GEOTECHNICAL ENGINEERING

RECOMMENDATIONS

FOR

5636 W. MERIAH LANE
LOT 38, TALKING ROCK RANCH, PHASE 12
APN 306-57-573
PRESCOTT, ARIZONA

September 9, 2025

Submitted to:
Mr. Adam Clark
Imperial Builders, L.L.C.
5400 W. Meem Lane
Prescott, AZ 86305

RED BUTTE ENGINEERING, LLC
CIVIL ENGINEERING & CONSTRUCTION MGMT.

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September 9, 2025

To (Client):
Imperial Builders, L.L.C.
5400 W. Meem Lane
Prescott, AZ 86305
Attn: Mr. Adam Clark

Subject: Geotechnical Engineering Recommendations for 5636 W. Meriah Lane, Lot 38, Talking Rock Ranch, Phase 12, APN 306-57-573, Prescott, Arizona.

Dear Mr. Clark:

In compliance with your request and authorization, Red Butte Engineering (RBE) has finalized the geotechnical recommendations report for the specified site. The site is located within the Talking Rock Ranch, Phase 12 development in the Prescott, Arizona area. A general site vicinity map is shown below.

Site Location and General Site Vicinity Map

It is understood that a residential home and garage are planned for construction on the site. The proposed structures will be a single-story house and garage. No details regarding grading or structural loading have been provided.

The aim of the site exploration is to assess the general surface and subsurface conditions at the location, and to provide recommendations regarding foundations, slabs, and other soil-supported components of the planned construction. The exploration's scope included the following objectives:

- Conduct a site reconnaissance Survey.

- Examine the available information regarding the proposed development and review the data housed in our library.

- Investigate the current surface and subsurface conditions at the location and gather representative soil samples, which may be utilized as subgrade material or for constructing an engineered pad.

- Conduct laboratory analyses of the soil samples to determine the engineering properties of the soils.

- Evaluate the geotechnical characteristics of the site concerning:
    - Site drainage both during and post-construction.
    - Recommendations for conventional continuous and/or spread footing foundations with slab-on-grade construction.

- Offer comprehensive guidelines on construction processes and quality control protocols related to earthwork.

- Prepare this report with the findings, conclusions, and recommendations.

The evaluation did not include an assessment of the general environmental conditions of the site, nor did it address the potential presence of pollutants in the soil, rock, or groundwater at the location.

1.0 INTRODUCTION

This report briefly describes the field and laboratory test procedures utilized during this geotechnical surface and subsurface exploration, and presents our findings along with our evaluations, conclusions and recommendations for foundation design and site preparation and construction. Detailed recommendations are included in this report.

2.0 SITE AND PROJECT DESCRIPTION

2.1 Site Reconnaissance

On August 8, 2025, an RBE representative with extensive experience in site evaluations conducted a site reconnaissance. The purpose of this evaluation was to collect representative soil samples for potential use as a subgrade or as a source material for constructing an engineered pad for the home and garage.

The site is situated at 5636 W. Meriah Lane, Lot 38, Talking Rock Ranch, Phase 12, APN 306-57-573, Prescott, Arizona. The natural grade slopes downward from the north to the south towards the southern boundary of the lot. Bedrock is not visible within the lot.

2.2 Project Description

We understand that the proposed construction will involve a single-story residential home and garage. While structural loading information is not currently available, based on our experience, such structures typically exhibit light loads approximately ranging from 1.0 to 2.0 kips per linear foot for wall loads and less than 5.0 to 15.0 kips for column loads. The site generally features a moderate slope, and we anticipate that moderate cut and fill operations will be necessary to achieve the final design grades.

3.0 FIELD EXPLORATION

3.1 Soil Test Samples

Before collecting soil samples, a representative from RBE spoke with Mr. Clark about the site's grading and the material to be used as subgrade or as a source for constructing an engineered pad.

Four (4) test pits were excavated within the vicinity of the proposed house and garage building prisms, each reaching a depth of 39, 40, 41 and 45 inches. The soil profiles encountered in all four pits were similar. The surface and subsurface soil from 0 to 10 inches consisted of a Light Reddish-Brown soil classified as a Clayey Sand soil. The subsurface soil from 10 to 39, 40, 41 and 45 inches consisted of a Dark Reddish-Brown

soil classified as a Very Rocky Poorly Graded Gravel with Clay and Sand soil. Representative soil samples of the Light Reddish-Brown Clayey Sand and the Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand material were carefully collected and placed into five (5) gallon buckets for transportation to the laboratory. These samples were secured and handled with care to preserve their integrity for subsequent identification, classification, and testing procedures.

The soil samples will be stored in our laboratory for a period of 15 days following the submission of this report. If alternative storage arrangements are needed, please provide written notification before this timeframe expires.

3.2 Laboratory Testing

In the laboratory, an experienced geotechnical lab technician classified the samples following the guidelines of the Unified Soil Classification System (USCS). The laboratory testing included the following:

- Percent Passing a No. 200 Sieve (ASTM D-1140),
- Atterberg Limits (ASTM D-4318), and
- Standard Proctor (ASTM D-698).

All testing was done in general accordance with ASTM specifications. The results of the laboratory testing is summarized below.

SUMMARY OF LABORATORY TESTING						
Soil Source	***Percent Passing #200 Sieve***	***Percent Clay***	***Liquid Limit (LL)***	***Plastic Limit (PL)***	***Plastic Index (PI)***	***USCS***
Light Reddish-Brown SC	**14**	**20**	**30**	**21**	**9**	**SC**
Dark Reddish-Brown GP-GC	**10**	**23**	**33**	**21**	**12**	**GP-GC**

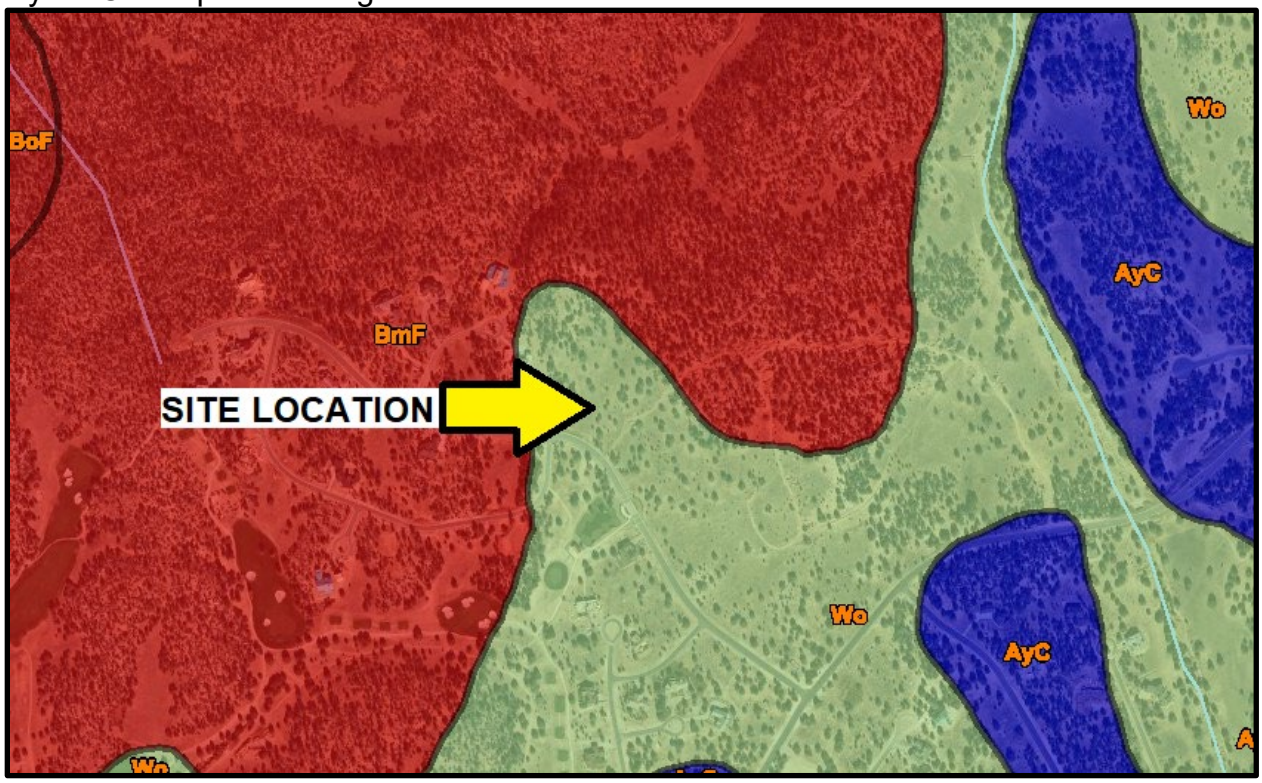
NV = No Value; NP = Non-Plastic

Laboratory testing shows that the Light Reddish-Brown Clayey Sand soil has a Plastic Index (PI) of 9, indicating low expansion potential and moisture sensitivity. The Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand soil has a Plastic Index (PI) of 12, also indicating low expansion potential and moisture sensitivity. Onsite soils intended for use as structural backfill material or beneath foundations and slab areas should have a Plastic Index (PI) not exceeding 15. A high Plastic Index (PI) suggests that the onsite soil might be expansive and moisture sensitive. The Light Reddish-Brown

Clayey Sand soil with a Plastic Index (PI) of 9 and the Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand soil with a Plastic Index (PI) of 12 is considered appropriate for use as a subgrade for home and garage construction or as a source for constructing an engineered pad.

3.3 Risk of Corrosion to Concrete

RBE has reviewed data published by the USDA Natural Resources Conservation Service (NRCS) concerning the risk of corrosion to concrete. This risk is classified as low, moderate, or high, based primarily on factors such as sulfate and sodium content, texture, moisture levels, and soil acidity. Below are aerial photographs of the area, accompanied by NRCS maps indicating the risk of concrete corrosion.



NCRS SOILS MAP

Published data classify the soils at the site as Wineg-Lynx Association (Wo), indicating a low risk for concrete corrosion and a moderate risk for steel corrosion.

4.0 GENERAL SITE CONDITIONS

4.1 Soil Stratigraphy

The surface and subsurface soil from 0 to 10 inches consisted of a Light Reddish-Brown soil classified as a Clayey Sand soil. The subsurface soil from 10 to 39, 40, 41 and 45 inches consisted of a Dark Reddish-Brown soil classified as a Very Rocky Poorly Graded Gravel with Clay and Sand soil. Representative soil samples of the Light Reddish-Brown

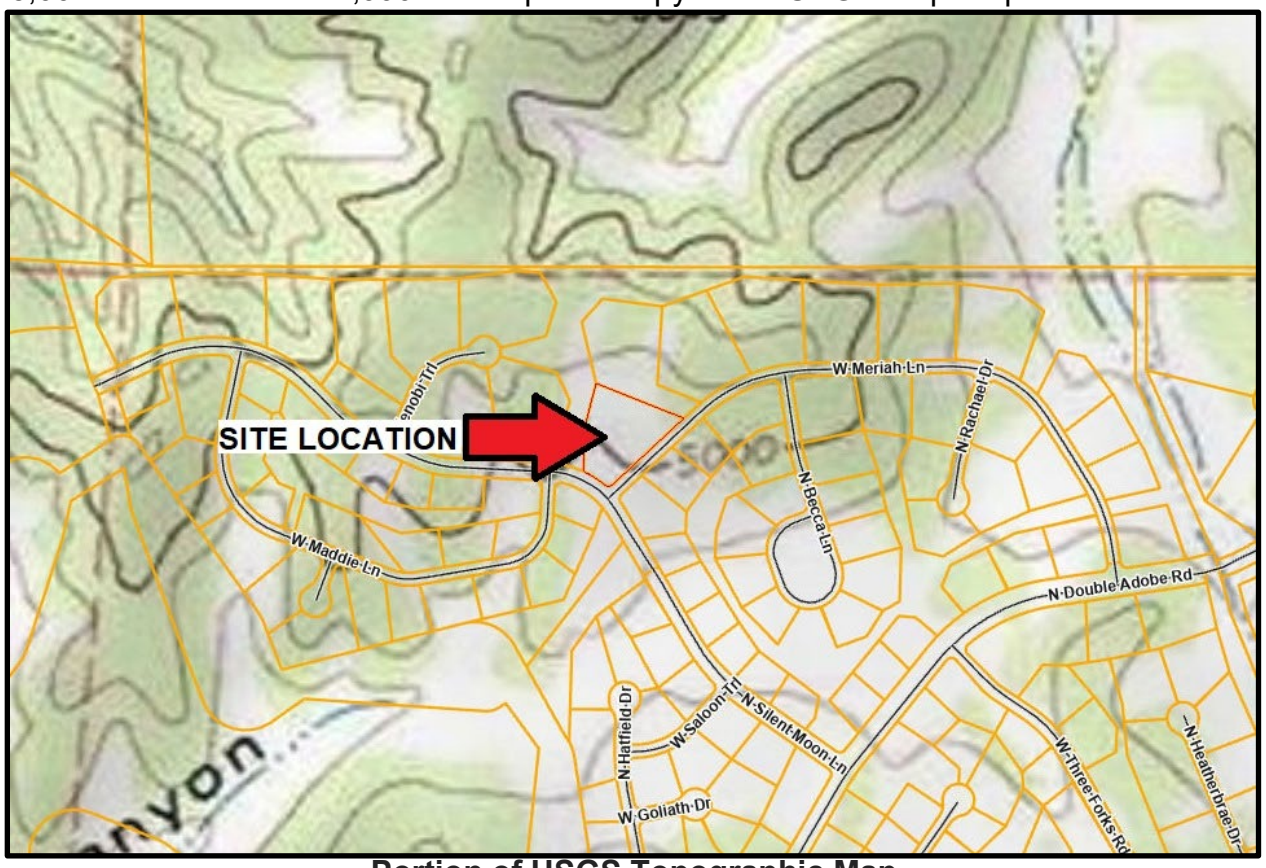
Clayey Sand and the Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand soil. According to the Unified Soil Classification System (USCS), this soil is categorized as SC and GP-GC soil types. This type of soil was observed from the ground surface down to 39, 40, 41 and 45 inches and extended throughout the excavated areas.

4.2 Groundwater

Groundwater data for the subject site was unavailable. Throughout the excavation process conducted by the contractor, no groundwater was encountered.

4.3 Surface Water

The 2021 United States Geologic Survey (USGS) Sullivan Buttes 7.5 Minute Series Topographic Maps indicate that surface water at the location flows to Cooper Wash via an unnamed tributary. Surface elevations at the site range from approximately elevation 5,001 feet to elevation 4,990 feet. A partial copy of the USGS maps is presented below.



Portion of USGS Topographic Map

4.4 Seismic Design Parameters

The project site is situated in a seismic zone with a low to moderate risk of damage from seismic activity. The soil site classification is Class D, which may be utilized for structural

design purposes. Furthermore, the following seismic parameters, based on the 2018 USGS maps adopted by the 2018 IBC, may be applied to the design process:

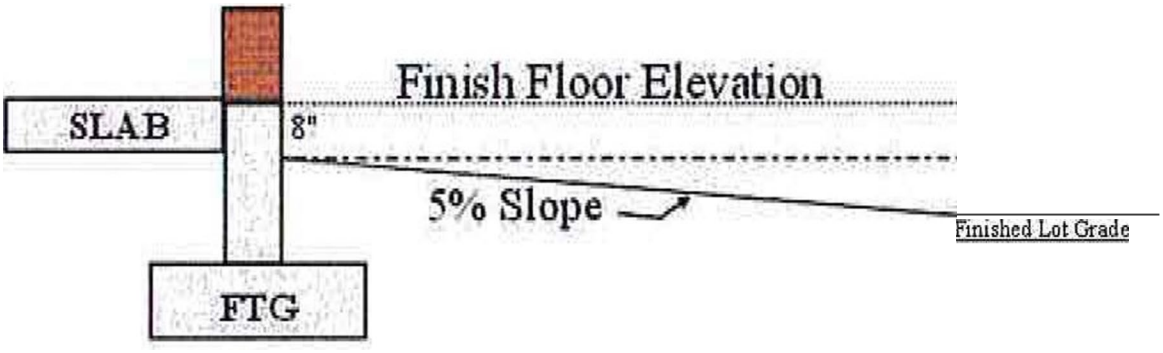
SEISMIC DESIGN PARAMETERS	
Latitude (Degrees)	N34°46'27.9"
Longitude (Degrees)	W112°34'2.6"
Ss – Spectral Acceleration For Short Period	0.359g
S1 – Spectral Acceleration For A 1 Second Period	0.111g
Fa	1.513
Fv	2.379

5.0 SITE PREPARATION AND DRAINAGE

5.1 Site Drainage

Positive drainage is essential for the performance of any foundation or slab. Effective surface and subsurface drainage should be established before, maintained during, and continued after construction, to prevent water from accumulating and saturating the soils within structural areas of the site, such as house and garage foundations and slabs. It is crucial to prevent water infiltration into utility or foundation excavations during construction. The drainage design must direct all storm and sprinkler water away from the house and garage effectively. Water should be diverted from the building areas to prevent penetration into the ground surface, and the grading should ensure that all runoff drains away from these areas.

In locations where sidewalks or pavements are not adjacent to the house and garage, it is advisable to construct protective slopes with an outfall of 5% extending at least 10 feet from the perimeter of the house and garage foundation. The Federal Housing Authority also recommends implementing these side slopes. A schematic is provided below.



It is recommended as a sound engineering practice to employ downspouts and gutters. Downspouts should be strategically positioned to ensure that water is discharged at a minimum distance of ten (10) feet from the house and garage perimeter.

Watering of plants adjacent to the house and garage should be avoided, unless the watering and associated drainage have been integrated into the design. It may be recommended to implement desert-type landscaping near the house and garage. Plants that require a higher amount of water should be positioned so that the excess water drains away from the house and garage or pavement areas.

Under no circumstances should the prepared foundations be flooded, inundated, or kept wet for an extended period. Wetting or flooding subgrade soils will decrease their bearing capacity and hinder site access for construction equipment, as they may become bogged down and compromise the integrity of an accepted and approved compacted subgrade.

5.2 Site Preparation for Structural Areas

During the site visit, it was observed that the subject location was undeveloped. The surface and subsurface soil from 0 to 10 inches was identified as a Light Reddish-Brown soil and classified as a Clayey Sand, featuring a Plastic Index (PI) of 9. The subsurface soil from 10 to 39, 40, 41 and 45 inches consisted of a Dark Reddish-Brown soil classified as a Very Rocky Poorly Graded Gravel with Clay and Sand soil with a Plastic Index (PI) of 12. Soils onsite intended for use as structural backfill material or those utilized beneath foundation and slab areas should not exceed a Plastic Index (PI) of 15, as a high Plastic Index indicates that soils can be expansive and sensitive to moisture. The onsite Light Reddish-Brown Clayey Sand soil with a Plastic Index (PI) of 9 and the Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand soil with a Plastic Index (PI) of 12 is deemed suitable as subgrade for constructing a house and garage or as a source for structural fill in engineered pad construction.

Based on the laboratory results, Red Butte Engineering advises that all debris and vegetation be cleared from the structural areas prior to the commencement of construction. Following this clearance, it is recommended that the upper 6 to 8 inches of the Light Reddish-Brown Clayey Sand and the Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand soil be scarified, moisture conditioned, and mechanically re-compacted within the building envelope to achieve the densities specified in Section 6.6 of this report.

All filling materials used at the site must pass through a 3-inch sieve with 100 percent efficiency, and no more than 45% passing through a No. 200 sieve. The plasticity index (PI) should not exceed 12 percent. When compacted to 95% of maximum dry density according to ASTM D-698 specifications (standard Proctor) at a moisture content of 2% below optimum, confined under a 100 pounds per square foot (psf) surcharge pressure, and inundated, the material should exhibit a swell potential of less than 1.5%. Only granular SC, SM, and SC-SM soils may be used for structural fill.

The backfill material or fill soils to be utilized beneath the foundations and slabs must be free from organic matter and any other deleterious substances. These materials should receive approval from the engineer of record. All fills are to be placed in thin layers to ensure the desired degree of compaction, as specified in Section 6.6 of this report. The final prepared building pad should extend at least 5 feet beyond the building footprint.

5.2.1 Conventional Shallow Foundations

No special site preparation will be required. As detailed in Section 5.2 of this report, it is recommended that the top 6 to 8 inches of Light Reddish-Brown Clayey Sand and the Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand soil be scarified, moisture conditioned, and mechanically re-compacted within the building envelope to the densities specified in Section 6.6 of this report.

After the footings are excavated, the upper 6 to 8 inches of the bottom of the footings should be scarified, moisture conditioned, and mechanically re-compacted to meet the densities specified in Section 6.6 of this report.

5.3 Utility Trenches and Ease of Excavation

To ensure the safety of personnel entering any excavation, it is recommended that a comprehensive trench/excavation safety plan be developed for utility trenches extending to a depth of 4 feet or more below the ground level. Trench safety should adhere to OSHA safety guidelines as well as other relevant industry standards. The backfill of utility trenches should utilize non-expansive, preferably granular soils to facilitate compaction and minimize the risk of differential settlement issues. The backfilling process should be conducted in maximum loose lifts of 8 inches and compacted to at least 90% of the ASTM D-698 standard Proctor density. Utility lines situated beneath structural areas, such as building foundations or pads, should be compacted to 95% of the ASTM D-698 standard Proctor density.

6.0 FOUNDATION RECOMMENDATIONS

RBE offers recommendations for shallow foundations, including continuous or spread footings. These recommendations are detailed below.

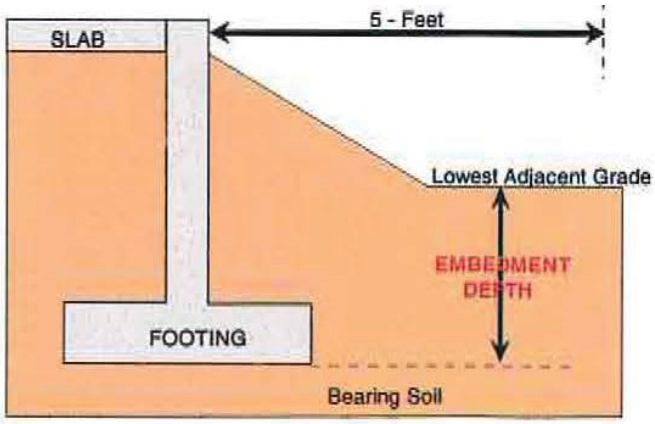
6.1 Conventional Shallow Foundations

The on-site surface and subsurface Light Reddish-Brown Clayey Sand and the Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand soils are classified as a suitable subgrade soil. Therefore, no extensive site preparation will be necessary, other than the 6 to 8-inch scarification and re-compaction of the surficial soils as detailed in Section 5.2 of this report. Foundations that bear on excavated and backfilled granular soils at a depth of 18 inches below the lowest adjacent grade can be designed for a total

load-bearing pressure of 1,500 pounds per square foot (psf). This allowable bearing capacity is applicable to the maximum design dead plus live loads and may be increased by one-third when accounting for temporary loads such as transient wind or seismic forces. It is permissible to exclude the weight of the footing concrete below grade in the calculations of dead load.

6.2 Additional Foundation Recommendations

We advise that RBE be retained to inspect the footing excavations at the construction site to verify that the soil conditions align with those observed during the geotechnical exploration. The following are additional foundation recommendations:



- All footing excavations should be inspected by the engineer of record to ensure that they are level, clean, and free of all loose or disturbed soils, and that the available bearing capacities exist at the lot.

- Individual column and continuous wall footings should have minimum widths of 24 inches and 16 inches, respectively. The minimum widths are recommended for ease of construction, and to provide a margin of safety against local or punching shear failure of the foundation soils. All footings, stem walls, and masonry walls should be reinforced to better distribute stresses and reduce potential distress caused by differential foundation movement. The use of joints in masonry walls is recommended. Masonry walls should be provided with both vertical and horizontal reinforcement.

- Exterior shallow footings should be founded at least 18 inches below lowest adjacent grade, sufficient to provide adequate embedment depth. The sketch to the above shows the recommended measure of footing embedment depth.

We anticipate that settlement for shallow foundations, bearing on two feet of over-excavated and backfilled soils, native re-compacted soils, or on scarified and re-compacted native undisturbed soils and designed in accordance with the above recommendations, will be within tolerable limits, i.e. total settlements should not exceed ½" inch, and differential settlements should not exceed ¼" inch. Additional foundation movements could occur if water from any source infiltrates the foundation soil. As discussed earlier, positive drainage away from structural areas is important during and after construction.

All footings, stem walls, and masonry walls should be reinforced to reduce the potential

for distress caused by differential foundation movements. The use of joints at openings or other discontinuities in masonry walls is recommended.

We recommend that the geotechnical engineer or his representative observe the footing excavations before reinforcing steel and concrete are placed. This observation is to assess whether the soils exposed are similar to those anticipated for support of the footings. Any soft, loose or unacceptable soils should be undercut to suitable materials and backfilled with approved fill materials or lean concrete. Soil backfills should be properly compacted.

6.3 LATERAL DESIGN PARAMETERS

Red Butte Engineering recommends the following parameters to be used for design of retaining structures. Wall foundations shall be constructed in accordance with the foundation recommendations herein.

[1]Foundation Toe Pressure……1.33 x allowable bearing pressure
[2]Lateral Backfill Pressure:
Unrestrained Walls……...30 psf/foot
Restrained Walls……..60 psf/foot
Lateral Passive Pressures:
Continuous Walls/Footings……...250 psf/foot
Spread Columns/Footings……....350 psf/foot
Coefficient of Base Friction (Assumes Bearing On Undisturbed Soil):
Independent of Passive Resistance…….....0.45
Inconjunction with Passive Resistance……0.30

[1]Increase in allowable foundation bearing pressure (previously tabulated) for foundation toe pressure due to eccentric or lateral loading. The entire footing-bearing surface should remain in compression.

[2]Equivalent fluid pressures for vertical walls and horizontal backfill surfaces (maximum 12-foot height). Pressures do not include temporary forces imposed during compaction of the backfill, swelling pressures developed by over compacted clayey backfill, hydrostatic pressures from inundation or saturation of backfill, surcharge loads or sloping backfill surfaces. Walls should be suitably braced during backfilling to prevent damage and deflection.

6.4 Conventional Floor Slabs

The slab subgrade at all locations should be prepared by the procedures outlined in this report. A four (4) inch layer of clean granular material should be placed beneath the concrete slabs to serve as a leveling base and to prevent capillary rise and a damp slab. The material should conform to the gradation requirements set by the Maricopa Association of Governments (MAG), specification 702 for Aggregate Base Course (ABC) or applicable municipal equivalent.

The use of vapor retarders is desirable for any slab-on-grade where the floor will be covered by products using water-based adhesives, wood, vinyl backed carpet, impermeable floor coatings (epoxy, acrylic terrazzo, etc.) or where the floor will be in contact with moisture sensitive furnishings. When used, the design and installation should be in accordance with the recommendation given in ACI 302.2R-06.

All concrete placement and curing operations should follow the American Concrete Institute manual recommendations. Improper curing techniques and/or high slump (high water-cement ratio) could cause excessive shrinkage, cracking or curling. Concrete slabs should be allowed to be cured adequately before placing vinyl or other moisture sensitive floor covering.

Exterior slabs should be placed on a minimum 4-inch-thick base course and have turned down edges to eliminate the potential for water movement into the base course. The bottom of the turned-down element should extend below the bottom of the 4-inch-thick base course so that surface water cannot penetrate directly into the granular base course.

6.5 Slope Construction

The slopes may be reconstructed by placing compacted fill in accordance with the site grading and drainage plan. The constructed slopes should not exceed a steepness of 2H:1V. Fill slopes without erosion control measures should be sloped no steeper than 4H:1V and will require increased maintenance throughout the project's lifespan. Positive drainage away from the slope face, such as diversion ditches, should be established above the slope.

For any fill expected to exceed 5 feet in height, the existing slope must be scarified and benched level prior to placing the fill. Benches shall have a minimum width of 10 feet. The top 8 inches of the benches shall be compacted to 95% of the Maximum Dry Density of the native soil once they have been constructed. After testing and approval by Red Butte Engineering, filling operations may proceed.

6.6 Compaction Criteria

RBE advises that the contractor compacts the subgrade, fill, backfill, sub-base fill, or base materials to the specified minimum percent compaction. This should be based on the ASTM D-698 (standard Proctor) maximum dry density for each 8-inch loose lift of fill.

Material	Minimum Percent Compaction
Soils (on-site and imported):	
Below Conventional Slabs & Post-Tensioned Slabs	95
Below Conventional Footings	95
Below Non-Structural areas of the site	85
Base Material:	
Below Conventional Slabs	95
Below Post-Tensioned Slabs	95
Backfill:	
Utility trenches and exterior slabs	90
Utility trenches beneath structural areas	95
Utility trenches below non-structural areas of the site	85

6.7 Workability

Moistening the surficial on-site soils to achieve or exceed their optimum moisture content may cause soil pumping under dynamic loads, such as those imposed by heavy construction equipment traversing the areas. Minor pumping is not detrimental to foundations or floor slabs, provided that the specified percent compaction is attained. It is advisable to consult the engineer of records to evaluate the pumping conditions and offer recommendations if necessary.

6.8 Flatwork

All flatwork and associated subgrade materials must be prepared in accordance with the Maricopa Association of Governments' "Uniform Standard Specifications for Public Works Construction," Part 300 - Streets and Related Work, Section 340 (Concrete Curb, Gutter, Sidewalk, Driveway Ramps, Driveway and Alley Entrance), along with corresponding Standard Details or the applicable municipal equivalent.

7.0 CLOSURE

7.1 Limitations

Our professional services have been executed with the degree of care and proficiency typically exercised by reputable engineers under comparable circumstances in this or similar regions. Neither RBE nor its agents or employees shall be jointly, severally, or individually liable to the owner beyond the compensation stipulated in this agreement, due to any act or omission, including breach of contract or negligence that does not constitute willful or intentional misconduct. No other warranty, express or implied, is

provided. This report has been prepared in accordance with the generally accepted standards of practice in Arizona at the time of its writing.

The recommendations contained in this report are derived from our field exploration, laboratory test results, and our understanding of the proposed construction. The data utilized in the preparation of this report were obtained from soil samples collected at representative locations within the project area, visual observations during our site reconnaissance, as well as local experience and engineering judgment. These recommendations are based on the assumption that the soil and geological conditions at or between the sample collection points do not differ significantly from those observed or inferred from the information gathered during our exploration. We disclaim responsibility for any data presented by third parties.

The recommendations outlined in this report are predicated on the assumption that the engineer of record will be retained throughout the construction phase to oversee all activities related to this report and verify that the conditions align with those observed during our exploration. Should we not be retained for these services, RBE cannot be held liable for any claims that may arise during or after construction due to the misuse or misinterpretation of this report by other parties. Additionally, RBE will relinquish its role as the engineer of record if we are not retained for these services or if another consultant is engaged for subsequent services related to this report.

The Client is responsible for ensuring that all project participants, including the Designer, Contractor, Subcontractors, Civil and Structural Engineers, etc., are informed of this geotechnical report in its entirety. The use of information in this report for bidding purposes is at the Contractor's discretion and risk. If the scope of the proposed construction changes from that described in this report, our firm should be notified.

This report is intended for use by the Client and only for the stated purposes, within a reasonable time from its issuance. Land use, site conditions (both on and offsite), or other factors may change over time. Changes in applicable standards of practice can occur due to legislation and/or expanded knowledge. Additionally, geotechnical issues may arise that were not evident during our exploration. Any party, other than the Client, who intends to use this report should notify RBE of such intention. Non-compliance with these requirements by the Client or any other party will release RBE from any liability resulting from unauthorized use of this report.

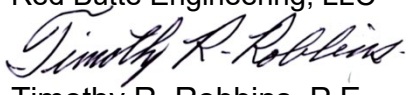
7.2 Additional Services

The recommendations presented in this report are predicated on the condition that comprehensive tests and observations will be carried out during the construction phase to ensure adherence to these recommendations. These tests and observations should be conducted by the engineer of record and encompass, but not be limited to, the following:

- Approve all materials for fill placement.
- Oversee the scarification and re-compaction of the upper 6 to 8 inches of soil.
- Conduct field density tests on each lift of fill, or one test per 2,000 square feet of fill area, to ensure compliance with compaction standards. The representative should observe the progress of compaction and filling operations.
- Perform footing inspections if conventional shallow foundations are chosen for the support of the residential structure.
- Maintain detailed records of on-site activities and site progress.
- Provide Special Inspection Services during construction.

Red Butte Engineering (RBE) values the opportunity to have contributed to this phase of the project. If you have any questions regarding the contents of this report or any other matter, please feel free to contact us at (928) 445-1164.

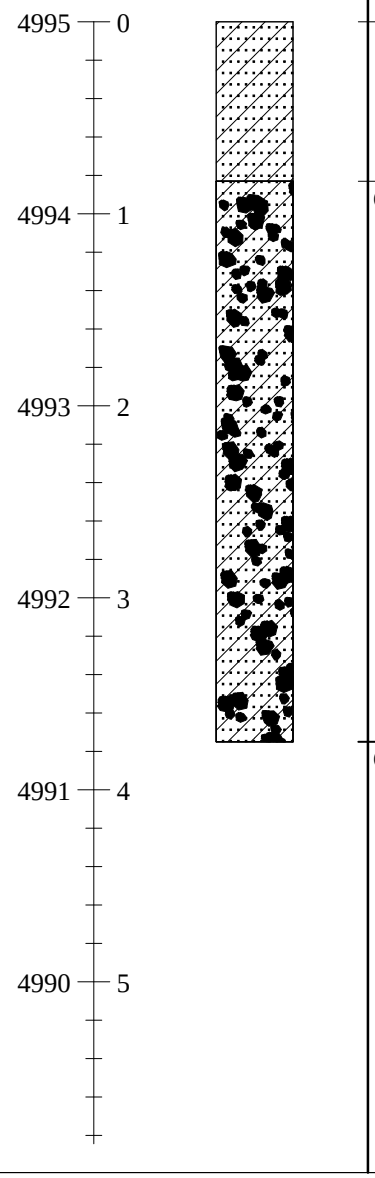
Sincerely,
Red Butte Engineering, LLC



Timothy R. Robbins, P.E.
Project Engineer

TEST PIT LOG
Test Pit No.: 1

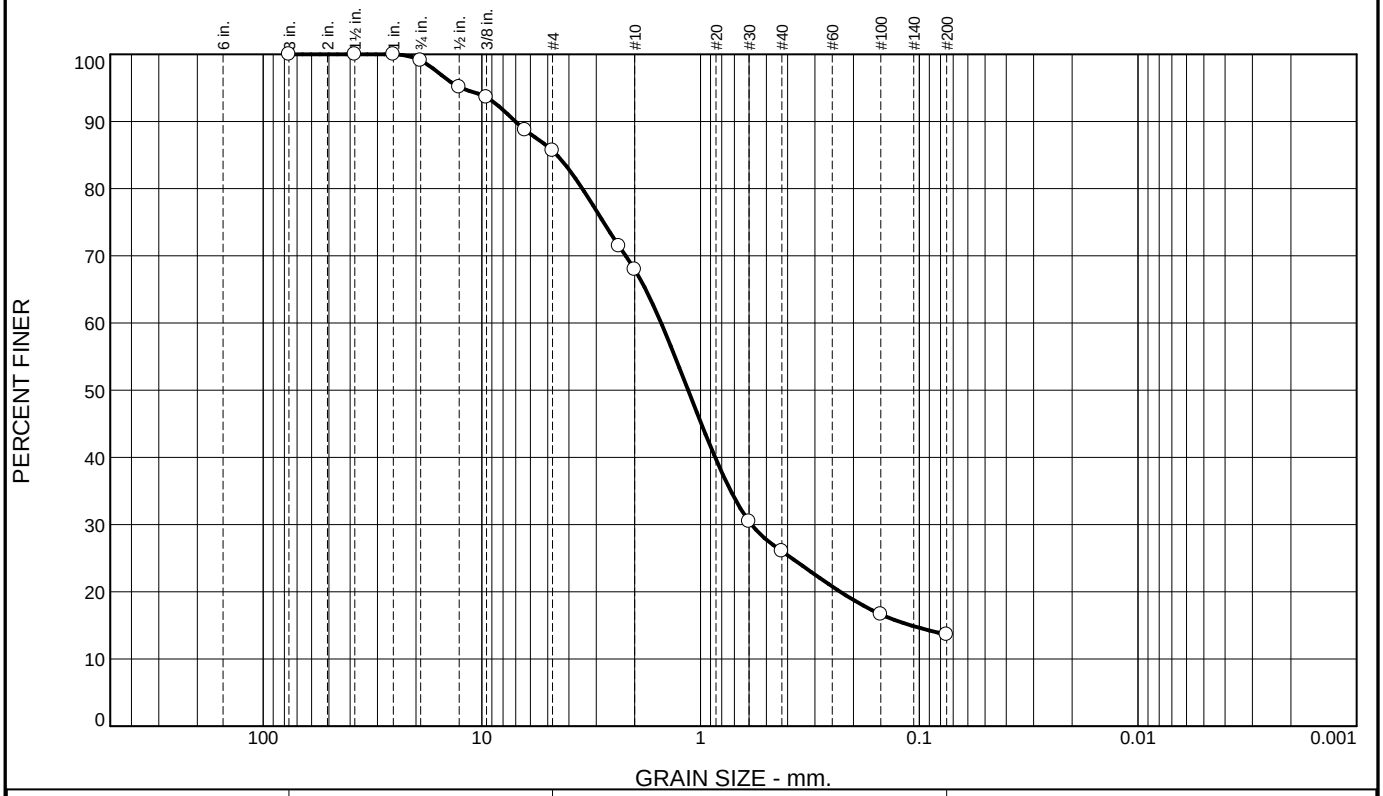
PROJECT	PROJECT NO.
5636 W Meriah Lane, Prescott, Arizona Lot 38, Talking Rock Ranch, Phase 12, APN 306-57-573	AZ25-319
CLIENT	DATE
Imperial Builders	08/08/25
LOCATION	ELEV.
In the Vicinity of the House Building Prism	4995
EXCAVATION METHOD	LOGGER
Backhoe	LDY
DEPTH TO - Water: When checked:	Caving:



ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS: GRAPHIC	BULK	DRIVEN	USCS	DESCRIPTION	DENSITY pcf	MOISTURE %
				SC	Light Reddish-Brown Clayey Sand		
				GP-GC	Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand		
				GP-GC			

Notes: *Figure 1*

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.9	13.5	17.6	42.0	12.4	13.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3"	100.0		
1-1/2"	100.0		
1"	100.0		
3/4"	99.1		
1/2"	95.1		
3/8"	93.6		
1/4"	88.7		
#4	85.6		
#8	71.4		
#10	68.0		
#30	30.5		
#40	26.0		
#100	16.7		
#200	13.6		

* (no specification provided)

Material Description

Light Reddish-Brown Clayey Sand

Atterberg Limits

PL= 21 LL= 30 PI= 9

Classification

USCS= GP-GC AASHTO= A-2-4(0)

Remarks

Source of Sample: 1 **Depth:** 0.83

Date: 09/08/25

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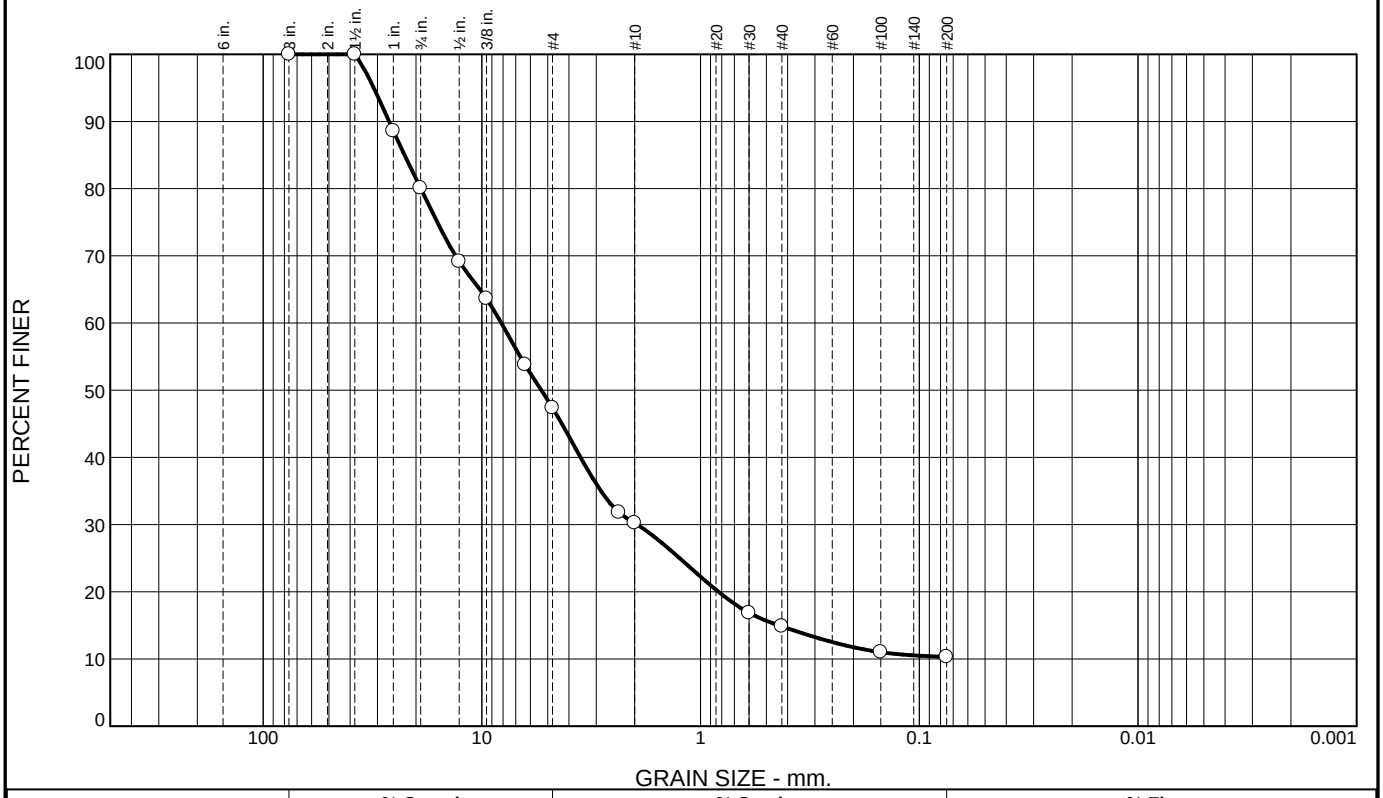
Client: Imperial Builders

Project: 5636 W Meriah Lane, Prescott, Arizona
Lot 38, Talking Rock Ranch, Phase 12, APN 306-57-573

Project No: AZ25-319 **Figure** 2

Tested By: TZ **Checked By:** CS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	19.9	32.7	17.2	15.3	4.6	10.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3"	100.0		
1-1/2"	100.0		
1"	88.6		
3/4"	80.1		
1/2"	69.2		
3/8"	63.6		
1/4"	53.8		
#4	47.4		
#8	31.8		
#10	30.2		
#30	16.9		
#40	14.9		
#100	11.0		
#200	10.3		

* (no specification provided)

Material Description

Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand

Atterberg Limits

PL= 21 LL= 33 PI= 12

Classification

USCS= GP-GC AASHTO= A-2-6(0)

Remarks

Source of Sample: 1 **Depth:** 3.75

Date: 09/08/25

RED BUTTE ENGINEERING, LLC
CIVIL ENGINEERING & CONSTRUCTION MANAGEMENT
3711 S. Estate Drive
Prescott, AZ 86303
Phone No. (928) 445-1164
Fax No. (928) 445-0842

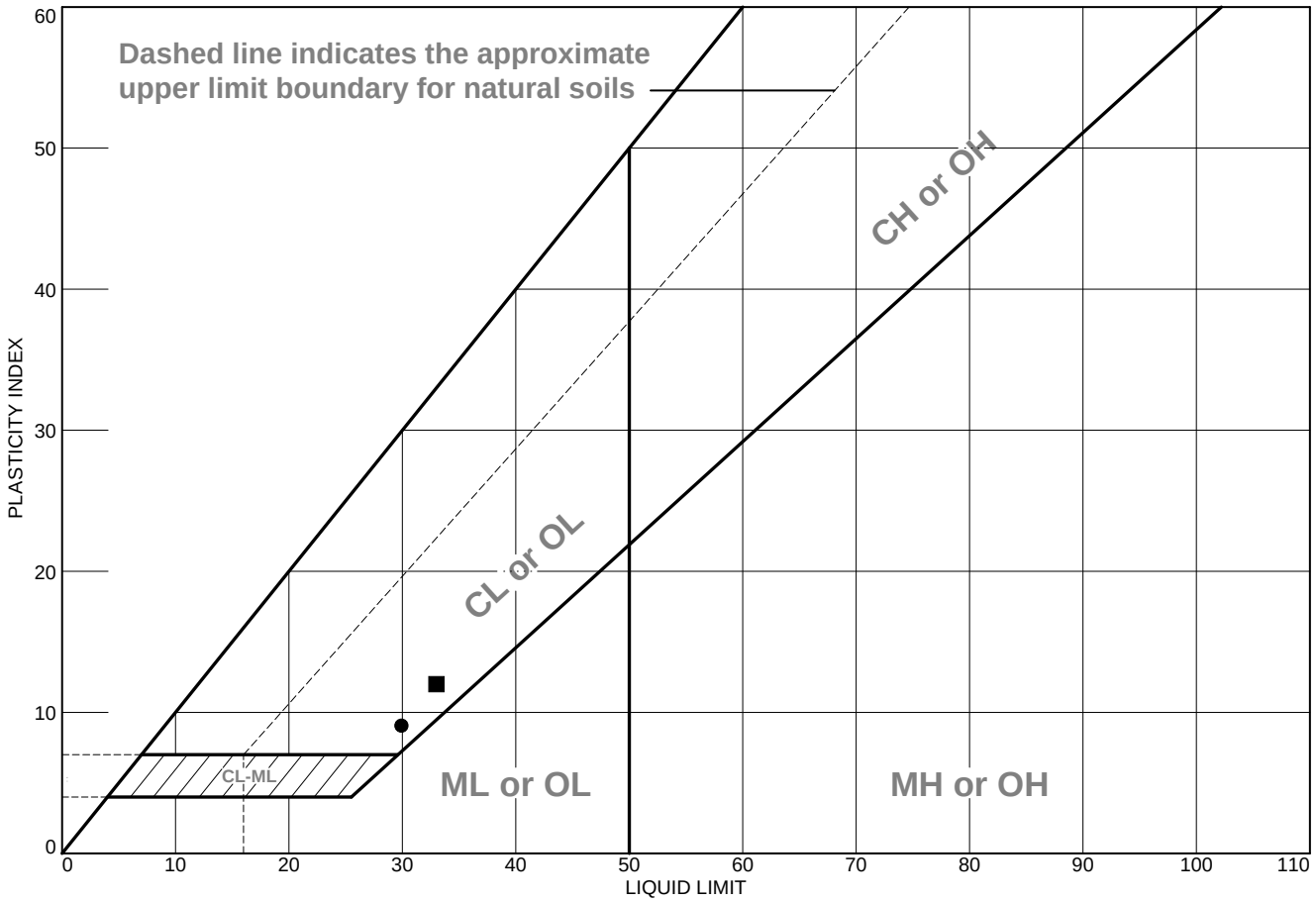
Client: Imperial Builders

Project: 5636 W Meriah Lane, Prescott, Arizona
Lot 38, Talking Rock Ranch, Phase 12, APN 306-57-573

Project No: AZ25-319 **Figure** 3

Tested By: TZ **Checked By:** CS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Light Reddish-Brown Clayey Sand	30	21	9	26.0	13.6	GP-GC
■	Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand	33	21	12	14.9	10.3	GP-GC

Project No. AZ25-319 **Client:** Imperial Builders

Project: 5636 W Meriah Lane, Prescott, Arizona
Lot 38, Talking Rock Ranch, Phase 12, APN 306-57-573

●**Source of Sample:** 1 **Depth:** 0.83

■**Source of Sample:** 1 **Depth:** 3.75

Remarks:

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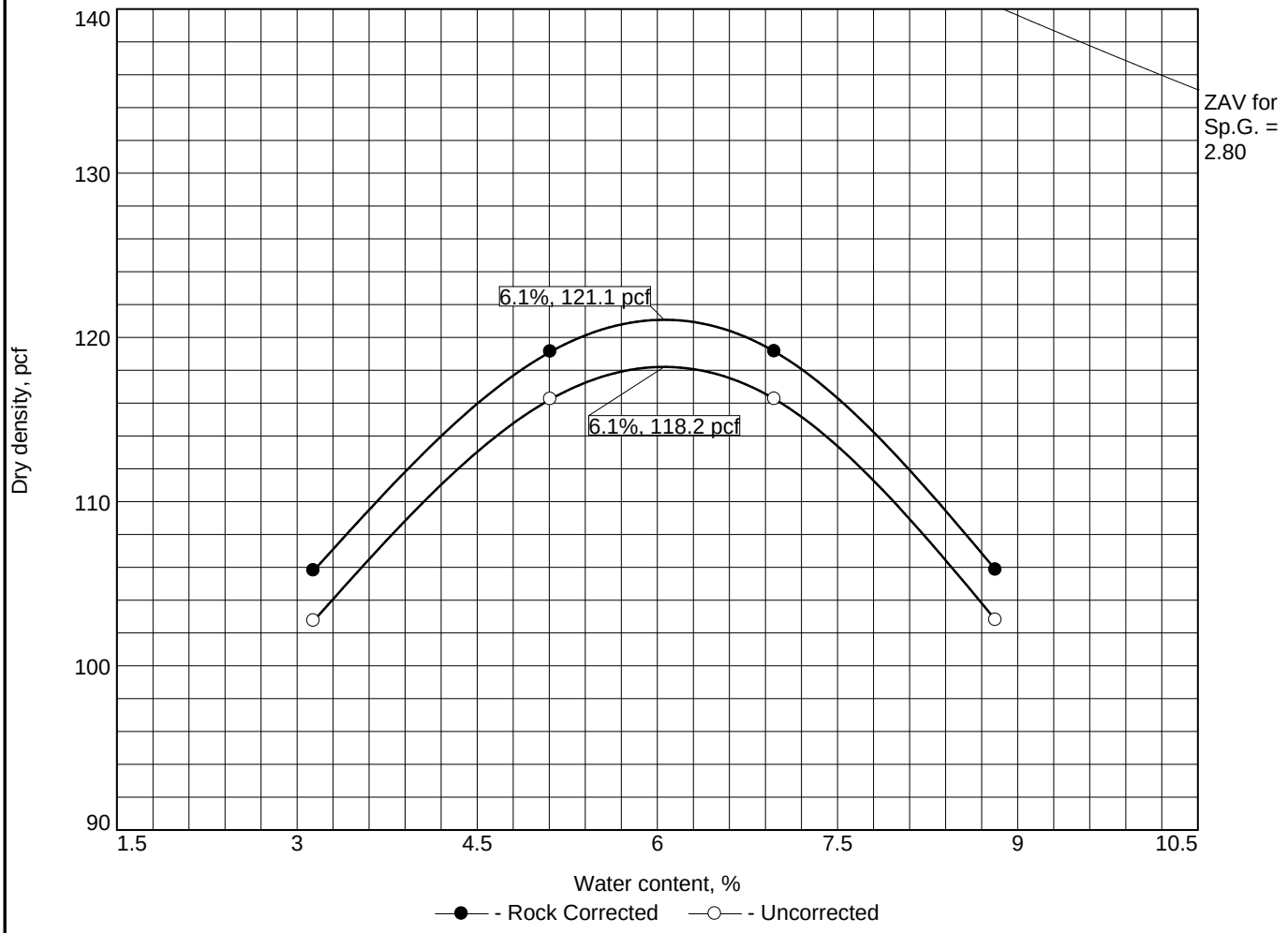
Figure 4

Tested By: TZ **Checked By:** CS

MOISTURE-DENSITY REPORT



Test specification: ASTM D 698-91 Procedure B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
0.83	GP-GC	A-2-4(0)		2.8	30	9	6.4	13.6

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 121.1 pcf	118.2 pcf	Light Reddish-Brown Clayey Sand
Optimum moisture = 6.1 %	6.1 %	

Project No. AZ25-319 **Client:** Imperial Builders
Project: 5636 W Meriah Lane, Prescott, Arizona
Lot 38, Talking Rock Ranch, Phase 12, APN 306-57-573
○**Source of Sample:** 1

Remarks:

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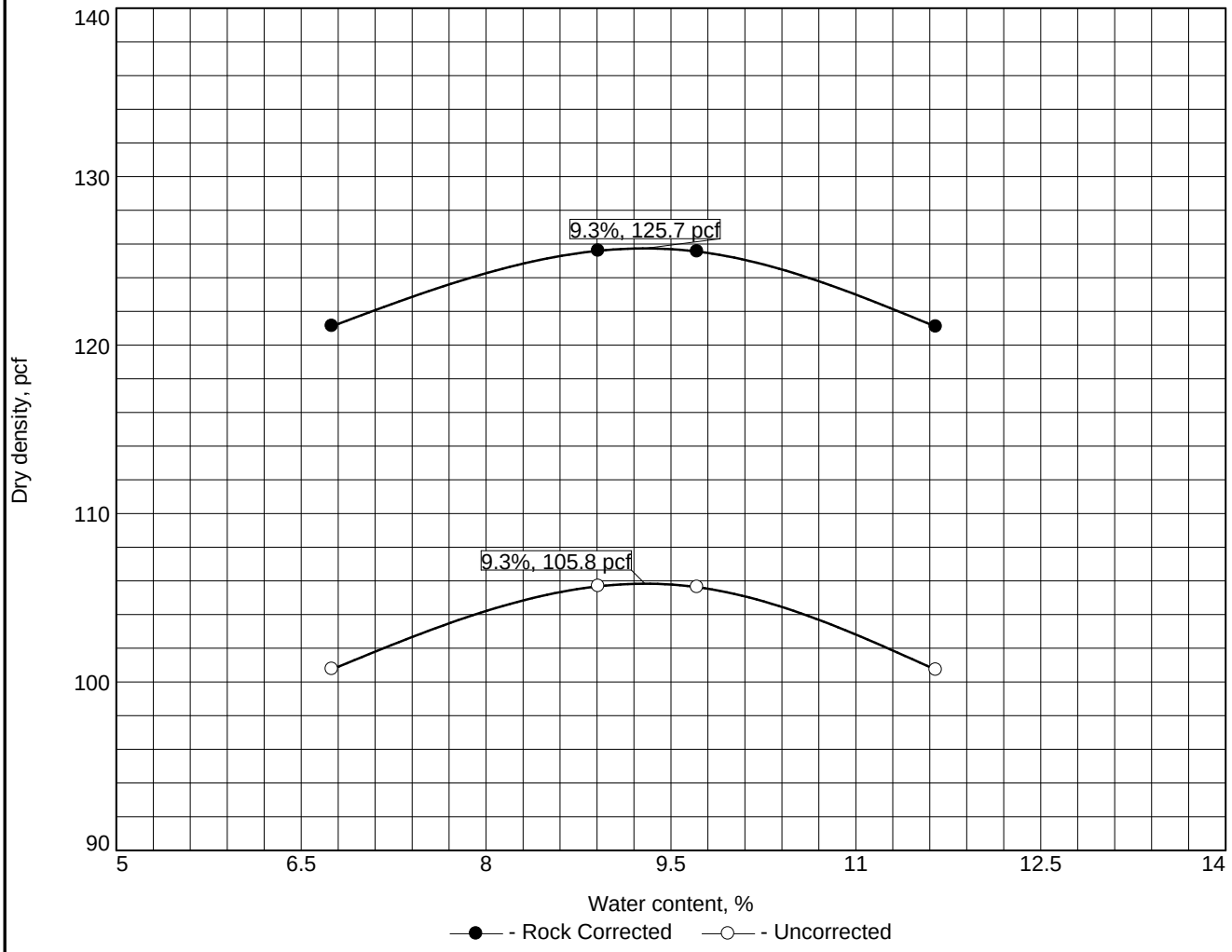
Figure 5

Tested By: TZ **Checked By:** CS

MOISTURE-DENSITY REPORT



Test specification: ASTM D 698-91 Procedure B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
3.75	GP-GC	A-2-6(0)		2.8	33	12	36.4	10.3

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 125.7 pcf	105.8 pcf	Dark Reddish-Brown Very Rocky Poorly Graded Gravel with Clay and Sand
Optimum moisture = 9.3 %	9.3 %	

Project No. AZ25-319 **Client:** Imperial Builders
Project: 5636 W Meriah Lane, Prescott, Arizona
Lot 38, Talking Rock Ranch, Phase 12, APN 306-57-573
○**Source of Sample:** 1

Remarks:

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Figure 6

Tested By: TZ **Checked By:** CS