Earth Solutions NW LLC

Geotechnical Engineering
Geology
Environmental Scientists
Construction Monitoring

CLEANUP ACTION PLAN
SISTERS OF THE HOLY NAMES PROPERTY
2911 WEST FORT GEORGE WRIGHT DRIVE
SPOKANE, WASHINGTON

ES-4332.01

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PREPARED FOR

COPPER RIVER APARTMENTS, LLC

April 18, 2016
Revised September 2, 2016

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EXECUTIVE SUMMARY

In response to Washington State Department of Ecology's August 4, 2016 Opinion letter, Earth Solutions NW, LLC (ESNW) has prepared this revised Cleanup Action Plan for the Sisters Of The Holy Names property located at 2911 West Fort George Wright Drive in Spokane, Washington (the Property), on behalf of Copper River Apartments, LLC. This revised Cleanup Action Plan (CAP) was prepared in general accordance with the Washington State Model Toxics Control Act promulgated in Chapter 173-340-380 of the Washington Administrative Code.

The Property consists of one irregular shaped tax parcel (Spokane County Parcel No. 25116-0053) comprising a total of approximately 34-acres of land area. The Property is currently developed with a multi-story convent facility constructed in 1968 and is equipped with a chapel, administrative offices, and convent living facilities. Remaining areas of the site consist of asphalt-paved driveways, parking lots, and undeveloped forested land that surrounds the convent facility.

Historically, the subject property was part of the George Wright Military Reservation (Fort Wright) established in 1899. Fort Wright occupied over 1,000 acres, most of which was located north of the subject property which is currently developed with the Spokane Falls Community College. The subject property remained largely undeveloped during Fort Wright's operations; however, Fort Wright allowed the Spokane Gun Club to operate an outdoor shotgun skeet shooting range on the property from 1919 to 1949. Fort Wright was transferred from the U.S. Army to the U.S. Air Force before closure as a military base in 1958. After closure, the Fort Wright property was divided and sold. The subject property was purchased by the Sisters Of The Holy Names of Jesus and Mary and the existing convent building was constructed in 1968. The subject property currently consists of the existing Convent facility and the surrounding undeveloped acreage.

Subsurface investigations conducted on the property between 2015 and 2016 have confirmed that the historical use of the eastern and northeastern portions of the property as an outdoor skeet shooting range has impacted shallow soils with elevated levels of diesel and heavy oil range petroleum hydrocarbons, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and lead exceeding Ecology's MTCA Method A soil cleanup levels. Additionally, elevated levels of methylene chloride exceeding Ecology's MTCA Method A methylene chloride soil cleanup level was identified in one soil sample collected from the designated "New Landfill" area located at the east end of the property.

As established in Washington Administrative Code 173-340-200, the site is defined by the full lateral and vertical extent of soil contamination that has resulted from the historical use of the property. No remedial activities have taken place at the site.

This revised CAP has been prepared based on the findings of previous environmental investigations performed at the subject property. The CAP presents the methods proposed to remove the diesel and heavy oil range petroleum hydrocarbons, cPAHs, lead, and methylene chloride contaminated soil identified during previous investigations at the property. The ultimate objective of the CAP will be to remove areas of impacted soil identified at the property.

This executive summary is presented solely for introductory purposes, and the information contained in this section should be used only in conjunction with the full text of this report. A complete description of the project, Site conditions, investigative methods, and investigation results is contained within this report.

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GRAPHICS

1.0 INTRODUCTION

In response to Washington State Department of Ecology's August 4, 2016 Opinion letter, Earth Solutions NW, LLC (ESNW) has prepared this revised Cleanup Action Plan (CAP) on behalf of Copper River Apartments, LLC for the Sisters Of The Holy Names property located at 2911 West Fort George Wright Drive, Spokane, Washington (Subject Property), as shown on Plate 1.

The Property consists of one irregular shaped tax parcel (Spokane County Parcel No. 25116-0053) comprising a total of approximately 34-acres of land area (see Plate 2). The Property is currently developed with a multi-story convent facility constructed in 1968 and is equipped with a chapel, administrative offices, and convent living facilities. Remaining areas of the site consist of asphalt-paved driveways, parking lots, and undeveloped forested land that surrounds the convent facility.

This revised CAP was prepared for submittal to the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). This revised CAP was developed to meet the general requirements of a CAP as defined by the Washington State Model Toxics Control Act (MTCA) Regulation in Chapter 173-340 of the Washington Administrative Code (WAC).

As established in WAC 173-340-200, the "Site" is defined by the full lateral and vertical extent of soil contamination that has resulted from the historical use of the eastern and northeastern portions of the property as an outdoor skeet shooting range and on-site landfilling. Based on the information gathered to date, the Site includes the confirmed presence of diesel and heavy oil range petroleum hydrocarbons, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and lead impacted shallow soils located throughout the former outdoor skeet shooting range area of the property. Furthermore, the Site includes the confirmed presence of diesel and heavy oil range petroleum hydrocarbons, methylene chloride, naphthalene, gamma-chlordane, 4,4'-DDD, 4,4'-DDT, endrin, endrin ketone, azinphos-methyl, coumaphos, arsenic, barium, chromium, lead, and silver impacted soil within the designated "New Landfill" area at the property. The concentrations of diesel and heavy oil range petroleum hydrocarbons, lead, and methylene chloride were identified to be above their corresponding MTCA Method A soil cleanup levels. The concentrations of naphthalene, gamma-chlordane, 4,4'-DDD, 4,4'-DDT, endrin, endrin ketone, azinphos-methyl, coumaphos, arsenic, barium, chromium, and silver were identified to be below their corresponding MTCA Method A soil cleanup levels. Depth to groundwater in the site area is estimated to be between 75 to 95 feet below the ground surface (bgs).

This revised CAP addresses the planned excavation and removal of diesel and heavy oil range petroleum hydrocarbons, cPAHs, lead, and methylene chloride impacted soil located along the eastern and northeastern portions of the property where apartment buildings and a pedestrian park are planned to be developed. Impacted soil removal activities at the property will coincide with the redevelopment excavation work. The property qualifies for a Terrestrial Ecological Evaluation (TEE) exclusion and a full TEE is not required.

A discussion regarding the property background, previous investigations, the selected cleanup actions, completed remedial actions, and the remaining steps required to implement this plan are also included in this revised CAP.

1.1 DOCUMENT PURPOSE

The purpose of this CAP is to satisfy the requirements of MTCA and to eventually obtain a No Further Action (NFA) determination from Washington State Department of Ecology (Ecology).

1.2 ORGANIZATION

Section 2.0, Background. This section provides a description of the property location, features, and historical land uses; the geologic and hydrogeologic setting of the site; previous investigations conducted on the site, the distribution of known contamination, chemicals of concern (COCs), media of concern, and the site definition.

Section 3.0, Technical Elements. This section presents the applicable or relevant and appropriate requirements (ARARs) for the Site, the development of cleanup standards, and the remedial action objectives (RAOs).

Section 4.0, Selected Cleanup Action. This section presents the cleanup action objectives, the cleanup action alternatives that have been selected, and the cleanup action components that are proposed to be implemented for the property.

Section 5.0, Remaining Cleanup Action Components. This section provides a description of the remaining cleanup action components to remediate COCs on the property.

Section 6.0, Compliance Monitoring. This section describes the performance and confirmation sampling that will be conducted as part of the CAP.

Section 7.0, Documentation Requirements. This section describes the documentation to be provided for the cleanup action and includes a discussion of document management, waste disposal tracking information, and compliance reports.

Section 8.0, References. This section lists references cited in this document.

Section 9.0, Limitations. This section discusses document limitations.

2.0 BACKGROUND

The following section provides a summary of current and historical land use on the property and the site vicinity, the geologic and hydrogeologic setting of the property, previous investigations conducted at the property, the COCs, the media of concern, and the site definition.

2.1 SITE LOCATION AND DESCRIPTION

The subject property is defined as the area shown on the Site Overview Map (see Plate 2). The site is further defined by the following:

1. Diesel and/or heavy oil range petroleum hydrocarbon contaminated soil located throughout the former outdoor skeet shooting range and northern end of designated New Landfill area located along the east and northeast portions of the property (see Plate 4). Groundwater was not encountered at the property during previous subsurface investigations.

2. Lead contaminated soil located throughout the former skeet shooting range area located along the east and northeast portions of the property (see Plate 4).

3. cPAH contaminated soil located throughout the former skeet shooting range and northern end of designated New Landfill area located along the east and northeast portions of the property (see Plate 4).

4. Methylene chloride impacted soil identified in one test location along the southern end of the designated New Landfill area located along the eastern portion of the property (see Plate 4)

2.1.1 Property Description

The property includes one tax parcel (Spokane County Tax Parcel No. 25116-0053) as shown on Plate 2 that covers approximately 34-acres of land area. The Property is currently developed with a multi-story convent facility constructed in 1968 and is equipped with a chapel, administrative offices, and convent living facilities. Remaining areas of the site consist of asphalt-paved driveways, parking lots, and undeveloped forested land that surrounds the convent facility.

Sewer and water services are provided to the Property by the City of Spokane.

2.1.2 Property Land Use History

According to a July 29, 2014 Phase I Environmental Site Assessment (ESA) report prepared by Cascade Earth Sciences (CES), the property was part of the George Wright Military Reservation (Fort Wright) established in 1899. Fort Wright occupied over 1,000 acres, most of which was located north of the subject property. The subject property remained largely undeveloped during Fort Wright's operations; however, Fort Wright allowed the Spokane Gun Club to operate a shotgun skeet shooting range on the property from 1919 to 1949. Fort Wright was transferred from the U.S. Army to the U.S. Air Force before closure as a military base in 1958. After closure, the Fort Wright property was divided and sold. The subject property was purchased by the Sisters Of The Holy Names of Jesus and Mary and the existing convent building was constructed in 1968. The subject property is currently owned by the Sisters Of The Holy Names of Jesus and Mary and consists of the existing Convent facility and the surrounding undeveloped acreage.

2.2 GEOLOGIC AND HYDROGEOLOGIC SETTING

The following sections provide a summary of the geologic and hydrogeologic conditions beneath the property.

2.2.1 Regional Geology and Hydrogeology

According to the July 29, 2014 Phase I ESA report prepared by CES, the subject property lies within the eastern edge of the Columbia Plateau Physiographic province. The Columbia Plateau is comprised of a series of flood basalts that cover most of eastern Washington, northeastern Oregon, and western Idaho, occupying approximately 70,000 square miles. The basalt flows of the Columbia River Basalt Group are Miocene in age, created 6 to 17 million years ago. The sequence of basalt flows are overlain by sedimentary rock derived from sedimentary deposits from the ancestral floods that blanketed the Columbia Basin near the end of the most recent ice age (Schuster, 2005).

The subject property is located within the eastern margin of the West Plains geomorphologic area comprising approximately 130 square miles in western Spokane County, Washington. The West Plains were scoured of their loess deposits while sand and gravel filled in the existing drainages. A relatively thin but extensive flood gravel layer is mapped over much of the basalt in and around the subject property.

2.2.2 Site Geology

According to a March 9, 2016 Supplemental Phase II ESA report prepared for the subject property by ESNW, soil conditions generally concur with the conditions noted above. Specifically, the site is underlain by top soil mixed with vegetation debris, gravel, and varying sized rock cobbles at depths ranging between 1.5 to 2.0 feet bgs. Loose to slightly dense silty sand with fine to coarse gravel underlies the top soil at depths ranging between 2.0 to 10.0 feet bgs. None of the soil test pits excavated at the site during the course of previous investigations encountered groundwater.

2.2.3 Site Hydrology

According to a March 17, 2016 Geotechnical Evaluation report prepared for the subject property by Inland Pacific Engineering Company (IPEC), groundwater is expected to be encountered between 75 feet to about 95 feet below the ground surface (bgs). Groundwater in the site area occurs in an unconfined aquifer composed of unconsolidated sediment. Fluctuations in this flood gravel water table may occur seasonally in response to surface water recharge and precipitation. The inferred groundwater flow direction at the site is estimated to be towards the west, east, and south, towards the Spokane River.

2.3 PREVIOUS INVESTIGATIONS

The following section describes a summary of previous investigations performed at the site. Exploratory locations are shown on Plate 3.

2.3.1 2014 Phase I ESA (CES)

A Phase I ESA of the subject site conducted by CES in July 2014, identified the following Recognized Environmental Conditions (RECs) associated with the site: two unlined, undocumented landfills (referred to as the "old" and "new" landfills), an outdoor skeet shooting range, and a trash incinerator that was formerly associated with the on-site convent building. In addition to the RECs identified, there were reported remnants of structures (identified as "bunkers" in CES's July 2014 Phase I ESA report) located in a forested area northeast of the convent building. The Phase I ESA report identified the bunkers as a potential REC based on their unknown history and association with the historical use of the site as a military fort called Fort Wright. Recommendations contained in CES's July 29, 2014 Phase I ESA report included performing a subsurface investigation within the old and new landfill areas, outdoor skeet shooting range, former bunkers, and collecting shallow soil samples along the prevailing downwind areas of the former incinerator.

2.3.2 2015 Subsurface Investigation (CES)

Based on the findings and recommendations contained in CES's July 29, 2014 Phase I ESA report, CES performed a Phase II ESA (subsurface investigation) at the site during May 2015. According to CES's May 14, 2015 Phase II ESA report, one soil sample was collected from shallow soil excavations at each of the on-site landfills, two soil samples were collected from shallow soil excavations at the outdoor skeet shooting range, two soil samples were collected from shallow soil excavations at ash deposit areas discovered at the property, and eight shallow soil samples were collected in a grid pattern along the prevailing downwind area of the former incinerator. Analytical results of the soil samples revealed elevated levels of cPAHs, total lead, diesel and heavy oil range petroleum hydrocarbons exceeding MTCA Method A soil cleanup levels in shallow soil samples collected from the former outdoor skeet shooting range. Soil samples collected from the old and new landfill areas, bunker areas, ash deposit areas, and downwind of the former incinerator reportedly did not contain concentrations of cPAHs, heavy metals, gasoline, diesel, and heavy oil range petroleum hydrocarbons exceeding MTCA Method A soil cleanup levels.

The extent of diesel and heavy oil range petroleum hydrocarbons, cPAHs, and total lead in soil at the former skeet shooting range was not fully characterized during CES's May 14, 2015 Phase II ESA assessment but was suspected to extend throughout a large grass covered area along the north and northeast portion of the property. Additionally, only one soil sample was collected from the new landfill area and this sample was reported not to be impacted with contaminants. Recommendations contained in CES's May 14, 2015 Phase II ESA report included the removal and proper disposal of lead, cPAH, diesel and heavy oil range petroleum impacted soil from the outdoor skeet shooting range.

2.3.3 2016a Subsurface Investigation (ESNW)

A March 9, 2016 Supplemental Phase II ESA investigation of the subject site completed by ESNW revealed elevated concentrations of diesel and heavy oil range petroleum hydrocarbons and/or total lead in 15 of 24 total soil samples collected at a depth of 0.5 feet bgs throughout the former skeet shooting range area that exceeded MTCA Method A unrestricted land use soil cleanup levels (see Plate 3). Deeper soil samples collected from the test pit excavations at 2-feet bgs throughout the former skeet shooting range did not contain diesel or heavy oil range petroleum hydrocarbons or total lead at levels exceeding MTCA Method A unrestricted land use soil cleanup levels. An additional two shallow soil samples collected at 0.5 feet bgs from the former bunker pit excavations were reported to contain elevated levels of heavy oil range petroleum hydrocarbons or total lead exceeding MTCA Method A soil cleanup levels. Soil samples collected from test pits excavated throughout the new landfill area at the site revealed elevated levels of methylene chloride and heavy oil range petroleum hydrocarbons exceeding MTCA Method A soil cleanup levels from four shallow soil samples ranging between 3 and 5 feet bgs. All remaining soil samples collected at the site did not contain chemical constituents exceeding MTCA Method A soil cleanup levels.

2.3.4 2016b Subsurface Investigation (ESNW)

An April 5, 2016 Second Supplemental Phase II ESA investigation completed at the site by ESNW revealed elevated levels of diesel and heavy oil range petroleum hydrocarbons in 4 samples and total lead in 1 soil sample collected along the former skeet shooting range plateau ridge area as exceeded Ecology's MTCA Method A unrestricted land use soil cleanup levels (see Plate 3). All other soil samples collected from test pits excavated throughout the former skeet shooting range plateau ridge area did not contain diesel or heavy oil range petroleum hydrocarbons or total lead at levels exceeding MTCA Method A unrestricted land use soil cleanup levels.

Based on the results of ESNW's April 5, 2016 investigation, as well as the previous March 9, 2016 Supplemental Phase II ESA investigation completed by ESNW, the extent of diesel and heavy oil range petroleum hydrocarbons and total lead soil contamination identified at the site appeared to extend throughout the former skeet shooting range and includes the north and south sloped ridge areas located immediately east and northeast of the skeet shooting range to a distance of roughly 100 yards from the former bunker pits (see Plate 4).

2.4 INTERIM CLEANUP ACTIVITIES

No interim cleanup activities at the site have been conducted.

2.5 DISTRIBUTION OF CONTAMINATION

Elevated concentrations of diesel and heavy oil range petroleum hydrocarbons, cPAHs, and total lead soil contamination identified at the site appears to extend throughout the former outdoor skeet shooting range and includes the sloped ridge area east of the skeet shooting range to a distance of roughly 100 yards from the former bunker pits. Three test pits excavated along the northern half of the new landfill area also contain elevated concentrations of heavy oil range petroleum hydrocarbons and one soil sample collected from a test pit along the south end of the new landfill reportedly contains elevated concentrations of methylene chloride. The depth of the petroleum and lead contamination located throughout the former outdoor skeet shooting range appears not to have migrated more than 2.0 feet below the ground surface. The depth of the methylene chloride and heavy oil petroleum soil contamination identified in the new landfill area appears to range between 3 to 5 feet below the ground surface.

2.6 CHEMICALS OF CONCERN (COCs)

Based on the findings of the investigations conducted on the Property, the COCs for the site include diesel and heavy oil range petroleum hydrocarbons, cPAHs, lead, and methylene chloride that were detected in soil at concentrations exceeding the applicable cleanup levels.

2.7 MEDIA OF CONCERN

Based on the findings of the subsurface investigations conducted at the site by CES and ESNW, soil is the affected media at the site. Groundwater was not encountered at the site during any of the subsurface investigations performed. According to a March 17, 2016 Geotechnical Evaluation report prepared for the subject property by IPEC, groundwater is expected to be encountered between 75 feet to about 95 feet below the ground surface (bgs).

2.8 SITE DEFINITION

Based on the findings from the subsurface investigations conducted by CES and ESNW between 2015 and 2016, the site includes diesel and heavy oil range petroleum hydrocarbons, cPAHs, lead, and methylene chloride contaminated soil located throughout the former outdoor skeet shooting range and designated New Landfill areas located along the east and northeast portions of the property (see Plate 4).

2.9 TECHNICAL ELEMENTS

The technical elements are those items necessary for the development and screening of remedial action alternatives including a summary of the RAOs, ARARs, COCs, media of concern, interim remediation levels, and cleanup standards.

3.0 REMEDIAL ACTION OBJECTIVES (RAOs)

RAOs are general administrative goals for a cleanup action that address the overall MTCA cleanup process. The purpose of establishing RAOs for a site is to provide remedial alternatives that protect human health and the environment (WAC 173-340-350). In addition, RAOs are designated in order to:

1. Implement administrative principles for cleanup (WAC 173-340-130).

2. Meet the requirements, procedures, and expectations for conducting a feasibility study and developing cleanup action alternatives as discussed in WAC 173-340-350 through 173-340- 370.

3. Develop cleanup levels (WAC 173-340-700 through 173-340-760) and remedial alternatives that are protective of human health and the environment.

In particular, RAOs must include the following threshold requirements from WAC 173-340:

1. Protect human health and the environment.

2. Comply with applicable cleanup levels.

3. Comply with applicable state and federal laws.

4. Provide for compliance monitoring.

The key components for remediation of impacted soil on the property include the following:

1. Reduce concentrations of COCs in soil at the property to below their respective cleanup levels to the extent practicable.

2. Mitigate exposure pathways to soil situated beyond the radius of influence of the completed and planned remedial actions.

3. Implement institutional controls on the property (if necessary) to provide long-term maintenance of the risk management procedures in accordance with WAC 173-340-440 and the Uniform Environmental Covenants Act (UECA Chapter 64.70 RCW), which may include deed restrictions for impacted soil remaining at the property following remediation activities.

Section 3.2 discusses ARARs for the cleanup actions at the property, per the requirements specified under MTCA and applicable state and federal regulations.

3.1 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

Under WAC 173-340-350 and 173-340-710, applicable requirements include regulatory cleanup standards, standards of control, and other environmental requirements, criteria, or limitations established under state or federal law that specifically address a contaminant, remedial action, location, or other circumstances at a site.

MTCA defines relevant and appropriate requirements as:

"those cleanup action standards, standards of control, and other human health and environmental requirements, criteria or limitations established under state and federal law that, while not legally applicable to the hazardous substance, cleanup action, location, or other circumstances at a site, the department determines address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site. The criteria specified in WAC 173-340-710(3) shall be used to determine if a requirement is relevant and appropriate."

Remedial actions conducted under MTCA must comply with the substantive requirements of the ARARs but are exempt from their procedural requirements (WAC 173-340-710[9]). Specifically, this exemption applies to state and local permitting requirements under the Washington State Water Pollution Control Act, Solid Waste Management Act, Hazardous Waste Management Act, Clean Air Act, State Fisheries Code, and Shoreline Management Act.

ARARs were screened to assess their applicability to the property. The following table summarizes the preliminary ARARs for the Property.

Preliminary ARARs for the Property	
Preliminary ARAR	**Citation of Source**
MTCA	Chapter 70.105 of the Revised Code of Washington (RCW)
MTCA Cleanup Regulation	WAC 173-340
Ecology, Toxics Cleanup Program – Guidance To Be Considered	*Guidance for Evaluation Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, Review DRAFT, October 2009, Publication No. 09-09-047
State Environmental Policy Act	RCW 43.21C
Washington State Shoreline Management Act	RCW 90.58; WAC 173-18, 173-22, and 173-27
The Clean Water Act	33 United States Code (USC) 1251 et seq.
Comprehensive Environmental Response, Compensation, and Liability Act of 1980	42 USC 9601 et sew. And Part 300 of Title 40 of the Code of Federal Regulations (40 CFR 300)
The Fish and Wildlife Coordination Act	16 USC 661 – 667e; the Act of March 10, 1934; ch. 55; 48 stat. 401
Endangered Species Act	16 USC 1531 et seq.; 50 CFR 17, 225, and 402
Native American Graves Protection and Reparation Act	25 USC 3001 through 3013; 43 CFR 10 and Washington's Indian Graves and Records Law (RCW 27.44)
Archaeological Resources Protection Act	16 USE 470aa et seq.; 43 CFR 7
Washington Dangerous Waste Regulations	WAC 173-303
Solid Waste Management Act	RCW 70.95; WAC 173-304 and 173-351
Occupational Safety and Health Administration Regulations	29 CFR Parts 1910, 1926
Washington Department of Labor and Industries Regulations	WAC 296
Water Quality Standards for Surface Waters of the State of Washington	RCW 90.48 and 90.54; WAC 173-201A
Water Quality Standards for Ground Water	WAC 173-200
Department of Transportation Hazardous Materials Regulations	40 CFR Parts 100 through 185
Washington State Water Well Construction Act	RCW 18.104; WAC 173-160
City of Spokane regulations, codes, and standards	All applicable or relevant and appropriate regulations, codes, and standards
Spokane County regulations, codes, and standards	All applicable or relevant and appropriate regulations, codes, and standards

3.2 CHEMICALS AND MEDIA OF CONCERN (COCs)

The COCs for the property are those compounds that were detected at concentrations exceeding their respective cleanup levels. The COCs and the media where the COCs were detected above the respective analytical detection limits are listed below:

1. Diesel range petroleum hydrocarbons in soil.
2. Heavy oil range petroleum hydrocarbons in soil.
3. cPAHs in soil.
4. Lead in soil.
5. Methylene chloride in soil.

3.3 CLEANUP STANDARDS

The selected cleanup alternative must comply with the MTCA cleanup regulations specified in WAC 173- 340 and with applicable state and federal laws. The associated media-specific cleanup levels for the identified COCs are summarized in the following Section 3.4.1 below.

3.3.1 Cleanup Levels

The proposed cleanup levels for the Property are the MTCA Method A Unrestricted Land Use Cleanup Levels for soil. If there is no promulgated Method A cleanup level for a particular COC for a given chemical in soil, the proposed cleanup level is the MTCA Method B Standard Formula Value for carcinogenic or noncarcinogenic compounds, depending upon the carcinogenic properties of the compound.

3.3.2 Points of Compliance

The points of compliance are the locations at which cleanup levels for the COCs in soil will be attained to meet the requirements for obtaining an NFA determination from Ecology.

3.3.2.1 Point of Compliance for Soil

The point of compliance for soil within the property boundary is achieved when concentrations of COCs in soil identified at the site are remediated to levels below the applicable MTCA Method A cleanup levels (in accordance with WAC 173-340-740(6)). Confirmation soil samples will be collected following completion of the excavation to evaluate remaining soil concentrations.

4.0 SELECTED CLEANUP ACTION

This section presents the cleanup action objectives, the cleanup action alternatives that have been selected, and the cleanup action components that will be implemented for the property.

4.1 CLEANUP ACTION OBJECTIVES

The purpose of the planned cleanup action is to restore beneficial uses of soil at the point of compliance, to protect human health and the environment, and to obtain an NFA determination from Ecology. In establishing the objectives of the cleanup action, the characteristics of the identified media of concern and COCs for the property and the potential migration and exposure pathways to sensitive receptors were taken into consideration. The specific objectives of the cleanup action include the following:

1. Eliminate the potential for direct human contact with soil having concentrations of COCs that exceed established MTCA Method A cleanup levels.
2. Prevent discharges into the storm sewer system or sanitary sewer system that exceed Surface Water ARARs or Spokane County Wastewater Discharge Screening Levels, respectively.
3. Protect beneficial uses of soil and groundwater by eliminating the potential for transfer of concentrations of COCs from soil to groundwater or from groundwater to soil.
4. Restore beneficial uses of soil and groundwater at the points of compliance.

4.2 SELECTED CLEANUP ACTION FOR THE PROPERTY

The selected cleanup action for the property includes the removal of diesel and heavy oil range petroleum hydrocarbons, cPAHs, and lead impacted soil using a mechanical front-loader at a 10-foot radius around each test pit location containing elevated soil sample results throughout the former outdoor skeet shooting range area and the northern half of the designated "New Landfill" area. Excavation and removal of methylene chloride impacted soil identified along the southern end of the New Landfill area will also occur using a mechanical backhoe. Areas of diesel and heavy oil range petroleum hydrocarbons, cPAHs, and lead impacted soil located along a steep plateau ridge area immediately east of the outdoor skeet shooting range and areas of diesel and heavy oil range petroleum hydrocarbons, cPAHs, and lead extending beyond the proposed property boundaries will also be excavated and removed. Waste soil generated during excavation activities will be stockpiled at an approved location at the subject property and covered with a waterproof membrane prior to waste characterization sampling and transportation off-site for disposal at an approved landfill. Representative samples of waste soil generated during excavation activities will be collected for waste characterization purposes. Discreet performance soil samples will be collected within the excavation areas during remedial activities to assess project cleanup goals.

5.0 PROPERTY PREPARATION

Prior to conducting any excavation activities, property preparation activities will be conducted, including decommissioning underground utilities, the decommissioning of any underground storage tanks and/or monitoring wells located within the excavation area (if present), installing fencing and signage, erosion and stormwater control, and excavation shoring measures, as necessary, to ensure the protection of workers within the work zones.

5.1 REMOVAL OF IMPACTED SOIL

The planned multi-family redevelopment includes the excavation of diesel and heavy oil range petroleum hydrocarbons, cPAHs, and lead impacted soil to a depth of up to two feet bgs (or deeper) at a 10-foot radius around each test pit location containing elevated soil sample results throughout the former outdoor skeet shooting range area and the northern half of the New Landfill area of the property using a mechanical front-loader. Excavation and removal of methylene chloride impacted soil located along the southern end of the New Landfill area will also occur using a mechanical backhoe. Areas of diesel and heavy oil range petroleum hydrocarbons, cPAHs, and lead impacted soil located along a steep plateau ridge area immediately east of the outdoor skeet shooting range and areas of diesel and heavy oil range petroleum hydrocarbons, cPAHs, and lead extending beyond the proposed property boundaries will also be excavated and removed. The contractor selected to excavate impacted soil at the property will utilize proper work techniques to prevent impacted waste soil from coming in contact with or re-contaminating clean soil at the property. Waste soil generated during excavation activities will be stockpiled at an approved location at the subject property and covered with a waterproof membrane prior to waste characterization sampling and transportation off-site for disposal at an approved landfill.

All contaminated soil excavated as part of the property redevelopment will be characterized and transported directly to an approved municipal landfill. Discreet performance soil samples will be collected within the excavation areas during remediation to assess project cleanup goal. Confirmation soil samples will be collected from the excavation floor following remediation activities in accordance with procedures detailed in Section 6.3 below.

5.1.1 Soil Classification Procedures

Determination of soil classification for disposal of the soil is dependent upon the analytical results of soil samples collected during previous investigations and the field screening during the planned excavation activities.

5.2 GROUNDWATER REMEDIATION

Since groundwater was not encountered on the property during previous subsurface investigations and the groundwater table is expected to be encountered between 75 feet to about 95 feet bgs, groundwater remediation for the property is not expected to occur.

5.3 CLEANUP ACTION SCHEDULE

The cleanup action for the property will be completed during property redevelopment. Following completion of these remedial activities, a Cleanup Action Report for the property will be submitted to the Department of Ecology.

6.0 COMPLIANCE MONITORING

There are three types of compliance monitoring identified for remedial cleanup actions performed under MTCA (WAC 173-340-410): protection, performance, and confirmational monitoring. A paraphrased definition for each is presented below (WAC 173-340-410[1]).

Protection Monitoring. To evaluate whether human health and the environment are adequately protected during construction and the operation and maintenance period of an interim action or cleanup action.

Performance Monitoring. To document that the interim action or cleanup action has attained project remediation goals.

Confirmational Monitoring. Testing the excavated site area to evaluate the long-term effectiveness of the interim action or cleanup action once cleanup standards or other performance standards have been attained.

6.1 PROTECTION MONITORING

A site-specific Health and Safety Plan (HASP) will be prepared for the remedial action at the property. The HASP will identify the known physical, chemical, and biological hazards; hazard monitoring protocols; and administrative and engineering controls required to mitigate the identified hazards.

6.2 SOIL CONFIRMATIONAL MONITORING FOR PROPERTY CLEANUP ACTION

Compliance monitoring for soil will be conducted at the completion of the excavation and removal of petroleum and lead impacted soil throughout the former outdoor skeet shooting and will also be conducted within the southern end of the New Landfill area following the excavation and removal of methylene chloride impacted soil.

Discreet confirmation soil samples will be collected in a designated grid pattern throughout the shallow excavation area of the former outdoor skeet shooting range. All confirmation soil samples collected from the outdoor skeet shooting range excavation area at the site will be analyzed for diesel and heavy oil range petroleum hydrocarbons, cPAHs, and total lead.

Confirmation soil sampling within the methylene chloride impacted soil excavation area of the New Landfill will include collection of confirmation soil samples from the final limits of the floor and sidewalls of the excavation. These confirmation soil samples will be analyzed for volatile organic compounds (VOCs).

The confirmation soil sample data will be used to confirm residual soil concentrations at the excavation areas in order to document that the standard soil point of compliance for the direct contact pathway has been achieved.

6.3 GROUNDWATER PERFORMANCE/CONFIRMATIONAL MONITORING

Since groundwater was not encountered on the property during previous subsurface investigations and the groundwater table is expected to be encountered between 75 feet to about 95 feet bgs, compliance groundwater monitoring for the property will not be conducted following completion of the impacted soil excavation activities.

If wastewater is generated during impacted soil excavation activities it will be stored temporarily in labeled 55-gallon drums on the property pending receipt of the analytical results for waste profiling. The wastewater will be removed by a subcontractor and will be transported to a permitted treatment, storage, and disposal facility for proper disposal.

7.0 DOCUMENTATION REQUIREMENTS

Documentation of the successful completion of the indicated cleanup action components is necessary to meet MTCA requirements. Upon client review and approval, all applicable and relevant documentation generated for the cleanup action will be submitted to Ecology in Cleanup Action Report.

7.1 DOCUMENTATION MANAGEMENT

An established document control system to be implemented during the remedial activities includes the following elements, as appropriate: field documentation, boring logs, sampling event data documentation, Chain of Custody forms, waste inventory documentation, waste management labels, sample labels, and waste disposal tickets. Disposal tickets/documents for the soils generated by the excavation on the property will be maintained and will be submitted with the project documentation.

7.2 WASTE DISPOSAL TRACKING

Specific documentation requirements will be met for transportation and disposal of the soil generated from the removal action. The waste disposal tracking documentation requirements are summarized below.

7.2.1 Land Ban and Listed Waste Soil Tracking

Waste Manifests provided by the approved landfill facility will be used to track the transport and disposal of impacted waste soils removed from the property. Copies of the signed originating manifests will be included in the Cleanup Action Report for the property.

7.3 CLEANUP ACTION REPORTS

A Cleanup Action Report for the property will be prepared following remediation activities. At a minimum, the report will include the following:

1. A description of the property preparation activities and excavation of impacted soil.

2. A summary of the compliance sampling analytical results for soil samples collected during and following the cleanup action, including summary tables of the analytical results.

3. Documentation of waste disposal tracking for the excavated impacted soil from the property.

4. Figures depicting limits of the excavation and confirmation sample locations.

5. ESNW's conclusions pertaining to the cleanup action following completion of the soil remediation activities.

8.0 REFERENCES

Cascade Earth Sciences, 2014, Phase I Environmental Site Assessment, 2911 West Fort George Wright Drive, Spokane, Washington, dated July 29, 2014.

Cascade Earth Sciences, 2015, Phase II Environmental Site Assessment, 2911 West Fort George Wright Drive, Spokane, Washington, dated May 14, 2015.

Inland Pacific Engineering Company, 2016, Geotechnical Evaluation, Proposed Copper River Apartments Site, 2911 West Fort George Wright Drive, Spokane, Washington, dated March 17, 2016.

Earth Solutions NW LLC, 2016a, Supplemental Phase II Environmental Site Assessment, Sisters Of The Holy Names property, 2911 West Fort George Wright Drive, Spokane, Washington, dated March 9, 2016.

Earth Solutions NW LLC, 2016b, Second Supplemental Phase II Environmental Site Assessment, Sisters Of The Holy Names property, 2911 West Fort George Wright Drive, Spokane, Washington, dated April 5, 2016.

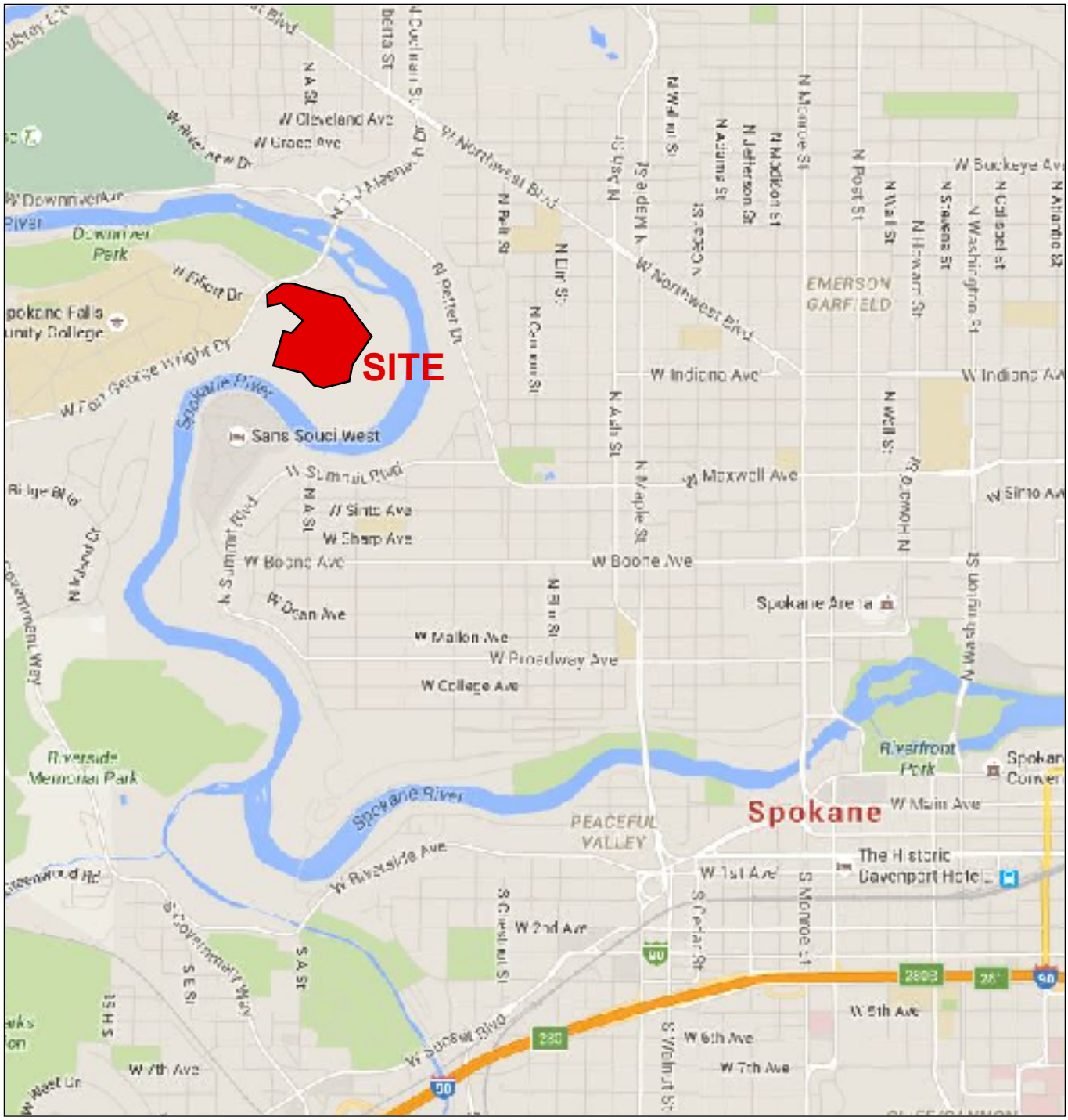
9.0 LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others or the use of segregated portions of this report.

Plates

ES-4332.01



NORTH

Reference:
Spokane, Washington
By Google Maps
Dated 2016

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Earth Solutions NW LLC

Geotechnical Engineering, Construction Monitoring and Environmental Sciences

Site Vicinity Map
Sisters of the Holy Names Property
Spokane, Washington

Drwn. MRS	Date 09/02/2016	Proj. No. 4332.01
Checked TWS	Date Sept. 2016	Plate 1

Reference
Spokane, Washington
By Google Maps
2016

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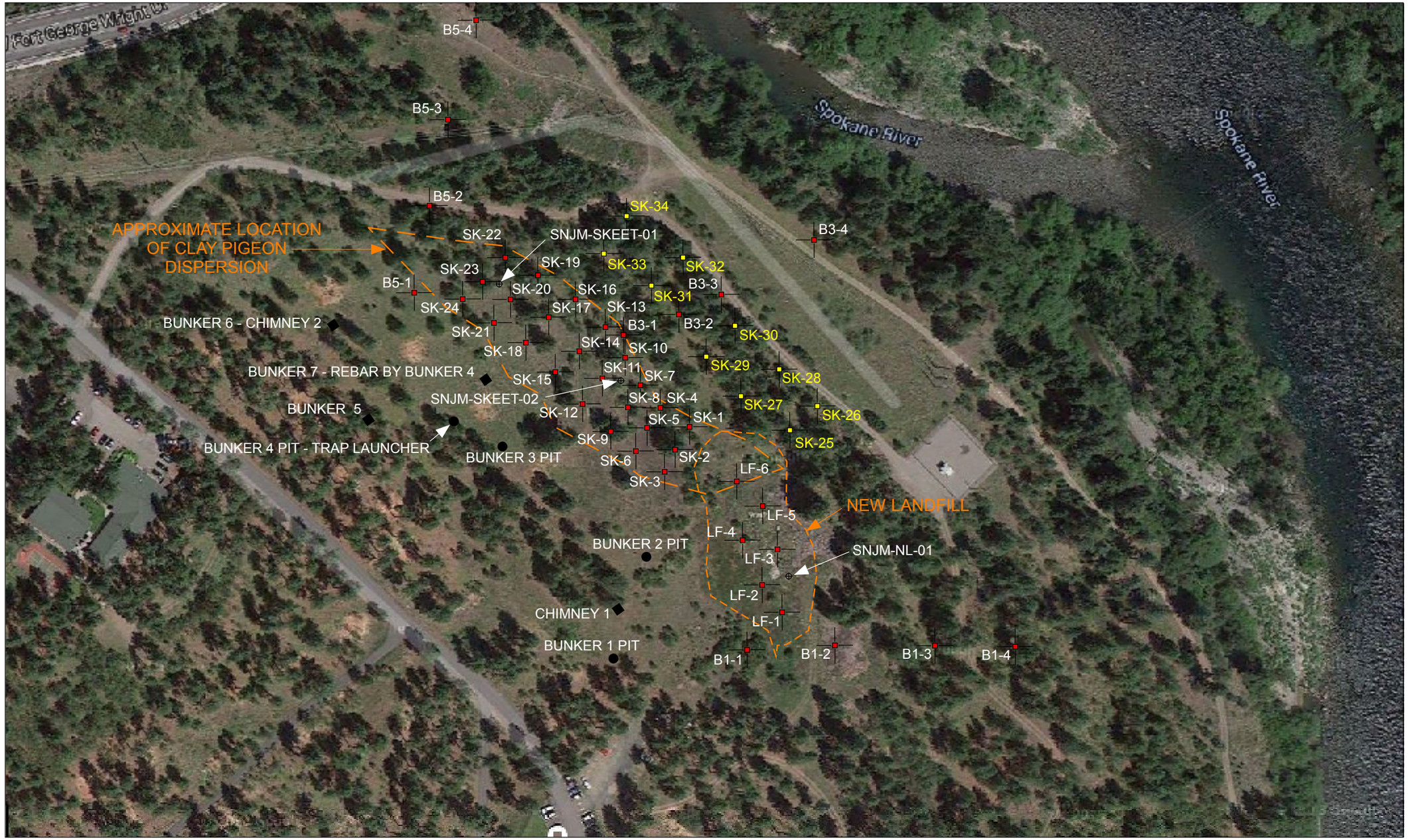
NORTH

Not - To - Scale

Site Overview Map
Sisters of the Holy Names Property
2911 West Fort George Wright Drive
Spokane, Washington

Earth Solutions NW LLC
Geotechnical Engineering, Construction Monitoring and Environmental Sciences

Drwn. By	MRS
Checked By	TWS
Date	09/02/2016
Proj. No.	4332.01
Plate	2



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LEGEND

SK-1 — Approximate Location of ESNW Test Pit, Proj No. ES-4332, Feb. 2016

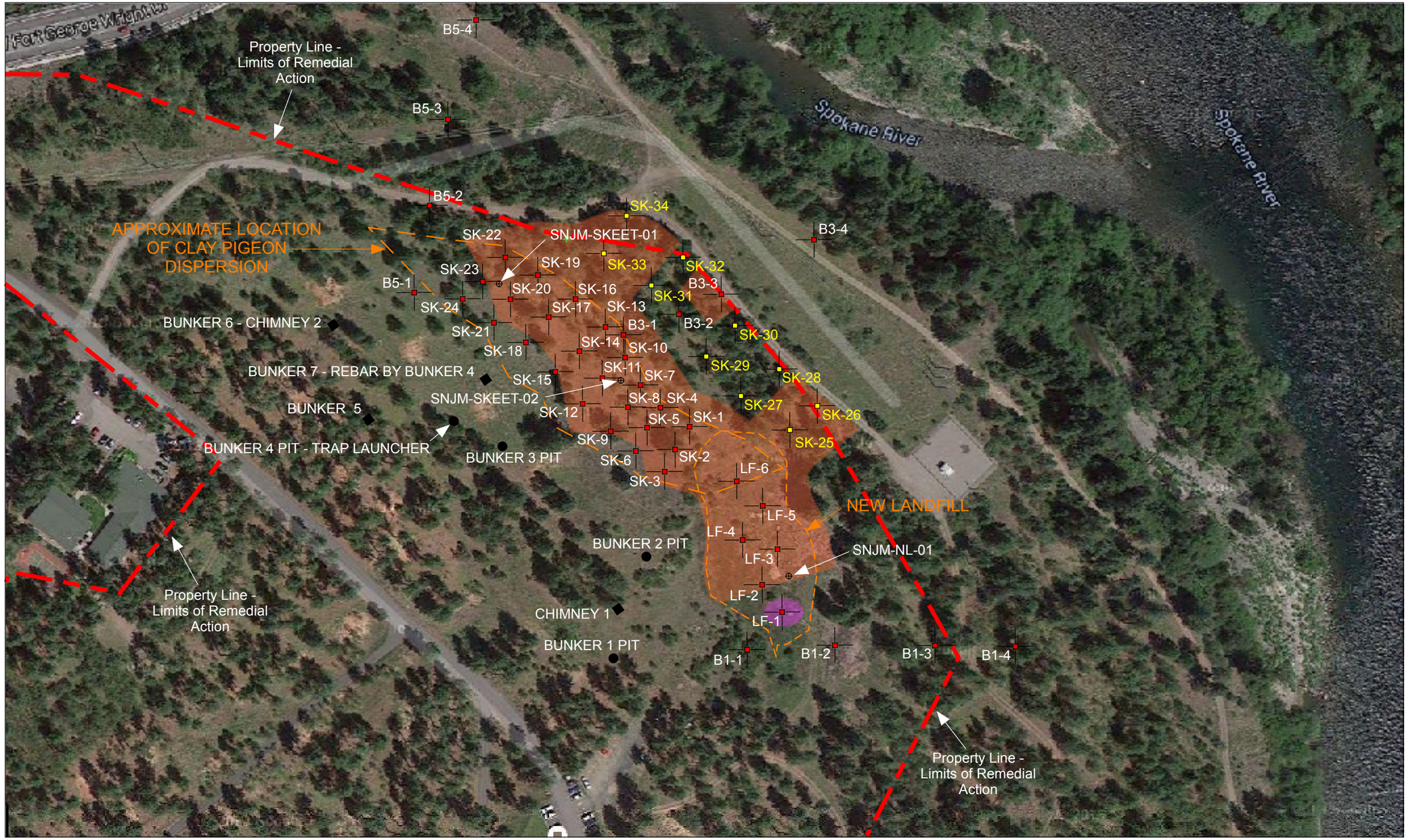
SK-25 — Approximate Location of ESNW Test Pit, Proj. No. ES-4332, Mar. 2016

SNJM-NL-01 — Approximate Location of CES Test Pit, Oct. 2014

Soil Test Pit Location Plan
Sisters of the Holy Names Property
2911 West Fort George Wright Drive
Spokane, Washington

Earth Solutions NW LLC
Geotechnical Engineering, Construction Monitoring and Environmental Sciences

Drwn. By	MRS
Checked By	TWS
Date	09/02/2016
Proj. No.	4332.01
Plate	3



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NORTH

Not - To - Scale

SK-1 — Approximate Location of ESNW Test Pit, Proj No. ES-4332, Feb. 2016

SNJM-NL-01 — Approximate Location of CES Test Pit, Oct. 2014

SK-25 — Approximate Location of ESNW Test Pit, Proj. No ES-4332, Mar. 2016

Approximate Extent of Methylene Chloride Impacted Soil

Approximate Extent of Petroleum and Lead Impacted Soil

Identified Areas of Soil Contamination Plan
Sisters of the Holy Names Property
2911 West Fort George Wright Drive
Spokane, Washington

Earth Solutions NW LLC
Geotechnical Engineering, Construction Monitoring and Environmental Sciences

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Checked By	TWS
Date	09/02/2016
Proj. No.	4332.01
Plate	4

Distribution

ES-4332.01

EMAIL ONLY

Copper River Apartments, LLC
120 West Cataldo Avenue, Suite 100
Spokane, Washington 99201

Attention: Mr. John Fisher