



SUBCONTRACT AGREEMENT

BETWEEN

Desert Services

“Subcontractor”

and

**LGE CORPORATION, an Arizona corporation d/b/a LGE DESIGN BUILD
“Design-Builder”**

“PROJECT:” **Muscular Moving Men**
Job #: 01-10497
Rose Garden Ln
Ste 100
Phoenix, AZ 85027

“OWNER:” **Muscular Moving Men & Storage**
2950 E Mohawk Ln
Ste 100
Phoenix, AZ 85050

In consideration of the mutual covenants and obligations contained herein, Design-Builder and Subcontractor agrees as set forth herein.

Article I. General

1.1 Definitions.

1.1.1 Terms used in this Agreement shall have the meanings set forth in the Design-Build Agreement unless otherwise provided herein, with the following specific terms defined as follows:

1.1.1.1 *Contract Documents* are comprised of the following: (i) this Agreement; (ii) all written modifications, amendments, minor changes and Change Orders to this Agreement; (iii) the Construction Documents; and (iv) the Design-Build Agreement, but only to the extent the Design-Build Agreement relates to the work performed by or to be performed by the Subcontractor. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted consistent with construction and design industry standards. In the event of any inconsistency, conflict, or ambiguity between or among the Contract Documents, the Contract Documents shall take precedence in the order in which they are listed in this Section 1.1.1.1.

1.1.1.2 *Construction Documents* are the documents consisting of Plans and Specifications, prepared or assembled by Design-Builder in accordance with the Design-Build Agreement for the Project, including, without limitation, those Plans and Specifications listed in the attached Exhibit C which such Plans and Specifications are hereby incorporated herein by reference with the same force and effect as though fully set forth herein.

1.1.1.3 *Contract Price* has that meaning ascribed to it in Section 6.1.1 below.

1.1.1.4 *Day* or *Days* shall mean calendar days unless otherwise specifically noted in the Contract Documents.

1.1.1.5 *Design-Build Agreement* refers to the contract between Design-Builder and an Owner for the design and construction of the Project and all exhibits, attachments, and other Contract Documents enumerated and incorporated therein.

1.1.1.6 *Hazardous Conditions* are any materials, wastes, substances and chemicals deemed to be hazardous under applicable Legal Requirements, or the handling, storage, remediation, or disposal of which are regulated by applicable Legal Requirements.

1.1.1.7 *Legal Requirements* are all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the parties, the Project or Site, the practices involved in the Project or Site, or any Work.

1.1.1.8 *Agreement* refers to this executed contract between Design-Builder and Subcontractor.

1.1.1.9 *Owner* refers to the Owner of the Project.

1.1.1.10 *Project Schedule* refers to the schedule setting forth the dates by which the various stages of both the design and construction of a Project which must be performed so as to satisfy Design-Builder's obligations to an Owner as may be revised by Design-Builder from time to time.

1.1.1.11 *Site* is the land or premises on which the Project is located.

1.1.1.12 *Sub-Subcontractor* is any person or entity retained by Subcontractor as an independent contractor to perform a portion of the Subcontractor's Work and shall include materialmen and suppliers.

1.1.1.13 *Substantial Completion or Substantially Complete* is the date on which the Project is sufficiently complete in accordance with the Contract Documents so that Owner can occupy and use the Project for its intended purposes.

1.1.1.14 *Work* has that meaning ascribed to it in Section 2.1 below and includes, without limitation, that work described in Subcontractor's Scope of Work exhibit attached hereto as Exhibit A.

1.2 Basic Purpose.

1.2.1 Design-Builder has contracted with Owner to provide the services necessary for the design and construction of the Project as set forth in the Design-Build Agreement. Subcontractor, through itself, and Sub-Subcontractors, agrees to provide all construction and other aspects of the Work consistent with the Contract Documents. Design-Builder and Subcontractor agree that to the extent applicable to the performance of the Work hereunder, Subcontractor shall have the same rights, responsibilities, and obligations as to Design-Builder as Design-Builder by the Design-Build Agreement has against and to Owner, except as may be modified herein.

1.3 Entire Agreement.

1.3.1 The Contract Documents, all of which are incorporated by reference into this Agreement, form the entire agreement between Design-Builder and Subcontractor and are as fully binding on the parties as if repeated herein. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

Article II. Subcontractor's Services and Responsibilities

2.1 The Work.

2.1.1 Subcontractor shall furnish, at its own cost and expense, all labor, materials, skills, equipment, scaffolding, power, water, taxes, fees, supplies, tools, facilities, supervision and services to perform the work described in the Contract Documents for each Project (the "Work") except as specifically indicated in the Contract Documents to be the responsibility of others. Subcontractor shall perform the Work in a good and workmanlike manner, free of defects, in compliance with the Contract Documents and all applicable local, state and federal ordinances, laws, rules and regulations, including but not limited to building codes, safety laws and the Occupational Safety and Health Act, and all manufacturers' installation instructions. Without limiting the generality of the foregoing, all construction work to be performed by Subcontractor shall meet or exceed the standards of the industry for commercial construction in the geographic area involved and shall be performed within the time frame as set forth in the Project Schedule.

2.1.2 The Construction Documents shall be deemed to include all revisions thereto as of the date of this Agreement and it shall be Subcontractor's responsibility to stay informed regarding changes in the Construction Documents. Items of work or materials omitted from the Construction Documents that are inferable from the information presented and which are called for by building codes or standard local building practice shall be provided and performed by Subcontractor and are included in the Contract Price and shall be deemed as part of the Work. The description of work to be performed and materials to be furnished by Subcontractor by reference to a section or sections of the plans and specifications referred to in the Construction Documents shall not be deemed to limit the obligations of Subcontractor to perform only such work or furnish only such materials described in such section(s), if work or materials coming within the general description of such section(s) is required by another section of the plans and specifications or from other Contract Documents. Subcontractor shall assume all expenses for engineering services required for the Work.

2.1.3 Subcontractor represents and warrants that prior to commencing a portion of the Work it will have thoroughly examined the Contract Documents and the Site and has ascertained the job site conditions to be encountered in the performance of its obligations including verifications of lines, grades and measurements. Subcontractor represents and warrants that it will enter into this Agreement solely in reliance upon its own information and investigations and not upon any statement or representation made by Design-Builder and further confirms that Subcontractor has all necessary power and authority to enter into and perform all of its obligations under this Agreement. Subcontractor has inspected or shall inspect a Site and the immediate area of Subcontractor's Work prior to submitting bid proposal and before proceeding with the Work, and shall immediately notify Design-Builder in writing of any unacceptable conditions Subcontractor finds. Subcontractor shall verify that all work, storage and access areas and surfaces related to the Work are satisfactory. The commencement of the Work by Subcontractor shall be deemed Subcontractor's acceptance of a Site and all access and storage areas. All services to be performed by Subcontractor shall be completed in the manner and with the quality prevailing among contractors of superior knowledge and skill.

2.1.4 Subcontractor shall also be responsible for verification of locations of all existing utilities and for prevention of damage to the utilities, as well as to follow all applicable encroachment standards affecting the utility rights of way and to adequately protect its own employees and those of other trade contractors and Design-Builder in performing Work.

2.1.5 Subcontractor shall notify Design-Builder in writing of any discrepancy, error, conflict or omission discovered by Subcontractor in the Construction Documents or the work of others, and continuation of the Work subsequent to such discovery shall be at Subcontractor's risk and expense.

2.1.6 All materials to be furnished by Subcontractor shall be new and the best of their respective kinds, except such materials as may be expressly required to the contrary in writing by Design-Builder. Materials and installations shall be in strict accordance with manufacturers' recommendations and industry standards.

2.2 Work of Others.

2.2.1 Subcontractor agrees to reasonably cooperate with, and coordinate its activities so as not to interfere with, those parties performing work the Site, including Owner's and Design-Builder's separate contractors, so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption.

2.2.2 If any part of the Work depends upon other work performed by Design-Builder, or Design-Builder's or Owner's separate contractors, Subcontractor shall, prior to proceeding with that part of the Work, inspect such other work and promptly notify Design-Builder of any discrepancies or defects that would render it unacceptable for Subcontractor's proper performance of the Work. Subcontractor shall not proceed with such part of the Work without further direction from Design-Builder. Design-Builder shall promptly correct or cause to be corrected any such discrepancy or defect in the other work. Subcontractor shall be liable for any losses or damages incurred by an Owner or Design-Builder due to any discrepancies or defects in such other work not reported in writing to Design-Builder by Subcontractor. Commencement of any Work to be performed by Subcontractor constitutes an agreement and affirmation by Subcontractor that the work which preceded Subcontractor's Work has been done in a proper fashion and manner and if any incorrect work by others preceding performance by Subcontractor necessitates all or a portion of Subcontractor's Work to be revised or replaced, it shall be done by Subcontractor at its expense, without any increase in Contract Price.

2.3 Sub-Subcontractors.

2.3.1 Subcontractor shall employ only Sub-Subcontractors who are duly licensed and qualified to perform the Work consistent with the Contract Documents. Subcontractor agrees that each Sub-Subcontractor shall be fully bound to Subcontractor in the same manner as Subcontractor is bound to Design-Builder for all the requirements of the Contract Documents to the extent applicable to the Sub-Subcontractor's scope of work.

2.3.2 Before performance of the Work, Subcontractor shall provide written notice informing Design-Builder the names and addresses of any Sub-Subcontractors working at the Project (including any materialmen and/or suppliers). Subcontractor assumes responsibility to Design-Builder for the proper performance of the Work of Sub-Subcontractors and any acts and omissions in connection with such performance. Subcontractor shall coordinate the activities of all Sub-Subcontractors. Nothing in this Agreement is intended or deemed to relieve Subcontractor from responsibility for the work performed by its Sub-Subcontractors, or create any legal or contractual relationship between Owner or Design-Builder and any Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

2.4 Site Cleanup.

2.4.1 Subcontractor shall perform cleanup of their work area daily and in a diligent manner. Subcontractor shall ensure all contract-specific trash and extra materials are organized or promptly removed and shall immediately remove all lunch or miscellaneous debris and trash. Should Subcontractor fail in any respect to maintain a clean, safe, and orderly work area, Subcontractor shall receive a twenty-four (24) hour written notice. If, upon expiration of the 24 hours, Subcontractor has not complied with the notice to clean, the work shall be performed by others and costs paid from monies due the Subcontractor. Upon Substantial Completion of the Work, or a portion of the Work, Subcontractor shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work or applicable portions thereof to permit Owner to occupy the Project or a portion of the Project for its intended use. Subcontractor shall further contribute four (4) hours of labor time/wk to general jobsite clean-up.

2.5 Inspection.

2.5.1 At all reasonable times, Subcontractor shall provide sufficient facilities for inspection of the Work by Design-Builder at the Site and at all locations where portions of the Work are in progress or various stages of completion. When appropriate portions of the Work are ready for inspection, Subcontractor shall notify Design-Builder in writing.

2.6 Patents and Copyrights.

2.6.1 Subcontractor shall pay all license fees and royalties due for items, materials, methods, systems or processes applicable to the Work.

2.7 **Governmental Approvals and Permits.**

2.7.1 Subcontractor shall obtain and pay for the necessary permits, approvals, licenses, government charges and inspection fees required for the prosecution of the Work.

2.8 **Project Safety.**

2.8.1 Subcontractor recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to (i) all individuals at the Site, whether working or visiting, (ii) the Work, including materials and equipment incorporated into the Work or stored on-Site or off-Site, (iii) the work of others on the Project, and (iv) all other property at the Site or adjacent thereto. Subcontractor assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work.

2.8.2 Subcontractor and Sub-Subcontractors shall comply with all Legal Requirements relating to safety, as well as any Owner-specific and/or Design-Builder-specific safety requirements set forth in the Contract Documents or established for the Project, provided that such Owner-specific and/or Design-Builder-specific requirements do not violate any applicable Legal Requirement. Subcontractor will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Design-Builder and, to the extent mandated by Legal Requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project or the Work.

2.9 **Warranty.**

2.9.1 Subcontractor warrants to Design-Builder that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and workmanship. Nothing in this warranty is intended to limit any manufacturer's warranty which provides Owner and/or Design-Builder with greater warranty rights than set forth in this Section 2.9 or the Contract Documents. Subcontractor will provide and, if requested, assign to Design-Builder all manufacturers' warranties upon Substantial Completion.

2.10 **Correction of Defective Work.**

2.10.1 Subcontractor agrees to correct any of the Work that is determined by Design-Builder, in its sole discretion, not to be in conformance with the Contract Documents within a period of two years from the date of Substantial Completion of the Project, or within such longer period to the extent required by any specific warranty included in the Contract Documents or by applicable law.

2.10.2 Subcontractor shall, within forty-eighty (48) hours of receipt of written notice from Design-Builder that the Work is not in conformance with the Contract Documents, take meaningful steps to commence correction of such nonconforming Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work or the Project affected by the nonconforming Work. If Subcontractor fails to commence the necessary steps within such forty-eight (48) hour period, Design-Builder, in addition to any other remedies provided under the Contract Documents, may provide Subcontractor with written notice that Design-Builder will commence correction of such nonconforming Work with its own forces. If Design-Builder does perform such corrective Work, Subcontractor shall be responsible for all reasonable costs incurred by Design-Builder in performing such correction. If the nonconforming Work creates an emergency requiring an immediate response, the forty-eight (48) period identified herein shall be deemed inapplicable.

2.10.3 The two year period referenced in Section 2.10.1 above applies only to Subcontractor's obligation to correct nonconforming Work and is not intended to constitute a period of limitations for any other rights or remedies Design-Builder may have regarding Subcontractor's obligations under the Contract Documents.

2.10.4 The obligations of Subcontractor under this Section 2.10 shall survive expiration or termination of this Agreement.

2.11 **Hazardous Conditions.**

2.11.1 Subcontractor is responsible for Hazardous Conditions introduced to the Site by itself, Sub-Subcontractors or anyone for whose acts they may be liable. Subcontractor shall indemnify, defend and hold harmless Owner, Design-Builder and their officers, directors, employees and agents from and against all claims, losses, damages, liabilities, and expenses, including attorneys'

fees and expenses, arising out of or resulting from those Hazardous Conditions introduced to the Site by Subcontractor, Sub-Subcontractors or anyone for whose acts they may be liable.

Article III. Design-Builder's Responsibilities

3.1 Design-Builder shall review submittals, including shop drawings, product data and samples, submitted by Subcontractor. Design-Builder's review of submittals shall be only for the purpose of confirming general conformance with the Construction Documents. Design-Builder's review shall not relieve Subcontractor of its responsibilities to perform the Work in accordance with the Construction Documents.

3.2 Design-Builder shall notify Subcontractor of any errors, inconsistencies, or omissions Design-Builder discovers in the Work. Subcontractor is responsible for any errors, inconsistencies, or omissions in the Work.

Article IV. Ownership of Work Product.

4.1 Work Product.

4.1.1 The Subcontractor shall have no ownership and property rights in any drawings, specifications, and other documents and electronic data ("Work Product") furnished by Design-Builder to Subcontractor under this Agreement. Design-Builder shall be granted ownership of all Work Product, if any, furnished by Subcontractor to Design-Builder under this Agreement.

4.1.2 If either Design-Builder or Subcontractor uses the Work Product furnished to them by the other on any other project, it agrees that it shall do so at its sole risk and without liability or legal exposure to the other party, Owner, or anyone working through them. Such party further agrees that it shall defend, indemnify and hold harmless the other party from and against any and all claims, damages, liabilities, losses and expenses, including attorneys' fees, arising out of or resulting from such use of the Work Product on another project.

Article V. Time of Performance

5.1 Date of Commencement.

5.1.1 The Work shall commence immediately upon Subcontractor's receipt of this Agreement signed by the Design-Builder ("Date of Commencement") unless the parties mutually agree otherwise in writing.

5.2 Time of Completion.

5.2.1 Subcontractor shall diligently and continuously prosecute and complete the Work in accordance with the Project Schedule as it may be revised and issued from time to time during the performance of the Work, and any other scheduling requirements listed in the Contract Documents.

5.2.2 Subcontractor shall participate and cooperate in the development of schedules and other efforts to achieve timely completion of the Work. Subcontractor shall provide Design-Builder information for the scheduling of the times and sequence of operations required for the Work to meet Design-Builder's overall schedule requirements, shall continuously monitor the Project Schedule, including any revisions thereto, so as to be fully familiar with the timing, phasing and sequence of operation of the Work and of other work on the Project, and shall execute the Work in accordance with the requirements of the Project Schedule including any revisions thereto.

5.2.3 Subcontractor shall timely perform the various stages of the Work so that Design-Builder can achieve the dates set forth in the Project Schedule, including any revisions thereto.

5.3 Delays to the Work.

5.3.1 If Subcontractor is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances caused by the Design-Builder the time for performance shall be reasonably extended by Change Order *provided that* Subcontractor provides Design-Builder with written notice of Subcontractor's delay within three days following Subcontractor first being made aware of Design-Builder's acts, omissions, conditions, events, or circumstances causing Subcontractor's delay.

5.3.2 Notwithstanding any other provision to the contrary, any delay and resulting damages that arise out of, or relate to, problems caused by Owner or for which Owner is responsible shall be resolved pursuant to Section 12 hereof.

5.3.3 If the Project is delayed due to the Subcontractor or anyone for whom Subcontractor is responsible, and not due to Design-Builder or Owner, Subcontractor shall compensate and indemnify Design-Builder for all costs, damages, and expenses arising from such delay, including but not limited to any liquidated damages or other damages that Owner may assess against Design-Builder which are attributable to Subcontractor or anyone for whom Subcontractor is responsible. In addition, Subcontractor shall, at the direction of Design-Builder and at Subcontractor's own cost and expense, work such overtime and take such other measures as may be necessary to make up for all time lost in the completion of the Project due to such delay.

Article VI. Contract Price

6.1 Contract Price.

6.1.1 Design-Builder shall pay Subcontractor in accordance with Article VII hereof the sum of Two Thousand, One Hundred Ten Dollars and Zero cents (\$2,110.00) (the "Contract Price"), subject to adjustments made in accordance with the Contract Documents. Unless otherwise provided in the Contract Documents, the Contract Price is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements. Design-Builder is not responsible for Subcontractor's bidding or estimating mistakes or miscalculation of market conditions.

6.2 Markups for Changes.

6.2.1 If the Contract Price requires an adjustment due to changes in the Work, the following markups shall be allowed on such changes:

For additive Change Orders, including additive Change Orders arising from both additive and deductive items, it is agreed that Subcontractor mark-ups (aggregating all mark-ups by Sub-Subcontractors of every tier) must not exceed 10% of the value of the Work to be performed by the Subcontractor in the Change Order.

6.2.2 For deductive Change Orders, including deductive Change Orders arising from both additive and deductive items, the deductive amounts shall include Subcontractor's mark-ups.

Article VII. Payment

7.1 Progress Payments.

7.1.1 As set forth in Exhibit D attached hereto, beginning with the first month after the Date of Commencement, Subcontractor shall submit, in accordance with the submission deadline specified in Exhibit D, for Design-Builder's review and approval, Subcontractor's Application for Payment requesting payment for all unpaid and completed Work performed up to the date of submission. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents or as may be reasonable requested by the Design-Builder. Failure to submit Subcontractor's Application for Payment by the billing period set forth in this Section 7.1.1, will result in receiving payment the following pay period.

7.1.2 The Application for Payment may request payment for equipment and materials not yet incorporated into the Project, provided that Subcontractor receives Design-Builder's prior written consent and (i) such payment is allowed pursuant to the terms and conditions of the Design-Build Agreement, (ii) Design-Builder is satisfied that the equipment and materials are suitably stored at either the Site or another acceptable location, (iii) the equipment and materials are protected by suitable insurance, and (iv) upon payment, Design-Builder will receive the equipment and materials free and clear of all liens and encumbrances.

7.1.3 The Application for Payment shall constitute Subcontractor's representation that the Work has been performed consistent with the Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to Owner free and clear of all claims, liens, encumbrances, and security interests upon the incorporation of the Work into the Project, or upon Subcontractor's receipt of payment, whichever occurs earlier.

7.1.4 Design-Builder shall make payment on Subcontractor's properly submitted and accurate Application for Payment within Seven (7) days after Design-Builder's receipt of the funds from the Owner less the total of payments previously made, and less amounts properly withheld under the Contract Documents or Arizona law. Design-Builder's receipt of the funds from the Owner is a condition precedent to Design-Builder's obligation to pay Subcontractor pursuant to the terms of this Agreement or other Contract Document. Design-Builder and Subcontractor agree that Design-Builder will pay Subcontractor directly from the funds Design-Builder receives from the Owner and Design-Builder is not obligated to pay Subcontractor from Design-Builder's own funds.

7.2 Retainage on Progress Payments.

7.2.1 Unless otherwise specifically stated in an exhibit to this Agreement, Design-Builder will retain Ten percent (10%) from each of Subcontractor's Application for Payment. Retainage will be included in Design-Builder's final payment to Subcontractor, conditioned upon Design-Builder having received such retained amounts from an Owner. Design-Builder's receipt of the retained amount from the Owner is a condition precedent to Design-Builder's obligation to pay Subcontractor pursuant to the terms of this Agreement or other Contract Document.

7.3 Withholding of Payments.

7.3.1 If Design-Builder determines that Subcontractor is not entitled to all or part of an Application for Payment, it will notify Subcontractor in writing. The notice shall indicate the specific amounts Design-Builder intends to withhold, the reasons and contractual basis for the withholding, and the specific measures Subcontractor must take to rectify Design-Builder's concerns. Design-Builder and Subcontractor will attempt to resolve Design-Builder's concerns. If the parties cannot resolve such concerns, Design-Builder shall pay Subcontractor the uncontested amount of the Application for Payment, and Subcontractor may pursue its rights under the Contract Documents.

7.4 Final Payment.

7.4.1 Subcontractor shall submit its Final Application for Payment to Design-Builder in accordance with Section 7.4.2 below. Design-Builder shall make payment on Subcontractor's properly submitted and accurate Final Application for Payment within Seven (7) days after Design-Builder's receipt of final payment from Owner, provided also that Subcontractor has satisfied the requirements for final payment set forth in Section 7.4.2 below.

7.4.2 At the time of submission of its Final Application for Payment, Subcontractor shall provide the following information:

7.4.2.1.1 If requested by Design-Builder, an affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Design-Builder's or Owner's interests;

7.4.2.1.2 A conditional release upon final lien waiver, in a form conforming to the statutes, rules and regulations of the state in which the Project is located and approved by Design-Builder, executed by Subcontractor waiving, upon receipt of final payment by Design-Builder, all claims, except those claims previously made in writing to Design-Builder and remaining unsettled at the time of final payment;

7.4.2.1.3 All operating manuals, warranties and other deliverables required by the Contract Documents; and

7.4.2.1.4 Upon request by Design-Builder, certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of the Contract Documents.

7.5 Advance Payments.

7.5.1 Design-Builder has the right, at its sole option, to advance any payment due Subcontractor under this Agreement.

7.6 Payment Not Acceptance.

7.6.1 No payment to Subcontractor under this Agreement shall be evidence of, or construed to be, acceptance of defective, faulty, improper or non-conforming work.

7.7 Subcontractor's Payment Obligations.

7.7.1 Subcontractor will pay its Sub-Subcontractors the amounts Subcontractor has received from Design-Builder on account of their work. Subcontractor will impose similar requirements on its Sub-Subcontractors to pay those parties with whom they have contracted. Subcontractor will indemnify and defend Owner and Design-Builder against any claims for payment and mechanic's liens arising from or related to any Sub-Subcontractor's work on a Project.

7.8 Record Keeping and Finance Controls.

7.8.1 During the performance of the Work and for a period of three (3) years after final payment of the Work, Design-Builder and Design-Builder's accountants shall be afforded access to and the right to audit from time-to-time, upon reasonable notice, Subcontractor's records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating

to the changes in the Work, all of which Subcontractor shall preserve for a period of three (3) years after final payment. Any multipliers or markups agreed to by Subcontractor and Design-Builder as part of this Agreement are only subject to audit to confirm that such multiplier or markup has been charged in accordance with this Agreement.

Article VIII. Stop Work and Termination

8.1 Design-Builder's Right to Stop Work.

8.1.1 Design-Builder may, without cause and for its convenience, order Subcontractor in writing to stop and suspend the Work.

8.1.2 Subcontractor is entitled to seek an adjustment of the Contract Price and/or times for completion of the Work if its cost or time to perform the Work has been adversely impacted by any suspension or stoppage of work by Design-Builder. Notwithstanding anything to the contrary herein, if Design-Builder's suspension of the Work is the result of Owner's suspension of Design-Builder's work under the Design-Build Agreement, then Design-Builder shall pay Subcontractor only those amounts Design-Builder actually receives from Owner on account of the Work.

8.2 Design-Builder's Right to Terminate for Convenience.

8.2.1 Upon ten (10) days' written notice to Subcontractor, Design-Builder may, for its convenience and without cause, elect to terminate this Agreement. In such event, Design-Builder shall have the right to use the existing Work Product, if any, for purposes of completing the Project, and shall pay Subcontractor for all Work executed.

8.2.2 If Design-Builder's termination of Subcontractor for convenience is the result of Owner's termination of Design-Builder for convenience under the Design-Build Agreement, then Design-Builder shall pay Subcontractor only those amounts Design-Builder actually receives from Owner on behalf of Subcontractor.

8.3 Design-Builder's Right to Terminate for Cause.

8.3.1 If Subcontractor fails to (i) provide a sufficient number of skilled workers, (ii) supply the materials required by the Contract Documents, (iii) comply with applicable Legal Requirements, (iv) timely pay, without cause, its Sub-Subcontractors, (v) prosecute the Work with promptness and diligence to ensure that the Work is completed in accordance with the Project Schedule, as such schedule may be adjusted, or (vi) perform material obligations under the Contract Documents, then Design-Builder shall have the rights, in addition to any other rights and remedies provided in the Contract Documents or by law, set forth in Sections 8.3.2 and 8.3.3 below.

8.3.2 Upon the occurrence of an event set forth in Section 8.3.1 above, Design-Builder may provide written notice to Subcontractor that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within Twenty-Four (24) hours of Subcontractor's receipt of such notice. If Subcontractor fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare this Agreement terminated for default by providing written notice to Subcontractor of such declaration.

8.3.3 Upon declaring this Agreement terminated pursuant to Section 8.3.2 above, Design-Builder may enter upon the premises and take possession, for the purpose of completing the Work, of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which Subcontractor hereby transfers, assigns and sets over to Design-Builder for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items. In the event of such termination, Subcontractor shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. At such time, if the unpaid balance of the Contract Price exceeds the cost and expense incurred by Design-Builder in completing the Work, such excess shall be paid by Design-Builder to Subcontractor. If Design-Builder's cost and expense of completing the Work exceeds the unpaid balance of the Contract Price, then Subcontractor shall be obligated to pay the difference to Design-Builder. Such costs and expense shall include not only the cost of completing the Work, but also losses, damages, costs and expenses, including attorneys' fees and expenses, incurred by Design-Builder in connection with the procurement and defense of claims arising from Subcontractor's default.

8.3.4 If Design-Builder improperly terminates the Agreement for cause, the termination for cause will be converted to a termination for convenience in accordance with the provisions of Section 8.2 of this Agreement.

8.4 Subcontractor's Right to Stop Work.

8.4.1 If Owner fails to pay amounts due Design-Builder under the Design-Build Agreement for Work performed by Subcontractor, such failure is not due to the fault of Subcontractor, and Subcontractor has not been paid such amounts due Subcontractor stop work in accordance with Section 8.4.2.

8.4.2 Subcontractor shall provide Design-Builder with written notice that Subcontractor will stop work unless said failure to pay the amount is cured within seven (7) days from Design-Builder's receipt of Subcontractor's notice. If Design-Builder does not cure the problem within such seven (7) day period, Subcontractor may stop work. To the extent Design-Builder's failure to pay is related to a dispute between the parties, the dispute will be resolved and the parties will continue performance in accordance with Article 12.

8.5 Subcontractor's Right to Terminate for Cause.

8.5.1 Subcontractor, in addition to any other rights and remedies afforded under the Contract Documents or at law, may terminate the Agreement for cause in accordance with Section 8.5.2 below if Design-Builder fails to cure the problems set forth in Section 8.4.1 above within thirty (30) days after Subcontractor has stopped the Work.

8.5.2 Upon the occurrence of the event set forth in Section 8.5.1 above, Subcontractor may provide written notice to Design-Builder that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Design-Builder's receipt of such notice. If Design-Builder fails to cure, or reasonably commence to cure, such problem, then Subcontractor may give a second written notice to Design-Builder of its intent to terminate within an additional seven (7) day period. If Design-Builder, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Subcontractor may declare this Agreement terminated for default by providing written notice to Design-Builder of such declaration. In such case, Subcontractor shall be entitled to recover in the same manner as if Design-Builder had terminated this Agreement for its convenience under Section 8.2 above.

Article IX. Insurance and Bonds

9.1 Subcontractor's Insurance Requirements:

9.1.1 Subcontractor is responsible for procuring and maintaining, from insurance companies authorized to do business in the state in which the Project is located, the insurance coverages set forth in the Insurance Exhibit D attached to this Agreement, with the minimum ratings set forth in said Exhibit, for certain claims which may arise from or out of the performance of the Work and obligations under the Contract Documents.

9.1.2 Subcontractor shall require its Sub-Subcontractors to procure and maintain, from insurance companies authorized to do business in the state in which the Project is located, the insurance coverages set forth in the Insurance Exhibit attached hereto as Exhibit D..

9.1.3 Subcontractor's and its Sub-Subcontractors' insurance coverage set forth in the Insurance Exhibit shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project.

9.1.4 Prior to commencing any services under this Agreement, Subcontractor shall provide Design-Builder with certificates evidencing that (i) all insurance obligations required by the Contract Documents are in full force and in effect and will remain in effect for the duration required by the Contract Documents and (ii) no insurance coverage will be canceled, renewal refused, or materially changed unless at least thirty (30) days prior written notice is given to Design-Builder.

9.1.5 Except as otherwise stated in the Insurance Exhibit, the insurance policies required herein shall list Design-Builder and Owner, and any other entities required by the Contract Documents, if any, as an additional insured.

9.1.6 If any of the foregoing coverages are required to remain in force after final payment, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment.

9.2 Waiver of Subrogation.

9.2.1 Design-Builder and Subcontractor waive against each other and Owner, Sub-Subcontractors, Owner's or Design-Builder's separate contractors, agents and employees of each and all of them, all damages covered by property insurance provided herein, except such rights as they may have to the proceeds of such insurance. Design-Builder and Subcontractor shall, where appropriate, require similar waivers of subrogation from Sub-Subcontractors and separate contractors of Design-Builder, and shall require each of them to include similar waivers in their contracts. These waivers of subrogation shall not contain any restriction or limitation that will impair the full and complete extent of its applicability to any person or entity unless agreed to in writing.

9.3 Bonds and Other Performance Security.

9.3.1 Subcontractor shall provide the performance bonds and labor and material payment bonds or other performance security as specifically set forth in an exhibit to this Agreement.

Article X. Indemnification

10.1 Patent and Copyright Infringement.

10.1.1 Subcontractor shall defend any action or proceeding brought against Owner or Design-Builder based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement of any United States patent or copyright, now or hereafter issued. Design-Builder shall give prompt written notice to Subcontractor of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Subcontractor shall indemnify and hold harmless Owner and Design-Builder from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against Owner or Design-Builder in any such action or proceeding. Subcontractor agrees to keep Design-Builder informed of all developments in the defense of such actions.

10.1.2 If Owner is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Subcontractor shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Subcontractor cannot so procure such right within a reasonable time, Subcontractor shall promptly, at Subcontractor's option and at Subcontractor's expense, (i) modify the Work so as to avoid infringement of any patents, or copyrights, or (ii) replace said Work with Work that does not infringe or violate any such patent or copyright.

10.1.3 Sections 10.1.1 and 10.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright (i) relating to a particular process or product of a particular manufacturer specified by Owner or Design-Builder or (ii) arising from modifications to the Work by Owner or Design-Builder after acceptance of the Work. If the suit, claim or proceeding is based upon events set forth in the preceding sentence, Design-Builder shall defend, indemnify and hold harmless Subcontractor to the same extent Subcontractor is obligated to defend, indemnify and hold harmless Design-Builder in Section 10.1.1 above.

10.1.4 The obligations set forth in this Section 10.1 shall constitute the sole agreement between the parties relating to liability for infringement or violation of any patent or copyright.

10.2 Payment Claim Indemnification.

10.2.1 Subcontractor shall indemnify, defend and hold harmless Owner and Design-Builder from any claims or mechanic's liens brought against Owner, Design-Builder, or against the Project as a result of the failure of Subcontractor, or those for whose acts it is responsible, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for, or in connection with the Work. Within Twenty-Four (24) hours of receiving written notice from Design-Builder that such a claim or mechanic's lien has been filed, Subcontractor shall commence to take the steps necessary to discharge said claim or lien and shall diligently pursue to completion, including, if necessary, the furnishing of a mechanic's lien bond. If Subcontractor fails to do so, Design-Builder will have the right to discharge the claim or lien and hold Subcontractor liable for costs and expenses incurred, including attorneys' fees.

10.3 Subcontractor's General Indemnification.

10.3.1 Subcontractor shall indemnify, defend and save harmless Design-Builder and Owner from and against any and all claims, debts, demands, damages (including direct, liquidated, consequential, incidental or other damages), judgments, awards, losses, liabilities, interest, attorney's fees, costs and expenses of whatsoever kind or nature at any time arising out of any failure of Subcontractor to perform any of the terms and conditions of this Agreement or which are in any manner directly or indirectly caused or occasioned by or contributed to, or claimed to be caused or occasioned by, or contributed to, by any act, omission, fault or negligence, whether active or passive, of Subcontractor or anyone acting under its direction or control, or on its behalf in connection with or incident to the work performed by Subcontractor or anyone acting under its direction or control; even though the same may have resulted from the joint, concurring or contributory act, omission or negligence whether active or passive, of Design-Builder, Owner or any other person, except Subcontractor is not obligated to indemnify, defend, or hold harmless Design-Builder for any claim caused by the negligence or fault, the breach or violation of a statute, ordinance, governmental regulation, standard, or rule, or the breach of contract of Design-Builder, its agent or employee, or any third party under the control or supervision of Design-Builder. Without limiting the generality of the foregoing, the same shall include injury or death to any person or persons, including agents and employees of Owner, Design-Builder and Subcontractor, and damage to any property, regardless of location, including property of Owner, Design-Builder and Subcontractor, and shall extend to any similar obligations of Design-Builder undertaken by it under the

Design-Build Agreement with respect to the work hereunder. Subcontractor will, on request, and at its expense, defend any action, suit or proceedings arising hereunder and shall reimburse and pay Design-Builder for any loss, cost, damage or expense (including legal fees) suffered by it.

Article XI. Changes to the Contract Price and Time

11.1 Owner Generated Changes.

11.1.1 If Owner issues changes affecting the Work, Subcontractor agrees, if directed by Design-Builder, to meet with Design-Builder and Owner to review and discuss the changes. Subcontractor shall only be entitled to adjustments in its Contract Price and the times for completion of the Work attributable to such Owner-generated changes to the extent Design-Builder actually receives such adjustments from Owner. If Subcontractor disputes the adjustment, such dispute shall be resolved pursuant to Article 12 of this Agreement.

11.2 Design-Builder Generated Changes.

11.2.1 Changes to the scope of work for the Project issued by Design-Builder shall be governed by the provisions set forth in the following sections of this Article 11.

11.3 Change Orders.

11.3.1 A Change Order is a written instrument issued after execution of the Agreement signed by Design-Builder and Subcontractor, stating their agreement upon all of the following:

11.3.1.1 The scope of the change in the work;

11.3.1.2 The amount of the adjustment to the Contract Price; and

11.3.1.3 The extent of the adjustment to the times for completion of the work;

11.3.2 All changes in the Work authorized by applicable Change Order shall be performed under the applicable conditions of the Contract Documents. Design-Builder and Subcontractor shall negotiate, in good faith and as expeditiously as possible, the appropriate adjustments for such changes.

11.4 Work Change Directives.

11.4.1 A Work Change Directive is a written order prepared and signed by Design-Builder directing a change in the work prior to agreement on an adjustment in the Contract Price and/or the times for completion of the work.

11.4.2 Design-Builder and Subcontractor shall negotiate, in good faith and as expeditiously as possible, the appropriate adjustments for the Work Change Directive. Upon reaching an agreement, the parties shall prepare and execute an appropriate Change Order reflecting the terms of the agreement.

11.5 Minor Changes in the Work.

11.5.1 Minor changes in the Work are changes that do not involve an adjustment in the Contract Price and/or times for completion of the Work and do not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Contract Documents. Design-Builder may make minor changes in the Work consistent with the intent of the Contract Documents, provided, however, that Design-Builder shall promptly inform Subcontractor, in writing, of any such changes.

11.6 Contract Price Adjustment.

11.6.1 The increase or decrease in Contract Price resulting from a change in the Work shall be determined by one or more of the following methods:

11.6.1.1 Unit prices set forth in this Agreement or as subsequently agreed between the parties;

11.6.1.2 A mutually accepted, lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by Design-Builder;

11.6.1.3 Costs, fees and any other markups set forth in this Agreement; and

11.6.1.4 If an increase or decrease cannot be agreed to as set forth in items 11.6.1.1 through 11.6.1.3 above and Design-Builder issues a Work Change Directive, the cost of the change of the Work shall be determined by the reasonable expense and savings in the performance of the Work resulting from the change, including a reasonable overhead and profit, as may be set forth in this Agreement. If the net result of both additions and deletions to the Work is an increase in the Contract Price, reasonable overhead and profit shall be calculated on the basis of the net increase to the Contract Price. Subcontractor shall maintain a documented, itemized accounting evidencing the expenses and savings associated with such changes.

11.6.2 If Design-Builder and Subcontractor disagree upon whether Subcontractor is entitled to be paid for any services required by Design-Builder, or if there are any other disagreements over the scope of Work or proposed changes to the Work, Design-Builder and Subcontractor shall resolve the disagreement pursuant to Article 12 hereof. As part of the negotiation process, Subcontractor shall furnish Design-Builder with a good faith estimate of the costs to perform the disputed services in accordance with Design-Builder's interpretations. If the parties are unable to agree and Design-Builder expects Subcontractor to perform the services in accordance with Design-Builder's interpretations, Subcontractor shall proceed to perform the disputed services, conditioned upon Design-Builder issuing a written order to Subcontractor (i) directing Subcontractor to proceed and (ii) specifying Design-Builder's interpretation of the services that are to be performed.

11.7 **Emergencies.**

11.7.1 In any emergency affecting the safety of persons and/or property, Subcontractor shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the Contract Price and/or times for completion of the Work on account of emergency work that cannot be agreed to between the parties shall be determined as provided in Article 12.

Article XII. Contract Adjustments and Disputes

12.1 **Requests for Contract Adjustments and Relief.**

12.1.1 If either Subcontractor or Design-Builder believes that it is entitled to relief against the other for any event arising out of or related to the Work or a Project, such party shall provide written notice to the other party of the basis for its claim for relief. Subcontractor shall provide Design-Builder written notice of claims for which Owner may be responsible in sufficient time for Design-Builder to meet its notice requirements to Owner set forth in the Design-Build Agreement. In the absence of any specific notice requirement, written notice shall be given within a reasonable time, not to exceed ten (10) days, after the occurrence giving rise to the claim for relief or after the claiming party reasonably should have recognized the event or condition giving rise to the request, whichever is later. Such notice shall be in accordance with the Contract Documents and shall include sufficient information to advise the other party of the circumstances giving rise to the claim for relief, the specific contractual adjustment or relief requested and the basis of such request.

12.2 **Dispute Avoidance and Resolution.**

12.2.1 The parties are fully committed to working with each other and agree to communicate regularly with each other at all times so as to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, Subcontractor and Design-Builder each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary losses, delays and disruptions to the Work.

12.3 **Disputes Involving Owner.**

12.3.1 To the extent a claim, dispute or controversy arises out of, or relates to, problems caused by Owner or for which Owner is responsible ("Owner Disputes"), such Owner Disputes shall be resolved pursuant to the dispute resolution clause set forth in the Design-Build Agreement. Both Design-Builder and Subcontractor agree to cooperate in the presentation and prosecution or defense of Owner Disputes.

12.4 **Disputes Not Involving the Owner.**

12.4.1 For any claim, dispute or controversy not arising out of, or relating to, problems caused by Owner or for which Owner is responsible, Subcontractor and Design-Builder will first attempt to resolve such claim, dispute or controversy at the field level through discussions between Design-Builder and Subcontractor.

12.4.2 If the claim, dispute or controversy cannot be resolved on terms satisfactory to both parties, the parties shall submit the claim, dispute or controversy to non-binding mediation. The mediation shall be conducted by a mutually agreeable impartial mediator, or if the parties cannot so agree, a mediator designated by the American Arbitration Association ("AAA") pursuant to its Construction Industry Mediation Rules. The mediation will be governed by and conducted pursuant to a mediation agreement negotiated by the parties or, if the parties cannot so agree, by procedures established by the mediator. Unless otherwise mutually agreed by Design-Builder and Subcontractor and consistent with the mediator's schedule, the mediation shall commence within ninety (90) days of the submission of the dispute for mediation. Persons with authority to resolve the dispute shall be present at the mediation.

12.5 **Arbitration.**

12.5.1 Any claims, disputes or controversies between the parties arising out of or relating to this Agreement, or the breach thereof, which have not been resolved in accordance with the procedures set forth in Section 12.4 above, shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the AAA then in effect, unless the parties mutually agree otherwise.

12.5.2 The award of the arbitrator(s) shall be final and binding upon the parties without the right of appeal to the courts. Judgment may be entered upon it in accordance with applicable law by any court having jurisdiction thereof.

12.5.3 Subcontractor and Design-Builder expressly agree that any arbitration pursuant to this Section 12.5 may be joined or consolidated with any arbitration involving any other person or entity (i) necessary to resolve the claim, dispute or controversy, or (ii) substantially involved in or affected by such claim, dispute or controversy. Both Design-Builder and Subcontractor will include appropriate provisions in all contracts they execute with other parties in connection with the Project to require such joinder or consolidation.

12.5.4 The prevailing party in any arbitration, or any other final, binding dispute proceeding upon which the parties may agree, shall be entitled to recover from the other party reasonable attorneys' fees and expenses incurred by the prevailing party.

12.6 **Duty to Continue Performance.**

12.6.1 Unless provided to the contrary in the Contract Documents, Subcontractor shall continue to perform the Work and Design-Builder shall continue to satisfy its payment obligations to Subcontractor, pending the final resolution of any dispute or disagreement between Design-Builder and Subcontractor.

Article XIII. Miscellaneous

13.1 **Assignment.**

13.1.1 Subcontractor shall not, without the written consent of the Design-Builder, assign, transfer or sublet any portion or part of the Work or the obligations required by the Contract Documents.

13.2 **Successorship.**

13.2.1 Design-Builder and Subcontractor intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors, and assigns.

13.3 **Governing Law.**

13.3.1 The Agreement and all Contract Documents shall be governed by the laws of the state in which the Project is located.

13.4 **Severability.**

13.4.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements or court order, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

13.5 No Waiver.

13.5.1 The failure of either Design-Builder or Subcontractor to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

13.6 Headings.

13.6.1 The headings used in this Agreement, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

13.7 Notice.

13.7.1 Whenever the Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given (i) if delivered in person to the individual intended to receive such notice, (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in this Agreement, (iii) if transmitted by facsimile, by the time stated in a machine generated confirmation that notice was received at the number of the intended recipient; or (iv) if delivered by email, and the recipient acknowledges having received the email.

13.8 Amendments.

13.8.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

13.9 Survival.

13.9.1 Subcontractor's obligations under this Agreement shall not be released and shall specifically survive the completion of all services hereunder by Subcontractor, final payment to Subcontractor, and the termination of this Agreement for any reason.

Article XIV. Electronic Data

14.1 Electronic Data.

14.1.1 The parties recognize that Contract Documents, including drawings, specifications and other Work Product may be transmitted among Design-Builder, Subcontractor and others in electronic media as an alternative to paper hard copies (collectively "Electronic Data").

14.2 Transmission of Electronic Data.

14.2.1 Design-Builder shall determine, after consultation with Subcontractor, the software and the format for the transmission of Electronic Data. Each party shall be responsible for securing the legal rights to access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of the applicable software or electronic program to display, interpret and/or generate the Electronic Data.

14.2.2 Neither party makes any representations or warranties to the other with respect to the functionality of the software or computer program associated with the electronic transmission of Work Product. Unless specifically set forth elsewhere in this Agreement, ownership of the Electronic Data does not include ownership of the software or computer program with which it is associated, transmitted, generated or interpreted.

14.2.3 By transmitting Work Product in electronic form, the transmitting party does not transfer or assign its rights in the Work Product. The rights in the Electronic Data shall be as set forth in Article 4 of the Agreement. Under no circumstances shall the transfer of ownership of Electronic Data be deemed to be a sale by the transmitting party of tangible goods.

14.3 Electronic Data Protocol.

14.3.1 The parties acknowledge that Electronic Data may be altered or corrupted, intentionally or otherwise, due to occurrences beyond their reasonable control or knowledge, including but not limited to compatibility issues with user software, manipulation by the recipient, errors in transcription or transmission, machine error, environmental factors, and operator error. Consequently, the parties understand that there is some level of increased risk in the use of Electronic Data for the communication of design and construction information and, in consideration of this, agree, and shall require their independent contractors, Subcontractors and to agree, to the following protocols, terms and conditions set forth in this Section 14.3.

14.3.2 Electronic Data will be transmitted in the format determined in Section 14.2.1 above, including file conventions and document properties, unless prior arrangements are made in advance in writing.

14.3.3 The Electronic Data represents the information at a particular point in time and is subject to change. Therefore, the parties shall agree upon protocols for notification by the author to the recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall also address the duty, if any, to update such information.

14.3.4 The transmitting party specifically disclaims all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data via electronic means shall not invalidate or negate any duties pursuant to the applicable standard of care with respect to the creation of the Electronic Data, unless such data is materially changed or altered after it is transmitted to the receiving party, and the transmitting party did not participate in such change or alteration.

14.4 In the event the Design-Build Agreement contains a provision governing Electronic Data, and there is a conflict between the provision in the Design-Build Agreement and this Article 14, the provision in the Design-Build Agreement takes precedence, notwithstanding the order of precedence set forth in Section 1.4.2.

Article XV. Confidential Information

15.1 Confidential and/or Proprietary Information.

15.1.1 Confidential Information is defined as information which is determined by the transmitting party to be of a confidential or proprietary nature and: (i) the transmitting party identifies as either confidential or proprietary; (ii) the transmitting party takes steps to maintain the confidential or proprietary nature of the information; and (iii) the document is not otherwise available in or considered to be in the public domain. The receiving party agrees to maintain the confidentiality of the Confidential Information and agrees to use the Confidential Information solely in connection with a Project.

15.1.2 Subcontractor may receive information from Design-Builder that is either confidential or proprietary to either Design-Builder or to Owner. Such information shall be labeled as confidential and/or proprietary. Subcontractor agrees to maintain the confidential nature of such information and to execute any such additional agreements as may be required by Owner or Design-Builder with respect to such information.

15.1.3 In the event the Design-Build Agreement contains a provision governing Confidential Information, and there is a conflict between the provision in the Design-Build Agreement and this Article 16, the provision in the Design-Build Agreement takes precedence.

Article XVI. Other Provisions

16.1 Other provisions, if any, are as follows:

The Exhibits attached to this Agreement, which include, but are not limited to the following:

*Exhibit A – Subcontractor's Scope of Work;
Exhibit B – Preliminary Lien Information;
Exhibit C – Plan Coversheet & Plan Page List;
Exhibit D – Insurance & Required Documents.
Exhibit E – Geotechnical Report*

Document Name	Document Link	File Type	Document Comment

DESIGN BUILDER:

LGE Design Build

By:

Name:

Title:

Date:

SUBCONTRACTOR:

By:

Name: Jared Aiken

Title:

Date:

Subcontract has been reviewed by:

Initial


Superintendent
Initial


Managing Director



Cost Code	Company	Contact	Phone	Email	Amount
31-25000	Desert Services	Jared Aiken	(989)330-7859	jared@desertservices.net	\$2110.00

MMM

EXHIBIT A SCOPE OF WORK:

In the event that there exists a conflict in the contract documents, then the highest quality and the greatest quantity shall prevail. Subcontractor shall warrant the Work to be free from all defects or deviations for a period of a MINIMUM of (2) years from Date of Substantial Completion or as stipulated within the contract documents, whichever is longer.

All specified submittals, shop drawings, samples, etc. shall be submitted to LGE DESIGN BUILD along with a detailed Pay Application Schedule of Values (SOV) within (7) days of receipt of this work order.

1. Provide Filtrex Sock and SWPPP manual complete and as further defined below.
2. Sales Tax is not Included. Subcontractor shall obtain an Arizona 5005 form.
3. A Payment and Performance bond Is Not required and is not included.
4. Total mark-up of scope changes shall not exceed 10% unless stipulated otherwise by the Prime Contract.
5. LEED is not included or required.
6. Retainage of 10% will be withheld as outlined in the subcontract agreement

Applicable Specifications

Subcontractor shall comply with all project specifications applicable and pertinent to Subcontractor's work.

Definitions

The following definitions shall include all costs for labor, materials, equipment, overhead, profit, trade permits, tests, inspections, layout, insurance, services, supplies, fuel, scaffolding, ladders, staging, tools, small tools, hoisting of any kind, lull, forklifts, boom lifts, temporary protection, pumps, safety apparatus, rigging, and any other facilities necessary (unless specifically excluded further below) in accordance with the Contract Documents (which is this Agreement, the plans, specifications, and Prime Contract):

- a. The word "**Furnish**" means to purchase and deliver to a location on the project site designated by Contractor's Superintendent, but not to install, because it will be installed by others.
- b. The words "**Install Only**" or "**Installed Only**" means to take custody of material furnished by others from a location on the project site designated by Contractor's Superintendent, and install it completely including final connections as required throughout.
- c. The word "**Provide**" means to purchase and deliver material/equipment to the project site and then install that material/equipment completely including final connections as required throughout.



Requirements

1. Furnish and install 310 feet of Filtrex green colored waddles/filter sock to the project north perimeter for SWPPP compliance. \$760.00
2. Provide a code compliant SWPPP narrative design manual. \$1,350.00

Exclusions

Bonds, Permits, Fees and Taxes

Alternates that can be added to contract scope with reasonable time:

- Street sweeping @ \$120.00 per hour with 2 hour minimum

Construction Documents

- Muscular Moving Men – Delta 1 City Comments 08/20/2025, Blacklines – 8/26/2025 – 2nd City Submittal plan set
- Report on Geotechnical Investigation soils report by Speedie and Associates dated January 26, 2024

Change Orders

1. Subcontractor shall obtain preauthorization from the LGE Project Manager for all T&M work and course of construction changes. No work shall be authorized by anyone other than a properly authorized LGE Design Build representative.
2. Subcontractor shall not deviate from the construction documents or perform any change in scope of work until or unless receiving written direction from the LGE Project Manager.
3. Subcontractor shall submit all change requests with back-up to fully and completely substantiate the requested change. All Change orders will follow Prime Contract requirements. Change requests shall be submitted within Seventy-Two (72) hours of notification, or within Seventy-Two (72) hours of Subcontractor discovering a requirement for change in contract scope. Changes submitted without accurate and reasonable back-up, or outside of the specified timeframe, shall be returned and not considered valid change requests. This back up shall include, but not be limited to:
 - i. Copy of the direction for change, I.E. RFI, delta plan change, etc.
 - ii. Copy of the affected area of the original plan, pre change.
 - iii. Copy of the affected area of the plan, showing the change.
 - iv. Full breakdown of labor, material, equipment, & OH&P.
4. Subcontractor understands and agrees that T&M work is defined as all resources required to complete the directed task that shall be accounted for and billed on an actual basis, plus the contractually allowable mark up.
5. Subcontractor shall understand and agree that should the Subcontractor be directed to proceed with extra work on a T&M basis, Subcontractor shall submit actual, fully burdened hourly rates for all labor and equipment for review and approval prior to beginning T&M work. Subcontractor shall be singularly and solely responsible to ensure tickets are kept on a daily basis, documenting all labor, equipment, and materials used. Tickets shall be submitted daily for approval and signature by the on-site LGE representative; tickets shall not be backdated, nor submitted for approval more than 24 hours after the fact. Upon completion of the T&M work, signed tickets shall be submitted with a change order request to the LGE Project Manager for issuance of a Commitment Change Order.
6. Any direction deviating from the construction documents or change in scope of work must be in writing from the LGE project manager.
7. Without exception, Subcontractor's change requests shall clearly indicate and show separately, actual costs and contractually allowable mark-up.



General Requirements

1. This project shall be conducted during normal business hours. If required, any noisy and invasive scope of work by this subcontractor will be provided outside normal business hours. Scheduled shut down and tie-in with utilities, which, require off hours or overtime by this subcontractor are provided.
2. The subcontractor is to keep the job always clean of all debris.
3. Subcontractor is required to provide adequate manpower during regular working hours to maintain pace of job schedule as modified by superintendent and/or project manager in order to complete original scope of work on time without overtime charges.
4. No work shall be authorized by anyone other than LGE Design Build and will require a signed change order.
5. Subcontractors are responsible for all clean up on the job site. If we find that any subcontractor has NOT cleaned up daily, you will receive a back charge for the full cost of labor to complete the clean- up.
6. Coordinate with all other subcontractors, vendors, LGE project management, superintendent, and the complete set of construction documents prior to the ordering and installation of work.
7. Subcontractor shall submit "RFI" Request for Information pertaining to all discrepancies and conflicts noted in the construction documents. Any scope of work installed without receiving clear direction from the design team will be removed and reinstalled by this subcontractor.
8. Coordinate and verify existing work in place is suitable for the start of this scope of work. Notify LGE superintendent in writing of deficient scope of work preventing the on time start of work. By proceeding with installation, the subcontractor accepts existing conditions.
9. Subcontractor shall not install on existing work in place that is not within conformance of construction documents and/or industry standard. Subcontractor shall notify LGE of any defective work in place. By proceeding with installation, the Subcontractor accepts existing conditions.
10. Subcontractor shall provide temporary generator power and task lighting as needed to complete this scope of work.
11. It is this subcontractor's responsibility to log into and thoroughly review all project related construction documents periodically to ensure construction is being installed with the most current information. The following documents include but are not limited to, drawings, specifications, RFI's,
12. Subcontractor shall log into and thoroughly review all project related construction documents periodically to ensure construction is being installed with the most current information. The following documents include but are not limited to, drawings, specifications, RFI's, ASI's, PR's, SK's, submittals, schedules located in LGE's "Procore Technologies Inc." document control database. Contact LGE's project team should you not have access to view these listed documents.
13. A competent jobsite supervisor(s) or foreman representing this subcontractor shall attend all field project coordination, scheduling, quality control and safety meetings, when requested. Attendees shall have the authority to make scheduling, sequencing, coordination, quality, safety and any other project related decisions.
14. Requested change orders will follow Prime Contract requirements and/or be submitted within 7 days.
15. Direction for T&M work and course of construction changes must be preauthorized by the LGE project manager. Time tickets will be submitted daily for signature by the field superintendent.
16. Any direction deviating from the construction documents or change in scope of work must be in writing from the LGE project manager.
17. Subcontractor shall understand and agree that drawings noting "By Contractor," or "By GC", or "By General Contractor" shall be by this subcontractor if relating to this subcontractor's scope of work.
18. Closeout documents shall be submitted once work has been completed.
19. As-builts shall be updated weekly.



20. LGE project superintendent will designate parking, access, staging, material delivery and jobsite rules. Staging shall be agreed upon with subcontractor.
21. Prevent damage of existing work or products in place while performing this scope of work.
22. Ensure equipment, materials and work areas are organized, clean and safe always.
23. Provide all transportation, lifting, hoisting, and hauling as required for this scope of work.
24. Subcontractor shall treat the exposed building slab and walls as a finished product. All markings must be removed, and no permanent types of medium will be allowed, including but not limited to, spray paint, permanent markers, red chalk, etc. It is this Subcontractor's responsibility to take all necessary precautions to fully protect the building slab from damage, both structural and aesthetic in nature. Subcontractor shall not, under any circumstances, apply adhesive tape of any type to a polished or finished concrete surface. No exceptions.
25. Subcontractor vehicles not immediately necessary for completion of work shall not be parked on any finished building floor slab or inside any building for this project. All violating subcontractors shall share costs for any oil or stain clean up.
26. Subcontractor shall coordinate with all other subcontractors, vendors, LGE project management, LGE Superintendent and the complete set of construction documents prior to the ordering and installation of work.
27. Subcontractor shall monitor, coordinate, and order material such as to avoid material price increases. Subcontractor shall notify Contractor of impending material price increases with sufficient time to allow for pre-purchasing, ordering ahead, stockpiling on or off site, or other avenues to avoid cost increases. "Sufficient time" shall be defined as a minimum of fourteen (14) calendar days for the purpose of this requirement.
28. Subcontractor shall be independently, solely, and fully responsible in all aspects for the QA/QC of their work. Subcontractor shall employ an individual responsible for ensuring work is completed in a workmanlike fashion and to industry standards. Subcontractor shall, upon completion of an area of work or specific work items, complete, sign, and submit to LGE a QA/QC form, signifying that the work has been checked, is in compliance with the contract documents, and meets industry standards for workmanship.
29. Subcontractor shall ensure that any equipment brought onto the building slab is equipped with non-marking tires or wheel cover "booties" and a system to capture and contain any leaking fluids.
30. Subcontractor shall accept, offload, and inventory, any materials purchased by others for use by this subcontractor. Any shortages or damage must be immediately reported to LGE in writing. Shortages or damage not immediately reported shall become the responsibility of this subcontractor.
31. Subcontractor shall furnish and install access panels, as necessary for access to contractors' system and as appropriate for the partition or structure where the panel is being installed.
32. Subcontractor shall be responsible for sealing any penetrations, suitable to the partition, wall, or structure being penetrated.
33. Subcontractor shall stock pile soil spoils from underground or earthwork related installations at location(s) directed by LGE supervision.
34. Subcontractor shall follow LGE project Superintendent's directions regarding parking, access, staging, material delivery and jobsite rules.
35. Subcontractor shall ensure equipment, materials and work areas are organized, clean, tidy, and safe at all times. Subcontractors are responsible for clean up on the job site. If the subcontractor has NOT cleaned up daily then a back charge for the full cost of labor to complete the clean-up work may be charged via a deductive Commitment Change Order.
36. Subcontractor shall provide all necessary dust control measures for this scope of work, as defined by the AHJ. Driving onsite will be limited to 5 MPH, or as designated by the project Superintendent.
37. Subcontractor affirms and understands that the General Contractor has received clearance from the Federal Aviation Administration and the city having jurisdiction for the closest airport for a maximum structure height, either permanent or temporary. Should the approved heights be insufficient for any aspect of the subcontractor's work, it shall be the sole responsibility of the subcontractor to make timely application to the Federal Aviation Administration and the AHJ with the airport at issue for additional clearances and waivers, in a manner such as to not impede or interfere with the project schedule.
38. This subcontract shall supersede the subcontractor proposal.



39. Schedule and coordinate with the LGE Superintendent material testing and special inspections as required. Testing and cost of passing testing by others.
40. Provide blue staking for own scope of work. All subcontractors shall be singularly responsible for own blue stake notifications and coordination.
41. As-builts shall be updated weekly in LGE's onsite record plan set.
42. Closeout documents shall be submitted 2 weeks after submittals are reviewed.
43. Subcontractor shall furnish a minimum of 2% attic stock, or one (1) full unopened container of each color, specification, or design. All attic stock will be furnished in new, unopened, and clearly identified containers, unless partial containers are required to meet quantity requirements. All attic stock shall be placed in a location TBD by the LGE Superintendent. A transmittal shall be provided with delivery of the materials, to be signed by the LGE site representative. A copy of this signed transmittal shall be submitted electronically to the Contractor. Below are examples of finished products to be provided. This list is not complete and if a Subcontractor is unsure of the materials or quantities, it is the Subcontractor's responsibility to clarify.
 - Paint, wallcovering, lamps, tile, laminate, carpet (all flooring in general), vinyl base, acoustical tile, stone/faux stone, anything with a die lot.
44. Subcontractor shall submit a Schedule of Values (SOV) with a reasonable cost breakdown of the contracted scope for review and approval prior to the first scheduled billing. The SOV shall be submitted with sufficient time for review such as to not impede the billing process or timeline. This project is submitted and billed solely through Procore with accurate and complete submittals due by the 20th of each month.

Schedule

1. Subcontractor will begin work when notified by LGE Design Build project team and shall coordinate and execute work in accordance with construction documents and project management team's written direction. A baseline schedule is provided with this subcontract agreement for duration scheduling, sequence and milestone information for scope of work. LGE's weekly updated short interval schedule will take precedent over all other schedules. This schedule will be available in LGE's "Procore Technologies Inc." document control database. In the event you do not have access, please contact LGE's project team in writing to obtain access.
2. Subcontractor is required to provide adequate manpower during regular working hours to maintain pace of job schedule as modified by superintendent and/or project manager in order to complete original scope of work on time without overtime charges.
3. Subcontractor shall conduct all operations during normal business hours, as defined by the project Superintendent. If required, any noisy and invasive scope of work by this Subcontractor will be provided outside normal business hours. Scheduled shut down and tie-in with utilities, which require off hours or overtime by this subcontractor are provided and included in this Subcontract.

Safety

Provide personal protective equipment at all times. This shall include OSHA compliant eye protection, face masks, hard hats, reflective shirts or vest, long pants, shirt with sleeves, and footwear. Subcontractors shall conduct work in a safe and professional manner consistent with OSHA rules and regulations. No radios or headphones will be permitted on this jobsite. Subcontractor will provide a site-specific safety plan and activity hazard analysis for this scope of work.

Shop Drawings, Mockups, & Submittals

1. Provide shop drawings, mockups, and submittals within 7 days (or as scheduled by LGE after contract is issued. Do not procure or manufacture materials and products until reviewed submittals, shop drawings, samples, and mockups have been approved. All submittals, shop drawings, samples, and mockups shall be in full compliance with the construction documents. Notify LGE project team in writing if additional time is needed to procure submittal information. No exceptions will be considered without a formal letter of substitution request. Any substitution request shall be submitted on a separate coversheet and include any cost impacts.
2. Record drawings are kept current and updated weekly at a minimum.



3. Project shop drawings, submittals, and samples are turned in not later than ten (10) days after contract execution, unless otherwise agreed upon and memorialized in the Specific Scope Inclusions.
4. All submittals, shop drawings, samples and mockups are a requirement of this contract and are reviewed as a consideration to all parties. No part of this process shall be considered or understood to transfer any part of the responsibility for full compliance with the contractor documents from or away from the Subcontractor. No exceptions shall be considered without a formal letter of substitution request. Any substitution request shall be submitted on a separate coversheet and shall include any cost and/or time impacts. Do not procure or manufacture materials and products until submittals, shop drawings, samples and mockups have been reviewed and returned. No exceptions will be considered without a formal letter of substitution request. Substitute materials not specifically submitted and approved as substitutes shall not be approved for purchase/installation whether reviewed in the submittal or not.
5. All labor warranties, manufacturer warranties, and O&M manuals shall be turned in not later than thirty (30) days after return of reviewed submittals, unless otherwise agreed upon and memorialized in the Specific Scope Inclusions. All warranties shall state the beginning of the warranty period is "upon substantial completion".



Pre-lien Information:

JOB: Muscular Moving Men - Rose Garden Lane

JOBSITE: 2601 E. Rose Garden Ln.
Phoenix, AZ 85050

GENERAL
CONTRACTOR: LGE Corporation dba LGE Design Build
1200 North 52ND Street
Phoenix, Arizona 85008
PHONE: 480-966-4001

OWNER: Muscular Moving Men and Storage
2950 E. Mohawk Ln. Suite 100
Phoenix, AZ 85008

LENDER: N/A

ESTIMATED COMPLETION DATE: TBD

NO PERFORMANCE BOND REQUIRED

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S3.3.1	PANEL ELEVATIONS	5/25/2025
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EXHIBIT D –
INSURANCE REQUIREMENTS & REQUIRED DOCUMENTS

Hello LGE Subcontractor,

The following insurance documents must be received by our Accounting Department at insurance@lgedesignbuild.com within 10 days from the date of your signed contract, or this contract is voidable.

A certificate of insurance naming LGE Corporation dba LGE Design Build as additional insured with respects to the following:

a. **Commercial Liability:**

- Each Occurrence - \$1,000,000
- Personal & Adv Injury - \$1,000,000
- General Aggregate - \$2,000,000
- Products – Comp/OP AGG - \$2,000,000

b. **Automobile Liability:**

- Combined Single Limit each accident - \$1,000,000

c. **Umbrella Liability:**

- Each Occurrence - \$2,000,000
- Aggregate - \$2,000,000

d. **Workers Compensation:**

- E.L. Each Accident – 1,000,000
- E.L. Each Disease – Each Employee - \$1,000,000
- E.L. Disease – Policy Limit - \$1,000,000

e. **Contractors Pollution:**

- Each Occurrence - \$1,000,000
- Aggregate - \$1,000,000

f. **Professional Liability (if applicable):**

- Each Claim - \$1,000,000
- Aggregate - \$1,000,000

g. Subcontractor shall procure insurance to meet the requirements as set forth in Owner's Contract. ** Insurance requirements are subject to change. **

h. For COI renewals please send to: insurance@lgedesignbuild.com

Please reference the Project Directory in **Procore** for all scheduling, shop drawings, submittals and RFI's

Furthermore, please submit:

Dust Permit and all written Hazardous Communication Programs.
Project Specific S.D.S. sheets.

- Written Project Specific Safety Program.
- Maricopa County air quality subcontractor registration number.

If your company digs, paves, or moves dirt in any way, include a copy of your onsite personnel's Dust Compliance training ID card to Jim Kelly at jimk@lgedesignbuild.com within five (5) days of receipt of your contract or prior to commencement of your portion of the work for this project, whichever is earliest.

BILLINGS SHALL BE SUBMITTED IN PREMIER TO LGE NO LATER THAN THE 22ND OF EACH MONTH. LATE BILLINGS CANNOT BE ACCEPTED. PLEASE CONTACT YOUR ASSIGNED PROJECT COORDINATOR PRIOR TO THE 22ND FOR ANY ASSISTANCE NEEDED.

When submitting a billing, please upload a signed pay application along with your signed conditional progress/final waiver in the attachment field. Banks no longer accept typed signatures. All signatures must be hand signed, or a digitally created e-signature backed by certificate in software such as Adobe or Bluebeam.

If any offsite stored material is being billed, then the owner (and bank if there is a loan) will need the following submitted in the subcontractor's billing please:

- **INVOICES:** Material invoice(s) from the supplier (NOT SUBCONTRACTOR) with cost matching what the subcontractor pay app is submitted for. Invoices must be clear identifying the stored material billed for this project. There should be no markup added in the payment application for the material invoices.
- **INSURANCE:** Certificate of insurance with the owner and bank if there is a loan for this project listed as the additional insured. The insurance cert must specify the stored material is insured for at least the cost of what is billed.
- **PHOTOS:** Reasonable photo evidence of all specific material that is stored for this project only and billed for. Any offsite stored bulk materials not specifically labeled and separated for this project will likely not be accepted by the bank/owner for payment.

LOCATION: Business name, contact, address, phone number of company/location where the material is stored.

It is important that the LGE billing procedures are followed to ensure prompt payment.

If the LGE Construction Manager requests extra work, you must submit a proposal for the work. An approved Work Order will then be issued by the LGE Construction Department, and a copy will be emailed to your office. All billings for extra work will be submitted on your invoice with a copy of the "Approved" work order, and only when the work is 100% complete. All billings and waivers for base contract and approved extra work shall be submitted through Premier.

PLEASE DO NOT MAIL INVOICES IF YOU HAVE ALREADY SUBMITTED THEM.

We ask that you please make sure that our Accounting Department has your correct email address. You will receive monthly memos notifying you of all jobs to be "Finalized", as well as "First Draws" for new projects and/or any other pertinent information.

Should you have any questions or need clarification regarding the above-mentioned billing procedures, please contact Mike Scott at our office or by email at mikes@lgedesignbuild.com. Phone extension #2202

For Payment information please contact Stephanie Alvarez at stephaniea@lgedesignbuild.com. Phone extension #2212

Sincerely – LGE Team



www.speedie.net

REPORT ON
GEOTECHNICAL INVESTIGATION

DESIGNATION: Muscular Moving Men

LOCATION: 2601 East Rose Garden Lane
Phoenix, Arizona

CLIENT: LGE Design Build

PROJECT NO: 232197SA

DATE: January 26, 2024





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APPENDIX - Field and Laboratory Data



1.0 INTRODUCTION

This report presents the results of a subsoil investigation carried out at the site of the proposed *Muscular Moving Men* development to be located at 2601 East Rose Garden Lane in Phoenix, Arizona.

We understand that construction will consist of a 66,000 square foot building with a 3,000 square foot mezzanine on a 4.71 acre site. The building will be slab on grade with tilt panel walls and dock-high truck bays, on the east side of the building. Structural loads are expected to be light to moderate and no special considerations regarding settlement tolerances are known at this time. Adjacent areas will be landscaped or paved to support light to moderate passenger and truck traffic. Landscaped areas and likely underground storage system will be utilized for storm water retention and disposal. **We are not aware of any proposed underground stormwater retention tanks. If any are planned, this office should be notified so that they can be addressed, additional borings and corrosion testing may be required.**

2.0 GENERAL SITE AND SOIL CONDITIONS

2.1 Site Conditions

The site is generally bound on the north by Rose Garden Lane, on the west and south by several commercial developments, and on the east by an office building and fitness training center. The site currently consists of a main building with several caged areas for horse boarding. The site also consists of canopy structures, site lighting, and various other minor structures. The main drive and parking lot are unpaved with gravel. Vegetation consists of trees (mostly for landscaping purposes). Several material stockpiles (consisting of soil) were present around the site. Refer to the following figures:



Figure 2.1.1 – Site Photo



Figure 2.1.2 – Site Photo

**Figure 2.1.3 Site Photo****Figure 2.1.4 Site Photo**

A cursory review of available historical aerials was conducted. The site was previously native desert before undergoing development. The site has previously been partially graded and cleared over time as development nearby has taken place. **It is recommended to obtain and review any potential Phase I/II Environmental Site Assessments (ESA) that may have been conducted for the subject site that will better detail any potential hazards.** Refer to the following historical aerial photos.

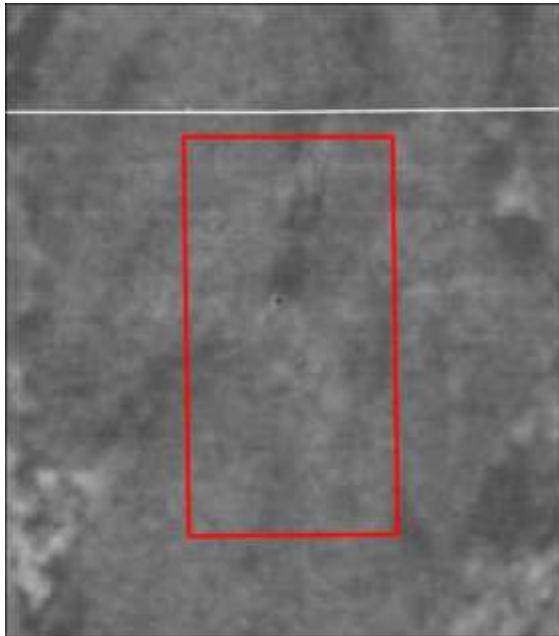
**Figure 2.1.5 – Dated 1953****Figure 2.1.6 – Dated 1979**



Figure 2.1.7 – Dated 2001



Figure 2.1.8 – Dated 2003



Figure 2.1.9 – Dated 2014



Figure 2.1.10 – Dated 2022

“Historical Aerial Photography,” ArcGIS Web Application. [Online]. Available: <https://gis.maricopa.gov> [Accessed: 7-Dec-2023].

2.2 Geologic Conditions

The site is located on a sediment-filled structural basin in the Basin and Range physiographic province **well outside known areas** that have undergone considerable subsidence due to groundwater removal and aquifer compaction. Areas of subsidence are known to produce earth fissuring, which has affected areas

within several miles of the site. Subsidence is a basin-wide phenomenon that results in differential elevation changes over long distances, which would not affect the type of building proposed for this site. Fissure gullies form at the surface over time, typically where the basin fill sediments subside over subsurface irregularities such as shallow bedrock ridges, producing tensional stresses in the sediments. Where such anomalies are not present, subsidence tends to be uniform over a wide area, thus having minimal adverse impact on surface structures. The closest known earth fissures are located near 40th Street and Lupine, several miles southeast from the site. Based on local experience, subsidence and earth fissures historically have **not** been a problem in this area. No obvious visual evidence of earth fissures was observed at the site during the fieldwork completed for this report.

2.3 Seismic Design Parameters

The project area is in a seismic zone that is considered to have low historical seismicity. The seismicity of the Phoenix area has had only three magnitude 3.0 events in over 100 years. Liquefaction is not considered a concern as groundwater exceeds 50 feet below ground surface.

Drilling to 100 feet is not practical for the proposed structure. The deepest boring conducted on site encountered refusal of cobbles at 17 feet. The average SPT values in the upper soils are well above 50 blows per foot. A seismic survey has also been completed on a nearby site with an average shear wave velocity of 1,740 feet per second (f/s). Based on the nature of the subsoils encountered in the borings and geology in the area, it is our professional opinion that Site Class Definition, Class C may be used for design of the structures. In addition, the following seismic parameters may be used for design (based on ASCE 7-16 (IBC 2018), utilizing the ATC Hazards by Location Tool).

Table 2.3.1 Seismic Parameters

MCE ¹ spectral response acceleration for 0.2 second period, S _S :	0.219g
MCE ¹ spectral response acceleration for 1.0 second period, S _I :	0.073g
Site coefficient, Fa:	1.3
Site coefficient, Fv:	1.5
MCE ¹ spectral response acceleration adjusted for site class, S _{MS} :	0.284g
MCE ¹ spectral response acceleration adjusted for site class, S _{M1} :	0.109g
5% Damped spectral response acceleration, S _{DS} :	0.190g
5% Damped spectral response acceleration, S _{D1} :	0.073g
NOTE1: MCE = maximum considered earthquake	

2.4 General Subsurface Conditions

Fill is present at borings B-1 and SG-2 consisting of clayey sand and well-graded gravel to depths of 1 to 2 feet. Although not indicated at the other borings, fill may be present across the site due to previous site development. Discerning a contact point between fill and native soil is difficult to do within a small diameter bore hole.

Native subsoils generally consist of clayey sand to depths of 6 to 13 feet underlined by well-graded gravel with clay to the termination depths of 5 to 17 feet below existing grades. Auger refusal on cobbles was encountered at Borings B-2 and B-3. In addition, subordinate amounts gravel and weak degrees of calcareous cementation were noted in the upper clayey layers of the soil profile. The standard penetration resistance test (SPT) values range from 7 to 50+ blows per foot (bpf), generally increasing with depth. No groundwater was encountered during this investigation. Based on visual and tactile observation, the shallow surface soils were in a ‘dry’ to ‘dry to moist’ state at the time of investigation.

Laboratory testing indicates in-situ dry densities of the upper soils ranged from 87.4 to 108.9 pounds per cubic foot (pcf) with water contents of 4.5 to 7.8 percent at the time of investigation. Liquid limits ranged from 29 to 50 percent with plasticity indices ranging from 10 to 25 percent. The upper soils exhibit a volume increase (**swell**) due to wetting of **2.2 percent** when compacted to moisture and density levels normally expected during construction. Based on the soil classification and the plasticity index values, a higher swell potential may exist on the site. ‘Undisturbed’ samples displayed minor (1.3 to 1.9 percent) compression under incremental loading to a maximum confining load of 3,200 psf and moderate (5.2 percent) additional compression due to inundation (**hydro-collapse**).

3.0 ANALYSIS AND RECOMMENDATIONS

3.1 Analysis

Analysis of the field and laboratory data indicates that subsoils at the site are generally favorable for the support of the proposed structures on shallow foundations and slab-on-grade subject to remedial earthworks. Some special site preparation will be required with respect to the existing structures, related elements, and underground utilities. Grading plans were not provided; however, it is assumed that the overall site grade will remain essentially the same (± 2 feet).

Field and laboratory testing indicate that the upper soils are of variable density and capable of post-construction settlement, potentially significant and rapid, due to inundation (**hydro-collapse**). Secondly, demolition of the existing facilities and tree removal will disturb the surface soils. This could cause excessive

settlement resulting in cracking problems. Accordingly, primary recommendations are made to over-excavate and re-compact the bearing soils to increase density and reduce the potential for collapse. The over-excavated and re-compacted soil will mitigate, but not eliminate the potential for additional settlement if the deeper soils become wet. Attention must be paid to providing proper drainage to limit the potential for water infiltration of deeper soils. The balance of the site will require re-compacting the plowed soils prior to placing fills.

The **swell potential** of the fine portion of the **upper clayey soils is a concern**. The potential is strong enough to cause differential movements of slabs-on-grade such as floors, sidewalks, patios and lightly loaded foundation but not enough to cause damage to heavier structures. Accordingly, it is paramount to provide proper drainage to limit the potential for water infiltrating under slabs. A minimum slope of at least 5 percent for 10 feet is recommended for unpaved landscaped areas.

Typical recommendations to **reduce (not eliminate)** the swell potential include reducing the compaction requirements and requiring higher moisture contents during pad preparation and requiring at least **12-inches of non-expansive material** to be placed directly beneath the conventional building slabs and slabs contiguous to the structure such as sidewalks.

The upper native clayey subgrade soils are considered suitable for lime stabilization. As an alternative to placing 12-inches of non-expansive import to complete the building pad, the native soils may be treated with chemical lime slurry (minimum 8 inches) to reduce the plasticity and swell potential to less than 1.5 percent. Commercial lime slurry is recommended to reduce the environmental concerns for blowing lime dust and to ensure proper hydration and mixing. Due to the presence of gravel and cobble sized material, in-place mixing could be challenging where these soils are exposed. The specified under slab aggregate base course should not be eliminated. If this option is considered, it is recommended that a mix design be conducted using the native, subgrade soils and varying amounts of proposed lime to determine an optimum amount. This office should be consulted for preliminary parameters for preliminary estimation purposes. Refer to section 3.9 for additional details.

Excavation operations will be difficult due to the very dense cobble laden soil and require the use of heavier equipment. The fact that an 8-inch diameter boring using carbide teeth was able to penetrate to a certain depth does not mean that the soils may be excavatable with standard equipment. Excavating contractors must determine means and methods. Groundwater is **not** expected to be a factor in the design or construction of shallow foundations and underground utilities.

For standard foundations to perform as expected, attention must be paid to providing proper drainage to limit the potential for water infiltration of deeper soils. It is assumed that the landscape plan will use mostly low water use or "green" desert type plants (xeriscape). It is preferred to keep irrigated plants at least 5 feet away from structures with irrigation schedules set and maintained to run intermittently. In accordance with Building Code requirements, **unpaved planter areas should be sloped at least 5 percent for a distance of at least 10 feet away from the building or alternative means used for drainage.** While this is the ideal condition, we recognize that this is not always possible to meet ADA slope requirements for the adjacent sidewalks. The slope may be reduced to 2 percent provide extra care is taken to ensure sidewalks and other hardscape features do not create a "dam" that prevents positive drainage away from the buildings that creates a "pond" adjacent to the building. Sidewalks should not be placed (or planters graded) that could create a "pond" adjacent to the building. Roof drainage should also be directed away from the building in paved scuppers. Pre-cast loose splash blocks should not be used as they can be dislodged and/or eroded. Roof drains should not be allowed to discharge into planters adjacent to the structure. It is preferred that they be directed to discharge to pavement (per photo example), retention basins or discharge points located at least 10 feet away from the building.



It is reiterated that shallow spread footings are recommended for the exterior walls and other light interior columns since this is the most economical system available. However, this shallow foundation system relies on the dry strength of the unsaturated native soils. A limited depth of re-compaction is recommended to increase density of the near surface soils that are more likely to encounter seasonal moisture changes, or deeper foundations. **The deeper native soils are moisture sensitive and could experience differential settlement if subjected to significant surface water infiltration.** Recognizing the need to minimize significant water penetration adjacent to the building perimeter that could detrimentally impact the building foundation, the following additional recommendations are made to protect foundations:

1. Take extra precaution to backfill and compact native soil fill to 95 percent in all exterior wall locations.
2. Avoid utility trenches passing through retention basins leading to the building. If unavoidable, backfill the trench with MAG Section 728 ½-sack CLSM to cut off preferred drainage paths.
3. Avoid placing retention basins next to building foundations. **A distance of at least 10 feet should be maintained between structures and the location of any retention basin maximum fill level and 15 feet from any UST.**
4. Create and maintain positive drainage away from the exterior wall for a minimum of 10 feet.
5. Avoid sidewalks, curbs or other elements that create a dam that could cause water to pond within 5 feet of the perimeter wall.

6. Include no irrigated landscape materials in the first 3 feet next to the building.
7. Between 3 feet and 5 feet, include only landscape materials that can be irrigated with a maximum of 1 gallon per hour emitter heads. Set and maintain irrigation controllers to prevent 24/7 flows.
8. Any landscape materials requiring greater than 1 gallon per hour irrigation, including turf, shall be at least 5 feet from the outside face of the building.
9. All irrigation feeder lines, other than those that supply individual emitters, shall not be placed closer than 5 feet to the building.

For exterior slabs-on-grade, frequent jointing is recommended to control cracking and reduce tripping hazards should differential movement occur. It is also recommended to pin the landing slab to the building floor/stem wall. This will reduce the potential for the exterior slab lifting to block the operation of out-swinging doors. Pinning typically consists of 24-inch-long No. 4 reinforcing steel dowels placed at 12-inch centers.

3.2 Site Preparation

The entire area to be occupied by the proposed construction should be stripped of all vegetation, debris, rubble and obviously loose surface soils. The existing structures and foundation elements should be removed in their entirety along with soil disturbed by this activity. Carefully remove all concrete and other elements as well as any deleterious materials that may be encountered. The entire affected building pad area should be over-excavated at least 18 inches to aid in location of other buried hazards (i.e. foundations, septic systems, etc.). If encountered, they should be removed, and the resulting excavation widened as necessary to provide access for compaction equipment. The existing asphaltic concrete may be cold-milled in-place to a gradation like that of an ABC and it, along with the existing aggregate base, stockpiled for reuse under paved areas as sub-base. Allowance should still be made for at least 4 inches of new ABC base course under paving. Final grades should allow for the placement of 12 inches of non-expansive fill on the building pads.

Subsoils should be further over-excavated at least 2 feet below proposed footing bottom elevation, extending at least 5 feet beyond the footing edges within all footing areas. The entire building pad does not require deep over-excavation if footing lines can be accurately located during grading operations. A representative of the Geotechnical Engineer should examine the subgrade once sub-excavation is complete and prior to backfilling to ensure removal of deleterious materials. Fill placement and quality should be as defined in the "Fill and Backfill" section of this report.

It is not known whether underground utilities on the site will need to be relocated. If any utility is located within 5 feet of any proposed foundation, relocation and/or abandonment of the utility should be provided. They should either be removed and replaced with engineered fill or abandoned in-place. In the case of manholes and pipelines, it may be possible to abandon them in-place. The tops of manholes should be removed and filled with a weak (~500 psi) cementitious grout. Pipelines larger than 6 inches should be capped and filled with grout. If the contractor decides to abandon the pipes in-place, the onus should be put on him to demonstrate that the trench backfill is adequately compacted. Speedie and Associates should be notified of the circumstance for our review. If removal of a pipeline is not possible, the foundations should be deepened to bear in undisturbed soil so that the zone of influence under the foundation does not encroach on the pipeline and/or trench. This zone is any area below a 45° line drawn down and away from the bottom of the foundation edges.

Prior to placing structural/engineered fill the exposed grade should be scarified to a depth of 8 inches, moisture-conditioned to optimum (± 2 percent) and compacted to at least 95 percent of maximum dry density as determined by ASTM D-698. Pavement areas should be scarified, moisture-conditioned and compacted in a similar manner.

All cut areas and areas above footing bottom elevation that are to receive floor slab only fill should be scarified 8 inches, moisture conditioned to at least optimum to 3 percent above optimum and lightly but uniformly compacted to 90 but not more than 95 percent of maximum dry density as determined by ASTM D-698.

3.3 Foundation Design

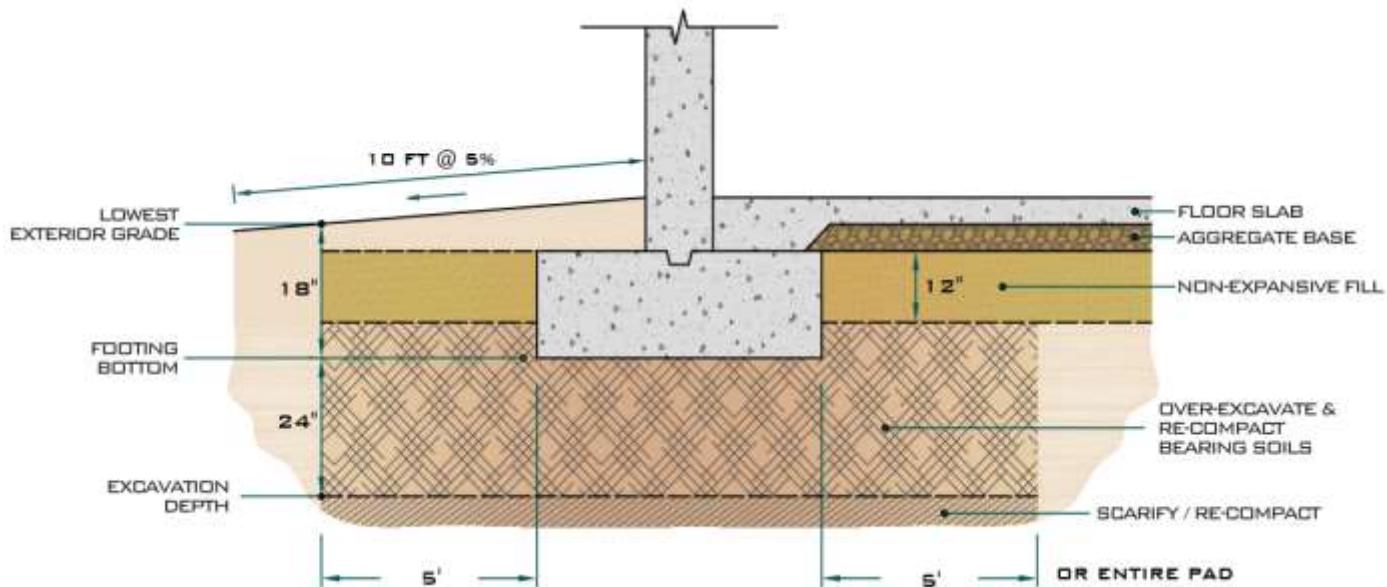
If site preparation is carried out as set forth herein, the following bearing capacities can be utilized for design:

Table 3.3.1 Foundation Bearing Capacities

Structure	Foundation Type	Foundation Depth ⁽¹⁾	Bearing Medium	Bearing Capacity	Comments
Minor Structures	Spread	1.5 ft.	Compacted Subgrade	1,500 psf	2
Main Structure	Spread	1.5 ft.	2 feet Engineered Fill	2,500 psf	3

Comments:

1. Depth refers to bottom of footing elevation below lowest adjacent finished grade within 5 feet or finished floor for interior footings.
2. Minor structures such as screen walls, small utility buildings, etc. The bottom of footing excavation should be scarified to a depth of 8 inches, moisture-conditioned to optimum (± 2 percent) and compacted to at least 95 percent of maximum dry density as determined by ASTM D-698.
3. Shallow spread footings bearing on **minimum** of 24 inches of engineered fill plus 8 inches pre-compacted subgrade extending at least 5 feet beyond the footing edges. Refer to Figure 3.3.1.

**Figure 3.3.1 Foundation Detail**

These bearing capacities refer to the total of all loads, dead and live, and are net pressures. They may be increased one-third for wind, seismic or other loads of short duration. All footing excavations should be level and cleaned of all loose or disturbed materials. **Positive drainage away from the proposed buildings must always be maintained.**

Continuous masonry wall footings and isolated rectangular footings should be designed with minimum widths of 16 and 24 inches respectively, regardless of the resultant bearing pressure. Lightly loaded interior partitions (less than 800 plf) may be supported on reinforced thickened slab sections (minimum 12 inches of bearing width).

Estimated settlements under design loads are on the order of $\frac{1}{2}$ to 1 inch, virtually all of which will occur during construction. Post-construction differential settlements will be on the order of one-half the total settlement, under existing and compacted moisture contents. Additional localized settlements or uplift (swell) of the same magnitude could occur if native supporting soils were to experience a significant increase in moisture content. **Positive drainage away from structures, and controlled routing of roof runoff must be provided and maintained to prevent ponding adjacent to perimeter walls.** Planters requiring heavy water should **not** be placed adjacent to or within 5 feet of the building. Care should be taken in design and construction to ensure that domestic and interior storm drain water is contained to prevent seepage. Roof drainage should be directed to paved areas or storm drains. They should not discharge into planters adjacent to the structures.

Continuous footings and stem walls should be reinforced to distribute stresses arising from small differential movements, and long walls should be provided with control joints to accommodate these movements. Reinforcement and control joints are suggested to allow slight movement and prevent minor floor slab cracking. **Due to the potential for post construction wall settlement if/when impacted by water, it is recommended to NOT tie the floors to the concrete tilt panel walls.** The floors should be allowed to “float” independent of the walls. When the closure pours, and first floor panel are reinforced and tied to the wall, normal concrete shrinkage causes the first free joint to open more than the others. Any settlement of the walls, even within the estimated tolerances, will magnify this opening. If it becomes necessary to tie the walls to the floor, a detail (such as dowels) to provide load transfer across this open joint is recommended.

3.4 Lateral Pressures

The following lateral pressure values may be utilized for the proposed construction:

Active Pressures

Unrestrained Walls	35 pcf
Restrained Walls	60 pcf

Passive Pressures

Continuous Footings	300 pcf
Spread Footings and Drilled Shafts	350 pcf

Coefficient of Friction (w/ passive pressure)	0.35
Coefficient of Friction (w/out passive pressure)	0.45

All backfill must be compacted to not less than 95 percent (ASTM D-698) to mobilize these passive values at low strain. Expansive soils should not be used as retaining wall backfill, except as a surface seal to limit infiltration of storm/irrigation water. The expansive pressures could greatly increase active pressures.

3.5 Fill and Backfill

Native clay soils are considered suitable for use in general grading and engineered structural fill below foundations but should **not** be used in the top 12-inches of conventional spread footing building slab pad fill, contiguous sidewalks, or as retaining wall backfill. The top 12-inches of pad fill should be completed with an approved low or low to non-expansive soil, either imported common borrow, or select granular soil. If select granular soil (AB) is used, the 4 inches of under-slab aggregate base may be included as part of the top 12-inches. Otherwise, 12-inches of approved common borrow should be used in addition to the normal 4 inches of aggregate base. An option to use lime/cement treated native soils is also acceptable.

If imported common fill for use in site grading is required, it should be examined by a Soils Engineer to ensure that it is of low swell potential and free of organic or otherwise deleterious material. In general, the fill should have 100 percent passing the 3-inch sieve and no more than 50 percent passing the #200 sieve. For the fine fraction (passing the 40 sieve), the liquid limit and plasticity index should not exceed 30 percent and 10 percent, respectively. It should exhibit less than 1.5 percent swell potential when compacted to 95 percent of maximum dry density (ASTM D-698) at a moisture content of 2 percent below optimum, confined under a 100 psf surcharge, and inundated.

Fill should be placed on subgrade which has been properly prepared and approved by a Soils Engineer. The fill must be wetted and thoroughly mixed to achieve optimum moisture content, ± 2 percent (optimum to 3 percent above optimum for under slab and sidewalk fill). Fill should be placed in horizontal lifts of 8-inch thickness (or as dictated by compaction equipment) and compacted to the percent of maximum dry density per ASTM D-698 set forth as follows:

A. Building Areas

- a. Below footing level 95
- b. Below slabs-on-grade (non-expansive soils) 95
- c. Below slabs-on-grade (expansive soils) 90-95 (max)
(Not recommended for the top 12-inches of building pads)

B. Pavement Subgrade or Fill	95
C. Utility Trench Backfill	95
D. Aggregate Base Course	
a. Below floor slabs	95
b. Below asphalt paving	100
E. Landscape Areas	90
F. Below onsite/offsite curb, gutter & sidewalks	90-95 (max)

3.6 Utilities Installation

Trench excavations for shallow utilities can be accomplished by conventional trenching equipment, although deeper soils will encounter cementation or cobble-laden soils that may require the use of heavier equipment. It should be noted that the fact that a boring was advanced to a certain depth should not lead to the assumption that it is necessarily excavatable by conventional means. The excavating contractor must make his/her own assessment as to excavatability. Trench walls may stand near vertical for the short periods of time required to install shallow utilities although sloughing may occur in looser and/or sandier soils requiring laying back of side slopes and/or temporary shoring. Adequate precautions must be taken to protect workmen in accordance with all current governmental regulations.

Backfill of narrow utility trenches above bedding and initial backfill zones may be carried out with native excavated material, screened of oversized material (plus 6 inches). This material should be moisture-conditioned, placed in 8-inch lifts and mechanically compacted. Water settling is not recommended. Compaction requirements are summarized in the "Fill and Backfill" section of this report. Native soils will **not** meet the typical granular bedding and initial backfill requirements of large diameter CMP tanks. It is imperative that these materials meet MAG Standard Specification Section 601 or the drainage engineers design and manufacture recommendations.

3.7 Slabs-On-Grade

To facilitate fine grading operations and aid in concrete curing, a 4-inch-thick layer of granular material conforming to the gradation for aggregate base (A.B.) as per M.A.G. Specification Section 702 should be utilized beneath the slab. Dried subgrade soils **must** be re-moistened prior to placing the aggregate base if allowed to dry out, especially if fine-grained soils are used in the top 12-inches of the pad.

For the support of industrial slabs-on-grade, a Modulus of Subgrade Reaction, k, of 150 pci may be used for slabs supported on Common Borrow non-expansive fill. This may be increased to 250 pci for slabs supported on 12 inches of well-graded Granular fill (MAG Spec 702 AB or Select Type B, ASTM D2940 Subbase for Roadways (or approved equal) or 8 inches of cement/lime stabilized soil (+ 4 inches of aggregate base or 2 inches of washed ¾-inch rock). Common Borrow is NOT suitable for this higher modulus value. **See comments in Section 3.3 about not attaching the slab to the walls. It is highly recommended to consider smooth dowels, tapered dowels, or other means for load transfer across joints in floor slabs subject to heavy forklift or truck loads to eliminate the potential for joint failures.**

The native soils can store a significant amount of moisture, which could increase the natural vapor drive through the slab. Accordingly, if moisture sensitive flooring and/or adhesive are planned, the use of a vapor barrier **directly under the slab** is recommended. Vapor barriers should be a minimum 15-mil thick polyolefin (or equivalent), which meets ASTM E 1745 Class A specifications. Vapor barriers do increase the potential for slab curling and water entrapment under the slab. Accordingly, if a vapor barrier is used, additional precautions such as low slump concrete, frequent jointing and proper curing will be required to reduce curling potential and detailed to prevent the entrapment of outside water sources.

3.8 Asphalt/Concrete Pavement Design

If earthwork in paved areas is carried out to finish subgrade elevation as set forth herein, the subgrade will provide marginal support for pavements. The location designation is for reference only. **The designer/owner should choose the appropriate sections to meet the anticipated traffic volume and life expectancy.** The section capacity is reported as daily ESALs, Equivalent 18-kip Single Axle Loads. Typical heavy trucks impart 1.0 to 2.5 ESALs per truck depending on load. It takes approximately 1200 passenger cars to impart 1 ESAL.

Table 3.8.1 Pavement Sections

Area of Placement	Flexible (AC Pavement)			Rigid (PCC Pavement)	
	Thickness AC (0.39)	Thickness ABC (0.12)	Daily 18-kip ESALs	Thickness PCCP	Daily 18-kip ESALs
Light Duty Auto Parking	2.0"	4.0"	3	5.0"	11
Heavy Duty Truck Parking, Main Drives, & Fire Lanes	3.0"	6.0"	30	6.0"	28
	3.5"	6.0"	55	7.0"	62
	4.0"	6.0"	130	8.0"	132

Notes:

1. Designs are based on AASHTO design equations and ADOT correlated R-Values.
2. The PCCP thickness is increased to provide better load transfer and reduce potential for joint & edge failures. Design PCCP per ACI 330.
3. Full depth asphalt or increased asphalt thickness can be increased by adding 1.0-inch asphalt for each 3 inches of base course replaced.

Pavement Design Parameters:

Assume: One 18-kip Equivalent Single Axle Load (ESAL)/Truck
 Life: 20 years

Subgrade Soil Profile:

Percent Passing #200 sieve: 32 percent
 Plasticity Index: 18 percent
 k: 150 pci (assumed)
 R value: 32 (per ADOT tables)
 M_R: 19,600 (per AASHTO design)

These designs assume that all subgrades are prepared in accordance with the recommendations contained in the "Site Preparation" and "Fill and Backfill" sections of this report, and paving operations are carried out in a proper manner. If pavement subgrade preparation is not carried out immediately prior to paving, the entire area should be proof-rolled at that time with a heavy pneumatic-tired roller to identify locally unstable areas for repair.

Pavement base course material should be aggregate base per M.A.G. Section 702 Specifications. Asphalt concrete materials and mix design should conform to M.A.G. 710 for heavy traffic. It is recommended that a $\frac{1}{2}$ inch or $\frac{3}{4}$ inch mix designation be used for the pavements. While a $\frac{3}{4}$ inch mix may have a somewhat rougher texture, it offers more stability and resistance to scuffing, particularly in truck turning areas. Pavement installation should be carried out under applicable portions of M.A.G. Section 321 and municipality standards. The asphalt supplier should be informed of the pavement use and be required to provide a mix that will provide stability and be aesthetically acceptable. Some of the newer M.A.G. mixes are very coarse and could cause placing and finish problems. A mix design should be submitted for review to determine if it will be acceptable for the intended use.

For sidewalks and other areas not subject to vehicular traffic a 4-inch section of concrete will be enough. For pavement areas with anticipated vehicular traffic a minimum section of 5 inches of concrete will provide adequate service. For trash and dumpster enclosures a thicker section of 6 inches of concrete is recommended.

Portland Cement Concrete Pavement must have a minimum 28-day flexural strength of 550 psi (compressive strength of approximately 3,700 psi). It may be cast directly on the prepared subgrade with proper compaction (reduced) and the elevated moisture content as recommended in the report. Lacking an aggregate base course, attention must be paid to using low slump concrete and proper curing, especially on the thinner sections. No reinforcement is necessary. Joint design and spacing should be in accordance with ACI recommendations. Construction joints should contain dowels or be tongue and grooved to provide load transfer. Tie bars are recommended on the joints adjacent to unsupported edges. Maximum joint spacing in feet should not exceed 2 to 3 times the thickness in inches. Joint sealing with a quality silicone sealer is recommended to prevent water from entering the subgrade allowing pumping and loss of support.

Proper subgrade preparation and joint sealing will reduce (but not eliminate) the potential for slab movements (thus cracking) on the expansive native soils. Frequent jointing will reduce uncontrolled cracking and increase the efficiency of aggregate interlock joint transfer.

3.9 Lime Stabilization

As an alternative to placing 12-inches of non-expansive common borrow import to complete the building pad (and/or importing common borrow for engineered fill under the foundations), the native soils may be treated with chemical lime slurry to reduce the plasticity and swell potential to less than 1.5 percent. **A minimum of 8-inches of lime-stabilized soil (LSS) is recommended under slabs-on-grade plus 4 inches of ABC.** Commercial lime slurry is recommended to reduce the environmental concerns for blowing lime dust

and to ensure proper hydration and mixing. Depending on the percentage of lime used and its reaction with the native clays, cementing action could increase the subgrade support capacity, improving the load carrying capacity of the floor slab. The specified underslab aggregate base course should not be eliminated.

Lime may also be used to stabilize subgrade soils in vehicle drive and parking areas provided that a mix design is performed to determine if the native soils will react with the lime. There can be a substantial reduction in aggregate base thickness (up to full replacement) for a given traffic volume when the subgrade is treated with lime. Correspondingly, the capacity can be greatly increased. There have been reports of pavement surfacing cracking on thin pavement sections where lime is used. Accordingly, proper subgrade preparation below the lime treated soils will be required to reduce (not eliminate) this potential. This includes increasing the moisture content to at least optimum to 3 percent above and limiting compaction to 90 to 95 percent to a depth of at least 6 inches. This can be accomplished in-place by deep mixing or if not possible with the equipment used, removing the layer to be treated and preparing the subgrade prior to placing the stabilized base course. The surface of the treated grade should be sealed with an asphalt prime coat to act as a curing agent and prevent the surface from drying prior to installing the pavement. It is also recommended to provide at least 2+ inches on AB on top of the LSS prior to paving. This will provide a layer of unbound material that can be used to fine grade the parking lot (less re-working of the LSS) and to provide an interlayer to further reduce the reflective cracking. A minimum LSS section of 6 inches is recommended.

The application of lime and soil stabilization should be carried out by a contractor experienced in this type of work. Consideration may be given to use of slurry rather than dry application since dusting is a concern. Use of lime slurry will also reduce the amount of loss and provide consistent coverage. This technology is locally available and is currently being used on recent projects. A mix design study would be required to determine the amount of lime required to reduce plasticity and/or increase strength. All lime stabilization work should be carried out in accordance with M.A.G. Section 309 **including using a minimum of 5 percent lime to prevent reversion.**

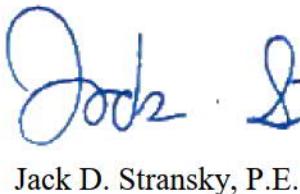
4.0 GENERAL

The scope of this investigation and report includes only regional published considerations for seismic activity and ground fissures resulting from subsidence due to groundwater withdrawal, not any site-specific studies. The scope does not include any considerations of hazardous releases or toxic contamination of any type.

Our analysis of data and the recommendations presented herein assume that soil conditions do not vary significantly from those found at specific sample locations. Our work has been performed in accordance with generally accepted engineering principles and practice; this warranty is in lieu of all other warranties expressed or implied.

We recommend that a representative of the Geotechnical Engineer observe and test the earthwork and foundation portions of this project to ensure compliance to project specifications and the field applicability of subsurface conditions which are the basis of the recommendations presented in this report. If any significant changes are made in the scope of work or type of construction that was assumed in this report, we must review such revised conditions to confirm our findings if the conclusions and recommendations presented herein are to apply.

Respectfully submitted,
SPEEDIE & ASSOCIATES, LLC



Jack D. Stransky, P.E.



Keith R. Gravel, P.E.





APPENDIX

FIELD AND LABORATORY INVESTIGATION

SOIL BORING LOCATION PLAN

SOIL LEGEND

LOG OF TEST BORINGS

TABULATION OF TEST DATA

CONSOLIDATION TEST

MOISTURE-DENSITY RELATIONS

SWELL TEST DATA



FIELD AND LABORATORY INVESTIGATION

On December 13, 2023, soil test borings were drilled at the approximate locations shown on the attached Soil Boring Location Plan. All exploration work was carried out under the full-time supervision of our field engineer, who recorded subsurface conditions and obtained samples for laboratory testing. The soil borings were advanced with a truck-mounted CME-75 drill rig and track mounted CME 75 rig utilizing 7-inch diameter hollow stem flight augers. Detailed information regarding the borings and samples obtained can be found on an individual Log of Test Boring prepared for each drilling location.

Laboratory testing consisted of moisture content, dry density, grain-size distribution, and plasticity (Atterberg Limits) tests for classification and pavement design parameters. Remolded swell tests were performed on samples compacted to densities and moisture contents expected during construction. Compression tests were performed on a selected ring sample to estimate settlements and determine effects of inundation. All field and laboratory data are presented in this appendix.



 - APPROXIMATE SOIL BORING LOCATIONS



DR: JS

CHK-XX

DATE: 01/22/23

PROJECT NO.: 232197SA

SHEET: 1 OF 1

SOIL BORING LOCATION PLAN

MUSCULAR MOVING MEN
2601 EAST ROSE GARDEN LANE
PHOENIX, ARIZONA

SPEEDIE AND ASSOCIATES

SOIL LEGEND

SAMPLE DESIGNATION	DESCRIPTION		
AS	Auger Sample	A grab sample taken directly from auger flights.	
BS	Large Bulk Sample	A grab sample taken from auger spoils or from bucket of backhoe.	
S	Spoon Sample	Standard Penetration Test (ASTM D-1586) Driving a 2.0 inch outside diameter split spoon sampler into undisturbed soil for three successive 6-inch increments by means of a 140 lb. weight free falling through a distance of 30 inches. The cumulative number of blows for the final 12 inches of penetration is the Standard Penetration Resistance.	
RS	Ring Sample	Driving a 3.0 inch outside diameter spoon equipped with a series of 2.42-inch inside diameter, 1-inch long brass rings, into undisturbed soil for one 12-inch increment by the same means of the Spoon Sample. The blows required for the 12 inches of penetration are recorded.	
LS	Liner Sample	Standard Penetration Test driving a 2.0-inch outside diameter split spoon equipped with two 3-inch long, 3/8-inch inside diameter brass liners, separated by a 1-inch long spacer, into undisturbed soil by the same means of the Spoon Sample.	
ST	Shelby Tube	A 3.0-inch outside diameter thin-walled tube continuously pushed into the undisturbed soil by a rapid motion, without impact or twisting (ASTM D-1587).	
--	Continuous Penetration Resistance	Driving a 2.0-inch outside diameter "Bullnose Penetrometer" continuously into undisturbed soil by the same means of the spoon sample. The blows for each successive 12-inch increment are recorded.	

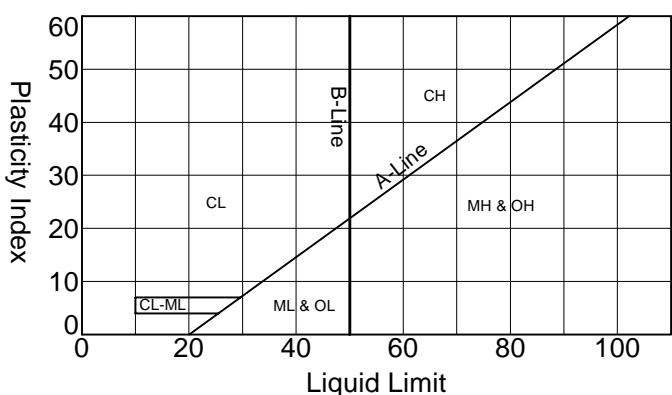
CONSISTENCY			RELATIVE DENSITY	
Clays & Silts	Blows/Foot	Strength (tons/sq ft)	Sands & Gravels	Blows/Foot
Very Soft	0 - 2	0 - 0.25	Very Loose	0 - 4
Soft	2 - 4	0.25 - 0.5	Loose	5 - 10
Firm	5 - 8	0.5 - 1.0	Medium Dense	11 - 30
Stiff	9 - 15	1 - 2	Dense	31 - 50
Very Stiff	16 - 30	2 - 4	Very Dense	> 50
Hard	> 30	> 4		

MAJOR DIVISIONS			SYMBOLS	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE (APPRECIABLE AMOUNT OF FINES)	CLEAN GRAVELS (LITTLE OR NO FINES)	GRAPH LETTER	GW GP GM GC SW
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GRAPH LETTER	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		CLEAN SANDS (LITTLE OR NO FINES)	GRAPH LETTER	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GRAPH LETTER	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
		CLEAN SANDS (LITTLE OR NO FINES)	GRAPH LETTER	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GRAPH LETTER	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GRAPH LETTER	SILTY SANDS, SAND - SILT MIXTURES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GRAPH LETTER	CLAYEY SANDS, SAND - CLAY MIXTURES
		SILTS AND CLAYS LIQUID LIMIT LESS THAN 50	GRAPH LETTER	ML CL OL
		SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50	GRAPH LETTER	ML CH OH
HIGHLY ORGANIC SOILS			GRAPH LETTER	PT PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

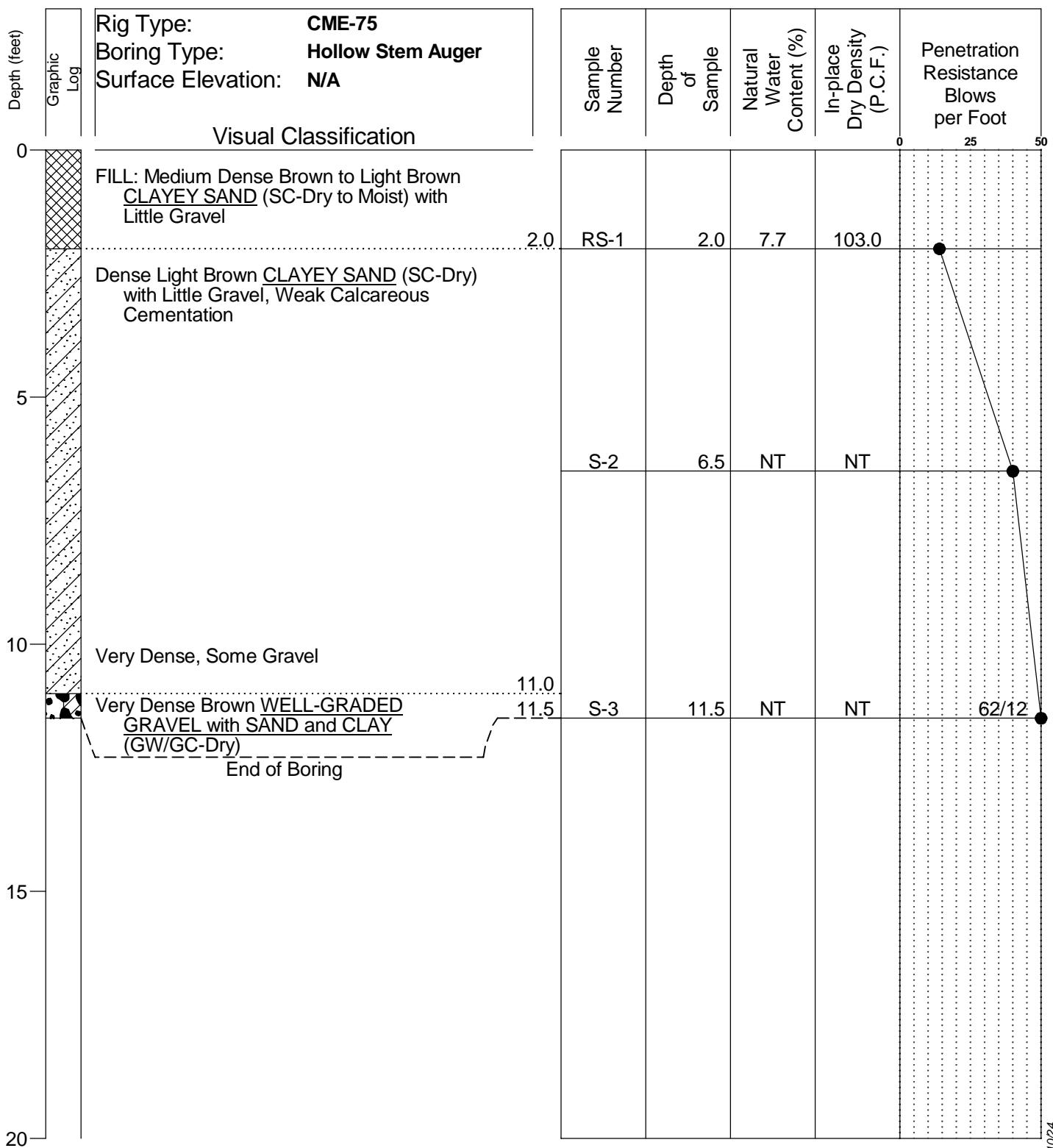
MATERIAL SIZE	PARTICLE SIZE			
	Lower Limit		Upper Limit	
mm	Sieve Size ♦	mm	Sieve Size ♦	
0.075	#200	0.42	#40	SANDS
0.420	#40	2.00	#10	Fine
2.000	#10	4.75	#4	Medium
				Coarse
4.75	#4	19	0.75" ✕	GRAVELS
19	0.75" ✕	75	3" ✕	Fine
				Coarse
75	3" ✕	300	12" ✕	COBBLES
300	12" ✕	900	36" ✕	BOULDERS

♦U.S. Standard

✖Clear Square Openings



NOTE: DUAL OR MODIFIED SYMBOLS MAY BE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS OR TO PROVIDE A BETTER GRAPHICAL PRESENTATION OF THE SOIL

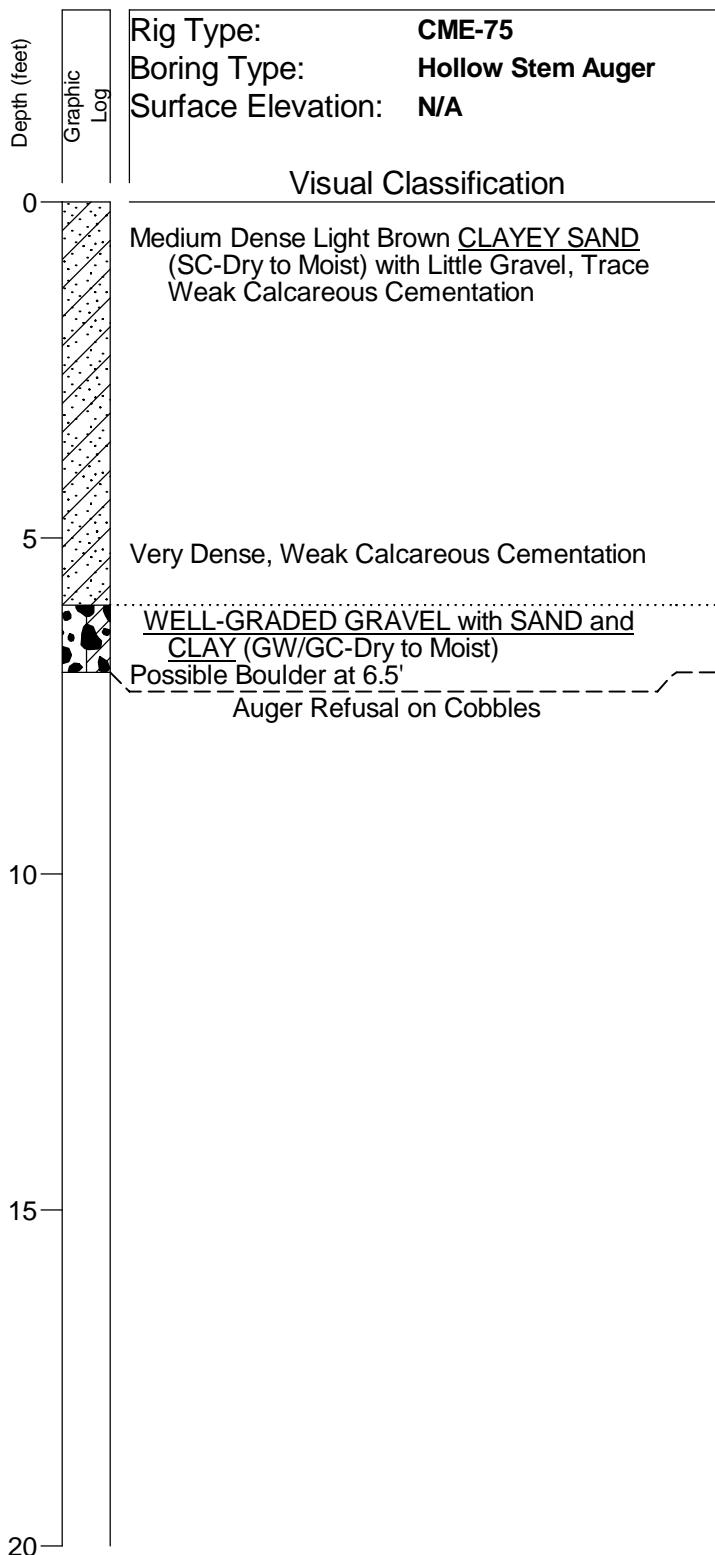


Boring Date: 12-13-23
 Field Engineer/Technician: G. Carrillo
 Driller: O. Mariscal
 Contractor: Resilient Drilling

Water Level		
Depth	Hour	Date
Free Water was Not Encountered		

NT = Not Tested

SPEEDIE AND ASSOCIATES	
Log of Test Boring Number: B- 1	
Muscular Moving Men	
2601 East Rose Garden Lane	
Phoenix, Arizona	
Project No.: 232197SA	



Sample Number	Depth of Sample	Natural Water Content (%)	In-place Dry Density (P.C.F.)	Penetration Resistance Blows per Foot
S-1	2.5	NT	NT	60/12"
RS-2	6.0	NT	NT	

Boring Date: **12-13-23**
 Field Engineer/Technician: **G. Carrillo**
 Driller: **O. Mariscal**
 Contractor: **Resilient Drilling**

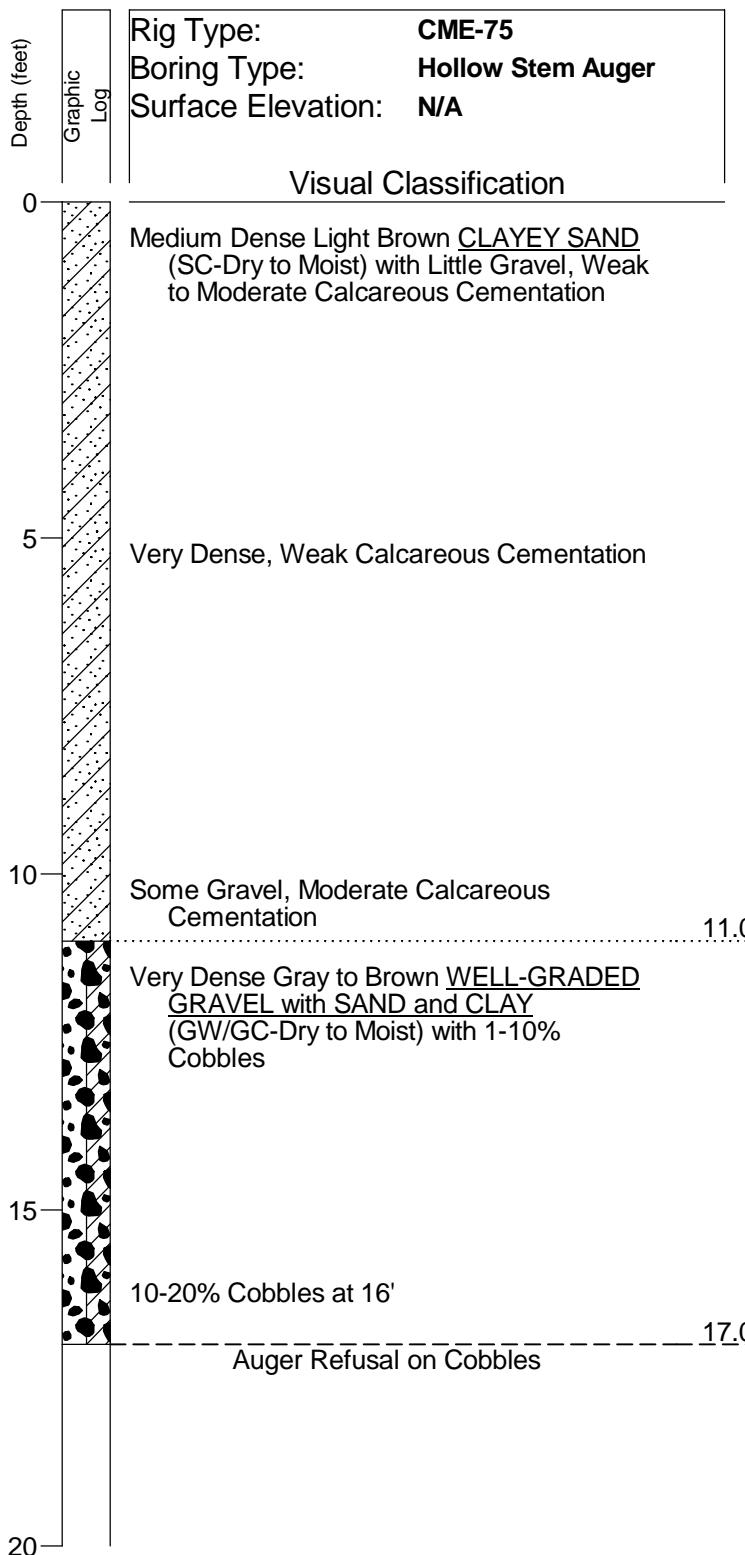
Water Level		
Depth	Hour	Date
Free Water was Not Encountered		

NT = Not Tested

SPEEDIE AND ASSOCIATES
 Log of Test Boring Number: **B- 2**

Muscular Moving Men
2601 East Rose Garden Lane
Phoenix, Arizona

Project No.: **232197SA**



Boring Date: 12-13-23
 Field Engineer/Technician: G. Carrillo
 Driller: O. Mariscal
 Contractor: Resilient Drilling

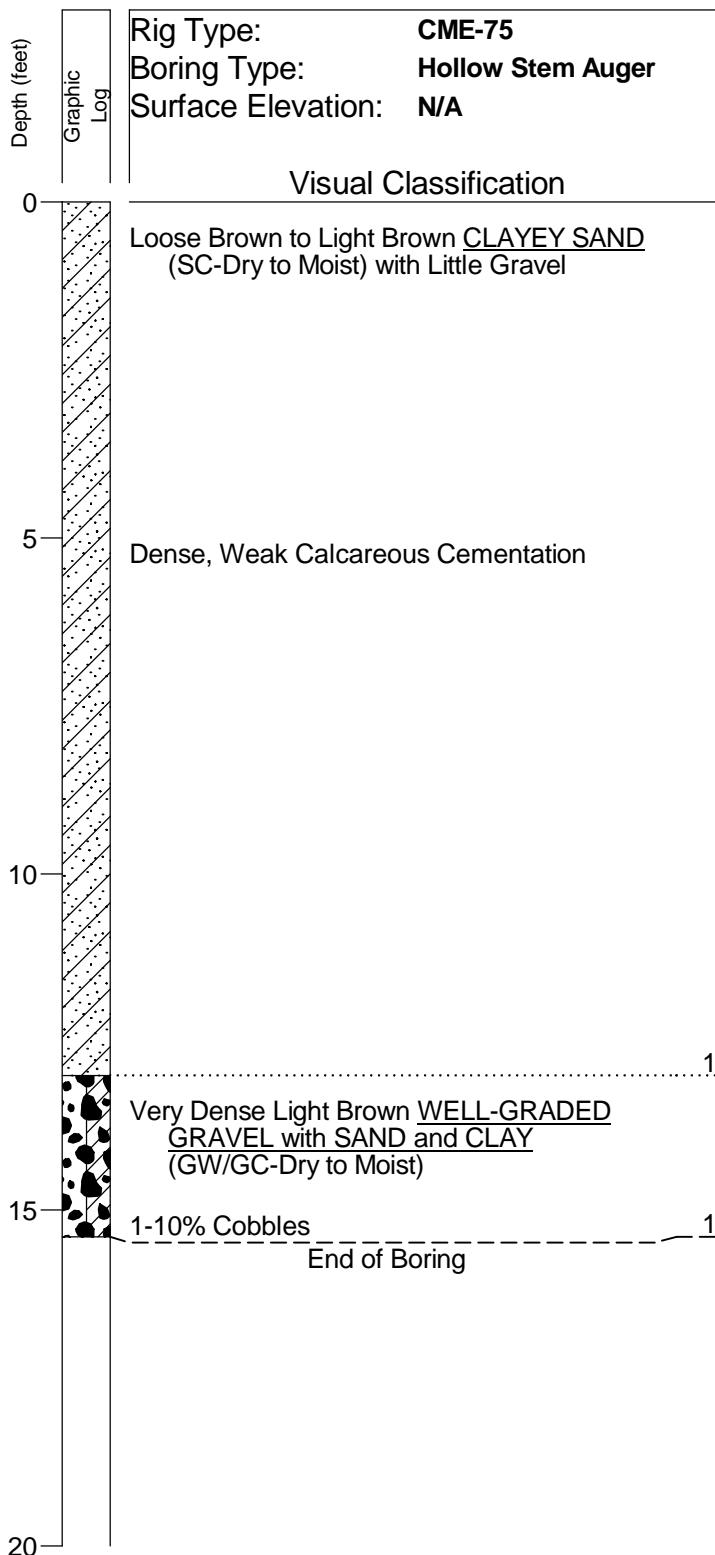
Water Level		
Depth	Hour	Date
Free Water was Not Encountered		

NT = Not Tested

Sample Number	Depth of Sample	Natural Water Content (%)	In-place Dry Density (P.C.F.)	Penetration Resistance Blows per Foot
RS-1	2.0	7.8	87.4	
BS-2	5.0	NT	NT	
S-3	6.5	NT	NT	54/12"
S-4	10.9	NT	NT	50/5"
S-5	15.9	NT	NT	50/5"

SPEEDIE AND ASSOCIATES
 Log of Test Boring Number: B- 3
 Muscular Moving Men
 2601 East Rose Garden Lane
 Phoenix, Arizona
 Project No.: 232197SA

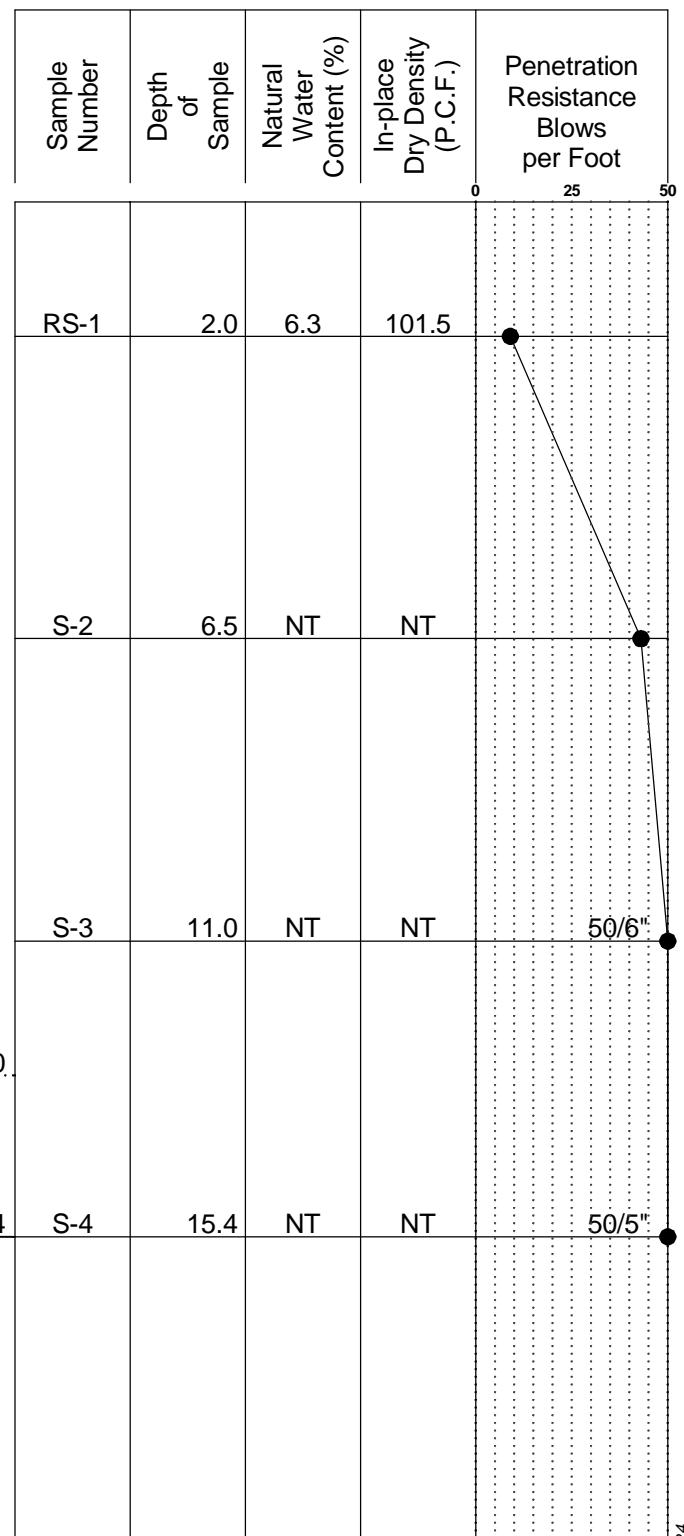
SPEEDIE 232197SA.GPJ GENGEO.GDT 1/10/24



Boring Date: 12-13-23
 Field Engineer/Technician: G. Carrillo
 Driller: O. Mariscal
 Contractor: Resilient Drilling

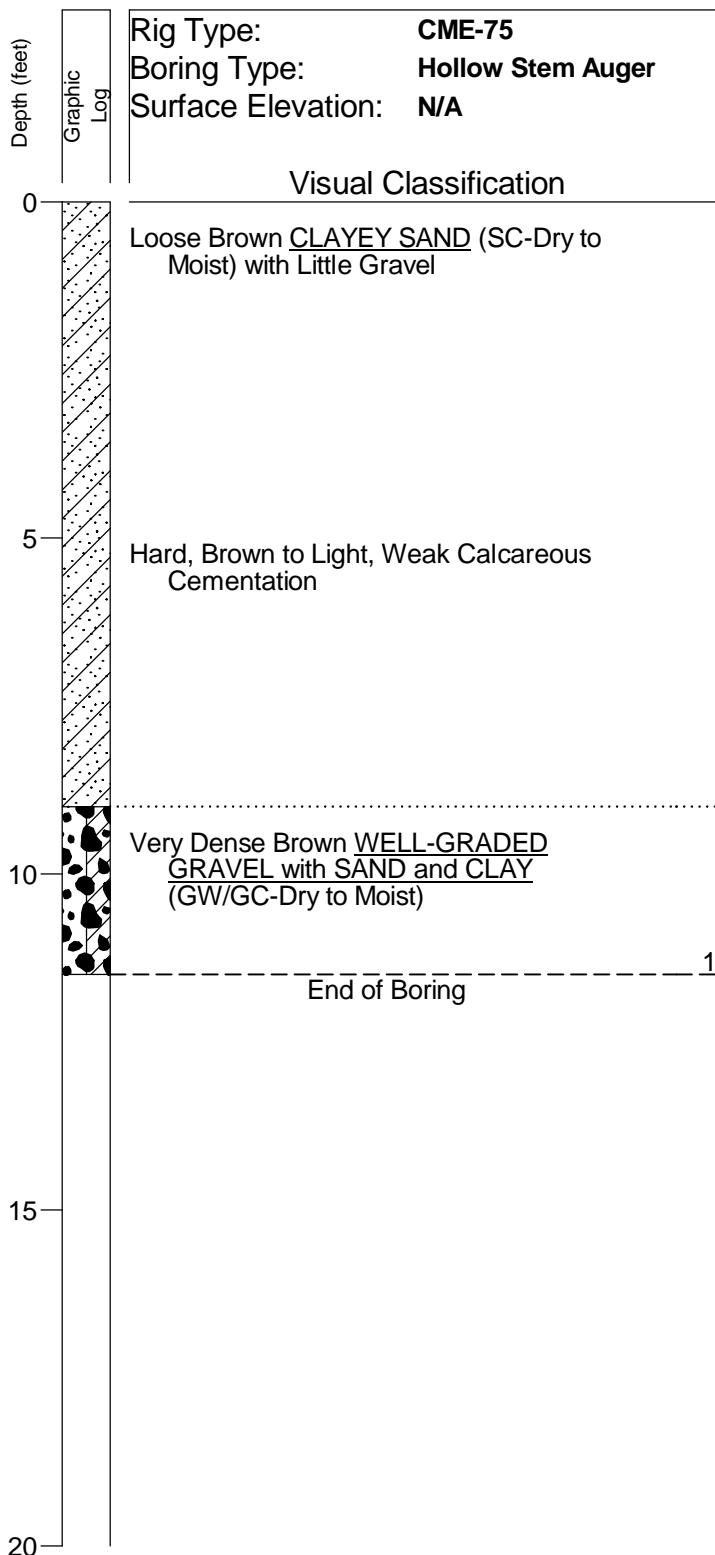
Water Level		
Depth	Hour	Date
Free Water was Not Encountered		

NT = Not Tested



SPEEDIE AND ASSOCIATES
 Log of Test Boring Number: B- 4
Muscular Moving Men
 2601 East Rose Garden Lane
 Phoenix, Arizona
 Project No.: 232197SA

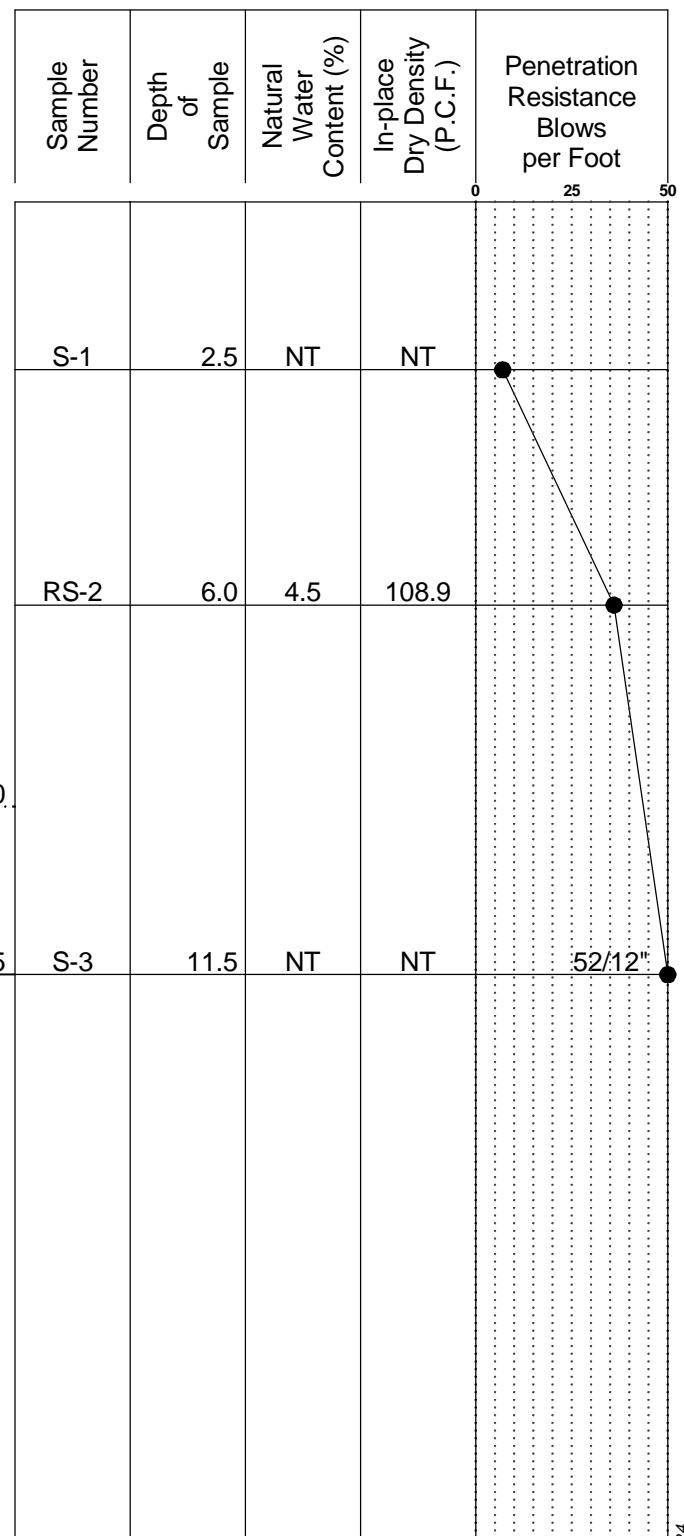
SPEEDIE 232197SA.GPJ GENGEO.GDT 1/10/24



Boring Date: 12-13-23
 Field Engineer/Technician: G. Carrillo
 Driller: O. Mariscal
 Contractor: Resilient Drilling

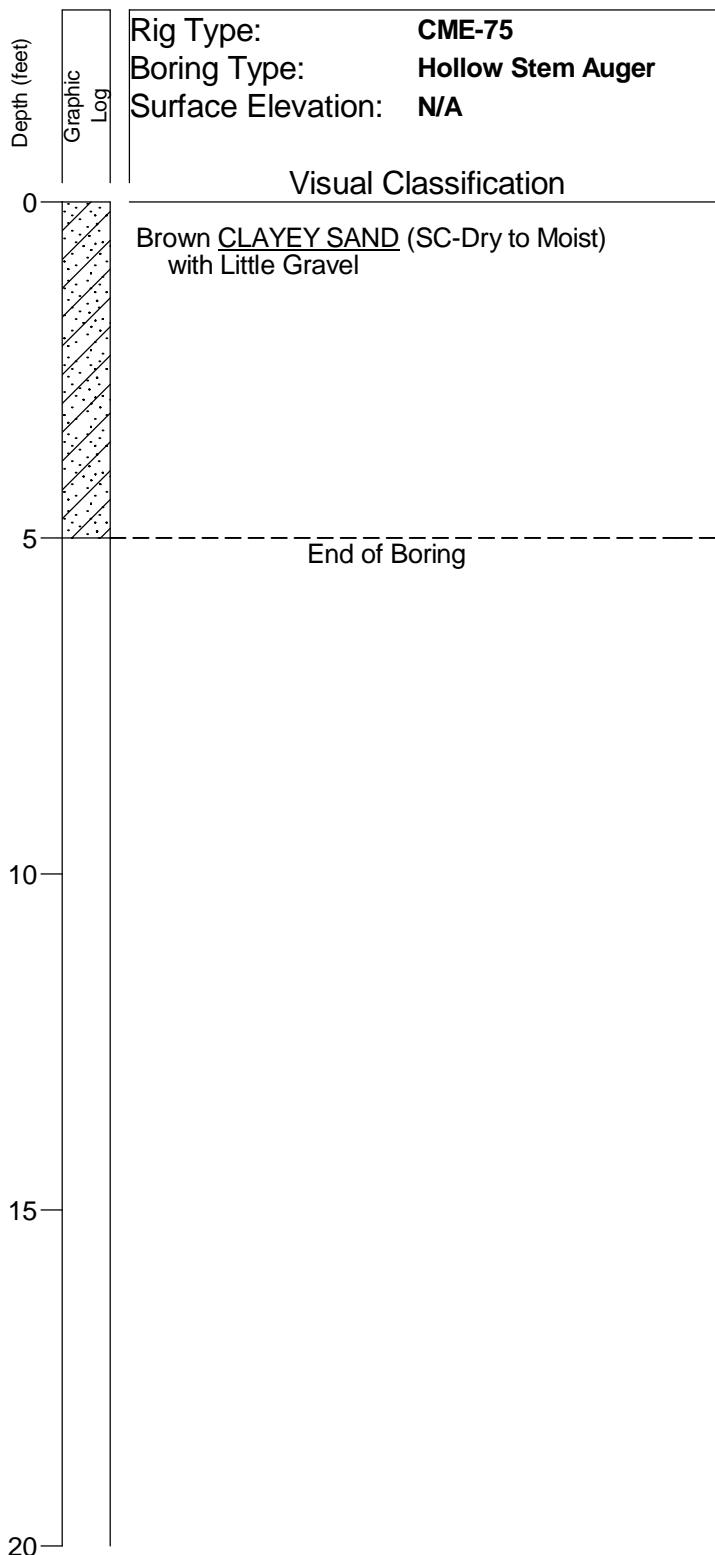
Water Level		
Depth	Hour	Date
Free Water was Not Encountered		

NT = Not Tested



SPEEDIE AND ASSOCIATES
 Log of Test Boring Number: B- 5
 Muscular Moving Men
 2601 East Rose Garden Lane
 Phoenix, Arizona
 Project No.: 232197SA

SPEEDIE 232197SA.GPJ GENGEO.GDT 1/10/24



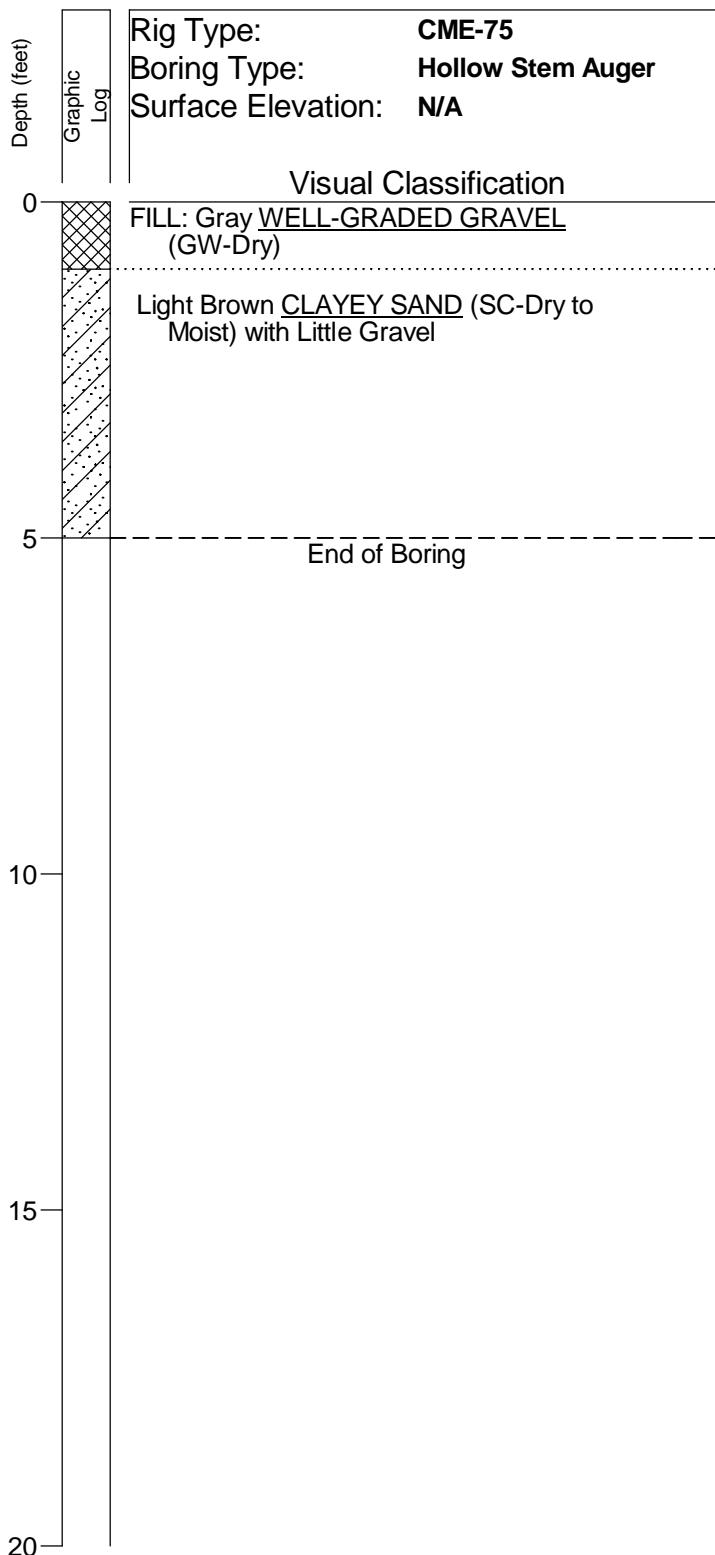
Sample Number	Depth of Sample	Natural Water Content (%)	In-place Dry Density (P.C.F.)	Penetration Resistance Blows per Foot
AS-1	3.0	NT	NT	0 25 50

Boring Date: 12-13-23
 Field Engineer/Technician: G. Carrillo
 Driller: O. Mariscal
 Contractor: Resilient Drilling

Water Level		
Depth	Hour	Date
Free Water was Not Encountered		

NT = Not Tested

SPEEDIE AND ASSOCIATES
 Log of Test Boring Number: SG- 1
 Muscular Moving Men
 2601 East Rose Garden Lane
 Phoenix, Arizona
 Project No.: 232197SA



Boring Date: 12-13-23
 Field Engineer/Technician: G. Carrillo
 Driller: O. Mariscal
 Contractor: Resilient Drilling

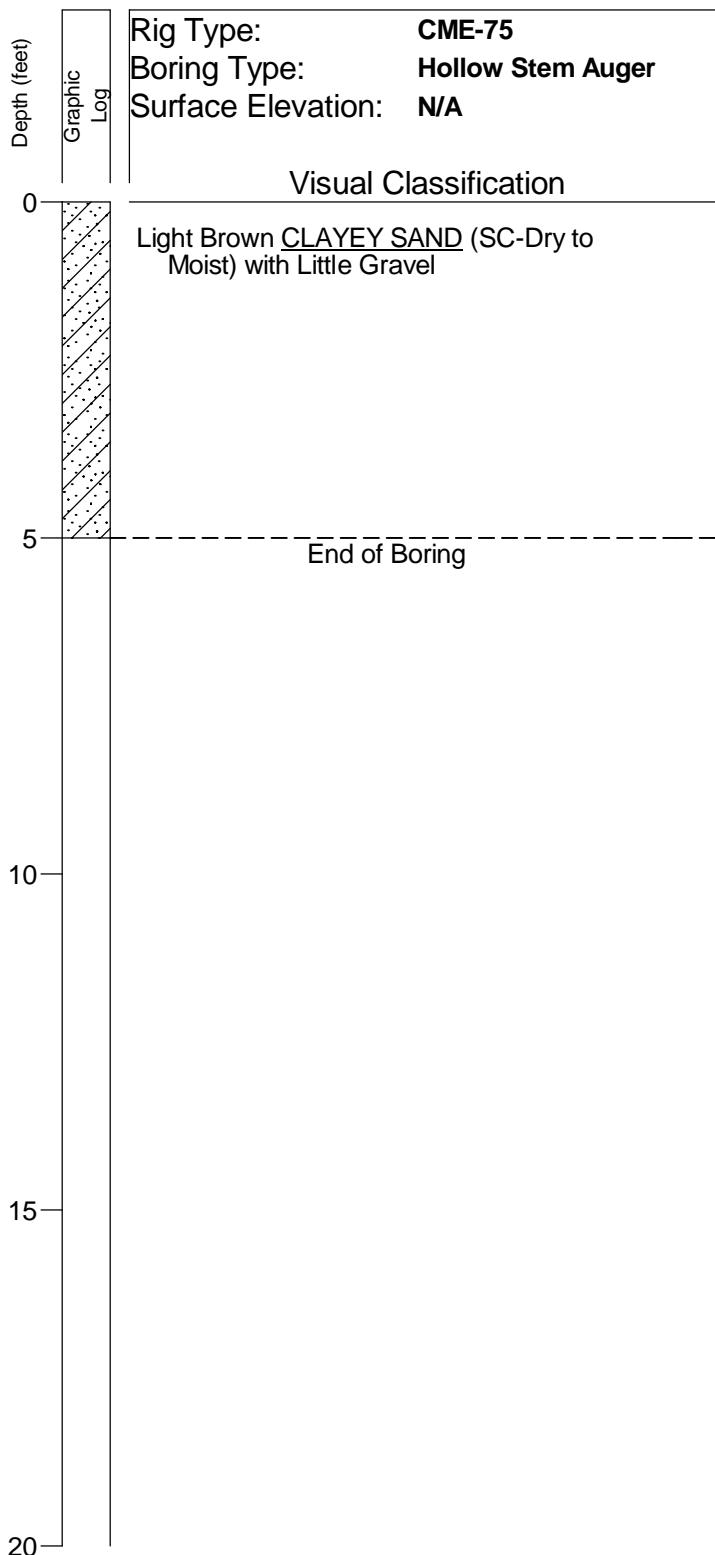
Water Level		
Depth	Hour	Date
Free Water was Not Encountered		

NT = Not Tested

Sample Number	Depth of Sample	Natural Water Content (%)	In-place Dry Density (P.C.F.)	Penetration Resistance Blows per Foot
AS-1	3.0	NT	NT	0 25 50

SPEEDIE AND ASSOCIATES
 Log of Test Boring Number: SG- 2
 Muscular Moving Men
 2601 East Rose Garden Lane
 Phoenix, Arizona
 Project No.: 232197SA

SPEEDIE 232197SA.GPJ GENGEO.GDT 1/10/24



Boring Date: 12-13-23
 Field Engineer/Technician: G. Carrillo
 Driller: O. Mariscal
 Contractor: Resilient Drilling

Water Level		
Depth	Hour	Date
Free Water was Not Encountered		

NT = Not Tested

Sample Number	Depth of Sample	Natural Water Content (%)	In-place Dry Density (P.C.F.)	Penetration Resistance Blows per Foot
AS-1	3.0	NT	NT	0 25 50

SPEEDIE AND ASSOCIATES
 Log of Test Boring Number: SG- 3
 Muscular Moving Men
 2601 East Rose Garden Lane
 Phoenix, Arizona
 Project No.: 232197SA

SPEEDIE 232197SA.GPJ GENGEO.GDT 1/10/24

TABULATION OF TEST DATA

SOIL BORING or TEST PIT NUMBER	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE INTERVAL (ft)	NATURAL WATER CONTENT (Percent of Dry Weight)	IN-PLACE DRY DENSITY (Pounds Per Cubic Foot)	PARTICLE SIZE DISTRIBUTION (Percent Finer)				ATTERBERG LIMITS		UNIFIED SOIL CLASSIFICATION	SPECIMEN DESCRIPTION	
						#200 SIEVE	#40 SIEVE	#10 SIEVE	#4 SIEVE	3" SIEVE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
B- 1	RS-1	RING	1.0 - 2.0	7.7	103.0	43.9	58	75	86	100	29	19	10	SC CLAYEY SAND
B- 3	BS-2	BULK	0.0 - 5.0	NT	NT	40.8	54	70	85	100	40	22	18	SC CLAYEY SAND
B- 3	RS-1	RING	1.0 - 2.0	7.8	87.4	NT	NT	NT	NT	NT	NT	NT	NT	
B- 4	RS-1	RING	1.0 - 2.0	6.3	101.5	19.5	34	61	86	100	50	25	25	SC CLAYEY SAND
B- 5	RS-2	RING	5.0 - 6.0	4.5	108.9	26.0	36	65	88	100	37	17	20	SC CLAYEY SAND

Sieve analysis results do not include material greater than 3". Refer to the actual boring logs for the possibility of cobble and boulder sized materials.

NT=Not Tested

Sheet 1 of 1

Muscular Moving Men
2601 East Rose Garden Lane
Phoenix, Arizona
Project No. 232197SA

**SPEEDIE
AND ASSOCIATES**

CONSOLIDATION TEST

PROJECT: Muscular Moving Men

PROJECT NO.: 232197SA

LOCATION: 2601 East Rose Garden Lane

DATE: 12/13/23

BORING NO.: B-4

SAMPLE NO.: RS-1

SAMPLE DEPTH: 1 to 2

LABORATORY NO.:

LIQUID LIMIT:

50

PLASTIC LIMIT:

25

PLASTICITY INDEX:

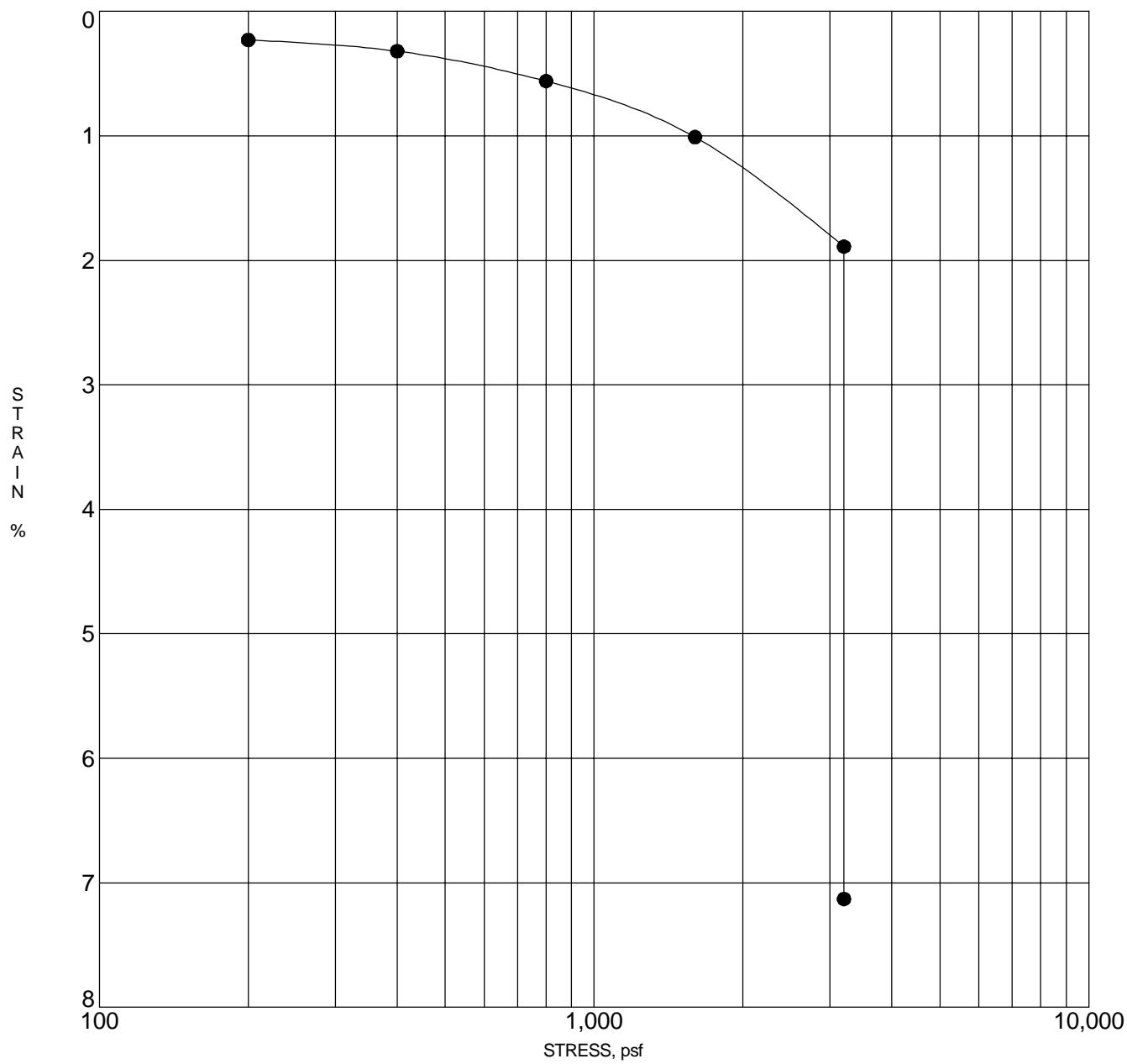
25

CLASSIFICATION:

SC

ASTM SOIL DESCRIPTION:

CLAYEY SAND

**SPEEDIE
AND ASSOCIATES**

CONSOLIDATION TEST

PROJECT: Muscular Moving Men

PROJECT NO.: 232197SA

LOCATION: 2601 East Rose Garden Lane

DATE: 12/13/23

BORING NO.: B-5

SAMPLE NO.: RS-2

SAMPLE DEPTH: 5 to 6

LABORATORY NO.:

LIQUID LIMIT:

37

PLASTIC LIMIT:

17

PLASTICITY INDEX:

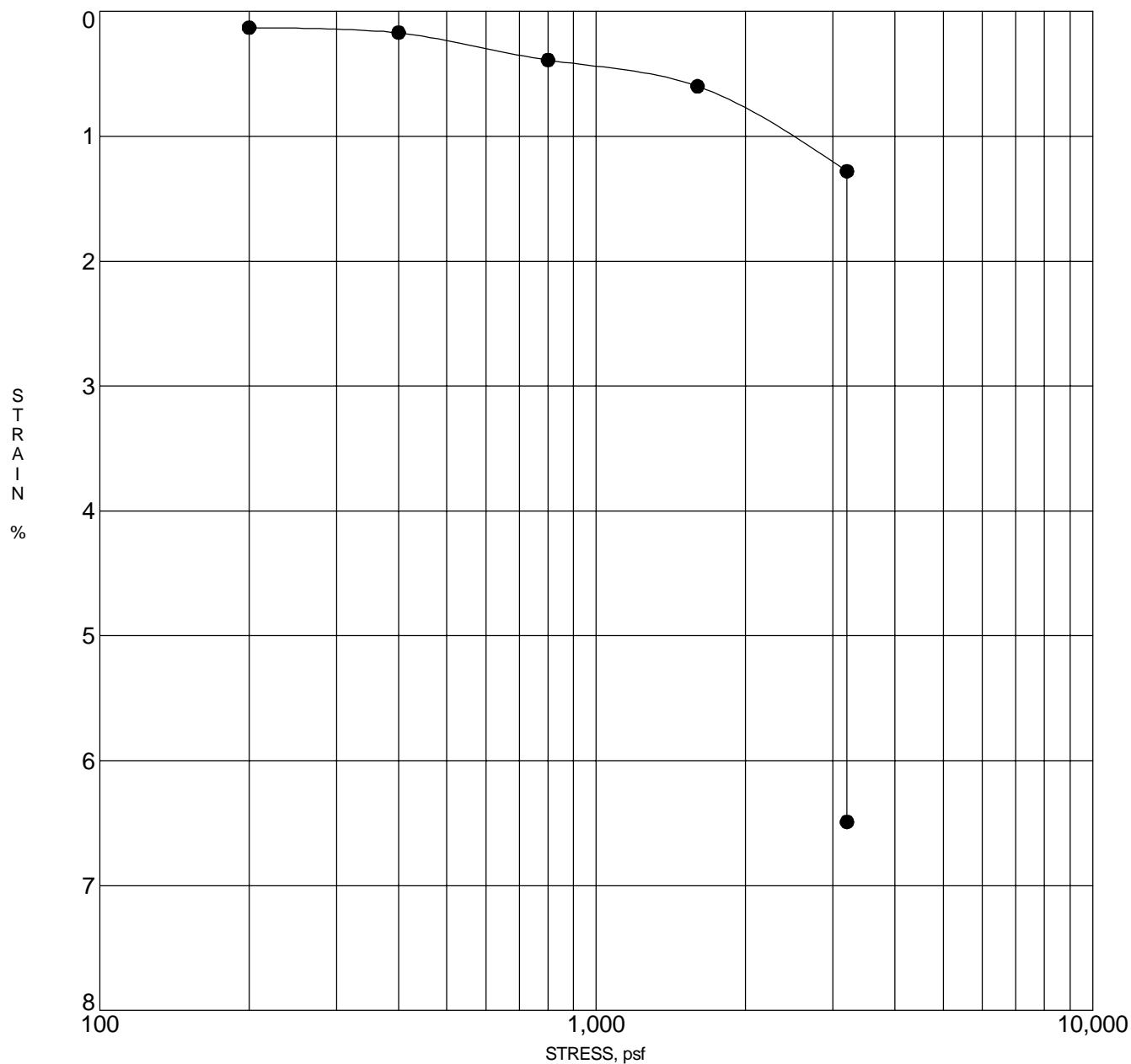
19

CLASSIFICATION:

SC

ASTM SOIL DESCRIPTION:

CLAYEY SAND

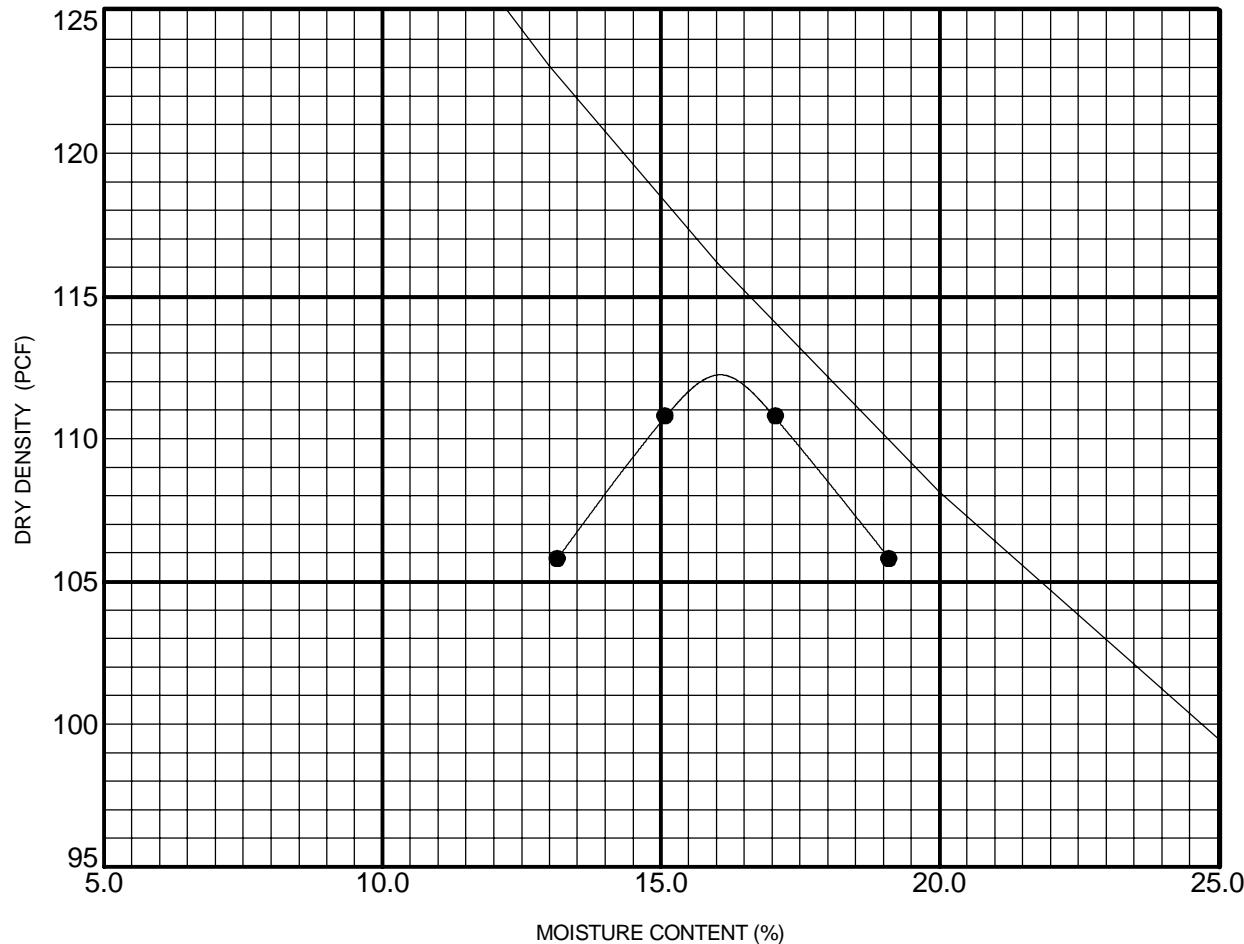
**SPEEDIE
AND ASSOCIATES**

MOISTURE-DENSITY RELATIONS

PROJECT: Muscular Moving Men
 LOCATION: 2601 East Rose Garden Lane
 BORING NO.: B- 3 SAMPLE NO.: BS-2 SAMPLE DEPTH: 0 to 5
 METHOD OF COMPACTION: D698A
 LIQUID LIMIT: 40 PLASTIC LIMIT: 22 PLASTICITY INDEX: 18
 CLASSIFICATION: SC ASTM SOIL DESCRIPTION: CLAYEY SAND

MAXIMUM DRY DENSITY: 112.2 PCF

OPTIMUM MOISTURE CONTENT: 16.1%



SWELL TEST DATA

BORING or TEST PIT No.	SAMPLE DEPTH, ft	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	REMOLDED DRY DENSITY (pcf)	INITIAL MOISTURE CONTENT (%)	PERCENT COMPACTION	FINAL MOISTURE CONTENT (%)	CONFINING LOAD (psf)	TOTAL SWELL (%)
B- 3, BS-2	5.0	112.2	16.1	107.1	13.8	95.5	18.8	100	2.2



MUSCULAR MOVING MEN

PRELIMINARY CONSTRUCTION SCHEDULE UPDATED 10.29.25

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Critical	25 Aug	Qtr 4, 2025	Qtr 1, 2026	Qtr 2, 2026	Qtr 3, 2026	Qtr 4, 2026	Qtr 1, 2027														
									Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
1	Muscular Moving Men	309 days	Mon 9/22/25	Mon 12/7/26			Yes																					
2	Limited Notice to Proceed items	7 days	Mon 9/22/25	Tue 9/30/25			No																					
3	SES ordered, anticipated October 13, 2026	1.4 wks	Mon 9/22/25	Tue 9/30/25		5SS	No																					
4	Long lead items	270 days	Mon 9/22/25	Tue 10/13/26			No																					
5	SES	54 wks	Mon 9/22/25	Tue 10/13/26	3SS	40FS+5 days	No																					
6	SRP design	100 days	Tue 10/21/25	Mon 3/16/26	9,10	84,55	No																					
7	Construction start milestones	306 days	Thu 9/25/25	Mon 12/7/26			Yes																					
8	Cell phone tower rework	20 days	Thu 9/25/25	Wed 10/22/25		18,12,13,14	Yes																					
9	Prime Contract executed, loan approved, NTP	5 days	Mon 9/29/25	Fri 10/3/25		11,6,18,14	No																					
10	Permit issued (anticipated date)	1 day	Mon 10/20/25	Mon 10/20/25		11,6,18	No																					
11	Mobilize	10 days	Tue 10/21/25	Mon 11/3/25	9,10	18,14	No																					
12	SRP schedule to complete cell tower power	20 days	Thu 10/23/25	Wed 11/19/25	8	18,14	No																					
13	Cox - new cell tower fiber optic installation	25 days	Thu 10/23/25	Wed 11/26/25	8	18,14	Yes																					
14	Contract completion	261 days	Mon 12/1/25	Mon 12/7/26	11,8,9,12,13		Yes																					
15	Construction (261 work days/ 365 calendar days)	254 days	Thu 11/20/25	Thu 11/19/26			No																					
16	Shell	235 days	Thu 11/20/25	Fri 10/23/26			No																					
17	Clear and grub site	5 days	Thu 11/20/25	Wed 11/26/25	18SS-5 days		No																					
18	Building pad earthwork	15 days	Mon 12/1/25	Fri 12/19/25	11,8,9,10,12,13	19,49,50,17SS-5 days	No																					
19	Pad certification	1 day	Mon 12/22/25	Mon 12/22/25	18	20	No																					
20	Concrete footings	10 days	Tue 12/23/25	Thu 1/8/26	19	21FS-5 days,22FS-5 days	No																					
21	Underground electrical	10 days	Fri 1/2/26	Thu 1/15/26	20FS-5 days	23	No																					
22	Underground plumbing	10 days	Fri 1/2/26	Thu 1/15/26	20FS-5 days	23	No																					
23	Form slab and install AB	10 days	Fri 1/16/26	Thu 1/29/26	21,22	25FS-4 days	No																					
24	Termite pretreat	1 day	Mon 1/26/26	Mon 1/26/26	25SS		No																					
25	SOG	10 days	Mon 1/26/26	Fri 2/6/26	23FS-4 days	26FS-5 days,24SS	No																					
26	Form and cast tilt panels	25 days	Mon 2/2/26	Fri 3/6/26	25FS-5 days	27FS+5 days	No																					
27	Tilt panels	3 days	Mon 3/16/26	Wed 3/18/26	26FS+5 days	29,41,28,54	No																					
28	Patch and sand panels	10 days	Thu 3/19/26	Wed 4/1/26	27	46	No																					
29	Roof structure installation	15 days	Thu 3/19/26	Wed 4/8/26	27	31,32,42,56,30,64	No																					
30	Conduit in pour back strip	5 days	Thu 4/9/26	Wed 4/15/26	29	33	No																					
31	Mechanical curbs and stub ups	5 days	Thu 4/9/26	Fri 4/17/26	29	34	No																					
32	Roof Drain Leaders	5 days	Thu 4/9/26	Wed 4/15/26	29	47	No																					
33	Backfill pour back strip and install ABC	4 days	Thu 4/16/26	Tue 4/21/26	30	35	No																					
34	TPO Roofing System	10 days	Fri 4/17/26	Fri 5/1/26	31	69,56,67	No																					
35	Pour back strip concrete infill	5 days	Wed 4/22/26	Tue 4/28/26	33	42,41	No																					
36	SES and enclosure	147 days	Tue 3/31/26	Fri 10/23/26			No																					
37	SOG for SES	2 days	Tue 3/31/26	Wed 4/1/26	55	40	No																					
38	Framing and Densglass	3 days	Fri 5/1/26	Tue 5/5/26	66SS	39	No																					
39	Direct apply stucco on SES enclosure	3 days	Wed 5/6/26	Fri 5/8/26	38	40	No																					
40	Set SES and inspections	3 days	Wed 10/21/26	Fri 10/23/26	39,5FS+5 days,37	84	No																					
41	Remove tilt braces	2 days	Wed 4/29/26	Thu 4/30/26	35,27	66	No																					
42	Field measure windows	2 days	Wed 4/29/26	Thu 4/30/26	29,35	43FS+5 days	No																					
43	Storefront and glass (exterior)	20 days	Fri 5/8/26	Fri 5/6/26	42FS+5 days	69,44FS-3 days,47,45	No																					
44	Exterior doors	3 days	Wed 6/3/26	Fri 6/5/26	43FS-3 days	47,46	No																					
45	OH doors	5 days	Wed 6/3/26	Tue 6/9/26	43FS-3 days	47	No																					
46	Paint exterior to 4' above finished surface	10 days	Mon 6/8/26	Fri 6/19/26	44,28		No																					

The Gantt chart visualizes the project timeline across four quarters (Q4 2025 to Q1 2027). Major tasks include 'Mobilize' (Sep-Oct 2025), 'Pad Cert' (Oct-Nov 2025), 'Underground electrical' (Nov-Dec 2025), 'Underground Plumbing' (Dec-Jan 2026), 'Form Slab/AB' (Jan-Feb 2026), 'Pour Slab' (Feb-Mar 2026), 'CMU Building walls' (Mar-Apr 2026), 'Set Columns' (Apr-May 2026), 'Steel erection' (May-Jun 2026), 'Roofing' (Jun-Jul 2026), 'Exterior Windows' (Jul-Aug 2026), 'Install OH doors' (Aug-Sep 2026), and 'Exterior Painting' (Sep-Oct 2026). Other tasks like 'SES and enclosure' span from Mar 2026 to Oct 2026.



MUSCULAR MOVING MEN

PRELIMINARY CONSTRUCTION SCHEDULE UPDATED 10.29.2