Arlington North
Industrial Park North

Arlington, Washington

MAY 19, 2022

FOR AND ON BEHALF
OF WARE MALCOMB

Storm Drain Report

Special Use Permit | Rough Grading Permit (Type II)
June 2022

Submitted for Review - Preliminary

WARE MALCOMB

Arlington North – Industrial Park North

Special Use Permit | Rough Grading Permit (Type II)
June 2022

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Bellevue, WA 98004
Project No. SEA21-0068-00

Drainage Summary Form

DRAINAGE INFORMATION SUMMARY

Project Name: Arlington North - Industrial Park North

Project Total Area: 47.9 ac.

Number of Lots (if applicable): N/A

Summary Table

Drainage Basin Information		Individual Site Information			Total Site
		A	B	C	
Area of Impact		47.9 ac.			47.9 ac.
Existing Condition Area (ac.)		47.9 ac.			47.9 ac.
Pervious Area (ac.)		47.9 ac.			47.9 ac.
Impervious Area (ac.)		0 ac.			0 ac.
Proposed Condition Area (ac.)		47.9 ac.			47.9 ac.
Pervious Area (ac.)		4.8 ac.			4.8 ac.
Impervious Area (ac.)		43.1 ac.			43.1 ac.
▪ Non-pollution Generating (ac.)		21.1 ac.			21.1 ac.
▪ Pollution Generating (ac.)		22.0 ac.			22.0 ac.
Pre-Developed Runoff Rates					
Q (cfs.)	2 year	0.06 cfs			0.06 cfs
	10 year	0.19 cfs			0.19 cfs
	100 year	0.72 cfs			0.72 cfs
Post Development Runoff Rates					
Q (cfs.)	2 year	0 cfs			0 cfs
	10 year	0 cfs			0 cfs
	100 year	0 cfs			0 cfs
Offsite Upstream Area		N/A			N/A
Type of Storage Proposed		N/A			N/A
Approx. Storage Volume (cu. ft.)		N/A			N/A
Type of Treatment		Per UIC reqs.			Per UIC reqs.
Low Impact Development		Performance			Performance

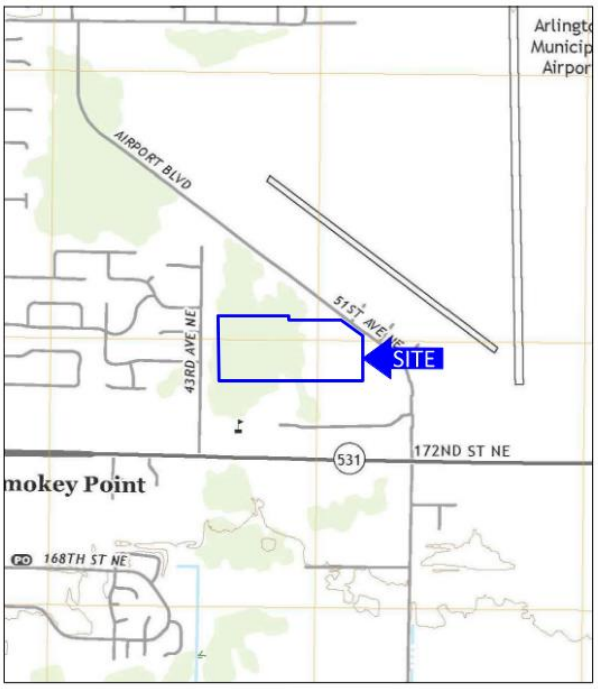
Project Summary

The Arlington North – Industrial Park North project site is located at 51st Avenue Northeast and 43rd Avenue Northeast in Arlington, Washington. The approximate location of the site is shown in Figure 1 – Vicinity Map.

Currently the project site is an undeveloped forest with established paved roads at the site perimeter. Ware Malcomb understands that four large commercial buildings with associated parking, drive aisles, and infiltration facilities are proposed on the approximately 48 acre site.

The existing site soils consist of loose surficial soils comprised of silty sand over native deposits of medium dense to very dense sand with trace to some silt and varying amounts of gravel. The proposed project plans to infiltrate stormwater to the sandy subgrade soils. Additional soils and infiltration information is available in Appendix C – Geotechnical Report.

This project is considered New Development and will create more than 5,000 square feet of hard surfaces. Therefore, Minimum Requirements 1 through 9 are followed in accordance with the 2019 Stormwater Management Manual for Western Washington (SWMMWW) published by the Washington State Department of Ecology (DOE). Refer to Minimum Requirements section below for additional information regarding each Minimum Requirement.



USGS, 2020, Arlington West, Washington
7.5-Minute Quadrangle

Figure 1 - Vicinity Map

Existing Conditions

The Arlington North – Industrial Park North site is bounded by 51st Avenue Northeast to the north and east, 43rd Avenue Northeast to the west, and future 173rd Street Northeast to the south. The existing site is an undeveloped forest. Site topography is generally flat with less than 5 feet of fall across the site.

The existing site soils consist of loose surficial soils comprised of silty sand over native deposits of medium dense to very dense sand with trace to some silt and varying amounts of gravel. The underlying sands have a measured infiltration rate upwards of 90 inches per hour.

There are no wetlands, streams, steep slopes or other critical areas on the site. Additionally, there is no storm drain infrastructure located on the site.

Proposed Conditions

Ware Malcomb understands that four large commercial buildings with associated parking, drive aisles, and infiltration facilities are proposed on the site. The project plans to infiltrate stormwater to the sandy subgrade soils using infiltration trenches and surface infiltration basins. Infiltration trenches will comply with the UIC Well program as required by DOE.

Stormwater runoff on the proposed site will be collected in a series of catch basins and conveyed to mechanical runoff treatment devices prior to discharge to the infiltration facilities. Runoff treatment standards will be followed in accordance with the UIC Well program as required by DOE.

Flow control and On-Site Stormwater Management minimum requirements will be achieved using the performance standard. The project is designed to infiltrate all runoff onsite with no offsite discharge. However in the event of an extreme storm event in excess of the 100-year storm, a bubble up catch basin is provided to direct runoff to the forested buffer along 43rd Avenue Northeast where runoff can be dispersed.

Upstream Analysis

There is no noticeable run-on to the project site from surrounding areas. The surrounding roads have drainage systems that appear to be functioning properly.

Downstream Analysis

Stormwater runoff occurring on the project site is designed to be infiltrated on site through a series of infiltration trenches and basins. Runoff is not designed to be conveyed to downstream properties. However in the event of an extreme storm event in excess of the 100-year storm, a bubble up catch basin is provided to direct runoff to the forested buffer along 43rd Avenue Northeast where runoff can be dispersed.

Minimum Requirements

This project is considered New Development and will create more than 5,000 square feet of hard surfaces. Therefore, Minimum Requirements 1 through 9 are followed in accordance with the 2019 Stormwater Management Manual for Western Washington published by the Washington State Department of Ecology.

Minimum Requirement 1 – Preparation of Stormwater Site Plans

A stormwater site plan has been prepared and submitted for review as part of the Special Use and Rough Grading (Type II) permit applications. The stormwater site plan will continue to be refined as the project progresses. Final storm drain design is anticipated to be permitted through the construction permit to be submitted at a later date.

Minimum Requirement 2 – Construction Stormwater Pollution Prevention Plan

As the project will disturb more than one acre, coverage will be obtained under the Construction Stormwater General Permit via Notice of Intent to DOE prior to the start of clearing and grading activities. A SWPPP will be prepared and provided to the contractor prior to the start of clearing.

Specific BMPs planned for the site are noted on the Erosion Control Plan. These include but are not limited to the following:

- BMP C105: Stabilized Construction Entrance
- BMP C154: Concrete Washout Area
- BMP C220: Inlet Protection
- BMP C235: Straw Wattle

Minimum Requirement 3 – Source Control of Pollution

At this time, no specific sources of pollutants such as process water, filter backwash, or vehicle maintenance facilities are planned to be present at the project. Therefore, Minimum Requirement 3 is not applicable.

Minimum Requirement 4 – Preservation of Natural Drainage Systems and Outfalls

There are no existing drainage conveyance systems on the site. Per the Geotechnical Engineering Report prepared by The Riley Group dated October 8, 2021 the site soils infiltrate at measured rates upward of 90 inches per hour. Therefore, the natural drainage path is likely infiltration through the subgrade.

The project proposes to maintain the natural discharge to the subgrade with a series of infiltration basins and infiltration trenches. Stormwater runoff will be collected, treated as required, and conveyed to an infiltration facility for discharge. Infiltration facilities are designed to infiltrate all stormwater onsite.

Minimum Requirement 5 – On-site Stormwater Management

Arlington North – Industrial Park North will meet the LID Performance Standard for Minimum Requirement 5 – On-site Stormwater Management. The project is designed to infiltrate all stormwater onsite with no offsite discharge. Thus, the project will reduce offsite discharge rates from 8% of the 2-year peak flow to 50% of the 2-year peak flow.

See Appendix B for Drainage Calculations.

Minimum Requirement 6 – Runoff Treatment

Arlington North – Industrial Park North proposes to create or replace more than 5,000 square feet of pollution generating hard surface. Therefore, Runoff Treatment is required.

The project also proposes to use UIC Wells for discharge of stormwater. UIC Wells will be designed using the presumptive approach to the non-endangerment standard defined by Ecology in Section I-4 of the SWMMWW.

Per Section I-4.17 of the SWMMWW, the treatment capacity of the vadose zone is assumed to be none due to the separation from the groundwater table. The pollutant loading is assumed to be low or medium. A mechanical device with appropriate DOE GULD approval will be used for runoff treatment before runoff is discharged to an infiltration facility.

Additional treatment device details and calculations will be provided in future submittals. Final storm drain design is anticipated to be permitted through the construction permit to be submitted at a later date.

Minimum Requirement 7 – Flow Control

Arlington North – Industrial Park North proposes to create or replace more than 5,000 square feet of hard surface. Therefore, Flow Control is required.

As noted above, the project proposes infiltration facilities to manage stormwater onsite. The infiltration facilities are designed to infiltrate all stormwater runoff. Therefore, the project complies with Minimum Requirement 7 – Flow Control.

See Appendix B for Drainage Calculations.

Additional flow control details and calculations will be provided in future submittals. Final storm drain design is anticipated to be permitted through the construction permit to be submitted at a later date.

Minimum Requirement 8 – Wetlands Protection

No wetlands are known to exist on the site or within the project vicinity. Therefore, Minimum Requirement 8 is not applicable.

Minimum Requirement 9 – Operation and Maintenance

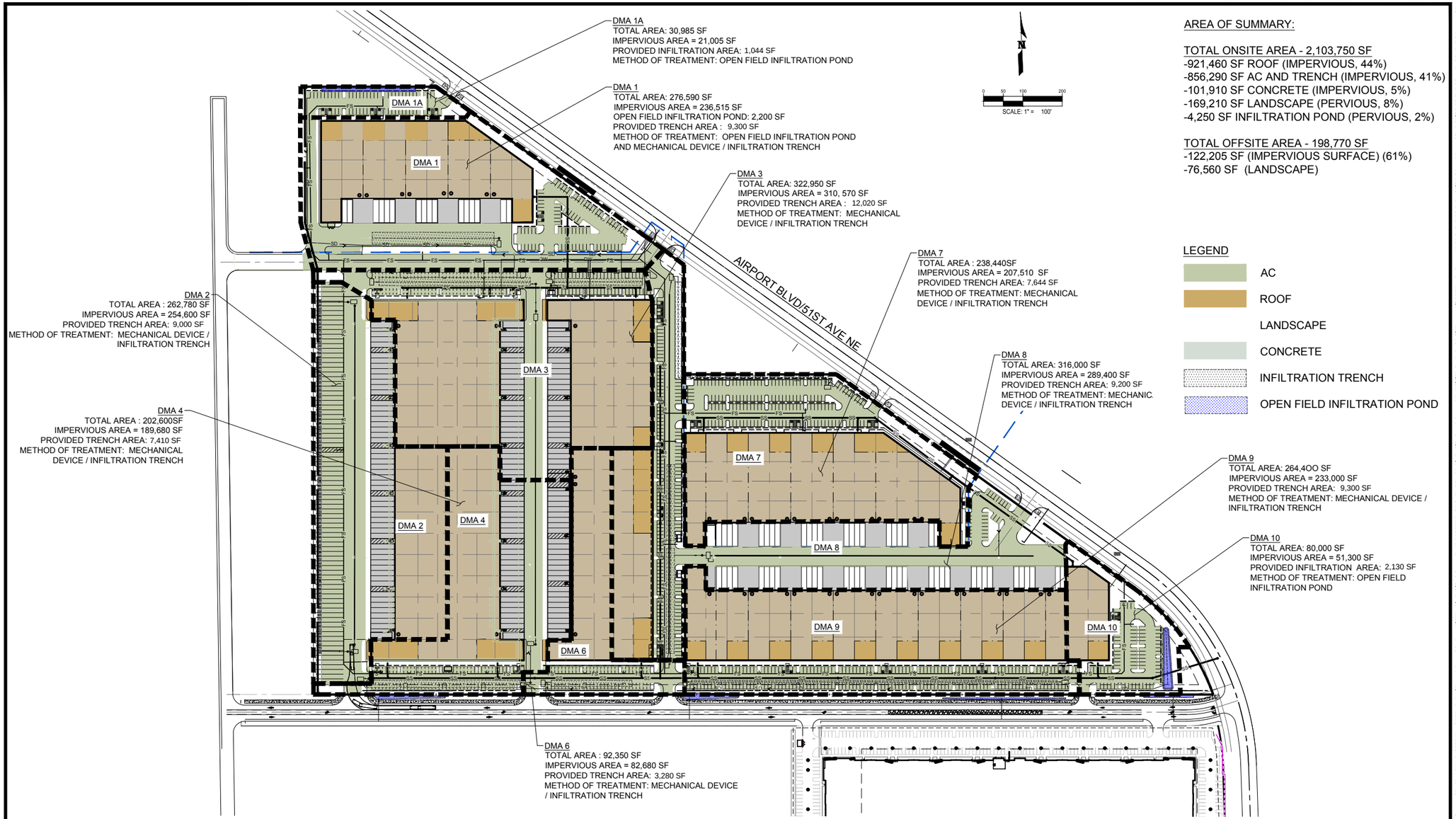
An Operation and Maintenance manual will be provided with the construction permit submittal to be submitted at a later date. The Operation and Maintenance manual will be provided to the owner following project construction.

Conveyance Design

Conveyance design calculations will be provided with the construction permit submittal to be submitted at a later date. In general, conveyance systems will be designed to convey the 25-year peak flow without overtopping storm drain structures. Safe overflow will be provided for the 100-year storm.

APPENDIX A
Basin Map

CAUTION: IF THIS SHEET IS NOT 30"x42" IT IS A REDUCED PRINT



PRELIMINARY DMA AND INFILTRATION TRENCHES SIZING EXHIBIT

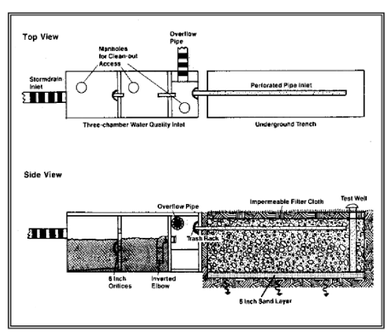


Figure 3.21 Underground Trench with Oil/Grit Chamber

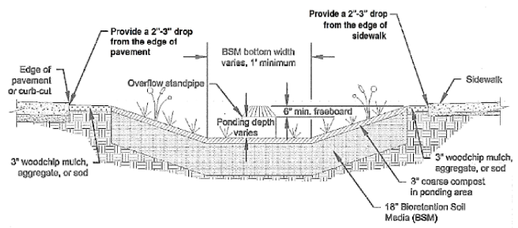


Figure 5.6 Bioretention System Without Underdrain (Cross Section)

WARE MALCOMB
LEADING DESIGN FOR COMMERCIAL REAL ESTATE
4683 chabot dr
suite 300
pleasanton, ca 94588
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MICHAEL GLENN HARRISON STATE OF WASHINGTON 52553 REGISTERED PROFESSIONAL ENGINEER
MAY 19, 2022
FOR AND ON BEHALF OF WARE MALCOMB

SMARTCAP

ARLINGTON NORTH
INDUSTRIAL PARK NORTH (PHASE 1)
43RD AVENUE NE, ARLINGTON WA 98223

NO.	DATE	REMARKS

JOB NO.:	SEA21-0068
PA / PM:	GP / MM
DESIGNED:	SY
DATE:	MAY 2022
PLOT DATE:	06/02/22

SHEET
EX-1
Sheet of 12

APPENDIX B
Drainage Calculations

WWHM2012
PROJECT REPORT

Project Name: 220527_SmartCap_Arlington_Infiltrationsizing
Site Name: Arlington Airport North
Site Address:
City :
Report Date: 6/2/2022
Gage : Everett
Data Start : 1948/10/01
Data End : 2009/09/30
Precip Scale: 1.20
Version Date: 2021/08/18
Version : 4.2.18

Low Flow Threshold for POC 1 : 50 Percent of the 2 Year

High Flow Threshold for POC 1: 50 year

PREDEVELOPED LAND USE

Name : Basin 1
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Forest, Flat	47.9
Pervious Total	47.9

Impervious Land Use	acre
Impervious Total	0
Basin Total	47.9

Element Flows To:

Surface	Interflow	Groundwater

MITIGATED LAND USE

Name : Basin 1
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.92
Pervious Total	**0.92**

Impervious Land Use	acre
PARKING FLAT	5.43
Impervious Total	**5.43**
Basin Total	**6.35**

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 1	Gravel Trench Bed 1	

Name : Gravel Trench Bed 1
Bottom Length: 310.00 ft.
Bottom Width: 30.00 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 1051.435
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 1051.435
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Basin 1A
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.23
Pervious Total	**0.23**

Impervious Land Use	acre
PARKING FLAT	0.48
Impervious Total	**0.48**
Basin Total	**0.71**

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 1A	Gravel Trench Bed 1A	

Name : Gravel Trench Bed 1A
Bottom Length: 232.00 ft.
Bottom Width: 4.50 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 92.182
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 92.182
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Basin 2
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.19
Pervious Total	0.19

Impervious Land Use	acre
PARKING FLAT	5.84
Impervious Total	5.84
Basin Total	6.03

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 2	Gravel Trench Bed 2	

Name : Gravel Trench Bed 2
Bottom Length: 900.00 ft.
Bottom Width: 10.00 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 1130.188
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 1130.188
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Basin 3
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.28
Pervious Total	**0.28**

Impervious Land Use	acre
PARKING FLAT	7.13
Impervious Total	**7.13**
Basin Total	**7.41**

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 3	Gravel Trench Bed 3	

Name : Gravel Trench Bed 3
Bottom Length: 601.00 ft.
Bottom Width: 20.00 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 1380.235
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 1380.235
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Basin 4
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.3
Pervious Total	0.3

Impervious Land Use	acre
PARKING FLAT	4.35
Impervious Total	4.35
Basin Total	4.65

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 4	Gravel Trench Bed 4	

Name : Gravel Trench Bed 4
Bottom Length: 390.00 ft.
Bottom Width: 19.00 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 841.471
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 841.471
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Basin 6
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.22
Pervious Total	0.22

Impervious Land Use	acre
PARKING FLAT	1.9
Impervious Total	1.9
Basin Total	2.12

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 6	Gravel Trench Bed 6	

Name : Gravel Trench Bed 6
Bottom Length: 205.00 ft.
Bottom Width: 16.00 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 366.866
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 366.866
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Basin 7
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.71
Pervious Total	**0.71**

Impervious Land Use	acre
PARKING FLAT	4.76
Impervious Total	**4.76**
Basin Total	**5.47**

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 7	Gravel Trench Bed 7	

Name : Gravel Trench Bed 7
Bottom Length: 588.00 ft.
Bottom Width: 13.00 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 921.377
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 921.377
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Basin 8
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.61
Pervious Total	**0.61**

Impervious Land Use	acre
PARKING FLAT	6.64
Impervious Total	**6.64**
Basin Total	**7.25**

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 8	Gravel Trench Bed 8	

Name : Gravel Trench Bed 8
Bottom Length: 460.00 ft.
Bottom Width: 20.00 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 1285.62
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 1285.62
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Basin 9
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.72
Pervious Total	0.72

Impervious Land Use	acre
PARKING FLAT	5.35
Impervious Total	5.35
Basin Total	6.07

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 9	Gravel Trench Bed 9	

Name : Gravel Trench Bed 9
Bottom Length: 930.00 ft.
Bottom Width: 10.00 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 1035.646
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 1035.646
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Basin 10
Bypass: No

GroundWater: No

Pervious Land Use	acre
A B, Lawn, Flat	.66
Pervious Total	0.66

Impervious Land Use	acre
PARKING FLAT	1.18
Impervious Total	1.18
Basin Total	1.84

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 10	Gravel Trench Bed 10	

Name : Gravel Trench Bed 10
Bottom Length: 106.50 ft.
Bottom Width: 20.00 ft.
Trench bottom slope 1: 0.01 To 1
Trench Left side slope 0: 0.01 To 1
Trench right side slope 2: 0.01 To 1
Material thickness of first layer: 1
Pour Space of material for first layer: 0.35
Material thickness of second layer: 1
Pour Space of material for second layer: 0.4
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 20
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 227.928
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 227.928
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

ANALYSIS RESULTS

Stream Protection Duration

Predeveloped Landuse Totals for POC #1
Total Pervious Area:47.9
Total Impervious Area:0

Mitigated Landuse Totals for POC #1
Total Pervious Area:4.84
Total Impervious Area:43.06

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	Flow(cfs)
2 year	0.055435
5 year	0.120238
10 year	0.192875
25 year	0.336859
50 year	0.497774
100 year	0.722043

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	0
5 year	0
10 year	0
25 year	0
50 year	0
100 year	0

Stream Protection Duration
Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	1.2862	0.0000
2	1.1957	0.0000
3	0.4367	0.0000
4	0.3399	0.0000
5	0.2659	0.0000
6	0.2229	0.0000
7	0.2014	0.0000
8	0.1879	0.0000
9	0.1818	0.0000
10	0.1263	0.0000
11	0.1130	0.0000
12	0.1015	0.0000
13	0.0877	0.0000
14	0.0868	0.0000
15	0.0804	0.0000
16	0.0772	0.0000
17	0.0754	0.0000
18	0.0721	0.0000
19	0.0707	0.0000
20	0.0648	0.0000
21	0.0585	0.0000
22	0.0572	0.0000
23	0.0457	0.0000
24	0.0389	0.0000
25	0.0389	0.0000
26	0.0389	0.0000
27	0.0388	0.0000
28	0.0388	0.0000
29	0.0388	0.0000
30	0.0388	0.0000
31	0.0388	0.0000
32	0.0388	0.0000
33	0.0387	0.0000
34	0.0387	0.0000
35	0.0387	0.0000
36	0.0387	0.0000
37	0.0386	0.0000
38	0.0385	0.0000
39	0.0385	0.0000
40	0.0385	0.0000
41	0.0385	0.0000
42	0.0385	0.0000
43	0.0385	0.0000
44	0.0384	0.0000
45	0.0384	0.0000
46	0.0383	0.0000
47	0.0383	0.0000
48	0.0382	0.0000
49	0.0382	0.0000
50	0.0381	0.0000
51	0.0380	0.0000
52	0.0380	0.0000

53	0.0378	0.0000
54	0.0378	0.0000
55	0.0377	0.0000
56	0.0376	0.0000
57	0.0374	0.0000
58	0.0372	0.0000
59	0.0357	0.0000
60	0.0336	0.0000
61	0.0268	0.0000

Stream Protection Duration
POC #1
The Facility PASSED

The Facility PASSED.

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0277	2537	0	0	Pass
0.0325	1413	0	0	Pass
0.0372	474	0	0	Pass
0.0420	114	0	0	Pass
0.0467	105	0	0	Pass
0.0515	92	0	0	Pass
0.0562	77	0	0	Pass
0.0610	68	0	0	Pass
0.0657	62	0	0	Pass
0.0704	58	0	0	Pass
0.0752	54	0	0	Pass
0.0799	50	0	0	Pass
0.0847	49	0	0	Pass
0.0894	47	0	0	Pass
0.0942	43	0	0	Pass
0.0989	41	0	0	Pass
0.1037	36	0	0	Pass
0.1084	36	0	0	Pass
0.1132	32	0	0	Pass
0.1179	31	0	0	Pass
0.1227	31	0	0	Pass
0.1274	29	0	0	Pass
0.1322	29	0	0	Pass
0.1369	29	0	0	Pass
0.1417	26	0	0	Pass
0.1464	26	0	0	Pass
0.1512	26	0	0	Pass
0.1559	25	0	0	Pass
0.1607	23	0	0	Pass
0.1654	23	0	0	Pass
0.1702	23	0	0	Pass
0.1749	23	0	0	Pass
0.1797	23	0	0	Pass
0.1844	21	0	0	Pass
0.1892	19	0	0	Pass
0.1939	19	0	0	Pass
0.1986	17	0	0	Pass
0.2034	16	0	0	Pass
0.2081	16	0	0	Pass

0.2129	15	0	0	Pass
0.2176	15	0	0	Pass
0.2224	14	0	0	Pass
0.2271	13	0	0	Pass
0.2319	13	0	0	Pass
0.2366	13	0	0	Pass
0.2414	13	0	0	Pass
0.2461	13	0	0	Pass
0.2509	13	0	0	Pass
0.2556	13	0	0	Pass
0.2604	13	0	0	Pass
0.2651	13	0	0	Pass
0.2699	11	0	0	Pass
0.2746	11	0	0	Pass
0.2794	11	0	0	Pass
0.2841	11	0	0	Pass
0.2889	11	0	0	Pass
0.2936	11	0	0	Pass
0.2984	11	0	0	Pass
0.3031	11	0	0	Pass
0.3079	11	0	0	Pass
0.3126	11	0	0	Pass
0.3173	11	0	0	Pass
0.3221	11	0	0	Pass
0.3268	11	0	0	Pass
0.3316	11	0	0	Pass
0.3363	10	0	0	Pass
0.3411	9	0	0	Pass
0.3458	9	0	0	Pass
0.3506	9	0	0	Pass
0.3553	8	0	0	Pass
0.3601	8	0	0	Pass
0.3648	8	0	0	Pass
0.3696	8	0	0	Pass
0.3743	8	0	0	Pass
0.3791	8	0	0	Pass
0.3838	8	0	0	Pass
0.3886	8	0	0	Pass
0.3933	8	0	0	Pass
0.3981	8	0	0	Pass
0.4028	8	0	0	Pass
0.4076	8	0	0	Pass
0.4123	8	0	0	Pass
0.4171	8	0	0	Pass
0.4218	7	0	0	Pass
0.4266	7	0	0	Pass
0.4313	7	0	0	Pass
0.4360	7	0	0	Pass
0.4408	6	0	0	Pass
0.4455	6	0	0	Pass
0.4503	6	0	0	Pass
0.4550	6	0	0	Pass
0.4598	6	0	0	Pass
0.4645	6	0	0	Pass
0.4693	6	0	0	Pass
0.4740	6	0	0	Pass
0.4788	6	0	0	Pass

0.4835	6	0	0	Pass
0.4883	6	0	0	Pass
0.4930	5	0	0	Pass
0.4978	5	0	0	Pass

Water Quality BMP Flow and Volume for POC #1
On-line facility volume: 0 **acre-feet**
On-line facility target flow: 0 **cfs.**
Adjusted for 15 min: 0 **cfs.**
Off-line facility target flow: 0 **cfs.**
Adjusted for 15 min: 0 **cfs.**

Perlnd and Implnd Changes

No changes have been made.

APPENDIX C
Geotechnical Report

GEOTECHNICAL ENGINEERING REPORT

PREPARED BY:

THE RILEY GROUP, INC.
17522 BOTHELL WAY NORTHEAST
BOTHELL, WASHINGTON 98011

PREPARED FOR:

SMARTCAP CRE VALUE FUND 3, LLC
8201 164TH AVENUE NORTHEAST, SUITE 105
REDMOND, WASHINGTON 98052

RGI PROJECT NO. 2021-574-2

ARLINGTON AIRPORT BUSINESS PARK DEVELOPMENT II
51ST AVENUE NORTHEAST AND 43RD AVENUE NORTHEAST
ARLINGTON, WASHINGTON

OCTOBER 8, 2021

Corporate Office
17522 Bothell Way Northeast
Bothell, Washington 98011
Phone 425.415.0551 ♦ Fax 425.415.0311

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October 8, 2021

Mr. Robert Shipley
SMARTCAP CRE Value Fund 3, LLC
8201 164th Avenue Northeast, Suite 105
Redmond, Washington 98052

Subject: **Geotechnical Engineering Report**
Arlington Airport Business Park Development II
51st Avenue Northeast and 43rd Avenue Northeast
Arlington, Washington
RGI Project No. 2021-574-2

Dear Mr. Shipley:

As requested, The Riley Group, Inc. (RGI) has performed a Geotechnical Engineering Report (GER) for the Arlington Airport Business Park Development II located at 51st Avenue Northeast and 43rd Avenue Northeast, Arlington, Washington. Our services were completed in accordance with our proposal dated August 14, 2021 and authorized by you on September 7, 2021. The information in this GER is based on our understanding of the proposed construction, and the soil and groundwater conditions encountered in the test pits and borings completed by RGI at the site on September 16, 17, 23, and 24, 2021.

RGI recommends that you submit the project plans and specifications to RGI for a general review so that we may confirm that the recommendations in this GER are interpreted and implemented properly in the construction documents. RGI also recommends that a representative of our firm be present on site during portions of the project construction to confirm that the soil and groundwater conditions are consistent with those that form the basis for the engineering recommendations in this GER.

If you have any questions or require additional information, please contact us.

Respectfully submitted,

THE RILEY GROUP, INC.

10/8/2021

Eric L. Woods, LG
Project Geologist

KRISTINA MARIE WELLER
STATE OF WASHINGTON
33182
REGISTERED
PROFESSIONAL ENGINEER

10/8/2021

Kristina M. Weller, PE
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LIST OF FIGURES AND APPENDICES

Executive Summary

This Executive Summary should be used in conjunction with the entire Geotechnical Engineering Report (GER) for design and/or construction purposes. It should be recognized that specific details were not included or fully developed in this section, and the GER must be read in its entirety for a comprehensive understanding of the items contained herein. Section 7.0 should be read for an understanding of limitations.

RGI's geotechnical scope of work included the advancement of 17 test pits and 4 borings to approximate depths of 4 to 51.5 feet below existing site grades.

Based on the information obtained from our subsurface exploration, the site is suitable for development of the proposed project. The following geotechnical considerations were identified:

Soil Conditions: The soils encountered during field exploration include loose surficial soils comprised of silty sand over native deposits of medium dense to very dense sand with trace to some silt and varying amounts of gravel, and sandy gravel with trace silt.

Groundwater: A groundwater table was encountered at depths of 8.5 to 11.5 feet during our subsurface exploration.

Foundations: Foundations for the proposed building may be supported on conventional spread footings bearing on medium dense native soil or structural fill

Slab-on-grade: Slab-on-grade floors and slabs for the proposed building can be supported on medium dense native soil or structural fill.

Pavements: The following pavement sections are recommended:

- **For asphalt pavement areas**: 3 inches of Hot Mix Asphalt (HMA) over 6 inches of crushed rock base (CRB)
- **For concrete pavement areas**: 5 inches of concrete over 4 inches of CRB

1.0 Introduction

This Geotechnical Engineering Report (GER) presents the results of the geotechnical engineering services provided for the Arlington Airport Business Park Development II in Arlington, Washington. The purpose of this evaluation is to assess subsurface conditions and provide geotechnical recommendations for the construction of several large commercial buildings and associated parking and drive aisles. Our scope of services included field explorations, laboratory testing, engineering analyses, and preparation of this GER.

The recommendations in the following sections of this GER are based upon our current understanding of the proposed site development as outlined below. If actual features vary or changes are made, RGI should review them in order to modify our recommendations as required. In addition, RGI requests to review the site grading plan, final design drawings and specifications when available to verify that our project understanding is correct and that our recommendations have been properly interpreted and incorporated into the project design and construction.

2.0 Project description

The project site is located at 51st Avenue Northeast and 43rd Avenue Northeast in Arlington, Washington. The approximate location of the site is shown on Figure 1.

The site is currently undeveloped. RGI understands that four large commercial buildings with associated parking and drive aisles, and infiltration facilities will be constructed at the site.

At the time of preparing this GER, building plans were not available for our review. Based on our experience with similar construction, RGI anticipates that the proposed buildings will be supported on perimeter walls with bearing loads of six to eight kips per linear foot, and a series of columns with a maximum load up to 300 kips. Slab-on-grade floor loading of 250 pounds per square foot (psf) are expected.

3.0 Field Exploration and Laboratory Testing

3.1 Field Exploration

On September 16, 17, 23, and 24, RGI observed the excavation of 17 test pits and drilling of 4 borings. The approximate exploration locations are shown on Figure 2.

Field logs of each exploration were prepared by the geologist that continuously observed the excavation or drilling. These logs included visual classifications of the materials encountered during excavation/drilling as well as our interpretation of the subsurface conditions between samples. The test pit and boring logs included in Appendix A represent

an interpretation of the field logs and include modifications based on laboratory observation and analysis of the samples.

3.2 LABORATORY TESTING

During the field exploration, a representative portion of each recovered sample was sealed in containers and transported to our laboratory for further visual and laboratory examination. Selected samples retrieved from the test pits and borings were tested for moisture content and grain size analysis to aid in soil classification and provide input for the recommendations provided in this GER. The results and descriptions of the laboratory tests are enclosed in Appendix A.

4.0 Site Conditions

4.1 SURFACE

The subject site is an irregular-shaped parcel of land approximately 31 acres in size. The site is bound to the north by undeveloped forest, to the northeast by 51st Avenue Northeast, to the east by undeveloped forest, to the south by undeveloped forest and a commercial development, and to the west by 43rd Avenue Northeast.

The existing site is vacant land covered by trees and other vegetation. The site is relatively flat with an overall elevation difference of less than 10 feet.

4.2 GEOLOGY

Review of the *Geologic Map of the Arlington West 7.5 Minute Quadrangle, Snohomish County, Washington,* by James P. Minard (1985) indicates that the soil in the project vicinity is mapped as Marysville Sand Member (Map Unit Qvrm), which is stratified to massive outwash sand with some gravel and localized silt and clay, deposited by meltwater streams issuing from the retreating Vashon glacier. These descriptions are generally similar to the findings in our field explorations.

4.3 SOILS

The soils encountered during field exploration include loose surficial soils comprised of silty sand over native deposits of medium dense to very dense sand with trace to some silt and varying amounts of gravel, and sandy gravel with trace silt.

More detailed descriptions of the subsurface conditions encountered are presented in the test pits and borings included in Appendix A. Sieve analysis was performed on ten selected soil samples. Grain size distribution curves are included in Appendix A.

4.4 GROUNDWATER

A groundwater table was encountered at depths of 8.5 to 11.5 feet during our subsurface exploration. The water level was measured in the wells at 10.5 to 11.3 feet below grade.

It should be recognized that fluctuations of the groundwater table will occur due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the explorations were performed. In addition, perched water can develop within seams and layers contained in fill soils or higher permeability soils overlying less permeable soils following periods of heavy or prolonged precipitation.

4.5 SEISMIC CONSIDERATIONS

Based on the International Building Code (IBC), RGI recommends the follow seismic parameters for design.

Table 1 IBC

Parameter	2018 Value
Site Soil Class[1]	D[2]
Site Latitude	48.1560
Site Longitude	-122.1676
Short Period Spectral Response Acceleration, S_S (g)	1.061
1-Second Period Spectral Response Acceleration, S_1 (g)	0.379
Adjusted Short Period Spectral Response Acceleration, S_{MS} (g)	1.141
Adjusted 1-Sec Period Spectral Response Acceleration, S_{M1} (g)	0.728
Numeric seismic design value at 0.2 second; S_{DS}(g)	0.761
Numeric seismic design value at 1.0 second; S_{D1}(g)	0.485

1. Note: In general accordance with Chapter 20 of ASCE 7-16, the Site Class is based on the average characteristics of the upper 100 feet of the subsurface profile.

2. Note: ASCE 7-16 require a site soil profile determination extending to a depth of 100 feet for seismic site classification. The current scope of our services does not include the required 100 foot soil profile determination. Test pits and borings extended to a maximum depth of 51.5 feet, and this seismic site class definition considers that very dense soil continues below the maximum depth of the subsurface exploration. Additional exploration to deeper depths would be required to confirm the conditions below the current depth of exploration. The proposed buildings should qualify for the exemption for the site specific seismic study as the building periods are expected to be less than 0.5 seconds.

3. Note: In accordance with ASCE 11.4.8, a ground motion hazard analysis is not required for the following cases:

- Structures on Site Class E sites with S_S greater than or equal to 1.0, provided the site coefficient Fa is taken as equal to that of Site Class C.
- Structures on Site Class D sites with S_1 greater than or equal to 0.2, provided that the value of the seismic response coefficient Cs is determined by Eq. 12.8-2 for values of $T \leq 1.5Ts$ and taken as equal to 1.5 times the value computed in accordance with either Eq. 12.8-3 for $T_L \geq T > 1.5T_s$ or Eq. 12.8-4 for $T > TL$.
- Structures on Site Class E sites with S_1 greater than or equal to 0.2, provided that T is less than or equal to T_s and the equivalent static force procedure is used for design.

The above exceptions do not apply to seismically isolated structures, structures with damping systems or structures designed using the response history procedures of Chapter 16.

Liquefaction is a phenomenon where there is a reduction or complete loss of soil strength due to an increase in water pressure induced by vibrations from a seismic event. Liquefaction mainly affects geologically recent deposits of fine-grained sands that are below the groundwater table. Soils of this nature derive their strength from intergranular friction. The generated water pressure or pore pressure essentially separates the soil grains and eliminates this intergranular friction, thus reducing or eliminating the soil's strength.

For liquefaction analysis, soil information was obtained from boring B-1. The groundwater was assumed to be 10 feet. Analysis indicates the native soil below the groundwater table will liquefy under severe earthquake ground motions (Magnitude 7 and horizontal acceleration 0.45g, with settlement in the range of 6 to 7 inches. The subsurface conditions are relatively consistent, therefore; the differential settlements should not exceed 3 inches in 100 feet. The analysis is attached in Appendix B.

Concrete tilt-up structures supported on continuous exterior foundations underlain by medium dense native soils or structural fill as recommended, typically perform relatively well in liquefaction settlement areas. We do not expect the settlements will result in a life safety issue for the structure, however damage and repairs should be anticipated if the total settlements predicted occur in the seismic event.

4.6 GEOLOGIC HAZARD AREAS

Regulated geologically hazardous areas include erosion, landslide, earthquake, wetland, or other geological hazards. Based on the Arlington Municipal Code, the site meets the criteria of a Seismic Hazard Area. Review of the *Liquefaction Susceptibility Map of Snohomish County, Washington* by Stephan P. Palmer, etc., (2004) indicates the soils in the area are mapped as having a low to moderate liquefaction susceptibility during a seismic event.

5.0 Discussion and Recommendations

5.1 GEOTECHNICAL CONSIDERATIONS

Based on our study, the site is suitable for the proposed construction from a geotechnical standpoint. Foundations for the proposed building can be supported on conventional spread footings bearing on medium dense native soil or structural fill. Slab-on-grade floors and pavements can be similarly supported.

Detailed recommendations regarding the above issues and other geotechnical design considerations are provided in the following sections. These recommendations should be incorporated into the final design drawings and construction specifications.

5.2 EARTHWORK

Earthwork will include grading the site, excavating infiltration facilities, installing underground utilities, excavating and backfilling the building foundations, and preparing slab and pavement sugrades.

5.2.1 EROSION AND SEDIMENT CONTROL

Potential sources or causes of erosion and sedimentation depend on construction methods, slope length and gradient, amount of soil exposed and/or disturbed, soil type, construction sequencing and weather. The impacts on erosion-prone areas can be reduced by implementing an erosion and sedimentation control plan. The plan should be designed in accordance with applicable city and/or county standards.

RGI recommends the following erosion control Best Management Practices (BMPs):

- Scheduling site preparation and grading for the drier summer and early fall months and undertaking activities that expose soil during periods of little or no rainfall
- Retaining existing vegetation whenever feasible
- Establishing a quarry spall construction entrance
- Installing siltation control fencing or anchored straw or coir wattles on the downhill side of work areas
- Covering soil stockpiles with anchored plastic sheeting
- Revegetating or mulching exposed soils with a minimum 3-inch thickness of straw if surfaces will be left undisturbed for more than one day during wet weather or one week in dry weather
- Directing runoff away from exposed soils and slopes
- Minimizing the length and steepness of slopes with exposed soils and cover excavation surfaces with anchored plastic sheeting (Graded and disturbed slopes should be tracked in place with the equipment running perpendicular to the slope contours so that the track marks provide a texture to help resist erosion and channeling. Some sloughing and raveling of slopes with exposed or disturbed soil should be expected.)
- Decreasing runoff velocities with check dams, straw bales or coir wattles
- Confining sediment to the project site
- Inspecting and maintaining erosion and sediment control measures frequently (The contractor should be aware that inspection and maintenance of erosion control BMPs is critical toward their satisfactory performance. Repair and/or replacement of dysfunctional erosion control elements should be anticipated.)

Permanent erosion protection should be provided by reestablishing vegetation using hydroseeding and/or landscape planting. Until the permanent erosion protection is

established, site monitoring should be performed by qualified personnel to evaluate the effectiveness of the erosion control measures. Provisions for modifications to the erosion control system based on monitoring observations should be included in the erosion and sedimentation control plan.

5.2.2 STRIPPING

Stripping efforts should include removal of pavements, vegetation, organic materials, and deleterious debris from areas slated for building, pavement, and utility construction. The test pits and borings encountered 6 to 12 inches of topsoil and rootmass. Deeper areas of stripping may be required in forested or heavily vegetated areas of the site.

5.2.3 EXCAVATIONS

All temporary cut slopes associated with the site and utility excavations should be adequately inclined to prevent sloughing and collapse. The site soils consist of loose to medium dense silty sand and sand with trace to some silt and varying amounts of gravel.

Accordingly, for excavations more than 4 feet but less than 20 feet in depth, the temporary side slopes should be laid back with a minimum slope inclination of 1.5H:1V (Horizontal:Vertical). If there is insufficient room to complete the excavations in this manner, or excavations greater than 20 feet in depth are planned, using temporary shoring to support the excavations should be considered. For open cuts at the site, RGI recommends:

- No traffic, construction equipment, stockpiles or building supplies are allowed at the top of cut slopes within a distance of at least five feet from the top of the cut
- Exposed soil along the slope is protected from surface erosion using waterproof tarps and/or plastic sheeting
- Construction activities are scheduled so that the length of time the temporary cut is left open is minimized
- Surface water is diverted away from the excavation
- The general condition of slopes should be observed periodically by a geotechnical engineer to confirm adequate stability and erosion control measures

In all cases, however, appropriate inclinations will depend on the actual soil and groundwater conditions encountered during earthwork. Ultimately, the site contractor must be responsible for maintaining safe excavation slopes that comply with applicable OSHA or WISHA guidelines.

5.2.4 SITE PREPARATION

Proofrolling and subgrade verification should be considered an essential step in site preparation. After stripping, grubbing, and prior to placement of structural fill, RGI recommends proofrolling building and pavement subgrades and areas to receive structural fill. These areas should moisture conditioned and compacted to a firm and unyielding condition in order to achieve a minimum compaction level of 95 percent of the modified proctor maximum dry density as determined by the American Society of Testing and Materials D1557-09 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (ASTM D1557).

Proofrolling and adequate subgrade compaction can only be achieved when the soils are within approximately ± 2 percent moisture content of the optimum moisture content. Soils which appear firm after stripping and grubbing may be proofrolled with a heavy compactor, loaded double-axle dump truck, or other heavy equipment under the observation of an RGI representative. This observer will assess the subgrade conditions prior to filling. The need for or advisability of proofrolling due to soil moisture conditions should be determined at the time of construction. In wet areas it may be necessary to hand probe the exposed subgrades in lieu of proofrolling with mechanical equipment.

Subgrade soils that become disturbed due to elevated moisture conditions should be overexcavated to reveal firm, non-yielding, non-organic soils and backfilled with compacted structural fill. In order to maximize utilization of site soils as structural fill, RGI recommends that the earthwork portion of this project be completed during extended periods of warm and dry weather if possible. If earthwork is completed during the wet season (typically November through May) it will be necessary to take extra precautionary measures to protect subgrade soils. Wet season earthwork will require additional mitigative measures beyond that which would be expected during the drier summer and fall months.

5.2.5 STRUCTURAL FILL

Once stripping, clearing and other preparing operations are complete, cuts and fills can be made to establish desired building grades. Prior to placing fill, RGI recommends proof-rolling as described above.

RGI recommends fill below the foundation and floor slab, behind retaining walls, and below pavement and hardscape surfaces be placed in accordance with the following recommendations for structural fill. The structural fill should be placed after completion of site preparation procedures as described above.

The suitability of excavated site soils and import soils for compacted structural fill use will depend on the gradation and moisture content of the soil when it is placed. As the amount of fines (that portion passing the U.S. No. 200 sieve) increases, soil becomes increasingly

sensitive to small changes in moisture content and adequate compaction becomes more difficult or impossible to achieve. Soils containing more than about 5 percent fines cannot be consistently compacted to a dense, non-yielding condition when the moisture content is more than 2 percent above or below optimum. Optimum moisture content is that moisture that results in the greatest compacted dry density with a specified compactive effort.

Non-organic site soils are only considered suitable for structural fill provided that their moisture content is within about two percent of the optimum moisture level as determined by ASTM D1557. Excavated site soils may not be suitable for re-use as structural fill depending on the moisture content and weather conditions at the time of construction. If soils are stockpiled for future reuse and wet weather is anticipated, the stockpile should be protected with plastic sheeting that is securely anchored.

Even during dry weather, moisture conditioning (such as, windrowing and drying) of site soils to be reused as structural fill may be required. Even during the summer, delays in grading can occur due to excessively high moisture conditions of the soils or due to precipitation. If wet weather occurs, the upper wetted portion of the site soils may need to be scarified and allowed to dry prior to further earthwork, or may need to be wasted from the site.

If on-site soils are or become unusable, it may become necessary to import clean, granular soils to complete site work that meet the grading requirements listed in Table 2 to be used as structural fill.

Table 2 Structural Fill Gradation

U.S. Sieve Size	Percent Passing
4 inches	100
No. 4 sieve	22 to 100
No. 200 sieve	0 to 5*

*Based on minus 3/4 inch fraction.

Prior to use, an RGI representative should observe and test all materials imported to the site for use as structural fill. Structural fill materials should be placed in uniform loose layers not exceeding 12 inches and compacted as specified in Table 3. The soil's maximum density and optimum moisture should be determined by ASTM D1557.

Table 3 Structural Fill Compaction ASTM D1557

Location	Material Type	Minimum Compaction Percentage	Moisture Content Range	
Foundations	On-site granular or approved imported fill soils:	95	+2	-2
Retaining Wall Backfill	On-site granular or approved imported fill soils:	92	+2	-2
Slab-on-grade	On-site granular or approved imported fill soils:	95	+2	-2
General Fill (non-structural areas)	On-site soils or approved imported fill soils:	90	+3	-2
Pavement – Subgrade and Base Course	On-site granular or approved imported fill soils:	95	+2	-2

Placement and compaction of structural fill should be observed by RGI. A representative number of in-place density tests should be performed as the fill is being placed to confirm that the recommended level of compaction is achieved.

5.2.6 CUT AND FILL SLOPES

All permanent cut and fill slopes should be graded with a finished inclination no greater than 2H:1V. Upon completion of construction, the slope face should be trackwalked, compacted and vegetated, or provided with other physical means to guard against erosion. All fill placed for slope construction should meet the structural fill requirements as described in Section 5.2.5.

Final grades at the top of the slopes must promote surface drainage away from the slope crest. Water must not be allowed to flow in an uncontrolled fashion over the slope face. If it is necessary to direct surface runoff towards the slope, it should be controlled at the top of the slope, piped in a closed conduit installed on the slope face, and taken to an appropriate point of discharge beyond the toe of the slope.

5.2.7 WET WEATHER CONSTRUCTION CONSIDERATIONS

RGI recommends that preparation for site grading and construction include procedures intended to drain ponded water, control surface water runoff, and to collect shallow subsurface seepage zones in excavations where encountered. It will not be possible to successfully compact the subgrade or utilize on-site soils as structural fill if accumulated water is not drained prior to grading or if drainage is not controlled during construction. Attempting to grade the site without adequate drainage control measures will reduce the amount of on-site soil effectively available for use, increase the amount of select import fill materials required, and ultimately increase the cost of the earthwork phases of the project.

Free water should not be allowed to pond on the subgrade soils. RGI anticipates that the use of berms and shallow drainage ditches, with sumps and pumps in utility trenches, will be required for surface water control during wet weather and/or wet site conditions.

5.3 FOUNDATIONS

Following site preparation and grading, the proposed building foundation can be supported on conventional spread footings bearing on dense native soil or structural fill. Loose, organic, or other unsuitable soils may be encountered in the proposed building footprint. If unsuitable soils are encountered, they should be overexcavated and backfilled with structural fill.

Perimeter foundations exposed to weather should be at a minimum depth of 18 inches below final exterior grades. Interior foundations can be constructed at any convenient depth below the floor slab. Finished grade is defined as the lowest adjacent grade within 5 feet of the foundation for perimeter (or exterior) footings and finished floor level for interior footings.

Table 4 Foundation Design

Design Parameter	Value
Allowable Bearing Capacity	2,500 psf[1]
Friction Coefficient	0.30
Passive pressure (equivalent fluid pressure)	250 pcf[2]
Minimum foundation dimensions	Columns: 24 inches Walls: 16 inches

1. psf = pounds per square foot
2. pcf = pounds per cubic foot

The allowable foundation bearing pressures apply to dead loads plus design live load conditions. For short-term loads, such as wind and seismic, a 1/3 increase in this allowable capacity may be used. At perimeter locations, RGI recommends not including the upper 12 inches of soil in the computation of passive pressures because they can be affected by weather or disturbed by future grading activity. The passive pressure value assumes the foundation will be constructed neat against competent soil or backfilled with structural fill as described in Section 5.2.5. The recommended base friction and passive resistance value includes a safety factor of about 1.5.

With spread footing foundations designed in accordance with the recommendations in this section, maximum total and differential post-construction settlements of 1 inch and 1/2 inch, respectively, should be expected.

5.4 RETAINING WALLS

If retaining walls are needed in the building area, RGI recommends cast-in-place concrete walls be used. The magnitude of earth pressure development on retaining walls will partly depend on the quality of the wall backfill. RGI recommends placing and compacting wall backfill as structural fill. Wall drainage will be needed behind the wall face. A typical retaining wall drainage detail is shown in Figure 3.

With wall backfill placed and compacted as recommended, and drainage properly installed, RGI recommends using the values in the following table for design.

Table 5 Retaining Wall Design

Design Parameter	Value
Allowable Bearing Capacity	2,500 psf
Active Earth Pressure (unrestrained walls)	35 pcf
At-rest Earth Pressure (restrained walls)	50 pcf

For seismic design, an additional uniform load of 7 times the wall height (H) for unrestrained walls and 14H in psf for restrained walls should be applied to the wall surface.

Friction at the base of foundations and passive earth pressure will provide resistance to these lateral loads. Values for these parameters are provided in Section 5.3.

5.5 SLAB-ON-GRADE CONSTRUCTION

Once site preparation has been completed as described in Section 5.2, suitable support for slab-on-grade construction should be provided. RGI recommends that the concrete slab be placed on top of medium dense native soil or structural fill. Immediately below the floor slab, RGI recommends placing a four-inch thick capillary break layer of clean, free-draining sand or gravel that has less than five percent passing the U.S. No. 200 sieve. This material will reduce the potential for upward capillary movement of water through the underlying soil and subsequent wetting of the floor slab.

Where moisture by vapor transmission is undesirable, an 8- to 10-millimeter thick plastic membrane should be placed on a 4-inch thick layer of clean gravel.

For the anticipated floor slab loading, we estimate post-construction floor settlements of 1/4- to 1/2-inch. For thickness design of the slab subjected to point loading from storage racks and fork lift vehicle traffic, RGI recommends using a subgrade modulus (K_S) of 150 pounds per square inch per inch of deflection.

5.6 DRAINAGE

5.6.1 SURFACE

Final exterior grades should promote free and positive drainage away from the building area. Water must not be allowed to pond or collect adjacent to foundations or within the immediate building area. For non-pavement locations, RGI recommends providing a minimum drainage gradient of 3 percent for a minimum distance of 10 feet from the building perimeter. In paved locations, a minimum gradient of 1 percent should be provided unless provisions are included for collection and disposal of surface water adjacent to the structure.

5.6.2 SUBSURFACE

RGI recommends installing perimeter foundation drains. A typical footing drain detail is shown on Figure 4. The foundation drains and roof downspouts should be tightlined separately to an approved discharge facility. Subsurface drains must be laid with a gradient sufficient to promote positive flow to a controlled point of approved discharge.

5.6.3 INFILTRATION

RGI understands that stormwater infiltration is proposed as part of site development. Two small-scale Pilot Infiltration Tests (PIT) were conducted at the site. Infiltration tests INF-1 and INF-2 were completed following the small PIT test method as presented in the 2014 Stormwater Management Manual for Western Washington (SMMWW).

Table 6 Measured Infiltration Rates

Test Location	Test Depth	Measured Rate	Design Rate
INF-1	4	158	**71**
INF-2	4	92	**41**

Correction factors per the manual were applied to the field measured rate as described below:

$Ksat_{design} = Ksat_{initial} = CF_V \times CF_T \times CF_M$
CF_V = Site Variability
CF_T = Test Method
CF_M = Degree of Influent Control
$Ksat_{design} = Ksat_{initial} = 1 \times 0.5 \times 0.9 = 0.45$
INF-1: $Ksat_{design} = Ksat_{initial}$ (158) X 0.45 = 71 inches/hour
INF-1: $Ksat_{design} = Ksat_{initial}$ (92) X 0.45 = 41 inches/hour

RGI recommends a long-term design rate of 20 inches/hour.

5.7 UTILITIES

Utility pipes should be bedded and backfilled in accordance with American Public Works Association (APWA) specifications. For site utilities located within the right-of-ways, bedding and backfill should be completed in accordance with City of Arlington specifications. At a minimum, trench backfill should be placed and compacted as structural fill, as described in Section 5.2.5. Where utilities occur below unimproved areas, the degree of compaction can be reduced to a minimum of 90 percent of the soil's maximum density as determined by the referenced ASTM D1557. As noted, soils excavated on site should be suitable for use as backfill material. If on-site soils are or become unusable, imported structural fill meeting the gradation provided in Table 2 should be used for trench backfill.

5.8 PAVEMENTS

Pavement subgrades should be prepared as described in Section 5.2 and as discussed below. Regardless of the relative compaction achieved, the subgrade must be firm and relatively unyielding before paving. The subgrade should be proof-rolled with heavy construction equipment to verify this condition.

5.8.1 FLEXIBLE PAVEMENTS

With the pavement subgrade prepared as described above, RGI recommends the following pavement sections for parking and drive areas paved with flexible asphalt concrete surfacing.

- **For asphalt pavement areas**: 3 inches of Hot Mix Asphalt (HMA) over 6 inches of crushed rock base (CRB)

5.8.2 CONCRETE PAVEMENTS

With the pavement subgrade prepared as described above, RGI recommends the following pavement sections for parking and drive areas paved with concrete surfacing.

- **For concrete pavement areas**: 5 inches of concrete over 4 inches of CRB

The paving materials used should conform to the WSDOT specifications for HMA, concrete paving, and CRB surfacing (9-03.9(3) Crushed Surfacing).

Long-term pavement performance will depend on surface drainage. A poorly-drained pavement section will be subject to premature failure as a result of surface water infiltrating into the subgrade soils and reducing their supporting capability.

For optimum pavement performance, surface drainage gradients of no less than 2 percent are recommended. Also, some degree of longitudinal and transverse cracking of the pavement surface should be expected over time. Regular maintenance should be planned to seal cracks when they occur.

6.0 Additional Services

RGI is available to provide further geotechnical consultation throughout the design phase of the project. RGI should review the final design and specifications in order to verify that earthwork and foundation recommendations have been properly interpreted and incorporated into project design and construction.

RGI is also available to provide geotechnical engineering and construction monitoring services during construction. The integrity of the earthwork and construction depends on proper site preparation and procedures. In addition, engineering decisions may arise in the field in the event that variations in subsurface conditions become apparent. Construction monitoring services are not part of this scope of work. If these services are desired, please let us know and we will prepare a cost proposal.

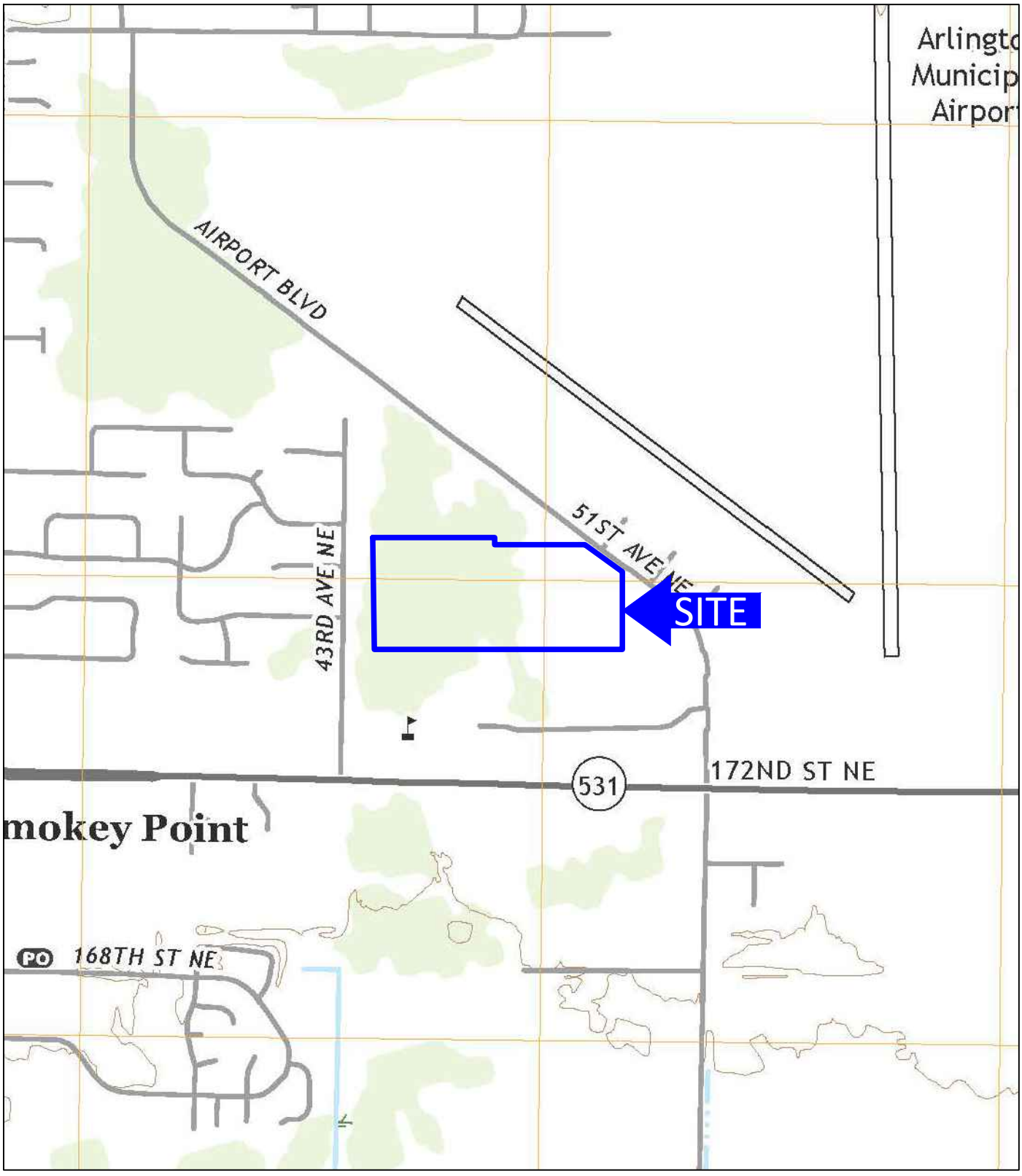
7.0 Limitations

This GER is the property of RGI, SMARTCAP CRE Value Fund 3, LLC, and its designated agents. Within the limits of the scope and budget, this GER was prepared in accordance with generally accepted geotechnical engineering practices in the area at the time this GER was issued. This GER is intended for specific application to the Arlington Airport Business Park Development II project in Arlington, Washington, and for the exclusive use of SMARTCAP CRE Value Fund 3, LLC and its authorized representatives. No other warranty, expressed or implied, is made. Site safety, excavation support, and dewatering requirements are the responsibility of others.

The scope of services for this project does not include either specifically or by implication any environmental or biological (for example, mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, we can provide a proposal for these services.

The analyses and recommendations presented in this GER are based upon data obtained from the explorations performed on site. Variations in soil conditions can occur, the nature and extent of which may not become evident until construction. If variations appear evident, RGI should be requested to reevaluate the recommendations in this GER prior to proceeding with construction.

It is the client's responsibility to see that all parties to the project, including the designers, contractors, subcontractors, are made aware of this GER in its entirety. The use of information contained in this GER for bidding purposes should be done at the contractor's option and risk.



USGS, 2020, Arlington West, Washington
7.5-Minute Quadrangle

Approximate Scale: 1"=1000'

0 500 1000 2000

N

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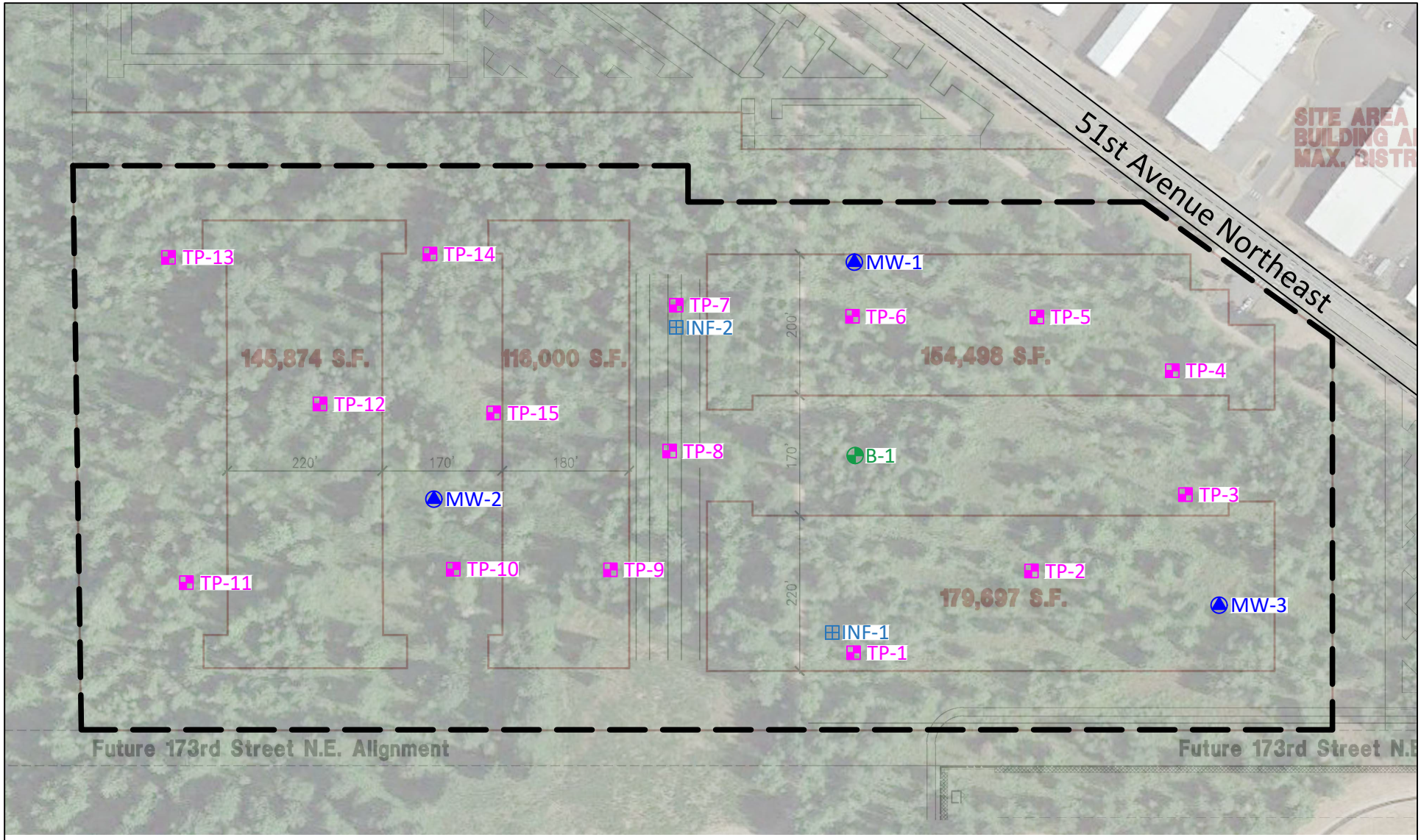
Proposed Arlington Airport Business Park Development II		Figure 1
RGI Project Number: 2021-574-2	Site Vicinity Map	Date Drawn: 10/2021
Address: 51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington 98223		



= Monitoring well by RGI, 09/23/21 & 09/24/21
= Boring by RGI, 09/23/21
= Infiltration test pit by RGI, 09/16/21 & 09/17/21
= Test pit by RGI, 09/16/21
= Site boundary

Approximate Scale: 1"=200'

0 100 200 400

N

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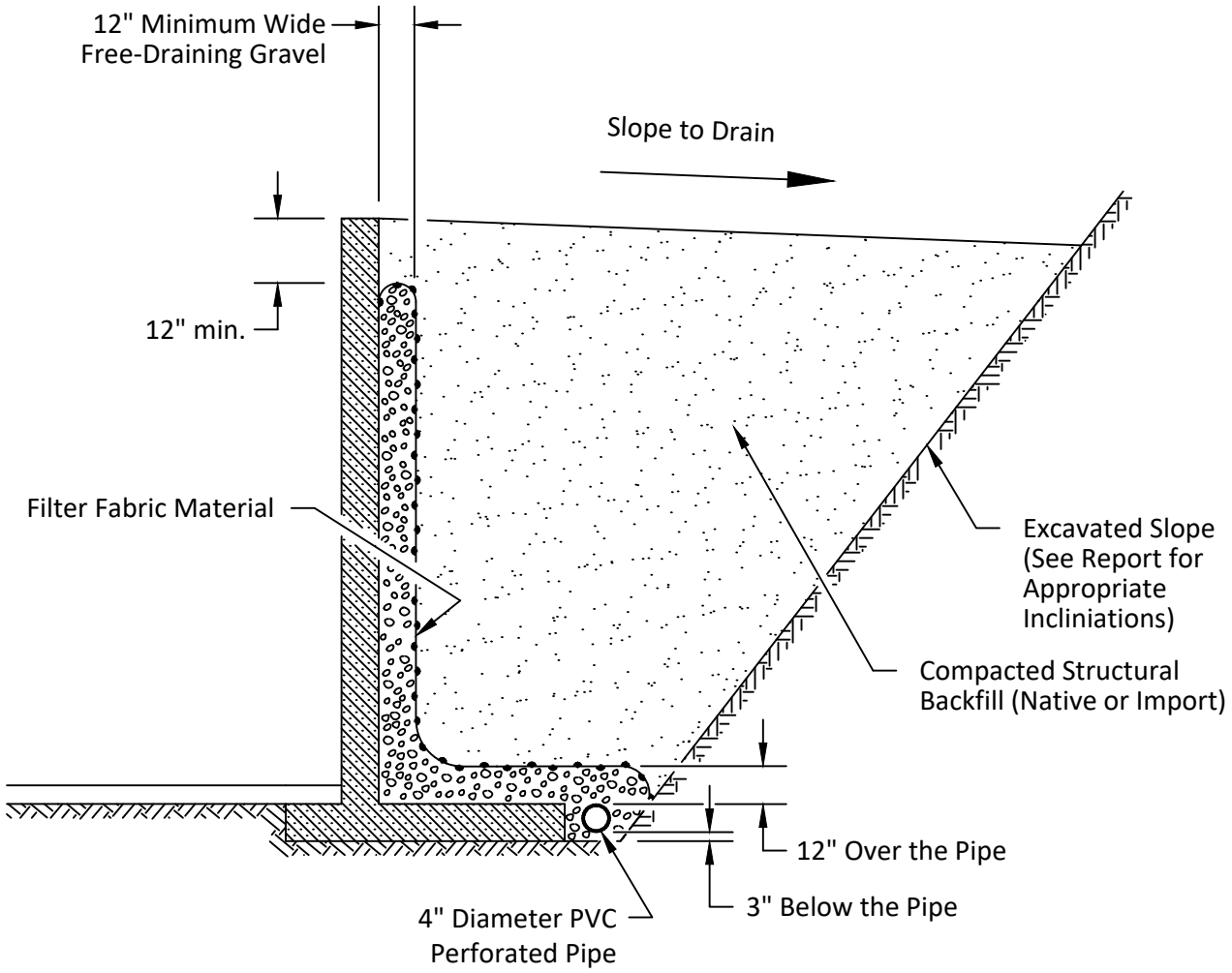
Proposed Arlington Airport Business Park Development II		Figure 2
RGI Project Number: 2021-574-2	Geotechnical Exploration Plan	Date Drawn: 10/2021
Address: 51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington 98223		



Not to Scale

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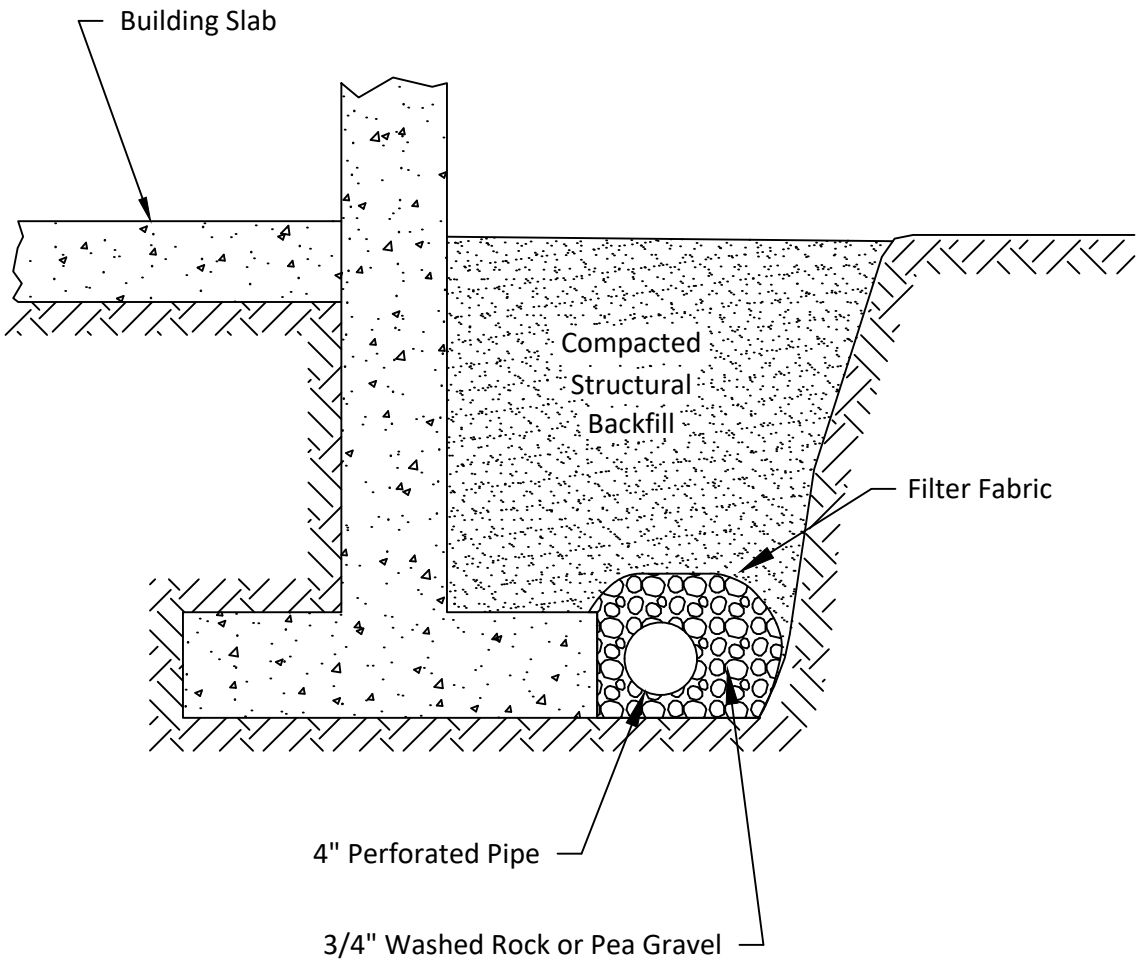
Proposed Arlington Airport Business Park Development II		Figure 3
RGI Project Number: 2021-574-2	Retaining Wall Drainage Detail	Date Drawn: 10/2021
Address: 51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington 98223		



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Proposed Arlington Airport Business Park Development II		Figure 4
RGI Project Number: 2021-574-2	Typical Footing Drain Detail	Date Drawn: 10/2021
Address: 51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington 98223		

APPENDIX A
FIELD EXPLORATION AND LABORATORY TESTING

On September 16, 17, 23, and 24, RGI performed field explorations using an excavator and drill rig. We explored subsurface soil conditions at the site by observing the excavation/drilling of 17 test pits and 4 borings to a maximum depth of 51.5 feet below existing grade. The test pit and boring locations are shown on Figure 2. The test pit and boring locations were approximately determined by measurements from existing property lines and paved roads.

A geologist/engineer from our office conducted the field exploration and classified the soil conditions encountered, maintained a log of each test exploration, obtained representative soil samples, and observed pertinent site features. All soil samples were visually classified in accordance with the Unified Soil Classification System (USCS).

Representative soil samples obtained from the explorations were placed in closed containers and taken to our laboratory for further examination and testing. As a part of the laboratory testing program, the soil samples were classified in our in house laboratory based on visual observation, texture, plasticity, and the limited laboratory testing described below.

Moisture Content Determinations

Moisture content determinations were performed in accordance with ASTM D2216-10 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass (ASTM D2216) on representative samples obtained from the exploration in order to aid in identification and correlation of soil types. The moisture content of typical sample was measured and is reported on the test pit and boring logs.

Grain Size Analysis

A grain size analysis indicates the range in diameter of soil particles included in a particular sample. Grain size analyses was determined using D6913-04(2009) Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis (ASTM D6913) on ten of the samples.

Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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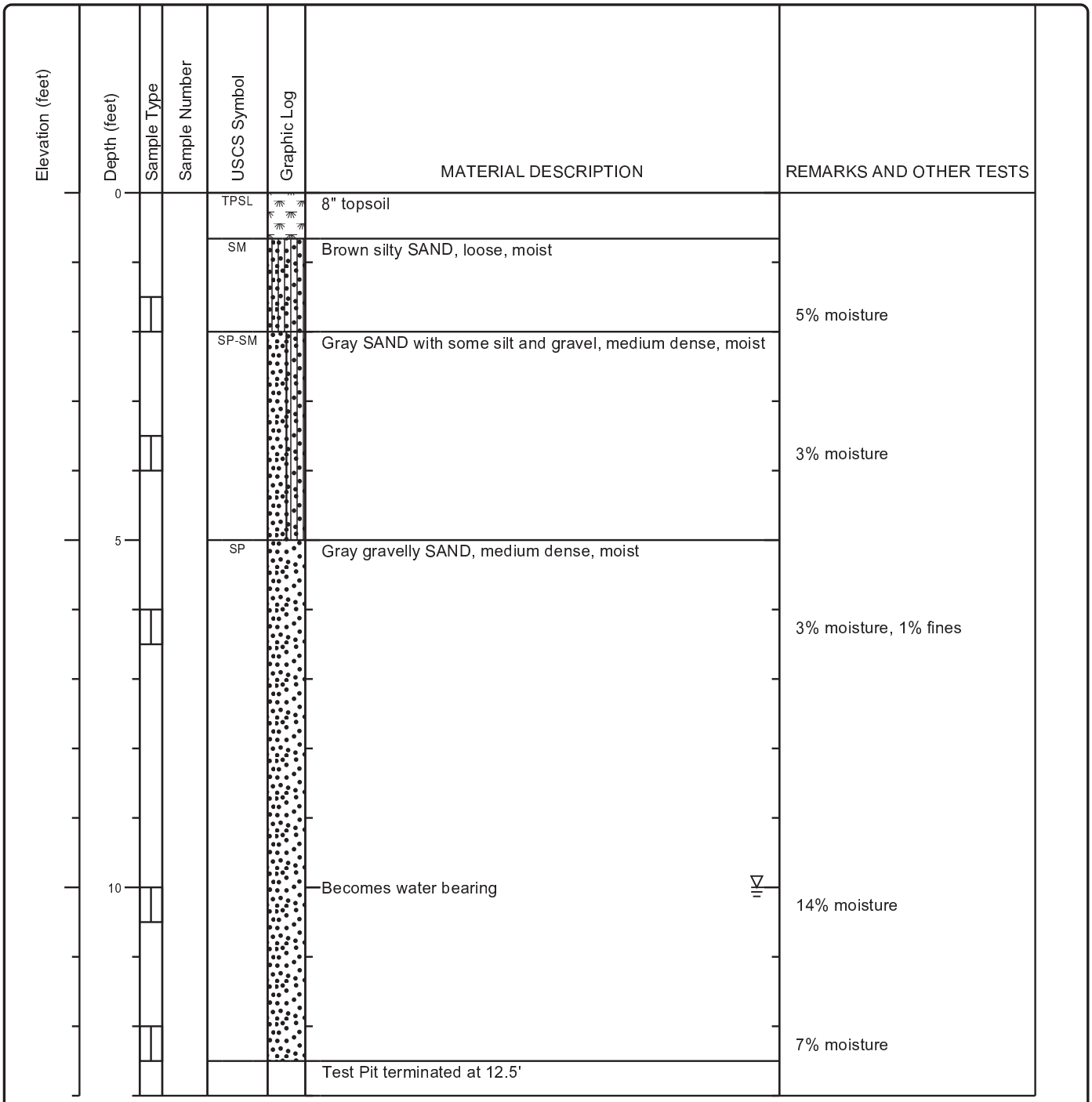
Test Pit No.: TP-1

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **12.5 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **10'**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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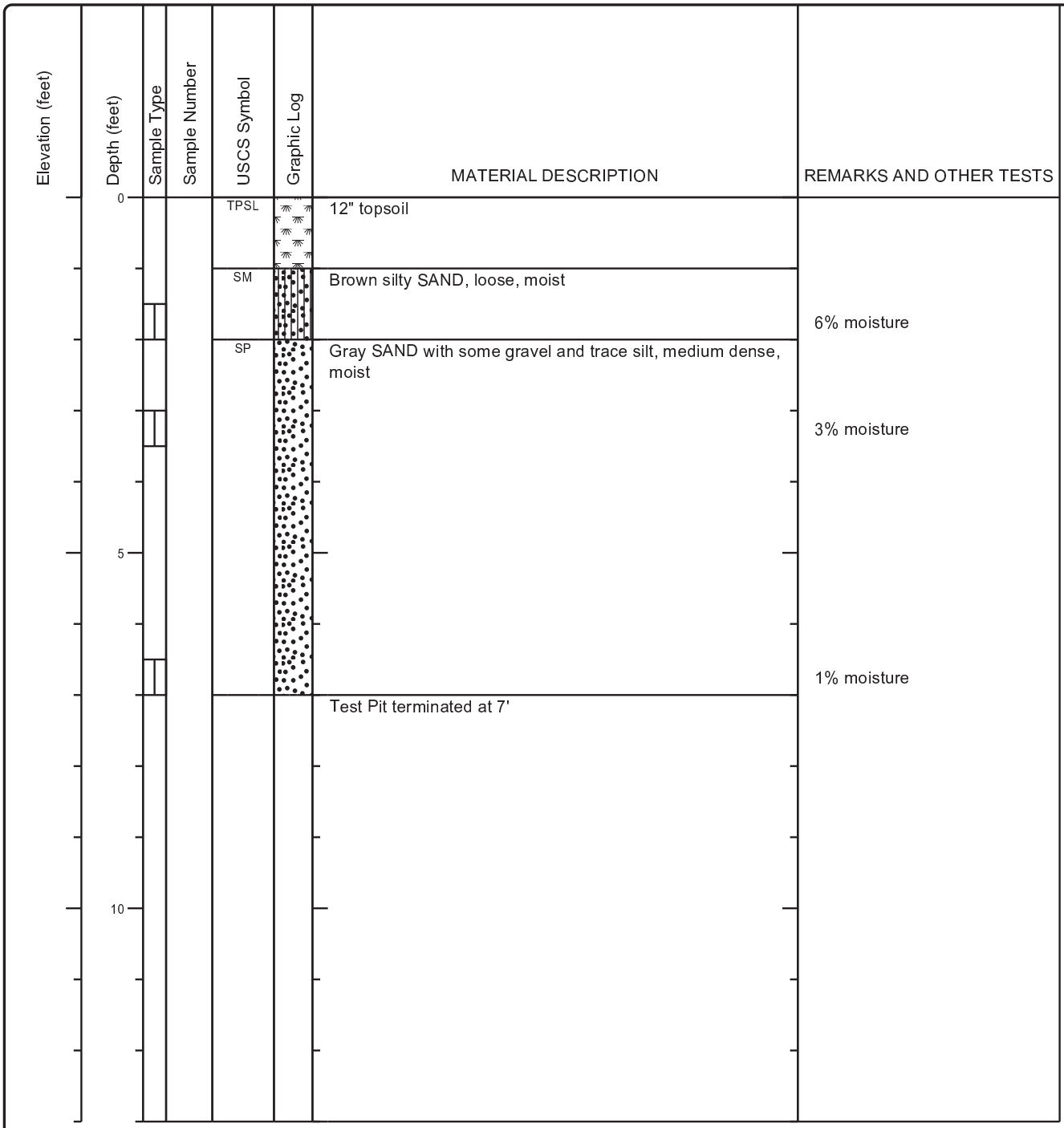
Test Pit No.: TP-2

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **7 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **Not Encountered**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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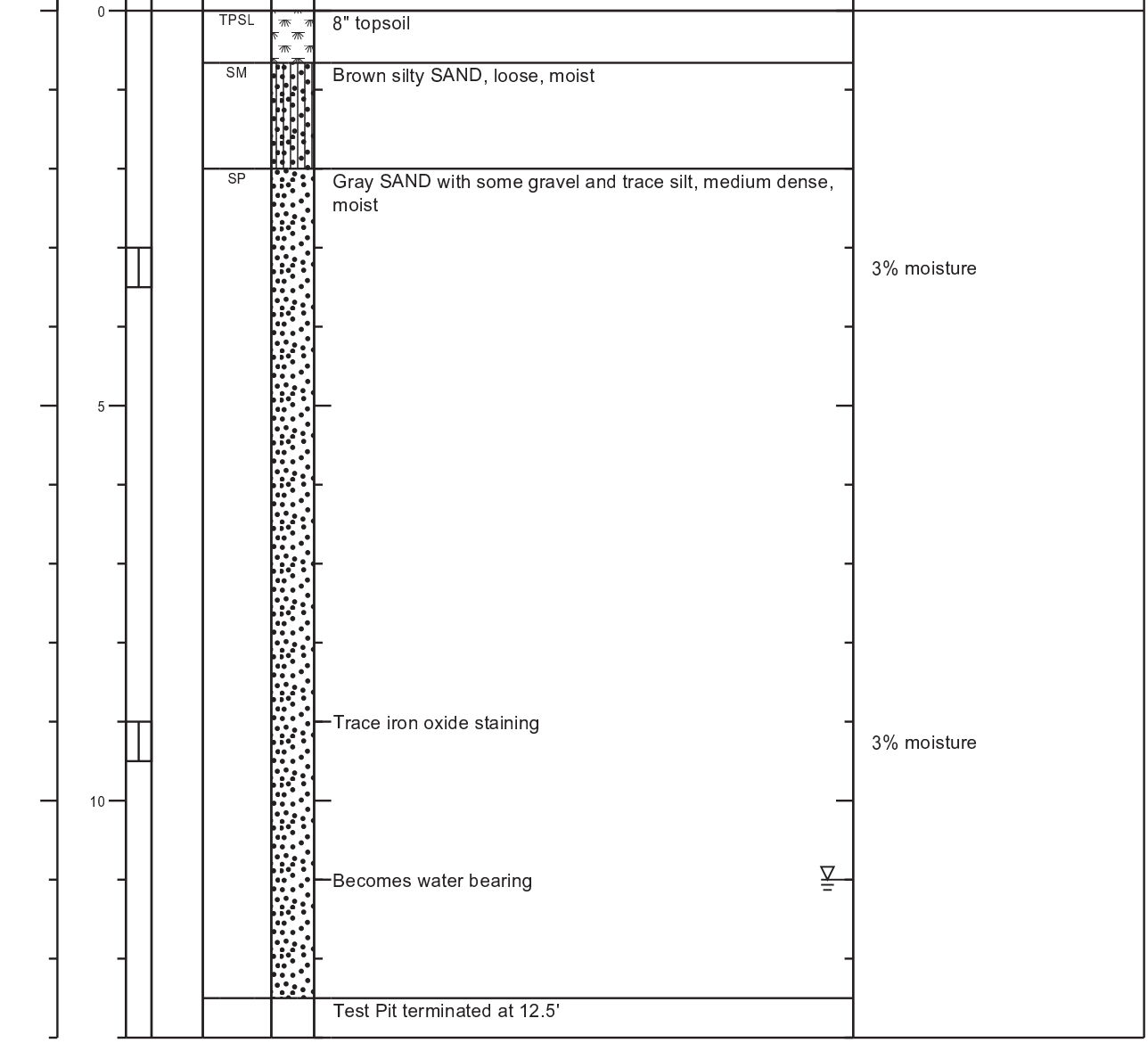
Test Pit No.: TP-3

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **12.5 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **11'**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
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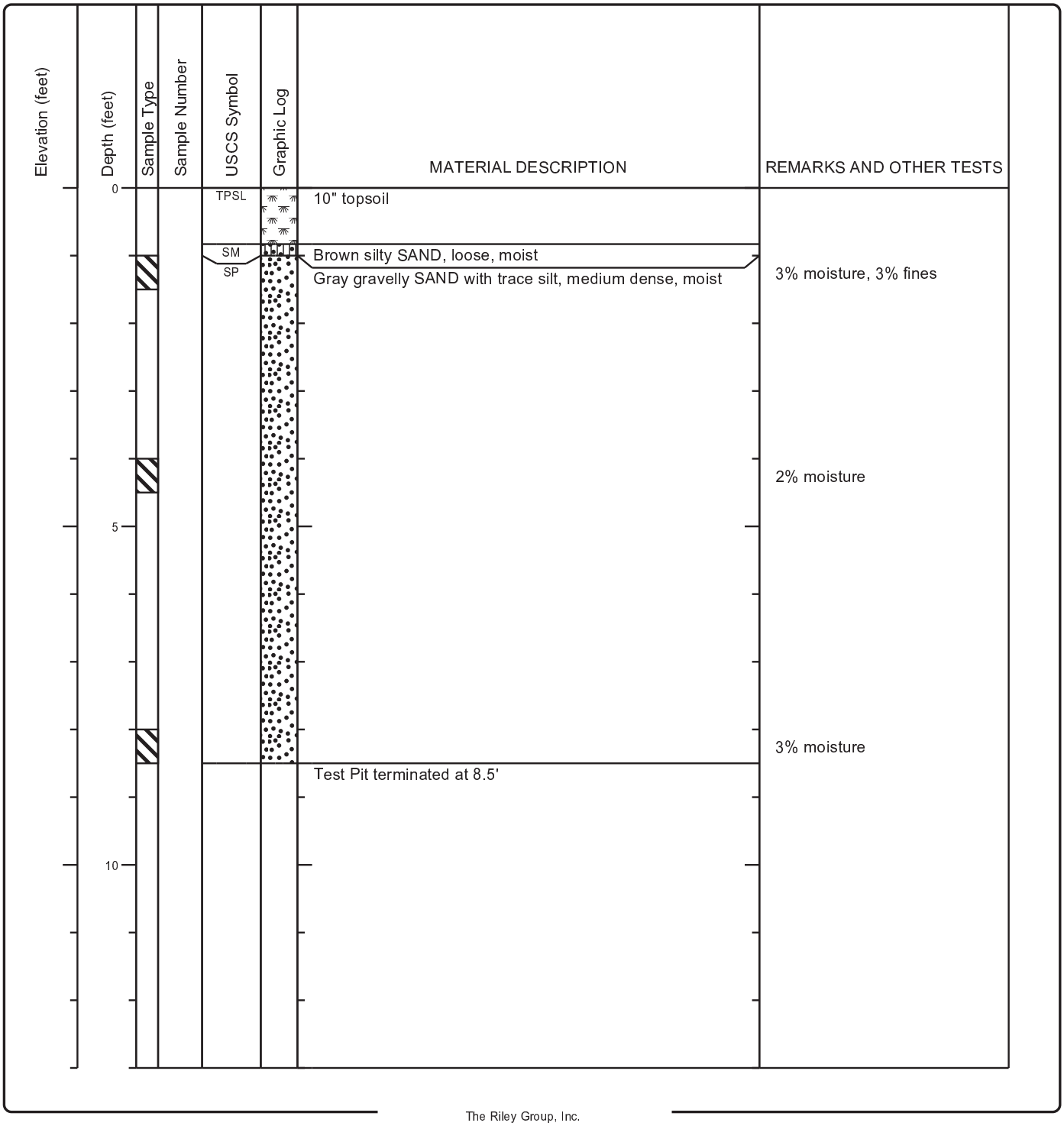
Test Pit No.: TP-4

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **8.5 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **Not Encountered**	Sampling Method(s) **SPT**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
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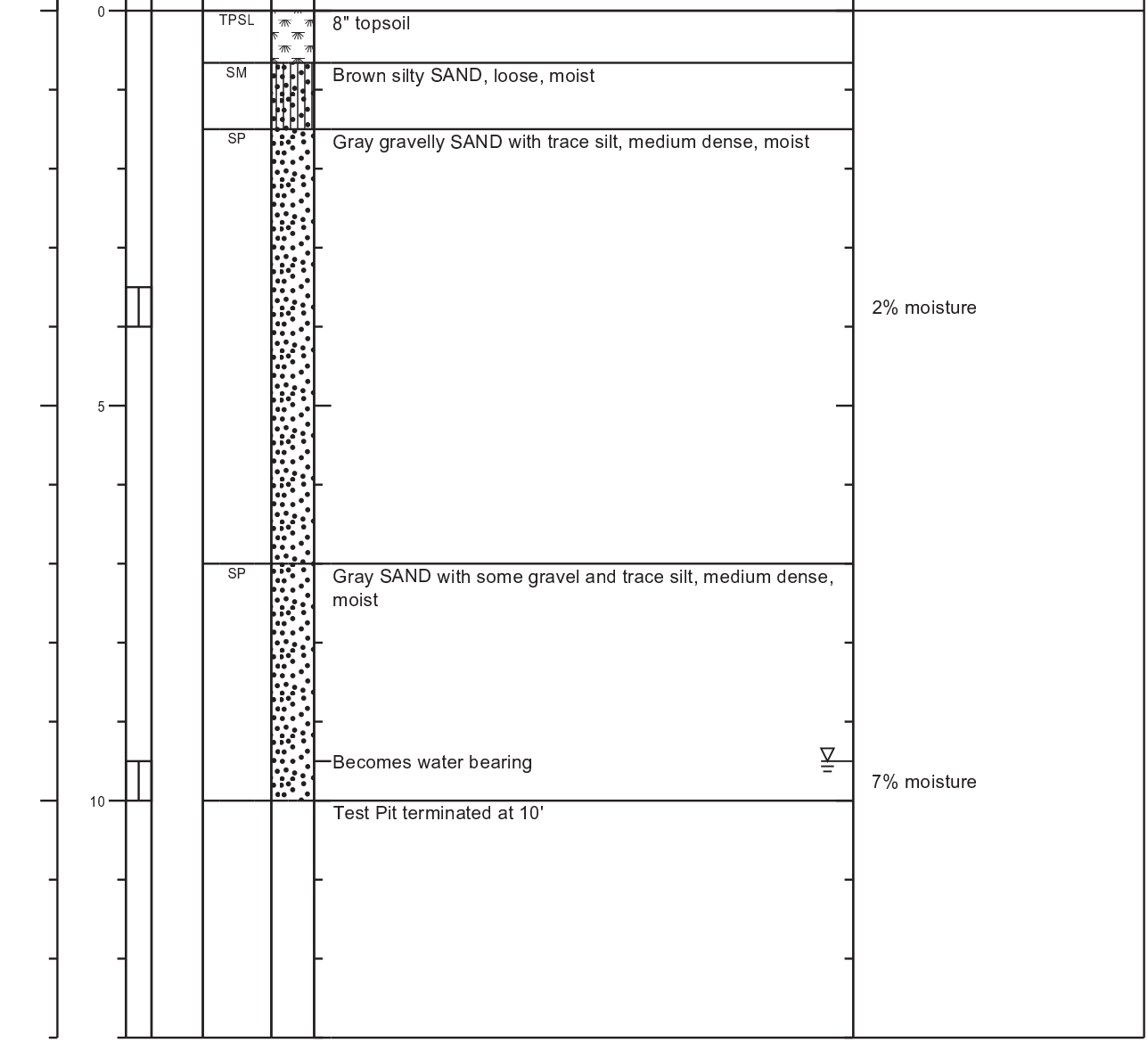
Test Pit No.: TP-5

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **10 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **9.5'**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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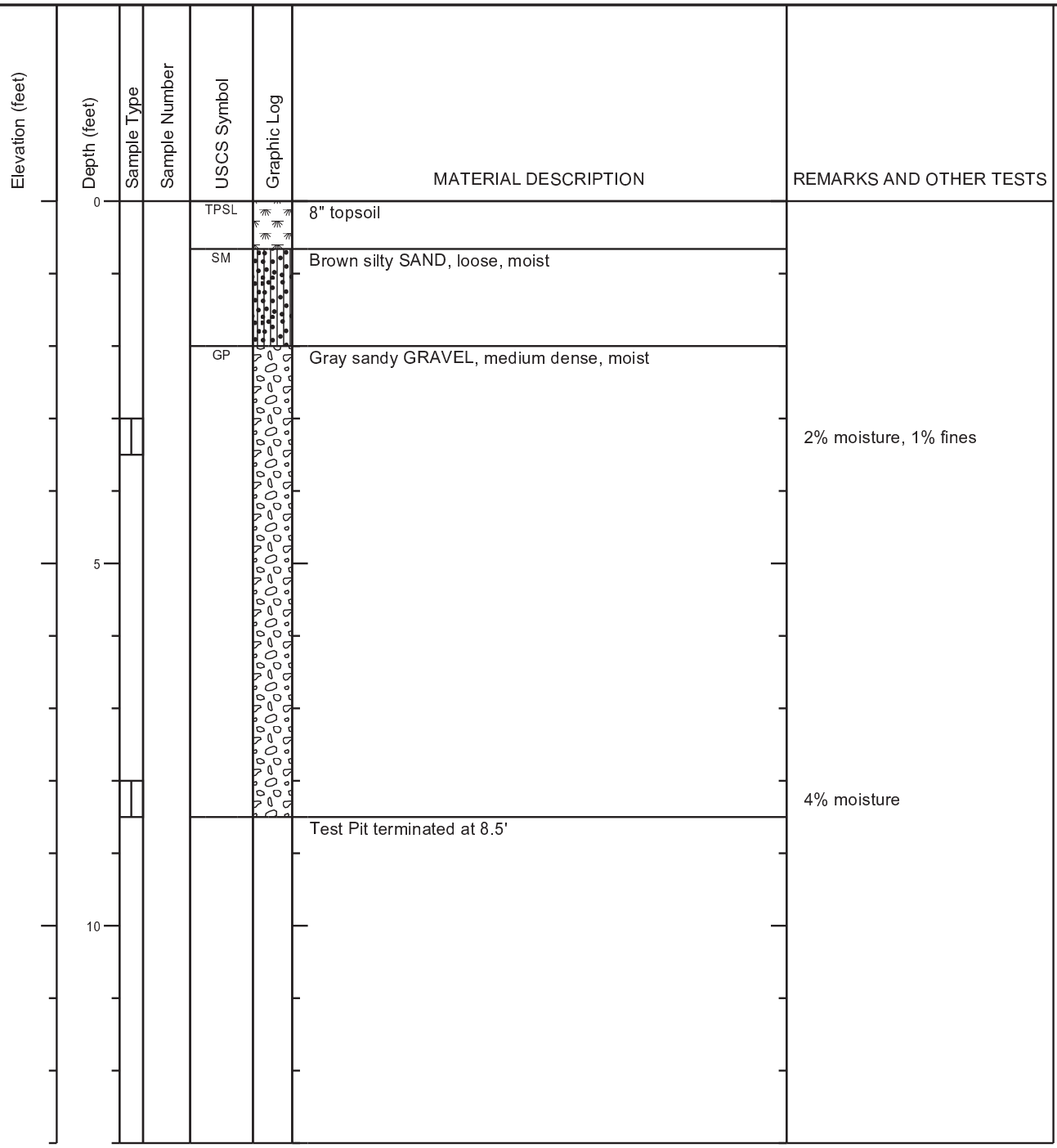
Test Pit No.: TP-6

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **8.5 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **Not Encountered**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
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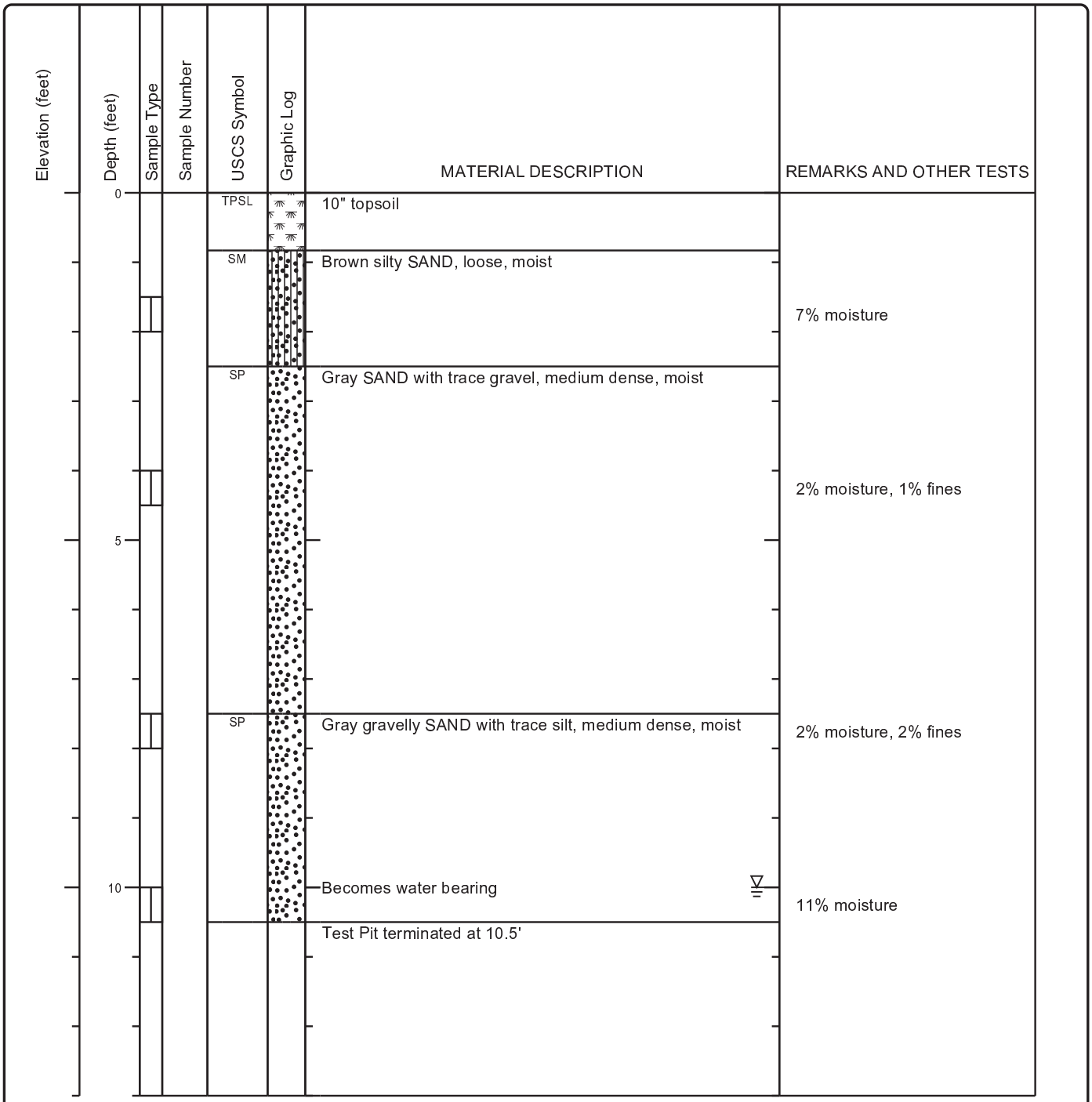
Test Pit No.: TP-7

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **10.5 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **10'**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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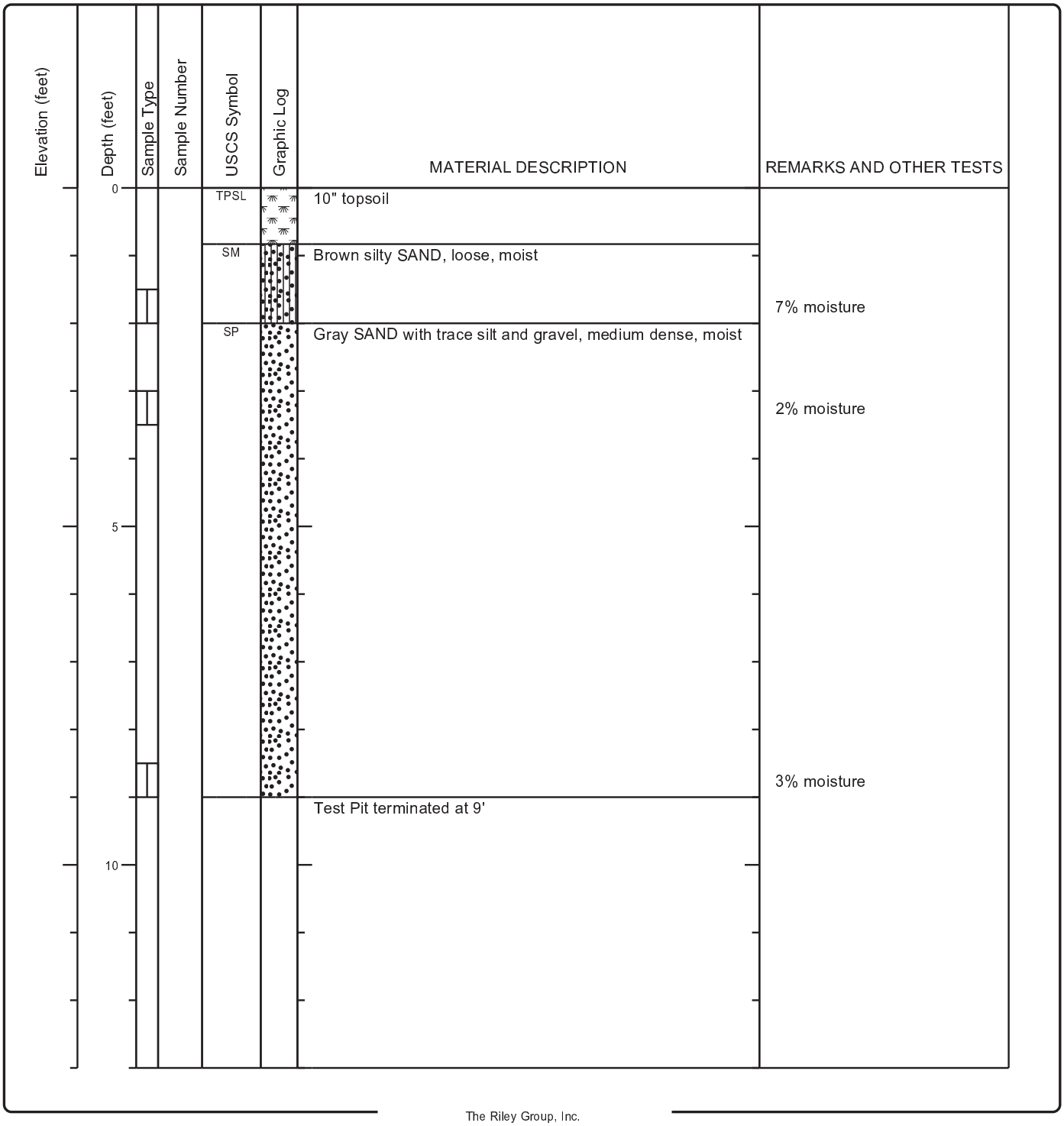
Test Pit No.: TP-8

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **9 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **Not Encountered**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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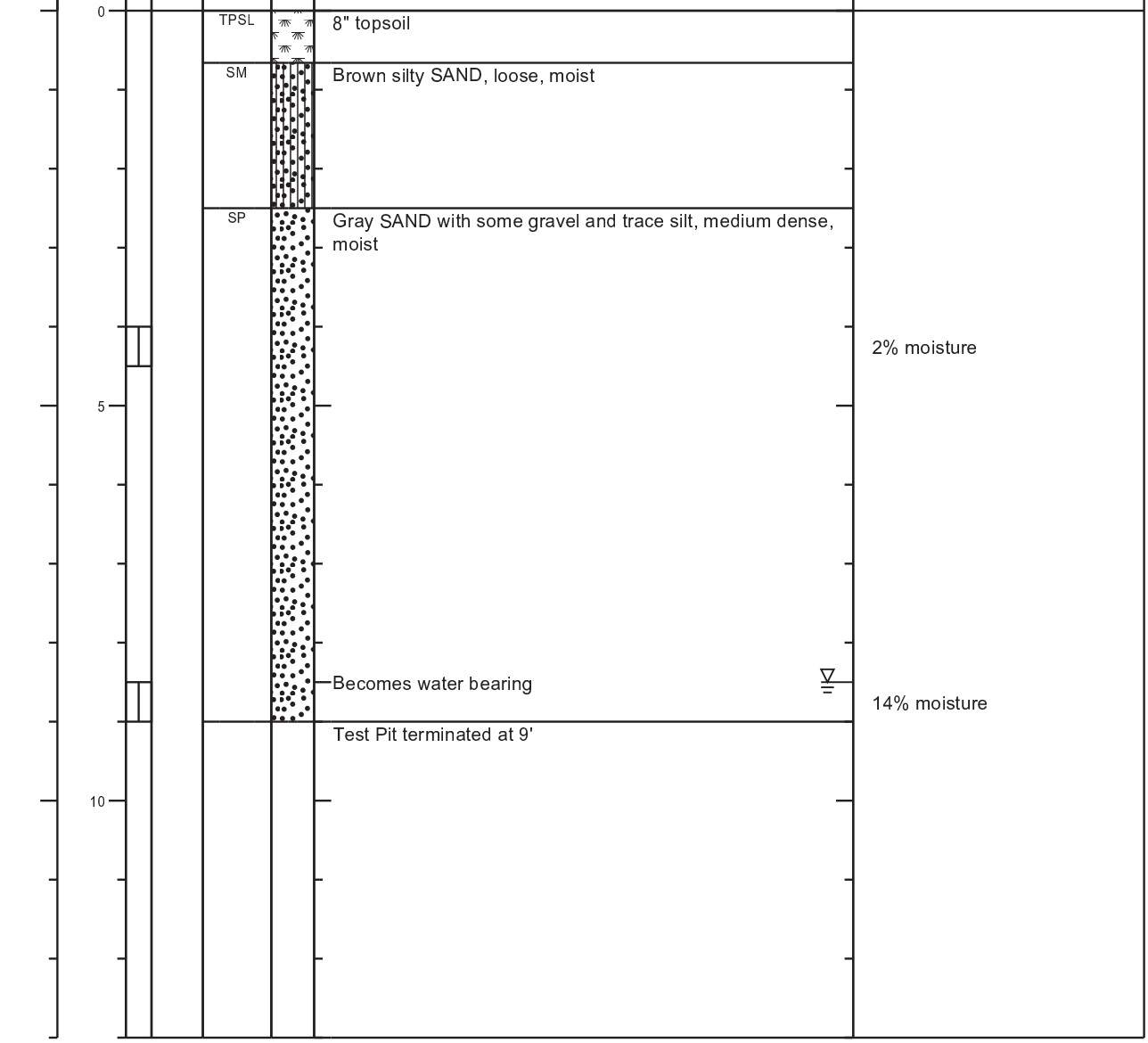
Test Pit No.: TP-9

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **9 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **8.5**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
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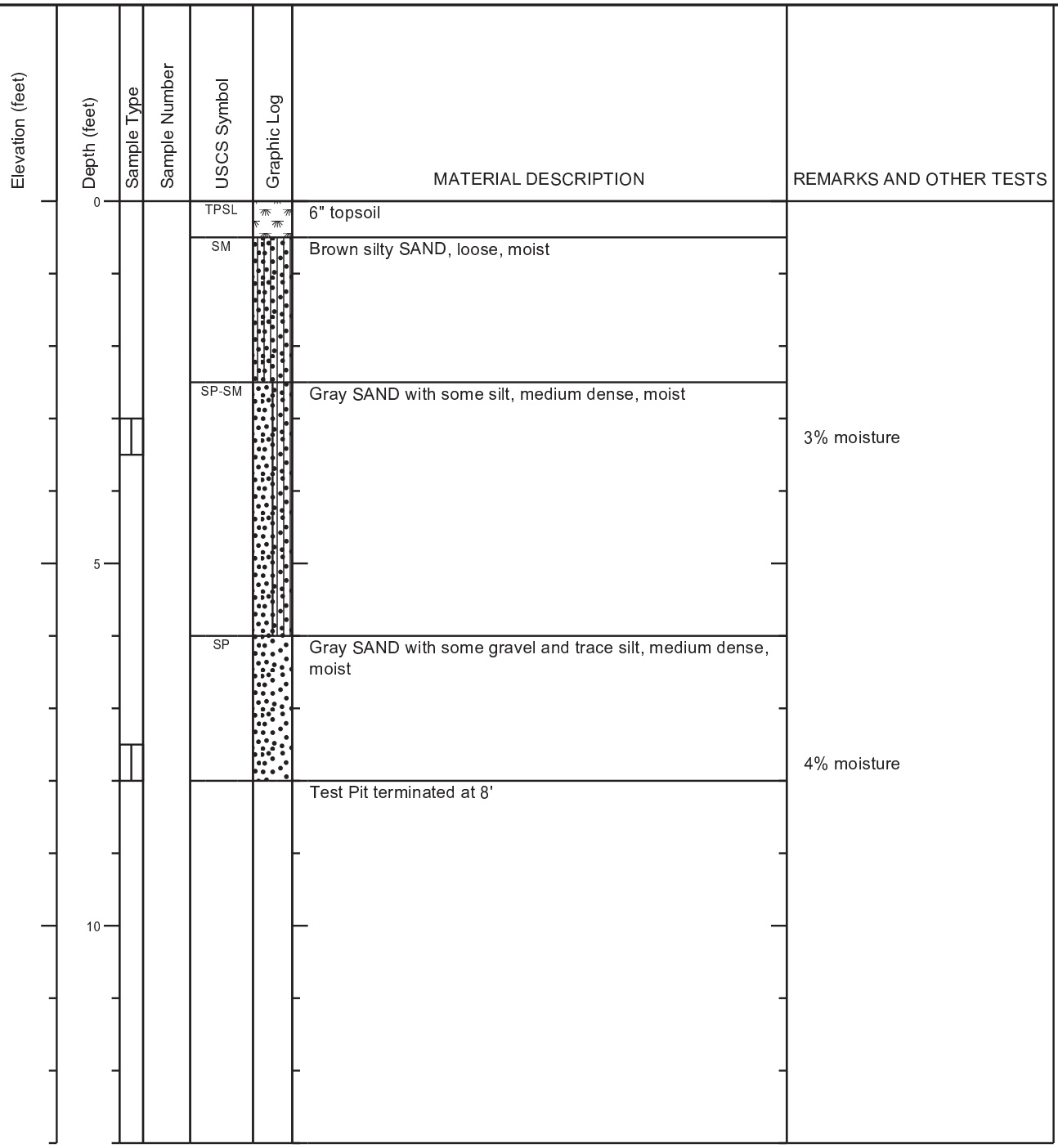
Test Pit No.: TP-10

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **8 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **Not Encountered**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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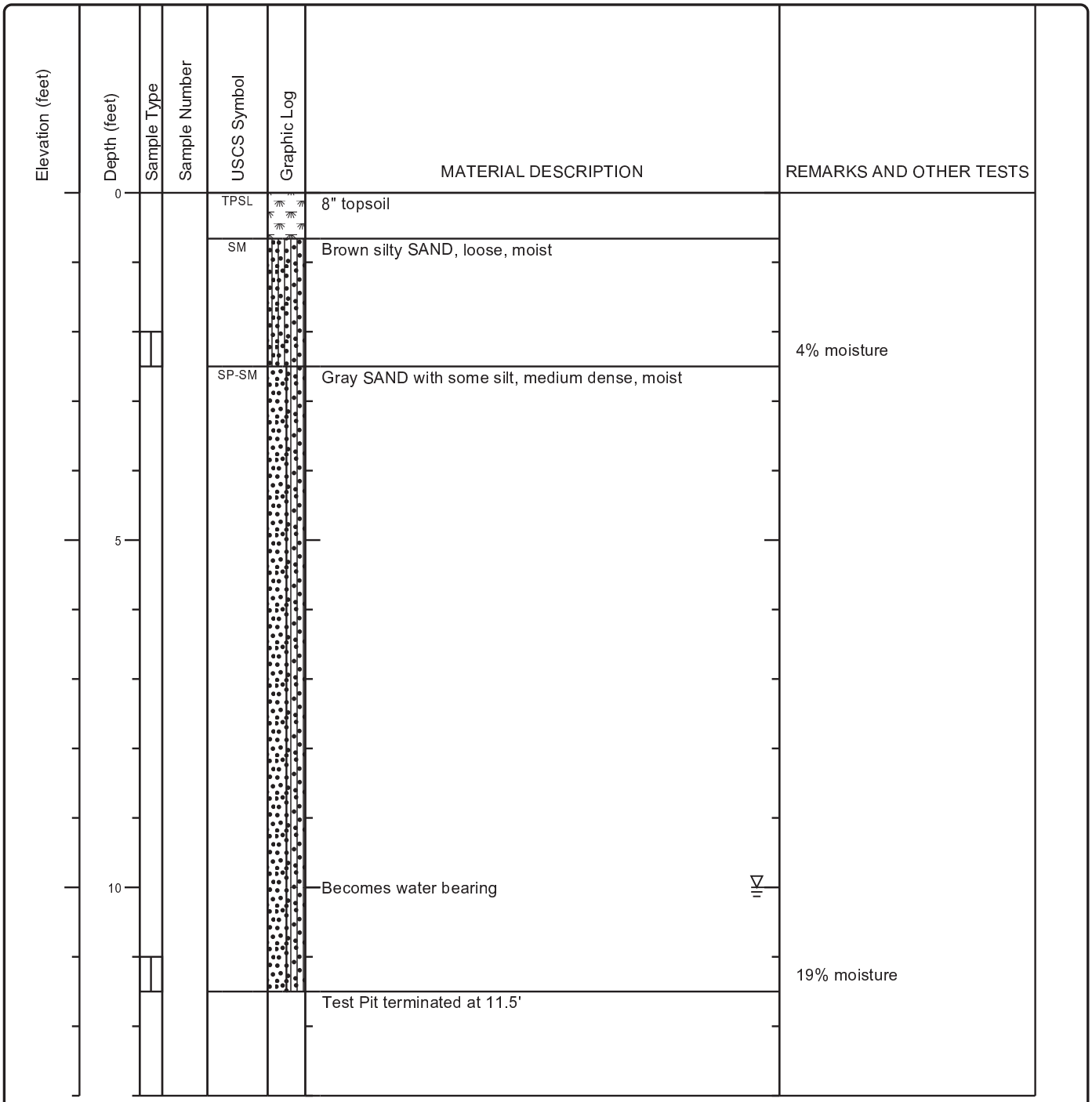
Test Pit No.: TP-11

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush, Scotch Broom**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **11.5 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **10'**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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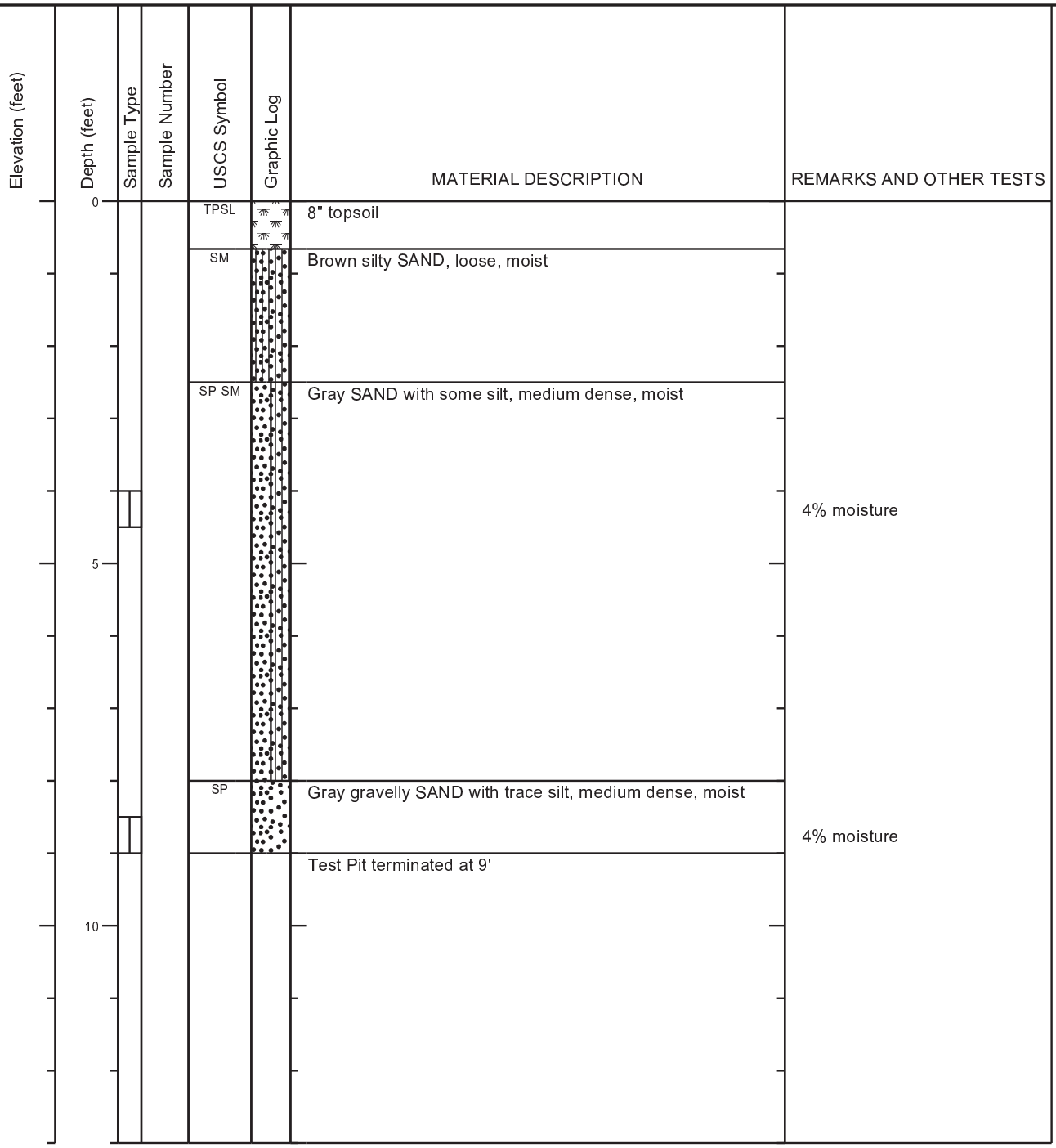
Test Pit No.: TP-12

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **9 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **Not Encountered**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



The Riley Group, Inc.
17522 Bothell Way NE, Bothell, WA 98011

Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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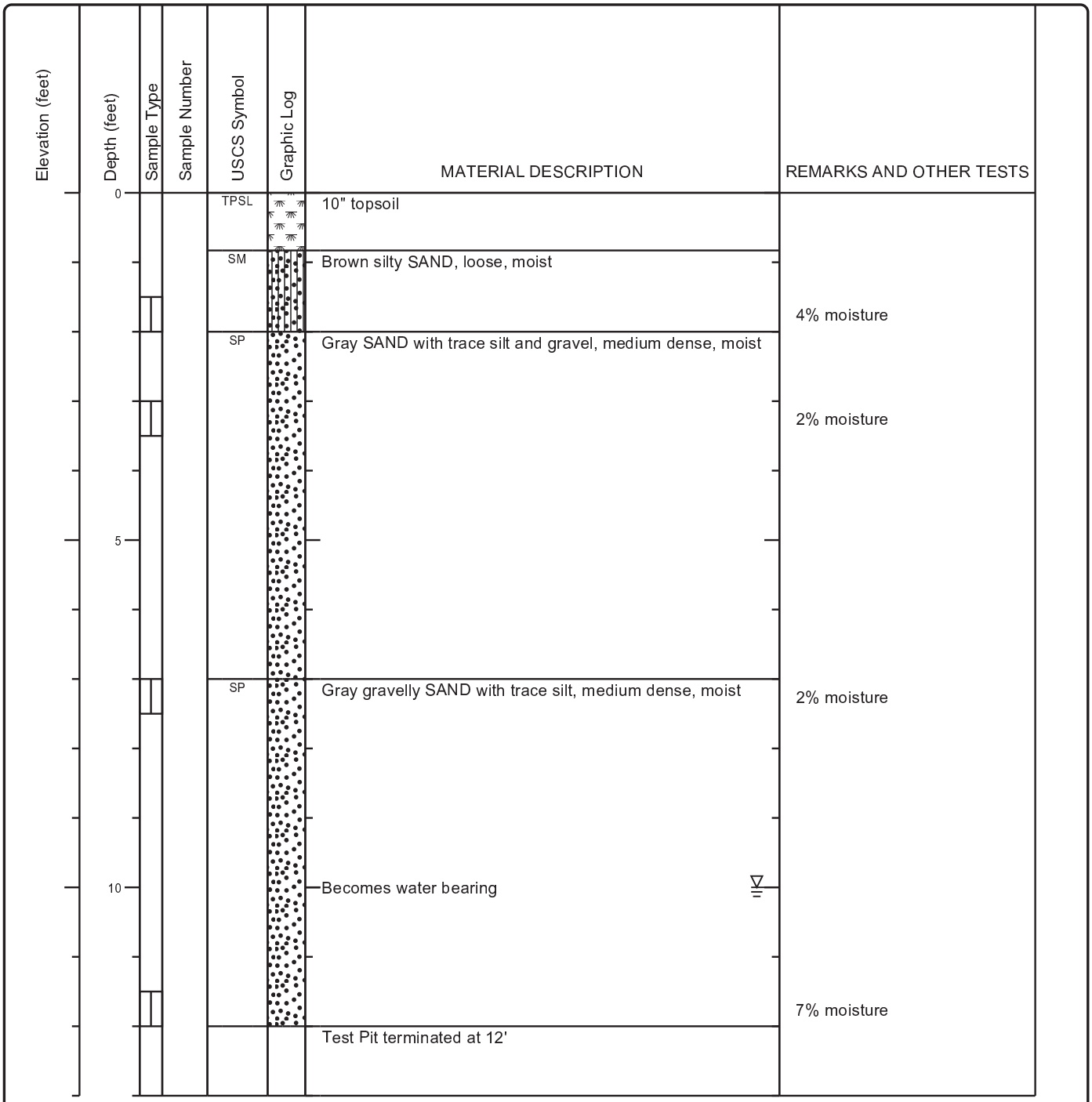
Test Pit No.: TP-13

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **12 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **10'**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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17522 Bothell Way NE, Bothell, WA 98011

Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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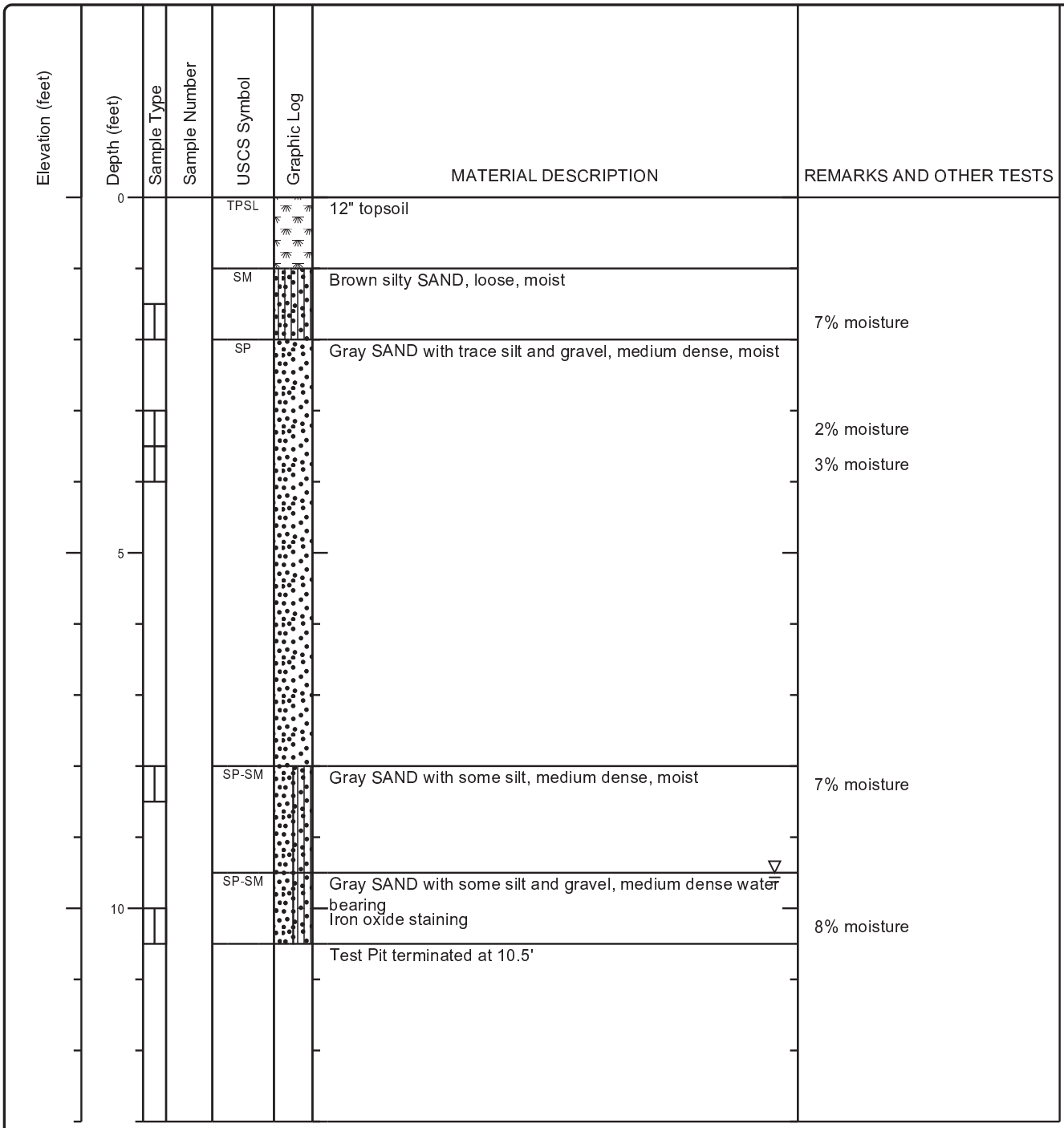
Test Pit No.: TP-14

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **10.5 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **9.5'**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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17522 Bothell Way NE, Bothell, WA 98011

Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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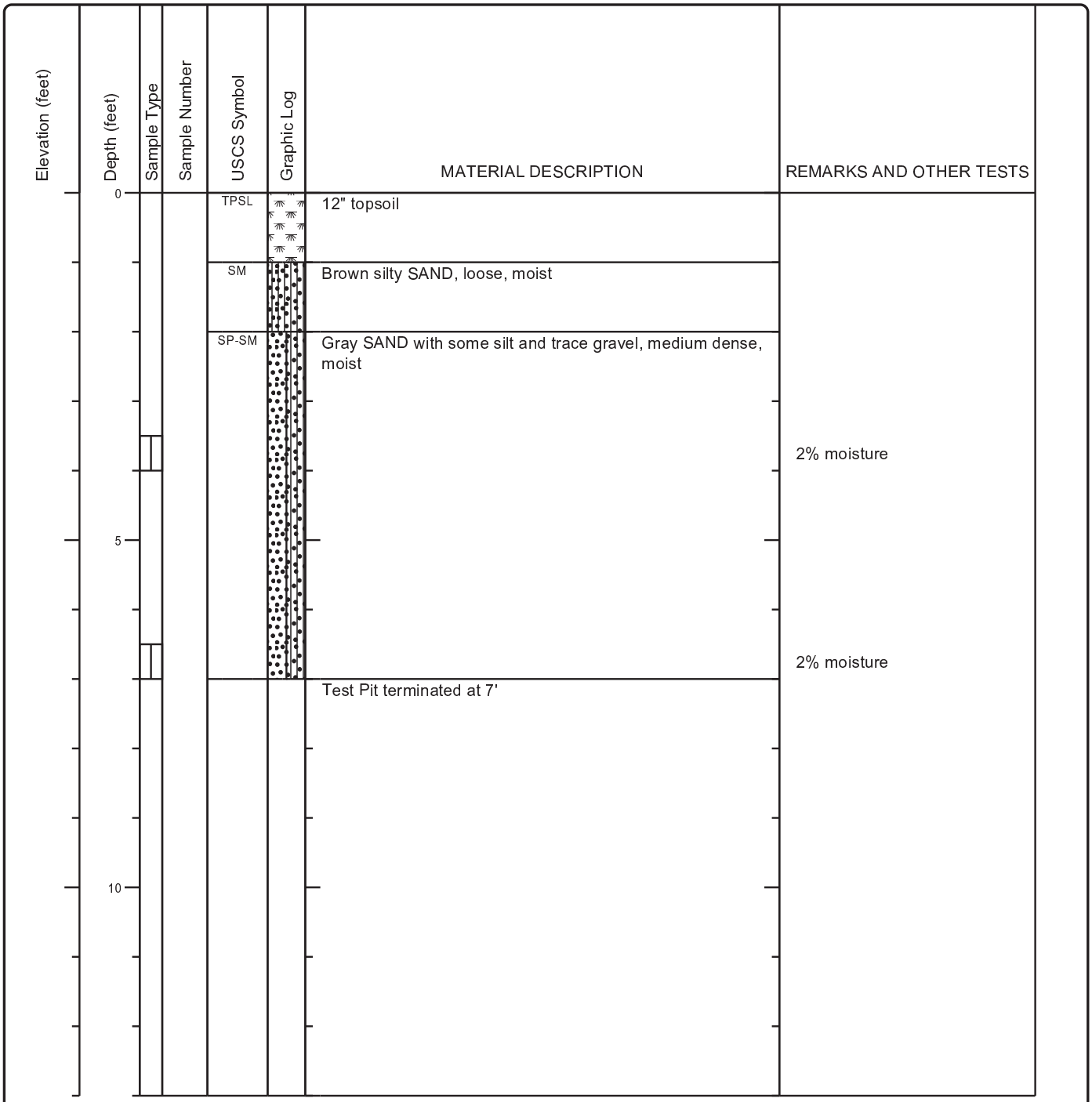
Test Pit No.: TP-15

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **7 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **Not Encountered**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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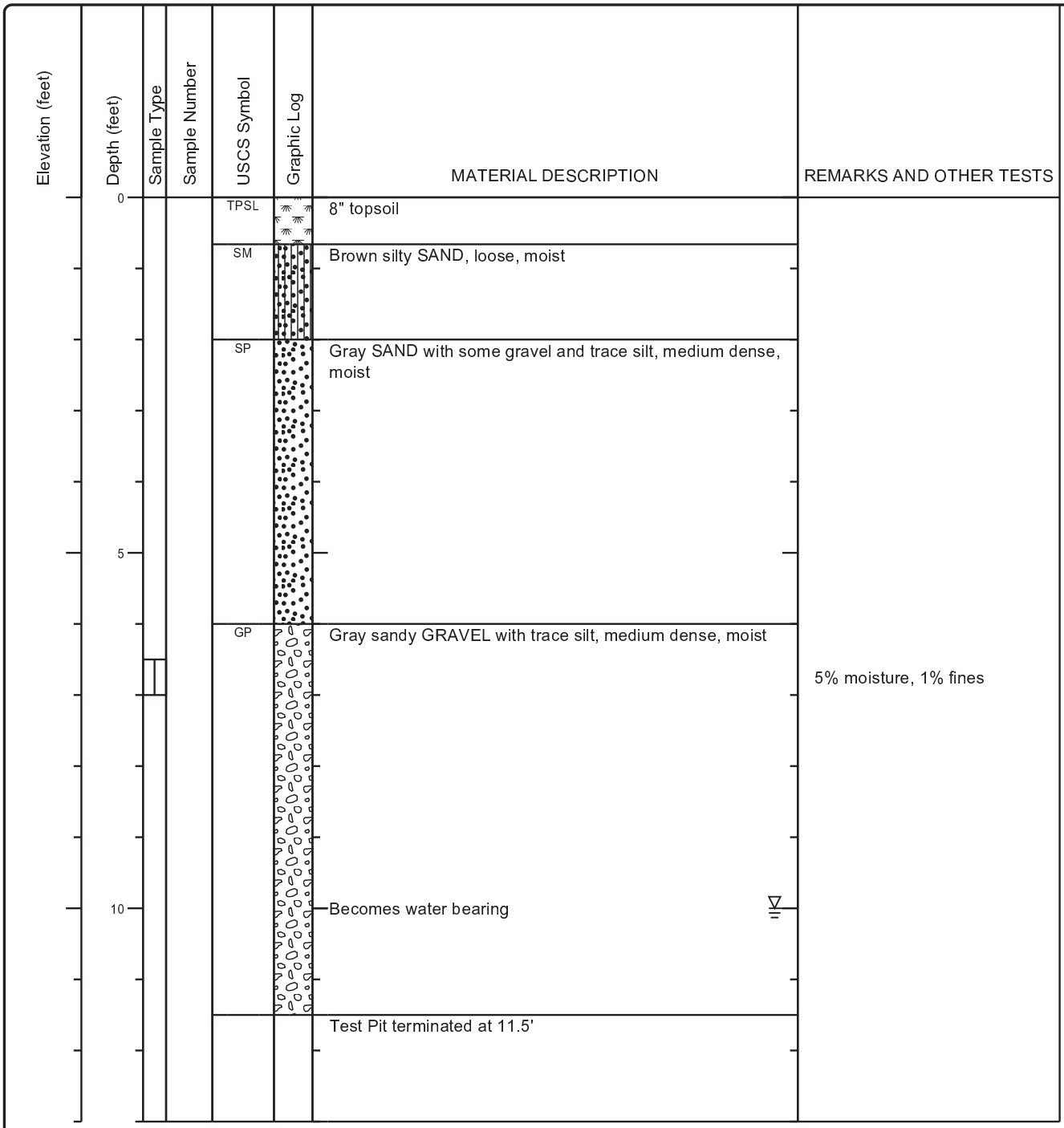
Test Pit No.: INF-1

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **11.5 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **10'**	Sampling Method(s) **Grab**	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



The Riley Group, Inc.
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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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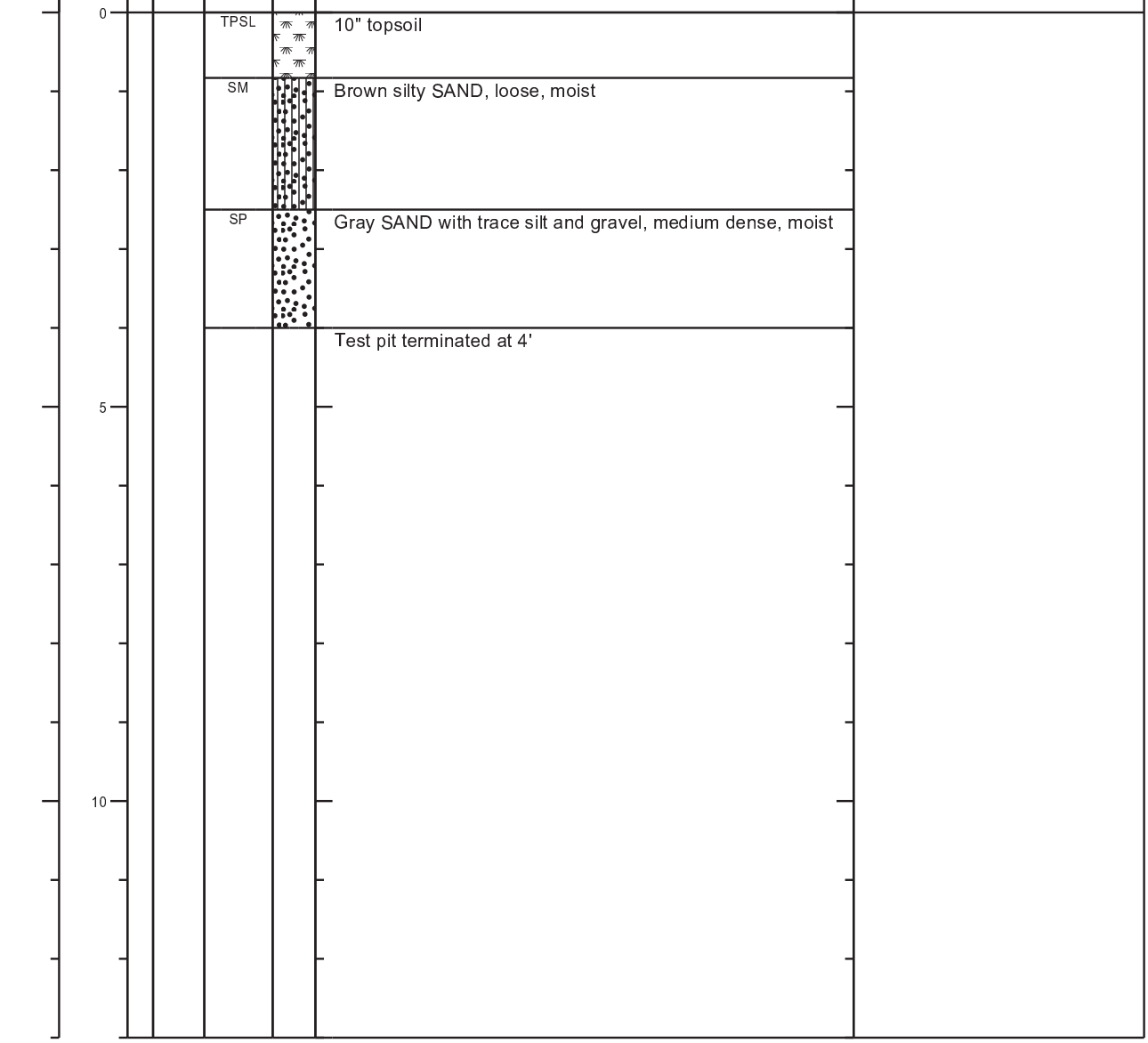
Test Pit No.: INF-2

Sheet 1 of 1

Date(s) Excavated: **9/16/2021**	Logged By **ELW**	Surface Conditions: **Mixed Brush**
Excavation Method: **Test Pit**	Bucket Size: **N/A**	Total Depth of Excavation: **4 feet bgs**
Excavator Type: **Tracked Excavator**	Excavating Contractor: **NW Excavating**	Approximate Surface Elevation **N/A**
Groundwater Level: **Not Encountered**	Sampling Method(s)	Compaction Method **Bucket**
Test Pit Backfill: **Cuttings**	Location **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**

Project Number: **2021-574-2**

Client: **SMARTCAP CRE Value Fund 3, LLC**

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Key to Logs

Sheet 1 of 1

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7	8

COLUMN DESCRIPTIONS

1. Elevation (feet): Elevation (MSL, feet).
2. Depth (feet): Depth in feet below the ground surface.
3. Sample Type: Type of soil sample collected at the depth interval shown.
4. Sample Number: Sample identification number.
5. USCS Symbol: USCS symbol of the subsurface material.
6. Graphic Log: Graphic depiction of the subsurface material encountered.
7. MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
8. REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Poorly graded GRAVEL (GP)
Silty SAND (SM)
Poorly graded SAND (SP)
Poorly graded SAND with Silt (SP-SM)
Topsoil

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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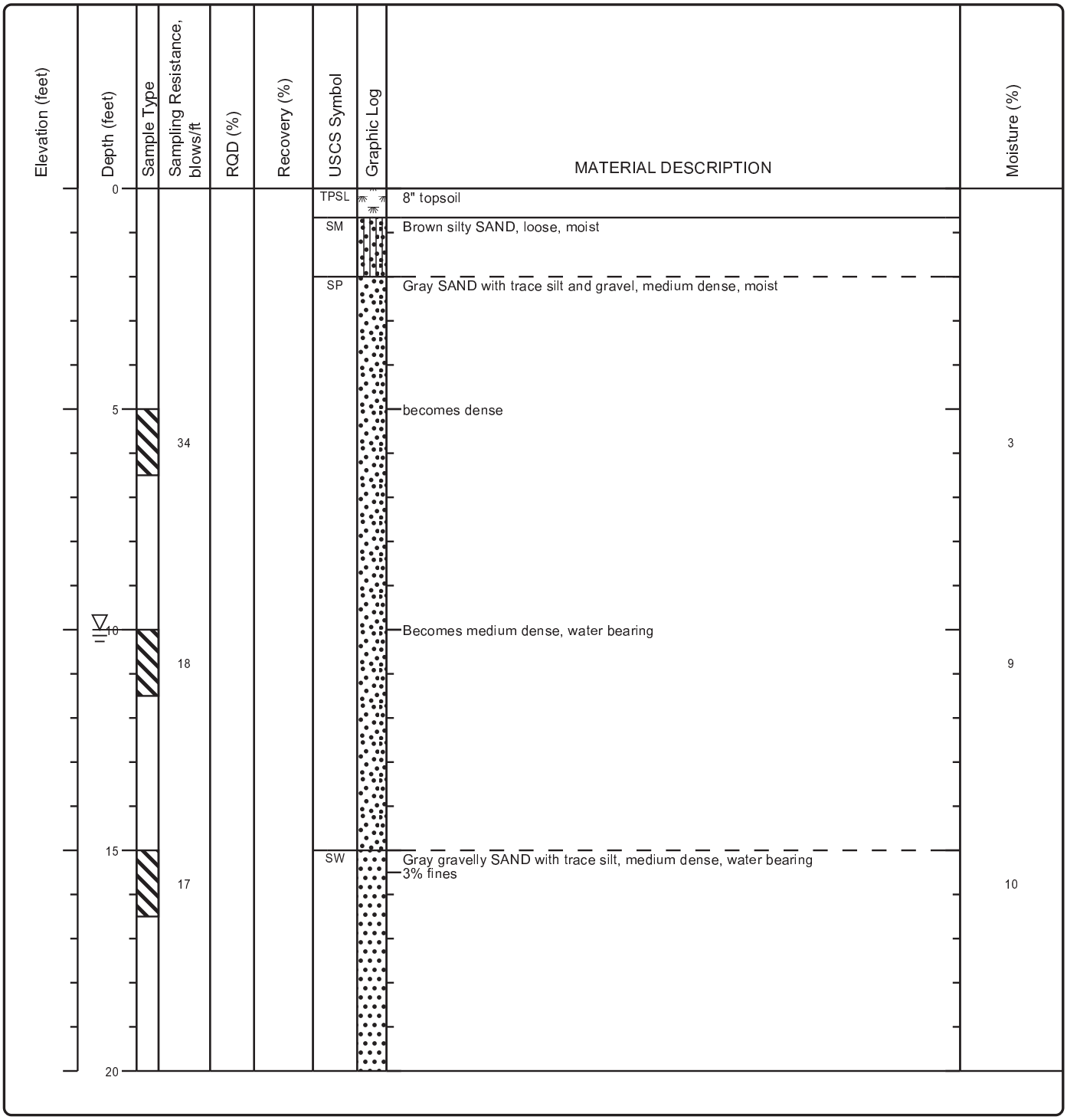
Boring No.: B-1
Sheet 1 of 3

Date(s) Drilled: **9/23/2021**	Logged By: **ELW**	Surface Conditions: **Mixed Brush**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **N/A**	Total Depth of Borehole: **51.5 feet bgs**
Drill Rig Type: **Track Rig**	Drilling Contractor: **Bortec**	Approximate Surface Elevation: **N/A**
Groundwater Level: **10'**	Sampling Method(s): **SPT**	Hammer Data : **140 lb, 30" drop, rope and cathead**
Borehole Backfill: **Bentonite Chips**	Location: **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



Project Name: **Arlington Airport Business Park Development I**

Project Number: **2021-574-2**

Client: **SMARTCAP CRE Value Fund 3, LLC**

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Boring No.: B-1

Sheet 2 of 3

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	RQD (%)	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Moisture (%)
	20		32			SP-SM		Gray SAND with some silt, dense, water bearing	21
	25		80					Becomes very dense, 6% fines	17
	30		25					Becomes medium dense, 1/2" silty sand interbeds	18
	35		41			SW-SM		Gray SAND with some silt, dense, water bearing 6% fines	22
	40								

Project Name: **Arlington Airport Business Park Development I**

Project Number: **2021-574-2**

Client: **SMARTCAP CRE Value Fund 3, LLC**

RILEYGROUP

Boring No.: B-1

Sheet 3 of 3

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	RQD (%)	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Moisture (%)
	40		22			SW-SM		Gray SAND with some silt, medium dense, water bearing	22
	45		14					7% fines	27
	50		16						22
								Boring terminated at 51.5'	
	55								
	60								

Project Name: **Arlington Airport Business Park Development I**

Project Number: **2021-574-2**

Client: **SMARTCAP CRE Value Fund 3, LLC**

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Key to Log of Boring

Sheet 1 of 1

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	RQD (%)	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Moisture (%)
1	2	3	4	5	6	7	8	9	10

COLUMN DESCRIPTIONS

1. Elevation (feet): Elevation (MSL, feet).
2. Depth (feet): Depth in feet below the ground surface.
3. Sample Type: Type of soil sample collected at the depth interval shown.
4. Sampling Resistance, blows/ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
5. RQD (%): Rock Quality Designation is a relative index of the rock mass quality calculated by comparing the cumulative length of intact pieces of core exceeding 100 mm in length to the cored interval length.
6. Recovery (%): Core Recovery Percentage is determined based on a ratio of the length of core sample recovered compared to the cored interval length.
7. USCS Symbol: USCS symbol of the subsurface material.
8. Graphic Log: Graphic depiction of the subsurface material encountered.
9. MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
10. Moisture (%): Moisture, expressed as a water content.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

- Silty SAND (SM)
- Poorly graded SAND (SP)
- Poorly graded SAND with Silt (SP-SM)
- Well graded SAND (SW)
- Well graded SAND with Silt (SW-SM)
- Topsoil

TYPICAL SAMPLER GRAPHIC SYMBOLS

- Auger sampler
- Bulk Sample
- 3-inch-OD California w/ brass rings
- CME Sampler
- Grab Sample
- 2.5-inch-OD Modified California w/ brass liners
- Pitcher Sample
- 2-inch-OD unlined split spoon (SPT)
- Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

- Water level (at time of drilling, ATD)
- Water level (after waiting)
- Minor change in material properties within a stratum
- Inferred/gradational contact between strata
- Queried contact between strata

GENERAL NOTES

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Project Name: **Arlington Airport Business Park Development I**

Project Number: **2021-574-2**

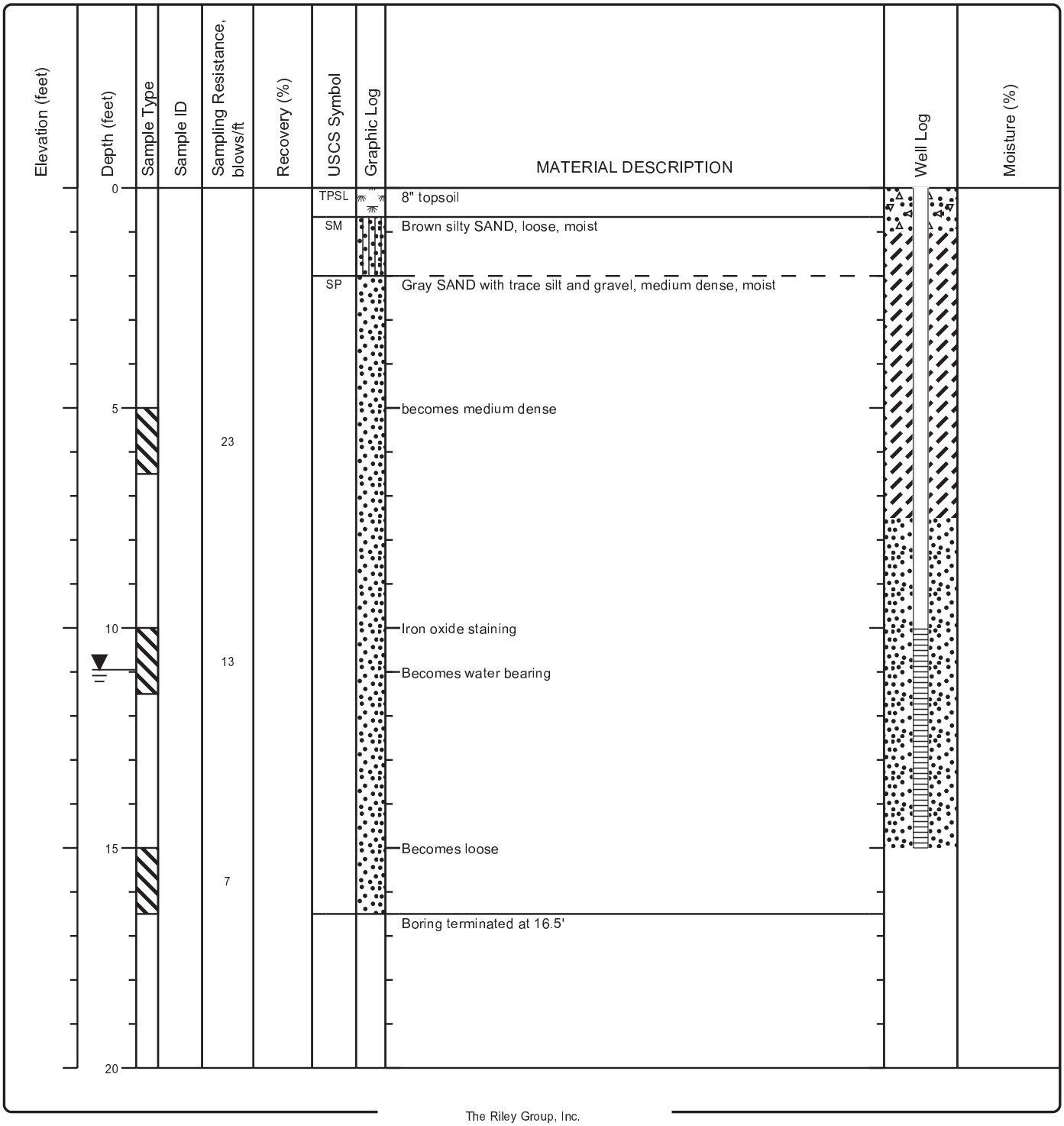
Client: **SMARTCAP CRE Value Fund 3, LLC**

RILEYGROUP

Boring No.: MW-1

Sheet 1 of 1

Date(s) Drilled: **9/23/2021**	Logged By: **ELW**	Surface Conditions: **Mixed Brush**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **N/A**	Total Depth of Borehole: **16.5 feet bgs**
Drill Rig Type: **Track Rig**	Drilling Contractor: **Bortec**	Approximate Surface Elevation: **N/A**
Groundwater Level: **10.95'**	Sampling Method(s): **SPT**	Hammer Data : **140 lb, 30" drop, rope and cathead**
Borehole Backfill: **Well Installed**	Location: **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**

Project Number: **2021-574-2**

Client: **SMARTCAP CRE Value Fund 3, LLC**

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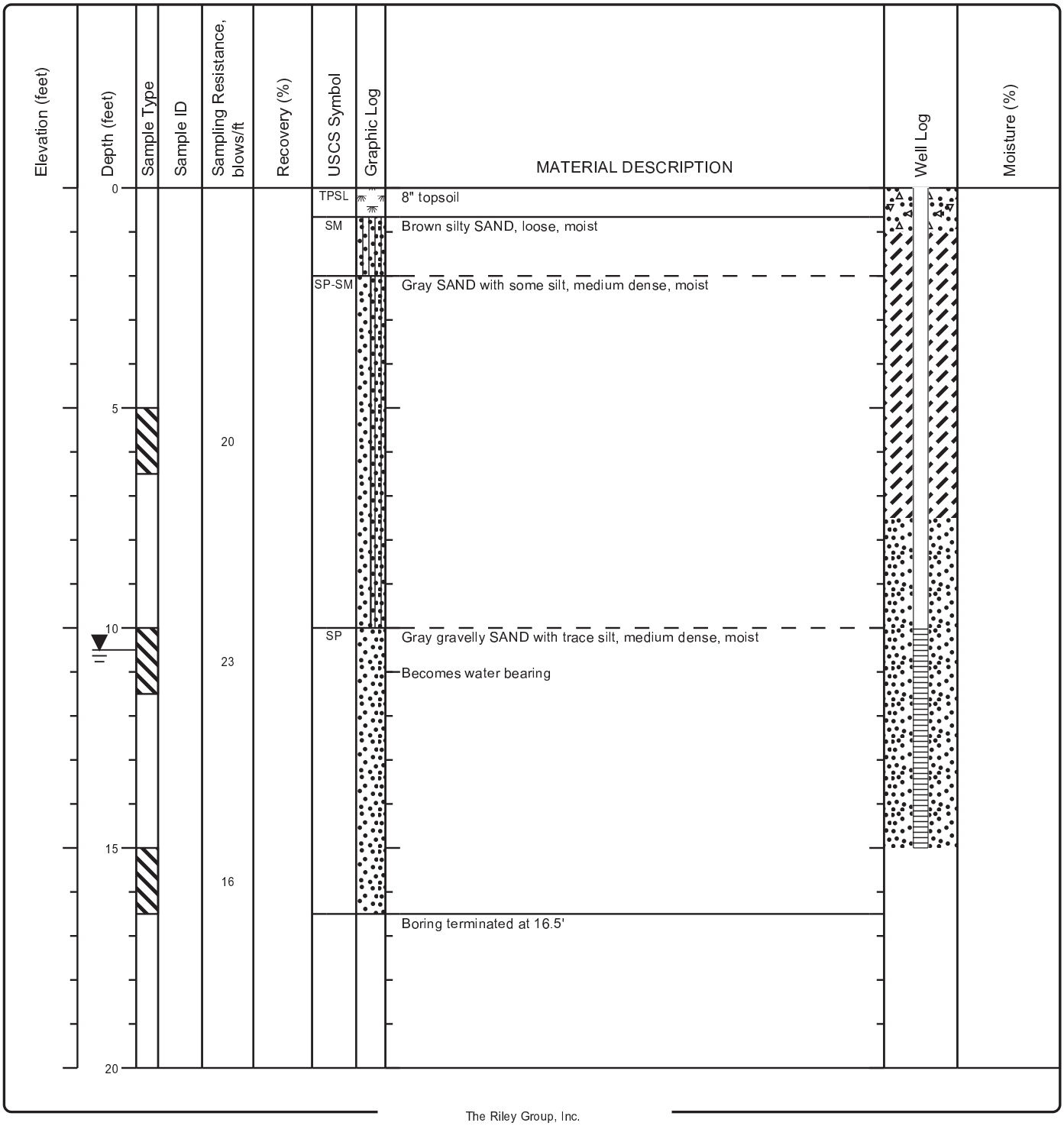
Boring No.: MW-2

Sheet 1 of 1

Date(s) Drilled: **9/24/2021**	Logged By: **ELW**	Surface Conditions: **Mixed Brush**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **N/A**	Total Depth of Borehole: **16.5 feet bgs**
Drill Rig Type: **Track Rig**	Drilling Contractor: **Bortec**	Approximate Surface Elevation: **N/A**
Groundwater Level: **10.50'**	Sampling Method(s): **SPT**	Hammer Data : **140 lb, 30" drop, rope and cathead**
Borehole Backfill: **Well Installed**	Location: **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



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Project Name: **Arlington Airport Business Park Development I**
Project Number: **2021-574-2**
Client: **SMARTCAP CRE Value Fund 3, LLC**

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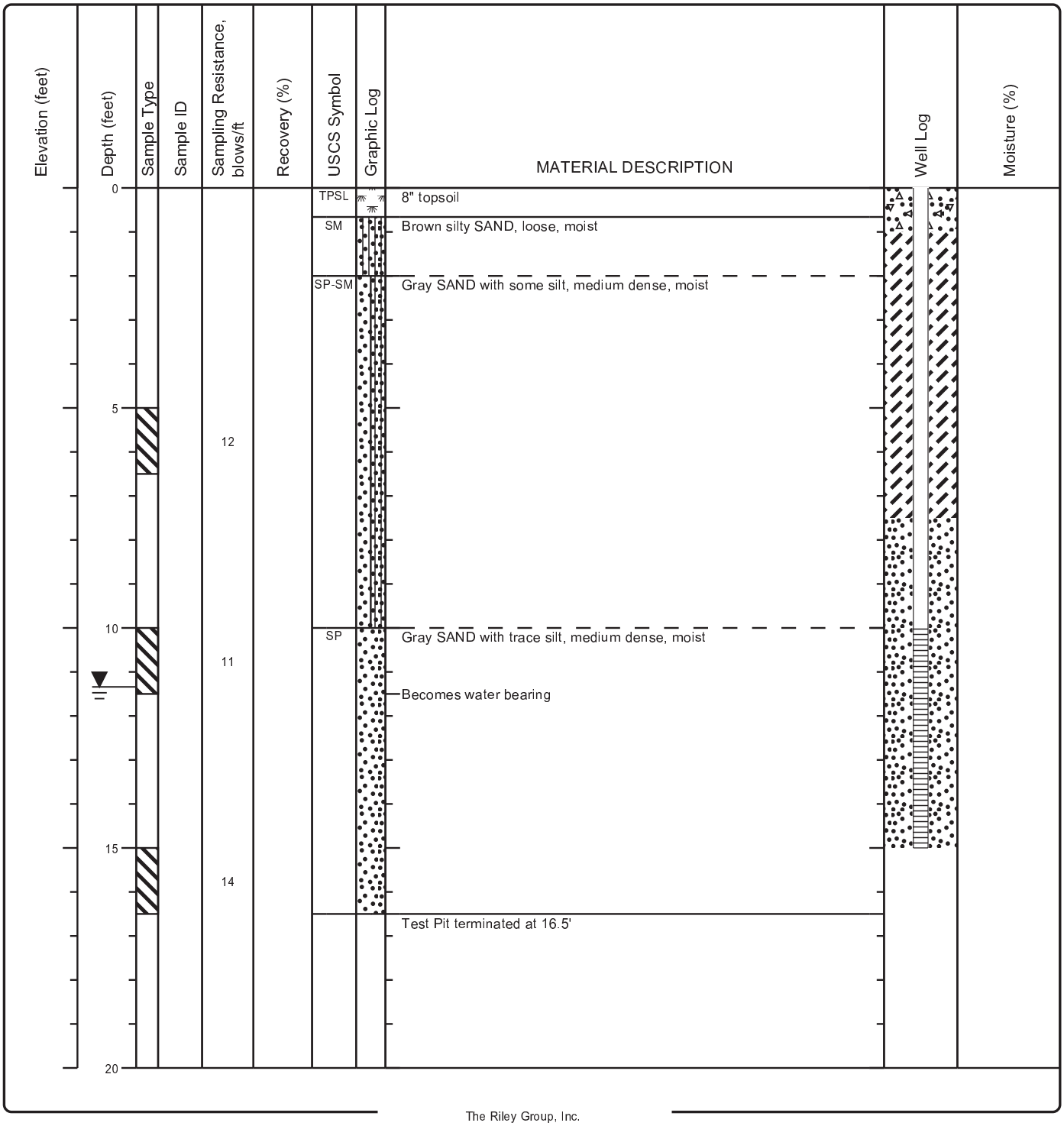
Boring No.: MW-3
Sheet 1 of 1

Date(s) Drilled: **9/24/2021**	Logged By: **ELW**	Surface Conditions: **Mixed Brush**
Drilling Method(s): **Hollow Stem Auger**	Drill Bit Size/Type: **N/A**	Total Depth of Borehole: **16.5 feet bgs**
Drill Rig Type: **Track Rig**	Drilling Contractor: **Bortec**	Approximate Surface Elevation: **N/A**
Groundwater Level: **11.34'**	Sampling Method(s): **SPT**	Hammer Data : **140 lb, 30" drop, rope and cathead**
Borehole Backfill: **Well Installed**	Location: **51st Avenue Northeast & 43rd Avenue Northeast, Arlington, Washington**	



The Riley Group, Inc.
17522 Bothell Way NE, Bothell, WA 98011

Project Name: **Arlington Airport Business Park Development I**

Project Number: **2021-574-2**

Client: **SMARTCAP CRE Value Fund 3, LLC**

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Key to Log of Boring

Sheet 1 of 1

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	Moisture (%)
1	2	3	4	5	6	7	8	9	10	11

COLUMN DESCRIPTIONS

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6. Recovery (%): Core Recovery Percentage is determined based on a ratio of the length of core sample recovered compared to the cored interval length.
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9. MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
10. Well Log: Graphical representation of well installed upon completion of drilling and sampling.
11. Moisture (%): Moisture, expressed as a water content.

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CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
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UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

- Bentonite chips
- Portland Cement Concrete
- Silty SAND (SM)
- Poorly graded SAND (SP)
- Poorly graded SAND with Silt (SP-SM)
- Topsoil

TYPICAL SAMPLER GRAPHIC SYMBOLS

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- Bulk Sample
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- CME Sampler
- Grab Sample
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- Water level (at time of drilling, ATD)
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THE RILEY GROUP, INC.
17522 Bothell Way NE
Bothell, WA 98011

PHONE: (425) 415-0551
FAX: (425) 415-0311

GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	TP-1
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	6 feet
TECH/TEST DATE	RT 9/20/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	755.4
Wt Dry Soil & Tare (gm)	(w2)	734.0
Weight of Tare (gm)	(w3)	16.0
Weight of Water (gm)	(w4=w1-w2)	21.4
Weight of Dry Soil (gm)	(w5=w2-w3)	718.0
Moisture Content (%)	(w4/w5)*100	3

Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

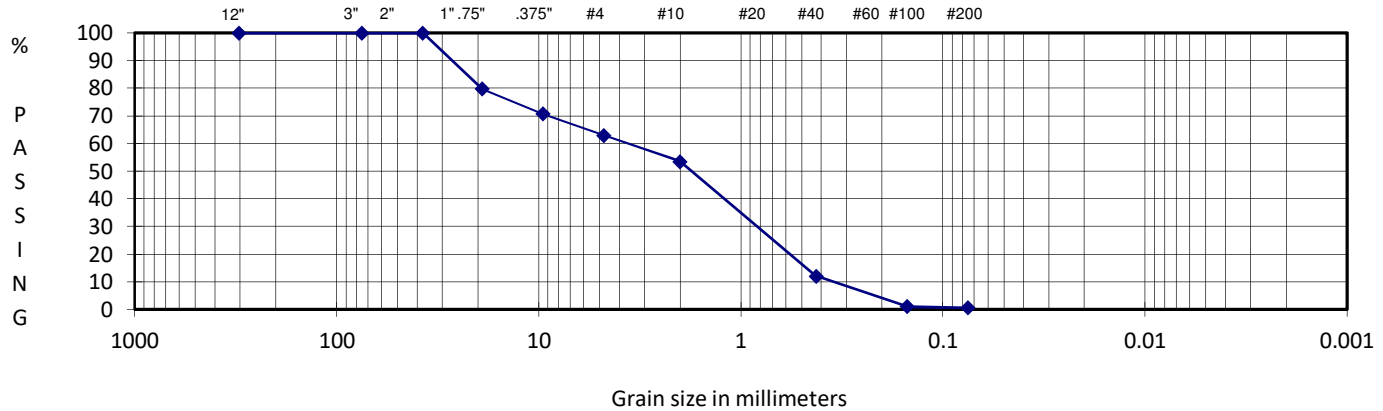
Weight Of Sample (gm)		734.0
Tare Weight (gm)		16.0
(W6) Total Dry Weight (gm)		718.0

% COBBLES	**0.0**
% C GRAVEL	**20.3**
% F GRAVEL	**16.8**
% C SAND	**9.4**
% M SAND	**41.5**
% F SAND	**11.5**
% FINES	**0.5**
% TOTAL	**100.0**

D10 (mm)	0.35
D30 (mm)	0.8
D60 (mm)	3.8
Cu	10.9
Cc	0.5

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	16.0	0.00	0.00	100.00	cobbles
3.0"	16.0	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	16.0	0.00	0.00	100.00	coarse gravel
1.0"					coarse gravel
0.75"	162.0	146.00	20.33	79.67	fine gravel
0.50"					fine gravel
0.375"	227.0	211.00	29.39	70.61	fine gravel
#4	282.6	266.60	37.13	62.87	coarse sand
#10	350.1	334.10	46.53	53.47	medium sand
#20					medium sand
#40	648.0	632.00	88.02	11.98	fine sand
#60					fine sand
#100	726.7	710.70	98.98	1.02	fine sand
#200	730.4	714.40	99.50	0.50	fines
PAN	734.0	718.00	100.00	0.00	silt/clay



DESCRIPTION	Gravelly SAND
USCS	SP

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

RILEYGROUP

THE RILEY GROUP, INC.
17522 Bothell Way NE
Bothell, WA 98011

PHONE: (425) 415-0551
FAX: (425) 415-0311

GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	TP-4
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	1 foot
TECH/TEST DATE	RT 9/20/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	525.8
Wt Dry Soil & Tare (gm)	(w2)	510.8
Weight of Tare (gm)	(w3)	15.8
Weight of Water (gm)	(w4=w1-w2)	15.0
Weight of Dry Soil (gm)	(w5=w2-w3)	495.0
Moisture Content (%)	(w4/w5)*100	3

Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

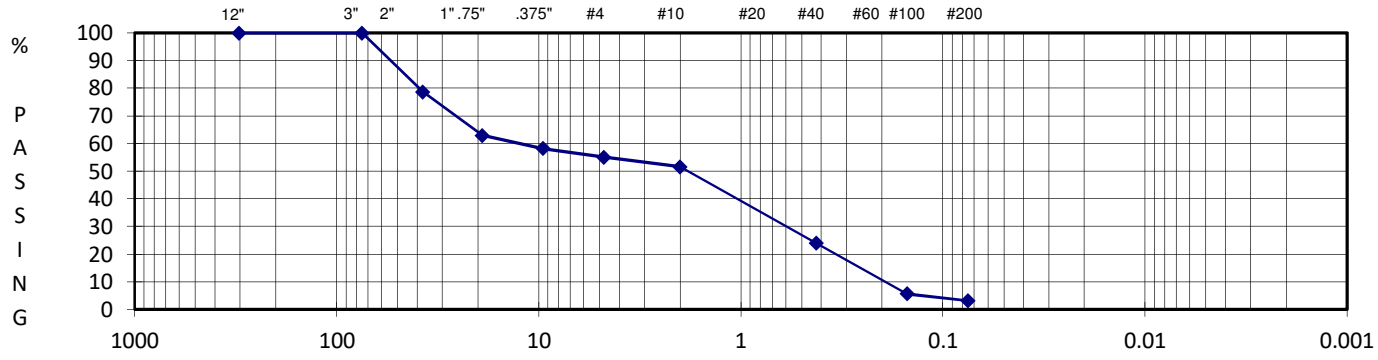
Weight Of Sample (gm)		510.8
Tare Weight (gm)		15.8
(W6) Total Dry Weight (gm)		495.0

% COBBLES	**0.0**
% C GRAVEL	**37.1**
% F GRAVEL	**7.8**
% C SAND	**3.5**
% M SAND	**27.5**
% F SAND	**20.9**
% FINES	**3.2**
% TOTAL	**100.0**

D10 (mm)	0.19
D30 (mm)	0.6
D60 (mm)	14
Cu	73.7
Cc	0.1

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	15.8	0.00	0.00	100.00	cobbles
3.0"	15.8	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	121.3	105.50	21.31	78.69	coarse gravel
1.0"					coarse gravel
0.75"	199.6	183.80	37.13	62.87	fine gravel
0.50"					fine gravel
0.375"	222.9	207.10	41.84	58.16	fine gravel
#4	238.3	222.50	44.95	55.05	coarse sand
#10	255.6	239.80	48.44	51.56	medium sand
#20					medium sand
#40	391.9	376.10	75.98	24.02	fine sand
#60					fine sand
#100	483.0	467.20	94.38	5.62	fine sand
#200	495.2	479.40	96.85	3.15	fines
PAN	510.8	495.00	100.00	0.00	silt/clay



DESCRIPTION	Gravelly SAND with trace silt
USCS	SP

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

RILEYGROUP

THE RILEY GROUP, INC.
17522 Bothell Way NE
Bothell, WA 98011

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FAX: (425) 415-0311

GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	TP-6
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	3 feet
TECH/TEST DATE	RT 9/20/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	878.7
Wt Dry Soil & Tare (gm)	(w2)	863.9
Weight of Tare (gm)	(w3)	15.8
Weight of Water (gm)	(w4=w1-w2)	14.8
Weight of Dry Soil (gm)	(w5=w2-w3)	848.1
Moisture Content (%)	(w4/w5)*100	2

Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

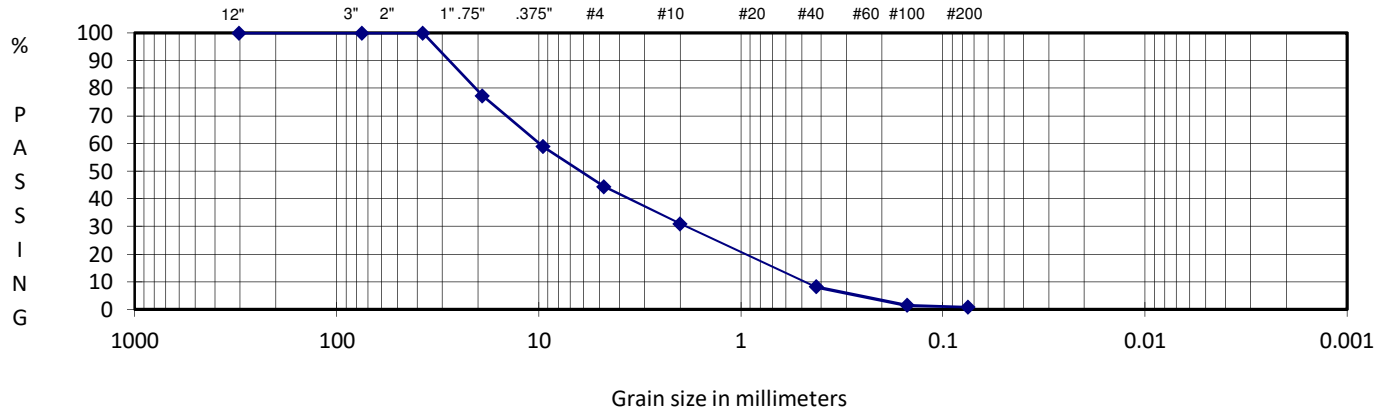
Weight Of Sample (gm)		863.9
Tare Weight (gm)		15.8
(W6) Total Dry Weight (gm)		848.1

% COBBLES	**0.0**
% C GRAVEL	**22.7**
% F GRAVEL	**33.0**
% C SAND	**13.5**
% M SAND	**22.8**
% F SAND	**7.3**
% FINES	**0.8**
% TOTAL	**100.0**

D10 (mm)	0.5
D30 (mm)	1.9
D60 (mm)	10
Cu	20.0
Cc	0.7

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	15.8	0.00	0.00	100.00	cobbles
3.0"	15.8	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	15.8	0.00	0.00	100.00	coarse gravel
1.0"					coarse gravel
0.75"	208.2	192.40	22.69	77.31	fine gravel
0.50"					fine gravel
0.375"	364.3	348.50	41.09	58.91	fine gravel
#4	487.7	471.90	55.64	44.36	coarse sand
#10	601.8	586.00	69.10	30.90	medium sand
#20					medium sand
#40	794.9	779.10	91.86	8.14	fine sand
#60					fine sand
#100	851.3	835.50	98.51	1.49	fine sand
#200	857.1	841.30	99.20	0.80	fines
PAN	863.9	848.10	100.00	0.00	silt/clay



DESCRIPTION	Sandy GRAVEL
USCS	GP

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

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GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	TP-7
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	4 feet
TECH/TEST DATE	RT 9/20/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	584.9
Wt Dry Soil & Tare (gm)	(w2)	573.9
Weight of Tare (gm)	(w3)	15.8
Weight of Water (gm)	(w4=w1-w2)	11.0
Weight of Dry Soil (gm)	(w5=w2-w3)	558.1
Moisture Content (%)	(w4/w5)*100	2

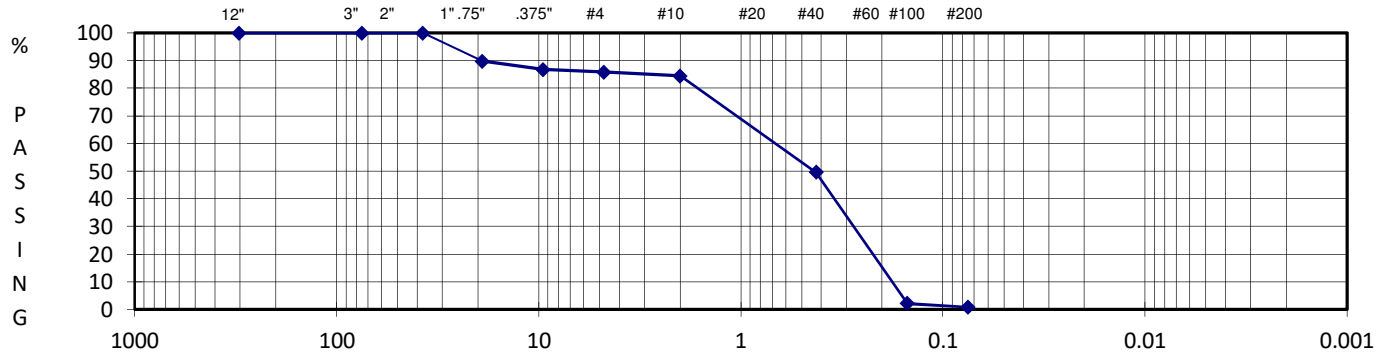
Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

Weight Of Sample (gm)		573.9
Tare Weight (gm)		15.8
(W6) Total Dry Weight (gm)		558.1

% COBBLES	**0.0**
% C GRAVEL	**10.2**
% F GRAVEL	**4.0**
% C SAND	**1.4**
% M SAND	**34.9**
% F SAND	**48.7**
% FINES	**0.9**
% TOTAL	**100.0**
D10 (mm)	0.18
D30 (mm)	0.28
D60 (mm)	0.69
Cu	3.8
Cc	0.6

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	15.8	0.00	0.00	100.00	cobbles
3.0"	15.8	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	15.8	0.00	0.00	100.00	coarse gravel
1.0"					coarse gravel
0.75"	72.9	57.10	10.23	89.77	fine gravel
0.50"					fine gravel
0.375"	89.6	73.80	13.22	86.78	fine gravel
#4	95.2	79.40	14.23	85.77	coarse sand
#10	102.8	87.00	15.59	84.41	medium sand
#20					medium sand
#40	297.3	281.50	50.44	49.56	fine sand
#60					fine sand
#100	562.2	546.40	97.90	2.10	fine sand
#200	569.0	553.20	99.12	0.88	fines
PAN	573.9	558.10	100.00	0.00	silt/clay



DESCRIPTION	SAND with trace gravel
USCS	SP

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

RILEYGROUP

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GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	TP-7
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	7.5 feet
TECH/TEST DATE	RT 9/20/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	891.0
Wt Dry Soil & Tare (gm)	(w2)	876.8
Weight of Tare (gm)	(w3)	16.0
Weight of Water (gm)	(w4=w1-w2)	14.2
Weight of Dry Soil (gm)	(w5=w2-w3)	860.8
Moisture Content (%)	(w4/w5)*100	2

Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

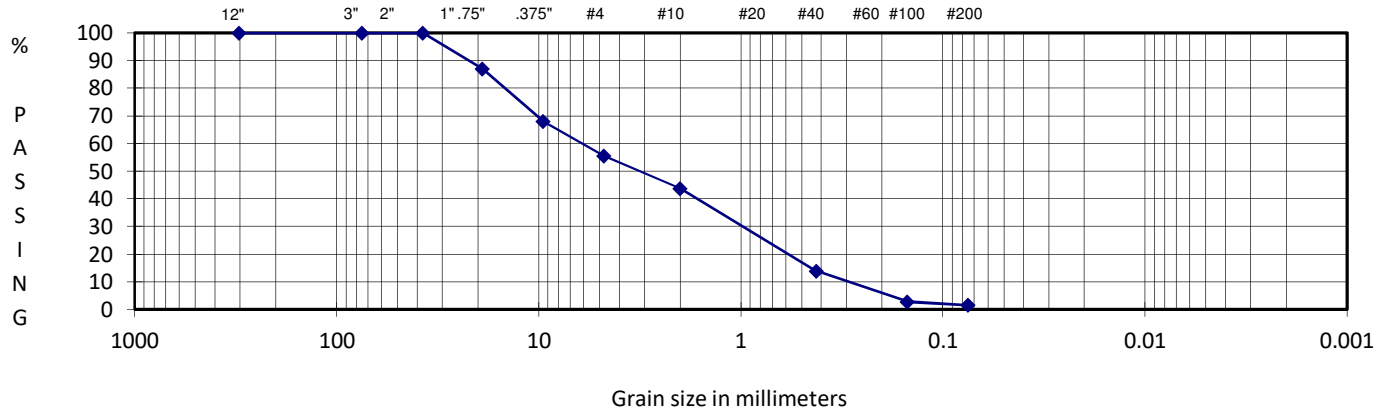
Weight Of Sample (gm)		876.8
Tare Weight (gm)		16.0
(W6) Total Dry Weight (gm)		860.8

% COBBLES	**0.0**
% C GRAVEL	**13.0**
% F GRAVEL	**31.5**
% C SAND	**11.8**
% M SAND	**29.9**
% F SAND	**12.3**
% FINES	**1.5**
% TOTAL	**100.0**

D10 (mm)	0.3
D30 (mm)	1
D60 (mm)	6.1
Cu	20.3
Cc	0.5

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	16.0	0.00	0.00	100.00	cobbles
3.0"	16.0	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	16.0	0.00	0.00	100.00	coarse gravel
1.0"					coarse gravel
0.75"	127.7	111.70	12.98	87.02	fine gravel
0.50"					fine gravel
0.375"	291.9	275.90	32.05	67.95	fine gravel
#4	398.8	382.80	44.47	55.53	coarse sand
#10	500.8	484.80	56.32	43.68	medium sand
#20					medium sand
#40	757.8	741.80	86.18	13.82	fine sand
#60					fine sand
#100	853.0	837.00	97.24	2.76	fine sand
#200	863.5	847.50	98.45	1.55	fines
PAN	876.8	860.80	100.00	0.00	silt/clay



DESCRIPTION Gravelly SAND with trace silt

USCS SP

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

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GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	INF #1
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	6.5 feet
TECH/TEST DATE	RT 9/20/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	963.8
Wt Dry Soil & Tare (gm)	(w2)	914.4
Weight of Tare (gm)	(w3)	15.9
Weight of Water (gm)	(w4=w1-w2)	49.4
Weight of Dry Soil (gm)	(w5=w2-w3)	898.5
Moisture Content (%)	(w4/w5)*100	5

Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

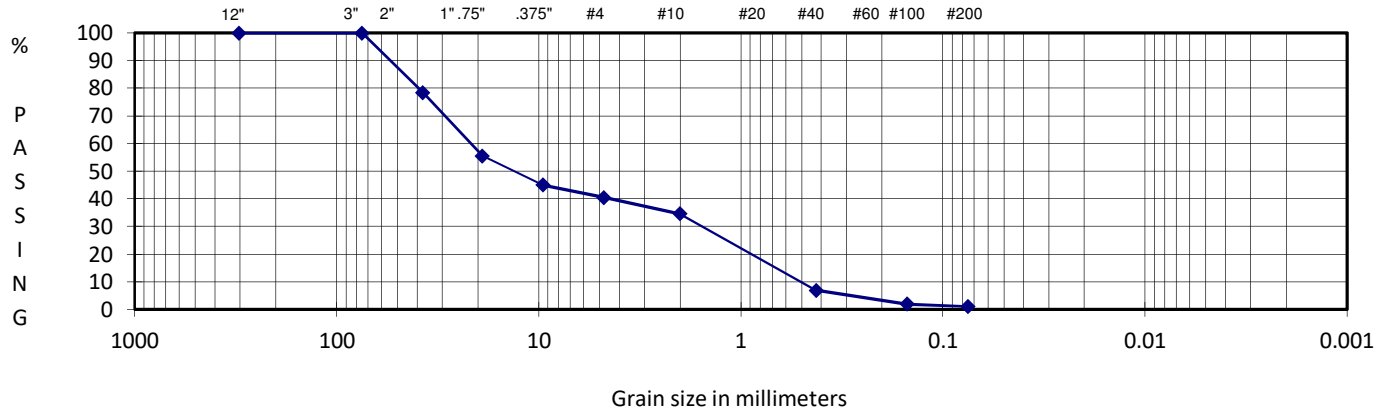
Weight Of Sample (gm)		914.4
Tare Weight (gm)		15.9
(W6) Total Dry Weight (gm)		898.5

% COBBLES	**0.0**
% C GRAVEL	**44.5**
% F GRAVEL	**15.1**
% C SAND	**5.9**
% M SAND	**27.7**
% F SAND	**5.8**
% FINES	**1.0**
% TOTAL	**100.0**

D10 (mm)	0.5
D30 (mm)	1.6
D60 (mm)	12
Cu	24.0
Cc	0.4

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	15.9	0.00	0.00	100.00	cobbles
3.0"	15.9	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	209.4	193.50	21.54	78.46	coarse gravel
1.0"					coarse gravel
0.75"	416.1	400.20	44.54	55.46	fine gravel
0.50"					fine gravel
0.375"	510.0	494.10	54.99	45.01	fine gravel
#4	551.4	535.50	59.60	40.40	coarse sand
#10	604.0	588.10	65.45	34.55	medium sand
#20					medium sand
#40	853.0	837.10	93.17	6.83	fine sand
#60					fine sand
#100	897.4	881.50	98.11	1.89	fine sand
#200	905.2	889.30	98.98	1.02	fines
PAN	914.4	898.50	100.00	0.00	silt/clay



DESCRIPTION Sandy GRAVEL with trace silt

USCS GP

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

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GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	B-1
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	15 feet
TECH/TEST DATE	RT 9/23/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	555.2
Wt Dry Soil & Tare (gm)	(w2)	507.7
Weight of Tare (gm)	(w3)	16.0
Weight of Water (gm)	(w4=w1-w2)	47.5
Weight of Dry Soil (gm)	(w5=w2-w3)	491.7
Moisture Content (%)	(w4/w5)*100	10

Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

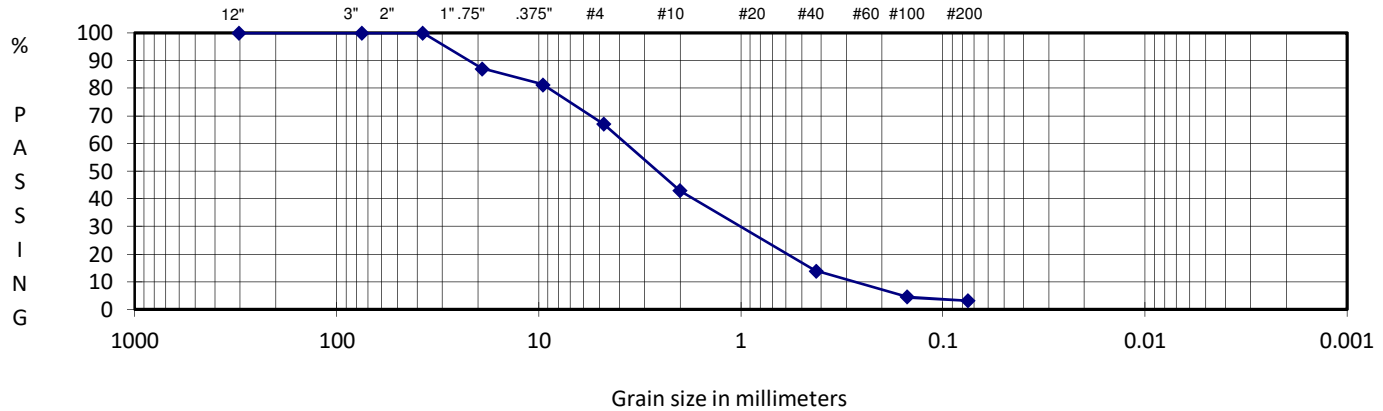
Weight Of Sample (gm)		507.7
Tare Weight (gm)		16.0
(W6) Total Dry Weight (gm)		491.7

% COBBLES	**0.0**
% C GRAVEL	**13.0**
% F GRAVEL	**20.0**
% C SAND	**24.0**
% M SAND	**29.1**
% F SAND	**10.7**
% FINES	**3.1**
% TOTAL	**100.0**

D10 (mm)	0.27
D30 (mm)	1.1
D60 (mm)	3.9
Cu	14.4
Cc	1.1

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	16.0	0.00	0.00	100.00	cobbles
3.0"	16.0	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	16.0	0.00	0.00	100.00	coarse gravel
1.0"					coarse gravel
0.75"	79.9	63.90	13.00	87.00	fine gravel
0.50"					fine gravel
0.375"	108.5	92.50	18.81	81.19	fine gravel
#4	178.4	162.40	33.03	66.97	coarse sand
#10	296.6	280.60	57.07	42.93	medium sand
#20					medium sand
#40	439.5	423.50	86.13	13.87	fine sand
#60					fine sand
#100	485.7	469.70	95.53	4.47	fine sand
#200	492.3	476.30	96.87	3.13	fines
PAN	507.7	491.70	100.00	0.00	silt/clay



DESCRIPTION	Gravelly SAND with trace silt
USCS	SW

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

RILEYGROUP

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GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	B-1
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	25 feet
TECH/TEST DATE	RT 9/23/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	544.2
Wt Dry Soil & Tare (gm)	(w2)	469.3
Weight of Tare (gm)	(w3)	15.8
Weight of Water (gm)	(w4=w1-w2)	74.9
Weight of Dry Soil (gm)	(w5=w2-w3)	453.5
Moisture Content (%)	(w4/w5)*100	17

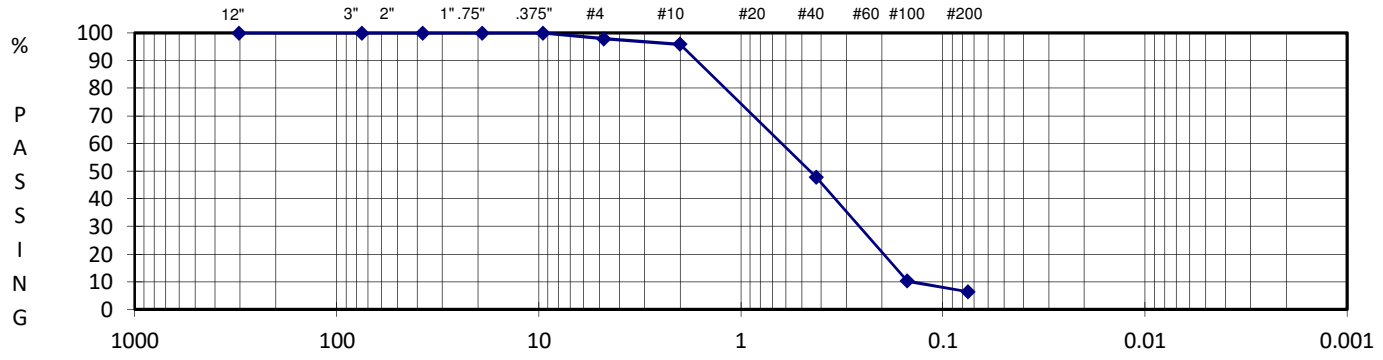
Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

Weight Of Sample (gm)		469.3
Tare Weight (gm)		15.8
(W6) Total Dry Weight (gm)		453.5

% COBBLES	**0.0**
% C GRAVEL	**0.0**
% F GRAVEL	**2.2**
% C SAND	**1.9**
% M SAND	**48.1**
% F SAND	**41.4**
% FINES	**6.4**
% TOTAL	**100.0**
D10 (mm)	0.17
D30 (mm)	0.27
D60 (mm)	0.62
Cu	3.6
Cc	0.7

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	15.8	0.00	0.00	100.00	cobbles
3.0"	15.8	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	15.8	0.00	0.00	100.00	coarse gravel
1.0"					coarse gravel
0.75"	15.8	0.00	0.00	100.00	fine gravel
0.50"					fine gravel
0.375"	15.8	0.00	0.00	100.00	fine gravel
#4	25.7	9.90	2.18	97.82	coarse sand
#10	34.2	18.40	4.06	95.94	medium sand
#20					medium sand
#40	252.3	236.50	52.15	47.85	fine sand
#60					fine sand
#100	422.8	407.00	89.75	10.25	fine sand
#200	440.1	424.30	93.56	6.44	fines
PAN	469.3	453.50	100.00	0.00	silt/clay



DESCRIPTION SAND with some silt

USCS SP-SM

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

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GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	B-1
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	35 feet
TECH/TEST DATE	RT 9/23/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	562.3
Wt Dry Soil & Tare (gm)	(w2)	464.5
Weight of Tare (gm)	(w3)	15.8
Weight of Water (gm)	(w4=w1-w2)	97.8
Weight of Dry Soil (gm)	(w5=w2-w3)	448.7
Moisture Content (%)	(w4/w5)*100	22

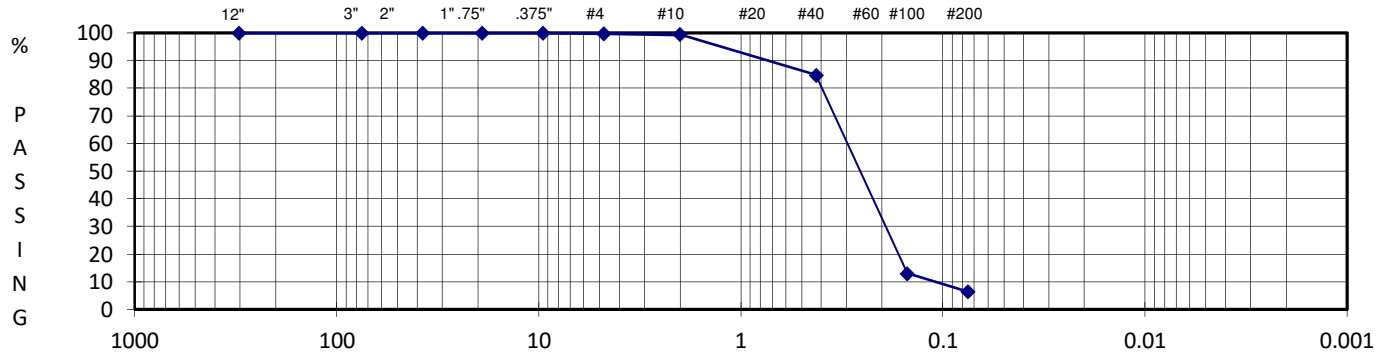
Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

Weight Of Sample (gm)		464.5
Tare Weight (gm)		15.8
(W6) Total Dry Weight (gm)		448.7

% COBBLES	**0.0**
% C GRAVEL	**0.0**
% F GRAVEL	**0.3**
% C SAND	**0.4**
% M SAND	**14.6**
% F SAND	**78.4**
% FINES	**6.3**
% TOTAL	**100.0**
D10 (mm)	0.11
D30 (mm)	0.19
D60 (mm)	0.3
Cu	2.7
Cc	1.1

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	15.8	0.00	0.00	100.00	cobbles
3.0"	15.8	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	15.8	0.00	0.00	100.00	coarse gravel
1.0"					coarse gravel
0.75"	15.8	0.00	0.00	100.00	fine gravel
0.50"					fine gravel
0.375"	15.8	0.00	0.00	100.00	fine gravel
#4	17.2	1.40	0.31	99.69	coarse sand
#10	18.9	3.10	0.69	99.31	medium sand
#20					medium sand
#40	84.5	68.70	15.31	84.69	fine sand
#60					fine sand
#100	406.7	390.90	87.12	12.88	fine sand
#200	436.3	420.50	93.72	6.28	fines
PAN	464.5	448.70	100.00	0.00	silt/clay



DESCRIPTION SAND with some silt

USCS SW-SM

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

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GRAIN SIZE ANALYSIS
ASTM D421, D422, D1140, D2487, D6913

PROJECT TITLE	Arlington Airport Business Park Development II	**SAMPLE ID/TYPE**	B-1
PROJECT NO.	2021-574-2	**SAMPLE DEPTH**	45 feet
TECH/TEST DATE	RT 9/23/2021	**DATE RECEIVED**	9/20/2021

WATER CONTENT (Delivered Moisture)

Wt Wet Soil & Tare (gm)	(w1)	593.1
Wt Dry Soil & Tare (gm)	(w2)	471.2
Weight of Tare (gm)	(w3)	15.7
Weight of Water (gm)	(w4=w1-w2)	121.9
Weight of Dry Soil (gm)	(w5=w2-w3)	455.5
Moisture Content (%)	(w4/w5)*100	27

Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture

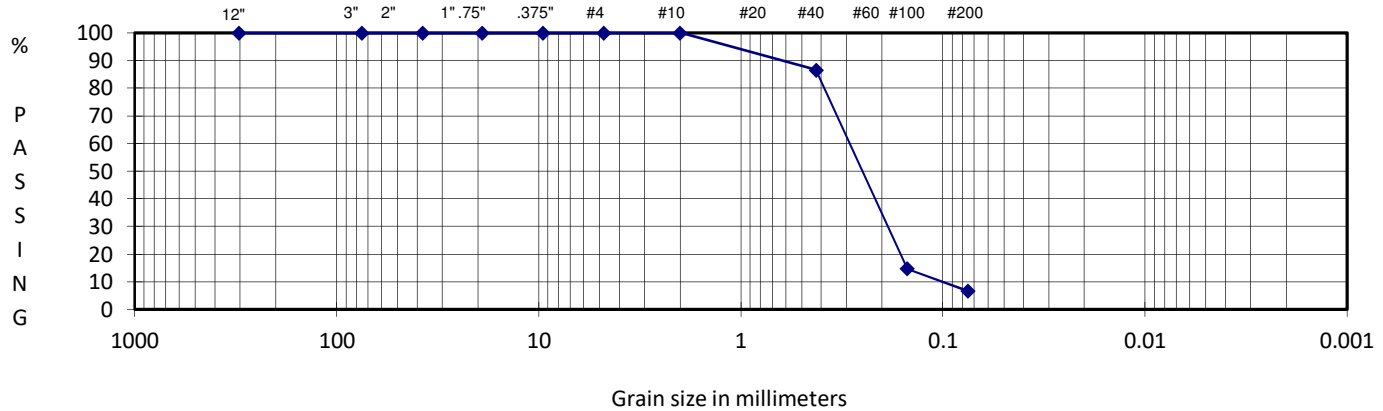
Weight Of Sample (gm)		471.2
Tare Weight (gm)		15.7
(W6) Total Dry Weight (gm)		455.5

% COBBLES	**0.0**
% C GRAVEL	**0.0**
% F GRAVEL	**0.0**
% C SAND	**0.0**
% M SAND	**13.4**
% F SAND	**80.0**
% FINES	**6.5**
% TOTAL	**100.0**

D10 (mm)	0.1
D30 (mm)	0.19
D60 (mm)	0.29
Cu	2.9
Cc	1.2

SIEVE ANALYSIS

	Wt Ret +Tare	(Wt-Tare)	Cumulative (%Retained) {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	15.7	0.00	0.00	100.00	cobbles
3.0"	15.7	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	15.7	0.00	0.00	100.00	coarse gravel
1.0"					coarse gravel
0.75"	15.7	0.00	0.00	100.00	fine gravel
0.50"					fine gravel
0.375"	15.7	0.00	0.00	100.00	fine gravel
#4	15.7	0.00	0.00	100.00	coarse sand
#10	15.8	0.10	0.02	99.98	medium sand
#20					medium sand
#40	76.9	61.20	13.44	86.56	fine sand
#60					fine sand
#100	404.5	388.80	85.36	14.64	fine sand
#200	441.5	425.80	93.48	6.52	fines
PAN	471.2	455.50	100.00	0.00	silt/clay



DESCRIPTION SAND with some silt

USCS SW-SM

Prepared For:
SMARTCAP CRE Value Fund 3, LLC

Reviewed By:
ELW

RILEYGROUP

APPENDIX B
LIQUEFACTION ANALYSIS

Liquefaction analysis was completed using the LiquefyPro software from CivilTech Software USA. Soil and groundwater conditions from Boring B-1 were used and the printouts are attached.

LIQUEFACTION ANALYSIS

Arlington Airport Business Park Development II

Hole No.=B-1 Water Depth=10 ft Surface Elev.=124

Magnitude=7
Acceleration=0.45g