FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend

California
Oakland | Sacramento | Irvine

INTERIM ACTION CONSTRUCTION COMPLETION REPORT

SOUTH PARK LANDFILL SITE
SEATTLE, WASHINGTON

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 408-002

For:
South Park Property Development, L.L.C.
c/o SEACON, L.L.C.
165 Northeast Juniper Street, Suite 100
Issaquah, Washington

August 14, 2015

Prepared by:

Andrew Vining, P.E.
Project Engineer

Thaddeus J. Cline, L.G., L.H.G., P.E.
Principal Civil Engineer/Hydrogeologist

Reviewed by:

Clifford T. Schmitt, L.G., L.H.G.
Principal Hydrogeologist

PROFESSIONAL OPINIONS REGARDING SUBSTANTIAL COMPLIANCE WITH DESIGN AND ASSOCIATED DOCUMENTS

It is the opinion of the professionals listed below that the construction elements of the Interim Action, as generally summarized herein, were constructed in substantial compliance with the Interim Action Work Plan and associated design documents:

Landfill Gas Control

Thaddeus J. Cline, P.E., Farallon Consulting, L.L.C. — 7/1/2015 Date

Landfill Cap

Gary Flowers, L.G., L.E.G., Gary A. Flowers, P.L.L.C. — 7/1/2015 Date

Surface Water Control

Stormwater Capture and Conveyance:

Robert Power, SEACON, L.L.C. — 6/29/2015 Date

West Ditch Solidification:

Gary Flowers, L.G., L.E.G., Gary A. Flowers, P.L.L.C. — 7/1/2015 Date

TABLE OF CONTENTS

FIGURES

APPENDICES

ACRONYMS AND ABBREVIATIONS

Ecology	Washington State Department of Ecology
Farallon	Farallon Consulting, L.L.C.
GAF	Gary A. Flowers, P.L.L.C.
GES	Glacier Environmental Services, Inc.
HDPE	high-density polyethylene
Holocene	Holocene Drilling, Inc.
Interim Action Area	the area where the Interim Action was implemented, which is the South Park Property Development, L.L.C. Property and contiguous areas where solid waste from South Park Landfill operation extends beneath City of Seattle street rights-of-way beneath 5th Avenue South and South Sullivan Street
Interim Action Compliance Monitoring Plan	*Interim Action Compliance Monitoring Plan, South Park Landfill Site, Seattle, Washington* dated February 22, 2013, prepared by Farallon Consulting, L.L.C.
Interim Action Construction Completion Report	*Interim Action Construction Completion Report, South Park Landfill Site, Seattle, Washington* dated August 15, 2015, prepared by Farallon Consulting, L.L.C. (this document)
Interim Action Work Plan	*Interim Action Work Plan, South Park Landfill Site, Seattle, Washington* dated February 22, 2013, prepared by Farallon Consulting, L.L.C.
LEL	lower explosive limit
LFGCCS	landfill gas collection and control system owned and operated by South Park Property Development, L.L.C. at the Interim Action Area
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
PPMV	parts per million volume
RI/FS	Remedial Investigation/Feasibility Study

RI/FS Report	*Draft Final South Park Landfill Remedial Investigation/Feasibility Study* dated May 30, 2014, prepared by Floyd|Snider
SCI	SCI Infrastructure, L.L.C.
SEACON	SEACON, L.L.C.
South Park Landfill Site	the locations where contamination caused by the release of hazardous substances from the South Park Landfill has come to be located
SPPD	South Park Property Development, L.L.C.
SPPD Property	the 19.4-acre parcel (King County Tax Parcel No. 3224049005) that South Park Property Development, L.L.C. purchased from King County in 2006
WAC	Washington Administrative Code

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Interim Action Construction Completion Report (IACCR) on behalf of South Park Property Development, L.L.C. (SPPD), to satisfy the requirements for an Interim Action Report specified in the *Interim Action Work Plan, South Park Landfill Site, Seattle, Washington* dated February 22, 2013 prepared by Farallon (2013b) (Interim Action Work Plan). The Interim Action was conducted at a portion of what is known as the South Park Landfill in the South Park neighborhood of Seattle, Washington, less than 5 miles south of downtown Seattle (Figure 1). The Interim Action was conducted to reduce the threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to hazardous substances. The Interim Action was conducted under terms of an amendment to Agreed Order No. 6706, and the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340), specifically WAC 173-340-430 (Interim Actions). The amendment to Agreed Order No. 6706, with the Interim Action Work Plan attached as Exhibit E, was executed by Seattle Public Utilities (SPU), SPPD, and the Washington State Department of Ecology (Ecology), with an effective date of June 6, 2013.

1.1 BACKGROUND

This IACCR has been prepared to document Interim Action measures and construction activities related to the Interim Action to meet the requirements for As-Built Reports established in WAC 173-340-400[6][b][ii]. This IACCR pertains to the following four components of the Interim Action, as generally described in the Interim Action Work Plan:

- Landfill gas control;
- Landfill cap;
- Surface water control; and
- Institutional controls.

The Interim Action was conducted concurrently with redevelopment of the 19.4-acre parcel (King County Tax Parcel No. 3224049005) within the South Park Landfill that SPPD purchased from King County in 2006 (SPPD Property). Redevelopment included grading and paving for tenant equipment parking and options for future build-out of structures to support tenant operations. Redevelopment also included installation of a number of utilities, including sanitary sewer, natural gas, power, and a stormwater capture and conveyance system that includes two bioswales, a new storm drain line in Occidental Avenue South, and curb and gutter improvements along adjacent rights-of-way.

The South Park Landfill is an approximately 39-acre area roughly bounded by South Kenyon Street to the north, State Route 99 and 5th Avenue South to the east, South Sullivan Street to the south, and Occidental Avenue South to the west, and refers to the area where solid waste was

placed during operation of the landfill. Figure 2 shows the approximate boundary of the South Park Landfill based on review of aerial photographs, information obtained from numerous subsurface investigations conducted in the area, and data collected during completion of the Remedial Investigation.

The Interim Action was implemented on the SPPD Property and contiguous areas where solid waste from South Park Landfill operation extends beneath City of Seattle street rights-of-way beneath 5th Avenue South and South Sullivan Street (Interim Action Area) (Figure 2). The Interim Action Area does not encompass the entire South Park Landfill footprint, or the entire South Park Landfill Site, which in accordance with the provisions of MTCA is defined as the locations where contamination caused by the release of hazardous substances from the South Park Landfill has come to be located.

The South Park Landfill Site and a range of cleanup alternatives are described in the *Draft Final South Park Landfill Remedial Investigation/Feasibility Study* (RI/FS) dated May 30, 2014, prepared for the South Park Landfill Site by Floyd|Snider (2014a) (RI/FS Report), which was submitted to Ecology on June 27, 2014. The RI/FS Report was prepared on behalf of the potentially liable persons for the South Park Landfill Site. The RI/FS for the South Park Landfill Site has been conducted in accordance with the *Final Remedial Investigation/Feasibility Study Work Plan, South Park Landfill Site, Seattle, Washington* dated November 3, 2010, prepared by Farallon (2010). The *Draft Final South Park Landfill Cleanup Action Plan* dated June 2014, prepared for the South Park Landfill Site by Floyd|Snider (2014b) was submitted to Ecology on June 27, 2014. The Interim Action was designed so as to not preclude selection of a cleanup alternative that will be implemented for the South Park Landfill Site as a whole. The Final RI/FS Work Plan (Farallon 2010), the Interim Action Work Plan, the RI/FS Report, and the Cleanup Action Plan (Floyd|Snider 2014b) provide additional details regarding the Site description and background information.

1.2 REPORT ORGANIZATION

This IACCR has been organized into the following sections:

- **Section 2, Summary of Interim Action Components:** Section 2 provides a summary of the four Interim Action components, as generally described in the Interim Action Work Plan and identified in Section 1.1 above.
- **Section 3, Interim Action Construction:** Section 3 provides a summary of the construction of the landfill gas control system, landfill cap, and surface water control components of the Interim Action, including the various parties involved with construction, sequencing, timing, and design variations.
- **Section 4, References:** Section 4 lists the documents cited in this IACCR.
- **Section 5, Limitations:** Section 5 provides Farallon's standard limitations pertaining to this project.

2.0 SUMMARY OF INTERIM ACTION COMPONENTS

The four components of the Interim Action, described in the Interim Action Work Plan, are summarized in this sections. Details of the four components were incorporated into the permitted final construction drawings for the SPPD Property redevelopment project. While the SPPD Property redevelopment project occurred intermittently between March 2012 and April 2015, construction of Interim Action components occurred in spring 2012 and between May 2014 and April 2015. Additional detail regarding the time frame of the construction components is provided in Section 3, Interim Action Construction.

2.1 LANDFILL GAS CONTROL

The first component of the Interim Action was a system to control landfill gas in the Interim Action Area generated by solid waste deposited at the SPPD Property. The SPPD-owned and -operated landfill gas collection and control system (LFGCCS) is composed of a network of horizontal and vertical gas collectors (referred to in design documents as "gas collection wells" and "gas collection trenches," respectively). Landfill gas is extracted under an applied vacuum and is conveyed to a vacuum blower, condensate knock-out and sump, and discharge vent stack situated in an equipment area on the northwestern portion of the SPPD Property. Based on pre-construction landfill gas probe data through 2014, the Puget Sound Clean Air Agency (PSCAA) did not anticipate the need for treating emissions from the LFGCCS. However, the LFGCCS design allows for emissions treatment using pelletized activated carbon filters for removal of volatile organic compounds if determined necessary by PSCAA based on results of future emissions testing to be conducted once steady-state operations of the LFGCCS is achieved.

In general, vertical gas collectors are located in the interior of the Interim Action Area. Horizontal gas collectors are located along the perimeter of the Interim Action Area adjacent to the boundary of the SPU property formerly used for the Seattle South Recycling and Disposal Station, and adjacent to rights-of-way along 5th Avenue South, South Sullivan Street, and Occidental Avenue South. Vacuum and flow control valve assemblies at each collector are equipped with gate valves and monitoring ports installed in traffic-proof flush-mounted monuments referred to herein as "control boxes," and in other documents as "monitoring and control assemblies." The gate valves are used to adjust the flow and vacuum, and the monitoring ports are used to monitor gas composition and pressures. Connecting conveyance piping is sloped so that condensate will drain toward one of two collection sumps that contain pumps controlled with float switches that periodically discharge condensate to the sanitary sewer.

The basis for the LFGCCS design and the LFGCCS design are presented in the *Engineering Design Report, Landfill Gas Collection and Control System, South Park Landfill Site, Seattle, Washington,* prepared by Farallon (2015a).

2.2 LANDFILL CAP

The second of the four components of the Interim Action, the landfill cap, was constructed primarily to limit potential exposure to buried solid waste and infiltration of surface water and subsequent contact with solid waste. A landfill cap is required also for effective operation of the LFGCCS. The design of the landfill cap and the basis for its design are generally described in the Interim Action Work Plan.

The landfill cap consists of two types of systems, an asphaltic concrete cap and a low-permeability membrane cap, described below.

2.2.1 Asphaltic Concrete Cap

The asphaltic concrete landfill cap was designed to address structural requirements for the redeveloped SPPD Property in addition to serving as a landfill cap. The asphaltic concrete cap was constructed across the majority of the Interim Action Area where the final topographic surface has a slope of 6 percent or less. The long-term effectiveness of the asphaltic concrete cap will be managed by a monitoring and maintenance program that includes periodic inspections and re-sealing to maintain imperviousness.

Per the Interim Action Work Plan, the asphaltic concrete cap in general is 40 inches thick at a minimum, and is composed of three layers:

1. Compacted structural fill a minimum of 24 inches thick, which may or may not include cover soil formerly placed on top of solid waste, with actual thickness depending on existing cover thickness, geotechnical properties, and design grade requirements;
2. Crushed rock a minimum of 12 inches thick; and
3. Asphaltic concrete cover a minimum of 4 to 6 inches thick.

The Interim Action Work Plan provides the basis for a variance from Minimum Functional Standards for Solid Waste Handling (WAC 173-304, landfill cap requirements for minimum thickness of low-permeability soil, or a geomembrane layer) in the asphaltic concrete cap design. This variance was granted by Ecology with approval of the Interim Action Work Plan.

2.2.2 Low-Permeability Membrane Cap

The low-permeability membrane cap covers side slopes of greater than 6 percent and up to 33 percent grade around portions of the west, south, and east perimeters of the Interim Action Area.

Per the Interim Action Work Plan, the low-permeability membrane cap in general is 24 inches thick at a minimum, and is composed of three layers:

1. A compacted fill bedding layer a minimum of 6 inches thick;

2. A textured high-density polyethylene (HDPE) membrane a minimum of 50 mil thickness, anchored at the top of slope; and
3. A drainage and vegetative soil layer a minimum of 18 inches thick consisting of granular top soil, and planted as indicated in landscaping plans.

The low-permeability membrane cap was constructed on the existing soil cover that previously was placed over solid waste (with variable thickness reported to range from 0 to 48 inches).

2.3 SURFACE WATER CONTROL

The third of the four components of the Interim Action, surface water control, was implemented to: capture and convey stormwater from the landfill cap systems; prevent the potential for soil material to mobilize from the Interim Action Area; and satisfy the stormwater management requirements for the redevelopment project.

Implementing surface water controls with a landfill cap minimizes infiltration of stormwater into the solid waste, and reduces the likelihood that constituents in deposited solid waste will leach into groundwater and create leachate. The goals for surface water control, presented in the Interim Action Work Plan, were the following:

- Capture stormwater and convey surface water out of the Interim Action Area before it makes contact with deposited solid waste;
- Minimize the potential for disturbing, eroding, scouring, or otherwise mobilizing material deposited in the West Ditch, a former drainage feature on the western side of the Interim Action Area that was altered as part of redevelopment (Figure 2), or constituents associated with solid waste;
- Meet stormwater regulatory obligations with respect to conveyance, quantity, flow, and quality; and
- Convey stormwater runoff from areas of the Occidental Avenue South right-of-way and private properties formerly contributing stormwater flow to the West Ditch.

Stormwater capture in the Interim Action Area is achieved with a system of paved surfaces and catch basins, and conveyance via overland flow on paved surfaces and piping to detention and treatment in one of two SPPD Property bioswales. A small proportion of Interim Action Area stormwater runoff (e.g., from the access driveway off 5th Avenue South) is outside the capture area of the bioswales and flows to catch basins in rights-of-way. The low-permeability membrane cap system allows for infiltration of stormwater, which is captured as drainage at the toe of the slope and piped into storm drain systems in rights-of-way.

The bioswales discharge to a new 36-inch-diameter concrete storm drain line installed in the Occidental Avenue South right-of-way. The new storm drain line bypasses the private Kenyon Industrial Park storm drain line formerly used to convey stormwater flows from the SPPD Property to a City of Seattle drain line in South Kenyon Street. The new Occidental Avenue

South storm drain line connects to the same City of Seattle drain line in South Kenyon Street downstream of the inflow from Kenyon Industrial Park. The City of Seattle drain line discharges into the wetland system west of State Route 509, ultimately discharging to the Duwamish Waterway.

Redevelopment included improvements to curb and gutter systems in adjacent rights-of-way. A new curb and gutter system along the eastern side of Occidental Avenue South directs stormwater discharges from properties along the western side of Occidental Avenue South into a conveyance pipe that connects to the new Occidental Avenue South storm drain line. This stormwater discharge bypasses the SPPD Property bioswales.

Surface water control included construction of two bioswales: one in the northern portion of the Interim Action Area (North Bioswale), and the other in the northern portion of the former West Ditch (West Bioswale). As part of the construction of the West Bioswale and preparation of the subgrade for the bioswale and other redevelopment purposes, West Ditch soils were solidified by mixing in a Portland cement mixture. The low-permeability membrane cap system was installed along the eastern slope of the former West Ditch and keyed into the solidified material, effectively capping exposed solid waste in this area. Soil on the western side of the former West Ditch was covered with a distinct visible barrier that was overlain with a minimum of 18 inches of clean fill material or top soil. To minimize the effects to shallow groundwater flow from the solidified material, notches were cut into the top of the solidified mass and filled with drain rock to provide drainage to convey shallow groundwater from west to east across the top of the solidified mass. The design and the basis for the design of the West Ditch soil solidification aspect of the surface water control component of the Interim Action are presented in the Interim Action Work Plan. Anticipated effects to shallow groundwater flow from solidification of the West Ditch soil were evaluated in a Technical Memorandum regarding West Ditch Interim Action Effects Evaluation, SPPD Property-Specific Work dated May 18, 2012, prepared by Farallon (2012).

2.4 INSTITUTIONAL CONTROLS

The final component of the Interim Action, institutional controls, will be implemented in accordance with the Interim Action Work Plan and WAC 173-340-440 to limit or prohibit activities that may diminish the integrity of the Interim Action or potentially result in exposure to hazardous substances at the Site. The institutional controls are in the form of an Environmental Covenant recorded on the property deed, restricting use of groundwater at the Interim Action Area, and requiring that the landfill cap be maintained and measures be taken to prevent potential exposure to hazardous substances if the landfill cap is damaged in the future. The environmental covenant stipulates procedures in the case that the landfill cap is penetrated accidentally or as part of a future construction plan. Draft language for the environmental covenant to be recorded on the property deed is provided in Appendix A.

3.0 INTERIM ACTION CONSTRUCTION

In the opinion of the four qualified professionals who were involved with construction aspects of the Interim Action project (listed on the statement of substantial compliance at the beginning of this document), the Interim Action was conducted in substantial compliance with the Interim Action Work Plan and with final construction drawings for the SPPD Property redevelopment project. This section describes the construction phase of the Interim Action and presents as-built information. Additional as-built information is provided in appendices.

SEACON, L.L.C. (SEACON) was the general contractor for the SPPD Property redevelopment project, including construction of the components of the Interim Action. SEACON also provided construction management for the entire construction project. Plans and specifications for construction of the LFGCCS, landfill cap, and surface water control elements of the Interim Action were included as part of the permitted final construction drawings for the SPPD Property redevelopment project.

Sections 3.1 through 3.3 document the construction of the LFGCCS, the landfill cap, and surface water control elements of the Interim Action, respectively.

3.1 LANDFILL GAS COLLECTION AND CONTROL SYSTEM

Farallon's role in the Interim Action construction of the LFGCCS between June and December 2014 was to review and approve SEACON subcontractor submittals provided by SEACON, perform periodic and part-time construction observation, inspect the completed system, and conduct compliance monitoring in accordance with the Interim Action Work Plan. When Farallon identified work not in compliance with LFGCCS plans and specifications or the intents of the design, SEACON was notified to remedy identified issues.

SEACON subcontractors and their involvement in the construction of the LFGCCS were as follows:

- Holocene Drilling, Inc. (Holocene): installation of vertical landfill gas collectors;
- Glacier Environmental Services, Inc. (GES): installation of horizontal landfill gas collectors; collector control boxes for piping connections, valving, and monitoring ports; and machinery and controls;
- SCI Infrastructure, L.L.C. (SCI): installation of landfill gas conveyance lines and electrical conduits; and
- Preferred Electric: installation and connection of wiring to power machinery and controls.

Appendix B provides as-built documentation for the LFGCCS, including photographs. Appendix C provides documentation pertaining to landfill gas compliance monitoring.

3.1.1 Construction

Farallon observed Holocene perform drilling and construction of vertical landfill gas collectors on June 23, 24, and 30 and July 3 and 8, 2014 and verified that, based on limited field observations and information provided by SEACON, vertical collectors were situated per the design and that collector perforated intervals were positioned within the encountered solid waste per the intent of the design. The intent of the design was to position the perforated intervals of the vertical collectors so the top of the perforations matched the top of solid waste, and the bottom of the perforations matched the bottom of solid waste, with the objective of minimizing perforations in groundwater. Holocene installed 35 of the vertical collectors in June, 17 in July (replacing 2 installed in June at the request of Farallon), 1 collector in September when 5 surface completions were retrofitted to accommodate finish grade, and the final 2 collectors in November and December. Vertical collector as-built information provided by SEACON and Holocene is presented in Table B-1 in Appendix B.

Farallon observed GES trench for and construct the initial horizontal landfill gas collectors on July 25, 2014 and verified that, based on limited field observations and information provided by SEACON, horizontal collectors were situated per the design and at elevations per the intent of the design, which was to position the horizontal collectors a minimum of 30 inches into solid waste. In July, GES installed approximately 450 lineal feet of horizontal collectors. In August, GES installed approximately 1,700 lineal feet of horizontal collectors. In November and December, GES installed the remaining approximately 200 lineal feet of horizontal collectors. Horizontal collector as-built information provided by SEACON and GES is presented in Table B-2 in Appendix B.

Farallon observed GES install control boxes and make connections to conveyance piping installed by SCI on July 18, 23, 25, 30, and 31 and August 8, 2014. Connector piping as-built information provided by SEACON is shown on drawing EN-3 of the LFGCCS As-Built Plans in Appendix B. The design specified minimum slopes for conveyance lines to facilitate drainage of condensate. In July, GES installed 7 control boxes and connected 7 collectors to conveyance piping, and SCI installed approximately 3,000 lineal feet of conveyance piping. In August, GES installed 21 control boxes and connected 21 collectors to conveyance piping, and SCI installed approximately 2,000 lineal feet of conveyance piping and all electrical conduit. In September, GES installed 32 control boxes and connected 32 collectors to conveyance piping. In November and December, GES installed the remaining 2 control boxes and connected 2 collectors to conveyance piping.

By the end of the first week of December 2014, GES had installed the remediation system compound, including a concrete pad, two vacuum blowers, piping and valving, the exhaust stack, the west condensate sump and controls, and the control panel. GES also installed the east sump and controls and control panel. In December, Preferred Electric completed pulling electrical wires through conduit, connected power to the system, and tested controls. Condensate discharge lines were not connected to the sanitary sewer until the first quarter of 2015 after authorization was obtained from the King County Industrial Waste Program.

On December 8, 2014, Farallon performed a construction inspection of the LFGCCS and developed a final punch list of items to be completed prior to system start-up. During the inspection, control boxes were accessed. With an electrician present, each of the blowers was briefly turned on to test functionality. Each of the sumps was filled with water to confirm that sump pumps and controls were operational.

LFGCCS start-up occurred on December 17, 2014, and the system has remained operational since, with brief shut-down periods for system adjustments and maintenance. The LFGCCS currently is being balanced for long-term operation. Long-term LFGCCS operation, maintenance, and monitoring procedures are summarized in the *Landfill Gas Collection and Control System Operation, Maintenance, and Monitoring Plan, South Park Landfill Site, Seattle, Washington,* prepared by Farallon (2015c), to be issued following this IACCR.

3.1.2 Compliance Monitoring

Compliance monitoring related to landfill gas has been ongoing since the beginning of Interim Action construction, in accordance with the *Interim Action Compliance Monitoring Plan, South Park Landfill Site, Seattle, Washington* dated February 22, 2013, prepared by Farallon (2013a) (Interim Action Compliance Monitoring Plan, Appendix B of the Interim Action Work Plan). Compliance monitoring will henceforth be reported on an annual basis, with reports summarizing compliance monitoring for the prior calendar year issued during the first quarter of each year, or as required for the South Park Landfill Site. Compliance monitoring activities completed to date are summarized in the following sections.

3.1.2.1 Performance and Confirmational Monitoring

Landfill gas compliance monitoring began with a baseline landfill gas monitoring event in May and June 2013. The baseline event included installing new landfill gas probes GP-33 through GP-36. The baseline event entailed landfill gas monitoring in these new landfill gas probes and in existing landfill gas probes situated around the perimeter of the Interim Action Area (identified as "Perimeter Probes" in the Interim Action Compliance Monitoring Plan), landfill gas probe GP-02 in the interior of the Interim Action Area, and two sanitary sewer manholes in public rights-of-way. Per the Interim Action Compliance Monitoring Plan, Perimeter Probe monitoring is to occur during periods of falling barometric conditions. Appendix C presents construction logs of all of the Perimeter Probes, including the four new landfill gas probes, and a map showing the locations of the Perimeter Probes. Table C-1 and Figure C-1 in Appendix C provide the results from the baseline monitoring event.

Construction-phase performance monitoring commenced after the landfill cap subgrade was prepared and rough-graded in most areas of the SPPD Property. Ground surface preparation for the landfill cap began in May 2014 with spreading of the soil used to pre-load fill placed in the former East-West Channel, a ditch that bisected the southern portion of the SPPD Property, for about 2 years. Finish-grading for the landfill cap subgrade occurred between July and October 2014, with asphaltic concrete and low-

permeability membrane cap systems constructed between August and November 2014, with the exception of an area on the northern portion of the SPPD Property. Final paving sections on the northern portion of the SPPD Property were constructed in April 2015.

The first construction-phase landfill gas performance monitoring event occurred on June 25, 2014. Three subsequent construction-phase performance monitoring events occurred on September 2, October 13, and November 6, 2014. Results from the construction-phase performance monitoring indicated a general upward trend in methane concentrations over this time period as the capping systems were constructed and methane generated by the landfill accumulated in the subsurface. Table C-1 and Figure C-1 in Appendix C provide results from the construction-phase performance monitoring.

Start-up-phase performance monitoring occurred on January 28, February 26, and May 12, 2015. Balancing of the LFGCCS is ongoing and entails frequent monitoring of a number of parameters at various points in the LFGCCS. Results from the start-up-phase performance monitoring indicate that the LFGCCS can reduce methane concentrations in Perimeter Probes, including those on the east side of 5th Avenue South. However, it is uncertain at this time whether the LFGCCS can consistently maintain methane levels less than the 5 percent lower explosive limit (LEL) in all Perimeter Probes on the east side of 5th Avenue South during balanced long-term steady-state operations. Table C-1 and Figure C-1 in Appendix C provide results from the start-up-phase performance monitoring.

When the LFGCCS has been balanced for long-term operation, confirmational monitoring will involve post-construction monitoring per the Interim Action Compliance Monitoring Plan. Additional details regarding the long-term operation, maintenance, and confirmational monitoring of the LFGCCS are provided in the LFGCCS Operation, Maintenance, and Monitoring Plan (Farallon 2015c).

3.1.2.2 Supplementary Indoor Air Monitoring

During construction-phase performance monitoring and prior to start-up of the LFGCCS, methane concentrations exceeding the LEL persisted in Perimeter Probe GP-29 on the eastern side of 5th Avenue South. Methane concentrations exceeding the LEL persisted also at other Perimeter Probes completed within the Interim Action Area and in solid waste, although these probes were not situated proximate to structures, and elevated methane in the subsurface is expected in the interior of the landfill and in solid waste prior to operation of the LFGCCS. Perimeter Probe GP-29 is situated outside and near the edge of solid waste and within about 100 feet west of a structure on the Ness Manitowoc Property, LLC property at 8250 5th Avenue South. Construction sequencing did not allow for construction of the LFGCCS in operational sectors for use in mitigating methane accumulating under the newly constructed landfill cap, as was assumed in the Interim Action Compliance Monitoring Plan; the LFGCCS was not operational in any

area until it was constructed in its entirety. The LFGCCS was finally completed, behind schedule, on December 17, 2014.

To supplement the Perimeter Probe data and to evaluate the potential for methane intrusion into buildings outside the Interim Action Area and outside the footprint of the South Park Landfill on the east side of 5th Avenue South, Farallon monitored indoor air in the following two buildings using a flame ionization detector on November 6, 2014:

- The Ness Manitowoc Property, LLC property at 8250 5th Avenue South, just east of landfill gas probe GP-29; and
- The JYS4, L.L.C. property at 8230 5th Avenue South, between landfill gas probes GP-27 and GP- 28.

Farallon monitored in the interior locations inferred to have been monitored during an indoor air monitoring event conducted in December 2011 during completion of the RI.

Indoor air monitoring results were non-detect in six of eight locations in the building at 8250 5th Avenue South. Methane was detected at a concentration of 3.1 parts per million volume (ppmv) around the cover plate over the men's room floor drain in the main building, and at 16.9 ppmv along a saw-cut construction joint in the slab-on-grade floor of the shop area in the main building. Methane was detected at a concentration of 6.4 ppmv discharging from the passive subslab methane venting system discharge pipe at the roof line.

Indoor air monitoring results were non-detect in seven of eight locations in the building at 8230 5th Avenue South. Methane was detected in a drain with no trap, which may be related to sewer gas rather than landfill gas.

Concentrations of methane detected in indoor air were significantly less than the performance criterion indicated in the Minimum Functional Standards for Solid Waste Handling (WAC 173-304) for indoor air in buildings and structures off a landfill of 100 ppmv (0.01 percent by volume and 0.2 percent of the 5 percent methane LEL). Further indoor air assessment and mitigation measures at these buildings are not warranted at this time.

3.2 LANDFILL CAP

Gary A. Flowers, P.L.L.C. (GAF) monitored subgrade preparation and construction of the landfill cap systems on a periodic and part-time basis. SCI conducted earthwork required to prepare the subgrade for landfill cap construction and to achieve finish grades. Appendix D contains an as-built plan for the landfill cap systems and photographs of construction activities.

The cap systems are being periodically inspected and maintained per the *Landfill Cap Operation and Maintenance Plan, South Park Landfill Site, Seattle, Washington,* prepared by Farallon (2015b), to be issued following this IACCR and per the Environmental Covenant.

3.2.1 Asphaltic Concrete Cap

The asphaltic concrete cap was constructed across the majority of the Interim Action Area where the final topographic surface has a slope of 6 percent or less. To accomplish the final design grades over the Interim Action Area, compacted structural fill exceeding the 24-inch-minimum thickness required for the asphaltic concrete cap specified in the Interim Action Work Plan was placed during the 2012 and 2014 work seasons (April through October). This structural fill provides additional cover up to 15 feet deep over the solid waste in the filled East-West Channel, in the northeastern corner, and in the southwestern portion of the Interim Action Area. Other portions of the Interim Action Area received from 6 inches to several feet of additional structural fill over the former landfill cover system prior to installation of crushed rock and asphaltic concrete. The structural fill soil was composed of a variety of soil types ranging from silt/clay to sandy silt, to silty sand, to sand to silty sand with gravel. Compaction was attained via a combination of heavy scraper traffic and large smooth drum, and sheep-foot vibratory compactors. GAF aided the earthwork contractor in completing the work in accordance with requirements specified in the Interim Action Work Plan and by the City of Seattle Department of Planning and Development.

The eastern three-quarters of the East-West Channel was filled during the spring and summer of 2012. Placement of quarry spalls and a crushed rock choking course in the bottom of the East-West Channel commenced on April 3 and was completed on April 9. Once the quarry spalls and crushed rock choking course were completed, the entire bottom and sidewalls of the East-West Channel were covered with a non-woven geotextile separation fabric. No structural fill was placed directly on top of solid waste. Import, placement, and compaction of fill soil began on April 10 and was completed by June 30, 2012. Visual observation, hand-probing with a tee-handle and stainless steel soil probe, and occasional nuclear densometer testing indicated that the soil was compacted to a medium dense or better condition. Approximately 30,000 cubic yards of soil was placed in this area of the East-West Channel. Once this section of the East-West Channel was filled to design grade, approximately 100,000 cubic yards of additional soil was imported and placed in a pile up to 12 feet high as a pre-load over the area to consolidate underlying soil. Soil import for the pre-load concluded in late October 2012. The pre-load soil stockpile was then covered with plastic sheeting for the duration of consolidation.

Clearing and grubbing prior to landfill cap construction in other areas of the Interim Action Area occurred in May 2014. Grading and filling operations at the Interim Action Area began in late May and were concluded in October 2014. Filling of the remainder of the East-West Channel was conducted using the procedures described above for the eastern portion in 2012, and was completed in mid-June 2014. To attain design grades, approximately 30,000 cubic yards of soil in addition to the pre-load soil used for structural fill was imported. Observation of contractor

means and methods by the project Engineering Geologist was used to determine suitable compaction.

Utility installation in the Interim Action Area consisted of components of the LFGCCS, water lines, sewer lines, electrical lines and stormwater lines. Backfill for the trenches consisted of soil and, in some cases, solid waste materials that required re-interment. Where solid waste was used for utility line backfill, it was mixed with enough soil to allow suitable compaction, and in general compacted to a dense and unyielding condition. In addition, approved geotextile was draped with solid waste backfill, extending several feet outside the trench, to provide additional support to the trench area in the event solid waste alters over time and potentially settles. Additional fill soil was then placed and compacted on the geotextile. Although most of the trenches were observed during backfilling operations, due to the size of the project, some areas were not inspected, and several areas of trench settlement subsequently have been observed. These areas have been over-excavated and filled with compacted structural fill. In the event future settlement areas occur, they will be treated accordingly.

Once the final structural fill grades were achieved, the entire area where the asphaltic concrete cap was to be installed was proof-rolled with either a fully loaded tandem-axle dump truck or a fully loaded single-axle water truck. Yielding areas were identified for further mitigation, which ranged from over-excavation and backfill with more-acceptable soil to placement of multiple layers of geotextile and placement of recycled concrete or crushed rock to obtain suitable compaction and an unyielding subgrade.

Once the subgrade was approved, the pavement section was installed. The pavement section consisted of a minimum of 12 inches of approved granular structural fill and 12 inches of crushed rock per the Interim Action Work Plan. The granular structural fill and crushed rock were placed in maximum 8-inch-thick loose lifts; each lift was compacted to a dense and unyielding condition prior to placement of succeeding lifts. If yielding areas were observed during placement and compaction of these materials, they were mitigated as described above. A thinner section of granular structural fill was approved for the southern portion of the Interim Action Area where existing subgrade conditions were very dense previously placed fill soils. A blending of 40 percent recycled asphalt into the crushed rock was approved, and produced excellent compaction results in this area.

A minimum of 4 inches of hot mix asphalt was placed in two 2-inch-thick lifts by the paving subcontractor, ICON Materials. The paving operation began on August 28, 2014 and was completed on October 17, 2014, with the exception of the northwestern portion of the Interim Action Area. The final lift of asphaltic-concrete pavement was placed in the northwestern portion in April 2015.

3.2.2 Low-Permeability Membrane Cap

The low-permeability membrane cap was constructed on the existing soil cover that previously was placed over solid waste (with variable thickness reported to range from 0 to 48 inches) or over the new fill soil that was placed up to 12 feet thick as described above. New fill slopes are

present on the eastern and western portions of the Interim Action Area. The south-facing slope above South Sullivan Street was re-graded solid waste.

Although slopes were to be held to a maximum inclination of 3 feet horizontal to 1 foot vertical, final top grades necessitated steeper slope grades in some areas. Where grading operations exposed solid waste (e.g., the south-facing slope above South Sullivan Street), the surface was smoothed, and a minimum 6-inch-thick layer of compacted fill bedding was placed on top of the solid waste, per the Interim Action Work Plan. Where the solid waste was thoroughly covered by the new fill soil used to attain final grades, the surface was smoothed and cleared of rocks over 0.375-inch diameter.

SCI prepared the subgrade in advance of the membrane placement. Installation of the membrane system by Northwest Linings and Geotextile Products occurred between August and December 2014. Due to the general unavailability of a 50-mil-thickness HDPE membrane, a 60-mil-thickness textured HDPE membrane was substituted for the low-permeability membrane cap. SCI prepared the membrane anchorage at the top of the slope per the design by excavating a 2-by 2-foot trench, and backfilling the trench with structural fill after the membrane was placed in the trench. Once the membrane was fully installed, SCI installed the 18-inch-thick-minimum drainage and vegetative soil layer and the slope drainage, and hydroseeded the slopes per the design.

Storm water runoff prior to installation of curbing along the top of the slopes resulted in several areas of washouts and slumping soils, especially on the southwestern corner of the Interim Action Area. These areas have subsequently been repaired. With the installation of curbing at the top of the slopes to prevent concentrated stormwater runoff from impacting the slopes, it is anticipated that future washouts and/or slumping of slope soil will be significantly reduced.

3.2.3 Performance Monitoring

Performance monitoring of landfill cap construction was conducted by GAF according to the Interim Action Compliance Monitoring Plan. Performance monitoring entailed construction quality control measures including periodic construction observation ensuring that the landfill cap was constructed per construction plans and specifications and the intents of the design. When GAF identified work not in compliance with plans and specifications or the intents of the design, SEACON and/or SCI were notified to remedy identified issues. Performance monitoring included periodic observation of cover soil placement, grading, and compaction; and periodic observation of placement of the asphaltic concrete and low-permeability membrane components of the landfill cap.

3.3 SURFACE WATER CONTROL

SEACON performed construction management for installation of surface water controls in the Interim Action Area, which consisted of:

- SPPD Property catch basins and conveyance piping;

- Occidental Avenue South catch basins and conveyance piping;
- 5th Avenue South catch basins and conveyance piping;
- Curb and gutter improvements along Occidental Avenue South, South Sullivan Street, and 5th Avenue South; and
- The North Bioswale and the West Bioswale, including subgrade preparation and flow structures.

Construction was subcontracted to SCI, with periodic geotechnical monitoring of SPPD Property subgrade preparation and backfilling by GAF. Surface water control construction commenced in May 2014 in the filled and pre-loaded East-West Channel, and with solidification of the West Ditch soils as subgrade preparation for construction of the West Bioswale and other SPPD Property improvements. Construction of the new stormwater conveyance line in Occidental Avenue South commenced in October 2014 and was completed in April 2015 following a number of delays related to permits. Appendix E provides an as-built plan for surface water controls installed at the Interim Action Area and along Occidental Avenue South, including cut sheets for catch basin structures and construction photographs.

As part of construction of the West Bioswale and to meet the stated subgrade preparation for other redevelopment purposes, solidification of up to 10 feet of geotechnically unsuitable saturated soil and debris contained in the former West Ditch was necessary. Clearing and grubbing of the West Ditch commenced in late March 2014. Solidification was accomplished in April 2014 per design by mixing 5 to 7 percent by weight of Portland cement into existing soil using a long-arm track-hoe. Once the cement mixture hardened and workers and equipment were able to traverse the area, notches were cut into the top of the solidified mass per design and were filled with drain rock. Prior to placement of approximately 5 feet of structural fill to establish final grades, the drain rock was covered with a non-woven geotextile filter fabric to prevent migration of fine-grained soil into the drain rock. Construction related to solidification and subgrade preparation in the area of the West Ditch was completed in June 2014. Appendix E provides an as-built plan for the West Ditch soil solidification and photographs of construction activities.

4.0 REFERENCES

Farallon Consulting, L.L.C. (Farallon). 2010. *Final Remedial Investigation/Feasibility Study Work Plan, South Park Landfill Site, Seattle, Washington.* Prepared for South Park Property Development, L.L.C., Issaquah, Washington and the City of Seattle, Seattle, Washington. November 3.

————. 2012. *West Ditch Interim Action Effects Evaluation SPPD Property-Specific Work, Seattle, Washington.* Prepared for South Park Property Development, L.L.C., Issaquah, Washington, and the City of Seattle, Seattle, Washington. May 18.

————. 2013a. *Interim Action Compliance Monitoring Plan, South Park Landfill Site, Seattle, Washington.* Prepared for South Park Property Development, L.L.C., Issaquah, Washington. February 22.

————. 2013b. *Interim Action Work Plan, South Park Landfill Site, Seattle, Washington.* Prepared for South Park Property Development, L.L.C., Issaquah, Washington. February 22.

————. 2015a. *Engineering Design Report, Landfill Gas Collection and Control System, South Park Landfill Site, Seattle, Washington.* Prepared for South Park Property Development, L.L.C., Issaquah, Washington. June 19.

————. 2015b. *Landfill Cap Operation and Maintenance Plan, South Park Landfill Site, Seattle, Washington.* Prepared for South Park Property Development, L.L.C., Issaquah, Washington. Currently in-press, July.

————. 2015c. *Landfill Gas Collection and Control System Operation, Maintenance, and Monitoring Plan, South Park Landfill Site, Seattle, Washington.* Prepared for South Park Property Development, L.L.C., Issaquah, Washington. Currently in-press, July.

Floyd|Snider. 2014a. *Draft Final South Park Landfill Remedial Investigation/Feasibility Study.* Prepared for City of Seattle, Seattle, Washington, and South Park Property Development, L.L.C., Issaquah, Washington. May 30.

————. 2014b. *Draft Final South Park Landfill Cleanup Action Plan.* Prepared for the City of Seattle, Seattle, Washington, and South Park Property Development, L.L.C., Issaquah, Washington. June.

5.0 LIMITATIONS

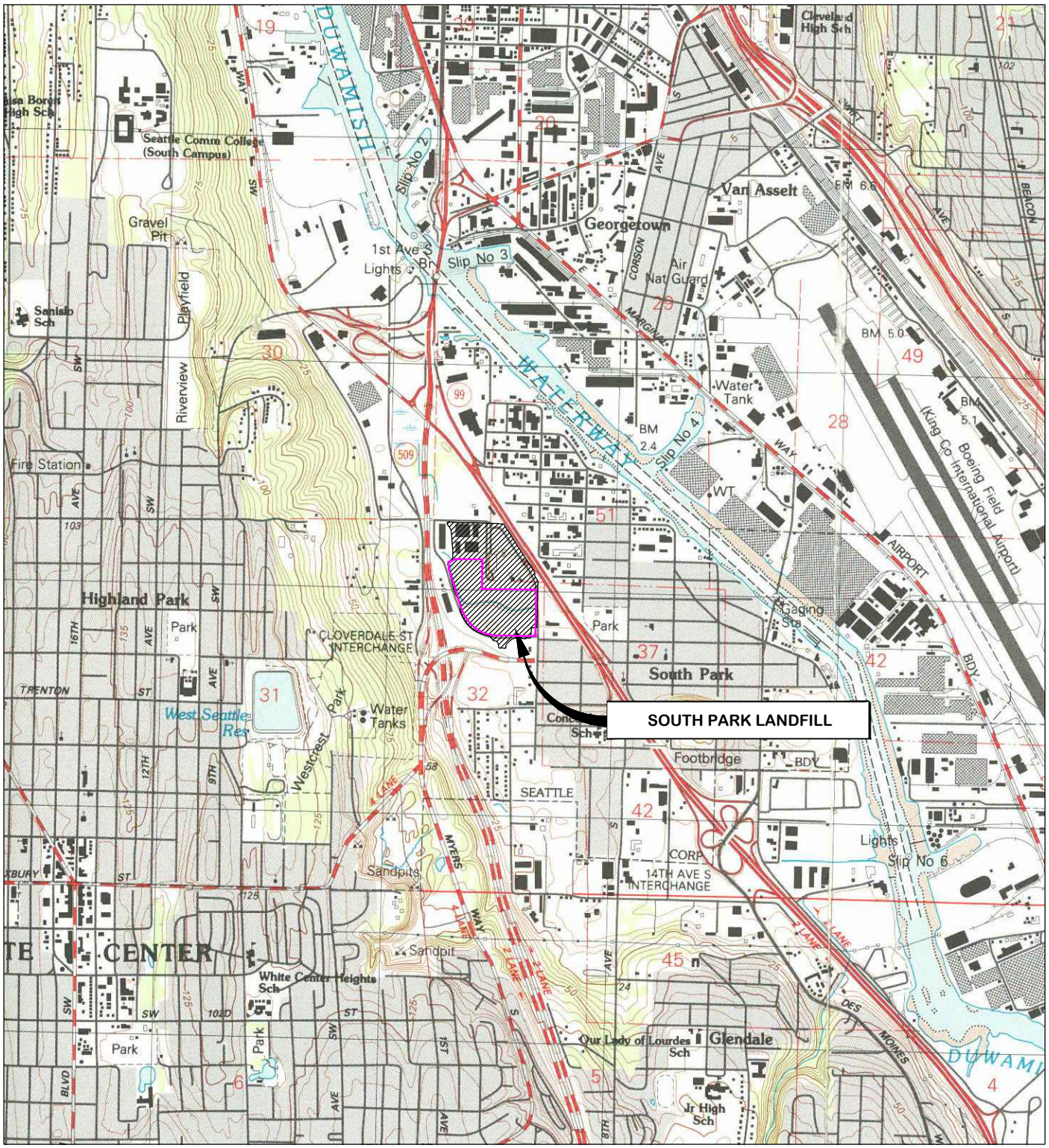
The conclusions and recommendations contained in this report are based on professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location, and are subject to the following limitations.

Certain information used by Farallon in this report has been obtained, reviewed, and/or evaluated from various sources believed to be reliable. Although Farallon's conclusions, opinions, and recommendations are based in part on such information, Farallon's services did not include the verification of its accuracy or authenticity. Should such information prove to be inaccurate or unreliable, Farallon reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

FIGURES

INTERIM ACTION CONSTRUCTION COMPLETION REPORT
South Park Landfill Site
Seattle, Washington

Farallon PN: 408-002



REFERENCE: 7.5 MINUTE USGS QUADRANGLE SEATTLE SOUTH, WASHINGTON. DATED 1953 AND PHOTOREVISED 1981

FARALLON CONSULTING

Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend

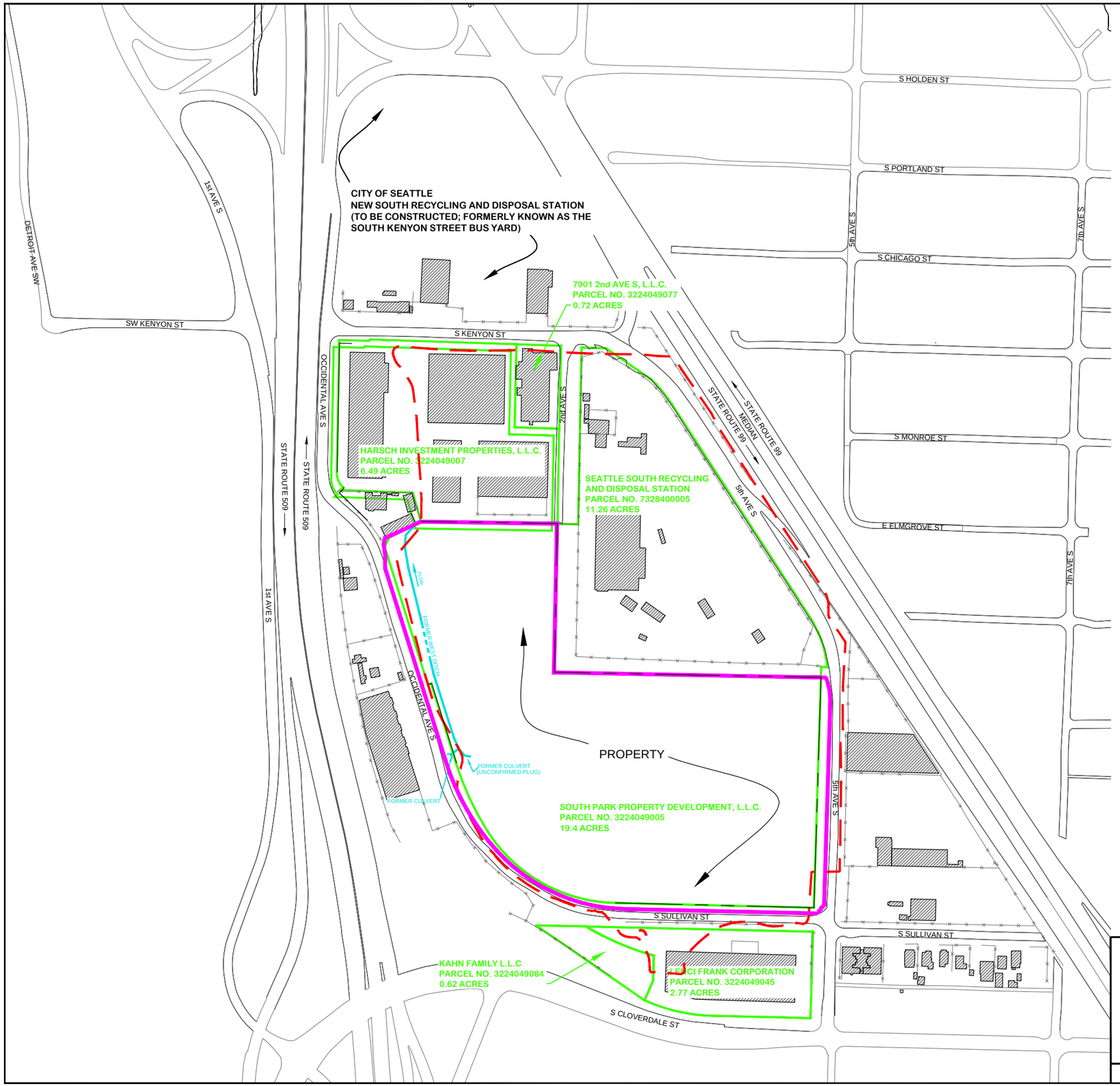
California
Oakland | Sacramento | Irvine

FIGURE 1

VICINITY MAP
SOUTH PARK LANDFILL SITE
SEATTLE, WASHINGTON

FARALLON PN: 408-002

Drawn By: DEW Checked By: TC Date: 5/20/2015 Disk Reference: BASEMAPb



LEGEND

- SOUTH PARK LANDFILL BOUNDARY
- KING COUNTY TAX PARCEL BOUNDARY
- INTERIM ACTION AREA
- FENCE
- DITCH
- EXISTING BUILDING

NOTES:

1. FIGURE INCLUDES INFORMATION PRESENTED IN COLOR. PHOTOCOPIES MAY NOT DEPICT ALL INTENDED INFORMATION ON THE ORIGINAL DRAWING.
2. ALL LOCATIONS ARE APPROXIMATE

0 300

APPROXIMATE SCALE IN FEET

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend

California
Oakland | Sacramento | Irvine

FIGURE 2

PROPERTY MAP SHOWING INTERIM ACTION AREA
SOUTH PARK LANDFILL SITE
SEATTLE, WASHINGTON

FARALLON PN: 408-002

Drawn By: DEW Checked By: CS Date: 6/24/2015 Disk Reference: BASEMAPb

APPENDIX A
INSTITUTIONAL CONTROLS, ENVIRONMENTAL COVENANT (DRAFT)

INTERIM ACTION CONSTRUCTION COMPLETION REPORT
South Park Landfill Site
Seattle, Washington

Farallon PN: 408-002

After Recording Return
Original Signed Covenant to:

Jerome Cruz
Toxics Cleanup Program
Department of Ecology
Northwest Regional Office
3190 160th Ave. S.E.
Bellevue, WA 98008-5452

Environmental Covenant

Grantor: South Park Property Development LLC
Grantee: State of Washington, Department of Ecology
Brief Legal Description:
Full Legal Description: See Exhibit A
Tax Parcel No.: 3224049005
Cross Reference: None

RECITALS

a. This document is an environmental (restrictive) covenant (hereafter "Covenant") executed pursuant to the Model Toxics Control Act ("MTCA"), chapter 70.105D RCW, and Uniform Environmental Covenants Act ("UECA"), chapter 64.70 RCW.

b. The Property that is the subject of this Covenant is part of a site commonly known as South Park Landfill (Facility Site ID # 2180). The Property is legally described in Exhibit A, and illustrated in Exhibit B, both of which are attached (hereafter "Property"). If there are differences between these two Exhibits, the legal description in Exhibit A shall prevail.

c. The Property is the subject of interim remedial action under MTCA (Interim Action). This Covenant is required to protect the integrity of the Interim Action conducted in 2014 and 2015, which included installation of a landfill gas collection system, landfill cap, and surface water controls at the Property. Records describing the Interim Action are available through the Washington State Department of Ecology, and include the following (hereafter the "Interim Action Documents").

1. *Interim Action Work Plan, South Park Landfill Site, Seattle, Washington*, dated February 22, 2013, prepared by Farallon Consulting, L.L.C. (2013);

2. *Engineering Design Report, Landfill Gas Collection and Control System, South Park Landfill Site, Seattle, Washington*, dated June __, prepared by Farallon Consulting, L.L.C. (2015);

3. *Interim Action Report, South Park Landfill Site, Seattle, Washington*, dated June __, prepared by Farallon Consulting, L.L.C. (2015);

4. *Landfill Cap Operation and Maintenance Plan, South Park Landfill Site, Seattle, Washington*, dated June __, prepared by Farallon Consulting, L.L.C. (2015); and

5. *Landfill Gas Collection and Control System Operation, Maintenance, and Monitoring Plan, South Park Landfill Site, Seattle, Washington*, dated June __, prepared by Farallon Consulting, L.L.C. (2015).

The following principal contaminants remain on the Property following the Interim Action:

Medium	Principal Contaminants Present
Soil (outside of capped Landfill area)	Lead and arsenic
Aged Municipal Solid Waste	
Groundwater	Vinyl Chloride
Landfill Gas	Methane

d. It is the purpose of this Covenant to restrict certain activities and uses of the Property to protect human health and the environment and the integrity of remedial actions conducted at the site.

e. This Covenant grants the Washington State Department of Ecology, as holder of this Covenant, certain rights specified in this Covenant. The right of the Washington State Department of Ecology as a holder is not an ownership interest under MTCA, Chapter 70.105D RCW or the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") 42 USC Chapter 103.

COVENANT

South Park Property Development LLC, as Grantor and fee simple owner of the Property, hereby grants to the Washington State Department of Ecology, and its successors and assignees, (hereafter "Ecology") the following covenants. Furthermore, it is the intent of the Grantor that such covenants shall run with the land and be binding on all current and future owners of any portion of, or interest in, the Property.

Section 1. General Restrictions and Requirements.

The following general restrictions and requirements shall apply to the Property:

a. Interference with Remedial Action. The Grantor shall not engage in any activity on the Property that may adversely impact or interfere with the Interim Action and any operation, maintenance, inspection or monitoring of that Interim Action without prior written approval from Ecology.

b. Protection of Human Health and the Environment. The Grantor shall not engage in any activity on the Property that may threaten continued protection of human health or the environment without prior written approval from Ecology. This includes, but is not limited to, any activity that results in the release of residual contamination that was contained as a part of the Interim Action or that exacerbates or creates a new exposure pathway to residual contamination remaining on the Property.

c. Continued Compliance Required. Grantor shall not convey any interest in any portion of the Property without providing for the continued adequate and complete operation, maintenance and monitoring of the Interim Action and continued compliance with this Covenant.

d. Leases. Grantor shall restrict any lease for any portion of the Property to uses and activities consistent with this Covenant and notify all lessees of the restrictions on the use of the Property.

e. Amendment to the Covenant. Grantor must notify and obtain approval from Ecology at least sixty (60) days in advance of any proposed activity or use of the Property in a manner that is inconsistent with this Covenant. Before approving any proposal, Ecology must issue a public notice and provide an opportunity for the public to comment on the proposal. If Ecology approves the proposal, the Covenant will be amended to reflect the change.

Section 2. Specific Prohibitions and Requirements.

In addition to the general restrictions in Section 1 of this Covenant, the following additional specific restrictions and requirements shall apply to the Property.

a. Maintenance of cap. The Interim Action contained contaminated soil and solid wastes under a cap that will prevent direct contact with the contaminated soil and solid wastes and will enhance the effectiveness of the landfill gas control system. Grantor shall periodically inspect and maintain that portion of the Landfill cap located on the Property, including any utilities

and/or Interim Action components located beneath the cap according to the landfill cap operation and maintenance plan.

b. Protection of cap. Except as provided otherwise in Section 2c below, the following restrictions shall apply within the Property: Any activity that will compromise the integrity of the cap including: drilling; digging; piercing the cap with sampling device, post, stake or similar device; grading; excavation; installation of underground utilities; removal of the cap; or, application of loads in excess of the cap load bearing capacity, is prohibited without prior written approval by Ecology. The Grantor shall report to Ecology within forty-eight (48) hours of the discovery of any damage to the cap on the Property, and shall take prompt action to prevent potential exposure to contaminated soil and solid wastes contained beneath the cap. Unless an alternative plan has been approved by Ecology in writing, the Grantor shall promptly repair the damage and submit a report documenting this work to Ecology within thirty (30) days of completing the repairs.

c. Exception for Work Under O&M Plan. The requirements in Section 2b do not apply to any activity conducted in accordance with a landfill cap operation and monitoring plan that Ecology has approved in writing.

d. Groundwater use. The groundwater beneath the Property shall not be extracted for any purpose other than temporary construction dewatering, investigation, monitoring or remediation approved or directed by Ecology.

Section 3. Access.

a. The Grantor shall maintain clear access to all Interim Action components located on the Property and necessary to construct, operate, inspect, monitor and maintain the Interim Action.

b. The Grantor freely and voluntarily grants Ecology and its authorized representatives and designees, upon reasonable notice, the right to enter the Property at reasonable times to evaluate the effectiveness of this Covenant and the Interim Action and enforce compliance with this Covenant and the Interim Action, including the right to take samples, inspect the Interim Action conducted at or adjacent to the Property, and to inspect related records.

c. No right of access or use by a third party to any portion of the Property is conveyed by this instrument.

Section 4. Notice Requirements.

a. Conveyance of Any Interest. The Grantor, when conveying any interest in any part of the Property including but not limited to title, easement, leases, and security or other interests, must:

i. Notify Ecology at least thirty (30) days in advance of the conveyance.

ii. Include in the conveying document a notice in substantially the following form, as well as a complete copy of this Covenant:

NOTICE: THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL COVENANT GRANTED TO THE WASHINGTON STATE DEPARTMENT OF ECOLOGY ON <DATE> AND RECORDED WITH THE KING COUNTY AUDITOR UNDER RECORDING NUMBER <RECORDING NUMBER>. USES AND ACTIVITIES ON THIS PROPERTY MUST COMPLY WITH THAT COVENANT, A COMPLETE COPY OF WHICH IS ATTACHED TO THIS DOCUMENT.

iii. Unless otherwise agreed to in writing by Ecology, provide Ecology with a complete copy of the executed document within thirty (30) days of the date of execution of such document.

b. Reporting Violations. Should the Grantor become aware of any violation of this Covenant, Grantor shall promptly report such violation to Ecology.

c. Emergencies. For any emergency or significant change in site conditions due to Acts of Nature (for example, flood, fire) resulting in a violation of this Covenant, the Grantor is authorized to respond to such an event in accordance with state and federal law. The Grantor must notify Ecology of the event and response actions planned or taken as soon as practical but no later than within 24 hours of the discovery of the event.

d. Any required written notice, approval, or communication shall be personally delivered or sent by first class mail to the following persons. Any change in this contact information shall be submitted in writing to all parties to this Covenant.

Robert A. Howie SEA CON LLC 165 N.E. Juniper Street Suite 100 Issaquah, WA 98027 (425) 837-9720	Environmental Covenants Coordinator Washington State Department of Ecology Toxics Cleanup Program P.O. Box 47600 Olympia, WA 98504 – 7600 (360) 407-6000

As an alternative to providing written notice and change in contact information by mail, these documents may be provided electronically in an agreed-upon format at the time of submittal.

Section 5. Modification or Termination.

a. This Covenant shall terminate when the Grantor or its successor records a Environmental Covenant for the Property following Ecology's issuance of a Cleanup Action Plan for the South Park Landfill (Facility Site ID # 2180). In addition, if the conditions at the Property requiring a Covenant change or no longer exist, then the Grantor may submit a request to Ecology that this Covenant be amended or terminated. Except for termination that occurs after recording of a Environmental Covenant for the Property following Ecology's issuance of a Cleanup Action Plan for the South Park Landfill, any amendment or termination of this Covenant must follow the procedures in Chapter 64.70 RCW and Chapter 70.105D RCW and any rules promulgated under these chapters.

Section 6. Enforcement and Construction.

a. This Covenant is being freely and voluntarily granted by the Grantor.

b. Grantor shall provide Ecology with an original signed Covenant and proof of recording within ten (10) days of execution of this Covenant.

c. Ecology shall be entitled to enforce the terms of this Covenant by resort to specific performance or legal process. All remedies available in this Covenant shall be in addition to any and all remedies at law or in equity, including Chapter 70.105D RCW and Chapter 64.70 RCW. Enforcement of the terms of this Covenant shall be at the discretion of Ecology, and any forbearance, delay or omission to exercise its rights under this Covenant in the event of a breach of any term of this Covenant is not a waiver by Ecology of that term or of any subsequent breach of that term, or any other term in this Covenant, or of any rights of Ecology under this Covenant.

d. The Grantor, upon request by Ecology, shall be obligated to pay for Ecology's costs to process a request for any modification or termination of this Covenant and any approval required by this Covenant.

e. This Covenant shall be liberally construed to meet the intent of the Model Toxics Control Act, chapter 70.105D RCW and Uniform Environmental Covenants Act, chapter 64.70 RCW.

f. The provisions of this Covenant shall be severable. If any provision in this Covenant or its application to any person or circumstance is held invalid, the remainder of this Covenant or its application to any person or circumstance is not affected and shall continue in full force and effect as though such void provision had not been contained herein.

g. A heading used at the beginning of any section or paragraph or exhibit of this Covenant may be used to aid in the interpretation of that section or paragraph or exhibit but does not override the specific requirements in that section or paragraph.

The undersigned Grantor warrants he/she holds the title to the Property and has authority to execute this Covenant.

EXECUTED this _____ day of _____, 20___.

SOUTH PARK PROPERTY DEVELOPMENT LLC

<SIGNATURE>_____
Managing Member
165 N.E. Juniper Street, Suite 100
Issaquah, WA 98027

Dated: _____

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

< SIGNATURE
<TITLE>

Dated: _____

GRANTOR INDIVIDUAL ACKNOWLEDGEMENT

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, and acknowledged that **he/she** is the individual described herein and who executed the within and foregoing instrument and signed the same at **his/her** free and voluntary act and deed for the uses and purposes therein mentioned.

_____
Notary Public in and for the State of
Washington, residing at _____.
My appointment expires_____.

GRANTOR CORPORATE ACKNOWLEDGMENT

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** is the _____ of the corporation that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that **he/she** was authorized to execute said instrument for said corporation.

_____
Notary Public in and for the State of
Washington, residing at _____.
My appointment expires_____.

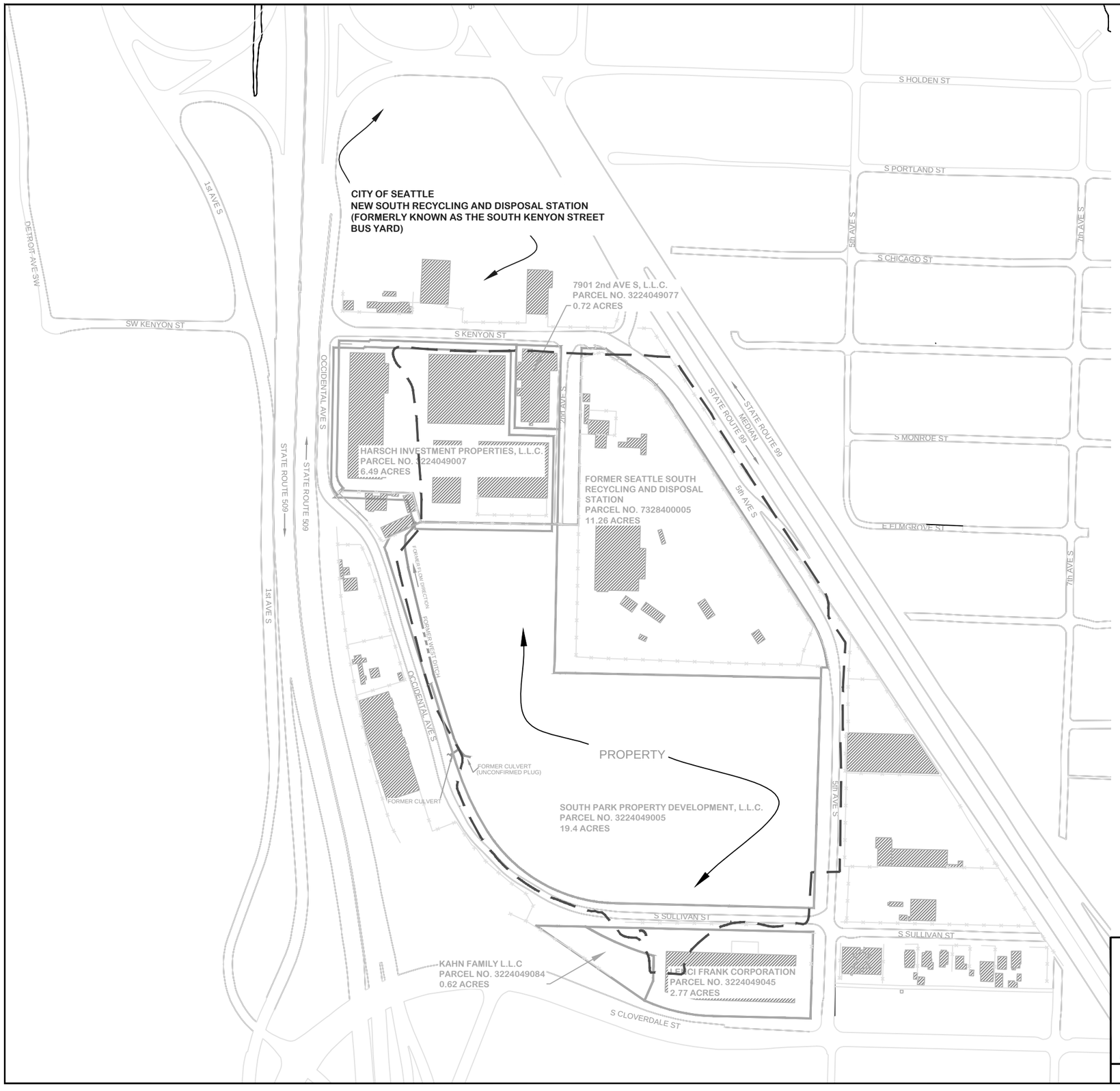
Exhibit A

LEGAL DESCRIPTION

POR OF SW 1/4 OF NW 1/4 AND POR OF GL 2-3-4 STR 32-24-4 ALL LY NELY OF OCCIDENTAL AVE S & NLY OF PROPERTY DEEDED TO CITY UNDER VOL 4991 PG 140 AND WLY OF A LN 50 FT W OF W LN OF A HOGRAVE D C AND SLY OF A LN 30 FT SOUTH OF S LN OF G HOLT D C NO 51 AND WLY OF A LN 60 FT W OF W LN SD D C & SLY OF A LINE DAF --- BEG AT NW COR OF GL 4 TH S 441.31 FT TH E 397.52 FT TH S 16-50-00 E 86.53 FT TO A PT "A" AND BEG OF SD LN TH ELY TO A LN 60 FT W OF W LN OF G HOLT D C NO 51 TH WLY RETURNING TO PT "A" TH S 64-14-54 W 98 FT TH S 24-43-54 W TO ITS NXN WITH OCCIDENTAL AVE S AND THE TERMINUS OF SD LN

Exhibit B

PROPERTY MAP



LEGEND

- SOUTH PARK LANDFILL BOUNDARY
- KING COUNTY TAX PARCEL BOUNDARY
- FENCE
- DITCH
- EXISTING BUILDING

DRAFT

0 300

APPROXIMATE SCALE IN FEET

FARALLON CONSULTING

Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend

California
Oakland | Sacramento | Irvine

EXHIBIT B

PROPERTY MAP
SOUTH PARK LANDFILL SITE
SEATTLE, WASHINGTON

FARALLON PN: 408-002

Drawn By: GPF Checked By: CS Date: 7/1/2015 Disk Reference: BASEMAPb

APPENDIX B
AS-BUILT DOCUMENTATION, LANDFILL GAS CONTROL SYSTEM

INTERIM ACTION CONSTRUCTION COMPLETION REPORT
South Park Landfill Site
Seattle, Washington

Farallon PN: 408-002

Table B-1
Vertical Landfill Gas Collectors
SPPD Property-Specific Work
Seattle, Washington
Farallon PN: 408-002

Collector Identification[1]	Install Date	Elevation (feet)[2]	Depth to Top of Trash[3] (feet)	Depth to Bottom of Trash[3] (feet)	Length of Perforated Pipe Installed (feet)	Total Well Depth (feet)	Thickness of Gravel Pack (feet)	Depth to Top of Gravel Pack[3] (feet)
V1	6/28/14	22.6	3.0	7.0	4.0	7.0	6.0	3.0
V2	6/28/14	21.6	2.0	8.0	5.5	11.0	7.5	4.5
V3	7/22/14	22.5	1.0	6.0	5.0	13.5	13.5	1.0
V4	9/22/14	28.5	8.0	14.0	6.5	14.5	7.0	5.0
V5	6/30/14	24.6	5.0	13.0	6.5	13.0	8.5	5.5
V6	7/1/14	24.5	3.0	11.0	8.0	16.0	10.0	7.0
V7	7/1/14	24.3	1.0	6.5+	3.3	6.5	5.3	2.3
V8	6/30/14	25.1	1.0	12.5+	6.3	12.5	8.3	5.3
V9	6/30/14	25.4	4.0	13.0	8.8	17.5	10.8	7.8
V10	6/28/14	25.4	3.0	20.0+	10.0	20.0	12.0	9.0
V11	6/30/14	25.2	6.0	N/A	4.8	9.5	6.8	3.8
V12	7/22/14	25.8	4.0	13.0	9.0	13.0	10.5	3.5
V13	6/30/14	25.0	1.0	7.0+	3.5	7.0	5.5	2.5
V14	9/10/14	30.0	4.5	14.0	11.0	14.8	11.0	3.5
V15	7/3/14	26.2	4.0	17.0	10.0	20.0	12.0	9.0
V16	6/25/14	27.5	12.0	15.0	9.3	18.5	11.3	8.3
V17	6/24/14	27.0	8.0	10.0	9.0	18.0	11.0	8.0
V18	6/24/14	22.5	6.0	12.0	8.3	16.5	10.3	7.3
V19	6/24/14	24.8	5.0	15.5+	7.5	15.5	9.8	6.8
V20	6/24/14	23.7	10.0	15.2+	7.6	15.2	9.6	6.6
V21	6/23/14	22.0	7.0	11.0+	5.5	11.0	7.5	4.5
V22	10/10/14	19.0	2.5	12.5	7.0	12.5	9.0	6.0
V23	6/27/14	27.1	6.0	13.0	8.3	16.5	10.3	7.3
V24	6/27/14	27.8	6.0	12.0	8.9	17.5	10.9	7.9
V25	7/22/14	28.4	2.0	11.0	9.0	11.0	10.5	1.5
V26	6/27/14	28.3	7.0	15.0	8.9	17.8	10.9	7.9
V27	6/30/14	30.1	6.0	12.0	7.1	14.2	9.1	6.1
V28	6/30/14	32.7	6.0	9.0	4.8	9.5	6.8	3.8
V29	10/10/14	19.5	2.5	5.5+	2.5	5.0	4.5	1.5
V30	7/3/14	23.2	5.0	12.0+	4.4	12.0	6.4	3.4
V31	6/26/14	27.4	10.0	12.5+	6.3	12.5	8.3	5.3
V32	7/8/14	31.9	7.0	20.0	8.5	20.0	9.7	6.7
V33	7/8/14	28.1	9.0	20.0	9.0	20.0	10.1	7.1

Table B-1
Vertical Landfill Gas Collectors
SPPD Property-Specific Work
Seattle, Washington
Farallon PN: 408-002

Collector Identification[1]	Install Date	Elevation (feet)[2]	Depth to Top of Trash[3] (feet)	Depth to Bottom of Trash[3] (feet)	Length of Perforated Pipe Installed (feet)	Total Well Depth (feet)	Thickness of Gravel Pack (feet)	Depth to Top of Gravel Pack[3] (feet)
V34	7/22/14	31.0	N/A	N/A	N/A	16.5	10.8	7.8
V35	6/28/14	29.5	7.0	16.5	8.2	16.5	10.2	7.2
V36	7/3/14	31.5	6.0	7.7+	3.9	7.7	5.9	2.9
V37	7/3/14	27.6	5.0	5.0+	2.5	5.0	4.5	1.5
V38	6/26/14	27.3	3.0	7.0+	3.5	7.0	5.5	2.5
V39	7/22/14	30.4	4.0	7.0	3.0	7.0	4.5	3.5
V40	6/26/14	33.0	11.0	15.0+	7.7	15.3	9.7	6.7
V41	7/1/14	32.6	4.0	17.0	9.5	19.0	11.5	8.5
V42	7/3/14	29.5	6.0	22.5	9.0	22.5	10.5	7.5
V43	6/25/14	28.0	2.0	9.0+	4.6	8.6	6.3	3.3
V44	*Well Not Installed*							
V45	6/26/14	30.6	6.0	8.0+	4.0	8.0	6.0	3.0
V46	7/3/14	30.3	N/A	N/A	N/A	N/A	4.7	1.7
V47	6/26/14	32.6	4.0	9.0	5.0	10.0	7.0	4.0
V48	6/26/14	33.4	4.0	16.0+	8.8	17.5	10.8	7.8
V49	6/25/14	34.4	4.0	16.0	10.0	20.0	12.0	9.0
V50	7/3/14	33.7	2.0	18.0+	8.0	18.0	10.0	7.0
V51	6/25/14	30.0	2.0	6.0	3.9	7.7	5.9	2.9
V52	6/25/14	33.0	2.0	7.5+	3.8	7.5	5.8	2.8
V53	6/25/14	34.5	11.0	14.0	8.5	17.0	10.5	7.5
V54	6/30/14	34.2	8.0	11.0	8.5	17.0	10.5	7.5
V55	6/28/14	30.3	8.0	9.5+	4.7	9.5	6.7	3.7

NOTES:

N/A: Not available; no data collected.

[1]Based on landfill gas system plan Drawing EN-3.

[2]Elevations based on feet above mean sea level.

[3]Approximate depth measured from ground surface.

Table B-2
Horizontal Landfill Gas Collectors
SPPD Property-Specific Work
Seattle, Washington
Farallon PN: 408-002

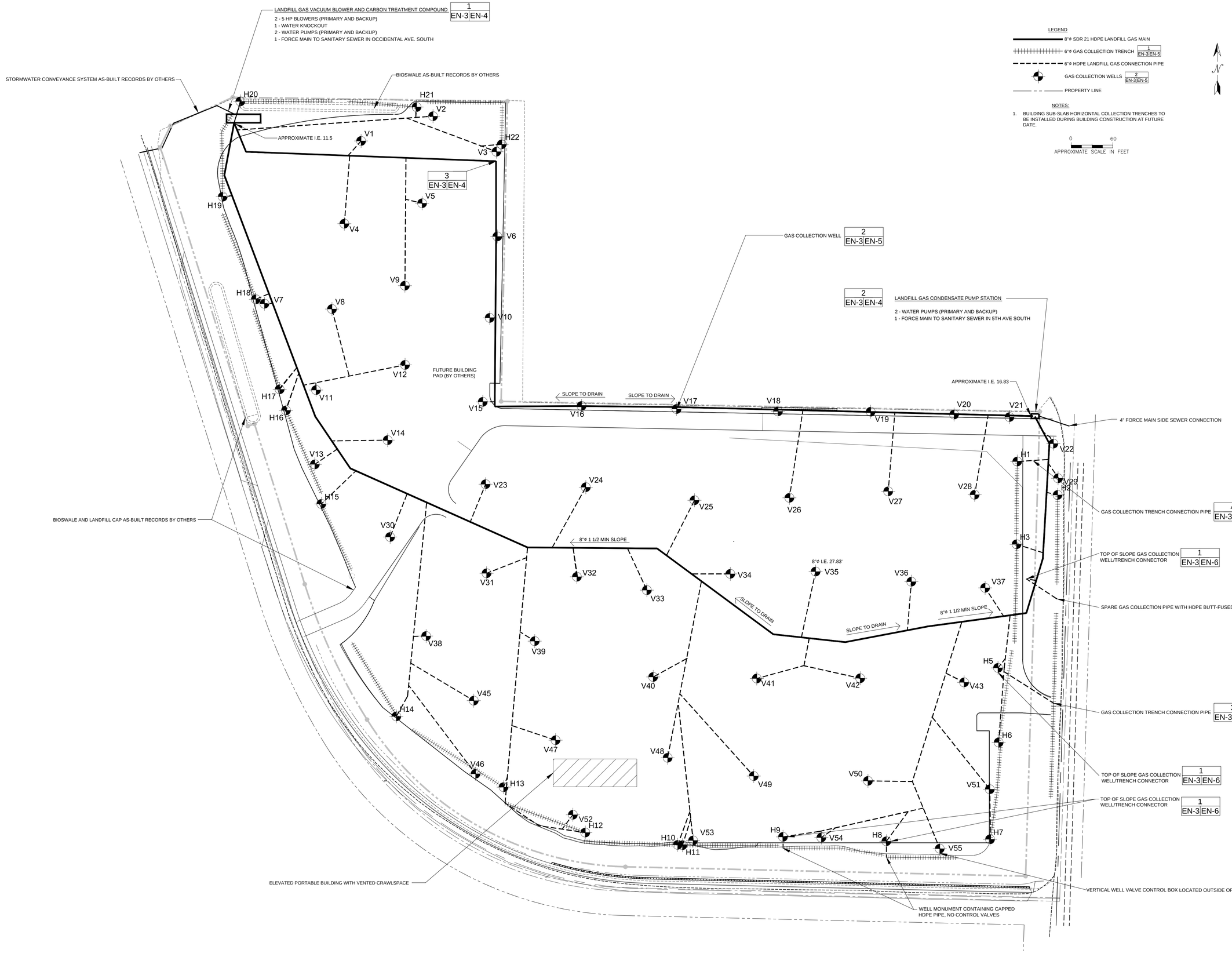
Collector Identification[1]	Installation Date	Depth to Top of Trash at Elbow Connection[3] (feet)	Depth to Top of Trash at Pipe End Cap[3] (feet)	Approx. Invert Elevation of Elbow Connection[2] (feet)	Invert Elevation of End Cap (feet)[2]	Length of Perforated Pipe Installed (feet)	Trench Width (inches)
H1	7/26/14	9.2	9.0	17.64	16.93	105	36
H2	10/9/14	2.0	2.0	4.50	5.00	198	36
H3	7/26/14	9.5	10.5	17.13	14.70	95	36
H4	*Not Installed. Trench #5 extend north to maintain coverage along 5th Avenue South.*						
H5	10/10/14	2.0	2.0	4.50	5.00	222	36
H6	7/29/14	8.0	9.0	20.38	17.27	150	36
H7	8/7/14	4.0	9.0	24.50	20.00	135	36
H8	8/7/14	4.0	6.0	24.00	20.50	140	36
H9	8/6/14	8.0	7.0	22.92	22.60	140	36
H10	8/6/14	7.0	8.0	25.42	22.92	115	36
H11	8/5/14	6.0	6.0	26.97	26.97	135	36
H12	7/30/14	9.0	6.0	22.97	22.30	109	36
H13	8/1/14	10.0	8.5	22.20	18.90	150	36
H14	8/4/14	9.0	8.5	17.90	14.81	140	36
H15	8/8/14	4.0	4.0	27.10	26.60	95	36
H16	8/13/14	4.0	6.0	17.08	14.60	125	36
H17	8/13/14	3.0	3.0	17.88	17.38	125	36
H18	8/14/14	6.0	7.0	14.40	13.50	130	36
H19	9/2/14	7.0	4.5	13.50	12.79	115	36
H20	8/15/14	6.5	6.0	10.26	9.60	130	42
H21	8/15/14	6.0	6.5	13.50	13.50	100	42
H22	9/2/14	3.0	6.5	17.00	17.00	163	24

NOTES:

[1]Based on landfill gas system plan Drawing EN-3.

[2]Elevations based on feet above mean sea level.

[3]Approximate depth measured from ground surface.



6/23/15	AS-BUILT

PREPARED BY
FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

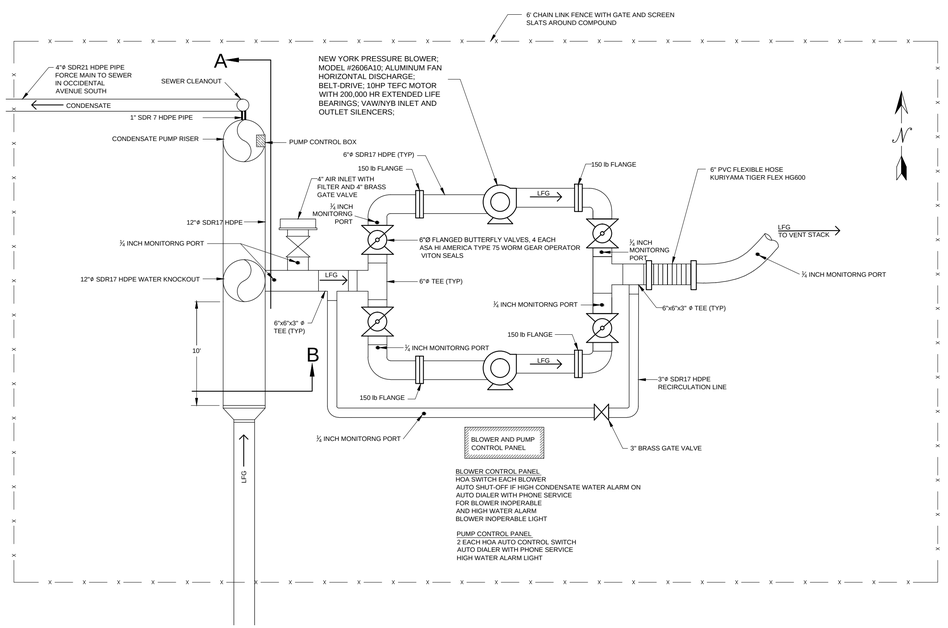
SOUTH PARK DEVELOPMENT
PROPERTY DEVELOPMENT
8249 5TH AVENUE SOUTH
SEATTLE, WA

First Student

LFG SYSTEM PLAN

DRAWN	AEV / DW
CHECKED	DAVID E. JOHNSON
DATE	6/23/15
SCALE	AS NOTED
JOB NUMBER	408-002

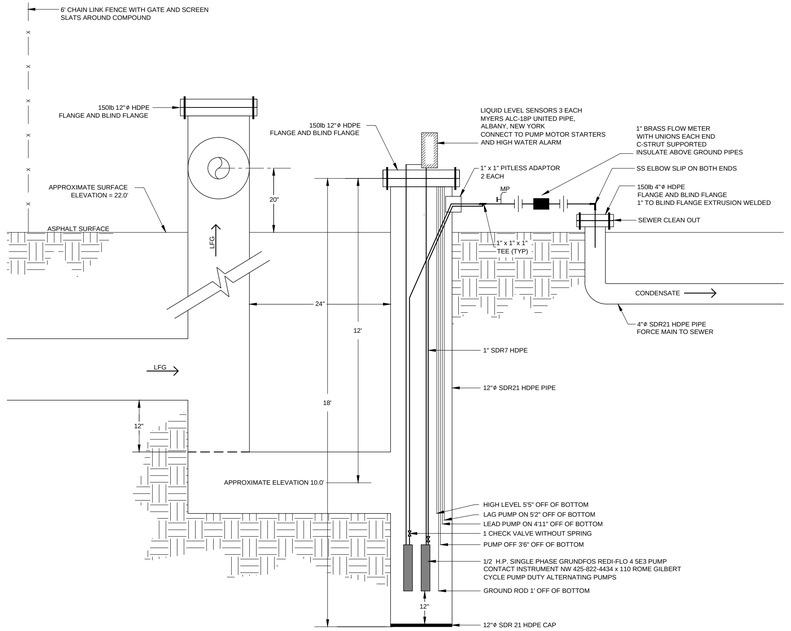
EN-3



1 | EN-4 | EN-3

LANDFILL GAS VACUUM BLOWER AND CARBON CLEANUP COMPOUND DETAIL

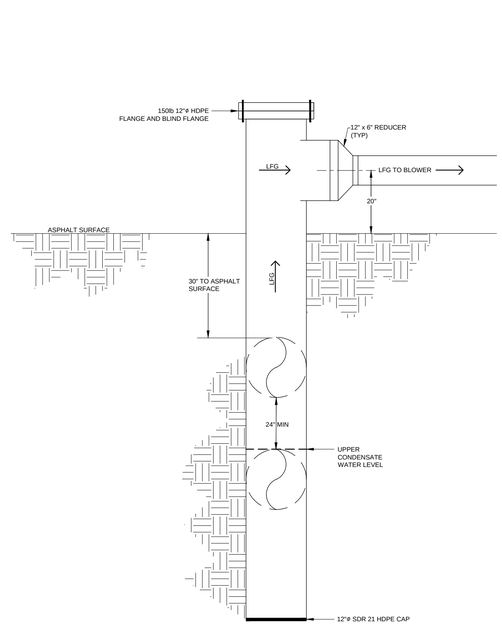
NOT TO SCALE



A | EN-4 | EN-4

DETAIL A

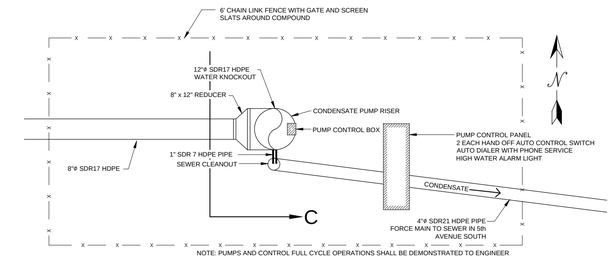
NOT TO SCALE



B | EN-4 | EN-4

DETAIL B

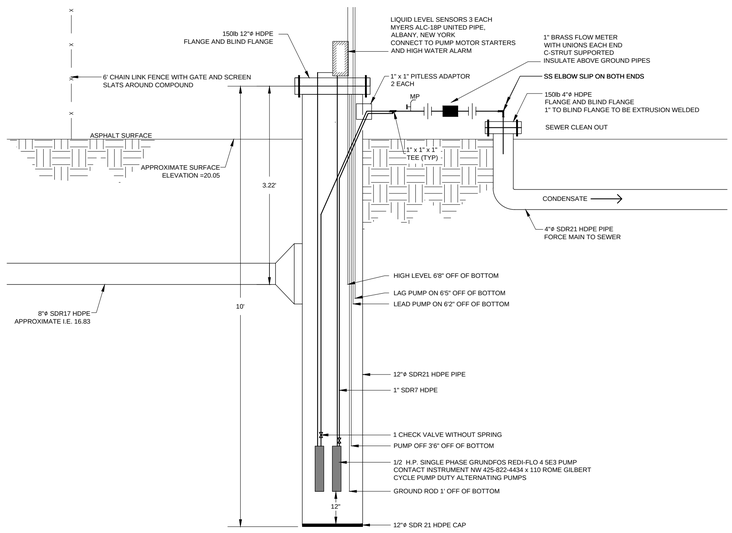
NOT TO SCALE



2 | EN-4 | EN-3

LANDFILL GAS CONDENSATE PUMP STATION DETAIL

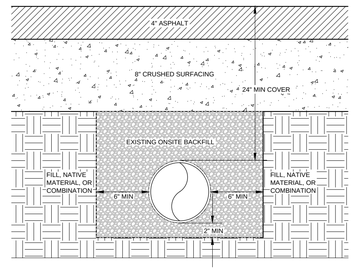
NOT TO SCALE



C | EN-4 | EN-4

DETAIL C

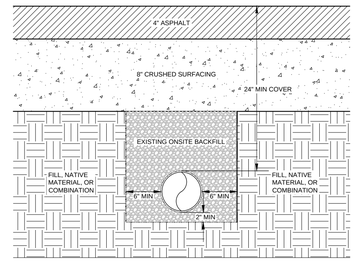
NOT TO SCALE



3 | EN-4 | EN-3

TYPICAL 8" MAIN PIPE SECTION

NOT TO SCALE



4 | EN-4 | EN-3

TYPICAL 6" CONNECTOR PIPE SECTION

NOT TO SCALE

6/23/15 AS-BUILT

PREPARED BY
PARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

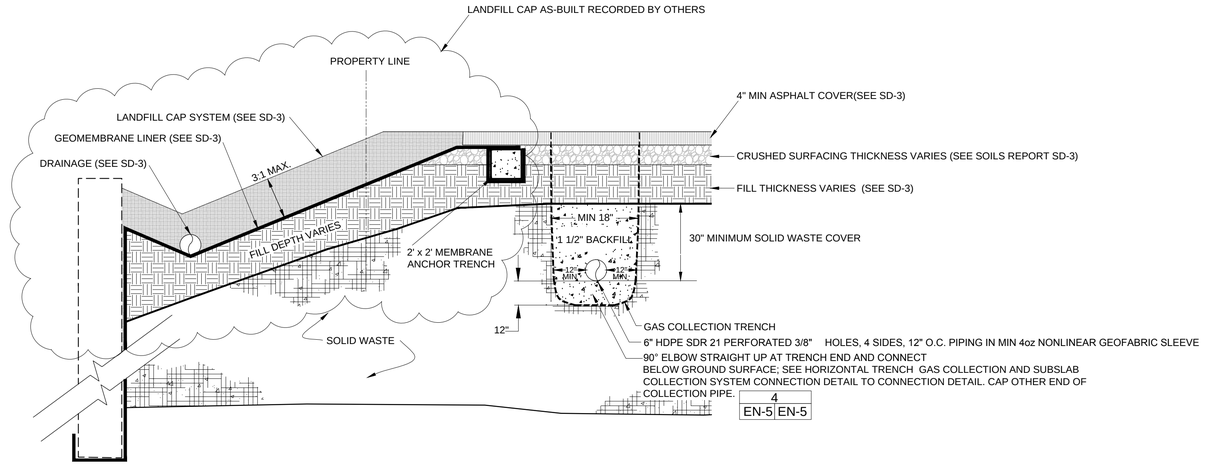
SOUTH PARK DEVELOPMENT
PROPERTY DEVELOPMENT
8249 5TH AVENUE SOUTH
SEATTLE, WA

First Student

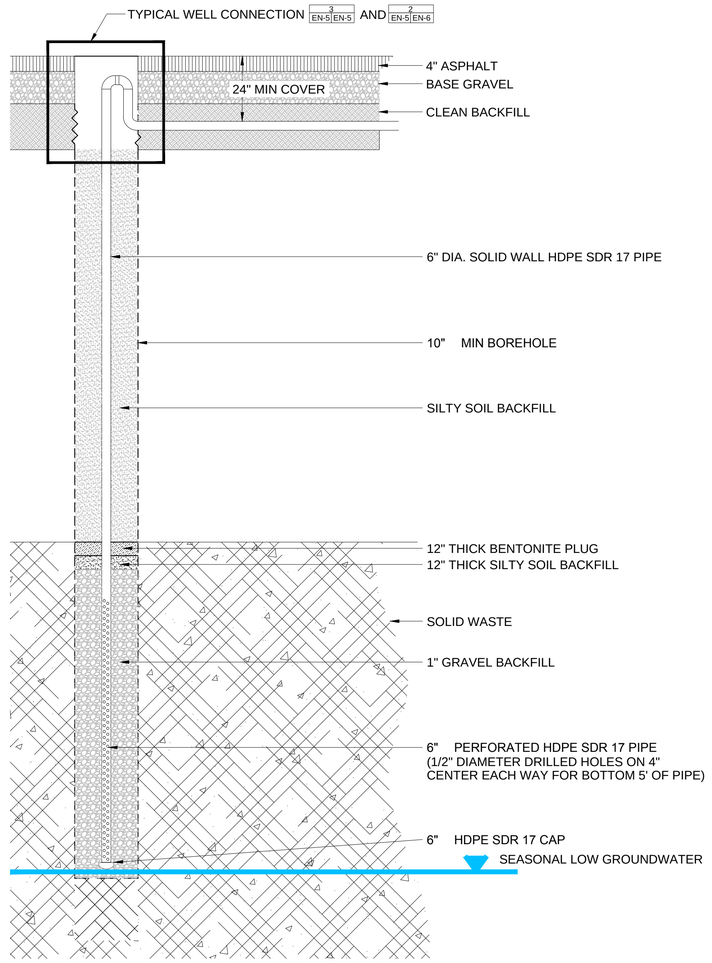
DETAILS

DRAWN: AEV / DW
CHECKED: DAVID E. JOHNSON
DATE: 6/23/15
SCALE: AS NOTED
JOB NUMBER: 408-002

EN-4

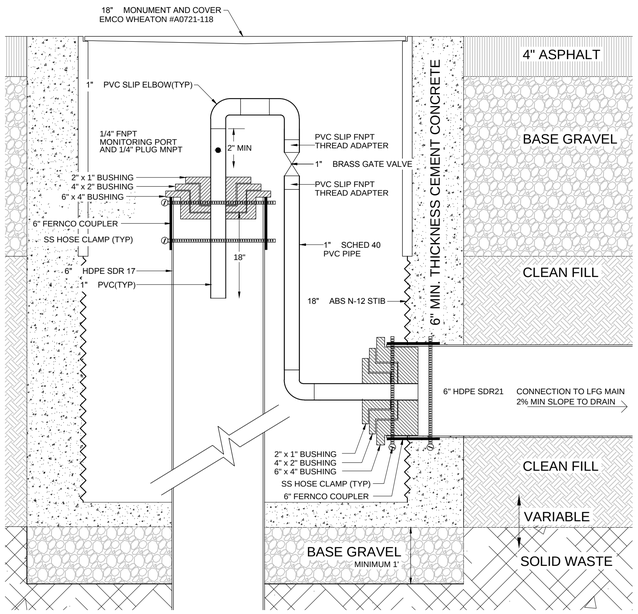


1 GAS COLLECTION TRENCH DETAIL
EN-5 EN-3
NOT TO SCALE

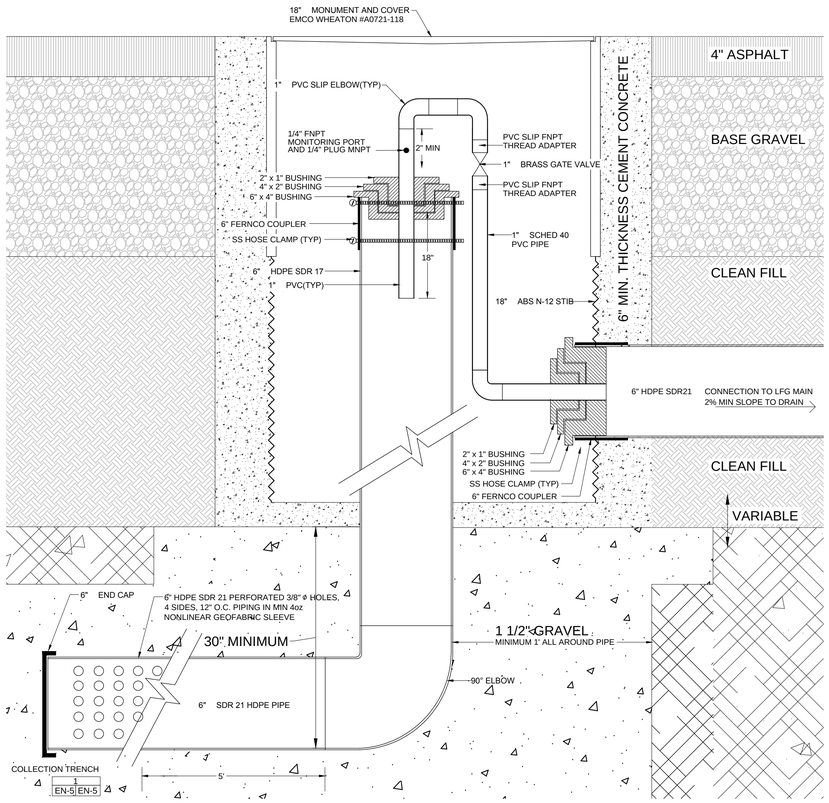


2 GAS COLLECTION WELL DETAIL
EN-5 EN-3
NOT TO SCALE

REFER TO INTERIM ACTION REPORT TABLE 1 FOR WELL COMPLETION DETAILS



3 GAS COLLECTION WELL CONNECTION DETAIL FOR CONNECTOR SLOPES AWAY FROM WELL
EN-5 EN-5
NOT TO SCALE



4 GAS COLLECTION TRENCH AND CONNECTION PIPE DETAIL FOR CONNECTOR SLOPES AWAY FROM TRENCH
EN-5 EN-3
NOT TO SCALE

REFER TO INTERIM ACTION REPORT TABLE 2 FOR TRENCH COMPLETION DETAILS

6/23/15 AS-BUILT

PREPARED BY
FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

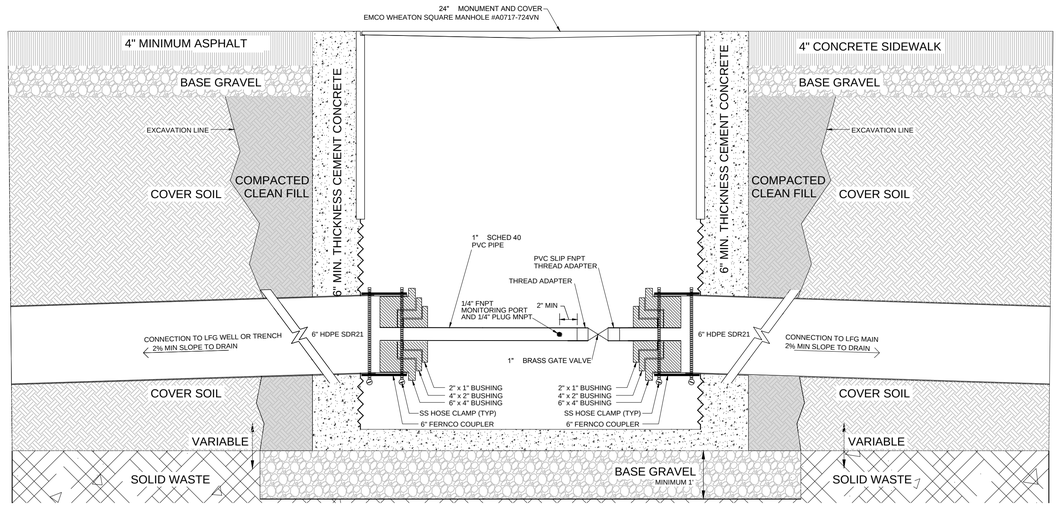
SOUTH PARK DEVELOPMENT
PROPERTY DEVELOPMENT
8249 5TH AVENUE SOUTH
SEATTLE, WA

First Student

DETAILS

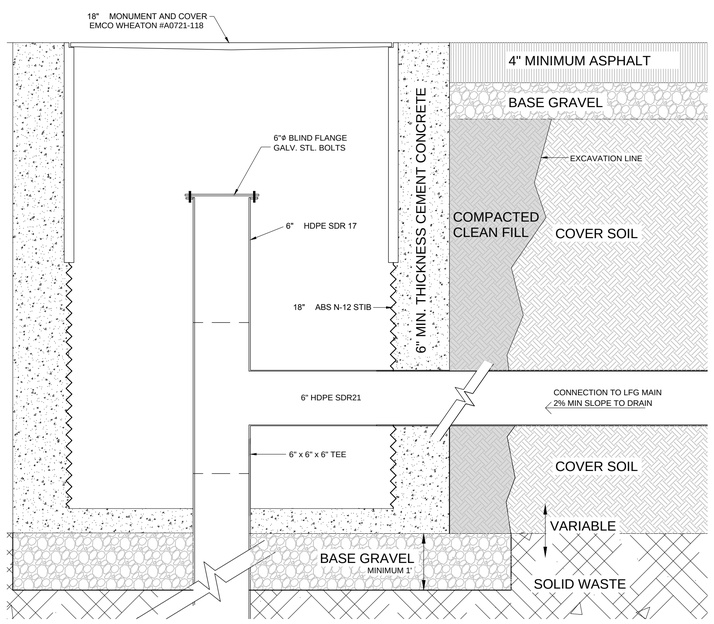
DRAWN AEV/ DW
CHECKED DAVID E. JOHNSON
DATE 6/23/15
SCALE AS NOTED
JOB NUMBER 408-002

EN-5



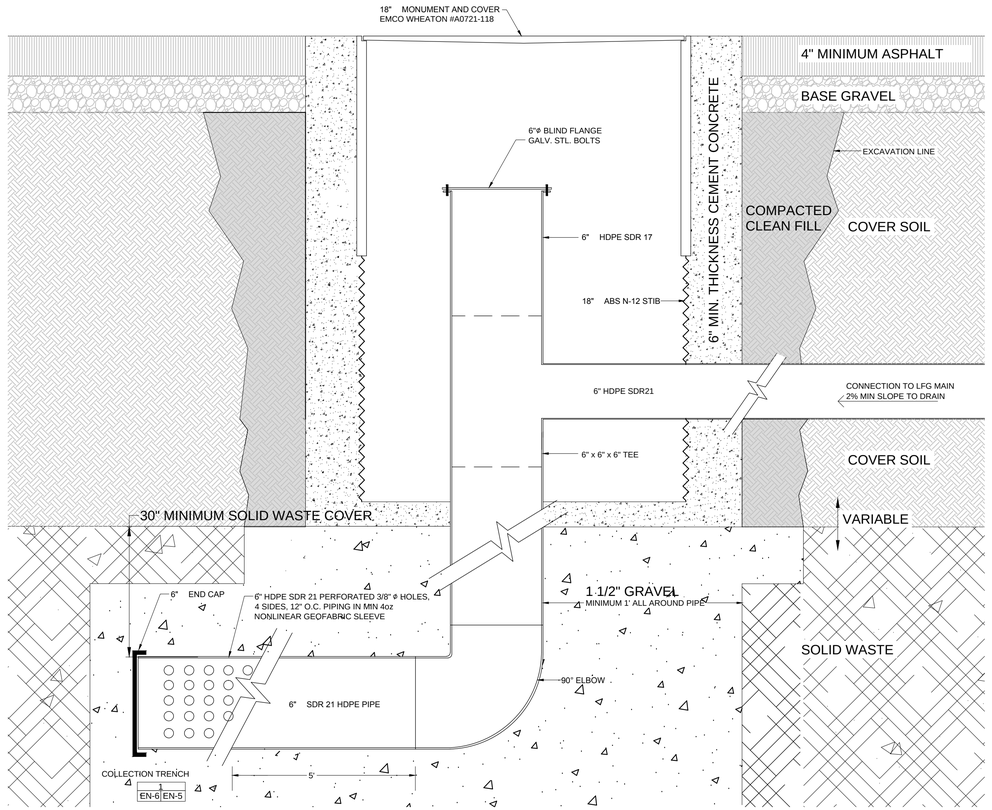
1 / EN-6 EN-3 — TOP OF SLOPE WELL / TRENCH CONNECTOR MONITORING / CONTROL ASSEMBLY

NOT TO SCALE



2 / EN-6 EN-3 — GAS COLLECTION WELL CONNECTION DETAIL FOR CONNECTOR SLOPES TO WELL

NOT TO SCALE



3 / EN-6 EN-3 — GAS COLLECTION TRENCH AND CONNECTION PIPE DETAIL FOR CONNECTOR SLOPES TO TRENCH

NOT TO SCALE

6/23/15 | AS-BUILT

PREPARED BY
FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

SOUTH PARK DEVELOPMENT
PROPERTY DEVELOPMENT
8249 5TH AVENUE SOUTH
SEATTLE, WA

First Student

DETAILS

DRAWN: AEV/ DW
CHECKED: DAVID E. JOHNSON
DATE: 6/23/15
SCALE: AS NOTED
JOB NUMBER: 408-002

EN-6

APPENDIX B
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Photograph 1: North treatment compound.

Photograph 2: Landfill gas vent stack at north treatment compound.

Photograph 3: Landfill gas blower, silencer, and discharge piping.

Photograph 4: North sump surface structure and discharge piping.

Photograph 5: North treatment compound control panel.

Photograph 6: Drilling for gas collection well installation.

Photograph 7: Placement of gas collection well.

Photograph 8: Vertical collection well following installation, looking northwest.

Photograph 9: Gas collection well No. 20 location and associated well materials, looking north.

Photograph 10: Trenching through trash for installation of gas collection trench, looking south.

Photograph 11: Excavation for gas collection trench No. 1, looking south.

Photograph 12: Excavation for gas collection trench No. 2, looking east.

Photograph 13: Excavation for gas collection trench No. 5, looking north.

Photograph 14: Backfilling gas collection trench No. 22, looking west.

Photograph 15: Gas collection trench following backfill with gravel, looking south.

Photograph 16: Eight-inch landfill gas main piping prior to installation.

Photograph 17: Landfill gas main trench prior to placement of backfill, looking north.

Photograph 18: Landfill gas main piping prior to installation, looking west.

Photograph 19: North sump prior to installation.

Photograph 20: Landfill gas main installation, looking northwest.

Photograph 21: Landfill gas main installation, looking south.

Photograph 22: Placement of landfill gas main, looking northwest.

Photograph 23: Placement and backfill of gas main piping, looking northwest.

Photograph 24: North sump following installation.

Photograph 25: Trenching for gas connector pipe.

Photograph 26: Installation of gas connector pipe, looking north.

Photograph 27: Landfill gas collection well and connector piping prior to backfill placement, looking north.

Photograph 28: Landfill gas collection well and connector piping prior to backfill placement, looking north.

Photograph 29: Gas connector tee for lateral connection.

Photograph 30: Gas connector pipe installation and backfill placement, looking west.

Photograph 31: Top of slope trench connector control assembly.

Photograph 32: Assembling gas collection well head.

Photograph 33: Gas collection well head assembly.

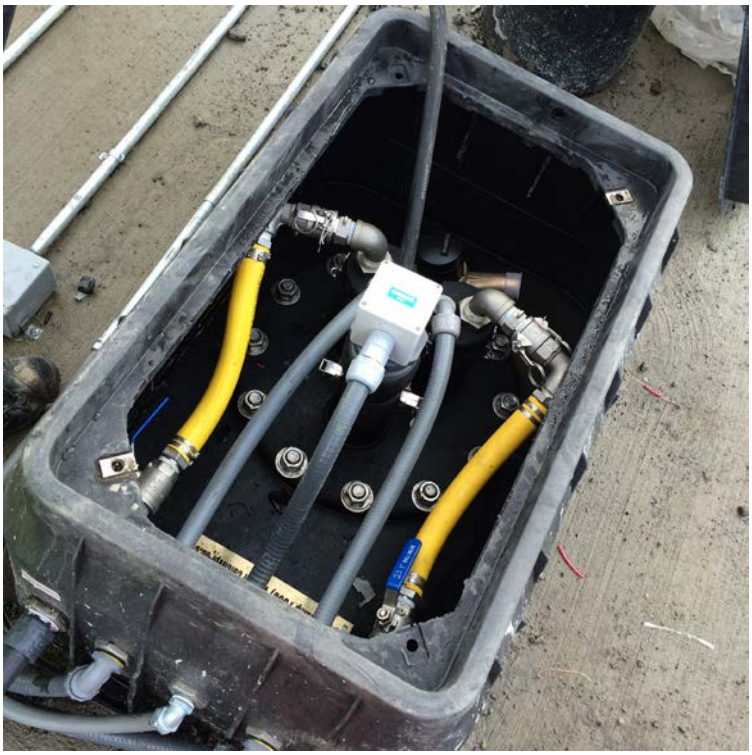
Photograph 34: Eighteen-inch monument and well head cover following installation.

Photograph 35: Well head monument and cover following concrete placement.

Photograph 1: North treatment compound.

Photograph 2: Landfill gas vent stack at north treatment compound.

Photograph 3: Landfill gas blower, silencer, and discharge piping.



Photograph 4: North sump surface structure and discharge piping.

Photograph 5: North treatment compound control panel.

Photograph 6: Drilling for gas collection well installation.

Photograph 7: Placement of gas collection well.

Photograph 8: Vertical collection well following installation, looking northwest.

Photograph 9: Gas collection well No. 20 location and associated well materials, looking north.

Photograph 10: Trenching through trash for installation of gas collection trench, looking south.

Photograph 11: Excavation for gas collection trench No. 1, looking south.

Photograph 12: Excavation for gas collection trench No. 2, looking east.

Photograph 13: Excavation for gas collection trench No. 5, looking north.

Photograph 14: Backfilling gas collection trench No. 22, looking west.

Photograph 15: Gas collection trench following backfill with gravel, looking south.

Photograph 16: Eight-inch landfill gas main piping prior to installation.

Photograph 17: Landfill gas main trench prior to placement of backfill, looking north.

Photograph 18: Landfill gas main piping prior to installation, looking west.

Photograph 19: North sump prior to installation.

Photograph 20: Landfill gas main installation, looking northwest.

Photograph 21: Landfill gas main installation, looking south.

Photograph 22: Placement of landfill gas main, looking northwest.

Photograph 23: Placement and backfill of gas main piping, looking northwest.

Photograph 24: North sump following installation.

Photograph 25: Trenching for gas connector pipe.

Photograph 26: Installation of gas connector pipe, looking north.

Photograph 27: Landfill gas collection well and connector piping prior to backfill placement, looking north.

Photograph 28: Landfill gas collection well and connector piping prior to backfill placement, looking north.

Photograph 29: Gas connector tee for lateral connection.

Photograph 30: Gas connector pipe installation and backfill placement, looking west.

Photograph 31: Top of slope trench connector control assembly.

Photograph 32: Assembling gas collection well head.

Photograph 33: Gas collection well head assembly.

Photograph 34: Eighteen-inch monument and well head cover following installation.

Photograph 35: Well head monument and cover following concrete placement.

APPENDIX C
LANDFILL GAS COMPLIANCE MONITORING DOCUMENTATION

INTERIM ACTION CONSTRUCTION COMPLETION REPORT
South Park Landfill Site
Seattle, Washington

Farallon PN: 408-002

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure[2] (in. H O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH)
GP-01	5/14/1997	-	-	-	8.9	20.0 - 21.3	-	-	-
	5/23/97 11:00	30.54	-	0.0	-	20.9	-	-	-
	6/20/97 10:12	30.65	-	-	-	20.8	-	-	-
	7/21/97 12:20	29.65	-	0.0	-	21.0	-	-	-
	8/18/97 10:45	30.67	-	0.0	-	21.0	-	-	-
	9/8/97 10:05	30.70	-	-	-		-	-	-
	10/24/97 6:00	31.08	-	**6.0**	-	0.0	-	-	-
	11/19/97 8:00	30.15	-	**7.0**	-	0.0	-	-	-
	12/2/97 12:15	30.50	-	**13.0**	-	0.0	-	-	-
	1/16/98 8:08	30.15	-	**7.0**	-		-	-	-
	2/19/98 7:40	30.39	-	**7.0**	-	0.0	-	-	-
	3/17/98 7:43	30.82	-	**5.0**	-	2.0	-	-	-
	4/14/98 8:30	29.63	-	4.0	-	1.0	-	-	-
	5/19/98 11:43	30.69	-	0.0	-	0.0	-	-	-
	6/4/98 8:18	30.54	-	3.0	-	0.0	-	-	-
	7/27/98 12:47	30.58	-	2.0	-	2.0	-	-	-
	8/4/98 12:14	30.55	-	2.0	-	2.5	-	-	-
	9/17/98 12:45	30.02	-	1.0	-	8.0	-	-	-
	10/5/98 12:50	30.08	-	1.0	-	9.0	-	-	-
	11/6/98 12:40	30.39	-	-	-	5.0	-	-	-
	12/2/98 12:52	30.19	-	3.0	-	0.0	-	-	-
	1/6/99 9:59	29.70	-	**6.0**	-	0.0	-	-	-
	2/12/99 17:05	-	-	**8.9**	19.0	14.4	-	-	-
	2/18/99 11:39	30.00	-	**6.0**	-	0.0	-	-	-
	3/5/99 10:55	31.00	-	**9.0**	-	0.0	-	-	-
	4/9/99 12:09	30.80	-	4.0	-	0.0	-	-	-
	5/7/99 10:58	30.85	-	**6.0**	-	0.0	-	-	-
	6/23/99 10:31	30.65	-	-	-	6.0	-	-	-
	7/20/99 9:16	30.50	-	0.0	-	21.0	-	-	-
	8/20/99 10:28	30.65	-	-	-	20.0	-	-	-
	9/29/99 10:18	30.80	-	0.0	-	20.0	-	-	-
	10/15/99 15:10	30.40	-	0.5	18.6	2.1	-	-	-
	10/26/99 16:25	30.01	-	0.0	0.1	21.4	-	-	-
	10/19/99 7:44	30.79	-	0.0	-	21.0	-	-	-
	11/15/99 8:50	30.35	-	0.0	-	21.0	-	-	-
	12/6/99 13:00	30.40	-	0.0	-	21.0	-	-	-
	1/11/00 12:50	30.02	-	-	-	20.0	-	-	-
	2/3/00 8:18	29.93	-	3.9	15.2	3.7	-	-	-
	2/7/00 10:26	30.42	-	2.0	-	21.0	-	-	-
	3/9/00 12:53	30.49	-	-	-	21.0	-	-	-
	4/7/00 9:53	30.94	-	-	-	20.0	-	-	-
	5/11/00 11:36	30.46	-	0.0	-	21.0	-	-	-
	6/5/00 11:46	30.38	-	0.0	-	21.0	-	-	-
	7/17/00 9:04	30.50	-	0.0	-	21.0	-	-	-
	8/2/00 10:30	30.08	-	0.4	12.6	8.0	-	-	-
	9/5/00 8:25	29.79	-	0.0	13.7	7.1	-	-	-
	10/10/00 9:10	29.35	-	0.2	17.2	2.5	-	-	-
	11/3/00 9:55	29.86	-	0.0	14.7	4.6	-	-	-
	12/6/00 11:27	29.57	-	0.8	16.6	2.1	-	-	-
	1/5/01 9:58	29.13	-	0.9	13.6	5.3	-	-	-
	2/2/01 7:44	29.57	-	2.9	16.7	2.4	-	-	-
	3/2/01 11:15	29.57	-	0.6	12.4	7.0	-	-	-
	4/6/01 9:10	29.13	-	3.0	15.3	4.4	-	-	-
	5/10/01 8:00	-	-	3.0	19.8	2.6	-	-	-
	6/4/01 9:26	29.98	-	1.1	13.9	6.0	-	-	-
	7/6/01 9:45	30.10	-	0.3	13.6	6.3	-	-	-
	8/3/01 9:35	29.94	-	0.3	12.1	8.7	-	-	-
	9/7/01 9:10	30.25	-	0.0	13.7	6.1	-	-	-
	10/8/01 7:30	-	-	0.1	16.8	4.2	-	-	-
	11/5/01 7:37	-	-	0.0	17.8	2.1	-	-	-
	12/7/01 8:45	30.40	-	2.8	18.7	0.9	-	-	-
	1/11/02 13:40	-	-	2.3	14.0	3.8	-	-	-
	2/8/02 13:35	-	-	1.7	13.0	7.8	-	-	-
	3/8/02 9:35	-	-	0.7	15.9	4.7	-	-	-
	4/4/02 9:10	-	-	1.8	15.9	4.1	-	-	-
	5/6/02 13:30	30.20	-	2.1	14.0	3.9	-	-	-
	6/4/02 8:20	-	-	1.4	13.8	5.6	-	-	-
	7/3/02 13:33	-	-	0.6	14.3	5.2	-	-	-
	8/2/02 13:20	-	-	0.2	12.9	6.2	-	-	-
	9/5/02 8:49	-	-	0.0	13.2	6.0	-	-	-
	10/2/02 12:12	-	-	0.1	13.0	6.8	-	-	-
	11/6/02 13:15	-	-	0.0	14.8	5.5	-	-	-
	12/9/02 14:02	-	-	0.1	16.2	4.7	-	-	-
	1/3/03 12:50	30.07	-	0.8	15.7	3.8	-	-	-
	2/5/03 13:30	-	-	3.3	17.2	1.7	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH)
GP-01	3/7/03 12:30	29.77	-	2.6	15.3	4.6	-	-	-
	4/1/03 11:51	29.63	-	1.3	11.9	5.8	-	-	-
	5/5/03 12:10	30.05	-	1.0	12.0	7.2	-	-	-
	6/3/03 11:25	30.17	-	0.7	13.3	6.0	-	-	-
	7/2/03 11:32	30.14	-	0.3	14.4	6.3	-	-	-
	8/5/03 11:03	29.24	-	0.1	13.6	5.8	-	-	-
	9/3/03 11:01	29.98	-	0.2	13.4	7.2	-	-	-
	10/2/03 12:10	30.08	-	0.3	14.2	6.3	-	-	-
	11/5/03 13:45	30.20	-	0.0	19.3	1.8	-	-	-
	12/4/03 12:30	29.76	-	1.8	18.6	2.0	-	-	-
	1/14/04 9:55	30.03	-	1.7	16.3	3.0	-	-	-
	2/2/04 11:46	29.96	-	**6.7**	19.1	1.6	-	-	-
	3/2/04 9:30	30.23	-	0.6	11.4	8.0	-	-	-
	4/5/04 12:40	30.10	-	0.9	8.9	11.8	-	-	-
	5/3/04 10:45	30.13	-	0.4	11.8	8.4	-	-	-
	6/2/04 10:50	30.09	-	0.2	10.8	9.3	-	-	-
	7/6/04 12:15	30.10	-	0.0	10.7	9.1	-	-	-
	8/6/04 10:05	29.87	-	0.1	11.4	8.6	-	-	-
	9/10/04 8:44	30.00	-	0.2	13.8	6.9	-	-	-
	2/9/11 8:57	30.46	-	**10.9**	22.3	0.0	-	-	-
GP-02	5/14/97 to 9/10/04	-	-	0.0	0.7	0.0	-	-	-
	5/14/97 to 9/10/04	-	-	**25.0**	16.0	21.0	-	-	-
	5/14/97 0:00	-	-	-	0.9	13.3	-	-	107.2
	5/23/97 11:15	30.54	-	**7.0**	-	0.0	-	-	-
	6/20/97 10:25	30.65	-	-	-	20.8	-	-	0.0
	7/21/97 0:00	29.65	-	0.0	-	21.0	-	-	
	8/18/97 11:02	30.67	-	0.0	-	21.0	-	-	-
	9/8/97 10:15	30.70	-	-	-	-	-	-	61.0
	10/24/97 6:00	31.08	-	**14.0**	-	0.0	-	-	-
	11/19/97 7:50	30.15	-	**18.0**	-	0.0	-	-	-
	12/2/97 12:02	30.50	-	**25.0**	-	0.0	-	-	-
	1/16/98 8:20	30.15	-	**16.0**	-	-	-	-	-
	2/19/98 7:52	30.40	-	**15.0**	-	0.0	-	-	-
	3/17/98 7:59	30.88	-	**12.0**	-	1.0	-	-	-
	4/14/98 8:30	29.63	-	**11.0**	-	1.0	-	-	-
	5/19/98 11:20	30.64	-	**15.0**	-	0.0	-	-	-
	6/4/98 8:44	30.52	-	**6.0**	-	1.0	-	-	-
	7/27/98 12:22	30.57	-	2.4	-	2.5	-	-	-
	8/4/98 12:39	30.58	-	2.5	-	2.5	-	-	-
	9/17/98 12:18	30.03	-	1.4	-	3.0	-	-	-
	10/5/98 12:25	30.08	-	1.6	-	2.5	-	-	-
	11/6/98 1:00	30.39	-	-	-	2.0	-	-	4.0
	12/2/98 1:00	30.19	-	-	-	0.0	-	-	4.0
	1/6/99 10:16	29.70	-	**18.0**	-	0.0	-	-	-
	3/5/99 11:06	29.95	-	**15.0**	-	0.0	-	-	-
	4/9/99 11:59	30.80	-	**12.0**	-	0.0	-	-	-
	5/7/99 10:51	30.85	-	-	-	-	-	-	-
	6/23/99 10:18	30.65	-	**5.0**	-	0.0	-	-	-
	7/20/99 9:02	30.50	-	4.0	-	0.0	-	-	-
	8/20/99 10:20	30.65	-	3.0	-	0.0	-	-	-
	9/29/99 10:28	30.80	-	3.0	-	0.0	-	-	-
	10/15/99 14:45	30.40	-	2.2	13.1	2.5	-	-	96.0
	10/28/99 16:48	29.13	-	0.2	0.7	20.3	-	-	4.0
	10/19/99 7:22	30.79	-	3.0	-	0.0	-	-	-
	11/15/99 9:37	30.35	-	3.0	-	0.0	-	-	-
	12/6/99 12:00	30.40	-	**7.0**	-	0.0	-	-	-
	1/11/00 12:34	30.02	-	**9.0**	-	0.0	-	-	-
	2/3/00 9:22	29.79	-	**15.2**	12.6	0.0	-	-	304.0
	2/7/00 9:59	30.42	-	**10.0**	-	0.0	-	-	
	3/9/00 12:36	30.49	-	**10.0**	-	0.0	-	-	-
	4/7/00 9:32	30.94	-	**10.0**	-	0.0	-	-	-
	5/11/00 11:31	30.46	-	**7.0**	-	0.0	-	-	-
	6/5/00 11:15	30.38	-	3.0	-	0.0	-	-	-
	7/17/00 8:20	30.50	-	1.0	-	4.0	-	-	-
	8/2/00 11:04	29.71	-	2.2	12.8	1.3	-	-	-
	9/5/00 10:05	29.93	-	3.0	14.4	0.4	-	-	-
	10/10/00 8:20	29.49	-	3.0	14.1	0.9	-	-	-
	11/3/00 13:22	29.71	-	**5.3**	14.0	0.1	-	-	-
	12/6/00 14:25	29.71	-	**10.9**	15.2	0.0	-	-	-
	1/5/01 13:30	29.79	-	**12.0**	14.2	0.0	-	-	-
	2/2/01 10:05	29.49	-	**13.7**	14.5	0.0	-	-	-
	3/2/01 13:40	29.42	-	**12.8**	13.5	0.0	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-02	4/6/01 12:35	29.49	-	**11.0**	12.5	0.2	-	-	-
	5/10/01 11:20	-	-	**13.0**	14.5	0.0	-	-	-
	6/4/01 12:15	29.98	-	**6.7**	10.6	0.0	-	-	-
	7/6/01 12:10	30.10	-	4.0	12.7	0.0	-	-	-
	8/3/01 11:30	29.94	-	2.1	12.8	1.6	-	-	-
	9/7/01 11:40	30.25	-	2.3	11.1	3.3			
	10/8/01 10:30	-	-	3.8	13.7	0.2			
	12/7/01 11:40	30.40	-	**15.3**	15.4	0.0	-	-	-
	1/11/02 15:45	-	-	**15.7**	13.1	0.0	-	-	-
	2/8/02 16:00	-	-	**15.8**	15.0	0.0	-	-	-
	3/8/02 11:54	-	-	**13.4**	14.9	0.1	-	-	-
	4/4/02 11:41	-	-	**11.5**	13.3	0.1	-	-	-
	5/6/02 16:05	30.20	-	**12.6**	12.8	0.0	-	-	-
	6/4/02 10:48	-	-	**5.7**	11.9	0.0	-	-	-
	7/3/02 15:45	-	-	2.2	11.8	9.0	-	-	-
	8/2/02 11:45	-	-	3.0	13.1	0.0	-	-	-
	9/5/02 11:03	-	-	1.9	12.3	3.2	-	-	-
	10/2/02 15:40	-	-	2.2	13.1	2.5	-	-	-
	11/6/02 13:40	-	-	3.0	14.1	0.7	-	-	-
	12/9/02 16:20	-	-	**8.4**	14.7	0.0	-	-	-
	1/7/03 14:25	30.17	-	**12.0**	14.4	0.0	-	-	-
	2/5/03 15:30	30.30	-	**9.5**	11.1	5.8	-	-	-
	3/7/03 14:35	29.70	-	**12.5**	14.8	0.0	-	-	-
	4/1/03 13:47	-	-	**12.5**	13.2	0.0	-	-	-
	5/5/03 14:55	30.07	-	**10.6**	13.1	0.0	-	-	-
	6/3/03 14:25	30.22	-	3.1	10.0	4.0	-	-	-
	7/2/03 14:25	30.16	-	1.4	10.2	5.9	-	-	-
	8/5/03 14:10	30.00	-	2.4	13.5	1.2	-	-	-
	9/3/03 14:10	30.01	-	1.0	11.1	6.2	-	-	-
	10/2/03 14:45	30.03	-	3.6	14.8	1.0	-	-	-
	11/5/03 16:21	30.15	-	**9.8**	15.9	0.0	-	-	-
	12/4/03 14:36	29.65	-	**13.3**	16.3	0.0	-	-	-
	1/14/04 14:25	29.94	-	**13.8**	16.2	0.0	-	-	-
	2/6/04 14:15	29.98	-	**13.8**	15.6	0.0	-	-	-
	3/2/04 11:45	30.22	-	**12.1**	14.7	0.0	-	-	-
	4/5/04 15:25	30.10	-	**10.0**	13.5	0.1	-	-	-
	5/3/04 2:55	30.14	-	4.9	12.1	0.8	-	-	-
	6/1/04 13:25	30.12	-	3.3	12.3	0.8	-	-	-
	7/6/04 15:08	30.07	-	1.9	13.5	1.6	-	-	-
	8/6/04 13:15	29.84	-	2.3	14.4	0.9	-	-	-
	9/10/04 11:14	29.95	-	3.7	15.6	0.7	-	-	-
	2/9/11 10:15	30.44	-0.04	**20.7**	15.5	0.0	-	-	-
	5/22/13 14:12	29.81	-0.005	**16.5**	13.8	0.0	-	98.0	-
	6/19/13 10:15	29.79	0	**14.8**	15.2	0.0	69.9	0.0	-
GP-03	12/16/98 to 9/10/04	-	-	0.0	0.0	0.0	-	-	-
	12/16/98 to 9/10/04	-	-	**5.0**	16.0	22.0	-	-	-
	12/16/98 16:22	-	-	0.0	5.1	11.4	-	-	-
	12/29/98 14:00	-	-	0.0	0.0	10.6	-	-	0.0
	1/7/99 8:54	30.08	-	0.0	4.5	12.1	-	-	0.0
	2/12/99 17:15	-	-	0.0	0.8	18.2	-	-	0.0
	2/18/99 11:45	30.00	-	1.0	-	6.0	-	-	-
	3/5/99 11:13	29.95	-	0.0	-	8.0	-	-	-
	4/9/99 12:15	30.85	-	**5.0**	-	6.0	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-03	5/7/99 11:03	30.85	-	0.0	-	3.0	-	-	-
	6/23/99 10:37	30.65	-	2.0	-	0.0	-	-	-
	7/20/99 9:23	30.50	-	2.0	-	0.0	-	-	-
	8/20/99 10:39	30.65	-	0.0	-	0.0	-	-	-
	9/29/99 10:35	30.80	-	0.0	-	5.0	-	-	-
	10/15/99 12:10	30.50	-	0.1	12.4	8.1	-	-	2.0
	10/26/99 13:30	30.01	-	0.0	0.1	21.8	-	-	0.0
	10/19/99 8:01	30.79	-	0.0	-	9.0	-	-	-
	11/15/99 8:10	30.35	-	0.0	-	7.0	-	-	-
	12/6/99 12:27	30.40	-	0.0	-	4.0	-	-	-
	1/11/00 11:43	30.02	-	0.0	-	7.0	-	-	-
	2/3/00 9:05	29.71	-	0.0	8.0	9.3	-	-	0.0
	2/7/00 8:46	30.42	-	0.0	-	10.0	-	-	-
	3/9/00 11:32	30.49	-	0.0	-	12.0	-	-	-
	4/7/00 8:43	30.94	-	0.0	-	10.0	-	-	-
	5/11/00 10:23	30.46	-	0.0	-	8.0	-	-	-
	6/5/00 10:20	30.38	-	0.0	-	7.0	-	-	-
	7/17/00 9:19	30.50	-	0.0	-	7.0	-	-	-
	8/2/00 8:15	29.71	-	0.0	13.2	8.1	-	-	0.0
	9/5/00 9:15	29.79	-	0.0	12.1	9.7	-	-	-
	10/10/00 9:50	29.49	-	0.0	8.1	13.4	-	-	-
	11/3/00 11:00	29.86	-	0.0	12.0	4.3	-	-	-
	12/6/00 12:38	29.35	-	2.2	10.6	2.9	-	-	-
	1/5/01 11:22	29.79	-	0.1	9.6	3.5	-	-	-
	2/2/01 9:07	29.49	-	0.0	9.2	5.7	-	-	-
	3/2/01 12:40	29.57	-	0.0	7.8	7.1	-	-	-
	4/6/01 11:10	29.42	-	0.0	8.8	5.5	-	-	-
	5/10/01 10:05	-	-	0.1	11.6	1.4	-	-	-
	6/4/01 10:57	29.98	-	0.2	10.6	3.9	-	-	-
	7/6/01 11:00	30.10	-	0.4	12.1	3.2	-	-	-
	8/3/01 10:48	29.94	-	0.0	11.8	11.8	-	-	-
	9/7/01 10:37	-		-		-			
	10/8/01 9:15	-		-		-			
	12/7/01 10:28	30.40	-	0.0	8.5	6.7	-	-	-
	2/8/02 14:40	-	-	0.0	5.8	7.2	-	-	-
	3/8/02 10:37	-	-	0.0	5.8	8.5	-	-	-
	4/4/02 10:25	-	-	0.0	0.4	17.7	-	-	-
	5/6/02 15:05	30.20	-	0.0	7.5	5.1	-	-	-
	6/4/02 9:35	-	-	0.3	8.4	5.1	-	-	-
	7/3/02 14:35	-	-	0.2	10.8	3.7	-	-	-
	8/2/02 14:20	-	-	0.0	12.6	3.2	-	-	-
	9/5/02 10:02	-	-	0.1	13.0	5.7	-	-	-
	10/2/02 14:40	-	-	0.1	10.6	8.3	-	-	-
	11/6/02 14:35	-	-	0.0	11.7	6.3	-	-	-
	12/9/02 15:05	-	-	0.4	12.0	4.2	-	-	-
	1/7/03 13:22	-	-	0.0	7.9	7.2	-	-	-
	2/5/03 14:20	30.30	-	0.0	6.7	7.4	-	-	-
	3/7/03 13:30	29.74	-	0.1	6.9	6.3	-	-	-
	4/1/03 12:40	29.65	-	0.0	6.4	7.6	-	-	-
	5/5/03 13:50	30.09	-	0.1	7.7	6.3	-	-	-
	6/3/03 13:07	30.21	-	0.3	9.9	6.7	-	-	-
	7/2/03 13:20	30.15	-	0.2	11.3	5.6	-	-	-
	8/5/03 13:00	30.00	-	0.1	13.1	6.8	-	-	-
	9/3/03 13:00	30.00	-	0.1	13.2	5.5	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH)
GP-03	10/2/03 13:40	30.04	-	0.3	13.8	6.8	-	-	-
	11/5/03 15:17	30.17	-	0.4	11.2	4.7	-	-	-
	12/4/03 13:32	29.67	-	0.0	8.7	5.9	-	-	-
	1/14/04 11:11	30.01	-	0.0	6.6	6.8	-	-	-
	2/3/04 12:05	29.80	-	0.0	6.1	8.6	-	-	-
	3/2/04 10:40	30.23	-	0.0	6.1	8.3	-	-	-
	4/5/04 14:30	30.10	-	0.0	7.1	8.0	-	-	-
	5/3/04 11:55	30.14	-	0.2	8.7	7.2	-	-	-
	6/1/04 12:17	30.11	-	0.2	10.2	4.7	-	-	-
	7/6/04 13:35	29.00	-	0.0	11.7	5.6	-	-	-
	8/6/04 11:48	29.88	-	0.1	13.5	5.7	-	-	-
	9/10/04 10:13	29.96	-	1.2	15.5	1.9	-	-	-
	12/28/11 0:00	29.66	-0.2	0.0	1.0	2.2			
	2/9/11 13:30	30.41	-	0.2	5.8	9.5	-	-	-
	5/25/11 0:00	29.69	-0.01	0.1	3.5	14.9	-	-	-
	9/23/11 0:00	29.86	0.14	0.0	11.0	6.4	83.0	0.0	2.0
	5/22/13 18:04	29.8	0	0.1	6.7	10.3	82.0		29.0
	9/2/14 16:30	29.63	-	1.7	10.7	4.6			
GP-11	10/15/99 to 9/10/04	-	-	0.0	0.1	4.4	-	-	-
	10/15/99 to 9/10/04	-	-	0.4	8.0	21.0	-	-	-
	10/15/99 12:23	30.40	-	0.1	1.3	17.5	-	-	2.0
	10/26/99 11:20	30.01	-	0.2	0.1	20.7	-	-	4.0
	11/15/99 7:55	30.35	-	0.0	-	12.0	-	-	-
	12/6/99 12:15	30.40	-	0.0	-	10.0	-	-	-
	1/11/00 11:35	30.02	-	0.0	-	6.0	-	-	-
	2/3/00 9:16	29.71	-	0.0	3.7	6.7	-	-	0.0
	2/7/00 8:36	30.42	-	0.0	-	6.0	-	-	-
	3/9/00 11:25	30.49	-	0.0	-	6.0	-	-	-
	4/7/00 8:35	30.94	-	0.0	-	7.0	-	-	-
	5/11/00 10:15	30.46	-	0.0	-	7.0	-	-	-
	6/5/00 10:09	30.38	-	0.0	-	9.0	-	-	-
	7/17/00 9:24	30.50	-	0.0	-	7.0	-	-	-
	8/3/00 8:35	29.35	-	0.0	6.6	6.9	-	-	-
	9/5/00 9:35	29.64	-	0.0	7.7	4.4	-	-	-
	10/10/00 10:03	29.20	-	0.0	7.8	4.8	-	-	-
	11/3/00 11:16	29.79	-	0.0	7.4	5.6	-	-	-
	12/6/00 12:55	29.79	-	0.0	6.7	6.6	-	-	-
	1/5/01 11:47	29.49	-	0.0	6.4	7.1	-	-	-
	2/2/01 9:21	29.64	-	0.0	6.1	8.7	-	-	-
	3/2/01 12:55	29.35	-	0.0	5.6	9.8	-	-	-
	4/6/01 11:35	29.20	-	0.0	5.5	10.4	-	-	-
	5/10/01 10:25	-	-	0.0	6.0	8.0	-	-	-
	6/4/01 11:15	29.98	-	0.0	5.4	9.5	-	-	-
	7/6/01 11:20	30.10	-	0.0	6.6	8.1	-	-	-
	8/3/01 11:17	29.94	-	0.0	7.1	7.0	-	-	-
	9/7/01 10:52	30.25	-	0.0	7.1	4.7			
	10/8/01 9:40	-	-	0.0	7.9	5.6			
	11/5/01 9:50	-	-	0.0	8.3	5.6			
	12/7/01 10:50	30.40	-	0.0	7.0	5.6	-	-	-
	1/11/02 15:05	-	-	0.0	3.7	6.6	-	-	-
	3/8/02 10:05	-	-	0.0	3.5	10.4	-	-	-
	5/6/02 15:20	30.20	-	0.0	3.2	10.0	-	-	-
	6/4/02 9:55	-	-	0.0	3.5	10.4	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure[2] (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-11	7/3/02 14:55	-	-	0.0	4.4	9.1	-	-	-
	8/2/02 14:30	-	-	0.0	4.8	6.8	-	-	-
	9/5/02 10:20	-	-	0.1	5.8	5.9	-	-	-
	10/2/02 14:55	-	-	0.1	6.3	6.1	-	-	-
	11/6/02 14:50	-	-	0.0	6.9	7.4	-	-	-
	12/9/02 15:22	-	-	0.1	6.4	7.4	-	-	-
	1/7/03 13:35	-	-	0.0	5.4	8.1	-	-	-
	2/5/03 14:40	-	-	0.0	4.9	8.6	-	-	-
	3/7/03 13:45	29.72	-	0.1	4.7	10.1	-	-	-
	4/1/03 12:55	-	-	0.0	3.7	14.4	-	-	-
	5/5/03 14:10	30.08	-	0.1	3.6	14.4	-	-	-
	6/3/03 13:27	30.21	-	0.1	4.0	12.6	-	-	-
	7/2/03 13:40	30.15	-	0.1	4.6	11.1	-	-	-
	8/5/03 13:17	30.01	-	0.1	5.8	8.0	-	-	-
	9/3/03 13:20	30.02	-	0.1	6.3	6.5	-	-	-
	10/2/03 14:00	30.05	-	0.3	7.3	6.3	-	-	-
	11/5/03 15:35	30.17	-	0.4	6.8	6.2	-	-	-
	12/4/03 13:50	29.67	-	0.0	5.9	8.9	-	-	-
	1/14/04 13:35	29.90	-	0.0	5.2	8.8	-	-	-
	2/3/04 12:20	29.77	-	0.0	3.3	12.9	-	-	-
	3/2/04 10:55	30.22	-	0.0	4.3	10.4	-	-	-
	4/5/04 14:51	30.10	-	0.0	4.1	11.5	-	-	-
	5/3/04 12:11	30.15	-	0.2	4.2	12.0	-	-	-
	6/1/04 12:35	30.15	-	0.2	4.5	12.1	-	-	-
	7/6/04 14:00	30.09	-	0.1	5.2	10.9	-	-	-
	8/6/04 12:10	29.85	-	0.0	6.2	8.7	-	-	-
	9/10/04 10:31	29.96	-	0.1	6.5	7.4	-	-	-
	2/9/11 14:22	30.34	-	0.0	3.8	10.5	-	-	-
	5/25/11 0:00	29.68	-0.08	0.1	0.1	20.0			
	9/23/11 0:00	29.88	0.17	0.0	4.9	9.3			
	12/28/11 0:00	29.70	-0.18	0.0	4.7	4.9			
	5/22/13 17:33	29.8	0	0.1	3.3	14.0	82.5	33.0	2.0
	6/25/14 16:00	29.75	0	0.0	0.9	19.2	79.9	33.0	0.0
	10/13/14 17:25	29.54	2.6	0.0	4.0	13.1	80.3	-	0.0
	2/26/15 10:10	30.1	-0.025	0.0	0.5	20.9			
	5/12/15 13:45	29.63	Flooded Well Screen				-		6.0
GP-13	10/15/99 to 9/10/04	-	-	0.0	0.1	0.1	-	-	-
	10/15/99 to 9/10/04	-	-	0.3	14.0	22.0	-	-	-
	10/15/99 12:16	30.40	-	0.2	4.7	16.0	-	-	4.0
	10/26/99 13:00	30.01	-	0.0	0.1	22.0	-	-	0.0
	11/15/99 8:03	30.35	-	0.0	-	18.0	-	-	-
	12/6/99 12:19	30.40	-	0.0	-	18.0	-	-	-
	1/11/00 11:39	30.02	-	0.0	-	17.0	-	-	-
	2/7/00 8:40	30.42	-	0.0	-	18.0	-	-	-
	3/9/00 11:29	30.49	-	0.0	-	16.0	-	-	-
	4/7/00 8:39	30.94	-	0.0	-	11.0	-	-	-
	5/11/00 10:19	30.46	-	0.0	-	7.0	-	-	-
	6/5/00 10:13	30.38	-	0.0	-	7.0	-	-	-
	7/17/00 9:21	30.50	-	0.0	-	11.0	-	-	-
	8/3/00 7:44	29.42	-	0.0	9.4	12.3	-	-	0.0
	9/5/00 9:25	29.71	-	0.0	10.4	10.1	-	-	-
	10/10/00 9:58	29.20	-	0.0	8.1	14.6	-	-	-
	11/3/00 11:07	29.49	-	0.0	8.4	9.3	-	-	-
	12/6/00 12:43	29.86	-	0.0	8.6	6.7	-	-	-
	1/5/01 11:30	29.86	-	0.0	7.8	7.0	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure[2] (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-13	2/2/01 9:14	29.57	-	0.0	7.0	9.4	-	-	-
	3/2/01 12:45	29.49	-	0.0	5.6	10.6	-	-	-
	4/6/01 11:20	29.42	-	0.0	7.5	6.2	-	-	-
	5/10/01 10:10	-	-	0.0	9.9	2.1	-	-	-
	6/4/01 11:04	29.98	-	0.0	9.7	7.2	-	-	-
	7/6/01 11:12	30.10	-	0.0	10.8	10.7	-	-	-
	8/3/01 10:58	29.94	-	0.0	10.6	7.6	-	-	-
	9/7/01 10:43	30.25	-	0.0	11.3	9.1			
	10/8/01 9:30	-	-	0.0	9.7	12.3			
	11/5/01 9:40	-	-	0.0	9.2	9.5			
	12/7/01 10:38	30.40	-	0.0	7.0	3.5	-	-	-
	6/4/02 9:45	-	-	0.0	8.5	4.4	-	-	-
	7/3/02 14:42	-	-	0.0	10.6	6.2	-	-	-
	8/2/02 14:25	-	-	0.0	11.4	6.5	-	-	-
	9/5/02 10:10	-	-	0.0	11.1	10.3	-	-	-
	10/2/02 14:45	-	-	0.1	9.1	12.5	-	-	-
	11/6/02 14:40	-	-	0.0	6.7	14.8	-	-	-
	12/9/02 15:12	-	-	0.1	8.2	10.3	-	-	-
	5/5/03 13:59	30.09	-	0.1	6.3	3.8			
	6/3/03 13:16	30.18	-	0.1	9.1	6.9			
	7/2/03 13:30	30.15	-	0.1	11.8	7.0			
	8/5/03 13:10	30.00	-	0.1	13.6	7.9			
	9/3/03 13:10	30.00	-	0.1	11.6	9.3	-	-	-
	10/2/03 13:45	30.05	-	0.3	10.1	11.5	-	-	-
	11/5/03 15:25	30.17	-	0.3	9.1	0.9	-	-	-
	12/4/03 13:39	29.67	-	0.0	6.6	0.1	-	-	-
	4/5/04 14:40	30.10	-	0.1	4.9	0.2	-	-	-
	5/3/04 12:05	30.14	-	0.2	6.9	0.5	-	-	-
	6/1/04 12:25	30.09	-	0.2	8.6	0.8	-	-	-
	7/6/04 13:45	30.09	-	0.1	11.4	6.1	-	-	-
	8/6/04 11:58	29.98	-	0.0	12.2	8.4			
	9/10/04 10:23	29.96	-	0.1	13.7	6.9			
	9/23/11 0:00	-	-	0.0	8.0	-			
	5/22/13 17:45	29.8	0.18	0.2	4.7	11.0	84.6	4.0	3.0
	6/25/14 15:20	29.75	0	0.0	0.3	20.2	79.5	4.0	0.0
	9/2/14 16:50	29.63	1.8	0.0	1.7	17.8	80.3		0.0
	10/13/14 17:35	29.53	3.6	0.0	6.3	6.8	86.2	-	0.0
	2/26/15 10:20	30.1	0.08	0.0	2.9	12.0			
	5/12/15 0:00	29.63	-3.178	0.3	5.0	12.9	81.8		5.0
GP-15	5/14/97 to 9/10/04	-	-	0	0	5.5	-	-	-
	5/14/97 to 9/10/04	-	-	0.2	18	22	-	-	-
	10/15/99 12:00	30.50	-	0.0	3.3	18.4	-	-	-
	10/28/99 14:10	29.50	-	0.1	0.0	20.8	-	-	-
	11/15/99 8:14	30.35	-	0.0	-	19.0	-	-	-
	12/6/99 12:33	30.40	-	0.0	-	20.0	-	-	-
	1/11/00 11:48	30.02	-	0.0	-	20.0	-	-	-
	2/7/00 8:48	30.42	-	0.0	-	21.0			
	3/9/00 11:35	30.49	-	0.0	-	21.0	-	-	-
	4/7/00 8:50	30.94	-	0.0	-	21.0	-	-	-
	5/11/00 10:30	30.46	-	0.0	-	21.0	-	-	-
	6/5/00 10:27	30.38	-	0.0	-	21.0	-	-	-
	7/17/00 9:14	30.50	-	-	-	18.0	-	-	-
	8/4/00 8:45	29.64	-	0.0	0.9	21.0	-	-	-
	9/5/00 8:54	29.86	-	0.0	4.5	18.0	-	-	-
	10/10/00 9:38	29.42	-	0.0	6.8	16.0	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH_4 (% Volume)	CO (% Volume)	O_2 (% Volume)	Balance Gas (% Volume)	CO (ppm)	LEL (% CH_4)
GP-15	11/3/00 10:50	29.93	-	0.0	1.3	20.2	-	-	-
	12/6/00 12:28	29.49	-	0.0	0.0	22.0	-	-	-
	7/6/01 10:50	30.10	-	0.0	1.3	19.5	-	-	-
	8/3/01 9:58	29.94	-	0.0	5.7	16.7	-	-	-
	9/7/01 10:25	30.10	-	0.0	7.6	14.5			
	10/8/01 9:05	29.94	-	0.0	8.6	14.0	-	-	-
	11/5/01 9:10	30.25	-	0.0	6.9	15.4			
	8/2/02 14:08	-	-	0.0	4.8	15.7			
	9/5/02 9:50	-	-	0.1	10.5	11.4	-	-	-
	10/2/02 14:25	-	-	0.1	11.5	10.5	-	-	-
	11/6/02 14:20	-	-	0.0	9.7	12.0	-	-	-
	12/9/02 14:59	-	-	0.1	0.1	20.5	-	-	-
	6/3/03 12:55	30.21	-	0.1	0.0	20.6	-	-	-
	7/2/03 13:10	30.15	-	0.1	7.5	11.4	-	-	-
	8/5/03 12:55	29.99	-	0.0	14.1	8.1	-	-	-
	9/3/03 12:50	30.01	-	0.0	14.5	7.4	-	-	-
	10/2/03 13:30	30.06	-	0.2	17.5	5.5	-	-	-
	7/6/04 13:19	29.06	-	0.0	4.9	15.0	-	-	-
	8/6/04 11:32	29.88	-	0.1	9.9	10.8	-	-	-
	9/23/2011	29.99	0.28	0.0	11.8	7.7	-	-	-
	11/17/2011	29.61	3.35	0.0	0.2	19.4	-	-	-
	5/22/13 11:15	29.84	2.25	3.6	5.5	12.2	79.7	0.0	66.0
	6/25/14 14:45	29.7	0.00	2.4	3.1	8.5	85.8	0.0	47.0
	9/2/14 14:50	29.65	0.01	0.0	15.9	6.7	77.5	-	0.0
	10/13/2014	29.65	0.077	0.0	13.8	8	78.2	-	0
	11/6/2014	29.93	Flooded Well Screen						
	2/26/2015	29.21	Flooded Well Screen						
	5/12/2015	29.63	Flooded Well Screen						
GP-16	10/15/99 to 9/10/04	-	-	0.0	0.1	0.6	-	-	-
	10/15/99 to 9/10/04	-	-	2.0	23.0	21.0	-	-	-
	10/15/99 11:45	30.50	-	0.0	16.5	6.5	-	-	0.0
	10/28/99 16:10	29.42	-	0.1	0.1	20.6	-	-	2.0
	11/15/99 8:30	30.35	-	0.0	-	20.0	-	-	-
	12/6/99 12:44	30.40	-	0.0	-	3.0	-	-	-
	1/11/00 12:00	30.02	-	0.0	-	20.0	-	-	-
	2/3/00 8:25	29.86	-	0.0	15.2	4.3	-	-	0.0
	2/7/00 9:37	30.42	-	0.0	-	21.0	-	-	-
	3/9/00 11:51	30.49	-	0.0	-	20.0	-	-	-
	4/7/00 9:01	30.94	-	1.0	-	18.0	-	-	-
	5/11/00 10:40	30.46	-	2.0	-	12.0	-	-	-
	6/5/00 9:47	30.38	-	2.0	-	18.0	-	-	-
	7/17/00 9:11	30.50	-	0.0	-	20.0	-	-	-
	8/4/00 8:30	29.71	-	0.0	17.8	2.9	-	-	-
	9/5/00 8:45	30.01	-	0.0	16.7	5.7	-	-	-
	10/10/00 9:27	29.42	-	0.0	19.2	3.1	-	-	-
	11/3/00 11:52	29.93	-	0.0	16.3	5.5	-	-	-
	12/6/00 12:28	29.86	-	0.0	14.6	6.4	-	-	-
	1/5/01 11:01	29.71	-	0.0	16.7	2.3	-	-	-
	2/2/01 8:11	29.64	-	0.0	15.0	4.1	-	-	-
	3/2/01 12:22	29.49	-	0.0	14.1	5.8	-	-	-
	4/6/01 9:50	29.27	-	0.0	16.5	2.8	-	-	-
	5/10/01 9:40	-	-	0.0	22.6	2.6	-	-	-
	6/4/01 10:38	29.98	-	1.2	17.9	3.5	-	-	-
	7/6/01 10:09	30.10	-	0.1	20.4	2.0	-	-	-
	8/3/01 9:20	29.94	-	0.0	15.7	7.0	-	-	-
	9/7/01 9:41	30.25	-	0.0	17.7	4.5			

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-16	10/8/01 8:15	-	-	0.0	16.5	6.1			
	11/5/01 8:06	-	-	0.0	17.0	5.1			
	12/7/01 9:21	30.40	-	0.0	16.1	3.7	-	-	-
	1/11/02 13:55	-	-	0.0	14.1	3.9	-	-	-
	2/8/02 13:50	-	-	0.0	16.3	3.8	-	-	-
	3/8/02 9:52	-	-	0.0	15.2	4.7	-	-	-
	4/4/02 9:25	-	-	0.0	15.3	4.7	-	-	-
	5/6/02 14:10	30.20	-	1.0	16.4	2.6	-	-	-
	6/4/02 8:40	-	-	0.0	15.7	4.5	-	-	-
	7/3/02 13:47	-	-	0.0	21.0	1.0	-	-	-
	8/2/02 13:30	-	-	0.0	19.3	1.8	-	-	-
	9/5/02 9:08	-	-	0.0	16.6	5.5	-	-	-
	10/2/02 12:35	-	-	0.0	17.5	5.7	-	-	-
	11/6/02 13:30	-	-	0.0	16.9	6.1	-	-	-
	12/9/02 14:15	-	-	0.1	17.0	5.9	-	-	-
	1/3/03 13:08	30.07	-	0.0	17.4	3.7	-	-	-
	2/5/03 13:43	30.30	-	0.0	16.6	4.6	-	-	-
	3/7/03 12:45	29.77	-	0.1	16.7	2.9	-	-	-
	4/1/03 12:03	29.63	-	0.1	18.9	2.2	-	-	-
	5/5/03 12:29	30.06	-	0.1	19.5	1.7	-	-	-
	6/3/03 11:51	30.18	-	0.2	20.8	2.0	-	-	-
	7/2/03 11:52	30.15	-	0.1	21.1	1.9	-	-	-
	8/5/03 11:26	29.32	-	0.1	21.1	2.8	-	-	-
	9/3/03 11:20	30.02	-	0.1	20.3	2.5	-	-	-
	10/2/03 12:25	30.08	-	0.2	19.0	4.7	-	-	-
	11/5/03 14:27	30.20	-	0.0	18.0	4.9	-	-	-
	12/4/03 12:45	29.74	-	0.0	15.3	6.2	-	-	-
	1/14/04 10:20	30.03	-	0.0	16.1	4.5	-	-	-
	2/2/04 12:05	29.64	-	0.0	17.0	1.9	-	-	-
	3/2/04 9:47	30.23	-	0.0	15.3	5.6	-	-	-
	4/5/04 13:04	30.10	-	0.1	18.6	3.2	-	-	-
	5/3/04 11:02	30.15	-	0.1	18.9	3.0	-	-	-
	6/1/04 11:05	30.11	-	1.4	23.0	0.6	-	-	-
	7/6/04 12:30	30.10	-	0.0	20.6	3.1	-	-	-
	8/6/04 10:30	29.88	-	0.1	19.6	3.7	-	-	-
	2/8/11 9:30	30.29	0.00	0.0	19.0	19.0	-	-	-
	5/25/11 0:00	29.69	-0.06	0.0	0.1	20.2			
	6/27/11 0:00	29.68	0.12	0.0	20.1	0.8			
	9/23/11 0:00	29.91	0.25	0.0	17.6	2.9			
	11/17/11 0:00	29.61	-0.29	0.0	21.4	0.0			
	12/28/11 0:00	29.96	-0.18	0.0	19.9	0.0			
	5/22/13 15:19	29.82	-0.005	0.2	19.6	0.0	80.1	85.0	5.0
	6/18/13 17:17	29.78	-0.005	0.1	18.1	3.3	78.5	0.0	1.0
	10/13/14 11:40	29.71	0	0.4	0.7	19.8	79.0	-	0.1
	2/26/15 11:27	30.1	0	0.0	0.2	21.1		-	-
GP-17	10/15/99 to 9/10/04	-	-	0.0	0.1	0.0	-	-	-
	10/15/99 to 9/10/04	-	-	**43.0**	20.0	21.0	-	-	-
	10/15/99 11:28	30.50	-	0.6	17.5	4.5	-	-	12.0
	10/28/99 10:45	29.35	-	0.0	0.1	21.4	-	-	0.0
	11/15/99 8:56	30.35	-	0.0	-	20.0	-	-	-
	12/6/99 12:50	30.40	-	**9.0**	-	0.0	-	-	-
	1/11/00 12:05	30.02	-	**15.0**	-	3.0	-	-	-
	2/3/00 8:09	29.71	-	**9.5**	15.0	3.0	-	-	190.0
	2/7/00 9:32	30.42	-	**43.0**	-	10.0	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-17	3/9/00 11:55	30.49	-	0.0	-	21.0	-	-	-
	4/7/00 9:06	30.94	-	**7.0**	-	2.0	-	-	-
	5/11/00 10:46	30.46	-	**10.0**	-	5.0	-	-	-
	6/5/00 9:53	30.38	-	**5.0**	-	13.0	-	-	-
	7/17/00 8:57	30.50	-	0.0	-	20.0	-	-	-
	8/3/00 8:05	29.20	-	3.6	14.5	7.0	-	-	-
	9/5/00 9:52	29.64	-	2.5	18.3	4.1	-	-	-
	10/10/00 8:56	29.42	-	0.0	16.6	2.4	-	-	-
	11/3/00 11:40	29.93	-	0.3	15.0	5.3	-	-	-
	12/6/00 13:10	29.71	-	2.6	15.8	3.8	-	-	-
	1/5/01 10:50	29.71	-	**9.3**	20.2	0.0	-	-	-
	2/2/01 8:01	29.86	-	**8.7**	16.1	2.6	-	-	-
	3/2/01 12:10	29.57	-	**5.7**	14.8	2.8	-	-	-
	4/6/01 9:30	29.42	-	**9.6**	14.7	2.6	-	-	-
	5/10/01 8:45	-	-	**11.8**	17.1	2.1	-	-	-
	6/4/01 10:27	29.98	-	**11.5**	17.0	1.0	-	-	-
	7/6/01 9:57	30.10	-	2.7	16.7	2.5	-	-	-
	8/3/01 9:00	29.94	-	**8.8**	16.7	5.4	-	-	-
	9/7/01 9:30	30.25	-	0.6	14.4	5.9			
	10/8/01 8:00	-	-	1.2	15.8	4.4			
	11/5/01 7:55	-	-	1.4	17.0	4.1			
	12/7/01 9:11	30.40	-	**8.3**	16.0	3.8	-	-	-
	1/11/02 13:20	-	-	**8.0**	14.0	3.1	-	-	-
	2/8/02 13:25	-	-	**8.6**	14.3	4.4	-	-	-
	3/8/02 9:15	-	-	1.6	13.6	4.7	-	-	-
	4/4/02 8:49	-	-	**6.4**	13.8	4.9	-	-	-
	5/6/02 13:55	30.20	-	**10.6**	13.1	4.4	-	-	-
	6/4/02 8:01	-	-	**8.8**	13.0	4.8	-	-	-
	7/3/02 13:25	-	-	**7.8**	16.7	2.5	-	-	-
	8/2/02 13:06	-	-	2.7	14.9	4.9	-	-	-
	9/5/02 8:35	-	-	2.0	13.6	6.7	-	-	-
	10/2/02 11:56	-	-	0.1	10.8	8.5	-	-	-
	11/6/02 12:55	-	-	0.0	12.0	6.1	-	-	-
	12/9/02 13:45	-	-	0.2	14.1	6.7	-	-	-
	1/3/03 12:35	30.12	-	**6.7**	14.8	6.1	-	-	-
	2/5/03 16:48	30.34	-	**6.7**	15.1	2.6	-	-	-
	3/7/03 12:15	29.77	-	**6.8**	13.1	6.1	-	-	-
	4/1/03 11:33	29.67	-	**9.7**	13.6	4.0	-	-	-
	5/5/03 11:50	30.08	-	**10.6**	16.5	2.1	-	-	-
	6/3/03 11:06	30.17	-	**7.5**	15.7	3.6	-	-	-
	7/2/03 11:00	30.12	-	4.0	15.6	4.9	-	-	-
	8/5/03 10:40	29.24	-	3.6	16.8	4.9	-	-	-
	9/3/03 10:35	30.00	-	0.1	15.2	4.2	-	-	-
	10/2/03 11:45	30.08	-	0.3	13.6	6.9	-	-	-
	11/5/03 13:15	30.25	-	0.3	14.1	6.1	-	-	-
	12/4/03 12:15	29.81	-	3.9	12.9	6.3	-	-	-
	1/14/04 9:37	30.03	-	2.7	11.1	6.9	-	-	-
	2/2/04 11:30	29.67	-	**6.6**	12.0	5.9	-	-	-
	3/2/04 9:11	30.26	-	3.5	10.1	7.8	-	-	-
	4/8/04 14:24	30.14	-	3.6	8.8	9.1	-	-	-
	5/3/04 10:25	30.15	-	**5.0**	12.3	6.2	-	-	-
	6/1/04 9:20	30.08	-	**9.7**	15.2	4.4	-	-	-
	7/6/04 12:00	30.12	-	0.6	11.3	8.3	-	-	-
	8/6/04 9:40	29.87	-	4.7	14.9	7.2	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-17	9/10/04 8:19	30.03	-	1.7	12.8	8.2	-	-	-
	2/8/11 9:10	30.29	0.00	**10.1**	19.1	0.0	-	-	-
	5/25/11 0:00	29.70	-0.06	**5.8**	18.9	0.0			
	6/27/00 0:00	29.67	0.11	**8.3**	17.9	0.0			
	9/23/11 0:00	29.97	0.31	1.0	18.5	0.0			
	11/17/11 0:00	29.56	-0.3	2.1	22.9	0.0			
	12/28/11 0:00	29.96	-0.18	**7.4**	21.4	0.0			
	5/22/13 15:50	29.81	-0.022	**18.2**	17.7	0.0	-	124.0	-
	6/18/13 17:00	29.75	0	**19.0**	21.3	0.0	59.6	0.0	-
	6/25/14 14:55	29.75	0.02	**19.6**	20.8	0.0	59.6	0.0	-
	9/2/14 12:15	29.71	0.008	**28.9**	25.3	0.0	46.1	-	100.0
	10/13/14 11:55	29.71	0.035	**33.1**	25.4	0.0	41.7	-	100.0
	11/6/14 16:03	29.93	0	**34.7**	26.8	0.0			
	2/26/15 11:35	30.1	0.019	4.5	16.7	0.0		-	-
	5/12/15 12:35	29.63	0	**33.0**	23.3	0.0	43.6		100.0
GP-19	10/15/99 to 9/10/04	-	-	0.2	0.7	0.0	-	-	-
	10/15/99 to 9/10/04	-	-	**10.0**	23.0	20.0	-	-	-
	10/15/99 15:01	30.40	-	2.7	22.1	0.0	-	-	57.0
	10/28/99 16:16	29.57	-	0.2	0.7	20.3	-	-	4.0
	11/15/99 10:34	30.35	-	**6.0**	-	1.0	-	-	-
	12/6/99 12:10	30.40	-	**7.0**	-	0.0	-	-	-
	1/11/00 12:40	30.02	-	**7.0**	-	0.0	-	-	-
	2/3/00 10:35	29.79	-	**8.3**	18.2	0.0	-	-	166.0
	2/7/00 10:13	30.42	-	**5.0**	-	0.0	-	-	-
	3/9/00 12:41	30.49	-	**10.0**	-	0.0	-	-	-
	4/7/00 9:46	30.94	-	4.0	-	1.0	-	-	-
	5/11/00 11:26	30.46	-	4.0	-	0.0	-	-	-
	6/5/00 11:25	30.38	-	2.0	-	0.0	-	-	-
	7/17/00 8:45	30.50	-	2.0	-	0.0	-	-	-
	8/3/00 10:15	29.86	-	1.5	17.7	0.2	-	-	-
	9/6/00 8:30	29.86	-	2.2	19.8	0.0	-	-	-
	10/10/00 8:45	29.35	-	3.8	20.5	0.0	-	-	-
	11/3/00 12:55	29.42	-	4.8	20.3	0.1	-	-	-
	12/6/00 14:00	29.79	-	**6.5**	19.7	0.0	-	-	-
	1/5/01 13:05	29.79	-	**6.6**	19.0	0.0	-	-	-
	2/2/01 9:42	28.98	-	**6.1**	18.1	0.0	-	-	-
	3/2/01 13:15	29.57	-	**5.5**	17.3	0.1	-	-	-
	4/6/01 12:05	29.05	-	4.6	16.7	0.2	-	-	-
	5/10/01 10:50	-	-	4.6	22.7	0.0	-	-	-
	6/4/01 11:40	29.98	-	1.9	17.3	0.0	-	-	-
	7/6/01 11:38	30.10	-	0.8	18.8	0.0	-	-	-
	8/3/01 12:12	29.94	-	1.0	19.3	0.0	-	-	-
	9/7/01 10:15	30.25	-	2.5	19.2	0.0			
	10/8/01 10:00	-	-	3.8	20.7	0.0			
	11/5/01 10:05	-	-	**5.1**	20.5	0.0			
	12/7/01 11:11	30.40	-	**7.4**	19.8	0.0	-	-	-
	1/11/02 15:25	-	-	**7.4**	17.5	0.0	-	-	-
	2/8/02 15:35	-	-	**7.4**	17.5	0.0	-	-	-
	3/8/02 11:25	-	-	3.6	17.0	0.0	-	-	-
	4/4/02 11:15	-	-	3.2	17.1	0.1	-	-	-
	5/6/02 15:40	30.20	-	3.7	16.1	0.0	-	-	-
	6/4/02 10:20	-	-	1.8	17.1	0.0	-	-	-
	7/3/02 15:15	-	-	1.2	17.6	0.0	-	-	-
	8/2/02 10:20	-	-	1.3	17.9	0.0	-	-	-
	9/5/02 10:35	-	-	2.5	19.3	0.2	-	-	-
	10/2/02 15:15	-	-	3.8	19.9	0.4	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH)
GP-19	11/6/02 15:15	-	-	**6.9**	20.5	0.0	-	-	-
	12/9/02 15:45	-	-	**7.6**	21.0	0.0	-	-	-
	1/7/03 13:55	30.18	-	**7.2**	19.1	0.0	-	-	-
	2/5/03 15:05	30.30	-	**5.2**	17.7	0.0	-	-	-
	3/7/03 14:10	29.71	-	**5.7**	17.7	0.0	-	-	-
	4/1/03 13:25	29.63	-	**5.0**	16.9	0.0	-	-	-
	5/5/03 14:30	30.09	-	3.5	17.4	0.0	-	-	-
	6/3/03 13:55	30.22	-	1.9	17.5	0.2	-	-	-
	7/2/03 14:00	30.16	-	1.2	18.2	0.2	-	-	-
	8/5/03 13:45	29.99	-	1.5	19.4	0.0	-	-	-
	9/3/03 13:45	30.00	-	2.1	20.3	0.0	-	-	-
	10/2/03 14:20	30.03	-	3.6	21.5	0.0	-	-	-
	11/5/03 15:57	30.16	-	**7.4**	21.4	0.0	-	-	-
	12/4/03 14:03	29.66	-	**7.9**	20.3	0.0	-	-	-
	1/14/04 14:55	29.95	-	**6.3**	19.1	0.0	-	-	-
	2/6/04 13:50	29.98	-	**5.4**	17.8	0.0	-	-	-
	3/2/04 11:20	30.23	-	4.2	17.1	0.1	-	-	-
	4/5/04 15:04	30.10	-	3.5	17.3	0.2	-	-	-
	5/3/04 12:35	30.14	-	1.9	17.3	0.3	-	-	-
	6/1/04 13:00	30.12	-	1.8	18.2	0.3	-	-	-
	7/6/04 14:25	30.08	-	1.0	18.9	0.1	-	-	-
	8/6/04 12:36	29.85	-	1.4	20.2	0.0	-	-	-
	9/10/04 10:53	29.95	-	3.1	20.7	0.2	-	-	-
	2/8/11 16:25	30.37	-0.02	1.9	14.3	0.0	-	-	-
	5/22/13 16:23	29.8	0.00	4.5	15.1	0.0	-	93.0	88.0
	6/18/13 10:47	29.81	0.00	1.3	15.8	0.0	82.9	0.0	25.0
	6/19/13 14:39	29.78	-0.006	2.0	17.4	0.0	80.5	0.0	40.0
	6/25/14 12:00	29.77	0.02	**6.9**	15.4	0.0	77.7	0.0	100.0
	9/2/14 11:50	29.72	0.009	**12.0**	19.6	0.0	68.4		100.0
	10/13/14 14:56	29.6	0.005	**14.6**	18.8	0.0	66.5	-	100.0
	11/6/14 14:35	29.85	0.031	**12.4**	18.1	0.0			
	2/26/15 11:50	30.1	0	0.0	9.5	5.5			
	5/12/15 0:00	29.69	-0.01	0.1	16.6	0.3	82.8		3.0
GP-20	10/15/99 to 9/10/04	-	-	0.3	1.6	0.0	-	-	-
	10/15/99 to 9/10/04	-	-	**10.0**	15.0	19.0	-	-	-
	5/14/97 0:00	-	-	-	0.9	13.3	-	-	107.2
	5/23/97 11:15	30.54	-	**7.0**	-	0.0	-	-	-
	6/20/97 10:25	30.65	-	-	-	20.8	-	-	0.0
	7/21/97 0:00	29.65	-	0.0	-	21.0	-	-	-
	8/18/97 11:02	30.67	-	0.0	-	21.0	-	-	-
	9/8/97 10:15	30.70	-	-	-	-	-	-	61.0
	10/24/97 6:00	31.08	-	**14.0**	-	0.0	-	-	-
	11/19/97 7:50	30.15	-	**18.0**	-	0.0	-	-	-
	12/2/97 12:02	30.50	-	**25.0**	-	0.0	-	-	-
	1/16/98 8:20	30.15	-	**16.0**	-	-	-	-	-
	2/19/98 7:52	30.40	-	**15.0**	-	0.0	-	-	-
	3/17/98 7:59	30.88	-	**12.0**	-	1.0	-	-	-
	4/14/98 8:30	29.63	-	**11.0**	-	1.0	-	-	-
	5/19/98 11:20	30.64	-	**15.0**	-	0.0	-	-	-
	6/4/98 8:44	30.52	-	**6.0**	-	1.0	-	-	-
	7/27/98 12:22	30.57	-	2.4	-	2.5	-	-	-
	8/4/98 12:39	30.58	-	2.5	-	2.5	-	-	-
	9/17/98 12:18	30.03	-	1.4	-	3.0	-	-	-
	10/5/98 12:25	30.08	-	1.6	-	2.5	-	-	-
	11/6/98 1:00	30.39	-	-	-	2.0	-	-	4.0
	12/2/98 1:00	30.19	-	-	-	0.0	-	-	4.0

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-20	1/6/99 10:16	29.70	-	**18.0**	-	0.0	-	-	-
	3/5/99 11:06	29.95	-	**15.0**	-	0.0	-	-	-
	4/9/99 11:59	30.80	-	**12.0**	-	0.0	-	-	-
	5/7/99 10:51	30.85	-	-	-	-	-	-	-
	6/23/99 10:18	30.65	-	**5.0**	-	0.0	-	-	-
	7/20/99 9:02	30.50	-	4.0	-	0.0	-	-	-
	8/20/99 10:20	30.65	-	3.0	-	0.0	-	-	-
	9/29/99 10:28	30.80	-	3.0	-	0.0	-	-	-
	10/15/99 14:52	30.40	-	1.3	10.9	0.0	-	-	96.0
	10/28/99 16:35	29.28	-	0.3	1.6	19.1	-	-	4.0
	11/15/99 9:10	30.35	-	1.0	-	1.0	-	-	-
	12/6/99 11:41	30.40	-	3.0	-	1.0	-	-	-
	1/11/00 12:20	30.02	-	**6.0**	-	0.0	-	-	-
	2/3/00 10:17	29.79	-	**7.4**	8.2	0.0	-	-	304.0
	2/7/00 10:07	30.42	-	**10.0**	-	0.0	-	-	-
	3/9/00 12:09	30.49	-	**6.0**	-	0.0	-	-	-
	4/7/00 9:41	30.94	-	**5.0**	-	0.0	-	-	-
	5/11/00 11:04	30.46	-	**9.0**	-	0.0	-	-	-
	6/5/00 11:30	30.38	-	4.0	-	0.0	-	-	-
	7/17/00 8:40	30.50	-	3.0	-	0.0	-	-	-
	8/3/00 9:55	29.27	-	2.7	12.9	0.3	-	-	-
	9/6/00 8:10	30.01	-	1.9	13.7	1.0	-	-	-
	10/10/00 8:35	29.42	-	1.2	12.9	3.3	-	-	-
	11/3/00 13:07	29.79	-	1.6	11.5	0.1	-	-	-
	12/6/00 14:10	29.86	-	2.6	10.6	0.0	-	-	-
	1/5/01 13:17	29.71	-	3.5	10.3	0.0	-	-	-
	2/2/01 9:55	29.86	-	4.2	10.3	0.0	-	-	-
	3/2/01 13:27	29.49	-	3.8	9.8	0.0	-	-	-
	4/6/01 12:20	28.98	-	3.0	9.1	0.2	-	-	-
	5/10/01 11:05	-	-	4.7	10.6	0.0	-	-	-
	6/4/01 11:58	29.98	-	3.5	9.4	0.0	-	-	-
	7/6/01 11:48	30.10	-	3.3	12.6	0.0	-	-	-
	8/3/01 11:55	29.94	-	2.4	12.9	0.0	-	-	-
	12/7/01 11:25	30.40	-	3.6	11.6	0.0	-	-	-
	1/11/02 15:35	-	-	4.3	9.2	0.0	-	-	-
	2/8/02 15:45	-	-	**6.1**	9.9	0.0	-	-	-
	3/8/02 11:40	-	-	3.9	9.8	0.0	-	-	-
	4/4/02 11:27	-	-	2.8	9.1	0.2	-	-	-
	5/6/02 15:50	30.20	-	3.7	8.9	0.0	-	-	-
	6/4/02 10:35	-	-	3.4	9.6	0.0	-	-	-
	7/3/02 15:30	-	-	2.1	9.6	0.0	-	-	-
	8/2/02 12:00	-	-	1.7	10.7	0.0	-	-	-
	9/5/02 10:50	-	-	1.6	12.7	0.3	-	-	-
	10/2/02 15:50	-	-	1.5	13.2	0.4	-	-	-
	11/6/02 15:25	-	-	**10.1**	13.1	0.2	-	-	-
	12/9/02 13:54	-	-	2.2	12.2	0.0	-	-	-
	1/7/03 14:05	30.17	-	3.1	11.1	0.0	-	-	-
	2/5/03 15:15	30.30	-	4.0	10.6	0.0	-	-	-
	3/7/03 14:20	29.71	-	**5.0**	10.9	0.0	-	-	-
	4/1/03 13:35	-	-	4.4	10.3	0.0	-	-	-
	5/5/03 14:45	30.09	-	4.0	10.2	0.0	-	-	-
	6/3/03 14:10	30.21	-	2.9	10.4	0.2	-	-	-
	7/2/03 14:10	30.16	-	1.9	10.9	0.2	-	-	-
	8/5/03 13:55	30.01	-	1.8	13.7	1.1	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-20	9/3/03 13:55	30.01	-	1.2	14.4	0.6	-	-	-
	10/2/03 14:35	30.03	-	1.3	14.7	0.0	-	-	-
	11/5/03 16:03	30.15	-	4.5	14.9	0.0	-	-	-
	12/4/03 14:20	29.65	-	3.8	12.7	0.2	-	-	-
	1/14/04 14:10	29.94	-	**5.1**	12.0	0.0	-	-	-
	2/6/04 14:05	29.98	-	**5.3**	11.2	0.0	-	-	-
	3/2/04 11:30	30.22	-	**5.6**	10.5	0.0	-	-	-
	4/5/04 15:15	30.10	-	4.1	10.3	0.1	-	-	-
	5/3/04 12:45	30.13	-	4.2	10.4	0.3	-	-	-
	6/1/04 13:05	30.11	-	3.4	10.8	0.4	-	-	-
	7/6/04 14:57	30.08	-	2.2	12.5	0.1	-	-	-
	8/6/04 12:53	29.84	-	0.5	13.6	1.8	-	-	-
	9/10/04 11:03	29.95	-	0.9	15.0	1.4	-	-	-
	2/9/11 9:30	30.45	-0.06	3.3	8.9	0.0	-	-	-
	5/22/13 15:00	29.82	0.00	2.5	7.1	0.0	-	121.0	50.0
	6/18/13 9:50	29.82	0.006	1.9	7.3	0.0	90.7	0.0	39.0
	6/19/13 13:53	29.77	0	2.1	7.2	0.0	90.8	0.0	40.0
	6/25/14 11:28	29.82	0.027	2.5	7.5	0.0	87.9	0.0	50.0
	9/2/14 11:25	29.72	0.012	4.1	10.3	0.0	85.5	-	81.0
	10/13/14 0:00	29.6	0.019	**6.0**	11.4	0.0	82.6	-	100.0
	11/6/14 14:47	29.85	0.046	**7.4**	11.4	6.5			
	2/26/15 12:20	30.1	-0.003	0.1	14.0	0.0			
	5/12/15 10:05	29.69	0	3.7	12.3	0.0	33.9		74.0
GP-21	10/15/99 to 9/10/04	-	-	0.0	0.0	0.0	-	-	-
	10/15/99 to 9/10/04	-	-	**23.0**	27.0	21.0	-	-	-
	10/15/99 14:33	30.40	-	**19.8**	25.5	0.1	-	-	396.0
	10/28/99 17:35	29.28	-	0.2	0.1	21.4	-	-	4.0
	11/15/99 9:17	30.35	-	**19.0**	-	0.0	-	-	-
	12/6/99 11:53	30.40	-	**19.0**	-	0.0	-	-	-
	1/11/00 12:25	30.02	-	**14.0**	-	0.0	-	-	-
	2/3/00 9:35	29.79	-	**17.4**	20.3	0.0	-	-	348.0
	2/7/00 9:46	30.42	-	**15.0**	-	0.0	-	-	-
	3/9/00 12:13	30.49	-	**15.0**	-	0.0	-	-	-
	4/7/00 9:27	30.94	-	**5.0**	-	13.0	-	-	-
	5/11/00 11:08	30.46	-	**14.0**	-	0.0	-	-	-
	6/5/00 10:58	30.38	-	**15.0**	-	0.0	-	-	-
	7/17/00 8:31	30.50	-	**17.0**	-	0.0	-	-	-
	8/2/00 11:20	29.71	-	**14.9**	20.3	0.3	-	-	298.0
	9/5/00 10:20	29.86	-	**17.9**	22.4	0.0	-	-	-
	10/10/00 8:05	29.20	-	**18.5**	23.3	0.0	-	-	-
	11/3/00 13:47	29.86	-	**19.7**	23.5	0.1	-	-	-
	12/6/00 14:44	29.64	-	**22.5**	24.4	0.0	-	-	-
	1/5/01 13:55	29.79	-	**22.1**	22.6	0.0	-	-	-
	2/2/01 10:35	29.79	-	**21.8**	22.3	0.0	-	-	-
	3/2/01 14:00	29.42	-	**19.7**	21.4	0.0	-	-	-
	4/6/01 13:18	29.13	-	**16.2**	19.8	0.2	-	-	-
	5/10/01 11:50	-	-	**22.8**	26.5	0.0	-	-	-
	6/4/01 12:35	29.98	-	**18.1**	20.4	0.0	-	-	-
	7/6/01 12:30	30.10	-	**18.7**	22.0	0.0	-	-	-
	8/3/01 13:09	29.94	-	**17.9**	22.3	0.0	-	-	-
	9/7/01 12:02	30.25	-	**20.1**	23.0	0.0			
	10/8/01 10:50	-	-	**22.6**	24.5	0.0			
	11/5/01 11:05	-	-	**19.4**	23.8	0.0			
	12/7/01 12:04	30.40	-	**18.6**	22.8	0.0	-	-	-
	1/11/02 16:20	-	-	**17.3**	19.5	0.0	-	-	-
	2/8/02 16:30	-	-	**12.0**	16.7	1.8	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-21	3/8/02 12:30	-	-	**15.3**	18.5	0.0	-	-	-
	4/4/02 12:10	-	-	0.0	0.0	20.4	-	-	-
	5/6/02 16:30	30.20	-	**14.7**	17.4	0.0	-	-	-
	6/4/02 11:20	-	-	**18.8**	18.4	0.0	-	-	-
	7/3/02 16:16	-	-	**16.8**	20.5	0.0	-	-	-
	8/2/02 10:40	-	-	**17.6**	20.3	0.0	-	-	-
	9/5/02 11:27	-	-	**17.0**	20.9	0.4	-	-	-
	10/2/02 16:10	-	-	**17.6**	22.1	0.3	-	-	-
	11/6/02 16:10	-	-	**17.5**	23.0	0.0	-	-	-
	12/9/02 16:49	-	-	**20.1**	23.6	0.0	-	-	-
	1/7/03 14:45	-	-	**15.0**	21.7	0.0	-	-	-
	2/5/03 15:48	30.29	-	**13.6**	19.9	0.0	-	-	-
	3/7/03 15:00	29.71	-	**15.6**	19.0	0.0	-	-	-
	4/1/03 14:10	29.59	-	**12.8**	18.3	0.0	-	-	-
	5/5/03 15:20	30.07	-	**15.3**	17.0	0.0	-	-	-
	6/3/03 14:55	30.20	-	**16.0**	18.9	0.1	-	-	-
	7/2/03 15:00	30.16	-	**15.2**	19.7	0.1	-	-	-
	8/5/03 15:00	30.00	-	**13.4**	20.2	0.0	-	-	-
	9/3/03 14:35	30.01	-	**14.4**	21.4	0.1	-	-	-
	10/2/03 15:15	30.03	-	**17.3**	22.8	0.0	-	-	-
	11/5/03 16:45	30.15	-	**20.7**	23.8	0.0	-	-	-
	12/4/03 15:10	29.63	-	**15.7**	22.8	0.0	-	-	-
	1/14/04 15:00	30.03	-	**14.9**	20.3	0.0	-	-	-
	2/6/04 14:45	29.98	-	**10.2**	18.3	0.0	-	-	-
	3/2/04 12:05	30.23	-	**12.8**	17.2	0.0	-	-	-
	4/5/04 15:58	-	-	**13.8**	17.8	0.1	-	-	-
	5/3/04 13:25	30.14	-	**16.1**	17.9	0.4	-	-	-
	6/1/04 14:05	30.13	-	**14.8**	19.4	0.3	-	-	-
	7/6/04 15:30	30.05	-	**15.4**	20.3	0.1	-	-	-
	8/6/04 14:15	29.87	-	**13.1**	20.1	0.0	-	-	-
	9/10/04 11:37	29.95	-	**16.6**	21.8	0.2	-	-	-
	2/9/11 10:35	30.44	-0.07	**20.0**	17.6	0.0	-	-	-
	5/22/13 13:35	29.81	0.01	**15.8**	14.3	0.0	-	25.0	-
	6/18/13 13:14	29.80	0.02	0.0	17.0	20.2	75.6	0.0	-
	6/25/14 10:10	29.85	0.04	**19.8**	17.6	0.0	62.7	0.0	-
	9/2/14 16:00	29.63	0.02	**14.9**	18.9	0.0	66.1	-	100.0
	10/13/14 0:00	29.55	-	**19.4**	19.0	0.0	61.4	-	100.0
	11/6/14 16:48	29.93	-	**14.3**	11.3				
	2/26/15 13:05	30.00	0.00	0.0	0.4	17.7			
	5/12/15 0:00	29.69	-0.01	**14.7**	16.0	0.0	69.2		100.0
GP-22	10/15/99 to 9/10/04	-	-	0.2	0.0	0.0	-	-	-
	10/15/99 to 9/10/04		-	**15.0**	31.0	21.0	-	-	-
	10/15/99 14:25	30.40	-	**9.2**	21.0	0.0	-	-	184.0
	10/28/99 17:05	29.57	-	0.2	0.0	21.4	-	-	4.0
	11/15/99 9:30	30.35	-	**9.0**	-	0.0	-	-	-
	12/6/99 11:49	30.40	-	**7.0**	-	0.0	-	-	-
	1/11/00 12:28	30.02	-	4.0	-	0.0	-	-	-
	2/3/00 10:00	29.79	-	**7.0**	11.2	0.0	-	-	140.0
	2/7/00 9:51	30.42	-	**5.0**	-	0.0	-	-	-
	3/9/00 12:17	30.49	-	**6.0**	-	0.0	-	-	-
	4/7/00 9:22	30.94	-	3.0	-	13.0	-	-	-
	5/11/00 11:13	30.46	-	**7.0**	-	0.0	-	-	-
	6/5/00 11:03	30.38	-	**8.0**	-	0.0	-	-	-
	7/17/00 8:35	30.50	-	**9.0**	-	0.0	-	-	-
	8/3/00 9:30	29.71	-	**10.0**	20.4	0.2	-	-	-
	9/5/00 10:15	29.64	-	**8.8**	21.0	0.0	-	-	-

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-22	10/10/00 7:55	29.35	-	**8.4**	20.5	0.0	-	-	-
	11/3/00 13:35	29.35	-	**10.4**	19.2	0.1	-	-	-
	12/6/00 14:30	29.71	-	**11.3**	16.8	0.0	-	-	-
	1/5/01 13:44	29.86	-	**11.6**	15.7	0.0	-	-	-
	2/2/01 10:15	29.64	-	**13.1**	16.6	0.0	-	-	-
	3/2/01 13:50	29.42	-	**11.0**	15.6	0.0	-	-	-
	4/6/01 12:50	29.20	-	**10.8**	15.2	0.7	-	-	-
	5/10/01 11:35	-	-	**15.0**	21.2	0.0	-	-	-
	6/4/01 12:25	29.98	-	**11.9**	17.9	0.0	-	-	-
	7/6/01 12:20	30.10	-	**11.3**	20.1	0.0	-	-	-
	8/3/01 12:43	29.94	-	**10.4**	30.7	0.0	-	-	-
	9/7/01 11:54	30.25	-	**12.2**	20.4	0.0			
	10/8/01 10:32	-	-	**11.6**	21.1	0.0			
	11/5/01 10:45	-	-	**8.6**	14.6	4.2			
	12/7/01 11:55	30.40	-	**8.2**	13.2	0.0	-	-	-
	1/11/02 16:00	-	-	**7.1**	9.8	1.7	-	-	-
	2/8/02 16:15	-	-	3.5	8.7	4.1	-	-	-
	3/8/02 12:07	-	-	**5.0**	10.3	3.1	-	-	-
	4/4/02 11:55	-	-	**6.3**	12.2	0.2	-	-	-
	5/6/02 14:20	30.20	-	**6.4**	12.3	0.0	-	-	-
	6/4/02 11:00	-	-	2.8	5.7	12.4	-	-	-
	7/3/02 15:55	-	-	**7.0**	14.2	3.3	-	-	-
	8/2/02 11:20	-	-	**8.8**	19.1	0.0	-	-	-
	9/5/02 11:17	-	-	**8.5**	20.2	0.3	-	-	-
	10/2/02 16:00	-	-	**7.1**	19.4	0.4	-	-	-
	11/6/02 15:50	-	-	4.0	14.1	5.1	-	-	-
	12/9/02 16:34	-	-	**10.3**	18.0	0.0	-	-	-
	1/7/03 14:35	30.17	-	**7.2**	12.5	0.0	-	-	-
	2/5/03 15:40	30.28	-	**6.6**	11.3	0.0	-	-	-
	3/7/03 14:40	29.70	-	**8.3**	12.9	0.0	-	-	-
	4/1/03 13:58	29.61	-	**7.1**	11.6	0.0	-	-	-
	5/5/03 15:10	30.06	-	**7.3**	12.7	0.0	-	-	-
	6/3/03 14:45	30.20	-	**8.8**	15.7	0.1	-	-	-
	7/2/03 14:50	30.16	-	**8.7**	19.7	0.2	-	-	-
	8/5/03 14:25	30.00	-	**9.1**	22.5	9.0	-	-	-
	9/3/03 14:25	30.01	-	**7.5**	22.1	0.1	-	-	-
	10/2/03 15:00	30.03	-	**7.2**	21.1	0.0	-	-	-
	11/5/03 16:32	30.15	-	**7.1**	18.2	0.0	-	-	-
	12/4/03 14:49	29.65	-	**7.1**	13.5	0.6	-	-	-
	1/14/04 14:40	29.93	-	**6.5**	11.1	0.3	-	-	-
	2/6/04 14:30	29.98	-	**6.0**	11.2	0.0	-	-	-
	3/2/04 11:55	30.20	-	**7.6**	12.1	0.1	-	-	-
	4/5/04 15:45	30.10	-	**9.0**	14.0	0.1	-	-	-
	5/3/04 13:15	30.14	-	**10.4**	15.6	0.7	-	-	-
	6/1/04 13:40	30.11	-	**8.2**	15.9	3.1	-	-	-
	7/6/04 15:20	30.10	-	**9.9**	21.6	0.1	-	-	-
	8/6/04 13:40	29.87	-	**8.1**	21.0	0.5	-	-	-
	9/10/04 11:27	29.95	-	**10.5**	21.9	0.2	-	-	-
	2/9/11 10:55	30.44	0.01	**7.1**	11.3	0.0	-	-	-
	5/22/13 13:00	29.82	-0.004	**8.6**	13.5	0.0	-	62.0	-
	6/18/13 12:23	29.81	0.00	**9.9**	14.9	0.0	75.8	0.0	-
	9/2/14 16:10	29.63	-	**9.5**	16.5	0.0	73.9	-	100.0
	10/13/14 17:00	29.53	0.04	**14.5**	15.9	0.0	69.5	-	100.0
	2/26/15 14:00	29.99	-0.01	1.3	5.9	2.0		-	-
	5/12/15 13:00	29.64	-	**17.1**	10.3	0.0	72.7		100.0

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-27	2/7/11 11:40	30.09	-0.01	**6.1**	7.8	0.9	-	-	-
	2/17/11 12:35	29.73	0.13	2.9	4.7	9.1	-	-	-
	2/21/11 12:30	29.90	0.10	3.1	4.8	9.1	-	-	-
	5/11/11 12:12	29.73	0.05	**6.5**	8.3	0.1	-	-	-
	5/25/11 0:00	29.68	-0.08	2.6	4.0	11.1			
	6/27/11 0:00	29.69	0.12	**6.3**	8.9	0.0			
	9/23/11 0:00	29.98	0.10	4.3	11.4	0.0			
	11/17/11 0:00	29.76	-0.17	3.3	8.4	5.2			
	12/28/11 0:00	29.92	0.0	**6.0**	11.9	0.0			
	5/22/13 17:13	29.8		**5.1**	7.4	1.0	86.5	30.0	-
	6/25/14 12:45	29.79	-	0.6	6.9	6.4	86.2	30.0	7.0
	9/2/14 13:30	29.69	-	1.5	12.7	0.0	85.8		29.0
	10/13/14 10:05	29.73	-0.025	2.1	13.4	0.0	-		29.0
	11/6/14 14:18	29.85	0.027	1.5	12.8	0.0			
	2/26/15 9:00	30.16	0.000	0.0	5.0	10.8			
	5/12/15 9:25	29.69	0.000	0.6	10.4	0.0	88.9	-	-
GP-28	2/7/11 13:30	30.11	0.01	0.0	3.1	8.1	-	-	-
	2/21/11 12:45	29.89	0.10	0.0	2.0	15.3	-	-	-
	5/11/11 10:50	29.73	0.05	0.5	5.4	0.4	-	-	-
	5/25/11 0:00	29.70	-0.05	0.6	3.1	11.7			
	6/27/11 0:00	29.70	0.06	2.8	7.7	0.0			
	9/23/11 0:00	29.99	0.06	0.2	8.9	2.8			
	11/17/11 0:00	29.73	-0.19	0.1	8.9	4.2			
	12/28/11 0:00	29.94	-0.01	0.0	6.2	4.9			
	5/22/13 17:01	29.8	0	0.1	5.6	0.2	94.1	5.0	2.0
	6/25/14 12:55	29.79	-	0.0	6.8	0.4	92.5	6.0	0.0
	9/2/14 13:45	29.67	-	0.0	11.1	0.9	88.0		0.0
	10/13/14 0:00	29.71	0.004	0.0	11.0	0.0	88.9	-	0.0
	11/6/14 14:01	29.85	0.026	0.2	6.4	0.4			
	2/26/15 8:51	30.16	0	0.0	1.7	11.8			
	5/12/15 9:15	29.69	0	0.1	3.2	7.4	89.0		0.0
GP-29	2/7/11 14:35	30.10	0.06	**7.1**	12.5	0.0	-	-	-
	2/21/11 13:00	29.89	0.09	3.6	6.9	9.0	-	-	-
	5/11/11 0:00	29.73	-0.03	**6.9**	12.2	0.3	-	-	-
	5/25/11 0:00	29.7	-0.06	2.4	4.1	12.6			
	6/27/11 0:00	29.68	0.11	**8.5**	13.1	0.0			
	9/23/11 0:00	29.99	0.03	**7.2**	14.2	0.0			
	11/17/11 0:00	29.73	-0.22	**7.1**	12.2	3.7			
	12/28/11 0:00	29.95	-0.11	**8.1**	15.1	0.0			
	5/22/13 16:48	29.8		**7.9**	12.5	0.0	-	41.0	-
	6/25/14 13:20	29.79		**6.6**	12.8	0.0	80.4		-
	9/2/14 14:10	29.67	-	**8.1**	16.6	0.5	74.9	-	100.0
	10/13/14 10:55	29.71	0.003	**8.5**	16.9	0.0	-	-	100.0
	11/6/14 13:39	29.85	-0.047	**8.9**	14.9	0.0			
	1/28/15 14:00	30.03	-	1.0	14.9	0.0			
	2/26/15 8:04	30.16	0	1.4	13.3	0.0			
	2/26/15 13:41	29.99	0	1.0	9.9	28.0			
	5/12/15 9:01	29.69	0	4.9	14.3	0.0	80.8		99.0
GP-30	5/11/11 10:01	29.74	0.02	0.0	0.1	20.2	84.4	293.0	0.0
	6/25/14 13:30	29.79	0.00	0.0	2.6	13.0			
	9/2/14 14:00	29.67	-	0.0	0.3	21.4	78.6	-	0.0
	10/13/14 11:25	29.71	0	0.0	0.1	20.4	79.4	-	0.0
	2/26/15 11:17	30.1	0.07	0.0	0.2	21.3		-	-
	5/12/15 9:20	29.69	0	0.1	0.2	21.0	78.6		2.0
GP-31	5/11/11 9:22	29.75	0.02	0.0	0.1	19.9	-	-	-
	5/25/11 0:00	29.72	-0.05	0.0	0.1	20.30	-	-	-
	6/27/11 0:00	29.72	0.08	0.0	9.6	6.60	-	-	-
	9/23/11 0:00	29.97	0.05	0.0	14.7	4.40	-	-	-
	11/17/11 0:00	29.61	-0.42	0.0	10.4	7.50	-	-	-
	12/28/11 0:00	29.56	-0.22	0.0	8.0	3.70			
	5/22/13 18:18	29.8		0.1	0.2	21.5	78.0	12.0	2.0
	6/25/14 13:45	29.79		0.0	1.0	17.8	80.5		-
	9/2/14 14:40	29.67	-	0.0	11.6	7.2	81.9		0.0
	10/13/14 11:55	29.71	0.01	0.0	13.5	4.9	81.4	-	0.0
	2/26/15 11:00	30.1	0.005	0.0	0.5	20.8			
	5/12/15 13:10	29.63	0	0.2	9.8	9.0	80.9		4.0

Table C-1
Perimeter Probe Compliance Monitoring Data
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Monitoring Location[1]	Start Date and Time[2]	Barometric (in. Hg)[3]	Well Head Pressure (in. H_2O)[4]	LFG Monitoring Parameters[5]					
				CH	CO	O	Balance Gas	CO	LEL
				(% Volume)	(% Volume)	(% Volume)	(% Volume)	(ppm)	(% CH_4)
GP-32	9/2/14 16:20	29.63	-	0.0	0.1	20.8	79.0		0.0
	10/13/14 13:40	29.63	-	0.0	0.0	20.6	79.4		0.0
	2/26/15 10:40	30.1	0	0.0	0.2	20.9			
	5/12/15 13:25	29.63	0	0.3	0.1	21.5	77.9		6.0
GP-33	5/22/13 12:24	29.84	-0.15	1.5	11.7	3.3	83.5	293.0	29.0
	6/18/13 11:49	29.82	0	0.0	12.8	5.0	82.1	0.0	0.0
	6/19/13 11:43	29.01	-0.004	0.0	13.7	4.3	81.9	0.0	0.0
	6/25/14 16:10	29.72	0.018	0.0	13.7	1.2	85.0	0.0	0.0
	10/13/14 17:00	29.55	-0.013	4.9	16.5	0.0	78.7	-	97.0
	11/6/14 16:24	29.93	0.033	0.0	1.2	18.9			
	2/26/15 13:25	30	0.014	0.0	7.2	3.5		-	-
	5/12/15 12:10	29.63	0	**7.6**	6.5	10.3	75.3		100.0
GP-34	5/22/13 13:54	29.81	0.005	**22.0**	9.2	0.0	-	395.0	-
	6/18/13 8:21	29.77	0.004	**12.1**	10.1	0.0	77.7	0.0	-
	6/25/14 10:40	29.83	0.025	**13.7**	8.7	0.0	77.8	0.0	-
	9/2/14 15:40	29.63	0.005	**11.6**	11.1	0.0	77.3	-	100.0
	10/13/14 0:00	29.55	0.045	**11.9**	11.2	0.0	76.9	-	100.0
	2/26/15 12:40	29.99	0.033	1.5	12.8	0.0		-	-
	5/12/15 10:45	29.69	-0.011	**25.7**	11.5	0.0	63.0		100.0
GP-35	5/22/13 14:31	29.81	0	3.4	4.7	0.0	-	600.0	70.0
	6/18/13 14:04	29.79	0.006	1.0	4.6	0.0	94.3	0.0	20.0
	6/19/13 8:32	29.81	-0.006	1.6	5.4	0.6	92.4	0.0	30.0
	6/25/14 11:05	29.82	0.022	1.7	4.0	0.0	94.0	0.0	34.0
	9/2/14 10:45	29.71	0.008	4.1	4.9	0.0	90.9	-	81.0
	10/13/14 14:20	29.6	0.02	**5.4**	5.1	0.0	89.4	-	100.0
	11/6/14 17:02	29.93	-0.041	**6.7**	5.2	0.0			
	2/26/15 12:28	30.1	0	0.9	5.0	0.0			
	5/12/15 10:15	29.69	0	2.1	4.9	0.0	93.0		41.0
GP-36	5/22/13 16:05	29.81	0	0.5	13.4	0.0	-	173.0	12.0
	6/18/13 16:01	29.76	-0.004	0.0	15.0	0.4	84.5	0.0	0.0
	6/19/13 13:10	29.77	-0.006	0.0	15.8	0.6	83.5	0.0	0.0
	6/25/14 11:45	29.82	0.019	0.8	13.8	0.0	85.4	0.0	15.0
	9/2/14 11:35	29.72	0.8	2.2	17.1	0.0	80.7	-	44.0
	10/13/14 14:40	29.6	0.026	4.6	18.9	0.0	76.5	-	91.0
	2/26/15 12:05	30.1	-0.005	0.6	14.8	0.0			
	5/12/15 9:50	29.69	0	4.7	14.5	0.0	80.7		
MH-1 (2 ft below rim)	5/22/13 18:28	29.8	-	0.2	0.1	21.3	78.2	36.0	3.0
MH-1 (4 ft below rim)	5/22/13 18:28	29.8	-	0.2	0.0	21.8	77.9	0.0	2.0
MH-1 (6 ft below rim)	5/22/13 18:28	29.8	-	0.1	0.0	21.7	77.9	0.0	2.0
MH-1 (3ft Below rim)	10/13/14 0:00	29.6	-	0.0	0.4	20.3	79.2	-	2.0
MH-2 (2ft)	5/22/13 18:01	29.8	-	0.2	0.1	20.6	78.4	4.0	3.0
	6/25/14 15:40	29.72	-	0.0	0.0	20.3	79.6	0.0	0.0
Screening Level[2]				**5.0**	NA	NA			100

NOTES:

Results in **bold** denote that monitoring results are equal to or greater the Lower Explosive Limit.

- denotes no data available.

[1] Monitoring Locations are those identified for compliance monitoring in Appendix C, Compliance Monitoring Plan, to the *Interim Action Work Plan, South Park Landfill Site, Seattle, Washington* , prepared by Farallon Consulting, L.L.C. and issued February 22, 2013.

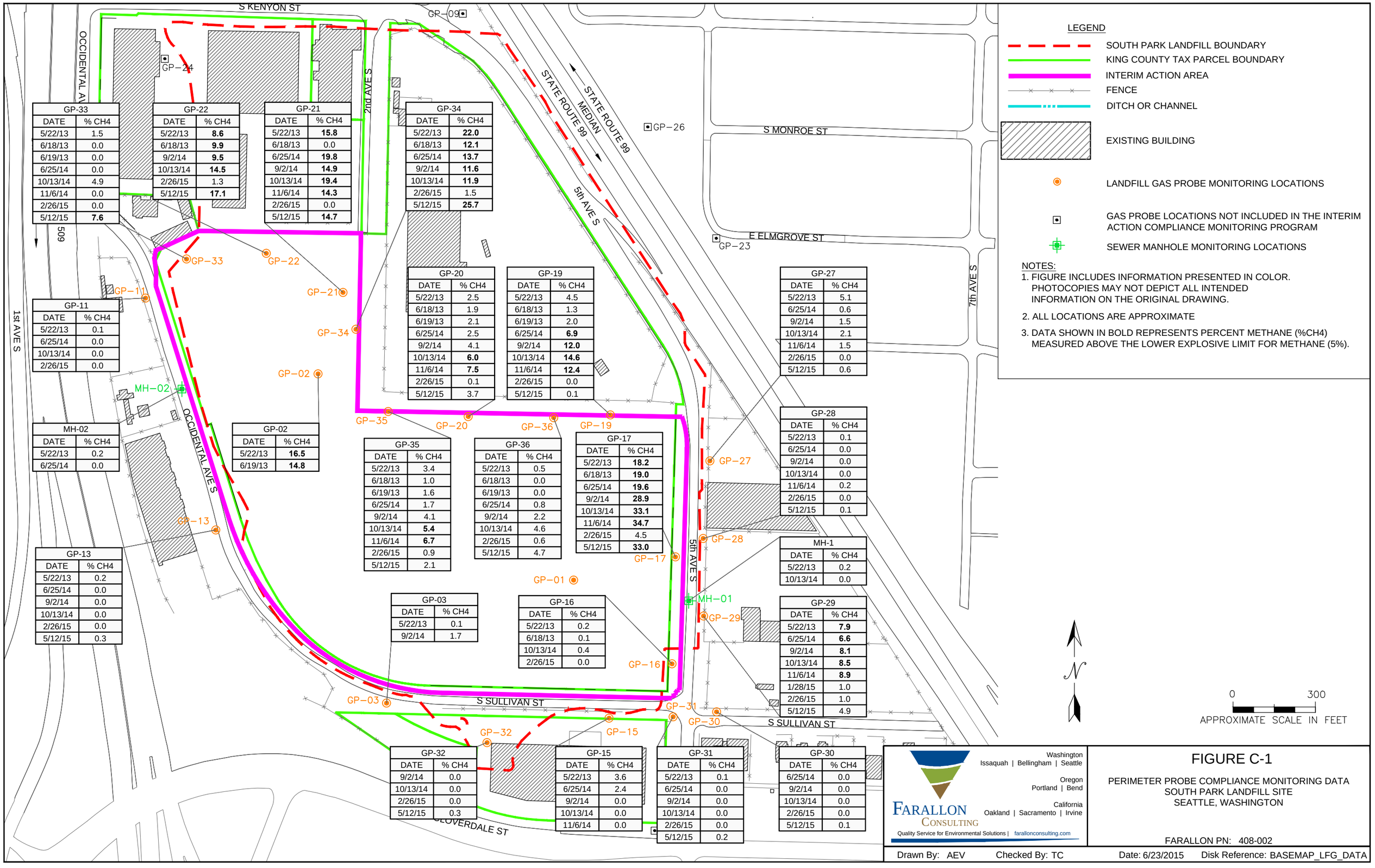
[2] Monitoring data following May 22, 2013 were collected by Farallon Consulting, LLC. All prior data were collected by Floyd Snider; Aspect Consulting LLC; Associated Earth Sciences, Inc; Herrera Environmental Consultants, Inc.; and King County Solid Waste Division.

[3] Barometric pressure data following May 22, 2013 were collected by Farallon Consulting, LLC using the GEM 2000.

[4] Well head pressure was measured using the Dwyer 475-2-FM Series 475 MK III Handheld Digital Manometer.

[5] All data following May 22, 2013 were collected by Farallon Consulting, LLC Landfill using the GEM 2000, calibrated prior to monitoring.

% = percent
CH = methane
CO_2 = carbon monoxide
CO_2 = carbon dioxide
H_2O = water
Hg = mercury
in. = inches
LEL = lower explosive limit
LFG = landfill gas
O = oxygen
ppm = parts per million



GP-33	
DATE	% CH4
5/22/13	1.5
6/18/13	0.0
6/19/13	0.0
6/25/14	0.0
10/13/14	4.9
11/6/14	0.0
2/26/15	0.0
5/12/15	**7.6**

GP-22	
DATE	% CH4
5/22/13	**8.6**
6/18/13	**9.9**
9/2/14	**9.5**
10/13/14	**14.5**
2/26/15	1.3
5/12/15	**17.1**

GP-21	
DATE	% CH4
5/22/13	**15.8**
6/18/13	0.0
6/25/14	**19.8**
9/2/14	**14.9**
10/13/14	**19.4**
11/6/14	**14.3**
2/26/15	0.0
5/12/15	**14.7**

GP-34	
DATE	% CH4
5/22/13	**22.0**
6/18/13	**12.1**
6/25/14	**13.7**
9/2/14	**11.6**
10/13/14	**11.9**
2/26/15	1.5
5/12/15	**25.7**

GP-11	
DATE	% CH4
5/22/13	0.1
6/25/14	0.0
10/13/14	0.0
2/26/15	0.0

GP-20	
DATE	% CH4
5/22/13	2.5
6/18/13	1.9
6/19/13	2.1
6/25/14	2.5
9/2/14	4.1
10/13/14	**6.0**
11/6/14	**7.5**
2/26/15	0.1
5/12/15	3.7

GP-19	
DATE	% CH4
5/22/13	4.5
6/18/13	1.3
6/19/13	2.0
6/25/14	**6.9**
9/2/14	**12.0**
10/13/14	**14.6**
11/6/14	**12.4**
2/26/15	0.0
5/12/15	0.1

GP-27	
DATE	% CH4
5/22/13	5.1
6/25/14	0.6
9/2/14	1.5
10/13/14	2.1
11/6/14	1.5
2/26/15	0.0
5/12/15	0.6

MH-02	
DATE	% CH4
5/22/13	0.2
6/25/14	0.0

GP-02	
DATE	% CH4
5/22/13	**16.5**
6/19/13	**14.8**

GP-35	
DATE	% CH4
5/22/13	3.4
6/18/13	1.0
6/19/13	1.6
6/25/14	1.7
9/2/14	4.1
10/13/14	**5.4**
11/6/14	**6.7**
2/26/15	0.9
5/12/15	2.1

GP-36	
DATE	% CH4
5/22/13	0.5
6/18/13	0.0
6/19/13	0.0
6/25/14	0.8
9/2/14	2.2
10/13/14	4.6
2/26/15	0.6
5/12/15	4.7

GP-17	
DATE	% CH4
5/22/13	**18.2**
6/18/13	**19.0**
6/25/14	**19.6**
9/2/14	**28.9**
10/13/14	**33.1**
11/6/14	**34.7**
2/26/15	4.5
5/12/15	**33.0**

GP-28	
DATE	% CH4
5/22/13	0.1
6/25/14	0.0
9/2/14	0.0
10/13/14	0.0
11/6/14	0.2
2/26/15	0.0
5/12/15	0.1

GP-13	
DATE	% CH4
5/22/13	0.2
6/25/14	0.0
9/2/14	0.0
10/13/14	0.0
2/26/15	0.0
5/12/15	0.3

MH-1	
DATE	% CH4
5/22/13	0.2
10/13/14	0.0

GP-03	
DATE	% CH4
5/22/13	0.1
9/2/14	1.7

GP-16	
DATE	% CH4
5/22/13	0.2
6/18/13	0.1
10/13/14	0.4
2/26/15	0.0

GP-29	
DATE	% CH4
5/22/13	**7.9**
6/25/14	**6.6**
9/2/14	**8.1**
10/13/14	**8.5**
11/6/14	**8.9**
1/28/15	1.0
2/26/15	1.0
5/12/15	4.9

GP-32	
DATE	% CH4
9/2/14	0.0
10/13/14	0.0
2/26/15	0.0
5/12/15	0.3

GP-15	
DATE	% CH4
5/22/13	3.6
6/25/14	2.4
9/2/14	0.0
10/13/14	0.0
11/6/14	0.0

GP-31	
DATE	% CH4
5/22/13	0.1
6/25/14	0.0
9/2/14	0.0
10/13/14	0.0
2/26/15	0.0
5/12/15	0.2

GP-30	
DATE	% CH4
6/25/14	0.0
9/2/14	0.0
10/13/14	0.0
2/26/15	0.0
5/12/15	0.1

LEGEND

- SOUTH PARK LANDFILL BOUNDARY
- KING COUNTY TAX PARCEL BOUNDARY
- INTERIM ACTION AREA
- FENCE
- DITCH OR CHANNEL
- EXISTING BUILDING
- LANDFILL GAS PROBE MONITORING LOCATIONS
- GAS PROBE LOCATIONS NOT INCLUDED IN THE INTERIM ACTION COMPLIANCE MONITORING PROGRAM
- SEWER MANHOLE MONITORING LOCATIONS

NOTES:

1. FIGURE INCLUDES INFORMATION PRESENTED IN COLOR. PHOTOCOPIES MAY NOT DEPICT ALL INTENDED INFORMATION ON THE ORIGINAL DRAWING.
2. ALL LOCATIONS ARE APPROXIMATE
3. DATA SHOWN IN BOLD REPRESENTS PERCENT METHANE (%CH4) MEASURED ABOVE THE LOWER EXPLOSIVE LIMIT FOR METHANE (5%).

FARALLON CONSULTING
Quality Service for Environmental Solutions | farallonconsulting.com

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend

California
Oakland | Sacramento | Irvine

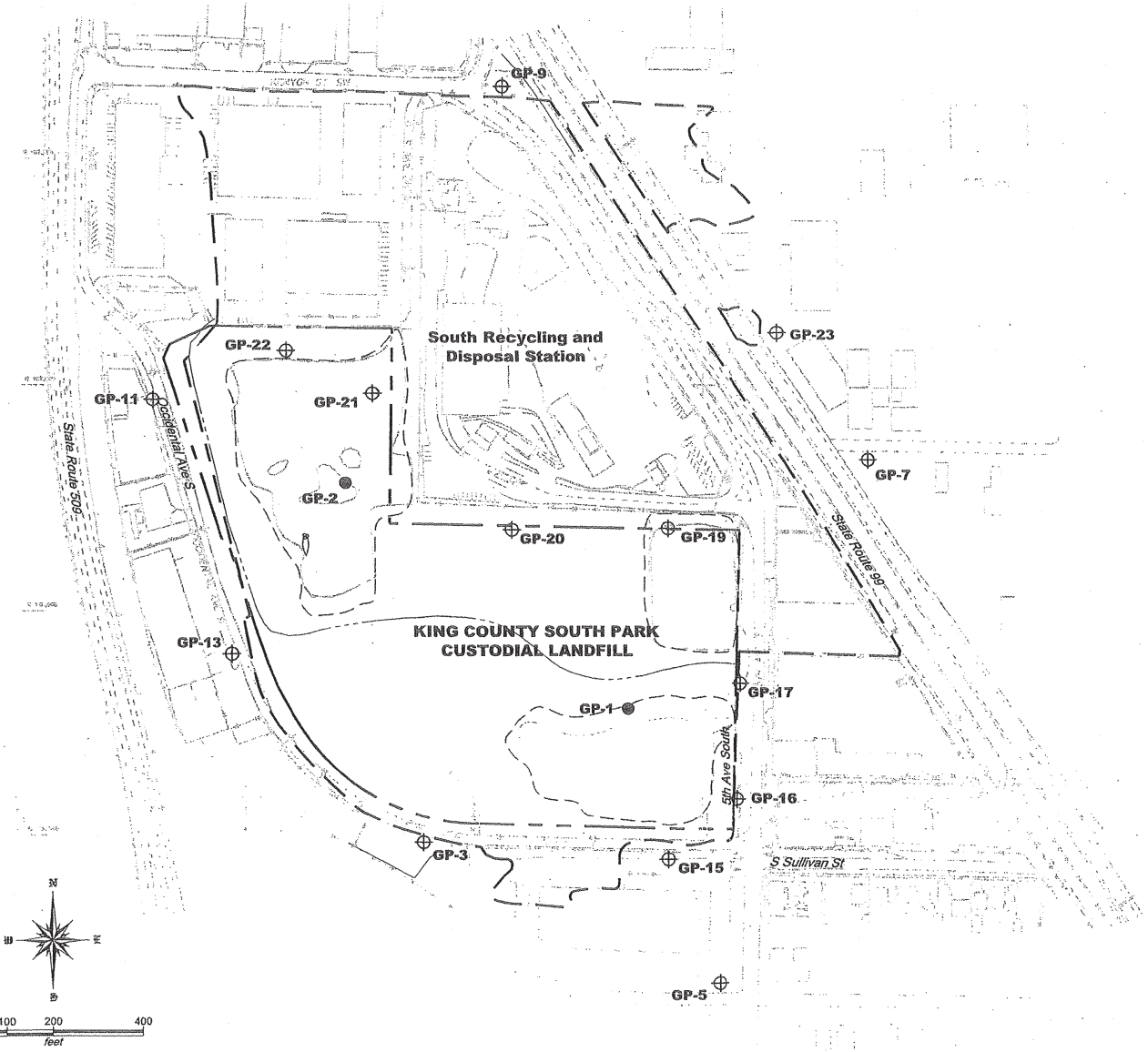
FIGURE C-1

PERIMETER PROBE COMPLIANCE MONITORING DATA
SOUTH PARK LANDFILL SITE
SEATTLE, WASHINGTON

FARALLON PN: 408-002

Drawn By: AEV Checked By: TC Date: 6/23/2015 Disk Reference: BASEMAP_LFG_DATA

Historical Gas Probes



LEGEND

- Landfill Boundary (Approximate, based on air photo interpretation and soil borings).
- King County Property Line
- Ditch (Approximate, based on basemap and air photo).
- AESI Gas Probes - 14 Locations
- Udaloy Environmental Services Gas Probes - Installed April, 1997- 2 Locations

REFERENCE: BASE MAP AND TOPOGRAPHY BY DEGROSS AERIAL MAPPING, 5/7/97

Gas Probe Location Map

South Park Custodial Landfill
KING COUNTY, WASHINGTON

PROJECT NO. VB9741G
FIGURE NO. 4-1

DATE: 12/29/99
DESIGNED/DRWN: JJS/HXT

ASSOCIATED EARTH SCIENCES, INC

vb9741b-22.dwg xrefs vb97461-13d.dwg 12/29/99 1:1

Udaloy Environmental Services

SOIL BORING LOG

CLIENT/PROJECT NAME: King County / South Park Landfill
PROJECT #: A19-001-01
GEOLOGIST/ENGINEER: B. Carpenter / H. Corner
DRILLING CONTRACTOR: Hokkaido
DRILLING METHOD: Hollow Stem Auger / Mobile B-61
HOLE DIA.: 10"

BORING NO.: SB-1 AKA
DATE BEGAN: 4/14/97
DATE COMPLETED: 4/14/97
TOTAL DEPTH: 29'
SHEET: 1 OF 1

WATER LEVEL DATA				
DEPTH	22.45			
TIME				
DATE	4/14/97			
BORING DEPTH	29'			

FIELD LOCATION OF BORING: NW Corner of South truck storage area.
GROUND ELEVATION:
DATUM:

OTHER: H&S Monitoring

WELL OR PIEZOMETER DETAILS	SAMPLING METHOD	SAMPLE NUMBER	BLOWS/FT	DEPTH SAMPLED	DEPTH IN FEET	SOIL GROUP SYMBOL (USCS)	LITHOLOGIC DESCRIPTION
PID / OVA							
Gas well (GW-1) 2" pvc; Bent Seal; 10-20 Sand; 20 slot; 10'-20' Sand; Bentonite Chips; Backfill		SB1-1			0		
	SS-3"		15		2	Sm	Dark Brown silty SAND, fine, poorly graded with gravel and cobbles, Fill
8.5/0			17/21		4		silty SAND, with asphalt, Fill
					6		
	SS-3"		11		8		silty SAND, with charcoal wood waste
9/0			25/30		10		
					12		
0/0	SS-3"		50/1"		14		No recovery, wood waste w/creosote in tip of split spoon
					16		
	SS-3"		50/1"		18		No recovery. Drilling became easier (Possibly out of gravel into SILT)
0/0					20		
					22		
39/1	SS-3"		11		24	ML	Grey-Brown Sandy SILT with some plant matter
			11/19				
					26		
	SS-3"		50/1"		28	SP	No recovery. Used 2" Sampler for Second attempt. Black fine to medium SAND with trace of silt, poorly graded
	SS-2"		16/24				
			50/5"		30		

REMARKS: Backfilled borehole with Pure Gold medium bentonite chips from 29' to 17'. Added 2' of 10x20 sand from 17 to 15'. Well string 14' 9" set at 15'. Screen (10'-20' slot)
*No detection of Vinyl chloride or benzene with detector tubes (Sensidyne Pump) at 4'

*NOTE Specify data recorded in undesignated column (e.g. conductance, pH, tip reading, pocket torvane, etc.) Elevated PID possibly caused by moisture. Raining periodically

APR 23 '97 08:14

AKA: GP-02

Udaloy Environmental Services

SOIL BORING LOG

CLIENT/PROJECT NAME: King County Solid Waste Div/South Parks PROJECT #: A19-001-01
GEOLOGIST/ENGINEER: B. Carpenter / T. Treat
DRILLING CONTRACTOR: Holt Services
DRILLING METHOD: Hollow Stem Auger / Mobile B-61 HOLE DIA.: 10"

BORING NO.: SB-2
DATE BEGAN: 4/15/97
DATE COMPLETED: 4/15/97
TOTAL DEPTH: 15'
SHEET: 1 OF 1

FIELD LOCATION OF BORING: E of TP-11, Grove of trees, S. Central area Truck Storage yard - North
GROUND ELEVATION: Property
DATUM:

WATER LEVEL DATA

DEPTH	14.20			
TIME	10:00			
DATE	4/15/97			
BORING DEPTH	15'			

OTHER	WELL OR PIEZOMETER DETAILS	SAMPLING METHOD	SAMPLE NUMBER	BLOWS/FT	DEPTH SAMPLED	DEPTH IN FEET	SOIL GROUP SYMBOL (USCS)	LITHOLOGIC DESCRIPTION
Field PID 0.0	GW-2 2" pvc			3" Split Spoon				
PID 0.0	0.0	Grab	SB2-1		1.5'	0	SM	Brown-grey silty SAND, fine to medium, with gravel, cobbles. Fill.
PID 0.0	Bentonite			30/6"		2		Brown-grey silty SAND, fill mixed with pieces of charred wood and refuse
				50/2"		4		
	10-20 Sand					6		
PID 20				11/6"		8		Brown-grey silty SAND, Fill mixed with refuse including wood waste.
				6/5		10		
	20 slot					12		
PID 150				50/4"		14		No Recovery, wood waste in tip of sampler
						16		Total Depth 15' (Reached auger refusal on large piece of steel?)

REMARKS: Set gas well at 14' resting on 12" (8-12 Colorado Sand). Well SB2 is 13'9" long, 10' of 20 slot PVC, 3'9" of blank PVC. Used 5 bags of 10-20 sand (100 lbs) and 1 bag of 8-12 Sand (50 lb.) and 2 bags of bentonite chips. PH - 6.85 SC - 1688

*NOTE: Specify data recorded in undesignated column (e.g. conductance, pH, tip reading, pocket torvane, etc.) Water Sample

APR 23 '97 08:15

Figure A-16

AKA: GP-03

ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-3	1 of 1

Project Name: South Park Custodial Landfill
Location: King County
Drilling Method: Hollow Stem Auger, 10.5" OD/6" ID
Sampling Method: 3" diameter, Split Spoon Sampler, 140 lb hammer

Surface Elevation: 20.15
Water Depth (ft bgs):
Start Date: December 3, 1998
Finish Date: December 3, 1998

Depth feet	Gas Probe Construction	Methane	ST	Blows/ 6"	Sample ID	Mtl. Graphic	Description
0	Locking 8" steel monument, PVC stopcock						FILL
1	Concrete seal						SANDY SILT; brown; small brick chips; moist, stiff; no odors or discoloration (ML)
2	Riser, 0.75" ID, SCH 80 PVC						
3	Bentonite chip seal	0%		8 12 16			
4							
5		0%		6 14 11			SAND; brown; trace to some silt; moist to wet; medium dense; no odors or discoloration (SP)
6	Filter pack, pea gravel Well screen 0.75" ID, SCH 80 PVC, 0.04" slot size						
7	ATD 12/3/98 0.75" ID PVC end cap						Bottom of boring at depth 7 feet. Gas Probe installed to depth 7 feet.
8							
9							

Sampler Type (ST):
- 3" Split Spoon Sampler
- No Recovery
- 2 " Split Spoon Sampler

Lab Tests:
C - Chemical Properties
M - Moisture Content

Water Level (Date of Measurement)
Water Level (ATD)

Logged by: RSB
Approved by: JJS

SPARKGP SPARKMW.GPJ January 3, 2000

AKA - GP-05

Geologic & Gas Probe Construction Log

ASSOCIATED EARTH SCIENCES, INC

Project Number	Well Number	Sheet
BV97041	GP-5	1 of 1

Project Name	South Park Custodial Landfill	Surface Elevation	17.35
Location	King County	Water Depth (ft bgs)	
Drilling Method	Hollow Stem Auger, 10.5" OD/6" ID	Start Date	December 4, 1998
Sampling Method	3" diameter, Split Spoon Sampler, 140 lb hammer	Finish Date	December 4, 1998

Depth feet	Gas Probe Construction	Methane	ST	Blows/ 6"	Sample ID	Mll. Graphic	Description
0	Locking 8" steel monument, PVC stopcock						FILL
							GRAVEL; gray; angular (GP)
1	Concrete seal						SILT; brown; trace gravel, some sand; moist, soft; no odors or discoloration (ML)
2	Riser, 0.75" ID, SCH 80 PVC						
		0%		5			
				4			
3	Bentonite chip seal			5			
							SILT; gray-brown; very moist, firm, high plasticity; no odors or discolorations (ML)
4							
5	Filter pack, pea gravel						
6	Well screen 0.75" ID, SCH 80 PVC, 0.04" slot slize						
7	0.75" ID PVC end cap	0%		2			-Bottom of boring at depth 7 feet. Gas probe installed to depth 7 feet.
				7			
				6			- Soil sampler driven using 140-pound hammer falling 30-inches.
				7			
8				12			- Soil samples are logged from adjacent Monitoring Well MW-6.
							- Shelby tube sampling attempted from 7 feet to 9.5 feet with no sample recovery
							- No groundwater encountered.
9							

Sampler Type (ST):
- 3" Split Spoon Sampler
- No Recovery
- 2 " Split Spoon Sampler

Lab Tests:
- C - Chemical Properties
- M - Moisture Content

Water Level (Date of Measurement)
Water Level (ATD)

Logged by: RSB
Approved by: JJS

Figure No. 18

PARKGP SPARKMW.GPJ J. 3, 2000

AKA GP-07

ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-7	1 of 1

Project Name: South Park Custodial Landfill
Location: King County
Drilling Method: Hollow Stem Auger, 10.5" OD/6" ID
Sampling Method:

Surface Elevation: 12.88
Water Depth (ft bgs):
Start Date: December 8, 1998
Finish Date: December 8, 1998

Depth feet	Gas Probe Construction	Methane	ST	Blows/ 6"	Sample ID	Mtl. Graphic	Description
0	Locking 8" steel monument, PVC stopcock						FILL
0							GRAVEL; gray; angular (GP)
1	Concrete seal						SILTY SANDY GRAVEL; brown; subrounded to 1" diameter; moist, medium dense (GM)
2	Riser, 0.75" ID, SCH 80 PVC						
2	Bentonite chip seal			16			
3		0%		16			
3				15			
4	Filter pack, pea gravel						
4	Well screen 0.75" ID, SCH 80 PVC, 0.04" slot size						
4	0.75" ID PVC end cap						
5							Bottom of boring at depth 4.5 feet. Gas Probe installed to depth 4.5 feet. No groundwater encountered. Soil samples are logged from adjacent Monitoring Well MW-8.
6							
7							
8							
9							

Sampler Type (ST):
- 3" Split Spoon Sampler
- No Recovery
- 2 " Split Spoon Sampler

Lab Tests:
C - Chemical Properties
M - Moisture Content
Water Level (Date of Measurement)

Logged by: RSB
Approved by: JJS

PARKGP SPARKMW.GPJ January 3, 2000

ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-9	1 of 1

Project Name: South Park Custodial Landfill
Location: King County
Drilling Method: Hollow Stem Auger, 10.5" OD/6" ID
Sampling Method:

Surface Elevation: 17.7
Water Depth (ft bgs):
Start Date: December 10, 1998
Finish Date: December 10, 1998

Depth feet	Gas Probe Construction	Methane	ST	Blows/ 6"	Sample ID	Mtl. Graphic	Description
1	Locking 8" steel monument, PVC slopcock						FILL SAND; fine to medium grained, trace silt; loose (SP)
	Concrete seal						
2	Riser, 0.75" ID, SCH 80 PVC						
		0%		5 10 11			
3	Bentonite chip seal						
4							
5				4 3 10			
							RECENT ALLUVIUM SILT; gray; wood debris; moist, firm, low plasticity (ML)
6	Well screen 0.75" ID, SCH 80 PVC, 0.04" slot size						
7	Filter pack, pea gravel						SAND; fine to medium grained, trace silt; moist, medium dense (SP)
		0%					
8							
9	0.75" ID PVC end cap						Bottom of boring at depth 9 feet. Gas probe installed to depth 9 feet. Soil samples are logged from adjacent Monitoring Well MW-10.

Sampler Type (ST):
- 3" Split Spoon Sampler
- No Recovery
- 2 " Split Spoon Sampler

Lab Tests:
- C - Chemical Properties
- M - Moisture Content
- Water Level (Date of Measurement)
- Water Level (ATD)

Logged by: RSB
Approved by: JJS

Figure No. 20

SPARKGP SPARKMW.GF
ary 3, 2000

ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-11	1 of 1

Project Name: South Park Custodial Landfill
Location: Seattle, Washington
Drilling Method: Hollow Stem Auger 10.5" OD/6" ID
Sampling Method: No samples - log inferred from MW-12

Surface Elevation: 19.09
Water Depth (ft bgs): 6.5
Start Date: September 20, 1999
Finish Date: September 20, 1999

Depth feet	Gas Probe Construction	Methane %	ST	Blows/ 6"	Sample ID	Mtl. Graphic	Description
0	Locking, 8" Steel Monument						FILL
1	Concrete seal						Firm, moist; brown and tan mottled SILT
2		0					
3	Bentonite chips						
4	Filter pack, pea gravel						Loose, moist; red-brown to black with depth SAND; silty interbeds sand fine to coarse
5	Well screen 2" ID SCH 40 PVC, 0.04" slot size	0					
6	PVC slip cap, 55 screws; 6.5 ft bgs (ATD), 9/20/99						Bottom of Boring at 6 feet. Gas probe installed to depth of 5.8 feet.
7							
8							
9							

Sampler Type (ST):
- 2" Split Spoon Sampler
- No Recovery
- 3 " Split Spoon Sampler

Lab Tests:
- G - Grain Size
- M - Moisture Content
- Water Level (Date of Measurement)
- Water Level (ATD)

Logged by: RRH
Approved by: JJS

Figure No. A - 21

SPARKGP SPRK9_99.GPJ February 29, 2000

ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-13	1 of 1

Project Name	South Park Custodial Landfill	Surface Elevation	19.09
Location	Seattle, Washington	Water Depth (ft bgs)	4.5
Drilling Method	Hollow Stem Auger 10.5" OD/6" ID	Start Date	September 14, 1999
Sampling Method	No samples - log inferred from MW-14	Finish Date	September 14, 1999

Depth feet	Gas Probe Construction	Methane %	ST	Blows/ 6"	Sample ID	Mtl. Graphic	Description
0	Locking, 8" Steel Monument						TOPSOIL Loose, moist; dark brown SAND with SILT and ORGANICS; concrete and bricks in cutting
1	Concrete seal						
2							FILL/DEMOLITION DEBRIS Medium dense, damp; brown SAND with SILT and GRAVEL; with brick
3	Bentonite chips						
4	Filter pack, pea gravel Well screen 2" ID SCH 40 PVC, 0.04" slot size						
5	4.5 ft bgs ATD, 9/14/99, casing at 4.5 ft bgs	0					Bottom of Boring at 4.5 feet. Gas probe installed to depth of 4.5 feet.
6							
7							
8							
9							

Sampler Type (ST):
- 2" Split Spoon Sampler
- No Recovery
- 3 " Split Spoon Sampler

Lab Tests:
- G - Grain Size
- M - Moisture Content
- Water Level (Date of Measurement)
- Water Level (ATD)

Logged by: RRH
Approved by: JJS

Figure No. A - 22

SPARKGP SPRK9_99.C
January 29, 2000

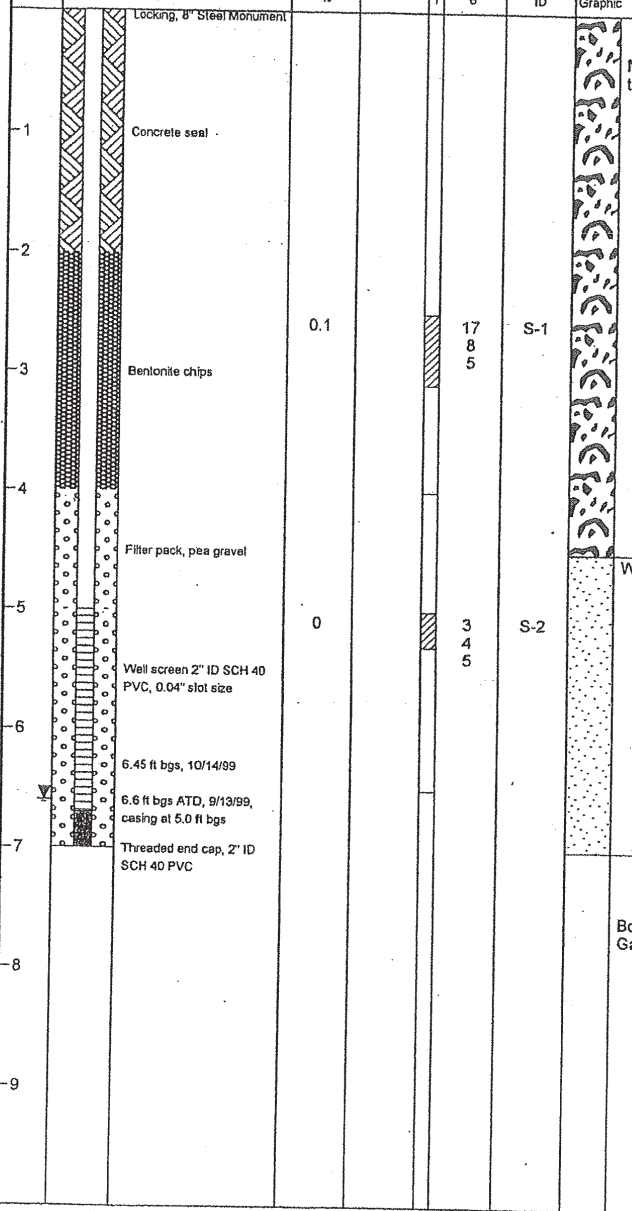
ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-15	1 of 1

Project Name: South Park Custodial Landfill
Location: Seattle, Washington
Drilling Method: Hollow Stem Auger 8" OD/4" ID
Sampling Method: 2" diameter, Split Spoon Sampler, 140 lb hammer, 30-inch drop

Surface Elevation: 12.72
Water Depth (ft bgs): 6.6
Start Date: September 13, 1999
Finish Date: September 13, 1999



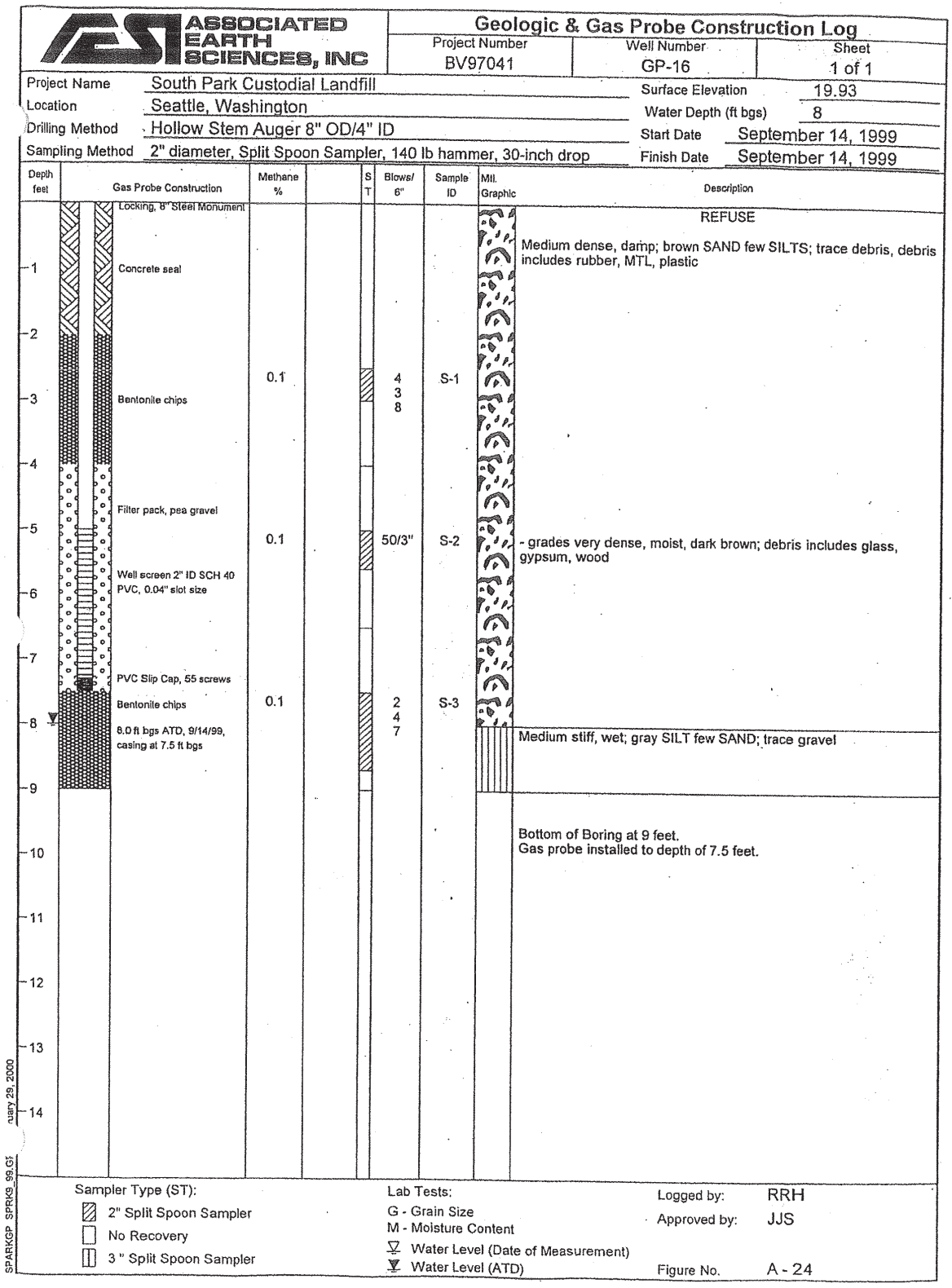
Sampler Type (ST):
- 2" Split Spoon Sampler
- No Recovery
- 3 " Split Spoon Sampler

Lab Tests:
- G - Grain Size
- M - Moisture Content
- Water Level (Date of Measurement)
- Water Level (ATD)

Logged by: RRH
Approved by: JJS

Figure No. A - 23

SPARKGP SPRK9_99.GPJ February 29, 2000


ASSOCIATED EARTH SCIENCES, INC
Geologic & Gas Probe Construction Log
Project Number BV97041
Well Number GP-16
Sheet 1 of 1
Project Name South Park Custodial Landfill
Location Seattle, Washington
Drilling Method Hollow Stem Auger 8" OD/4" ID
Sampling Method 2" diameter, Split Spoon Sampler, 140 lb hammer, 30-inch drop
Surface Elevation 19.93
Water Depth (ft bgs) 8
Start Date September 14, 1999
Finish Date September 14, 1999
Depth feet
Gas Probe Construction
Methane %
ST
Blows/ 6"
Sample ID
Mll. Graphic
Description
Locking, 8" Steel Monument
Concrete seal
Bentonite chips
Filter pack, pea gravel
Well screen 2" ID SCH 40 PVC, 0.04" slot size
PVC Slip Cap, 55 screws
Bentonite chips
8.0 ft bgs ATD, 9/14/99, casing at 7.5 ft bgs
0.1
0.1
0.1
4
3
8
50/3"
2
4
7
S-1
S-2
S-3
REFUSE
Medium dense, damp; brown SAND few SILTS; trace debris, debris includes rubber, MTL, plastic
- grades very dense, moist, dark brown; debris includes glass, gypsum, wood
Medium stiff, wet; gray SILT few SAND; trace gravel
Bottom of Boring at 9 feet.
Gas probe installed to depth of 7.5 feet.
Sampler Type (ST):
2" Split Spoon Sampler
No Recovery
3 " Split Spoon Sampler
Lab Tests:
G - Grain Size
M - Moisture Content
Water Level (Date of Measurement)
Water Level (ATD)
Logged by: RRH
Approved by: JJS
Figure No. A - 24
SPARKGP SPRK9_99.GF January 29, 2000

ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-17	1 of 1

Project Name: South Park Custodial Landfill
Location: Seattle, Washington
Drilling Method: Hollow Stem Auger 8" OD/4" ID
Sampling Method: 2" diameter, Split Spoon Sampler, 140 lb hammer, 30-inch drop

Surface Elevation: 21.11
Water Depth (ft bgs): 14
Start Date: September 13, 1999
Finish Date: September 13, 1999

Depth feet	Gas Probe Construction	Methane %	ST	Blows/ 6"	Sample ID	Mtl. Graphic	Description
	Locking, 8" Steel Monument						REFUSE
1	Concrete seal						Medium dense, damp; brown SAND with GRAVEL; few silt, trace wood, trace glass debris
2							
3	Hydrated bentonite chips	0		11 12 4	S-1		
4							
5	Filter pack, pea gravel	0		4 3 35	S-2		- grades dense, moist, 40% debris (concrete, brick, gypsum, metal, glass)
6							
7	Well screen 2" ID SCH 40 PVC, 0.04" slot size						Very dense, moist; brown GRAVEL with SAND; est. 50% construction debris (brick, concrete, glass, rusted metal)
8		0		10 28 27	S-3		
9							
10	Threaded end cap, 2" ID SCH 40 PVC	0.2		50/3"	S-4		- grades trace gravel
11							
12	Bentonite chips						
13		0.1		1 1 3	S-5		Soft, wet; gray SILT; trace organics
14	14 ft bgs ATD, 9/13/99, casing at 12.5 feet						- grades brown organic silt Bottom of Boring at 14 feet. Gas probe installed to depth of 10.35 feet.

Sampler Type (ST):
- 2" Split Spoon Sampler
- No Recovery
- 3 " Split Spoon Sampler

Lab Tests:
G - Grain Size
M - Moisture Content
Water Level (Date of Measurement)
Water Level (ATD)

Logged by: RRH
Approved by: JJS

Figure No. A - 25

SPARKGP SPRKG_99.GPJ February 29, 2000

ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-19	1 of 1

Project Name	South Park Custodial Landfill	Surface Elevation	24.16
Location	Seattle, Washington	Water Depth (ft bgs)	13.97
Drilling Method	Hollow Stem Auger 8" OD/4" ID	Start Date	September 15, 1999
Sampling Method	2" diameter, Split Spoon Sampler, 140 lb hammer, 30-inch drop	Finish Date	September 15, 1999

Depth feet	Gas Probe Construction	Methane %	ST	Blows/ 6"	Sample ID	Mtl. Graphic	Description
	Locking, 8" Steel Monument						REFUSE
	Concrete seal						Medium dense, damp SAND with GRAVEL; trace silt over newsprint (church literature, no date)
		0		4 3 9	S-1		
	Hydrated bentonite chips						
5							
	Filter pack, pea gravel						- yellow pages with wood
		0		7 8 6	S-2		
	Well screen 2" ID SCH 40 PVC, 0.04" slot size						
10		0		6 8 5	S-3		- 70 - 80% wood, paper with trace metal and plastic, possibly charred
	Threaded end cap, 2" ID SCH 40 PVC						
		0		6 6 3	S-4		
	Bentonite chips						
	13.97 ft bgs ATD, 9/15/99, casing at 15 feet						
15		0		5 3 4	S-5		
							Firm, wet; gray SILT with GRAVEL; few sand
							Bottom of Boring at 16.5 feet. Gas probe installed to depth of 12.3 feet.

Sampler Type (ST):
- 2" Split Spoon Sampler
- No Recovery
- 3 " Split Spoon Sampler

Lab Tests:
- G - Grain Size
- M - Moisture Content

- Water Level (Date of Measurement)
- Water Level (ATD)

Logged by: RRH
Approved by: JJS

Figure No. A - 26

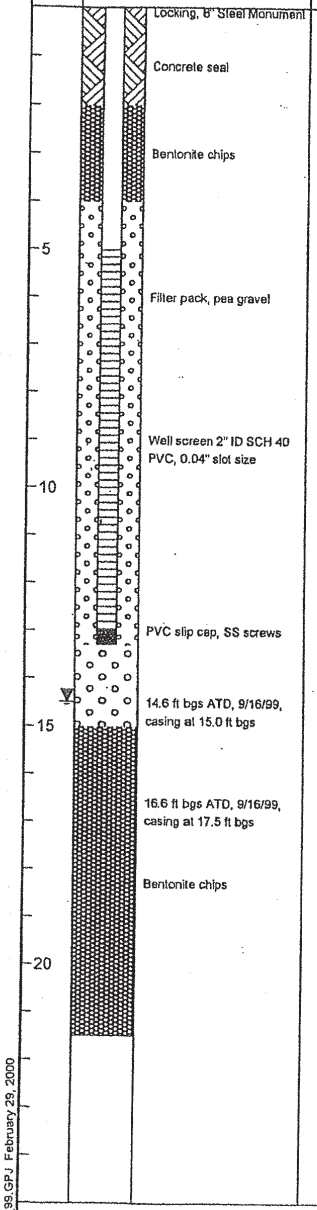
SPARKGP_SPRK9_99.GP
uary 29, 2000

Geologic & Gas Probe Construction Log

ASSOCIATED EARTH SCIENCES, INC

Project Number	Well Number	Sheet
BV97041	GP-20	1 of 1

Project Name	South Park Custodial Landfill	Surface Elevation	26.37
Location	Seattle, Washington	Water Depth (ft bgs)	14.5
Drilling Method	Hollow Stem Auger 10.5" OD/6" ID	Start Date	September 16, 1999
Sampling Method	2" diameter, Split Spoon Sampler, 140 lb hammer, 30-inch drop	Finish Date	September 16, 1999



Depth feet	Gas Probe Construction	Methane %	ST	Blows/ 6"	Sample ID	Mll. Graphic	Description
							Concrete rubble at surface
							REFUSE
		0		15 19 15	S-1		Concrete and rubble cuttings; dense, damp, brown SAND; little GRAVEL; 30% wood, metal, paper debris
		0		6 8 23	S-2		- grades moist, dark brown to gray, few silt; 50% debris, wood, metal, paper, glass, ash present
		0		5 6 27	S-4		- wood and brick pieces, no soil
		0.1		12 5 6	S-5		- grades medium dense, wet; black sand with gravel
		0.1		16 9 7	S-6		
							Firm, wet; brown SILT some ORGANICS; trace sand
		0		4 3 4	S-7		
							Bottom of Boring at 21.5 feet. Gas probe installed to depth of 13.3 feet.

Sampler Type (ST):
- 2" Split Spoon Sampler
- No Recovery
- 3 " Split Spoon Sampler

Lab Tests:
- G - Grain Size
- M - Moisture Content
- Water Level (Date of Measurement)
- Water Level (ATD)

Logged by: RRH
Approved by: JJS

Figure No. A - 27

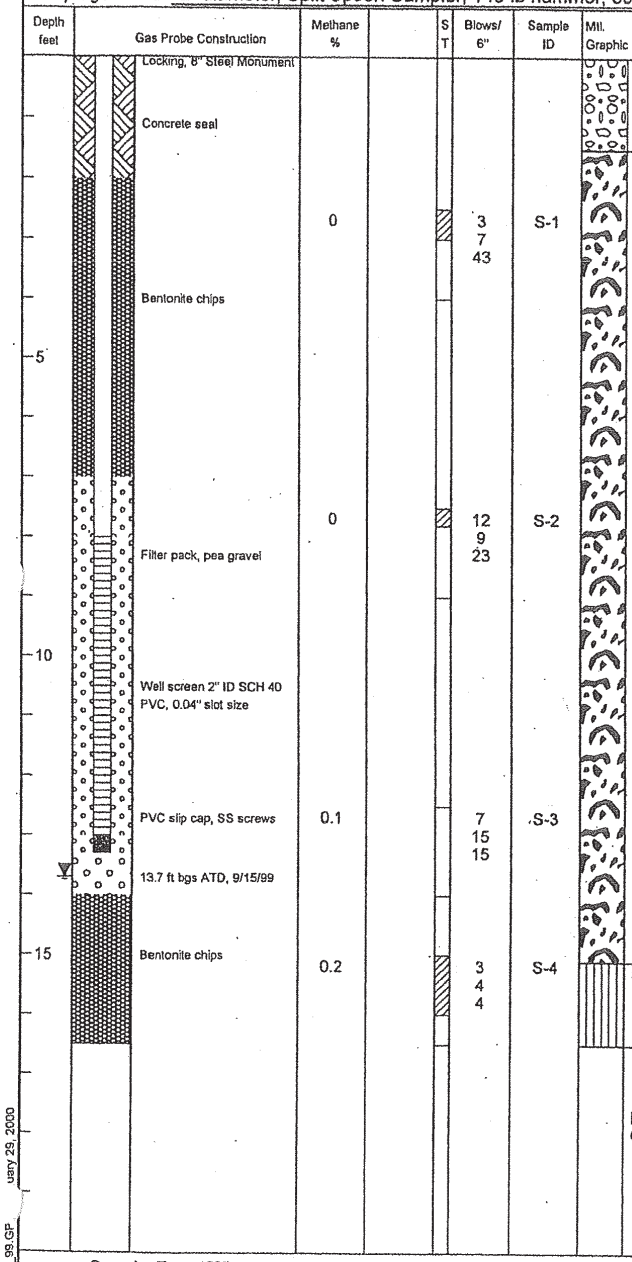
SPARKGP_SPRK9_99.GPJ February 29, 2000

Geologic & Gas Probe Construction Log

ASSOCIATED EARTH SCIENCES, INC

Project Number	Well Number	Sheet
BV97041	GP-21	1 of 1

Project Name	South Park Custodial Landfill	Surface Elevation	23.37
Location	Seattle, Washington	Water Depth (ft bgs)	13.7
Drilling Method	Hollow Stem Auger 10.5" OD/6" ID	Start Date	September 15, 1999
Sampling Method	2" diameter, Split Spoon Sampler, 140 lb hammer, 30-inch drop	Finish Date	September 15, 1999



Depth feet	Methane %	ST	Blows/ 6"	Sample ID	Mll. Graphic	Description
						GRAVEL with SAND
						REFUSE
	0		3 7 43	S-1		Very dense, moist; dark brown to black SAND with GRAVEL and SILT; 40-50% wood and trace metal, plastic, and paper
						- cuttings gernerally 90% wood, trace metal, rubber, and paper
	0		12 9 23	S-2		- 90% wood with few sand, trace silt
						- drills easier at 11 feet
	0.1		7 15 15	S-3		
	0.2		3 4 4	S-4		Stiff, wet; brown SILT with 30% ORGANICS
						Bottom of Boring at 16.5 feet. Gas probe installed to depth of 13.3 feet.

Sampler Type (ST):
- 2" Split Spoon Sampler
- No Recovery
- 3 " Split Spoon Sampler

Lab Tests:
- G - Grain Size
- M - Moisture Content
- Water Level (Date of Measurement)
- Water Level (ATD)

Logged by: RRH
Approved by: JJS
Figure No. A - 28

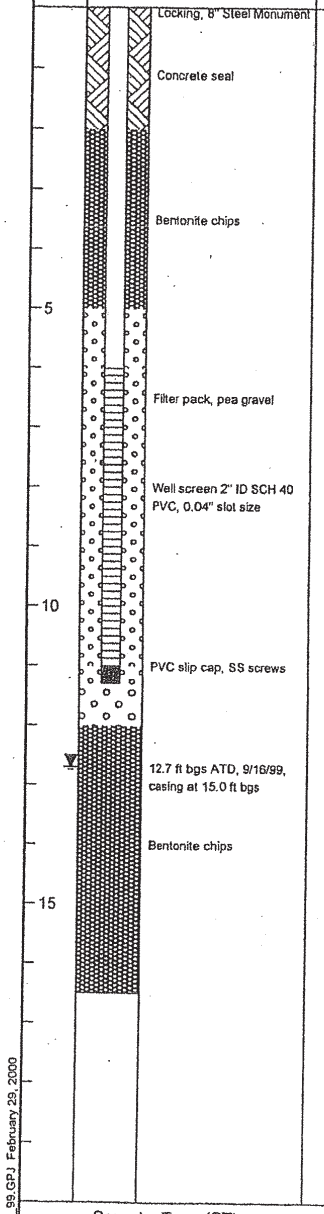
uary 29, 2000 SPARKGP SPRK9_99.GP

ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-22	1 of 1

Project Name	South Park Custodial Landfill	Surface Elevation	21.94
Location	Seattle, Washington	Water Depth (ft bgs)	12.7
Drilling Method	Hollow Stem Auger 10.5" OD/6" ID	Start Date	September 16, 1999
Sampling Method	2" diameter, Split Spoon Sampler, 140 lb hammer, 30-inch drop	Finish Date	September 16, 1999



Depth feet	Methane %	ST	Blows/ 6"	Sample ID	Mtl. Graphic	Description
						REFUSE
						Medium dense, moist; dark brown SAND with GRAVEL and DEBRIS; debris includes wood, metal, plastic, copper wire
						- cuttings contain steel, plastic, wood, trace paper, fiberglass roofing
	0		14 19 4	S-1		
						Medium dense, moist SAND with SILT; 80% wood, trace glass; low recovery
	0		6 5 7	S-2		
						Medium dense, moist SAND little GRAVEL; est. 50% wood, metal, plastic; low recovery
	0.1		6 4 9	S-3		
	0.2		26 8 2	S-4		- no recovery
						- firm? no recovery - driving on wood
	0.1		14 4 4	S-5		
						Bottom of boring at 16.5 feet. Gas probe installed to depth of 11.3 feet.

Sampler Type (ST):
- 2" Split Spoon Sampler
- No Recovery
- 3 " Split Spoon Sampler

Lab Tests:
- G - Grain Size
- M - Moisture Content
- Water Level (Date of Measurement)
- Water Level (ATD)

Logged by: RRH
Approved by: JJS

Figure No. A - 29

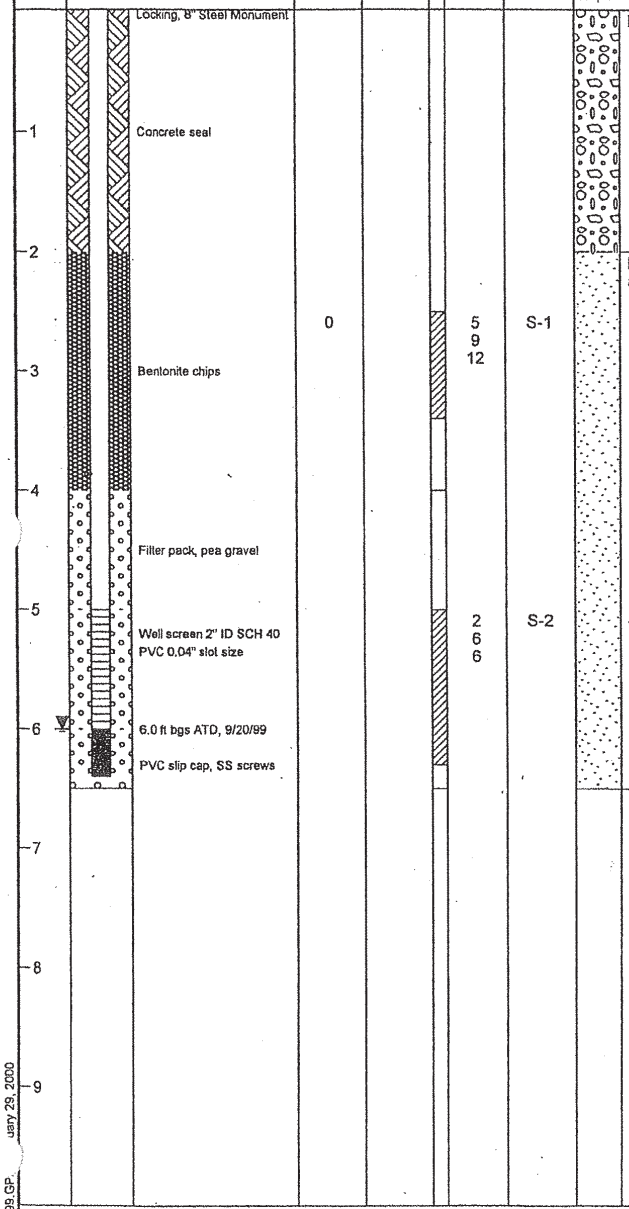
SPARKGP SPRK9_99.GPJ February 29, 2000

ASSOCIATED EARTH SCIENCES, INC

Geologic & Gas Probe Construction Log

Project Number	Well Number	Sheet
BV97041	GP-23	1 of 1

Project Name	South Park Custodial Landfill	Surface Elevation	10.51
Location	Seattle, Washington	Water Depth (ft bgs)	6
Drilling Method	Hollow Stem Auger 10.5" OD/6" ID	Start Date	September 20, 1999
Sampling Method	2" diameter, Split Spoon Sampler, 140 lb hammer, 30-inch drop	Finish Date	September 20, 1999



Depth feet	Methane %	ST	Blows/ 6"	Sample ID	Mtl. Graphic	Description
0						Dense, dry; brown GRAVEL; little SAND, few silt
2	0		5 9 12	S-1		Medium dense, damp; dark red-brown SAND; sand fine to medium and angular
5			2 6 6	S-2		- grades damp to wet, dark brown to black sand
6.5						Bottom of boring at 6.5 feet. Gas probe installed to depth of 6.3 feet.

Sampler Type (ST):
- 2" Split Spoon Sampler
- No Recovery
- 3 " Split Spoon Sampler

Lab Tests:
- G - Grain Size
- M - Moisture Content
- Water Level (Date of Measurement)
- Water Level (ATD)

Logged by: RRH
Approved by: JJS

Figure No. A - 30

SPARKGP SPRKG_99.GP. uary 29, 2000

RI/FS Gas Probes

HERRERA ENVIRONMENTAL CONSULTANTS

GAS PROBE BORING LOG

Probe ID: GP-24
Total depth: 10
Sheet 1 **of** 1

Project name: South Park LF
Project number: 10-04850-000
Client: SPU
Drilling contractor: Cascade
Drilling method: Push probe
Sampling method: 4' probe sampler
Location: Kenyon Business Park between truck bays A1/A2, 14' E.
HEC rep: B. Carpenter
Date: 1/18/2011

PID (ppm)	Sample Type, Interval	% Recovery	Depth (feet, BGS)	Soil Group	Water Level (feet)	Soil Description	Probe Details
	Hand dug 2 feet		1	SM		Asphalt/crushed rock Brown, silty SAND, brick fragments, fill, damp	Concrete seal, 0'-1'
			2	Fill		Buff colored cement kiln dust, fill, damp	3/4-inch diameter schedule 40 PVC casing, 0'-5'
0	2-foot probe sample	100	3				Hydrated bentonite chips, 1'-4'
			4			Buff colored cement kiln dust, fill, damp	
0	4-foot probe sample	100	5				#2/12 sand filter pack, 4'-10'
			6				3/4-inch diameter schedule 40 PVC 10-slot prepacked screen, 5'-10'
			7		ATD **		
			8	ML / Fill	7.0'	Black sandy SILT, brick fragments, 3-inch piece of rubber, fill, wet	
–	2-foot probe sample	No recovery	9				
			10				PVC endcap
			11			Bottom of boring at 10 feet below ground surface. Soil vapors were measured in bore hole using GEM 2000 gas analyzer CH_4: 1.2% CO_2: 0.1% O_2: 19.5% BAL: 79.2% H_2S: 0.0 ppm	
			12				
			13				
			14				
			15				
			16				

* Photoionization Detector

** ATD – at time of drilling

HERRERA ENVIRONMENTAL CONSULTANTS

GAS PROBE BORING LOG

Probe ID: GP-25
Total depth: 10’
Sheet 1 **of** 1

Project name: South Park LF
Project number: 10-04850-000
Client: SPU
Drilling contractor: Cascade
Drilling method: Push probe
Sampling method: 4’ probe sampler
Location: Kenyon Business Park ~58’ E. of truck bay A10
HEC rep: B. Carpenter
Date: 1/18/2011

PID (ppm)	Sample Type, Interval	% Recovery	Depth (feet, BGS)	Soil Group	Water Level (feet)	Soil Description	Probe Details
	Hand dug 2 feet		1			Asphalt / crushed rock	Concrete seal, 0’-1’
				SM		Brown silty SAND, brick fragments, damp	
			2	Fill		Buff colored cement kiln dust, damp, fill	3/4-inch diameter schedule 40 PVC casing, 0’-5’
0	2-foot probe sample	100	3				Hydrated bentonite chips, 1’-4’
			4				
			5				#2/12 sand filter pack, 4’-10’
				ML		Brown sandy SILT, brick fragments, damp	3/4-inch diameter schedule 40 PVC 10-slot prepacked screen, 5’-10’
0	4-foot probe sample	60	6	SM / Fill		Black silty SAND, concrete, wood, very damp, fill	
			7		ATD ** 7.0’		
			8				
				SP		Black medium SAND, wet	
0	2-foot probe sample	100	9	MH		Gray-brown clayey SILT, organic material, wood, damp	
			10				PVC endcap
			11			Bottom of boring at 10 feet below ground surface. Soil vapors were measured in borehole using GEM 2000 gas analyzer. CH_4: 0.4% CO_2: 0.1% O_2: 20.4% BAL: 79.1% H_2S: 0.0 ppm	
			12				
			13				
			14				
			15				
			16				

* Photoionization Detector

** ATD – at time of drilling

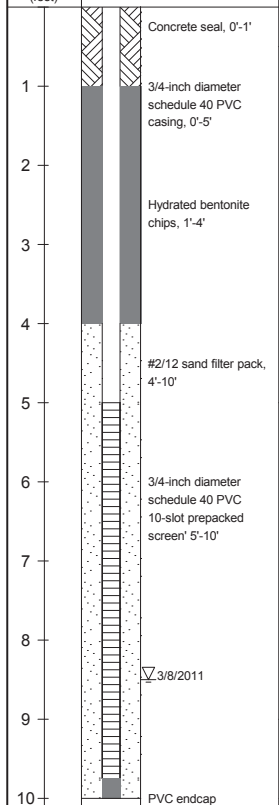
Boring Log

Aspect CONSULTING

Project Number	Boring Number	Sheet
100166	GP-26	1 of 1

Project Name: South Park Landfill
Location: Seattle, WA
Driller/Method: Cascade Drilling / Direct Push Probe
Sampling Method: Continuous Core

Ground Surface Elev: 16.10' NAVD88
Depth to Water (ft BGS): 8.5' BGS (ATD)
Start/Finish Date: 3/8/2011



Depth / Elevation (feet)	Sample Type/ID	Tests	PID (ppm)	Drive/ Recovery	Material Type	Description	Depth (ft)
0–5	S-1		0.0			Moist, gray, sandy, very gravelly SILT (ML) with cobbles; poor recovery due to cobbles	0–5
5–7	S-2		0.0			Moist, dark gray to black, SAND (SP); fine to medium sand Wet Iron oxide staining	5–7
10						Bottom of boring at 10' below ground surface. Soil vapors were measured using GEM 2000 gas analyzer: CH4: 00.0% CO2: 01.8% O2: 18.8% BAL: 79.4% H2S: 0.0 ppm	10

Sampler Type:
- No Recovery
- Continuous Core

PID - Photoionization Detector (Headspace Measurement)
- Static Water Level
- Water Level (ATD)

Logged by: AET
Approved by: JJS

ENV BORING LOG SOUTH PARK LANDFILL 100116.GPJ December 1, 2011

HERRERA ENVIRONMENTAL CONSULTANTS

GAS PROBE BORING LOG

Probe ID: GP-27
Total depth: 14'
Sheet 1 **of** 1

Project name: South Park LF
Project number: 10-04850-000
Client: SPU
Drilling contractor: Cascade
Drilling method: Push probe
Sampling method: 4' probe sampler
Location: ~200' N. of GP-28 on 5th (E. side)
HEC rep: B. Carpenter
Date: 1/18/2011

PID (ppm)	Sample Type, Interval	% Recovery	Depth (feet, BGS)	Soil Group	Water Level (feet)	Soil Description	Probe Details
	Hand dug 2 feet		1			Gravel/fill	Concrete seal, 0'-1'
			2	ML		Olive gray sandy SILT, tr. clay, damp	3/4-inch diameter schedule 40 PVC casing, 0'-9'
0	2-foot probe sample	100	3				Hydrated bentonite chips, 1'-7'
			4				
			5				
			6	Fill		Concrete fill	
0	4-foot probe sample	100	7	ML / Refuse		Dark brown sandy SILT, glass, concrete, brick fragments, fill, damp	
			8			Refuse	#2/12 sand filter pack, 7'-14'
			9				
			10				3/4-inch diameter schedule 40 PVC 10-slot prepacked screen, 9'-14'
0	4-foot probe sample	100	11				
			12	SP	ATD **	Black medium SAND, damp wet	
			13		12.0'		
0	2-foot probe sample	75	14	MH		Brown clayey SILT, damp	PVC endcap
			15			Bottom of boring at 14 ft below ground surface Soil vapors were measured in borehole using GEM 2000 gas analyzer. CH_4: 0.6% CO_2: 0.9% O_2: 18.9% BAL: 79.6% H_2S: 0.0 ppm	
			16				

* Photoionization Detector

** ATD – at time of drilling

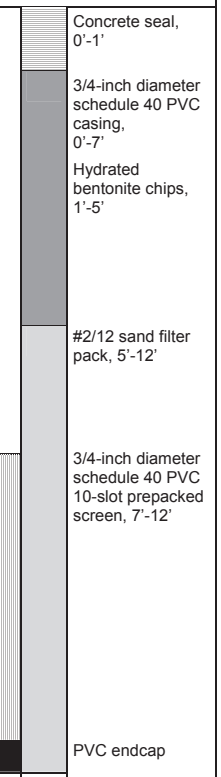
HERRERA ENVIRONMENTAL CONSULTANTS

GAS PROBE BORING LOG

Probe ID: GP-28
Total depth: 12'
Sheet 1 **of** 1

Project name: South Park LF
Project number: 10-04850-000
Client: SPU
Drilling contractor: Cascade
Drilling method: Push probe
Sampling method: 4' probe sampler
Location: ~200' N. of GP-27 on 5th (E. side)
HEC rep: B. Carpenter
Date: 1/17/2011

PID (ppm)	Sample Type, Interval	% Recovery	Depth (feet, BGS)	Soil Group	Water Level (feet)	Soil Description
	Hand dug, 2 feet		1			Grass/topsoil
			2	SW / Fill		Brown gravelly SAND, tr. silt, damp, several brick fragments, fill material
0	2-foot probe sample	100	3	Fill		Buff colored cement kiln dust, damp, fill material
			4			
0	4-foot probe sample	75	5			
			6			
			7			
			8	ML / Fill		Wood – 4 inches, dark-gray-brown clayey SILT, brick fragments, glass 1 inch, fill material, piece of white ceramic material
0	2-foot probe sample	100	9			
			10	SP	ADT ** 9.4'	Very dark brown-black medium SAND, wet
0	2-foot probe sample	100	11			
			12			
			13			Bottom of boring at 12 feet below ground surface Soil vapors were measured in borehole using GEM 2000 gas analyzer. CH_4: 0.3% CO_2: 0.1% O_2: 20.5% BAL: 79.1% H_2S: 0.0 ppm
			14			
			15			
			16			



* Photoionization Detector

** ADT – at time of drilling

HERRERA ENVIRONMENTAL CONSULTANTS

GAS PROBE BORING LOG

Probe ID: GP-29
Total depth: 10’
Sheet 1 **of** 1

Project name: South Park LF
Project number: 10-04850-000
Client: SPU
Drilling contractor: Cascade
Drilling method: Push probe
Sampling method: 4’ probe sampler
Location: ~220’ N. of GP-30 on E. side of 5th
HEC rep: B. Carpenter
Date: 1/17/2011

PID (ppm)	Sample Type, Interval	% Recovery	Depth (feet, BGS)	Soil Group	Water Level (feet)	Soil Description	Probe Details
	Hand dug, 2 feet		1			Grass/topsoil	Concrete seal, 0’-1’
			2	SM		Brown silty SAND, damp	3/4-inch diameter schedule 40 PVC casing, 0’-5’
0	2-foot probe sample	100	3	SM / Refuse		Brown silty SAND, broken glass, brick fragments, refuse, damp	
			4	SW / Refuse		Very dark brown to black, gravelly SAND, brick fragments, glass, damp	Hydrated bentonite chips, 1’-4’
0	4-foot probe sample	25	5			Black gravelly SAND, brick fragments, wood, piece of a sneaker, refuse, damp	#2/12 sand filter pack, 4’-10’
			6				3/4-inch diameter schedule 40 PVC 10-slot prepacked screen, 5’-10’
			7				
			8		ADT **		
					8.0’		
0	2-foot probe sample	100	9			Wood, window/door screen, fill, wet	
			10	SP		Black medium SAND, wet	PVC endcap
			11			Bottom of boring at 10 ft. below ground surface	
			12			Soil vapors were measured in borehole using GEM 2000 gas analyzer.	
			13			CH_4: 0.3% CO_2: 0.1% O_2: 20.5% BAL: 79.1% H_2S: 0.0 ppm	
			14				
			15				
			16				

* Photoionization Detector

** ADT – at time of drilling

HERRERA ENVIRONMENTAL CONSULTANTS

GAS PROBE BORING LOG

Probe ID: GP-30
Total depth: 10’
Sheet 1 **of** 1

Project name: South Park LF
Project number: 10-04850-000
Client: SPU
Drilling contractor: Cascade
Drilling method: Push probe
Sampling method: 4’ probe sampler
Location: NE corner of Sullivan and 5th
HEC rep: B. Carpenter
Date: 1/17/2011

PID (ppm)	Sample Type, Interval	% Recovery	Depth (feet, BGS)	Soil Group	Water Level (feet)	Soil Description	Probe Details
	Hand dug 2 feet		1			Grass/topsoil	Concrete seal, 0’-1’
			2			Brown fine silty SAND, tr. gravel, damp	3/4-inch diameter schedule 40 PVC casing, 0’-5’
0	2-foot probe sample	80	3				
			4	SM	ADT ** 3.8’		Hydrated bentonite chips, 1’-4’
0	4-foot probe sample	50	5			Black silty SAND, wet	#2/12 sand filter pack, 4’-10’
			6				3/4-inch diameter schedule 40 PVC 10-slot prepacked screen, 5’-10’
			7				
			8	SW		Black fine to medium SAND, wet	
0	2-foot probe sample	50	9				
			10	MH		Dark brown-gray clayey SILT, damp	PVC endcap
			11			Bottom of boring at 10 ft. below ground surface Soil vapors were measured in borehole using GEM 2000 gas analyzer CH_4: 0.3% CO_2: 0.1% O_2: 20.5% BAL: 79.1% H_2S: 0.0 ppm	
			12				
			13				
			14				
			15				
			16				

* Photoionization Detector

** ADT – at time of drilling

HERRERA ENVIRONMENTAL CONSULTANTS

GAS PROBE BORING LOG

Probe ID: GP-31
Total depth: 10’
Sheet 1 **of** 1

BCM-944 (Ecology Well Tag)

Project name: South Park LF
Project number: 10-04850-000
Client: SPU
Drilling contractor: Cascade
Drilling method: Push probe
Sampling method: 4’ probe sampler
Location: SW corner of Sullivan and 5th
HEC rep: B. Carpenter
Date: 1/17/2011

PID (ppm)	Sample Type, Interval	% Recovery	Depth (feet, BGS)	Soil Group	Water Level (feet)	Soil Description	Probe Details
	Hand dug, 2 feet		1			Asphalt Crushed rock, fill	Concrete seal, 0’-1’
			2	SP		Brown medium SAND, trace gravel, damp	3/4-inch diameter schedule 40 PVC casing, 0’-5’
0	2-foot probe sample	75	3				
			4				Hydrated bentonite chips, 1’-4’
			5		ADT **		#2/12 sand filter pack, 4’-10’
					4.3’		
0	4-foot probe sample	50	6			Brown medium SAND, trace gravel, wet	3/4-inch diameter schedule 40 PVC 10-slot prepacked screen, 5’-10’
			7				
			8	ML		Brown-black gravelly SILT, wet	
0	2-foot probe sample	100	9	GP		Gray to black pea gravel, fill, wet	
			10	ML		Dark brown gravelly SILT, wet	PVC endcap
			11			Bottom of boring at 10 feet below ground surface Soil vapors were measured in borehole using GEM 2000 gas analyzer. CH_4: 0.3% CO_2: 0.1% O_2: 20.5% BAL: 79.1% H_2S: 0.0 ppm	
			12				
			13				
			14				
			15				
			16				

* Photoionization Detector

** ADT – at time of drilling

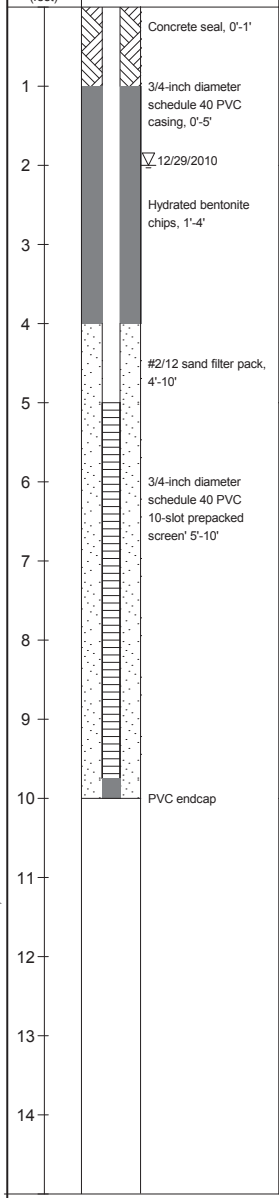
Boring Log

Aspect CONSULTING

Project Number	Boring Number	Sheet
100166	GP-32	1 of 1

Project Name: South Park Landfill
Location: Seattle, WA
Driller/Method: Cascade Drilling, LP / Direct Push Probe
Sampling Method: Continuous Core

Ground Surface Elev: 13.22' NAVD88
Depth to Water: 1.74' BGS
Start/Finish Date: 12/29/2010



Depth / Elevation (feet)	Depth (ft)	Description
0	0	Asphalt. Cored and hand dug to 2' to clear asphalt and soil to set monument.
1–3	1–3	Wet, gray, gravelly SAND (SP); fine to medium sand.
3–5	3–5	Wet, dark brown, organic SILT (OL). Wood and white ceramic debris Green glass shards.
5–7	5–7	Wood debris
7–8	7–8	Wet, white and black layered, unknown fill material (FILL); rotton egg odor.
8–10	8–10	Moist, dark brown, slightly clayey SILT (ML); with abundant organics.
10	10	Bottom of boring at 10' below ground surface. Soil vapors were measured using GEM 2000 gas analyzer: CH4: 00.1% CO2: 00.1% O2: 19.8% BAL: 80.1% H2S: 0.0 ppm

Sampler Type:
- No Recovery
- Continuous Core

PID - Photoionization Detector (Headspace Measurement)
- Static Water Level
- Water Level (ATD)

Logged by: AET
Approved by: JJS

Log of Boring: GP-33

Client: South Park Property
Project: South Park Landfill
Location: South Park, WA

Farallon PN: 408-002

Logged By: Ken Scott

Date/Time Started:	5/15/13 @ 09:10	**Sampler Type:**	5' Macrocore
Date/Time Completed:	5/15/13 @ 09:40	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 6600	**Depth of Water ATD (ft bgs):**	9.7'
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	15'
Drilling Foreman:	Don Harnden	**Total Well Depth (ft bgs):**	10'
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed
0		0.0-2.8' Sandy SILT Fill (70% silt, 30% sand), fine sand, dark brown, moist, no odor, no sheen.	ML	80	NA	0.0		
		2.8-3.6' Poorly graded SAND with gravel Fill (75% sand, 20% gravel, 5% silt), fine to medium sand, fine to coarse gravel, whitish-grey, moist, no odor, no sheen. Observed angular grey gravel fill.	SP					
5		3.6-8.2' Silty SAND Fill (65% sand, 25% silt, 10% gravel), fine to medium sand, fine to coarse gravel, brown, moist, no odor, no sheen. Observed red brick debris.	SM	70	NA	0.0		
		8.2-8.9' SILT with sand Fill (80% silt, 20% sand), fine sand, reddish-brown, moist, no odor, no sheen.	ML					
10		8.9-12.5' Sandy SILT Fill (60% silt, 35% sand, 5% gravel), fine sand, fine gravel, brown, moist to wet at 9.7-feet bgs, slight odor, no sheen. Measured water height using water level indicator. Observed brick debris to 12-feet bgs.	ML	60	NA	0.0		
		12.5-14.0' Silty SAND (70% sand, 30% silt), fine sand, brown, wet, odor, no sheen.	SM					
		14.0-15.0' SILT (100% silt), olive-grey, wet, slight odor, no sheen.	ML					
15								

Riser
Concrete
Bentonite
Sand
Screen
End cap
Water level
Fill

Well Construction Information

Monument Type:	3.2' Riser	**Filter Pack:**	2/12 silica sand	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	3/4"	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	5.0 to 10.0' bgs	**Boring Abandonment:**	NA		**Y:** NA

Log of Boring: GP-34

Client: South Park Property
Project: South Park Landfill
Location: South Park, WA

Farallon PN: 408-002

Logged By: Ken Scott

Date/Time Started:	5/15/13 @ 11:45	**Sampler Type:**	5' Macrocore
Date/Time Completed:	5/15/13 @ 12:15	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 6600	**Depth of Water ATD (ft bgs):**	13.5'
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	15'
Drilling Foreman:	Don Harnden	**Total Well Depth (ft bgs):**	15'
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-2.5' Silty SAND with gravel Fill (65% sand, 20% silt, 15% gravel), fine to medium sand, fine gravel, tan, moist, no odor, no sheen. Observed cloth, and rag debris.	SM							Riser
		2.5-2.9' Poorly graded SAND Fill (95% sand, 5% silt), fine to medium sand, tan, moist, no odor, no sheen.	SP		90	NA	0.0			Concrete
		2.9-3.2' SILT Fill (100% silt), black, moist, no odor, no sheen.	ML							
		3.2-4.5' WOOD Fill (100% wood), brown, moist, no odor, no sheen.	WD							Bentonite
5		4.5-6.0' Clay Fill (100% clay), red, moist, no odor, no sheen. The clay material is from crushed red brick debris.	CL							
		6.0-12.3' Sandy SILT Fill (60% silt, 30% sand, 10% wood), fine sand, black, moist to slight wet at 9.8-feet bgs, no odor, no sheen. Observed paper, and glass debris between 10 to 12.3-feet bgs.	ML		25	NA	0.0			Sand
10										Screen
		12.3-12.7' CONCRETE Fill (100% concrete), white, dry, no odor, no sheen.	CO		90	NA	0.0			End cap
		12.7-13.2' Silty SAND Fill (70% sand, 25% silt, 5% gravel), fine to medium sand, fine gravel, black, moist, odor, no sheen. Observed red brick debris at 13.1-feet bgs.	SM ML							Fill Water level
15		13.2-15.0' Sandy SILT (60% silt, 35% sand, 5% gravel), fine to medium sand, fine gravel, black, moist to wet at 13.5-feet bgs, odor, no sheen.								

Well Construction Information

Monument Type:	3.6' Riser	**Filter Pack:**	2/12 silica sand	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	3/4"	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	8.5 to 13.5' bgs	**Boring Abandonment:**	NA		**Y:** NA

Log of Boring: GP-35

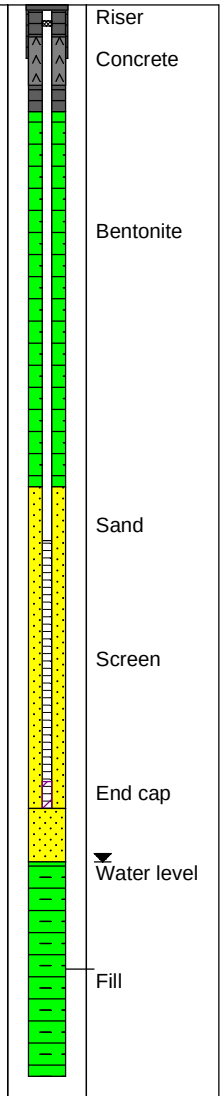
Client: South Park Property
Project: South Park Landfill
Location: South Park, WA

Farallon PN: 408-002

Logged By: Ken Scott

Date/Time Started:	5/15/13 @ 13:50	**Sampler Type:**	5' Macrocore
Date/Time Completed:	5/15/13 @ 14:30	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 6600	**Depth of Water ATD (ft bgs):**	16'
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20'
Drilling Foreman:	Don Harnden	**Total Well Depth (ft bgs):**	15'
Drilling Method:	Direct Push		

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed
0	0..0-0.5' CONCRETE Fill (100% concrete), white, dry, no odor, no sheen. Observed ground up concrete rubble used as road fill.	CO					
	0..5-1.2' CONCRETE Fill (100% concrete), white, dry, no odor, no sheen. Observed larger chunks concrete fill.	CO					
	1.2-3.5' Silty SAND with gravel Fill (65% sand, 20% silt, 15% gravel), fine to medium sand, fine to coarse gravel, light brown, moist, no odor, no sheen.	SM	60	NA	0.0		
	3.5-4.5' SILT Fill (95% silt, 5% sand), fine sand, black, moist, no odor, no sheen.	ML					
5	4.5-5.5' Silty SAND Fill (70% sand, 30% silt), fine sand, grey with red-mottling at 4.8-feet bgs, moist, no odor, no sheen. Observed red brick debris at 4.8-feet bgs.	SM					
	5.5-6.5' Sandy SILT Fill (60% silt, 20% sand, 20% wood), fine sand, black, moist, no odor, no sheen. Observe wood debris prior to refusal at 6.5-feet bgs, move 1-foot north, and continue drilling.	ML	75	NA	0.0		
	6.5-8.5' Sandy SILT Fill (60% silt, 20% sand, 20% wood), fine sand, black, moist, slight odor, no sheen.	ML					
10	8.5-9.0' Paste Fill (100% paste), white, medium plastic, moist, no odor, no sheen. Observed white paste (putty-like) lens.	OL					
	9.0-11.6' Silty SAND with gravel Fill (60% sand, 20% silt, 20% gravel), fine to medium sand, fine to coarse gravel, brown to black, moist, odor, no sheen. Observed white (putty-like) paste ribbons, brick, and nail debris. No recovery between 11.6 to 15-feet bgs.	SM	20	NA	0.3		
15	15.0-20.0' Silty SAND with gravel (65% sand, 25% silt, 15% gravel), fine to medium sand, fine to coarse gravel, black, moist to wet at 16-feet bgs, odor, no sheen. Observed red brick debris to 18-feet, appears to be native below 18-feet bgs. Observed water on liner at approximately 16-feet bgs, hole collapsed and could not use water level to monitor. Asked driller to use rods to confirm water at about 16-feet bgs (driller confirmed).	SM	80	NA	0.0		
20							



Well Construction Information

Monument Type:	4.0' Riser	**Filter Pack:**	2/12 silica sand	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	3/4"	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	0.010	**Annular Seal:**	Bentonite	**Surveyed Location:**	**X:** NA
Screened Interval (ft bgs):	10 to 15' bgs	**Boring Abandonment:**	NA		**Y:** NA

Log of Boring: GP-36

Client: South Park Property
Project: South Park Landfill
Location: South Park, WA

Farallon PN: 408-002

Logged By: Ken Scott

Date/Time Started:	5/15/13 @ 15:25	**Sampler Type:**	5' Macrocore
Date/Time Completed:	5/15/13 @ 15:50	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 6600	**Depth of Water ATD (ft bgs):**	15'
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	20'
Drilling Foreman:	Don Harnden	**Total Well Depth (ft bgs):**	15'
Drilling Method:	Direct Push		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed
0		0.0-3.5' Silty SAND Fill (70% sand, 25% silt, 5% gravel), fine to medium sand, fine gravel, light brown, moist, no odor, no sheen. Observed concrete debris.	SM	75	NA	0.0		
5		3.5-8.5' Sandy SILT Fill (65% silt, 30% sand, 5% gravel), fine sand,fine gravel, reddish-brown, moist, no odor, no sheen. Observed plastic, concrete, and red brick debris.	ML	80	NA	0.2		
		8.5-10.0' Sandy SILT Fill (60% silt, 35% sand, 5% gravel), fine to medium sand, fine gravel, reddish-brown to black, moist, odor, no sheen. Observed wood, and red brick debris at 9-feet bgs.	ML					
10		10.0-15.0' No Recovery (0%-recovery). Driller stated hard to push at start than pushed quickly through fill debri.	BLANK	0	NA	NM		
15		15.0-20.0' No Recovery (~2%-recovery). Driller stated hard to push at start than pushed quickly through fill debri. Observed water on liner at 15-feet bgs, hole collapsed and could not monitor water level with meter. Driller used rods to confirm water level about 15-feet bgs. Observed small chunk of wet Silty SAND (70%sand, 20% silt, 5% gravel), fine to medium sand, black, wet, odor, no sheen.	BLANK	2	NA	0.0		
20								

Riser
Concrete
Bentonite
Sand
Screen
End cap
Water level

Well Construction Information

Monument Type: 4.0' Riser
Casing Diameter (inches): 3/4"
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 10 to 15' bgs

Filter Pack: 2/12 silica sand
Surface Seal: Concrete
Annular Seal: Bentonite
Boring Abandonment: NA

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA
Y: NA

APPENDIX D
AS-BUILT DOCUMENTATION, LANDFILL CAP

INTERIM ACTION CONSTRUCTION COMPLETION REPORT
South Park Landfill Site
Seattle, Washington

Farallon PN: 408-002

FIGURE D-1
Gary A. Flowers, P.L.L.C.

APPENDIX D
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 1: Quarry spalls at bottom of east-west bisecting ditch (former East-West Channel)

Photo 2: Backfilling operations atop landfill

APPENDIX D
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 3: Grade raised approximately 12 feet in northeast corner of SPPD Property

Photo 4: Storm water pipe trench through approximately 8 feet of new backfill atop landfill

APPENDIX D
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 5: Finish grading atop landfill. North access road in foreground

Photo 6: Finish grading and compaction atop landfill

APPENDIX D
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 7: Geofoam backfill at east end of bisecting ditch (Former East-West Channel)

Photo 8: Geogrid reinforcement and chemically resistant liner atop Geofoam backfill

APPENDIX D
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 9: Subgrade improvement for gabion wall along south perimeter of SPPD Property

Photo 10: Completed gabion wall, backfill, asphalt walkway and hydro-seeded

APPENDIX D
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 11: Beginning crushed rock installation

Photo 12: Full thickness (12 inches) of crushed rock atop landfill

APPENDIX D
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

\

Photo 13: First 2- inch-thick lift of asphalt concrete cover cap

Photo 14: Low-permeability liner installation on north slope above north access road

APPENDIX D
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 15: Low- permeability liner anchorage at top of slope

Photo 16: Low-permeability liner penetration seal

APPENDIX D
CONSTRUCTION PHOTOGRAPHS
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 17: Asphaltic concrete pavement cover cap and low-permeability liner on north slope above north access road

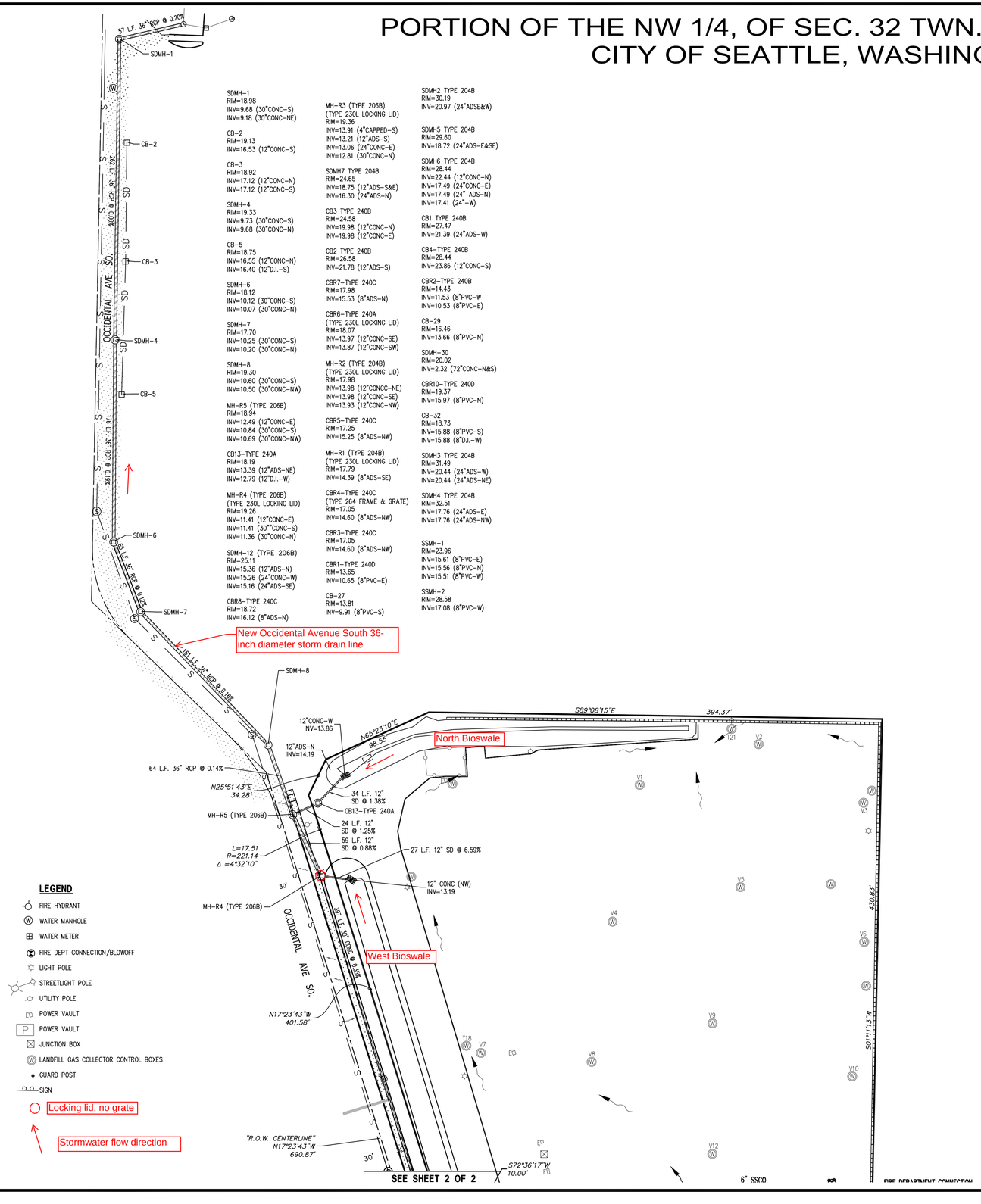
Photo 18: Asphaltic concrete pavement cover cap first 2-inch lift and second 2-inch lift

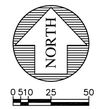
APPENDIX E
AS-BUILT DOCUMENTATION, SURFACE WATER CONTROL

INTERIM ACTION CONSTRUCTION COMPLETION REPORT
South Park Landfill Site
Seattle, Washington

Farallon PN: 408-002

PORTION OF THE NW 1/4, OF SEC. 32 TWN. 24 N., RNG 4 E., WM
CITY OF SEATTLE, WASHINGTON





LEGAL DESCRIPTION

PARCEL A

THAT PORTION OF GOVERNMENT LOTS 2 THROUGH 4, INCLUSIVE, AND OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 32, TOWNSHIP 24 NORTH, RANGE 4 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST LINE OF GEORGE HOLT'S DONATION CLAIM NO. 51, AS ESTABLISHED BY SUPERIOR COURT CASE NO. 14450, WHICH IS 400 FEET NORTH OF THE SOUTHWESTERLY CORNER THEREOF;
THENCE SOUTH ALONG SAID WEST LINE 400 FEET TO THE SOUTH LINE OF SAID DONATION CLAIM;
THENCE EAST ALONG SAID SOUTH LINE TO THE WEST LINE OF A. HOGRAVE'S DONATION CLAIM NO. 37;
THENCE SOUTH ALONG THE LAST DESCRIBED WEST LINE TO THE PRODUCTION WEST OF THE CENTERLINE OF SULLIVAN STREET;
THENCE WEST ALONG SAID PRODUCED LINE TO THE EAST LINE OF 1ST AVENUE SOUTH, AS ESTABLISHED BY ORDINANCE NO. 21498;
THENCE NORTH ALONG SAID EAST LINE 39.56 FEET;
THENCE NORTH 66°52'24" EAST 562.14 FEET;
THENCE NORTH 16°56'06" WEST 861.57 FEET;
THENCE NORTH 24°43'54" EAST 35.17 FEET;
THENCE NORTH 64°14'54" EAST 98 FEET;
THENCE EASTERLY ALONG A STRAIGHT LINE TO THE POINT OF BEGINNING;
EXCEPT THAT PORTION THEREOF DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF A LINE 794 FEET WEST OF AND PARALLEL WITH THE WEST LINE OF A. HOGRAVE'S DONATION CLAIM NO. 37 AND THE PRODUCTION WEST OF THE CENTERLINE OF SULLIVAN STREET;
THENCE WEST ALONG SAID PRODUCED LINE TO THE EAST LINE OF 1ST AVENUE SOUTH, AS ESTABLISHED BY ORDINANCE NO. 21498;
THENCE NORTH ALONG SAID EAST LINE 39.56 FEET;
THENCE NORTH 66°52'24" EAST 562.14 FEET;
THENCE SOUTHEASTERLY ALONG A STRAIGHT LINE TO THE POINT OF BEGINNING; AND
EXCEPT THOSE PORTIONS CONVEYED TO THE CITY OF SEATTLE BY DEEDS RECORDED UNDER RECORDING NUMBERS 5947050 AND 6240807; AND
EXCEPT THAT PORTION LYING SOUTHWESTERLY OF THE NORTHEASTERLY LINE OF OCCIDENTAL AVENUE SOUTH (ROAD NO. 51); AND
EXCEPT THAT PORTION THEREOF DESCRIBED AS FOLLOWS:

THAT PORTION OF GOVERNMENT LOT 4, SECTION 32, TOWNSHIP 24 NORTH. RANGE 4 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST LINE OF GEO. HOLT DONATION CLAIM NO. 51 WHICH IS 516.36 FEET SOUTH OF THE NORTH LINE OF SECTION 32, TOWNSHIP 24 NORTH, RANGE 4 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON;
THENCE SOUTH 02°03'26" WEST ALONG SAID LINE 400 FEET;
THENCE NORTH 89°53'36" EAST ALONG THE SOUTH LINE OF SAID DONATION CLAIM 73.16 FEET;
THENCE SOUTH 00°35'49" WEST ALONG A LINE PARALLEL TO AND 794 FEET WEST OF THE WEST LINE OF A. HOGRAVE DONATION CLAIM NO. 37, A DISTANCE OF 350 FEET;
THENCE WESTERLY TO A CONCRETE MONUMENT ON THE EAST LINE OF CHAS. PRENTICE TRACTj
THENCE NORTH 16°56'06" WEST 705.57 FEET;
THENCE NORTH 24°43'54" EAST 35.17 FEET;
THENCE NORTH 64°14'54" EAST 98 FEET;
THENCE EASTERLY TO THE POINT OF BEGINNING.

PARCEL B

THAT PORTION OF GOVERNMENT LOT 4, SECTION 32, TOWNSHIP 24 NORTH, RANGE 4 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST LINE OF GEO. HOLT DONATION CLAIM NO. 51 WHICH IS 516.36 FEET SOUTH OF THE NORTH LINE OF SECTION 32, TOWNSHIP 24 NORTH, RANGE 4 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON;

THENCE SOUTH 02°03'26" WEST ALONG SAID LINE 400 FEET;

THENCE NORTH 89°53'36" EAST ALONG THE SOUTH LINE OF SAID DONATION CLAIM 73.16 FEET;

THENCE SOUTH 00°35'49" WEST ALONG A LINE PARALLEL TO AND 794 FEET WEST OF THE WEST LINE OF A. HOGRAVE DONATION CLAIM NO. 37, A DISTANCE OF 350 FEET;

THENCE WESTERLY TO A CONCRETE MONUMENT ON THE EAST LINE OF CHAS. PRENTICE TRACT;

THENCE NORTH 16°56'06" WEST 705.57 FEET;

THENCE NORTH 24°43'54" EAST 35.17 FEET;

THENCE NORTH 64°14'54" EAST 98 FEET;

THENCE EASTERLY TO THE POINT OF BEGINNING;

EXCEPT ANY PORTION THEREOF LYING WITHIN OCCIDENTAL AVENUE; AND

EXCEPT THAT PORTION CONVEYED TO THE CITY OF SEATTLE BY DEED RECORDED UNDER RECORDING NUMBER 5947050.

CURRENT ZONING: IG2 U/65 INDUSTRIAL GENERAL 2 UNLIMITED/65 AND INDUSTRIAL BUFFER UNLIMITED/45

GROSS LAND AREA: 849,163 SQ. FT.± 19.49 ACRES

FLOOD ZONE: NO FLOOD ZONE CLASSIFICATION PER FIRM PANEL 640 OF 1725 – 53033C0640F

BUILDING SETBACK: PER SMC 23.53.020(C)(1) THERE IS NO BUILDING SETBACK REQUIRED DUE TO THE EXISTING RIGHT-OF-WAY SURROUNDING THE PROPERTY

NOTES:

1. EARTH MOVING EVIDENCE IS CONSTRUCTION OF PRELOAD AS SHOWN ON PLAN.
2. NO KNOWN CHANGES IN STREET RIGHT-OF-WAY LINES.
3. NO OBSERVED EVIDENCE OF THE SITE AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
4. NO WETLANDS ARE DELINEATED ON THE SITE.

As-builts provided by SEACON L.L.C. 6/10/2015

REVISIONS		
DESCRIPTION	BY	DATE

STEVEN D. McCASKEY
STATE OF WASHINGTON
42676
REGISTERED
PROFESSIONAL LAND SURVEYOR

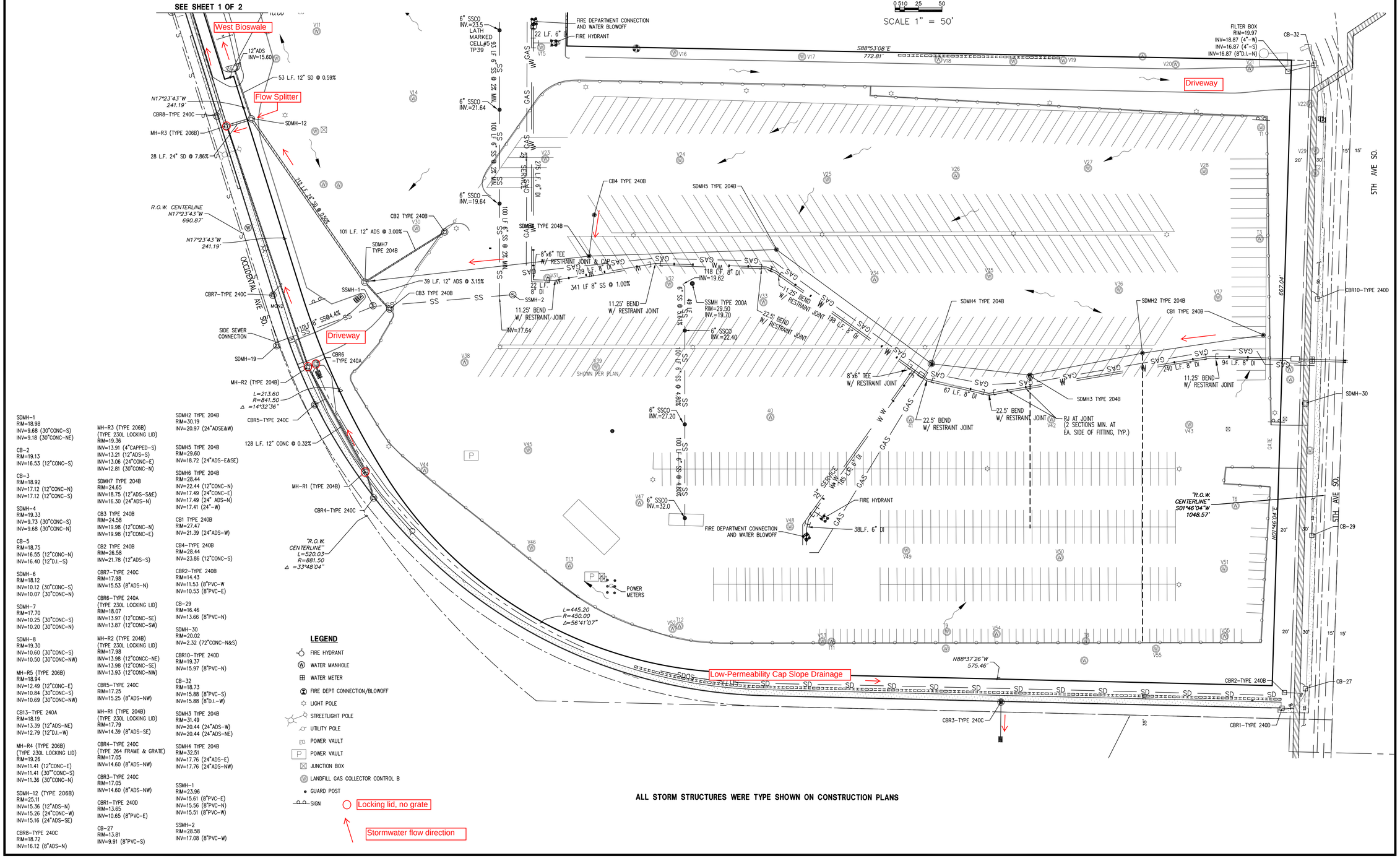
SEACON
SOUTH PARK

ASBUILT DRAWING

Encompass
ENGINEERING & SURVEYING
Western Washington Division
165 NE Juniper Street, Suite 201 • Issaquah, WA 98027 • Phone: (425) 392-0250 • Fax: (425) 391-3055
Eastern Washington Division
108 East 2nd Street • Cle Elum, WA 98922 • Phone: (509) 674-7433 • Fax: (509) 674-7419

JOB NO.	10613
DATE	5/27/15
SCALE	1"=50'
DESIGNED	SDM
DRAWN	JEF
CHECKED	SDM
APPROVED	SDM
SHEET	1 OF 2

PORTION OF THE NW 1/4, OF SEC. 32 TWN. 24 N., RNG 4 E., WM
CITY OF SEATTLE, WASHINGTON



ALL STORM STRUCTURES WERE TYPE SHOWN ON CONSTRUCTION PLANS

REVISIONS		
DESCRIPTION	BY	DATE

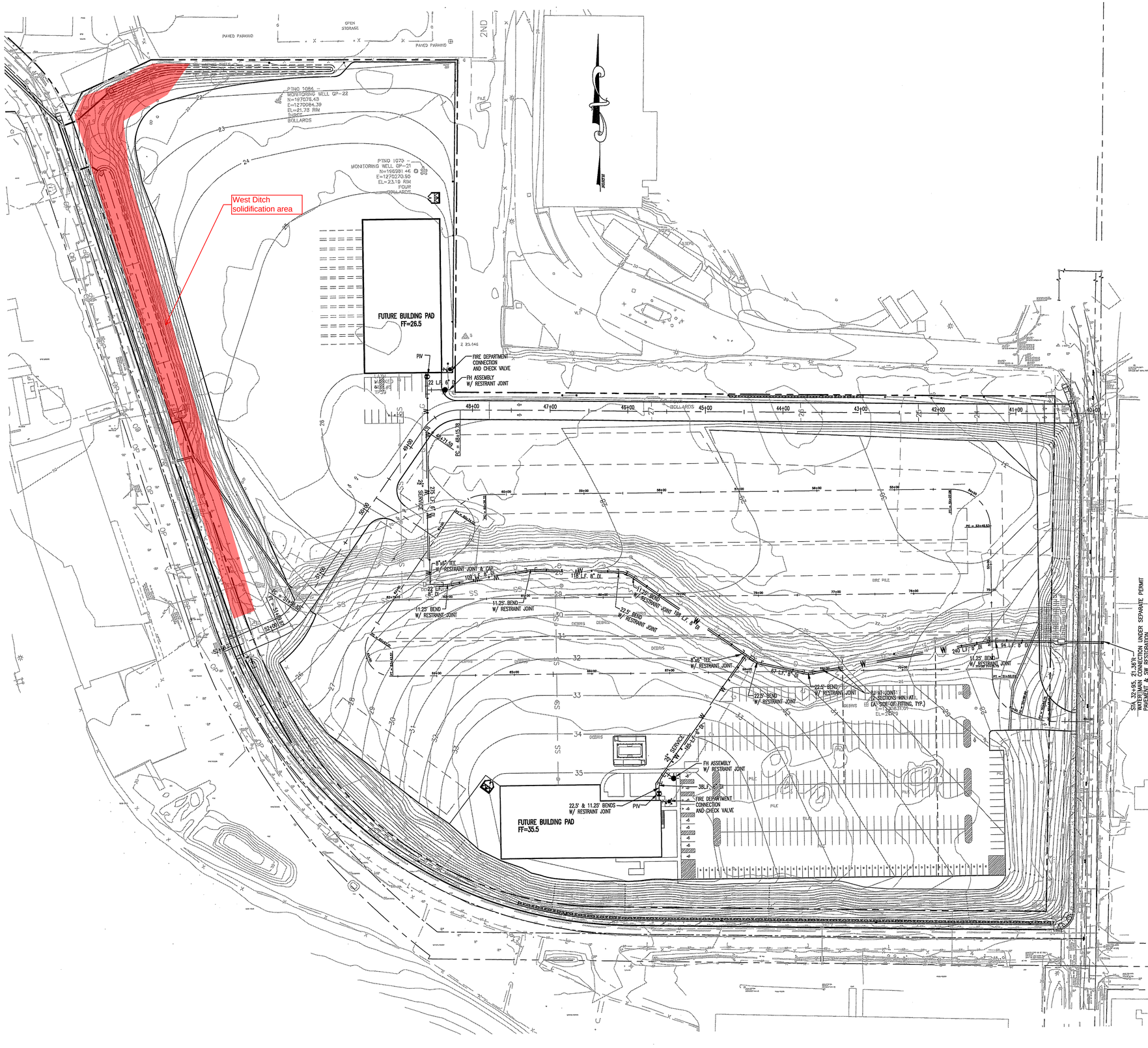
STEVEN D. McCASKEL — STATE OF WASHINGTON — 42676 — REGISTERED PROFESSIONAL LAND SURVEYOR

SEACON SOUTH PARK

ASBUILT DRAWING

Encompass ENGINEERING & SURVEYING
165 NE Juniper Street, Suite 201 • Issaquah, WA 98027 • Phone: (425) 392-0250 • Fax: (425) 391-3055
Western Washington Division
Eastern Washington Division
108 East 2nd Street • Cle Elum, WA 98922 • Phone: (509) 674-7433 • Fax: (509) 674-7419

JOB NO.	10613
DATE	5/27/15
SCALE	1"=50'
DESIGNED	SDM
DRAWN	JEF
CHECKED	SDM
APPROVED	SDM
SHEET	2 OF 2



SURVEY LEGEND

- WATER VALVE
- HYDRANT
- WATER METER
- MANHOLES (SS/SD)
- CB
- POWER/UTILITY POLE
- GUY ANCHOR
- POWER TRANSFORMER
- POWER/TELEPHONE VAULT
- TELEPHONE/TV RISER
- GAS VALVE
- STREET LIGHT
- SPOT ELEVATION
- SIGN
- MAILBOX
- ROCKERY
- CONIFEROUS TREE
- DECIDUOUS TREE
- FOUND CASED MONUMENT

MEAS. = MEASURED
REC. = RECORD DIMENSIONS TAKEN FROM CITY OF SEATTLE 1/4 SECTION MAPS AND EXISTING SHORT PLAT NO. 80-119 AND SURVEY IN BOOK 59, PAGE 65.
CALC. = CALCULATED DIMENSION
DECID. = DECIDUOUS TREE
C.I. = CAST IRON
ASPH. = ASPHALT SURFACE
CONC. = CONCRETE SURFACE
FIN. = FINISHED (FLOOR ELEVATION)
TW = TOP OF WALL
BW = BOTTOM OF WALL

LEGEND

- PROPOSED CONTOUR LINE
- EXISTING CONTOUR
- PROPERTY (R/W) LINE
- APPROXIMATE LIMITS OF SOLID WASTE
- W — PROPOSED WATER MAIN
- SS — SS — PROPOSED SANITARY SEWER
- CENTER LINE OF R/W
- x 28.4 ELEVATION (EXISTING)

VERTICAL DATUM:

C-O-S BENCH MARK
(NAVD 88) FOUND BRASS CAP LOCATED AT THE INT. OF S. KENYON ST. AND OCCIDENTAL AVE. S. ELEVATION ON CAP = 20.41'

GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 inch = 60 ft.

RECEIVED
JUL 10 2013
Dept. of Planning & Developmen

11/11/08	PROJECT START DATE
12/8/08	SUBMITTED FOR OWNER / TENANT APPROVAL
12/17/08	SUBMITTED FOR MUP
03/24/09	MUP REVISIONS
05/02/11	SUBMITTED FOR SPU REVIEW
12/09/11	REVISED STORM SYSTEM (REMOVE DETENTION PIPES)
06/25/13	REVISED SITE LAYOUT, GRADING AND UTILITIES

exeltech
401 2nd Ave. S., Suite 205, Seattle, WA 98104
Phone: (206).623.9646 Fax: (206).623.9658
Project No: 0716-010

SOUTH PARK DEVELOPMENT
PROPERTY DEVELOPMENT
8249 5TH AVENUE SOUTH
SEATTLE, WA

First Student

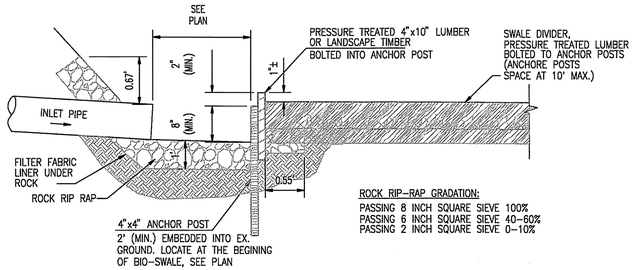
WATER PLAN

CHOOMENG CHIN — STATE OF WASHINGTON — 20884 — REGISTERED PROFESSIONAL ENGINEER — 06/28/13

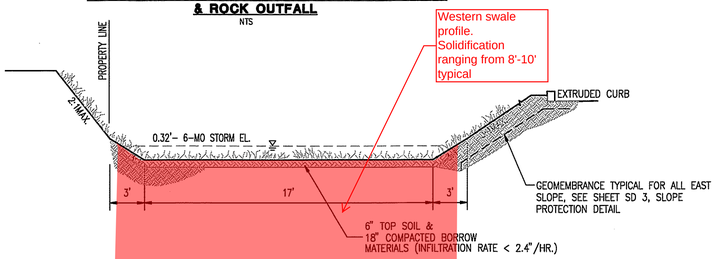
DRAWN	CMC
CHECKED	AJC
DATE	7/09/2013
SCALE	AS NOTED
JOB NUMBER	0716

C3.1

FILE NAME: 0716C3.1.DWG PLOT DATE: 07/09/13 PLOT BY: CMC PLOT SCALE: 1:1



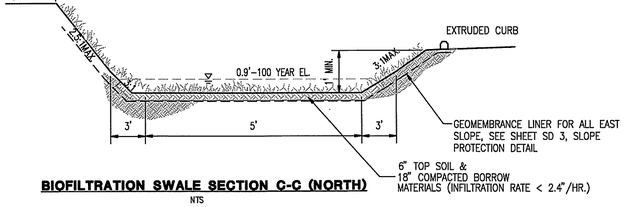
BIO-FILTRATION SWALE FLOW SPREADER SECTION & ROCK OUTFALL
NTS



WET-BIOFILTRATION SWALE SECTION B-B (WEST)
NTS
(BYPASS NON-WQ STORM USING FLOW SPLITTER)

WET BIOSWALE SEED MIX (EQUAL PROPORTIONS)

SHORTAWN FOXTAIL	SEED
WATER FOXTAIL	SEED
WESTERN MANNAGRASS	SEED
VELVETGRASS	SEED
SLOUGH SEDGE	SEED OR 6" ON CENTER



BIOFILTRATION SWALE SECTION C-C (NORTH)
NTS

BIO-SWALE SPECIFICATIONS

1.- SEEDING SHOULD BE DONE IMMEDIATELY AFTER FINAL SHAPING IF COMPLETED DURING THE PERIODS OF ARIL 1 THOROUGH JUNE 30 AND SEPTEMBER 1 THROUGH OCTOBER 31 (IF PLANTED BETWEEN JULY 1 AND AUGUST 31 IRRIGATION MUST BE PROVIDED) SITES WHICH CAN NOT BE SEEDED DURING THIS TIME PERIOD SHOULD BE PROTECTED UNTIL NEXT SEEDING PERIOD WITH MULCHING

2.- PERMANENT VEGETATION MAY BE IN THE FORM OF GRASS SEED MIXTURES, SOD OR WETLANDS SEED/TUBER MIXTURES. SEED SHALL INCLUDE THE USE OF SUPPLEMENTAL MATERIALS, SUCH AS MUCH.

3.- SITE PREPARATION- INSTALL SURFACE RUNOFF CONTROL MEASURES.

4.- SEEDBED PREPARATION MAY INCLUDE THE FOLLOWING:
- a. IF INFERTILE OR COARSE TEXTURE SUBSOIL WILL BE EXPOSED DURING GRADING, STOCKPILE TOPSOIL AND RESPREAD IT OVER THE FINISHED SLOPE AND ROLL IT TO PROVIDE A FIRM SEEDBED.
- b. IF CONSTRUCTION FILLS HAVE LEFT SOIL EXPOSED WITH A LOOSE, ROUGH, OR IRREGULAR SURFACE, BREAK WITH A CHISEL PLOW OR OTHER IMPLEMENT.

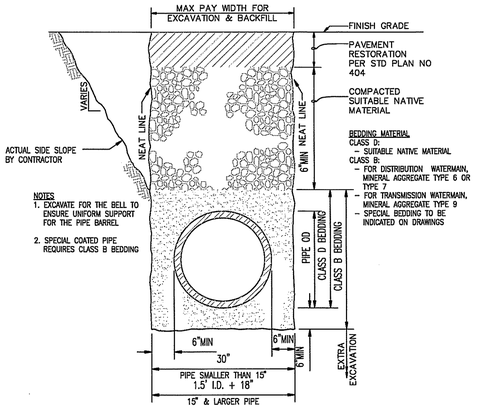
5.- FERTILIZATION- AS PER SUPPLIERS RECOMMENDATIONS, DEVELOPMENTS ADJACENT TO WATER BODIES MUST USE NON-PHOSPHORUS FERTILIZER.

6.- HYDROSEEDING APPLICATIONS WITH APPROVED SEED MULCH-FERTILIZER MIXTURES MAY ALSO BE USED.

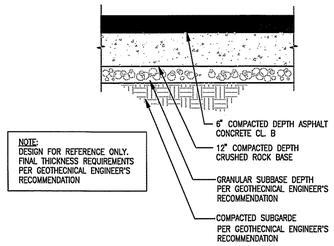
7.- SEEDING- APPLY APPROPRIATE MIXTURE TO THE PREPARED SEEDBED AT A RATE OF 80 lbs. / ACRE. COVER THE SEED WITH TOP SOIL OR MULCH NO DEEPER THAN 1/2 INCH.

GRASS SEED MIX	PROPORTIONS BY WEIGHT
TALL OR MEADOW FESCUE	75-80%
SEASIDE CREEPING BENTGRASS OR COLONIAL BENTGRASS	10-15%
REDTOP	5-10%

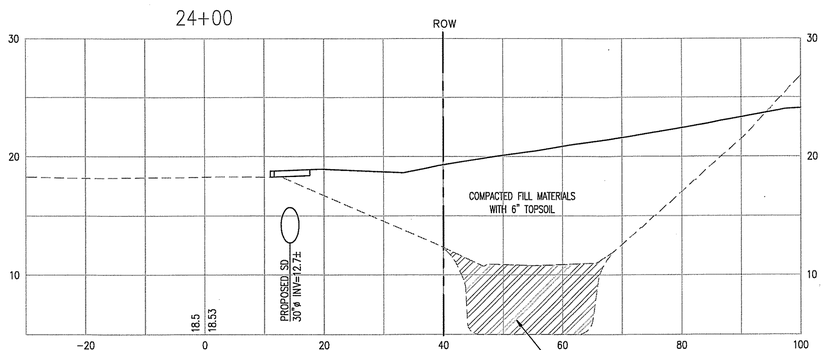
SOIL AMENDMENT:
1. TWO INCHES (MINIMUM) OF WELL-ROTTED COMPOST SHALL BE TILLED INTO THE ENTIRE SWALE TREATMENT AREA TO AMEND THE TOPSOIL UNLESS THE SOIL ALREADY HAS AN ORGANICS CONTENT OF 1 PERCENT OR GREATER. THIS APPLIES TO BOTH TILL SOILS AS WELL AS SANDY SOIL. IN VERY COARSE SOIL (GRAVEL OR COURSER), TOP SOIL MUST BE IMPORTED AND AMENDED TO THE REQUIRED ORGANIC CONTENT.
A) COMPOST MUST BE TILLED INTO THE UNDERLYING NATIVE SOIL TO A DEPTH OF 6 INCHES TO PREVENT THE COMPOST FROM BEING WASHED OUT AND TO AVOID CRATING A DEFINED LAYER OF DIFFERENT SOIL TYPES THAT CAN PREVENT DOWNWARD PERCOLATION ORGANIC CONTENT.
B) COMPOST SHALL NOT CONTAIN ANY SAWDUST, STRAW, GREEN OR UNDER-COMPOSTED ORGANIC MATTER, OR TOXIC OR OTHERWISE HARMFUL MATERIALS.
C) COMPOST SHALL NOT CONTAIN UNSTERILIZED MANURE BECAUSE IT CAN LEACH FECAL COLIFORM BACTERIAL INTO RECEIVING WATER.
2. SOIL OR SOD WITH A CLAY CONTENT OF GREATER THAN 10 PERCENT SHOULD BE AVOIDED. PROVIDE LINER AS INDICATED.



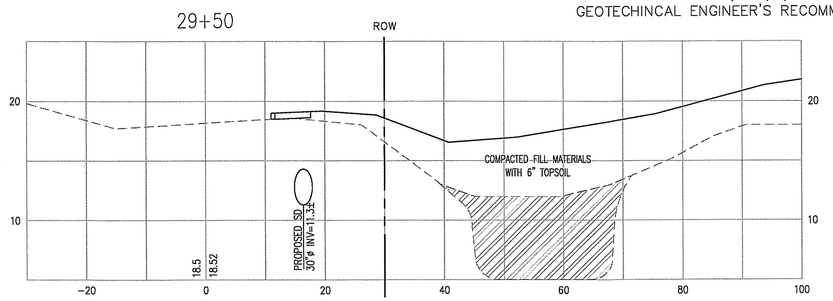
TYPICAL WATERMAIN TRENCH SECTION
N.T.S.



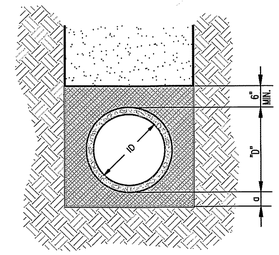
PAVEMENT SECTION
NTS



SOUTH OF WET-BIOFILTRATION SWALE SECTION
NTS



NORTH OF WET-BIOFILTRATION SWALE SECTION
NTS



CLASS "B" BEDDING

NOTES: 1. FOR TRENCH WIDTH, SEE ABOVE.
a=4" WHEN "D" IS LESS THAN 30"
a=6" WHEN "D" IS 30" OR MOVE.

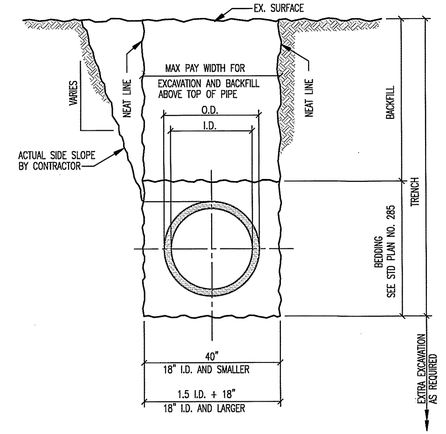
3/8" WASHED GRAVEL FOR RIGID PIPE.
5/8" CRUSHED GRAVEL FOR FLEXIBLE PIPE.

SLECTED NATIVE MATERIAL

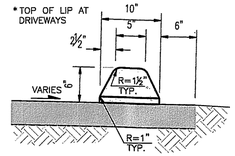
PIPE BEDDING - SEWER/STORM DRAIN CLASS "B" BEDDING
NTS

CLEARANCE BETWEEN PIPES FOR MULTIPLE INSTALLATIONS

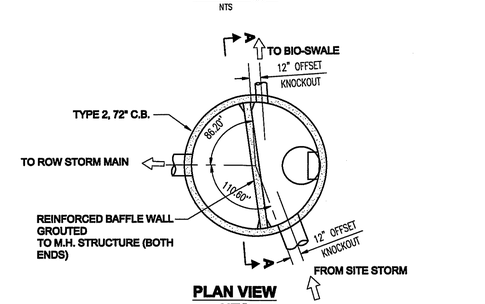
PIPE	SIZE	MINIMUM DISTANCE BETWEEN BARRELS
CIRCULAR PIPE (DIAMETER)	12" to 24"	12"
	30" to 96"	DIAM. /2
	102" to 180"	48"
PIPE ARCH (SPAN) METAL ONLY	18" to 36"	12"
	43" to 142"	SPAN /3
	148" to 200"	48"



TYPICAL SEWER TRENCH SECTION
N.T.S.



EXTRUDED ASPHALT OR CEMENT CONCRETE CURB
NTS



PLAN VIEW
NTS

SECTION A-A
NTS

FLOW SPLITTER DETAIL
NTS

RECEIVED
AUG 08 2013
City of Seattle
Dept. of Planning and Development

11/11/08	PROJECT START DATE
12/8/08	SUBMITTED FOR OWNER / TENANT APPROVAL
12/17/08	SUBMITTED FOR MUP
03/24/09	MUP REVISIONS
05/02/11	SUBMITTED FOR SPU REVIEW
12/09/11	REVISED STORM SYSTEM (REMOVE DETENTION PIPES)
06/25/13	REVISED SITE LAYOUT, GRADING AND UTILITIES
08/07/13	SUBMITTED FOR DRAINAGE CORRECTION

exeltech
401 2nd Ave. S., Suite 205, Seattle, WA 98104
Phone: (206) 623.9646 Fax: (206) 623.9658
Project No: 0716-010

SOUTH PARK DEVELOPMENT
PROPERTY DEVELOPMENT
8249 5TH AVENUE SOUTH
SEATTLE, WA

First Student

DETAILS

CHRISTOPHER M. CHUNG
STATE OF WASHINGTON
20894
REGISTERED PROFESSIONAL ENGINEER
08/02/13

DRAWN	CMC
CHECKED	AJC
DATE	8/06/2013
SCALE	AS NOTED
JOB NUMBER	0716

C3.2

FILE NAME: 071603.2.DWG PLOT DATE: 08/08/13 PLOT BY: CMC PLOT SCALE: 1=1

48" Type 204b Maintenance Hole

City of Seattle Standard Plan

Flat-top Slab Reinforcing

- #4 deformed rebar / Grade 60
- Round or rectangular opening
- City of Seattle requirements
- Customer must specify if top-fill is 6 inches or less for double mat

Manhole Wall Reinforcing

- Minimum 0.120 square inches / linear foot

Base Reinforcing

- 0.17 square inches / linear foot in both directions
- ⚠ Separated base slab 0.25 square inches / linear foot in both directions

Hole or Knock Out Dimensions

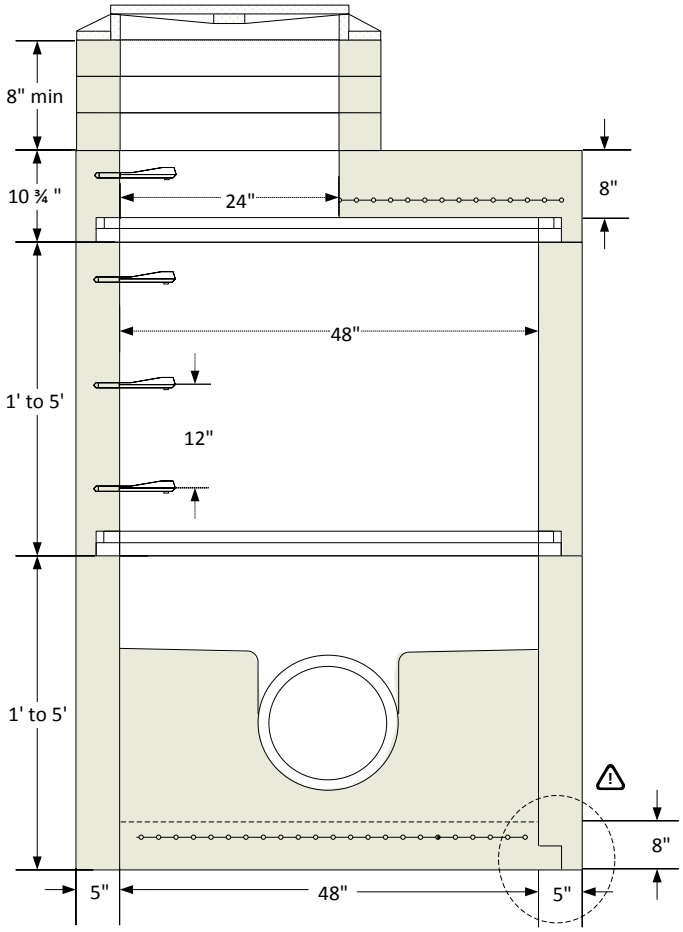
- Maximum hole size is 36 inches
- 8 inches of minimum distance between holes
- 2 inch diameter lifting holes provided
- Cored holes available

Conformity Standards

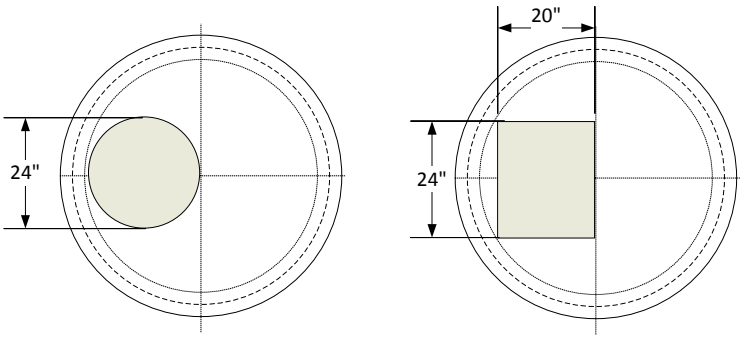
- ASTM C478 manhole - 97 Manhole
- ASTM C443 rubber gasket joint
- ASTM D - 4101 polypropylene steps and ladders
- City of Seattle Department of Engineering

Options Available

- Prechanneled base
- Specialized coatings
- Custom hatches
- Kor-N-Seal boots



Top Slab Plan View Options



Note: Drawings are not to scale. This is not a specialized "Shop Drawing." Designed for submittal purposes only.

shope concrete products

Shope Enterprises, Inc.
1618 East Main Avenue
Puyallup, WA 98372-3142

(253) 848-1551
Fax Line 1 (253) 845-0292
Fax Line 2 (253) 864-6172

1-800-422-7560 [FREE CALL – North America]
www.shopeconcrete.com

72" Type 206b Maintenance Hole

City of Seattle Standard Plan

Flat-top Slab Reinforcing

- #5 deformed rebar
- Round or rectangular opening
- City of Seattle requirements

Manhole Wall Reinforcing

- Minimum 0.18 square inches / linear foot

Base Reinforcing

- 0.30 square inches / linear foot in both directions
- ⚠ Separated base slab 0.39 square inches / linear foot both directions

Hole or Knock Out Dimensions

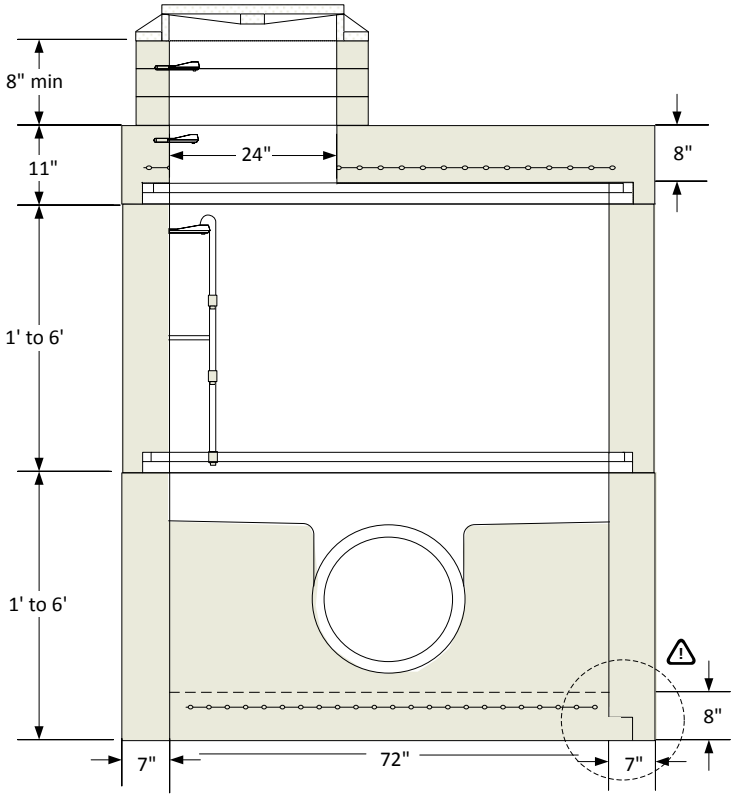
- Maximum hole size is 60 inches
- 12 inches of minimum distance between holes
- 2 inch diameter lifting holes provided

Conformity Standards

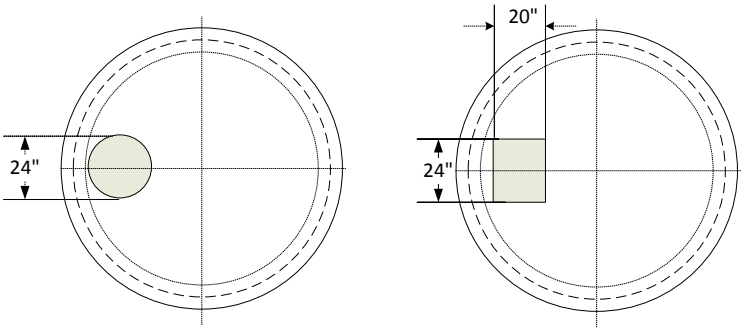
- ASTM C478 - 97 Manhole
- ASTM C443 rubber gasket joint
- ASTM D - 4101 polypropylene steps and ladders
- City of Seattle Department of Engineering

Options Available

- Prechanneled base
- Square offset flat-top
- Specialized coatings
- Custom hatches
- Kor-N-Seal boots
- Cored holes



Top Slab Plan View Options



Note: Drawings are not to scale. This is not a specialized "Shop Drawing." Designed for submittal purposes only.

shope concrete products

Shope Enterprises, Inc.
1618 East Main Avenue
Puyallup, WA 98372-3142

(253) 848-1551
Fax Line 1 (253) 845-0292
Fax Line 2 (253) 864-6172

1-800-422-7560 [Toll Free]
www.shopeconcrete.com

48" Type 240 A,B,C,D Precast Catch Basin

City of Seattle Standard Plan

Flat-top Slab Reinforcing

- #4 deformed rebar / Grade 60
- See Top Slab Plan View for opening
- See Standard Plan for actual rebar replacement

Manhole Wall Reinforcing

- Minimum 0.120 square inches / linear foot

Base Reinforcing

- 0.17 square inches / linear foot in both directions
- ⚠ Separated base slab 0.25 square inches / linear foot in both directions

Hole or Knock Out Dimensions

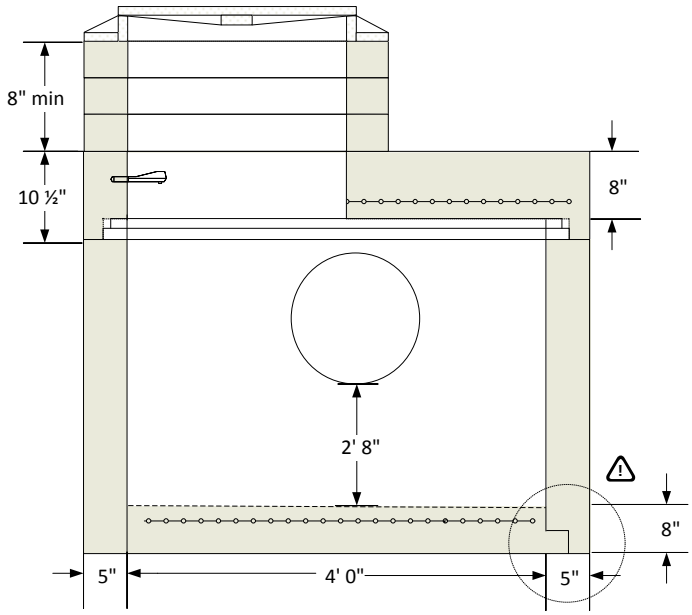
- Maximum hole size is 36 inches
- 8 inches of minimum distance between holes
- 2 inch diameter lifting holes provide

Conformity Standards

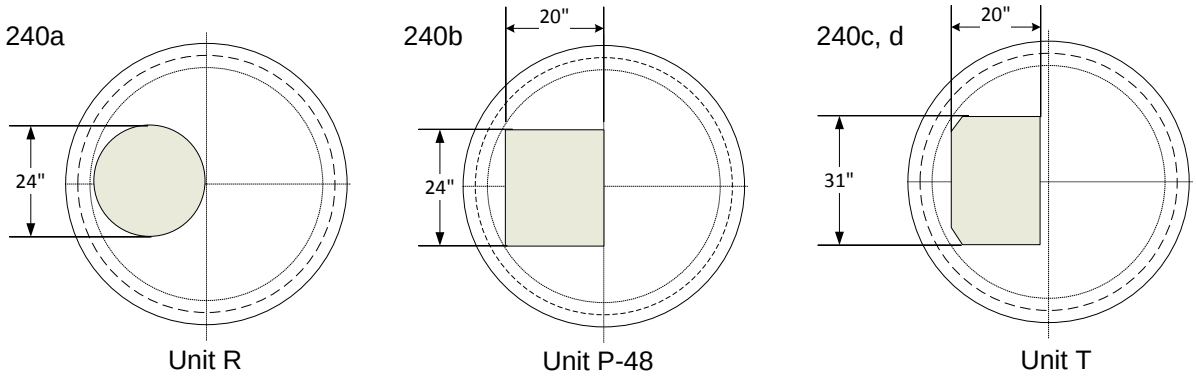
- ASTM C478 - 97 Manhole
- ASTM C443 rubber gasket joint
- ASTM D - 4101 polypropylene steps and ladders
- Washington State APWA / WSDOT Standard

Options Available

- 2 foot 8 inches minimum sump
- Specialized coatings
- Custom hatches
- Cored holes
- Kor-N-Seal Boots



Top Slab Plan View



Note: Drawings are not to scale. This is not a specialized "Shop Drawing." Designed for submittal purposes only.

shope concrete products
Shope Enterprises, Inc.
1618 East Main Avenue
Puyallup, WA 98372-3142
(253) 848-1551
Fax Line 1 (253) 845-0292
Fax Line 2 (253) 864-6172
1-800-422-7560 [FREE CALL – North America]
www.shopeconcrete.com

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend

California
Oakland | Sacramento | Irvine

APPENDIX E – CONSTRUCTION PHOTOGRAPHS
STORM DRAIN SYSTEM
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington
Farallon PN: 408-002

Photograph 1: Manhole MH-R4, looking north.

Photograph 2: Manhole SDMH-1, looking north.

Photograph 3: Catch basin CB-27, looking south.

Photograph 4: Manhole SDMH-6 installation.

Photograph 5: Setting on-Site structures.

APPENDIX E – CONSTRUCTION PHOTOGRAPHS
STORM DRAIN SYSTEM
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photograph 1: Manhole MH-R4, looking north.

Photograph 2: Manhole SDMH-1, looking north.

Photograph 3: Catch basin CB-27, looking south.

Photograph 4: Manhole SDMH-6 installation.

Photograph 5: Setting on-Site structures.

APPENDIX E – CONSTRUCTION PHOTOGRAPHS
WEST DITCH SOLIDIFICATION
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 1: West Ditch after clearing and grubbing and prior to soil solidification

Photo 2: West Ditch soil solidification at south end

APPENDIX E – CONSTRUCTION PHOTOGRAPHS
WEST DITCH SOLIDIFICATION
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 3: West Ditch soil solidification proceeding south to north

Photo 4: West Ditch soil solidification near midpoint

APPENDIX E – CONSTRUCTION PHOTOGRAPHS
WEST DITCH SOLIDIFICATION
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 5: West Ditch soil solidification cross ditches to allow ground water cross flow

Photo 6: Dust control during West Ditch soil solidification

APPENDIX E – CONSTRUCTION PHOTOGRAPHS
WEST DITCH SOLIDIFICATION
Interim Action Construction Completion Report
South Park Landfill Site
Seattle, Washington

Photo 7: New West Ditch formed atop solidified soil

Photo 8: Water in newly formed West Ditch above solidification soil