Sampson Construction Co., Inc.
3730 South 14th Street
Lincoln, NE 68502
Phone: (402) 434-5450
FAX: (402) 434-5466

Bid Bulletin #1

PROJECT: Northeast Community College
Applied Technology Building, Physical Plant Building, Sitework

DATE: July 3, 2013

This Bid Bulletin, applicable to the above project, is issued to all known plan holders before receipt of proposals.

This Bid Bulletin includes items 1-1 through 1-22. Each item shall be fully incorporated into the Bidding/Contract Documents and have the same force and effect as though originally included. Bidders shall acknowledge receipt of this Bid Bulletin on the bid form.

Item 1-1 Attached is Civil Package Addendum CC-1 dated 7/2/13, Applied Technology Package Addendum CC-1 dated 7/2/13, and Physical Plant Package Addendum CC-1 dated 7/1/13 from BCDM Architects.

Item 1-2 Section 00 0140 Summary of work, Section 1A- Footings & Poured Wall

A. Foundations for mechanical pads & other foundations indicated on civil or M/E sheets (i.e Applied Technology 4/M5-3) shall be included as part of this summary of work.

Item 1-3 Section 00 0140 Summary of work, Section 1B- Reinforcing Steel

A. Reinforcing steel for mechanical pads & other foundations indicated on civil or M/E sheets (i.e. Applied Technology 4/M5-3) shall be included as part of this summary of work.
B. Part 1.2, E, 1, a.: Change Section XXXXX- Concrete Paving to be Section 32 1313- Concrete Paving.

Item 1-4 Section 00 0140 Summary of work, Section 1C- Interior slabs

A. Slabs for mechanical pads & other foundations indicated on civil or M/E sheets (i.e. Applied Technology 4/M5-3) shall be included as part of this summary of work.

Item 1-5 Section 00 0140 Summary of work, Section 1G- Structural Precast, Steel & Metal Building Erection

A. Insulation shown between metal building wall panel and metal building girder (i.e., Applied Technology 3/A3.1) shall be installed in this summary of work.

Item 1-6 Section 00 0140 Summary of work, Section 1H- Rough carpentry

A. Rigid insulation as shown at Physical Plant details 1, 2, and 4 on sheet A3-2 shall be included as part of this summary of work.

Item 1-7 Section 00 0140 Summary of work, Section 1J- Finish Carpentry

A. Part 1.2, E, 1, a: Remove Section 101400- Signage from this summary of work

Item 1-8 Section 00 0140 Summary of work, Section 1K- Joint Sealers

A. Part 1.2, E, 1, a: Add section 32 1373 Concrete Paving Joint Sealants to this summary of work

Item 1-9 Section 00 0140 Summary of work, Section 1Q- Drywall

A. Rigid insulation attached to metal stud assemblies (i.e., Applied Technology details 4, 5, 6 on sheet A3-1) shall be included in this summary of work.
B. FRP panels at the mop sinks (i.e. Applied Technology detail 19/A1-4) shall be included in this summary of work.

Item 1-10 Section 00 0140 Summary of work, Section 1V- Specialties

A. Part 1.2, E, 1, a: Remove section 101400- Signage from this summary of work.

Item 1-11 Section 00 0140 Summary of work, Section 1Z- Metal Building Insulation

A. Insulation shown between metal building wall panel and metal building girder (i.e., Applied Technology 3/A3.1) shall be furnished in this summary of work.

Item 1-12 Section 00 0140 Summary of work, Section 1BB- Plumbing

A. Part 1.2, E, 1, a: Add note that section 221113- Facility Water Distribution and section 221313- Facility Sanitary Sewers are not part of this summary of work.
B. Part 1.2, E, 2: Add note that HVAC mechanical hydronic piping is to be installed as part of this scope of work. Plumbing contractor and HVAC contractor to coordinate accordingly.

Item 1-13 Section 00 0140 Summary of work, Section 1CC- Heating, Ventilating, and Air Conditioning (HVAC)

A. Part 1.2, E, 2: Add note which states: Exterior gas piping specified within section 231123 and as shown on Applied Technology drawings E6-1 and E6-2 is not included in this summary of work. Summary of work 1CC includes interior gas piping only.

Item 1-14 Section 00 0140 Summary of work, Section 1DD- Electrical

A. Part 1.2, E, 1, a: Remove Division 27- Communications and Division 28- Electronic Safety and Security from this summary of work.

Item 1-15 Section 00 0140 Summary of work, Section 1GG- Site Utilities

A. Part 1.2, E, 1, a: Add Division 22, Section 221113- Facility Water Distribution to this summary of work.
B. Part 1.2, E, 1, a: Add Division 22, Section 221313-Facility Sanitary Sewers to this summary of work
C. Part 1.2, E, 1, a: Add Division 23, Section 231123- Fuel Gas Piping to this summary of work. This includes exterior gas piping only as shown on Applied Technology drawings E6-1 and E6-2.

Item 1-16 Section 00 0140 Summary of work, Section 1HH- Site Electrical

A. Part 1.2, E, 2: Add note stating this summary of work shall only include the campus loop electrical work as shown on Applied Technology drawings E6-1 through E6-3 and shall be bid as a sitework item even though shown on the Applied Technology drawings and not the Civil package. Site electrical work shown on E1-0 of the Applied Technology Building drawings and E1-0 of the Physical Plant Building drawings shall be included with the electrical work for each respective building (Summary of work 1DD- Electrical).

Item 1-17 Section 00 0140 Summary of work, Section 1II- Resinous Flooring

A. Part 1.2, E, 1, a: Change section 09XXXX- Resinous Flooring to section 09 9000- Painting (as applied to resinous flooring system)

Item 1-18 Section 00 0140 Summary of work

A. Add Summary of work, Section 1MM- Aluminum fascia panels

Item 1-19 Section 00 0150- Preliminary project schedule

A. Replace project schedule in specification book with updated project schedule contained in Bid Bulletin #1.

Item 1-20 Section 00 0160- Bid Form

A. Replace bid form in specification book with updated bid form contained in Bid Bulletin #1.

Item 1-21 Section 01 2300- Alternates

A. Add alternate PP-1a to this section. Alternate PP-1a shall be an add/deduct to Alternate PP-1 for using pre-engineered metal building structure in lieu of the conventional steel members shown.

Item 1-22 Reference the project contact list at the front of the specification book. Change the contact phone number for Sampson Construction to be 402-434-5418.

END OF BID BULLETIN #1

ADDENDUM NO. CC-1

to the
Bidding Documents

for

BERINGER CIACCIO DENNELL MABREY
1015 North 98th Street, Suite 300
Omaha, Nebraska 68114

2 July, 2013

PHYSICAL PLANT / APPLIED TECHNOLOGY BUILDINGS CIVIL PACKAGE NORTHEAST COMMUNITY COLLEGE
801 East Benjamin Avenue
Norfolk, NE 68702-0469
BCDM Project No. 3527-01

NOTICE TO BIDDERS: The Drawings for the above referenced project are hereby amended as follows:

DRAWINGS

SHEET C2-2, WATER MAIN PLAN & PROFILE STA. 306+00 TO STA. 312+00

a. Replace sheet in its entirely with the attached sheet C2-2.
   - Size of the cross and a valve at Sta. 308+02 changed from 6" to 8" as shown on the revised sheet.
   - An 8"x6" reducer was added at Sta. 308+02 as shown on the revised sheet.

SHEET C2-5, WATER MAIN PLAN & PROFILE STA. 330+00 TO STA. 336+00

a. Replace sheet in its entirety with the attached sheet C2-5.
   - Size of pipe and fittings changed from 6" to 8" as shown on the revised sheet.
   - Location of fire service and domestic service changed as shown on the revised sheet to accommodate building connection locations.
   - Fire hydrant location changed from Sta. 330+00 to Sta. 330+06 to maintain horizontal clearance from additional sanitary service.

SHEET C2-6, WATER MAIN PLAN & PROFILE STA. 336+00 TO STA. 337+65:

a. Replace sheet in its entirety with the attached sheet C2-6.
   - Size of pipe changed from 6" to 8" as shown on the revised sheet.
   - Location of fire service and domestic service changed as shown on the revised sheet to accommodate building connection locations.

SHEET C2-9, SANITARY SEWER PLAN & PROFILE STA. 330+00 TO STA. 336+00:

a. Replace sheet in its entirety with the attached sheet C2-9.
   - A sanitary service was added at Sta. 408+14.
   - A sanitary service was moved from Sta. 408+89to Sta. 409+02 and slope was changed to 2.0% minimum to accommodate building connection location.

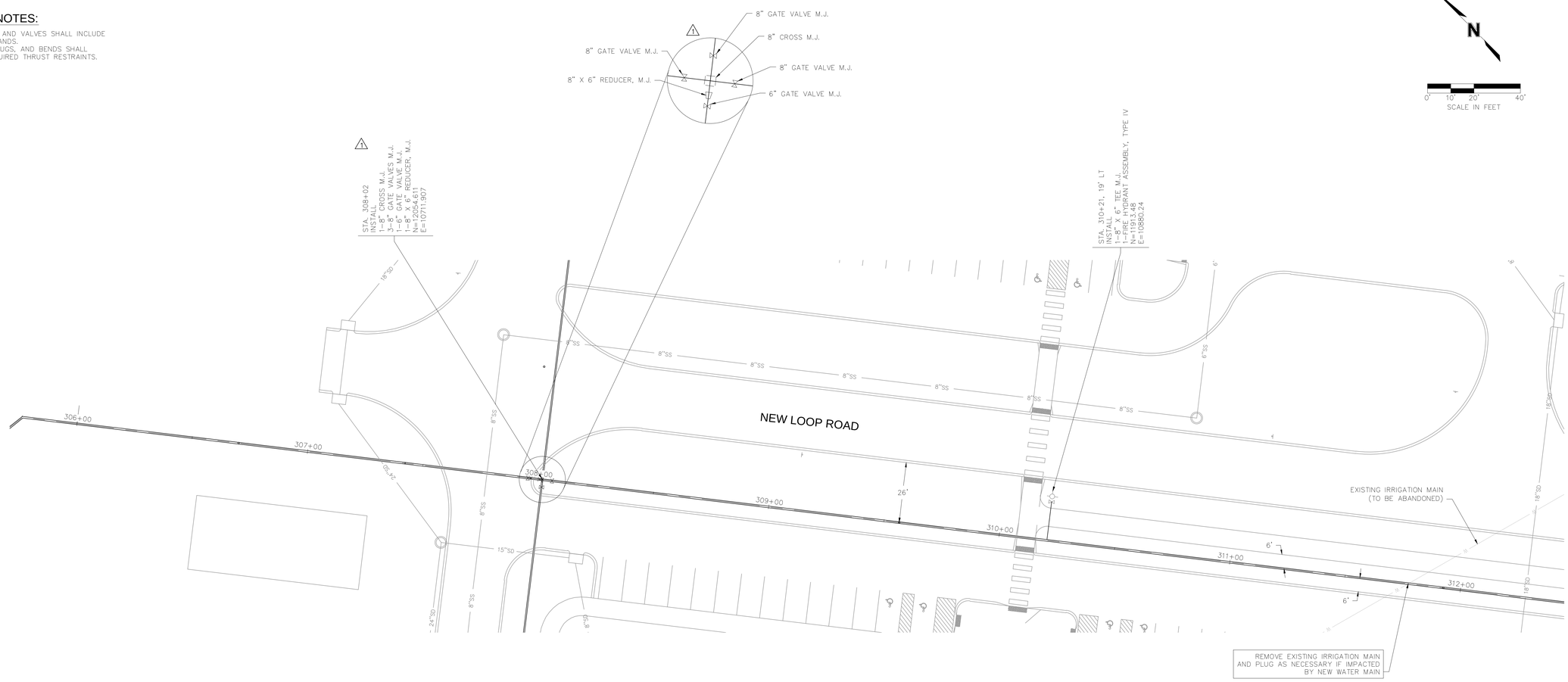
ALL SHEETS:

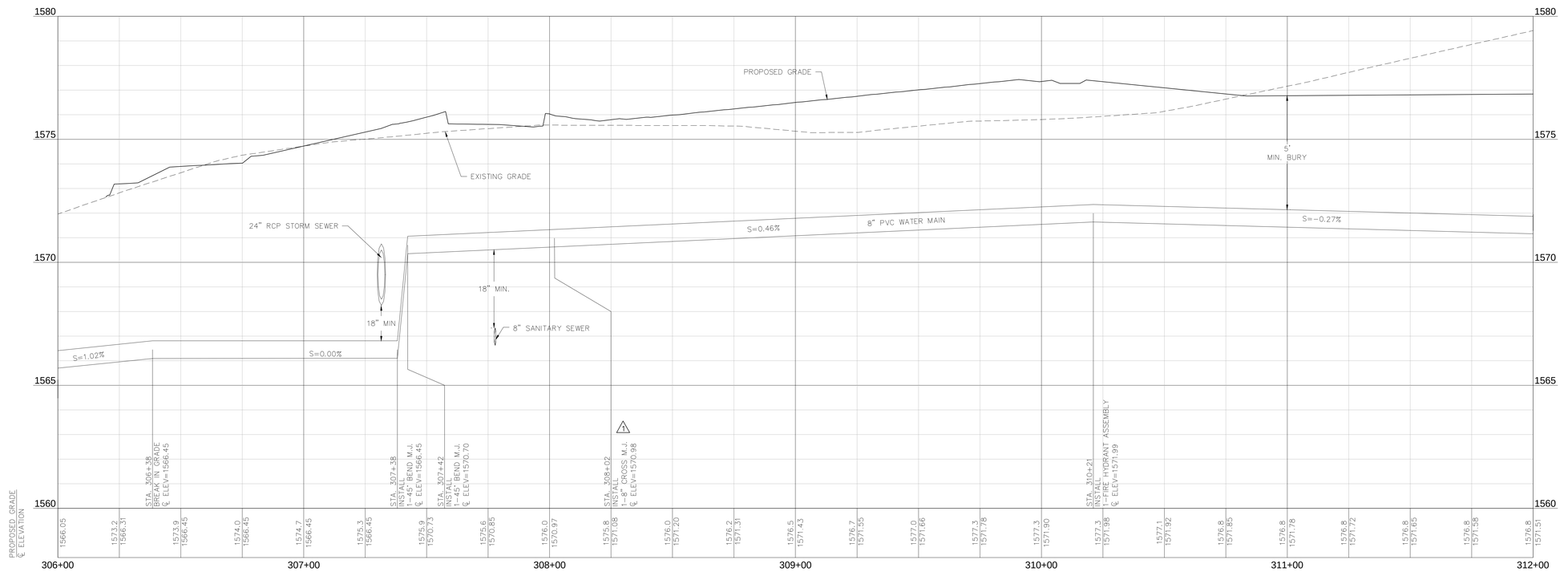
a. The changes on Sheets C2-2, C2-5, C2-6 and C2-9 should be reflected on all other sheets where these utilities are referenced.

END OF ADDENDUM

GENERAL NOTES:

1. ALL FITTINGS AND VALVES SHALL INCLUDE RETAINER GLANDS.
2. ALL TEES, PLUGS, AND BENDS SHALL INCLUDE REQUIRED THRUST RESTRAINTS.





WATER MAIN PLAN & PROFILE
STA. 306+00 TO STA. 312+00

No.	Description	By	Date
1	ADDENDUM 1	JRS	06/28/13

OLSSON ASSOCIATES

CONSTRUCTION DOCUMENTS
PHYSICAL PLANT/APPLIED TECHNOLOGY BUILDINGS
CIVIL PACKAGE
NORTHEAST COMMUNITY COLLEGE
801 EAST BENJAMIN AVENUE, NORFOLK, NE 68702-0469
ARCHITECTURE, LANDSCAPE ARCHITECTURE, INTERIOR DESIGN, CONSTRUCTION MANAGEMENT

bcdm

C2-2

MAY 17, 2013
BCDM NO 3529-01
3527-01

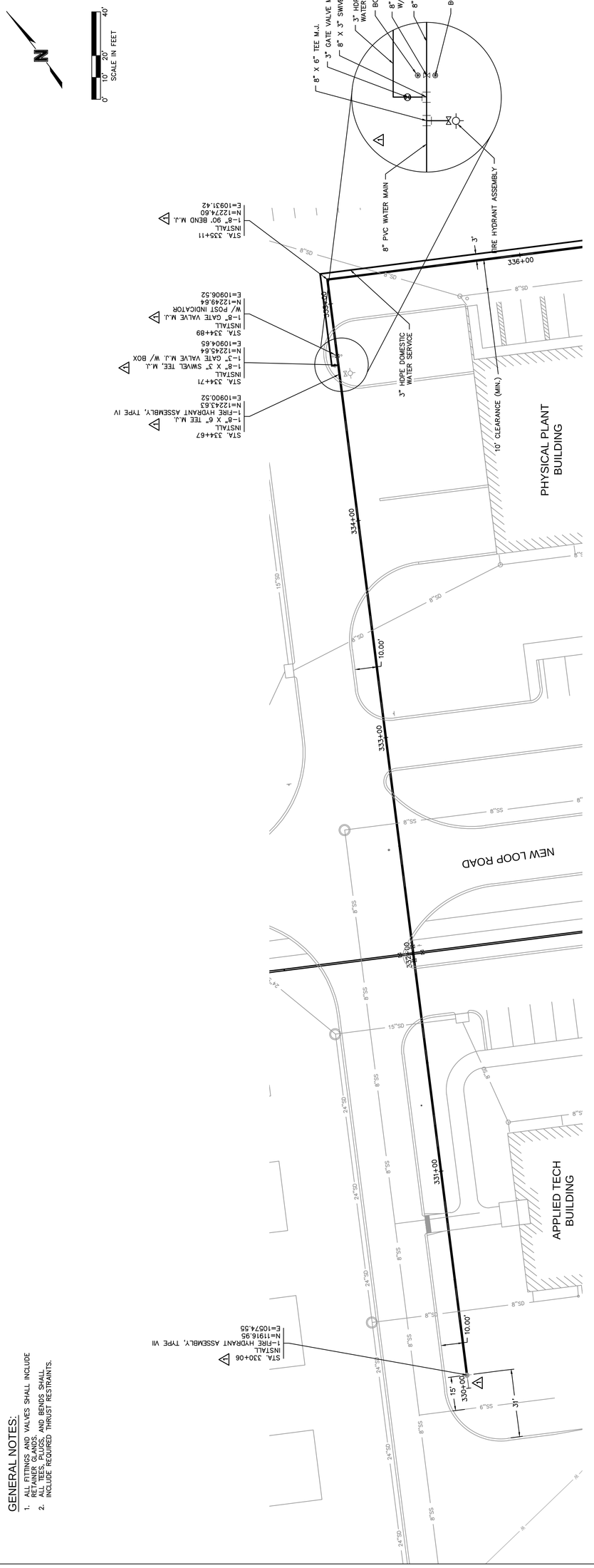
bcdm
ARCHITECTURE, LANDSCAPE ARCHITECTURE, INTERIOR DESIGN, CONSTRUCTION MANAGEMENT
801 EAST BENJAMIN AVENUE, NORFOLK, NE 68702-0469
NORTHEAST COMMUNITY COLLEGE

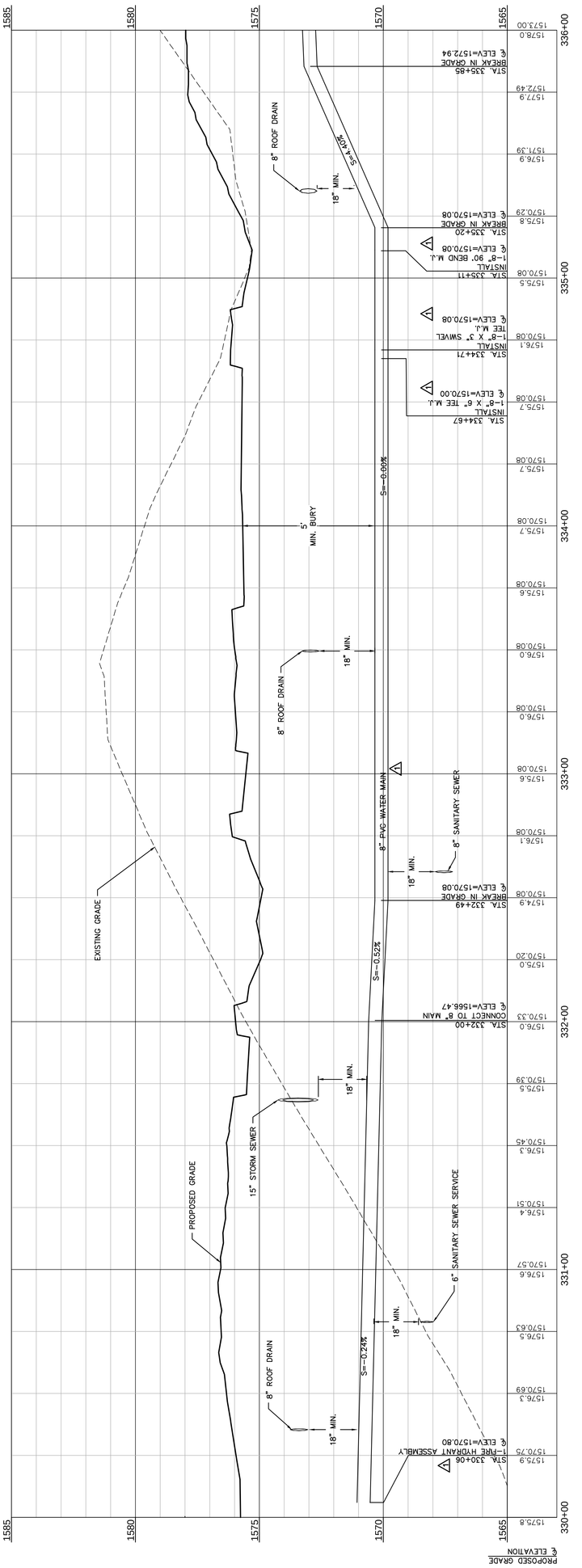
CONSTRUCTION DOCUMENTS

PHYSICAL PLANT/APPLIED TECHNOLOGY BUILDINGS
CIVIL PACKAGE

OLSSON ASSOCIATES

Revision Schedule			
No.	Description	By	Date
1	ADDENDUM 1	JRS	06/28/13





WATER MAIN PLAN & PROFILE
STA. 330+00 TO STA. 336+00

GENERAL NOTES:

1. ALL FITTINGS AND VALVES SHALL INCLUDE RETAINER GLANDS.
2. ALL TEES, PLUGS, AND BENDS SHALL INCLUDE REQUIRED THRUST RESTRAINTS.

NORTHEAST COMMUNITY COLLEGE
801 EAST BENJAMIN AVENUE, NORFOLK, NE 68702-0469
ARCHITECTURE, LANDSCAPE ARCHITECTURE, INTERIOR DESIGN, CONSTRUCTION MANAGEMENT

CONSTRUCTION DOCUMENTS

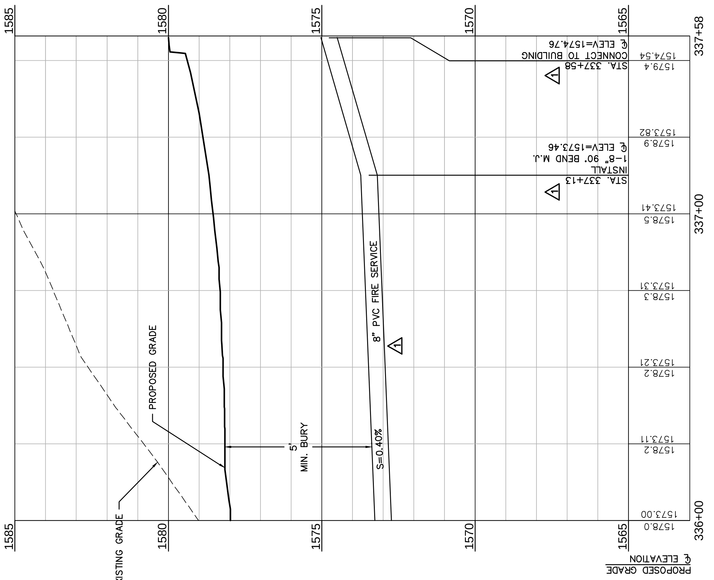
PHYSICAL PLANT/APPLIED TECHNOLOGY BUILDINGS
CIVIL PACKAGE

C2-6

MAY 17, 2013
BCDM NO. 3526-01
3527-01

OLSSON ASSOCIATES

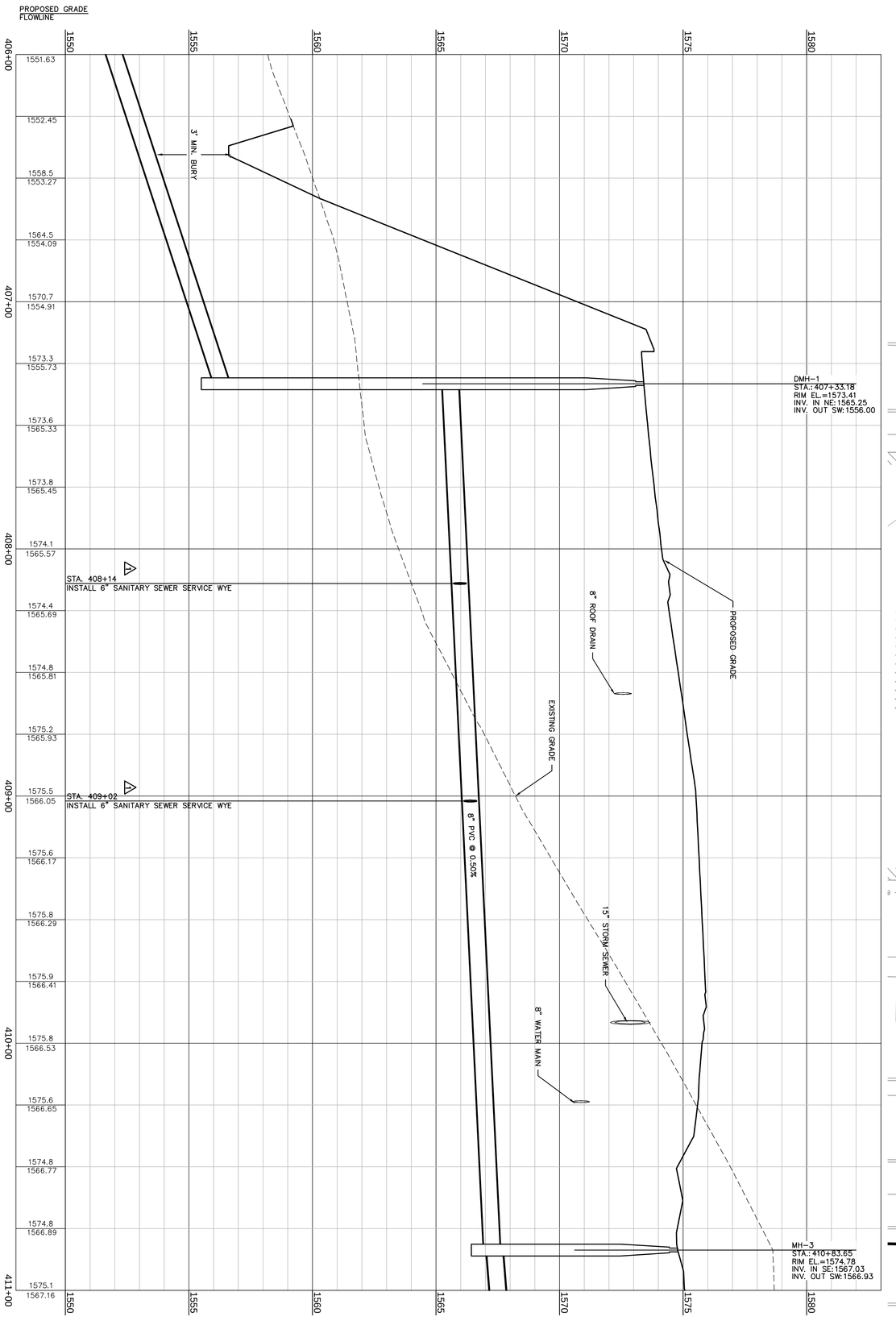
Revision Schedule			
No.	Description	By	Date
1	ADDENDUM 1	JRS	06/28/13



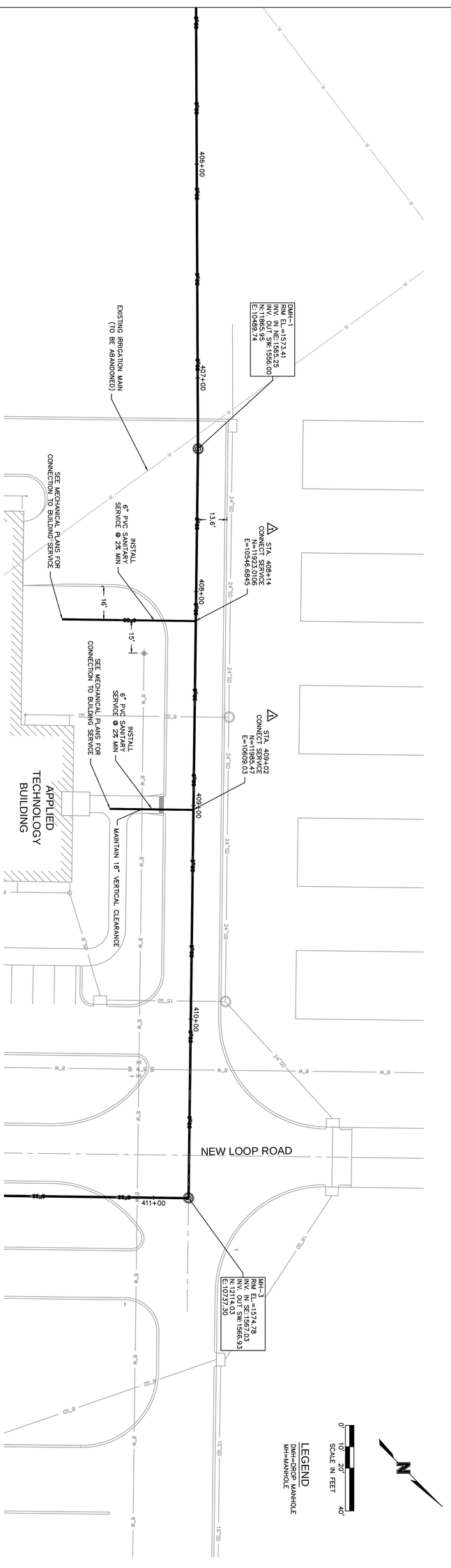
WATER MAIN PLAN & PROFILE
STA. 336+00 TO STA. 337+65

GENERAL NOTES:

1. ALL FITTINGS AND VALVES SHALL INCLUDE RETAINER GLANDS.
2. ALL TEES, PLUGS, AND BENDS SHALL INCLUDE REQUIRED THRUST RESTRAINTS.



SANITARY SEWER PLAN & PROFILE
STA. 406+00 TO STA. 411+00



C2-9

MAY 17, 2013
BCDM NO 3526-01
3527-01

bcdm

CONSTRUCTION DOCUMENTS

PHYSICAL PLANT/APPLIED TECHNOLOGY BUILDINGS
CIVIL PACKAGE

NORTHEAST COMMUNITY COLLEGE
801 EAST BENJAMIN AVENUE, NORFOLK, NE 68702-0469
ARCHITECTURE, LANDSCAPE ARCHITECTURE, INTERIOR DESIGN, CONSTRUCTION MANAGEMENT

OLSSON ASSOCIATES

Revision Schedule			
No.	Description	By	Date
1	ADDENDUM 1	JRS	06/28/13

PROFESSIONAL CIVIL ENGINEER
JUSTIN R. STARK
E-13167
6/28/13
STATE OF NEBRASKA

ADDENDUM NO. CC-1

to the
Bidding Documents

for

BERINGER CIACCIO DENNELL MABREY
1015 North 98th Street, Suite 300
Omaha, Nebraska 68114

2 July, 2013

APPLIED TECHNOLOGY BUILDING NORTHEAST COMMUNITY COLLEGE
801 East Benjamin Avenue
Norfolk, NE 68702-0469
BCDM Project No. 3527-01

NOTICE TO BIDDERS: The Project Manual and Drawings for the above referenced project are hereby amended as follows:

PROJECT MANUAL

SECTION 01 3000, ADMINISTRATIVE REQUIRMENTS

a. At paragraph 3.01.B, delete "..Owner." and substitute "...Construction Manager."

DIVISION 2, EXISTING CONDITIONS

a. Add the attached Geotechnical Report prepared by Mid-State Engineering and testing and dated June 25, 2012.

SECTION 03 3000, CAST-IN-PLACE CONCRETE

a. Add paragraph 2.05.A.2.c as follows: "c. Interplast Group, Barrier-Bac VB-350."

SECTION 07 2100, THERMAL INSULATION

a. At paragraph 2.01.A.10, add "ACH Foam Technologies, Foam Control Plus 250 (EPS)" as an approved substitution.
b. At paragraph 2.01.B.7 add "Firestone, Enverge CI Foil Exterior Wall Insulation" as an approved substitute.

SECTION 08 7101, FINISH HARDWARE

a. Page 08 7101-5, 2.03 MISCELLANEOUS REQUIREMENTS, delete paragraph 2.03.H in its entirety and replace with "H. Actuators: Wall-Mounted, Push-plate control system: Provide flush mounted 4 ¾" square as manufactured by LCN, Wikk Industries Inc,, or same by Sedco Switches. All switches shall be by direct wire control. Engrave wall plate with universal handicapped symbol and label "Push to Open". Provide push-plate switches on both sides of each opening as shown on the Drawings (2 switches per door). Exterior wall plates shall be weatherproof."
b. Page 08 7101-5, 2.03 MISCELLANEOUS REQUIREMENTS, delete paragraph 2.03.I in its entirety.
c. Page 08 7101-7, Hardware Group No. 1, delete "1 EA, BOLLARD POST, 8310-866, AL, LCN" in its entirety.
d. Page 08 7101-7, Hardware Group No. 1, after "ACTUATORS", delete "8310-855" and replace with "8310-853T" for a total or two (2) 8310-853T actuators.
e. Page 08 7101-9, Hardware Group No. 4, before "ACTUATORS", delete "1 EA" and replace with "2 EA" and after "ACTUATORS", delete "818T" and replace with "8310-853T".

SECTION 09 8400, ACOUSTIC ROOM COMPONENTS

a. Add the attached specification section 09 8400 Acoustic Room Components.

SECTION 10 2113, TOILET PARTITIONS

a. At paragraph 2.02.A add "Accurate Partitions Corp" as an approved manufacturer.

SECTION 10 5100, LOCKERS

a. At paragraph 2.03.A, revise to read "...**18 inches...**" in lieu of "...12 inches..".
b. At paragraph 2.03.B, revise to read "...**18 inches...**" in lieu of "...12 inches..".
c. At paragraph 2.03.F, revise base to be "Concrete" in lieu of "Metal".

SECTION 13 3419, METAL BUILDING SYSTEMS

a. At paragraph 2.01.A.7, delete "VP Buildings" and substitute "American Buildings".

Revisions to Mechanical and Electrical specifications shall be per the attachment from Morrissey Engineering

DRAWINGS

SHEET A1-1A, FLOOR PLAN AREA 'A'

a. Architectural Flag Notes: Add Flag Note 17 to read: "Door auto operator. See Spec Section 08 0710. Coordinate with Elect. At Vest. 100 exterior column location, provide wireless transmitter/receiver if unable to route conduit behind brick.
b. Detail 1: Add Auto Door Operator Locations, noted as Architectural Flag Note 17, per the attached details 2 and 3 on Sheet ASD-1.
c. Detail 1: At Corridor 150, revise number of lockers outside of Classroom 155 to be "**23**" in lieu of "44" and outside of Storage 195 to be "**15**" in lieu of "29".

SHEET A1-1B, FLOOR PLAN AREA 'B'

a. Architectural Flag Notes: Add Flag Note 17 to read: "Door auto operator. See Spec Section 08 0710. Coordinate with Elect. At Vest. 100 exterior column location, provide wireless transmitter/receiver if unable to route conduit behind brick."
b. Detail 1: Add Auto Door Operator Locations, noted as Architectural Flag Note 17, per the attached detail 1 on Sheet ASD-1.
c. At Detail 1/A1-1B: Floor Plan Area B, revise the layout at the south end of the mechanical court screen wall as shown on attached sheet ASD-2.
d. Detail 1: At Corridor 150, revise number of lockers outside of Mechanical 119 to be "**8**" in lieu of "7".

SHEET S0-0, GENERAL STRUCTURAL NOTES

a. Paragraph 'F', sub-paragraph 1, sup-paragraph a: Add "IN ADDITION TO BUILDING SELF WEIGHT" after 'COLLATERAL DEAD LOAD'
b. Paragraph 'F', sub-paragraph 3, replace sub paragraph b with: Pg=25psf, Ce=1.1, I=1.0.
c. METAL BUILDING/DESIGN REQUIREMENTS, Paragraph C: Add "UNDER ALL LOAD CONDITIONS" after 'DEFLECTION REQUIREMENTS'
d. METAL BUILDING/DESIGN REQUIREMENTS, Paragraph C, sub-paragraph 2: Change sidesway limit to H/150

SHEET S1-0A, FOUNDATION PLAN AREA 'A'

a. Detail 1: Revise foundation plan as shown on attached partial plan SSD-3.
b. Detail 1: Revise foundation plan as shown on attached partial plan SSD-6.
c. Add Detail 2, PARTIAL FOUNDATION PLAN – Area 'A' Alt. AT-1, See SSD-1.

SHEET S1-0B, FOUNDATIO PLAN AREA 'B'

a. Detail 1: Revise foundation plan as shown on attached partial plan SSD-4.
b. Detail 1: Revise foundation plan as shown on attached partial plan SSD-5.
c. Detail 1: Revise foundation plan as shown on attached partial plan SSD-7.
d. Add Detail 2, PARTIAL FOUNDATION PLAN – Area 'B' Alt. AT-1, See SSD-2

Revisions to Mechanical and Electrical drawings shall be per the attachment from Morrissey Engineering

END OF ADDENDUM

morrissey engineering inc

mechanical | electrical | technology | commissioning

addendum

addendum no. 1

date: 06-28-2013

bid date:

project name: Applied Technology Building

project no: 12102

This addendum is hereby made a part of the contract documents to the same extent as if it were originally included therein. Contract documents shall be considered modified or revised as hereinafter described.

Mechanical Specifications

1. Section 22 13 19 Plumbing Specialties, Section 2.05 Thermostatic Water Mixing Valves. Delete item B.5. Cabinets shall be stainless steel boxes with stainless steel hinged doors.

2. Section 23 34 23 Power Ventilators. Add "Soler & Palau (Jenn)" to the list of approved manufacturers for Centrifugal Wall Ventilators and In-Line Centrifugal Fans.

3. Section 23 31 13 Metal Ducts and Accessories. Add "Soler & Palau (Jenn)" to the list of approved manufacturers for Roof Hoods.

4. Section 23 31 13 Metal Ducts and Accessories. Add "Leader Ind." to the list of approved manufacturers for Fire Dampers.

5. Section 23 31 13 Metal Ducts and Accessories. Clarification - Specific manufacturers of spiral ductwork are not listed nor approved / rejected in the prior approval process. Provided products must meet all specifications.

6. Section 23 31 13 Metal Ducts and Accessories. Add "Ductsox" and "Fabric Air" to the list of approved manufacturers for Fabric Ductwork.

7. Section 23 31 13 Metal Ducts and Accessories. Add the following requirements for Fabric Ductwork:

   A. Fabric Dispersion system shall be Ductsox Premium Sedona-Xm or approved equal, constructed of a non-coated woven fire retardant fabric and comply with the following characteristics:

      1. 100% Flame retardant polyester
      2. Color: Selection by architect
      3. Air permeability: 2 cfm/sqft
      4. Static pressure rating: 0.5" to 3.0"
      5. Temperature rating: 0°F to 180°F

4940 North 118th Street
Omaha, NE 68164
P: 402.491.4144
www.morrisseyengineering.com

B. Suspension Hardware: See plans (or as recommended by the manufacturer).

C. Manufacturer shall provide design of fabric duct system to provide full air coverage. Provide all components necessary for installation including cabling, fasteners, transitions, hanging supports, etc.

8. Section 23 21 13 Hydronic Piping. Add "Danfoss" to the list of approved manufacturers for Automatic Control Valves.

9. Section 23 09 60 Variable Frequency Drives. ABB is the only approved manufacturer.

Mechanical Drawings

1. Sheet M3-1B: Floor Plan - 'Area B' - Plumbing. Modify fire water service size to 6".

2. Sheet M4-1 Enlarged Floor Plans: Enlarged Floor Plan - Area B - Mechanical Plan #3. Modify fire water service size to 6".

3. Sheet M5-2 Mechanical Details: Details 10 & 13. Modify Basis of Design fabric to Ductsox Premium Sedona-Xm.

4. Sheet M6-3 Mechanical Schedules: Trench Drain TD-1. Provide catch basin with sediment bucket.

Electrical:

1. Sheet E2-1B Floor Plan - Electrical - Area B - Power
   a. Freezer/Cooler
      i) Clarification: Door heat tape for freezer/cooler is integral to the equipment. Electrical contractor shall connect equipment per manufacturer's recommendations.
   b. Floorbox cover plate
      i) Wiremold RFB4E-OG floorbox cover shall be "Flush Style Cover Assembly" #6CTNK. Wiremold RFB6E-OG floorbox cover shall be "Flush Style Cover Assembly" #8CTNK.
   c. Pressure Sensor
      i) Pressure sensor is indicated by a circle with 'P' in the center. Electrical contractor shall provide a rough-in similar to detail 2/E5-1.
   d. See sketches E2-1Ba.

2. Sheet E3-1A Floor Plan - Electrical - Area A - Special Systems
   a. See sketch E3-1Aa

3. Sheet E3-2B Floor Plan - Electrical - Area B - Special Systems
   a. See sketch E3-2Ba

4. Sheet E3-2A Floor Plan - Electrical - Area A - Special Systems
   a. Data 201, provide 18" vertical ladder tray and 18" horizontal ladder try.

5. Sheet E3-2B Floor Plan - Electrical - Area A - Special Systems
   a. Data 204, provide 18" vertical ladder tray and 18" horizontal ladder try.

6. Sheet E4-2 Electrical Schedules
   a. See sketches E4-2a and E4-2b.
   b. Lighting Fixture Schedule
      i) Fixture types 7 and 8 shall be considered equal as manufactured by Focal Point.

SECTION 09 8400
ACOUSTIC ROOM COMPONENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabric-covered mineral fiber core panels and mounting accessories.

1.02 RELATED REQUIREMENTS

A. Section 09 5100 - Acoustical Ceilings.

B. Section 09 9999 - Color Schedule

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2012.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's printed data sheets for products specified.

C. Shop Drawings: Fabrication and installation details, panel layout, and fabric orientation.

D. Samples: Submit 2 sets of fabric samples to the Architect for each of the specified colors.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect acoustical panels from moisture during shipment, storage, and handling. Deliver in factory-wrapped bundles; do not open bundles until panels are needed for installation.

B. Store panels flat, in dry, well-ventilated space; do not stand panels on end.

C. Protect panel edges from damage.

PART 2 PRODUCTS

2.01 ACOUSTICAL WALL PANELS

A. Panels: Prefinished, factory assembled fabric-covered panels.
   1. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
   2. Panels shall be 1-inch think, and with a core of 5-7 lb./cu.ft. fiber board, with chemically hardened edges and covered with Class A rated fabric. Panels shall have square corners and half beveled edges. Each panel shall be laminated with a 1/8-inch thick minimum 18 pcf molded glass fiberboard.
      a. Kinetics Noise Control
      b. Conwed
      c. Wenger Corporation
      d. Sound Concepts
      e. Golterman & Sabo
      f. Decoustics
      g. Koroseal
   3. FABRIC shall be bonded to the panel face, wrapped around all edges of the panel, and fastened in place at the back of the panel. Fabric shall be wrinkle free with tailored corners. Acoustical sound panels shall be factory covered with un-backed AP-1, AP-2, or AP-3 as specified in Section 09 9990 and as designated on the drawings.
   4. ALL PANELS shall be presized in the manufacturer's plant from exact field dimensions, provided by the installing contractor, to a tolerance of 1/8 inch.
   5. SIZE and location of all acoustical panels shall be as shown on the Drawings.

2.02 ACCESSORIES

A. Back-Mounting Accessories: Manufacturer's standard accessories for concealed support, designed to allow panel removal, and as follows:
   1. Metal impaling clips designed to support full weight of panels, mechanically attached to substrate and adhesively bonded to back of panels.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine substrates for conditions detrimental to installation of acoustical panels. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install acoustical panels in locations indicated, following installation recommendations of panel manufacturer. Align panels accurately, with edges plumb and top edges level. Scribe to fit accurately at adjoining work and penetrations.

3.03 CLEANING

A. Clean fabric facing upon completion of installation from dust and other foreign materials, following manufacturer's instructions.

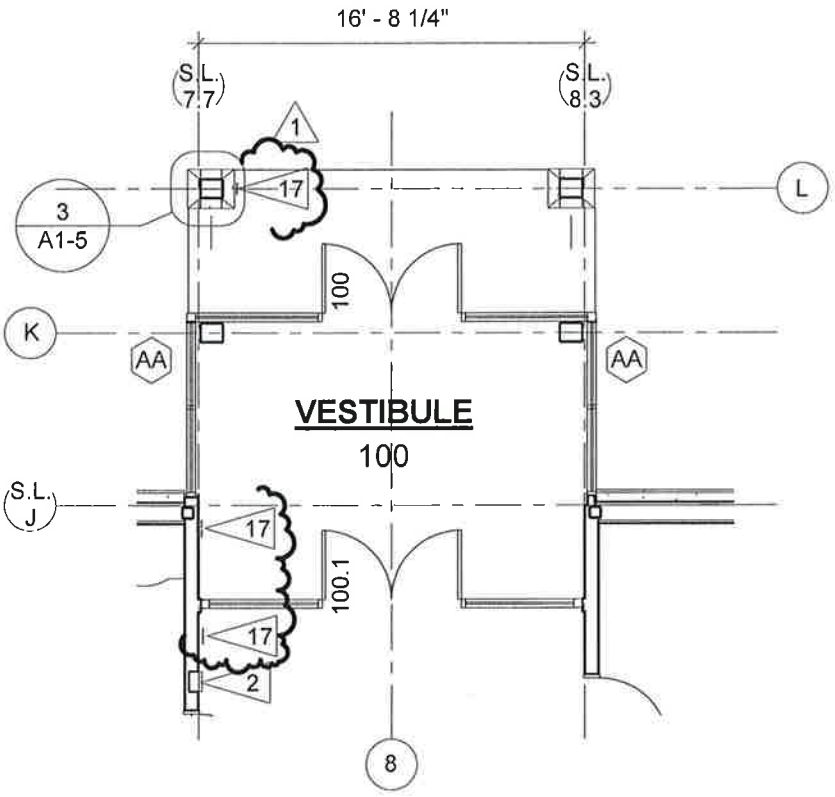
B. Remove surplus materials, trimmed portions of panels, and debris resulting from installation.

3.04 PROTECTION

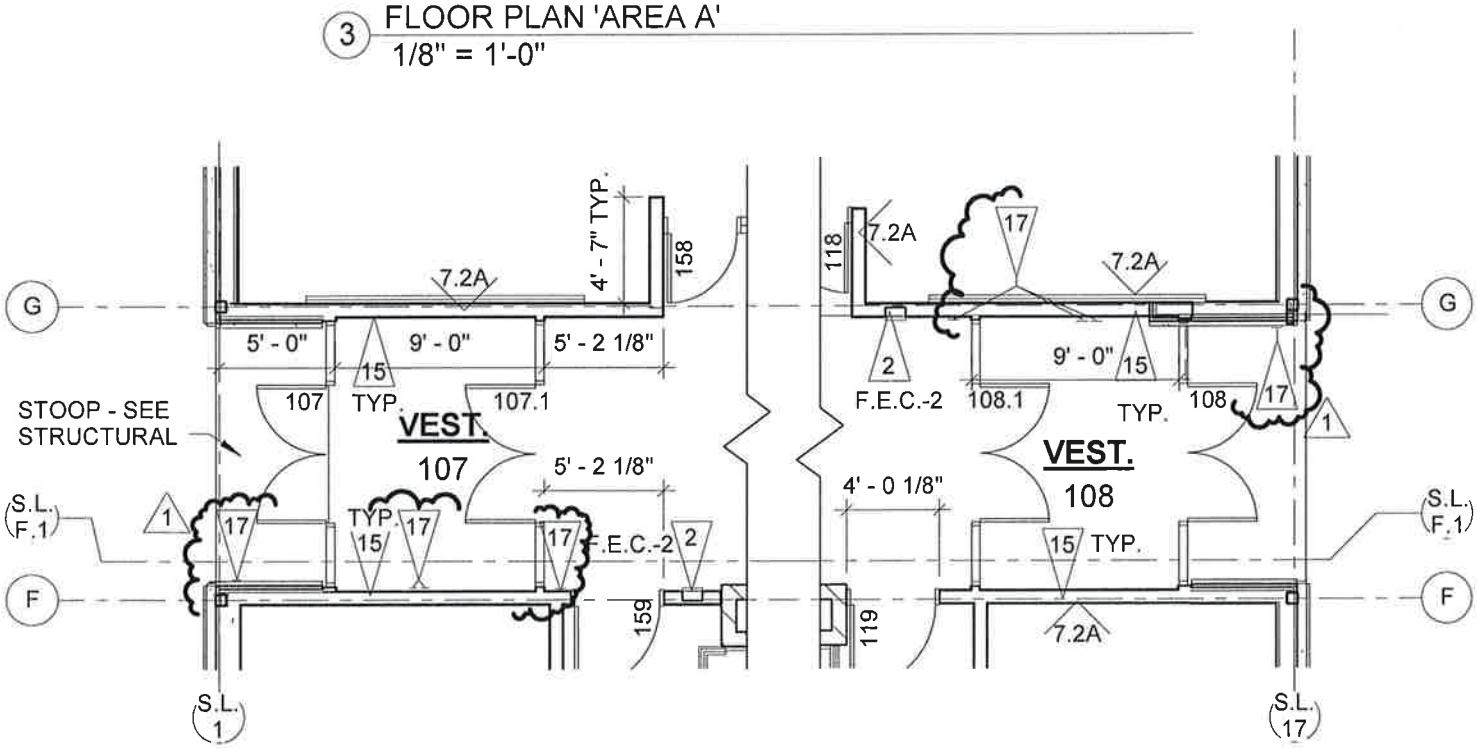
A. Provide protection of installed acoustical panels until completion of the work.

B. Replace panels that cannot be cleaned and repaired to satisfaction of the Architect.

END OF SECTION



3 FLOOR PLAN 'AREA A'
1/8" = 1'-0"



2 FLOOR PLAN 'AREA A'
1/8" = 1'-0"

1 FLOOR PLAN 'AREA B'
1/8" = 1'-0"

APPLIED TECHNOLOGY BUILDING Norfolk, NE 68702-0469

3527-01	DRAWING REFERENCED:1/A1-1A, 1/A1-1B	ATTACHMENT
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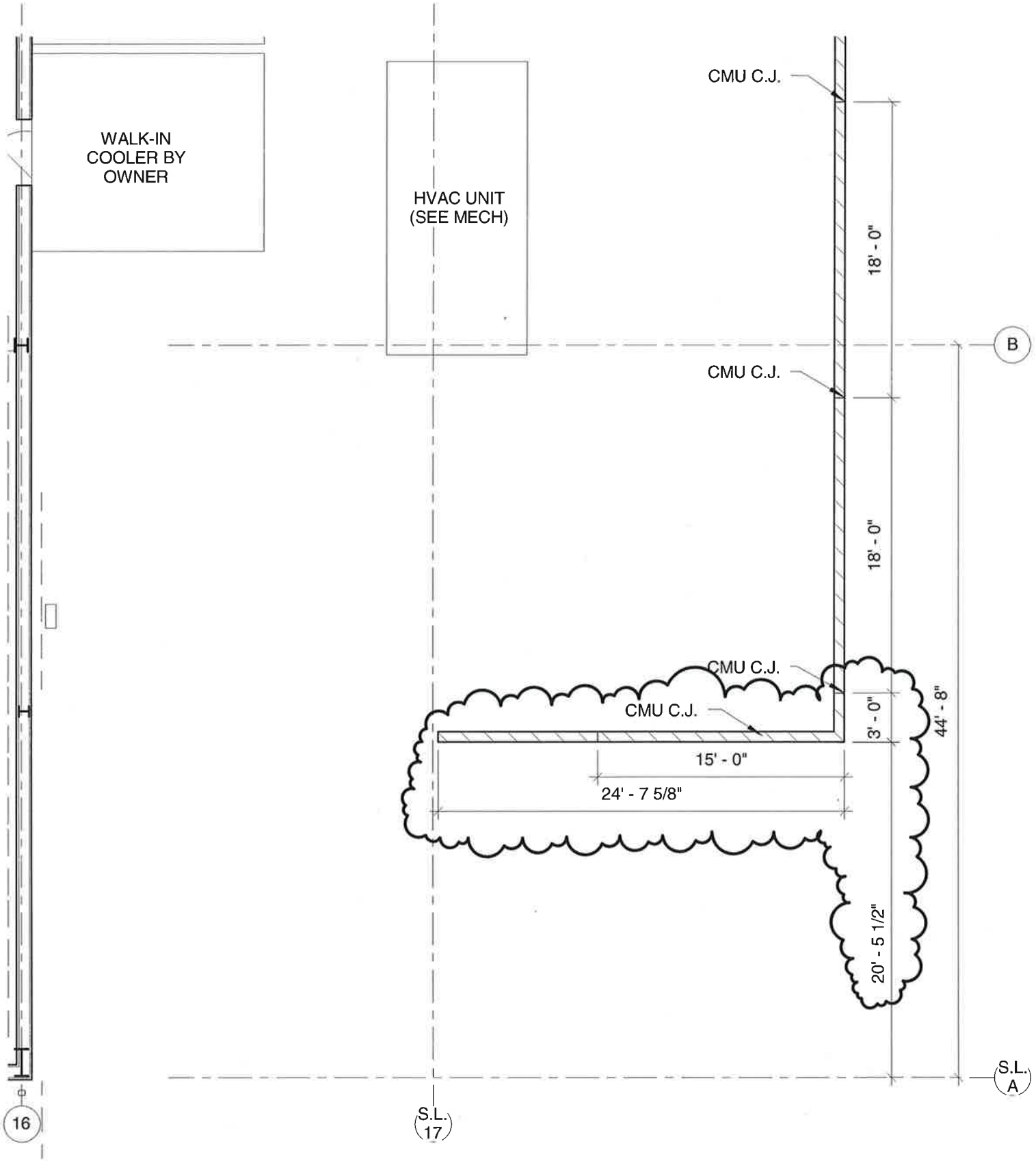
BERINGER CIACCIO DENNELL MABREY



1 FLOOR PLAN 'AREA B'
1/8" = 1'-0"

APPLIED TECHNOLOGY BUILDING Norfolk, NE 68702-0469

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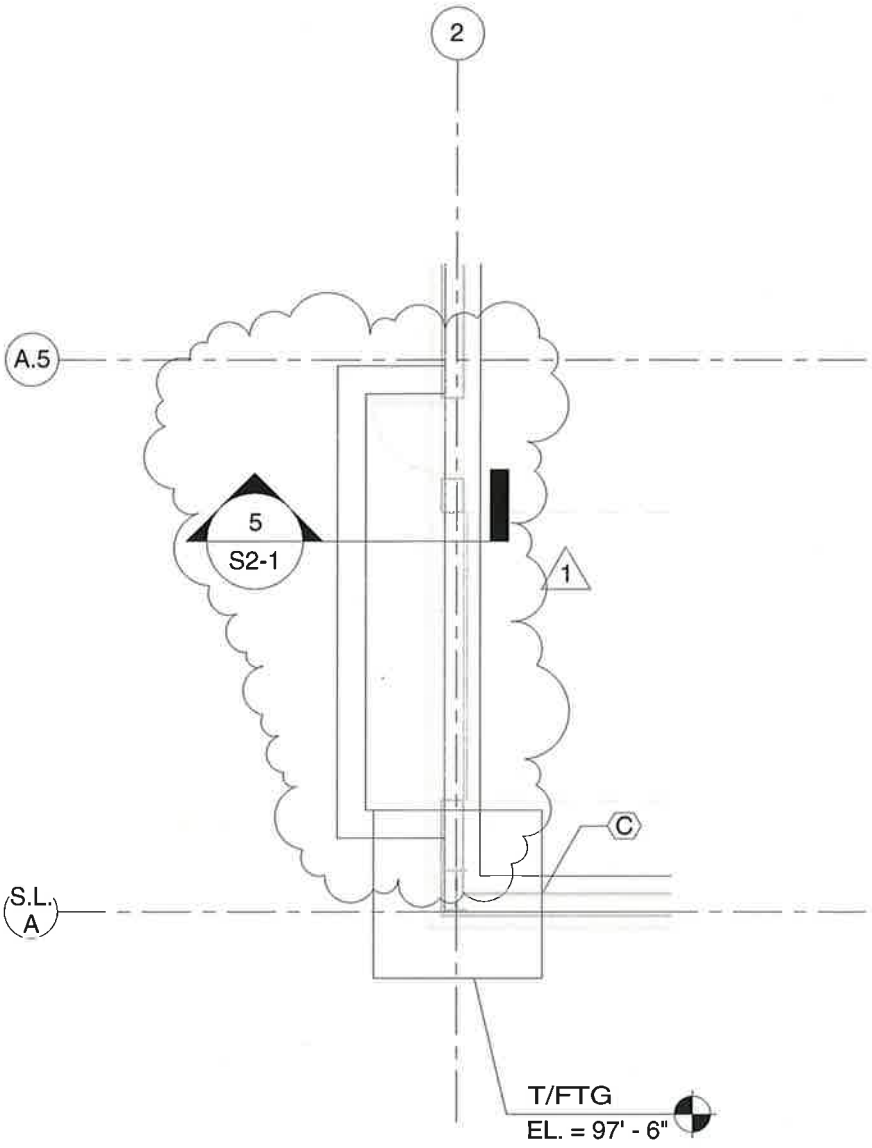
BERINGER CIACCIO DENNELL MABREY



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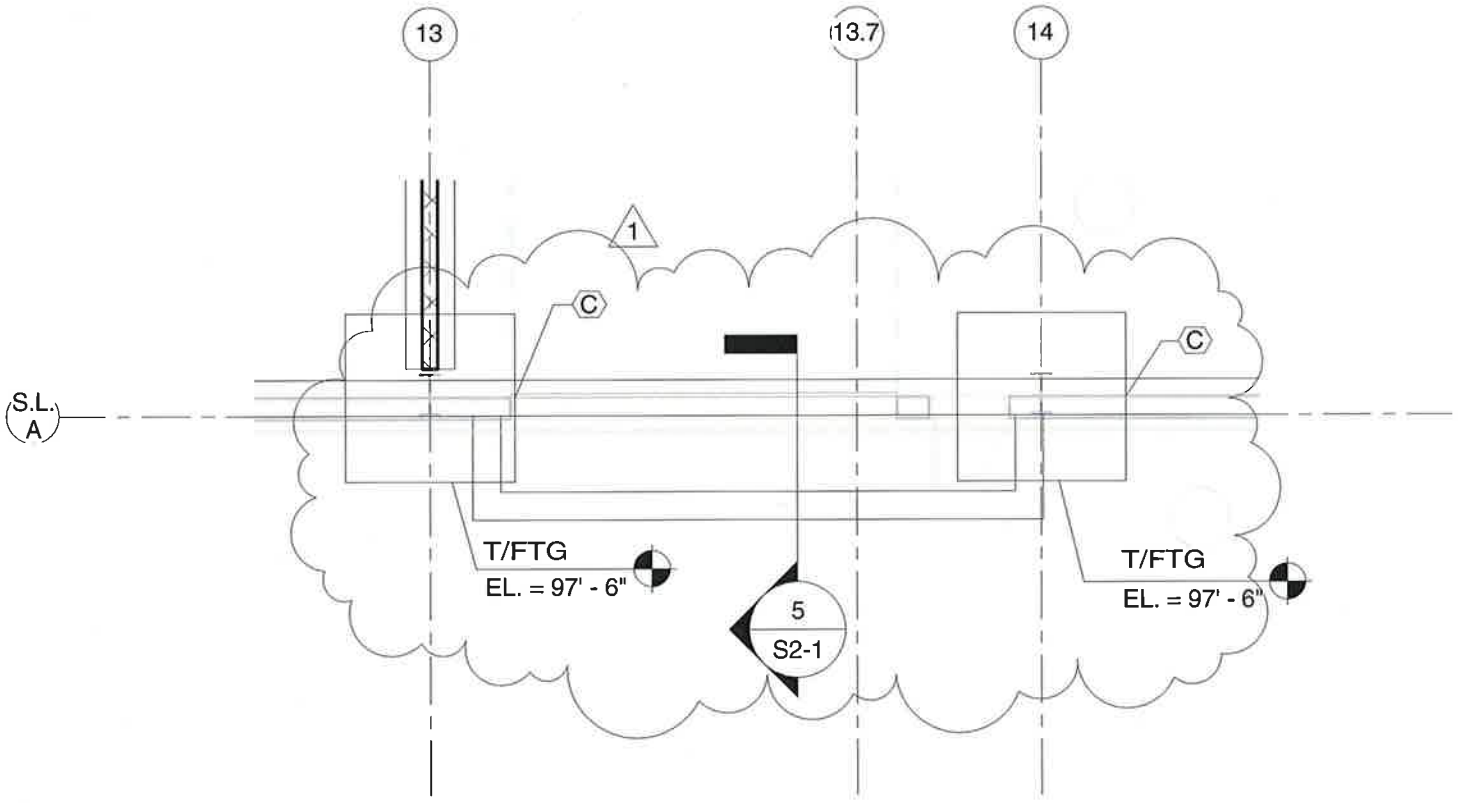
1/8" = 1'-0"



1 FOUNDATION PLAN - AREA 'B'
1/8" = 1'-0"

bcdm architects

APPLIED TECHNOLOGY BUILDING Norfolk, NE 68702-0469

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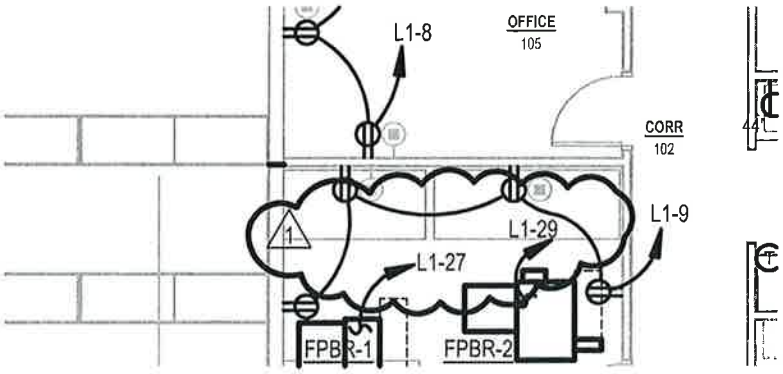

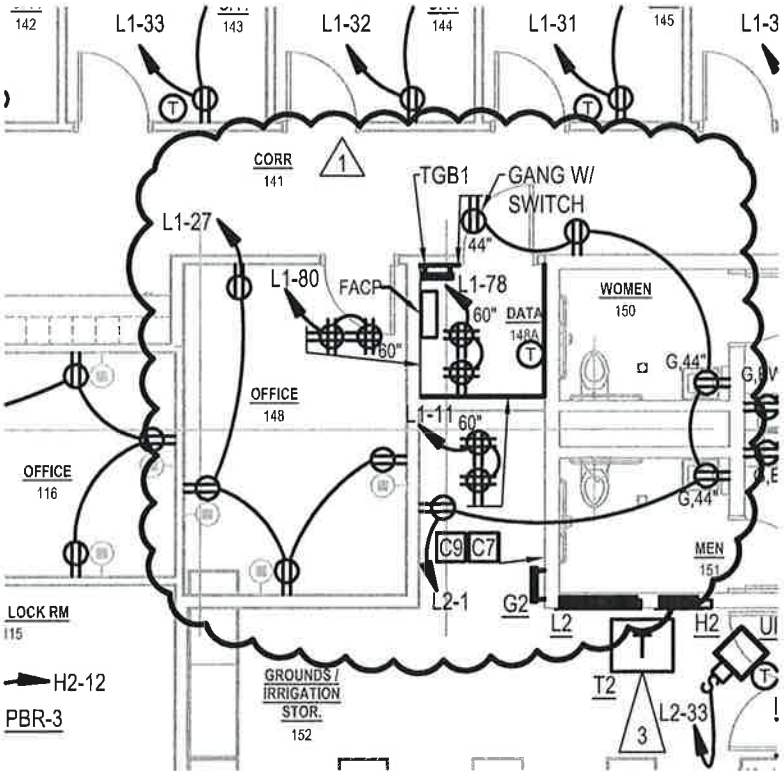

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PHYSICAL PLANT BUILDING
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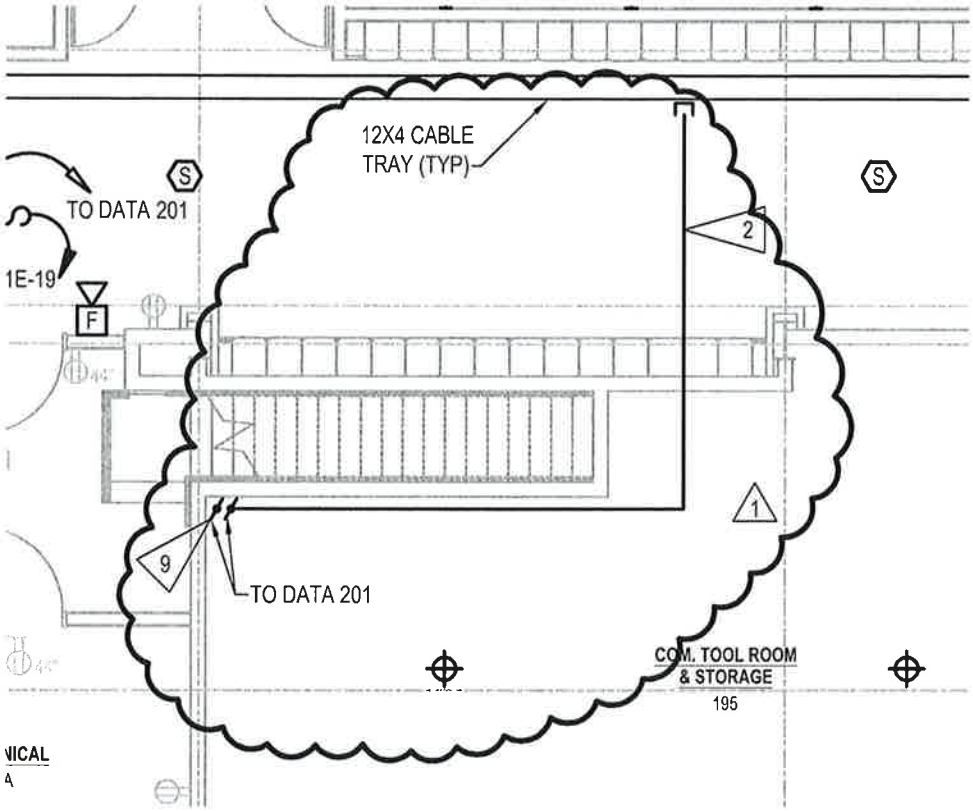
project no.:	12103	drawing referenced:	E2-1A
date:	06/28/2013	addendum no.:	1

sketch E2-1Aa



FLAG NOTES (NOT ALL USED THIS SHEET)

1. PROVIDE TWO (2) 2" C. AND TWO (2) 4" C. SLEEVES ABOVE ACCESSIBLE CEILING FROM CABLE TRAY TO DATA ROOMS. ROUTE CONDUITS TIGHT TO STRUCTURE WHERE CEILING IS EXPOSED. PROVIDE INSULATED BUSHINGS ON EACH END. SEAL BOTH ENDS OF CONDUIT WITH REMOVABLE PLENUM RATED ACOUSTICAL SEALANT. COORDINATE STUB UP LOCATIONS WITH IT EQUIPMENT PRIOR TO DRILLING.

2. PROVIDE TWO (2) 2" C. AND TWO (2) 4" C. SLEEVES ABOVE ACCESSIBLE CEILING FROM CABLE TRAY TO DATA 201. ROUTE CONDUITS TIGHT TO STRUCTURE WHERE CEILING IS EXPOSED. PROVIDE INSULATED BUSHINGS ON EACH END. SEAL BOTH ENDS OF CONDUIT WITH REMOVABLE PLENUM RATED ACOUSTICAL SEALANT. COORDINATE STUB UP LOCATIONS WITH IT EQUIPMENT PRIOR TO DRILLING.

3. PROVIDE TWO (2) 1-1/2" C. SLEEVES ABOVE ACCESSIBLE CEILING TO CABLE TRAY. PROVIDE INSULATED BUSHING ON EACH END. SEAL BOTH ENDS OF

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APPLIED TECHNOLOGY BUILDING
NORTHEAST COMMUNITY COLLEGE
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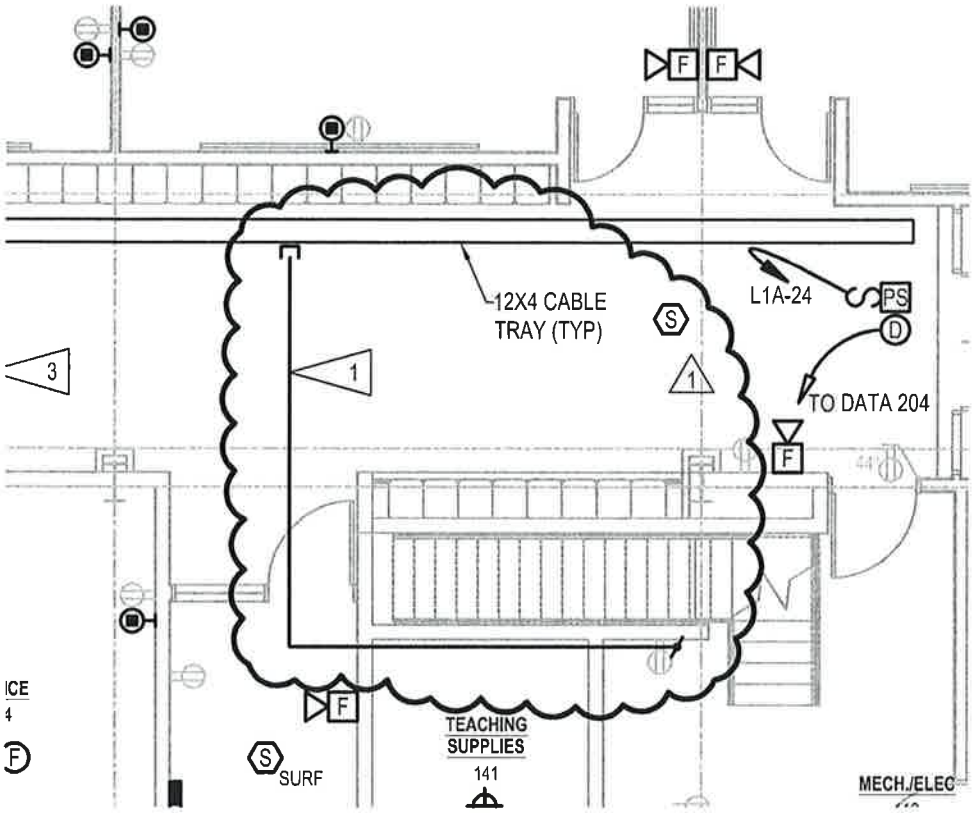
project no.: 12102	drawing referenced: E3-1A	sketch E3-1Aa
date: 06/28/2013	addendum no.: 1	



FLAG NOTES (NOT ALL USED THIS SHEET)

1 PROVIDE TWO (2) 2" C. AND TWO (2) 4" C. SLEEVES ABOVE ACCESSIBLE CEILING FROM CABLE TRAY TO DATA ROOMS. ROUTE CONDUITS TIGHT TO STRUCTURE WHERE CEILING IS EXPOSED. PROVIDE INSULATED BUSHINGS ON EACH END. SEAL BOTH ENDS OF CONDUIT WITH REMOVABLE PLENUM RATED ACOUSTICAL SEALANT. COORDINATE STUB UP LOCATIONS WITH IT EQUIPMENT PRIOR TO DRILLING.

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APPLIED TECHNOLOGY BUILDING
NORTHEAST COMMUNITY COLLEGE
801 EAST BENJAMIN AV., NORFOLK, NE

project no.:	12102	drawing referenced:	E3-1B
date:	06/28/2013	addendum no.:	1

sketch E3-1Ba

SWITCHBOARD SCHEDULE

DESIGNATION	CIRCUIT NUMBER	NAMEPLATE DESIGNATION	ACTIVE	SPARE	FUSE	SPACE	REMARKS
HMSB •480Y/277V, 3Ø, 4W WITH GROUND BAR •2500A GFCI MAIN BREAKER •BREAKER DISTRIBUTION •OWNER METER PACKAGE •INTEGRAL SPD •65 KAIC •ENTRANCE RATED	1	CWP-1A (VFD-CWP1A)	60/3				
	2	CWP-1B (VFD-CWP1B)	60/3				
	3	SPARE		100/3			
	4	SPARE		100/3			
	5	TRANSFORMER T1B	225/3				
	6	SPARE		225/3			
	7	SPARE		225/3			
	8	PANEL H1A	225/3				
	9	PANEL H1B	225/3				
	10	PANEL H1F	225/3				
	11	PANEL H1G	225/3				
	12	PANEL H1H	225/3				
	13	PANEL H2A	400/3				
	14	SPACE				400/3	
	15	ACCH-1A	300/3				
	16	ACCH-1B	300/3				
	17	TRANSFORMER T1A	800/3				
	18	PANEL HDP1	1000/3				

1

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APPLIED TECHNOLOGY BUILDING
NORTHEAST COMMUNITY COLLEGE
801 EAST BENJAMIN AV., NORFOLK, NE

project no.:	12103	drawing referenced:	E4-2
date:	06/28/2013	addendum no.:	1

sketch E4-2a

DISTRIBUTION PANEL SCHEDULE

DESIGNATION	CIRCUIT NUMBER	NAMEPLATE DESIGNATION	ACTIVE	SPARE	FUSE	SPACE	REMARKS
HDP1 •480Y/277V, 3Ø, 4W WITH GROUND BAR •1000A MAIN CIRCUIT BREAKER •BREAKER DISTRIBUTION •65 KAIC	1	SPARE		100/3			
	2	SPARE		100/3			
	3	SPACE				100/3	
	4	SPACE				100/3	
	5	PANEL H1D	225/3				
	6	PANEL H1E	225/3				
	7	PANEL H1C	225/3				
	8	TRANSFORMER T1C	225/3				
	9	SPACE				225/3	
	10	SPACE				225/3	
	11	SPACE				225/3	
	12	SPACE				225/3	
	13	PANEL H2B	400/3				
	14	TRANSFORMER T1C	400/3				
	15	SPACE				400/3	
	16	SPACE				400/3	

1

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APPLIED TECHNOLOGY BUILDING
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801 EAST BENJAMIN AV., NORFOLK, NE

project no.: 12103	drawing referenced: E4-2	sketch E4-2b
date: 06/28/2013	addendum no.: 1	

MID-STATE
ENGINEERING & TESTING

REPORT OF GEOTECHNICAL INVESTIGATION

NORTHEAST COMMUNITY COLLEGE
APPLIED TECHNOLOGIES BUILDING
NORFOLK, NEBRASKA

M.S. PROJECT NO. 632-50-19
JUNE 25, 2012
A-5930

Prepared for:

Northeast Community College
801 East Benjamin Avenue
Norfolk, NE. 68702

MID-STATE
ENGINEERING & TESTING

REPORT OF GEOTECHNICAL INVESTIGATION

NORTHEAST COMMUNITY COLLEGE APPLIED TECHNOLOGIES BUILDING NORFOLK, NEBRASKA

M.S. PROJECT NO. 632-50-19
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Prepared for:

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ENGINEERING &
TESTING, INC.

REPORT OF
GEOTECHNICAL INVESTIGATION

NORTHEAST COMMUNITY COLLEGE
APPLIED TECHNOLOGIES BUILDING
NORFOLK, NEBRASKA

M.S. PROJECT NO. 632-50-19
JUNE 25, 2012
A-5930

INTRODUCTION

This report presents the results of a geotechnical investigation performed at the site of the proposed Applied Technologies building to be located on the North East Community College Campus in Norfolk, Nebraska.

Included in this investigation were fourteen (14) soil borings (DH's 10 to 23), laboratory testing, and a report of conclusions and recommendations. The scope of our report was limited to the following:

- Evaluating the engineering properties of the soils encountered.
- Recommending types and depths of foundation elements.
- Evaluating soil bearing capacity and settlement.
- Provide a seismic site classification.
- Provide pavement design criteria.
- Providing recommendations for earthwork and soil related construction with respect to the soils encountered.

This report was prepared by Mid-State Engineering and Testing by a professional engineer registered in the State of Nebraska. Recommendations are based on the applicable standards of the profession at the time of this study. This report has been prepared for the exclusive use of BCDM and the owner; for specific application to the planned construction. All work was conducted in accordance with generally accepted soil and foundation engineering practices.

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PROJECT DESCRIPTION

As proposed, construction will include an approximate 60,000 ft² single story structure and surrounding parking and drive areas. The building will consist of a steel-frame, slab-on-grade construction, with maximum structural loads on the order of 2 -4 klf for walls and 80 kips for isolated columns.

Based on a finish floor elevation of 1575 feet (Local Datum) maximum cuts of 5 to 6 feet and fill up to 10 feet are expected.

Parking and drive areas are planned around the facility, along with construction of a new loup road around the North side of the building. Its assumed the parking and drive areas will be Portland cement concrete paving. We are expecting maximum cuts and fills within the parking and drive areas of about 8 to 10 feet.

FIELD WORK

The field investigation was conducted on May 31, 2012. The exploratory program consisted of fourteen (14) soil borings (DH's 10 thru 23) located as noted on the included Site Plan (Appendix A). Boring locations were determined based on a preliminary site plan provided by BCDM. Locations were established in the field based on taped measurements from existing landworks. The locations of the borings should be considered accurate to the degree implied by the means and methods used. After completion of the drilling operations, a new site plan (June 13, 2012) was provided. This plan indicated a reorientation and shift in building location to the North and East. The included site plan depicts this new building location.

The exploratory borings for the proposed structure (DH-1 thru DH-6) were advanced to depths of 10 to 20 feet below existing site elevations with a truck-mounted rotary drilling rig using continuous flight augers. The borings for the planned parking areas were continuously sampled to a depth of 5 feet.

Soil samples were obtained at the sampling intervals noted on the Boring Logs (Appendix B). Recovered samples were extruded in the field, sealed in plastic containers, labeled, and protected for transportation to the laboratory for testing. Undisturbed samples, designated "U" samples, were obtained with a 3.0 inch (outside diameter), thin-walled, tube samplers hydraulically pushed in general accordance with ASTM D1587-83 (Thin walled Sampling of Soils). Split-barrel samples, designated "S" samples, were obtained while performing Standard Penetration Test (SPT) with a 1.50-inch (inside diameter), thick-walled sampler driven in general accordance with ASTM D-1586-84 (Penetration Test and Split-Barrel Sampling of Soils).

The field Boring Logs was prepared by an experienced soils engineer in general accordance with ASTM D2488-84, (Description of Soils by the Visual-Manual Procedure). Stratification lines represent the approximate boundary between soil types. In-Situ, the transition between sediments may be gradual. Water level readings were made in the drill holes at the times and under conditions noted on the boring logs.

LABORATORY TESTING

Based on site stratigraphy and the construction proposed, a testing program was established to evaluate the engineering properties of the bearing strata. Specific tests performed included:

- Moisture contents
- Unit weight determinations
- Unconfined compression tests
- #200 washed sieve analyses
- Atterberg limits tests
- Grain Size Analysis
- One Dimensional Consolidation Test

All tests were conducted in general accordance with current ASTM or state-of-the-art test procedures. Laboratory test results are presented in Appendix C.

Moisture contents, sand contents and unit weight determinations were used to define the overall uniformity/variability of the on-site soils. This information, along with the standard penetration testing performed in the field, was used to evaluate in-situ bearing conditions and estimate settlement.

Unconfined compression tests define the stress/strain characteristics and related shear strengths of the soils.

The one dimensional consolidation test defines the load-settlement relationship of the soils.

Atterberg limits and particle size analysis were used to determine plasticity characteristics and to classify the soils in accordance with the Unified Soil Classification System.

Based on the results of this testing program, the field logs were reviewed and supplemented as shown in Appendix B. These final logs represent our interpretation of the field logs and reflect the additional information gained from the laboratory testing.

SITE CONDITIONS

The proposed Applied Technologies Building will be located on the North side of the campus, directly North of the existing Diesel Technician Building. The site consists of agricultural land currently used for row crop production. Site drainage is in a Southwest direction, with approximately 18 to 20 feet of fall from the Northeast to Southwest sides of the development area.

SOIL CONDITIONS

This site lies within the Upland Lands overlooking the Elkhorn River flood plain in Northeast Nebraska. The generalized subsurface profile for this region consists of wind deposited Loessal and Aeolian Sediments overlying water deposited (alluvium) soils and/or Glacial Sediments. To

the depths investigated, the soils encountered on this site indicates a generalize soil profile consisting of a thin layer Develop Zone soils (4-6 inches), which overlie Colluvial Sediments and in turn Aeolian Sediments and Glacial Deposits to the termination depths of the borings.

An approximate 6 to 12 inch organic enriched developed zone (topsoil) was noted at the ground surface at all boring locations. These soils are similar to the underlying Colluvial sediments, with properties and characteristics that have been altered by the action of wind, moisture, vegetation growth and temperature change. These soils were described as brown and dark brown, moist, firm, lean clays with roots and root holes.

Colluvial Deposits were encountered directly below the surficial topsoil in all borings. These soils extended to depths ranging from about 2 to 15+ feet below grade. Colluvial deposits are natural occurring sediments which accumulate through the action of wind and local wash. These sediments were described as brown, dark brown and dark grey brown, moist, firm, lean clays. These sediments exhibit the following range in insitu engineering properties:

Moisture contents (%)	8 - 23
Dry Unit Weights (psf)	99 - 107
Percent finer than #200 sieve (%)	20 - 96
Plasticity Indices (PI)	NP - 8
Standard Penetration Test Blow Count (N)	9

Based on laboratory testing and visual evaluation, these deposits generally classify as low plastic silty and clayey fine sands (SM/SC) and silty and sandy clays (CL).

Aeolian Deposits were found below the Colluvial Sediments in all borings, extending to depths of about 12 to 15 feet below current site elevations. These deposits were described as light brown and brown, slightly moist to moist, loose to firm silty and clayey fine sands. These deposits exhibit the following range in in-situ engineering properties.

Moisture contents (%)	4 - 9
Percent finer than #200 sieve (%)	5 - 14
Standard Penetration Test Blow Counts (N)	6 - 13

Based on the laboratory testing and visual evaluation, these sediments classify as low and non-plastic silty and clayey fine sands (SM/SC/SP).

Kansas Age Glacial Till was encountered at depths of 12 to 15 feet in all of the deeper soil borings extending to the termination depth of the borings. These deposits were described as grey brown, olive brown and olive grey, very moist stiff clays. In the areas sampled, the glacial sediments exhibit the following in-situ engineering properties.

Moisture Contents (%)	19 - 23
Standard Penetration Test Blow Counts (N)	9 - 19

Based on visual evaluation, these deposits generally classify as moderately plastic lean clays.

GROUNDWATER

Groundwater was not encountered within the maximum 20' boring depths, and consequently, not expected to impact construction or foundation performance. It should be recognized, however that groundwater levels can fluctuate due to seasonal weather patterns, irrigation and drainage practices, and other factors which may differ from those at the time of drilling.

CONCLUSIONS AND RECOMMENDATIONS

GENERAL

In the event the recommendations of this report are followed, the building site is considered suitable for the planned construction. The undisturbed site soils are generally capable of supporting expected structural loads, and groundwater was not encountered at a depth, which would be expected to effect construction.

The primary considerations for site development include controlling total settlement resulting from the 10+ feet of fill required to elevate the West side of the structure to design grade, and differential settlement between the building cut and fill areas.

Based on consolidation testing and the standard penetration tests performed in the field, total settlement resulting from the weight of the approximate 10 feet of structural fill required to elevate the West end of the building will be on the order of about 1½ inch. This settlement will be differential relative to the East side of the structure. In addition, approximately ½ to ¾ inch of settlement is expected due to actual building foundation loads.

Based on the conditions indicated, we recommend Earthwork be completed as early in the construction process as possible to allow the settlement resulting from the weight of the fill to occur prior to building construction. The variance in geologic conditions will effect the time of settlement resulting in time estimates of 3 to about 8 weeks required for 90% of this predicted settlement to occur. We recommend 3 or 4 monitoring points (steel stakes) be established at final grade upon completion of overlot grading in the building area with weekly monitory to determine when settlement resulting from the weight of the fill is complete. As an alternate, a soil surcharge could be used (about 10 feet) to accelerate the settlement. Its expected a surcharge will reduce the time of settlement by approximately one half (2 to 4 weeks).

FOUNDATION ANALYSIS

If the recommendations presented in this report are followed, this site will be suitable for the use of conventional spread footings for light to moderate structural loads. The selection of allowable soil bearing pressure for foundation design must fulfill two requirements. First, the structural loads must be sufficiently less than the ultimate bearing capacity of the bearing soils to insure stability. Second, the differential settlement must not exceed an amount, which will produce adverse behavior of the superstructure.

In order to meet the previous criteria, we have explored both the bearing capacity and load settlement characteristics of the on-site soils assuming maximum building loads on the order of 4 klf for walls and 80 kips for isolated columns.

The bearing capacity is based on a minimum factor of a safety of 3 against the full dead load plus normal live loads. A maximum total settlement of 1 inch with differential settlement limited to about ½ to ¾ inches was used for the proposed building construction. The allowable bearing pressure is expressed in terms of the net pressure transferred to the soil.

We recommend foundation elements bearing with the undisturbed site soils or approved structural fill be designed utilizing an allowable soil bearing capacity of up to 2500 psf. We recommend exterior footings and footings in unheated areas be founded at a minimum depth of 40 inches below surrounding grade for frost protection. Interior footings may be placed directly below the floor slab. All footings will require steel reinforcement and should conform to local code sizes.

In the event these recommendations are followed, maximum total settlement associated with the weight of the structure will range between about ½ and ¾ inch.

EARTHWORK AND EXCAVATIONS

Prior to overall site grading, we recommend all, topsoil (approximately 6-8 inches) and vegetation be stripped from the building site and stockpiled. The topsoil materials should be suitable for re-use in landscaped and green areas.

We recommend the resultant subgrade be scarified, moisture conditioned and re-compacted in the presence of the engineer. Any instability or unsuitable soils detected during performance of this work will need to be addressed as recommended by the soils engineer.

We recommend that structural fill and backfill material consist of cohesive soils having a plastic index less than 20. It is expected the majority of the excavated site soils will be suitable for reuse as structural fill. We recommend structural fill be placed in loose lifts of 8 inches or less in thickness, with each lift compacted to a minimum of 95 percent of the material's standard Proctor maximum dry density (ASTM D698-91). Moisture content at the time of compaction should be controlled to between -3 and +3 percent of the optimum moisture content.

We recommended backfill material for utility trenches below footings, floor slabs and paving be placed in 6 inch loose lifts with each lift compacted to a minimum of 95 percent of the material's standard Proctor maximum dry density (ASTM D698-91). Backfill in grassy areas should be compacted to a minimum of 90 percent of the material's standard Proctor maximum dry density (ASTM D 698-91). Due to the cohesive nature of the site soils, free draining granular fill and backfill which can provide an avenue for water reaching the bearing soils is not recommended within 10 feet of structures.

We recommend a technician, working under the supervision of an experienced soils engineer, periodically monitor earthwork operations to evaluate compliance with the above recommendations.

Vertical cuts and excavations may stand for short periods of time, but should not be considered stable in any case. All excavations should be sloped back, shored, or shielded for protection of workers. Trenching and excavation activities should conform to federal and local regulations as a minimum. Based on the cohesive nature of the on site soils, this site will be suitable for trench footings.

FLOOR SLAB SUBGRADES

To provide uniform support for floor slabs, we recommend the subgrade be reworked and compacted prior to concrete placement. As a minimum, we recommend 12 inches of structural fill be provided below all floor slabs. We recommend structural fill be compacted to a minimum of 95 percent of the material's standard Proctor maximum dry density (ASTM D698-91). If a granular cushion is used beneath the floor slab, this layer should have a uniform thickness and be compacted by vibration prior to concrete placement.

We recommend concrete for floor slabs have a minimum cement content of 564 lb/yd^3 and a minimum compressive strength of 3500 psi. A 6 sack, sand and gravel mix placed at a water/cement ratio of 0.45 or less works well for light traffic floor slabs. An entrained air content of 3 to 6 percent is recommended for strength and workability. This mix can also be used for exterior sidewalks by increasing the entrained air content to 5 to 8 percent.

LATERAL EARTH PRESSURES

Depending on the depth of excavation, multiple soil types could be encountered. Based on our analysis of the on-site soils, the following parameters are recommended for determining below grade earth pressures:

	COHESIVE	COHESIONLESS
• Angle of internal soil friction (ϕ)	15°	26°
• Passive earth pressure coefficient (K_p)	1.70	2.56
• Active earth pressure coefficient (K_a)	0.59	0.39
• Coefficient of friction	0.30	0.35
• Average total soil unit weight (in situ)	120 pcf	120 pcf

PAVEMENT DESIGN

Pavement performance is directly affected by the degree of compaction, uniformity, and stability of the subgrade soils. Based on traffic consisting of 75 to 100 cars and 1 to 3 medium to heavy trucks per day, we recommend providing at-least 12" of structural fill (as described above) below all pavement sections. Once the area is excavated, the exposed subgrade should be scarified to a depth of 8" and re-compacted. We recommend that structural fill below paving be compacted to a minimum of 96 percent of the material's standard Proctor maximum dry density (ASTM D698). We recommend fill material be placed and compacted according to the guidelines outlined in the "Earthwork and Excavations" section of this letter.

We recommend the parking area be brought to final subgrade elevation using controlled, (engineered) fill. This engineered fill should be placed in thin loose lifts and compacted to a minimum of 96 percent of the material's standard Proctor maximum dry density (ASTM D698-91). The majority of the on-site soils should be suitable for this use. Moisture conditioning of on-site soils is anticipated in-order to obtain the specified density.

We recommend the final subgrade be proof-rolled immediately prior to the placement of concrete or asphalt to detect any localized areas of instability. Unstable areas should be reworked as needed to provide a uniform subgrade. It should be noted that these compaction requirements are minimum recommended values and more stringent requirements, based on a specific pavement design, should supersede these recommendations.

Based on the recommendations of this report, a soaked CBR of five (5) and a corresponding modulus of subgrade reaction (k for pavements) of 150 pci is recommended for pavement design. Pavement thickness should be determined based on traffic volume and standard pavement design procedures. In no instance should concrete paving be less than 6 inches in thickness or asphalt less than 5 inches.

We recommend that Portland cement concrete be air-entrained and have a minimum compressive strength of 4000 psi (600 psi flexural strength). State of Nebraska Type 47B concrete has proven to be very durable in this area.

Generally, concrete out performs asphalt over time. However, with periodic maintenance and timely overlays, asphalt can also perform satisfactorily. If asphalt paving is utilized, surface elevations should be established to allow for future overlays. Based on anticipated traffic, we recommend asphalt be designed to have a minimum Marshall stability of 1800 lb., a minimum oil content of 4.5% and an aggregate which meets NDOR soundness and gradation requirements.

SEISMIC SITE CLASS

Seismic structural design requirements are dictated by a site classification based on average soils properties within the top 100 feet. Based on a review of local well logs along with our previous work in the Norfolk area, a deep soil profile consisting of approximately 40 to 60 feet of Loessal and Glacial Sediments overlies firm Alluvial Sediments and shale is anticipated for this site. The average undrained shear strength was estimated based on the actual laboratory testing performed and on assumed soil properties for the deeper soil profile.

Based on the guidelines provided in Table 1615.1.1 of the 2000 International Building Code, we recommend assigning a site class of D (stiff soil profile) to the project site.

SURFACE DRAINAGE AND LANDSCAPING

The success of the shallow foundation and slab-on-grade floor system is contingent upon keeping the subgrade soils at relative constant moisture content and by not allowing an avenue for surface moisture reaching the bearing soils. Positive surface drainage away from the structure should be

maintained at all times. Landscaped areas should be designed and built in such a way that irrigation and other surface water will be collected and carried away from foundation elements.

The final grade of the foundation backfill and any overlying pavement should have a positive slope away from foundation walls on all sides. A minimum slope of 1 inch per foot for the first 5 to 10 feet is recommended. However, the slope may be decreased if the ground surface next to foundations is covered with concrete slabs or asphalt pavements. A minimum slope of 2 percent is recommended for all other areas. Pavement and exterior slabs next to structures should be carefully sealed against moisture intrusion at the joints.

All downspouts and faucets should discharge onto splash blocks that slope away from foundation walls and extend a minimum of 3 feet from the building line.

GENERAL COMMENTS

If any changes in the nature, design, or location of this project are planned, the conclusions and recommendations contained in this report shall not be considered valid unless those changes are reviewed and the conclusions of this report either modified or verified in writing by the geotechnical engineer.

The analysis and recommendations submitted in this report are based in part upon the data obtained from the fourteen (14) soil borings. The nature and extent of variations of the on-site soils between borings may not become evident until construction. If variations appear, it will be necessary to re-evaluate the recommendations of this report.

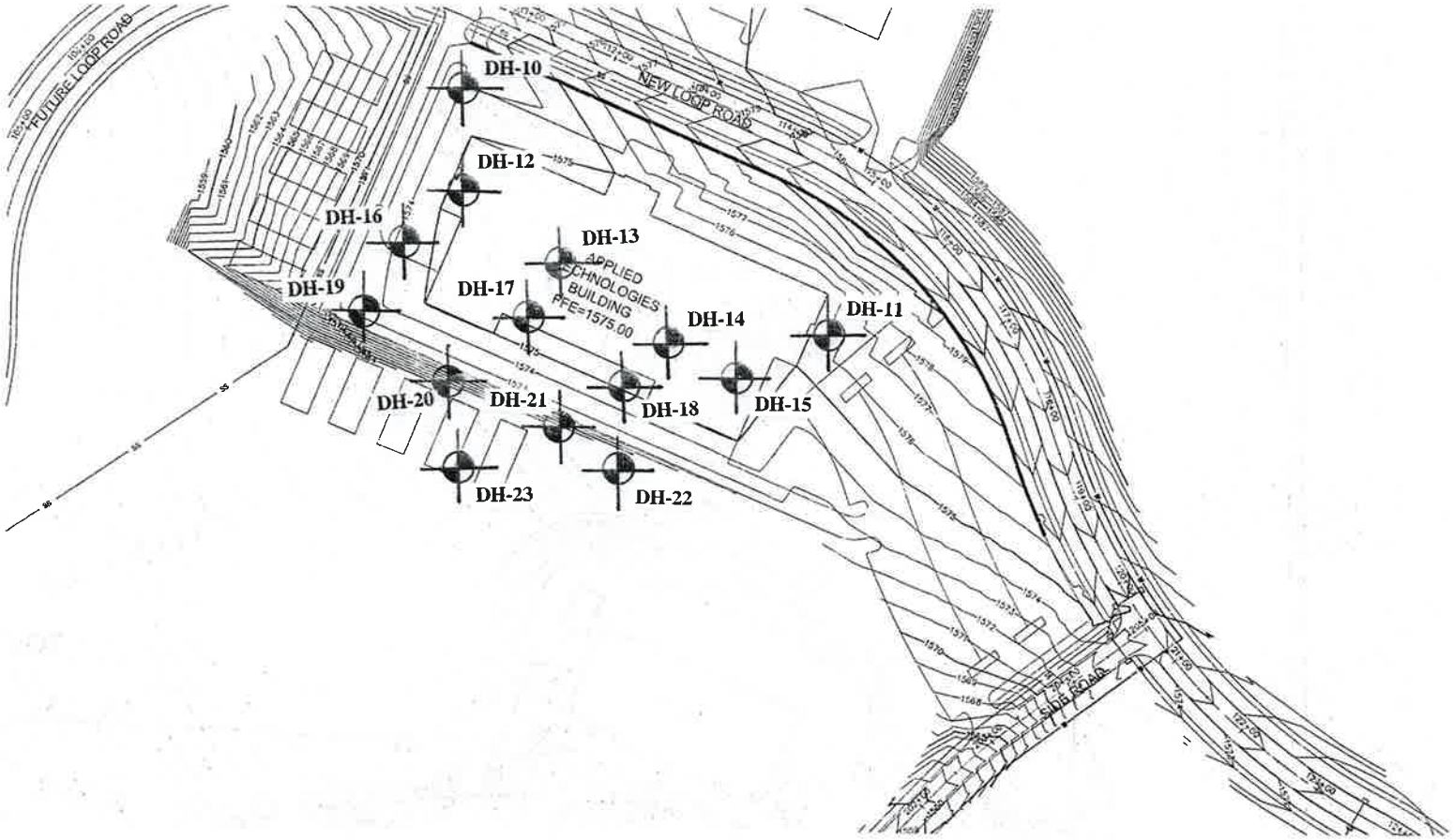
It is recommended the geotechnical engineer be allowed to review the final design and specifications to verify compliance with respect to the recommendations of this study. It is also recommended the geotechnical engineer be retained to provide Quality Assurance/Quality Control engineering and testing services during the earthwork excavation and foundation construction phase of the project to verify site suitability and to provide recommendations if subsurface conditions differ from those expected.

Respectfully submitted,
Mid-State Engineering and Testing, Inc.

JAMES MUSILEK E-5935

Jim Musilek, P.E.
Nebraska Reg. #E-5935

APPENDIX A
BORING LOCATION PLAN



MID-STATE

ENGINEERING & TESTING, INC.

279 ROAD 'D', COLUMBUS, NE. 68601

BORING LOCATION PLAN

NECC APPLIED TECHNOLOGIES BLDG

NORFOLK, NEBRASKA

APPENDIX B
BORING LOGS

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/31/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-10	As Per Boring Location Plan			10.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Grey Brown	Moist	Stiff	SC	**COLLUVIAL DEPOSITS** Clayey Sands and Sandy Clays w/ Carbon and Rust Stains	12.9	106.2		
				Dark Brn			CL					
5	U-2								14.4	103.7		5
							CL/SC					
10	U-3			Light Brn	Slightly Moist	Firm	SM	**AEOLIAN DEPOSITS**	8.7			10
								Bottom of Hole 10.0'				
15												15
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/31/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-11	As Per Boring Location Plan			10.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	SC	**COLLUVIAL DEPOSITS**				
				Brown	Moist	Loose	SC	**AEOLIAN DEPOSITS** Silty and Clayey Fine Sands				
5	S-2	2/3/3 (6)							8.2			5
							SM/SC					
						Firm	SM					
10	S-3	4/5/6 (11)							8.7			10
								Bottom of Hole 10.0'				
15												15
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-12	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	SC	**COLLUVIAL DEPOSITS** w/ Rust and Carbon Stains				
				Brown			CL/SC					
5	U-2								19.2	103.3	0.5	5
						Stiff	CL					
10	U-3								23.9	99.7	1.9	10
15	S-4	3/4/5 (9)							21.3			15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-13	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Grey Brown	Moist	Firm	SC	**COLLUVIAL DEPOSITS** w/ Rust and Carbon Stains Fine Sands	17.3			
							CL					
5	U-2								21.3	102.4	0.7	5
				Light Brn	Moist	Firm	SC/SM	**AEOLIAN DEPOSITS**	11.4			
10	U-3											10
				Olive Grey	Moist	Very Stiff	CL/CH	**KANSAS AGE GLACIAL TILL** w/ Sand Trace Gravel				
15	S-4	6/9/10 (19)							19.0			15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/31/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-14	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N" BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Brown	Moist	firm	SC	**COLLUVIAL DEPOSITS** w/ Rust Stains				
				Light Brn	Slightly Moist	Loose	SC/SM	**AEOLIAN DEPOSITS** w/ Rust Stains				
5	S-2	3/3/4 (7)							7.4			5
						Firm	SM					
10	S-3	4/5/6 (11)							8.4			10
				Olive Brn	Moist	Very Stiff	CL	**KANSAS AGE GLACIAL TILL** w/ Sand Trace Gravel Calcium				
15	S-4	4/5/9 (14)							22.3			15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/31/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-15	As Per Boring Location Plan			20.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Brown	Moist	Firm	SC	**COLLUVIAL DEPOSITS** w/ Roots and Rust Stains				
				Light Brn	Slightly Moist	Loose	SC	**AEOLIAN DEPOSITS** w/ Rust Stains	7.4			
5	S-2	2/3/4 (7)					SC/SM					5
						Firm	SM		4.2			
10	S-3	4/5/6 (11)										10
	S-4	2/4/6 (10)		Grey Brn	Moist	Stiff	CL/CH	**KANSAS AGE GLACIAL TILL** w/ Sand, Trace Gravel Rust Carbon Calcium	23.3			
15						Very Stiff						15
20	S-5	5/5/9 (14)							21.5			20
								Bottom of Hole 20.0'				
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-16	As Per Boring Location Plan			10.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	SC	**COLLUVIAL DEPOSITS** w/ Rust, Roots	10.7	102.1		
				Light Brn	Slightly Moist	Firm	SC	**AEOLIAN DEPOSITS** w/ Rust				
5	S-2	3/4/5 (9)							6.5			5
							SC/SM					
							SM/SP					
10	S-3	5/6/7 (13)							8.4			10
								Bottom of Hole 10.0'				
15												15
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-17	As Per Boring Location Plan			20.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Brown	Moist	Firm	SC	**COLLUVIAL DEPOSITS**	14.2	99.2		
				Light Brn	Slightly Moist	Loose	SC	**AEOLIAN DEPOSITS** w/ Rust Stains				
5	S-2	1/3/3 (6)					SC/SM		8.8			5
						Firm	SM/SP					
10	S-3	6/6/4 (10)							9.7			10
				Olive Brn	Moist	Stiff	CL/CH	**KANSAS AGE GLACIAL TILL** w/ Sand Rust Carbon				
15	U-4								22.7			15
						Very Stiff						
20	S-5	5/7/9 (16)							21.6			20
								Bottom of Hole 20.0'				
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/31/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-18	As Per Boring Location Plan			20.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Brown	Slightly Moist	Firm	SC	**COLLUVIAL DEPOSITS**	7.8			
				Light Brn	Slightly Moist	Loose	SM	**AEOLIAN DEPOSITS** w/ Rust				
5	S-2	3/3/5 (8)				Firm			6.2			5
10	S-3	5/5/7 (12)							9.2			10
				Grey Brn	Moist	Very Stiff	CL/CH	**KANSAS AGE GLACIAL TILL** w/ Sand Trace Gravel Rust Carbon Calcium	20.3			
15	S-4	4/6/7 (13)										15
20	S-5	5/7/8 (15)							23.5			20
								Bottom of Hole 20.0'				
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-19	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Brown	Moist	Firm	SC	**COLLUVIAL DEPOSITS**	11.8	102.9		
				Light Brn	Slightly Moist	Loose	SC	**AEOLIAN DEPOSITS**				
							SC/SM	w/ Rust				
5	S-2	3/3/4 (7)					SM/SP		6.0			5
						Firm						
10	S-3	6/6/6 (12)							5.0			10
15	S-4	3/4/5 (9)		Grey Brn	Moist	Stiff	CH	**KANSAS AGE GLACIAL TILL**	22.2			15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-20	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT.	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Brown	Moist	Firm	SC/CL	**COLLUVIAL DEPOSITS** w/ Rust, Carbon Spots, Roots	19.9			
				Light Brn	Slightly Moist	Firm	SC	**AEOLIAN DEPOSITS** Silts and Clayey Fine Sands				
5	S-2	4/5/5 (10)					SC/SP		6.3			5
							SM/SP					
10	S-3	6/6/7 (13)							8.3			10
				Olive Grey	Moist	Stiff	CL/CH	**KANSAS AGE GLACIAL TILL**				
15	S-4	4/5/6 (11)							21.4			15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-21	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Stiff	CL	**COLLUVIAL DEPOSITS** w/ Roots	18.5	102.9		
5	S-2	4/5/5 (10)		Light Brn	Slightly Moist	Loose	SC/SM/SP	**AEOLIAN DEPOSITS** w/ Rust	7.7			5
							SM/SP					
10	S-3	6/6/7 (13)							5.8			10
				Olive Grey	Moist	Stiff	CL/CH	**KANSAS AGE GLACIAL TILL** w/ Sand				
15	S-4	4/5/6 (11)							20.7			15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT: NECC South Building
LOCATION: Norfolk, Nebraska
JOB NO.: 632-50-19
DATE: 5/31/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-22	As Per Boring Location Plan			10.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Slightly Moist	Firm	SC	**COLLUVIAL DEPOSITS**	12.8	98.9		
				Light Brn	Slightly Moist	Firm	SM/SP	**AEOLIAN DEPOSITS** w/ Rust				
5	S-2	3/3/5 (8)							6.5			5
10	U-3	3/5/6 (11)							3.9			10
								Bottom of Hole 10.0'				
15												15
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC South Building
LOCATION	Norfolk, Nebraska
JOB NO.	632-50-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-23	As Per Boring Location Plan			5.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Brown	Moist	Firm	SC	**COLLUVIAL DEPOSITS**	14.5	107.0		
	S-2	2/2/2 (4)		Light Brnm	Slightly Moist	Loose	SC/SM	**AEOLIAN DEPOSITS** w/ Rust	6.1			
5	S-3	3/4/5 (9)				Firm	SM/SP		8.3			5
								Bottom of 5.0'				
10												10
15												15
20												20
25												25
30												30
35												35

APPENDIX C
SUMMARY OF SOILS TEST

MID-STATE
ENGINEERING & TESTING, INC.

SUMMARY OF SOIL TESTS

PROJECT NECC South Building Site

LOCATION Norfolk, Nebraska

JOB NO. 632-50-19 **DATE** 6/6/12

DRILL HOLE NO.	SAMPLE NO.	SAMPLE DEPTH (ft.)	WATER CONTENT %	DENSITY WET (pcf)	DENSITY DRY (pcf)	VOID RATIO (e)	SAT. %	UNCONFINED COMPRESSION QU (tsf)	UNCONFINED COMPRESSION Strain (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PL	ATTERBERG LIMITS PI	%PASS #200 SIEVE	CLASS.	SPT (N)	REMARKS
DH-10	U-1	1/2 - 2'	12.9	119.9	106.2	0.568	60						30.1			
	U-2	3 1/2 - 5'	14.4	118.6	103.7	0.629	62			22	14	8				
	U-3	8 1/2 - 10'	8.7													
DH-11	U-1	1/2 - 2'														
	S-2	3 1/2 - 5'	8.2										13.7		6	
	S-3	8 1/2 - 10'	8.7												11	
DH-12	U-1	1/2 - 2'														
	U-2	3 1/2 - 5'	19.2	123.1	103.3	0.631	82	0.5	1.3							
	U-3	8 1/2 - 10'	23.9	123.5	99.7	0.690	94	1.9	2.7				95.6			
	S-4	13 1/2 - 15'	21.3												9	
DH-13	U-1	1/2 - 2'	17.3										40.0			
	U-2	3 1/2 - 5'	21.3	124.2	102.4	0.645	89	0.7	8.0							
	U-3	8 1/2 - 10'	11.4													
	S-4	13 1/2 - 15'	19.0												19	
DH-14	U-1	1/2 - 2'														
	S-2	3 1/2 - 5'	7.4										12.0		7	
	S-3	8 1/2 - 10'	8.4												11	
	S-4	13 1/2 - 15'	22.3												14	

MID-STATE ENGINEERING & TESTING, INC.

SUMMARY OF SOIL TESTS

PROJECT NECC South Building Site

LOCATION Norfolk, Nebraska

JOB NO. 632-50-19 **DATE** 6/7/12

DRILL HOLE NO.	SAMPLE NO.	SAMPLE DEPTH (ft.)	WATER CONTENT %	DENSITY WET (pcf)	DENSITY DRY (pcf)	VOID RATIO (e)	SAT. %	UNCONFINED COMPRESSION QU (tsf)	UNCONFINED COMPRESSION Strain (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PL	ATTERBERG LIMITS PI	%PASS #200 SIEVE	CLASS.	SPT (N)	REMARKS
DH-15	U-1	1/2 - 2'														
	S-2	3 1/2 - 5'	7.4										13.5		7	
	S-3	8 1/2 - 10'	4.2												11	
	S-4	13 1/2 - 15'	23.3												10	
	S-5	18 1/2 - 20'	21.5												14	
DH-16	U-1	1/2 - 2'	10.7	113.0	102.1	0.650	45						19.6			
	S-2	3 1/2 - 5'	6.5												9	
	S-3	8 1/2 - 10'	8.4										5.3		13	
DH-17	U-1	1/2 - 2'	14.2	113.3	99.2	0.698	55									
	S-2	3 1/2 - 5'	8.8												6	
	S-3	8 1/2 - 10'	9.7												10	
	U-4	13 1/2 - 15'	22.7													
	S-5	18 1/2 - 20'	21.6										70.6		16	
DH-18	U-1	1/2 - 2'	7.8													
	S-2	3 1/2 - 5'	6.2												8	
	S-3	8 1/2 - 10'	9.2												12	
	S-4	13 1/2 - 15'	20.3												13	
	S-5	18 1/2 - 20'	23.5												15	
DH-19	U-1	1/2 - 2'	11.8	115.0	102.9	0.637	50									
	S-2	3 1/2 - 5'	6.0										4.9		7	
	S-3	8 1/2 - 10'	5.0												12	
	S-4	13 1/2 - 15'	22.2												9	

MID-STATE ENGINEERING & TESTING, INC.

SUMMARY OF SOIL TESTS

PROJECT: NECC South Building Site

LOCATION: Norfolk, Nebraska

JOB NO. 632-50-19 DATE 6/7/12

DRILL HOLE NO.	SAMPLE NO.	SAMPLE DEPTH (ft.)	WATER CONTENT %	DENSITY WET (pcf)	DENSITY DRY (pcf)	VOID RATIO (e)	SAT. %	UNCONFINED COMPRESSION QU (tsf)	UNCONFINED COMPRESSION Strain (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PL	ATTERBERG LIMITS PI	%PASS #200 SIEVE	CLASS.	SPT (N)	REMARKS
DH-20	U-1	1/2 - 2'	19.9													
	S-2	3 1/2 - 5'	6.3										7.6		10	
	S-3	8 1/2 - 10'	8.3												13	
	S-4	13 1/2 - 15'	21.4												17	
DH-21	U-1	1/2 - 2'	18.5	122.0	102.9	0.637	79									
	S-2	3 1/2 - 5'	7.7												7	
	S-3	8 1/2 - 10'	5.8										8.7		12	
	S-4	13 1/2 - 15'	20.7												18	
DH-22	U-1	1/2 - 2'	12.8	111.5	98.9	0.704	49						28.8			
	S-2	3 1/2 - 5'	6.5										8.7		8	
	S-3	8 1/2 - 10'	3.9												11	
DH-23	U-1	1/2 - 2'	14.5	122.5	107.0	0.575	68			18	NP	NP	27.0	SC	4	
	S-2	2 - 3 1/2'	6.1												9	
	S-3	3 1/2 - 5'	8.3													

MID-STATE ENGINEERING & TESTING 11 EAST 11TH ST. KEARNEY, NE	Project:	NECC South Building Site		
	Location:	Norfolk, Ne		
	Job No.	632-50-19	Date:	6/6/2012

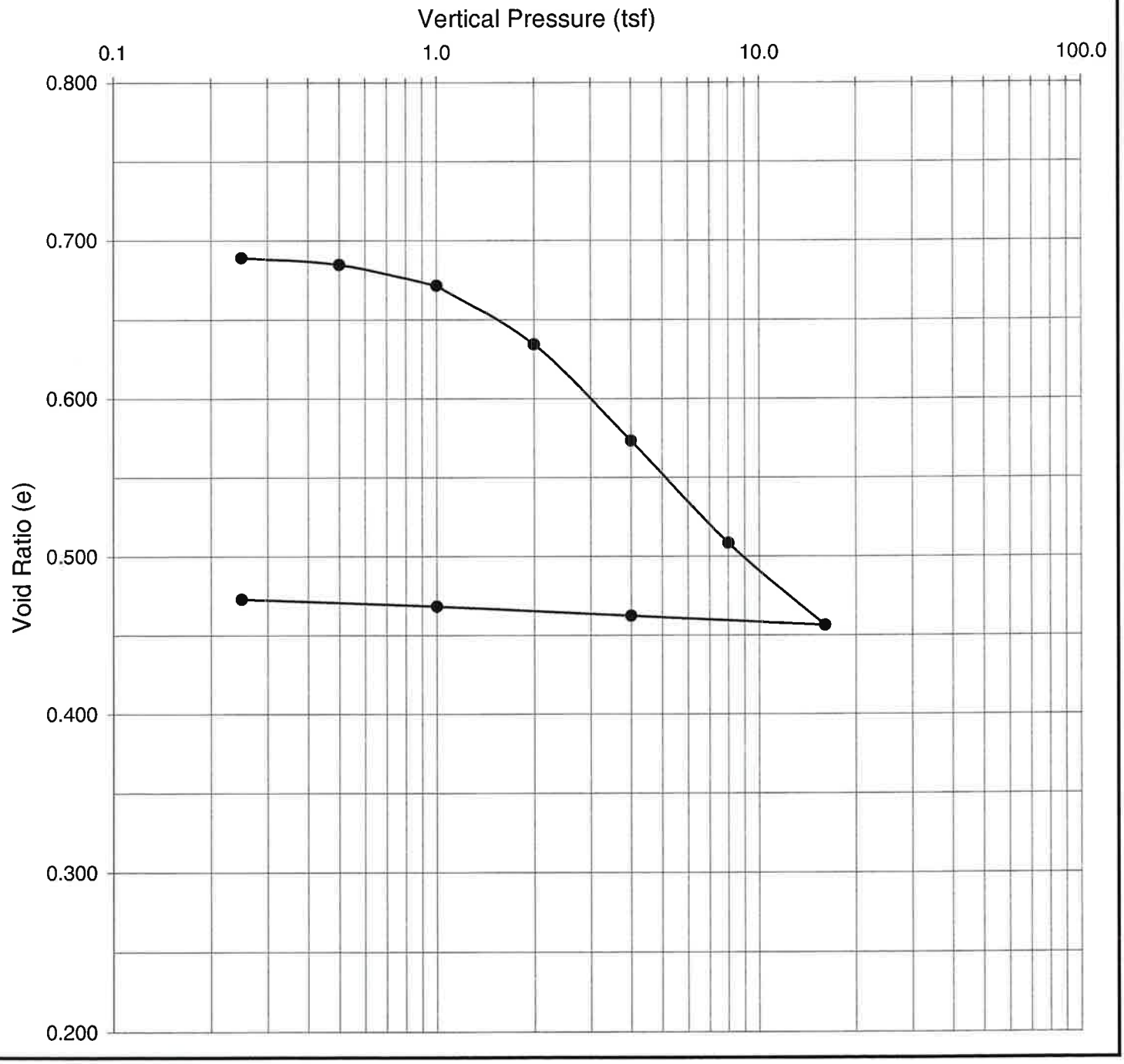
CONSOLIDATION TEST

Drill Hole # DH-10 Sample # U-2 Sample Depth Interval 8 1/2 - 10'

Sample Description Brown Sandy Clay

Initial Water Content (%)	14.4	Dry Unit Weight (pcf)	99.7	Initial Saturation (%)	56.1
Final Water Content (%)	14.0	Specific Gravity (Assumed)	2.70		
Liquid Limit	22	Plastic Limit	14	Plasticity Index	8

Classification CL



MID-STATE

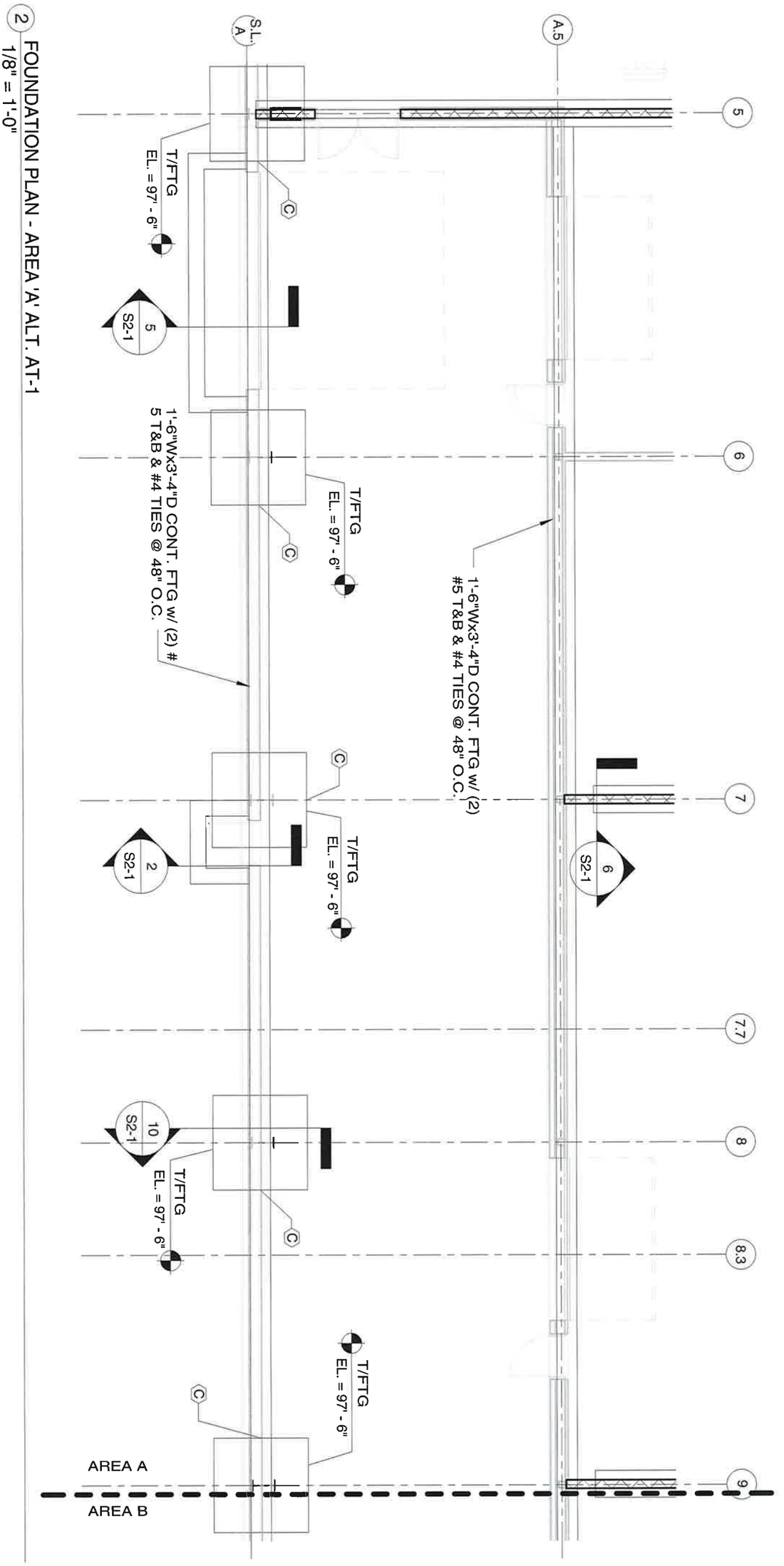
ENGINEERING & TESTING, INC.
279 ROAD 'D', COLUMBUS, NE. 68601

SOIL PROPERTIES

UNIFIED SOILS CLASSIFICATION

(Including Identification and Description)

Group Symbols	Typical Names	Values as Subgrade When No Subject to Frost Action	Potential Frost Action	Compressibility and Expansion	Drainage Characteristics	Compaction Equipment	Compacted Dry Unit Weight (pcf) ASTM-D-698	Typical Design Values	
								CBR	Subgrade Modulus k lb. per cu. in.
GW	Well-graded gravels, gravel-Sand mixture, little or no fines	Excellent	None to Very Slight	Almost None	Excellent	Crawler-type tractor, rubber tired roller, steel-wheeled roller	125-140	40-80	300-500
GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Good to Excellent	None to Very Slight	Almost None	Excellent	Crawler-type tractor, rubber tired roller, steel-wheeled roller	110-140	30-60	300-500
GM	Silty gravels, gravel-sand-silt mixtures. <50% Silts & Clays	Good to Excellent	Slight to Medium	Slight	Fair to Poor	Rubber-tired roller Sheepfoot roller	115-135	20-60	200-500
GC	Clayey gravels, gravel-sand-clay mixtures. <50% Silts & Clays	Good	Slight to Medium	Slight	Poor to Practically Impervious	Rubber-tired roller Sheepfoot roller	130-145	20-40	200-500
SW	Well-graded sands, gravely sands, little or no fines	Good	None to Very Slight	Almost None	Excellent	Crawler-type tractor rubber-tired roller	110-130	20-40	200-400
SP	Poorly-graded sands, gravely sands, little or no fines	Fair to Good	None to Very Slight	Almost None	Excellent	Crawler-type tractor rubber-tired roller	105-135	10-40	150-400
SM	Silty sands, sand-silt mixtures <50% Silts & Clays	Fair to Good	Slight to High	Slight	Fair to Poor	Rubber-tired roller Sheepfoot roller	120-135	15-40	150-400
SC	Clayey sands, sand-clay mixtures <50% Silts & Clays	Poor to Fair	Slight to High	Slight to Medium	Poor to Practically Impervious	Rubber-tired roller Sheepfoot roller	100-135	5-20	100-300
ML	Inorganic silts and very fine sands rock flour, silty fine sands or clayey silts with slight plasticity	Poor to Fair	Medium to Very High	Slight to Medium	Fair to Poor	Rubber-tired roller Sheepfoot roller, close control of moisture	100-120	15 or Less	100-200
CL	Inorganic clays of low to medium plasticity, gravely clays, sandy clays, silty clays, lean clays	Poor to Fair	Medium to High	Medium	Practically Impervious	Rubber-tired roller Sheepfoot roller	90-130	15 or Less	50-150
OL	Organic silts and organic silty clays of low plasticity	Poor	Medium to High	Medium to High	Poor	Rubber-tired roller Sheepfoot roller	90-105	5 or Less	50-100
MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	Poor	Medium to Very High	High	Fair to Poor	Sheepfoot roller Rubber-tired roller	90-105	10 or Less	50-100
CH	Inorganic clays or high plasticity fat clays	Poor to Fair	High	High	Practically Impervious	Sheepfoot roller Rubber-tired roller	90-115	15 or Less	50-150
OH	Organic clays of medium to high plasticity, organic silts	Poor to Very Poor	High	High	Practically Impervious	Sheepfoot roller Rubber-tired roller	80-110	5 or Less	25-100
Pt	Peat and other highly organic soils	Not Suitable	Very High	Very High	Fair to Poor	Compaction Not Practical			



2 FOUNDATION PLAN - AREA 'A' ALT. AT-1
1/8" = 1'-0"

bcdm architects

APPLIED TECHNOLOGY BUILDING

Norfolk, NE 68702-0469

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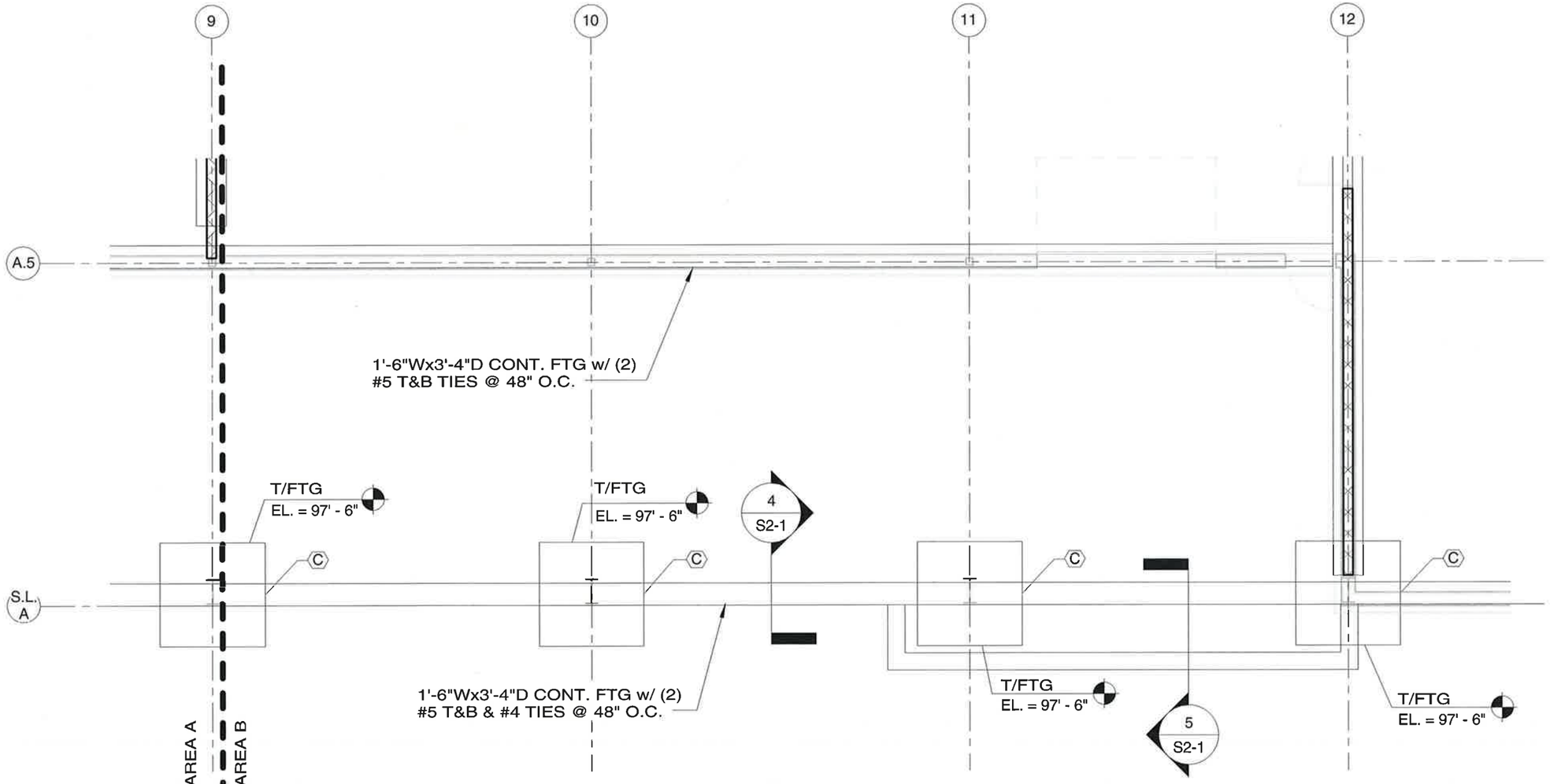
BERINGER CIACCIO DENNELL MABREY



2 FOUNDATION PLAN - AREA 'B' ALT. AT-1
1/8" = 1'-0"

Norfolk, NE 68702-0469

ATTACHMENT
SSD-2

APPLIED TECHNOLOGY BUILDING

DRAWING REFERENCED: 1/S1-0B

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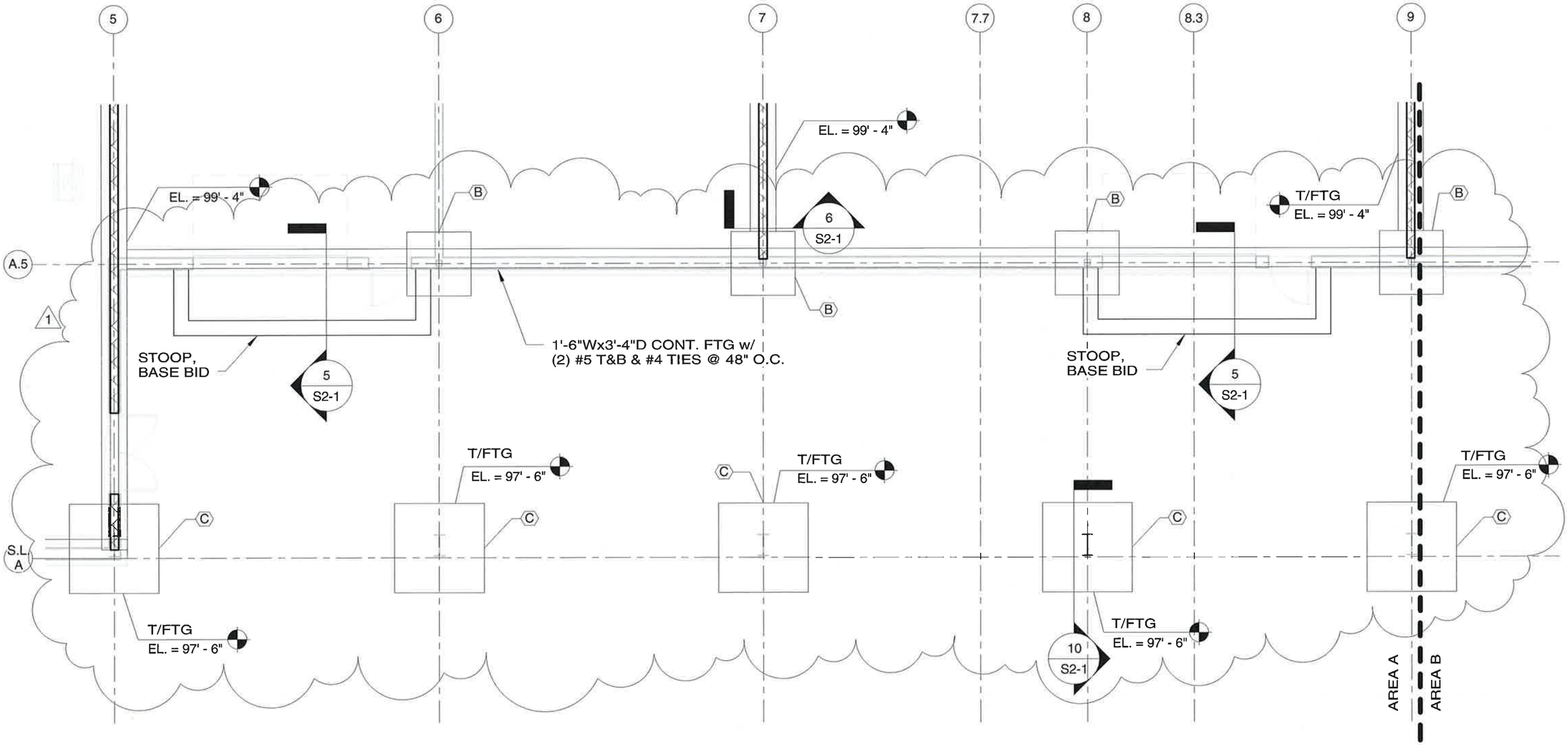
bcdm architects



1 FOUNDATION PLAN - AREA 'A'
1/8" = 1'-0"

Norfolk, NE 68702-0469

ATTACHMENT
SSD-3

APPLIED TECHNOLOGY BUILDING

DRAWING REFERENCED: 1/S1-0A

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BERINGER CIACCIO DENNELL MABREY

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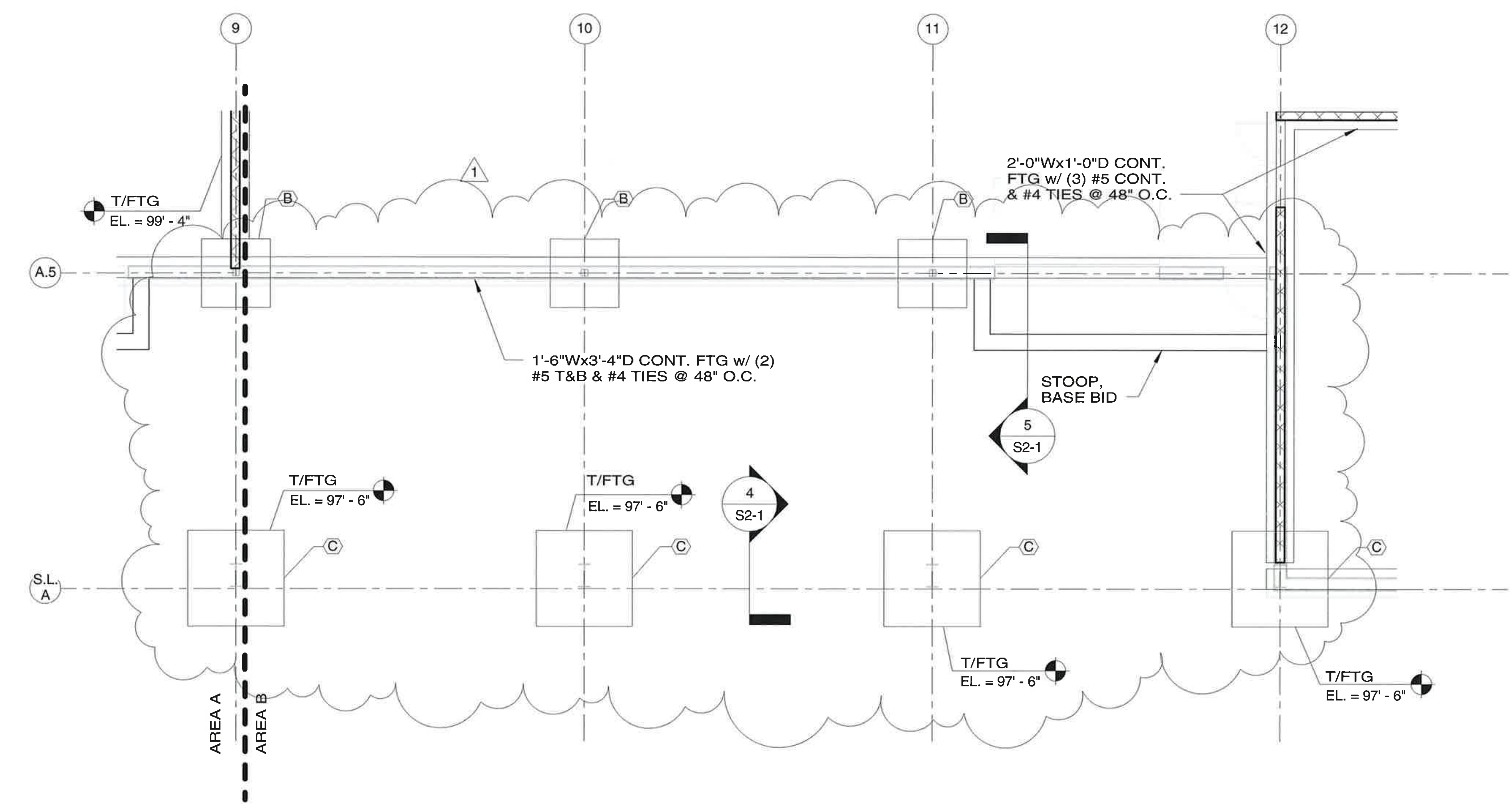

1 FOUNDATION PLAN - AREA 'B'
1/8" = 1'-0"

APPLIED TECHNOLOGY BUILDING
Norfolk, NE 68702-0469

ATTACHMENT
SSD-4

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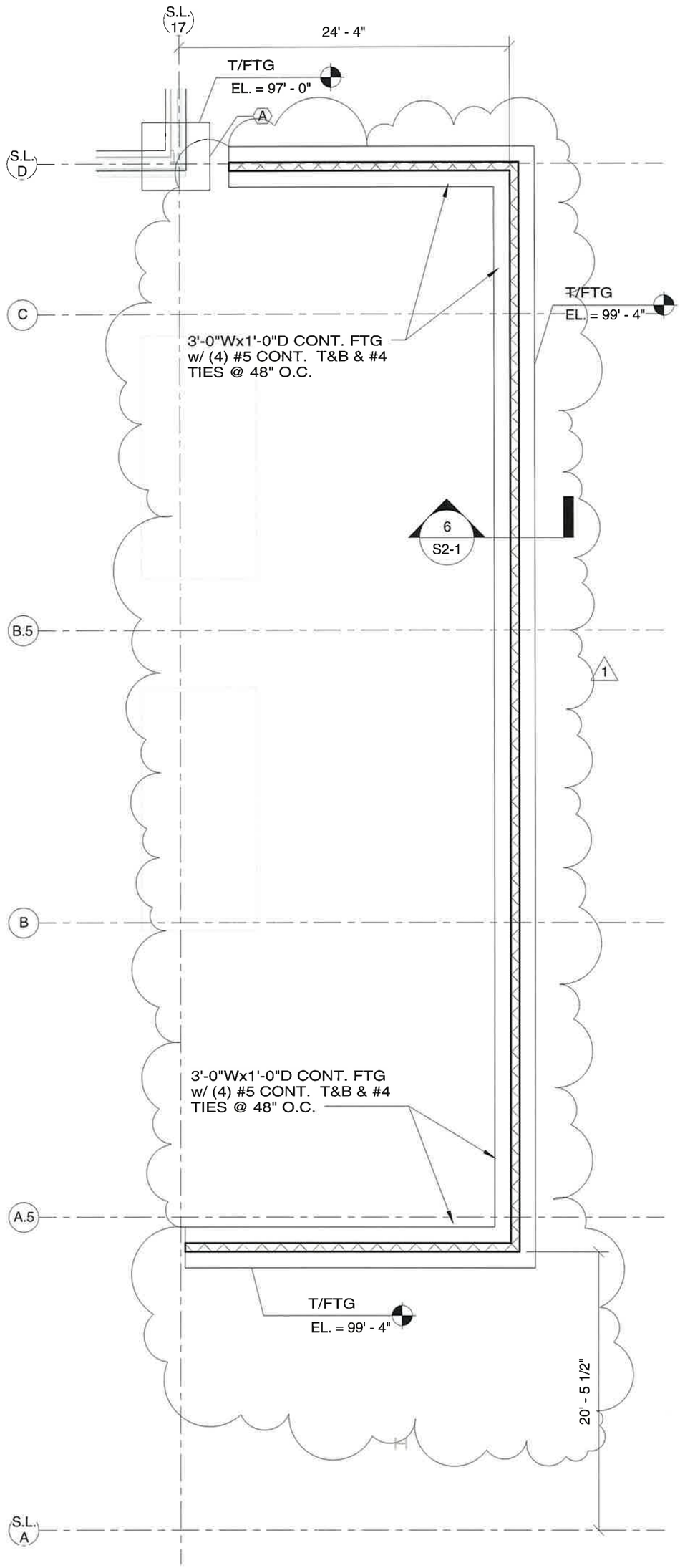

1 FOUNDATION PLAN - AREA 'B'
1/8" = 1'-0"

bcdm architects

APPLIED TECHNOLOGY BUILDING — Norfolk, NE 68702-0469

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ADDENDUM NO. CC-1

to the
Bidding Documents

for

BERINGER CIACCIO DENNELL MABREY
1015 North 98th Street, Suite 300
Omaha, Nebraska 68114

1 July, 2013

PHYSICAL PLANT BUILDING NORTHEAST COMMUNITY COLLEGE
801 East Benjamin Avenue
Norfolk, NE 68702-0469
BCDM Project No. 3526-01

NOTICE TO BIDDERS: The Project Manual and Drawings for the above referenced project are hereby amended as follows:

PROJECT MANUAL

SECTION 01 3000, ADMINISTRATIVE REQUIRMENTS

a. At paragraph 3.01.B, delete "..Owner." and substitute "...Construction Manager."

DIVISION 2, EXISTING CONDITIONS

a. Add the attached Geotechnical Report prepared by Mid-State Engineering and Testing and dated June 25, 2012.

SECTION 03 3000, CAST-IN-PLACE CONCRETE

b. Add paragraph 2.05.A.2.c as follows: "c. Interplast Group, Barrier-Bac VB-350."

SECTION 07 2100, THERMAL INSULATION

a. At paragraph 2.01.A.10, add "ACH Foam Technologies, Foam Control Plus 250 (EPS)" as an approved substitution.
b. At paragraph 2.01.B.7 add "Firestone, Enverge CI Foil Exterior Wall Insulation" as an approved substitute.

SECTION 08 7101, FINISH HARDWARE

a. Page 08 7101-16, Hardware Group No. 15A, delete Door#(s): "148A"
b. Page 08 7101-16, Hardware Group No. 15B, add Door#(s): "148A"

SECTION 10 2113, TOILET PARTITIONS

c. At paragraph 2.02.A add "Accurate Partitions Corp" as an approved manufacturer.

SECTION 10 2601, WALL AND CORNER GUARDS

a. AT paragraph 2.01.A.1, Add "Pawling Corporation, Model CG-20" as an approved equal.

SECTION 13 3419, METAL BUILDING SYSTEMS

a. At paragraph 2.01.A.7, delete "VP Buildings" and substitute "American Buildings".

Revisions to Mechanical and Electrical specifications shall be per the attachment from Morrissey Engineering

DRAWINGS

SHEET A1-1A, FLOOR PLAN - AREA 'A'

a. Detail 1: Revise Office 148 and Data 148A layout per the attached Detail 1 on Sheet ASD-1.

SHEET A4-1, DOOR AND WINDOWS

a. Door and Frame Schedule: At door 148A, delete hardware type "15A" and substitute "15B".

SHEET A5-1A, REFLECTED CEILING PLAN - AREA 'A'

a. Detail 1: Revise Office 148 and Data 148A layout per the attached Detail 2 on Sheet ASD-1.

SHEET A6-1B

a. At Room Finish Schedule Note #4, revise to read "...Floor Coating **(color P-6)** at floor...".

Revisions to Mechanical and Electrical drawings shall be per the attachment from Morrissey Engineering

END OF ADDENDUM

addendum

morrissey engineering inc

mechanical | electrical | technology | commissioning

addendum no. 1

date: June 28, 2013

project name: NECC Physical Plant

mei project no: 12103

This addendum is hereby made a part of the contract documents to the same extent as if it were originally included therein. Contract documents shall be considered modified or revised as hereinafter described.

Mechanical Specifications

1. Section 22 13 19 Plumbing Specialties, Section 2.05 Thermostatic Water Mixing Valves. Delete item B.5. Cabinets shall be stainless steel boxes with stainless steel hinged doors.

2. Section 23 34 23 Power Ventilators. Add "Soler & Palau (Jenn)" to the list of approved manufacturers for Centrifugal Wall Ventilators and In-Line Centrifugal Fans.

3. Section 23 31 13 Metal Ducts and Accessories. Add "Soler & Palau (Jenn)" to the list of approved manufacturers for Roof Hoods.

4. Section 23 31 13 Metal Ducts and Accessories. Add "Leader Ind." to the list of approved manufacturers for Fire Dampers.

5. Section 23 31 13 Metal Ducts and Accessories. Clarification - Specific manufacturers of spiral ductwork are not listed nor approved / rejected in the prior approval process. Provided products must meet all specifications.

6. Section 23 31 13 Metal Ducts and Accessories. Add "Ductsox" and "Fabric Air" to the list of approved manufacturers for Fabric Ductwork.

7. Section 23 31 13 Metal Ducts and Accessories. Add the following requirements for Fabric Ductwork:

   A. Fabric Dispersion system shall be Ductsox Premium Sedona-Xm or approved equal, constructed of a non-coated woven fire retardant fabric and comply with the following characteristics:

      1. 100% Flame retardant polyester
      2. Color: Selection by architect
      3. Air permeability: 2 cfm/sqft
      4. Static pressure rating: 0.5" to 3.0"
      5. Temperature rating: 0°F to 180°F

   B. Suspension Hardware: See plans (or as recommended by the manufacturer).

4940 North 118th Street
Omaha, NE 68164
P: 402.491.4144
www.morrisseyengineering.com

C. Manufacturer shall provide design of fabric duct system to provide full air coverage. Provide all components necessary for installation including cabling, fasteners, transitions, hanging supports, etc.

8. Section 23 21 13 Hydronic Piping. Add "Danfoss" to the list of approved manufacturers for Automatic Control Valves.

9. Section 23 09 00 HVAC Instrumentation and Controls. Add "Armstrong Monitoring" to the list of approved manufacturers of CO & NO2 Monitoring Systems.

10. Section 23 09 60 Variable Frequency Drives. ABB is the only approved manufacturer.

Mechanical Drawings

1. Sheet FP1-1A: Floor Plan - Fire Protection - Area 'A'. Modify fire water service size to 8".

2. Sheet M1-1A: Floor Plan - HVAC - Area 'A'. Office 148 - Locate diffuser D-1 as close to center as room as possible to accommodate modified room size.

3. Sheet M3-1A: Floor Plan - Plumbing - Area 'A'. Modify fire water service size to 8".

4. Sheet M4-1 Enlarged Floor Plans: Enlarged Floor Plan - Area A. Modify fire water service size to 8".

5. Sheet M6-3 Mechanical Schedules: Trench Drain TD-1. Provide catch basin with sediment bucket.

Electrical:

1. Sheet E1-1A Floor Plan - Lighting
   a. See Sketch E1-1Aa

2. Sheet E2-1A Floor Plan - Power
   a. See Sketch E2-1Aa

3. Sheet E3-1A Floor Plan - Special Systems
   a. See Sketch E3-1Aa

4. Sheet E4-1
   a. For Power Riser Diagram feeder 125-3 provide 3-#1, #6 G. - 1-1/2" C.

5. Sheet E4-2
   a. Fixture schedule: Fixture types 7, 8, and 9 shall be considered equal as manufactured by Focal Point.

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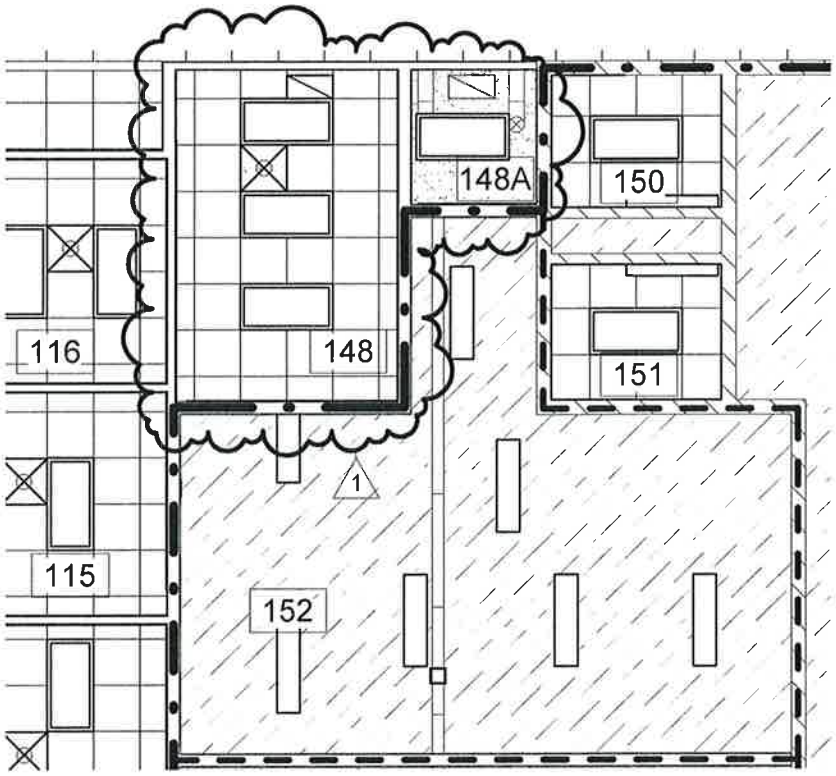
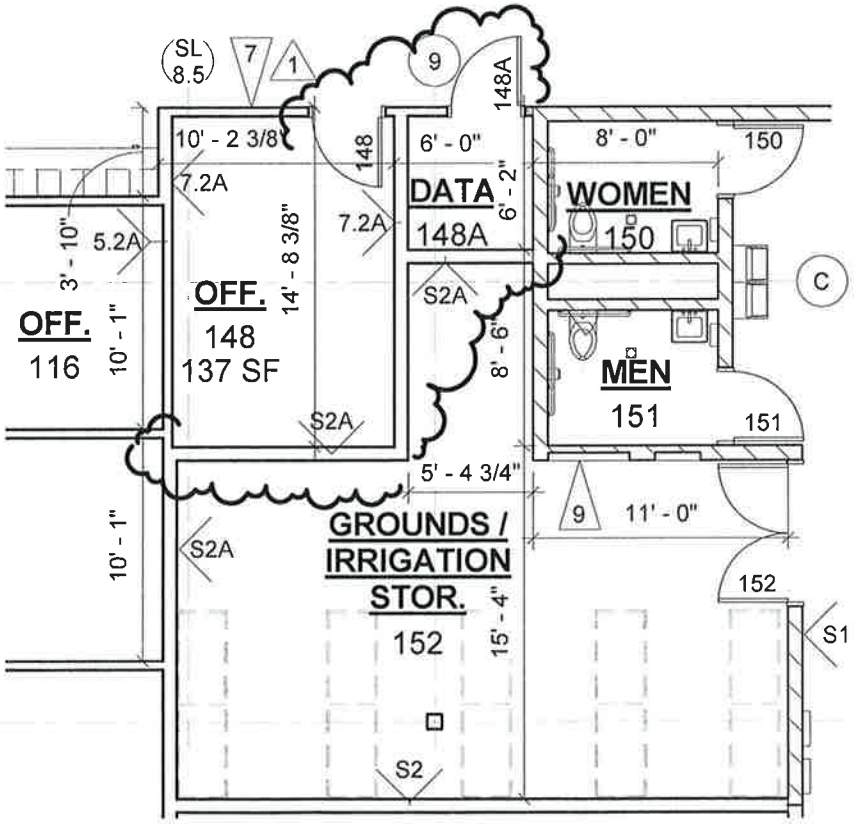


2 REFLECTED CEILING PLAN - AREA 'A'
1/8" = 1'-0"



1 FLOOR PLAN - AREA 'A'
1/8" = 1'-0"

PHYSICAL PLANT BUILDING — Norfolk, NE 68702-0469

3526-01	DRAWING REFERENCED: A1-1A / A5-1A	ATTACHMENT
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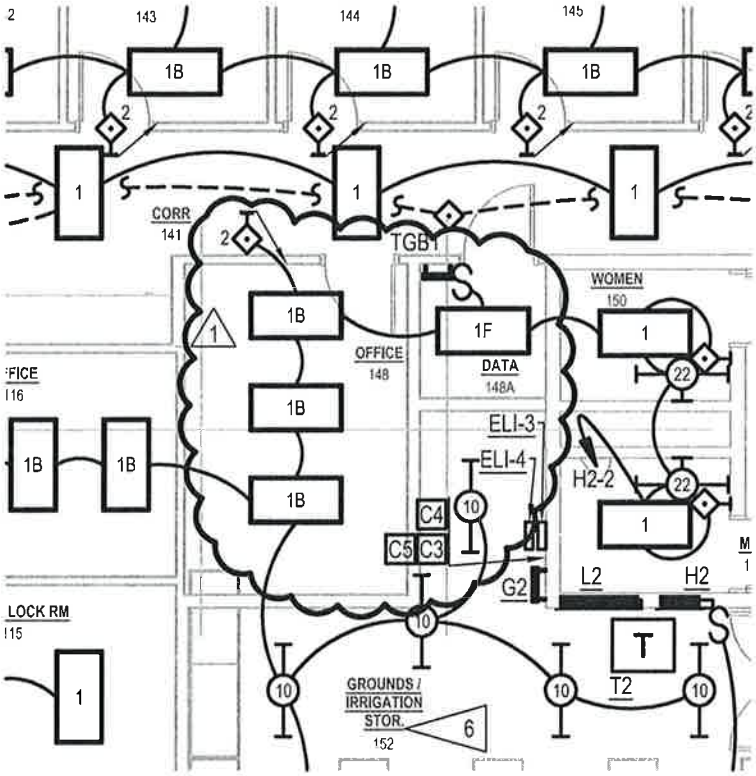
bcdm architects

BERINGER CIACCIO DENNELL MABREY



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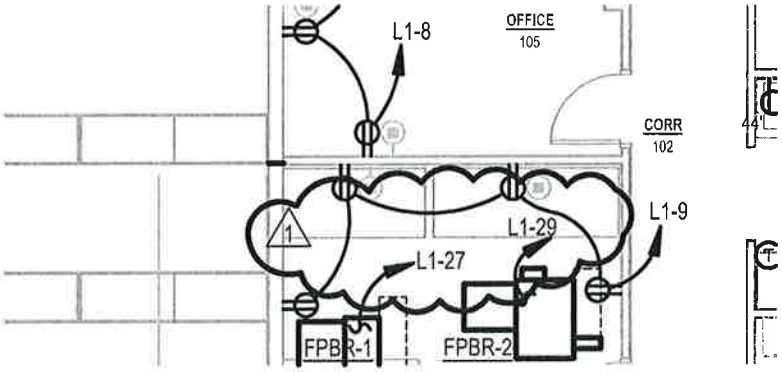
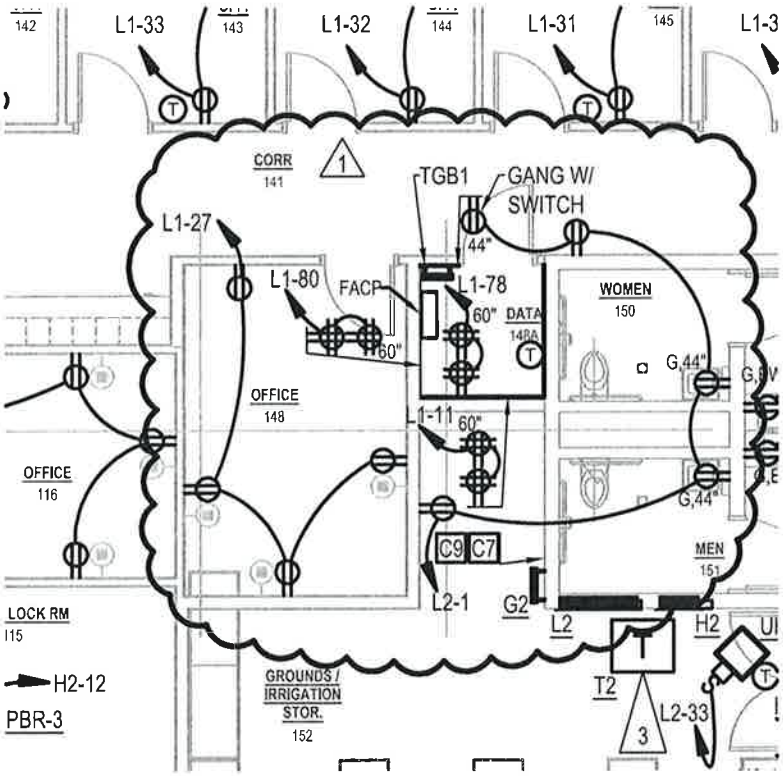
PHYSICAL PLANT BUILDING
NORTHEAST COMMUNITY COLLEGE
801 EAST BENJAMIN AV., NORFOLK, NE

project no.: 12103	drawing referenced: E1-1A		
date: 06/28/2013	addendum no.: 1	sketch	E1-1Aa





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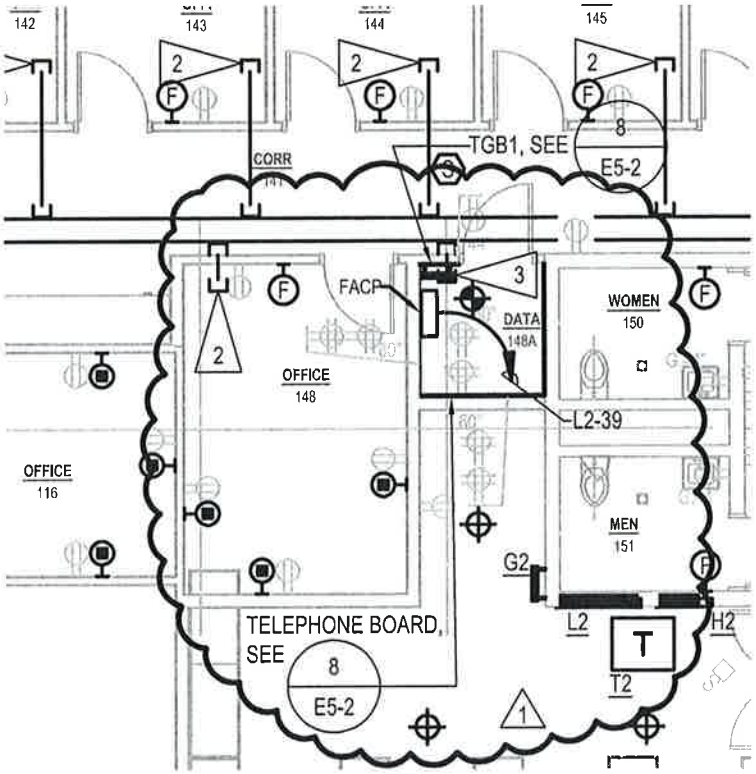
PHYSICAL PLANT BUILDING
NORTHEAST COMMUNITY COLLEGE
801 EAST BENJAMIN AV., NORFOLK, NE

project no.:	12103	drawing referenced:	E2-1A
date:	06/28/2013	addendum no.:	1

sketch E2-1Aa



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PHYSICAL PLANT BUILDING
NORTHEAST COMMUNITY COLLEGE
801 EAST BENJAMIN AV., NORFOLK, NE

project no.: 12103	drawing referenced: E3-1A	sketch E3-1Aa
date: 06/28/2013	addendum no.: 1	

MID-STATE
ENGINEERING & TESTING

REPORT OF GEOTECHNICAL INVESTIGATION

NORTHEAST COMMUNITY COLLEGE PHYSICAL PLANT BUILDING NORFOLK, NEBRASKA

M.S. PROJECT NO. 632-51-19
JULY 25, 2012
A-6072

Prepared for:

Northeast Community College
801 East Benjamin Avenue
Norfolk, NE. 68702

MID-STATE
ENGINEERING & TESTING

REPORT OF GEOTECHNICAL INVESTIGATION

NORTHEAST COMMUNITY COLLEGE PHYSICAL PLANT BUILDING NORFOLK, NEBRASKA

M.S. PROJECT NO. 632-51-19
JULY 25, 2012
A-6072

Prepared for:

Northeast Community College
801 East Benjamin Avenue
Norfolk, NE. 68702

TABLE OF CONTENTS

APPENDICES

MID-STATE
ENGINEERING &
TESTING, INC.

REPORT OF GEOTECHNICAL INVESTIGATION

NORTHEAST COMMUNITY COLLEGE PHYSICAL PLANT NORFOLK, NEBRASKA

M.S. PROJECT NO. 632-51-19 JULY 25, 2012 A-6072

INTRODUCTION

This report presents the results of a geotechnical investigation performed at the site of the proposed Physical Plant building to be located on the North East Community College Campus in Norfolk, Nebraska. This structure will be located North of the proposed Applied Technologies Building on the North side of the NECC campus.

Included in this investigation were a total of sixteen (16) soil borings (DH's 1-9, 28 and 101-106), laboratory testing, and a report of conclusions and recommendations. The scope of our report was limited to the following:

- Evaluating the engineering properties of the soils encountered.
- Recommending types and depths of foundation elements.
- Evaluating soil bearing capacity and settlement.
- Provide a seismic site classification.
- Provide pavement design criteria.
- Providing recommendations for earthwork and soil related construction with respect to the soils encountered.

This report was prepared by Mid-State Engineering and Testing by a professional engineer registered in the State of Nebraska. Recommendations are based on the applicable standards of the profession at the time of this study. This report has been prepared for the exclusive use of BCDM and the owner; for specific application to the planned construction. All work was conducted in accordance with generally accepted soil and foundation engineering practices.

11 East 11th Street
Kearney, Nebraksa 68847
Phone (308)-237-0187

279 Road D
Columbus, Nebraska 68601
Phone (402)-562-7824

PROJECT DESCRIPTION

As proposed, construction will include an approximate 35,000 ft² single story, slab-on-grade, steel frame structure with maximum structural loads estimated to be on the order of 1 -3 klf for walls and 80 kips for isolated columns.

Based on a finish floor elevation of 1580 feet (Local Datum) maximum cuts of 10 to 11 feet and fill depths of 2 to 3 feet are expected.

Parking and drive areas are planned around the facility, along with construction of a new loup road along the South side of the Physical Plant building. Its our understanding parking and drive areas will consist of Portland cement concrete paving.

FIELD WORK

The field investigation was conducted on May 30th and July 9th, 2012. The initial exploratory program consisted of ten (10) soil borings (DH's 1 thru 9 and DH-28). Due to a repositioning of the proposed structure, six additional borings (DH's 101-106) were performed within the new building footprint. Borings are located as noted on the included Site Plan (Appendix A). Locations were established in the field using GPS coordinates. Specific GPS locations are noted on the Boring Logs (Appendix B). The locations of the borings should be considered accurate to the degree implied by the means and methods used.

The exploratory borings were advanced to depths of 5 to 20 feet below existing site elevations with a truck-mounted rotary drilling rig using continuous flight augers.

Soil samples were obtained at the sampling intervals noted on the Boring Logs (Appendix B). Recovered samples were extruded in the field, sealed in plastic containers, labeled, and protected for transportation to the laboratory for testing. Undisturbed samples, designated "U" samples, were obtained with a 3.0 inch (outside diameter), thin-walled, tube samplers hydraulically pushed in general accordance with ASTM D1587-83 (Thin walled Sampling of Soils). Split-barrel samples, designated "S" samples, were obtained while performing Standard Penetration Test (SPT) with a 1.50-inch (inside diameter), thick-walled sampler driven in general accordance with ASTM D-1586-84 (Penetration Test and Split-Barrel Sampling of Soils).

The field Boring Logs was prepared by an experienced soils engineer in general accordance with ASTM D2488-84, (Description of Soils by the Visual-Manual Procedure). Stratification lines represent the approximate boundary between soil types. In-Situ, the transition between sediments may be gradual. Water level readings were made in the drill holes at the times and under conditions noted on the boring logs.

LABORATORY TESTING

Based on site stratigraphy and the construction proposed, a testing program was established to evaluate the engineering properties of the bearing strata. Specific tests performed included:

- Moisture contents
- Unit weight determinations
- Unconfined compression tests
- #200 washed sieve analyses
- Atterberg limits tests
- Grain Size Analysis

All tests were conducted in general accordance with current ASTM or state-of-the-art test procedures. Laboratory test results are presented in Appendix C.

Moisture contents, sand contents and unit weight determinations were used to define the overall uniformity/variability of the on-site soils. This information, along with the standard penetration testing performed in the field, was used to evaluate in-situ bearing conditions and estimate settlement.

Unconfined compression tests define the stress/strain characteristics and related shear strengths of the soils.

Atterberg limits and particle size analysis were used to determine plasticity characteristics and to classify the soils in accordance with the Unified Soil Classification System.

Based on the results of this testing program, the field logs were reviewed and supplemented as shown in Appendix B. These final logs represent our interpretation of the field logs and reflect the additional information gained from the laboratory testing.

SITE CONDITIONS

The proposed Physical Plant Building will be located on the North side of the campus, directly North of the proposed Applied Technology Building. The site consists of agricultural land currently used for row crop production. Site drainage is generally in a West Northwest direction, with approximately 12 feet of fall from the Southeast to Northwest corners of the development area.

SOIL CONDITIONS

This site lies within the Upland Lands overlooking the Elkhorn River flood plain in Northeast Nebraska. The generalized subsurface profile for this region consists of wind deposited Loessal and Aeolian Sediments overlying water deposited (alluvium) soils and/or Glacial Sediments. To the depths investigated, the soils encountered on this site indicates a generalize soil profile consisting of a thin topsoil layer (6-8 inches), which overlie Colluvial Deposits and in turn Aeolian Sediments and Glacial Till Deposits to the termination depths of the borings.

An approximate 6 to 8 inch organic enriched developed zone (topsoil) was noted at the ground surface at all boring locations. These soils are similar to the underlying Colluvial sediments, with properties and characteristics that have been altered by the action of wind, moisture, vegetation growth and temperature change. These soils were described as brown and dark brown, moist, firm, lean sandy clays with roots and root holes.

Colluvial Deposits were encountered directly below the surficial topsoil in all borings. These soils extended to depths ranging from about 2 to 6 feet below grade. Colluvial deposits are natural occurring sediments which accumulate through the action of wind and local wash. These sediments were described as brown, dark brown and dark grey brown, moist, firm, lean sandy clays and clayey sands. These sediments exhibit the following range in insitu engineering properties:

Moisture Contents (%)	7 - 22
Dry Unit Weights (psf)	100 - 109
Percent finer than #200 sieve (%)	20 - 60
Plasticity Indices (PI)	NP - 14
Standard Penetration Test Blow Count (N)	4 - 5

Based on laboratory testing and visual evaluation, these deposits generally classify as low plastic clayey fine sands (SC) and sandy clays (CL).

Aeolian Deposits were encountered below the Colluvial Sediments in all borings except for DH-102. These deposits extend to depths of about 13 to 18 feet below current site elevations. These deposits were described as light brown and brown, slightly moist to moist, loose to firm, silty fine sands. These deposits exhibit the following range in in-situ engineering properties.

Moisture Contents (%)	4 - 10
Percent finer than #200 sieve (%)	6 - 11
Standard Penetration Test Blow Counts (N)	6 - 15

Based on the laboratory testing and visual evaluation, these sediments classify as low and non-plastic silty fine sands (SM/SP).

Kansas Age Glacial Till was encountered at depths of 6 to 18 feet in the deeper soil borings, extending to the termination depth of these borings. These deposits were described as grey brown, olive brown and olive grey, very moist to moist, stiff to very stiff clays. In the areas sampled, the glacial sediments exhibit the following in-situ engineering properties.

Moisture Contents (%)	19 – 26
Unit Weights (pcf)	107 - 109
Standard Penetration Test Blow Counts (N)	8 – 15
Plastic Index	24

Based on visual evaluation, these deposits generally classify as moderate and highly plastic clays (CL/CH)

GROUNDWATER

Free groundwater was not encountered within the maximum 20' boring depths, and consequently, not expected to impact construction or foundation performance. It should be recognized, however that groundwater levels can fluctuate due to seasonal weather patterns, irrigation and drainage practices, and other factors which may differ from those at the time of drilling.

It should also be noted that its possible for water to become perched within the Aeolian Sands atop the Glacial Deposits. Although not encountered at the time of drilling, its expected proposed building cuts will remove the cohesive Colluvial Sediments exposing the Aeolian Sands, making it more likely for temporary perched water conditions to develop.

CONCLUSIONS AND RECOMMENDATIONS

GENERAL DISCUSSION

In the event the recommendations of this report are followed, the building site is considered suitable for the planned construction. The undisturbed site soils are generally capable of supporting expected structural loads, and groundwater was not encountered at a depth, which would be expected to effect construction.

The building site is cut into a hillside to a finish floor elevation of 1580 feet (Local Datum). The majority of the building site cuts through the cohesive and semi-cohesive Colluvial Sediments, penetrating into the silty sand Aeolian Deposits. The primary exceptions being the West side and Northwest corner areas which will bear within and atop the Colluvial Sediments and new structural fill, and the Northeast corner area where the building footings will penetrate through the Aeolian Sediments and bear within the Glacial Till Deposits.

The primary considerations for site development include controlling differential settlement resulting from foundation elements bearing within and atop three different geologic formations, and the potential for perched groundwater seams developing (atop the Glacial Till) and traveling below the building floor and exterior paving.

Generally each of the three geologic formations (Colluvial, Aeolian and Till) on there own provide relatively good soil support with individual bearing capacities in excess of 2500 psf, with acceptable settlement (< 1 inch). However, when bearing across all three formations with a common bearing capacity, total settlement and time of settlement will vary. Footings bearing within the Glacial Till will settle less than 3/8 inch even when utilizing a relatively high (4000 psf) bearing capacity. This settlement will be relatively long term. Settlement of about 1 inch would be expected for footing bearing in the Aeolian Sediments (2500 – 3000 psf bearing capacity). This settlement will occur relatively quickly, as loads are applied. Similar settlement is expected for footing bearing atop the Colluvial Deposits, with settlement occur more slowly (60-90 days).

Based on the conditions indicated, it appears the moist prudent approach is to utilize a conservative bearing capacity for foundation design, and limit maximum total settlement, thus limiting differential settlement. Specific design recommendations are provided in the "Foundation" section of the report.

Regarding the potential for perched water, the Glacial Till is a continuous layer of relatively impermeable dense clays which underlie the entire project area (including the proposed Applied Technology Building).

In cutting the site to design elevation, the Glacial Till may be exposed near the Northeast corner of the Physical Plant building, with as little as 1 to 2 feet of the sandy Aeolian Sediments below the Northeast building corner. Based on the boring information, the surface of the glacial till appears to slopes toward the Southeast, with a 5 to 8 foot gradient across the building site.

By exposing the sandy Aeolian Sediments in the cut areas, infiltration of rain fall and surface run off could result in an intermittent perched water seam moving down gradient below the structure. The best approach for minimizing potential problem will be to cap all Aeolian Sediments exposed around the structure with a minimum of 1½ to 2 feet of lean clay soils and to provide good surface drainage off and away from the facility. Care should be taken to properly compact and cap off below grade utilities required to service the facility. A moisture barrier should also be considered below the building floor. Preferably below the granular fill typically provided below most floor slab.

Recommendations regarding these and other aspects of this project are included in the following section of this report.

FOUNDATION

If the recommendations presented in this report are followed, this site will be suitable for the use of conventional spread footings for light to moderate structural loads. The selection of allowable soil bearing pressure for foundation design must fulfill two requirements. First, the structural loads must be sufficiently less than the ultimate bearing capacity of the bearing soils to insure stability. Second, the differential settlement must not exceed an amount, which will produce adverse behavior of the superstructure.

In order to meet the previous criteria, we have explored both the bearing capacity and load settlement characteristics of the on-site soils assuming maximum building loads on the order of 4 klf for walls and 80 kips for isolated columns.

The bearing capacity is based on a minimum factor of a safety of 3 against the full dead load plus normal live loads. A maximum total and differential settlement of 5/8 inch was used in our analysis. The allowable bearing pressure is expressed in terms of the net pressure transferred to the soil.

While settlement can be controlled in a number of ways, it appears the most cost effective approach (based on the indicated maximum structural loads) is to utilize a conservative bearing capacity for foundation design. Foundation elements bearing with the undisturbed site soils or approved structural fill designed utilizing a conservative allowable soil bearing capacity of 2000 psf will limit maximum total and differential settlement to about 5/8 inch. Use of a 1500 psf bearing capacity will limit maximum total and differential settlement to ½ inch or less. Its expected the majority of this settlement will occur during construction.

Should a higher allowable bearing capacity be desired, a stair stepped soils raft could be used to control settlement. Should this approach be considered, specific design recommendations can be provided once actual structure loads have been determined.

We recommend exterior footings and footings in unheated areas be founded at a minimum depth of 40 inches below surrounding grade for frost protection. Interior footings may be placed directly below the floor slab. All footings will require steel reinforcement and should conform to local code sizes.

EARTHWORK AND EXCAVATIONS

Prior to overall site grading, we recommend topsoil (approximately 6-8 inches) and vegetation be stripped from the building site and stockpiled. The topsoil materials should be suitable for re-use in landscaped and green areas.

Once the building site is cut to grade, we recommend the subgrade be scarified, moisture conditioned and re-compacted in the presence of the engineer. Any instability or unsuitable soils detected during performance of this work will need to be addressed as recommended by the soils engineer.

We recommend all Aeolian Sands exposed around the structure be undercut to provide a minimum of 1 ½ to 2 feet of cohesive lean clay and sandy clay soils(< 50% sand) on areas not covered by concrete (6" minimum below sidewalk and paving).

For this phase of the development, we recommend structural fill and backfill material consist of cohesive soils having a plastic index > 10 and a sand content <50%. It is expected only a portion of the Colluvial Sediments will be suitable for reuse as structural fill. We recommend this material where encountered be stockpiled for later use to cap exterior grades. The more sandy soils may be used as structural fill for the Applied Technology site. We recommend structural fill be placed in loose lifts of 8 inches or less in thickness, with each lift compacted to a minimum of 95 percent of the material's standard Proctor maximum dry density (ASTM D698-91). Moisture content at the time of compaction should be controlled to between -3 and +3 percent of the optimum moisture content.

We recommended backfill material for utility trenches below footings, floor slabs and paving be placed in 6 inch loose lifts with each lift compacted to a minimum of 95 percent of the material's standard Proctor maximum dry density (ASTM D698-91). Backfill in grassy areas should be compacted to a minimum of 90 percent of the material's standard Proctor maximum dry density

(ASTM D 698-91). Free draining granular fill and backfill which can provide an avenue for water reaching the bearing soils is not recommended for this project.

We recommend a technician, working under the supervision of an experienced soils engineer, periodically monitor earthwork operations to evaluate compliance with the above recommendations.

Vertical cuts and excavations may stand for short periods of time, but should not be considered stable in any case. All excavations should be sloped back, shored, or shielded for protection of workers. Trenching and excavation activities should conform to federal and local regulations as a minimum.

Most site soils below prepared finish floor elevation classify as Type "C" soils. The maximum allowable slope for shallow excavation in a Type "C" soils is 1½H:1V.

FLOOR SLAB SUBGRADES

To provide uniform support for floor slabs, we recommend the subgrade be reworked and compacted prior to concrete placement. As a minimum, we recommend 12 inches of structural fill be provided below the floor slab. We recommend structural fill be compacted to a minimum of 95 percent of the material's standard Proctor maximum dry density (ASTM D698-91). If a granular cushion is used beneath the floor slab, this layer should have a uniform thickness and be compacted by vibration prior to concrete placement.

We recommend concrete for floor slabs have a minimum cement content of 564 lb/yd^3 and a minimum compressive strength of 3500 psi. A 6 sack, sand and gravel mix placed at a water/cement ratio of 0.45 or less works well for light traffic floor slabs. An entrained air content of 3 to 6 percent is recommended for strength and workability. This mix can also be used for exterior sidewalks by increasing the entrained air content to 5 to 8 percent.

LATERAL EARTH PRESSURES

Depending on the depth of excavation, multiple soil types could be encountered. Based on our analysis of the on-site soils, the following parameters are recommended for determining below grade earth pressures:

	COHESIVE	COHESIONLESS
• Angle of internal soil friction (ϕ)	15°	26°
• Passive earth pressure coefficient (K_p)	1.70	2.56
• Active earth pressure coefficient (K_a)	0.59	0.39
• Coefficient of friction	0.30	0.35
• Average total soil unit weight (in situ)	120 pcf	120 pcf

PAVEMENT DESIGN

Pavement performance is directly affected by the degree of compaction, uniformity, and stability of the subgrade soils. Based on traffic consisting of 75 to 100 cars and 1 to 3 medium to heavy trucks per day, we recommend providing at-least 12" of structural fill (as described above) below all pavement sections. We recommend the exposed subgrade be scarified to a depth of 8" and re-compacted in the presence of the Engineer. Corrective action as directed by the Engineer, will need to be taken with any instability detected at this time. We recommend that structural fill below paving be compacted to a minimum of 95 percent of the material's standard Proctor maximum dry density (ASTM D698). We recommend fill material be placed and compacted according to the guidelines outlined in the "Earthwork and Excavations" section of this letter.

We recommend the final subgrade be proof-rolled immediately prior to the placement of concrete or asphalt to detect any localized areas of instability. Unstable areas should be reworked as needed to provide a uniform subgrade. It should be noted that these compaction requirements are minimum recommended values and more stringent requirements, based on a specific pavement design, should supersede these recommendations.

Based on the recommendations of this report, a soaked CBR of five (5) and a corresponding modulus of subgrade reaction (k for pavements) of 150 pci is recommended for pavement design. Pavement thickness should be determined based on traffic volume and standard pavement design procedures. In no instance should concrete paving be less than 6 inches in thickness or asphalt less than 5 inches. The success of any pavement section is dependant on provided good surface drainage off and away from any pavement section. This is especially important for this facility. Specific recommendations are provided in the "Surface Drainage" section of this report.

We recommend that Portland cement concrete be air-entrained and have a minimum compressive strength of 4000 psi (600 psi flexural strength). State of Nebraska Type 47B concrete has proven to be very durable in this area.

SEISMIC SITE CLASS

Seismic structural design requirements are dictated by a site classification based on average soils properties within the top 100 feet. Based on a review of local well logs along with our previous work in the Norfolk area, a deep soil profile consisting of approximately 40 to 60 feet of Loessal and Glacial Sediments overlies firm Alluvial Sediments and shale is anticipated for this site. The average undrained shear strength was estimated based on the actual laboratory testing performed and on assumed soil properties for the deeper soil profile.

Based on the guidelines provided in Table 1615.1.1 of the 2000 International Building Code, we recommend assigning a site class of D (stiff soil profile) to the project site.

SURFACE DRAINAGE AND LANDSCAPING

The success of the shallow foundation and slab-on-grade floor system is contingent upon keeping the subgrade soils at relative constant moisture content and by not allowing an avenue for surface moisture reaching the bearing soils. Positive surface drainage away from the structure should be

maintained at all times. Landscaped areas should be designed and built in such a way that irrigation and other surface water will be collected and carried away from foundation elements.

The final grade of the foundation backfill and any overlying pavement should have a positive slope away from foundation walls on all sides. A minimum slope of 1 inch per foot for the first 5 to 10 feet is recommended. However, the slope may be decreased if the ground surface next to foundations is covered with concrete slabs or asphalt pavements. A minimum slope of 2 percent is recommended for all other areas. Pavement and exterior slabs next to structures should be carefully sealed against moisture intrusion at the joints.

All downspouts and faucets should discharge onto splash blocks that slope away from foundation walls and extend a minimum of 3 feet from the building line.

GENERAL COMMENTS

If any changes in the nature, design, or location of this project are planned, the conclusions and recommendations contained in this report shall not be considered valid unless those changes are reviewed and the conclusions of this report either modified or verified in writing by the geotechnical engineer.

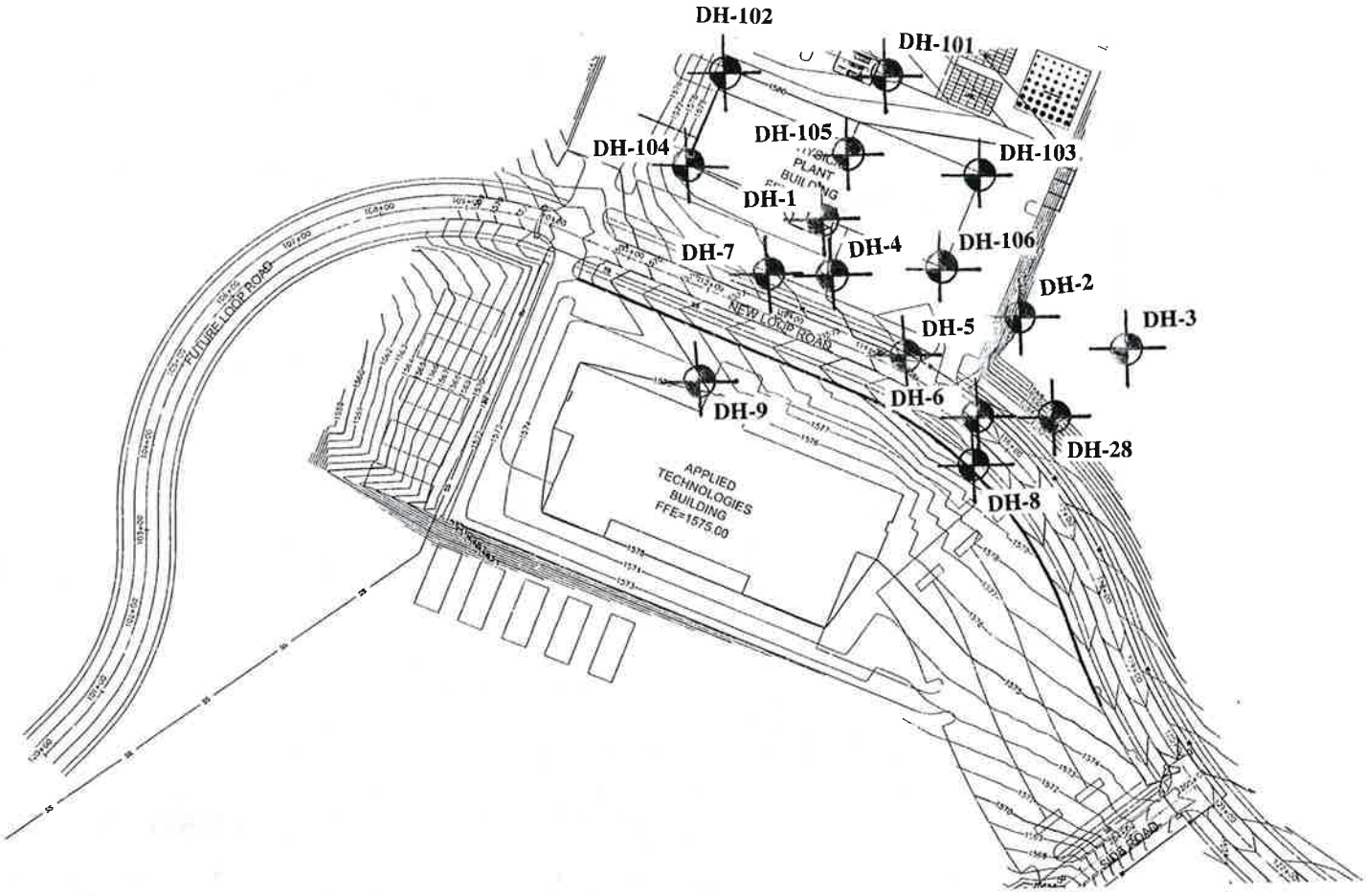
The analysis and recommendations submitted in this report are based in part upon the data obtained from the sixteen (16) soil borings. The nature and extent of variations of the on-site soils between borings may not become evident until construction. If variations appear, it will be necessary to re-evaluate the recommendations of this report.

It is recommended the geotechnical engineer be allowed to review the final design and specifications to verify compliance with respect to the recommendations of this study. It is also recommended the geotechnical engineer be retained to provide Quality Assurance/Quality Control engineering and testing services during the earthwork excavation and foundation construction phase of the project to verify site suitability and to provide recommendations if subsurface conditions differ from those expected.

Respectfully submitted,
Mid-State Engineering and Testing, Inc.

Jim Musilek, P.E.
Nebraska Reg. #E-5935

APPENDIX A
BORING LOCATION PLAN



MID-STATE

ENGINEERING & TESTING, INC.

279 ROAD 'D', COLUMBUS, NE. 68601

BORING LOCATION PLAN

NECC PHYSICAL PLANT

NORFOLK, NEBRASKA

APPENDIX B
BORING LOGS

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-1	As Per Boring Location Plan			10.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	CL	**COLLUVIAL DEPOSITS**				
							CL/SC					
5	U-2								14.7	108.5		5
				Light Brn	Moist	Very Loose	SM	**AEOLIAN DEPOSITS** w/ Rust Stains				
10	S-3	1/2/2 (4)							10.0			10
								Bottom of Hole 10.0'				
15												15
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-2	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Mike Fleischer

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	CL	**COLLUVIAL DEPOSITS** w/ Carbon and Rust Stains Roots				
				Brown								
5	U-2								23.9	99.0	1.3	5
				Light Brn	Slightly Moist	Firm	SM	**AEOLIAN DEPOSITS** w/ Rust Stains				
10	S-3	3/4/5 (9)							5.1			10
				Olive Grey	Moist	Very Stiff	CL/CH	**KANSAS AGE GLACIAL TILL**				
15	S-4	5/6/12 (18)							17.7			15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-3	As Per Boring Location Plan			5.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Grey Brown	Moist	Stiff	CL	**COLLUVIAL DEPOSITS** w/ Carbon and Rust STains	16.0	99.8		
	U-2			Brown					72.0			
5	U-3			Light Brn	Moist	Firm	SM	**AEOLIAN DEPOSITS** Silts and Fine Sands	9.6			5
								Bottom of 5.0'				
10												10
15												15
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-4	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Mike Fleischer

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Grey Brn	Moist	Firm	SC	**COLLUVIAL DEPOSITS** w/ Carbon and Rust Stains Roots				
				Brown			CL/SC					
5	U-2								18.4	104.9	0.5	5
				Light Brn	Moist	Firm	SM	**AEOLIAN DEPOSITS** Silty Fine Sands w/ Rust Stains				
10	S-3	2/2/2 (4)							10.2			10
15	S-4	2/5/6 (11)		Olive	Moist	Stiff	CL	**KANSAS AGE GLACIAL TILL**	21.6			15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-5	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Mike Fleischer

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Slightly Moist	Firm	CL/SC	**COLLUVIAL DEPOSITS** Sandy Clays w/ Roots Rust Stains				
				Brown	Moist		SC					
5	U-2								15.1	115.7	0.6	5
				Light Brn	Slightly Moist	Very Loose	SM	**AEOLIAN DEPOSITS** Silty Clays and Fine Sands				
10	S-3	0.5/0.5/1 (1.5)							8.7			10
				Grey Brn	Slightly Moist	Firm	SC	**GLACIAL OUTWASH**	8.0			
15	S-4											15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	5/31/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-6	As Per Boring Location Plan			20.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Slightly Moist	Firm	CL	**COLLUVIAL DEPOSITS** w/ Rust Stains Roots Sands	11.0			
	U-2						CL/SC		21.1	105.0	0.8	
5												5
				Light Brn	Slightly Moist	Loose	SM	**AEOLIAN DEPOSITS** Silty and Clayey Fine Sands				
	S-3	2/4/5 (9)										
10						Firm			5.0			10
				Olive Brn	Moist	Very Stiff	CL	**KANSAS AGE GLACIAL TILL** w/ Sand and Gravel				
	S-4	3/5/7 (12)										
15									21.5			15
	S-5	5/7/8 (15)							20.3			
20												20
								Bottom of Hole 20.0'				
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-7	As Per Boring Location Plan			10.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	CL/SC	**COLLUVIAL DEPOSITS** w/ Roots Rust				
				Light Brn	Moist	Loose	SM/SC	**AEOLIAN DEPOSITS** Silty and Clayey Fine Sands w/ Rust	10.5			
5	S-2	2/3/3 (6)										5
					Slightly Moist	Firm						
10	S-3	4/5/6 (11)							7.4			10
								Bottom of Hole 10.0'				
15												15
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	5/31/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-8	As Per Boring Location Plan			10.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	SC	**COLLUVIAL DEPOSITS** Clayey Sands/Sandy Clays				
				Light Brn	Moist	Loose	SC	**AEOLIAN DEPOSITS** Silty Clayey Fine SAnds				
5	S-2	2/3/3 (6)							9.6			5
							SC/SM					
							SM					
10	S-3	7/5/4 (9)							9.2			10
								Bottom of Hole 10.0'				
15												15
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT: NECC Physical Plant
LOCATION: Norfolk, Nebraska
JOB NO.: 632-51-19
DATE: 5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-9	As Per Boring Location Plan			5.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
		DRILLING METHOD		LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	SC	**COLLUVIAL DEPOSITS** Clayey Sands w/ Roots	12.5	95.4		
	S-2	1/2/2 (4)				Loose		Rust Stains	13.6			
5	S-3	2/2/3 (5)		Brown	Moist	Loose	SC/SM	**AEOLIAN DEPOSITS**				5
								Bottom of 5.0'				
10												10
15												15
20												20
25												25
30												30
35												35

MID-STATE
ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	5/30/12

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-28	As Per Boring Location Plan			15.0'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Cornfield	Dale Donoghue
			DRILLING METHOD	LOGGER
None	Encountered		4 1/2" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	SC	**COLLUVIAL DEPOSITS** w/ Roots				
				Light Brn	Moist	Loose	SC	**AEOLIAN DEPOSITS** w/ Rust Stains				
5	S-2	2/3/3 (6)					SC/SM		13.2			5
10	U-3			Olive Grey	Moist	Very Stiff	CL/CH	**KANSAS AGE GLACIAL TILL** w/ Sand and Gravel Rust	16.9	105.6		10
15	S-4	7/9/12 (21)										15
								Bottom of Hole 15.0'				
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	7/9/2012

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-101	N42 3' 14.6"; W97 23' 36.3"	1580	TOPO	10'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Corn Field	Dale Donghue
			DRILLING METHOD	LOGGER
None	Encountered		4" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Brown	Slightly Moist	firm	SC/CL	**COLLUVIAL DEPOSITS** Sandy Clay w/ Roots, Rust Stains	6.5	102.8	1.7	
				Dark Brn	Moist	Stiff	CL					
5	S-2	2/2/3 (5)							21.8	102.1		5
				Light Brn	Slightly Moist	Firm	SM	**AEOLIAN DEPOSITS** Silty Fine Sands				
10	S-3	3/5/7 (12)							3.7			10
								Bottom of Hole 10'				
15												15
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	7/9/2012

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-102	N42 3' 14.8"; W97 23' 38.6"	1577	TOPO	15'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Corn Field	Dale Donghue
		DRILLING METHOD		LOGGER
None	Encountered		4" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Grey Brown	Slightly Moist	Stiff	CL/SC	**COLLUVIAL DEPOSITS** w/ Carbon and Rust Stains Sands	6.4	100.2		
5	S-2	2/2/2 (4)							15.4			5
				Olive Grey	Moist	Very Stiff	CL/CH	**KANSAS AGE GLACIAL TILL** w/ Trace Sand and Gravel Calcium Rust				
10	U-3								19.9	108.1		10
15	U-4								19.7	109.1		15
								Bottom of Hole 15'				
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	7/9/2012

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-103	N42 3' 13.7"; W97 23' 34.9"	1587	TOPO	20'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Corn Field	Dale Donghue
			DRILLING METHOD	LOGGER
None	Encountered		4" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Slightly Moist	Firm	SC	**COLLUVIAL DEPOSITS** Clayey Sands w/ Carbon and Rust Stains	4.4	101.3		
							CL	Sandy Clays				
5	U-2								12.5			5
				Light Brn	Slightly Moist	Firm	SM	**AEOLIAN DEPOSITS** Silty Fine Sands w/ Rust				
10	S-3	6/7/8 (15)							6.4			10
	U-4			Olive Grey	Moist	Very Stiff	CL/CH	**KANSAS AGE GLACIAL TILL** w/ Some Sand and Gravel Calcium				
15									20.6	107.8	1.7	15
20	U-5								19.2			20
								Bottom of Hole 20'				
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	7/9/2012

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-104	N42 3' 13.8"; W97 23' 39.4"	1580	TOPO	15'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Corn Field	Dale Donghue
			DRILLING METHOD	LOGGER
None	Encountered		4" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Moist	Firm	CL/SC	**COLLUVIAL DEPOSITS** w/ Roots, Rust, Carbon Stains	9.5			
	U-2								20.4	103.2		
5				Brown	Moist	Firm	SM/CL	**AEOLIAN DEPOSITS** Silty Fine Sands				5
				Light Brn			SM/SP	w/ Rust				
	S-3	7/7/6 (13)										
10									8.1			10
	S-4	6/6/2 (8)							12.3			
15				Olive Grey	Moist	Firm	CL	**GLACIAL TILL**				15
								Bottom of Hole 15'				
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	7/9/2012

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-105	N42 3' 13.8"; W97 23' 37.0"	1584	TOPO	15'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Corn Field	Dale Donghue
			DRILLING METHOD	LOGGER
None	Encountered		4" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N° BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Brown	Slightly Moist	Firm	SC	**COLLUVIAL DEPOSITS**	6.5	102.9	0.8	
				Brown	Moist	Loose	SM	**AEOLIAN DEPOSITS** Silty Fine Sands w/ Rust Root Hairs				
5	S-2	3/2/4 (6)							12.1			5
					Slightly Moist	Firm						
10	S-3	4/5/5 (10)							7.1			10
15	S-4	4/4/4 (8)		Olive	Very Moist	Stiff	CL/CH	**KANSAS AGE GLACIAL TILL**	26.1			15
								Bottom of Hole 15'				
20												20
25												25
30												30
35												35

MID-STATE ENGINEERING & TESTING, INC.

BORING LOG

PROJECT	NECC Physical Plant
LOCATION	Norfolk, Nebraska
JOB NO.	632-51-19
DATE	7/9/2012

DRILL HOLE NO.	LOCATION OF DRILL HOLE	ELEVATION	DATUM	TOTAL DEPTH
DH-106	N42 3' 12.5"; W97 23' 35.6"	1590	TOPO	20'

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILLER
WHILE DRILLING	END OF DRILLING	HOURS	Corn Field	Dale Donghue
			DRILLING METHOD	LOGGER
None	Encountered		4" Continuous Flight Auger	Tyler Dolezal

DEPTH FT.	SAMPLE NO. & TYPE	N* BLOWS / FT	REC %	COLOR	MOIST	CONS.	SOIL TYPE (Class)	GEOLOGIC DESCRIPTION & OTHER REMARKS	MOIST %	DRY WEIGHT PCF	QU TSF	DEPTH FT.
								Topsoil				
	U-1			Dark Brn	Slightly Moist	Firm	SC	**COLLUVIAL DEPOSITS** Clayey Sands w/ Roots Rust and Carbon Stains	6.3			
				Brown								
5	U-2								10.5			5
				Light Brn	Slightly Moist	Firm	SM/SP	**AEOLIAN DEPOSITS** Silty Fine Sands				
10	S-3	4/5/6 (11)							5.8			10
15	S-4	5/7/4 (11)							10.4			15
				Grey	Moist	Very Stiff	CL/CH	**KANSAS AGE GLACIAL TILL**				
20	S-5	5/5/10 (15)							21.0			20
								Bottom of Hole 20'				
25												25
30												30
35												35

APPENDIX C
SUMMARY OF SOILS TEST

MID-STATE
ENGINEERING & TESTING, INC.

SUMMARY OF SOIL TESTS

PROJECT NECC Physical Plant

LOCATION Norfolk, Nebraska

JOB NO. 632-51-19 **DATE** 6/6/12

DRILL HOLE NO.	SAMPLE NO.	SAMPLE DEPTH (ft.)	WATER CONTENT %	DENSITY WET (pcf)	DENSITY DRY (pcf)	VOID RATIO (e)	SAT. %	UNCONFINED COMPRESSION QU (tsf)	UNCONFINED COMPRESSION Strain (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PL	ATTERBERG LIMITS PI	%PASS #200 SIEVE	CLASS.	SPT (N)	REMARKS
DH-1	U-1	1/2 - 2'														
	U-2	3 1/2 - 5'	14.7	124.5	108.5	0.553	72						45.5			
	S-3	8 1/2 - 10'	10.0										23.0		4	
DH-2	U-1	1/2 - 2'														
	U-2	3 1/2 - 5'	23.9	122.6	99.0	0.702	92	1.3	4.1							
	S-3	8 1/2 - 10'	5.1										13.3		9	
	S-4	13 1/2 - 15'	17.7												18	
DH-3	U-1	1/2 - 2'	16.0	115.7	99.8	0.688	63			25	14	11	43.1	CL		
	U-2	2 - 3 1/2'	22.0													
	U-3	3 1/2 - 5'	9.6													
DH-4	U-1	1/2 - 2'														
	U-2	3 1/2 - 5'	18.4	124.2	104.9	0.606	82	0.5	1.3							
	S-3	8 1/2 - 10'	10.2										25.1		4	
	S-4	13 1/2 - 15'	21.6										70.5		11	
DH-5	U-1	1/2 - 2'														
	U-2	3 1/2 - 5'	15.1	133.1	115.7	0.456	89	0.6	2.5				25.6			
	S-3	8 1/2 - 10'	8.7										12.4		1 1/2	
	S-4	13 1/2 - 15'	8.0										11.8			

MID-STATE ENGINEERING & TESTING, INC.

SUMMARY OF SOIL TESTS

PROJECT: NECC Physical Plant

LOCATION: Norfolk, Nebraska

JOB NO. 632-51-19 DATE 6/6/12

DRILL HOLE NO.	SAMPLE NO.	SAMPLE DEPTH (ft.)	WATER CONTENT %	DENSITY WET (pcf)	DENSITY DRY (pcf)	VOID RATIO (e)	SAT. %	UNCONFINED COMPRESSION QU (tsf)	UNCONFINED COMPRESSION Strain (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PL	ATTERBERG LIMITS PI	%PASS #200 SIEVE	CLASS.	SPT (N)	REMARKS
DH-6	U-1	1/2 - 2'	11.0													
	U-2	3 1/2 - 5	21.1	127.1	105.0	0.605	94	0.8	4.3							
	S-3	8 1/2 - 10'	5.0										9.6		9	
	S-4	13 1/2 -15'	21.5												12	
	S-5	18 1/2 - 20'	20.3												15	
DH-7	U-1	1/2 - 2'														
	S-2	3 1/2 - 5'	10.5										10.7		6	
	S-3	8 1/2 - 10'	7.4												11	
DH-8	U-1	1/2 - 2'														
	S-2	3 1/2 - 5'	9.6										13.1		6	
	S-3	8 1/2 - 10'	9.2												9	
DH-9	U-1	1/2 - 2'	12.5	107.3	95.4	0.766	44						28.3			
	S-2	2 - 3 1/2'	13.6												4	
	S-3	3 1/2 - 5'													5	
DH-28	U-1	1/2 - 2'														
	S-2	3 1/21 - 5'	13.2										33.3		6	
	U-3	8 1/2 - 10'	16.9	123.4	105.6	0.596	77									
	S-4	13 1/2 - 15'													21	

MID-STATE ENGINEERING & TESTING, INC.

SUMMARY OF SOIL TESTS

PROJECT: NECC Physical Plant

LOCATION: Norfolk, Nebraska

JOB NO. 632-51-19 DATE 7/11/2012

DRILL HOLE NO.	SAMPLE NO.	SAMPLE DEPTH (ft.)	WATER CONTENT %	DENSITY WET (pcf)	DENSITY DRY (pcf)	VOID RATIO (e)	SAT. %	UNCONFINED COMPRESSION QU (tsf)	UNCONFINED COMPRESSION Strain (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PL	ATTERBERG LIMITS PI	%PASS #200 SIEVE	CLASS.	SPT (N)	REMARKS
DH-101	U-1	1/2 - 2'	6.5	105.4	102.8	0.639	28	1.7	2.2							
	S-2	3 1/2 - 5'	21.8	124.3	102.1	0.650	90						60		5	
	S-3	8 1/2 - 10'	3.7												12	
DH-102	U-1	1/2 - 2'	6.4	106.6	100.2	0.681	25									
	S-2	3 1/2 - 5'	15.4												4	
	U-3	8 1/2 - 10'	19.9	129.7	108.1	0.559	96			41	17	24				
	U-4	13 1/2 - 15'	19.7	130.5	109.1	0.544	98									
DH-103	U-1	1/2 - 2'	4.4	105.8	101.3	0.663	18						20			
	U-2	3 1/2 - 5'	12.5							29	15	14		CL		
	S-3	8 1/2 - 10'	6.4										9		15	
	U-4	13 1/2 - 15'	20.6	130.1	107.8	0.563	99	1.7	6.3							
	U-5	18 1/2 - 20'	19.2													
DH-104	U-1	1/2 - 2'	9.5													
	U-2	3 1/2 - 5'	20.4	124.2	103.2	0.633	87									
	S-3	8 1/2 - 10'	8.1										9	13		
	S-4	13 1/2 - 15'	12.3											8		
DH-105	U-1	1/2 - 2'	6.5	110.7	103.9	0.622	20	0.8	3.4				21			
	S-2	3 1/2 - 5'	12.1										34		6	
	S-3	8 1/2 - 10'	7.1												10	
	S-4	13 1/5 - 15'	26.1												8	

MID-STATE ENGINEERING & TESTING, INC.

SUMMARY OF SOIL TESTS

PROJECT NECC Physical Plant

LOCATION Norfolk, Nebraska

JOB NO. 632-51-19 **DATE** 7/11/2012

DRILL HOLE NO.	SAMPLE NO.	SAMPLE DEPTH (ft.)	WATER CONTENT %	DENSITY WET (pcf)	DENSITY DRY (pcf)	VOID RATIO (e)	SAT. %	UNCONFINED COMPRESSION QU (tsf)	UNCONFINED COMPRESSION Strain (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PL	ATTERBERG LIMITS PI	%PASS #200 SIEVE	CLASS.	SPT (N)	REMARKS
DH-106	U-1	1/2 - 2'	6.3													
	U-2	3 1/2 - 5'	10.5										25			
	S-3	8 1/2 - 10'	5.8										6		11	
	S-4	13 1/2 - 15'	10.4										11		11	
	S-5	18 1/2 - 20'	21.0												15	

MID-STATE

ENGINEERING & TESTING, INC.
279 ROAD 'D', COLUMBUS, NE. 68601

SOIL PROPERTIES

UNIFIED SOILS CLASSIFICATION

(Including Identification and Description)

Group Symbols	Typical Names	Values as Subgrade When No Subject to Frost Action	Potential Frost Action	Compressibility and Expansion	Drainage Characteristics	Compaction Equipment	Compacted Dry Unit Weight (pcf) ASTM-D-698	Typical Design Values	
								CBR	Subgrade Modulus k lb. per cu. in.
GW	Well-graded gravels, gravel-Sand mixture, little or no fines	Excellent	None to Very Slight	Almost None	Excellent	Crawler-type tractor, rubber tired roller, steel-wheeled roller	125-140	40-80	300-500
GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Good to Excellent	None to Very Slight	Almost None	Excellent	Crawler-type tractor, rubber tired roller, steel-wheeled roller	110-140	30-60	300-500
GM	Silty gravels, gravel-sand-silt mixtures. <50% Silts & Clays	Good to Excellent	Slight to Medium	Slight	Fair to Poor	Rubber-tired roller Sheepfoot roller	115-135	20-60	200-500
GC	Clayey gravels, gravel-sand-clay mixtures. <50% Silts & Clays	Good	Slight to Medium	Slight	Poor to Practically Impervious	Rubber-tired roller Sheepfoot roller	130-145	20-40	200-500
SW	Well-graded sands, gravely sands, little or no fines	Good	None to Very Slight	Almost None	Excellent	Crawler-type tractor rubber-tired roller	110-130	20-40	200-400
SP	Poorly-graded sands, gravely sands, little or no fines	Fair to Good	None to Very Slight	Almost None	Excellent	Crawler-type tractor rubber-tired roller	105-135	10-40	150-400
SM	Silty sands, sand-silt mixtures <50% Silts & Clays	Fair to Good	Slight to High	Slight	Fair to Poor	Rubber-tired roller Sheepfoot roller	120-135	15-40	150-400
SC	Clayey sands, sand-clay mixtures <50% Silts & Clays	Poor to Fair	Slight to High	Slight to Medium	Poor to Practically Impervious	Rubber-tired roller Sheepfoot roller	100-135	5-20	100-300
ML	Inorganic silts and very fine sands rock flour, silty fine sands or clayey silts with slight plasticity	Poor to Fair	Medium to Very High	Slight to Medium	Fair to Poor	Rubber-tired roller Sheepfoot roller, close control of moisture	100-120	15 or Less	100-200
CL	Inorganic clays of low to medium plasticity, gravely clays, sandy clays, silty clays, lean clays	Poor to Fair	Medium to High	Medium	Practically Impervious	Rubber-tired roller Sheepfoot roller	90-130	15 or Less	50-150
OL	Organic silts and organic silty clays of low plasticity	Poor	Medium to High	Medium to High	Poor	Rubber-tired roller Sheepfoot roller	90-105	5 or Less	50-100
MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	Poor	Medium to Very High	High	Fair to Poor	Sheepfoot roller Rubber-tired roller	90-105	10 or Less	50-100
CH	Inorganic clays or high plasticity fat clays	Poor to Fair	High	High	Practically Impervious	Sheepfoot roller Rubber-tired roller	90-115	15 or Less	50-150
OH	Organic clays of medium to high plasticity, organic silts	Poor to Very Poor	High	High	Practically Impervious	Sheepfoot roller Rubber-tired roller	80-110	5 or Less	25-100
Pt	Peat and other highly organic soils	Not Suitable	Very High	Very High	Fair to Poor	Compaction Not Practical			

SECTION 00 0140 Summary of Work: **1MM- Aluminum Fascia Panels**

Bid Package #1 – Site, Architectural, Structural, Mechanical, & Electrical

PART 1 - GENERAL

1.1 GENERAL

A. Extent of Contract: Unless the Agreement contains a more specific description of the Work, names and terminology on Drawings and in Specification Sections determine which contract includes a specific element of Project.

1. Unless otherwise indicated, the Work described in this Section for each contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
2. Local custom and trade-union jurisdictional settlements do not control the scope of the Work of each contract. When a potential jurisdictional dispute or similar interruption of work is first identified or threatened, affected contractors shall negotiate a reasonable settlement to avoid or minimize interruption and delays.
3. Trenches for the Work of each contract shall be provided by each contract for its own Work.
4. Project closeout requirements.
5. Note that any reference to clean-up and dumpsters in any bid package is superseded by the following:

a. Unless amended in the individual bid scopes, each bid package scope will provide their own hauling of trash and debris to designated dumpsters onsite.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Northeast Community College – Applied Technology and Physical Plant Buildings

1. Project Location: 801 East Benjamin Ave., Norfolk, Ne 68702

B. Owner: Northeast Community College

C. Architect: Drawings have been prepared by BCDM Architects, 1015 N. 98th St., Ste 300, Omaha, Ne 68114

D. Construction Manager: Sampson Construction, 3730 South 14th Street, Lincoln, NE 68510

E. The Work consists of the following:

1. Provide all labor, material, equipment, and other items necessary to complete aluminum fascia panels as shown on the drawings and per the following:

a. Division 1 – General Requirements of the contract as applicable.
- **Section 074213- Aluminum Fascia Panels**

2. Contract specifically includes, but is not limited to the following:

- **Provide coordination between subcontractors and Construction Manager for material deliveries and drawing reproduction.**

- **Provide all layout of own work.**

- **Provide all unloading, material handling and hoisting of own materials.**
- **Furnish and install any required furring channels required for installation of this material.**
- **Provide clean-up of all materials and debris created during this scope to dumpster provided by others.**
- **Superintendents or project managers will be required to attend weekly coordination meetings with other contractors.**

1.3 USE OF PREMISES

A. Use of Site: Limit use of premises to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

B. Smoking: Northeast Community College does not allow smoking or the use of any tobacco products within its facilities or on the school grounds. This applies to contractors and subcontractors.

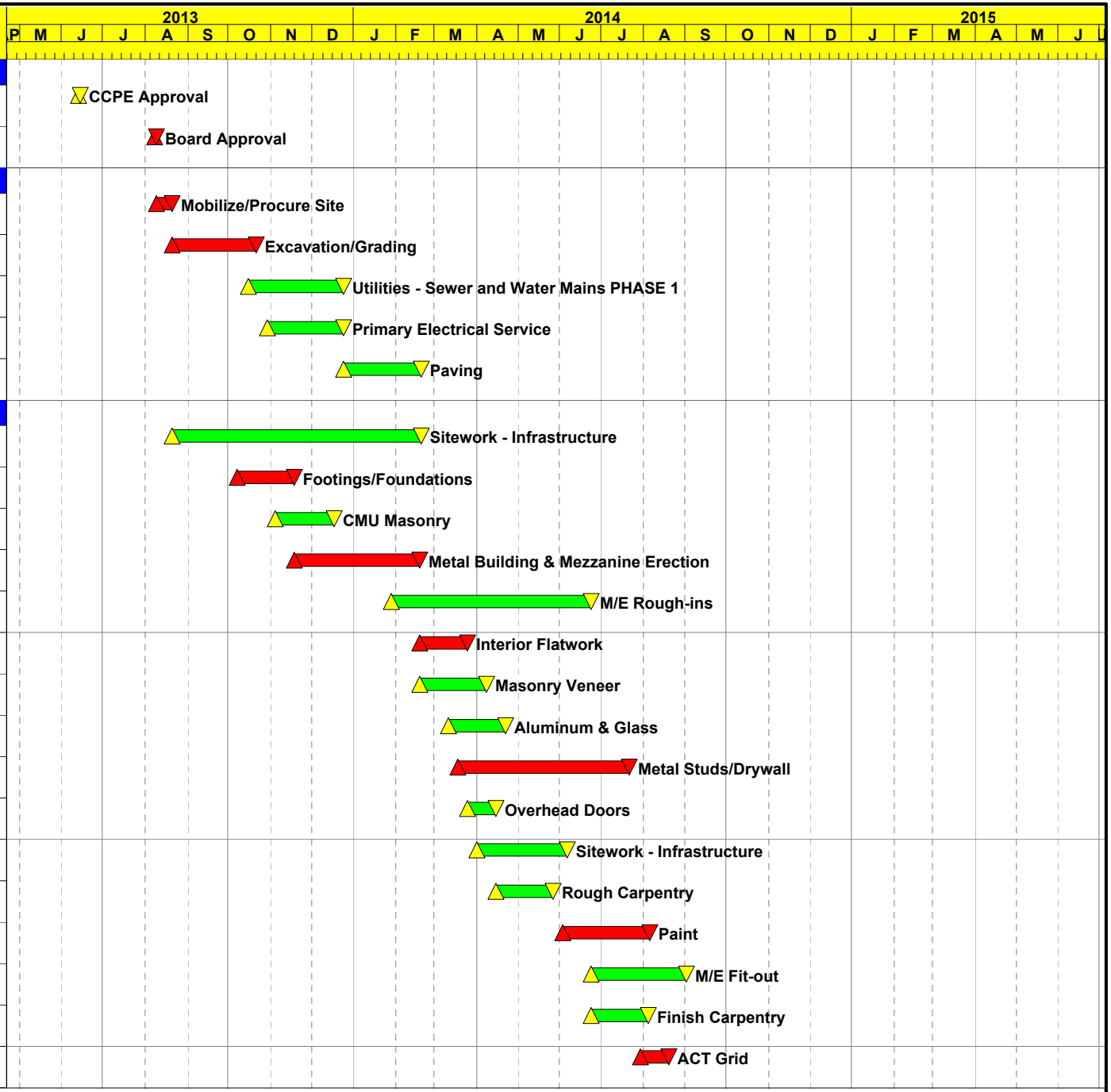
1.4 WORK SCHEDULE

A. See Milestone schedule for dates affecting this scope of work.

B. Time is of the essence on this project. Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three days of the receipt of the updated schedule.

END OF SECTION 00 0140-1MM

Activity Description	Orig Dur	Early Start	Early Finish
Preconstruction			
CCPE Approval	1	13JUN13*	13JUN13
Board Approval	1	08AUG13*	08AUG13
Site Infrastructure			
Mobilize/Procure Site	8	09AUG13	20AUG13
Excavation/Grading	44	21AUG13	21OCT13
Utilities - Sewer and Water Mains PHASE 1	50	16OCT13	24DEC13
Primary Electrical Service	40	30OCT13	24DEC13
Paving	40	25DEC13	18FEB14
Applied Technology			
Sitework - Infrastructure	130	21AUG13	18FEB14
Footings/Foundations	30	08OCT13	18NOV13
CMU Masonry	30	05NOV13	16DEC13
Metal Building & Mezzanine Erection	65	19NOV13	17FEB14
M/E Rough-ins	105	28JAN14	23JUN14
Interior Flatwork	25	18FEB14	24MAR14
Masonry Veneer	35	18FEB14	07APR14
Aluminum & Glass	30	11MAR14	21APR14
Metal Studs/Drywall	90	18MAR14	21JUL14
Overhead Doors	15	25MAR14	14APR14
Sitework - Infrastructure	49	01APR14*	06JUN14
Rough Carpentry	30	15APR14	26MAY14
Paint	46	03JUN14	05AUG14
M/E Fit-out	50	24JUN14	01SEP14
Finish Carpentry	30	24JUN14	04AUG14
ACT Grid	15	30JUL14	19AUG14



Start Date 10JAN13
Finish Date 30APR15
Data Date 17JAN13
Run Date 12JUN13 14:39

Early Bar
Progress Bar
Critical Activity

NFCF

Sheet 1 of 2

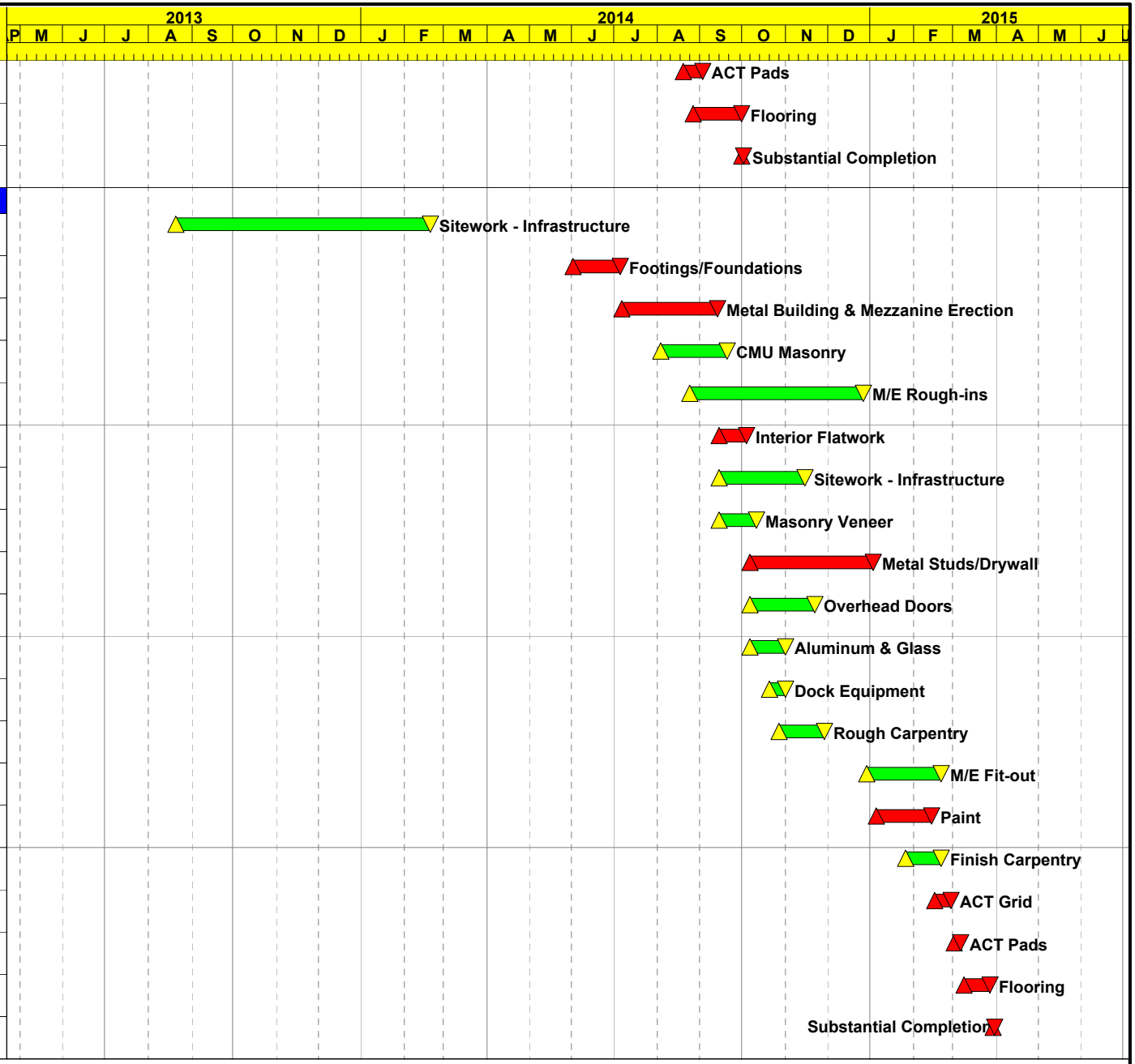
Northeast Community College

Applied Technology & Physical Plant

Preliminary Schedule

Sampson Construction

Activity Description	Orig Dur	Early Start	Early Finish
ACT Pads	10	20AUG14	02SEP14
Flooring	25	27AUG14	30SEP14
Substantial Completion	1	01OCT14	01OCT14
Physical Plant			
Sitework - Infrastructure	130	21AUG13	18FEB14
Footings/Foundations	25	02JUN14*	04JUL14
Metal Building & Mezzanine Erection	50	07JUL14	12SEP14
CMU Masonry	35	04AUG14	19SEP14
M/E Rough-ins	90	25AUG14	26DEC14
Interior Flatwork	15	15SEP14	03OCT14
Sitework - Infrastructure	45	15SEP14	14NOV14
Masonry Veneer	20	15SEP14	10OCT14
Metal Studs/Drywall	65	06OCT14	02JAN15
Overhead Doors	35	06OCT14	21NOV14
Aluminum & Glass	20	06OCT14	31OCT14
Dock Equipment	10	20OCT14	31OCT14
Rough Carpentry	25	27OCT14	28NOV14
M/E Fit-out	40	29DEC14	20FEB15
Paint	30	05JAN15	13FEB15
Finish Carpentry	20	26JAN15	20FEB15
ACT Grid	10	16FEB15	27FEB15
ACT Pads	5	02MAR15	06MAR15
Flooring	15	09MAR15	27MAR15
Substantial Completion	1	30MAR15	30MAR15



Start Date	10JAN13
Finish Date	30APR15
Data Date	17JAN13
Run Date	12JUN13 14:39

Early Bar
Progress Bar
Critical Activity

NFCF

Northeast Community College

Applied Technology & Physical Plant

Preliminary Schedule

Sampson Construction

BID FORM

Owner: Northeast Community College

Project: Applied Technology and Physical Plant Buildings

Construction Manager: Sampson Construction Co., Inc.

Bid Package No. 1 Bid Package Title: **Site, Architectural, Structural, Mechanical, & Electrical**

Summary of Work (Please indicate the bid scope(s) you are bidding):

[ ] _____
[ ] _____
[ ] _____
[ ] _____
[ ] _____

Company Name _____

Address _____

City/State/Zip _____

Contact: _____

Telephone: _____

FAX: _____

E-mail Address: _____

Bid Proposal Amounts:

The undersigned, having examined the Contract Documents and the site of the proposed Work and being familiar with all the conditions affecting the construction of the proposed project, hereby proposes and agrees to provide and furnish all labor, material, equipment, supervision, and other items necessary to perform and complete, in a workmanlike manner, all Work required by the Contract Documents at the prices stated below. Stated sums include fees, insurance, payroll taxes, and all other charges applicable to materials, appliances, labor, and all charges that may be levied. **This Bid excludes sales tax.**

In the following proposals, the amounts shall be shown in both words and figures. In the case of discrepancy between the words and the figures, the words shall govern.

Bid Bulletin:

The Bidder hereby acknowledges receipt and inclusion in the bid proposal the following Bid Bulletins:

Bid Bulletin _____ Dated: _____

Bid Bulletin _____ Dated: _____

Bid Bulletin _____ Dated: _____

Bid Bulletin _____ Dated: _____

Option 1 APPLIED TECHNOLOGY. (This bid option is for the Applied Technology Building only and is not applicable to Sitework or Physical Plant scopes of work) OPTION 1 BASE BID:

(Dollars) ($)

Option 2 PHYSICAL PLANT. (This bid option is for the Physical Plant Building only and is not applicable to Sitework or Applied Technology scopes of work) OPTION 2 BASE BID:

(Dollars) ($)

Option 3 BOTH BUILDINGS COMBINED. (This bid option is for both the Physical Plant Building and Applied Technology Building and is not applicable to Sitework scopes of work) OPTION 3 BASE BID:

(Dollars) ($)

Option 4 SITEWORK. (This bid option is for Sitework only and is not applicable to Physical Plant Building or Applied Technology Building scopes of work) OPTION 4 BASE BID:

(Dollars) ($)

Alternates:
The following Amounts shall be added or deducted from the Base Bid:

Alternate No. 1: Add Performance/Payment bond: (Dollars) ($ _____ (ADD/DEDUCT)

Alternate No. C-1: Connection road improvements (Dollars) ($ _____ (ADD/DEDUCT)

Alternate No. C-2: Aggregate surfacing in lieu of concrete (Dollars) ($ _____ (ADD/DEDUCT)

Alternate No. PP-1: Add covered landscape material storage (Dollars) ($ _____ (ADD/DEDUCT)

Alternate No. PP-1a: Pre-engineered metal building structure (Dollars) ($ _____ (ADD/DEDUCT)

Alternate No. PP-2: Add vision windows in overhead doors (Dollars) ($ _____ (ADD/DEDUCT)

Alternate No. PP-3: Floor finish modifications (Dollars) ($ _____ (ADD/DEDUCT)

Alternate No. PP-4: Solid surface countertops (Dollars) ($ _____ (ADD/DEDUCT)

Alternate No. AT-1: Add enclosed bulk storage area (Dollars) ($ _____ (ADD/DEDUCT)

Unit Prices : (Attach Bid Package Unit Price, if applicable)

Changes in the Work:

Changes in the work shall be as established in the Contract Documents. The following fees shall be used for lump sum pricing and actual cost pricing of additions and deletions to that Work included in the Bid, namely:

	Not to Exceed
a. To Subcontractor for work performed by their own forces.	10%
b. To Subcontractor for work performed by other than their own forces.	5%
c. To Subcontractor's Subcontractor/Material supplier for work performed by Subcontractor's Subcontractor/Material Supplier own forces.	10%
d. To Subcontractor's Subcontractor/Material supplier for work performed by other than Subcontractor's Subcontractor/Material Supplier own forces.	5%

- Fee includes general requirements, all supervision, overhead and profit.

Time of Commencement, Completion, and Damages:

a. The Bidder agrees that if awarded the Contract, he will Substantially Complete the Work in accordance with the schedule developed by the Construction Manager.

1. The Bidder hereby agrees to commence work under the Contract within seven (7) days after the date of a "Notice to Proceed", unless otherwise stipulated in that notice.

2. Shop drawing submittals shall be assembled immediately upon the Notice to Proceed and forwarded to the Construction Manager within 14 calendar days of said notice.

b. Time is expressly declared to be of the essence in completion of the Work covered by these Contract Documents, and the Successful Bidder shall be liable for actual damages for delay in completion of Work. Where additional time is allowed under the Agreement for the completion of the Work, the new time limits shall be of the essence of the Agreement.

c. Substantial Completion of the Work: The undersigned will have the Work ready for either the following Contractor's work or the Final Inspection and Owner's acceptance within the time limit established in the Construction Milestone Schedule.

General Agreements:

a. The Bidder agrees that he has had an opportunity to examine the site of the Work and has examined the Contract Documents, and that he has carefully prepared his proposal upon the basis thereof and that he has carefully examined and checked this Bid and the materials, equipment, and labor required thereunder, the cost thereof, and his figures therefore, and hereby states that the amount or amounts set forth in this Bid is, or are, correct and that no mistake or error has occurred in this Bid or in the Bidder's computations upon which this Bid is based and the Bidder agrees that he will make no claim for reformation, modification, rescission, or correction of this Bid after the scheduled closing time for receipt of Bid.

b. The Bidder acknowledges that the Owner reserves the right to waive informalities and to reject any or all Bids.

c. The Bidder agrees that Bid shall not be withdrawn or altered for a period of forty five (60) calendar days after the last date scheduled for the submission of Bids.

d. By signing this Bid, each Bidder certifies that this Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

The undersigned Bidder agrees that, when these requirements have been completed, he will execute an agreement with the Owner on the Standard Form of Agreement Between Owner and Construction on the Agreement included in the bidding documents.

DATED THIS _____ DAY OF _____, 2013.

_____ _____

Name of Firm City, State and ZIP

_____ _____

Address By: Signature of Authorized Officer