File No. EA2022-130

CITY OF RICHLAND
Determination of Non-Significance

Description of Proposal: This proposal includes construction of a 35,000 square foot building (32,000 as currently designed), a paved parking lot and all required utility extensions will be constructed and associated grading. The facility will feature 16,000 sf of open, collaborative office space and another 16,000 sf high bay testing area specifically purposed for developing innovative nuclear and environmental cleanup technologies, digital solutions, robotics and Engineering Net Zero advancement.

Proponent: Knutzen Engineering on Behalf of Atkins Technology
Attn: Paul Knutzen
5401 Ridgeline Dr., Suite 160
Kennewick, WA 99338

Location of Proposal: The project area is located at/near 408 University Drive, upon an approximately 5.07-acre lot located on the northwest corner of George Washington Way and University Drive in Richland, Washington.

Lead Agency: City of Richland

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

( ) There is no comment for the DNS.

(**X**) This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for fourteen days from the date of issuance.

( ) This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.

Responsible Official: Mike Stevens
Position/Title: Planning Manager
Address: 625 Swift Blvd., MS #35, Richland, WA 99352
Date: October 18, 2022
Comments Due: November 2, 2022

Signature_____

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization, or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background [HELP]

1. Name of proposed project, if applicable:
   Atkins Technology Center

2. Name of applicant:
   Knutzen Engineering, Paul Knutzen

3. Address and phone number of applicant and contact person:
   5401 Ridgeline Drive, Suite 160, Kennewick, WA 99338. / (509) 222-0959

4. Date checklist prepared:
9/15/2022

5. Agency requesting checklist:
City of Richland

6. Proposed timing or schedule (including phasing, if applicable):
Construction to begin in the Fall of 2022 and should be finished during the Summer of 2023.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
There is a potential to expand the building as shown on the site plan, an office area expansion approximately 4,000 square feet and a high bay expansion of approximately 10,025 square feet.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
A geotechnical investigation report has been prepared by Baer Testing. An IDP plan has been prepared by Gram NW for this site. A Hydrology Report to address stormwater management of the runoff generated on-site will be prepared during design.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
None known.

10. List any government approvals or permits that will be needed for your proposal, if known.
The project will require a grading permit, ROW permit and a building permit. Ecology will require an erosivity waiver for construction stormwater permitting.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)
This proposal includes construction of a 35,000 square foot building (32,000 as currently designed), a paved parking lot and all required utility extensions will be constructed and associated grading. The facility will feature 16,000 sf of open, collaborative office space and another 16,000 sf high bay testing area specifically purposed for developing innovative nuclear and environmental cleanup technologies, digital solutions, robotics and Engineering Net Zero advancement.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.
The project area is an approximately 5.07-acre lot of land located on the northwest corner of George Washington Way and University Drive in Richland, Washington in Benton County, in Section 23 of Township 10N, Range 28E.

B. Environmental Elements [HELP]

1. *Earth* [help]

a. General description of the site:

(Circle one) Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?
The steepest slope on-site is approximately 2%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.
The soil on-site is classified as Silty Sand and Poorly Graded Gravel with Silt and Sand according to the Geotechnical Report.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.
No.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.
The project site will be graded to allow for level building foundations and proper drainage on the site. There will be approximately 5,000 CY of cut/fill which will balance on-site. Approximately 4.00 acres will be affected by the grading proposed for this project.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
Erosion could occur on site but will be minimized through implementation of BMPs during construction, including silt fencing, construction entrances, ground cover, wattles, site watering for dust control, catch basin inserts and protection. All storm water run-off will be contained and managed on site.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?
Approximately 60% of the 5.07-acre site will be covered in impervious surfaces including building, concrete, and asphalt.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
Standard erosion control and BMP methods will be used, such as catch basin protection, silt fencing, and stabilized construction entrances. Dust during construction will be controlled by the use of a water truck or sprinklers, as necessary.

2. *Air* [help]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.
During construction minor amounts of dust and exhaust from equipment activity may be released into the air. The completed project will not affect air quality.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
None known.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:
Dust control measures will be implemented in accordance with recommendations by the Department of Ecology and the Benton County Clean Air Authority. Measures include but are not limited to watering, lowering speed, limit of construction vehicles,

and reducing the number of dust-generating activities on windy days.

3. *Water* [help]

a. Surface Water: [help]

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows

No water bodies in the immediate vicinity. The Columbia River is 0.5 miles east of the property.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.
No.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
N/A.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.
None.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
The site has not been designated to lie within a 100-year floodplain. FEMA map 535533 0010 E designates the site as an area of minimal flooding, Zone C.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
No.

b. Ground Water: [help]

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.
Groundwater will not be withdrawn at this site. The site will be supplied with domestic water from the City of Richland.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . .; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
N/A.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
New impervious area on-site including roofs of buildings, concrete walkways, and the asphalt parking lot. The stormwater system will consist of catch basins, conveyance pipes, CDS units for pre-treatment (if required), and swales or subsurface infiltration trenches if swales cannot be designed.

2) Could waste materials enter ground or surface waters? If so, generally describe.
No.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.
No, all run-offs will be retained on-site.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Runoff generated from pervious surfaces will either infiltrate into underlying soils or flow to on-site collection systems. Stormwater generated from impervious surfaces will be collected and treated prior to on-site infiltration and all will be in accordance with City and Eastern Washington Storm Water Management Manual design standards.

4. *Plants* [help]

a. Check the types of vegetation found on the site:

____deciduous tree: alder, maple, aspen, other
____evergreen tree: fir, cedar, pine, other
____shrubs
_X_grass
____pasture
____crop or grain
_____Orchards, vineyards, or other permanent crops.
_____wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____water plants: water lily, eelgrass, milfoil, other
____other types of vegetation

b. What kind and amount of vegetation will be removed or altered?
Cheatgrass which covers 90% of the site, most of which will be removed for grading and site improvements. Big sagebrush may also be removed in areas of soil disturbance.

c. List threatened and endangered species known to be on or near the site.
None known per the Washington DNR Natural Heritage Program.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
Native plants and trees will be planted in landscaped areas and around the perimeter of the site. The site will be landscaped in compliance with City of Richland standards.

e. List all noxious weeds and invasive species known to be on or near the site.
None known per the WSDA Noxious Weed Data Viewer.

5. *Animals* [help]

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

b. List any threatened and endangered species known to be on or near the site.
The Ferruginous Hawk is listed as a threatened species per the Washington Department of Fish and Wildlife (WDFW) PHS on the Web.

c. Is the site part of a migration route? If so, explain.
Yes, the Columbia Basin is part of a migration route for a number of fowl known as the Pacific Flyway.

d. Proposed measures to preserve or enhance wildlife, if any:
None currently.

e. List any invasive animal species known to be on or near the site.
None known per the WDFW PHS on the Web.

6. *Energy and Natural Resources* [help]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
Electrical will be used for lighting and all appliances and gas will be used for heating.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
All structures will meet current building codes and energy efficiency standards.

7. *Environmental Health* [help]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.
No.

1) Describe any known or possible contamination at the site from present or past uses.
None known.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.
None.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.
Diesel fuel will likely be used/stored on-site for construction vehicles. No hazardous chemicals will be stored on the completed project.

4) Describe special emergency services that might be required.
Typical emergency services provided through the City of Richland will be used for the completed project.

5) Proposed measures to reduce or control environmental health hazards, if any:
None at this time.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
The noise level in the area is not perceived to have any adverse effect on the project. Noise is mainly generated by vehicle traffic on University Drive to the south and from George Washington Way to the east.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.
Short term: Construction noises.
Long term: Automobile noise from traffic associated with the site. The site will generate typical industrial noises but will be in a manner consistent with City of Richland code and Washington State Maximum Environmental Noise Levels (Chapter 173-60-040 WAC).

3) Proposed measures to reduce or control noise impacts, if any:
Noise impacts from construction activities and ongoing operations are expected to be minimal without significant effects on the surrounding area. All operations will be conducted in a manner compliant with Benton County Policy and Washington State Maximum Environmental Noise Levels (Chapter 173-60-040 WAC).

8. *Land and Shoreline Use* [help]

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.
Currently the proposed property is vacant land and the designated land use is Business Research Park (BRP). All surrounding properties share the same land use designation with the exception of the Public Facility land use at the southeastern corner of University and George Washington Way which has the WSU Wine Science Center. The parcels on all sides are vacant and undeveloped. The northwest corner of the property has the "The Commons" apartments. The proposal is not expected to affect the nearby or adjacent properties' land use.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated,

how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?
No.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:
No.

c. Describe any structures on the site.
Site is vacant, there are a few apparently abandoned manholes and there is a small pump house for Durand Well #5 located on the property but outside the project limits.

d. Will any structures be demolished? If so, what?
No, but we are exploring the usefulness of the pump house.

e. What is the current zoning classification of the site?
The site is currently zoned B-RP (Business Research Park), and the proposed use is permitted within this district.

f. What is the current comprehensive plan designation of the site?
The current comprehensive plan designation of the site is Business Research Park.

g. If applicable, what is the current shoreline master program designation of the site?
N/A.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.
It appears that the northwesterly half of the site is located within a 10- year aquifer recharge area.

i. Approximately how many people would reside or work in the completed project?
No one will be residing in the proposed development but there will be approximately 50 people working in the completed project.

j. Approximately how many people would the completed project displace?
None.

k. Proposed measures to avoid or reduce displacement impacts, if any:
N/A

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
The project will be permitted through local jurisdictions in accordance with all applicable zoning ordinances.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:
N/A.

9. *Housing* [help]

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

N/A.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
None would be eliminated.

c. Proposed measures to reduce or control housing impacts, if any:
None at this time.

10. *Aesthetics* [help]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?
The tallest height on the proposed buildings high bays will be approximately 70' tall. The 2-story office height is 40' tall. Building materials will be architectural metal, masonry, and glass, all in conformance with City of Richland Aesthetic and Structural Requirements for B-RP zoning.

b. What views in the immediate vicinity would be altered or obstructed?
No views are anticipated to be adversely affected.

b. Proposed measures to reduce or control aesthetic impacts, if any:
Landscaping, setbacks, and City of Richland Building Department façade requirements will be used to control aesthetics.

11. *Light and Glare* [help]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
Parking lot and building lighting would be proposed for nighttime.

b. Could light or glare from the finished project be a safety hazard or interfere with views?
No.

c. What existing off-site sources of light or glare may affect your proposal?
None known.

d. Proposed measures to reduce or control light and glare impacts, if any:
All outdoor lighting will be in conformance with the City of Richland code requirements. Outdoor lighting will be shielded per City of Richland Municipal Code.

12. *Recreation* [help]

a. What designated and informal recreational opportunities are in the immediate vicinity?
The site is located 0.5 miles northwest to Hanford High School as well as WSU Tri-Cities.

b. Would the proposed project displace any existing recreational uses? If so, describe.
No, the proposal would not displace any existing recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
Impact fees will be paid as required by the City of Richland.

13. *Historic and cultural preservation* [help]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years

old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.
None know on-site per the Department of Archeology and Historic Preservation.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.
The site is considered an area of interest for multiple native tribes according to the WISAARD system of the DAHP. No evidence of artifacts has been found to our knowledge. GRAM NW prepared an IDP for this site and is included with this SEPA.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.
The WISAARD system of the DAHP was used to assess potential impacts.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.
The site specific IDP will be adhered to which was prepared by Gram NW.

14. *Transportation* [help]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.
The site will be directly accessed from the private road Pauling Avenue to the west and from George Washington Way to the east.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?
The site is currently served by public transit. The stop is located on-site on GW Way at University Drive.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?
Approximately 80 (68 currently) parking stalls will be provided with the completed project. The proposal will not eliminate any parking stalls.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).
No, the road is fully improved on all sides here.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
No, to be safe we verified this with Max Platts of WSDOT, their Aviation Planner and this project is outside of any protecting flight zone.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?
Approximately 327 ADT and 46 peak hour trips would be generated due to this proposal. These estimates were determined using the 9th Edition ITE Trip Generation Manual.

g. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.
No.

h. Proposed measures to reduce or control transportation impacts, if any:
Transportation impact fees will be paid as required by the City of Richland.

15. *Public Services* [help]

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.
Yes, the completed development will utilize fire and police protection, as well as creating a need for public transit. Employees will utilize healthcare and schools.

b. Proposed measures to reduce or control direct impacts on public services, if any.
The completed development will provide additional tax revenue for the city and will pay impact fees, as necessary.

16. *Utilities* [help]

a. Circle utilities currently available at the site:
electricity natural gas water, refuse service, telephone sanitary sewer septic system, other _____

c. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electricity – Richland Energy Services

Sewer – City of Richland

Water – City of Richland

Cable – Charter

Telephone – Ziply Fiber

Internet – Charter/Ziply

Natural Gas – Cascade Natural Gas

C. Signature [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Paul Knutzen

Name of signee Paul Knutzen

Position and Agency/Organization Principal Engineer

Date Submitted: 09/15/2022

ESA LISTED SALMONIDS CHECKLIST

This worksheet was designed to help project proponents and government agencies identify when a project needs further analysis regarding adverse effects on ESA (Endangered Species Act) listed salmonids. Salmonids are salmon, trout, and chars, e.g., bull trout. For our purposes, "ESA listed salmonids" is defined as fish species listed as endangered, threatened, or being considered for listing.

If ESA listed species are present or ever were present in the watershed where your project will be located, your project has the potential for affecting them, and you need to comply with the ESA. The questions in this section will help determine if the ESA listings will impact your project.

The Fish Program Manager at the appropriate Department of Fish and Wildlife (DFW) regional office can provide information for the following two questions

1. Are ESA listed salmonids currently present in the watershed in which your project will be located?

   Yes_X_ No___

   Please describe.

2. Has there ever been an ESA listed salmonid stock present in this watershed?

   Yes_X_ No___ Uncertain___

   Please describe.

If you answered "yes" to either of the above questions, you should complete the remainder of this checklist.

PROJECT SPECIFICS: The questions in this section are specific to the project and vicinity.

1. Name of watershed: __*Upper Mid-Columbia*___

2. Name of nearest waterbody: __*Yakima River*_____

3. What is the distance from this project to the nearest body of water? __*1.5 miles*

   Often a buffer between the project and a stream can reduce the chance of a negative impact to fish.

4. What is the current land use between the project and the potentially affected water body (*parking lots, farmland, etc.)?*

Single family residences and commercial properties.

5. Is the project above a:

- natural permanent barrier (waterfall) Yes___ No *X*__
- natural temporary barrier (beaver pond) Yes___ No_*X*_
- man-made barrier (culvert, dam) Yes___ No_*X*_
- other (explain):

6. If yes, are there any resident salmonid populations above the blockage? Yes___ No_*X*_ Don't know___

7. What percent of the project will be impervious surface? (Including pavement & roof area)?

Approximately 2.75 acres or 55% of the property.

FISH MIGRATION: The following questions will help determine if this project could interfere with migration of adult and juvenile fish.
Both increases and decreases in water flows can affect fish migration.

1. Does the project require the withdrawal of?

i. Surface water? Yes___ No_*X*__

Amount _____

Name of surface water body _____

ii. Ground water? Yes___ No_X_

Amount _____

From where _____

Depth of well _____

2. Will any water be rerouted? Yes___ No_*X*_

If yes, will this require a channel change?

3. Will there be retention or detention ponds? Yes_*X*_ No__

If yes, will this be an infiltration pond or a surface discharge to either a municipal storm water system or a surface water body?

If to a surface water discharge, please give the name of the waterbody.

The runoff generated on-site will be contained and routed to surface and/or subsurface infiltration facilities.

4. Will this project require the building of new roads?
Yes___ No_*X*_ *Increased Road mileage may affect the timing of water reaching a stream and may impact fish habitat.*

5. Are culverts proposed as part of this project? Yes___ No_*X*_

6. Will topography changes affect the duration/direction of runoff flows? Yes___ No_*X*_ If yes, describe the changes.

7. Will the project involve any reduction of the floodway or floodplain by filling or other partial blockage of flows? Yes ___ No _X_
If yes, how will the loss of flood storage be mitigated by your project?

WATER QUALITY: The following questions will help determine if this project could adversely impact water quality. Such impacts can cause problems for listed species. Water quality can be made worse by runoff from impervious surfaces, altering water temperature, discharging contaminants, etc.

1. Do you know of any problems with water quality in any of the streams within this watershed? Yes___ No_*X*__
If yes, describe.

2. Will your project either reduce or increase shade along or over a waterbody? Yes___ No_*X*_
R*emoval of shading vegetation or the building of structures such as docks, or floats often result in a change in shade.*

3. Will the project increase nutrient loading or have the potential to increase

nutrient loading or contaminants (fertilizers, other waste discharges, or runoff) to the waterbody? Yes___ No_X_

4. Will turbidity be increased because of construction of the project or during operation of the project? Yes___ No_X_

In-water or near water work will often increase turbidity.

5. Will your project require long term maintenance, i.e., bridge cleaning, highway salting, chemical sprays for vegetation management, clearing of parking lots?

Yes___ No _X_ If yes, please describe.

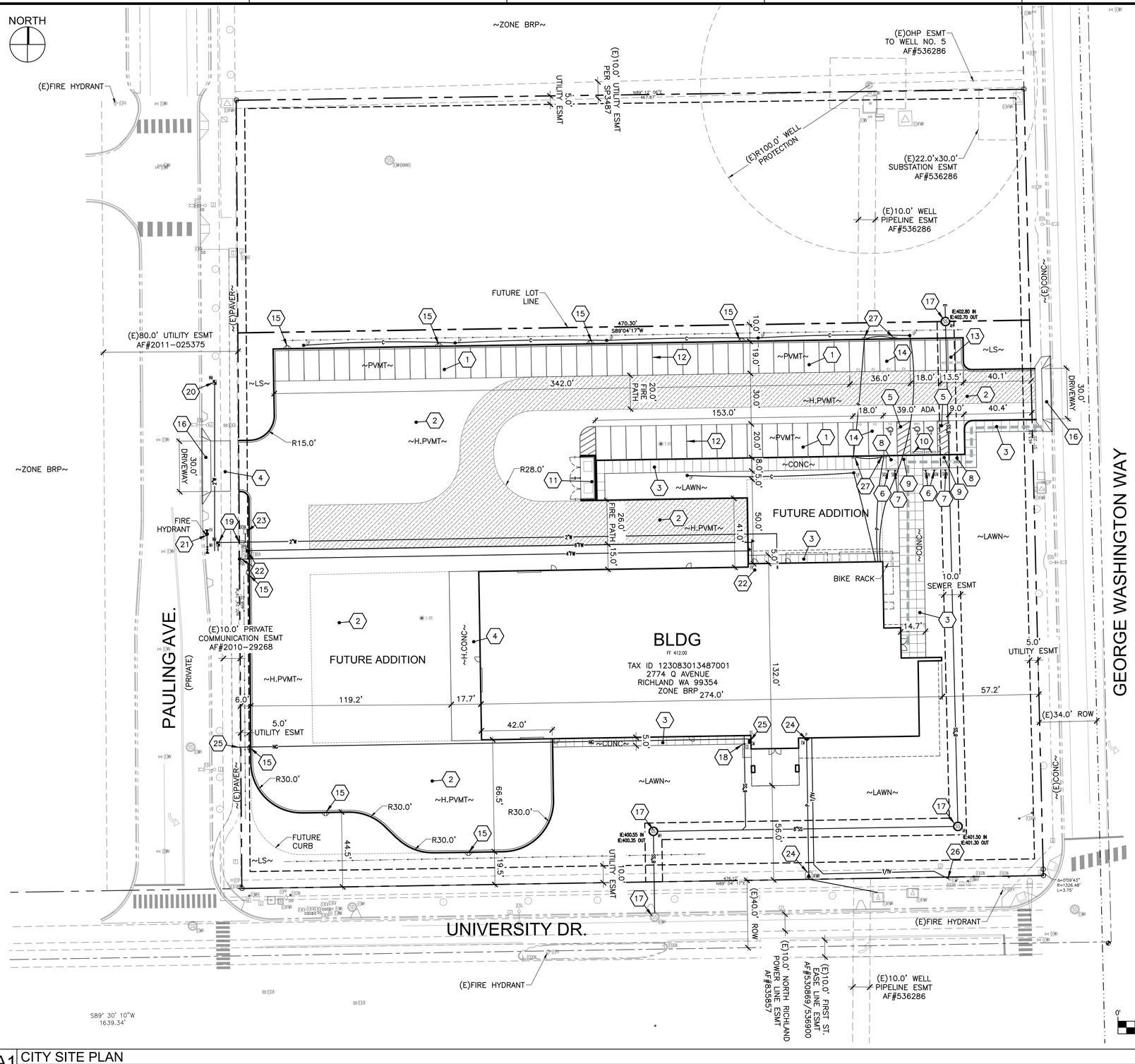
VEGETATION: The following questions are designed to determine if the project will affect riparian vegetation, thereby, adversely impacting salmon.

1. Will the project involve the removal of any vegetation from the stream banks? Yes___ No_X_

If yes, please describe the existing conditions, and the amount and type of vegetation to be removed.

2. If any vegetation is removed, do you plan to re-plant?

Yes___ No_X_ If yes, what types of plants will you use?



A1 CITY SITE PLAN
SCALE: 1" = 30'-0"

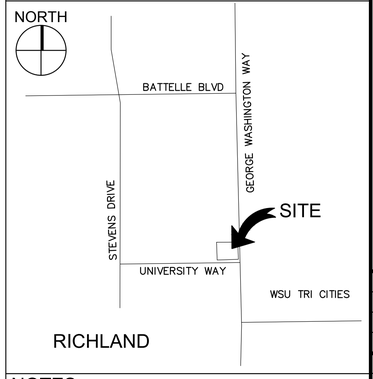
KEY NOTES

1. STANDARD ASPHALT SECTION – 3" THICK ASPHALT OVER 6" TOP COURSE PER WSDOT 9-03.9(3)
2. HEAVY ASPHALT SECTION – 4" THICK ASPHALT OVER 8" TOP COURSE PER WSDOT 9-03.9(3)
3. STANDARD CONCRETE SECTION – 4" THICK CONCRETE SIDEWALK OVER 4" TOP COURSE PER WSDOT 9-03.9(3). TROWEL CONTROL JOINTS AT 5' O.C. AND INSTALL EXPANSION JOINTS AT 30' O.C.
4. HEAVY CONCRETE SECTION – 6" THICK CONCRETE SIDEWALK OVER 6" TOP COURSE PER WSDOT 9-03.9(3). TROWEL CONTROL JOINTS AT 10' O.C. AND INSTALL EXPANSION JOINTS AT 30' O.C.
5. PAINT WHITE 4" WIDE PARKING STRIPING, LETTERING, AND ACCESSIBLE PARKING SYMBOLS PER ADA REQUIREMENTS AS SHOWN ON PLAN
6. ACCESSIBLE PARKING SIGN
7. ACCESSIBLE AISLE SIGN
8. ACCESSIBLE RAMP WING
9. DETECTABLE WARNING STRIP
10. WHEEL STOP
11. TRASH ENCLOSURE
12. PAINT 4" WHITE PARKING STRIPE, TYP
13. PAINT 4" WIDE WHITE MOTORCYCLE STALLS
14. FUTURE EV STALL
15. CURB INLET
16. REMOVE CURB AND OR SIDEWALK FOR NEW DRIVEWAY INSTALLATION PER CITY STD ST3A
17. EXTEND SEWER MAIN TO NORTH OF PROJECT
18. TIE SEWER SERVICE INTO NEW SEWER MAIN
19. TAP WATER SERVICE OFF EXISTING WATER STUB AND INSTALL A WATER METER AND RPBA THEN ROUTE TO BUILDING
20. TAP WATER SERVICE OFF EXISTING WATER STUB AND EXTEND TO NORTH OF PROJECT AND CAP IN WATER METER BOX
21. TAP FIRE HYDRANT ASSEMBLY OFF EXISTING WATER STUB
22. CONNECT TO END OF WATER STUB WITH 8"x6" REDUCER AND ROUTE TO FIRE RISER IN BUILDING, THEN ROUTE OUT TO ROAD FOR FDC
23. TAP OFF WATER SERVICE DOWN STREAM OF RPBA FOR IRRIGATION DVCA
24. NEW TRANSFORMER TO TIE INTO EXISTING THEN ROUTE POWER TO METER AT BUILDING
25. TIE NATURAL GAS INTO EXISTING MAIN THEN ROUTE TO METER AT BUILDING
26. TIE TELEPHONE/TV INTO EXISTING PEDESTAL THEN ROUTE TO BUILDING
27. EV INFASTRUCTURE

LEGEND

ADA COMPLIANT PATH TO SIDEWALK

VICINITY MAP



NOTES

1. PARKING:
   58 STANDARD STALLS, 1 ACCESSIBLE STALL, 1 ACCESSIBLE/EV STALL, 1 ACCESSIBLE VAN STALL, 3 MOTORCYCLE STALLS, 6 EV STALLS, TOTAL 68 STALLS.
2. AREA:
   107,634 SF IMPERVIOUS AREA, 48,526 SF PERVIOUS AREA (31%), 156,160 SF PROJECT AREA, FUTURE LOT 64,574 SF, 220,734 SF TOTAL PROPERTY AREA.

KNUTZEN ENGINEERING
5401 RIDGELINE DR.
SUITE 160
KENNEWICK, WA 99338
1-509-222-0959
www.knutzenengineering.com

No.	REVISIONS	DATE	DESIGN	CHKD	APPD

PAUL T. KNUTZEN
STATE OF WASHINGTON
PRELIMINARY
44313
REGISTERED
PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION
CITY SITE PLAN
ATKINS
ATKINS TECHNOLOGY CENTER
2774 Q AVENUE RICHLAND, WA 99354

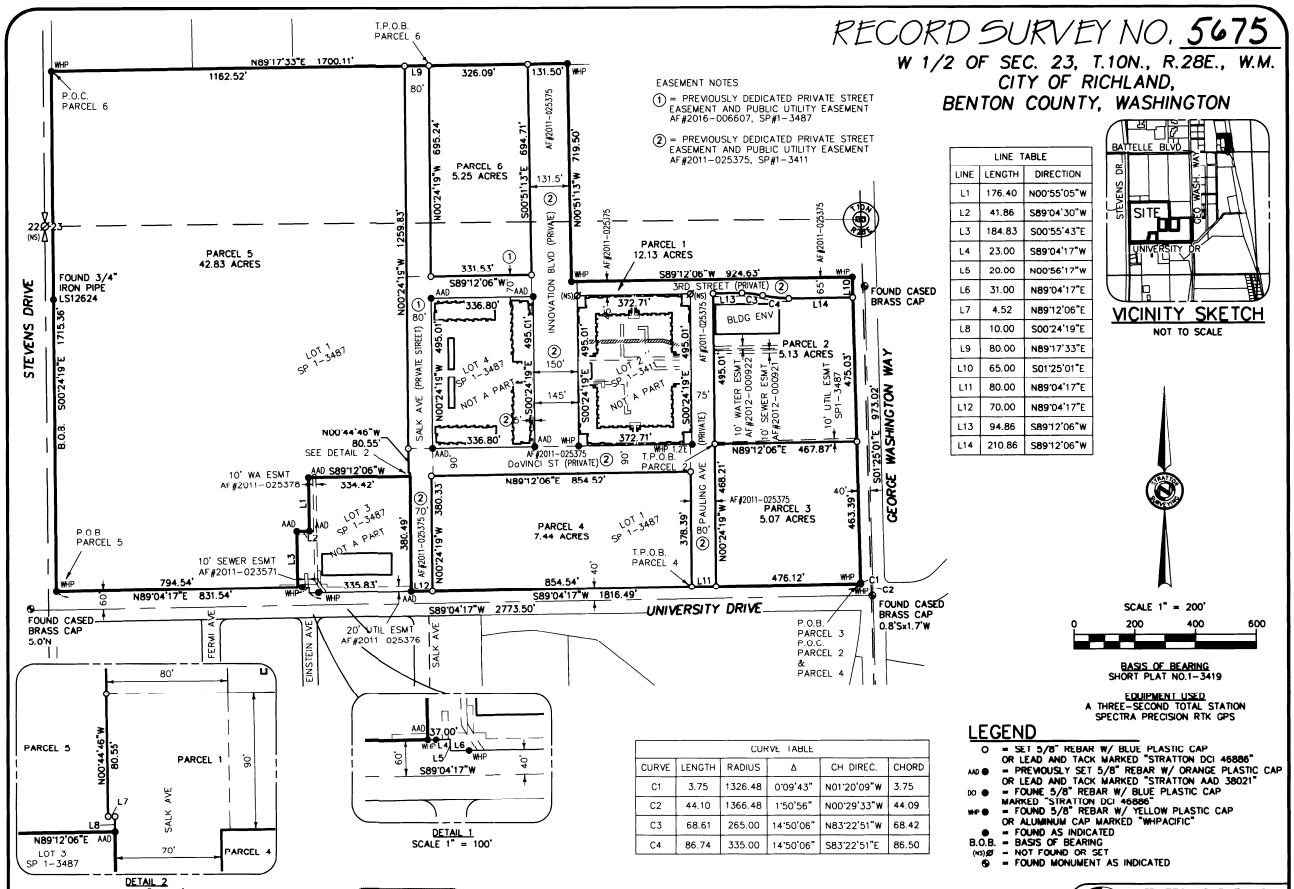
APPROVAL		
DESIGN	SJT	09/16/22
CHECKED	PTK	09/16/22
APPROVED	PTK	09/16/22

SCALE: AS NOTED
CADFILE: 22190SP01
JOB No. 22190 REV. 1
DWG. No. SP01

\2022\22190-Atkins Technology Center\DWG\22190SP01.dwg - Sep 16,2022 - 11:56am - sto

RECORD SURVEY NO. 5675

W 1/2 OF SEC. 23, T.10N., R.28E., W.M.
CITY OF RICHLAND,
BENTON COUNTY, WASHINGTON



EASEMENT NOTES

(1) = PREVIOUSLY DEDICATED PRIVATE STREET EASEMENT AND PUBLIC UTILITY EASEMENT AF#2016-006607, SP#1-3487

(2) = PREVIOUSLY DEDICATED PRIVATE STREET EASEMENT AND PUBLIC UTILITY EASEMENT AF#2011-025375, SP#1-3411

LINE TABLE		
LINE	LENGTH	DIRECTION
L1	176.40	N00°55'05"W
L2	41.86	S89°04'30"W
L3	184.83	S00°55'43"E
L4	23.00	S89°04'17"W
L5	20.00	N00°56'17"W
L6	31.00	N89°04'17"E
L7	4.52	N89°12'06"E
L8	10.00	S00°24'19"E
L9	80.00	N89°17'33"E
L10	65.00	S01°25'01"E
L11	80.00	N89°04'17"E
L12	70.00	N89°04'17"E
L13	94.86	S89°12'06"W
L14	210.86	S89°12'06"W

VICINITY SKETCH
NOT TO SCALE

SCALE 1" = 200'
0 200 400 600

BASIS OF BEARING
SHORT PLAT NO.1-3419

EQUIPMENT USED
A THREE-SECOND TOTAL STATION
SPECTRA PRECISION RTK GPS

CURVE TABLE					
CURVE	LENGTH	RADIUS	Δ	CH DIREC.	CHORD
C1	3.75	1326.48	0°09'43"	N01°20'09"W	3.75
C2	44.10	1366.48	1°50'56"	N00°29'33"W	44.09
C3	68.61	265.00	14°50'06"	N83°22'51"W	68.42
C4	86.74	335.00	14°50'06"	S83°22'51"E	86.50

LEGEND

- O = SET 5/8" REBAR W/ BLUE PLASTIC CAP OR LEAD AND TACK MARKED "STRATTON DCI 46886"
- AAD ● = PREVIOUSLY SET 5/8" REBAR W/ ORANGE PLASTIC CAP OR LEAD AND TACK MARKED "STRATTON AAD 38021"
- DCI ● = FOUNE 5/8" REBAR W/ BLUE PLASTIC CAP MARKED "STRATTON DCI 46886"
- WHP ● = FOUND 5/8" REBAR W/ YELLOW PLASTIC CAP OR ALUMINUM CAP MARKED "WHPACIFIC"
- ● = FOUND AS INDICATED
- B.O.B. = BASIS OF BEARING
- (NS)Ø = NOT FOUND OR SET
- Ø = FOUND MONUMENT AS INDICATED

SURVEYOR'S CERTIFICATE

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE SURVEY RECORDING ACT AT THE REQUEST OF DAVID PLOTTS IN MAY OF 2022.

DEREK C INGALSBE LS46886 — DATE 6/22/22

STATE OF WASHINGTON — DEREK C. INGALSBE — 46886 — REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY FOR
SHOTGUN CREEK INVESTMENTS LLC

INDEX

¼ ¼	SEC	T.	R.
	23	10N	28E

AUDITOR'S CERTIFICATE

FILED FOR RECORD THIS 22nd DAY OF June, 2022 AT 3:19 PM, IN VOLUME 1 OF SURVEYS AT PAGE 5675 AT THE REQUEST OF DEREK C INGALSBE, P.L.S.

Brenda Chilton BY Vic Bowton (Deputy)
BENTON COUNTY AUDITOR

STRATTON SURVEYING & MAPPING P.C.
313 NORTH MORAIN STREET
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FAX: (509) 735-6560
stratton@strattonsurvey.com

4628RS2A.DWG	© 2022
DATE: 06/22/22	SHT. 1 OF 3
DRAWN BY: DCI	JOB # 4628

RECORD SURVEY NO. 5675

W 1/2 OF SEC. 23, T.10N., R.28E., W.M.
CITY OF RICHLAND,
BENTON COUNTY, WASHINGTON

DESCRIPTION–NEW

PARCEL 1
LOT 1 OF THE SHORT PLAT RECORDED IN VOLUME 1 OF SHORT PLATS AT PAGE 3487, RECORDED UNDER AUDITOR'S FILE NO. 2016–006607, RECORDS OF BENTON COUNTY, WASHINGTON, EXCEPT THOSE PORTIONS DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT THENCE SOUTH 89°04'17" WEST ALONG THE SOUTHERLY LINE THEREOF 476.12 FEET; THENCE NORTH 00°24'19" WEST 468.21 FEET TO THE TRUE POINT OF BEGINNING;

THENCE NORTH 89°12'06" EAST 467.87 FEET TO THE EASTERLY LINE OF SAID LOT;
THENCE NORTH 01°25'01" WEST ALONG SAID LINE 475.03 FEET TO THE SOUTHERLY RIGHT–OF–WAY LINE OF A PRIVATE ROAD KNOWN AS 3RD STREET;
THENCE SOUTH 89°12'06" WEST ALONG SAID LINE 210.86 FEET TO THE BEGINNING OF A CURVE TO THE RIGHT THE RADIUS POINT OF WHICH BEARS NORTH 00°47'54" WEST 335.00 FEET, THENCE WESTERLY AND NORTHWESTERLY ALONG SAID CURVE AND RIGHT–OF–WAY LINE 86.74 FEET THROUGH A DELTA ANGLE OF 14°50'06" TO THE POINT OF REVERSE CURVE TO THE LEFT THE RADIUS POINT OF WHICH BEARS SOUTH 14°02'12" WEST 265.00 FEET, THENCE NORTHWESTERLY AND WESTERLY ALONG SAID CURVE AND SAID RIGHT–OF–WAY LINE 68.61 FEET THROUGH A DELTA ANGLE OF 14°50'06";
THENCE SOUTH 89°12'06" WEST 94.86 FEET;
THENCE SOUTH 00°24'19" EAST ALONG THE EASTERLY RIGHT–OF–WAY LINE OF A PRIVATE ROAD KNOWN AS PAULING AVENUE 495.01 FEET TO THE SAID TRUE POINT OF BEGINNING.

BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT THENCE SOUTH 89°04'17" WEST ALONG THE SOUTHERLY LINE THEREOF 476.12 FEET;
THENCE NORTH 00°24'19" WEST ALONG THE EASTERLY RIGHT–OF–WAY LINE OF A PRIVATE ROAD KNOWN AS PAULING AVENUE 468.21 FEET;
THENCE NORTH 89°12'06" EAST 467.87 FEET TO THE EASTERLY LINE OF SAID LOT;
THENCE SOUTH 01°25'01" EAST ALONG SAID LINE 463.39 FEET TO THE BEGINNING OF A CURVE TO THE RIGHT THE RADIUS POINT OF WHICH BEARS SOUTH 88°34'59" WEST 1326.48 FEET;
THENCE SOUTHERLY ALONG SAID CURVE AND SAID EASTERLY LINE 3.75 THROUGH A DELTA ANGLE OF 00°09'43" TO THE SAID POINT OF BEGINNING.

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT THENCE SOUTH 89°04'17" WEST ALONG THE SOUTHERLY LINE THEREOF 556.12 FEET TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUING SOUTH 89°04'17" WEST ALONG SAID LINE 854.54 FEET TO THE WESTERLY RIGHT–OF–WAY LINE OF A PRIVATE ROAD KNOWN AS SALK AVE;
THENCE NORTH 00°24'19" WEST ALONG SAID LINE 380.33 FEET TO THE SOUTHERLY RIGHT–OF–WAY LINE OF A PRIVATE ROAD KNOWN AS DaVINCI STREET;
THENCE NORTH 89°12'06" EAST ALONG SAID LINE 854.52 FEET TO THE WESTERLY RIGHT–OF–WAY LINE OF A PRIVATE ROAD KNOWN AS PAULING AVE;
THENCE SOUTH 00°24'19" EAST ALONG SAID LINE 378.39 FEET TO THE SAID TRUE POINT OF BEGINNING;

BEGINNING AT THE SOUTHWEST CORNER OF SAID LOT 1 THENCE NORTH 89°04'17" EAST ALONG THE SOUTHERLY LINE THEREOF 794.54 FEET TO THE SOUTHWEST CORNER OF LOT 3 OF SAID SHORT PLAT;
THENCE NORTH 00°55'43" WEST ALONG THE WESTERLY LINE OF SAID LOT 184.83 FEET;
THENCE NORTH 89°04'30" EAST ALONG SAID LINE 41.86 FEET;
THENCE NORTH 00°55'05" WEST ALONG SAID LINE 176.40 FEET;
THENCE NORTH 89°12'06" EAST ALONG THE NORTHERLY LINE OF SAID LOT 334.42 FEET TO THE NORTHEAST CORNER OF SAID LOT;
THENCE NORTH 00°24'19" WEST ALONG THE WESTERLY LINE OF SALK AVENUE 10.00 FEET;
THENCE SOUTH 89°12'06" WEST ALONG SAID LINE 4.52 FEET;
THENCE NORTH 00°44'46" WEST ALONG SAID LINE 80.55 FEET;
THENCE NORTH 00°24'19" WEST ALONG SAID LINE PROJECTED 1259.83 FEET TO THE NORTHERLY LINE OF SAID LOT 1;
THENCE SOUTH 89°17'33" WEST ALONG SAID LINE 1162.52 FEET TO THE NORTHWEST CORNER OF SAID LOT 1;
THENCE SOUTH 00°24'19" EAST ALONG SAID LINE 1715.36 FEET TO THE SAID POINT OF BEGINNING;

COMMENCING AT THE NORTHWEST CORNER OF SAID LOT 1 THENCE NORTH 89°17'33" EAST ALONG THE NORTHERLY LINE THEREOF 1242.52 FEET TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUING NORTH 89°17'33" EAST ALONG SAID LINE 326.09 FEET TO THE WESTERLY RIGHT–OF–WAY LINE OF INNOVATION BOULEVARD;
THENCE SOUTH 00°51'13" EAST ALONG SAID WESTERLY LINE 694.71 FEET TO THE NORTHERLY RIGHT–OF–WAY LINE OF 3RD STREET;
THENCE SOUTH 89°12'06" WEST ALONG SAID LINE 331.53 FEET;
THENCE NORTH 00°24'19" WEST 695.24 FEET TO THE SAID TRUE POINT OF BEGINNING.

CONTAINS 12.35 ACRES

TOGETHER WITH AND SUBJECT TO EASEMENTS, RESERVATIONS, COVENANTS AND RESTRICTIONS, OF RECORD AND IN VIEW.

DESCRIPTION–PARENT

LOT 1 OF THE SHORT PLAT RECORDED IN VOLUME 1 OF SHORT PLATS AT PAGE 3487, RECORDED UNDER AUDITOR'S FILE NO. 2016–006607, RECORDS OF BENTON COUNTY, WASHINGTON, EXCEPT THAT PORTION DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID LOT 1 THENCE NORTH 89°17'33" EAST ALONG THE NORTHERLY LINE THEREOF 1242.52 FEET TO THE TRUE POINT OF BEGINNING;

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THENCE SOUTH 00°51'13" EAST ALONG SAID WESTERLY LINE 694.71 FEET TO THE NORTHERLY RIGHT–OF–WAY LINE OF 3RD STREET;
THENCE SOUTH 89°12'06" WEST ALONG SAID LINE 331.53 FEET;
THENCE NORTH 00°24'19" WEST 695.24 FEET TO THE SAID TRUE POINT OF BEGINNING.

CONTAINS 72.60 ACRES

TOGETHER WITH AND SUBJECT TO EASEMENTS, RESERVATIONS, COVENANTS AND RESTRICTIONS, OF RECORD AND IN VIEW.

NOTES

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY STRATTON SURVEYING AND MAPPING PC. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS–OF–WAY AND TITLE OF RECORD SEE SUBDIVISION GUARANTEE PREPARED BY FIRST AMERICAN TITLE COMPANY, ORDER NUMBER 5003353–3862463, DATED 11/17/2021, OF WHICH WAS RELIED UPON TO PLOT SAID ITEMS.

2. STRATTON SURVEYING AND MAPPING MAKES NO WARRANTIES AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS, ADVERSE POSSESSION, ACQUIESCENCE, ESTOPPEL, ETC.

DEREK C. INGALSBE — STATE OF WASHINGTON — 48084 — REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY FOR
SHOTGUN CREEK INVESTMENTS LLC

AUDITOR'S CERTIFICATE

FILED FOR RECORD THIS 23rd DAY OF June, 2022 AT 3:09 P.M. IN VOLUME 1 OF SURVEYS AT PAGE 5675 AT THE REQUEST OF DEREK C INGALSBE, P.L.S.

Brenda Chilton By Jill Bowman (Deputy)
BENTON COUNTY AUDITOR

STRATTON SURVEYING & MAPPING P.C.
313 NORTH MORAIN STREET
KENNEWICK, WA 99336
(509) 735–7364
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stratton@strattonsurvey.com

4628RS2A.DWG	© 2022
DATE: 06/22/22	SHT. 2 OF 3
DRAWN BY: DCI	JOB # 4628

RECORD SURVEY NO. 5675

W 1/2 OF SEC. 23, T.10N., R.28E., W.M.
CITY OF RICHLAND,
BENTON COUNTY, WASHINGTON

DESCRIPTIONS–NEW

PARCEL 2
THAT PORTION OF LOT 1 OF THE SHORT PLAT RECORDED IN VOLUME 1 OF SHORT PLATS AT PAGE 3487, RECORDED UNDER AUDITOR'S FILE NO. 2016–006607, RECORDS OF BENTON COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

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THENCE SOUTH 89°12'06" WEST 94.86 FEET;
THENCE SOUTH 00°24'19" EAST ALONG THE EASTERLY RIGHT–OF–WAY LINE OF A PRIVATE ROAD KNOWN AS PAULING AVENUE 495.01 FEET TO THE SAID TRUE POINT OF BEGINNING.

CONTAINS 5.13 ACRES

TOGETHER WITH AND SUBJECT TO EASEMENTS, RESERVATIONS, COVENANTS AND RESTRICTIONS, OF RECORD AND IN VIEW.

PARCEL 3
THAT PORTION OF LOT 1 OF THE SHORT PLAT RECORDED IN VOLUME 1 OF SHORT PLATS AT PAGE 3487, RECORDED UNDER AUDITOR'S FILE NO. 2016–006607, RECORDS OF BENTON COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

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THENCE SOUTHERLY ALONG SAID CURVE AND SAID EASTERLY LINE 3.75 THROUGH A DELTA ANGLE OF 00°09'43" TO THE SAID POINT OF BEGINNING.

CONTAINS 5.07 ACRES

TOGETHER WITH AND SUBJECT TO EASEMENTS, RESERVATIONS, COVENANTS AND RESTRICTIONS, OF RECORD AND IN VIEW.

PARCEL 4
THAT PORTION OF LOT 1 OF THE SHORT PLAT RECORDED IN VOLUME 1 OF SHORT PLATS AT PAGE 3487, RECORDED UNDER AUDITOR'S FILE NO. 2016–006607, RECORDS OF BENTON COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

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THENCE SOUTH 00°24'19" EAST ALONG SAID LINE 378.39 FEET TO THE SAID TRUE POINT OF BEGINNING.

CONTAINS 7.44 ACRES

TOGETHER WITH AND SUBJECT TO EASEMENTS, RESERVATIONS, COVENANTS AND RESTRICTIONS, OF RECORD AND IN VIEW.

PARCEL 5
THAT PORTION OF LOT 1 OF THE SHORT PLAT RECORDED IN VOLUME 1 OF SHORT PLATS AT PAGE 3487, RECORDED UNDER AUDITOR'S FILE NO. 2016–006607, RECORDS OF BENTON COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

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THENCE NORTH 00°44'46" WEST ALONG SAID LINE 80.55 FEET;
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THENCE SOUTH 89°17'33" WEST ALONG SAID LINE 1162.52 FEET TO THE NORTHWEST CORNER OF SAID LOT 1,
THENCE SOUTH 00°24'19" EAST ALONG SAID LINE 1715.36 FEET TO THE SAID POINT OF BEGINNING.

CONTAINS 42.83 ACRES

TOGETHER WITH AND SUBJECT TO EASEMENTS, RESERVATIONS, COVENANTS AND RESTRICTIONS, OF RECORD AND IN VIEW.

PARCEL 6
THAT PORTION OF LOT 1 OF THE SHORT PLAT RECORDED IN VOLUME 1 OF SHORT PLATS AT PAGE 3487, RECORDED UNDER AUDITOR'S FILE NO. 2016–006607, RECORDS OF BENTON COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID LOT 1 THENCE NORTH 89°17'33" EAST ALONG THE NORTHERLY LINE THEREOF 1242.52 FEET TO THE TRUE POINT OF BEGINNING;

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THENCE SOUTH 00°51'13" EAST ALONG SAID WESTERLY LINE 694.71 FEET TO THE NORTHERLY RIGHT–OF–WAY LINE OF 3RD STREET;
THENCE SOUTH 89°12'06" WEST ALONG SAID LINE 331.53 FEET;
THENCE NORTH 00°24'19" WEST 695.24 FEET TO THE SAID TRUE POINT OF BEGINNING.

CONTAINS 5.25 ACRES

TOGETHER WITH AND SUBJECT TO EASEMENTS, RESERVATIONS, COVENANTS AND RESTRICTIONS, OF RECORD AND IN VIEW.

NOTES

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2. STRATTON SURVEYING AND MAPPING MAKES NO WARRANTIES AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS, ADVERSE POSSESSION, ACQUIESCENCE, ESTOPPEL, ETC.

DEREK C. INGALSBE — STATE OF WASHINGTON — 44866 — REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY FOR
SHOTGUN CREEK
INVESTMENTS LLC

AUDITOR'S CERTIFICATE

FILED FOR RECORD THIS 22nd DAY OF June, 2022 AT 3:09P M. IN VOLUME 1 OF SURVEYS AT PAGE 5675 AT THE REQUEST OF DEREK C INGALSBE, P.L.S.

Brenda Chittenden By Vic Bouchon (Deputy)
BENTON COUNTY AUDITOR

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DATE: 06/22/22	SHT. 3 OF 3
DRAWN BY: DCI	JOB # 4628

Critical Aquifer Recharge Area Report

Atkins Technology Center
Parcel #123083013487001
Richland, WA 99354

Prepared For:

Innovation Center TCRD, LLC
11245 SE 6TH St.
Bellevue, WA 98004

Prepared By:

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Project No. 22190

9/16/22

Preparation Date:

September 16, 2022

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1.0 Project Overview

The Atkins Technology Center project is located at the northwest corner of University Drive and George Washington Way in Richland, WA 99354, Benton County parcel #123083013487001. The site covers approximately 3.58 acres of the existing 77.84-acre parent parcel. The site is currently vacant and was originally part of Camp Hanford which served as a military installation to support the Manhattan Project in the 1940s. The site is zoned BRP, Business Research Park. The site is bordered by similarly zoned properties. The project proposes construction of a new 32,000 square-foot building which will be called the Atkins Technology Center. The project will cover approximately 66% of the 3.58-acre site with impervious surfaces. The site will be accessed off George Washington Way and Pauling Ave. Refer to Appendix A for the Vicinity Map.

Approximately two thirds of the site at the northwest is located within a Critical Aquifer Recharge Area, as shown by the City of Richland's online critical area mapping. As identified in the City's Wellhead Protection Program, the site is near the edge of the 1-year time of travel zone for the North Richland Wellfield. See Appendix C for the map taken from the City's Wellhead Protection Program.

2.0 Site Geology

The existing site topography gently slopes from east to west with approximately 5-ft of elevation change across the site. The site contains slightly steeper slopes near the east side of the site. There is no existing evidence of on-site storm runoff leaving the site. Additionally, there is no evidence of the site receiving storm runoff from off-site sources.

Baer Testing & Engineering, Inc. prepared a geotechnical engineering study for the proposed Atkins Technology Center project on April 25, 2022 (Baer Project No. 22-070). They performed six exploration test pits, one of which (TP-1) included infiltration testing. The native soils on-site primarily consist of Silty Sand (SM), Poorly-Graded Sand with Silt (SP-SM), and Poorly-Graded Gravel with Sand (GP), underlain by a black Well- and Poorly-Graded Gravel with Sand (GW & GP). No bedrock or groundwater was encountered in any of the test pits. Baer used the Small PIT method to calculate infiltration rates for the on-site soils. They calculated an infiltration rate of 8.5 in/hr approximately 5 feet below ground surface in TP-1.

3.0 Groundwater

No groundwater was encountered in the test pit explorations. Baer Testing & Engineering, Inc. identifies the groundwater depth as approximately 45 feet below the existing surface elevation, based on nearby well logs. The groundwater level is likely to rise and fall with the change of seasons and irrigation.

A report provided by USGS identifies the general hydraulic gradient in the area as towards the northeast. See Appendix E for exhibits showing shallow water table level contours, Saddle Mountain basalt water level contours and Wanapum basalt contours.

4.0 Project Impact and Mitigation Plan

It is possible that stormwater produced by the site's impervious surfaces could enter the belowground aquifer. It is unlikely that pollutants in the stormwater could enter the belowground aquifer due to the significant depth of the groundwater. The large barrier, comprised of native soils, provides natural filtration, preventing pollutants from entering groundwaters. Furthermore, no storage or usage of chemicals are proposed on-site. The principal component of the site's mitigation plan is ensuring pollutants do not enter groundwater through the stormwater management plan and pretreatment practices.

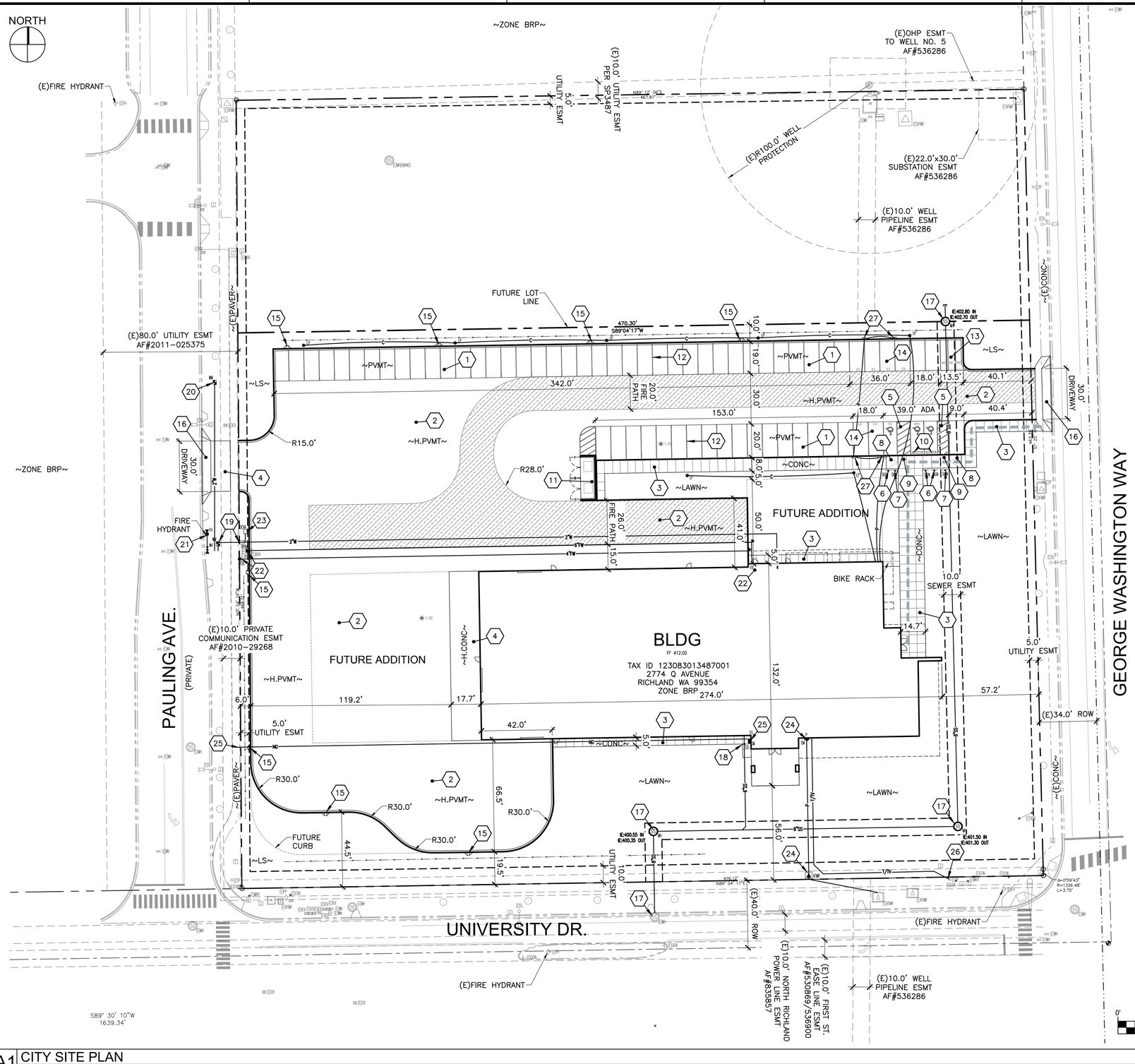
The stormwater plan for the site collects and infiltrates all stormwater runoff through conveyance systems and aboveground swales, compliant with the Stormwater Management Manual for Eastern Washington. The site is classified as a low pollutant loading site, per table 5.22 of the SMMEW. Based on the soil type and the infiltration rate provided by Baer Testing & Engineering, Inc., the site's soils are classified as low treatment capacity soils, per table 5.21 of the SWMMEW. The Wellhouse Heights construction drawings will instruct the contractor to install 18" of high treatment capacity soil below each infiltration facility, per table 5.21. Therefore, per table 5.23 of the SWMMEW, the required pre-treatment is a two-stage drywell. The proposed swales will be vegetated and will provide basic treatment, exceeding the treatment requirements.

Proper stormwater facility maintenance instructions will be provided on the corresponding construction drawings for the project. Based on the site conditions found and the proposed stormwater pre-treatment structures, the proposed project should have no significant impact to the Critical Aquifer Recharge Area. No additional plans are proposed to limit the impact on the area at this time.

APPENDIX A
Vicinity Map


Atkins Technology Center
Project Site
Parcel123083013487001
Richland, WA 99354
Stevens Dr
Einst
3rd St
Port of Benton Blvd
Waterfront Dr
Columbia River
University Dr
Crimson Way
Dalton St
Einstein Ave
Salk Ave
Curie St
Sprout Rd
Boyle St

APPENDIX B
Preliminary Site Plan



A1 CITY SITE PLAN
SCALE: 1" = 30'-0"

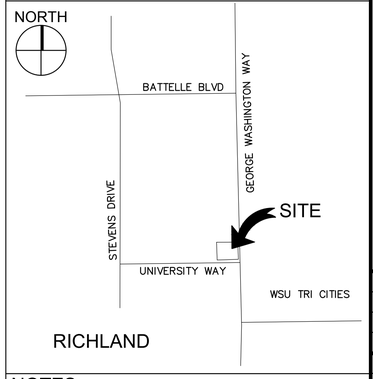
KEY NOTES

1. STANDARD ASPHALT SECTION – 3" THICK ASPHALT OVER 6" TOP COURSE PER WSDOT 9-03.9(3)
2. HEAVY ASPHALT SECTION – 4" THICK ASPHALT OVER 8" TOP COURSE PER WSDOT 9-03.9(3)
3. STANDARD CONCRETE SECTION – 4" THICK CONCRETE SIDEWALK OVER 4" TOP COURSE PER WSDOT 9-03.9(3). TROWEL CONTROL JOINTS AT 5' O.C. AND INSTALL EXPANSION JOINTS AT 30' O.C.
4. HEAVY CONCRETE SECTION – 6" THICK CONCRETE SIDEWALK OVER 6" TOP COURSE PER WSDOT 9-03.9(3). TROWEL CONTROL JOINTS AT 10' O.C. AND INSTALL EXPANSION JOINTS AT 30' O.C.
5. PAINT WHITE 4" WIDE PARKING STRIPING, LETTERING, AND ACCESSIBLE PARKING SYMBOLS PER ADA REQUIREMENTS AS SHOWN ON PLAN
6. ACCESSIBLE PARKING SIGN
7. ACCESSIBLE AISLE SIGN
8. ACCESSIBLE RAMP WING
9. DETECTABLE WARNING STRIP
10. WHEEL STOP
11. TRASH ENCLOSURE
12. PAINT 4" WHITE PARKING STRIPE, TYP
13. PAINT 4" WIDE WHITE MOTORCYCLE STALLS
14. FUTURE EV STALL
15. CURB INLET
16. REMOVE CURB AND OR SIDEWALK FOR NEW DRIVEWAY INSTALLATION PER CITY STD ST3A
17. EXTEND SEWER MAIN TO NORTH OF PROJECT
18. TIE SEWER SERVICE INTO NEW SEWER MAIN
19. TAP WATER SERVICE OFF EXISTING WATER STUB AND INSTALL A WATER METER AND RPBA THEN ROUTE TO BUILDING
20. TAP WATER SERVICE OFF EXISTING WATER STUB AND EXTEND TO NORTH OF PROJECT AND CAP IN WATER METER BOX
21. TAP FIRE HYDRANT ASSEMBLY OFF EXISTING WATER STUB
22. CONNECT TO END OF WATER STUB WITH 8"x6" REDUCER AND ROUTE TO FIRE RISER IN BUILDING, THEN ROUTE OUT TO ROAD FOR FDC
23. TAP OFF WATER SERVICE DOWN STREAM OF RPBA FOR IRRIGATION DVCA
24. NEW TRANSFORMER TO TIE INTO EXISTING THEN ROUTE POWER TO METER AT BUILDING
25. TIE NATURAL GAS INTO EXISTING MAIN THEN ROUTE TO METER AT BUILDING
26. TIE TELEPHONE/TV INTO EXISTING PEDESTAL THEN ROUTE TO BUILDING
27. EV INFASTRUCTURE

LEGEND

ADA COMPLIANT PATH TO SIDEWALK

VICINITY MAP



NOTES

1. PARKING:
   58 STANDARD STALLS, 1 ACCESSIBLE STALL, 1 ACCESSIBLE/EV STALL, 1 ACCESSIBLE VAN STALL, 3 MOTORCYCLE STALLS, 6 EV STALLS, TOTAL 68 STALLS.
2. AREA:
   107,634 SF IMPERVIOUS AREA, 48,526 SF PERVIOUS AREA (31%), 156,160 SF PROJECT AREA, FUTURE LOT 64,574 SF, 220,734 SF TOTAL PROPERTY AREA.

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No.	REVISIONS	DATE	DESIGN	CHKD	APPD

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44313
REGISTERED
PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION
CITY SITE PLAN
ATKINS
ATKINS TECHNOLOGY CENTER
2774 Q AVENUE RICHLAND, WA 99354

APPROVAL		
DESIGN	SJT	09/16/22
CHECKED	PTK	09/16/22
APPROVED	PTK	09/16/22

SCALE: AS NOTED
CADFILE: 22190SP01
JOB No. 22190 REV. 1
DWG. No. SP01

\2022\22190-Atkins Technology Center\DWG\22190SP01.dwg - Sep 16,2022 - 11:56am - sto

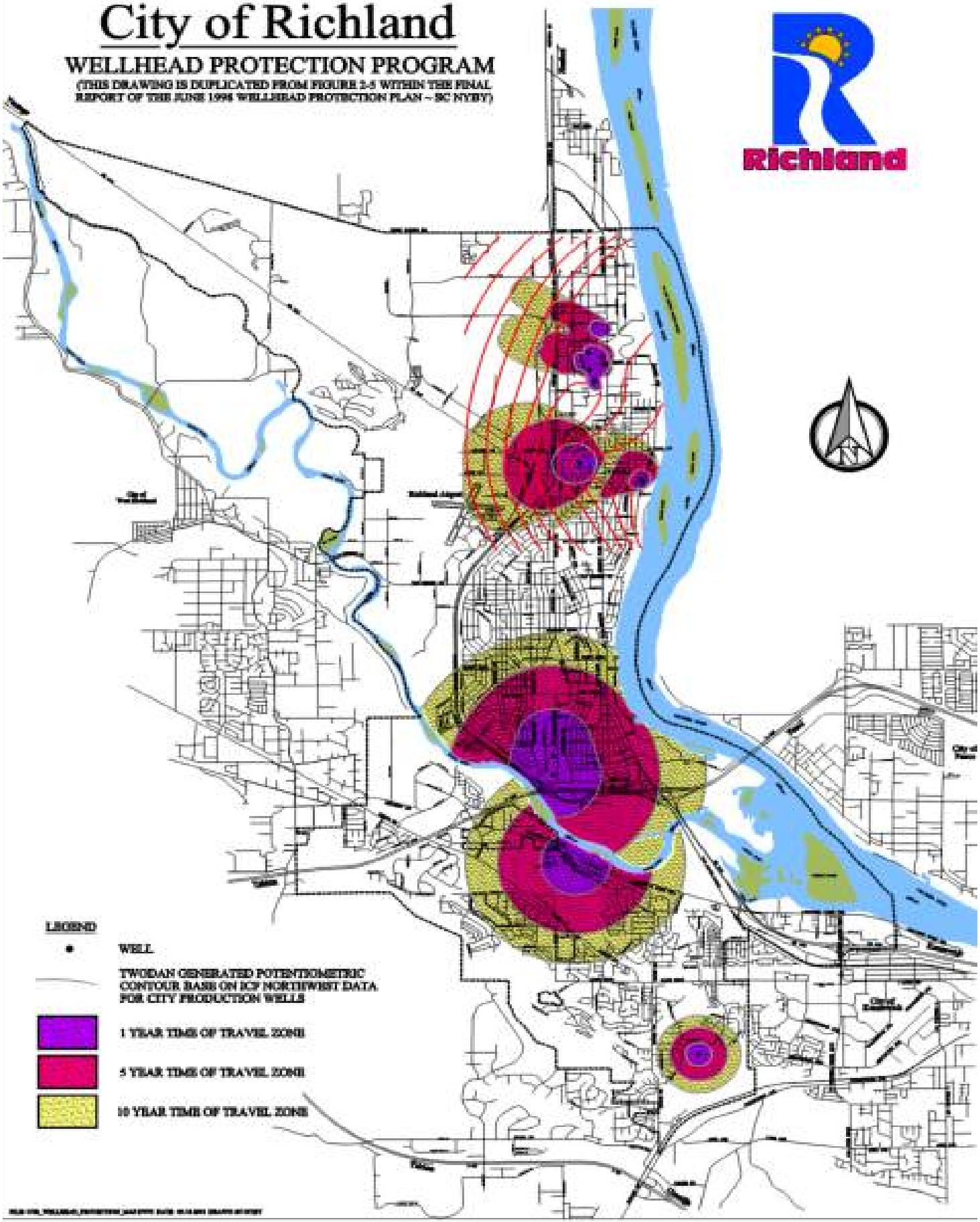
APPENDIX C
Wellhead Map

City of Richland

WELLHEAD PROTECTION PROGRAM

(THIS DRAWING IS DUPLICATED FROM FIGURE 2-5 WITHIN THE FINAL REPORT OF THE JUNE 1998 WELLHEAD PROTECTION PLAN – SC NYBY)

Richland



APPENDIX D
Geotechnical Report

ATKINS TECHNOLOGY CENTER
UNIVERSITY DR. & GEO. WASHINGTON WAY
RICHLAND, WASHINGTON

For:

MR. GEORGE WINDLE
RYAN COMPANIES US, INC.
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Provided By:

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April 25, 2022
Project No: 22-070

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Baer Testing & Engineering, Inc.

1106 Ledwich Ave.
Yakima, WA 98902

April 25, 2022

Mr. George Windle
Ryan Companies US, Inc.
110 110th Ave. NE, Suite 100
Bellevue, Washington 98004

RE: GEOTECHNICAL ENGINEERING STUDY; PROPOSED ATKINS TECHNOLOGY CENTER, RICHLAND, WASHINGTON

Dear Mr. Windle:

At your request, Baer Testing & Engineering, Inc. (BAER) conducted a Geotechnical Engineering study for the proposed Atkins Technology Center on University Drive in Richland, Washington. This report presents the results of the field explorations, laboratory testing, and engineering analyses.

This report presents recommendations for site grading, pavements, utility design and construction, and stormwater management. Design recommendations for structural foundation design and construction, and seismic design for the various project features are also provided.

We appreciate the opportunity to be of service. If you have questions or comments, please contact our office.

Sincerely,

BAER TESTING, INC.

Dee J. Burrie, P.E.
Chief Engineer

Enclosures: Geotechnical Engineering Report

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FIGURES

Figure 1 – Site Location Plan
Figure 2 – Exploration Plan

APPENDICIES

Appendix A – Test Pit Logs
Appendix B – Laboratory Test Results

1.0 INTRODUCTION

Baer Testing & Engineering, Inc. (BAER) is pleased to present the results of our geotechnical engineering study for the proposed Atkins Technology Center in Richland, Washington. This geotechnical engineering study provides subsurface information to support site grading, drainage, utility design and construction, and recommendations for foundation design and construction**,** pavements, and IBC seismic design criteria. Our scope of work included:

- observing 6 test pit excavations and field soil sampling;
- performing one infiltration test;
- conducting laboratory testing to determine soil properties;
- performing engineering analyses; and
- preparing this report.

2.0 PROJECT DESCRIPTION AND PROPOSED DEVELOPMENT

The approximately 4-acre site is located north of University Drive and west of George Washington Way in north Richland, Washington (**Figure 1 – Site Location Map**) in the NE4SW4 of S23, T10N, R28E, WM, in Richland, Washington. Approximate mid-site coordinates are 46°20'01.2"N Latitude; 119°16'25.3"W Longitude.

The existing site surface is vegetated with grass and light brush. The site is generally level with a surface elevation the same as the adjacent road. Depending on the final site grade elevations, we anticipate only minor site grading will be required. The site was originally part of Camp Hanford, a military installation developed to support the Manhattan Project during the 1940s and Cold War. The buildings were removed prior to the 1985 Google Earth image. Some foundations and construction fill, or debris may be encountered during site grading.

The proposed development consists of a 2-story, steel-framed structure, consisting of 25,600-square-foot (sf) office and industrial space, with potential expansion areas to the north and west. A 68-space paved parking lot will be located north of the main building. Development includes underground utilities and on-site stormwater management and disposal.

3.0 FIELD EXPLORATIONS

The exploration plan consisted of excavating six test pits designated TP-1 through TP-6 on **Figure 2 – Exploration Plan**. Double J Excavation (Double J) excavated the test pits on April 8, 2022, using a Deere 50G excavator equipped with a 24-inch bucket.

Where possible, soil in-situ strength was estimated using a dynamic, mini-cone penetrometer (DCP) and our observations of the relative excavation difficulty. The mini cone uses a 15-pound slide hammer dropped 20 inches to drive a conical tip into the soil. The number of hammer blows required to drive the cone 1¾-inch increments is roughly equivalent to a SPT blow count. The blows per increment provide an indication of the relative soil density. The blow counts are recorded on the logs. The mini-cone penetrometer test method is described in ASTM STP399.

BAER's geologist counted the blows required to drive the rod into the ground for each 1¾-inch increment over a given depth. The recorded blow count data was evaluated using correlation charts to

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estimate the soil bearing capacity. Due to oversized gravel encountered in the test pit explorations, the blow counts were elevated in some locations.

The subsurface conditions are known only at the test pit locations on the date explored and should be considered approximate. Actual subsurface conditions may vary between excavation locations. The test pit locations are presented in **Figure 2** and the test pit logs are presented in **Appendix A**. Our geologist classified the in-situ soil in the field and transported the soil samples to the laboratory for further examination and testing.

4.0 LABORATORY TESTING

BAER performed the following laboratory tests on selected soil samples from our explorations.

- Moisture Content (American Society for Testing and Materials (ASTM) Designation: D 2216) for material characterization and soil index properties; and
- Particle Distribution (ASTM Designation: D 422 and ASTM Designation: D 1140) for material characterization and soil index properties.

Northwest Agricultural Consultants performed the following laboratory tests on selected soil samples.

- Organic Matter Content (ASTM Designation: D 2974) for soil index properties; and
- Cation Exchange Capacity (Environmental Protection Agency (EPA) Designation: 9081) for soil properties

Copies of the laboratory test reports are enclosed in **Appendix B.**

5.0 SUBSURFACE CONDITIONS

The following information is a summary of the subsurface conditions encountered during the test pit explorations. Please refer to the enclosed logs (Appendix A) for more detailed information regarding subsurface conditions.

5.1 Regional Geologic Setting

Review of the *Geologic Map of the Richland 1:100,000 Quadrangle, Washington*; Washington Division of Geology and Earth Resources, Open File Report 94-8 (1994), shows the near-surface geology at the site primarily mapped as Qfg_4 – Outburst Flood deposits (Pleistocene), and Qds – Stabilized Sand Dunes (Holocene) to the west. Qfg_4 includes gravels but ranges from sand to boulders; clasts are chiefly basalt, granite, quartzite, diorite, and volcanic porphyries. Qds consists of Eolian medium to fine sand and silt; composed of quartz, basalt, and/or feldspar; and includes Mazama tephra at numerous places. In our opinion, the materials observed in the test pit excavations are consistent with this mapped geology.

5.2 Soils

The native subsurface profile generally consists of loose to medium dense, ***Silty Sand (SM)***, ***Poorly-Graded Sand with Silt (SP-SM)***, and ***Poorly-Graded Gravel with Sand (GP)***, underlain by a black ***Well-*** and ***Poorly-Graded Gravel with Sand (GW & GP)***. Generally, test pits encountered the gravel with sand at depths ranging from 3 to 6 feet below the ground surface (bgs). Test Pits TP-1, -4, and -5 were terminated at approximately 7 to 8 feet bgs, due to caving. All other excavations were terminated at approximately 9 to 10 feet bgs.

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5.3 Groundwater

Groundwater was not encountered in the test pits. Based on well logs from nearby locations, groundwater is approximately 45 feet below the existing surface elevation.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 General

The existing site surface is comprised of re-worked stabilized dunes and was previously part of a military facility during the 1940s and Cold War era. The buildings were removed prior to the earliest available Google Earth image from 1985. The site is currently vegetated with grass and light brush. The site is relatively level with a surface elevation approximately the same as the adjacent roads. Test Pits TP-2, TP-3, and TP-6 encountered 1.5 to 2 feet of previously placed fill at the surface.

6.1.1 Test Pit Backfill

Double J used the excavator to backfill each test pit with excavated materials upon completion. The operator compacted the backfill using the excavator bucket. The test pits should be over-excavated and backfilled with compacted structural fill during site grading in accordance with Section "6.2 Earthwork" below.

6.2 Earthwork

Existing vegetation and any deleterious debris should be removed from the building and pavement areas. We anticipate approximately 6 to 12 inches of topsoil will need to be removed. However, deeper sagebrush root balls and fill deposits may be encountered and require additional effort. Stripped soil materials with debris removed may be stockpiled for use in future landscape areas but may not be used as structural fill. The existing native materials free of organics, deleterious debris, and any material larger than 3-inches may be reused for general fill and backfill.

6.2.1 Subgrade Preparation

Soils should be properly moisture conditioned prior to being compacted. The upper 12 inches of the exposed subgrade in areas to receive fill should be moisture conditioned to within 2 percent of optimum and compacted to a minimum 92 percent of the maximum laboratory dry density as determined by the ASTM Designation: D 1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort. Where possible, the subgrade should be proof rolled using a loaded water truck or dump truck to identify loose or unstable areas. The geotechnical engineer should observe the proof rolling activities to determine if the intent of this section is met and to aid in determining areas with soft or unsuitable soils.

6.2.2 Material Reuse

Limited on-site material will be available for reuse. The various grades of gravel, sand, and silt may be used as general fill and structural fill once rocks larger than 3-inches in diameter are removed. If off-site materials are required, we recommend using materials similar to the on-site soil, or a well-graded, 2-inch minus, pit-run sand and gravel with less than 5 percent fines. All structural fill and backfill should be placed in accordance with Section "6.2.3 Placement and Compaction".

6.2.3 Placement and Compaction

Fill and backfill should be moisture conditioned to within 2 percent of optimum, placed in maximum 8-inch loose lifts, and compacted to a minimum 95 percent of ASTM D 1557. Structural fill under footings, if used, should consist of 5/8-inch minus CSTC. Structural fill should be compacted to 95 percent of ASTM D 1557.

6.2.4 Slopes

Occupational Safety and Health Administration (OSHA) Type C soil best describes the on-site poorly graded sand. Type C soils may have maximum temporary construction slopes of 1.5 Horizontal to 1 Vertical (1.5H:1V). Permanent cut or fill slopes should be no steeper than 2H:1V and must be protected from both wind and water erosion. Erosion protection may consist of vegetative cover or a minimum 3 inches of coarse concrete aggregate conforming to the requirements of WSDOT Specification 9-03.1(4) c, "Concrete Aggregate AASHTO Grading No. 57."

6.2.5 Utility Trenching

Utility trenching should be accomplished in accordance with American Public Works Association (APWA) Standard Specifications. Based on our explorations, we anticipate excavations may be accomplished using standard excavation equipment. Significant caving should be anticipated when excavations penetrate the underlying black sand and gravel. Utility piping should be bedded as recommended in the APWA specifications. Utility trenches should be backfilled using structural fill compacted as specified in section "6.2.4 Placement and Compaction". Enough backfill should be placed over the utility before compacting with heavy compactors to prevent damage.

6.2.6 Wet Weather Construction

The site soils are typically fine to medium sand with gravels and cobbles. The stability of the exposed fine soils may deteriorate due to change in moisture content. If construction occurs during wet weather, we recommend:

- Fill materials consist of clean, granular soil with less than 5 percent fines passing the #200 sieve. Fines should be non-plastic.
- The ground surface in the construction area should be sloped to drain and sealed to reduce water infiltration and to prevent water ponding.
- Work areas and stockpiles should be covered with plastic. Geotextile silt fences, straw bales, straw wattles, and/or other measures should be used as needed to control soil erosion.

6.2.7 Infiltration Rate

We understand stormwater will be managed on site. We conducted an infiltration test in TP-1 approximately 5 feet below ground surface (bgs). The infiltration test was conducted in general accordance with the Small PIT method described in the 2019 Washington Department of Ecology Stormwater Management Manual Table 6.3 and Appendix 6.B.

We filled the pit with approximately 2 feet of water. The water was allowed to saturate the underlying soils for approximately 2 hours. The pit was again filled with water and the depth below the reference was measured when filling stopped. We obtained measurements at 15-minute intervals over the following hour. The water surface elevation changes between the 30- and 60-minute readings are used to calculate the infiltration rate.

The test results indicate an infiltration rate of 8.5 inches per hour. This rate does not include safety factors. Local codes may limit the maximum design infiltration rate. The system designer should verify any limitations and incorporate an appropriate factor of safety against slowing rates over time due to biological and sediment clogging.

7.0 FOUNDATION DESIGN RECOMMENDATIONS

7.1 Footings

The proposed structures may be supported on conventional spread footings or continuous footings bearing on the native gravels and sand, or structural fill extending to the native gravel. Exterior footings should be embedded a minimum 24 inches below adjacent grades for bearing considerations and frost protection. It is important that footings bear on consistent conditions to avoid differential settlement.

Because of the variable materials encountered at footing depth, we recommend over-excavating the footings 12 inches and backfilled with 5/8-inch minus crushed stone top course (CSTC) compacted to 95 percent of ASTM D 1557.

Prior to placing structural fill, footing subgrade should be moisture conditioned and compacted to 92% of ASTM D 1557.

We recommend constructing footings a minimum 2 feet wide for spread footings and minimum 18 inches wide for continuous footing. Footings constructed with these recommendations can be designed with an allowable bearing pressure of 2,000 pounds per square foot (psf). The allowable bearing pressure may be increased by one-third for short-term transient loading conditions (i.e., seismic and/or wind loads).

We anticipate settlement will be the limiting factor for foundation design. Foundation settlement estimates are based on the soil profile and densities encountered at the site. Foundations designed as outlined above should experience less than ½-inch settlement. We anticipate differential settlement will be less than half of total settlements between adjacent footings or across approximately 20 feet of continuous footings. Settlement should occur rapidly as loads are applied.

Lateral forces may be resisted using a combination of friction and passive earth pressure against the buried portions of the structure. For design, a 0.45 coefficient of friction may be assumed along the interface between the footing base and the compacted CSTC. Passive earth pressure from the sandy backfill may be calculated using an equivalent fluid weight of 260 psf per foot of embedment depth. The recommended coefficient of friction and passive earth pressure values do not include a safety factor.

7.2 Concrete Slabs-on-Grade

Subgrade for concrete slabs-on-grade in warehouse-process areas and exterior hardscape slabs should be moisture conditioned and compacted to a minimum of 95 percent of ASTM D 1557.

After compacting the subgrade, we recommend placing a minimum 6-inch layer of 5/8-inch CSTC under the concrete slab. The CSTC should be compacted to a firm, unyielding condition. The geotechnical engineer should observe subgrade preparation prior to gravel placement.

Static k-Value (American Concrete Pavement Association ACPA) is a commonly applied value in concrete pavement design. It estimates the composite of support of any subgrade(s) or subbase(s) layers below the concrete pavement surface course. A **k=230 psi/in** may be used for slab design.

7.3 Retaining Walls

Retaining wall foundations should be designed and constructed in accordance with the footing recommendations. All retaining walls should be designed with a minimum 12-inch-wide drainage zone directly behind the wall. The on-site sandy silt soil or gravel may be used as backfill behind the

drainage zone. The drainage zone should be separated from the backfill using a separation geotextile. Backfill should be placed in maximum 8-inch loose lifts and compacted to 95 percent of ASTM D 1557.

If retaining walls are constructed as recommended above, the values in the following table may be used for design.

Table 7.3-1 Retaining Wall Design

Design Parameter	Value, pcf/ft. depth
Active Earth Pressure (unrestrained walls)	35
At-rest Earth Pressure (restrained walls)	55

7.4 Pavement Sections

The buildings will be used for research and office purposes. We anticipate traffic will consist of automobile and light trucks, with occasional garbage or delivery trucks. Based on the anticipated traffic, we recommend the following pavement sections.

Table 7.4-1 Recommended Pavement Section

Material Layer	Layer Thickness, inches		Compaction Standard
	Light duty	Main Access	
Asphaltic Concrete Pavement (HMACP)	3	4	91 percent of Maximum Theoretical Specific Gravity (Rice's)
Crushed Stone Top Course (CSTC) WSDOT 5/8-inch minus Top Course	6	8	95 percent of ASTM D 1557
Compacted Subgrade	12		95 percent of ASTM D 1557

The upper 12 inches of the pavement subgrade should be moisture conditioned and compacted to 95 percent of ASTM D 1557. The geotechnical engineer should observe the subgrade prior to base course placement. Soft or unstable areas should be stabilized or over-excavated and replaced with compacted structural fill prior to paving.

7.5 Seismic Design

Structures should be designed in accordance with the 2018 International Building Code (IBC). The Site Class is based on the average conditions present within 100 feet of the ground surface. The Site Classification is based on shear wave velocity. To establish a higher site class, additional explorations are required, including deep borings and geophysical measurements. Based on the available information, we recommend using the default classification Site Class D (Stiff Soil). Design values determined for the center coordinates of the site using the United States Geological Survey (USGS) *Earthquake Ground Motion Parameters* utility (ATC Hazards by Location Tool – ASCE 7-16) are summarized in Table 7.5-1 below.

Table 7.5-1 Recommended Earthquake Ground Motion Parameters (2018 IBC)

Parameter	Value
Location (Latitude, Longitude), degrees	46.333665; -119.273683
Mapped Spectral Acceleration Values (MCE, Site Class D):	
Short Period, S_s	0.401 g
1.0 Sec. Period, S_1	0.155 g
Soil Factors for Site Class D:	
F_a	1.479 g
F_v	2.290
S_{DS}	0.396 g
S_{D1}	0.236

7.5.1 Liquefaction

Soil liquefaction occurs when saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Liquefaction typically occurs in loose, granular soils located in the upper 50 feet and below the water table. The groundwater depth is approximately 45 feet bgs and the on-site poorly graded sand with silt and underlying poorly graded gravel with sand are generally loose to medium dense. In our opinion, the liquefaction potential at this site is moderate. Additional exploration and analysis will be required to quantify anticipated settlements due to potential liquefaction.

7.5.2 Fault Rupture Potential

Based on our review of available geologic literature, a hidden, northwest – southeast trending hidden thrust fault generally follows the Yakima River alignment approximately 4 miles southwest of the site. A second hidden thrust fault is located at the base of the hills (Badger Mountain, Candy Mountain, South Hills) approximately 6.5 miles southwest of the site. We are not aware of any major movement along these faults in the last 10,000 years. We did not observe any evidence of surface rupture or recent faulting during our field observation. Therefore, we conclude the fault rupture potential is low at this site.

7.5.3 Slope stability

The site is in a relatively level, developing commercial area in northern Richland. In our opinion, the potential for slope failure impacting the proposed project site is low.

8.0 ADDITIONAL SERVICES

BAER is available to provide further geotechnical consultation during the project design phase. We should review the final design and specifications to verify earthwork and foundation recommendations have been properly interpreted and incorporated into the project design and construction specifications. We are also available to provide geotechnical engineering and special inspection services during construction. Observation during construction provides the geotechnical engineer the opportunity to assist in making engineering decisions if variations in subsurface conditions become apparent. If BAER is not retained to provide construction phase services, we cannot be responsible for soil related construction errors or omissions.

Construction observation and special inspection services are not part of this geotechnical engineering study scope of work. We will be pleased to provide a separate proposal for the construction phase services, if desired.

9.0 UNCERTAINTIES AND LIMITATIONS

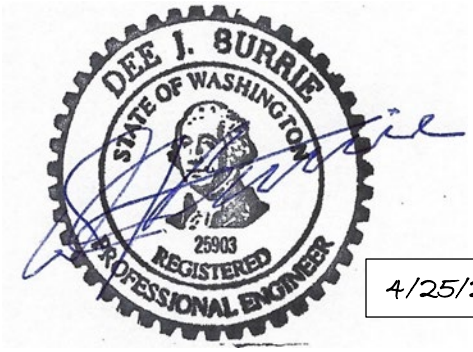
This report was prepared for use the exclusive use of Ryan Companies US, Inc. and the design team for the proposed Atkins Technology Center in Richland, Washington. This report presents the data from observations and field testing and is based on subsurface conditions at the specific locations and depths indicated. No other representation is made. This report should be made available to potential contractors for information on factual data only. Conclusions and interpretations presented in this report should not be construed as a guarantee or warranty of the subsurface conditions. If changes are made to the project components or layout, additional geotechnical data and analyses may be necessary.

Within the limitations of scope, schedule, and budget, BAER attempted to execute these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our services did not include environmental screening of soil samples retrieved from the explorations completed for this project. Further, we did not complete environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic materials in the soil, rock, surface water, or air in the project area.

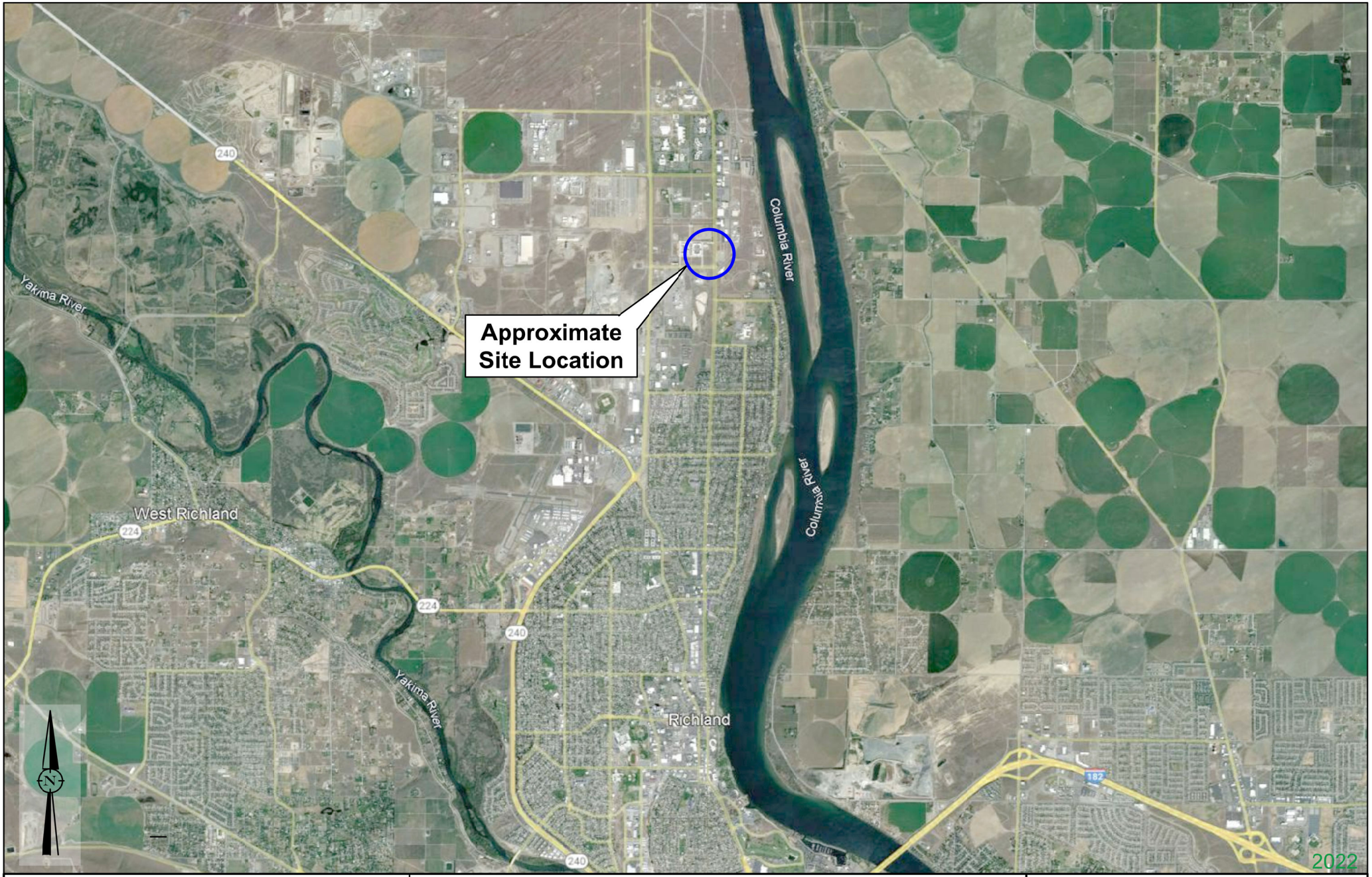
We appreciate the opportunity to be of service. If you have questions or comments, please contact our office.

Sincerely,

BAER TESTING & ENGINEERING, INC.



Dee J. Burrie, P.E.
Chief Engineer



Notes:
Location Map developed using Images by Google Earth Pro.

0 1 2
Approximate Scale in Miles

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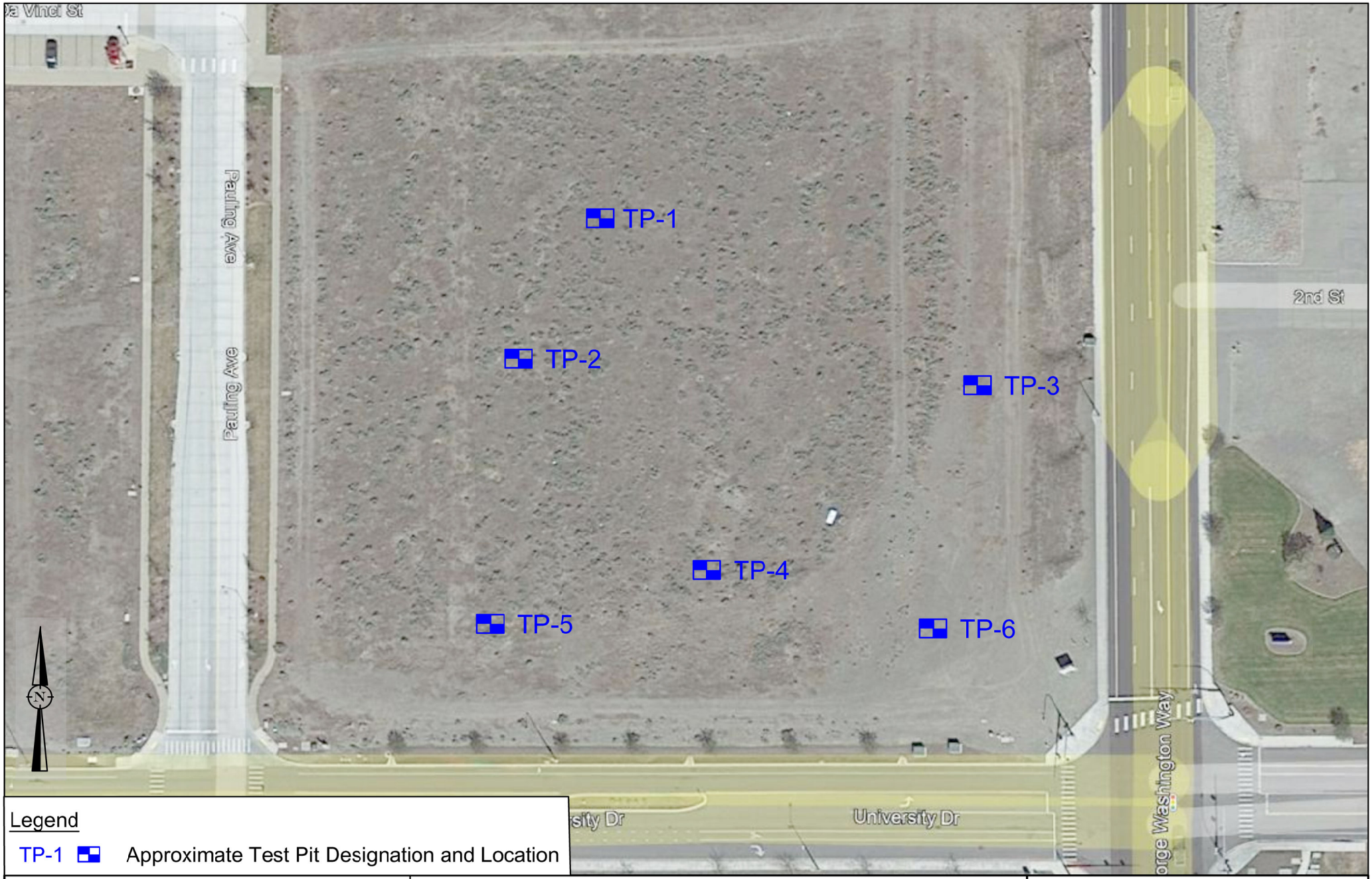
Atkins Technology Center
Richland, Washington

Site Location Map

22-070	FIG. 1



Legend

TP-1 Approximate Test Pit Designation and Location

Notes:

Location Map developed using Images Provided by Google Earth Pro.

0 100 200

Approximate Scale in Feet

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Exploration Map

22-070 | FIG. 2

APPENDIX A
TEST PIT LOGS

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LOG OF TP-1

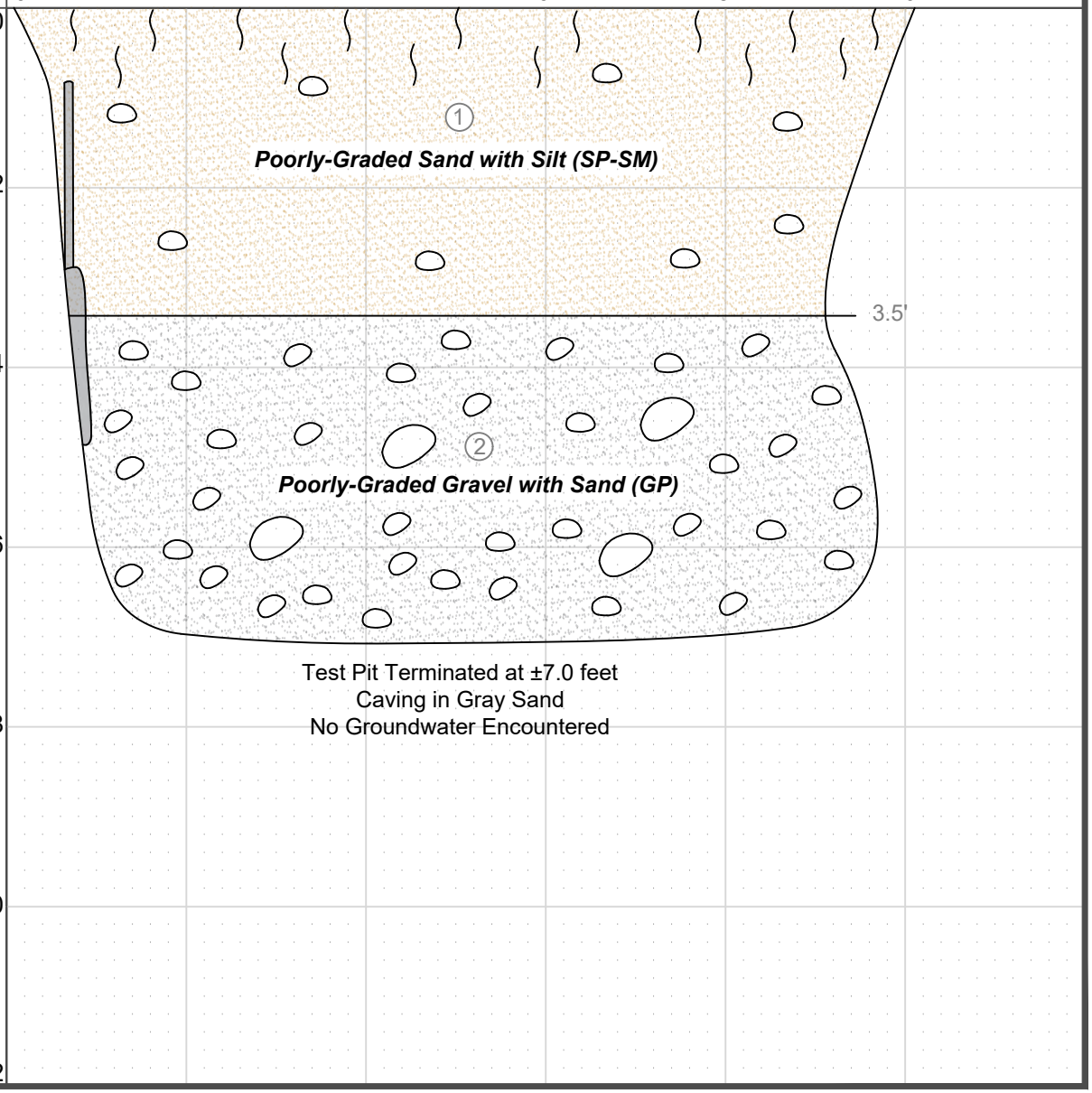
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: North Edge

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3338725 E -119.2734096

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Brush				
① 0 - 3.5' Loose, brown, ***Poorly-Graded Sand with Silt (SP-SM)***; Moist; few rounded to subrounded gravel and cobbles, maximum diam. 10 inches; angular fine to coarse sand; nonplastic silt; organics (roots) in upper 12 inches; abandoned vertical pipe in the sidewall from 1 to 5 feet.	**None Observed**	3-5-3-4	S-1	0
② 3.5 - 7.0' Loose, gray, ***Poorly-Graded Gravel with Sand (GP)***; Dry; subrounded gravel and cobble maximum diam. 10 inches; medium to coarse sand.			S-2	4
Test Pit Terminated at ±7.0 feet Caving in Gray Sand No Groundwater Encountered				8
				12

Sketch of West Pit Side Surface Elevation:



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LOG OF TP-2

JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: Northwest Corner

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3336730 E -119.2740644

SOIL DESCRIPTION

Surface Description: Grass / Brush

① 0 - 2.0'
Loose, brown, ***Silty Sand (SM)***; Moist; little rounded to subrounded gravels, maximum diam. 2 inches; angular fine to coarse sand; nonplastic silt; organics (roots) in upper 6 inches; burnt wood debris at 1.5 feet. (FILL)

② 2.0 - 3.0'
Loose, brown, ***Silty Sand (SM)***; Moist; few rounded to subrounded gravels, maximum diam. 1 inch; angular fine to coarse sand; nonplastic silt;

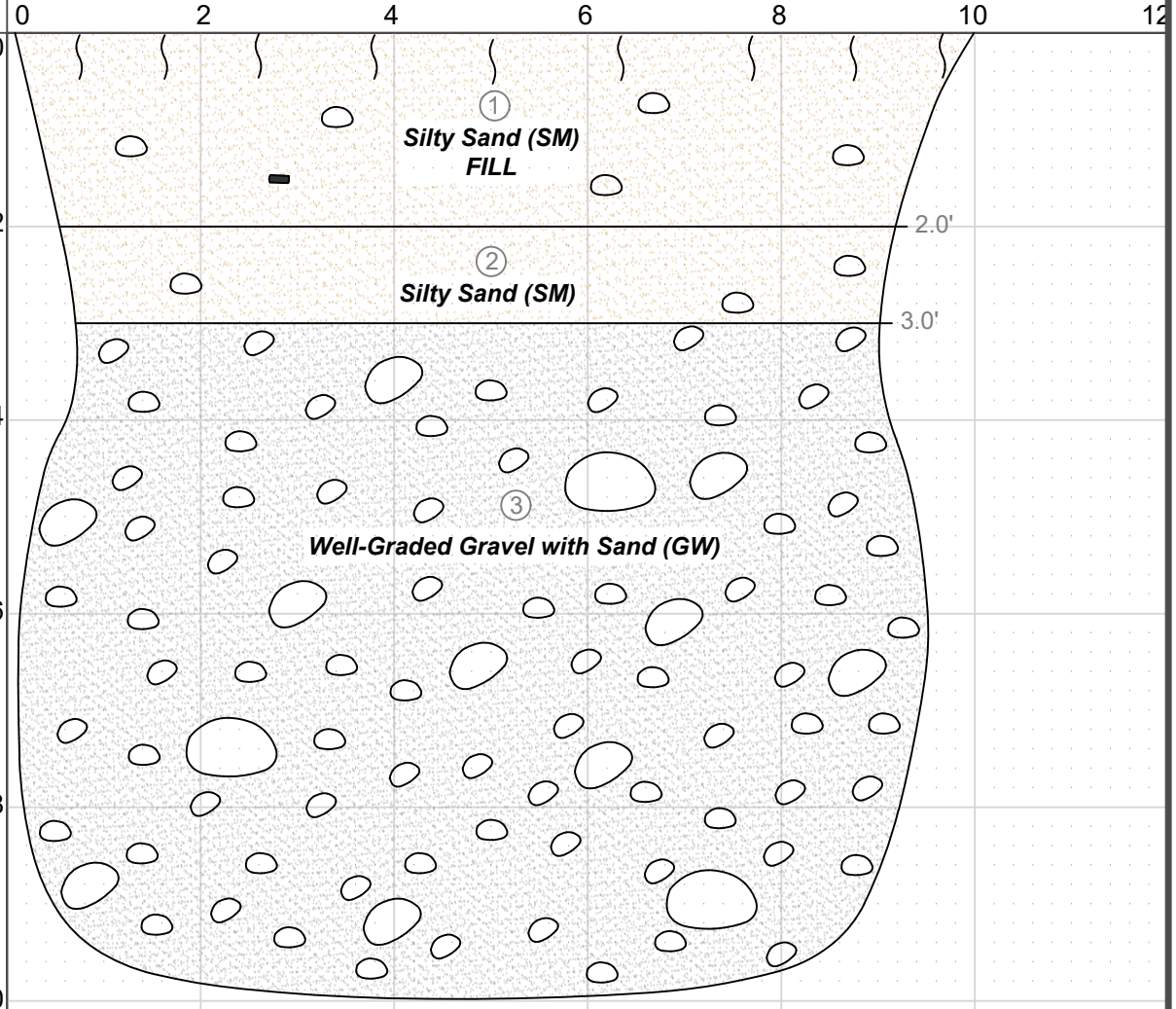
③ 3.0 - 10.0'
Loose, gray, ***Well-Graded Gravel with Sand (GW)***; Dry; subrounded gravel and cobble maximum diam. 12 inches; medium to coarse sand, trace nonplastic silt; precipitation on bottom of clasts.

Test Pit Terminated at ±10.0 feet
No Groundwater Encountered

* Elevated Blow Counts due to oversized Gravel

Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
None Observed			0
	5-8-13	S-1	2
	9-30-50/1" (rock)		4
			6
		S-2	8
			10
			12

Sketch of West Pit Side Surface Elevation:



Test Pit Terminated at ±10.0 feet
No Groundwater Encountered

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LOG OF TP-3

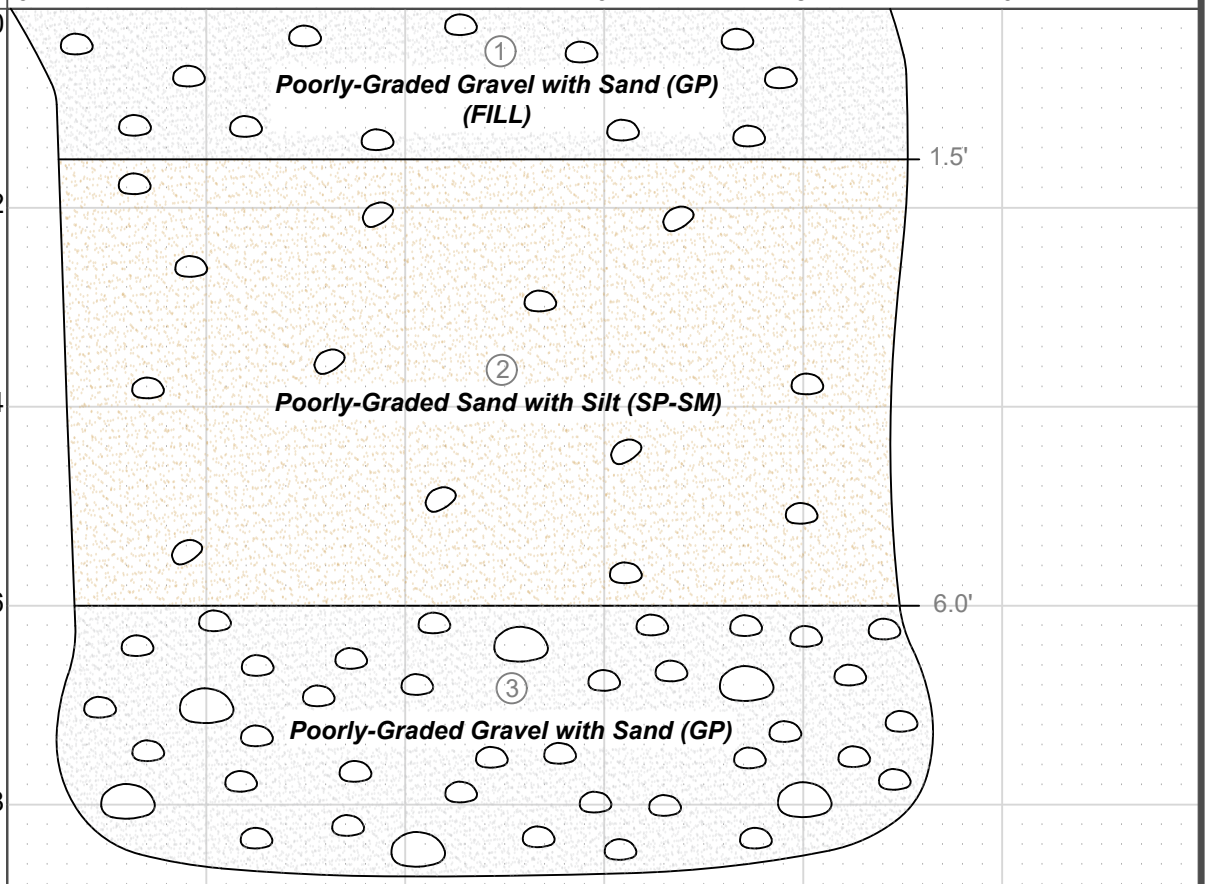
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: Northeast Corner

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3337466 E -119.2727967

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Gravel Road				
① 0 - 1.5' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Dry; rounded to subrounded gravels, maximum diam. 2 inches; angular fine to coarse sand; few nonplastic silt. (FILL)	**None Observed**			0
② 1.5 - 6.0' Medium dense, brown, ***Poorly-Graded Sand with Silt (SP-SM)***; Moist; trace rounded to subrounded gravels, maximum diam. 4 inches; angular fine to coarse sand; nonplastic silt.		7-10-10	S-1 ☒	2 4
③ 6.0 - 9.0' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Moist; subrounded gravel and cobble maximum diam. 9 inches; medium to coarse sand, trace nonplastic silt.				6 8
Test Pit Terminated at ±9.0 feet No Groundwater Encountered				10 12

Sketch of East Pit Side Surface Elevation:



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LOG OF TP-4

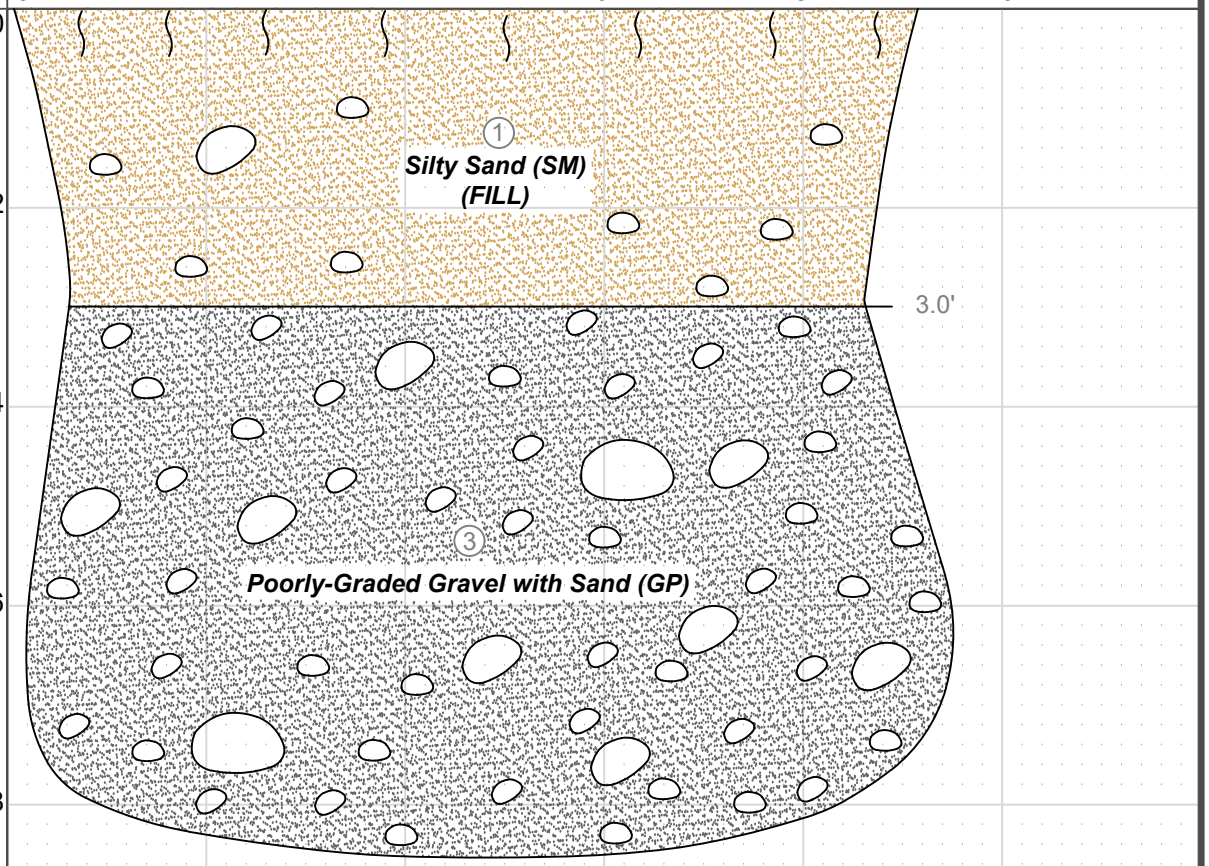
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: South Middle

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3333917 E -119.2734331

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Grass / Brush				
① 0 - 3.0' Medium dense, brown, ***Silty Sand (SM)***; Moist; little rounded to subrounded gravels and cobbles, maximum diam. 9 inches; angular fine to coarse sand; nonplastic silt; organics (roots) in upper 6 inches; increased gravel/cobble with depth.	**None Observed**	5-10-39 * (Rock)	S-1 ☒	0
② 3.0 - 8.5' Medium dense, black, ***Poorly-Graded Gravel with Sand (GP)***; Moist to dry; subrounded gravel and cobble maximum diam. 10 inches; fine to coarse sand.		9-20-50/1" * (rock)	S-2 ☒	2, 4, 6, 8
Test Pit Terminated at ±8.5 feet Caving in Black Sand No Groundwater Encountered				10
* Elevated Blow Counts due to oversized Gravel				12

Sketch of North Pit Side Surface Elevation:



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LOG OF TP-5

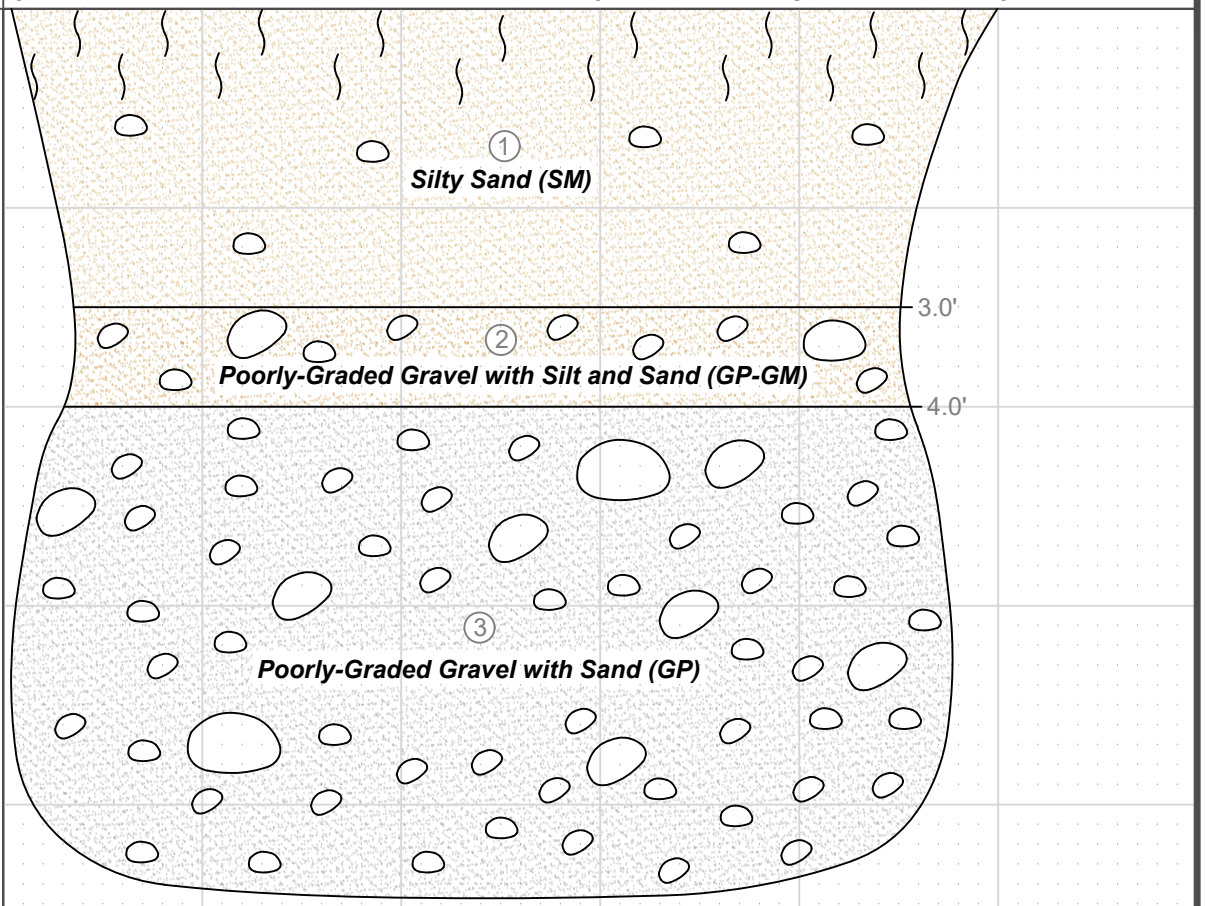
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: Southwest Corner

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3333130 E -119.2740902

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Grass / Brush				
① 0 - 3.0' Loose to medium dense, brown, ***Silty Sand (SM)***; Moist; few rounded to subrounded gravels, maximum diam. 1 inch; angular fine to medium sand; nonplastic silt; organics (roots) in upper 12 inches.	**None Observed**	6-10-15	S-1	0
② 3.0 - 4.0' Medium dense, brown, ***Poorly-Graded Gravel with Silt and Sand (GP-GM)***; Moist; rounded to subrounded gravels and cobbles, maximum diam. 10 inches; angular fine to coarse sand; nonplastic silt;		9-12-30		4
③ 4.0 - 9.0' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Dry to moist; subrounded gravel and cobble maximum diam. 12 inches; fine to coarse sand, trace nonplastic silt; precipitation on bottom of clasts.			S-2	8
Test Pit Terminated at ±9.0 feet No Groundwater Encountered				10
				12

Sketch of East Pit Side Surface Elevation:



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LOG OF TP-6

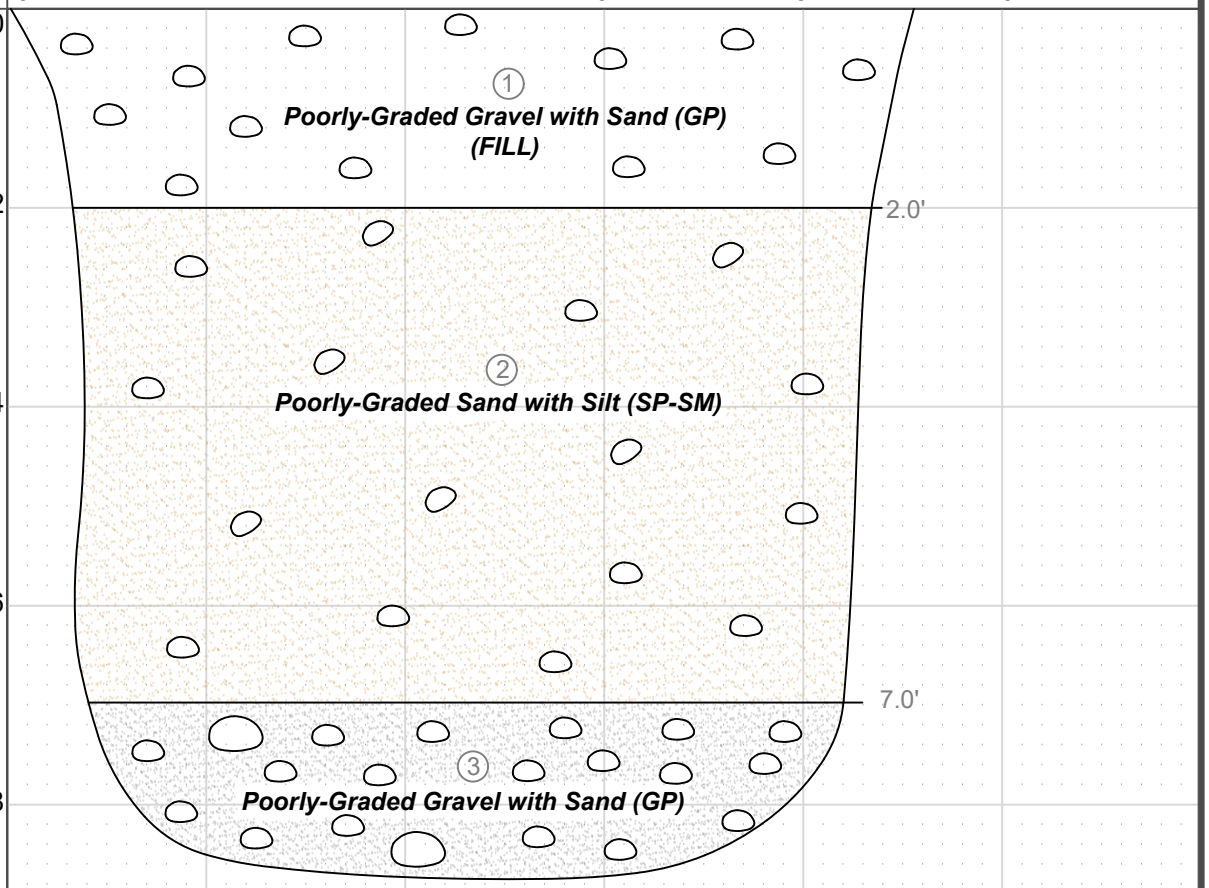
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: Southeast Corner

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3333285 E -119.2728151

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Gravel Road				
① 0 - 2.0' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Dry; rounded to subrounded gravels, maximum diam. 2 inches; angular fine to coarse sand; few nonplastic silt. (FILL)	**None Observed**	5-10-18	S-1	0
② 1.5 - 6.0' Medium dense, brown, ***Poorly-Graded Sand with Silt (SP-SM)***; Moist; few rounded to subrounded gravels, maximum diam. 2 inches; angular fine to medium sand; nonplastic silt.		9-12-25	S-2	2
③ 7.0 - 9.0' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Moist; subrounded gravel and cobble maximum diam. 8 inches; medium to coarse sand, trace nonplastic silt.				4
Test Pit Terminated at ±9.0 feet No Groundwater Encountered				6
				8
				10
				12

Sketch of East Pit Side Surface Elevation:



Test Pit Terminated at ±9.0 feet
No Groundwater Encountered

APPENDIX B
LABORATORY TEST RESULTS

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CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 1 @ 4'	**SAMPLE NUMBER:**	22-0561-1
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Poorly-Graded Gravel with Silt and Sand (GP-GM)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
5"	100%		#4	53%	
4"	91%		#8		
3"	85%		#10	52%	
2 1/2"			#16		
2"	74%		#20	50%	
1 1/2"			#30		
1 1/4"			#40	41%	
1"	63%		#50		
3/4"	61%		#60		
5/8"	59%		#80	18%	
1/2"	58%		#100	16%	
3/8"	56%		#200	13.1%	

SOIL MOISTURE DETERMINATION ASTM D 2216

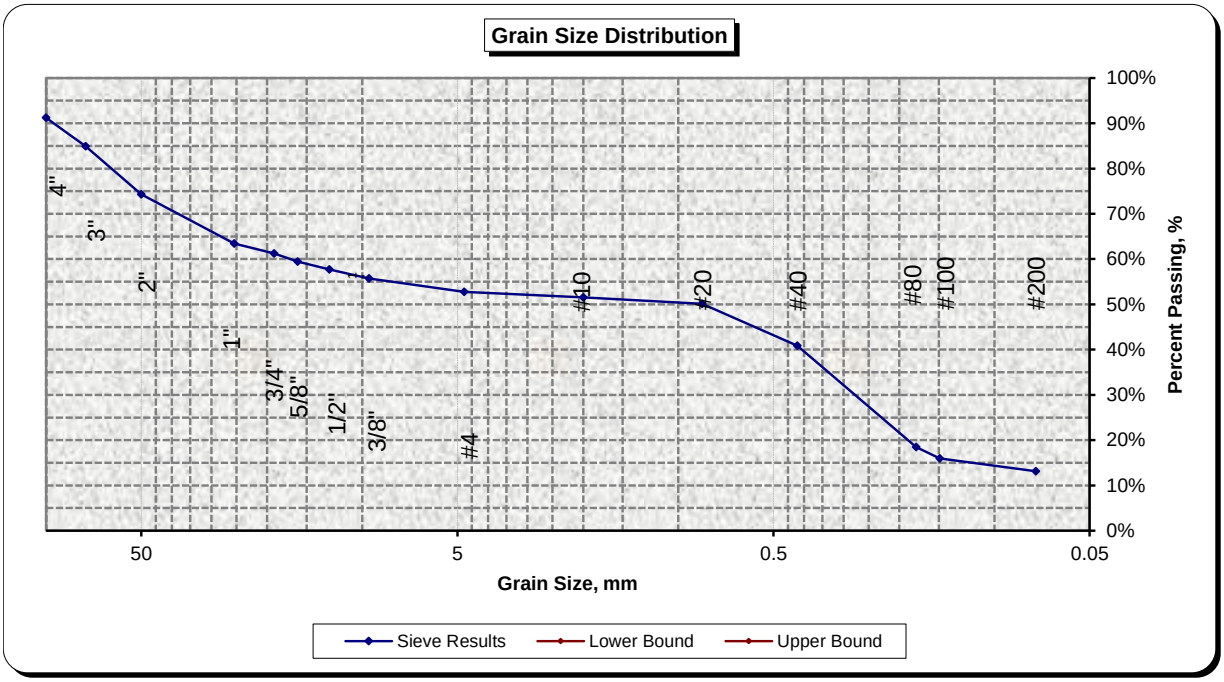
FINENESS MODULUS - ASTM C 136

2.29

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



REVIEWED BY:
Dee Burrie, Technical Director

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: (509) 469-3070
: www.baertesting.com

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Yakima, WA 98902

CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 2 @ 2'	**SAMPLE NUMBER:**	22-0561-2
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Silty Sand (SM)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
4"			#4	96%	
3"			#8		
2 1/2"			#10	95%	
2"			#16		
1 1/2"			#20	94%	
1 1/4"			#30		
1"	100%		#40	84%	
3/4"	98%		#50		
5/8"	98%		#60		
1/2"	97%		#80	58%	
3/8"			#100	53%	
1/4"			#200	42.2%	

SOIL MOISTURE DETERMINATION ASTM D 2216

7.9%

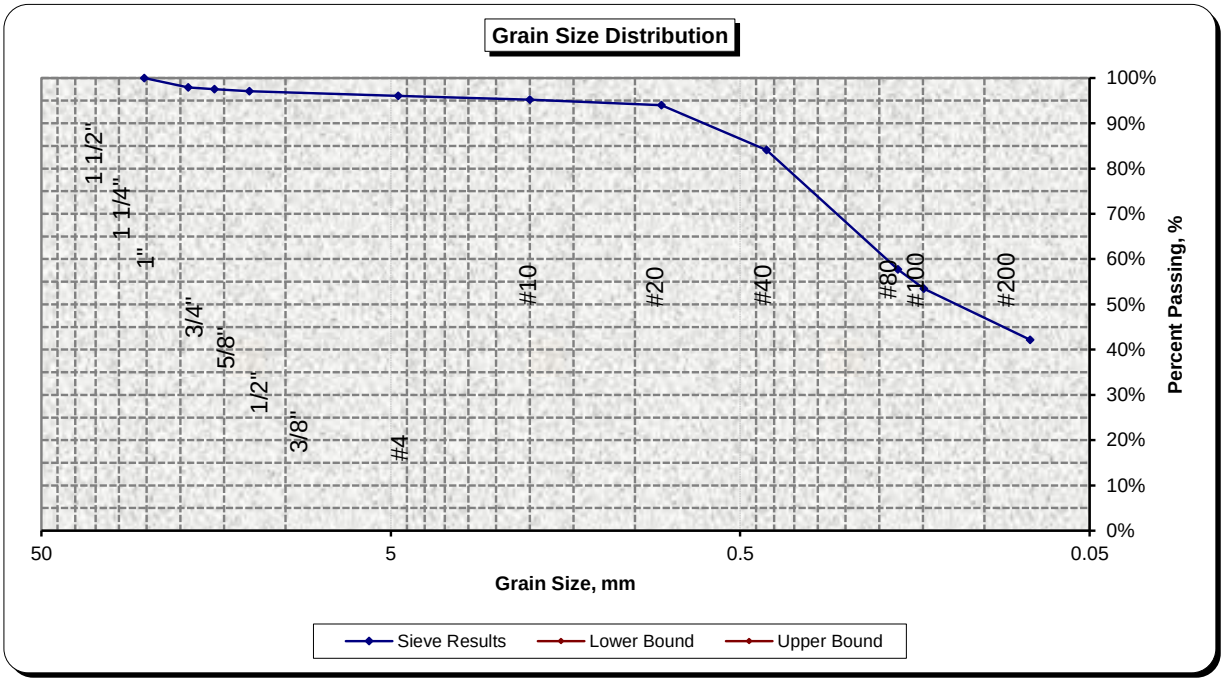
FINENESS MODULUS - ASTM C 136

0.53

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



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CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 2 @ 8'	**SAMPLE NUMBER:**	22-0561-3
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Well-Graded Gravel with Sand (GW)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
4"	100%		#4	36%	
3"	90%		#8		
2 1/2"			#10	35%	
2"	82%		#16		
1 1/2"			#20	32%	
1 1/4"			#30		
1"	63%		#40	15%	
3/4"	55%		#50		
5/8"	51%		#60		
1/2"	47%		#80	4%	
3/8"	42%		#100	4%	
1/4"			#200	2.4%	

SOIL MOISTURE DETERMINATION ASTM D 2216

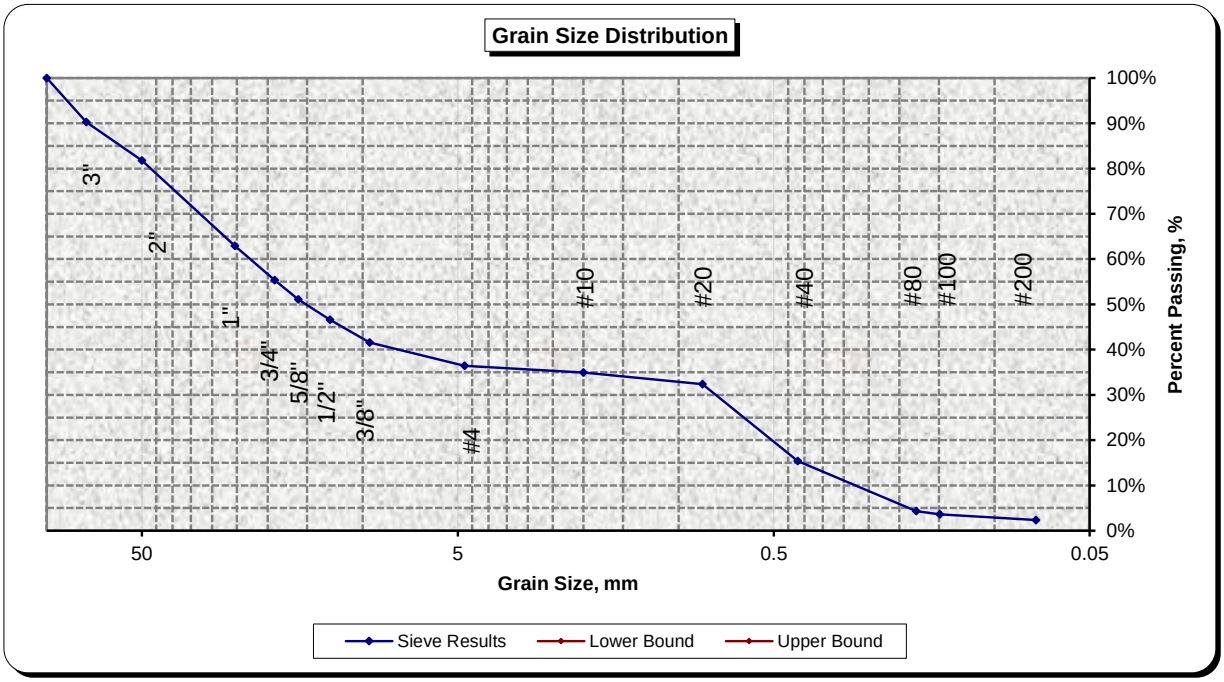
FINENESS MODULUS - ASTM C 136

2.73

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



REVIEWED BY:
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CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 4 @ 6'	**SAMPLE NUMBER:**	22-0561-4
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Poorly-Graded Gravel with Sand (GP)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
4"	100%		#4	48%	
3"	89%		#8		
2 1/2"			#10	46%	
2"	76%		#16		
1 1/2"			#20	44%	
1 1/4"			#30		
1"	63%		#40	11%	
3/4"	59%		#50		
5/8"	57%		#60		
1/2"	54%		#80	1%	
3/8"	51%		#100	1%	
1/4"			#200	0.5%	

SOIL MOISTURE DETERMINATION ASTM D 2216

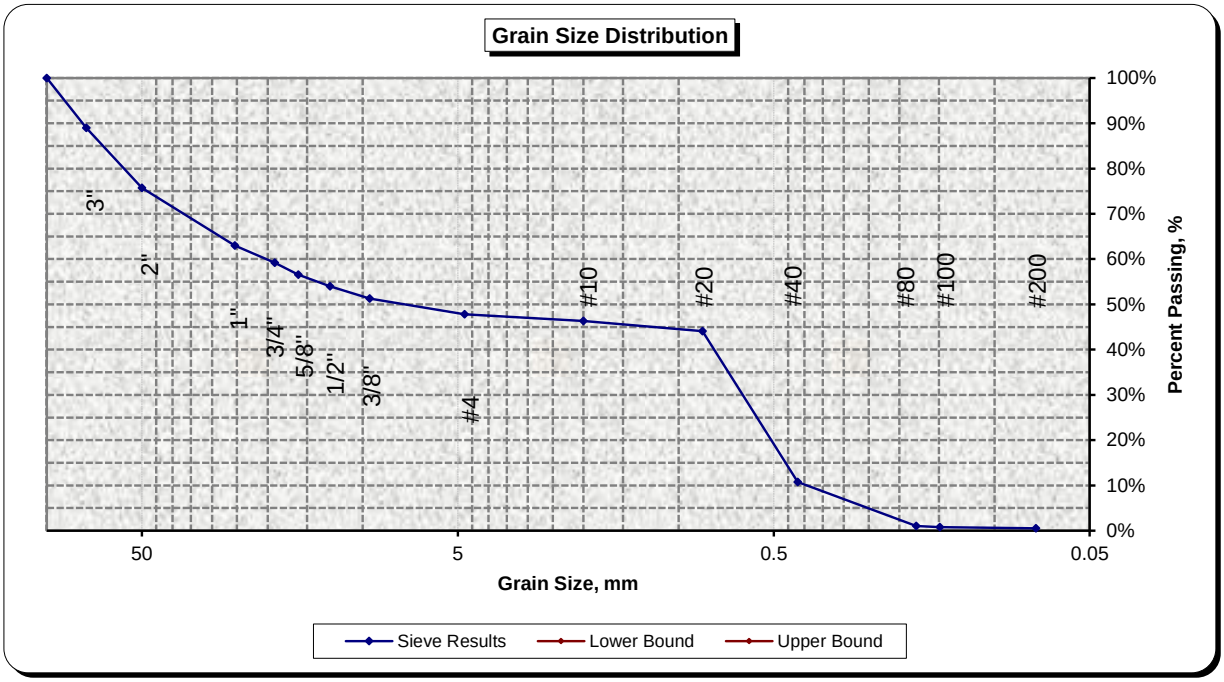
FINENESS MODULUS - ASTM C 136

2.52

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



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CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 5 @ 2'	**SAMPLE NUMBER:**	22-0561-5
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Poorly-Graded Sand with Silt (SP-SM)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
4"			#4	93%	
3"			#8		
2 1/2"			#10	91%	
2"			#16		
1 1/2"			#20	90%	
1 1/4"			#30		
1"			#40	80%	
3/4"	100%		#50		
5/8"	99%		#60		
1/2"	98%		#80	32%	
3/8"	97%		#100	24%	
1/4"			#200	13.2%	

SOIL MOISTURE DETERMINATION ASTM D 2216

4.7%

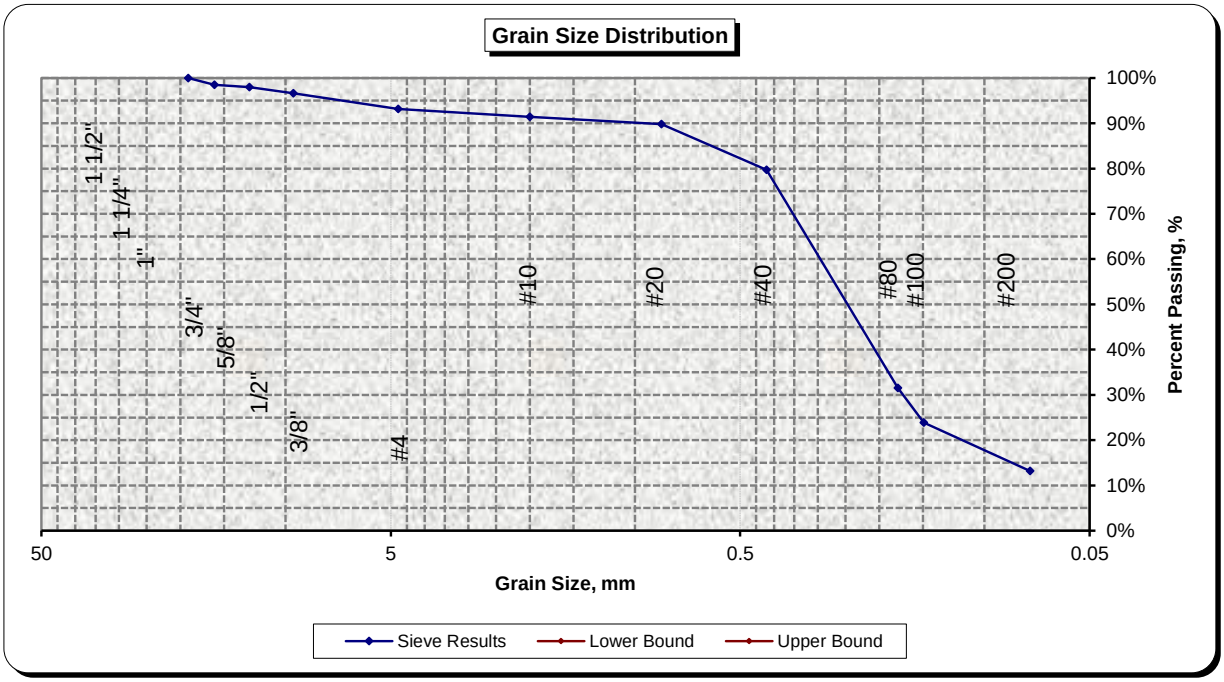
FINENESS MODULUS - ASTM C 136

0.86

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



REVIEWED BY:
Dee Burrie, Technical Director

Northwest Agricultural Consultants

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www.nwag.com
lab@nwag.com

PAP-Accredited
NAPT

BAER Testing Inc.
1106 Ledwich Ave.
Yakima, WA 98902

Report: 58956-1-1
Date: April 13, 2022
Project No:
Project Name: Atkins Tech Center

Sample ID	Organic Matter	Cation Exchange Capacity
TP-1 @ 7.0’	0.99%	5.5 meq/100g
	ASTM D2974	**EPA 9081**

Sample ID	Sand	Silt	Clay	Texture Class
TP-1 @ 7.0’	93.0%	5.0%	2.0%	Sand

APPENDIX E
USGS Maps

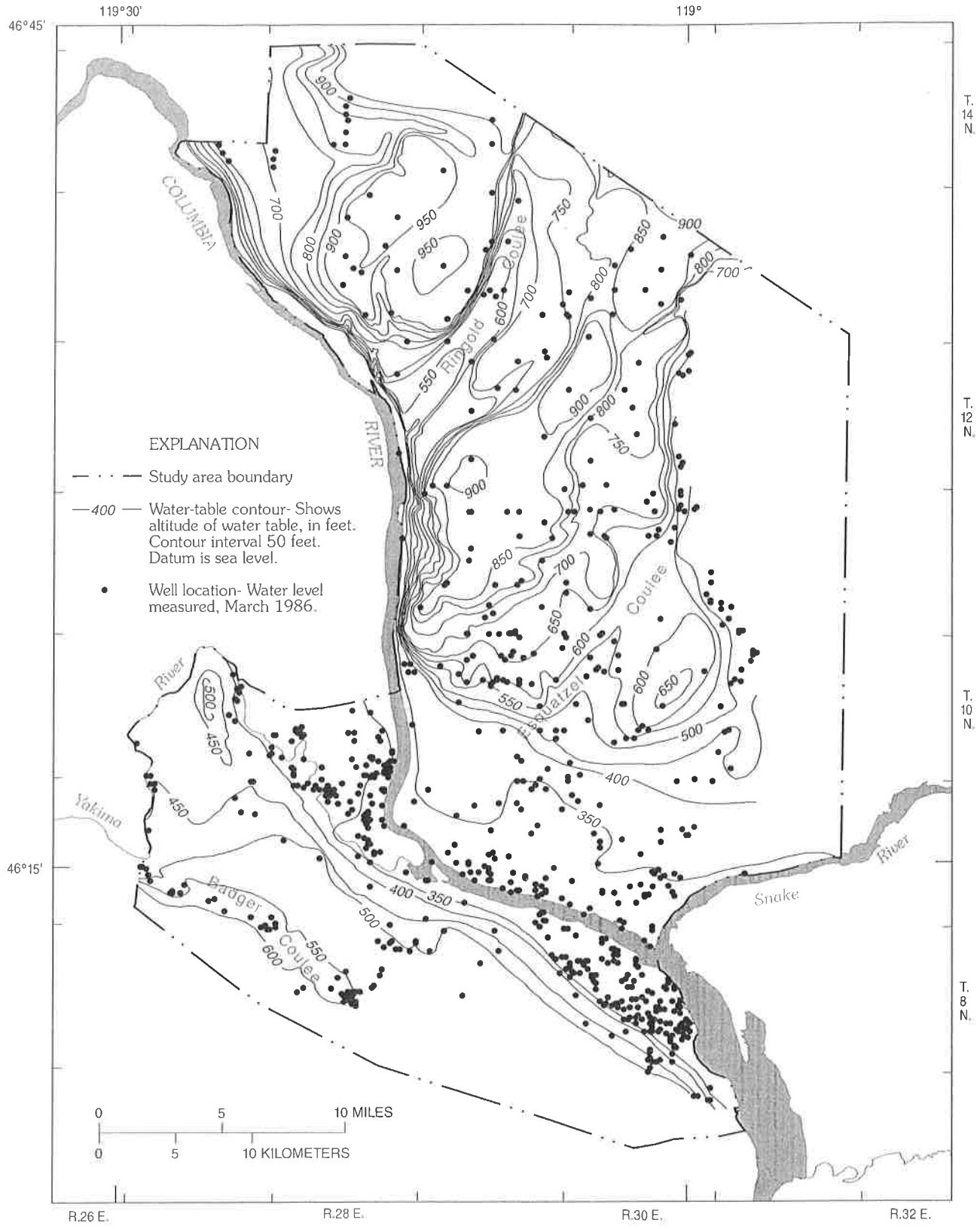

Figure 26.--Water-table altitude, March 1986.

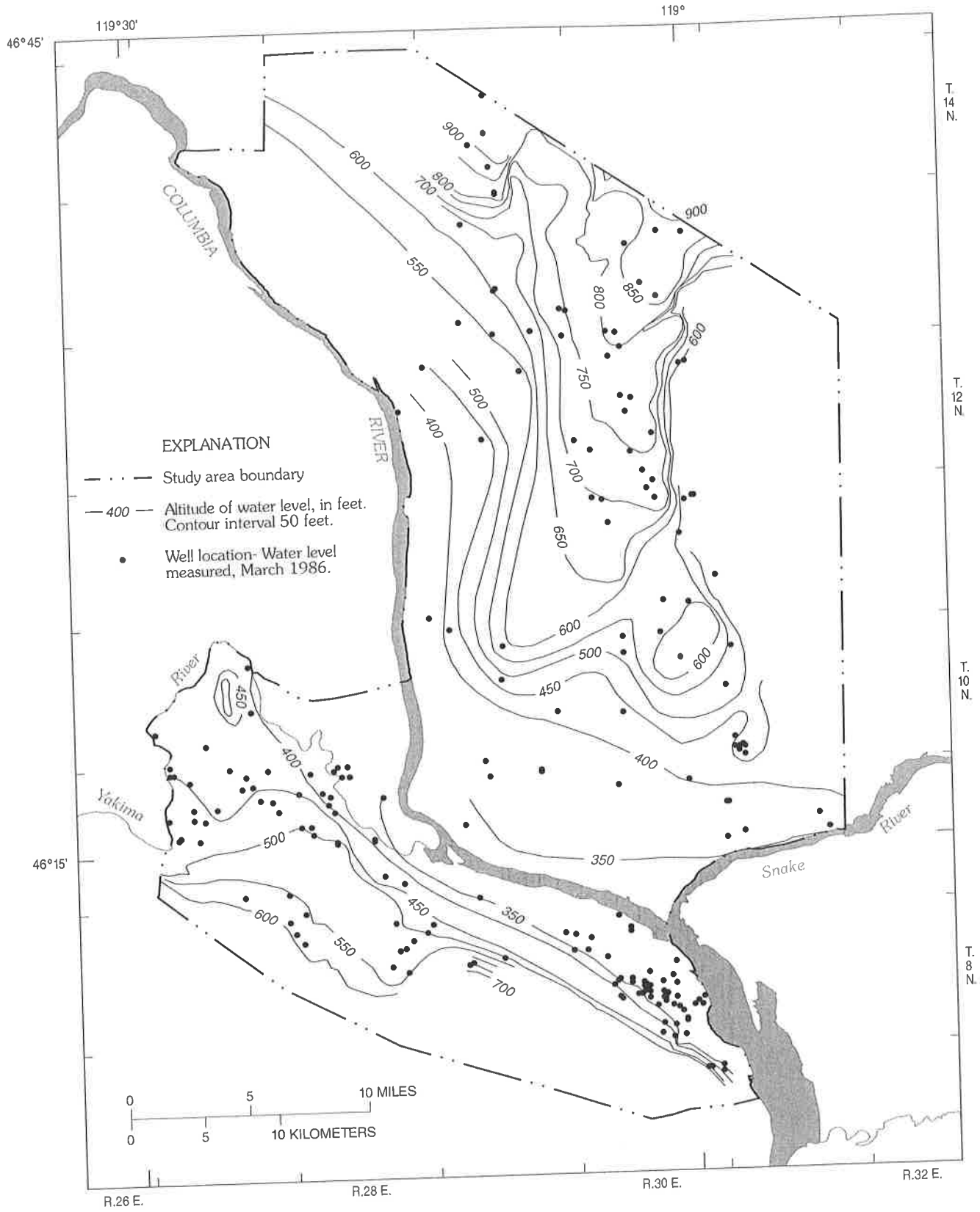

Figure 27.--Water-level altitudes in the Saddle Mountains Basalt, March 1986.

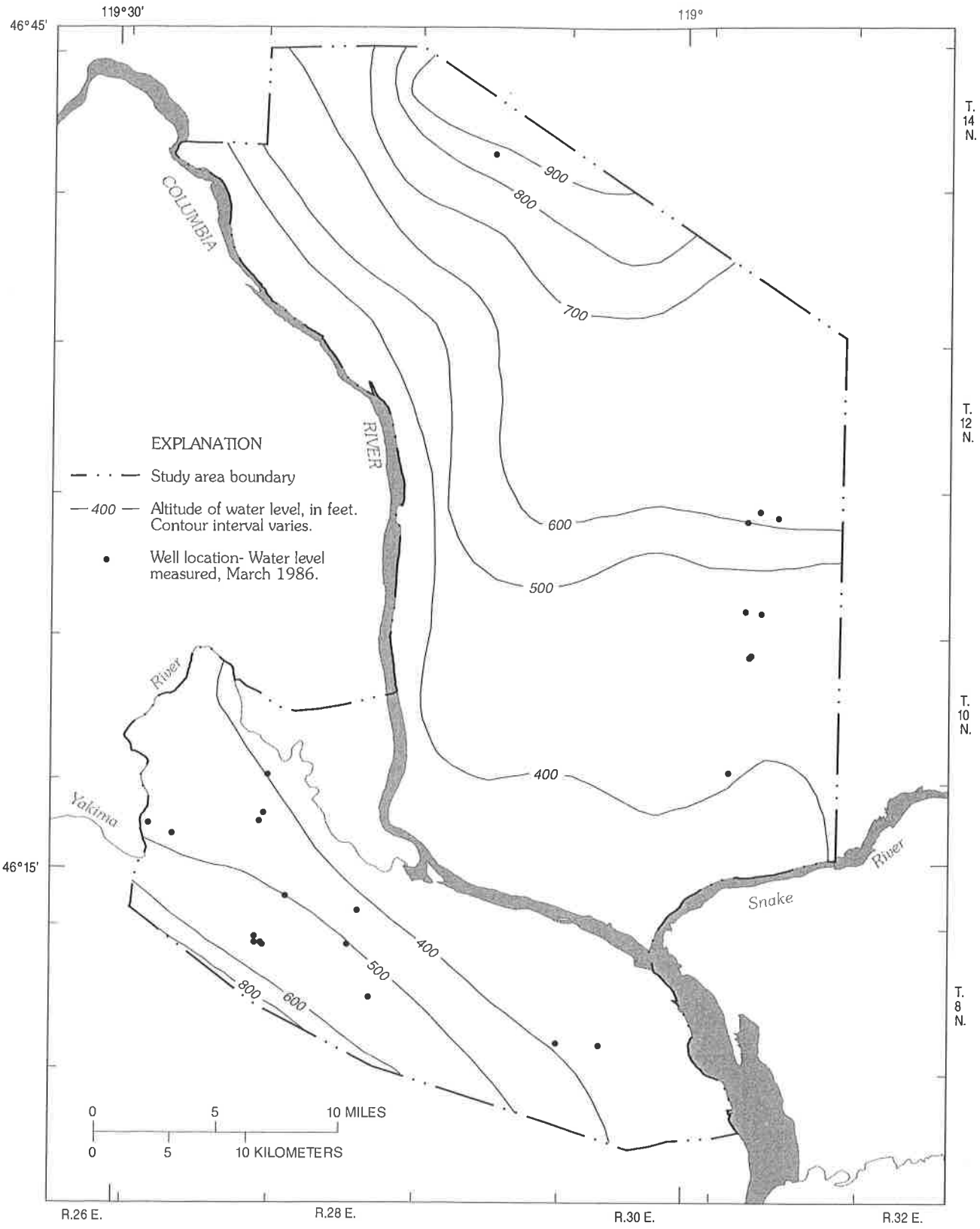

Figure 28.--Water-level altitudes in the Wanapum Basalt, March 1986 (Modified from Bauer, Vaccaro, and Lane, 1985).

DRAFT – Phase I Environmental Site Assessment

Atkins Technology Center

George Washington Way & University Drive

Richland, Benton County, Washington

May 17, 2022

Terracon Project No. 81227228

Prepared for:
Ryan Companies US, Inc.
Minneapolis, Minnesota

Prepared by:
Terracon Consultants, Inc.
Mountlake Terrace, Washington

PRIVILEGED AND CONFIDENTIAL

DRAFT – PHASE I
ENVIRONMENTAL SITE ASSESSMENT

ATKINS TECHNOLOGY CENTER
GEORGE WASHINGTON WAY & UNIVERSITY DRIVE
RICHLAND, WASHINGTON

PREPARED FOR:

RYAN COMPANIES US, INC.
MINNEAPOLIS, MN

PREPARED BY:

TERRACON CONSULTANTS, INC.
21905 64TH AVENUE W, SUITE 100
MOUNTLAKE TERRACE, WASHINGTON 98043
425-771-3304

MAY 17, 2022
Consultant Project Number: 81227228

ENVIRONMENTAL PROFESSIONAL STATEMENT

I, Taylor Blackbourn, do declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40CFR 312. I have the specific qualifications based on education, training, and experience to assess a Property of the nature, history, and setting of the subject Property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

_____

Taylor Blackbourn
Project Manager

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EXECUTIVE SUMMARY

Terracon Consultants, Inc. (**Terracon**) was retained by Ryan Companies US, Inc. (**Ryan**) to conduct a Phase I Environmental Site Assessment (**ESA**) and prepare this Phase I ESA Report for an approximate 5-acre undeveloped area located in the northwest quadrant of George Washington Way & University Drive in City of Richland (**City**), Benton County, State of Washington (**the Property**) The Property is a portion of a larger approximate 77.84-acre developed parcel legally described as Short Plat #3487, Lot 1 (hereafter referred to as the "**Parent Parcel**"). The Property is located in the southwest quarter of Section 23, Township 10 North, Range 28 East and is a portion of Benton County Tax Assessor Parcel Number 123083013487001. A list of Abbreviations, some of which are used throughout this Phase I ESA Report, is included in **Section 11.0** of this Phase I ESA Report.

Exhibit 1 in **Appendix A** shows the location of the Property. A Site Diagram of the Property is included as **Exhibit 2** in **Appendix A**. One of the purposes of the Phase I ESA is to allow Ryan to qualify for one or more of the following Landowner Liability Protections (**LLPs**) as defined in 42 U.S.C. § 9601 (35) (B): Innocent Landowner, Bona Fide Prospective Purchaser, or Contiguous Property Owner.

Terracon understands Innovation Center TCRD LLC owns the Property, which is a portion of the Parent Parcel. The Property is currently unimproved. Ryan anticipates using this Phase I ESA report to assist with a refinance transaction for the Property owner.

Property and Surrounding Properties Description

General Area	Mixed-use commercial, and multi-family residential buildings.
Property Description	Undeveloped land
Adjacent to North	A portion of the Parent Parcel followed by undeveloped land and Washington State University (WSU) Innovation Center (education center) beyond
Adjacent to East	George Washington Way followed by undeveloped land
Adjacent to South	University Drive followed by Atkins Engineering Laboratory
Adjacent to West	A portion of the Parent Parcel consisting of undeveloped land and apartments beyond to the northwest.

Based on historical information reviewed, the Property consisted of undeveloped land until 1941 when it was developed with barracks associated with Camp Hanford. The Parent Parcel was owned by the Richland Irrigation District until 1942 when it was developed as part of the Hanford Site 3000 where workers lived during construction of Hanford's plutonium production facilities (not on Property or adjacent) during World War II. By the early 1960s, the buildings were demolished, and the Property has consisted of vacant land to the present day.

Based on historical information reviewed, areas surrounding the Property consisted of undeveloped land until 1941 when Camp Hanford (living quarters for Hanford Site 3000) was constructed. By the early 1960s, most buildings were demolished and Camp Hanford ceased operations. The current buildings to the north and south were constructed by 2013, in addition the apartment building to the northwest started construction. By 2017 the remainder of the apartment building was constructed.

The EDR Response identified the Parent Parcel, of which the Property is a part, as 2892 Pauling Avenue in the regulatory database report. The Parent Parcel was identified in the Manifest, Washington Site Registry (**ALLSITES**), Resource Conservation and Recovery Act Non-Generator / No Longer Regulated (**RCRA Non-Gen / NLR**) databases. According to the radius report, the north-adjoining facility was registered as a generator of "lab waste" in 2012 and 2018. The facility was verified as a non-generator of hazardous waste from 2013 to 2017 and 2019 to 2021. Evaluations, violations and enforcement events were not listed. The western portion of the Parent Parcel (off Property) was also identified on the ALLSITES database for a construction stormwater permit in 2010. Based on the nature of these listings, it does not appear that a potential release has occurred on the Property or Parent Parcel, and therefore not a REC.

The report entitled "Phase I + Focused Phase II Environmental Site Assessment; Smart Park Phase 3 Site", prepared for Smart Park III, LLC by Shannon & Wilson (**S&W**), dated September 3, 2009 (**S&W 2009 ESA Report**) was prepared for the Parent Parcel, of which the Property is a part (see **Section 7.2**). At the time of the S&W 2009 ESA Report, the Parent Parcel was undeveloped. On the western portion of the Parent Parcel, not on the Property, a Paint Shop (approximately 1,390 feet east of the Property and up-gradient) and Automotive Repair Shop (approximately 1,690 feet east-northeast of the Property and up-gradient) existed during the Camp Hanford occupation. S&W identified them as RECs and subsequently conducted a Phase II to investigate the dry wells and burn area associated with the Paint Shop and the potential dry well and floor drain associated with the Automotive Repair Shop. In addition, the S&W 2009 ESA Report stated a gasoline station (approximately 1,900 feet east of the Property and up-gradient) had been investigated by Chen-Northern, Inc (1992). A ground penetrating survey in 1992 did not identify any underground storage tanks (USTs) and soil was analyzed in the area of the former UST pit. Reportedly, the Chen-Northern, Inc. soil sample concentrations did not exceed Washington State Model Toxics Cleanup Act (**MTCA**) cleanup levels for oil-range total petroleum hydrocarbons (**TPH**) and gasoline- and diesel-range TPH and volatile organic compounds (**VOCs**) associated with TPH were not detected.

Three borings were advanced in the former Paint Shop area to a total depth of 32 feet. Two borings were advanced near the former Automotive Repair Shop to a total depth of 20 feet. Groundwater was not encountered in any borings. Soil samples were analyzed for gasoline-, diesel- and oil-range TPH, VOCs and Polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs) and total metals. Constituents were either not detected or detected below their respective MTCA Method A Cleanup levels.

S&W concluded that their investigation in addition to a review of previous investigations did not indicate subsurface contamination that required reporting to Ecology or required remediation. The dry wells were not likely impacted; therefore, remediation was not necessary. The former RECs identified by S&W were changed to historical RECs given the results of the simultaneous Phase II. Given the distance and analytical results of the former automotive, paint and fueling features, they are not considered a REC for the Property.

Title records for the Property were provided to Terracon for review. Based on the title records provided, the current Property owner is XXXXXXXXX. A utility easement was identified in a review of the title records; however, based on the nature of this easement, it does not represent a REC. Previous owners were not identified. Copies of the title records are included in **Appendix A**.

Work performed for this Phase I ESA included: a review of federal, state, county, and municipal information, a walk-over survey, review of documents furnished to Terracon by Ryan; an interview with representatives of Ryan and the Owner and a review of historical data. The Phase I ESA was

conducted in general accordance with the scope and limitations of the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-13 (the **ASTM Standard Practice E1527-13**) as expanded in accordance with Ryan's Environmental Site Assessment Guidelines (Version March 1, 2011). Any exceptions to this practice are noted in **Section 2.0** of this Phase I ESA Report.

Based on Terracon's assessment and a review of information obtained, no RECs, as defined in ASTM Standard Practice E1527-13 were identified for the Property.

No historical RECs, as defined in ASTM Standard Practice E1527-13, were identified for the Property.

No controlled RECs, as defined in ASTM Standard Practice E1527-13, were identified for the Property.

Although not constituting RECs, the following items of environmental note were observed for the Property:

- Possible buried debris of former barracks on the Property.
- Review of the DAHP online inventory indicates that the Property is located within the boundaries of the historic military site most recently identified as Camp Hanford (Site 45BN1631). This site was determined Potentially Eligible for the NRHP by the Washington State Historic Preservation Office on May 10, 2021.

Based on the information collected for the Phase I ESA, Terracon recommends managing possible buried debris, if found, in accordance with State Regulations. Terracon also consultation with the Washington State Historic Preservation Office (**SHPO**) prior to construction.

1.0 INTRODUCTION

Terracon Consultants, Inc. (**Terracon**) was retained by Ryan Companies US, Inc. (**Ryan**) to conduct a Phase I Environmental Site Assessment (**ESA**) and prepare this Phase I ESA Report for an approximate 5-acre undeveloped area located in the northwest quadrant of George Washington Way & University Drive in City of Richland (**City**), Benton County, State of Washington (**the Property**) The Property is a portion of a larger approximate 77.84-acre developed parcel legally described as Short Plat #3487, Lot 1 (hereafter referred to as the "**Parent Parcel**"). The Property is located in the southwest quarter of Section 23, Township 10 North, Range 28 East and is a portion of Benton County Tax Assessor Parcel Number 123083013487001. A list of Abbreviations, some of which are used throughout this Phase I ESA Report, is included in **Section 11.0** of this Phase I ESA Report.

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Based on historical information reviewed, areas surrounding the Property consisted of undeveloped land until 1941 when Camp Hanford (living quarters for Hanford Site 3000) was constructed. By the early 1960s, most buildings were demolished and Camp Hanford ceased operations. The current buildings to the north and south were constructed by 2013, in addition the apartment building to the northwest started construction. By 2017 the remainder of the apartment building was constructed.

Terracon reviewed a previous investigation on the Parent Parcel during our assessment of the Property, dated 2009. Copies of these reports are included in **Appendix K**. The report entitled "Phase I + Focused Phase II Environmental Site Assessment; Smart Park Phase 3 Site", prepared for Smart Park III, LLC by Shannon & Wilson, dated September 3, 2009 (**S&W 2009 ESA Report**) was prepared for the Parent Parcel, of which the Property is a part (see **Section 7.2**). At the time of the S&W 2009 ESA Report, the Parent Parcel was undeveloped. On the western portion of the Parent Parcel, not on the Property, a Paint Shop (approximately 1,390 feet east of the Property and up-gradient) and Automotive Repair Shop (approximately 1,690 feet east-northeast of the Property and up-gradient) existed during the Camp Hanford occupation. S&W identified them as RECs and subsequently conducted a Phase II to investigate the dry wells and burn area associated with the Paint Shop and the potential dry well and floor drain associated with the Automotive Repair Shop. In addition, the S&W 2009 ESA Report stated a gasoline station (approximately 1,900 feet east of the Property and up-gradient) had been investigated by Chen-Northern, Inc (1992). A ground penetrating survey in 1992 did not identify any underground storage tanks (USTs) and soil was analyzed in the area of the former UST pit. Reportedly, the

Chen-Northern, Inc. soil sample concentrations did not exceed Washington State Model Toxics Cleanup Act (**MTCA**) cleanup levels for oil-range total petroleum hydrocarbons (**TPH**) and gasoline- and diesel-range TPH and volatile organic compounds (**VOCs**) associated with TPH were not detected.

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S&W concluded that their investigation in addition to a review of previous investigations did not indicate subsurface contamination that required reporting to Ecology or required remediation. The dry wells were not likely impacted; therefore, remediation was not necessary. The former RECs identified were changed to historical RECs. Given the distance and analytical results of the former automotive, paint and fueling features, they are not considered a REC for the Property.

The EDR Response identified the Parent Parcel, of which the property is a part, as 2892 Pauling Avenue in the regulatory database report. The Parent Parcel was identified in the Manifest, Washington Site Registry (**ALLSITES**), Resource Conservation and Recovery Act Non-Generator / No Longer Regulated (**RCRA Non-Gen / NLR**) databases. According to the radius report, the facility was registered as a generator of lab waste in 2012 and 2018. The facility was verified as a non-generator of hazardous waste from 2013 to 2017 and 2019 to 2021. Evaluations, violations and enforcement events were not listed. The western portion of the Parent Parcel was also identified on the ALLSITES database for a construction stormwater permit in 2010. Based on the nature of these listings, it does not appear that a release has occurred on the Property. Therefore, they are not considered a REC.

Title records for the Property were provided to Terracon for review. Based on the title records provided, the current Property owner is XXXXXXXXXX. A utility easement was identified in a review of the title records; however, based on the nature of this easement, it does not represent a REC. Previous owners were not identified.

2.0 SCOPE OF WORK

The following work items were completed for the Phase I ESA:

- Contacts with federal, state, county, and municipal regulatory agencies to determine if any known environmental concerns have been reported on or adjacent to the Property;

- A review of a database file search from EDR, dated June 5, 2019 (the **EDR Response**);
- A review of regulatory site information provided by Ecology, priority habitats information provided by the Washington State Department of Fish and Wildlife (**WDFW**), and historic property information provided by the Washington State Department of Archaeology and Historic Preservation (**DAHP**);
- A walk-over survey of the Property to identify any readily apparent environmental concerns on or adjacent to the Property;
- A historical review of the Property, utilizing available aerial photographs, USGS topographic maps, Sanborns and City Street Directories;
- Interviews with representatives of Ryan;
- A review of the Ecology online well log data base for the presence of wells on the Property;
- A review of previous environmental documents and other reports provided to Terracon by Ryan or others;
- A Tier One Vapor Encroachment Screening for the Property; and,
- Preparation and submittal of this Phase I ESA Report summarizing the findings.

The following sections discuss the results of the investigation and summarize the information obtained for the Phase I ESA. The Phase I ESA did not include a complete compliance analysis with local, state or federal environmental laws, rules or regulations. However, Terracon attempted to note obvious instances of non-compliance. The Phase I ESA was conducted in accordance with the scope and limitations of the ASTM Standard Practice E1527-13 as expanded in general accordance with Ryan's Environmental Site Assessment Guidelines (Version March 1, 2011), where applicable.

2.1 Exceptions or Deletions from the ASTM Standard Practice

Terracon did not check the following Standard Historical Sources listed in the ASTM Standard Practice E1527-13 (i.e. zoning/land use records) because in Terracon's past experiences, information from these sources are not likely to be sufficiently useful in providing historical site information beyond those sources which were already checked by Terracon.

3.0 PHYSICAL SETTING

A site's ability to impact surrounding properties is largely dependent on the direction of groundwater flow from the Property. To assess groundwater flow to the Property, Terracon reviewed the Geologic Map of the Richland quadrangle, Washington (the **Geologic Map**). The USGS 7.5-minute *Richland, Washington* topographic quadrangle 1992 map (the **Topographic Map**) was also used to identify topographic features such as hills, streams, and lakes, which may

influence Property-specific shallow ground water flow direction.

3.1 Topography

The Property is currently characterized by generally level topography with the general gradient toward the east. Based on the Topographic Map, the elevation of the Property ranges from approximately 400 to 410 feet NGVD.

3.2 Geology/Hydrogeology

Terracon reviewed the Geologic Map which summarizes available information on the geology of the area of interest. According to the Geologic Map, outburst flood deposits in the vicinity of the Property consist of silt and sand.

The topographic map indicates the groundwater flow direction to be in an easterly direction towards the Columbia River and at a depth of approximately 45 feet below ground surface. However, local groundwater flow direction is often influenced by topography and local drainage features such as lakes, streams and wetland areas and may vary from the regional groundwater flow direction.

3.3 Wetland Classification

Terracon reviewed the National Wetlands Inventory (**NWI**) map, published by the U.S. Department of the Interior Fish and Wildlife Service. The NWI map did not show possible wetlands on the Property.

In addition, based on review of a flood insurance rate map (**FIRM**) for the Property (see **Appendix B**), the Property is not located within a mapped 100-year or 500-year flood zone.

3.4 Potential for Presence of Naturally Occurring Asbestos

Based on the reviewed geologic information, the potential for naturally occurring asbestos in the bedrock or unconsolidated material at the Property is considered low.

3.5 Vapor Intrusion Assessment

As part of the Phase I ESA, Terracon conducted a Tier 1 - Initial (non-invasive screening) Vapor Encroachment Screen (**VES**) in general accordance with the scope and limitations of the Standard Guide for of VES on the Property Involved in Real Estate Transactions, ASTM Standard Practice E2600-15. The Tier 1 VES assesses readily available information in order to determine if vapor encroachment conditions (**VECs**) are evident for the Property.

Terracon reviewed the EDR Response and other reports provided for sites that had reported releases of petroleum and/or non-petroleum volatile organic compounds (**VOCs**) to soil and/or groundwater.

Based on Terracon's review of surrounding facilities, VECs are not evident for the property.

3.6 Potential for Presence of Methane Gas and Radon

Based on the reviewed geologic and soil information, the potential for naturally occurring methane gas at the Property is considered low.

Radon is a naturally occurring colorless, odorless gas that is a by-product of the decay of radioactive materials potentially present in bedrock and soil. The EPA guidance action level for annual residential exposure to radon is 4.0 Pico Curies per liter of air (**pCi/L**). The guidance action level is not a regulatory requirement for private owners of commercial real estate but is commonly used for comparison purposes to suggest whether further action at a building may be prudent.

The EPA and the USGS have evaluated the radon potential in the U.S. and have developed the EPA Map of Radon Zones (**the EPA Radon Zone Map**) (see http://www.epa.gov/iaq/radon/zonemap.html) to assist national, state, and local organizations to target their resources and to assist building code officials in deciding whether radon-resistant features are applicable in new construction.

The EPA Radon Zone Map assigns each of the counties in the U.S. to one of three zones based on radon potential. Each zone designation reflects the average short-term radon measurement that can be expected to be measured in a building without the implementation of radon control methods. The EPA Radon Zone Map is not intended to be used to determine if a structure in a given zone should be tested for radon. Structures with elevated levels of radon have been found in all three designated zones on the EPA Radon Zone Map. The radon zone designation of the highest priority is Zone 1, which indicates a structure has the highest potential to exceed EPA's current action level of 4.0 pCi/L of measured radon.

According to the EPA Radon Zone Map for Benton County, Washington, the Property is located in Zone 2 with a medium potential (between 2.0 to 4.0 pCi/L) of anticipated radon levels. The determination of Property-specific radon levels was beyond the Scope of Services for this Phase I ESA and would require measurements in accordance with EPA accepted methods.

3.7 Critical Habitat/Endangered Species

Terracon reviewed information from the U.S. Fish and Wildlife Service (**USFWS**) and the WDFW online databases to identify the potential occurrence of critical habitat and federally- and state-listed threatened and endangered (**T&E**) species located in the Property vicinity. Based upon a review of the online WDFW Priority Habitats Section (**PHS**) webpage, Priority Habitats were not identified on the Property. A copy of the WDFW Critical Habitat map is included in **Appendix B**.

Terracon conducted a preliminary review of species of concern using the USFWS Information, Planning and Conservation System (**IPAC**) Endangered Species Act species list as determined by the activities proposed at the Property. Based on a review of the website, the IPAC list indicates that there are five protected species that may occur in Benton County. Specifically, two mammal species: Columbia Basin Pygmy Rabbit, Gray Wolf; one bird species: the Yellow-billed Cuckoo; one fish species: the Bull Trout; and one flowering plant: Umtanum Desert Buckwheat.

Terracon conducted a field visit in May 2022 and readily apparent habitats for the species identified by IPAC were compared to the habitat observed at the Property. The Property is an undeveloped parcel in an area of urban development. After review of the critical habitat map through the IPAC system, none of the above-listed species of Benton County are listed as occurring on the Property. In addition, the listed protected species and their suitable habitat were not observed on the Property.

3.8 HISTORICAL PRESERVATION CLASSIFICATION

Terracon Senior Archaeologist, Heather M. Weymouth, performed an archeological, historical, and cultural resources search of the Washington Department of Archaeology and Historic Preservation (**DAHP**) - WISAARD on-line Cultural Resource Database for the presence of eligible or listed National Register of Historic Places (**NRHP**) resources within the North Half of the Southwest Quarter of Section 23, Township 10 North, and Range 28 East, which includes the Property, on May 3, 2022. Review of the DAHP online inventory indicates that the Property is located within the boundaries of the historic military site most recently identified as Camp Hanford (Site 45BN1631). This site was determined Potentially Eligible for the NRHP by the Washington State Historic Preservation Office on May 10, 2021. Terracon recommends consultation with the Washington State Historic Preservation Office (**SHPO**) prior to construction. A copy of the DAHP map is included in **Appendix C**.

4.0 REGULATORY AGENCY RESPONSES

4.1 EDR Response

EDR was requested to conduct a file evaluation of the Property to determine if there were any identifiable environmental concerns on, or within the ASTM search distances for the specific environmental regulatory databases of the Property. The search meets the specific requirements of the ASTM Standard Practice E1527-13 for Environmental Site Assessments. The EDR Radius Map Report is included in **Appendix D**. A description of each database searched is included in the EDR Response.

The EDR Response identified the Parent Parcel, of which the Property is a part, as 2892 Pauling Avenue in the regulatory database report. The Parent Parcel was identified in the Manifest, Washington Site Registry (**ALLSITES**), Resource Conservation and Recovery Act Non-Generator / No Longer Regulated (**RCRA Non-Gen / NLR**) databases. According to the radius report, the north-adjoining facility was registered as a generator of "lab waste" in 2012 and 2018. The facility was verified as a non-generator of hazardous waste from 2013 to 2017 and 2019 to 2021. Evaluations, violations and enforcement events were not listed. The western portion of the Parent Parcel (off Property) was also identified on the ALLSITES database for a construction stormwater permit in 2010. Based on the nature of these listings, it does not appear that a potential release has occurred on the Property or Parent Parcel, and therefore not a REC.

EDR identified the following sites within the ASTM-defined search radius for the Property:

Delisted NPL	1	This site is located over 1/2-mile away from the Property. Based on distance from the site relative to the Property and regulatory status, this site is not anticipated to represent a REC for the Property.
CSCSL	1	This site is located over 1/2-mile away from the Property. Based on distance from the site relative to the Property, this site is not anticipated to represent a REC for the Property.
HSL	1	This site is located over 1/2-mile away from the Property. Based on distance from the site relative to the Property, this site is not anticipated to represent a REC for the Property.
LUST	1	This site is located over 1/4-mile away from the Property. Based on distance from the site relative to the Property, this site is not anticipated to represent a REC for the Property.
ICR	1	This site is located over 1/2-mile away from the Property. Based on distance from the site relative to the Property, this site is not anticipated to represent a REC for the Property.

4.2 WASHINGTON STATE DEPARTMENT OF ECOLOGY

Terracon requested available environmental report incident forms for the Property from the Ecology Northwest Regional Office. Environmental Report Tracking System (**ERTS**) reports are listed according to property address. Reports associated with the Parent Parcel were not identified.

4.3 Historical Tax Assessor Records

Terracon requested available records for the Property from Benton County Assessor (**Assessor**) through their Public Records Request Portal webpage on April 26, 2022 regarding historical tax assessor records. The Assessor's representative provided Property Appraisal Information for the north-adjoining Parent Parcel Washington State University Innovation Center dated 2016-2021. RECs were not determined from the records reviewed.

4.4 BENTON COUNTY RESPONSE

Terracon requested available records for the Property from Benton County Health Department (**Health Department**) pertaining to environmental concerns on or in the area of the Property. At the issuance of this report, a response had not yet been received from the Health Department.

4.5 CITY RESPONSE

Terracon requested available records for the Property from the City through their Public Records Request Portal webpage on April 26, 2022 regarding building plans and permits and known environmental concerns on or adjacent to the Property. The City provided building permits associated with the Parent Parcel buildings dated 2012 to 2015. Specifically, the construction and improvement of the existing apartment building to the northwest.

Terracon requested available records for the Property from the Richland Fire Department (**Fire Department**) through their Public Records Request Portal webpage on April 26, 2022 regarding known environmental concerns on or adjacent to the Property. According to a representative of the Fire Department, one record of a caller reporting the smell of natural gas in the parking lot of the adjacent apartment complex. Responders could not identify the source of the smell and the incident was cleared.

5.0 WALKOVER SURVEY/INTERVIEWS

5.1 WALK-OVER SURVEY

On May 5, 2022, Terracon representative Taylor Blackbourn conducted a walk-over survey of the Property. Ms. Blackbourn was unaccompanied. The purpose of the walk-over survey was to identify any readily apparent indications of potential environmental concern on or immediately adjacent to the Property. **Appendix F** contains a copy of the completed Walk-Over Survey Form. **Appendix G** contains selected photographs taken during the walk-over survey.

Property and Surrounding Properties Description

General Area	Mixed-use commercial, and multi-family residential buildings.
Property Description	Undeveloped land
Adjacent to North	A portion of the Parent Parcel followed by undeveloped land and Washington State University (WSU) Innovation Center (education center) beyond
Adjacent to East	George Washington Way followed by undeveloped land
Adjacent to South	University Drive followed by Atkins Engineering Laboratory
Adjacent to West	A portion of the Parent Parcel consisting of undeveloped land and apartments beyond to the northwest.

The following items of environmental note were observed during the walk-over survey.

Stained Soils and Stressed Vegetation
No areas of stained soils or stressed vegetation were observed.

Old Foundations/Filled Areas/Excavations/Debris Piles
Old foundations, filled areas, excavations, and/or debris piles were not observed on the Property during the walk-over survey.

Oil Filled Equipment and PCB Containing Items
PCBs are found in older electric equipment such as transformers, certain hydraulic and high temperature service oils in machinery, caulks and fluorescent lamp ballasts. Manufactured items containing PCBs were banned in 1978; however, certain items in good condition, containing PCBs or their residues still remain in service. Fluorescent light ballasts manufactured prior to 1978 may contain PCBs. Recently US EPA issued an advisory that caulks in buildings constructed or renovated between 1950 and 1978 may contain PCBs.

Pad-mounted electrical transformers are located in the northeast portion of the Property. Based on site observations, these features do not represent RECs. No other potential PCB-containing electrical equipment was observed. The transformers are privately owned, and the owner is responsible for maintenance, repair and cleanup of malfunctioning transformers. Staining or signs of a release were not observed.

Pits, Sumps, Dry Wells & Catch Basins/Septic Systems

Pits, sumps, dry wells, catch basins or septic systems were not observed on the Property.

Municipal Utilities

Evidence of City sewer and water services was observed on and adjacent to the Property. Existence of these services was confirmed by Mr. Plotts, with Shotgun Creek Investments (see Interviews – Section 5.2).

Floor Drains

No structures were present, therefore floor drains were not observed during Property reconnaissance.

ODCs

Potential Ozone Depleting Chemicals (**ODCs**) were not identified on the Property (e.g., refrigerators, air conditioning units, fire extinguishers and freezers).

Fluorescent and HID Lamps

Light ballasts were not observed on the Property

Suspect ACM

Suspect ACM materials were not observed on the Property.

Mold

No structures were present, therefore no visual evidence of mold was observed on the Property.

Hazardous Waste

No hazardous wastes are currently generated or stored on the Property. No indications of spills or leaks of hazardous substances or petroleum products were observed.

Mercury Switches

Mercury switch thermostats were not observed on the Property

LBP & Lead Pipes
Suspect Lead-Based Paint (**LBP**) was not observed on the Property

Chemicals
Chemicals were not observed on the Property.

Wells
Wells were not observed on the Property.

Wetlands/Surface Water
No potential wetlands or surface waters were observed on the Property.

High Voltage Transmission Lines
No high voltage overhead transmission lines were observed.

Pipelines
No gas pipeline or pipeline markers were observed.

Heating/Cooling Systems
No structures were present, therefore heating/Cooling systems were not observed on the Property.

Elevators
No structures were present, therefore elevators were not observed on the Property.

Emergency Generators
Emergency generators were not observed on the Property.

USTs / ASTs
No indications of USTs or ASTs were observed at the Property at the time of the reconnaissance.

Trash Compactors
Trash compactors were not observed during reconnaissance.

Grease Traps
Grease Traps were not observed during reconnaissance.

5.2 Interviews

Terracon interviewed Mr. David Plotts, owner representative with Shotgun Creek Investments. Mr. Plotts indicated he has been associated with the Property for approximately one year and the owner has held the property for at least 15 years. Mr. Plotts was unaware of any historical uses or environmental issues associated with the Property.

ASTM Standard Practice E1527-13 describes information gathering tasks to be performed by the "user", which for the purpose of this Phase I ESA Report is Ryan. The information gathered is to help identify the possibility of RECs for the Property. Terracon interviewed Mr. Jon Blaha, Environmental Manager with Ryan, regarding the Property. Mr. Blaha indicated he has been associated with the Property since 2015. According to Mr. Blaha, he was not aware of any environmental issues associated with the Property other than findings included in the prior or current Phase I ESAs. The questions asked of Mr. Blaha and his responses follow:

Question
Are you aware of any environmental clean-up liens against the Property that are filed or recorded under federal, tribal, state or local law?
Response
No.

Question
Are you aware of any activity and land use limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the Property and/or have been filed or recorded in a registry under federal, tribal, state or local law?
Response
No.

Question
As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?
Response
No.

Question
Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower

purchase price is because contamination is known or believed to be present at the property?

Response

N/A.

Question

Are you aware of commonly known or reasonably ascertainable information about the Property that would help the environmental professional identify conditions indicative of releases or threatened releases? For example, as user,

a) Do you know the past uses of the property?

Response: As identified in this ESA.

b) Do you know of specific chemicals that are present at the property?

Response: As identified in this ESA.

c) Do you know of spills or other chemical releases that have taken place at the property?

Response: As identified in this ESA.

d) Do you know of any environmental cleanups that have taken place at the property?

Response: As identified in this ESA.

Question

As the user of this ESA, based on your knowledge and experience related to the Property are there any obvious indicators that point to the presence or likely presence of contamination at the Property?

Response

No.

6.0 HISTORICAL RESEARCH

6.1 Sanborn Fire Insurance Map Review

Sanborns were prepared for various communities from the late 1800s through the 1980s. These maps show addresses, structures and other improvements, such as utilities and storage tanks, for the areas covered. According to EDR, Sanborns coverage for the vicinity of the Property is not available. A copy of the EDR Sanborns response is included in **Appendix H**.

6.2 City Directory Review

Terracon reviewed City Directories provided by EDR for the area of the Property for the period of 1964 until 2017. The City Directory did not identify current listings for the Property. Historical City Directory listings found for the address ranges of the Parent Parcel included the following: 2892 Pauling Avenue. Listings of potential concern are italicized, bolded, and discussed below the table.

The following table summarizes the review for adjacent properties.

Year	Direction	Observations
1964	**North:** 2892 Pauling Ave	No listings identified
	South: 561-569 University Dr	No listings identified
	East: 2800 George Washington Way	No listings identified
	West: 2895 Pauling Ave	No listings identified
1969	North	No listings identified
	South	No listings identified
	East	No listings identified
	West	No listings identified
1974	North	No listings identified
	South	No listings identified
	East	No listings identified
	West	No listings identified
1979	North	No listings identified
	South	No listings identified
	East	No listings identified
	West	No listings identified
1983	North	No listings identified
	South	No listings identified
	East	No listings identified
	West	No listings identified
1988	North	No listings identified
	South	No listings identified

Year	Direction	Observations
	East	No listings identified
	West	No listings identified
1992	North	No listings identified
	South	No listings identified
	East	IT Analytical Svc
	West	No listings identified
1995	North	No listings identified
	South	No listings identified
	East	IT Analytical Svc
	West	No listings identified
2000	North	No listings identified
	South	No listings identified
	East	Quanterra Incorporated
	West	No listings identified
2005	North	No listings identified
	South	No listings identified
	East	STL Richland
	West	Residential listings
2010	North	No listings identified
	South	No listings identified
	East	Test America
	West	No listings identified
2014	North	No listings identified
	South	No listings identified
	East	Test America
	West	No listings identified
2017	North	No listings identified
	South	No listings identified
	East	Test America
	West	Innovation Center Apartments

6.3 Aerial Photograph Review

Aerial photographs were reviewed to identify past land uses and any readily apparent environmental concerns on or near the Property. Photographs from the years 1948, 1952, 1964, 1973, 1976, 1982, 1991, 1996, 2006, 2009, 2013, 2017 and 2021 were available from EDR and Google Earth. Aerial photographs prior to 1948 were not reasonably ascertainable. Copies of the aerial photographs are included in **Appendix I**.

The following table summarizes the aerial photograph review for the Property.

Year	Description
1948-1952	Property is developed with at least twelve barracks associated with Camp Hanford.
1964-2017	The barracks are demolished and the Property is vacant land.

The following table summarizes the aerial photograph review for adjacent properties.

Year	Direction	Observations
1948	North	A portion of the parent parcel is developed with barracks and a small well house followed by vacant land
	South	An unpaved road followed by vacant land
	East	A road followed by residences
	West	Developed with barracks
1952	North	Changes are not noted.
	South	A building is constructed to the southwest.
	East	The residences are demolished.
	West	Changes are not noted.
1964	North	Barracks are demolished, vacant land remains.
	South	Changes are not noted.
	East	Changes are not noted.
	West	Barracks are demolished, vacant land remains.
1973	North	Changes are not noted.
	South	The building is demolished.
	East	A building is constructed.
	West	Changes are not noted.
1976	All	Aerial not available
1982-2009	All	Changes are not noted.
2013	North	The well house is demolished. The existing laboratory building is constructed.
	South	The existing laboratory building is constructed.
	East	Changes are not noted.
	West	A portion of the existing apartment building is constructed.
2017	North	Changes are not noted.
	South	Changes are not noted.
	East	Changes are not noted.
	West	The existing apartment building is constructed.
2021	North	Changes are not noted.
	South	Changes are not noted.
	East	The building is demolished.
	West	Changes are not noted.

RECs were not identified during review of historical aerial maps for the Property and surrounding area.

6.4 Historical Map Review

6.4.1 Historical USGS Topographic Map Review

Historical topographic maps provided by USGS were reviewed to identify past land uses and any readily apparent environmental concerns on or near the Property. USGS topographic maps reviewed for the area of the Property included the 30-minute Pasco map, the 15-minute Richland map and the 7.5-minute Richland maps.

Information discerned from the maps for the Property is summarized below:

Year	Description
1917	Undeveloped land
1951	Small buildings are depicted
1978-2020	Vacant land

Information discerned from the maps for adjacent properties is summarized below.

Year	Direction	Observations
1917	North	One small building.
	South	A roadway followed by undeveloped land
	East	A roadway followed by one small building.
	West	Undeveloped land.
1951	North	Small buildings followed by a roadway and undeveloped land beyond.
	South	A building is constructed.
	East	Rows of small buildings.
	West	Small buildings.
1978-1992	North	A water well to the northeast.
	South	Vacant land.
	East	A large building is depicted.
	West	Vacant land.
2014-2020	North	Well no longer depicted. Well house is demolished.
	South	Changes are not depicted.
	East	Depicted as vacant land.
	West	Changes are not depicted.

RECs were not identified during review of historical topographic maps for the Property and surrounding area.

6.5 Well Records Review

Terracon reviewed well log records for the area of the Parent Parcel as provided by Ecology. No wells were identified for the Property or adjacent properties.

6.6 Data Failure

At the date of issuance of this report, a response had not yet been received from the Health Department; however, based on other historical information reviewed in this assessment, this does not represent a significant data gap.

7.0 DOCUMENT REVIEW

Terracon reviewed, as part of its preparation of this Phase I ESA Report, documents provided by Ryan or others which are summarized below.

7.1 Shannon & Wilson, Inc. Phase I + Focused Phase II ESA Report

The report entitled "Phase I + Focused Phase II Environmental Site Assessment; Smart Park Phase 3 Site", prepared for Smart Park III, LLC by Shannon & Wilson (**S&W**), dated September 3, 2009 (**S&W 2009 ESA Report**) was prepared for the Parent Parcel, of which the Property is a part. At the time of the S&W 2009 ESA Report, the Parent Parcel was undeveloped.

The Parent Parcel was formerly developed as a portion of Camp Hanford. According to S&W, the Parent Parcel was owned by the Richland Irrigation District until 1942 when it was developed as part of the Hanford Site 3000 where workers lived during construction of Hanford's plutonium production facilities during World War II. The buildings were removed in the early 1960s and the site has remained vacant. S&W reviewed data to suggest groundwater is approximately 45 feet below ground surface.

On the western portion of the Parent Parcel, not on the Property, a Paint Shop (approximately 1,390 feet east of the Property and up-gradient) and Automotive Repair Shop (approximately 1,690 feet east-northeast of the Property and up-gradient) existed during the Camp Hanford occupation. S&W identified them as RECs and subsequently conducted a Phase II to investigate the dry wells and burn area associated with the Paint Shop and the potential dry well and floor drain associated with the Automotive Repair Shop. In addition, the S&W 2009 ESA Report stated a gasoline station (approximately 1,900 feet east of the Property and up-gradient) had been investigated by Chen-

Northern, Inc (1992). A ground penetrating survey in 1992 did not identify any underground storage tanks (USTs) and soil was analyzed in the area of the former UST pit. Reportedly, the Chen-Northern, Inc. soil sample concentrations did not exceed Washington State Model Toxics Cleanup Act (**MTCA**) cleanup levels for oil-range total petroleum hydrocarbons (**TPH**) and gasoline- and diesel-range TPH and volatile organic compounds (**VOCs**) associated with TPH were not detected.

Three borings were advanced in the former Paint Shop area to a total depth of 32 feet. Two borings were advanced near the former Automotive Repair Shop to a total depth of 20 feet. Groundwater was not encountered in any borings. Soil samples were analyzed for gasoline-, diesel- and oil-range TPH, VOCs and Polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs) and total metals. Constituents were either not detected or detected below their respective MTCA Method A Cleanup levels.

S&W concluded that their investigation in addition to a review of previous investigations did not indicate subsurface contamination that required reporting to Ecology or required remediation. The dry wells were not likely impacted; therefore, remediation was not necessary. The former RECs identified were changed to historical RECs. Given the distance and analytical results of the former automotive, paint and fueling features, they are not considered a REC for the Property.

8.0 CONCLUSIONS

Work performed for this Phase I ESA included: a review of federal, state, county, and municipal information, a walk-over survey, review of documents furnished to Terracon by Ryan; an interview with representatives of Ryan and the Owner and a review of historical data. The Phase I ESA was conducted in general accordance with the scope and limitations of the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-13 (the **ASTM Standard Practice E1527-13**) as expanded in accordance with Ryan's Environmental Site Assessment Guidelines (Version March 1, 2011). Any exceptions to this practice are noted in **Section 2.0** of this Phase I ESA Report.

Based on Terracon's assessment and a review of information obtained, no RECs, as defined in ASTM Standard Practice E1527-13 were identified for the Property.

No historical RECs, as defined in ASTM Standard Practice E1527-13, were identified for the Property.

No controlled RECs, as defined in ASTM Standard Practice E1527-13, were identified for the Property.

- Possible buried debris of former barracks on the Property.
- Review of the DAHP online inventory indicates that the Property is located within the boundaries of the historic military site most recently identified as Camp Hanford (Site 45BN1631). This site was determined Potentially Eligible for the NRHP by the Washington State Historic Preservation Office on May 10, 2021.

9.0 RECOMMENDATIONS

Based on the information collected for the Phase I ESA, Terracon recommends managing possible buried debris, if found, in accordance with State Regulations. Terracon also consultation with the Washington State Historic Preservation Office (**SHPO**) prior to construction.

10.0 QUALIFICATIONS

The qualifications of the authors of this Phase I ESA Report are included in **Appendix L.**

11.0 ABBREVIATIONS

Description of Selected General Terms and Acronyms

Term/Acronym	*Description*
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on-site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally exempt small quantity generators.
CFR	Code of Federal Regulations

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
CREC	Controlled Recognized Environmental Condition is defined in ASTM E 1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E 1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."
ILP	Innocent Landowner/Operator Program
LQG	Large quantity generators.
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	Pico Curies per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in Pico Curies per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA generators list is part of the RCRIS database maintained by EPA and lists facilities that generate hazardous waste as part of their normal business operations, as more particularly defined under Section 4.1 of this report.
RCRA CORRACTS/TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.
RCRA Non-CORRACTS/TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions."

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
SCL	State "CERCLIS" List (see SPL /State Priority List, below).

Term/Acronym	*Description*
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	National Priorities List, as more particularly described under the Records Review section of this report.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small quantity generator.
SWF	Solid Waste Facility
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	Voluntary Cleanup Program
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates "waters of the US," also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.

12.0 REFERENCES

EDR Radius Map with Geocheck, dated April 27, 2022.

EDR Aerial Photographs, dated April 27, 2022.

EDR City Directories, dated April 27, 2022.

EDR Topographic Maps, dated April 27, 2022.

EDR Sanborn Map Search, dated April 27, 2022.

Shannon & Wilson, Inc., Phase I + Focused Phase II Environmental Site Assessment, Smart Park Phase 3 Site , Richland, Washington; dated September 3, 2009

U.S. Geological Service 7.5-minute Richland, WA Quadrangle Map, dated 2020.

US Fish and Wildlife Service, National Wetlands Inventory Map, dated 2022.

USGS, Geologic map of the Richland quadrangle, Washington; Washington Division of Geology and Earth, published 1994.

Washington Department of Ecology Well Log Database, dated May 2022.

Washington Department of Fish and Wildlife Critical Habitat Map, dated 2022.

ATKINS TECHNOLOGY CENTER
UNIVERSITY DR. & GEO. WASHINGTON WAY
RICHLAND, WASHINGTON

For:

MR. GEORGE WINDLE
RYAN COMPANIES US, INC.
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Project No: 22-070

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Baer Testing & Engineering, Inc.

1106 Ledwich Ave.
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April 25, 2022

Mr. George Windle
Ryan Companies US, Inc.
110 110th Ave. NE, Suite 100
Bellevue, Washington 98004

RE: GEOTECHNICAL ENGINEERING STUDY; PROPOSED ATKINS TECHNOLOGY CENTER, RICHLAND, WASHINGTON

Dear Mr. Windle:

At your request, Baer Testing & Engineering, Inc. (BAER) conducted a Geotechnical Engineering study for the proposed Atkins Technology Center on University Drive in Richland, Washington. This report presents the results of the field explorations, laboratory testing, and engineering analyses.

This report presents recommendations for site grading, pavements, utility design and construction, and stormwater management. Design recommendations for structural foundation design and construction, and seismic design for the various project features are also provided.

We appreciate the opportunity to be of service. If you have questions or comments, please contact our office.

Sincerely,

BAER TESTING, INC.

Dee J. Burrie, P.E.
Chief Engineer

Enclosures: Geotechnical Engineering Report

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Figure 1 – Site Location Plan
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Appendix A – Test Pit Logs
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1.0 INTRODUCTION

Baer Testing & Engineering, Inc. (BAER) is pleased to present the results of our geotechnical engineering study for the proposed Atkins Technology Center in Richland, Washington. This geotechnical engineering study provides subsurface information to support site grading, drainage, utility design and construction, and recommendations for foundation design and construction**,** pavements, and IBC seismic design criteria. Our scope of work included:

- observing 6 test pit excavations and field soil sampling;
- performing one infiltration test;
- conducting laboratory testing to determine soil properties;
- performing engineering analyses; and
- preparing this report.

2.0 PROJECT DESCRIPTION AND PROPOSED DEVELOPMENT

The approximately 4-acre site is located north of University Drive and west of George Washington Way in north Richland, Washington (**Figure 1 – Site Location Map**) in the NE4SW4 of S23, T10N, R28E, WM, in Richland, Washington. Approximate mid-site coordinates are 46°20'01.2"N Latitude; 119°16'25.3"W Longitude.

The existing site surface is vegetated with grass and light brush. The site is generally level with a surface elevation the same as the adjacent road. Depending on the final site grade elevations, we anticipate only minor site grading will be required. The site was originally part of Camp Hanford, a military installation developed to support the Manhattan Project during the 1940s and Cold War. The buildings were removed prior to the 1985 Google Earth image. Some foundations and construction fill, or debris may be encountered during site grading.

The proposed development consists of a 2-story, steel-framed structure, consisting of 25,600-square-foot (sf) office and industrial space, with potential expansion areas to the north and west. A 68-space paved parking lot will be located north of the main building. Development includes underground utilities and on-site stormwater management and disposal.

3.0 FIELD EXPLORATIONS

The exploration plan consisted of excavating six test pits designated TP-1 through TP-6 on **Figure 2 – Exploration Plan**. Double J Excavation (Double J) excavated the test pits on April 8, 2022, using a Deere 50G excavator equipped with a 24-inch bucket.

Where possible, soil in-situ strength was estimated using a dynamic, mini-cone penetrometer (DCP) and our observations of the relative excavation difficulty. The mini cone uses a 15-pound slide hammer dropped 20 inches to drive a conical tip into the soil. The number of hammer blows required to drive the cone 1¾-inch increments is roughly equivalent to a SPT blow count. The blows per increment provide an indication of the relative soil density. The blow counts are recorded on the logs. The mini-cone penetrometer test method is described in ASTM STP399.

BAER's geologist counted the blows required to drive the rod into the ground for each 1¾-inch increment over a given depth. The recorded blow count data was evaluated using correlation charts to

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estimate the soil bearing capacity. Due to oversized gravel encountered in the test pit explorations, the blow counts were elevated in some locations.

The subsurface conditions are known only at the test pit locations on the date explored and should be considered approximate. Actual subsurface conditions may vary between excavation locations. The test pit locations are presented in **Figure 2** and the test pit logs are presented in **Appendix A**. Our geologist classified the in-situ soil in the field and transported the soil samples to the laboratory for further examination and testing.

4.0 LABORATORY TESTING

BAER performed the following laboratory tests on selected soil samples from our explorations.

- Moisture Content (American Society for Testing and Materials (ASTM) Designation: D 2216) for material characterization and soil index properties; and
- Particle Distribution (ASTM Designation: D 422 and ASTM Designation: D 1140) for material characterization and soil index properties.

Northwest Agricultural Consultants performed the following laboratory tests on selected soil samples.

- Organic Matter Content (ASTM Designation: D 2974) for soil index properties; and
- Cation Exchange Capacity (Environmental Protection Agency (EPA) Designation: 9081) for soil properties

Copies of the laboratory test reports are enclosed in **Appendix B.**

5.0 SUBSURFACE CONDITIONS

The following information is a summary of the subsurface conditions encountered during the test pit explorations. Please refer to the enclosed logs (Appendix A) for more detailed information regarding subsurface conditions.

5.1 Regional Geologic Setting

Review of the *Geologic Map of the Richland 1:100,000 Quadrangle, Washington*; Washington Division of Geology and Earth Resources, Open File Report 94-8 (1994), shows the near-surface geology at the site primarily mapped as Qfg_4 – Outburst Flood deposits (Pleistocene), and Qds – Stabilized Sand Dunes (Holocene) to the west. Qfg_4 includes gravels but ranges from sand to boulders; clasts are chiefly basalt, granite, quartzite, diorite, and volcanic porphyries. Qds consists of Eolian medium to fine sand and silt; composed of quartz, basalt, and/or feldspar; and includes Mazama tephra at numerous places. In our opinion, the materials observed in the test pit excavations are consistent with this mapped geology.

5.2 Soils

The native subsurface profile generally consists of loose to medium dense, ***Silty Sand (SM)***, ***Poorly-Graded Sand with Silt (SP-SM)***, and ***Poorly-Graded Gravel with Sand (GP)***, underlain by a black ***Well-*** and ***Poorly-Graded Gravel with Sand (GW & GP)***. Generally, test pits encountered the gravel with sand at depths ranging from 3 to 6 feet below the ground surface (bgs). Test Pits TP-1, -4, and -5 were terminated at approximately 7 to 8 feet bgs, due to caving. All other excavations were terminated at approximately 9 to 10 feet bgs.

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5.3 Groundwater

Groundwater was not encountered in the test pits. Based on well logs from nearby locations, groundwater is approximately 45 feet below the existing surface elevation.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 General

The existing site surface is comprised of re-worked stabilized dunes and was previously part of a military facility during the 1940s and Cold War era. The buildings were removed prior to the earliest available Google Earth image from 1985. The site is currently vegetated with grass and light brush. The site is relatively level with a surface elevation approximately the same as the adjacent roads. Test Pits TP-2, TP-3, and TP-6 encountered 1.5 to 2 feet of previously placed fill at the surface.

6.1.1 Test Pit Backfill

Double J used the excavator to backfill each test pit with excavated materials upon completion. The operator compacted the backfill using the excavator bucket. The test pits should be over-excavated and backfilled with compacted structural fill during site grading in accordance with Section "6.2 Earthwork" below.

6.2 Earthwork

Existing vegetation and any deleterious debris should be removed from the building and pavement areas. We anticipate approximately 6 to 12 inches of topsoil will need to be removed. However, deeper sagebrush root balls and fill deposits may be encountered and require additional effort. Stripped soil materials with debris removed may be stockpiled for use in future landscape areas but may not be used as structural fill. The existing native materials free of organics, deleterious debris, and any material larger than 3-inches may be reused for general fill and backfill.

6.2.1 Subgrade Preparation

Soils should be properly moisture conditioned prior to being compacted. The upper 12 inches of the exposed subgrade in areas to receive fill should be moisture conditioned to within 2 percent of optimum and compacted to a minimum 92 percent of the maximum laboratory dry density as determined by the ASTM Designation: D 1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort. Where possible, the subgrade should be proof rolled using a loaded water truck or dump truck to identify loose or unstable areas. The geotechnical engineer should observe the proof rolling activities to determine if the intent of this section is met and to aid in determining areas with soft or unsuitable soils.

6.2.2 Material Reuse

Limited on-site material will be available for reuse. The various grades of gravel, sand, and silt may be used as general fill and structural fill once rocks larger than 3-inches in diameter are removed. If off-site materials are required, we recommend using materials similar to the on-site soil, or a well-graded, 2-inch minus, pit-run sand and gravel with less than 5 percent fines. All structural fill and backfill should be placed in accordance with Section "6.2.3 Placement and Compaction".

6.2.3 Placement and Compaction

Fill and backfill should be moisture conditioned to within 2 percent of optimum, placed in maximum 8-inch loose lifts, and compacted to a minimum 95 percent of ASTM D 1557. Structural fill under footings, if used, should consist of 5/8-inch minus CSTC. Structural fill should be compacted to 95 percent of ASTM D 1557.

6.2.4 Slopes

Occupational Safety and Health Administration (OSHA) Type C soil best describes the on-site poorly graded sand. Type C soils may have maximum temporary construction slopes of 1.5 Horizontal to 1 Vertical (1.5H:1V). Permanent cut or fill slopes should be no steeper than 2H:1V and must be protected from both wind and water erosion. Erosion protection may consist of vegetative cover or a minimum 3 inches of coarse concrete aggregate conforming to the requirements of WSDOT Specification 9-03.1(4) c, "Concrete Aggregate AASHTO Grading No. 57."

6.2.5 Utility Trenching

Utility trenching should be accomplished in accordance with American Public Works Association (APWA) Standard Specifications. Based on our explorations, we anticipate excavations may be accomplished using standard excavation equipment. Significant caving should be anticipated when excavations penetrate the underlying black sand and gravel. Utility piping should be bedded as recommended in the APWA specifications. Utility trenches should be backfilled using structural fill compacted as specified in section "6.2.4 Placement and Compaction". Enough backfill should be placed over the utility before compacting with heavy compactors to prevent damage.

6.2.6 Wet Weather Construction

The site soils are typically fine to medium sand with gravels and cobbles. The stability of the exposed fine soils may deteriorate due to change in moisture content. If construction occurs during wet weather, we recommend:

- Fill materials consist of clean, granular soil with less than 5 percent fines passing the #200 sieve. Fines should be non-plastic.
- The ground surface in the construction area should be sloped to drain and sealed to reduce water infiltration and to prevent water ponding.
- Work areas and stockpiles should be covered with plastic. Geotextile silt fences, straw bales, straw wattles, and/or other measures should be used as needed to control soil erosion.

6.2.7 Infiltration Rate

We understand stormwater will be managed on site. We conducted an infiltration test in TP-1 approximately 5 feet below ground surface (bgs). The infiltration test was conducted in general accordance with the Small PIT method described in the 2019 Washington Department of Ecology Stormwater Management Manual Table 6.3 and Appendix 6.B.

We filled the pit with approximately 2 feet of water. The water was allowed to saturate the underlying soils for approximately 2 hours. The pit was again filled with water and the depth below the reference was measured when filling stopped. We obtained measurements at 15-minute intervals over the following hour. The water surface elevation changes between the 30- and 60-minute readings are used to calculate the infiltration rate.

The test results indicate an infiltration rate of 8.5 inches per hour. This rate does not include safety factors. Local codes may limit the maximum design infiltration rate. The system designer should verify any limitations and incorporate an appropriate factor of safety against slowing rates over time due to biological and sediment clogging.

7.0 FOUNDATION DESIGN RECOMMENDATIONS

7.1 Footings

The proposed structures may be supported on conventional spread footings or continuous footings bearing on the native gravels and sand, or structural fill extending to the native gravel. Exterior footings should be embedded a minimum 24 inches below adjacent grades for bearing considerations and frost protection. It is important that footings bear on consistent conditions to avoid differential settlement.

Because of the variable materials encountered at footing depth, we recommend over-excavating the footings 12 inches and backfilled with 5/8-inch minus crushed stone top course (CSTC) compacted to 95 percent of ASTM D 1557.

Prior to placing structural fill, footing subgrade should be moisture conditioned and compacted to 92% of ASTM D 1557.

We recommend constructing footings a minimum 2 feet wide for spread footings and minimum 18 inches wide for continuous footing. Footings constructed with these recommendations can be designed with an allowable bearing pressure of 2,000 pounds per square foot (psf). The allowable bearing pressure may be increased by one-third for short-term transient loading conditions (i.e., seismic and/or wind loads).

We anticipate settlement will be the limiting factor for foundation design. Foundation settlement estimates are based on the soil profile and densities encountered at the site. Foundations designed as outlined above should experience less than ½-inch settlement. We anticipate differential settlement will be less than half of total settlements between adjacent footings or across approximately 20 feet of continuous footings. Settlement should occur rapidly as loads are applied.

Lateral forces may be resisted using a combination of friction and passive earth pressure against the buried portions of the structure. For design, a 0.45 coefficient of friction may be assumed along the interface between the footing base and the compacted CSTC. Passive earth pressure from the sandy backfill may be calculated using an equivalent fluid weight of 260 psf per foot of embedment depth. The recommended coefficient of friction and passive earth pressure values do not include a safety factor.

7.2 Concrete Slabs-on-Grade

Subgrade for concrete slabs-on-grade in warehouse-process areas and exterior hardscape slabs should be moisture conditioned and compacted to a minimum of 95 percent of ASTM D 1557.

After compacting the subgrade, we recommend placing a minimum 6-inch layer of 5/8-inch CSTC under the concrete slab. The CSTC should be compacted to a firm, unyielding condition. The geotechnical engineer should observe subgrade preparation prior to gravel placement.

Static k-Value (American Concrete Pavement Association ACPA) is a commonly applied value in concrete pavement design. It estimates the composite of support of any subgrade(s) or subbase(s) layers below the concrete pavement surface course. A **k=230 psi/in** may be used for slab design.

7.3 Retaining Walls

Retaining wall foundations should be designed and constructed in accordance with the footing recommendations. All retaining walls should be designed with a minimum 12-inch-wide drainage zone directly behind the wall. The on-site sandy silt soil or gravel may be used as backfill behind the

drainage zone. The drainage zone should be separated from the backfill using a separation geotextile. Backfill should be placed in maximum 8-inch loose lifts and compacted to 95 percent of ASTM D 1557.

If retaining walls are constructed as recommended above, the values in the following table may be used for design.

Table 7.3-1 Retaining Wall Design

Design Parameter	Value, pcf/ft. depth
Active Earth Pressure (unrestrained walls)	35
At-rest Earth Pressure (restrained walls)	55

7.4 Pavement Sections

The buildings will be used for research and office purposes. We anticipate traffic will consist of automobile and light trucks, with occasional garbage or delivery trucks. Based on the anticipated traffic, we recommend the following pavement sections.

Table 7.4-1 Recommended Pavement Section

Material Layer	Layer Thickness, inches		Compaction Standard
	Light duty	Main Access	
Asphaltic Concrete Pavement (HMACP)	3	4	91 percent of Maximum Theoretical Specific Gravity (Rice's)
Crushed Stone Top Course (CSTC) WSDOT 5/8-inch minus Top Course	6	8	95 percent of ASTM D 1557
Compacted Subgrade	12		95 percent of ASTM D 1557

The upper 12 inches of the pavement subgrade should be moisture conditioned and compacted to 95 percent of ASTM D 1557. The geotechnical engineer should observe the subgrade prior to base course placement. Soft or unstable areas should be stabilized or over-excavated and replaced with compacted structural fill prior to paving.

7.5 Seismic Design

Structures should be designed in accordance with the 2018 International Building Code (IBC). The Site Class is based on the average conditions present within 100 feet of the ground surface. The Site Classification is based on shear wave velocity. To establish a higher site class, additional explorations are required, including deep borings and geophysical measurements. Based on the available information, we recommend using the default classification Site Class D (Stiff Soil). Design values determined for the center coordinates of the site using the United States Geological Survey (USGS) *Earthquake Ground Motion Parameters* utility (ATC Hazards by Location Tool – ASCE 7-16) are summarized in Table 7.5-1 below.

Table 7.5-1 Recommended Earthquake Ground Motion Parameters (2018 IBC)

Parameter	Value
Location (Latitude, Longitude), degrees	46.333665; -119.273683
Mapped Spectral Acceleration Values (MCE, Site Class D):	
Short Period, S_s	0.401 g
1.0 Sec. Period, S_1	0.155 g
Soil Factors for Site Class D:	
F_a	1.479 g
F_v	2.290
S_{DS}	0.396 g
S_{D1}	0.236

7.5.1 Liquefaction

Soil liquefaction occurs when saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Liquefaction typically occurs in loose, granular soils located in the upper 50 feet and below the water table. The groundwater depth is approximately 45 feet bgs and the on-site poorly graded sand with silt and underlying poorly graded gravel with sand are generally loose to medium dense. In our opinion, the liquefaction potential at this site is moderate. Additional exploration and analysis will be required to quantify anticipated settlements due to potential liquefaction.

7.5.2 Fault Rupture Potential

Based on our review of available geologic literature, a hidden, northwest – southeast trending hidden thrust fault generally follows the Yakima River alignment approximately 4 miles southwest of the site. A second hidden thrust fault is located at the base of the hills (Badger Mountain, Candy Mountain, South Hills) approximately 6.5 miles southwest of the site. We are not aware of any major movement along these faults in the last 10,000 years. We did not observe any evidence of surface rupture or recent faulting during our field observation. Therefore, we conclude the fault rupture potential is low at this site.

7.5.3 Slope stability

The site is in a relatively level, developing commercial area in northern Richland. In our opinion, the potential for slope failure impacting the proposed project site is low.

8.0 ADDITIONAL SERVICES

BAER is available to provide further geotechnical consultation during the project design phase. We should review the final design and specifications to verify earthwork and foundation recommendations have been properly interpreted and incorporated into the project design and construction specifications. We are also available to provide geotechnical engineering and special inspection services during construction. Observation during construction provides the geotechnical engineer the opportunity to assist in making engineering decisions if variations in subsurface conditions become apparent. If BAER is not retained to provide construction phase services, we cannot be responsible for soil related construction errors or omissions.

Construction observation and special inspection services are not part of this geotechnical engineering study scope of work. We will be pleased to provide a separate proposal for the construction phase services, if desired.

9.0 UNCERTAINTIES AND LIMITATIONS

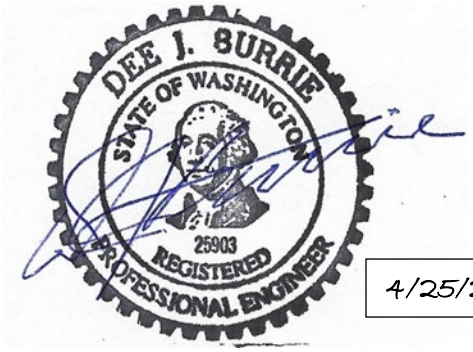
This report was prepared for use the exclusive use of Ryan Companies US, Inc. and the design team for the proposed Atkins Technology Center in Richland, Washington. This report presents the data from observations and field testing and is based on subsurface conditions at the specific locations and depths indicated. No other representation is made. This report should be made available to potential contractors for information on factual data only. Conclusions and interpretations presented in this report should not be construed as a guarantee or warranty of the subsurface conditions. If changes are made to the project components or layout, additional geotechnical data and analyses may be necessary.

Within the limitations of scope, schedule, and budget, BAER attempted to execute these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our services did not include environmental screening of soil samples retrieved from the explorations completed for this project. Further, we did not complete environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic materials in the soil, rock, surface water, or air in the project area.

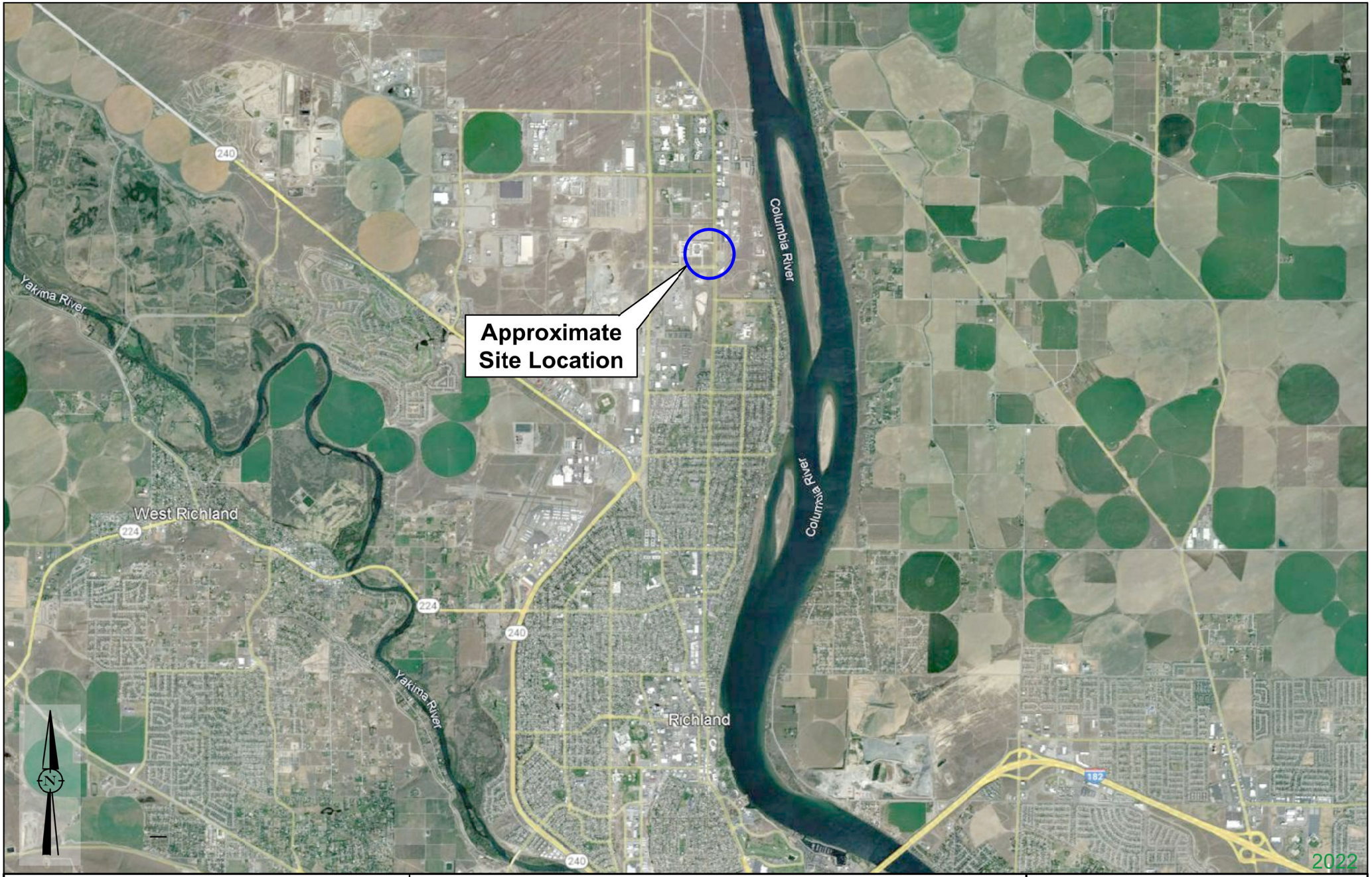
We appreciate the opportunity to be of service. If you have questions or comments, please contact our office.

Sincerely,

BAER TESTING & ENGINEERING, INC.



Dee J. Burrie, P.E.
Chief Engineer



Notes:
Location Map developed using Images by Google Earth Pro.

0 1 2
Approximate Scale in Miles

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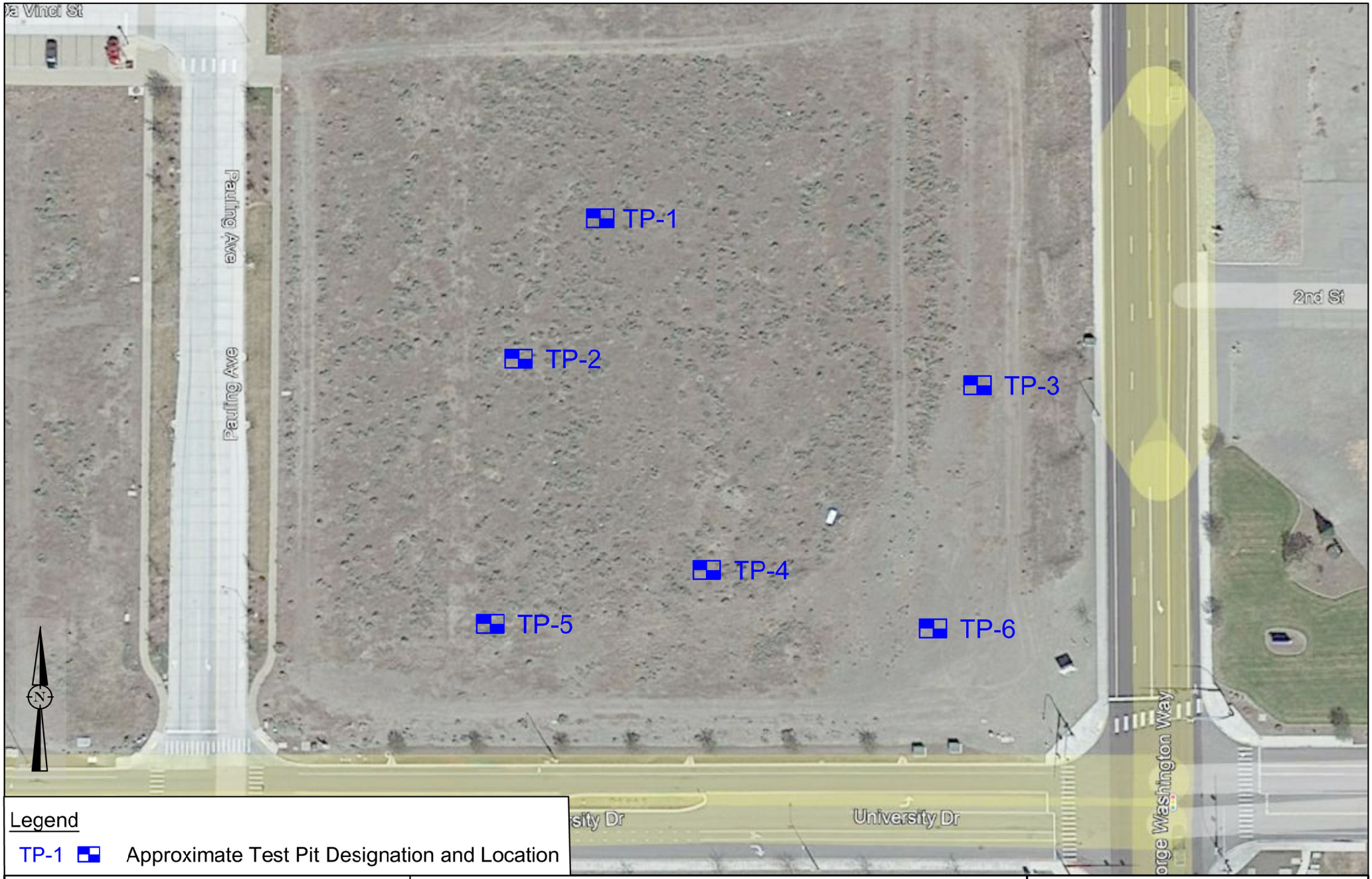
Atkins Technology Center
Richland, Washington

Site Location Map

22-070	FIG. 1



Legend

TP-1 Approximate Test Pit Designation and Location

Notes:

Location Map developed using Images Provided by Google Earth Pro.

0 100 200

Approximate Scale in Feet

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Exploration Map

22-070 | FIG. 2

APPENDIX A
TEST PIT LOGS

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LOG OF TP-1

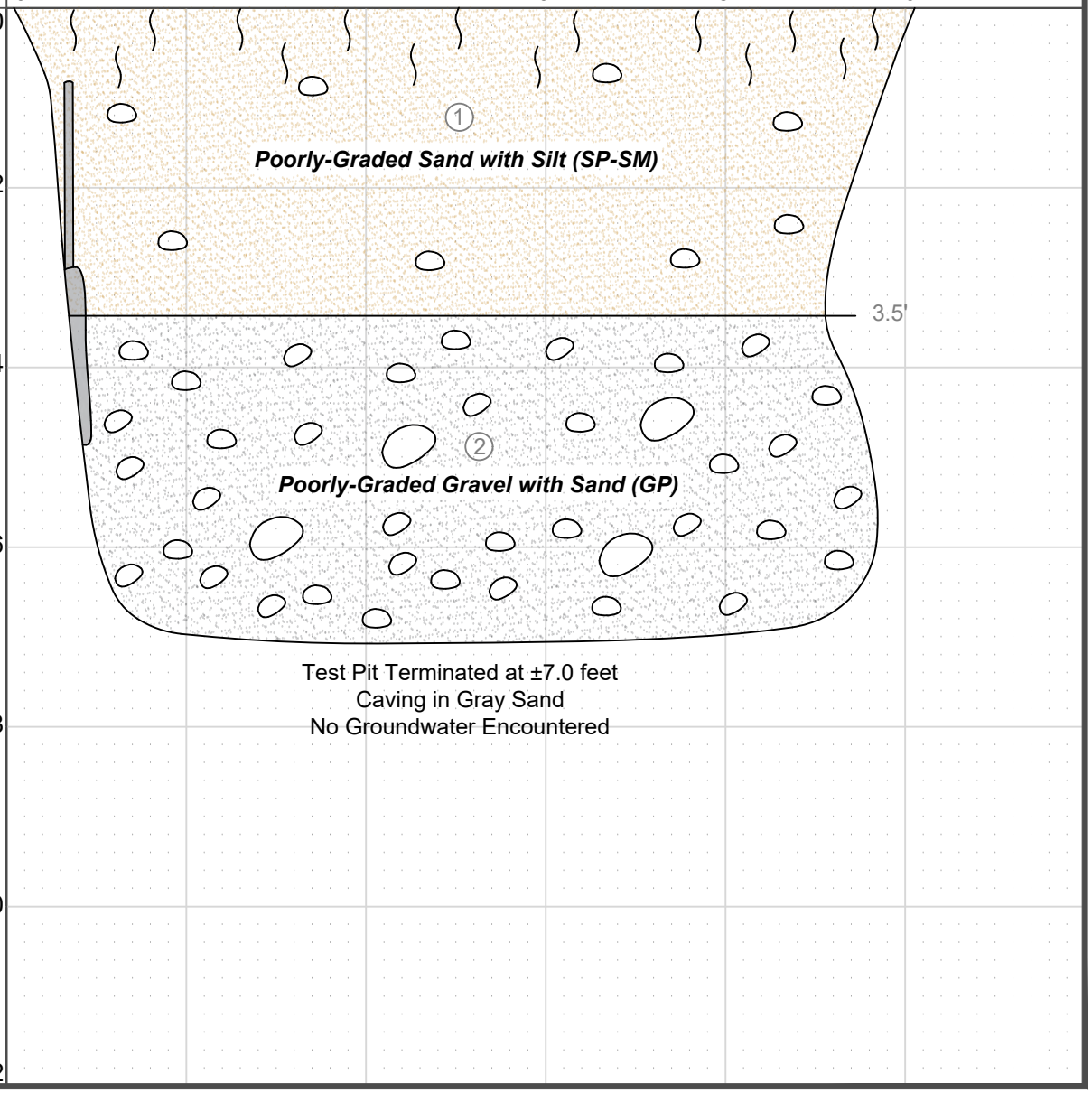
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: North Edge

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3338725 E -119.2734096

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Brush				
① 0 - 3.5' Loose, brown, ***Poorly-Graded Sand with Silt (SP-SM)***; Moist; few rounded to subrounded gravel and cobbles, maximum diam. 10 inches; angular fine to coarse sand; nonplastic silt; organics (roots) in upper 12 inches; abandoned vertical pipe in the sidewall from 1 to 5 feet.	**None Observed**	3-5-3-4	S-1	0
② 3.5 - 7.0' Loose, gray, ***Poorly-Graded Gravel with Sand (GP)***; Dry; subrounded gravel and cobble maximum diam. 10 inches; medium to coarse sand.			S-2	4
Test Pit Terminated at ±7.0 feet Caving in Gray Sand No Groundwater Encountered				8
				12

Sketch of West Pit Side Surface Elevation:



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LOG OF TP-2

JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: Northwest Corner

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3336730 E -119.2740644

SOIL DESCRIPTION

Surface Description: Grass / Brush

① 0 - 2.0'
Loose, brown, ***Silty Sand (SM)***; Moist; little rounded to subrounded gravels, maximum diam. 2 inches; angular fine to coarse sand; nonplastic silt; organics (roots) in upper 6 inches; burnt wood debris at 1.5 feet. (FILL)

② 2.0 - 3.0'
Loose, brown, ***Silty Sand (SM)***; Moist; few rounded to subrounded gravels, maximum diam. 1 inch; angular fine to coarse sand; nonplastic silt;

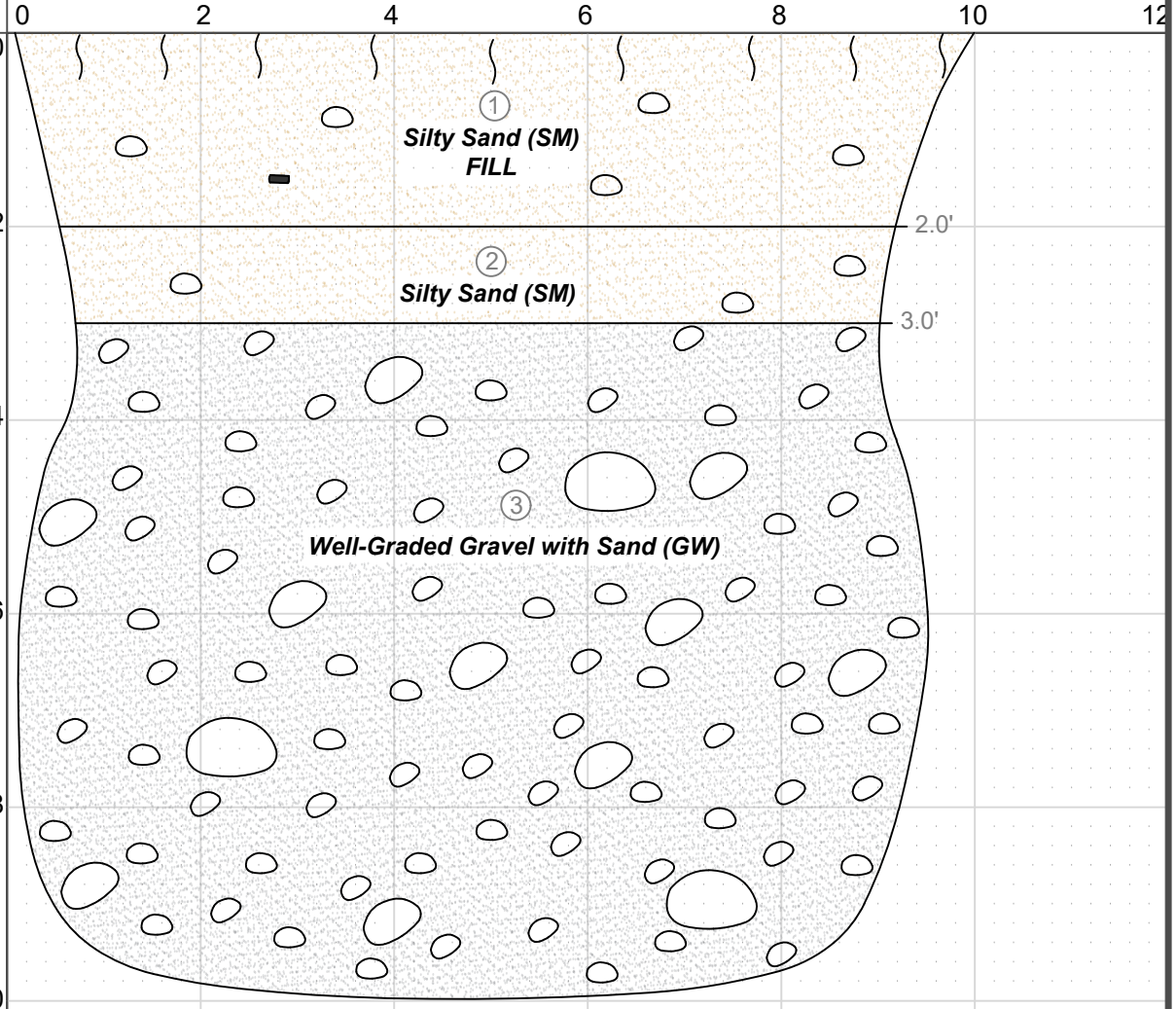
③ 3.0 - 10.0'
Loose, gray, ***Well-Graded Gravel with Sand (GW)***; Dry; subrounded gravel and cobble maximum diam. 12 inches; medium to coarse sand, trace nonplastic silt; precipitation on bottom of clasts.

Test Pit Terminated at ±10.0 feet
No Groundwater Encountered

* Elevated Blow Counts due to oversized Gravel

Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
None Observed			0
	5-8-13	S-1	2
	9-30-50/1" (rock)		4
			6
		S-2	8
			10
			12

Sketch of West Pit Side Surface Elevation:



Test Pit Terminated at ±10.0 feet
No Groundwater Encountered

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LOG OF TP-3

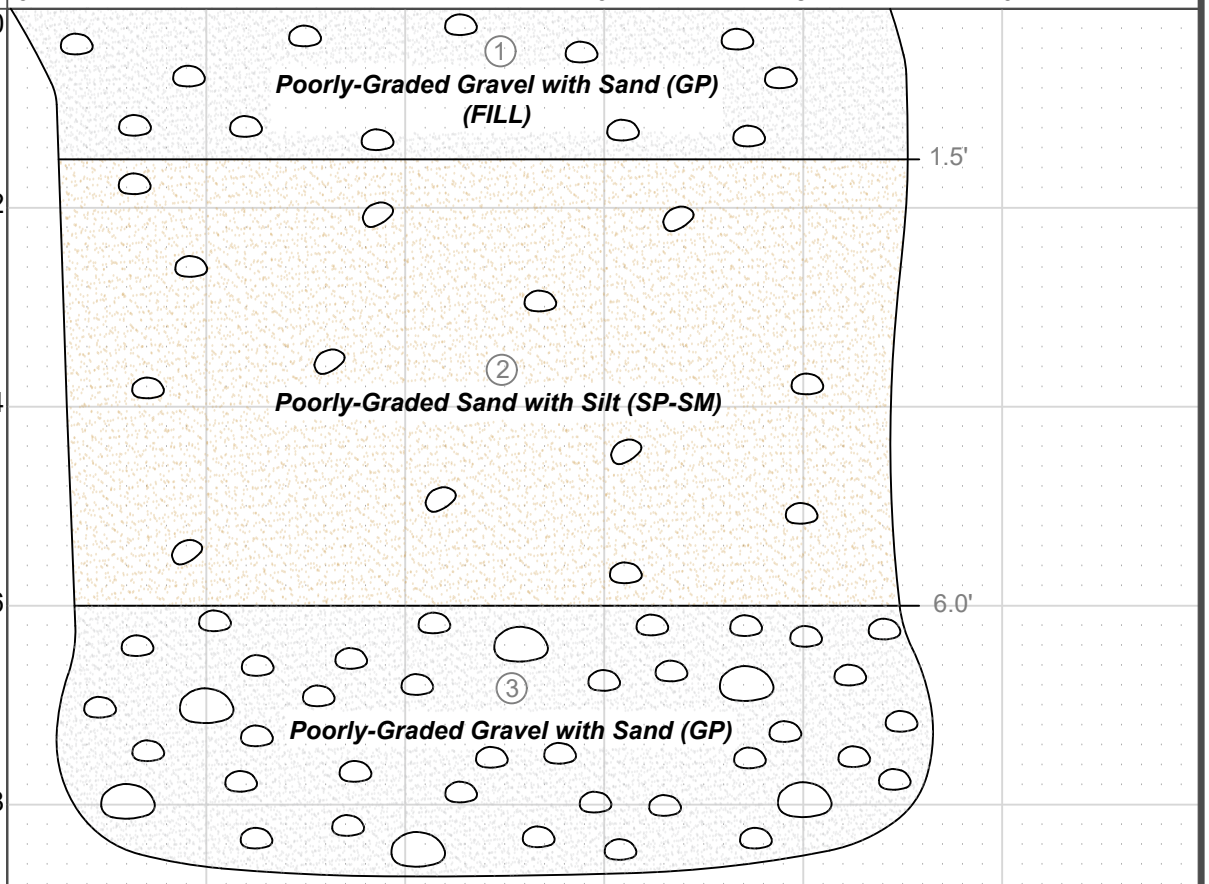
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: Northeast Corner

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3337466 E -119.2727967

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Gravel Road				
① 0 - 1.5' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Dry; rounded to subrounded gravels, maximum diam. 2 inches; angular fine to coarse sand; few nonplastic silt. (FILL)	**None Observed**			0
② 1.5 - 6.0' Medium dense, brown, ***Poorly-Graded Sand with Silt (SP-SM)***; Moist; trace rounded to subrounded gravels, maximum diam. 4 inches; angular fine to coarse sand; nonplastic silt.		7-10-10	S-1 ☒	2 4
③ 6.0 - 9.0' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Moist; subrounded gravel and cobble maximum diam. 9 inches; medium to coarse sand, trace nonplastic silt.				6 8
Test Pit Terminated at ±9.0 feet No Groundwater Encountered				10 12

Sketch of East Pit Side Surface Elevation:



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LOG OF TP-4

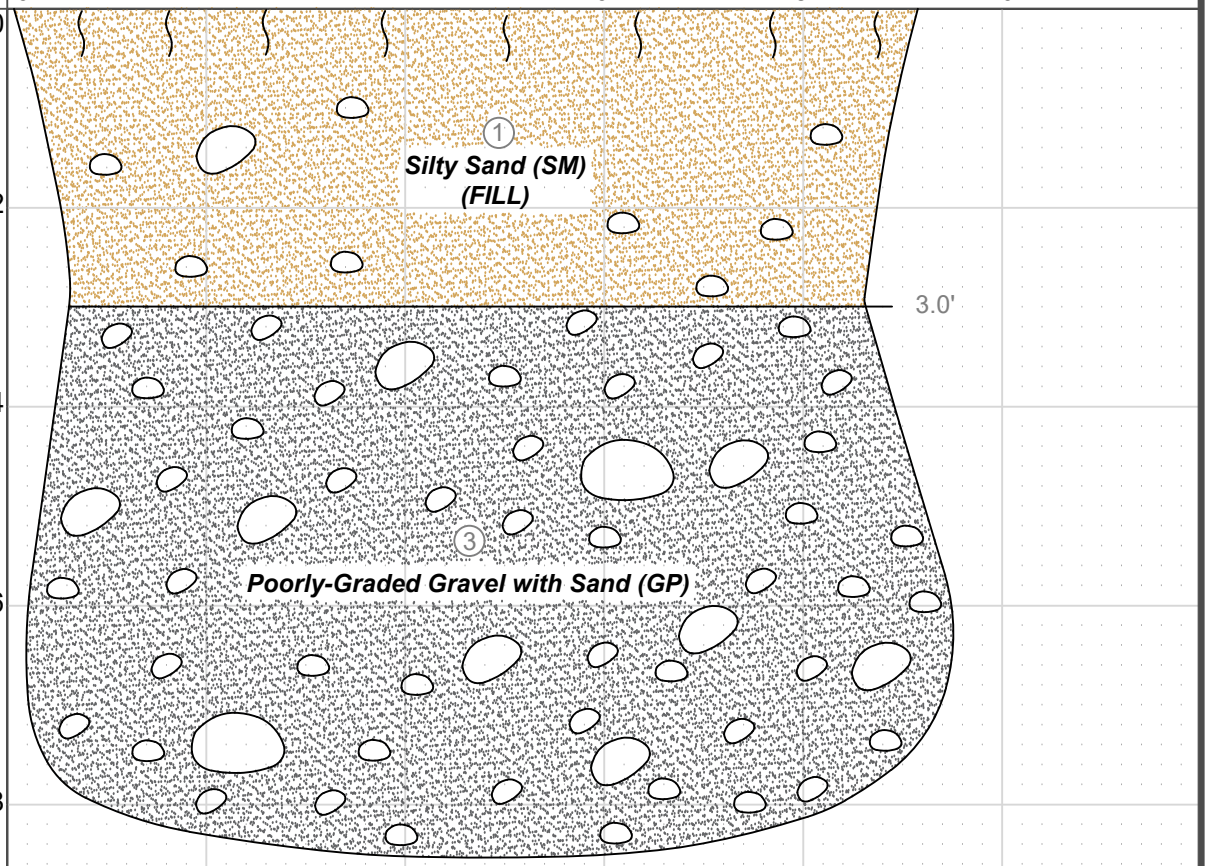
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: South Middle

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3333917 E -119.2734331

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Grass / Brush				
① 0 - 3.0' Medium dense, brown, ***Silty Sand (SM)***; Moist; little rounded to subrounded gravels and cobbles, maximum diam. 9 inches; angular fine to coarse sand; nonplastic silt; organics (roots) in upper 6 inches; increased gravel/cobble with depth.	**None Observed**	5-10-39 * (Rock)	S-1 ☒	0
② 3.0 - 8.5' Medium dense, black, ***Poorly-Graded Gravel with Sand (GP)***; Moist to dry; subrounded gravel and cobble maximum diam. 10 inches; fine to coarse sand.		9-20-50/1" * (rock)	S-2 ☒	2, 4, 6, 8
Test Pit Terminated at ±8.5 feet Caving in Black Sand No Groundwater Encountered				10
* Elevated Blow Counts due to oversized Gravel				12

Sketch of North Pit Side Surface Elevation:



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LOG OF TP-5

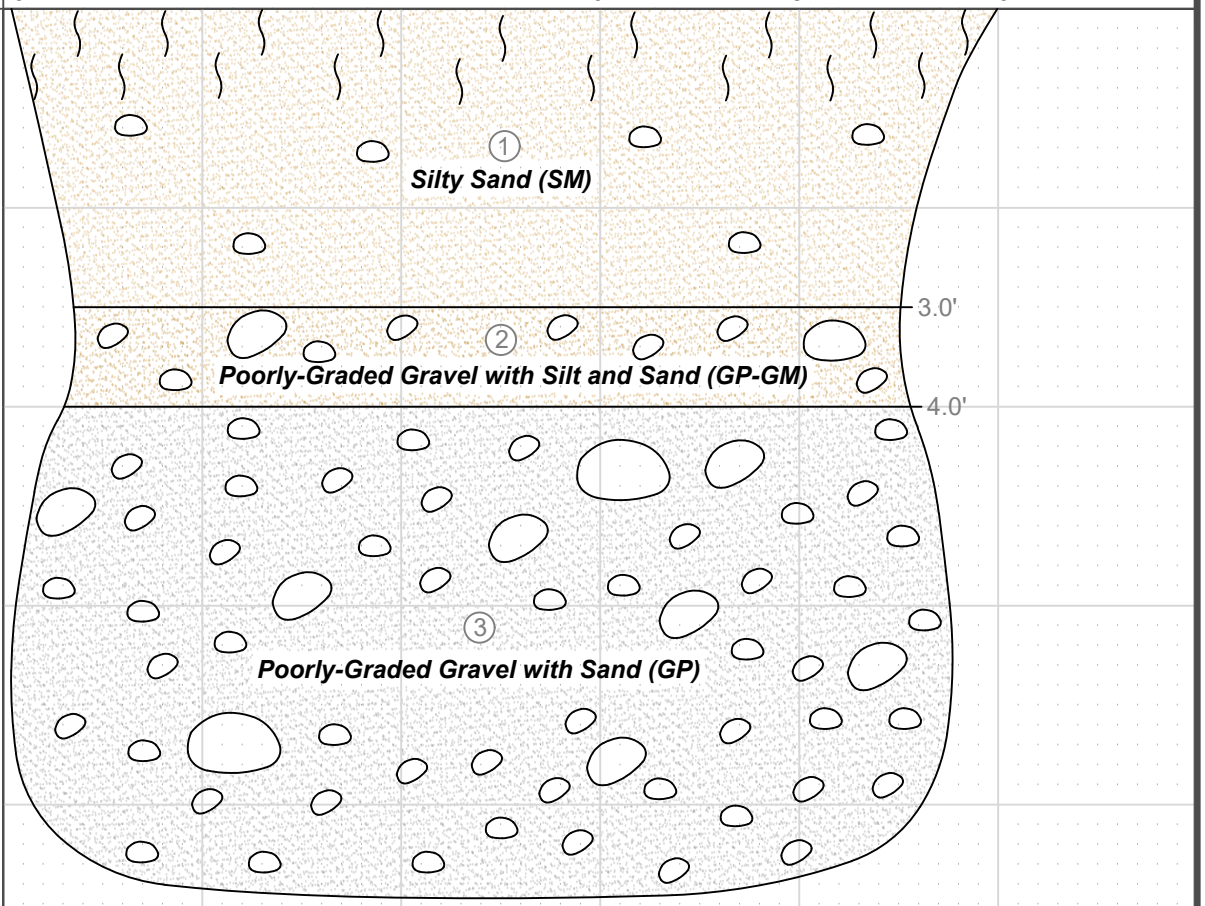
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: Southwest Corner

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3333130 E -119.2740902

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Grass / Brush				
① 0 - 3.0' Loose to medium dense, brown, ***Silty Sand (SM)***; Moist; few rounded to subrounded gravels, maximum diam. 1 inch; angular fine to medium sand; nonplastic silt; organics (roots) in upper 12 inches.	**None Observed**	6-10-15	S-1	0
② 3.0 - 4.0' Medium dense, brown, ***Poorly-Graded Gravel with Silt and Sand (GP-GM)***; Moist; rounded to subrounded gravels and cobbles, maximum diam. 10 inches; angular fine to coarse sand; nonplastic silt;		9-12-30		4
③ 4.0 - 9.0' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Dry to moist; subrounded gravel and cobble maximum diam. 12 inches; fine to coarse sand, trace nonplastic silt; precipitation on bottom of clasts.			S-2	8
Test Pit Terminated at ±9.0 feet No Groundwater Encountered				10
				12

Sketch of East Pit Side Surface Elevation:



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LOG OF TP-6

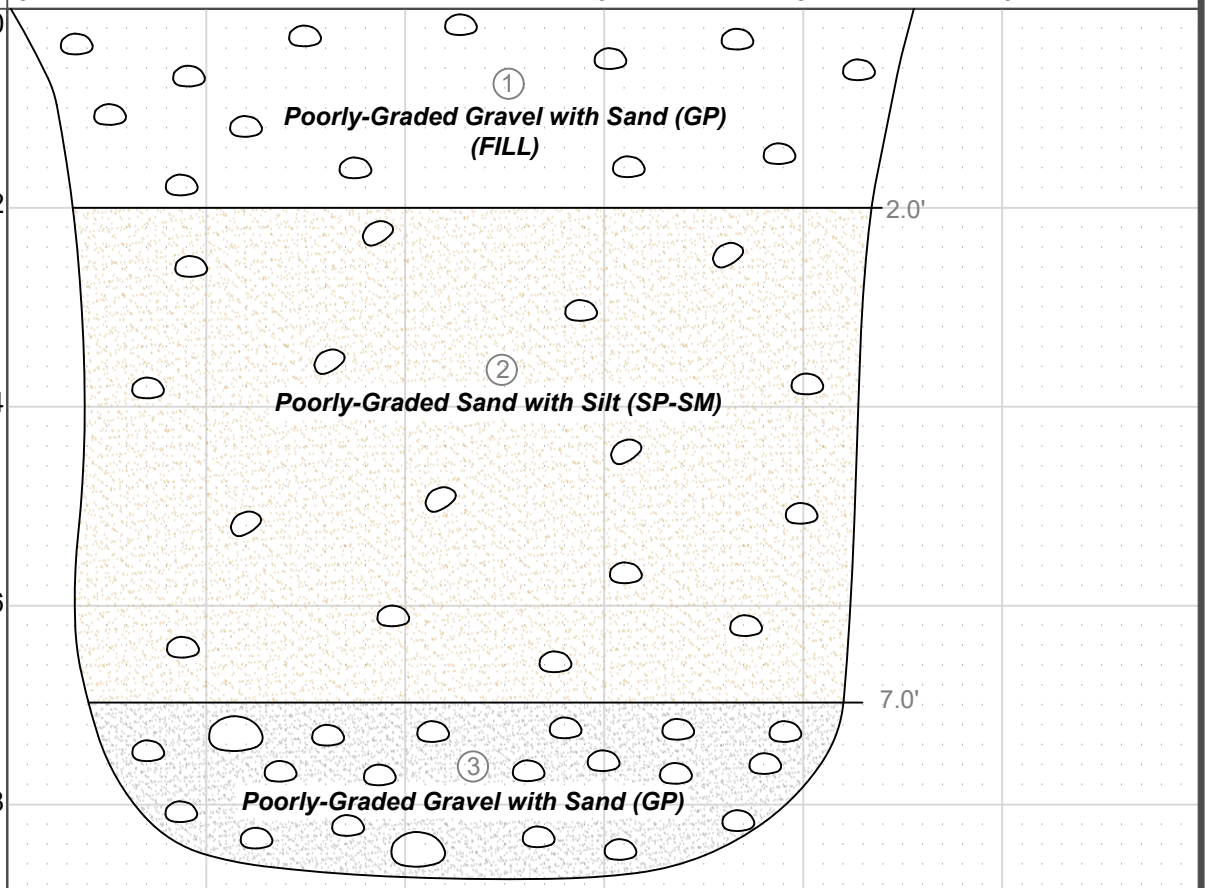
JOB NO: 22-070 EX. DATE: 4/8/2022 LOCATION: Southeast Corner

PROJECT: Atkins Technology Center, Richland, Washington

Logged By: BH GPS Coordinates: N 46.3333285 E -119.2728151

SOIL DESCRIPTION	Ground Water	Blow Counts ASTM STP399	Samples	Depth, Ft.
Surface Description: Gravel Road				
① 0 - 2.0' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Dry; rounded to subrounded gravels, maximum diam. 2 inches; angular fine to coarse sand; few nonplastic silt. (FILL)	**None Observed**	5-10-18	S-1	0
② 1.5 - 6.0' Medium dense, brown, ***Poorly-Graded Sand with Silt (SP-SM)***; Moist; few rounded to subrounded gravels, maximum diam. 2 inches; angular fine to medium sand; nonplastic silt.		9-12-25	S-2	2
③ 7.0 - 9.0' Medium dense, gray, ***Poorly-Graded Gravel with Sand (GP)***; Moist; subrounded gravel and cobble maximum diam. 8 inches; medium to coarse sand, trace nonplastic silt.				4
Test Pit Terminated at ±9.0 feet No Groundwater Encountered				6
				8
				10
				12

Sketch of East Pit Side Surface Elevation:



Test Pit Terminated at ±9.0 feet
No Groundwater Encountered

APPENDIX B
LABORATORY TEST RESULTS

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: www.baertesting.com

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CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 1 @ 4'	**SAMPLE NUMBER:**	22-0561-1
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Poorly-Graded Gravel with Silt and Sand (GP-GM)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
5"	100%		#4	53%	
4"	91%		#8		
3"	85%		#10	52%	
2 1/2"			#16		
2"	74%		#20	50%	
1 1/2"			#30		
1 1/4"			#40	41%	
1"	63%		#50		
3/4"	61%		#60		
5/8"	59%		#80	18%	
1/2"	58%		#100	16%	
3/8"	56%		#200	13.1%	

SOIL MOISTURE DETERMINATION ASTM D 2216

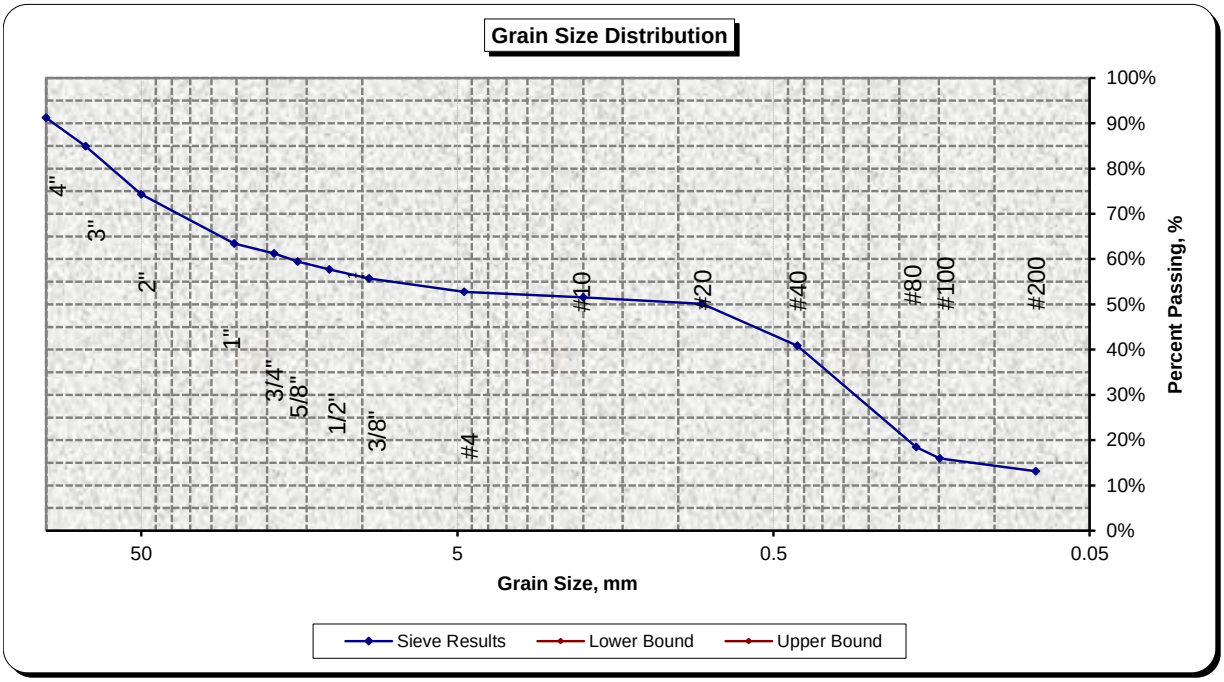
FINENESS MODULUS - ASTM C 136

2.29

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



REVIEWED BY:
Dee Burrie, Technical Director

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: (509) 469-3070
: www.baertesting.com

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CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 2 @ 2'	**SAMPLE NUMBER:**	22-0561-2
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Silty Sand (SM)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
4"			#4	96%	
3"			#8		
2 1/2"			#10	95%	
2"			#16		
1 1/2"			#20	94%	
1 1/4"			#30		
1"	100%		#40	84%	
3/4"	98%		#50		
5/8"	98%		#60		
1/2"	97%		#80	58%	
3/8"			#100	53%	
1/4"			#200	42.2%	

SOIL MOISTURE DETERMINATION ASTM D 2216

7.9%

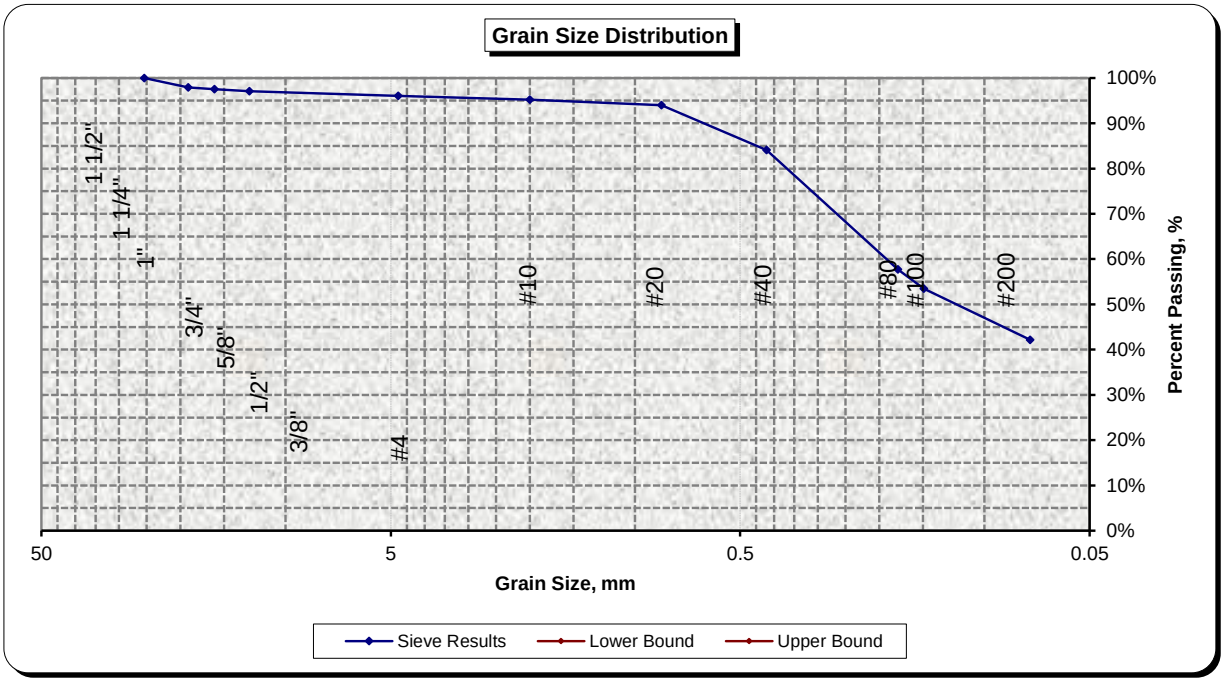
FINENESS MODULUS - ASTM C 136

0.53

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



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: www.baertesting.com

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CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 2 @ 8'	**SAMPLE NUMBER:**	22-0561-3
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Well-Graded Gravel with Sand (GW)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
4"	100%		#4	36%	
3"	90%		#8		
2 1/2"			#10	35%	
2"	82%		#16		
1 1/2"			#20	32%	
1 1/4"			#30		
1"	63%		#40	15%	
3/4"	55%		#50		
5/8"	51%		#60		
1/2"	47%		#80	4%	
3/8"	42%		#100	4%	
1/4"			#200	2.4%	

SOIL MOISTURE DETERMINATION ASTM D 2216

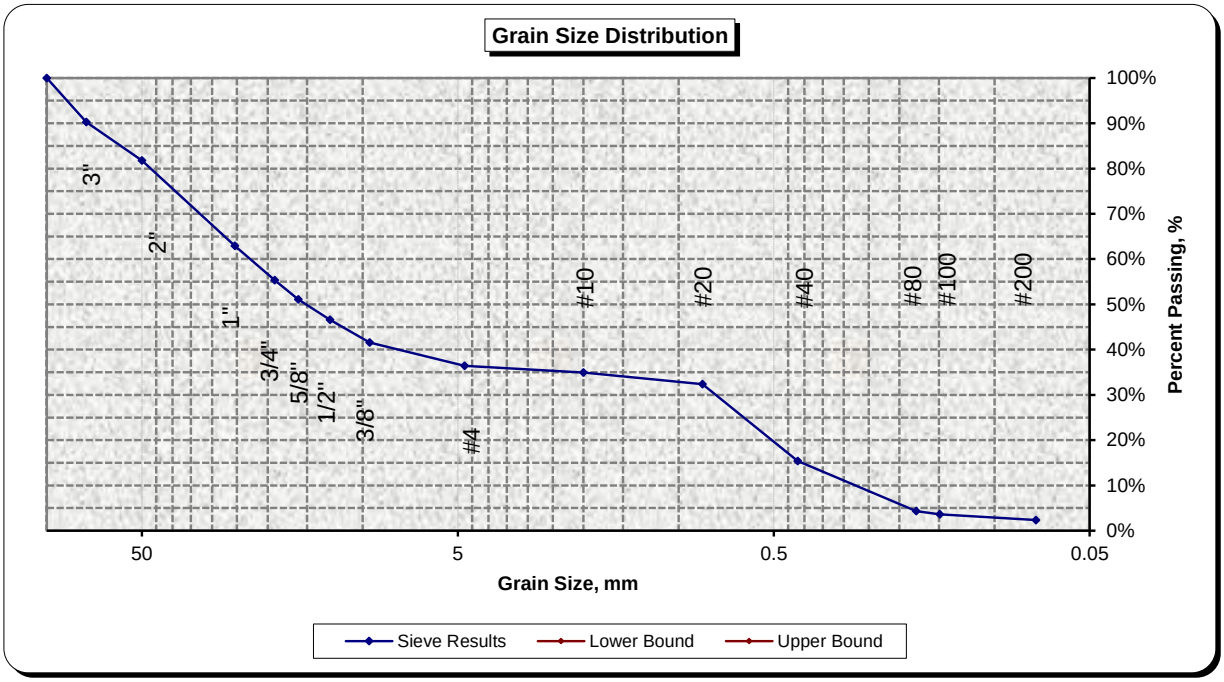
FINENESS MODULUS - ASTM C 136

2.73

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



REVIEWED BY:
Dee Burrie, Technical Director

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: (509) 469-3070
: www.baertesting.com

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CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 4 @ 6'	**SAMPLE NUMBER:**	22-0561-4
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Poorly-Graded Gravel with Sand (GP)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
4"	100%		#4	48%	
3"	89%		#8		
2 1/2"			#10	46%	
2"	76%		#16		
1 1/2"			#20	44%	
1 1/4"			#30		
1"	63%		#40	11%	
3/4"	59%		#50		
5/8"	57%		#60		
1/2"	54%		#80	1%	
3/8"	51%		#100	1%	
1/4"			#200	0.5%	

SOIL MOISTURE DETERMINATION ASTM D 2216

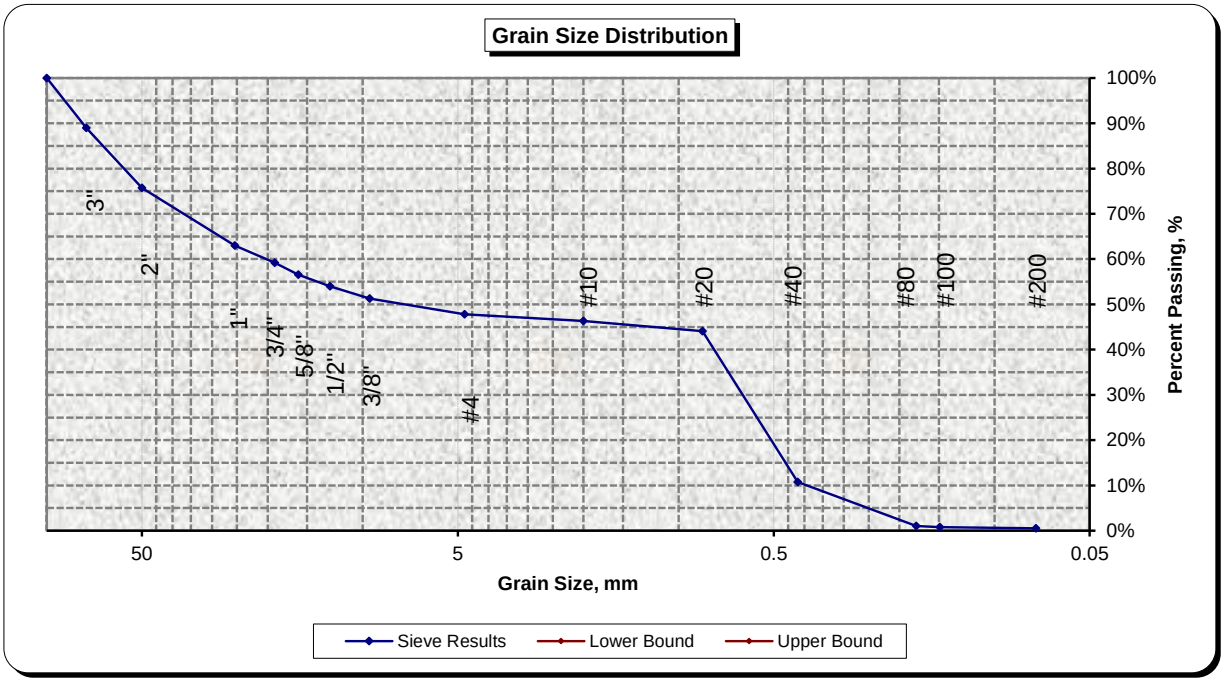
FINENESS MODULUS - ASTM C 136

2.52

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



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: (509) 469-3070
: www.baertesting.com

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CLIENT:	Ryan Companies US, Inc.	**PROJECT NUMBER:**	22-070
PROJECT:	Atkins Technology Center	**WORK ORDER #:**	22-0561
SAMPLE SOURCE:	TP 5 @ 2'	**SAMPLE NUMBER:**	22-0561-5
DATE SAMPLED:	4/8/2022	**DATE TESTED:**	4/11/2022
MATERIAL TYPE:	Poorly-Graded Sand with Silt (SP-SM)	**TESTED BY:**	AJD

Sampled in Accordance with ASTM D 75 and reduced in accordance with ASTM C 702 or D 421 unless otherwise noted.

SIEVE ANALYSIS OF SOILS ASTM C 136/D 1140

Sieve Size:	Percent Passing:	Specs:	Sieve Size:	Percent Passing:	Specs:
4"			#4	93%	
3"			#8		
2 1/2"			#10	91%	
2"			#16		
1 1/2"			#20	90%	
1 1/4"			#30		
1"			#40	80%	
3/4"	100%		#50		
5/8"	99%		#60		
1/2"	98%		#80	32%	
3/8"	97%		#100	24%	
1/4"			#200	13.2%	

SOIL MOISTURE DETERMINATION ASTM D 2216

4.7%

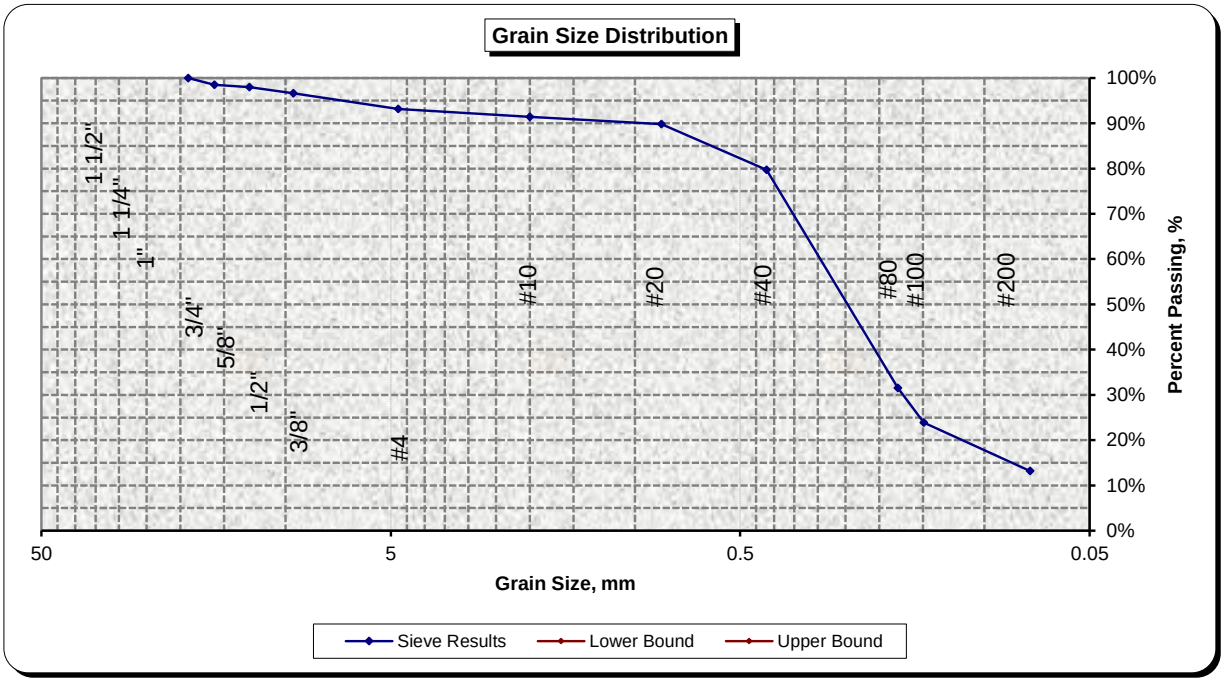
FINENESS MODULUS - ASTM C 136

0.86

HYDROMETER (.02MM) - D 422

FINER THAN #200 - C 117

FRACTURED FACE COUNT ASTM D 5821



REVIEWED BY:
Dee Burrie, Technical Director

Northwest Agricultural Consultants

2545 W Falls Avenue
Kennewick, WA 99336
509.783.7450
www.nwag.com
lab@nwag.com

PAP-Accredited
NAPT

BAER Testing Inc.
1106 Ledwich Ave.
Yakima, WA 98902

Report: 58956-1-1
Date: April 13, 2022
Project No:
Project Name: Atkins Tech Center

Sample ID	Organic Matter	Cation Exchange Capacity
TP-1 @ 7.0’	0.99%	5.5 meq/100g
	ASTM D2974	**EPA 9081**

Sample ID	Sand	Silt	Clay	Texture Class
TP-1 @ 7.0’	93.0%	5.0%	2.0%	Sand

Construction of an Office/Warehouse Facility– Richland, WA
Inadvertent Discovery Plan

August 31, 2022

Project Location

USGS Quadrangle: Richland, WA 7.5'
Township: 10N, Range: 28E
Section: 23

Project Description

Project activities include grading and construction of a 32,000 sq ft office and warehouse building and associated infrastructure on a lot located in Richland, Washington. Development will include construction of the facility, excavation, grading, and other general construction activities throughout the project area. Excavations are not expected to exceed 3 meter (9 feet) in depth.

Project Area

The project area is an approximately 2.02 ha (5.07 acre) lot of land located on the corner of George Washington Way and University Drive in Richland, Washington in Benton County, in Section 23 of Township 10N, Range 28E (Figures 1 and 2).

Inadvertent Discovery Plan

This inadvertent discovery plan (IDP) was prepared to support project activities described above. This plan was prepared to provide field personnel a process for the inadvertent discovery of cultural resources and/or human remains identified during fieldwork for the project.

Recognizing Cultural Resources

A cultural resource discovery could be prehistoric or historic. Examples include the following:

- An accumulation of shell, burned rocks, or other food-related materials
- Bones or small pieces of bone
- An area of charcoal or very dark-stained soil with artifacts
- Stone tools or waste flakes (i.e. an arrowhead. or stone chips)
- Clusters of tin cans or bottles, logging or agricultural equipment that appears to be older than 50 years
- Buried railroad tracks, decking, or other industrial materials

When in doubt, assume the material is a cultural resource.

Onsite Responsibilities

STEP 1: Stop Work

If any employee, contractor, or subcontractor believes that he or she has uncovered a cultural resource at any point in the project, all work must stop immediately in the vicinity of the find. Notify the appropriate party(ies) as outlined in steps 2 through 4. The area surrounding the find must be secured using pin flags, stanchions and rope, or other appropriate delineation to provide for the security and protection of the discovery.

STEP 2: Notify the Archaeological Monitor

If there is an archaeological monitor for the project, notify that person. If there is a monitoring plan in place, the monitor will follow the procedure as described.

STEP 3: Notify the Project Manager

Notify the identified project manager of this project or other applicable contacts:

Project Manager
Jeff Durfee, Vice President
Fowler General Construction, Inc.
Phone: Office (509) 375-3331
Email: jeffd@fowlergc.com

Project Manager
Brooks Payne
Fowler General Construction, Inc.
Phone: Office (509) 375-3331 Cell (509) 528-5682
Email: jeffd@fowlergc.com

Alternate Project Contact
Curtis Earl
Fowler General Construction, Inc.
Phone: Office (509) 375-3331
Email: curtisE@fowlergc.com

Project manager responsibilities include the following:

- ***Protect the Find*:** The project manager is responsible for ensuring that the project takes appropriate steps to protect the discovery site while all necessary assessments and notifications are completed. As stated in steps 1 and 2, all work will stop immediately in the surrounding area, and the area will be secured to protect the integrity of the resource. Vehicles, equipment, and unauthorized personnel will not be permitted to enter the area of the discovery. See the section of this plan titled "Resuming Work" for further instruction on how and when work may resume.
- ***Direct Project Activities Elsewhere Onsite:*** The project manager may direct project activities to continue in areas away from cultural resources for working in other areas prior to contacting the concerned parties.
- ***Contact the Project Archaeologist*:** If the assigned project archaeologist has not yet been contacted, the project manager must do so.

STEP 5: Notify the Professional Archaeologist

Notify the identified professional archaeologist serving as the archaeologist for this project (if a monitor is not present)

Professional Archaeologist(s)

Molly Swords, Professional Archaeologist, GRAM Northwest, LLC
1201 Jadwin Ave., Richland, WA 99352
Phone: (703) 283-5175
Email: molly.swords@gramnorthwest.com

The professional archaeologist's responsibilities include the following:

- ***Identify Find*:** The professional archaeologist will examine the area to determine if there is an archaeological find.
  - If it is determined not to be a cultural resource/archaeological find or human remains, work may proceed with no further delay.
  - If it is determined to be a cultural resource/archaeological find or human remains, the professional archaeologist will continue with all notifications.

  If the find may be human remains or funerary objects, the Project Archaeologist will ensure that a qualified physical anthropologist examines the find. **If the find is determined to be human remains, the procedure described in the section of this plan titled "DISCOVERY OF HUMAN REMAINS" will be followed.**
- ***Notify Appropriate Parties:*** If the find is determined to be a cultural resource, the professional archaeologist will notify the appropriate parties. Notifications may include the following:
  - ***Agency Contact:*** The professional archaeologist will contact the designated point of contact for the City of Richland.
  - ***Washington Department of Archaeology (DAHP)*:** The professional archaeologist will contact DAHP.
  - ***Tribes*:** If the discovery may be of interest to Native American Tribes, the professional archaeologist, the Agency point of contact, and the DAHP will coordinate with the interested and/or affected Tribes.
- ***Record the Find:*** The project archaeologist will work with DAHP and the consulting parties as appropriate to determine how to record the find. Methods for recording will likely require completion of a Washington State Archaeological Site or Isolate Form.

Resuming Work

Work outside of the discovery location may continue while documentation and assessment of the cultural resources proceed. The professional archaeologist must determine the final boundaries of the discovery location.

Work may continue at the discovery location only after the process outlined in this plan is followed and the project manager, DAHP, and any affected Tribes (if applicable) determine that appropriate documentation has been completed.

Discovery of Human Remains

The inadvertent discovery of human skeletal remains on non-federal and non-Tribal land in the state of Washington is implemented under RCW 68.50.645, 27.44.055, and 68.60.055. The information below in italics for the inadvertent discovery of human remains was obtained from the Washington State Department of Archaeology and Historic Preservation web page **(http://www.dahp.wa.gov/programs/human-remains-program/idp-language)**.

In the event that human remains are encountered during field-related project activities, the following steps will be implemented.

Step 1: Stop Work Immediately

If ground disturbing activities encounter human skeletal remains during the course of data collection or construction, then all activity will cease that may cause further disturbance to those remains. The area of the find will be secured and protected from further disturbance.
(http://www.dahp.wa.gov/programs/human-remains-program/idp-language)

In order to secure the discovery, a temporary fencing system such as posts and rope or similar protection measures will be placed around the discovery. Work in the immediate area of the discovery will be discontinued, however; work outside the discovery area may continue.

When an inadvertent discovery is encountered, staff will take measures to avoid further disturbance of the area. Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect. Cultural materials shall not be moved from the location of the discovery. Photographs shall not be taken of bones unless photographs are needed to assist in the determination of the remains to be human or animal.

Step 2: Notification Process

The finding of human skeletal remains will be reported to the county medical examiner/coroner and local law enforcement in the most expeditious manner possible. The remains will not be touched, moved, or further disturbed. The county medical examiner/coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or nonforensic.
(http://www.dahp.wa.gov/programs/human-remains-program/idp-language)

In the event of the discovery of human remains, the following individuals will be contacted:

Benton County Coroner

William Leach, Coroner
7110 West Okanogan Pl. Building A, Kennewick WA 99336
Phone: (509) 736-2720
Email: william.leach@co.benton.wa.us

Benton County Sheriff

Address: 7122 West Okanogan Pl. Building B, Kennewick, WA 99336
Phone: (509) 735-6555

City or Richland Point of Contact

Mike Stevens, Planning Manager
Address: 505 Swift Blvd. MS#35, Richland, WA 99352
Phone: (509) 942-7596
Email: mstevens@ci.richland.wa.us

Step 3: Jurisdictional Authority

If the county medical examiner/coroner determines the remains are non-forensic, then they will report that finding to the Department of Archaeology and Historic Preservation (DAHP) who will then take jurisdiction over the remains. The DAHP will notify any appropriate cemeteries and all affected tribes of the find. The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.
(http://www.dahp.wa.gov/programs/human-remains-program/idplanguage)

DAHP Contact

Guy Tasa, State Physical Anthropologist
Phone: (360) 586-3534
Email: Guy.Tasa@dahp.wa.gov

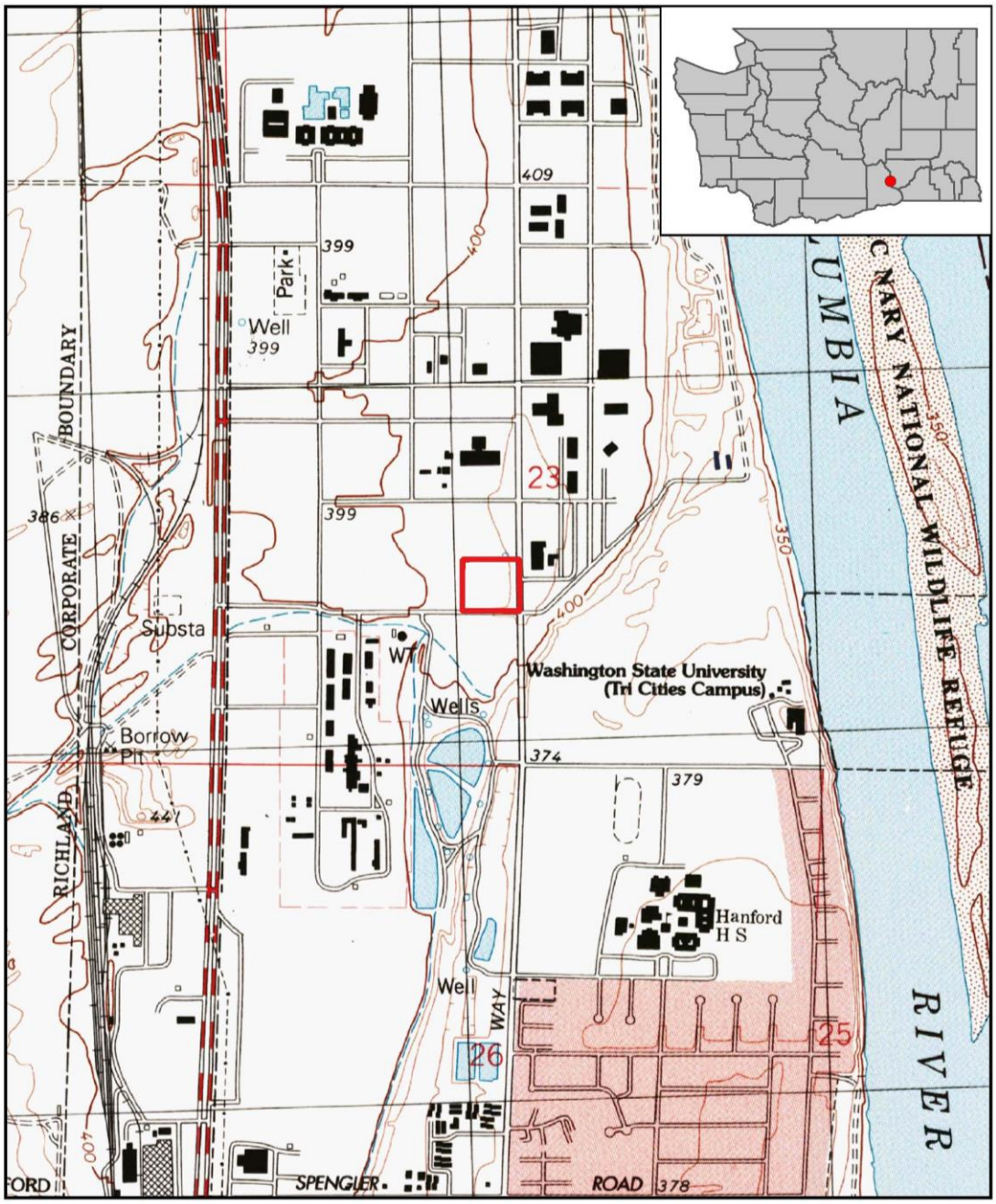


Figure 1. Project Area and USGS Topographic Map

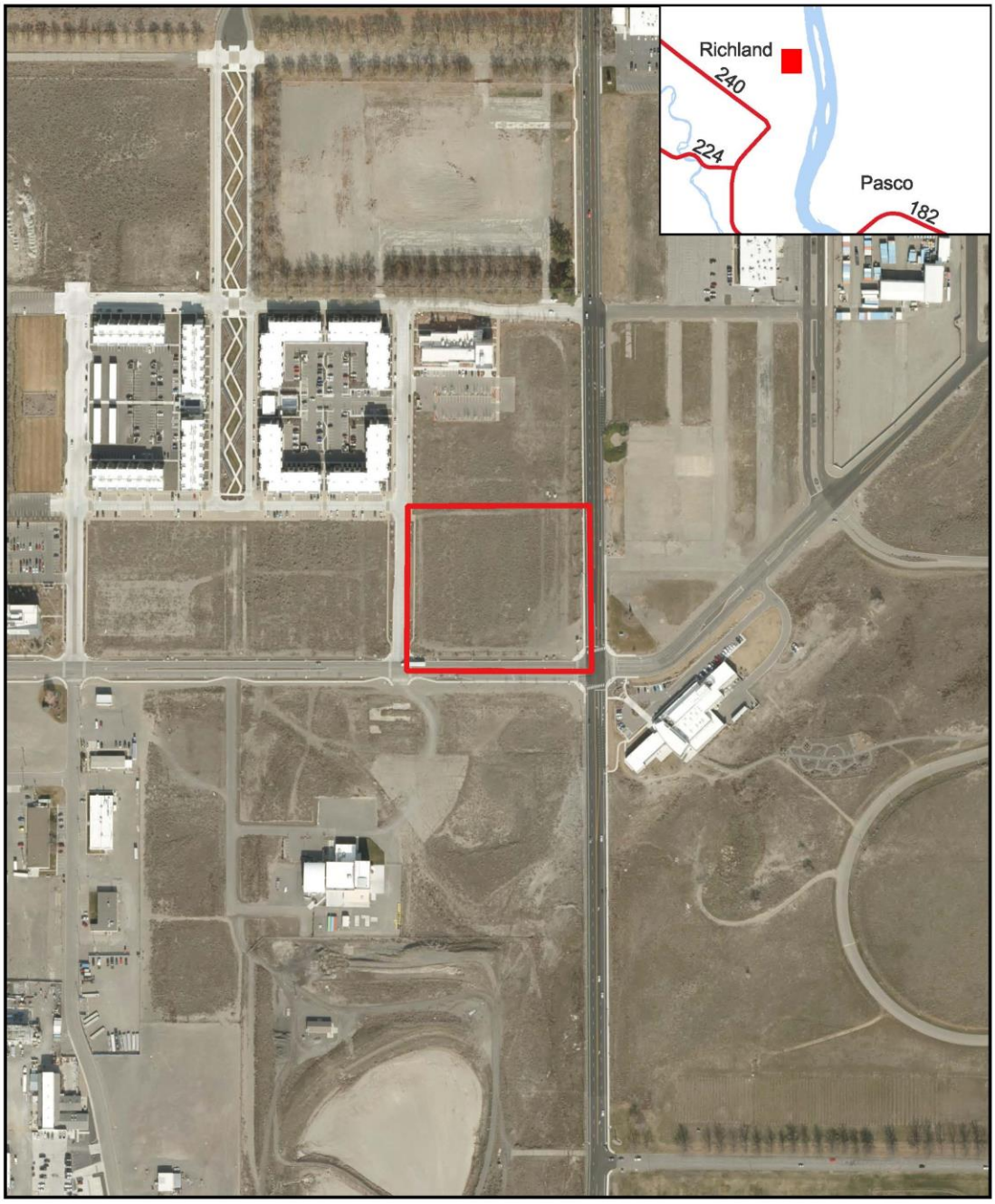


Figure 2. Project Area and Aerial Imagery