01/20/2023

To: All Potential Respondents
From: Construction Procurement
Subject: RFQ922300-02 Clarinda Correctional Facility (CCF), Kitchen and Laundry Facility Construction Testing and Inspections

Request for Quote

The State of Iowa is conducting a Request for Quote for a contractor to provide testing and inspection services during construction. See Exhibit B for additional detail.

All on-site personnel must pass a background check. Information required for the background check includes full name, birthdate, state driver's license # or State id#, and social security number. Background checks shall be provided at no cost to the contractor.

The testing and inspection services will be performed as needed between the approximate dates of April 1st, 2023 and June 1st, 2024.

The Project, Clarinda Correctional Facility (CCF), Kitchen and Laundry Addition, DAS Project #9223.00 is located at the Clarinda Correctional Facility (CCF), 2000 N. 16th St. Clarinda, IA 516326.

All questions regarding this solicitation must be received via email to construction.procurement@iowa.gov by 2:00 PM (CT) January 27th, 2023.

Please email your quote using the Exhibit A pricing form to construction.procurement@iowa.gov prior to 2:00 PM (CT) February 3rd, 2023.

Contract Terms and Conditions

This procurement will result in a Consensus 802 Agreement. By submitting a quote, respondent agrees to the contract terms and conditions available at:
https://das.iowa.gov/sites/default/files/procurement/pdf/050116%20terms%20services.pdf
https://das.iowa.gov/sites/default/files/procurement/pdf/ConsensusDoc802.pdf

No Performance and Payment Bond will be required.

Insurance Requirements:

Prior to the start of the work, the respondent shall procure and maintain in force Workers Compensation/ Employers' Liability Insurance, Business Automobile Liability Insurance, and Commercial General Liability Insurance (CGL). The CGL policy shall include coverage for liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, contractual liability, and broad form property damage. The respondent's liability policies shall be written on an occurrence basis with at least the following limits of liability:

- Workers' Compensation – amount required by the laws of Iowa
- Employers' Liability Insurance - $500,000 or an amount required by Iowa law, whichever is greater.
- Business Automobile Liability Insurance - $1,000,000 Each Accident
- Commercial General Liability Insurance:
    - $1,000,000 Each Occurrence

- $2,000,000 General Aggregate
- $1,000,000 Products/Completed Operations Aggregate
- $1,000,000 Personal and Advertising Injury Limit

The respondent must also carry and maintain Excess or Umbrella Liability coverage for the policies above in the amount of $2,000,000.

The respondent shall be required to purchase and maintain liability coverage, primary to the Owner's coverage. The additional liability coverage required of the respondent shall be:

1. Owner shall be named as an additional insured on respondent's Commercial General Liability Insurance specified for operations and completed operations, but only with respect to liability for bodily injury, property damage or personal and advertising injury to the extent caused by the negligent acts or omissions of respondent, or those acting on respondent's behalf, in the performance of respondent's Work.
2. Respondent shall provide an Owners' and Contractors' Protective Liability Insurance (OCP) policy with limits equal to the limits on Commercial General Liability Insurance specified or limits as otherwise required by Owner.

See sample Certificate of Insurance attached as Exhibit C for required limits, additional insured requirements and waiver of subrogation.

The State reserves the right to reject any or all quotes without penalty and to waive minor deficiencies and informalities if, in the judgement of the State, it's best interests will be served.

Respondents must submit pricing for all scope of work items indicated per the attached Exhibit B. The State reserves the right to evaluate pricing. The State intends to make one Award for this project.

Exhibit A Pricing Form

Clarinda Correctional Facility (CCF), Kitchen and Laundry Facility Construction Testing and Inspections
Request for RFQ922300-02

Due February 3rd, 2023 at 2:00 PM (CT)

Please submit this completed form with your Quote to:
Attention: Purchasing Agent Jeff Just
Iowa Department of Administrative Services - Central Procurement
construction.procurement@iowa.gov

This form is to be completed in ink or typewritten.
Only pricing on this form or an exact copy of this form will be accepted.
Pricing Form shall be signed by an officer of the firm with authority to bind Respondent to Contract.

Respondent acknowledges receipt of the following Addenda (if issued) which are part of the RFQ documents:

Addendum No. _____Date_____

Addendum No. _____Date_____

Proposed Testing Services					
Item:	# of Visits	Hrs. per Visit	Total # Hrs./Units	Rate per Hr./Unit	Extended Cost
Project Management (If Applicable)	xxx	xxx			$ -
Administration (If Applicable)	xxx	xxx			$ -
Principal Engineer (If Applicable)	xxx	xxx			$ -
Steel Welded or Bolted Connections Inspection					$ -
Steel Deck Inspection					$ -
Steel Joist Inspection					$ -
Concrete Reinforcement Inspection					$ -
Concrete Placement Observation					$ -
Concrete Testing (temp/slump/air content/cylinders)					$ -
Inspection of Masonry					$ -
Inspection of Precast					$ -
Testing of Foundation Bearing Surfaces					$ -
Testing of Compacted Fill					$ -
Field Inspection of Proof-rolling					$ -
Spray Applied Fireproofing					$ -
Fire-Resistant Penetrations/Joints					$ -
Compressive Strength Test/Cylinder	xxx	xxx			$ -
Proctor Tests	xxx	xxx			$ -
Atterberg Limits Determinations	xxx	xxx			$ -
Nominal Grout Prism Compressive Strength Tests	xxx	xxx			$ -
Trip Charges (Round Trip)	xxx	xxx			$ -
Grand Total of Proposed Testing Services	xxx	xxx	xxx	xxx	$ -

Provide unit prices for items listed below. Provide additional unit prices as needed in blank spaces provided. Unit prices shall be additive or deductive of base bid line items.

Steel Welded or Bolted Connections Inspection	$_____/ hour
Steel Deck Inspection	$_____/ hour
Steel Joist Inspection	$_____/ hour
Concrete Reinforcement Inspection	$_____/ hour
Concrete Placement Observation	$_____/ hour
Concrete Testing (temp/slump/air content/cylinders)	$_____/ hour
Inspection of Masonry	$_____/ hour
Inspection of Precast	$_____/ hour
Testing of Foundation Bearing Surfaces	$_____/ hour
Testing of Compacted Fill	$_____/ hour
Field Inspection of Proof-rolling	$_____/ hour
Spray Applied Fireproofing Testing	$_____/ hour
Fire-Resistant Penetrations/Joints	$_____/ hour
Compressive Strength Test/Cylinders	$_____/ each
Proctor Tests	$_____/ each
Atterberg Limits Determinations	$_____/ each
Nominal Grout Prism Compressive Strength Tests	$_____/ each
Trip Charge (Round Trip)	$_____/ trip
_____	$_____ / _____
_____	$_____ / _____
_____	$_____ / _____
_____	$_____ / _____

Signature _____

Name (Print) _____

Title _____

Company _____

Address _____

City, St., Zip _____

Phone #_____ **Fax #**_____

E-mail _____

Exhibit B Scope of Work

Clarinda Correctional Facility (CCF), Kitchen and Laundry Facility Construction Testing and Inspections
Request for RFQ922300-02

Due February 3rd, 2023 at 2:00 PM (CT)

SCOPE OF WORK:

*Construction Testing and Inspections as required to complete the project.
*Contact Jeff Just at construction.procurement@iowa.gov for access to Construction Documents (Drawings, Specifications, and Addendums) for the State of Iowa DAS Project: Clarinda Correctional Facility - Kitchen & Laundry Addition – DAS#9223.00

*Prime Contractors will provide lifts, ladders, or scaffold access to areas needing inspections.

*Reference the Appendix (Exhibit D) for the following information:
-Special Inspections and Tests
-Geotechnical Evaluation Report

Exhibit C Sample Certification of Insurance

Clarinda Correctional Facility (CCF), Kitchen and Laundry Facility Construction Testing and Inspections
Request for RFQ922300-02

Due February 3rd, 2023 at 2:00 PM (CT)

SAMPLE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): xx/xx/xxxx

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Agent's Information
Agent's Name Agent's Address	PHONE (A/C, No, Ext): FAX (A/C, No):
	E-MAIL ADDRESS:
	INSURER(S) AFFORDING COVERAGE / NAIC #
	INSURER A: Company A (AM Best Rated A/VI or Better) — Admitted Carriers
INSURED Trade Contractor's Name Trade Contractor's Mailing Address	INSURER B:
	INSURER C:
	INSURER D:
	INSURER E:
	INSURER F:

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS (Minimum)	
* A	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	X	X	#TBD- CGL	3/1/17	3/1/18	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ $ $ 1,000,000 $ 2,000,000 $ 1,000,000
B	AUTOMOBILE LIABILITY [X] ANY AUTO ALL OWNED AUTOS HIRED AUTOS SCHEDULED AUTOS NON-OWNED AUTOS	X	X	#TBD-AL	3/1/17	3/1/18	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
C	UMBRELLA LIAB [X] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED RETENTION $	X	X	#TBD-UMB	3/1/17	3/1/18	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [ ] N/A If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	#TBD-WC	3/1/17	3/1/18	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$500,000 $500,000 $500,000
* E	Owners Contrators Protective Liability			#TBD-OCP	3/1/17	3/1/18	*Limits equal to CGL (or) as required by owner (Note- Would be either CGL or OCP, not both)	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Additional Insured on a Primary & Non-Contributory basis (CGL;AL;UMB/Excess) in favor of : (Owner) Iowa Department of Administrative Services (DAS), Officers, Directors, Members, Consultants, Agents, and Employees.
Waiver of Subrogation (CGL;AL;WC/EL;UMB/Excess) in favor of: (Owner) Iowa Department of Administrative Services (DAS), Officers, Directors, Members, Consultants, Agents, and Employees.

Project XXXX.XX (Number varies by project)

CERTIFICATE HOLDER	CANCELLATION
Iowa Department of Administrative Services (DAS) 109 SE 13th Street Des Moines, IA 50319	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Signature

ACORD 25 (2014/01) The ACORD name and logo are registered marks of ACORD

Exhibit D Appendix

Clarinda Correctional Facility (CCF), Kitchen and Laundry Facility Construction Testing and Inspections
Request for RFQ922300-02

Due February 3rd, 2023 at 2:00 PM (CT)

Appendix:

-01 4500 Special Inspections and Tests (9 pages)
-Geotechnical Evaluation Report, Dated April 12, 2022 (27 pages)

01/20/2023

To: All Potential Respondents
From: Construction Procurement
Subject: RFQ922300-02 Clarinda Correctional Facility (CCF), Kitchen and Laundry Facility Construction Testing and Inspections

Request for Quote

The State of Iowa is conducting a Request for Quote for a contractor to provide testing and inspection services during construction. See Exhibit B for additional detail.

All on-site personnel must pass a background check. Information required for the background check includes full name, birthdate, state driver's license # or State id#, and social security number. Background checks shall be provided at no cost to the contractor.

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All questions regarding this solicitation must be received via email to construction.procurement@iowa.gov by 2:00 PM (CT) January 27th, 2023.

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Contract Terms and Conditions

This procurement will result in a Consensus 802 Agreement. By submitting a quote, respondent agrees to the contract terms and conditions available at:
https://das.iowa.gov/sites/default/files/procurement/pdf/050116%20terms%20services.pdf
https://das.iowa.gov/sites/default/files/procurement/pdf/ConsensusDoc802.pdf

No Performance and Payment Bond will be required.

Insurance Requirements:

Prior to the start of the work, the respondent shall procure and maintain in force Workers Compensation/ Employers' Liability Insurance, Business Automobile Liability Insurance, and Commercial General Liability Insurance (CGL). The CGL policy shall include coverage for liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, contractual liability, and broad form property damage. The respondent's liability policies shall be written on an occurrence basis with at least the following limits of liability:

- Workers' Compensation – amount required by the laws of Iowa
- Employers' Liability Insurance - $500,000 or an amount required by Iowa law, whichever is greater.
- Business Automobile Liability Insurance - $1,000,000 Each Accident
- Commercial General Liability Insurance:
    - $1,000,000 Each Occurrence

- $2,000,000 General Aggregate
- $1,000,000 Products/Completed Operations Aggregate
- $1,000,000 Personal and Advertising Injury Limit

The respondent must also carry and maintain Excess or Umbrella Liability coverage for the policies above in the amount of $2,000,000.

The respondent shall be required to purchase and maintain liability coverage, primary to the Owner's coverage. The additional liability coverage required of the respondent shall be:

1. Owner shall be named as an additional insured on respondent's Commercial General Liability Insurance specified for operations and completed operations, but only with respect to liability for bodily injury, property damage or personal and advertising injury to the extent caused by the negligent acts or omissions of respondent, or those acting on respondent's behalf, in the performance of respondent's Work.
2. Respondent shall provide an Owners' and Contractors' Protective Liability Insurance (OCP) policy with limits equal to the limits on Commercial General Liability Insurance specified or limits as otherwise required by Owner.

See sample Certificate of Insurance attached as Exhibit C for required limits, additional insured requirements and waiver of subrogation.

The State reserves the right to reject any or all quotes without penalty and to waive minor deficiencies and informalities if, in the judgement of the State, it's best interests will be served.

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Request for RFQ922300-02

Due February 3rd, 2023 at 2:00 PM (CT)

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This form is to be completed in ink or typewritten.
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Pricing Form shall be signed by an officer of the firm with authority to bind Respondent to Contract.

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Addendum No. _____Date_____

Addendum No. _____Date_____

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Steel Deck Inspection					$ -
Steel Joist Inspection					$ -
Concrete Reinforcement Inspection					$ -
Concrete Placement Observation					$ -
Concrete Testing (temp/slump/air content/cylinders)					$ -
Inspection of Masonry					$ -
Inspection of Precast					$ -
Testing of Foundation Bearing Surfaces					$ -
Testing of Compacted Fill					$ -
Field Inspection of Proof-rolling					$ -
Spray Applied Fireproofing					$ -
Fire-Resistant Penetrations/Joints					$ -
Compressive Strength Test/Cylinder	xxx	xxx			$ -
Proctor Tests	xxx	xxx			$ -
Atterberg Limits Determinations	xxx	xxx			$ -
Nominal Grout Prism Compressive Strength Tests	xxx	xxx			$ -
Trip Charges (Round Trip)	xxx	xxx			$ -
Grand Total of Proposed Testing Services	xxx	xxx	xxx	xxx	$ -

Provide unit prices for items listed below. Provide additional unit prices as needed in blank spaces provided. Unit prices shall be additive or deductive of base bid line items.

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Steel Deck Inspection	$_____/ hour
Steel Joist Inspection	$_____/ hour
Concrete Reinforcement Inspection	$_____/ hour
Concrete Placement Observation	$_____/ hour
Concrete Testing (temp/slump/air content/cylinders)	$_____/ hour
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Testing of Foundation Bearing Surfaces	$_____/ hour
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Field Inspection of Proof-rolling	$_____/ hour
Spray Applied Fireproofing Testing	$_____/ hour
Fire-Resistant Penetrations/Joints	$_____/ hour
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Proctor Tests	$_____/ each
Atterberg Limits Determinations	$_____/ each
Nominal Grout Prism Compressive Strength Tests	$_____/ each
Trip Charge (Round Trip)	$_____/ trip
_____	$_____ / _____
_____	$_____ / _____
_____	$_____ / _____
_____	$_____ / _____

Signature _____

Name (Print) _____

Title _____

Company _____

Address _____

City, St., Zip _____

Phone #_____ **Fax #**_____

E-mail _____

Exhibit B Scope of Work

Clarinda Correctional Facility (CCF), Kitchen and Laundry Facility Construction Testing and Inspections
Request for RFQ922300-02

Due February 3rd, 2023 at 2:00 PM (CT)

SCOPE OF WORK:

*Construction Testing and Inspections as required to complete the project.
*Contact Jeff Just at construction.procurement@iowa.gov for access to Construction Documents (Drawings, Specifications, and Addendums) for the State of Iowa DAS Project: Clarinda Correctional Facility - Kitchen & Laundry Addition – DAS#9223.00

*Prime Contractors will provide lifts, ladders, or scaffold access to areas needing inspections.

*Reference the Appendix (Exhibit D) for the following information:
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-Geotechnical Evaluation Report

Exhibit C Sample Certification of Insurance

Clarinda Correctional Facility (CCF), Kitchen and Laundry Facility Construction Testing and Inspections
Request for RFQ922300-02

Due February 3rd, 2023 at 2:00 PM (CT)

SAMPLE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): xx/xx/xxxx

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Agent's Information
Agent's Name Agent's Address	PHONE (A/C, No, Ext): FAX (A/C, No):
	E-MAIL ADDRESS:
	INSURER(S) AFFORDING COVERAGE / NAIC #
	INSURER A: Company A (AM Best Rated A/VI or Better) — Admitted Carriers
INSURED Trade Contractor's Name Trade Contractor's Mailing Address	INSURER B:
	INSURER C:
	INSURER D:
	INSURER E:
	INSURER F:

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS (Minimum)	
* A	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	X	X	#TBD- CGL	3/1/17	3/1/18	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ $ $ 1,000,000 $ 2,000,000 $ 1,000,000
B	AUTOMOBILE LIABILITY [X] ANY AUTO ALL OWNED AUTOS HIRED AUTOS SCHEDULED AUTOS NON-OWNED AUTOS	X	X	#TBD-AL	3/1/17	3/1/18	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
C	UMBRELLA LIAB [X] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED RETENTION $	X	X	#TBD-UMB	3/1/17	3/1/18	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [ ] N/A If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	#TBD-WC	3/1/17	3/1/18	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$500,000 $500,000 $500,000
* E	Owners Contrators Protective Liability			#TBD-OCP	3/1/17	3/1/18	*Limits equal to CGL (or) as required by owner (Note- Would be either CGL or OCP, not both)	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Additional Insured on a Primary & Non-Contributory basis (CGL;AL;UMB/Excess) in favor of : (Owner) Iowa Department of Administrative Services (DAS), Officers, Directors, Members, Consultants, Agents, and Employees.
Waiver of Subrogation (CGL;AL;WC/EL;UMB/Excess) in favor of: (Owner) Iowa Department of Administrative Services (DAS), Officers, Directors, Members, Consultants, Agents, and Employees.

Project XXXX.XX (Number varies by project)

CERTIFICATE HOLDER	CANCELLATION
Iowa Department of Administrative Services (DAS) 109 SE 13th Street Des Moines, IA 50319	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Signature

ACORD 25 (2014/01) The ACORD name and logo are registered marks of ACORD

Exhibit D Appendix

Clarinda Correctional Facility (CCF), Kitchen and Laundry Facility Construction Testing and Inspections
Request for RFQ922300-02

Due February 3rd, 2023 at 2:00 PM (CT)

Appendix:

-01 4500 Special Inspections and Tests (9 pages)
-Geotechnical Evaluation Report, Dated April 12, 2022 (27 pages)

SECTION 01 4500
SPECIAL INSPECTIONS AND TESTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes minimum 2015 International Building Code (IBC) required inspections and frequency of inspections.
B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
4. Specific test and inspection requirements are not specified in this Section.

1.03 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

1.04 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
11. Name and signature of laboratory inspector.
12. Recommendations on retesting and reinspecting.

1.05 SPECIAL INSPECTIONS AND TESTS

A. Special Tests and Inspections: Owner will engage a qualified testing agency or special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, as indicated in Statement of Special Inspections included in this Section, and as follows:

B. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

C. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
4. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Owner, Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Owner, Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.

5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
6. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.

1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

PART 2 - PRODUCTS (Not Used)
PART 3 - EXECUTION

3.01 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections.
B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log.

3.02 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
B. Protect construction exposed by or for inspection activities.

PART 4 - STATEMENT OF SPECIAL INSPECTIONS

4.01 Definitions:

A. Frequency of special inspections and tests:

1. P (Perform): Perform these tasks for each welded joint, bolted connection, or each member. (AISC 360 & AISC 341)
2. O (Observe): Observe these items on a random basis. Operations need not be delayed pending these inspections. (AISC 360 & AISC 341)
3. P (Perform): Perform these tasks prior to final acceptance for each item or element. (SDI QA/QC)
4. O (Observe): Inspect these items of an intermittent basis. Operations need not be delayed pending these inspection. (SDI QA/QC)
5. D (Document): The inspector shall prepare reports indicating that the work has been performed in accordance with the contract documents. Only required for structures designed per AISC 341 – Seismic Provisions for Structural Steel Buildings. (AISC 341)

6. C (Continuous): Continuous special inspections is the constant monitoring of specific tasks by a special inspector. These inspections must be carried out continuously over the duration of the particular tasks. (2015 IBC)
7. P (Periodic): Periodic special inspection is inspections by the special inspector who is intermittently present where the work has been or is being performed. (2015 IBC)

4.02 Statement of Special Inspections and Test

Statement of Special Inspections and Test
2015 International Building Code
Project: Clarinda Correctional Facility – Kitchen & Laundry Addition

A. Steel Construction (IBC: 1705.2)				
	1. Structural Steel (IBC: 1705.2.1; AISC 360; AISC 341)			
Required	Task	Perform	Observe	Referenced Standard
	Inspection Tasks Prior to Welding			
☒	a. Material identification (Type/Grade).	-	O	AISC 360 - Table N5.4-1, AISC 341 - Table J6-1
☒	b. Fit-up of groove welds (including joint geometry).	-	O	AISC 360 - Table N5.4-1, AISC 341 - Table J6-1
☒	c. Fit-up of fillet welds.	-	O	AISC 360 - Table N5.4-1, AISC 341 - Table J6-1
	Inspection Tasks After Welding			
☒	d. Welds cleaned.	-	O	AISC 360 - Table N5.4-3, AISC 341 - Table J6-3
☒	e. Size, length and location of welds.	P	-	AISC 360 - Table N5.4-3, AISC 341 - Table J6-3
☒	f. Welds meet visual acceptance criteria.	P, D	-	AISC 360 - Table N5.4-3, AISC 341 - Table J6-3
☒	g. Repair activities.	P, D	-	AISC 360 - Table N5.4-3, AISC 341 - Table J6-3
☒	h. Document acceptance or rejection of welded joint or member.	P	-	AISC 360 - Table N5.4-3
	Nondestructive Testing of Welded Joints			
☒	i. CJP welds (Risk Category III or IV).	-	O	AISC 360 - N5.5b
☒	j. Fasteners marked in accordance with ASTM requirements.	-	O	AISC 360 - Table N5.6-1
☒	k. Proper fasteners selected for the joint detail.	-	O	AISC 360 - Table N5.6-1, AISC 341 - Table J7-1
☒	l. Proper bolting procedure selected for joint detail.	-	O	AISC 360 - Table N5.6-1, AISC 341 - Table J7-1
☒	m. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.	-	O	AISC 360 - Table N5.6-1, AISC 341 - Table J7-1

☒	n. Proper storage provided for bolts, nuts, washers and other fastener components.	-	O	AISC 360 - Table N5.6-1, AISC 341 - Table J7-1
	Inspection Tasks During Bolting			
☒	o. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required.	-	O	AISC 360 - Table N5.6-2, AISC 341 - Table J7-2
☒	p. Joint brought to the snug-tight condition prior to the pretensioning operation.	-	O	AISC 360 - Table N5.6-2, AISC 341 - Table J7-2
☒	q. Fastener component not turned by the wrench prevented from rotating.	-	O	AISC 360 - Table N5.6-2, AISC 341 - Table J7-2
☒	r. Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges.	-	O	AISC 360 - Table N5.6-2, AISC 341 - Table J7-2
	Inspection Tasks After Bolting			
☒	s. Document acceptance or rejection of bolted connections.	P, D	-	AISC 360 - Table N5.6-3, AISC 341 - Table J7-3
	Other Inspection Task			
☒	t. Anchor rod and other embedments supporting structural steel.	P	-	AISC 360 - N5.7
	2. Cold-Formed Steel Deck (IBC: 1705.2.2, SDI QA/QC)			
Required	Verification and Inspection	Perform	Observe	Referenced Standard
	Inspection or Execution Tasks Prior to Deck Placement (SDI QA/QC Table 1.1)			
☒	a. Verify compliance of materials (deck and all deck accessories) with construction documents, including profiles, material properties, and base metal thickness.	P	-	
☒	b. Document acceptance or rejection of deck and deck accessories.	P	-	
	Inspection or Execution Tasks After Deck Placement (SDI QA/QC Table 1.2)			
☒	c. Verify compliance of deck and all deck accessories installation with construction documents.	P	-	
☒	d. Document acceptance or rejection of installation of deck and deck accessories.	P	-	
	Inspection or Execution Tasks After Welding (SDI QA/QC Table 1.5)			

☒	e. Verify size and location of welds, including support, sidelap, and perimeter welds.	P	-	
☒	f. Welds meet visual acceptance criteria.	P	-	
☒	g. Verify repair activities.	P	-	
☒	h. Document acceptance or rejection of welds.	P	-	
	Inspection or Execution Tasks Prior to Mechanical Fastening (SDI QA/QC Table 1.6)			
☒	h. Proper tools available for fastener installation.	-	O	
☒	j. Proper storage for mechanical fasteners.	-	O	
	Inspection or Execution Tasks During to Mechanical Fastening (SDI QA/QC Table 1.7)			
☒	k. Fasteners are positioned as required.	-	O	
☒	l. Fasteners are installed in accordance with manufacturer's instructions.	-	O	
	Inspection or Execution Tasks After Mechanical Fastening (SDI QA/QC Table 1.8)			
☒	m. Check spacing, type, and installation of support fasteners.	P	-	
☒	n. Check spacing, type and installation of sidelap fasteners.	P	-	
☒	o. Check spacing, type, and installation of perimeter fasteners.	P	-	
☒	p. Verify repair activities.	P	-	
☒	q. Document acceptance or rejection of mechanical fasteners.	P	-	
	3. Open-Web Steel Joist and Joist Girders (IBC: 1705.2.3, IBC Table 1705.2.3)			
Required	Verification and Inspection	Continuous	Periodic	Referenced Standard
	Installation of Open-Web Steel Joists and Joist Girders			
☒	a. End connections - welding or bolted.	-	P	SJI (CJ, K, LH/DLH, JG) Specification
☒	b. Bridging (horizontal or diagonal) - Standard bridging.	-	P	SJI (CJ, K, LH/DLH, JG) Specification

B. Concrete Construction (IBC: 1705.3)					
	1. Concrete Construction (IBC: Table 1705.3)				
Required	Verification and Inspection	Continuous	Periodic	Referenced Standard	IBC Reference
☒	a. Inspection of reinforcing steel, and placement.	-	P	ACI 318: Ch. 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4
☒	b. Inspect anchors cast in concrete.	-	P	ACI 318: 17.8.2	

☒	c. Inspect anchors post-installed in hardened concrete members: Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	C	-	ACI 318: 17.8.2.4	
☒	d. Inspect anchors post-installed in hardened concrete members: Mechanical anchors and adhesive anchors not defined in B.1.f	-	P	ACI 318: 17.8.2	
☒	e. Verify use of required design mix.	-	P	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
☒	f. Fresh concrete tests: refer to section 03 30 00 for tests.	C	-	ASTM C172, ASTM C31, ACI 318: 26.4.5, 26.12	1908.1
☒	g. Inspect concrete placement for proper application techniques.	C	-	ACI 318: 26.4.5	1908.6, 1908.7, 1908.8
☒	h. Verify maintenance of specified curing temperature and techniques.	-	P	ACI 318: 26.4.7-26.4.9	1908.9
☒	i. Inspect erection of precast concrete members.	-	P	ACI 318: Ch. 26.8	
☒	j. Inspect formwork for shape, location and dimensions of the concrete member being formed.	-	P	ACI 318: 26.10.1 (b)	

C. Masonry Construction (IBC: 1705.4)				
	1. Masonry Construction: Level B (TMS 402/ACI 530/ASCE 5: Table 3.1.2)			
Required	Verification and Inspection	Continuous	Periodic	Referenced for Criteria
	Minimum Tests			
☒	a. Verification of f'm and f'ACC.	-	-	TMS 602/ ACI 530.1/ASCE 6: Art.1.4 B
	Prior to Construction			
☒	b. Verify compliance with the approved submittals.	-	P	TMS 602/ ACI 530.1/ASCE 6: Art.1.5
	As Construction Begins			
☒	c. Proportions of site-prepared mortar.	-	P	TMS 602/ ACI 530.1/ASCE 6: Art. 2.1, 2.6 A
☒	d. Construction of mortar joints.	-	P	TMS 602/ ACI 530.1/ASCE 6: Art. 3.3 B
☒	e. Location of reinforcement, connectors, .	-	P	TMS 602/ ACI 530.1/ASCE 6: Art. 3.4, 3.6 A
	Prior to Grouting			
☒	f. Grout space.	-	P	TMS 602/ ACI 530.1/ASCE 6: Art. 3.2 D, 3.2 F

☒	g. Grade, type, and size of reinforcement and anchor bolts,.	-	P	TMS 402/ ACI 530/ASCE 5: Sec. 6.1 TMS 602/ ACI 530.1/ASCE 6: Art. 2.4, 3.4
☒	h. Placement of reinforcement, connectors,.	-	P	TMS 402/ ACI 530/ASCE 5: Sec. 6.1, 6.2.1, 6.2.6, 6.2.7 TMS 602/ ACI 530.1/ASCE 6: Art. 3.2 E, 3.4, 3.6 A
☒	i. Proportions of site-prepared.	-	P	TMS 602/ ACI 530.1/ASCE 6: Art. 2.6 B, 2.4 G.1.b
☒	j. Construction of mortar joints.	-	P	TMS 602/ ACI 530.1/ASCE 6: Art. 3.3 B
	During Construction			
☒	k. Size and location of structural elements.	-	P	TMS 602/ ACI 530.1/ASCE 6: Art. 3.3 F
☒	l. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.	-	P	TMS 402/ ACI 530/ASCE 5: Sec. 1.2.1 €, 6.1.4.3, 6.2.1
☒	m. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F (4.4°C)) or hot weather (temperature above 90°F (32.2°C)).	-	P	TMS 602/ ACI 530.1/ASCE 6: Art. 1.8 C, 1.8 D
☒	n. Placement of grout is in compliance.	C	-	TMS 602/ ACI 530.1/ASCE 6: Art. 3.5, 3.6 C
☒	o. Observe preparation of grout specimens, mortar specimens, and/or prisms.	-	P	TMS 602/ ACI 530.1/ASCE 6: Art. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4

E. Soils (IBC: 1705.6)				
	1. Soils (IBC: Table 1705.6)			
Required	Verification and Inspection	Continuous	Periodic	Referenced Standard
☒	a. Verify materials below shallow foundation are adequate to achieve the design bearing capacity.	-	P	
☒	b. Verify excavations are extended to proper depth and have reached proper material.	-	P	
☒	c. Perform classification and testing of compacted fill materials.	-	P	
☒	d. Verify use of proper materials, densities and lift thicknesses during placement	C	-	

	and compaction of compacted fill.			
☒	e. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	-	P	

K. Fire-Resistance and Smoke Control					
Required	Verification and Inspection	Continuous	Periodic	Referenced Standard	IBC Reference
	1. Sprayed Fire-Resistant Materials (IBC: 1705.14)				
☒	a. Condition of substrates.	-	P		1705.14.2
☒	b. Application.	-	P		1705.14.3
☒	c. Thickness.	-	P		1705.14.4
☒	d. Density.	-	P		1705.14.5
☒	e. Bond strength adhesion/cohesion.	-	P		1705.14.6
	2. Fire-Resistant Penetrations and Joints (IBC: 1705.17)				
☒	a. Penetration firestops.	-	P	ASTM E 2174	1705.17.1
☒	b. Fire-resistant joint systems.	-	P	ASTM E 2393	1705.17.2

END OF SECTION

Geotechnical Evaluation Report

Subsurface Exploration
CCF Kitchen and Laundry Addition
Clarinda, Iowa

April 12, 2022

Prepared for:
DAS Iowa Department of Administrative Services
Facilities Management Center
109 SE 13th Street
Des Moines, IA 50319

Prepared by:
TEAM Services, Inc.
Des Moines, Iowa

TEAM Services
Geotech Report

April 12, 2022

DAS Iowa Department of Administrative Services
Facilities Management Center
109 SE 13th Street
Des Moines, IA 50319

Attn: Josh Herman

Re: Subsurface Exploration
CCF Kitchen and Laundry Addition
Clarinda, Iowa
TEAM Project No. 1-5118

Dear Mr. Herman:

We have completed the subsurface exploration for the proposed addition at the Clarinda Correctional Facility in Clarinda, Iowa. The accompanying geotechnical report presents the findings of the subsurface exploration and our recommendations concerning design and construction for the proposed addition.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service to you in any way, please do not hesitate to contact us.

Sincerely yours,
TEAM Services

Christopher Ostheimer
Staff Engineer

Clinton Halverson, P.E.
Principal Engineer

Cc: Jerry Dehnke – The Samuels Group

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Clinton Halverson, P.E. License Number 19928 Date: 04/12/2022
My license renewal date is December 31, 2023.
Pages covered by this seal: All Pages.

TABLE OF CONTENTS

PROJECT INFORMATION

Project information was provided by Mr. Jerry Dehnke of The Samuels Group, Inc. through phone conversation and email with our office. Included with the emails was a site plan showing the proposed addition footprint and requested boring locations and depths. The project will consist of the construction of a new kitchen, laundry, and visitor center addition at the Clarinda Correctional Facility at 1800 North 16th Street in Clarinda, Iowa. The area where the addition is planned is currently a greenspace with a garden located in the southwest corner of the secured facility at the Clarinda Correctional Facility. The addition is planned to be approximately 18,600 square foot, slab-on-grade, and will connect to the existing facility with a circulation hallway. The addition is planned to have an at-grade loading dock with drive on the east side of the addition. Anticipated maximum loads of 3.5 kips per linear foot for continuous foundation and 100 kips for column loads were provided. At the time of this report a final finished floor elevation had not yet been decided.

SITE CONDITIONS

The project site is located at the Clarinda Correctional Facility at 1800 North 16th Street in Clarinda, Iowa. The site is currently a greenspace located in the southwest yard inside the perimeter fence of the correctional facility. The area where our borings were conducted gently sloped downhill to the southwest with approximately 3½ feet of elevation difference between our borings. Our truck-mounted auger drill rig was supported by the existing surfaces without difficulty.

FIELD EXPLORATION

A total of 4 borings were conducted at this site to depths of about 15 to 30 feet below existing grades on February 28, 2022. The borings were located and staked by The Samuels Group, Inc. prior to TEAM Services arriving at the site. The ground surface elevations at the boring locations were shot in the field using a surveying rod and scope and referenced the finished floor of the existing south wing as an elevation benchmark with an arbitrarily assigned elevation of 100.0 feet. The boring locations indicated on the attached Boring Plan are placed at their planned locations assuming field boring location staking matched planned locations. The benchmark location shown on the attached Boring Plan is based off visual approximations. The elevations are recorded on the respective Boring

Logs. The locations and elevations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

Our drilling equipment consisted of our truck-mounted auger drill rig. The borings were made by mechanically twisting a continuous flight hollow stem steel auger into the soil. At assigned intervals, the center drive bit of the auger was removed and soil samples were obtained.

Representative samples were obtained using thin-walled tube and split-barrel sampling procedures in general accordance with ASTM Specifications D-1587 and D-1586, respectively. In the thin-walled tube sampling procedure, a thin-walled, seamless steel tube with a sharp cutting edge is pushed hydraulically into the ground to obtain relatively undisturbed samples of cohesive or moderately cohesive soils. In the split-barrel sampling procedure, a standard 2-inch O.D. split-barrel sampling spoon is driven into the ground with a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the standard penetration resistance value. These values are indicated on the Boring Logs at the depths of occurrence. The samples were tagged for identification, sealed and returned to the laboratory for testing and classification.

An automatic hammer was used to perform the Standard Penetration Tests in the borings at this site. In the automatic hammer system, the cathead and rope used traditionally in the manual test procedure is replaced with an automatic lifting mechanism for the 140 pound driving weight. The reduction in system friction with the automatic hammer system results in a significant increase in the driving energies. This results in significantly greater driving efficiencies and a corresponding decrease in the number of blows in the Standard Penetration Test results. We have taken the driving efficiency of the automatic hammer system into account when analyzing this data.

Field logs of the borings were prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling, as well as the driller's interpretation of the subsurface conditions between samples. Final Boring Logs included with this report represent an interpretation of the field logs and include modifications based on laboratory observation and tests of the samples.

LABORATORY TESTING

Based on the driller's field records and examination of the samples in the laboratory, a soil testing program was developed to collect more information about the soil conditions at the site. The following is a brief description of the specific tasks completed for this project.

Natural Moisture Content -- The natural moisture content of selected samples was determined in general accordance with ASTM D 2216. The moisture content of the soil is the ratio, expressed as a percentage, of the weight of water in a given mass of soil to the weight of the soil particles. The results are presented on the Boring Logs at the depths from which the samples were obtained.

Unit Weight -- In the laboratory, selected undisturbed samples of the site soils were measured and weighed to determine gross weight and volume of the samples. Where possible, the samples are placed in a template and trimmed at each end to fit the template. The moisture content of each specimen was then determined, and the dry unit weight was calculated. The results of these tests are also presented on the Boring Logs at the appropriate sample depths.

Unconfined Compressive Strength -- A calibrated hand penetrometer was used to estimate the approximate unconfined compressive strength of select samples. The calibrated hand penetrometer has been correlated with unconfined compression tests and provides a better estimate of soil consistency than visual examination alone.

Plasticity (Atterberg Limits) Tests -- Selected soil samples were tested for Plastic Index. The soils' Plastic Index (PI) is bracketed by the Liquid Limit (LL) and the Plastic Limit (PL). The LL is the moisture content at which the soil will flow as a heavy viscous fluid. The PL is the moisture content at which the soil begins to crumble when rolled into a small thread. These tests are conducted in general accordance with ASTM D 4318. The results are indicated on the Boring Logs at the depth where the sample was obtained.

As part of the testing program, the samples were classified in the laboratory based on visual observation, texture and plasticity. The descriptions of the soils indicated on the Boring Logs are in accordance with the enclosed *General Notes* and the *Unified Soil Classification System*. Estimated group symbols according to the *Unified Soil Classification System* are given on the Boring Logs. A brief description of this classification system is attached to this report.

SUBSURFACE CONDITIONS

Subsurface conditions encountered during this exploration are indicated on the individual Boring Logs. Based on the results of the borings, subsurface conditions on the project site can be generalized as follows.

We encountered fill and possible fill at the ground surface in all borings. Possible fill is used to describe soil layers which may be natural but have a characteristic such as color or soil texture that raises suspicion that the soil could be fill. The fill and possible fill contained primarily lean clay, fat clay, and lean to fat clay. The existing fill and possible fill extended approximately 3 to 12 feet below existing surfaces.

Buried topsoil was encountered beneath the fill in Borings 1 and 3. Topsoil typically consisted of very stiff to hard fat clay with trace amount of organic material. The thickness of buried topsoil ranged from about 1½ to 3 feet when encountered.

Below the buried topsoil in Borings 1 and 3 and below the fill and possible fill in Borings 2 and 4, soil derived from loess (wind-blown soil) was encountered. The loess soils are typically medium stiff to stiff lean clay, stiff fat clay, and stiff to very stiff lean to fat clay in this area. Loess soils have typically not experienced significant overburden pressures beyond the weight of the soil above them; below the zone of soil affected by seasonal wet/dry cycles (where some preconsolidation by desiccation has occurred), the loess is often near-normally consolidated. The depth of the loess was about 8 and 12 feet below existing surfaces in Borings 4 and 1, respectively. Borings 2 and 3 terminated in the loess at depths of 15 to 20 feet below existing grades.

Glacially derived soils were encountered below the loess in Borings 1 and 4. These materials were deposited during the advance or retreat of continental glacial ice sheets which previously covered this area. The common glacial material consists of unsorted soil deposits with a mixture of sand, silt, and clay, with the engineering properties of the soil being controlled by the clay fraction. This material, termed glacial till, is commonly sandy lean clay. A layer with little or no sand was encountered amongst the glacial till in Boring 1. The sand-free clay soil appeared to be lean clay when encountered and is likely the result of sorting by meltwater streams. Soils deposited by meltwater streams are termed glacial outwash. The glacial till and outwash soils were typically stiff.

Paleosol was encountered as part of the glacially derived soils in Borings 1 and 4. Paleosol is a weathered zone of glacially derived soils that is commonly found at the top of a glacial stratum, however it was also encountered below glacial till and glacial outwash at this site. The paleosol at the site consisted of medium stiff to stiff lean to fat clay and very stiff fat clay. The various glacial soils extended to the terminal depths of Borings 1 and 4.

Cobbles and boulders were not noted in our borings. However, glacial soils were encountered at the site, and these materials often contain cobbles and boulders. The possibility of their presence should be considered where excavations or grading operations at the site advance into the glacial soils.

The above descriptions provide a general summary of the subsurface conditions encountered. The attached Boring Logs contain detailed information recorded at each boring location. These Boring Logs represent our interpretation of the field logs based on engineering examination of the field samples. The lines designating the interfaces between various strata represent approximate boundaries, and the transition between strata may be gradual. It should be noted that the soil conditions will vary between the boring locations.

GROUNDWATER CONDITIONS

The borings were monitored while drilling for the presence of groundwater. Groundwater levels observed in the borings are noted on the Boring Logs.

Groundwater seepage was encountered during drilling operations in Boring 1 at a depth of 24 feet below existing grade. Groundwater seepage was encountered immediately following drilling operations in Boring 1 at a depth of 20 feet below existing grade. No groundwater seepage was observed during or immediately after drilling in all other borings.

These groundwater level observations provide an approximate indication of the groundwater conditions existing on this site at the time of drilling operations. Fluctuation of groundwater levels can occur due to seasonal variations in the amount of rainfall, runoff, surface drainage, subsurface drainage, site topography, irrigation practices, ground cover (pavement or vegetation), and other factors not evident at the time the borings were conducted. Normally, the highest groundwater levels occur in late winter and spring time while the lowest levels occur in late summer and fall time. The fluctuation of the groundwater levels should be considered when developing the design and

construction plans for this project. Longer term monitoring in cased holes or piezometers would be required for a more accurate evaluation of the groundwater conditions at the site.

CONCLUSIONS AND RECOMMENDATIONS

Existing Fill Considerations

We encountered fill and possible fill at the ground surface in all borings. Possible fill is used to describe soil layers which may be natural but have a characteristic such as color or soil texture that raises suspicion that the soil could be fill. The fill and possible fill contained primarily lean clay, fat clay, and lean to fat clay. The existing fill and possible fill extended approximately 3 to 12 feet below existing surfaces. Based on visual observations and resistance to penetration the existing fill at the site appeared to be well compacted.

Man-made fills have an inherently high risk of variability, and careful construction inspection will be necessary to assure adequate foundation performance. Contract allowances should be made for some remedial work at the site related to foundation construction, including either overexcavation and backfilling of foundation excavations in accordance with the recommendations of this report or lowering of the foundation bearing elevations. The amount of such work cannot be defined at this time. The owner should be informed of these cost variables. Supporting foundations and slabs on undocumented fills carries with it a risk that undetected unsuitable materials may be buried within the fill that could cause distress to the planned structure. This risk can be reduced, but not eliminated, in a careful construction inspection program.

Expansive Soil Considerations

Moderately expansive fill, possible fill, loess and paleosol soils were encountered in our borings at the site. These expansive soils will experience volume changes with changes in soil moisture content. Therefore, foundations and floor slabs would be susceptible to swelling pressures that can cause movement, cracking, and structural distress when bearing just above or directly on these soils. To eliminate the risk associated with these expansive soils, it would be necessary to remove the expansive soils at the site and replace them with suitable, compacted and tested non-expansive engineered fill material. However, complete removal or treatment of these soils would be costly and it is our opinion that the following recommendations provide a more practical approach in dealing with the expansive soils encountered at this site. It should be noted that by implementing the

following recommendations, the potential movements are reduced to generally acceptable levels (less than 1 inch) but are not eliminated.

We recommend that a minimum of 24 inches of separation (buffer zone) should be provided between the bottom of floor slabs and the expansive soils. Where expansive soils are encountered within the buffer zone, we recommend that the expansive soils be overexcavated and replaced with suitable compacted and tested, low plasticity select cohesive fill soils or well-graded granular material, with at least 6% passing the No. 200 sieve, so that the minimum required separation can be provided beneath the slabs. Cleaner gravel gradations may be utilized where the gravel is part of a drainage system. The recommended buffer between the bottom of the floor slab and the expansive soils may include the proposed capillary break (detailed in the **Floor Slabs** section of this report). As an alternative, fly ash, cement or lime stabilization techniques can be considered for stabilizing the moderately expansive soils at the site. If chemical stabilization is desired, TEAM Services should be retained to perform additional laboratory testing to determine adequate quantities for stabilization. If a finished floor elevation similar to the existing buildings finished floor elevation is chosen, then overexcavation for expansive soil after topsoil stripping is expected to be minor.

The anticipated foundation loads should be high enough to resist the swelling pressures exerted by the moderately expansive soils. In our opinion, foundations may bear within or directly above the moderately expansive soils with no additional mitigation recommended, provided these soils meet the strength and stability requirements presented in the **Shallow Foundation Design** section of this report.

The contractor should avoid excessive drying of floor slab subgrade soils and foundation bearing soils during construction. If these soils experience drying then the dried soils should be removed, moisture conditioned, and properly compacted back into place or replaced with suitable new compacted fill material, prepared in accordance with the recommendations of this report. Measures to reduce drying of these soils include following excavation rapidly with foundation and floor slab construction, covering the site with moisture-proof plastic, and/or occasionally watering the subgrade soils during dry weather.

Placements of large bushes or trees within a horizontal distance from the building equal to about ½ the ultimate height of the bushes or trees should be avoided. Additionally, use of open bottom planters or excessive irrigation around the perimeter of the building should be avoided. As a protective measure, paving around the proposed addition with a sidewalk or planting a maintained

grass stand, with moderate irrigation during dry weather periods, is a suitable option for this site. Positive drainage should also be maintained around the addition.

Site Preparation

Site preparation should begin with the removal of any organic-laden soils, vegetation and any loose, soft or otherwise unsuitable materials. For planning purposes, we expect an average stripping depth of about 6 inches for undisturbed soil areas to remove root-zone soils. Existing fill may be removed if desired as discussed in the **Existing Fill Considerations** section of this report. Removal of the expansive soils should be conducted per the recommendations in the previous **Expansive Soils Considerations** section. The actual depths of stripping and overexcavation and replacement may vary and should be determined in the field in consultation with TEAM Services personnel. The site strippings and any near surface soils with organics could be used for landscaping purposes in non-critical areas where support for foundations, floor slabs and pavements is not required.

Any abandoned utility lines should be completely removed along with their associated backfill material and replaced with engineered compacted fill. Consideration should be given to rerouting any existing utilities which will remain in service to locations outside the planned building areas so that they will be easily accessible for maintenance.

The exposed grade in both cut and fill areas should be proofrolled and inspected by TEAM Services personnel. Proofrolling should be performed at the lowest cut grade, prior to fill placement. Proofrolling should be conducted with a fully loaded tandem axle dump truck having a minimum gross weight of 25 tons. Where proofrolling is not possible due to poor access or excessive disturbance to the existing soils, these soils should be probed and visually inspected by TEAM Services to determine the suitability of the subgrade. Any unsuitable soils identified during this process should be removed and replaced with suitable engineered compacted and tested fill which meets or exceeds the Class 1 Construction Application requirement in Table A in the following **Fill Placement** report section.

It should be noted that initial subgrade preparation for some soil types may not be suitable under repeated heavy construction vehicle loads and may require stabilization to greater depths or placement of crushed rock with or without geogrid. Stabilization of subgrade soils with fly ash, cement or lime could also be considered. Contract allowances should be made for some remedial

work at the site related to subgrade preparation. The amount of such work cannot be defined at this time. Therefore, the owner should be informed of these cost variables.

Fill Placement

Fill and backfill placed for support of the proposed structures should consist of approved materials which are free of organic matter and debris. Brick, concrete, rocks or other solid pieces with a maximum dimension of 3 inches or larger should not be placed in the newly placed fill sections. We recommend that low-plasticity cohesive soil or granular material be used for general fill placement. By our definition, low-plasticity cohesive soil would have a liquid limit of 43 or less and a plasticity index of 20 or less. In our opinion, the lean clay and sandy lean clay fill, loess, and glacial soils meet these requirements, however the lean to fat clay and fat clay fill, possible fill, buried topsoil, loess, and paleosol do not meet these requirements. Since it isn't likely feasible to separate the low plasticity minority of fill from the unsuitable majority and the lean loess and glacial soils are six feet or deeper below existing grades, a significant excavation would be required to source on-site soils for suitable fill for general fill placement. Fly ash, cement, or lime treatment options could lower the plasticity of existing moderately expansive materials. Moderately expansive soils could be used as new fill in open grass spaces and below the recommended buffer zone discussed in the **Expansive Soil Considerations** section of this report. Any off site potential borrow materials should be evaluated by TEAM Services prior to their use as engineered compacted and tested fill.

The following Table A lists recommended minimum compaction requirements for cohesive and cohesionless fill materials for specific applications. For low-plasticity (CL and ML) cohesive soils, moisture contents within a range of -2 to +3 percent of the material's optimum moisture content (as determined by Standard Proctor ASTM D 698) are necessary to achieve the desired fill qualities for general grading and utility backfill. Where allowed, moderately expansive soils should be placed within a range of 0 to +4 percent of the material's optimum moisture content. Granular materials with sufficient fines content to be moisture-sensitive should be placed within 3 percent of the material's optimum moisture content. Clean granular materials are not moisture sensitive.

The on-site soils can be excavated utilizing conventional excavation equipment. Granular soils can generally be suitably compacted with vibratory compaction equipment. Proper compaction of cohesive soils can be achieved with sheepsfoot or pneumatic type compactors within the above moisture content ranges. The soils should be placed in a maximum loose thickness of 12 inches and at a thickness compatible with the equipment being utilized. Sufficient density tests should be performed on each lift of engineered compacted fill placed to verify that adequate compaction is

achieved. Care should be taken to prevent unnecessary disturbance of subgrade soils. Disturbed areas should be removed and replaced with engineered compacted and tested fill in accordance with the recommendations of this report. Exposed sand surfaces can be recompacted if they become disturbed during excavation.

TABLE A
RECOMMENDED DEGREE OF COMPACTION GUIDELINES

Construction Application		Standard Proctor (ASTM D698) Cohesive Soil	Standard Proctor (ASTM D698) Cohesionless Soil [2]	Relative Density (ASTM D4253 & D4254) Cohesionless Soil [1,2]
Class 1	Subgrade preparation for foundations, slabs, pavement, and other critical backfill areas	95%	98%	70%
Class 2	Backfill adjacent to structures not supporting other structures or pavements. Minor subsidence possible.	90%	93%	45%
Class 3	Backfill in non-critical areas. Moderate subsidence possible.	85%	88%	20%

1. Use Relative Density technique (ASTM D4253 & D4254) where Standard Proctor technique (ASTM D698) does not result in a definable maximum dry density and optimum moisture content.
2. Clean gravel should be inspected visually during compaction by a qualified engineering technician to confirm adequate compactive effort and appropriate lift thicknesses in lieu of density testing.

Upon completion of the filling operation, care should be taken to maintain the subgrade moisture content prior to structure construction. If the subgrade should become desiccated, frozen or otherwise disturbed, the affected material should be removed or these materials should be scarified, moistened, recompacted and retested prior to concrete, asphalt, or new fill placement. As a general guideline, cohesive fills which dry to a moisture content less than 2/3 of their optimum moisture content as determined by the Standard Proctor Test (ASTM D 698) in their upper 2 inches are candidates for reconditioning as described above.

Shallow Foundation Design

It appears that foundations for the proposed buildings will bear on the existing fill, possible fill, buried topsoil, or loess, or on newly placed engineered fill required to achieve the desired final grades or to replace unsuitable soils. In our opinion, foundations bearing on existing fill, possible

fill, buried topsoil, or loess that is verified as suitable in the field or on newly placed engineered compacted and tested fill extending to suitable soils may be designed for a maximum net allowable bearing pressure of 2,000 pounds per square foot.

The net bearing pressure is the pressure in excess of the minimum adjacent overburden pressure at the foundation level. The bearing capacity discussed in the previous paragraph may be increased by 33% when considering transient forces such as wind. We estimate maximum settlements, due to the assumed structural loads, will be on the order of 1 inch and differential settlement may be on the order of 2/3 of the total settlement.

Continuous foundations should be adequately reinforced to limit deflections caused by non-uniform soil support characteristics. All perimeter foundations and foundations in unheated areas should extend at least 42 inches below the lowest adjacent finished grade for frost protection and reduce movements associated with changes in soil moisture content. Interior footings located in permanently frost-free environments should have at least 18 inches of protective embedment below lowest adjacent finished grade. Trench or augured excavations may not be appropriate for areas when sands or gravels are encountered within the excavation sidewalls. If sidewalls become unstable, sloped excavations or shored/cased excavations would be necessary.

Where future addition foundations are constructed adjacent to the existing structure's foundations, the proposed foundation bearing elevation should be the same as the existing structure's foundation bearing elevation. If unsuitable soils are present at this depth, then TEAM Services should be retained to develop recommendation to provide adequate foundation support without undermining the existing foundations. Architectural and structural connections should be designed to accommodate the potential differential settlement that may occur between the addition and the existing structure. Where new foundations are placed next to existing foundations, the differential settlement between the two would approach the total settlement expected for the new foundations.

Shallow Foundation Construction

We recommend that the base of all foundation excavations be observed and tested by the geotechnical engineer prior to placement of concrete. During this process, if soft, organic, or otherwise unsuitable materials are encountered at foundation elevations, we recommend that the foundations extend through the unsuitable soils and bear on undisturbed, suitable soils below or an overexcavation and replacement procedure be performed. The overexcavation and backfill

procedure would include removal of these unsuitable materials and replacement with suitable engineered compacted fill soils prepared in accordance with the recommendations in the **Fill Placement** section of this report. The following Figure 1 shows a typical cross-sectional view of this overexcavation and backfill procedure. Where sands are exposed which are not excessively wet; the sand can likely be compacted in-place to mitigate moderate surface disturbance.

In general, the overexcavation is widened 2/3 of a foot laterally on each side of the foundation per each foot of excavation that is below the foundation bearing elevation. The depth of overexcavation (shown as "D" in Figure 1) should be determined in consultation with the geotechnical engineer. Backfill materials should be suitable cohesive or granular soil, prepared and compacted in accordance with the recommendations in the **Fill Placement** section of this report. Another option would be to remove the unsuitable soils down to suitable soils and replace the excavated area with lean concrete (minimum 50 psi compressive strength), in which case widening of the excavation would not be required unless required due to unstable vertical sidewalls such as from sand.

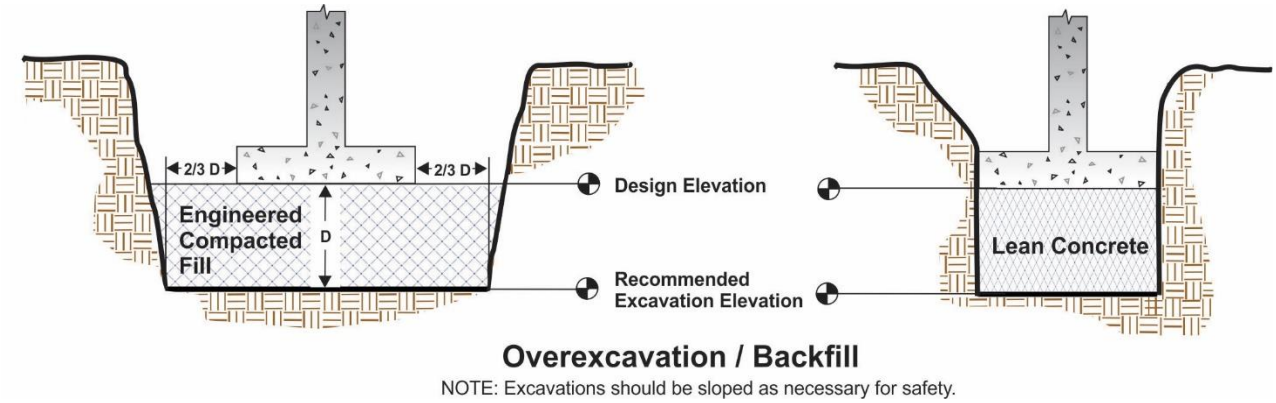


Figure 1.

Trench or augured excavations may not be appropriate for areas when sands or gravels are encountered within the excavation sidewalls. If sidewalls become unstable, sloped excavations or shored/cased excavations would be necessary.

Footing excavations should be kept free of water accumulation to prevent softening of subgrade soils and conducted in a manner which avoids disturbance of soils beneath existing foundations. Concrete should be placed as soon as possible after excavating to minimize bearing soil disturbance. Should the soils at bearing level become excessively dry, saturated, or otherwise disturbed; the affected soil should be removed prior to placing concrete.

Overexcavation Undermining Considerations

The sides of excavations can gradually or suddenly slough depending on the sidewall slope, soil type, groundwater influence, consistency of the soils, loads supported near the sides of the excavation, and other factors. To avoid undermining the soils supporting nearby structures, all excavations should ideally remain in the safe zone for excavation, illustrated in Figure 2. If excavations outside of the safe zone are desired and the owner does not wish to relocate the structure requiring overexcavation then there are options available to allow the excavation to continue. Underpinning the existing at-risk structure's foundations and slabs with helical piers or micropiles could be considered to completely support the structural elements in case of a sidewall failure. Another option would be to shore the sides of the excavation to allow a vertical cut, such as with a soldier or sheet pile style wall (which has been properly designed by a licensed structural engineer in consultation with TEAM Services). Generally, excavations extending beneath an existing structure are not feasible. Any nearby loading should be minimized during nearby overexcavation processes.

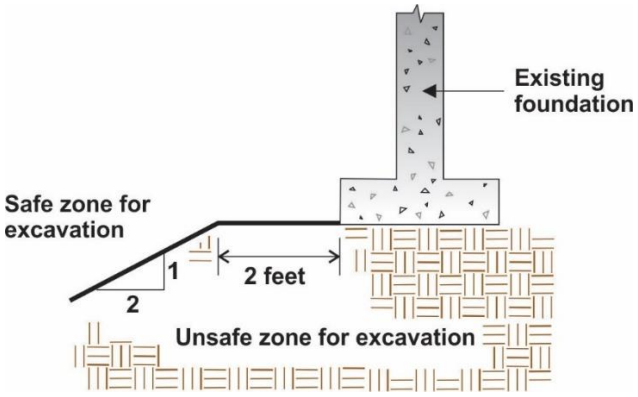


Figure 2.

Floor Slabs

Interior floor slabs can be adequately supported on a subgrade prepared in accordance with the **Existing Fill Considerations**, **Expansive Soil Considerations**, **Site Preparation** and **Fill Placement** sections of this report.

During building construction, the surface of the completed building pads may have been disturbed by construction equipment, etc. Therefore, it is recommended that the building areas be proofrolled or probed and tested where proofrolling cannot be conducted to delineate zones of soft soils present near the surface which may require additional removal or compaction prior to construction of the

floor slab. If the exposed subgrade has been disturbed since the original subgrade preparation, the subgrade should be scarified to a minimum depth of 9 inches, moisture conditioned (if needed), and recompacted to meet or exceed the Class 1 Construction Application requirement given in Table A in the **Fill Placement** section.

To avoid localized slab failures, it is important that interior backfill around foundations and in plumbing trenches be properly compacted. Therefore, all fill materials placed beneath the proposed floor slab are to meet or exceed the Class 1 Construction Application requirement given in Table A.

In order to allow successful use of a variety of floor systems, measures to control vapor transmission through the floor slab are recommended where moisture sensitive floor coverings are a possibility. This would include use of a vapor barrier/retarder with a minimum thickness of 10 mils placed between the slab and an underlying capillary break material. The vapor barrier/retarder should be strong enough to resist puncturing by the capillary break materials.

We recommend that the capillary break consist of clean manufactured sand or crushed limestone (drainable material). The capillary break should be at least 4 inches thick and contain less than 6 percent material finer than the U.S. No. 200 sieve. Floor slabs in areas not subject to frost action and floor slabs which are protected from frost action may be designed with a modulus of subgrade reaction of 150 pci when subgrade soils and capillary breaks are constructed in accordance with the recommendations of this report.

We recommend that continuous wire mesh reinforcement or a regular rebar schedule be provided for the floor slab and that crack control joints be sawn with a regular spacing not greater than about 10 feet. Unless columns are tied to slabs for structural support, we recommend isolation joints should be provided between the floor slabs and perimeter or interior foundations so that they can move independently without damage. These measures are taken with the intent of allowing the floor slab to deflect somewhat without experiencing large differential movements across slab joints and to channel the cracking of the floor slabs to the crack control joints so that they are not perceived as building distress.

Temporary Excavation Support

All excavations should comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P, "Excavations and Trenches" and other applicable codes. This document states that excavation safety

is the responsibility of the contractor. Reference to this OSHA requirement should be included in the job specifications. The **Overexcavation Undermining Considerations** section of this report provides additional recommendations for safe excavations. Where these specifications differ, the most conservative recommendations should be adhered to.

Construction Dewatering

During construction activities, care should be taken to maintain positive drainage at the site to ensure that drainage is directed away from excavations. Based on the groundwater readings from the site, groundwater seepage is unlikely to be encountered during construction. However, seepage is possible when construction is performed during wet weather periods and/or where groundwater is anticipated to be high during construction. If seepage is encountered then we recommend that construction groundwater control be established prior to excavating the final 2 feet of soils. Groundwater seepage in cohesive soils can be provided by digging a system of trenches leading to a gravity outfall or temporary construction sumps to be pumped outside the perimeter of the excavations. Water bearing sand may be dewatered using a system of well points. Any ponded water should be removed as soon as possible.

Where seepage is observed, a granular working surface of at least 6 inches of clean, crushed concrete or limestone gravel may be useful to provide a firm working surface for constructing slabs or placing additional lifts of backfill. The clean gravel can be well compacted in the presence of water, will drive through and reinforce shallow (1 or 2 inches) cohesive soils which have become softened by water exposure or disturbance, and can accumulate water seepage to flow to a peripheral sump pit to be pumped away. If the granular working surface becomes completely embedded in any cohesive soils, a geotextile may need to be employed as separation between the granular material and cohesive soils.

If groundwater control is required but is lost during construction, disturbance of the upper few inches to few feet below grade is possible in the soils at the site. In these circumstances, it will be necessary to reestablish groundwater control and remove the disturbed soils. TEAM Services should be consulted regarding the extent of remedial action which is necessary.

Site Drainage

Positive site drainage should be maintained along the perimeters of the buildings. Final grades should be established to direct runoff away from building foundations. Down spouts, gutters, and roof drains should discharge away from building perimeters. Site grading should direct surface water away from excavations or completed foundations during construction and after site development is completed.

QUALIFICATION OF REPORT

Our evaluation of support conditions has been based on our understanding of the site and project information and the data obtained in our exploration. The general subsurface conditions utilized in our evaluation have been based on interpolation of subsurface data between the borings. In evaluating the boring data, we have examined previous correlations between soil properties and pressures observed in soil conditions similar to those at your site. The discovery of any site or subsurface conditions during construction which deviate from the data outlined in this exploration should be reported to us for our evaluation. The assessment of site environmental conditions or the presence of pollutants in the soil, rock, and groundwater of the site was beyond the scope of this exploration.

Support of structures on existing fill is discussed in this report. Existing fills are potentially much more inconsistent than natural soil deposits. Support of structures upon existing fills carries with it a degree of risk that unsuitable materials may be buried within the fill and not be detected in the inspection and testing program recommended herein. Unsuitable materials in the fill may experience settlement and cause distress to structures supported on the fill. Elimination of this risk requires removal of the fill. This is costly, and we believe that if construction inspections indicate that the fill is suitable then the risks at this site are low enough that the owner could reasonably accept this risk and keep the resultant savings.

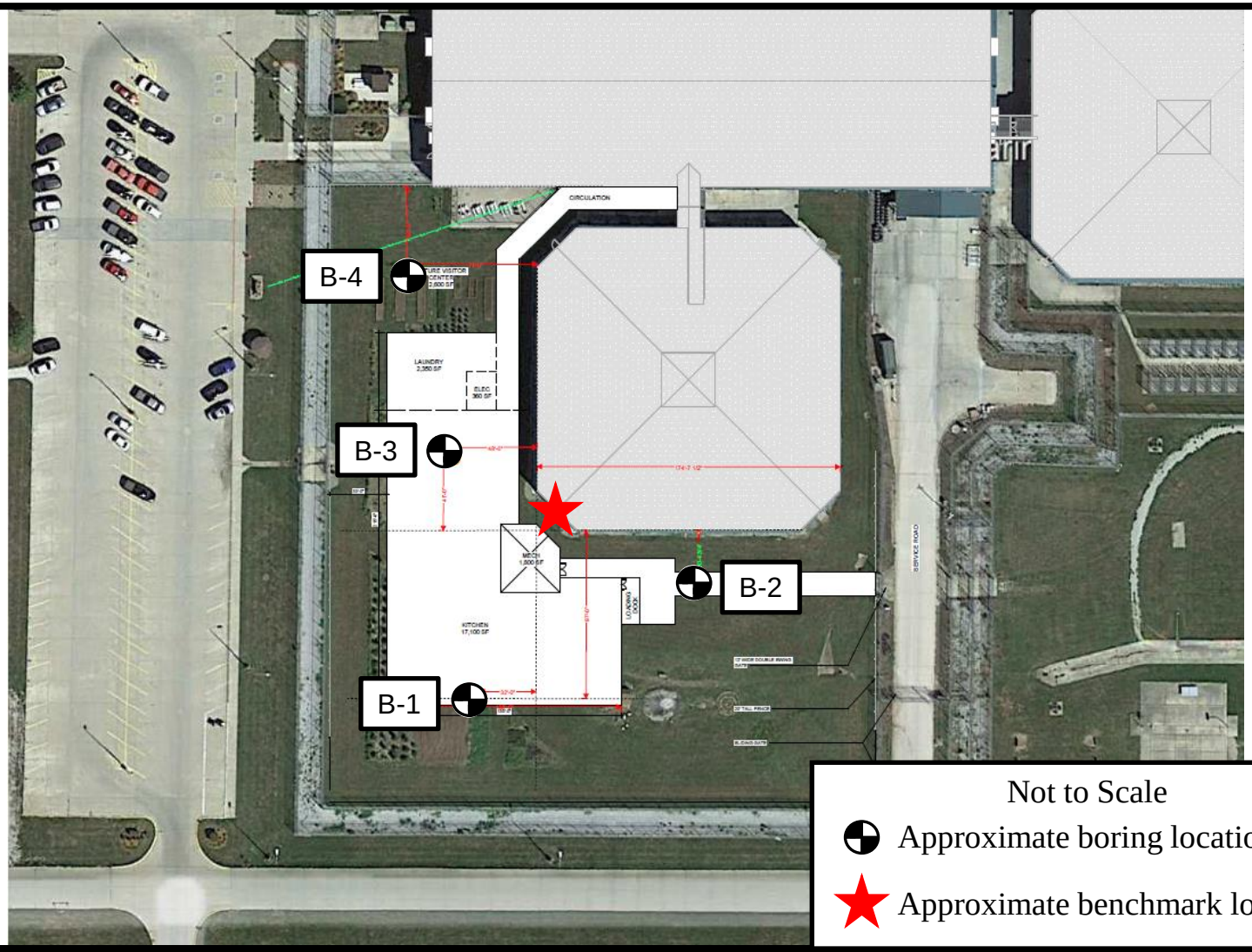
Potentially expansive soils were encountered in the borings at this site. These soils experience volume changes in response to soil moisture content changes. These volume changes can cause movement, cracking and other distress for structures supported above them. Measures to help reduce the degree of soil volume change have been discussed. These measures can reduce the risks associated with the potentially expansive soils, but they do not eliminate this risk. Elimination of the

risks associated with expansive soils would require complete removal of all expansive soils and replacement with a more suitable soil type or structurally suspending the planned building above the expansive soils. Neither of these measures is believed practical. A degree of risk must be accepted to support development at this site.

It is recommended that the geotechnical engineer be retained to review the plans and specifications so that comments can be provided regarding the interpretation and implementation of the geotechnical recommendations in the design and specifications. It is further recommended that the geotechnical engineer be retained for testing and observation during the foundation construction phase to help determine that the design requirements are fulfilled.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranty is provided. In the event that any changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing by the geotechnical engineer.

Background Imagery Provided by The Samuels Group, Inc



Not to Scale

Approximate boring location

Approximate benchmark location

N

TEAM *Services*, Inc. **717 SE 6th Street** **Des Moines, IA 50309**	**CCF Kitchen and Laundry Addition** Clarinda, IA Boring Plan	Project No. 1-5118 April 8, 2022

BORING LOG No. 1

PROJECT CCF Kitchen and Laundry Addition

SITE Clarinda, IA

Approx. Surface Elevation (ft): 95.3
Site Datum: Existing Finished Floor (100.0')
Drilling Method: HSA

GRAPHIC LOG	DESCRIPTION	USCS SYMBOL	DEPTH (ft.)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES RECOVERY	SAMPLES SPT - N (BLOWS / FT.)	TESTS MOISTURE, %	TESTS DRY DENSITY (PCF)	TESTS UNCONFINED STRENGTH (PSF)	TESTS OTHER
	Fill - Lean CLAY, trace organics, very dark brown	CL	0	1	AS			26.1			
	1.5 93.8										
	Fill - Fat CLAY, gray, very dark gray and yellowish brown	CH		2	SS	10	FRZN**	20.2		7500*	
	3.0 92.3										
	Buried Topsoil - Fat CLAY, trace organics, very dark gray and dark yellowish brown, hard	CH		3	ST	6		22.1	101	9000*	
	6.0 89.3		5								
	Loess - Lean CLAY, gray and yellowish brown, stiff	CL		4	SS	14	6	27.8		2500*	
				5	ST	14		20.8	106	5000*	
	12.0 83.3		10								
	Glacial Till - Sandy lean CLAY, trace gravel, yellowish brown, gray and very dark gray, stiff	CL		6	SS	18	8	21.2		3500*	
	17.0 78.3		15								
	Glacial Outwash - Lean CLAY, gray, yellowish brown and brown, medium stiff	CL		7	SS	18	5	27.5		1000*	
	22.0 73.3		20								
	Paleosol - Lean to fat CLAY, dark yellowish brown, medium stiff	CL/ CH		8	SS	18	4	27.5		2000*	
	-- color changes to grayish brown and yellowish brown, becomes stiff after 27'		25								
	30.0 65.3			9	S	18	9	24.6		5000*	
	Bottom of Boring		30								

Notes: ** Sample noted as frozen during drilling operations

* Calibrated hand penetrometer

Hammer Type: Automatic

Water Level:

24 **Ft.** **While Drilling**

20 **Ft.** **After Drilling**

____ **Ft.** ____

TEAM Services
Geotechnical and Construction Material Consultants

Boring Started: 02/28/2022
Boring Completed: 02/28/2022
Rig: 112 **Foreman:** JH
Approved: **Job #:** 1-5118

1-5118.geo TSBORE16.fdt 5/16/2016

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES; IN-SITU, THE TRANSITION MAY BE GRADUAL.

BORING LOG No. 2

PROJECT CCF Kitchen and Laundry Addition

SITE Clarinda, IA

Approx. Surface Elevation (ft): 98.1
Site Datum: Existing Finished Floor (100.0')
Drilling Method: HSA

GRAPHIC LOG	DESCRIPTION	USCS SYMBOL	DEPTH (ft.)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES RECOVERY	SAMPLES SPT - N (BLOWS / FT.)	TESTS MOISTURE, %	TESTS DRY DENSITY (PCF)	TESTS UNCONFINED STRENGTH (PSF)	TESTS OTHER
	1.0 Fill - Lean CLAY, trace organics, very dark brown 97.1	CL	0	1	AS			38.1			
	Fill - Fat CLAY, gray, very dark gray and yellowish brown	CH		2	SS	8	9	20.2		7000*	Atterberg Limits: LL = 51 PI = 28
				3	ST	8		23.6	96	4000*	
	-- color changes to dark gray, very dark gray and yellowish brown after 6'		5	4	SS	10	9	21.5		5000*	
	9.0 89.1										
	Possible Fill - Lean to fat CLAY, dark gray and yellowish brown	CL/ CH		5	SS	12	11	27.8		2000*	
	12.0 86.1		10								
	Loess - Fat CLAY, gray and yellowish brown, stiff	CH		6	S	16	7	26.9		4000*	
	15.0 83.1		15								
	Bottom of Boring										

Notes:

* Calibrated hand penetrometer

Hammer Type: Automatic

Water Level:

NONE **Ft.** **While Drilling**

NONE **Ft.** **After Drilling**

____ **Ft.** ____

TEAM Services
Geotechnical and Construction Material Consultants

Boring Started: 02/28/2022
Boring Completed: 02/28/2022
Rig: 112 **Foreman:** JH
Approved: **Job #:** 1-5118

1-5118.geo TSBORE16.fdt 5/16/2016

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES; IN-SITU, THE TRANSITION MAY BE GRADUAL.

BORING LOG No. 3

PROJECT CCF Kitchen and Laundry Addition

SITE Clarinda, IA

Approx. Surface Elevation (ft): 97.5
Site Datum: Existing Finished Floor (100.0')
Drilling Method: HSA

DESCRIPTION	USCS SYMBOL	DEPTH (ft.)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES RECOVERY	SAMPLES SPT - N (BLOWS / FT.)	TESTS MOISTURE, %	TESTS DRY DENSITY (PCF)	TESTS UNCONFINED STRENGTH (PSF)	TESTS OTHER
1.0 Fill - Lean CLAY, trace organics, very dark brown 96.5	CL	0	1	AS			21.7			
Fill - Fat CLAY, gray, yellowish brown and very dark brown	CH		2	SS	8	4	20.4		6000*	
3.5 94.0										
5.0 Buried Topsoil - Fat CLAY, trace organics, very dark gray and dark yellowish brown, very stiff 92.5	CH		3	SS	12	12	23.7		9000*	
Loess - Fat CLAY, dark gray and yellowish brown, stiff	CH	5	4	ST	11		27	96	5000*	Atterberg Limits: LL = 57 PI = 33
8.5 89.0										
Loess - Lean CLAY, gray and yellowish brown, medium stiff	CL		5	SS	16	5	30.3		2000*	
		10								
			6	SS	18	5	28.3		2000*	
		15								
20.0 77.5			7	SS	18	4	24.4		1500*	
		20								
Bottom of Boring										

Notes:

* Calibrated hand penetrometer

Hammer Type: Automatic

Water Level:

NONE **Ft.** **While Drilling**

NONE **Ft.** **After Drilling**

_____ **Ft.** _____

TEAM Services
Geotechnical and Construction Material Consultants

Boring Started: 02/28/2022
Boring Completed: 02/28/2022
Rig: 112 **Foreman:** JH
Approved: **Job #:** 1-5118

1-5118.geo TSBORE16.fdt 5/16/2016

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES; IN-SITU, THE TRANSITION MAY BE GRADUAL.

BORING LOG No. 4

PROJECT CCF Kitchen and Laundry Addition

SITE Clarinda, IA

Approx. Surface Elevation (ft): 98.6
Site Datum: Existing Finished Floor (100.0')
Drilling Method: HSA

DESCRIPTION	USCS SYMBOL	DEPTH (ft.)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES RECOVERY	SAMPLES SPT - N (BLOWS / FT.)	TESTS MOISTURE, %	TESTS DRY DENSITY (PCF)	TESTS UNCONFINED STRENGTH (PSF)	TESTS OTHER
1.0 Fill - Fat CLAY, trace organics, very dark brown and yellowish brown 97.6	CH	0	1	AS			23.5			Atterberg Limits: LL = 50, PI = 24
Fill - Fat CLAY, brown, yellowish brown, very dark brown and gray 95.1 (3.5)	CH		2	SS	8	5	26.9		6000*	
Loess - Lean to fat CLAY, brown, stiff	CL/ CH		3	SS	6	5	26.4		2500*	
-- color changes to gray and brown, becomes very stiff after 5.5'		5	4	ST	14		24.5	101	5000*	
8.0 90.6										
Paleosol - Fat CLAY, gray, yellowish brown and brown, very stiff	CH		5	SS	18	12	23.2		6000*	
-- color changes to gray and yellowish brown after 12'		10	6	SS	16	12	23.7		8500*	
17.0 81.6		15								
Glacial Till - Sandy lean CLAY, gray and yellowish brown, stiff	CL		7	SS	18	7	21.2		3000*	
20.0 78.6		20								
Bottom of Boring										

Notes:

* Calibrated hand penetrometer

Hammer Type: Automatic

Water Level:

NONE Ft. **While Drilling**

NONE Ft. **After Drilling**

Ft.

TEAM Services
Geotechnical and Construction Material Consultants

Boring Started: 02/28/2022
Boring Completed: 02/28/2022
Rig: 112 **Foreman:** JH
Approved: **Job #:** 1-5118

1-5118.geo TSBORE16.fdt 5/16/2016

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES; IN-SITU, THE TRANSITION MAY BE GRADUAL.

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]					Soil Classification	
					Group Symbol	Group Name[B]
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines[C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$[E]		GW	Well-graded gravel[F]
			$Cu < 4$ and/or $1 > Cc > 3$[E]		GP	Poorly graded gravel[F]
		Gravels with Fines More than 12% fines[C]	Fines classify as ML or MH		GM	Silty gravel[F, G, H]
			Fines classify as CL or MH		GC	Clayey gravel[F, G, H]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines[E]	$Cu \leq 6$ and $1 \leq Cc \leq 3$[E]		SW	Well-graded sand[I]
			$Cu < 6$ and/or $1 > Cc > 3$[E]		SP	Poorly graded sand[I]
		Sands with Fines More than 12% fines[D]	Fines classify as ML or MH		SM	Silty sand[G, H, I]
			Fines classify as CL or CH		SC	Clayey sand[G, H, I]
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid limit less than 50	Inorganic:	PI > 7 and plots on or above "A" line[J]		CL	Lean clay[K, L, M]
			PI < 4 or plots below "A" line[J]		ML	Silt[K, L, M]
		Organic:	Liquid limit – oven dried	< 0.75	OL	Organic clay[K, L, M, N]
			Liquid limit – not dried			Organic silt[K, L, M, O]
	Silts and Clays Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line		CH	Fat clay[K, L, M]
			PI plots below "A" line		MH	Elastic silt[K, L, M]
		Organic:	Liquid limit – oven dried	< 0.75	OH	Organic clay[K, L, M, P]
			Liquid limit – not dried			Organic silt[K, L, M, Q]
Highly Organic Soils	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-in. (75-mm) sieve.
[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
[C] Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay

[D] Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay

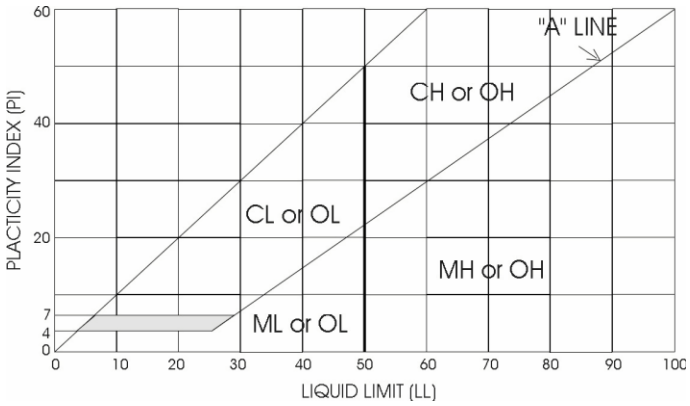
[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains $\geq$ 15% sand, add "with sand" to group name.
[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
[H] If fines are organic, add "with organic fines" to group name.
[I] If soil contains > 15% gravel, add "with gravel" to group name.
[J] If Atterberg limits plots in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel", whichever is predominant.
[L] If soil contains $\geq$ 30% plus No. 200 predominantly sand, add "sandy" to group name.
[M] If soil contains $\geq$ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
[N] PI $\geq$ 4 and plots on or above "A" line.
[O] PI < 4 or plots below "A" line.
[P] PI plots on or above "A" line.
[Q] PI plots below "A" line.

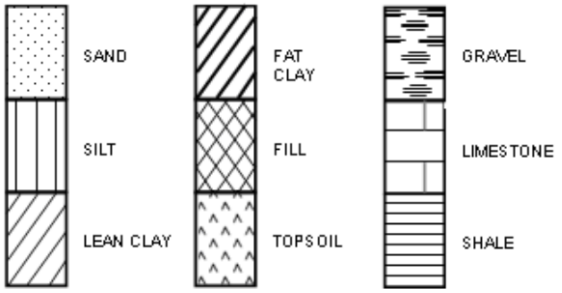
For classification of fine-grained soils and fine grained fraction of coarse-grained soils.

Equation of "A" Line:
Horizontal at PI = 4 to LL + 25.5.
then PI = 0.73 (LL-20)



GENERAL NOTES

TEAM Services Geotech Report

SOIL and ROCK TYPES	DRILLING & SAMPLING SYMBOLS
	**SS** Split Spoon - 1 1/2" I.D., 2" O.D., unless otherwise noted **ST** Thin-Walled Tube - 3" O.D., unless otherwise noted **PA** Power Auger **HA** Hand Auger **DB** Diamond Bit - 4", N, B **AS** Auger Sample **HS** Hollow Stem Auger **WS** Wash Sample **RB** Rock Bit **BS** Bulk Sample **DC** Dutch Cone **WB** Wash Bore **AR** Air Rotary

STRENGTH TERMS

CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing No. 200 sieve)			RELATIVE DENSITY OF COARSE-GRAINED SOILS (50% or more retained No. 200 sieve)	
Consistency	**Unconfined Compressive Strength, Qu, psf**	**N-Blows/ft* (Approx. Correlation)**	**Relative Density**	**N-Blows/ft. ***
Very Soft	< 500	0 - 2	Very Loose	0 - 4
Soft	500 - 1,000	3 - 4	Loose	5 - 10
Medium	1,001 - 2,000	5 - 8	Medium Dense	10 - 29
Stiff	2,001 - 4,000	9 - 15	Dense	30 - 49
Very Stiff	4,001 - 8,000	16 - 30	Very Dense	50 - 80
Hard	8,001 - 16,000	31 - 50	Extremely Dense	80 +
Very Hard	> -16,000	50 +		

* Standard "N" Penetration Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch OD split spoon, except where noted.

RELATIVE PROPORTIONS OF SAND AND GRAVEL		RELATIVE PROPORTIONS OF FINES		GRAIN SIZE TERMINOLOGY	
Descriptive Term(s) (of components also present in sample)	**Percent of Dry Weight**	**Descriptive Term(s) (of components also present in sample)**	**Percent of Dry Weight**	**Major Component of Sample**	**Size Range**
Trace	< 15	Trace	< 5	Boulders	Over 12 in. (300 mm)
With	15 - 29	With	5 - 12	Cobbles	12 in. to 3 in. (300 mm to 4.75 mm)
Modifier	> 30	Modifier	> 12	Gravel	3 in. to #4 sieve (75 mm to 4.75 mm)
WATER LEVELS:	WD = While Drilling AD = After Drilling			Sand	#4 to #200 sieve (4.75 mm to 0.075 mm)
▽	Depth groundwater first encountered during drilling			Silt or Clay	Passing #200 sieve (0.075 mm)
▼	Groundwater level after 24 hours (unless otherwise noted, i.e. "AD" -- after drilling)				

TERMS DESCRIBING SOIL STRUCTURE

Parting:	paper thin in size	Fissured:	containing shrinkage cracks, frequently filled with fine sand or silt, usually more or less vertical.
Seam:	1/8" to 3" in thickness		
Layer:	greater than 3" in thickness	Interbedded:	composed of alternate layers of different soil types.
Ferrous:	containing appreciable quantities of iron	Laminated:	composed of thin layers of varying color and texture.
Well-Graded:	having wide range in grain size and substantial amounts of all intermediate sizes.	Slickensided:	having inclined planes of weakness that are slick and glossy in appearance.
Poorly-Graded:	predominately one grain size or having a range of sizes with some intermediate sizes missing.	NOTE:	Clays possessing slickensided or fissured structure may exhibit lower unconfined strength than indicated above. Consistency of such soil is interpreted using the unconfined strength along with pocket penetrometer results.