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December 7, 2023

Ms. Sarah Eagle, Project Manager
Oregon Department of Environmental Quality
165 East 7th Avenue, #100
Eugene, Oregon 97401

RE: Supplemental Investigation Work Plan, 2-Acre Parcel of Hillcrest Development Site in Medford, Oregon; ECSI File #6554

Dear Ms. Eagle,

As discussed during emails over the last 2 weeks, this letter constitutes a Supplemental Investigation Work Plan (SIWP) describing the data collection and evaluation methods Alpine Environmental Consultants, LLC (AEC) proposes to use in characterizing potential pesticides impacts to shallow soil on approximately 2 acres of historical orchard property in Medford, Oregon. The approximately 2-acre parcel is a portion of the approximately 269-acre Hillcrest Development Site (the Site) owned by Cogswell Limited Partnership (Cogswell LP). The 2-acre parcel is currently vacant. However, Cogswell LP personnel are in discussions with a prospective purchaser who plans to develop the 2-acre parcel into a hardware store with parking and landscaped areas. The location of the Site is illustrated on **Figure 1** through **Figure 3** and a more detailed map of the 2-acre parcel is illustrated on **Figure 4**.

BACKGROUND

Approximately 219 acres of the Site were recently brought within the City of Medford's Urban Growth Boundary (UGB) and have been rezoned from Exclusive Farm Use to a mixture of Residential and Commercial Use with some additional green spaces. Approximately 50 acres of the Site, identified as Taxlot 1400 of Map 371W21A and located in the northwestern corner of the Site, is located outside of the UGB.

Prior to redevelopment, Cogswell LP retained AEC to investigate the potential for environmental impacts at the Site. AEC prepared both Phase I and a Phase II Environmental Site Assessments (ESAs) for the approximately 219-acre portion of the Site within the UGB and these are dated July 27, 2023, and June 16, 2023, respectively. Both of these reports have been shared with the Oregon Department of Environmental Quality (DEQ). The Phase II ESA investigation was completed to characterize potential impacts to shallow soil associated with the historical use of

the Site as an orchard. The results of the Phase II ESA reported residual pesticides are present in shallow soil at concentrations exceeding generic risk-based concentrations (RBCs) for residential and construction worker receptors and at concentrations exceeding Clean Fill Values documented in DEQ's Clean Fill Determinations Internal Management Directive dated February 21, 2019.

Recognizing additional characterization and potentially remediation of shallow soil at the Site will be necessary to ensure future residential receptors, occupational receptors, and construction workers are not exposed to unacceptable levels of Site-related residual pesticides, Cogswell LP personnel applied to DEQ's Voluntary Cleanup Pathway (VCP). Entering into the VCP will help ensure that more focused characterization work, and if necessary, remediation work, will be completed in a manner that eliminates unacceptable health risks meets to future human receptors. On June 19, 2023, DEQ received Cogswell LP's VCP intent to participate form. In an email to Cogswell LP personnel dated September 28, 2023, you indicated the Site had been entered into the Environmental Cleanup Site Information (ECSI) database as File #6554 and you were identified as the project manager.

Prior to future residential and commercial construction at the Site, AEC anticipates remedial action through the removal of shallow soil with concentrations of pesticides concentrations exceeding generic RBCs for *the ingestion, dermal contact, and inhalation exposure pathway* for residential receptors, occupational receptors, and/or construction workers will be required. As described in an email from Mr. Jonathan Williams of AEC to you dated November 16, 2023, Cogswell LP is in negotiations to sell the approximately 2-acre parcel to a company that plans to construct a hardware store, parking areas, and landscaping and soil excavation may happen as soon as March 2024. The 2-acre parcel is located on the northwest corner of Taxlot 300 of Map 371W21D. The Conceptual Hillcrest District Plan is illustrated on **Figure 3** and shows the 2-acre parcel will be zoned Neighborhood Commercial or Community Commercial.

If the analytical results from the more focused soil characterization investigation described below indicates some of the soil from the 2-acre parcel needs to be excavated due to some combination of pesticides concentrations and/or for geotechnical purposes, Cogswell LP anticipates the soil will be placed in the Buffer Garden area proximal to the south and southeast of the 2-acre parcel (see **Figure 3**). Furthermore, Cogswell LP anticipates that should any of this soil have pesticides concentrations exceeding generic RBCs for *the ingestion, dermal contact, and inhalation exposure pathway* for occupational receptors or construction workers, this soil will be managed within the Buffer Garden area in a manner that is protective of human receptors (e.g., capped). Please note that during future development at the Site, Cogswell LP personnel anticipate that if necessary, most of the soil that might need to be excavated for environmental purposes will be placed on the approximately 50-acre portion of the Site that is outside of the UGB (see **Figure 1** and **Figure 2**).

OBJECTIVES

The objectives of the Supplemental Investigation for the 2-acre parcel are the following:

- Collect Site-specific soil quality data to identify the lateral and vertical extent of residual pesticides contamination associated with historical orchard use that is present in shallow soil at concentrations exceeding generic RBCs for *the ingestion, dermal contact, and inhalation exposure pathway* for occupational receptors and construction workers on the 2-acre parcel.
- Collect a technically defensible dataset needed to develop a cost-effective mass excavation remedial action such that post-excavation soil concentrations will not pose unacceptable risks to future occupational receptors and construction workers.

PROPOSED SCOPE OF WORK

The scope of work for the Supplemental Investigation Work Plan has been broken into the following tasks.

Task 1 – Supplemental Investigation Pre-Field Activities

Prior to any subsurface disturbances associated with excavating test pits for shallow soil sampling, AEC will contact the Utility Notification Center to locate and trace any potential public ungrounded infrastructure of pipes, mains, and utility lines that may be present in the vicinity of the proposed soil boring locations. The Utility Notification Center provides this service at no cost. AEC will also coordinate with Cogswell LP personnel to ensure the proposed test pit locations are not located in areas where private underground utilities (e.g., irrigation pipes) are located.

AEC will also schedule subcontractors and prepare all necessary equipment for field investigation activities.

Task 2 – Supplemental Investigation Soil Sampling

As described in AEC's Phase II ESA report for the Site, the initial investigation of soil quality at the Site consisted of the collection of depth discrete soil samples from 12 test pits at the Site identified as TP1 through TP12. Depth discrete soil samples were collected at each test pit from 0 to 6 inches, 6 to 12 inches, 12 to 18 inches, 18 to 24 inches, and 24 to 36 inches below ground surface (bgs). These 60 depth discrete soil samples were analyzed for arsenic and lead. In addition, depth discrete soil samples were composited to create 15 composite soil samples for the Site.

In developing the proposed sampling and analysis plan for the Supplemental Investigation of the 2-acre parcel, AEC referenced DEQ's *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production* dated January 2006, and this guidance received a minor

update in June 2019. To develop adequate spatial sampling density, AEC referenced Table 2 of the aforementioned guidance which describes the default sampling scheme for Commercial/Industrial Redevelopment Sites. Based on a review of historical aerial photographs for the 2-acre parcel (see Appendix 6 of the Phase I ESA report), both the northern and southern portions of the 2-acre parcel appear to have been under pear cultivation since at least 1939. However, the northern and southern portions of the 2-acre parcel appear to have been out of pear production since at least 2010 and 2005, respectively.

Given the different periods of time the 2-acre parcel has been out of pear production, AEC proposes to break the 2-acre parcel into two Decision Units (DUs), each of which cover approximately 1 acre. Four test pits will be excavated within each DU for a total of eight test pits as illustrated on **Figure 4**. As described in more detail below, this will result in the collection of 40 discrete samples that will be used to develop 10 depth-discrete composite soil samples. This proposed sampling density will help determine if the varying periods during which the two portions of the 2-acre parcel have been out of pear production will have any bearing on the lateral and vertical magnitudes of pesticides impacts to soil and may be useful in constraining the volume of soil that has pesticides concentrations exceeding generic RBCs and/or Clean Fill Values. This proposed sampling density also exceeds that referenced in DEQ's relevant guidance.

AEC will supervise the excavation of eight shallow test pits to approximately 3 feet bgs. The excavation work will be completed using an excavator owned and operated by M&M Services, LLC of Medford, Oregon, or Excavation Oregon, LLC of Jacksonville, Oregon. After soil sample collection has been completed, the test pits will be backfilled and compacted using the small excavator as described above and a stake with an identifier will be placed next to the test pit. In addition, coordinates for each test pit will be recorded with a handheld global positioning system unit. A Google Earth kmz file will also be prepared that will include latitude and longitude, and these data can be used to guide future excavation activities.

The approximate locations of the eight shallow test pits, which are identified as TP13 through TP20, are illustrated on **Figure 4**. Please note these sampling locations may be modified based on Site-specific observations during field activities. The data collected from these eight shallow test pits will supplement the data collected from the 12 test pits during the 2022 Phase II ESA.

To meet the objective of collecting a technically defensible dataset needed to develop a cost-effective mass excavation remedial action, AEC proposes to collect a more robust depth discrete dataset than identified in DEQ's *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production*. Specifically, AEC will collect five discrete soil samples from each of the eight test pits from the following depths:

- 0 to 6 inches bgs;
- 6 to 12 inches bgs;
- 12 to 18 inches bgs;
- 18 to 24 inches bgs; and

- 24 to 36 inches bgs.

This will result in the collection of 40 discrete soil samples.

Soil samples representative of the native soil from depths of 0 to 6 inches bgs, 6 to 12 inches bgs, 12 to 18 inches bgs, 18 to 24 inches bgs, and 24 to 36 inches bgs will be collected at each test pit by scraping an equal and representative volume of soil off of the test pit walls over the desired depth intervals to fill plastic bags or stainless-steel bowls. The soil in the plastic bags or stainless-steel bowls will then be thoroughly homogenized to develop representative depth discrete soil subsamples. Larger sized material (i.e., gravel greater than approximately ¼ to ½ inch in diameter) will be removed by hand. After the soil in the stainless-steel bowls or bags has been thoroughly homogenized, soil will be transferred directly from the stainless-steel bowls or plastic bags into laboratory-supplied containers. The discrete soil samples will be identified based on their test pit identifier and sample depth. For example, TP13-0-6 will represent the soil collected from test pit TP13 from a depth of 6 to 12 inches bgs.

Before and between the excavation of each test pit, the small excavator bucket will be swept clean. Any reusable sampling equipment such as stainless-steel bowls and trowels will be cleansed using an Alconox solution and rinsed with de-ionized water.

The 40 discrete soil samples will be shipped to the analytical laboratory where they will be processed by the laboratory to develop 10 composite soil samples using the Incremental Sampling Methodology (ISM) developed by the Interstate Technology and Regulatory Council (ITRC) and updated in October 2020. Each composite soil sample will be developed from four depth-discrete soil samples from four test pits covering an area of approximately 1 acre within the same DU. The locations of the two DUs, identified as DU4 and DU5, are illustrated on **Figure 4**. Four spatially representative test pits will be excavated within DU4 and DU5.

These 10 composite soil samples will be developed as follows:

- Composite soil sample DU4-0-6 will be a composite of the four soil samples collected from 0 to 6 inches bgs from test pits TP13 through TP16.
- Composite soil sample DU4-6-12 will be a composite of the four soil samples collected from 6 to 12 inches bgs from test pits TP13 through TP16.
- Composite soil sample DU4-12-18 will be a composite of the four soil samples collected from 12 to 18 inches bgs from test pits TP13 through TP16.
- Composite soil sample DU4-18-24 will be a composite of the four soil samples collected from 18 to 24 inches bgs from test pits TP13 through TP16.
- Composite soil sample DU4-24-36 will be a composite of the four soil samples collected from 24 to 36 inches bgs from test pits TP13 through TP16.
- Composite soil sample DU5-0-6 will be a composite of the four soil samples collected from 0 to 6 inches bgs from test pits TP17 through TP20.

- Composite soil sample DU5-6-12 will be a composite of the four soil samples collected from 6 to 12 inches bgs from test pits TP17 through TP20.
- Composite soil sample DU5-12-18 will be a composite of the four soil samples collected from 12 to 18 inches bgs from test pits TP17 through TP20.
- Composite soil sample DU5-18-24 will be a composite of the four soil samples collected from 18 to 24 inches bgs from test pits TP17 through TP20.
- Composite soil sample DU5-24-36 will be a composite of the four soil samples collected from 24 to 36 inches bgs from test pits TP17 through TP20.

The 40 discrete soil samples will be placed in an iced cooler and submitted to Apex Laboratories, LLC (Apex) of Tigard, Oregon, using standard chain-of-custody procedures. Apex is an Oregon-licensed analytical laboratory.

Task 3 – Supplemental Investigation Laboratory Analyses

Laboratory analyses will be focused on those constituents identified by DEQ as pesticides, including herbicides. These constituents are explicitly documented in DEQ's *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production* dated June 2019. The full suite of pesticides constituents is rather extensive and includes both synthetic pesticides and metals.

The 10 composite soil samples will be submitted for the following analyses:

- Seventeen metals by Methods 6020 and 7471B; these 17 metals include the following: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, mercury, molybdenum, selenium, silver, thallium, vanadium, and zinc;
- Organochlorine Pesticides by USEPA Method 8081B, including the following: aldrin, alpha-BHC, beta-BHC, delta-BHC, gamma-BHC (lindane), gamma-chlordane, alpha-chlordane, chlordane (tech), 4,4-DDD, 4,4-DDE, 4,4-DDT, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, endrin, endrin aldehyde, endrin ketone, heptachlor, heptachlor epoxide, methoxychlor, and toxaphene;
- Organophosphorus pesticides by USEPA Method 8270E using gas chromatography and mass spectrometer (GC/MS), including the following: azinphos methyl, bolstar, chlorpyrifos, coumaphos, demeton, diazinon, dichlorovs, dimethoate, disulfoton, ethoprop, fensulfothion, ronnel, stirophos, tokuthion, and trichloronate; and
- Chlorinated herbicides by USEPA Method 8151A, including the following: 2,4-D, 2,4-DB, 2,4,5-T, 2,4,5-TP (silvex), dalapon, dicamba, dichloroprop, dinoseb, MCPA, and MCPP.

All of these constituents will be analyzed on a standard turnaround time of 10 business days, although delays may be incurred due to the current backlog at most laboratories.

Task 4 – Supplemental Investigation Beneficial Use Survey

AEC anticipates some of the analytical results may exceed generic RBCs for the *leaching to groundwater pathway* for residential or occupational receptors. While future residents and occupational receptors at the Site will be provided with municipal water, it is possible that some of the proximal residences or businesses are dependent on wells for their water supply. AEC will complete a beneficial use survey by accessing Oregon Water Resources Department well records. The beneficial use survey will be completed for properties within a radius of approximately ½-mile of the Site. AEC will prepare a figure illustrating the locations of these wells and include the available well logs in the report appendix.

Task 5 – Supplemental Investigation Reporting

AEC will prepare a Supplemental Investigation Report which will contain a summary of the sampling activities. The report will include a description of the soil sampling activities. The report will also include analytical data tables with a comparison to applicable generic DEQ RBCs for occupational receptors, construction workers, and excavation workers. While the focus of the data evaluation will involve a comparison to generic RBCs, the data will also be compared to Regional Screening Levels (RSLs) developed by the USEPA because many of the pesticide constituents do not have established generic RBCs.

The analytical results will also be compared to DEQ Clean Fill Values so ramifications associated with handling of shallow soil during construction can be better understood. AEC anticipates the report will be prepared and submitted to DEQ within 2 weeks of receiving the final analytical laboratory report.

PROJECT TEAM

The project will be managed by Jonathan Williams (RG, Senior Hydrogeologist), assisted by Antonela Vadan (RG, Senior Geologist), and Toby Shallcross (Project Geologist). Mr. Williams, Ms. Vadan, and Mr. Shallcross have worked together for more than 10 years on numerous projects in southwest Oregon and the western United States. Mr. Williams, Ms. Vadan, and Mr. Shallcross are qualified Environmental Professionals as defined by ASTM 1527-21.

Ms. Sarah Eagle, Project Manager
December 7, 2023

Please feel free to contact me at 541-944-4685 or jwilliams@alpine-env-llc.com if you have any questions about this Supplemental Investigation Work Plan.

Sincerely,

Alpine Environmental Consultants, LLC



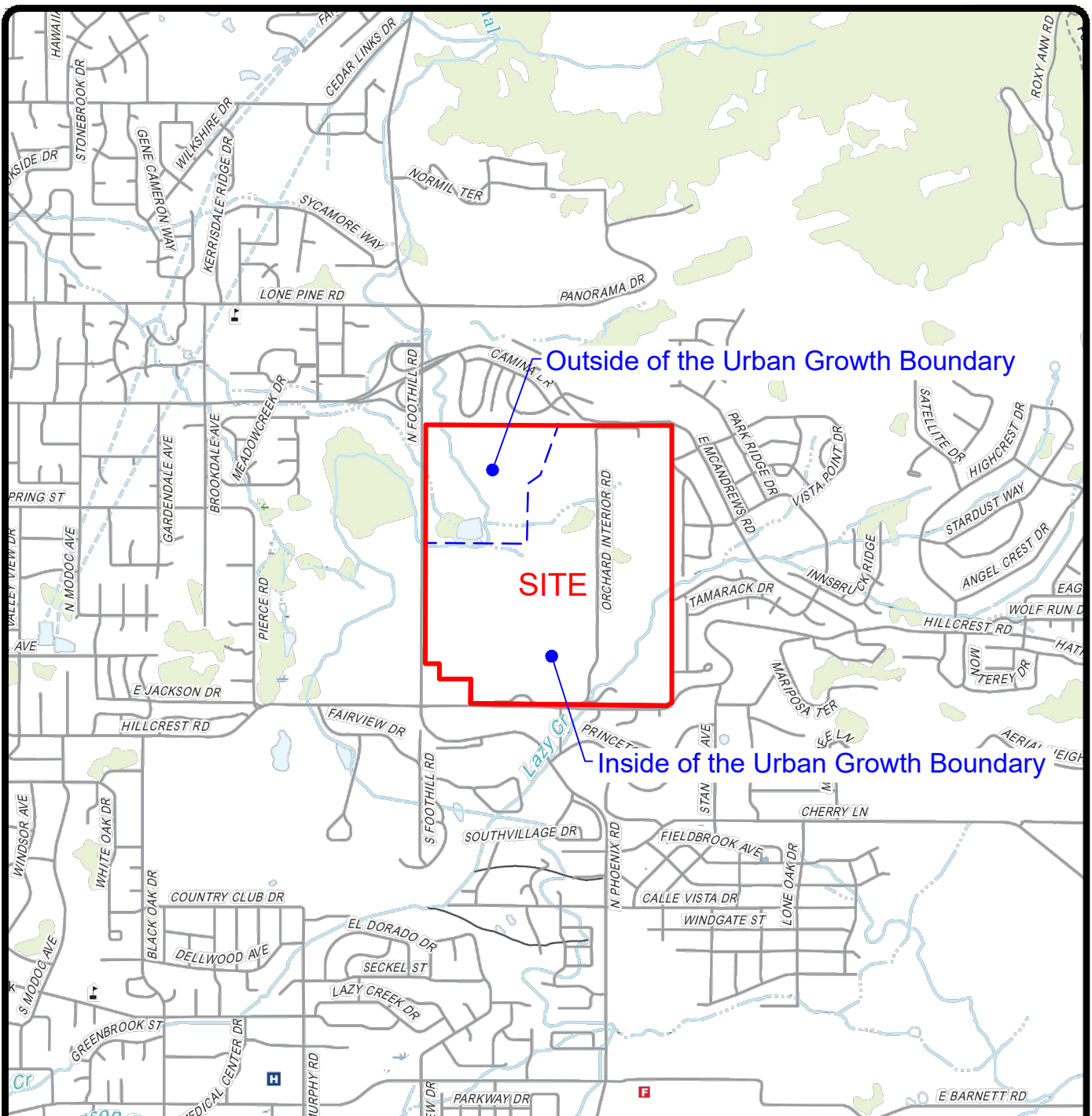
Jonathan D. Williams, RG
Senior Hydrogeologist, Principal

CC:

John Day, Cogswell LP
Barbara Light, Cogswell LP



Attachments:

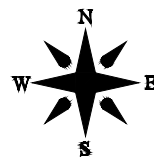
- Figure 1 – General Location Map
- Figure 2 – Phase II ESA 2022 Test Pit Location Map
- Figure 3 – Conceptual Hillcrest District Plan
- Figure 4 – Proposed Test Pit Location Map



SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE
MEDFORD EAST, OR (2020)

LEGEND

-  Approximate Site Boundary
-  Approximate Urban Growth Boundary at the Site



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DATE: 12/2/23

DRAWN BY: SM

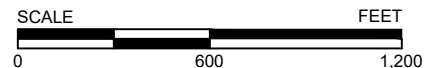
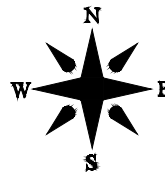
Figure 1
General Location Map
Supplemental Investigation Work Plan for 2-Acres
3285 Hillcrest Road
Medford, Oregon



SOURCE: Google Earth (2022)

LEGEND

- Approximate Site Boundary
- - - Urban Growth Boundary at the Site
- TP1 2022 Test Pit Location
- - - DU1 Approximate Decision Unit Area
- - - Approximate 2-Acre Parcel Boundary
- AST Above Ground Storage Tank
- UST Underground Storage Tank

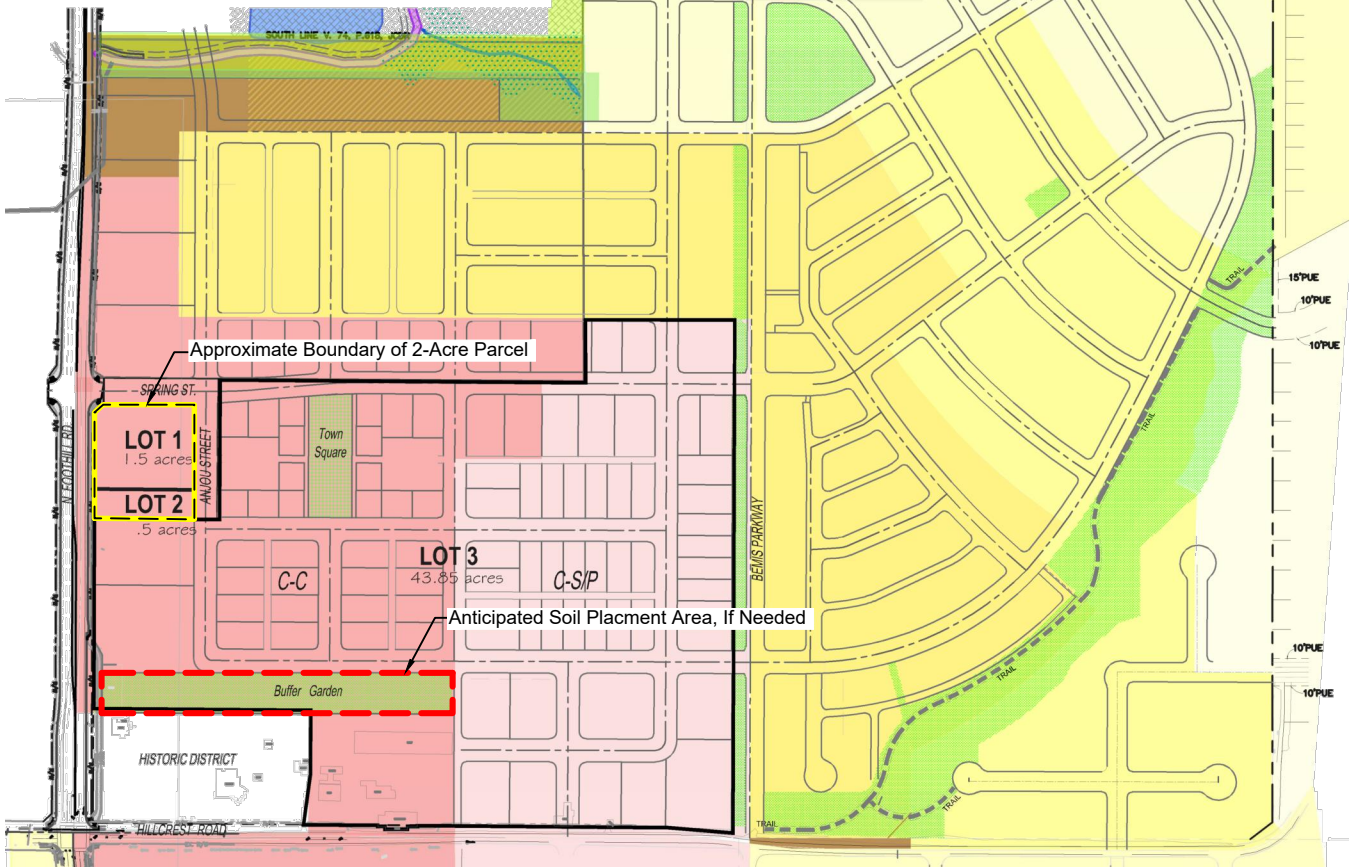


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DATE: 12/2/23 DRAWN BY: SM

Figure 2
Phase II ESA 2022 Test Pit Location Map
Supplemental Investigation Work Plan for 2-Acres
3285 Hillcrest Road
Medford, Oregon

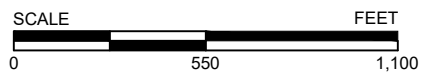
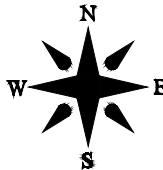
- SFR-2** .8 - 2.0 UNITS/GROSS ACRE
14,000 TO 55,000 SF LOTS
- SFR-4** 2.5 TO 4.0 UNITS/ GROSS ACRE
6,500 TO 18,750 SF LOTS
- SFR-6** 4.0 TO 6.0 UNITS/ GROSS ACRE
4,500 TO 12,500 SF LOTS
- SFR-10** 6.0 TO 10.0 UNITS/ GROSS ACRE
1,500 SF TO 4,500 SF TOWNHOUSE
LOTS
- MFR-15** 10.0 TO 15.0 UNITS/ GROSS ACRE
7,000 SF MIN. MULTI-FAMILY LOTS
- MFR-20** 15.0 TO 20.0 UNITS/ GROSS ACRE
- MFR-30** 20.0 TO 30.0 UNITS/ GROSS ACRE
7,000 SF MIN. MULTI-FAMILY LOTS
- C-S/P** SERVICE COMMERCIAL
- C-N** NEIGHBORHOOD COMMERCIAL
- C-C** COMMUNITY COMMERCIAL



SOURCE: CSA Planning, Ltd., Conceptual District Plan, August 8, 2023

LEGEND

- Approximate 2-Acre Parcel Boundary
- Anticipated Soil Placement Area, If Needed



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DATE: 11/22/23

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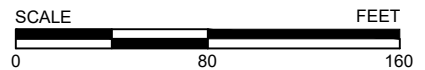
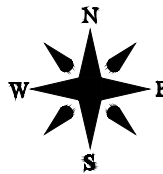
Figure 3
 Conceptual Hillcrest District Plan
 Supplemental Investigation Work Plan for 2-Acres
 3285 Hillcrest Road
 Medford, Oregon



SOURCE: Google Earth (2022)

LEGEND

- TP13 ■ Proposed Test Pit Location
- Approximate 2-Acre Parcel Boundary
- Approximate Site Boundary
- DU5 — Approximate Decision Unit (DU) Boundary



DATE: 11/28/23

DRAWN BY: SM

Figure 4
 Proposed Test Pit Location Map
 Supplemental Investigation Work Plan for 2-Acres
 3285 Hillcrest Road
 Medford, Oregon