



PERIODIC REVIEW

**Kissel Park
Facility/Site ID #: 52475978**

**32nd Avenue and Mead Avenue
Yakima, Washington 98902**

Central Region Office

TOXICS CLEANUP PROGRAM

November 2009

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1.0 INTRODUCTION

This document is the Department of Ecology's review of post-cleanup site conditions and monitoring data to assure that human health and the environment are being protected at the Kissel Park property (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA), Chapter 173-340 of the Washington Administrative Code (WAC).

Cleanup activities at this Site were completed under Agreed Order No. DE 01TCPCR-2093 entered into with Ecology in 2001. The cleanup actions resulted in residual concentrations of lead and arsenic that exceed MTCA Method A cleanup levels for soil established under WAC 173-340-740(2). The MTCA Method A cleanup levels for soil are established under WAC 173-340-740(2). WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

- (a) Whenever the department conducts a cleanup action
- (b) Whenever the department approves a cleanup action under an order, agreed order or consent decree
- (c) Or, as resources permit, whenever the department issues a no further action opinion
- (d) And one of the following conditions exists:
 - 1. Institutional controls or financial assurance are required as part of the cleanup
 - 2. Where the cleanup level is based on a practical quantitation limit
 - 3. Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

- (a) The effectiveness of ongoing or completed cleanup actions;
- (b) New scientific information for individual hazardous substances of mixtures present at the site;
- (c) New applicable state and federal laws for hazardous substances present at the Site;
- (d) Current and projected site use;
- (e) Availability and practicability of higher preference technologies; and
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the site register and provide an opportunity for public comment.

2.0 SUMMARY OF SITE CONDITIONS

2.1 Site History

The Kissel Park Site is located in the City of Yakima in Yakima County, Washington. A vicinity map is available as Appendix 6.1 and a site plan is available as Appendix 6.2. Following remedial activities, a restrictive covenant was recorded for the property in 2003.

The site was originally developed as an orchard, probably during the 1930s to 1940s. A small farmhouse occupied the northeastern corner of the site based upon a 1945 aerial photograph. According to a local long-term resident, by 1948 the site was used as a hay field. In 1956, private individuals sold this farmland to the Metropolitan Park District, the predecessor to the Department of Parks and Recreation. The land lay dormant until 1970, when it was leased from the Metropolitan Park District for use as a hayfield. This continued until 1987, at which time Eisenhower High School started to use the site in its agricultural program, primarily for growing hay until 2000.

As part of the cleanup action described below, the site was redeveloped into a city park. Park elements include nine tennis courts, three multi-purpose courts, an 80-space parking lot, a restroom/storage building, a picnic shelter, and a paved promenade. The northern third of the park is developed for more passive, open space use as is the western third. An 8-foot wide walking trail circles the park.

2.2 Site Investigations

The City tested soils at the site in September 2000. Results from 15 samples showed concentrations of arsenic and lead in site soil at levels greater than their respective MTCA Method A cleanup levels of 20 mg/kg and 250 mg/kg. The City decided to clean up the park under an Agreed Order (AO) with Ecology. The AO specified that the City perform a Remedial Investigation/Feasibility Study (RI/FS) of the site and produce a Cleanup Action Plan (CAP). The RI, performed in the spring of 2001, provided detailed data about how lead and arsenic concentrations varied across the site and at different depths.

The maximum concentration of arsenic in surface samples was 113 mg/kg. The mean concentration of the surface samples was 40 mg/kg, or twice the state cleanup level. Overall, arsenic concentrations were uniformly distributed in soil with little evidence of isolated hot spots potentially indicative of mixing areas, spills, or tree drip lines.

The distribution pattern of lead was similar to that of arsenic in that samples with high arsenic levels also contain high lead levels. This is expected given that the application of lead arsenate results in the simultaneous deposition of both metals. The maximum lead concentration in surface soil was 335 mg/kg with a mean of 108 mg/kg.

2.3 Remedial Actions

The remedial action was a combination of deep tilling, excavation, and an engineered soil cover, each applied in a different part of the site. The deep tilled area was labeled Area 1, the area with engineered cover was labeled Area 2, and the excavated area was labeled Area 3. The combination of remedies was preferred because in addition to being cost effective, it achieved a permanent cleanup for as much of the site as possible, thereby freeing these areas of the park from the institutional controls described below. This remedy also blended well into the park development, and did not cause redesign or relocation of existing tennis courts or parking area.

2.3.1 Deep Tilling

This technique permanently cleaned up Area 1 soils by deep tilling the upper 6 inches of contaminated soil with 18 inches of deeper, clean soils resulting in a blended arsenic concentration across the tilled zone that averaged less than the cleanup level. As this mixing is permanent, it was of the highest preference. However, deep tilling was limited to Area 1 due to the higher concentrations of arsenic in the other areas of the site that render deep tilling ineffective.

2.3.2 Regrade and Engineered Cover

Area 2 was extensively regraded to meet park design requirements. For example, the bioswale area (located along the eastern site boundary) was excavated to remove overlying contaminated soil so stormwater would infiltrate through clean soils. Soil from excavated areas was moved to areas that needed filling. Following this rough grading, an engineered soil cover was placed atop Area 2. The cover consists of a penetration-resistant filter fabric covered by 6 inches of clean topsoil taken from Area 1 (following deep tilling). The topsoil was then seeded and irrigated to establish a permanent turf to protect the cover soil from erosion. Institutional controls were implemented to maintain the turf and properly handle contaminated soil exposed during any future excavation activities that breach the cover.

Area 4 consists mostly of paved areas. Any soil that was excavated to meet the grade of the design was relocated under the play courts and picnic shelter/restroom area. Contaminated soil under the parking lot area was covered with 6 inches of base material and 2 inches of asphaltic concrete. The remaining unpaved areas were covered with filter fabric, and 6 inches of topsoil and turf. Institutional controls were implemented to maintain the turf and pavement.

2.3.3 Excavate and Relocate Contaminated Soil

Within Area 3, the depth to which arsenic concentrations exceeded the cleanup level was generally limited to the upper 1.5 feet of soil. Excavation was chosen as the preferred alternative because it permanently cleaned up Area 3 soils in the passive park area where inadvertent digging is more likely to occur. Accordingly, Area 3 was excavated until remaining arsenic concentrations were less than the cleanup levels. Excavated soils were relocated to Area 4 and placed atop existing contaminated soils.

2.4 Restrictive Covenant

The Restrictive Covenant recorded for the Site in 2003 imposes the following conditions:

1. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. The Owner will maintain the Property consistent with a Park Management Plan, as may be updated from time to time, that contains the following institutional controls to prevent recontamination from occurring:
 - a. A marker fabric placed between the contaminated soil left in place within Areas 2 and 4 as shown on Exhibit B, and the overlying non-contaminated soil cover or asphalt paving. The marker material is black-colored netting that is non-biodegradable. It indicates when contaminated soils have been reached while intentionally digging at the Property (e.g., when making repairs to the irrigation system or when digging for a new light standard) as well as provides a barrier to penetration by inadvertent digging, and provides a prominent visible indication of any unintentional breaches in the soil or asphalt cover during regular inspection.
 - b. A sign at the Property informing the public of the Remedial Action and prohibiting digging activities without City permission.
 - c. An irrigation system capable of maintaining the turf in Areas 2 and 4, the location of which is shown on Exhibit B and described in more detail in the Remedial Action Documents. The irrigation system was installed prior to the placement of the soil cover and marker fabric. The irrigation schedule for the site must be designed to maintain turf in Areas 2 and 4, while delivering the water at a rate and schedule that minimizes ponding and does not exceed the evapotranspiration rate.
 - d. A Landscaping Plan implemented by the Owner to ensure the turf cover and plantings are constantly maintained. This plan must include a minimum fertilization, mowing, and weed control schedule during the growing season to keep the turf maintained.
 - e. An Inspection Plan for inspection and maintenance of paved areas and turf. The inspection must look for cracks, potholes and other damage to the paved areas. In landscaped areas, patches of dead vegetation or sod must be noted and maintained as necessary. The Owner must implement and follow this plan which must include quarterly inspections by Park and Recreation Personnel. Should the Property be conveyed to a third party, Ecology may designate another party to make quarterly inspections.
 - f. A Soil Management Plan implemented by the Owner for properly managing soil brought up by digging activities in Areas 2 and 4, the locations of which are shown on Exhibit B and described in more detail in the Remedial Action Documents. Such planned digging activities may include trenching for additional utilities, adding light standards, drilling and other activities. To the degree possible, excavated contaminated soil from below the marker fabric must be placed back in the hole and the six inches of import soil cover/sod replaced. Any soil not able to be placed back in its original location must be disposed of at an

appropriate off-site location, such as the Yakima County municipal solid waste landfill.

2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.
3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.
4. The Owner of the Property must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease or other interest in the Property shall be consummated by the Owner without adequate and complete provision for the continued operation, maintenance and monitoring of the Remedial Action.
5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.
6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of the Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.
7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the Property, and to inspect records that are related to the Remedial Action.
8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

A copy of the Restrictive Covenant for the Site is available as Appendix 6.3.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

The Site currently operates as a City of Yakima public park. The majority of the Site is covered in grass, with a parking lot located to the northeast and tennis courts located to the southeast. The clean soil cap continues to serve as a cap for the Site and eliminate the human exposure pathways (ingestion, contact) to contaminated soils. Based upon the site visit conducted on October 5, 2009, no repair, maintenance, or contingency actions have been required. A photo log is available as Appendix 6.4.

The Restrictive Covenant for the Site was recorded and is in place. This Restrictive Covenant prohibits activities that will result in the release of contaminants contained as part of the cleanup without Ecology's approval, and prohibits any use of the property that is inconsistent with the Covenant. This Restrictive Covenant serves to assure the long-term integrity of the surface cover.

The Restrictive Covenant also requires the property be maintained consistent with a Park Management Plan which should contain: a Landscaping Plan to ensure turf cover and plantings are maintained, an Inspection Plan to look for dead vegetation or damage to paved areas, and a Soil Management Plan to manage soils excavated during digging activities.

Ecology has not received a copy of the Park Management Plan or any evidence that inspections are taking place. Though the site visit indicated that the Park is being maintained in a manner consistent with the Restrictive Covenant, copies of the Park Management Plan and the required quarterly inspections should be submitted to Ecology.

3.2 New scientific information for individual hazardous substances for mixtures present at the Site

There is no new pertinent scientific information for the contaminants related to the Site.

3.3 New applicable state and federal laws for hazardous substances present at the Site

There are no new applicable state or federal laws for the hazardous substances present at the Site.

3.4 Current and projected Site use

The Site is currently used as a city park. There have been no changes in current or projected future site or resource uses.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous materials, and it continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection well below MTCA Method A cleanup levels. The presence of improved analytical techniques would not effect decisions or recommendations made for the Site.

4.0 CONCLUSIONS

- The cleanup actions completed at the Site is protective of human health and the environment.
- Soils cleanup levels have not been met at the Site; however, the cleanup action is determined to comply with cleanup standards at the time of the action, since the long-term integrity of the containment system is ensured and the requirements for containment technologies have been met.
- The Restrictive Covenant for the property is in place and will be effective in protecting public health and the environment from exposure to hazardous substances and protecting the integrity of the cleanup action.
- The Park Management Plan and documentation of quarterly inspections have not been submitted to Ecology. Ecology should receive copies of these documents to verify compliance with the conditions of the Restrictive Covenant.

Based on this periodic review, the Department of Ecology has determined that the requirements of the Restrictive Covenant are being met. The City of Yakima should submit a copy of the Park Management Plan and documentation that quarterly inspections are taking place to assure that the integrity of the remedial action is maintained.

4.1 Next Review

The next review for the site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

Floyd and Snider, Inc. *Kissel Park Environmental Study Plan*. January 2001.

Ecology. *Agreed Order No. DE 01TCPCR-2093*. March 21, 2001.

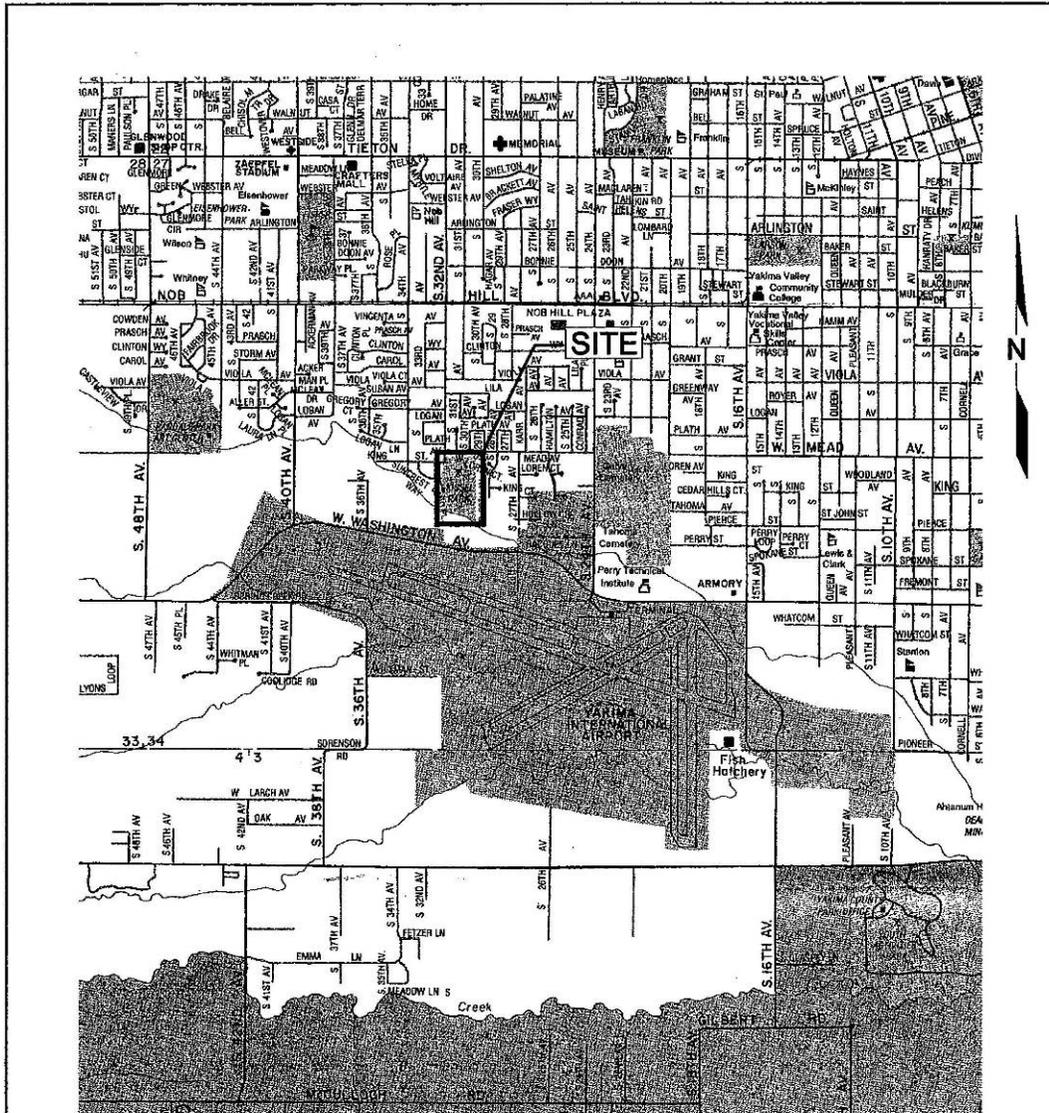
Floyd Snider McCarthy, Inc. *Cleanup Action Report*. January 2003.

Ecology. *Restrictive Covenant*. January 2003.

Ecology. *Site Visit*. October 5, 2009.

6.0 APPENDICES

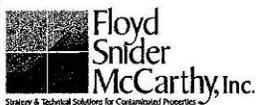
6.1 Vicinity Map



Source: "Yakima: Yakima Valley Recreation" map by King of the Road Maps, Inc., dated 1991.

Not to Scale

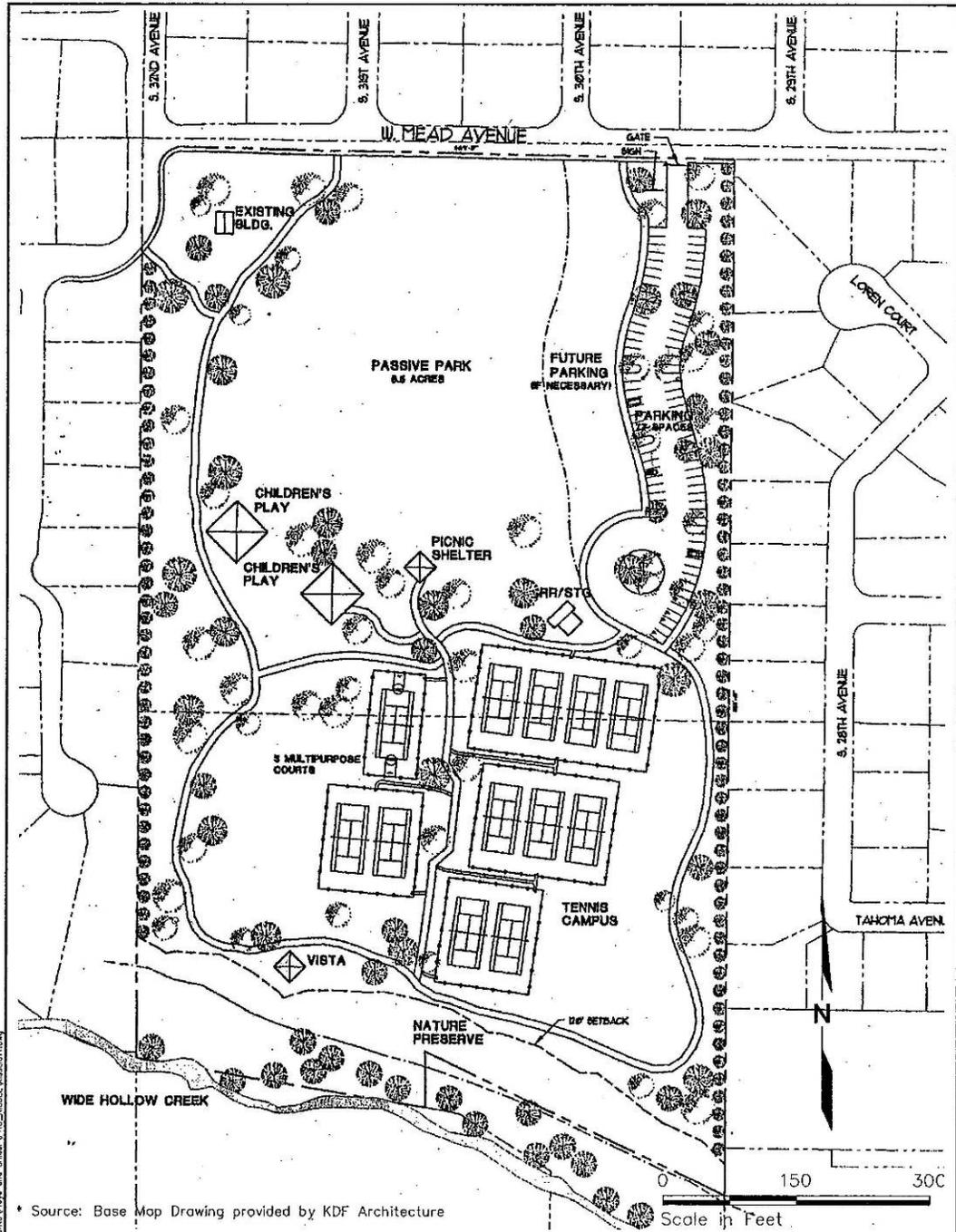
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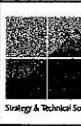
City of Yakima
Kissel Park
Yakima, Washington

Figure 1
 Vicinity Map

6.2 Site Map



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 DWG NAME: G:\project\02010\Kissel\Kissel_Visual1.dwg
 * Source: Base Map Drawing provided by KDF Architecture


Floyd Snider McCarthy, Inc.
 Strategy & Technical Solutions for Contaminated Properties

City of Yakima
Kissel Park
Yakima, Washington

Figure 2
 Conceptual Site Plan

6.3 Environmental Covenant



WHEN RECORDED RETURN TO:

City of Yakima Clerks Office
129 North Second Street
Yakima, WA 98901

RESTRICTIVE COVENANT

Grantor: CITY OF YAKIMA

Grantee: WASHINGTON DEPARTMENT OF ECOLOGY

Legal Description: Parcel A: NW ¼, NW ¼, NW ¼, Sec 35, Twp 13N, R 18, E.W.M.
Parcel B: Portion of SW ¼, NW ¼, NW ¼, Sec 35, Twp 13N, R 18,
E.W.M.

Full legal shown in Exhibit A.

Assessor's Property Tax Parcel Account Number(s):

Parcel A: 18-13-35-22014
Parcel B: 18-13-35-22007



RESTRICTIVE COVENANT

City of Yakima, Kissel Park

This Declaration of Restrictive Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by the City of Yakima and its successors and assigns (hereinafter the "City"), and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

Remedial action occurred at the property that is the subject of this Restrictive Covenant (hereinafter the "Remedial Action"). The Remedial Action conducted at the property is described in a final Cleanup Action Report, dated December, 2002, the Agreed Order between the City and Ecology, DE 01TCPER-2093, dated March 21, 2001, and in the attachments to the Order and in the documents referenced in the Order (hereinafter "Remedial Action Documents"). These documents are on file at Ecology's Central Regional Office in Yakima, Washington.

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of lead and arsenic which exceed the Model Toxics Control Act Method A Residential Cleanup Levels for soil established under WAC 173-340-740(2). The contaminated soil is contained on-site within a multimedia cover system.

The undersigned, City of Yakima, is the fee owner of real property (hereafter "Property") in the County of Yakima, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described in Exhibit A (legal description) and shown on Exhibit B (site plan) of this Restrictive Covenant, both of which exhibits are made a part hereof by this reference. The Property is located at 32nd Avenue and Mead Avenue, Yakima, WA 98902.

The City makes the following declaration as to limitations, restrictions, and uses to which the Property may be put, and specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereinafter the "Owner").

Section 1. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. The Owner will maintain the Property consistent with a Park Management Plan, as may be updated from time to time, that contains the following institutional controls to prevent recontamination from occurring:



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a) A marker fabric placed between the contaminated soil left in place within Areas 2 and 4 as shown on Exhibit B, and the overlying non-contaminated soil cover or asphalt paving. The marker material is a black-colored netting that is non-biodegradable. It indicates when contaminated soils have been reached while intentionally digging at the Property (e.g., when making repairs to the irrigation system or when digging for a new light standard) as well as provides a barrier to penetration by inadvertent digging, and provides a prominent visible indication of any unintentional breaches in the soil or asphalt cover during regular inspection.

b) A sign at the Property informing the public of the Remedial Action and prohibiting digging activities without City permission.

c) An irrigation system capable of maintaining the turf in Areas 2 and 4, the location of which is shown on Exhibit B and described in more detail in the Remedial Action Documents. The irrigation system was installed prior to the placement of the soil cover and marker fabric. The irrigation schedule for the site must be designed to maintain turf in Areas 2 and 4, while delivering the water at a rate and schedule that minimizes ponding and does not exceed the evapotranspiration rate.

d) A Landscaping Plan implemented by the Owner to ensure the turf cover and plantings are constantly maintained. This plan must include a minimum fertilization, mowing, and weed control schedule during the growing season to keep the turf maintained.

e) An Inspection Plan for inspection and maintenance of paved areas and turf. The inspection must look for cracks, potholes and other damage to the paved areas. In landscaped areas, patches of dead vegetation or sod must be noted and maintained as necessary. The Owner must implement and follow this plan which must include quarterly inspections by Park and Recreation Personnel. Should the Property be conveyed to a third party, Ecology may designate another party to make quarterly inspections.

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Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the Property must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease or other interest in the Property shall be consummated by the Owner without adequate and complete provision for the continued operation, maintenance and monitoring of the Remedial Action.

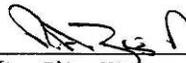
Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the Property, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

CITY OF YAKIMA

By: 
Its City Manager, R.A. Zais, Jr.

Dated: January 8, 2003



**EXHIBIT A
LEGAL DESCRIPTION**

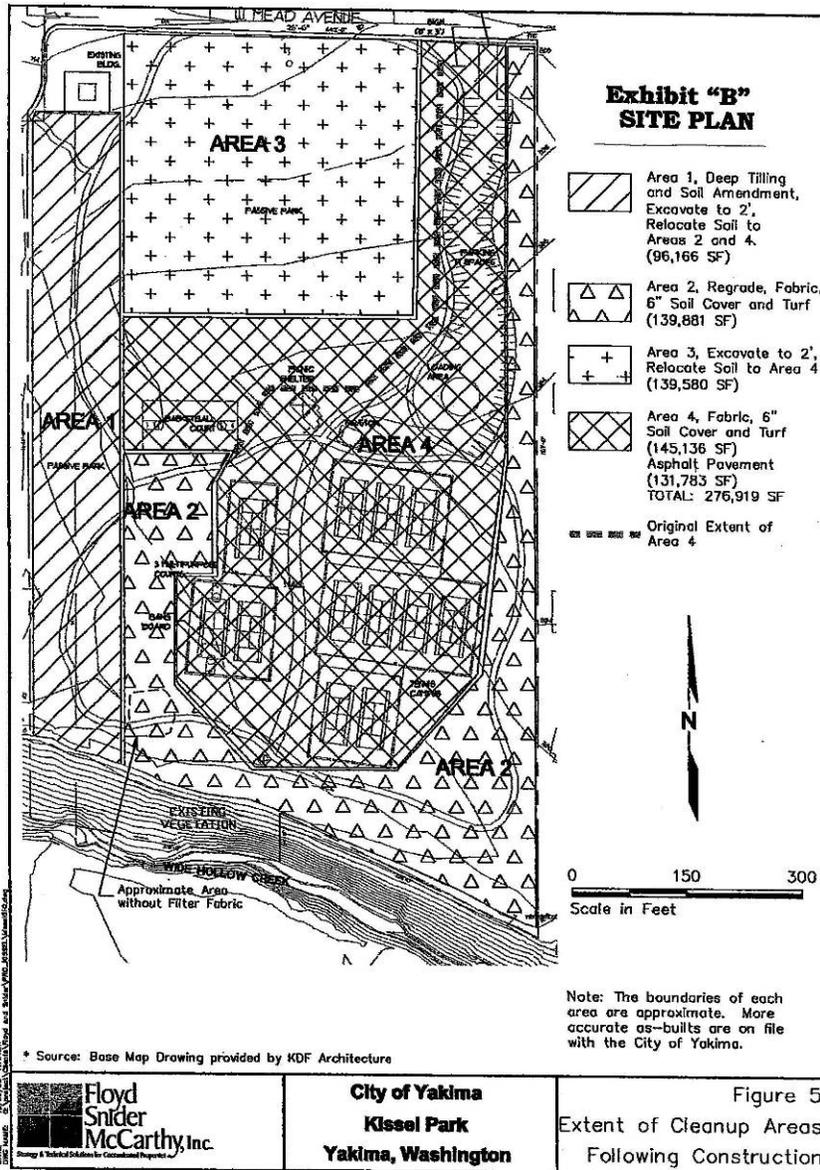
The following premises situated in the City of Yakima, County of Yakima, State of Washington, described as follows:

- PARCEL A:** The Northwest Quarter of the Northwest quarter of the Northwest quarter of Section 35, Township 13 North, Range 18, E.W.M.
- PARCEL B:** That part of the Southwest quarter of the Northwest quarter of the northwest quarter of Section 35, Township 13 North, Range 18 E.W.M., lying North of a line beginning at the intersection of Wide Hollow Creek with the West line of said subdivision; thence Southeasterly along said creek 330 feet, more or less, to a point 20 rods from the west line of subdivision; thence North 66 feet; thence Southeasterly to a point on the East line of said subdivision 115.5 feet North of the Southeast corner of said subdivision.

Except one-half interest in the West 1 rod of said Parcels A and B, said West one (1) rod to be used for irrigation purposes.

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6.4 Photo log

Photo 1: East Border of Property – from the north



Photo 2: Parking Area - from the east



Photo 3: South Side of Property - from the east



Photo 4: Tennis Courts - from west

