE G
920330083	3	113	MCGRAW CORRINE
830926053	960	233	AVERRES AUTO WRECKING INC
3214667		0	

Property Details: Short Plat/Large Lot #:

Model: COMM_LAND SQFT 20000

Photographs:





Cowlitz County Assessor's Parcel Search

4/26/2013 11:15 AM

Parcel: 20489 Site Address:

Account: R034649

Owner: KELSO CITY OF
Mailing Address: PO BOX 819
KELSO, WA 98626

Jurisdiction: CITY OF KELSO

Abbr Property Ref: SUB:BIXBYS TO KELSO BLK:15 LOT:5,6,7 DESC: EXC PH SECT,TWN,RNG:27-8N-2W PARCEL: 20489

Neighborhood: 21 - NORTH KELSO

Tax District: 800 Kelso City Limits

Levy Code: 800 = KEL-458-LV-#2

Current Assessed Value

Assess Year	Tax Year	Type	Actual Value	Assess Value	Acres
2012	2013	PUBLIC EX LAND	22,950	22,950	0

Conveyance History:

Reception	Book	Page	Grantor
3472405			COWLITZ COUNTY SHERIFF
920330083	3	113	MCGRAW PATRICK K/CORRINE G
830926053	960	233	AVERRES AUTO WRECKING INC
920330083	3	113	MCGRAW CORRINE
3214667		0	

Property Details: Short Plat/Large Lot #:

Model: LAND NBHD 21 21 - NORTH KELSO

Photographs: