Addendum No. 1.0

Killearn Country Club: Clubhouse
Bid Package: ALL

This Addendum No. 1.0, dated 09/21/2023, is hereby made part of ALL Bid Packages listed in the Master Bid Package dated 09/06/2023 for the Killearn Country Club: Clubhouse project.

1. Note that the **BID DATE FOR ALL BID PACKAGES HAS CHANGED** to 2:00pm on October 2, 2023. Bids will be received by Ajax Building Company, LLC at 1080 Commerce Blvd., Midway, FL 32343 or By Dane Chrestensen via email with Read Receipt at dane.chrestensen@ajaxbuilding.com.

2. The Pre-Bid Conferences were held via Teams on Wednesday, September 13th 2023 at 9:00 AM, 11:00 AM, and 1:00 PM.

    a. The Pre-Bid Conference was not mandatory
    b. The Minutes from these meetings are attached below.

3. Addendum #1 as prepared by DAG 09/20/2023 is hereby made part of ALL Bid Packages: Complete file Must be Downloaded from the Ajax "Sharefile" site; Summary is attached below. https://ajaxbuilding.sharefile.com/d-sbb0e976b741f4de3a7813a6c66bd4849

4. GeoTech Report dated 2023.03.30 added to "Other" Folder on "Sharefile" site https://ajaxbuilding.sharefile.com/d-sbb0e976b741f4de3a7813a6c66bd4849

5. RFI #1-CH: Clubhouse Electrical Pre-Bid Questions 1 closed on 09/21/2023 is hereby made part of ALL Bid Packages: File Must be Downloaded from the Ajax "Sharefile" site. (located under "RFI's"). https://ajaxbuilding.sharefile.com/d-sbb0e976b741f4de3a7813a6c66bd4849

6. RFI #2-CH: Clubhouse HVAC Pre-Bid Questions 1 closed on 09/18/2023 is hereby made part of ALL Bid Packages: File Must be Downloaded from the Ajax "Sharefile" site. (located under "RFI's"). https://ajaxbuilding.sharefile.com/d-sbb0e976b741f4de3a7813a6c66bd4849

7. RFI #4-CH: Clubhouse Architectural Pre-Bid Questions 1 closed on 09/21/2023 is hereby made part of ALL Bid Packages: File Must be Downloaded from the Ajax "Sharefile" site. (located under "RFI's"). https://ajaxbuilding.sharefile.com/d-sbb0e976b741f4de3a7813a6c66bd4849

8. RFI #5-CH: Clubhouse Interior Pre-Bid Questions 1 closed on 09/21/2023 is hereby made part of ALL Bid Packages: File Must be Downloaded from the Ajax "Sharefile" site. (located under "RFI's"). https://ajaxbuilding.sharefile.com/d-sbb0e976b741f4de3a7813a6c66bd4849

9. RFI #6-CH: Clubhouse Freezer/Cooler Condensing Unit Locations closed on 09/21/2023 is hereby made part of ALL Bid Packages: File Must be Downloaded from the Ajax "Sharefile" site. (located under "RFI's"). https://ajaxbuilding.sharefile.com/d-sbb0e976b741f4de3a7813a6c66bd4849

10. BP No. 26.01 Electrical Scope of Work Clarification: revision to paragraph B.2.1.E, this Subcontractor shall only provide installation of emergency power generators, transfer switches, emergency panels, fuel tanks, and related enclosures. This equipment will be provided in an earlier phase due to lead times.

11. BP No. 26.01 Electrical Scope of Work Clarification: revision to paragraph B.3.1, this Subcontractor shall only provide / carry complete costs associated with lighted handrails and is expected to engage with a metal fabrication subcontractor to provide accurate field measurements and qualified installation. Wiring, testing, and functionality to be completed by Electrician.

12. BP No. 05.01 Structural and Misc Steel Scope of Work Clarification: add to paragraph B.4, this Subcontractor shall exclude all costs associated with lighted handrails. This will work be contracted by the Electrician. Expect to be contacted by the selected Electrician if you are awarded this Bid Package.

13. BP No. 05.01 Structural and Misc Steel Scope of Work Clarification: add to paragraph B.4, this Subcontractor shall exclude all bent plate blocking at CFS Truss ends. This will work be completed by the CFS Truss Subcontractor

14. BP No. 05.01 Structural and Misc Steel Scope of Work Clarification: add to paragraph B.3, this Subcontractor shall furnish 7”x7”x1/4” embed plates for top of wall truss-bearing points to be installed by the Masonry Subcontractor and continuous angles for CFS trusses to be furnished, laid out, and installed by this Subcontractor.

END OF ADDENDUM

Attachments:
DAG Addendum #1 Summary
Pre-Bid Conference Minutes

DAG
ARCHITECTS
Atlanta
Destin
Melbourne
Panama City
Pensacola
Tallahassee

Addendum

850 S. Gadsden Street
Suite 140
Tallahassee, Florida 32301
850.656.7506
AR0009694

Addendum No. 1

Date: September 20, 2023

Project: KCC Clubhouse

DAG Project #: 22038

1A-1 General

1. The following changes and/or additions to the plans and specifications are hereby made part of same and are incorporated in full as part of the Contract documents.
2. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

1A-2 Specifications

1. TABLE OF CONTENTS
   a. DELETE: Table of Contents dated 8/21/2023.
   b. INSERT: Table of Contents dated 20 September 2023.
2. SECTION 03 45 00
   a. INSERT: Section 03 45 00 – Precast Architectural Concrete.
3. SECTION 04 05 23
   a. DELETE: Section 04 05 23 – Adjustable Concealed Lintel System. This product is not required in this project.
   b. REVISED: Section 04 26 13 - Masonry Veneer
4. SECTION 06 41 16
   a. DELETE: Section

5. SECTION 06 41 18

   a. INSERT: Section 06 41 18 – High Density Polyethylene (HDPE) Architectural Cabinets.

6. SECTION 08 71 00

   a. REVISED: Section 08 71 00 – Door Hardware

7. SECTION 09 66 13

   a. DELETE: Section 09 66 13 – Portland Cement Terraxxo Flooring. This product is not required in this project.

8. SECTION 12 24 13

   a. DELETE: Section 12 24 13 – Exterior Roller Screens, dated 8/21/2023.

   b..INSERT: Section 12 24 13 – Exterior Roller Screens, dated 20 September 2023.

1A-3Drawings

1. Sheet HS-4
   - Addition of precast concrete banding to edges of front entry patio.
2. Sheet HS-4
   - Added notes to refer to structural for core and footer design of site walls ‘G’ and ‘H’.
3. Sheet HS-6
   - Adjustment of grading and T.W. elevations for Site Walls ‘G’ ‘H’ at the cart barn entry to avoid building louvers.
4. Sheet HS-6.1
   - Adjusted Light type ‘L-6’ to be linear strip lighting at Wall ‘B’ in lieu of individual path lights in order to achieve minimum egress requirements.
5. Sheet HS-7
   - Addition of note to Detail E/HS-7 that *“any walls over 4' in height are to have core and footers designed and stamped by structural engineer.”*
6. Sheet HS-7

- Addition of Light ‘L-6’ under the cast stone wall cap (Detail H/HS-7) for Wall ‘B’ and adjustment of wall cap dimension to accommodate the light fixture.

7. Sheet HS-8

   - Addition of Detail J/HS-8 to capture new precast concrete banding at the front entry pat

8. Sheet S101

   - Added basement ramp retaining walls at Grid 1.

9. Sheet S201

   - Adjusted dimensions and reinforcing at opening in basement retaining wall.

10. Sheet S211

    - Added Section 18/S211 for basement ramp retaining wall.

11. Sheet LS101

    - Plumbing chase wall adjacent to RR 005 is no longer smoke partition wall

12. Sheet A022

    - Added UL2079

13. Sheet A023

    - Wall type B table corrected
    - Added note to wall type D
    - Revised slip track detail – B#.1.A
    - Added rated deflection track detail – D4

14. Sheet A100.1

    - PT-8 added to callouts on details where “painted” was noted
    - Updated details B1, C2, C4

15. Sheet A100.2

    - Rail type added to detail B6

16. Sheet A101

    - Window tag added to office 003 window
    - Callout for RR 005 added to plan
    - Wall tags added to show 1hour designations at stairs and elevator.

17. Sheet A104

    - Ceiling pattern for cart barn changed to match RCP legend
    - Ceiling added to service room 011
    - Ceiling in RR 005 changed from 10’ to 9’

18. Sheet A110

    - Dimensions added to depressed slabs from gridlines
    - Dimensions added to North porch bump out

19. Sheet A111.1

    - Various wall tags updated
    - Door 114 changed to opening
    - Joints added to precast on porch
    - Updated wall tags

20. Sheet A111.2

    - Note added about counters
    - Various wall tags updated/added
    - Updated entrance into Pro Shop
    - Joints added to precast on porch

21. Sheet A112.1

    - Various dimensions added
    - Joints added to precast on porch

22. Sheet A112.2

    - Various dimensions added
    - Joints added to precast on porch

23. Sheet A114.1

    - Ceiling height changed from 10’ to 9’ in RR 114A, 114B, and Vestibule 114
    - Added dimensions for all exterior porch lighting

24. Sheet A114.2

- Added dimensions for all exterior porch lighting

25. Sheet A131

    - Deleted eave dimensions
    - Added condensing units
    - Added roof crickets

26. Sheet A201

    - Louver tags added
    - Hid dumpsters in detail D1
    - Added gutters in detail D1
    - Turned off grid lines in all elevations
    - Revised lantern heights and set dimension – C1
    - Dimensioned louvers – C1

27. Sheet A202

    - Louver tags added
    - Louver note added
    - Turned off grid lines in all elevations

28. Sheet A311

    - Detail A3 updated to match structural
    - Railing extension added to detail A4

29. Sheet A401

    - Plan and elevations for RR 005 added

30. Sheet A431

    - Added flashing details B4 and B5

31. Sheet A451

    - Wall types updated
    - Added UL note to B1 and B3
    - Revised stair 1 – details A1 & A3

32. Sheet A521

    - Detail A2 and C3 updated

33. Sheet A531

    - Removed SF window details
    - Updated detail D3
    - Added HM detail – C3

34. Sheet A601

    - WW01 added
    - Comment #8 added to door schedule (Doors 001, 002, & 003)
    - Door 000.3 door type changed to N
    - Removed door type P

35. Sheet A602

    - Changes made to Material Finish Schedule
    - Note added below schedule
    - Exterior wood trim profiles updated – B1
    - Precast profiles added to A1

36. I-100C

    - Update to Finish Legend.

37. I-100E

    - Update to Equipment Legend to include model numbers and dimensions.

38. I-102B

    - SF-5 added to Janitors Closet.

39. I-104

    - Power updated at Wine Storage to match Electrical drawings.

40. I-401A

    - 2/401A – Dimensions updated.

- 3/401A – Dimensions added, light fixtures tagged, finishes updated.

41. I-401B

- 7/401B – Dimensions added in ceiling plan for Restroom #012.

42. I-402

- 2/402 – Dimensions and tags added in ceiling plan for Private Dining.
- 4/402 – Dimensions and tags added on Millwork Elevation. Updated section detail 3/I-501C.
- 6/402 – Dimensions and tags added to light fixtures in elevation.

43. I-403

- 3/403 – Power added to Dining Restrooms.
- 21/403 – Toilet Paper holder and tag added to elevation.

44. I-404

- 2/404 – Dimensions and finish tags added.

45. I-406

- 2/406 – Dimensions, finish tags and lighting tags updated. Updated Section detail 4/I-501B.

46. I-409A

- 2, 4, 5/409A – Update to coffee bar elevations to include food service equipment. Update to section details to provide
- clarity on base cabinets and food service equipment locations.

47. I-409B

- 3/409B – Planter details and structural information updated for booths.
- 4/409B – Dimensions added to detail.
- 7/409B – Update to Finish tags and dimensions.
- 9/409B – Elevation at booth with section detail added.

48. I-410A

- 3/410A – Equipment tags at showers updated.
- 15/410A – Finish tag updated in Janitor's closet.
- 6/410A – Finish tag updated at Vanity Elevation.
- 5/410A – Dimensions and section detail added at locker bench.
- 7/410A – Towel drop elevation updated to include section detail, finishes, and dimensions.

49. I-410B

- 1/2/3/4/410A – Finish tags updated.

50. I-411

- 2/411 – Dimensions and tags updated in reflected ceiling plan.
- 4/411 – Finish tags and dimensions updated.
- 5/411 – Finish tags and dimensions updated. Linear lighting at shelf coordinated with LC drawings.
- Updated section details.

51. I-412

    - 2/412 – Updated finish tags on RCP.
    - 3/412 – Updated equipment tags at showers.
    - 6/412 – Updated Finish tags.
    - 15/412 – Updated section detail and dimensions at locker bench.
    - 11/412 – Updated section detail at towel drop.
    - 9/12/412 – Updated finish tags.

52. I-413

    - 4/413 – Updated finish tags, dimensions, and section details.
    - 5/413 – Updated section details at beverage center. Updated finish tags and lighting coordination.

53. I-414A

    - 3/414A – Dimensions added at RCP over pantry area. Dimensions added at hanging chairs.

54. I-414B

    - 2/414B – Dimensions and section details at millwork. Dimensions and wallcovering tag added at accent wall.
    - 5/414B – Section detail added.

55. I-419

    - 6/419 – Dimensions and tags added to light fixtures.

56. I-201

    - Door tags added. Trim keynotes added.

57. I-202

    - Dimensions added to screens.

58. I-501B

    - Update to bakery case detail. Update to locker bench detail.

59. I-501D

    - Update to beverage center millwork and locker room towel drop millwork.

60. Sheet LC-001

    - Control intent updates reflecting the addition of linear shelf lighting in Areas 13 and 14.

61. Sheet LC-113A

    - Downlight in soffit deleted.
    - One RB5, adjustable art downlight, added and pair re-centered on art location.
    - RA downlight centered on door.
    - ERA1 downlights in entry canopy centered between soffit and wall.

62. Sheet LC-115A

    - WC, step light, relocated to wall.

63. Sheet LC-115B

    - SE, linear shelf lighting, added in Men's Lounge.
    - SE, linear shelf lighting, added in Women's Lounge.

64. Sheet QF101

    - Added condensing units to roof

65. Sheet M-007

    - Removed accessory note 1 from air handlers that do not require it.

66. Sheet M-101

    - Tagged duct sizes for OA ducts serving AHU B1-1 and B1-3
    - Tagged chilled water pipe sizes for AHU B1-4.

67. Sheet M-111.1

    - Tagged chilled water pipe sizes for AHU 1-21.

68. Sheet M-111.2

    - Tagged chilled water pipe sizes for AHU 1-15.
    - Specified condensate pipe routing for AHU 1-15.

69. Sheet M-112.1

    - Specified approximate freezer/cooler condenser locations.

70. Sheet M-401

    - Tagged chilled water pipe size for AHU 1-20.

71. Sheet P-001

- NFWH-CWHW specifications added.

72. Sheet P-112-1
    - Hot water piping added to serve NFWH-CWHW.
73. Sheet P-112-3
    - Hot water piping added to serve NFWH-CWHW
74. Sheet P-402
    - Hot water piping added to serve NFWH-CWHW
75. Sheet E-003
    - Updated light fixture schedule.
76. Sheet E-101
    - Added power for hand dryer in restroom.
    - Coordinated mechanical equipment.
77. Sheet E-102
    - Coordinated lighting fixtures/controls with lighting control drawings.
78. Sheet E-111.1
    - Removed receptacle.
79. Sheet E-112.1
    - Coordinated lighting fixtures/controls with lighting control drawings.
80. Sheet E-112.2
    - Coordinated lighting fixtures/controls with lighting control drawings.
81. Sheet E-112.3
    - Coordinated lighting fixtures/controls with lighting control drawings.
82. Sheet E-201
    - Coordinated mechanical equipment.
83. Sheet E-202
    - Added power for hand dryer in restrooms.
84. Sheet E-401
    - Updated panel schedules.

85. Sheet E-402
    - Updated panel schedules.
86. Sheet E-404
    - Updated panel schedules.
87. Sheet ES-101
    - Coordinated exterior electrical fixtures/devices.

End of Addendum No. 1

PRE-BID MEETING MINUTES

1. Date of Pre-Bid Conference: Sept. 13, 2023

2. Location of Pre-Bid Conference: Microsoft Teams

3. Introduction of Project Team
   - A. Architect — DAG
   - B. Civil Engineer — Moore Bass
   - C. Structural Engineer — Schaefer
   - D. MEP Engineer — Jordan & Skala
   - E. Ajax Building Company — Tyler Gautier, Dane Chrestensen, McLeod Cosson, Appie Wells

4. Bid Packages included:

Bid Group	Bid Package No. & Description	Bid Date
A	Structure / Envelope	~~09/21/2023~~ 10/02/2023
B	Finishes / Interior	~~09/21/2023~~ 10/02/2023
C	MEPs	~~09/21/2023~~ 10/02/2023

~~5.~~ Bid Date: ~~**September 21, 2023 2:00 P.M. Local Time**~~

6. Bid Location: Office of Ajax Building Corporation
   1080 Commerce Boulevard
   Midway, Florida, 32343

7. Pre-Bid Conference Attendees: **See Sign-In Log, pre-bid is not mandatory.**

8. Brief Project Description and Scope
   Construction of new Clubhouse, Entrance Road, and Parking area. Building was demolished in a previous Phase. The new Clubhouse will have high end finishes and quality of work will be heavily scrutinized.

9. Site access will be via Tyron Pass from Shamrock Street only. An Ajax trailer will be onsite along with dumpsters and toilets. Tyron Pass is a private road used by the public including a school bus stop. Speeding and reckless driving will not be tolerated. Onsite safety inspections will occur daily, proper PPE should be worn and all OSHA and Ajax safety policies should be followed.
   Site visit is recommended you will be responsible for knowing site conditions.

10. Prequalification Requirements review-only notified prequalified bidders can bid.

11. Bidding Documents
    - A. Are available to **Prequalified** Bidders Only.
    - B. Documents Include:
      1. Drawings and Specifications
      2. Bid Package
      3. Addenda issued during the Bidding Phase. First addenda will be meeting minutes from pre-bid.

C. Electronic Document Distribution.
The drawings, specifications, and Bid Packages are available on the Ajax Sharfile site at the address listed below.
https://ajaxbuilding.sharefile.com/d-s46f30ad97d1a49f3b29f5f50dbb7d8cc

D. Substitutions – Only if approved in writing by Addenda.

12. Bid Package Review
    A. General Review of Bid Package Contents-binding subcontract document
    B. Detailed Review of Proposal Form and Bid Security Requirements
        1. Proposal Form Review
            a. Base Bid
            b. Breakdown of Base Bid as required on Bid Proposal Form
            c. List cost of Performance Bond
                i. Bidder shall provide Lump Sum amount.
                ii. Bidder shall provide percentage (%) for alternates (add or deduct).
            d. List Addenda on Proposal Form – Include issuing firm (example: "Ajax Building Corporation Addendum # X dated XX/XX/XX").
            e. Bidder information.
            f. "Live" Officers signature.
            g. Seal required for Corporations.
        2. Bid Security Requirements
            a. Five Percent (5%) of Base Bid in the form of a:
                i. Bid Bond – AIA
                ii. Cashier's Check
                iii. Certified Check
        3. Bid Submittal Requirements
            a. Sealed Bids – See "Instruction to Bidders" for specific requirements
            b. Faxed "cuts" and "adds" will be acknowledged only if received prior to the bid deadline providing the final bid amount is not disclosed on the facsimile.
            c. Exceptions to the Bid Proposal Forms are not allowed. If a bidder has an exception to any portion of the Contract Documents, it must be submitted in writing for approval prior to the Bid date. Acceptance will be issued via addendum.
        4. Opening of Bids
            a. Bid opening will not be public
        5. All Bids shall be held good for 120 days
        6. Alternates – As listed on proposal form
    C. Review Subcontract Agreement
    D. Review Schedule "A" – Scope of Work Review
    E. Review All Special Conditions
    F. Review Bonding Requirements for Successful Bidders
        1. Payment & Performance Bond
        2. Bidder shall provide Lump Sum amount.
        3. Bidder shall provide percentage (%) for alternates (add or deduct).

13. Recommend site visit

14. Q & A

GEOTECHNICAL ENGINEERING REPORT

Killearn Country Club Improvements
Tallahassee, Leon County, Florida

PREPARED FOR:
Killearn Country Club, LLC
850 South Gadsden Street, Suite 140
Tallahassee, Florida 32301

NOVA Project Number: 10117-2023004

March 13, 2023

NOVA
PROFESSIONAL | PRACTICAL | PROVEN

March 13, 2023

Mr. David Lightburn
Killearn Country Club, LLC
850 South Gadsden Street, Suite 140
Tallahassee, Florida 32301

Subject: Geotechnical Engineering Report
KILLEARN COUNTRY CLUB IMPROVEMENTS
Tallahassee Leon County, Florida
NOVA Project Number 10117-2023004

Dear Mr. Lightburn:

NOVA Engineering and Environmental LLC (NOVA) has completed the authorized Geotechnical Engineering Report for the planned expansion to the Killearn Country Club facility in Tallahassee, Florida. The work was performed in general accordance with NOVA Proposal Number 017-20237993r, dated February 23, 2023. This report briefly discusses our understanding of the project at the time of the subsurface exploration, describes the geotechnical consulting services provided by NOVA, and presents our findings, conclusions, and recommendations.

We appreciate your selection of NOVA and the opportunity to be of service on this project. If you have any questions, or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
NOVA Engineering and Environmental LLC

Olisaemeka Anaeto
Staff Engineer

William L. Lawrence, P.E.
North Florida Regional Manager
Florida P.E. No. 60147

Copies Submitted:
via electronic mail service

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 PROJECT INFORMATION

Our understanding of this project is based on discussions with the Client, review of the provided drawings, a site reconnaissance performed during the boring layout, review of aerial photography of the site via internet-based GIS software, and our experience with similar geotechnical conditions in the near vicinity to this project site.

1.1.1 Proposed Construction

NOVA understands that the new complex will include the following structures: a new split-level clubhouse, a single-story training facility, a single-story restroom building at a new swimming pool, and a maintenance facility consisting of a single-story pre-engineered metal building (PEMB) and a single story PEMB shed.

Foundation support for the proposed structures is expected to be accomplished by conventional shallow foundation systems consisting of shallow spread footings under slabs-on-grade. Final structural loadings were not available from the design team at the time of the issuance of this report; we have therefore assumed that maximum loadings for each proposed structure will be limited to 50 kips per column for isolated interior columns and 4 kips per linear foot for continuous wall footings.

1.1.2 Site Grading

Final site grading details were not available from the design team at the time of the issuance of this report, we anticipate maximum cut/fill heights on the order of 3 feet will be required to achieve the desired finished grade elevations within the proposed structure footprints.

1.2 SCOPE OF WORK

Killearn Country Club, LLC engaged NOVA to provide geotechnical engineering consulting services for the proposed facility improvements to the Killearn Country Club in Tallahassee, Leon County, Florida. This report briefly discusses our understanding of the project, describes our exploratory procedures, and presents our findings, conclusions, and recommendations.

The primary objectives of this study were to perform a geotechnical exploration within the areas of the proposed construction and to assess these findings as they relate to geotechnical aspects of the planned site development. The authorized geotechnical engineering services included a site reconnaissance, a soil test boring and sampling program, laboratory testing, engineering evaluation of the field and laboratory data, and the preparation of this report.

The services were performed substantially as outlined in our proposal number 017-20237993r, dated February 23, 2023, and in general accordance with industry standards. As authorized per the above referenced proposal, this completed geotechnical report includes:

- A description of the site, fieldwork, laboratory testing and general soil conditions encountered, including a Boring Location Plan and individual Test Boring Records.
- Site preparation considerations that include geotechnical discussions regarding site stripping and subgrade preparation and engineered fill/backfill placement.
- Recommendations for controlling groundwater during construction and the need for permanent de-watering systems based on the expected post construction groundwater levels.
- Measured apparent and estimated seasonal high groundwater levels at the boring locations.
- Subgrade preparation recommendations pertaining to the proposed building areas.
- Shallow foundation system recommendations for the proposed structures.
- Suitability of on-site soils for re-use as structural fill and backfill. Additionally, the criteria for suitable fill materials will be provided.
- Recommended quality control measures (i.e., sampling, testing, and inspection requirements) for site grading and pavement section construction.

The assessment of site environmental conditions, including the presence of wetlands or detection of pollutants in the soil, rock or groundwater, laboratory testing of samples was beyond the scope of this geotechnical study. If requested, NOVA can provide these services.

2.0 SITE DESCRIPTION

2.1 LOCATION AND LEGAL DESCRIPTION

Killearn Country Club is located at 100 Tyron Circle in Tallahassee, Leon County, Florida. A Site Location Map is included in Appendix A.

2.2 SUBJECT PROPERTY AND VICINITY GENERAL CHARACTERISTICS

At that time of our field exploration, the vicinity of the existing country club facility was observed to be generally developed with single-family residences.

2.3 CURRENT USE OF THE PROPERTY

At the time of our field exploration, the areas of interest within the existing Killearn Country Club grounds were being utilized as the driving range and several fairways and greens interspersed with isolated mature oak trees.

3.0 FIELD EXPLORATION

NOVA boring locations were established in the field using a handheld GPS unit and the provided site plan. Consequently, referenced boring locations shown in Appendix B should be considered approximate. If increased accuracy is desired by the client, NOVA recommends that the boring locations and elevations be surveyed.

Our field exploration was conducted between February 23 and February 24, 2023, and included performing:

- Four (4), 30-foot deep SPT borings within the two-story portion of the proposed main clubhouse's footprint.
- Two (2), 20-foot deep SPT borings within the single-story portion of the proposed main clubhouse's footprint.
- Two (2), 20-foot deep SPT borings within the proposed maintenance building footprint.
- Two (2), 20-foot deep SPT borings within the proposed shed footprint.

Soil Test Borings: The SPT borings completed by NOVA were performed using the guidelines of ASTM Designation D-1586, "Penetration Test and Split-Barrel Sampling of Soils". A mud rotary drilling process was used to advance the borings. At regular intervals, soil samples were obtained with a standard 1.4-inch I.D., 2.0-inch O.D., split-tube sampler. The sampler was first seated six inches and then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot is designated the "Penetration Resistance". The penetration resistance, when properly interpreted, is an index to the soil strength and density. Representative portions of the soil samples obtained from the sampler, were placed in sealed containers and transported to our laboratory for further evaluation and laboratory testing.

Test Boring Records in Appendix B show the Standard Penetration Test (SPT) resistances, or "N-values", and present the soil conditions encountered in the borings. These records represent our interpretation of the subsurface conditions based on the field exploration data, visual examination of the recovered split-barrel samples, laboratory test data, and generally accepted geotechnical engineering practices. The stratification lines and depth designations represent approximate boundaries between various subsurface strata. Actual transitions between materials may be gradual.

Groundwater Level: The groundwater level reported on the Test Boring Records represent a measurement made at the completion of each test boring, following a suitable stabilization period. The test borings were subsequently backfilled with soil cuttings from the drilling process for safety concerns.

4.0 LABORATORY TESTING

A laboratory testing program was conducted to characterize materials which exist at the site using the recovered soil samples. Selected test data are presented on the Test Boring Records attached in the Appendix. The specific tests are briefly described below. All soil samples will be properly disposed of 30 days following the submittal of this NOVA subsurface exploration report unless you request otherwise.

4.1 SOIL CLASSIFICATION

Soil classification provides a general guide to the engineering properties of various soil types and enable the engineer to apply past experience to current problems. In our explorations, samples obtained during drilling operations are observed in our laboratory and visually classified by an engineer. The soils are classified according to consistency (based on number of blows from standard penetration tests), color and texture. These classification descriptions are included on our Test Boring Records. The classification system discussed above is primarily qualitative; laboratory testing is generally performed for detailed soil classification. Using the test results, the soils were classified using the Unified Soil Classification System. This classification system and the in-place physical soil properties provide an index for estimating the soil's behavior.

4.2 MOISTURE CONTENT AND FINES CONTENT TESTING

The moisture content is the ratio expressed as a percentage of the weight of water in a given mass of soil to the weight of the solid particles. These tests were conducted in general accordance with ASTM D-2216. The percentage of fines passing through the No. 200 sieve is generally considered to represent the amount of silt and clay of the tested soil sample. The sieve analysis testing was conducted in general accordance with ASTM Designations D-6913 and D-1140. Fifteen (15) moisture content tests and fifteen (15) fines content tests were performed in this study.

4.3 ATTERBERG LIMITS TESTING

The Atterberg Limits are different descriptions of the moisture content of fine-grained soils as it transitions between a solid to a liquid-state. For classification purposes the two primary Atterberg Limits used are the plastic limit (PL) and the liquid limit (LL). The plasticity index (PI) is also calculated for soil classification. The plastic limit (PL) is the moisture content at which a soil transitions from being in a semisolid state to a plastic state. The liquid limit (LL) is defined as the moisture content at which a soil transitions from a plastic state to a liquid state. Five (5) of these tests were conducted in general accordance with ASTM D-4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

5.0 SUBSURFACE CONDITIONS

5.1 GEOLOGY

According to the USGS Geologic Map of Florida, the subject property is situated in Leon County Florida within the greater Gulf Coastal Plain. Surficial soils consist of alluvium (pro-deltaic deposits) as part of the Miccosukee (Pliocene Series) Formation that is generally underlain in this area by the Torreya (Miocene Series and part of the Hawthorn Group) Formation. The Hawthorn Group is informally subdivided into a lower carbonate unit and an upper siliciclastic unit (Scott, 1988*).* These sediments typically occur in the shallow subsurface of the Ocala Platform. This area can be described as rolling hills, exposed, eroded and often affected by karstification of underlying Paleogene carbonates. The Miccosukee Formation is a siliciclastic unit with a limited distribution in the eastern panhandle. It occurs in the Tallahassee Hills from central Gadsden County to eastern Madison County, often capping hills. The Miccosukee Formation grades to the west, through a broad facies transition, in central Gadsden County into the Citronelle Formation. The Miccosukee Formation is composed of grayish orange to grayish red, mottled, poorly to moderately consolidated, interbedded clay, sand and gravel of varying coarseness and admixtures (Hendry and Yon, 1967). The unit is relatively impermeable but is considered a part of the surficial aquifer system (Southeastern Geological Society, 1986).

The Miocene Series (Torreya Formation) has been known to contain valuable mineral resources such as, phosphates and absorptive clays it also comprises the intermediate confining unit and aquifer system. The majority of Torreya Formation outcrops expose the siliciclastic part of the unit in this area. The carbonate sediments are white to light olive gray, generally poorly indurated, variably sandy and clayey, fossiliferous (molds and casts) limestone (mudstone and wackestone).

The limestones often grade into calcareous-cemented sands. Phosphate is present in the carbonate sediments, particularly in the Sopchoppy Member. The siliciclastics vary from white to light olive gray, unconsolidated to poorly indurated, slightly clayey sands with minor phosphate to light gray to bluish gray, poorly consolidated, variably silty clay (Dogtown Member). The siliciclastics are sporadically fossiliferous. The Torreya Formation overlies the Floridian Aquifer System (FAS) and forms part of the intermediate confining unit/aquifer system. Surficial soils in the region are primarily siliciclastic sediments deposited in response to the renewed uplift and erosion in the Appalachian highlands to the north, erosion of parent material locally (residuum), and sea-level fluctuations. These soils vary in permeability and form the surficial aquifer system. The extent and type of deposit is influenced by numerous factors, including mineral composition of the parent rock and meteorological events.

5.2 SOIL CONDITIONS

The following paragraph provides a generalized description of the subsurface profiles and soil conditions encountered in the borings conducted during this study. The Test Boring Records in the Appendix should be reviewed to provide detailed descriptions of the conditions encountered at each boring location. Conditions may vary at other locations and times.

Beneath up to 3 inches of topsoil, the test borings generally encountered mixed strata of loose to medium dense fine grained clayey sands and stiff to hard high-plasticity clay (USCS classifications of SC and CH, respectively) to the maximum depth explored of about 30 feet below existing grade (BEG).

5.3 GROUNDWATER CONDITIONS

5.3.1 General

Groundwater in the Gulf Coastal Plain typically occurs as an unconfined aquifer condition. Recharge is provided by the infiltration of rainfall and surface water through the soil overburden. More permeable zones in the soil matrix can affect groundwater conditions. The groundwater table is expected to be a subdued replica of the original surface topography. Based on a review of topographic maps and our visual site observations, we anticipate the groundwater flow at the site to be towards the south.

5.3.2 Soil Test Boring Groundwater Conditions

Groundwater was not encountered in the test borings to the maximum depths explored of about 20 feet to 30 feet BEG at the time of drilling, which occurred during a period of relatively normal seasonal rainfall. However, a significant perched water zone was encountered in Borings B-8 and B-9 beginning at depths of about 3 feet and 4 feet BEG.

Based on comparisons of current annual monthly rainfall data to historical rainfall data extending back 50+ years in time, we estimate that the normal permanent seasonal high groundwater (SHGW) table for this site will remain at a depth greater than 30 feet BEG, during the wet season. Perched water zones should be expected to be present throughout the year at this site, with the magnitude and depths of these zones varying considerably and being dependent on both the time of year that construction of the new facility occurs, and the prevailing weather patterns at that time.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on our understanding of the proposed construction, our site observations, our evaluation and interpretation of the field and laboratory data obtained during this exploration, our experience with similar subsurface conditions, and generally accepted geotechnical engineering principles and practices.

Subsurface conditions in unexplored locations or at other times may vary from those encountered at the specific boring locations. If such variations are noted during construction, or if project development plans are changed, we request the opportunity to review the changes and amend our recommendations, if necessary.

As previously noted, boring locations were established in the field using a handheld GPS unit and the provided site plan. If increased accuracy is desired by the client, we recommend that the boring locations and elevations be surveyed.

6.1 SITE PREPARATION

We anticipate that up to 3 feet of fill, and minimal cut, will be required to achieve the desired finished subgrade elevations within the proposed structure footprints.

Prior to proceeding with construction, all topsoil and surficial vegetation, trees and associated root systems, and any other deleterious non-soil materials found to be present should be stripped from the proposed building footprints. Clean topsoil (free of debris and large roots) may be stockpiled and subsequently re-used in landscaped areas. Debris-laden materials should be excavated, transported, and disposed of off-site in accordance with appropriate solid waste rules and regulations. All existing utility locations should be reviewed to assess their impact on the proposed construction and relocated/grouted in-place as appropriate.

Medium stiff to very stiff high-plasticity clay (CH, known locally as “pipe clay”) was encountered at or within 2 feet of the existing ground surface elevation in 4 of the 10 borings performed for this project (Borings B-3, B-5, B-6 and B-7). Pipe clay has a high potential for volume change (shrink/swell) when introduced to water, and therefore we recommend that any pipe clay exposed during site stripping operations be undercut as needed to provide a minimum separation of at least 2 feet between the top of this stratum and the bottom-of-footing or bottom-of-slab elevations for each impacted structure. The fill or backfill soils installed above exposed pipe clay should be clayey in nature to prevent stormwater or irrigation water from infiltrating through it and adversely impacting the underlying pipe clay stratum (fill specifications specific to covering exposed pipe clay soils are provided in Section 6.1.1 below).

The soils exposed at the stripped grade elevation should be compacted to a minimum soil density of at least 95 percent of the maximum dry density as determined by the Modified Proctor test method (ASTM D-1557).

NOVA should observe the compaction of the subgrade to locate soft, weak, or excessively wet fill or existing soils present at the time of construction. Any unstable materials observed during the evaluation and compaction operations should be undercut and replaced with structural fill or stabilized in-place by scarifying and re-densifying.

6.1.1 Soil Suitability

General Fill: Fill materials should be low plasticity soil with a fines content (minus the #200 sieve) of less than 30 percent and a Plasticity Index (PI) of less than 15, free of non-soil materials and rock fragments larger than 3 inches in any one dimension. Based on visual examination of the recovered samples from the boring as well as the results of limited laboratory classification tests, the near-surface existing fine-grained clayey sands (SC, with fines contents generally exceeding 30 percent) as well as the high-plasticity clay (CH) encountered during this exploration will not be suitable for reuse as structural fill materials for this project.

Fill materials that contain more than three (3) percent, by weight, organic debris are also not suitable for reuse as structural fill or backfill materials. Prior to construction, bulk samples of all proposed fill materials should be laboratory tested to confirm their suitability.

Topsoil, mulch, and similar organic materials can be wasted in greenbelt areas. Debris-laden materials should be excavated, transported, and disposed of off-site in accordance with appropriate solid waste rules and regulations.

Fill Over Exposed Pipe Clay: Areas within proposed structure footprints that must be filled to cover exposed pipe clay soils should be filled or backfilled with a material that will limit or eliminate the amount of water infiltrating through the fill/backfill material and adversely impacting the underlying pipe clay stratum. Therefore, we recommend that fill/backfill soils required in these areas consist of clayey sands (SC) containing between 30 and 45 percent fines and having a plasticity index (PI) of less than 25.

6.1.2 Soil Compaction

Fill should be placed in thin, horizontal loose lifts (maximum 12-inch) and compacted via non-vibratory methods to a minimum soil density of at least 95 percent of the Modified Proctor maximum dry density (ASTM D-1557). All subsequent footing excavations should be compacted to at least 98 percent.

In confined areas, such as utility trenches or behind retaining walls, portable compaction equipment and thinner fill lifts (3 to 4 inches) may be necessary. Fill materials used in structural areas should have a target maximum dry density of at least 95 pounds per cubic foot (pcf). If lighter weight fill materials are used, the NOVA geotechnical engineer should be consulted to assess the impact on design recommendations.

Soil moisture content should be maintained within 2 percent of the optimum moisture content. We recommend that the grading contractor have equipment on site during earthwork for both drying and wetting fill soils. Moisture control may be difficult during rainy weather. Soils excavated from below the groundwater table will likely require significant efforts to achieve acceptable moisture contents prior to re-use as fill.

Filling operations should be observed by a NOVA soils technician, who can confirm suitability of material used and uniformity and appropriateness of compaction efforts. He/she can also document compliance with the specifications by performing field density tests using thin-walled tube, nuclear, or sand cone testing methods (ASTM D-2937, D-2922, or D-1556, respectively). One test per 2,500 ft^2 of building footprint at the stripped grade elevation and in each lift of placed fill is recommended, with test locations well distributed throughout the fill mass. One (1) test in each column footing and one (1) test per 75 feet of continuous wall footing should be specified for the buildings as well. When filling in small areas, at least one (1) test per day per area should be performed.

6.2 GROUNDWATER CONTROL

Groundwater was not encountered in the test borings to the maximum depths explored of about 20 feet to 30 feet BEG at the time of drilling, which occurred during a period of relatively normal seasonal rainfall. However, a significant perched water zone was encountered in Borings B-8 and B-9 beginning at depths of about 3 feet and 4 feet BEG.

Groundwater is therefore not expected to adversely impact the planned development of this property, although shallow perched/laterally flowing groundwater conditions should be expected to be present during construction, particularly if the site is not properly graded during construction to prevent the accumulation of stormwater runoff during and shortly following significant rain events from perching on the underlying low permeability clayey sand and clay (SC, CH) soils. We further recommend that measures be taken to reduce infiltration of water into the building foundation areas as recommended in Section 6.5 – Drainage Considerations.

Maintaining proper grades (i.e., positive drainage paths) during the construction phase of this project will be critical to avoid the development of "bird baths" within the proposed structure footprints and pavement areas, which would degrade the underlying clayey sand soils and require undercutting to more firm underlying soils.

Additionally, the time frame that excavations needed to install building foundations remain open to inclement weather should be kept as short as practical, as water ponding in these excavations will degrade the underlying clayey soil profile which could subsequently require remediation including possibly over-excavating pumping or otherwise overly wet soils. Sheet flowing stormwater exiting the overall site should be prevented from entering these excavations as well.

Should perched groundwater conditions be encountered during the earthwork phase of this development, most likely localized dewatering efforts (e.g., construction ditches, temporary sumps, etc.) will suffice to allow for earthwork operations to be performed in the dry. Permanent dewatering measures are not anticipated as being necessary for this development.

6.3 FOUNDATIONS

We understand that the project will include constructing a new complex that will include the following structures: a new split-level clubhouse, a single-story training facility, a single-story restroom building at a new swimming pool, and a maintenance facility consisting of a single-story pre-engineered metal building (PEMB) and a single story PEMB shed. Foundation support for the proposed structures is anticipated to be accomplished via conventional shallow spread footings and slab-on-ground systems. We assume that maximum bearing loads will be on the order of 50 kips per column for isolated interior columns and 4 kips per linear foot for continuous wall footings.

6.3.1 Shallow Foundations

Design: After the recommended site and subgrade preparation and fill placement, we recommend that conventional shallow foundation systems consisting of shallow spread footings and/or turn-down slab-on-grade

construction be used to support the proposed structures. Foundations bearing upon compacted native or imported fill soils, as recommended in this report, may be designed for a maximum allowable bearing pressure of **2,500 pounds per square foot (psf)**.

We recommend minimum footing widths of 24 inches for ease of construction and to reduce the possibility of localized shear failures. Exterior and interior footing bottoms should be established at least 18 inches below finished surrounding exterior grades.

Settlement: Settlements for spread foundations bearing on compacted sandy native or fill materials were assessed using SPT values to estimate elastic modulus, based on published correlations and previous NOVA experience. We note that the settlements presented are based on the subsoil profile encountered in the SPT borings performed for this project. Conditions may be better or worse in other areas, however, we believe the estimated settlements are reasonably conservative.

Based on column loadings stated previously and the soil bearing capacity and the presumed foundation elevations discussed above, we expect primary total settlement beneath individual foundations to be on the order of 1 inch.

The amount of differential settlement is difficult to predict because the subsurface and foundation loading conditions can vary considerably across the site. However, we anticipate differential settlement between adjacent foundations will be on the order of ½ inch or less. The final deflected shape of each structure will be dependent on actual foundation locations and loading.

Foundation support conditions are highly erratic and may vary dramatically in short horizontal distances. It is anticipated that the geotechnical engineer may recommend a different bearing capacity upon examination of the actual foundation subgrade at numerous locations. To reduce the differential settlement if lower consistency materials are encountered, a lower bearing capacity should be used, or the foundations should be extended to more competent materials. We anticipate that timely communication between the geotechnical engineer and the structural engineer, as well as other design and construction team members, will be required.

Construction: Foundation excavations should be evaluated by the NOVA geotechnical engineer prior to reinforcing steel placement to observe foundation subgrade preparation and confirm bearing pressure capacity. Foundation excavations should be level and free of debris, ponded water, mud, and loose, frozen, or water-softened soils. Concrete should be placed as soon

as is practical after the foundation is excavated and the subgrade evaluated. Foundation concrete should not be placed on frozen or saturated soil. If a foundation excavation remains open overnight, or if rain or snow is imminent, a 3 to 4-inch thick "mud mat" of lean concrete should be placed in the bottom of the excavation to protect the bearing soils until reinforcing steel and concrete can be placed.

6.3.2 Slabs-On-Grade

Concrete slabs-on-grade may be adequately supported on structural fill subject to the recommendations in this report. Provided fill material with a minimum dry unit weight of 95 pcf is utilized as fill material, a Subgrade Modulus (K_1) of 125 pci may be utilized for design purposes, and with 4 inches of crushed aggregate subbase, 150 pci may be utilized.

Please note that this magnitude of ***k*** is intended to reflect the elastic response of soil beneath a typical floor slab under relatively light loads with a small load contact area often measured in square inches, such as loads from forklifts, automobile/truck traffic or lightly loaded storage racks. The recommended coefficient of subgrade reaction (*k*) of 125 pci is not applicable for heavy or large area slab loads caused by bulk storage or tall storage racks. For such loading, a modulus of subgrade reaction of 15 pci is recommended.
Several design methods are applicable for conventional slab design. We have assumed that the slab designer will utilize the methods discussed in the American Concrete Institute (ACI) Committee 360 report, *"Guide to Design of Slabs-on-Ground, (ACI 360R-10)*. Specifically, the Portland Cement Association (PCA) or the Wire Reinforcement Institute (WRI) slab thickness design methods.

The slabs-on-grade should be jointed around columns and along walls to reduce cracking due to differential movement. Jointing requirements should follow recommended ACI requirements. Underdrain systems are not necessary beneath the slab(s), but impermeable vapor barriers are recommended beneath finished spaces to reduce dampness. Once grading within each building footprint is completed, the subgrade is usually exposed to adverse construction activities and weather conditions during the period of sub-slab utility installation. The subgrade should be well-drained (crowned) to prevent the accumulation of water. If the exposed subgrade becomes saturated, the geotechnical engineer should be consulted.

After utilities have been installed and backfilled, a final subgrade evaluation should be performed by the geotechnical engineer immediately prior to each slab-on-grade placement. If practical, proof rolling may be used to re-densify the surface and to detect any soil that has become excessively wet or otherwise loosened.

6.4 DRAINAGE CONSIDERATIONS

Soil strength and settlement potential is highly dependent upon the moisture condition of the supportive soil. Soil characteristics can change dramatically when moisture conditions change. As such, building pads, walkways, structures and surrounding grades should be properly designed and constructed to properly control water (surface and subsurface). Building pads should be designed to shed surface water prior to building construction.

Grades surrounding structures should be adequately sloped away from the structure to promote positive drainage and prevent water from ponding near or against the structure. Swales and/or storm drainage structures should be constructed to collect and remove all surface water run-off. All roof drain downspouts should be connected to drain leaders that are properly daylighted or connected to storm drainage structures such that water is removed from structural areas. Interior and/or exterior foundation drains, if provided, should be installed to properly protect foundations from changing moisture conditions. All foundation drains, if provided, should be properly daylighted or connected to storm drain structures to remove all water from foundation areas. Roof drain lines and foundation drain lines should always remain independent of each other. Any subsurface water that may rise near structural grades should be controlled by adequately constructed subsurface drainage mechanisms.

7.0 CONSTRUCTION OBSERVATIONS

7.1 SUBGRADE

Once site grading is completed, the subgrade may be exposed to adverse construction activities and weather conditions. The subgrade should be well-drained to prevent the accumulation of water. If the exposed subgrade becomes saturated or frozen, the NOVA geotechnical engineer should be consulted.

The moisture sensitive soils may prove problematic based upon weather patterns, and special considerations for drying or otherwise remediating overly wet subgrade soils should be included in the project schedule and budget.

Additionally, we recommend that the time between commencement of initial site stripping activities and the installation of the pavement base course be kept as short as possible, as rain events occurring while the subgrade soils are exposed will most likely result in the need for similar undercutting measures.

7.2 SHALLOW FOUNDATIONS

Foundation excavations should be level and free of debris, ponded water, mud, and loose, frozen or water-softened soils. All foundation excavations should be evaluated by the NOVA geotechnical engineer prior to reinforcing steel placement to observe foundation subgrade preparation and confirm bearing pressure capacity. Due to variable site subsurface and construction conditions, some adjustments in isolated foundation bearing pressures, depth of foundations or undercutting and replacement with controlled structural fill may be necessary.

APPENDIX A
FIGURES AND MAPS

Scale: NTS	
Date Drawn: 02/28/2023	
Drawn By: OEA	
Checked By: WLL	

NOVA

4770 Woodlane Circle, Suite A
Tallahassee, Florida 32303
850.421.6682 ♦ 850.249.6683

SITE LOCATION PLAN

Killearn Country Club Improvements

Tallahassee, Leon County, Florida

NOVA Project Number 10117-2023004

Soil Map—Leon County, Florida
(Soil Map)

Map Scale: 1:3,790 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Leon County, Florida
Survey Area Data: Version 20, Sep 1, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

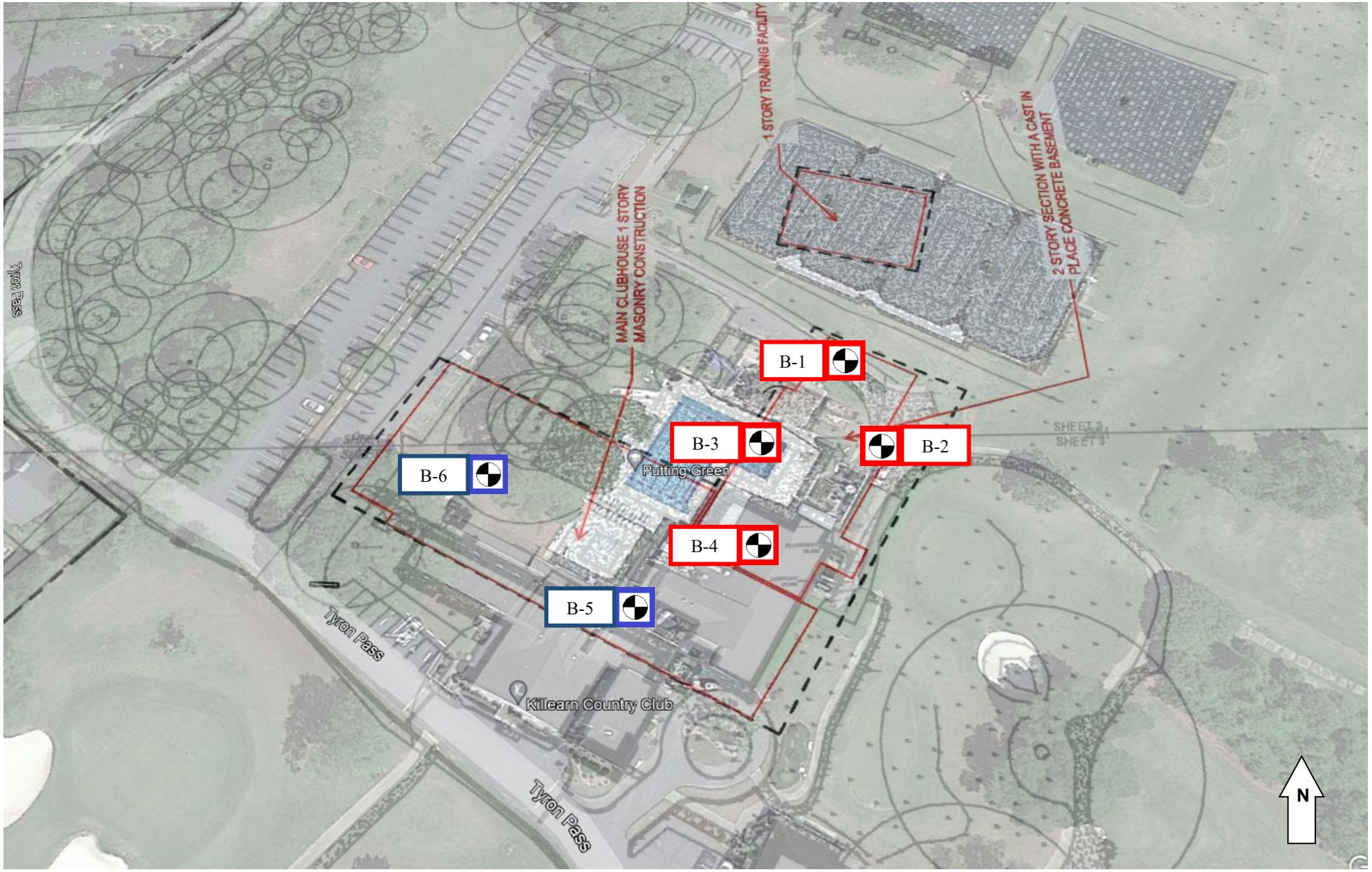
Date(s) aerial images were photographed: Jan 6, 2021—Jan 16, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Albany loamy sand, 0 to 2 percent slopes	1.5	4.6%
33	Orangeburg fine sandy loam, 2 to 5 percent slopes	26.7	79.9%
34	Orangeburg fine sandy loam, 5 to 8 percent slopes	5.2	15.5%
Totals for Area of Interest		**33.5**	**100.0%**

APPENDIX B
SUBSURFACE DATA



B-X = 30' SPTB

B-X = 20' SPTB (Building)

Scale: NTS

Date Drawn: 02/28/2023

Drawn By: OEA

Checked By: WLL

NOVA

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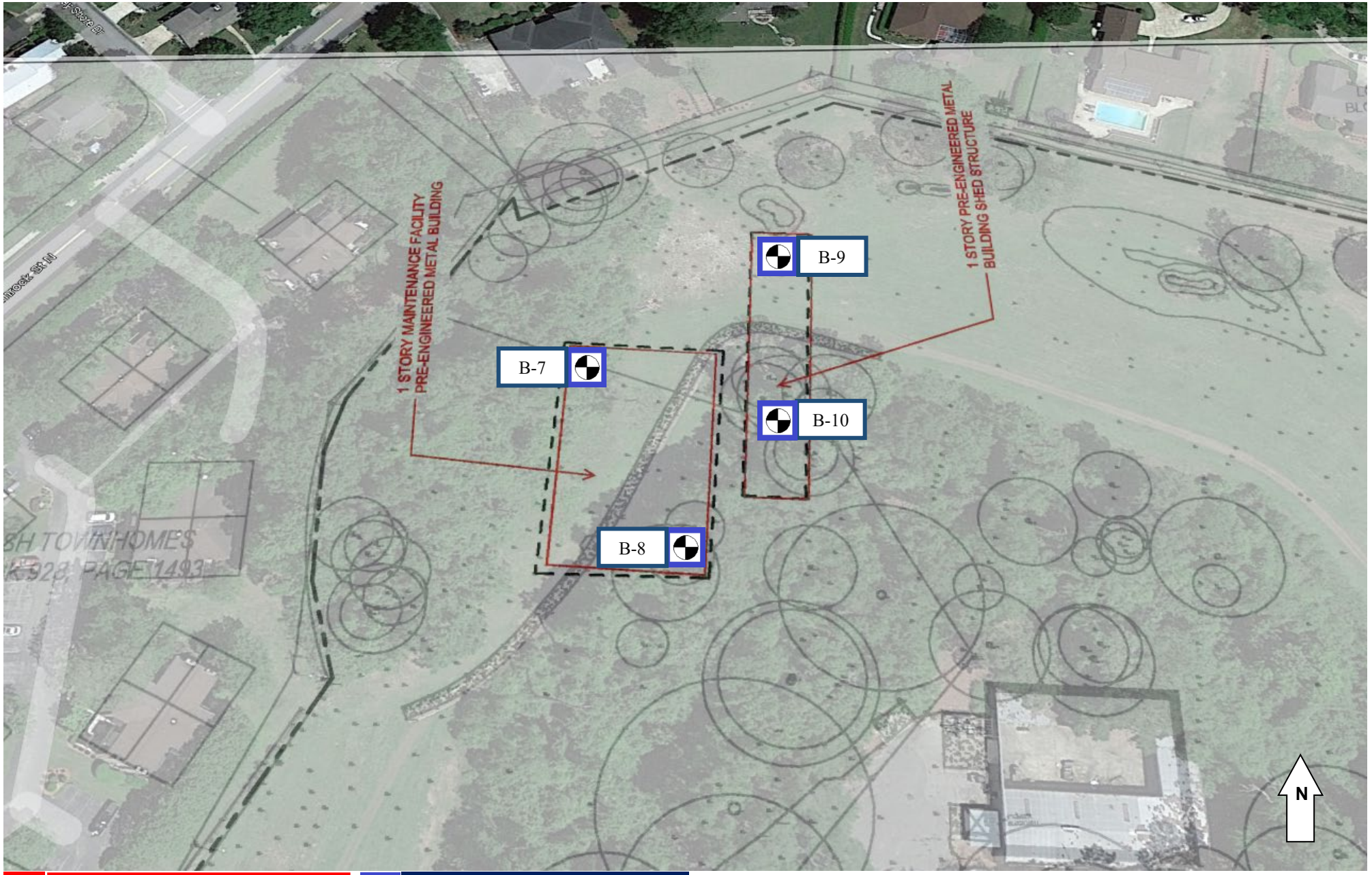
BORING LOCATION MAP

Killearn Country Club Improvements

Tallahassee, Leon County, Florida

NOVA Project Number 10117-2023004



B-X = 30' SPTB

B-X = 20' SPTB (Building)

Scale: NTS	
Date Drawn: 02/28/2023	
Drawn By: OEA	
Checked By: WLL	

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BORING LOCATION MAP

Killearn Country Club Improvements

Tallahassee, Leon County, Florida

NOVA Project Number 10117-2023004

NOVA

TEST BORING RECORD B-1

PROJECT: Killearn Country Club Improvements PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring DATE: February 23, 2023
DEPTH TO - WATER> INITIAL: GNE AFTER 24 HOURS: CAVING> C

Depth (feet)	Elevation (ft-MSL)	Description	Graphic	Groundwater	Sample Type	N-Value
0						
		TOPSOIL (Approx. 3-inches)				8
		Brown/orange loose to medium dense fine-grained clayey SAND (SC)				10
						15
5						
		Orange medium dense fine-grained clayey SAND (SC)				21
						19
10						
		Orange/grey very stiff to hard CLAY (CH)				
						26
15						
						29
20						
						22
25						
						31
30						
		Boring Terminated at 30 ft.				
35						

■ %<#200
● BLOW COUNT
▲ NATURAL MOISTURE
PLASTIC LIMIT ⊢——⊣ LIQUID LIMIT
10 20 30 40 50 70 90

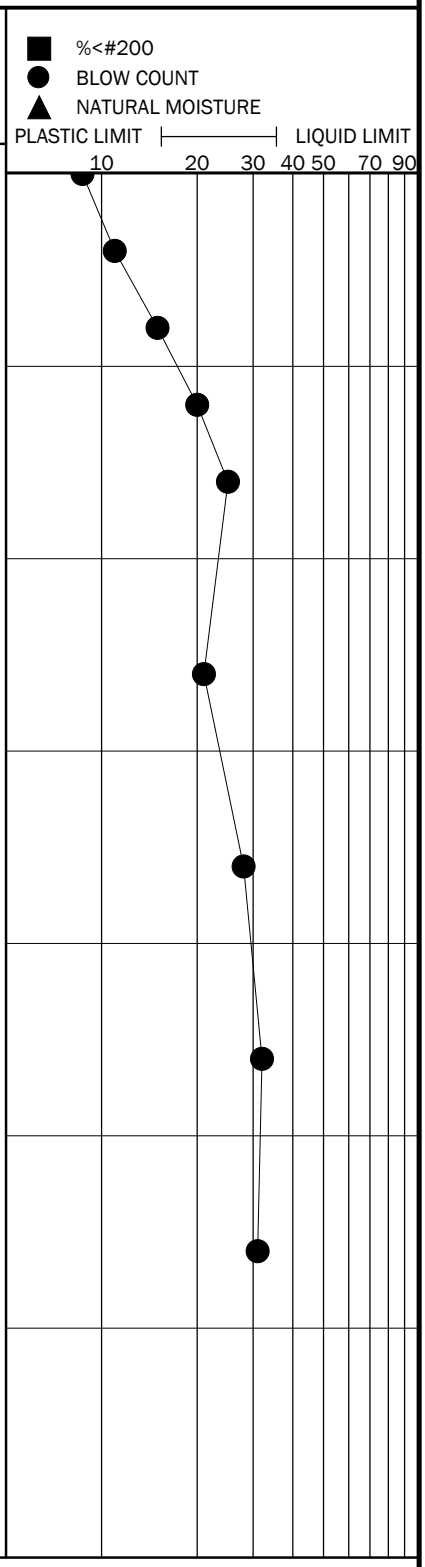
This information pertains only to this boring and should not be interpreted as being indicative of the site.

NOVA

TEST BORING RECORD B-2

PROJECT: Killearn Country Club Improvements | PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan | ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc | LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring | DATE: February 23, 2023
DEPTH TO - WATER> INITIAL: GNE | AFTER 24 HOURS: | CAVING> C

Depth (feet)	Elevation (ft-MSL)	Description	Graphic	Groundwater	Sample Type	N-Value
0						
		TOPSOIL (Approx. 3-inches)				
		Brown/orange loose to medium dense fine-grained clayey SAND (SC)				8
						11
5						15
		Orange medium dense fine-grained clayey SAND (SC)				20
						25
10		Orange/grey very stiff to hard CLAY (CH)				
						21
15						
						28
20						
						32
25						
						31
30		Boring Terminated at 30 ft.				
35						



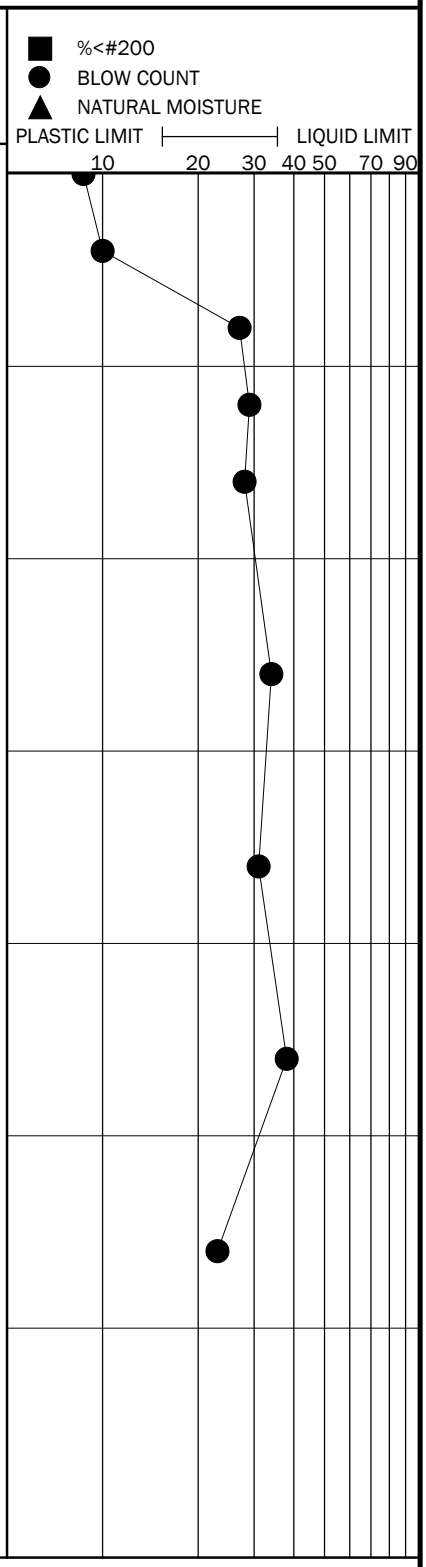
This information pertains only to this boring and should not be interpreted as being indicative of the site.

NOVA

TEST BORING RECORD B-3

PROJECT: Killearn Country Club Improvements PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring DATE: February 23, 2023
DEPTH TO - WATER> INITIAL: GNE AFTER 24 HOURS: CAVING> C

Depth (feet)	Description	N-Value
0		
	TOPSOIL (Approx. 3-inches)	8
	Brown/orange loose fine-grained clayey SAND (SC)	10
	Orange stiff to very stiff CLAY (CH)	27
5		29
		28
10		
	Light grey hard CLAY (CH)	34
15		
		31
20		
		38
25		
	Grey/orange medium dense fine-grained clayey SAND (SC)	23
30		
	Boring Terminated at 30 ft.	
35		



This information pertains only to this boring and should not be interpreted as being indicative of the site.

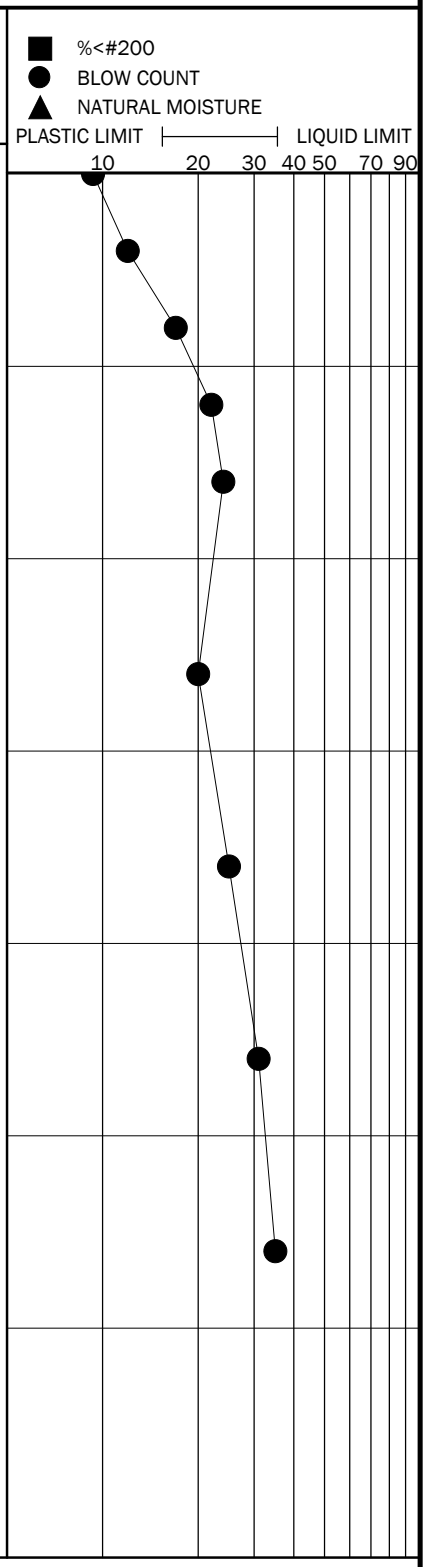
NOVA

TEST BORING RECORD B-4

PROJECT: Killearn Country Club Improvements | PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan | ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc | LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring | DATE: February 23, 2023
DEPTH TO - WATER> INITIAL: GNE | AFTER 24 HOURS: | CAVING> C

Depth (feet)	Description	N-Value
0		
	TOPSOIL (Approx. 3-inches)	
	Brown/orange loose to medium dense fine-grained clayey SAND (SC)	9, 12, 17
5		
	Orange medium dense fine-grained clayey SAND (SC)	22, 24
10		
	Orange/grey very stiff to hard CLAY (CH)	20
15		
		25
20		
		31
25		
	Grey/orange dense fine-grained clayey SAND (SC)	35
30		
	Boring Terminated at 30 ft.	
35		

Elevation (ft-MSL)
Graphic
Groundwater
Sample Type



This information pertains only to this boring and should not be interpreted as being indicative of the site.

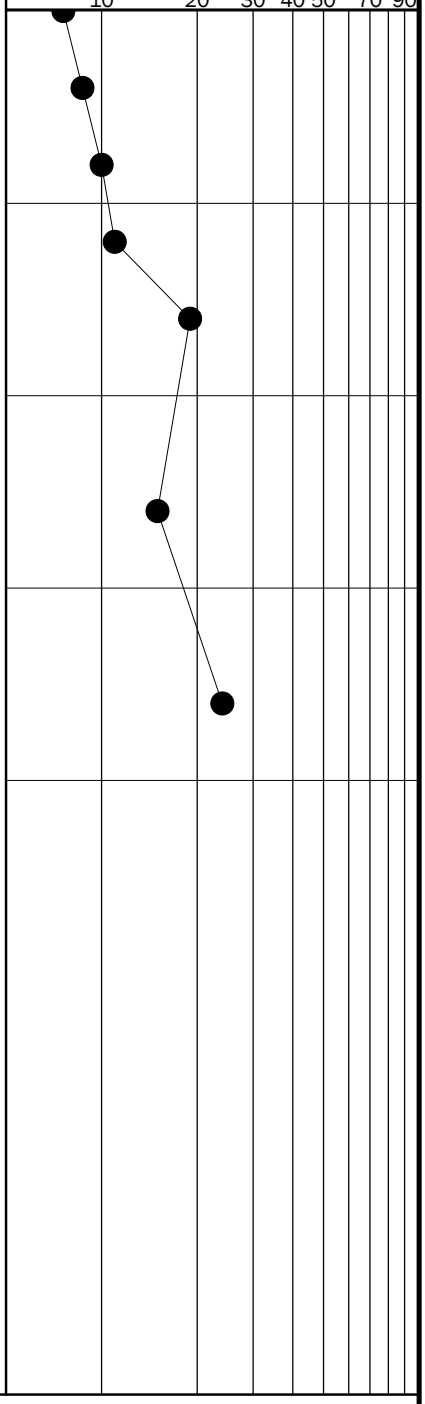
NOVA

TEST BORING RECORD B-5

PROJECT: Killearn Country Club Improvements PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring DATE: February 23, 2023
DEPTH TO - WATER> INITIAL: GNE AFTER 24 HOURS: CAVING> C

Depth (feet)	Elevation (ft-MSL)	Description	Graphic	Groundwater	Sample Type	N-Value
0						
		TOPSOIL (Approx. 3-inches)				6
		Orange/grey medium stiff to very stiff CLAY (CH)				8
						10
5						11
						19
10		Orange medium dense fine-grained clayey SAND (SC)				
						15
15						
						24
20		Boring Terminated at 20 ft.				
25						
30						
35						

%<#200
BLOW COUNT
NATURAL MOISTURE
PLASTIC LIMIT — LIQUID LIMIT
10 20 30 40 50 70 90



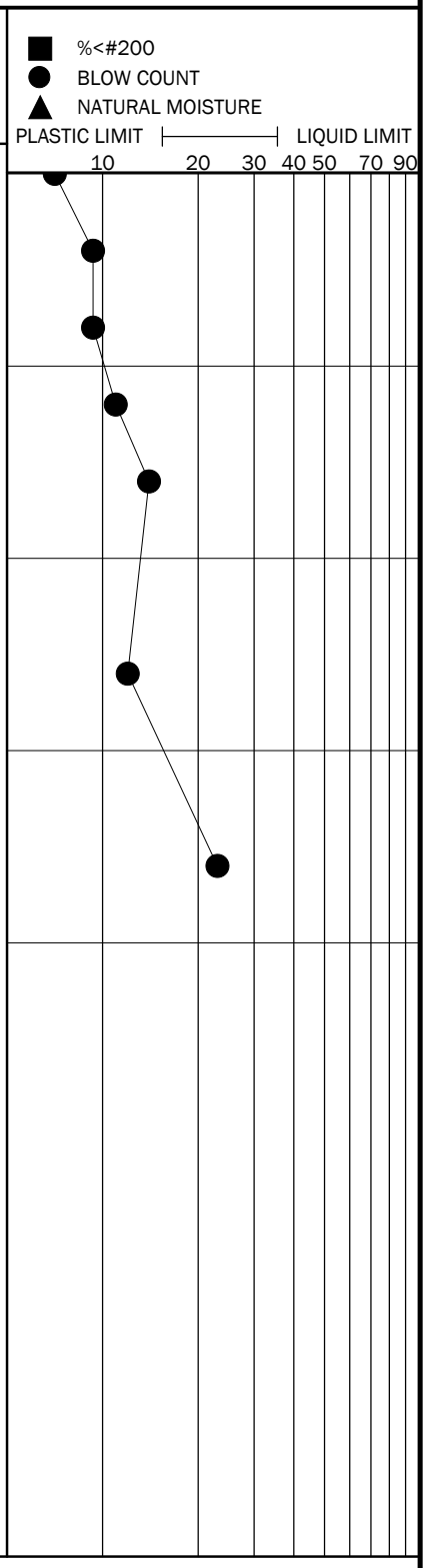
This information pertains only to this boring and should not be interpreted as being indicative of the site.

NOVA

TEST BORING RECORD B-6

PROJECT: Killearn Country Club Improvements PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring DATE: February 24, 2023
DEPTH TO - WATER> INITIAL: GNE AFTER 24 HOURS: CAVING> C

Depth (feet)	Elevation (ft-MSL)	Description	Graphic	Groundwater	Sample Type	N-Value
0						
		TOPSOIL (Approx. 3-inches)				5
		Orange/grey medium stiff to stiff CLAY (CH)				9
						9
5						11
						14
10		Orange medium dense fine-grained clayey SAND (SC)				
						12
15						
						23
20		Boring Terminated at 20 ft.				
25						
30						
35						



This information pertains only to this boring and should not be interpreted as being indicative of the site.

NOVA

TEST BORING RECORD B-7

PROJECT: Killearn Country Club Improvements PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring DATE: February 24, 2023
DEPTH TO - WATER> INITIAL: GNE AFTER 24 HOURS: CAVING> C

Depth (feet)	Elevation (ft-MSL)	Description	Graphic	Groundwater	Sample Type	N-Value
0						
		TOPSOIL (Approx. 3-inches)				10
		Orange/grey stiff to very stiff CLAY (CH)				12
						14
5						18
						21
10		Orange medium dense fine-grained clayey SAND (SC)				
						19
15						
						26
20		Boring Terminated at 20 ft.				
25						
30						
35						

%<#200
BLOW COUNT
NATURAL MOISTURE
PLASTIC LIMIT — LIQUID LIMIT
10 20 30 40 50 70 90

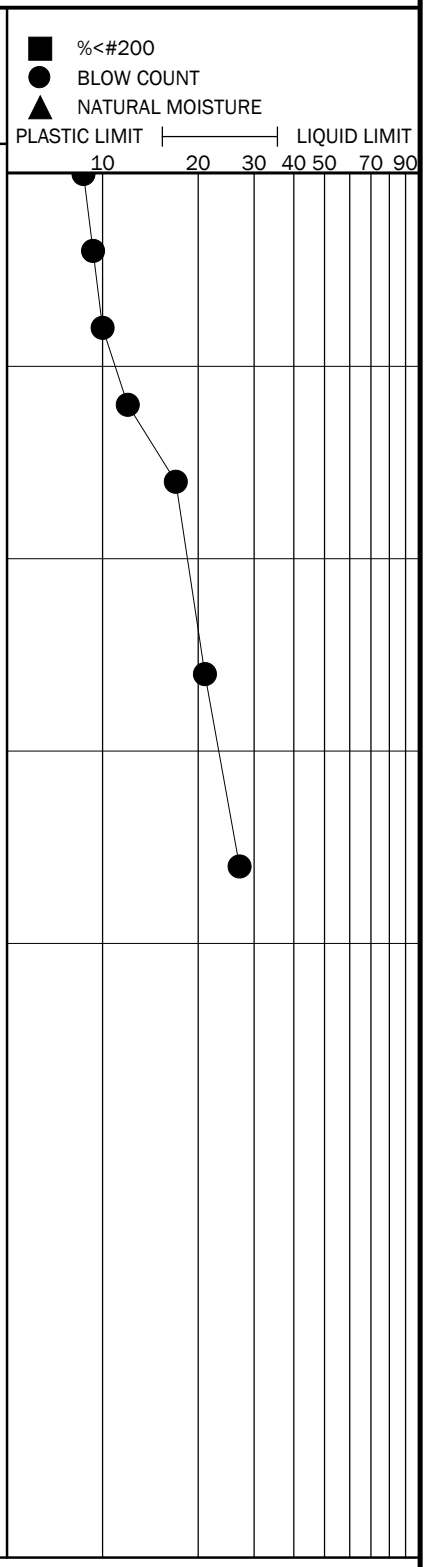
This information pertains only to this boring and should not be interpreted as being indicative of the site.

NOVA

TEST BORING RECORD B-8

PROJECT: Killearn Country Club Improvements PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring DATE: February 23, 2023
DEPTH TO - WATER> INITIAL: ▽ 4' AFTER 24 HOURS: ▼ CAVING> C

Depth (feet)	Elevation (ft-MSL)	Description	Graphic	Groundwater	Sample Type	N-Value
0						
		TOPSOIL (Approx. 3-inches)				
		Brown/red loose fine-grained clayey SAND (SC)				8
						9
5				▽		10
		Orange medium dense fine-grained clayey SAND (SC)				12
						17
10						
		Orange/grey very stiff CLAY (CH)				
						21
15						
						27
20						
		Boring Terminated at 20 ft.				
25						
30						
35						



This information pertains only to this boring and should not be interpreted as being indicative of the site.

NOVA

TEST BORING RECORD B-9

PROJECT: Killearn Country Club Improvements | PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan | ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc | LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring | DATE: February 23, 2023
DEPTH TO - WATER> INITIAL: ▽ 3' AFTER 24 HOURS: ▼ CAVING> C

Depth (feet)	Description	N-Value
0		
	TOPSOIL (Approx. 3-inches)	
	Brown medium dense to loose fine-grained clayey SAND (SC)	15
		14
5		8
	Orange loose to medium dense fine-grained clayey SAND (SC)	10
		11
10		
	Orange/grey stiff to very stiff CLAY (CH)	14
15		
		21
20		
	Boring Terminated at 20 ft.	
25		
30		
35		

Graphic: Groundwater ▽; Sample Type

■ %<#200
● BLOW COUNT
▲ NATURAL MOISTURE

PLASTIC LIMIT ⊢——⊣ LIQUID LIMIT

10 20 30 40 50 70 90

This information pertains only to this boring and should not be interpreted as being indicative of the site.

NOVA

TEST BORING RECORD B-10

PROJECT: Killearn Country Club Improvements PROJECT NO.: 10117-2023004
CLIENT: Killearn Country Club, LLC
PROJECT LOCATION: Tallahassee, Leon County, Florida
LOCATION: Per Boring Location Plan ELEVATION: Existing Grade
DRILLER: Independent Drilling Inc LOGGED BY: O.Anaeto
DRILLING METHOD: SPT Boring DATE: February 23, 2023
DEPTH TO - WATER> INITIAL: ▽ GNE AFTER 24 HOURS: ▼ CAVING> C

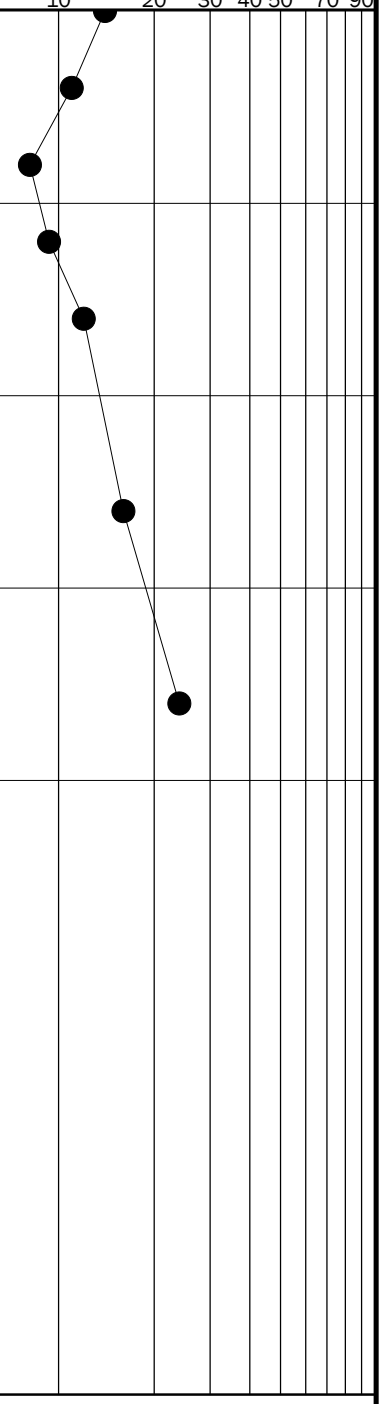
Depth (feet)	Description	N-Value
0		
	TOPSOIL (Approx. 3-inches)	
	Brown medium dense to loose fine-grained clayey SAND (SC)	14
		11
5		7
	Orange loose to medium dense fine-grained clayey SAND (SC)	9
		12
10		
	Orange/grey very stiff CLAY (CH)	
		16
15		
		24
20		
	Boring Terminated at 20 ft.	
25		
30		
35		

Graphic | Groundwater | Sample Type

■ %<#200
● BLOW COUNT
▲ NATURAL MOISTURE

PLASTIC LIMIT ⊢——⊣ LIQUID LIMIT

10 20 30 40 50 70 90



This information pertains only to this boring and should not be interpreted as being indicative of the site.

APPENDIX C
LABORATORY DATA

SUMMARY OF CLASSIFICATION & INDEX TESTING

Killearn Country Club Improvements
Tallahassee, Leon County, Florida
NOVA Project No. 10117-2023004

SUMMARY OF CLASSIFICATION AND INDEX TESTING						
Boring No.	Sample Depth	Natural Moisture	Percent Fines (- #200)	Atterberg Limits		USCS Soil Classification
				Liquid Limit (LL)	Plasticity Index (PI)	
B-1	6'-8'	18	44	---	---	SC
B-1	15'-20'	68	78	104	63	CH
B-2	8'-10'	19	46	---	---	SC
B-2	15'-20'	80	62	---	---	CH
B-2	25'-30'	76	63	113	69	CH
B-3	8'-10'	30	69	---	---	CH
B-3	25'-30'	29	38	---	---	SC
B-4	25'-30'	28	34	---	---	SC
B-5	4'-6'	51	65	60	40	CH
B-5	10'-15'	50	47	---	---	SC
B-6	2'-4'	59	68	---	---	CH
B-6	4'-6'	43	56	---	---	CH
B-6	8'-10'	73	83	119	74	CH
B-7	6'-8'	68	79	---	---	CH
B-8	15'-20'	38	67	83	58	CH

APPENDIX D
Qualifications of Recommendations
GBC Document

QUALIFICATIONS OF RECOMMENDATIONS

The findings, conclusions and recommendations presented in this report represent our professional opinions concerning subsurface conditions at the site. The opinions presented are relative to the dates of our site work and should not be relied on to represent conditions at later dates or at locations not explored. The opinions included herein are based on information provided to us, the data obtained at specific locations during the study, and our previous experience. If additional information becomes available which might impact our geotechnical opinions, it will be necessary for NOVA to review the information, re-assess the potential concerns, and re-evaluate our conclusions and recommendations.

Regardless of the thoroughness of a geotechnical exploration, there is the possibility that conditions between borings may differ from those encountered at specific boring locations, that conditions are not as anticipated by the designers and/or the contractors, or that either natural events or the construction process has altered the subsurface conditions. These variations are an inherent risk associated with subsurface conditions in this region and the approximate methods used to obtain the data. These variations may not be apparent until construction.

The professional opinions presented in this report are not final. Field observations and foundation installation monitoring by the geotechnical engineer, as well as soil density testing and other quality assurance functions associated with site earthwork and foundation construction, are an extension of this report. Therefore, NOVA should be retained by the owner to observe all earthwork and foundation construction to confirm that the conditions anticipated in this study actually exist, and to finalize or amend our conclusions and recommendations. NOVA is not responsible or liable for the conclusions and recommendations presented in this report if NOVA does not perform these observations and testing services.

This report is intended for the sole use of **Killearn Country Club, LLC** only. The scope of work performed during this study was developed for purposes specifically intended by of **Killearn Country Club, LLC** only and may not satisfy other users' requirements. Use of this report or the findings, conclusions or recommendations by others will be at the sole risk of the user. NOVA is not responsible or liable for the interpretation by others of the data in this report, nor their conclusions, recommendations or opinions.

Our professional services have been performed, our findings obtained, our conclusions derived and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices in the State of Florida. This warranty is in lieu of all other statements or warranties, either expressed or implied.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical- engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by*: the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GEOTECHNICAL BUSINESS COUNCIL
of the Geoprofessional Business Association

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e-mail: info@geoprofessional.org www.geoprofessional.org