

**GEOTECHNICAL ENGINEERING
SERVICES REPORT
JOB NO. 1-41005**

**PUEBLO OF POJOAQUE
JUDICIAL CENTER
SITE WORK**

POJOAQUE, NEW MEXICO

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660

PREPARED FOR:

BUFFALO DESIGN ARCHITECTS

December 3, 2024
Job No. 1-41005

**Buffalo Design Architects
10899 Montgomery Blvd. NE
Albuquerque, NM 87111**

ATTN: Mike Salvador

RE: Geotechnical Engineering Services Report
Pueblo of Pojoaque Judicial Complex Site Work
Pojoaque, NM

Dear Mr. Salvador:

Submitted herein is the Geotechnical Engineering Services Report for the above referenced project. The report contains the results of our field investigation, laboratory testing, and recommendations for perimeter wall and pavement design as well as criteria for site grading.

It has been a pleasure to serve you on this project. If you should have any questions, please contact this office.

Respectfully submitted:
GEO-TEST, INC.

Patrick R. Whorton, PE



Reviewed By:

Patrick J. Byres, PE

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660

Table of Contents

INTRODUCTION..... 4
PROPOSED CONSTRUCTION 4
FIELD EXPLORATION 4
LABORATORY TESTING 5
SURFACE CONDITIONS 5
SUBSURFACE SOIL CONDITIONS 5
CONCLUSIONS AND RECOMMENDATIONS 6
PERIMETER WALL 7
PAVEMENT DESIGN..... 8
SITE GRADING 9
EXCAVATIONS..... 10
MOISTURE PROTECTION..... 11
FOUNDATION REVIEW AND INSPECTION..... 11
CLOSURE..... 12
CONCEPTUAL SITE PLAN 13
BORING LOCATION MAP 14
BORING LOGS 15
SUMMARY OF LABORATORY RESULTS..... 21
GRAIN SIZE DISTRIBUTION..... 23
CONSOLIDATION RESULTS..... 25

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660



INTRODUCTION

This report presents the results of our geotechnical engineering services investigation performed by this firm for the proposed Site Work to be completed for the Pueblo of Pojoaque Judicial Center in Pojoaque, New Mexico.

The objectives of this investigation were to:

- 1) Evaluate the nature and engineering properties of the subsurface soils underlying the site.
- 2) Provide recommendations for perimeter wall and pavement design as well as criteria for site grading.

The investigation includes subsurface exploration, selected soil sampling, laboratory testing of the samples, performing an engineering analysis and preparation of this report.

PROPOSED CONSTRUCTION

It is understood that the project consists of the construction of a new perimeter wall around the subject property as well as new pavement within the parking areas. See attached Conceptual Site Plan, Figure 1.

Should structural loads or other project details vary significantly from those outlined above, this firm should be notified for review and possible revision of the recommendations contained herein.

FIELD EXPLORATION

Six (6) exploratory borings were drilled at the site to depths of 1.5 to 10 feet below existing site grades. Locations of the borings are shown on the attached Boring Location Map, Figure 2. The soils encountered in the borings were continuously examined, visually classified and logged during the drilling operation. The boring logs are presented in a following section of this report. Drilling was accomplished using a truck mounted drill rig equipped with 2.25-inch inner diameter hollow stem auger. Subsurface materials were sampled at five-foot intervals or less utilizing an open tube split barrel sampler driven by a standard penetration test hammer.

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660



LABORATORY TESTING

Selected samples were tested in the laboratory to determine certain engineering properties of the soils. Moisture contents were determined to evaluate the various soil deposits with depth. The results of these tests are shown on the boring logs.

Sieve analysis and Atterberg limits tests were performed to aid in soil classification. Consolidation/expansion testing was performed on a selected undisturbed sample to evaluate the volume change characteristics of the native soils upon moisture increases. The results of these tests are presented in the Summary of Laboratory Results and on the individual test reports presented in a following section of this report.

SURFACE CONDITIONS

A brief surface reconnaissance was performed during our site exploration. At the time this investigation was conducted, the site was fully developed with an approximately 20,000 square foot building surrounded by asphalt pavement. At the locations where the exploratory borings penetrated the existing pavement, 1 to 2 inches of asphalt over 3 to 4 inches of base course was encountered. Old pavement was encountered below the base course at the Boring 6 location which was 1.5 inches thick and deteriorated.

SUBSURFACE SOIL CONDITIONS

As indicated by the exploratory borings, the subsurface soils encountered below the subject property varied somewhat from each location explored.

At the Boring 1 location, below the existing pavement, medium plasticity clayey sand was encountered and extended to a depth of 1.5 feet below surface grade where the boring depth was halted due to unmarked below grade utilities in the area.

At the Boring 2 location, non-plastic silt was encountered at the surface extended to a depth of about 1 foot below surface grade where medium dense non-plastic silty sand was encountered and extended to the full depth explored.

At the Boring 3 location, below the existing pavement, firm to soft low plasticity clayey sand with gravel was encountered and extended to a depth of 4 feet below surface grade where very loose non-plastic silty sand was encountered and extended to the full depth explored.

At the Boring 4 location, medium dense non-plastic silty sand was encountered at the surface and extended to a depth of 2 feet below surface grade where

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660



firm to moderately firm medium plasticity sandy clay was encountered and extended to the full depth explored.

At the Boring 5 location, very soft to soft medium plasticity clayey sand was encountered at the surface and extended to a depth of 4 feet below surface grade where very soft medium plasticity sandy clay was encountered and extended to the full depth explored.

At the Boring 6 location, below the existing pavement, moderately firm medium plasticity clayey sand with gravel was encountered and extended to the full depth explored.

No free groundwater was encountered in the borings. Soil moisture contents were found to vary significantly from dry (3-5%) within some of the sandy soils to very moist (20-30%) within some of the clayey soils.

CONCLUSIONS AND RECOMMENDATIONS

There is significant variation in the subsurface soils encountered throughout the site ranging from dry medium dense silty sand to very moist and soft sandy clay. The low density soils encountered are not considered suitable to provide reliable support of the proposed perimeter wall. Wall foundations bearing on these soils would be susceptible to excessive differential settlements, particularly upon significant changes in subsurface moisture content. However, with site preparation and very careful moisture protection, as recommended in a following section of this report, the proposed wall may be supported on shallow spread-type footings bearing directly on properly compacted structural fill.

The site preparation would involve overexcavation of the existing soils throughout the wall foundation areas to such an extent as to provide for at least 2.0 feet of properly compacted, non-expansive structural fill below all slabs on grade and foundations or to a depth of 4.0 feet below existing surface grades, whichever is the greater depth of excavation. The limits of the overexcavation should also extend laterally from the footing perimeters a distance equal to the depth of fill beneath their bases. The exposed native soils at the base of the excavation should be densified prior to placement of structural fill. Detailed recommendations for foundation design and the required site grading are presented in the following sections of this report.

According to the American Association of State Highway and Transportation Officials (AASHTO) soil classification system, the onsite soils classify as A-6, A-4 and A-2-4. These soils have correlated R-Values ranging from 11 to 55 and are considered poor to excellent subgrade soils for pavements. The pavement sections recommended in a following section of this report were developed for use with the low R-Value soils encountered such that these

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660



recommended sections may be used throughout the site with no special subgrade preparation required beyond densification.

Post-construction moisture increases in the supporting soils could cause some differential foundation movements and premature deterioration of pavements. Therefore, moisture protection is considered a critical design consideration and should be reflected in overall site grading and drainage details as recommended in the Moisture Protection section of this report.

PERIMETER WALL

Shallow spread-type footings bearing directly on a minimum thickness of 2.0 feet of properly compacted structural fill are recommended for the support of the perimeter wall. An allowable bearing pressure of 2,500 pounds per square foot is recommended for footing design. This bearing pressure applies to full dead load plus realistic live loads and can be safely increased by one-third for total loads including wind and seismic forces.

Exterior footings should be established a minimum of 2.0 feet below lowest adjacent finished grade. The minimum recommended width of square and continuous footings is 2.0 and 1.33 feet, respectively.

Resistance to lateral forces will be provided by soil friction between the base of foundation elements and the soil and by passive earth resistance against the sides of the footings. A coefficient of friction of 0.40 should be used for computing the lateral resistance between bases of footings and slabs and the soil. With backfill placed as recommended in the Site Grading section of this report, a passive soil resistance equivalent to a fluid weighing 375 pounds per cubic foot should be used for analysis.

Lateral pressure against retaining walls will depend upon the degree of restraint. Walls which are restrained so as to limit movement at the top of the wall to less than 0.001 times the height of the wall should be designed for an 'at rest' earth pressure of 55 pounds per square foot of depth. Walls free to move at the top should be designed using an 'active' earth pressure equal to 35 pounds per square foot per foot of depth. These recommended lateral pressures are applicable to a condition of horizontal backfill without surcharge loads. Analysis of earth pressures produced by sloping backfill or surcharge loads can be provided by this firm upon request.

The lateral pressures presented above assume no buildup of hydrostatic pressures behind the walls. To prevent the buildup of hydrostatic pressures, adequate weep holes should be provided or composite drainage systems such as Miradrain or equivalent can be installed on the backside of the walls prior to backfilling. The drainage layer should be connected to a collector pipe at the base of the walls and routed to a sump or to a positive gravity drain.

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660



Retaining wall backfill should meet the structural fill specifications outlined in the Site Grading section of this report. During backfilling, the contractor should be limited to the use of hand operated compaction equipment within a zone of about 3 feet horizontally from the back of the walls. The use of heavier equipment could apply lateral pressures well in excess of the recommended design earth pressure, particularly over the upper portions of the walls.

Total settlements of foundations designed and constructed as recommended herein are estimated not to exceed $\frac{3}{4}$ inch for the soil moisture contents encountered during this investigation or moisture contents introduced during construction. Differential movements should be less than 75 percent of total movements. Significant post-construction moisture increases in the foundation supporting soils as well as deeper loose soils could create additional movements and could cause excessive movements at least in some areas of the site. Accordingly, the moisture protection provisions as recommended in a following section of this report are considered critical for the satisfactory performance of the structure.

PAVEMENT DESIGN

Prior to the placement of pavement sections recommended below, the subgrade soils should be scarified to a depth of 12 inches, moisture conditioned to ± 2 percent of optimum moisture content and compacted to a minimum of 95 percent of maximum dry density as determined in accordance with ASTM D-1557.

With the above recommended subgrade preparation, a flexible pavement section consisting of 3 inches of Hot Mix Asphalt (HMA) over 6 inches of aggregate base course placed directly over a minimum of 12 inches of properly compacted native subgrade is recommended for automobile parking and drive lanes with an allowance for 1 percent heavy truck traffic. Areas of regular truck traffic exceeding this allowance should utilize a section consisting of 4 inches of Hot Mix Asphalt (HMA) over 6 inches of aggregate base course placed directly over a minimum of 12 inches of properly compacted native subgrade or utilize the rigid pavement section recommended below.

The HMA should be SPIII, SPIV or equivalent parking lot mix, compacted to a target density of 94.5 percent, with a minimum compaction of 92 and a maximum compaction of 97 percent of the theoretical maximum density. The recommended Performance Grade (PG) asphalt binder used should be 58-28 according to the NMDOT Design Manual. These pavement recommendations are in general conformance with publications prepared by the *Asphalt Institute*.

With the above recommended subgrade preparation, a rigid pavement section consisting of 6 inches of Portland Cement Concrete (PCC) placed directly over the minimum of 12 inches of properly compacted subgrade is recommended

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660



for areas of concentrated heavy vehicle loads such as dumpster pads and loading docks. The pavement recommendations are in general conformance with ACI 330R-01 *Guide for Design and Construction of Concrete Parking Lots*.

The PCC should have a minimum compressive strength of 4000 psi, be air entrained to between 4.5 and 7.0 percent, and have a maximum aggregate size of 2 inches. The concrete should be placed at a maximum slump of 4 inches. Admixtures may be used to increase the slump and workability provided that the compressive strength is not compromised.

The use of reinforcement within the PCC should be left to the discretion of the structural engineer; however, it is recommended that the pavement be constructed with load transfer joints designed for heavy traffic.

SITE GRADING

The following general guidelines should be included in the project construction specifications to provide a basis for quality control during site grading. It is recommended that all structural fill and backfill be placed and compacted under engineering observation and in accordance with the following:

- 1) Once the site has been cleared, the existing site soils throughout the building area should be overexcavated to such an extent as to provide for at least 2.0 feet of properly compacted structural fill beneath all perimeter wall foundations or to a depth of 4.0 feet below existing surface grade, whichever is the greater depth of excavation. The overexcavation limits should extend laterally beyond the footing perimeters equal to the depth of fill beneath their bases. The soils exposed at the base of the overexcavation should be densified before placement of structural fill.
- 2) After required excavations, the exposed cut surface should be densified prior to the placement of structural fill. Densification of the exposed native soils should consist of scarifying to a depth of 12 inches, moisture conditioning to the optimum moisture content or above and compacting the subgrade to a minimum of 95 percent of maximum dry density as determined in accordance with ASTM D-1557.
- 3) The results of this investigation indicate that most of the onsite soils will be suitable for use as structural fill, although some blending may be required to meet the specifications presented below. Any imported material must also meet the criteria for structural fill.
- 4) All structural fill and backfill should be free of vegetation and debris and contain no rocks larger than 3 inches. Gradation of the backfill material, as determined in accordance with ASTM D-422, should be as follows:

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660



Size	Percent Passing
3 inch	100
No. 4	60 - 100
No. 200	15 - 60

- 5) The plasticity index of the structural fill should be no greater than 15 when tested in accordance with ASTM D-4318.
- 6) Structural fill, general backfill and base course consisting of soils approved by the geotechnical engineer, shall be placed in 12-inch loose lifts and compacted with approved compaction equipment. Loose lifts should be reduced to 8 inches if handheld compaction equipment is used. All compaction of fill or backfill shall be accomplished to a minimum of 95 percent of the maximum dry density as determined in accordance with ASTM D-1557. The moisture content of the structural fill during compaction should be within 2 percent of the optimum moisture content.
- 7) Tests for degree of compaction should be determined by the ASTM D-1556 method or ASTM D-6938. Observation and field tests should be carried on during fill and backfill placement by the geotechnical engineer to assist the contractor in obtaining the required degree of compaction. If less than 95 percent is indicated, additional compaction effort should be made with adjustment of the moisture content as necessary until 95 percent compaction is obtained.

EXCAVATIONS

The surficial soils encountered during this investigation may be readily excavated using normal earthmoving equipment.

Excavated slopes for foundation and utility construction should be designed and constructed in accordance with 29 CFR 1926, Subpart P, and any applicable state or local regulations. Excavated temporary and permanent slopes should not exceed 1.5 to 1 (horizontal to vertical). The contractor should be responsible for all temporary excavation slopes excavated for the purpose of structural fill placement as well as the design of any required temporary shoring, as applicable. Shoring, bracing, and benching should be performed by the contractor in accordance with applicable safety standards. Spoil piles and heavy equipment should not be allowed within 5 feet of the top of the slopes.

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660



MOISTURE PROTECTION

Positive drainage should be established away from the wall perimeter. A typical adequate slope is 6 inches in the first 5 feet with positive drainage being provided from those points to streets, pavement or natural water courses. If necessary to provide positive drainage, the building area should be raised above adjacent grades with structural fill.

Irrigation within 10 feet of foundations is discouraged or at the very least should be carefully controlled. Proper landscaping and drainage maintenance are required to preclude accumulation of excessive moisture in the soils below the structure and throughout the site. This should include but is not limited to routine maintenance checks of irrigation system to ensure no leakage and proper functionality and that irrigation is adjusted and maintained seasonally so that over watering does not occur. Native drought resistant plants are recommended for use in landscaping. Landscape features should not impede positive drainage away from foundations as recommended above.

Drainage control ponds or any other drainage/landscaping feature which allow for surface waters to infiltrate the subsurface soils should not be placed within 20 feet of building foundations.

Increases in the subgrade moisture content can weaken the subgrade soils, thereby shortening pavement life and causing localized failure. Therefore, all paved areas should be graded to drain and not allow any ponding on the surface of the paved areas. Positive drainage should be provided away from the perimeter of all paved areas for a distance of at least 10 feet. It is recommended that the pavement be graded with a 2 percent crown or slope to facilitate drainage.

The foregoing recommendations should only be considered minimum requirements for overall site development. It is recommended that a civil/drainage engineer be consulted for more detailed grading and drainage recommendations.

FOUNDATION REVIEW AND INSPECTION

This report has been prepared to aid in the evaluation of this site and to assist in the design of this project. It is recommended that the geotechnical engineer be provided the opportunity to review the final design drawings and specifications in order to determine whether the recommendations in this report are applicable to the final design. Review of the final design drawings and specifications should be noted in writing by the geotechnical engineer.

In order to permit correlation between the conditions encountered during construction and to confirm recommendations presented herein, it is recommended that the geotechnical engineer be retained to perform

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660



continuous observations and testing during the earthwork portion of this project. Observation and testing should be performed during construction to confirm that suitable fill soils are placed upon competent materials and properly compacted and foundation elements penetrate the recommended soils.

CLOSURE

Our conclusions, recommendations and opinions presented herein are:

- 1) Based upon our evaluation and interpretation of the findings of the field and laboratory program.
- 2) Based upon an interpolation of soil conditions between and beyond the explorations.
- 3) Subject to confirmation of the conditions encountered during construction.
- 4) Based upon the assumption that sufficient observation will be provided during construction.
- 5) Prepared in accordance with generally accepted professional geotechnical engineering principles and practice.

This report has been prepared for the sole use of Buffalo Design Architects, specifically to aid in the design of the proposed Pojoaque Judicial Complex Site Work project in Pojoaque, New Mexico, and not for use by any third parties without consent.

We make no other warranty, either expressed or implied. Any person using this report for bidding or construction purposes should perform such independent investigation as they deem necessary to satisfy themselves as to the surface and subsurface conditions to be encountered and the procedures to be used in the performance of work on this project. If conditions encountered during construction appear to be different than indicated by this report, this office should be notified.

All soil samples will be discarded 60 days after the date of this report unless we receive a specific request to retain the samples for a longer period of time.

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA NE
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT.
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660

CONCEPTUAL SITE PLAN



Judicial Center Site Work
 Pojoaque, New Mexico
 Job No. 1-41005

Figure 1



GEO-TEST
 GEOTECHNICAL ENGINEERING
 AND MATERIAL TESTING

BORING LOCATION MAP



Judicial Center Site Work
Pojoaque, New Mexico
Job No. 1-41005

Figure 2



GEO-TEST
GEOTECHNICAL ENGINEERING
AND MATERIAL TESTING



Project: Judicial Center Site Work

Date: 11/22/2024

Project No: 1-41005

Elevation:

Type: 2.25" ID HSA

LOG OF TEST BORINGS

GROUNDWATER DEPTH

NO: 1

During Drilling: none

After 24 Hours:

DEPTH (Ft)	LOG	SAMPLE						SUBSURFACE PROFILE				
		SAMPLE INTERVAL	TYPE	N. BLOWS/FT	MOISTURE %	DRY DENSITY (pcf)	USC	DESCRIPTION	N blows/ft 20 40 60 80			
			AC		15		AC	1.5 inches ASPHALT over 4 inches BASE COURSE				
			AC				SC	CLAYEY SAND, medium plasticity, moist, brown				
								Stopped Auger @ 1.5 feet due to unmarked utility lines				
5												
10												

LOG OF TEST BORING 1-41005.GPJ GEO TEST.GDT 12/3/24

LEGEND

SS - Split Spoon
 AC - Auger Cuttings
 UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level
 CS - Continuous Sampler
 UD - Undisturbed
 ST - Shelby Tube

Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.



Project: Judicial Center Site Work

Date: 11/22/2024

Project No: 1-41005

Elevation:

Type: 2.25" ID HSA

LOG OF TEST BORINGS

GROUNDWATER DEPTH

NO: 2

During Drilling: none

After 24 Hours:

DEPTH (Ft)	LOG	SAMPLE INTERVAL	SAMPLE					SUBSURFACE PROFILE		
			TYPE	N. BLOWS/FT	MOISTURE %	DRY DENSITY (pcf)	USC	DESCRIPTION	N blows/ft	
									20 40 60 80	
			AC		14		ML	SILT, non-plastic, moist, gray		
			SS	7-17-13 30	3		SM	SILTY SAND, non-plastic, medium dense, dry, light brown/gray	30	
			SS	12-14-15 29	3				29	
5			SS	6-10-12 22	6				22	
			Stopped Auger @ 4 feet Stopped Sampler @ 5.5 feet							

LOG OF TEST BORING 1-41005.GPJ GEO TEST.GDT 12/3/24

LEGEND

SS - Split Spoon
 AC - Auger Cuttings
 UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level
 CS - Continuous Sampler
 UD - Undisturbed
 ST - Shelby Tube

Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.



Project: Judicial Center Site Work

Date: 11/22/2024

Project No: 1-41005

Elevation:

Type: 2.25" ID HSA

LOG OF TEST BORINGS

GROUNDWATER DEPTH

NO: 3

During Drilling: none

After 24 Hours:

DEPTH (Ft)	LOG	SAMPLE						SUBSURFACE PROFILE	
		SAMPLE INTERVAL	TYPE	N. BLOWS/FT	MOISTURE %	DRY DENSITY (pcf)	USC	DESCRIPTION	N blows/ft
									20 40 60 80
							AC	1 inch ASPHALT over 4 inches BASE COURSE	
			SS	8-9-11 20	10		SC	CLAYEY SAND with GRAVEL, low plasticity, firm to soft, moist, brown	20
			SS	5-4-4 8	14				8
5			SS	3-1-2 3	11		SM	SILTY SAND, non-plastic, very loose, moist, light brown	3
								Stopped Auger @ 4 feet Stopped Sampler @ 5.5 feet	
10									

LOG OF TEST BORING 1-41005.GPJ GEO TEST.GDT 12/3/24

LEGEND

SS - Split Spoon
 AC - Auger Cuttings
 UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level
 CS - Continuous Sampler
 UD - Undisturbed
 ST - Shelby Tube

Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.



Project: Judicial Center Site Work

Date: 11/22/2024

Project No: 1-41005

Elevation:

Type: 2.25" ID HSA

LOG OF TEST BORINGS

GROUNDWATER DEPTH

NO: 4

During Drilling: none

After 24 Hours:

DEPTH (Ft)	LOG	SAMPLE						SUBSURFACE PROFILE	
		SAMPLE INTERVAL	TYPE	N. BLOWS/FT	MOISTURE %	DRY DENSITY (pcf)	USC	DESCRIPTION	N blows/ft
									20 40 60 80
			SS	8-12-11 23	10		SM	SILTY SAND, non-plastic, medium dense, moist, brown	23
			SS	9-10-10 20	7		CL	SANDY CLAY, medium plasticity, firm to moderately firm, dry, light brown	20
5			SS	7-6-6 12	6				12
								Stopped Auger @ 4 feet Stopped Sampler @ 5.5 feet	
10									

LOG OF TEST BORING 1-41005.GPJ GEO TEST.GDT 12/3/24

LEGEND

SS - Split Spoon

AC - Auger Cuttings

UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level

CS - Continuous Sampler

UD - Undisturbed

ST - Shelby Tube

Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.



Project: Judicial Center Site Work

Date: 11/22/2024

Elevation:

Project No: 1-41005

Type: 2.25" ID HSA

LOG OF TEST BORINGS

GROUNDWATER DEPTH

NO: 5

During Drilling: none

After 24 Hours:

DEPTH (Ft)	LOG	SAMPLE						SUBSURFACE PROFILE				
		SAMPLE INTERVAL	TYPE	N. BLOWS/FT	MOISTURE %	DRY DENSITY (pcf)	USC	DESCRIPTION	N blows/ft			
									20	40	60	80
0		0-2	SS	2-2-1 3	24	107	SC	CLAYEY SAND, medium plasticity, very soft to soft, very moist, brown	0	0	0	0
2		2-3	UD	2-3 5	22				0	0	0	0
3		3-5	SS	1-1-2 3	30		CL	SANDY CLAY, medium plasticity, very soft, very moist, light brown	0	0	0	0
5		5-7	SS	2-1-2 3	19				0	0	0	0
7		7-9	SS	2-1-2 3	19	0			0	0	0	
10		10-10.5						Stopped Auger @ 9 feet Stopped Sampler @ 10.5 feet	3			

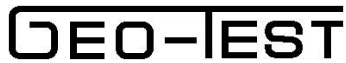
LOG OF TEST BORING 1-41005.GPJ GEO TEST.GDT 12/3/24

LEGEND

SS - Split Spoon
 AC - Auger Cuttings
 UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level
 CS - Continuous Sampler
 UD - Undisturbed
 ST - Shelby Tube

Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.



Project: Judicial Center Site Work

Date: 11/22/2024

Project No: 1-41005

Elevation:

Type: 2.25" ID HSA

LOG OF TEST BORINGS

GROUNDWATER DEPTH

NO: 6

During Drilling: none

After 24 Hours:

DEPTH (Ft)	LOG	SAMPLE						SUBSURFACE PROFILE	
		SAMPLE INTERVAL	TYPE	N. BLOWS/FT	MOISTURE %	DRY DENSITY (pcf)	USC	DESCRIPTION	N blows/ft
							AC	2 inches ASPHALT over 3 inches BASE COURSE over 1.5 inches OLD PAVEMENT	20 40 60 80
			SS	5-7-9 16	14		SC	CLAYEY SAND with GRAVEL, medium plasticity, moderately firm, moist, brown	16
			SS	7-7-6 13	13				13
5			SS	4-4-5 9	12				9
								Stopped Auger @ 4 feet Stopped Sampler @ 5.5 feet	
10									

LOG OF TEST BORING 1-41005.GPJ GEO TEST.GDT 12/3/24

LEGEND

SS - Split Spoon
 AC - Auger Cuttings
 UD/SL - Undisturbed Sleeve

AMSL - Above Mean Sea Level
 CS - Continuous Sampler
 UD - Undisturbed
 ST - Shelby Tube

Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.

SUMMARY OF LABORATORY RESULTS

						SIEVE ANALYSIS PERCENT PASSING											
TEST HOLE	DEPTH (FEET)	UNIFIED CLASS	(%) MOIST	LL	PI	NO 200	NO 100	NO 40	NO 10	NO 4	3/8"	1/2"	3/4"	1"	1 1/2"	2"	4"
1	1.0	SC	14.7	27	13	45	59	71	86	92	98	99	100				
2	0.3		14.3														
2	1.5		3.1														
2	3.0	SM	2.7	NP	NP	12	50	95	95	95	95	95	100				
2	5.0		5.8														
3	1.0	SC	10.0	24	8	42	59	69	76	80	82	82	87	100			
3	3.0		14.4														
3	5.0		11.3														
4	1.0		10.2														
4	3.0		6.9														
4	5.0	CL	6.3	24	12	56	82	94	98	99	99	100					
5	1.0		23.7														
5	3.0	SC	21.7	25	13	48	55	69	81	88	96	99	100				
5	5.0		30.5														
5	10.0		18.7														
6	1.0		13.6														
6	3.0		13.5														
6	5.0	SC	11.9	27	12	49	61	70	82	84	92	93	100				

SUMMARY OF LABORATORY RESULTS: 1-41005.GPJ GEO TEST.GDT 12/3/24



LL = LIQUID LIMIT
PI = PLASTICITY INDEX
NP = NON PLASTIC or NO VALUE

Project: Judicial Center Site Work
Location: Pojoaque, NM
Number: 1-41005

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Classification	Water Content (%)	Dry Density (pcf)	AASHTO CLASS	Corr. R-Value
1	1.0	27	14	13	19	45	SC	14.7		A-6	11
2	0.3							14.3			
2	1.5							3.1			
2	3.0	NP	NP	NP	19	12	SM	2.7		A-2-4	55
2	5.0							5.8			
3	1.0	24	16	8	25	42	SC	10.0		A-4	26
3	3.0							14.4			
3	5.0							11.3			
4	1.0							10.2			
4	3.0							6.9			
4	5.0	24	12	12	12.5	56	CL	6.3		A-6	11
5	1.0							23.7			
5	3.0	25	12	13	19	48	SC	21.7	107.5	A-6	11
5	5.0							30.5			
5	10.0							18.7			
6	1.0							13.6			
6	3.0							13.5			
6	5.0	27	15	12	19	49	SC	11.9		A-6	11

SUMMARY AASHTO 1-41005.GPJ GEO-TEST.GDT 12/3/24

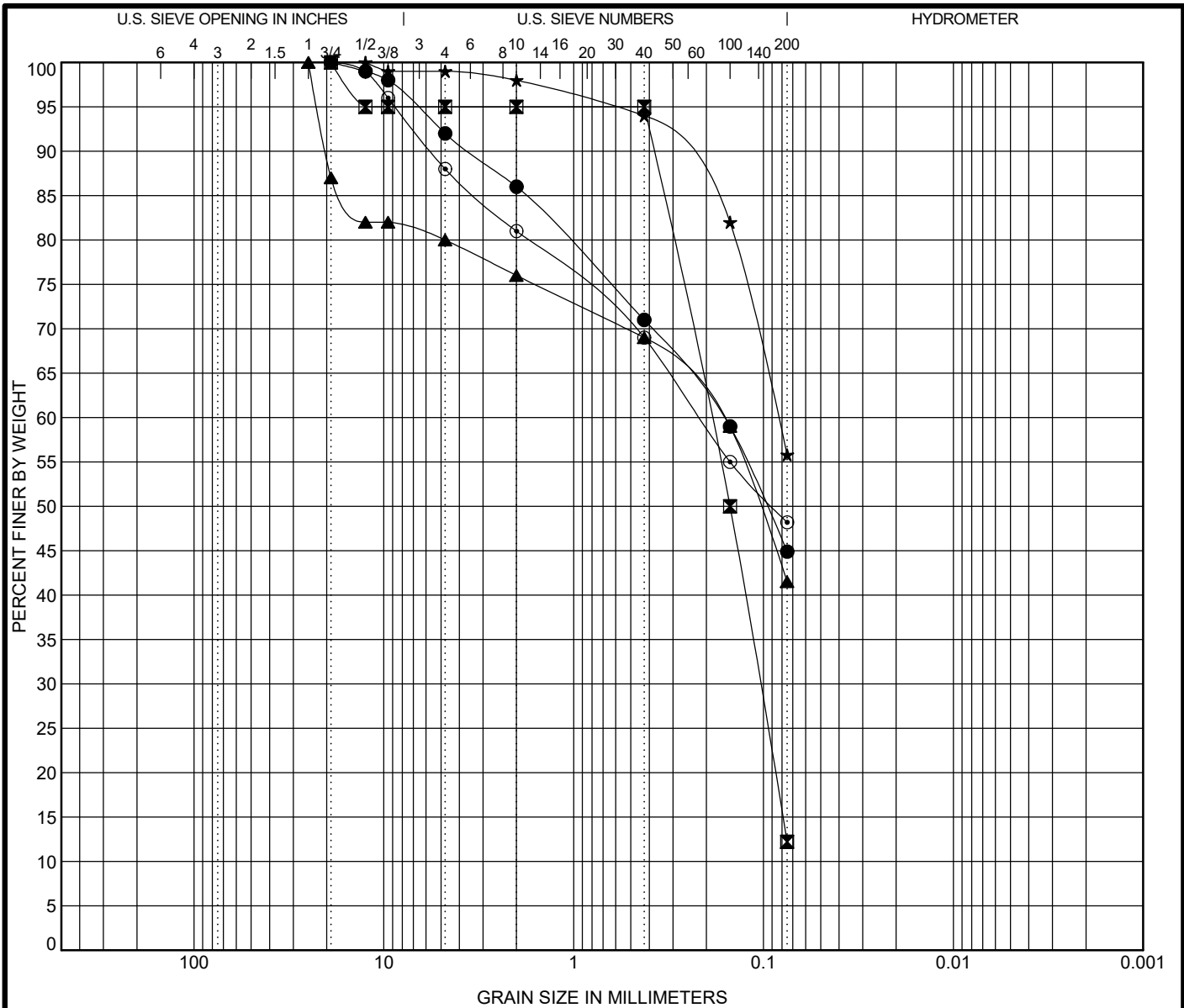


Summary of Laboratory Results

Project: Judicial Center Site Work

Location: Pojoaque, NM

Number: 1-41005



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 1	CLAYEY SAND(SC)	27	14	13		
⊠ 2	SILTY SAND(SM)	NP	NP	NP	0.79	2.62
▲ 3	CLAYEY SAND with GRAVEL(SC)	24	16	8		
★ 4	SANDY LEAN CLAY(CL)	24	12	12		
⊙ 5	CLAYEY SAND(SC)	25	12	13		

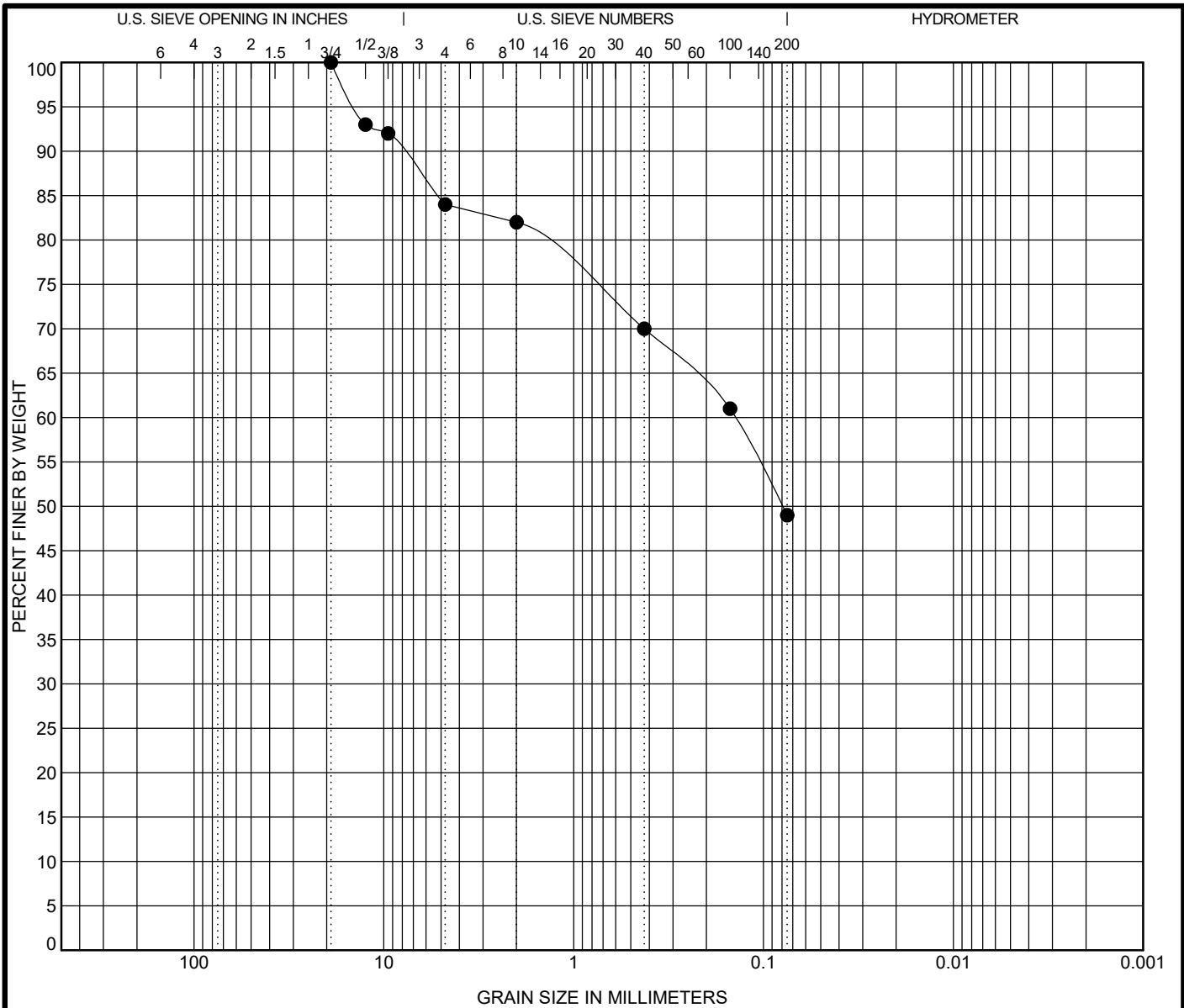
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 1	1.0	0.164			8.0	47.1	44.9	
⊠ 2	3.0	0.189	0.104		5.0	82.8	12.2	
▲ 3	1.0	0.166			20.0	38.5	41.5	
★ 4	5.0	0.084			1.0	43.2	55.8	
⊙ 5	3.0	0.218			12.0	39.8	48.2	



GRAIN SIZE DISTRIBUTION

Project: Judicial Center Site Work
 Location: Pojoaque, NM
 Number: 1-41005

U.S. GRAIN SIZE 1-41005.GPJ GEO TEST.GDT 12/3/24



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● 6 5.0	CLAYEY SAND with GRAVEL(SC)	27	15	12		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 6 5.0	19	0.142			16.0	35.0	49.0	

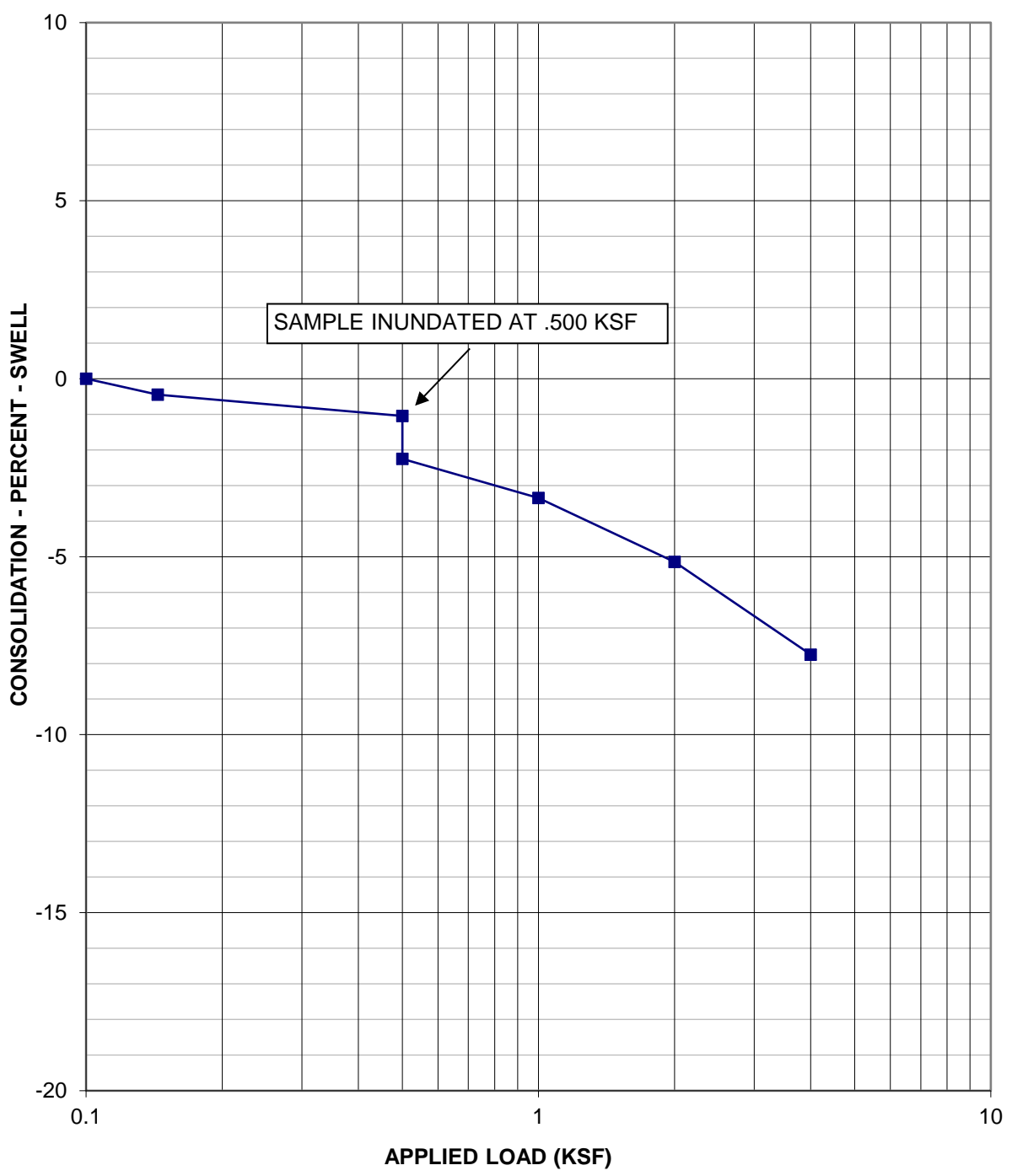


GRAIN SIZE DISTRIBUTION

Project: Judicial Center Site Work
 Location: Pojoaque, NM
 Number: 1-41005

U.S. GRAIN SIZE 1-41005.GPJ GEO TEST.GDT 12/3/24

CONSOLIDATION TEST RESULT
Pojoaque Judicial Center
JOB NO. 1-41005
Boring #5 @ 3 ft



INITIAL MOISTURE CONTENT = 21.7 %
INITIAL DRY DENSITY = 107.5 PCF

