Attachment 1

Specifications, Proposal, Contract, and Bonds

UNC-Chapel Hill Resource Research Facility
Utilities Project


Printed on 1-30-2008
INTRODUCTORY INFORMATION

Table of Contents ....................................................................................................................... 3
Notice to Bidders .......................................................................................................................... 2
Certification .................................................................................................................................. 1

BIDDING REQUIREMENTS AND CONDITIONS OF THE CONTRACT

Instructions to Bidders and General Conditions of the Contract ............................................... 41
UNC Supplementary General Conditions .................................................................................... 6
Guidelines for Recruitment and Selection of Minority Business for Participation ......................... 8

DIVISION 1 - GENERAL REQUIREMENTS

Section 01060 UNC-CH Regulatory Requirements ....................................................................... 1
Section 01100 Summary ............................................................................................................... 4
Section 1210 Allowances .......................................................................................................... 2
Section 01230 Alternates ............................................................................................................ 3
Section 01270 Unit Prices ............................................................................................................ 2
Section 01310 Project Management and Coordination ............................................................... 3
Section 01330 Submittal Procedures .......................................................................................... 9
Section 01351 Electronic Data Release Form ............................................................................. 2
Section 01420 References .......................................................................................................... 3
Section 01500 Temporary Facilities and Controls ....................................................................... 6
Section 01505 UNC-CH Construction Waste Management .......................................................... 6
Section 01631 Substitutions ........................................................................................................ 3
Section 01632 Substitution Request Form .................................................................................. 3
Section 01730 Cutting and Patching .......................................................................................... 4
Section 01740 Cleaning .............................................................................................................. 3
Section 01770 Contract Closeout ............................................................................................... 1
Section 01772 Project Approval Authorization – Final Inspection for Owner Occupancy ................. 2
Section 01773 Certificate of Completion .................................................................................... 2
Section 01780 Project Record Documents ................................................................................. 4
Section 01781 Operation and Maintenance Data ....................................................................... 3
Section 01782 Warranties and Guarantees ............................................................................... 2
Section 01783 Spare Parts and Maintenance Materials ............................................................... 2
Section 01999 EHS Construction Design Guidelines ................................................................ 7

1-A: General Requirements ..................................................................................................... 13

DIVISION 2 - SITEWORK

2-A: Site Clearing ...................................................................................................................... 2
2-B: Site Excavation and Grading .............................................................................................. 3
2-C: Trenching, Backfilling, and Compacting .......................................................................... 3
2-D: Pipe Laying – Pressure Pipe ............................................................................................ 5
2-E: Pipe Laying – Gravity Sewer ............................................................................................. 4
2-M: Erosion Control ................................................................................................................ 7

DIVISION 3 - CONCRETE

3-A: Concrete General ............................................................................................................. 4
3-B: Concrete Formwork, Jointing, and Accessories ................................................................. 8

TABLE OF CONTENTS
<table>
<thead>
<tr>
<th>Division</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-C: Concrete Reinforcement</td>
<td>4</td>
</tr>
<tr>
<td>3-D: Concrete Materials, Strengths, Proportions, and Design Mixes</td>
<td>4</td>
</tr>
<tr>
<td>3-E: Concrete Quality Control Testing</td>
<td>6</td>
</tr>
<tr>
<td>3-F: Concrete Batching, Mixing, and Placing</td>
<td>4</td>
</tr>
<tr>
<td>3-G: Concrete Finishing, Curing, and Patching</td>
<td>7</td>
</tr>
<tr>
<td><strong>DIVISION 4 - MASONRY</strong></td>
<td></td>
</tr>
<tr>
<td>4-C: Cold Weather Masonry</td>
<td>2</td>
</tr>
<tr>
<td>4-D: Masonry Cleaning</td>
<td>1</td>
</tr>
<tr>
<td>4-E: Masonry Mortars and Grout</td>
<td>2</td>
</tr>
<tr>
<td>4-F: Architectural Profile Concrete Masonry Units</td>
<td>5</td>
</tr>
<tr>
<td><strong>DIVISION 5 - METALS</strong></td>
<td></td>
</tr>
<tr>
<td>5-B: Miscellaneous Metals</td>
<td>6</td>
</tr>
<tr>
<td><strong>DIVISION 6 - WOOD AND PLASTICS</strong></td>
<td></td>
</tr>
<tr>
<td>6-A: Rough Carpentry</td>
<td>4</td>
</tr>
<tr>
<td><strong>DIVISION 7 - THERMAL AND MOISTURE PROTECTION</strong></td>
<td></td>
</tr>
<tr>
<td>7-B: Vapor Barrier</td>
<td>2</td>
</tr>
<tr>
<td><strong>DIVISION 8 - DOORS AND WINDOWS</strong></td>
<td></td>
</tr>
<tr>
<td>8-A: Metal Doors and Frames</td>
<td>3</td>
</tr>
<tr>
<td>8-E: Finish Hardware</td>
<td>5</td>
</tr>
<tr>
<td><strong>DIVISION 9 - FINISHES</strong></td>
<td></td>
</tr>
<tr>
<td>9-G: Painting</td>
<td>12</td>
</tr>
<tr>
<td><strong>DIVISION 10 - SPECIALTIES</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DIVISION 11 - EQUIPMENT</strong></td>
<td></td>
</tr>
<tr>
<td>11-F: Effluent Flow Meter and Flume</td>
<td>2</td>
</tr>
<tr>
<td>11-G: Effluent Storage Lagoon Liner and Floating Transfer Pump System</td>
<td>7</td>
</tr>
<tr>
<td>11-H: Domestic Wastewater System</td>
<td>11</td>
</tr>
<tr>
<td>11-J: Backwash Wastewater Treatment and Pumping System</td>
<td>6</td>
</tr>
<tr>
<td>11-M: Animal Wastewater Treatment Plant With Nitrogen Reduction Capability</td>
<td>25</td>
</tr>
<tr>
<td>11-N: Denitrifying Dual Cell Tertiary Filter</td>
<td>23</td>
</tr>
<tr>
<td>11-P: Animal Effluent Irrigation System</td>
<td>10</td>
</tr>
<tr>
<td>11-Q: Chemical Feed Systems For Animal Wastewater Treatment System</td>
<td>6</td>
</tr>
<tr>
<td>11-R: Solids Cutter</td>
<td>5</td>
</tr>
<tr>
<td>11-W: Well and Water Treatment System</td>
<td>12</td>
</tr>
</tbody>
</table>
NOTICE TO BIDDERS

Sealed proposals will be received by the University of North Carolina in Chapel Hill NC, in Persimmon Conference Room 129 of the Giles F. Horney Building, CB#1090, 103 Airport Drive, Chapel Hill, NC, 27599-1090 up to 2:00 pm on Thursday, July 19, 2007, and immediately thereafter publicly opened and read for the furnishing of labor, material and equipment entering into the construction of Resource Research Facility Utilities Project. Project scope includes but not limited to construction of a new potable water treatment facility, expansion and renovation of the existing domestic wastewater treatment facility, construction of a new animal wastewater system (consisting of a treatment plant, a treated effluent storage facility, and spray irrigation fields), and associated sitework and utilities.

Bids will be received for Single Prime. All proposals shall be lump sum.

Pre-Bid Meeting

An open pre-bid meeting will be held for all interested bidders and vendors on Monday, July 9th, 2007 at 9:00 am on Thursday, in Trailer 59, adjacent to Lineberger Cancer Center on the UNC at Chapel Hill campus. Following the meeting at this location, the meeting will re-convene at the project site.

Complete plans, specifications and contract documents will be open for inspection in the offices of the Owner and the Designer and in the plan rooms of the following:

- Associated General Contractors, Carolinas Branch, Raleigh and High Point, NC
- McGraw-Hill Dodge Corporation, Raleigh, NC
- Reed Construction Data, Online
- The University of North Carolina at Chapel Hill HUB Resource Center
- NC Institute of Minority Economic Development, Inc. at MCTAP/NCIMED, Inc, Durham, NC

Plans and specifications may be obtained from the Designer, upon deposit of One Hundred dollars ($100.00) in cash or certified check. The full plan deposit will be returned to those bidders provided all documents are returned in good, usable condition within ten (10) days after the bid date. Contact Information for the Designer is provided at the end of this Notice.

All contractors are hereby notified that they must have proper license as required under the state laws governing their respective trades.

NOTE: The bidder shall identify on its bid proposal the minority business participation it will use on the project (Identification of Minority Business Participation) form and shall include either Affidavit A or Affidavit B as applicable. Forms and instructions are included within the Proposal Form in the bid documents. Failure to complete these forms is grounds for rejection of the bid. (GS143-128.2c Effective 1/1/2002.)

General contractors are notified that Chapter 87, Article 1, General Statutes of North Carolina, will be observed in receiving and awarding general contracts. General contractors submitting bids on this project must have license classification for unlimited size as required by the NC General Contractors Licensing Board under G.S. 87-1).

NOTE: Under GS 87-1, a contractor that superintends or manages construction of any building, highway, public utility, grading, structure or improvement shall be deemed a "general contractor" and shall be so licensed.
Therefor a single prime project that involves other trades will require the single prime contractor to hold a proper General Contractors license.

Each proposal shall be accompanied by a cash deposit or a certified check drawn on some bank or trust company, insured by the Federal Deposit Insurance Corporation, of an amount equal to not less than five percent (5%) of the proposal, or in lieu thereof a bidder may offer a bid bond of five percent (5%) of the bid executed by a surety company licensed under the laws of North Carolina to execute the contract in accordance with the bid bond. Said deposit shall be retained by the owner as liquidated damages in event of failure of the successful bidder to execute the contract within ten days after the award or to give satisfactory surety as required by law.

A performance bond and a payment bond will be required for one hundred percent (100%) of the contract price.

Payment will be made based on ninety-five percent (95%) of monthly estimates and final payment made upon completion and acceptance of work.

No bid may be withdrawn after the scheduled closing time for the receipt of bids for a period of 60 days.

The owner reserves the right to reject any or all bids and to waive informalities.

**Designer:**

Diehl & Phillips, P.A.
219 East Chatham Street
919-467-9972 Telephone
919-467-5327 Fax

**Owner:**

The University of North Carolina at Chapel Hill
Bruce Runberg, Associate Vice Chancellor
Chapel Hill, NC 27599
The professional identified below is responsible for performing certain professional services defined in the Contract Documents and is the author of all of the Specification sections for this project.

Diehl & Phillips, P.A.
Civil Engineer
John F. Phillips, P.E.
INSTRUCTIONS TO BIDDERS
AND
GENERAL CONDITIONS OF THE CONTRACT

STANDARD FORM FOR CONSTRUCTION PROJECTS

STATE CONSTRUCTION OFFICE
NORTH CAROLINA
DEPARTMENT OF ADMINISTRATION

Form OC-15

This document is intended for use on State capital construction projects and shall not be used on any project that is not reviewed and approved by the State Construction Office. Extensive modification to the General Conditions by means of "Supplementary General Conditions" is strongly discouraged. State agencies and institutions may include special requirements in "Division 1 – General Requirements" of the specifications, where they do not conflict with the General Conditions.

Twenty Third Edition January 2002
Revised March 2002
INSTRUCTIONS TO BIDDERS

For a proposal to be considered it must be in accordance with the following instructions:

1. PROPOSALS

Proposals must be made in strict accordance with the Form of Proposal provided therefor, and all blank spaces for bids, alternates, and unit prices applicable to bidder's work shall be properly filled in. When requested alternates are not bid, the proposal may be considered incomplete. The bidder agrees that bid on Form of Proposal detached from specifications will be considered and will have the same force and effect as if attached thereto. Photocopied or faxed proposals will not be considered. Numbers shall be stated both in writing and in figures for the base bids and alternates.

Any modifications to the Form of Proposal (including alternates and/or unit prices) will disqualify the bid and may cause the bid to be rejected.

The bidder shall fill in the Form of Proposal as follows:

a. If the documents are executed by a sole owner, that fact shall be evidenced by the word "Owner" appearing after the name of the person executing them.

b. If the documents are executed by a partnership, that fact shall be evidenced by the word "Co-Partner" appearing after the name of the partner executing them.

c. If the documents are executed on the part of a corporation, they shall be executed by either the president or the vice president and attested by the secretary or assistant secretary in either case, and the title of the office of such persons shall appear after their signatures. The seal of the corporation shall be impressed on each signature page of the documents.

d. If the proposal is made by a joint venture, it shall be executed by each member of the joint venture in the above form for sole owner, partnership or corporation, whichever form is applicable.

e. All signatures shall be properly witnessed.

f. If the contractor's license of a bidder is held by a person other than an owner, partner or officer of a firm, then the licensee shall also sign and be a party to the proposal. The title "Licensee" shall appear under his/her signature.

Proposals shall be addressed as indicated in the Advertisement for Bids and shall be delivered, enclosed in an opaque sealed envelope, marked "Proposal" and bearing the title of the work, name of the bidder, and the contractor's license number of the bidder. Bidders shall clearly mark on the outside of the bid envelope which contract(s) they are bidding.

Bidder shall identify on the bid, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit listing good faith efforts or an affidavit indicating work under contract will be self-performed, as required by G.S. 143-128.2(c) and G.S. 143-128.2(f). Failure to comply with these requirements is grounds for rejection of the bid.

For projects bid in the single-prime alternative, the names and license numbers of major subcontractors shall be listed on the proposal form.
It shall be the specific responsibility of the bidder to deliver his bid to the proper official at the selected place and prior to the announced time for the opening of bids. Later delivery of a bid for any reason, including delivery by the United States Postal Service, shall disqualify the bid.

Modifications of previously deposited bids will be acceptable only if delivered in writing or by telegram or fax to the place of the bid opening prior to the time for opening bids. Telegraphic and fax modifications must be confirmed in writing within 72 hours of the opening of bids.

Unit prices quoted in the proposal shall include overhead and profit and shall be the full compensation for the contractor's cost involved in the work. See General Conditions, Article 19c-1.

2. EXAMINATION OF CONDITIONS

It is understood and mutually agreed that by submitting a bid the bidder acknowledges that he has carefully examined all documents pertaining to the work, the location, accessibility and general character of the site of the work and all existing buildings and structures within and adjacent to the site, and has satisfied himself as to the nature of the work, the condition of existing buildings and structures, the conformation of the ground, the character, quality and quantity of the material to be encountered, the character of the equipment, machinery, plant and any other facilities needed preliminary to and during prosecution of the work, the general and local conditions, the construction hazards, and all other matters, including, but not limited to, the labor situation which can in any way affect the work under the contract, and including all safety measures required by the Occupational Safety and Health Act of 1970 and all rules and regulations issued pursuant thereto. It is further mutually agreed that by submitting a proposal the bidder acknowledges that he has satisfied himself as to the feasibility and meaning of the plans, drawings, specifications and other contract documents for the construction of the work and that he accepts all the terms, conditions and stipulations contained therein; and that he is prepared to work in cooperation with other contractors performing work on the site.

Reference is made to contract documents for the identification of those surveys and investigation reports of subsurface or latent physical conditions at the site or otherwise affecting performance of the work which have been relied upon by the designer in preparing the documents. The owner will make copies of all such surveys and reports available to the bidder upon request.

Each bidder may, at his own expense, make such additional surveys and investigations as he may deem necessary to determine his bid price for the performance of the work. Any on-site investigation shall be done at the convenience of the owner. Any reasonable request for access to the site will be honored by the owner.

3. BULLETINS AND ADDENDA

Any addenda to specifications issued during the time of bidding are to be considered covered in the proposal and in closing a contract they will become a part thereof. It shall be the bidder's responsibility to ascertain prior to bid time the addenda issued and to see that his bid includes any changes thereby required.

Should the bidder find discrepancies in, or omission from, the drawings or documents or should he be in doubt as to their meaning, he shall at once notify the designer who will send written instructions in the form of addenda to all bidders. Notification should be no later than seven (7) days prior to the date set for receipt of bids. Neither the owner nor the designer will be responsible for any oral instructions.
All addenda shall be acknowledged by the bidder(s) on the Form of Proposal.

4. BID SECURITY

Each proposal shall be accompanied by a cash deposit or a certified check drawn on some bank or trust company insured by the Federal Deposit Insurance Corporation, or a bid bond in an amount equal to not less than five percent (5%) of the proposal, said deposit to be retained by the owner as liquidated damages in event of failure of the successful bidder to execute the contract within ten (10) days after the award or to give satisfactory surety as required by law (G.S. 143-129).

Bid bond shall be conditioned that the surety will, upon demand, forthwith make payment to the obligee upon said bond if the bidder fails to execute the contract. The owner may retain bid securities of any bidder(s) who may have a reasonable chance of award of contract for the full duration of time stated in the Notice to Bidders. Other bid securities may be released sooner, at the discretion of the owner. All bid securities (cash or certified checks) shall be returned to the bidders promptly after award of contracts, and no later than seven (7) days after expiration of the holding period stated in the Notice to Bidders. Standard Form of Bid Bond is included in these specifications (Section 304).

5. RECEIPT OF BIDS

Bids shall be received in strict accordance with requirements of the General Statutes of North Carolina. Bid security shall be required as prescribed by statute. Prior to opening of any bids on the project, the bidder will be permitted to change or withdraw his bid. Guidelines for opening of public construction bids are available from the State Construction Office.

6. OPENING OF BIDS

Upon opening, all bids shall be read aloud. Once any bid is opened, there shall not be any withdrawal of bids by any bidder and no bids may be returned by the designer to any bidder. After the bid opening, a bidder may request that his bid be withdrawn from consideration without forfeiture of his bid security in accordance with the provisions of the North Carolina General Statute 143-129.1. After the opening of bids, no bid may be withdrawn, except under the provisions of General Statute 143-129.1, for a period of thirty days unless otherwise specified. Should the successful bidder default and fail to execute a contract, the contract may be awarded to the next lowest and responsible bidder. The owner reserves the unqualified right to reject any and all bids. Reasons for rejection may include, but shall not be limited to, the following:

a. If the Form of Proposal furnished to the bidder is not used or is altered.

b. If the bidder fails to insert a price for all bid items, alternate and unit prices requested.

c. If the bidder adds any provisions reserving the right to accept or reject any award.

d. If there are unauthorized additions or conditional bids, or irregularities of any kind which tend to make the proposal incomplete, indefinite or ambiguous as to its meaning.

e. If the bidder fails to complete the proposal form where information is requested so the bid may be properly evaluated by the owner.

f. If the unit prices contained in the bid schedule are unacceptable to the owner and the State Construction Office.
g. If the bidder fails to comply with other instructions stated herein.

7. BID EVALUATION

The award of the contract will be made to the lowest responsible bidder as soon as practical. The owner may award on the basis of the base bid and any alternates the owner chooses.

Before awarding a contract, the owner may require the apparent low bidder to qualify himself to be a responsible bidder by furnishing any or all of the following data:

a. The latest financial statement showing assets and liabilities of the company or other information satisfactory to the owner.

b. A listing of completed projects of similar size.

c. Permanent name and address of place of business.

d. The number of regular employees of the organization and length of time the organization has been in business under present name.

e. The name and home office address of the surety proposed and the name and address of the responsible local claim agent.

f. The names of members of the firms who hold appropriate trade licenses, together with license numbers.

Failure or refusal to furnish any of the above information, if requested, shall constitute a basis for disqualification of any bidder.

In determining the lowest responsible, responsive bidder, the owner shall take into consideration the bidder’s compliance with the requirements of G.S. 143-128.2(c), the past performance of the bidder on construction contracts for the State with particular concern given to completion times, quality of work, cooperation with other contractors, and cooperation with the designer and owner. Failure of the low bidder to furnish affidavit and/or documentation as required by G.S. 143-128.2(c) may constitute a basis for disqualification of the bid.

Should the owner adjudge that the apparent low bidder is not the lowest responsible, responsive bidder by virtue of the above information, said apparent low bidder will be so notified and his bid security shall be returned to him.

8. PERFORMANCE BOND

The successful bidder, upon award of contract, shall furnish a performance bond in an amount equal to 100 percent of the contract price. See Article 35, General Conditions.

9. PAYMENT BOND

The successful bidder, upon award of contract, shall furnish a payment bond in an amount equal to 100 percent of the contract price. See Article 35, General Conditions.
10. PAYMENTS

Payments to the successful bidders (contractors) will be made on the basis of monthly estimates. See Article 31, General Conditions.

11. PRE-BID CONFERENCE

Prior to the date set for receiving bids, the Designer may arrange and conduct a Pre-Bid Conference for all prospective bidders. The purpose of this conference is to review project requirements and to respond to questions from prospective bidders and their subcontractors or material suppliers related to the intent of bid documents. Attendance by prospective bidders shall be as required by the “Notice to Bidders”.

12. SUBSTITUTIONS

In accordance with the provisions of G.S. 133-3, material, product, or equipment substitutions proposed by the bidders to those specified herein can only be considered during the bidding phase until ten (10) days prior to the receipt of bids when submitted to the Designer with sufficient data to confirm material, product, or equipment equality. Proposed substitutions submitted after this time will be considered only as potential change order.

Submittals for proposed substitutions shall include the following information:

a. Name, address, and telephone number of manufacturer and supplier as appropriate.

b. Trade name, model or catalog designation.

c. Product data including performance and test data, reference standards, and technical descriptions of material, product, or equipment. Include color samples and samples of available finishes as appropriate.

d. Detailed comparison with specified products including performance capabilities, warranties, and test results.

e. Other pertinent data including data requested by the Designer to confirm product equality.

If a proposed material, product, or equipment substitution is deemed equal by the Designer to those specified, all bidders of record will be notified by Addendum.
GENERAL CONDITIONS OF THE CONTRACT

The use or reproduction of this document or any part thereof is authorized for and limited to use on projects of the State of North Carolina, and is distributed by, through and at the discretion of the State Construction Office, Raleigh, North Carolina, for that distinct and sole purpose.

TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>ARTICLE</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Definitions</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Intent and Execution of Documents</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Clarifications and Detail Drawings</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>Copies of Drawings and Specifications</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>Shop Drawings, Submittals, Samples, Data</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Working Drawings and Specifications at the Job Site</td>
<td>13</td>
</tr>
<tr>
<td>7</td>
<td>Ownership of Drawings and Specifications</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>Materials, Equipment, Employees</td>
<td>13</td>
</tr>
<tr>
<td>9</td>
<td>Royalties, Licenses and Patent</td>
<td>14</td>
</tr>
<tr>
<td>10</td>
<td>Permits, Inspections, Fees, Regulations</td>
<td>14</td>
</tr>
<tr>
<td>11</td>
<td>Protection of Work, Property and the Public</td>
<td>15</td>
</tr>
<tr>
<td>12</td>
<td>Sedimentation Pollution Control Act of 1973</td>
<td>16</td>
</tr>
<tr>
<td>13</td>
<td>Inspection of the Work</td>
<td>16</td>
</tr>
<tr>
<td>14</td>
<td>Construction Supervision and Schedule</td>
<td>17</td>
</tr>
<tr>
<td>15</td>
<td>Separate Contracts and Contractor Relationships</td>
<td>20</td>
</tr>
<tr>
<td>16</td>
<td>Subcontracts and Subcontractors</td>
<td>21</td>
</tr>
<tr>
<td>17</td>
<td>Contractor and Subcontractor Relationships</td>
<td>22</td>
</tr>
<tr>
<td>18</td>
<td>Designer's Status</td>
<td>23</td>
</tr>
<tr>
<td>19</td>
<td>Changes in the Work</td>
<td>23</td>
</tr>
<tr>
<td>20</td>
<td>Claims for Extra Cost</td>
<td>26</td>
</tr>
<tr>
<td>21</td>
<td>Minor Changes in the Work</td>
<td>27</td>
</tr>
<tr>
<td>22</td>
<td>Uncorrected Faulty Work</td>
<td>27</td>
</tr>
<tr>
<td>23</td>
<td>Time of Completion, Delays, Extension of Time</td>
<td>27</td>
</tr>
<tr>
<td>24</td>
<td>Partial Utilization: Beneficial Occupancy</td>
<td>28</td>
</tr>
<tr>
<td>25</td>
<td>Final Inspection, Acceptance, and Project Closeout</td>
<td>29</td>
</tr>
<tr>
<td>26</td>
<td>Correction of Work Before Final Payment</td>
<td>29</td>
</tr>
<tr>
<td>27</td>
<td>Correction of Work After Final Payment</td>
<td>30</td>
</tr>
<tr>
<td>28</td>
<td>Owner's Right to Do Work</td>
<td>30</td>
</tr>
<tr>
<td>29</td>
<td>Annulment of Contract</td>
<td>30</td>
</tr>
<tr>
<td>30</td>
<td>Contractor's Right to Stop Work or Terminate the Contract</td>
<td>31</td>
</tr>
<tr>
<td>31</td>
<td>Requests for Payments</td>
<td>31</td>
</tr>
<tr>
<td>32</td>
<td>Certificates of Payment and Final Payment</td>
<td>32</td>
</tr>
<tr>
<td>33</td>
<td>Payments Withheld</td>
<td>33</td>
</tr>
<tr>
<td>34</td>
<td>Minimum Insurance Requirements</td>
<td>34</td>
</tr>
<tr>
<td>35</td>
<td>Performance Bond and Payment Bond</td>
<td>35</td>
</tr>
<tr>
<td>36</td>
<td>Contractor's Affidavit</td>
<td>35</td>
</tr>
<tr>
<td>37</td>
<td>Assignments</td>
<td>35</td>
</tr>
<tr>
<td>38</td>
<td>Use of Premises</td>
<td>36</td>
</tr>
<tr>
<td>39</td>
<td>Cutting, Patching and Digging</td>
<td>36</td>
</tr>
<tr>
<td>40</td>
<td>Utilities, Structures, Signs</td>
<td>36</td>
</tr>
<tr>
<td>41</td>
<td>Cleaning Up</td>
<td>38</td>
</tr>
<tr>
<td>42</td>
<td>Guarantee</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Codes and Standards</td>
<td>39</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>44</td>
<td>Indemnification</td>
<td>39</td>
</tr>
<tr>
<td>45</td>
<td>Taxes</td>
<td>39</td>
</tr>
<tr>
<td>46</td>
<td>Equal Opportunity Clause</td>
<td>40</td>
</tr>
<tr>
<td>47</td>
<td>Employment of the Handicapped</td>
<td>40</td>
</tr>
<tr>
<td>48</td>
<td>Asbestos-Containing Materials (ACM)</td>
<td>40</td>
</tr>
<tr>
<td>49</td>
<td>Minority Business Participation</td>
<td>41</td>
</tr>
<tr>
<td>50</td>
<td>Contractor Evaluation</td>
<td>41</td>
</tr>
</tbody>
</table>
ARTICLE 1 - DEFINITIONS

a. The contract documents consist of the Notice to Bidders; Instructions to Bidders; General Conditions of the Contract; special conditions if applicable; Supplementary General Conditions; the drawing and specifications, including all bulletins, addenda or other modifications of the drawings and specifications incorporated into the documents prior to their execution; the proposal; the contract; the performance bond; the payment bond; insurance certificates; the approval of the attorney general; and the certificate of the Office of State Budget and Management. All of these items together form the contract.

b. The owner is the State of North Carolina through the agency named in the contract.

c. The designer(s) are those referred to within this contract, or their authorized representatives. The designer(s), as referred to herein, shall mean architect and/or engineer. They will be referred to hereinafter as if each were of the singular number, masculine gender.

d. The contractor, as referred to hereinafter, shall be deemed to be either of the several contracting parties called the "Party of the First Part" in either of the several contracts in connection with the total project. Where, in special instances hereinafter, a particular contractor is intended, an adjective precedes the word "contractor," as "general," "heating," etc. For the purposes of a single prime contract, the term Contractor shall be deemed to be the single contracting entity identified as the "Party of the First Part" in the single Construction Contract. Any references or adjectives that name or infer multiple prime contractors shall be interpreted to mean the single prime Contractor.

e. A subcontractor, as the term is used herein, shall be understood to be one who has entered into a direct contract with a contractor, and includes one who furnishes materials worked to a special design in accordance with plans and specifications covered by the contract, but does not include one who only sells or furnishes materials not requiring work so described or detailed.

f. Written notice shall be defined as notice in writing delivered in person to the contractor, or to a partner of the firm in the case of a partnership, or to a member of the contracting organization, or to an officer of the organization in the case of a corporation, or sent to the last known business address of the contracting organization by registered mail.

g. Work, as used herein as a noun, is intended to include materials, labor, and workmanship of the appropriate contractor.

h. The project is the total construction work to be performed under the contract documents by the several contractors.

i. Project Expediter, as used herein, is an entity stated in the contract documents, designated to effectively facilitate scheduling and coordination of work activities. See Article 14(f) for responsibilities of a Project Expediter. For the purposes of a single prime contract, the single prime contractor shall be designated as the Project Expediter.

j. Change order, as used herein, shall mean a written order to the contractor subsequent to the signing of the contract authorizing a change in the contract. The change order shall be signed by the contractor, designer and the owner, and approved by the State Construction Office, in that order (Article 19).
k. **Field Order**, as used herein, shall mean a written approval for the contractor to proceed with the work requested by owner prior to issuance of a formal Change Order. The field order shall be signed by the contractor, designer, owner, and State Construction Office.

l. **Time of completion**, as stated in the contract documents, is to be interpreted as consecutive calendar days measured from the date established in the written Notice to Proceed, or such other date as may be established herein (Article 23).

m. **Liquidated damages**, as stated in the contract documents, is an amount reasonably estimated in advance to cover the losses incurred by the owner by reason of failure of the contractor(s) to complete the work within the time specified.

n. **Surety**, as used herein, shall mean the bonding company or corporate body which is bound with and for the contractor, and which engages to be responsible for the contractor and his acceptable performance of the work.

o. **Routine written communications between the Designer and the Contractor** are any communication other than a “request for information” provided in letter, memo, or transmittal format, sent by mail, courier, electronic mail, or facsimile. Such communications can not be identified as “request for information”.

p. **Clarification or Request for information (RFI)** is a request from the Contractor seeking an interpretation or clarification by the Designer relative to the contract documents. The RFI, which shall be labeled (RFI), shall clearly and concisely set forth the issue or item requiring clarification or interpretation and why the response is needed. The RFI must set forth the Contractor’s interpretation or understanding of the contract documents requirements in question, along with reasons for such an understanding.

q. **Approval** means written or imprinted acknowledgement that materials, equipment or methods of construction are acceptable for use in the work.

r. **Inspection** shall mean examination or observation of work completed or in progress to determine its compliance with contract documents.

s. “**Equal to**” or “**approved equal**” shall mean materials, products, equipment, assemblies, or installation methods considered equal by the bidder in all characteristics (physical, functional, and aesthetic) to those specified in the contract documents.

t. “**Substitution**” or “**substitute**” shall mean materials, products, equipment, assemblies, or installation methods deviating in at least one characteristic (physical, functional, or aesthetic) from those specified, but which in the opinion of the bidder would improve competition and/or enhance the finished installation.

**ARTICLE 2 - INTENT AND EXECUTION OF DOCUMENTS**

a. The drawings and specifications are complementary, one to the other. That which is shown on the drawings or called for in the specifications shall be as binding as if it were both called for and shown. The intent of the drawings and specifications is to establish the scope of all labor, materials, transportation, equipment, and any and all other things necessary to provide a complete job. In case of discrepancy or disagreement in the contract documents, the order of precedence shall be: Form of Contract, specifications, large-scale detail drawings, small-scale drawings.
b. The wording of the specifications shall be interpreted in accordance with common usage of the language except that words having a commonly used technical or trade meaning shall be so interpreted in preference to other meanings.

c. The contractor shall execute each copy of the proposal, contract, performance bond and payment bond as follows:

1. If the documents are executed by a sole owner, that fact shall be evidenced by the word "Owner" appearing after the name of the person executing them.

2. If the documents are executed by a partnership, that fact shall be evidenced by the word "Co-Partner" appearing after the name of the partner executing them.

3. If the documents are executed on the part of a corporation, they shall be executed by either the president or the vice president and attested by the secretary or assistant secretary in either case, and the title of the office of such persons shall appear after their signatures. The seal of the corporation shall be impressed on each signature page of the documents.

4. If the documents are made by a joint venture, they shall be executed by each member of the joint venture in the above form for sole owner, partnership or corporation, whichever form is applicable to each particular member.

5. All signatures shall be properly witnessed.

6. If the contractor's license is held by a person other than an owner, partner or officer of a firm, then the licensee shall also sign and be a party to the contract. The title "Licensee" shall appear under his/her signature.

7. The bonds shall be executed by an attorney-in-fact. There shall be attached to each copy of the bond a certified copy of power of attorney properly executed and dated.

8. Each copy of the bonds shall be countersigned by an authorized individual agent of the bonding company licensed to do business in North Carolina. The title "Licensed Resident Agent" shall appear after the signature.

9. The seal of the bonding company shall be impressed on each signature page of the bonds.

10. The contractor's signature on the performance bond and the payment bond shall correspond with that on the contract.

ARTICLE 3 - CLARIFICATIONS AND DETAIL DRAWINGS

a. In such cases where the nature of the work requires clarification by the designer, such clarification shall be furnished by the designer with reasonable promptness by means of written instructions or detail drawings, or both. Clarifications and drawings shall be consistent with the intent of contract documents, and shall become a part thereof.

b. The contractor(s) and the designer shall prepare, if deemed necessary, a schedule fixing dates upon which foreseeable clarifications will be required. The schedule will be subject to addition or change in accordance with progress of the work. The designer shall furnish drawings or clarifications in accordance with that schedule. The contractor shall not proceed with the work without such detail drawings and/or written clarifications.
ARTICLE 4 - COPIES OF DRAWINGS AND SPECIFICATIONS

The designer shall furnish free of charge to the contractors copies of plans and specifications as follows:

a. General contractor - Up to twelve (12) sets of general contractor drawings and specifications, up to six (6) sets of which shall include drawings and specifications of all other contracts, plus a clean set of black line prints on white paper of all appropriate drawings, upon which the contractor shall clearly and legibly record all work-in-place that is at variance with the contract documents.

b. Each other contractor - Up to six (6) sets of the appropriate drawings and specifications, up to three (3) sets of which shall include drawings and specifications of all other contracts, plus a clean set of black line prints on white paper of all appropriate drawings, upon which the contractor shall clearly and legibly record all work-in-place that is at variance with the contract documents.

c. Additional sets shall be furnished at cost, including mailing, to the contractor upon request by the contractor. This cost shall be stated in the bidding documents.

d. For the purposes of a single-prime contract, the contractor shall receive up to 30 sets of drawings and specifications, plus a clean set of black line prints on white paper of all appropriate drawings, upon which the contractor shall clearly and legibly record all work-in-place that is at variance with the contract documents.

ARTICLE 5 - SHOP DRAWINGS, SUBMITTALS, SAMPLES, DATA

a. Within 30 consecutive calendar days after the notice to proceed, each prime contractor shall submit a schedule for anticipated submission of all shop drawings, product data, samples, and similar submittals to the Project Expediter and the Designer. This schedule shall indicate the items, relevant specification sections, other related submittal data, and the date when these items will be furnished to the designer.

b. The Contractor shall review, approve and submit to the Designer all Shop or Setting Drawings, Product Data, Samples, Color Charts, and similar submittal data required or reasonably implied by the Contract Documents. Required Submittals shall bear the Contractor's stamp of approval, any exceptions to the Contract Documents shall be noted on the submittals, and copies of all submittals shall be of sufficient quantity for the Designer to retain up to three (3) copies of each submittal for his own use plus additional copies as may be required by the Contractor. Submittals shall be presented to the Designer with reasonable promptness and time so as to cause no delay in the activities of the Owner or of separate Contractors.

c. The Designer shall review required submittals promptly, noting desired corrections if any, and retaining three (3) copies for his use. The remaining copies of each submittal shall be returned to the Contractor not later than twenty (20) days from the date of receipt by the Designer, for the Contractor's use or for corrections and resubmittal as noted by the Designer. When resubmittals are required, the submittal procedure shall be the same as for the original submittals.

d. Approval of shop drawings by the Designer shall not be construed as relieving the Contractor from responsibility for compliance with the design or terms of the contract documents nor from responsibility of errors of any sort in the shop drawings, unless such lack of compliance or errors first have been called in writing to the attention of the Designer by the Contractor.
ARTICLE 6 - WORKING DRAWINGS AND SPECIFICATIONS AT THE JOB SITE

a. The contractor shall maintain, in readable condition at his job office, one complete set of working drawings and specifications for his work including all shop drawings. Such drawings and specifications shall be available for use by the designer or his authorized representative.

b. The contractor shall maintain at the job office, a day-to-day record of work-in-place that is at variance with the contract documents. Such variations shall be fully noted on project drawings by the contractor and submitted to the designer upon project completion and no later than 30 days after acceptance of the project.

ARTICLE 7 - OWNERSHIP OF DRAWINGS AND SPECIFICATIONS

All drawings and specifications are instruments of service and remain the property of the owner. The use of these instruments on work other than this contract without permission of the owner is prohibited. All copies of drawings and specifications other than contract copies shall be returned to the owner upon request after completion of the work.

ARTICLE 8 - MATERIALS, EQUIPMENT, EMPLOYEES

a. The contractor shall, unless otherwise specified, supply and pay for all labor, transportation, materials, tools, apparatus, lights, power, heat, sanitary facilities, water, scaffolding and incidentals necessary for the completion of his work, and shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied therefrom, all in accordance with the contract documents.

b. All materials shall be new and of quality specified, except where reclaimed material is authorized herein and approved for use. Workmanship shall at all times be of a grade accepted as the best practice of the particular trade involved, and as stipulated in written standards of recognized organizations or institutes of the respective trades except as exceeded or qualified by the specifications.

c. Upon notice, the contractor shall furnish evidence as to quality of materials.

d. Products are generally specified by ASTM or other reference standard and/or by manufacturer’s name and model number or trade name. When specified only by reference standard, the Contractor may select any product meeting this standard, by any manufacturer. When several products or manufacturers are specified as being equally acceptable, the Contractor has the option of using any product and manufacturer combination listed. However, the contractor shall be aware that the cited examples are used only to denote the quality standard of product desired and that they do not restrict bidders to a specific brand, make, manufacturer or specific name; that they are used only to set forth and convey to bidders the general style, type, character and quality of product desired; and that equivalent products will be acceptable. Request for substitution of materials, items, or equipment shall be submitted to the designer for approval or disapproval; such approval or disapproval shall be made by the designer prior to the opening of bids.

e. Each contractor shall obtain written approval from the designer for the use of products, materials, equipment, assemblies or installation methods claimed as equal to those
specified. Such approvals must be obtained as soon after contract awards as possible and before any materials are ordered. Applications for approvals shall be made by the contractor and not by subcontractors or material suppliers within thirty (30) days following award of contract. When the submittal schedule provided under Article 5a is approved, no further substitutions will be permitted except in unusual or extenuating circumstances. If no list is submitted, the contractor shall supply materials specified.

f. The designer is the judge of equality for proposed substitution of products, materials or equipment.

g. If at any time during the construction and completion of the work covered by these contract documents, the conduct of any workman of the various crafts be adjudged a nuisance to the owner or designer, or if any workman be considered detrimental to the work, the contractor shall order such parties removed immediately from grounds.

ARTICLE 9 - ROYALTIES, LICENSES AND PATENTS

It is the intention of the contract documents that the work covered herein will not constitute in any way infringement of any patent whatsoever unless the fact of such patent is clearly evidenced herein. The contractor shall protect and save harmless the owner against suit on account of alleged or actual infringement. The contractor shall pay all royalties and/or license fees required on account of patented articles or processes, whether the patent rights are evidenced hereinafter.

ARTICLE 10 - PERMITS, INSPECTIONS, FEES, REGULATIONS

a. The contractor shall give all notices and comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work under this contract. If the contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the designer in writing. See Instructions to Bidders, Paragraph 3, Bulletins and Addenda. Any necessary changes required after contract award shall be made by change order in accordance with Article 19. If the contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules and regulations, and without such notice to the designer, he shall bear all cost arising therefrom. Additional requirements implemented after bidding will be subject to equitable negotiations.

b. All work under this contract shall conform to the North Carolina State Building Code and other State, local and national codes as are applicable. The cost of all required inspections and permits shall be the responsibility of the contractor.

c. Projects constructed by the State of North Carolina or by any agency or institution of the State are not subject to inspection by any county or municipal authorities and are not subject to county or municipal building codes. The contractor shall, however, cooperate with the county or municipal authorities by obtaining building permits. Permits shall be obtained at no cost.

d. Projects involving local funding (community colleges) are subject to county and municipal building codes and inspection by local authorities. The contractor shall pay the cost of these permits and inspections.
ARTICLE 11 - PROTECTION OF WORK, PROPERTY AND THE PUBLIC

a. The contractors shall be jointly responsible for the entire site and the building or construction of the same and provide all the necessary protections, as required by the owner or designer, and by laws or ordinances governing such conditions. They shall be responsible for any damage to the owner's property, or of that of others on the job, by them, their personnel, or their subcontractors, and shall make good such damages. They shall be responsible for and pay for any damages caused to the owner. All contractors shall have access to the project at all times.

b. The contractor shall provide cover and protect all portions of the structure when the work is not in progress, provide and set all temporary roofs, covers for doorways, sash and windows, and all other materials necessary to protect all the work on the building, whether set by him, or any of the subcontractors. Any work damaged through the lack of proper protection or from any other cause, shall be repaired or replaced without extra cost to the owner.

c. No fires of any kind will be allowed inside or around the operations during the course of construction without special permission from the designer.

d. The contractor shall protect all trees and shrubs designated to remain in the vicinity of the operations by building substantial boxes around same. He shall barricade all walks, roads, etc., as directed by the designer to keep the public away from the construction. All trenches, excavations or other hazards in the vicinity of the work shall be well barricaded and properly lighted at night.

e. The contractor shall provide all necessary safety measures for the protection of all persons on the job, including the requirements of the A.G.C. Accident Prevention Manual in Construction, as amended, and shall fully comply with all state laws or regulations and North Carolina State Building Code requirements to prevent accident or injury to persons on or about the location of the work. He shall clearly mark or post signs warning of hazards existing, and shall barricade excavations, elevator shafts, stairwells and similar hazards. He shall protect against damage or injury resulting from falling materials and he shall maintain all protective devices and signs throughout the progress of the work.

f. The contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations; Part 1926, published in Volume 39, Number 122, Part II, June 24, 1974, Federal Register), and revisions thereto as adopted by General Statutes of North Carolina 95-126 through 155.

g. The contractor shall designate a responsible member of his organization as safety inspector, whose duties shall include accident prevention on the work project. The name of the safety inspector shall be made known to the designer at the time the work is started.

h. In the event of emergency affecting the safety of life, the protection of work, or the safety of adjoining properties, the contractor is hereby authorized to act at his own discretion, without further authorization from anyone, to prevent such threatened injury or damage. Any compensation claimed by the contractor on account of such action shall be determined as provided for under Article 19(b).
ARTICLE 12 - SEDIMENTATION POLLUTION CONTROL ACT OF 1973

a. Any land-disturbing activity performed by the contractor(s) in connection with the project shall comply with all erosion control measures set forth in the contract documents and any additional measures which may be required in order to ensure that the project is in full compliance with the Sedimentation Pollution Control Act of 1973, as implemented by Title 15, North Carolina Administrative Code, Chapter 4, Sedimentation Control, Subchapters 4A, 4B and 4C, as amended (15 N.C.A.C. 4A, 4B and 4C).

b. Upon receipt of notice that a land-disturbing activity is in violation of said act, the contractor(s) shall be responsible for ensuring that all steps or actions necessary to bring the project in compliance with said act are promptly taken.

c. The contractor(s) shall be responsible for defending any legal actions instituted pursuant to N.C.G.S. 113A-64 against any party or persons described in this article.

d. To the fullest extent permitted by law, the contractor(s) shall indemnify and hold harmless the owner, the designer and the agents, consultants and employees of the owner and designer, from and against all claims, damages, civil penalties, losses and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from the performance of work or failure of performance of work, provided that any such claim, damage, civil penalty, loss or expense is attributable to a violation of the Sedimentation Pollution Control Act. Such obligation shall not be construed to negate, abridge or otherwise reduced any other right or obligation of indemnity which would otherwise exist as to any party or persons described in this article.

ARTICLE 13 - INSPECTION OF THE WORK

a. It is a condition of this contract that the work shall be subject to inspection during normal working hours by the designer, designated official representatives of the owner, and those persons required by state law to test special work for official approval. The contractor shall therefore provide safe access to the work at all times for such inspections.

b. All instructions to the contractor will be made only by or through the designer or his designated project representative. Observations made by official representatives of the owner shall be conveyed to the designer for review and coordination prior to issuance to the contractor.

c. Where special inspection or testing is required by virtue of any state laws, instructions of the designer, specifications or codes, the contractor shall give adequate notice to the designer of the time set for such inspection or test, if the inspection or test will be conducted by a party other than the designer. Such special tests or inspections will be made in the presence of the designer, or his authorized representative, and it shall be the contractor's responsibility to serve ample notice of such tests.

d. All laboratory tests shall be paid by the owner unless provided otherwise in the contract documents except the general contractor shall pay for laboratory tests to establish design mix for concrete, and for additional tests to prove compliance with contract documents where materials have tested deficient except when the testing laboratory did not follow the appropriate ASTM testing procedures.

e. Should any work be covered up or concealed prior to inspection and approval by the designer, such work shall be uncovered or exposed for inspection, if so requested by the designer in writing. Inspection of the work will be made promptly upon notice from the contractor. All cost involved in uncovering, repairing, replacing, recovering and restoring
to design condition, the work that has been covered or concealed will be paid by the contractor involved.

f. If any other portion of the work has been covered which the designer has not specifically requested to observe prior to being covered, the designer may request to see such work and it shall be uncovered by the contractor. If such work be found in accordance with the contract documents, the cost of uncovering and replacement shall, by appropriate change order, be charged to the owner. If such work be found not in accordance with the contract documents, the contractor shall pay such costs unless it be found that this condition was caused by the owner or a separate contractor as provided in Article 15, in which event the owner or the separate contractor shall be responsible for the payment of such costs.

ARTICLE 14 - CONSTRUCTION SUPERVISION AND SCHEDULE

a. Throughout the progress of the work, each contractor shall keep at the job site, a competent superintendent or supervisory staff satisfactory to the designer. The superintendent shall not be changed without the consent of the designer unless said superintendent ceases to be employed by the contractor or ceases to be competent. The superintendent shall have authority to act on behalf of the contractor, and instructions, directions or notices given to him shall be as binding as if given to the contractor. However, directions, instructions, and notices shall be confirmed in writing.

b. The contractor shall examine and study the drawings and specifications and fully understand the project design, and shall provide constant and efficient supervision to the work. Should he discover any discrepancies of any sort in the drawings or specifications, he shall report them to the designer without delay. He will not be held responsible for discrepancies in the drawings and/or specifications, but shall be held responsible to report them should they become known to him.

c. All contractors shall be required to cooperate and consult with each other during the construction of this project. Prior to installation of work, all contractors shall jointly prepare coordination drawings, showing locations of various ductworks, piping, motors, pumps, and other mechanical or electrical equipment, in relation to the structure, walls and ceilings. These drawings shall be submitted to the designer through the Project Expediter for information only. Each contractor shall lay out and execute his work to cause the least delay to other contractors. Each contractor shall be financially responsible for any damage to other contractor's work and for undue delay caused to other contractors on the project.

d. The contractor is required to attend monthly job site progress conferences as called by the designer. The contractor shall be represented at these job progress conferences by both home office and project personnel. These representatives shall have authority to act on behalf of the contractor. These meetings shall be open to subcontractors, material suppliers and any others who can contribute toward maintaining required job progress. It shall be the principal purpose of these meetings, or conferences, to effect coordination, cooperation and assistance in every practical way toward the end of maintaining progress of the project on schedule and to complete the project within the specified contract time. Each contractor shall be prepared to assess progress of the work as required in his particular contract and to recommend remedial measures for correction of progress as may be appropriate. The designer or his authorized representative shall be the coordinator of the conferences and shall preside as chairman.

e. The contractor(s) shall, if required by the Supplementary General Conditions, employ an engineer or a land surveyor licensed in the State of North Carolina to lay out the work.
and to establish a bench mark nearby in a location where same will not be disturbed and where direct instruments sights may be taken.

f. The designer shall designate a Project Expediter on projects involving two or more prime contracts. The Project Expediter shall be designated in the Supplementary General Conditions. The Project Expediter shall have the following responsibilities.

1. Prepare the project construction schedule and shall allow all prime contractors (multi-prime contract) and subcontractors (single-prime contract) performing general, plumbing, HVAC, and electrical work equal input into the preparation of the initial construction schedule.

2. Maintain a project progress schedule for all contractors.

3. Give adequate notice to all contractors to ensure efficient continuity of all phases of the work.

4. Notify the designer of any changes in the project schedule.

5. Recommend to the owner whether payment to a contractor shall be approved.

g. It shall be the responsibility of the Project Expediter to cooperate with and obtain from several prime contractors and subcontractors on the job, their respective work activities and integrate these activities into a project construction schedule in form of a detailed bar chart or Critical Path Method (CPM) schedule. Each prime contractor shall provide work activities within fourteen (14) days of request by the Project Expediter. A "work activity", for scheduling purposes, shall be any component or contractual requirement of the project requiring at least one (1) day, but not more than fourteen (14) days, to complete or fulfill. The project construction schedule shall graphically show all salient features of the work required to construct the project from start to finish and within the allotted time established in the contract. The time (in days) between the contractor's early completion and contractual completion dates is part of the project total float time; and shall be used as such, unless amended by a change order. On a multi-prime project, each prime contractor shall review the proposed construction schedule and approve same in writing. The Project Expediter shall submit the proposed construction schedule to the designer for comments. The complete Project construction schedule shall be of the type set forth in the Supplementary General Condition or subparagraph (1) or (2) below, as appropriate:

1. For a project with total contracts of $1,000,000 or less, a bar chart schedule will satisfy the above requirement. The schedule shall indicate the estimated starting and completion dates for each major element of the work.

2. For a project with total contracts over $1,000,000, a Critical Path Method (CPM) schedule shall be utilized to control the planning and scheduling of the Work. The CPM schedule shall be the responsibility of the Project Expediter and shall be paid for by the Project Expediter.
Bar Chart Schedule: Where a bar chart schedule is required, it shall be time-scaled in weekly increments, shall indicate the estimated starting and completion dates for each major element of the work by trade and by area, level, or zone, and shall schedule dates for all salient features, including but not limited to the placing of orders for materials, submission of shop drawings and other Submittals for approval, approval of shop drawings by designers, the manufacture and delivery of material, the testing and the installation of materials, supplies and equipment, and all Work activities to be performed by the Contractor. The Contractor shall allow sufficient time in his schedule for all required inspections. Each Work activity will be assigned a time estimate by the Contractor. One day shall be the smallest time unit used.

CPM Schedule: Where a CPM schedule is required, it shall be in time-scaled precedence format using the Project Expediter's logic and time estimates. The CPM schedule shall be drawn or plotted with activities grouped or zoned by Work area or subcontract as opposed to a random (or scattered) format. The CPM schedule shall be time-scaled on a weekly basis and shall be drawn or plotted at a level of detail and logic which will schedule all salient features of the work to be performed by the Contractor. The Contractor shall allow sufficient time in his schedule for all required inspections. Each Work activity will be assigned a time estimate by the Contractor. One day shall be the smallest time unit used.

The CPM schedule will identify and describe each activity, state the duration of each activity, the calendar dates for the early and late start and the early and late finish of each activity, and clearly highlight all activities on the critical path. "Total float" and "free float" shall be indicated for all activities. Float time shall not be considered for the exclusive use or benefit of either the Owner or the Contractor, but must be allocated in the best interest of completing the Work within the Contract time. Extensions to the Contract time, when granted by Change Order, will be granted only when equitable time adjustment exceeds the Total Float in the activity or path of activities affected by the change. On contracts with a price over $2,500,000; the CPM schedule shall also show what part of the Contract Price is attributable to each activity on the schedule, the sum of which for all activities shall equal the total Contract Price.

Early Completion of Project: The Contractor may attempt to complete the project prior to the Contract Completion Date. However, such planned early completion shall be for the Contractor's convenience only and shall not create any additional rights of the Contractor or obligations of the Owner under this Contract, nor shall it change the Time for Completion or the Contract Completion Date. The Contractor shall not be required to pay liquidated damages to the Owner because of its failure to complete by its planned earlier date. Likewise, the Owner shall not pay the Contractor any additional compensation for early completion nor will the Owner owe the Contractor any compensation should the Owner, its officers, employees, or agents cause the Contractor not to complete earlier than the date required by the Contract Documents.
h. The proposed project construction schedule shall be presented to the designer no later than thirty (30) days after written notice to proceed. No application for payment will be processed until this schedule is accepted by the owner.

i. The approved project construction schedule shall be distributed to all contractors and displayed at the job site by the Project Expediter.

j. The several contractors shall be responsible for their work activities and shall notify the Project Expediter of any necessary changes or adjustments to their work. The Project Expediter shall maintain the project construction schedule, making monthly adjustments, updates, corrections, etc., that are necessary to finish the project within the Contract time, keeping all contractors and the designer fully informed. Copy of a bar chart schedule annotated to show the current progress shall be submitted by the Contractor(s) to the designer, along with monthly request for payment. For project requiring CPM schedule, the Contractor shall submit a monthly report of the status of all activities. The bar chart schedule or monthly status report shall show the actual Work completed to date in comparison with the original Work scheduled for all activities. If any activities of the work of several contractors are behind schedule, the contractor must indicate in writing, what measures will be taken to bring each such activity back on schedule and to ensure that the Contract Completion Date is not exceeded. A plan of action and recovery schedule shall be developed and submitted to the designer by the Project Expediter, when (1) the contractor's monthly report indicates delays, that are in the opinion of the designer or the owner, of sufficient magnitude that the contractor's ability to complete the work by the scheduled completion is brought into question; (2) the updated construction schedule is thirty (30) days behind the planned or baseline schedule and no legitimate time extensions are in process; and (3) the contractor desires to make changes in the logic (sequencing of work) or the planned duration of future activities of the CPM schedule, which, in the opinion of the designer or the owner, are of a major nature. The plan of action, when required shall be submitted to the Owner for review within two (2) business days of the Contractor receiving the Owner's written demand. The recovery schedule, when required, shall be submitted to the Owner within five (5) calendar days of the Contractor's receiving the Owner's written demand. Failure to provide an updated construction schedule or a recovery schedule may be grounds for rejection of payment applications or withholding of funds as set forth in Article 33.

k. The Project Expediter shall notify each contractor of such events or time frames that are critical to the progress of the job. Such notice shall be timely and reasonable. Should the progress be delayed due to the work of any of the several contractors, it shall be the duty of the Project Expediter to immediately notify the contractor(s) responsible for such delay, the designer, the State Construction Office and other prime contractors. The designer shall determine the contractor(s) who caused the delays and notify the bonding company of the responsible contractor(s) of the delays; and shall make a recommendation to the owner regarding further action.

l. Designation as Project Expediter entails an additional project control responsibility and does not alter in any way the responsibility of the contractor so designated, nor the responsibility of the other contractors involved in the project.

**ARTICLE 15 - SEPARATE CONTRACTS AND CONTRACTOR RELATIONSHIPS**

a. Effective from January 1, 2002, Chapter 143, Article 8, was amended, to allow public contracts to be bid in single-prime, dual (single-prime and separate-prime), construction manager at risk, and alternative contracting method as approved by the State Building Commission. The owner reserves the right to prepare separate specifications, receive
separate bids, and award separate contracts for such other major items of work as may be in the best interest of the State. For the purposes of a single prime contract, refer to Article 1 – Definitions.

b. All contractors shall cooperate with each other in the execution of their work, and shall plan their work in such manner as to avoid conflicting schedules or delay of the work. See Article 14, Construction Supervision.

c. If any part of contractor’s work depends upon the work of another contractor, defects which may affect that work shall be reported to the designer in order that prompt inspection may be made and the defects corrected. Commencement of work by a contractor where such condition exists will constitute acceptance of the other contractor’s work as being satisfactory in all respects to receive the work commenced, except as to defects which may later develop. The designer shall be the judge as to the quality of work and shall settle all disputes on the matter between contractors.

d. Any mechanical or electrical work such as sleeves, inserts, chases, openings, penetrations, etc., which is located in the work of the general contractor shall be built in by the general contractor. The respective mechanical and electrical contractors shall set all sleeves, inserts and other devices that are to be incorporated into the structure in cooperation and under the supervision of the general contractor. The responsibility for the exact location of such items shall be that of the mechanical and/or electrical contractor.

e. The designer and the owner shall have access to the work whenever it is in preparation and progress during normal working hours. The contractor shall provide facilities for such access so the designer may perform his functions under the contract documents.

f. Should a contractor cause damage to the work or property of another contractor, he shall be directly responsible, and upon notice, shall promptly settle the claim or otherwise resolve the dispute.

ARTICLE 16 - SUBCONTRACTS AND SUBCONTRACTORS

a. Within thirty (30) days after award of the contract, the contractor shall submit to the designer and to the State Construction Office a list giving the names and addresses of subcontractors and equipment and material suppliers he proposes to use, together with the scope of their respective parts of the work. Should any subcontractor be disapproved by the designer, the designer shall submit his reasons for disapproval in writing to the State Construction Office for its consideration with a copy to the contractor. If the State Construction Office concurs with the designer’s recommendation, the contractor shall submit a substitute for approval. The designer shall act promptly in the approval of subcontractors, and when approval of the list is given, no changes of subcontractors will be permitted except for cause or reason considered justifiable by the designer.

b. The designer will furnish to any subcontractor, upon request, evidence regarding amounts of money paid to the contractor on account of the subcontractor’s work.

c. The contractor is and remains fully responsible for his own acts or omissions as well as those of any subcontractor or of any employee of either. The contractor agrees that no contractual relationship exists between the subcontractor and the owner in regard to the contract, and that the subcontractor acts on this work as an agent or employee of the contractor.

d. The owner reserves the right to limit the amount of portions of work to be subcontracted as hereinafter specified.
ARTICLE 17 - CONTRACTOR AND SUBCONTRACTOR RELATIONSHIPS

The contractor agrees that the terms of these contract documents shall apply equally to each subcontractor as to the contractor, and the contractor agrees to take such action as may be necessary to bind each subcontractor to these terms. The contractor further agrees to conform to the Code of Ethical Conduct as adopted by the Associated General Contractors of America, Inc., with respect to contractor-subcontractor relationships, and that payments to subcontractors shall be made in accordance with the provisions of G.S. 143-134.1 titled Interest on final payments due to prime contractors: payments to subcontractors.

a. On all public construction contracts which are let by a board or governing body of the state government or any political subdivision thereof, except contracts let by the Department of Transportation pursuant to G.S. 136-28.1, the balance due prime contractors shall be paid in full within 45 days after respective prime contracts of the project have been accepted by the owner, certified by the architect, engineer or designer to be completed in accordance with terms of the plans and specifications, or occupied by the owner and used for the purpose for which the project was constructed, whichever occurs first. Provided, however, that whenever the architect or consulting engineer in charge of the project determines that delay in completion of the project in accordance with terms of the plans and specifications is the fault of the contractor, the project may be occupied and used for the purposes for which it was constructed without payment of any interest on amounts withheld past the 45 day limit. No payment shall be delayed because of the failure of another prime contractor on such project to complete his contract. Should final payment to any prime contractor beyond the date such contracts have been certified to be completed by the designer or architect, accepted by the owner, or occupied by the owner and used for the purposes for which the project was constructed, be delayed by more than 45 days, said prime contractor shall be paid interest, beginning on the 46th day, at the rate of one percent (1%) per month or fraction thereof unless a lower rate is agreed upon on such unpaid balance as may be due. In addition to the above final payment provisions, periodic payments due a prime contractor during construction shall be paid in accordance with the payment provisions of the contract documents or said prime contractor shall be paid interest on any such unpaid amount at the rate stipulated above for delayed final payments. Such interest shall begin on the date the payment is due and continue until the date on which payment is made. Such due date may be established by the terms of the contract. Funds for payment of such interest on state-owned projects shall be obtained from the current budget of the owning department, institution or agency. Where a conditional acceptance of a contract exists, and where the owner is retaining a reasonable sum pending correction of such conditions, interest on such reasonable sum shall not apply.

b. Within seven days of receipt by the prime contractor of each periodic or final payment, the prime contractor shall pay the subcontractor based on work completed or service provided under the subcontract. Should any periodic or final payment to the subcontractor be delayed by more than seven days after receipt of periodic or final payment by the prime contractor, the prime contractor shall pay the subcontractor interest, beginning on the eighth day, at the rate of one percent (1%) per month or fraction thereof on such unpaid balance as may be due.

c. The percentage of retainage on payments made by the prime contractor to the subcontractor shall not exceed the percentage of retainage on payments made by the owner to the prime contractor. Any percentage of retainage on payments made by the
prime contractor to the subcontractor that exceeds the percentage of retainage on payments made by the owner to the prime contractor shall be subject to interest to be paid by the prime contractor to the subcontractor at the rate of one percent (1%) per month or fraction thereof.

d. Nothing in this section shall prevent the prime contractor at the time of application and certification to the owner from withholding application and certification to the owner for payment to the subcontractor for unsatisfactory job progress; defective construction not remedied; disputed work; third-party claims filed or reasonable evidence that claim will be filed; failure of subcontractor to make timely payments for labor, equipment and materials; damage to prime contractor or another subcontractor; reasonable evidence that subcontract cannot be completed for the unpaid balance of the subcontract sum; or a reasonable amount for retainage not to exceed the initial percentage retained by owner.

ARTICLE 18 - DESIGNER'S STATUS

a. The designer shall provide general administration of the performance of construction contracts, including liaison and necessary inspection of the work to ensure compliance with plans and specifications. He is the agent of the owner only for the purpose of constructing this work and to the extent stipulated in the contract documents. He has authority to stop work or to order work removed, or to order corrections of faulty work where such action may be necessary to assure successful completion of the work.

b. The designer is the impartial interpreter of the contract documents, and, as such, he shall exercise his powers under the contract to enforce faithful performance by both the owner and the contractor, taking sides with neither.

c. Should the designer cease to be employed on the work for any reason whatsoever, then the owner shall employ a competent replacement who shall assume the status of the former designer.

d. The designer will make periodic inspections of the project at intervals appropriate to the stage of construction. He will inspect the progress, the quality and the quantity of the work.

e. The designer and the owner shall have access to the work whenever it is in preparation and progress during normal working hours. The contractor shall provide facilities for such access so the designer may perform his functions under the contract documents.

f. Based on the designer's inspections and evaluations of the project, the designer shall issue interpretations, directives and decisions as may be necessary to administer the project. His decisions relating to artistic effect and technical matters shall be final, provided such decisions are within the limitations of the contract.

ARTICLE 19 - CHANGES IN THE WORK

a. The owner may have changes made in the work covered by the contract. These changes will not invalidate and will not relieve or release the contractor from any guarantee given by him pertinent to the contract provisions. These changes will not affect the validity of the guarantee bond and will not relieve the surety or sureties of said bond. All extra work shall be executed under conditions of the original contract.

b. Except in an emergency endangering life or property, NO CHANGE SHALL BE MADE BY THE CONTRACTOR EXCEPT UPON RECEIPT OF APPROVED CHANGE ORDER OR WRITTEN FIELD ORDER FROM THE DESIGNER,
COUNTERSIGNED BY THE OWNER AND THE STATE CONSTRUCTION OFFICE AUTHORIZING SUCH CHANGE. NO CLAIM FOR ADJUSTMENTS OF THE CONTRACT PRICE SHALL BE VALID UNLESS THIS PROCEDURE IS FOLLOWED.

A FIELD ORDER, TRANSMITTED BY FAX OR HAND DELIVERED, MAY BE USED WHERE THE CHANGE INVOLVED IMPACTS THE CRITICAL PATH OF THE WORK. A FORMAL CHANGE ORDER SHALL BE ISSUED WITHIN THE TIME STATED ON THE FIELD ORDER.

In the event of emergency endangering life or property, the contractor may be directed to proceed on a time and material basis whereupon the contractor shall proceed and keep accurately on such form as may be required, a correct account of costs together with all proper invoices, payrolls and supporting data. Upon completion of the work the change order will be prepared as outlined under either Method "c(1)" or Method "c(2)" or both.

c. In determining the values of changes, either additive or deductive, contractors are restricted to the use of the following methods:

1. Where the extra work involved is covered by unit prices quoted in the proposal, the value of the change shall be computed by application of unit prices based on quantities, estimated or actual as agreed of the items involved, except in such cases where a quantity exceeds the estimated quantity allowance in the contract by one hundred percent (100%) or more. In such cases, either party may elect to proceed under subparagraph c2 herein. If neither party elects to proceed under c2, then unit prices shall apply.

2. The contracting parties shall negotiate and agree upon the equitable value of the change prior to issuance of the change order, and the change order shall stipulate the corresponding lump sum adjustment to the contract price.

d. Under Paragraph "b" and Methods "c(2)" above, the allowances for overhead and profit combined shall not exceed twenty percent (20%) of net cost except where the change involves a subcontractor, allowance shall not exceed fifteen percent (15%) for the subcontractor, and ten percent (10%) for the prime contractor. Under Method "c(1)", no additional allowances shall be made for overhead and profit. In the case of deductible change orders, under Method "c(2)" and Paragraph (b) above, the contractor shall include no less than five percent (5%) profit, but no allowances for overhead.

e. The term "net cost" as used herein shall mean the difference between all proper cost additions and deductions. The "cost" as used herein shall be limited to the following:

1. The actual costs of materials and supplies incorporated or consumed as part of the project;

2. The actual costs of labor expended on the project site;

3. The actual costs of labor burden, limited to the costs of social security (FICA) and Medicare/Medicaid taxes; unemployment insurance costs; health/dental/vision insurance premiums; paid employee leave for holidays, vacation, sick leave, and/or petty leave, not to exceed a total of 30 days per year; retirement contributions; worker's compensation insurance premiums; and the costs of general liability insurance when premiums are computed based on payroll amounts; the total of which shall not exceed forty percent (40%) of the actual costs of labor.
4. The actual costs of rental for tools, excluding hand tools; equipment; machinery; and temporary facilities required for the project;

5. The actual costs of premiums for bonds, insurance, permit fees, and sales or use taxes related to the project.

Overtime and extra pay for holidays and weekends may be a cost item only to the extent approved by the owner.

f. Should concealed conditions be encountered in the performance of the work below grade, or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the contract documents, the contract sum and time for completion may be equitably adjusted by change order upon claim by either party made within thirty (30) days after the condition has been identified. The cost of such change shall be arrived at by one of the foregoing methods.

ALL CHANGE ORDERS SHALL BE SUPPORTED BY A BREAKDOWN SHOWING METHOD OF ARRIVING AT NET COST AS DEFINED ABOVE.

g. In all change orders, the procedure will be for the designer to request proposals for the change order work in writing. The contractor will provide such proposal and supporting data in suitable format. The designer shall verify correctness. Within fourteen (14) days after receipt of the contractor's proposal, the designer shall prepare the change order and forward to the contractor for his signature or otherwise respond, in writing, to the contractor's proposal. Within seven (7) days after receipt of the change order executed by the contractor, the designer shall certify the change order by his signature, and forward the change order and all supporting data to the owner for the owner's signature. The owner shall execute the change order and forward to the State Construction Office for final approval, within seven (7) days of receipt. The State Construction Office shall act on the change order within seven (7) days. Upon approval by the State Construction Office, one copy remains with the State Construction Office, and the remaining copies are sent to the designer for distribution to the owner(s), contractor(s) and the surety. In case of emergency or extenuating circumstances, approval of changes may be obtained verbally by telephone or field orders approved by all parties, then shall be substantiated in writing as outlined under normal procedure.

h. At the time of signing a change order, the contractor shall be required to certify as follows:

"I certify that my bonding company will be notified forthwith that my contract has been changed by the amount of this change order, and that a copy of the approved change order will be mailed upon receipt by me to my surety."

i. A change order, when issued, shall be full compensation, or credit, for the work included, omitted or substituted. It shall show on its face the adjustment in time for completion of the project as a result of the change in the work.

j. If, during the progress of the work, the owner requests a change order and the contractor's terms are unacceptable, the owner, with the approval of the State Construction Office, may require the contractor to perform such work on a time and material basis in accordance with paragraph "b" above. Without prejudice, nothing in this paragraph shall preclude the owner from performing or to have performed that portion of the work requested in the change order.
ARTICLE 20 - CLAIMS FOR EXTRA COST

a. Should the contractor consider that as a result of any instructions given in any form by the designer, he is entitled to extra cost above that stated in the contract, he shall give written notice thereof to the designer within seven (7) days without delay, and shall not proceed with the work affected until further advised, except in emergency involving the safety of life or property, which condition is covered in Article 19(b) and Article 11(h). No claims for extra compensation will be considered unless the claim is so made. The designer shall render a written decision within seven (7) days of receipt of claim.

b. THE CONTRACTOR SHALL NOT ACT ON INSTRUCTIONS RECEIVED BY HIM FROM PERSONS OTHER THAN THE DESIGNER, AND ANY CLAIMS FOR EXTRA COMPENSATION OR EXTENSION OF TIME ON ACCOUNT OF SUCH INSTRUCTION WILL NOT BE HONORED. The designer will not be responsible for misunderstandings claimed by the contractor of verbal instructions which have not been confirmed in writing, and in no case shall instructions be interpreted as permitting a departure from the contract documents unless such instruction is confirmed in writing and supported by a properly authorized change order.

c. Should a claim for extra compensation by the contractor be denied by the designer or owner, and cannot be resolved by a representative of the State Construction Office, the contractor may request a mediation in connection with GS 143-128g in the dispute resolution rules adopted by the State Building Commission. If the contractor is unable to resolve its claims as a result of mediation, the contractor may pursue his claim in accordance with the provisions of G.S. 143-135.3 and the following:

1. A contractor who has not completed a contract with a board for construction or repair work and who has not received the amount he claims is due under the contract may submit a verified written claim to the director of the State Construction Office of the Department of Administration for the amount the contractor claims is due. The director may deny, allow or compromise the claim, in whole or in part. A claim under this subsection is not a contested case under Chapter 150B of the General Statutes.

2. (a) A contractor who has completed a contract with a board for construction or repair work and who has not received the amount he claims is due under the contract may submit a verified written claim to the director of the State Construction Office of the Department of Administration for the amount the contractor claims is due. The claim shall be submitted within sixty (60) days after the contractor receives a final statement of the board's disposition of his claim and shall state the factual basis for the claim.

   (b) The director shall investigate a submitted claim within ninety (90) days of receiving the claim, or within any longer time period upon which the director and the contractor agree. The contractor may appear before the director, either in person or through counsel, to present facts and arguments in support of his claim. The director may allow, deny or compromise the claim, in whole or in part. The director shall give the contractor a written statement of the director's decision on the contractor's claim.

   (c) A contractor who is dissatisfied with the director's decision on a claim submitted under this subsection may commence a contested case on the claim under Chapter 150B of the General Statutes. The contested case shall be commenced within sixty (60) days of receiving the director's written statement of the decision.
(d) As to any portion of a claim that is denied by the director, the contractor may, in lieu of the procedures set forth in the preceding subsection of this section, within six (6) months of receipt of the director's final decision, institute a civil action for the sum he claims to be entitled to under the contract by filing a verified complaint and the issuance of a summons in the Superior Court of Wake County or in the superior court of any county where the work under the contract was performed. The procedure shall be the same as in all civil actions except that all issues shall be tried by the judge, without a jury.

ARTICLE 21 - MINOR CHANGES IN THE WORK

The designer will have the authority to order minor changes in the work not involving an adjustment in the contract sum or time for completion, and not inconsistent with the intent of the contract documents. Such changes shall be effected by written order, copied to the State Construction Office, and shall be binding on the owner and the contractor.

ARTICLE 22 - UNCORRECTED FAULTY WORK

Should the correction of faulty or damaged work be considered inadvisable or inexpedient by the owner and the designer, the owner shall be reimbursed by the contractor. A change order will be issued to reflect a reduction in the contract sum.

ARTICLE 23 - TIME OF COMPLETION, DELAYS, EXTENSION OF TIME

a. The time of completion is stated in the Supplementary General Conditions and in the Form of Construction Contract. The Project Expediter, upon notice of award of contract, shall prepare a construction schedule to complete the project within the time of completion as required by Article 14.

b. The contractors shall commence work to be performed under this agreement on a date to be specified in a written Notice to Proceed from the designer and shall fully complete all work hereunder within the time of completion stated. For each day in excess of the above number of days, the contractor(s) shall pay the owner the sum stated as liquidated damages reasonably estimated in advance to cover the losses to be incurred by the owner by reason of failure of said contractor(s) to complete the work within the time specified, such time being in the essence of this contract and a material consideration thereof.

c. The designer shall be the judge as to the division of responsibility between the contractor(s), based on the construction schedule, weekly reports and job records, and shall apportion the amount of liquidated damages to be paid by each of them, according to delay caused by any or all of them.

d. If the contractor is delayed at any time in the progress of his work by any act or negligence of the owner or the designer, or by any employee of either; by any separate contractor employed by the owner; by changes ordered in the work; by labor disputes at the project site; by abnormal weather conditions not reasonably anticipated for the locality where the work is performed; by unavoidable casualties; by any causes beyond the contractor's control; or by any other causes which the designer and owner determine may justify the delay, then the contract time may be extended by change order for the time which the designer and owner may determine is reasonable.

Time extensions will not be granted for rain, wind, snow or other natural phenomena of normal intensity for the locality where work is performed. For purpose of determining extent of delay attributable to unusual weather phenomena, a determination shall be made.
by comparing the weather for the contract period involved with the average of the preceding five (5) year climatic range during the same time interval based on the National Oceanic and Atmospheric Administration National Weather Service statistics for the locality where work is performed and on daily weather logs kept on the job site by the contractor reflecting the effect of the weather on progress of the work and initialed by the designer's representative. Time extensions for weather delays do not entitle the contractor to "extended overhead" recovery.

c. Request for extension of time shall be made in writing within twenty (20) days following cause of delay. In case of continuing cause for delay, the Contractor shall notify the Designer of the delay within 20 days of the beginning of the delay and only one claim is necessary.

d. The contractor shall notify his surety in writing of extension of time granted.

g. No claim shall be allowed on account of failure of the designer to furnish drawings or instructions until twenty (20) days after demand for such drawings and/or instructions. See Article 5c.

ARTICLE 24 - PARTIAL UTILIZATION/BENEFICIAL OCCUPANCY

a. The owner may desire to occupy or utilize all or a portion of the project when the work is substantially complete.

b. Prior to the final payment, the owner, with the approval of the State Construction Office, may request the contractor(s) in writing, through the designer if applicable, to permit him to use a specified part of the project which he believes he may use without significant interference with construction of the other parts of the project. If the contractor(s) agree, the designer will schedule a beneficial occupancy inspection, with the approval of the State Construction Office, after which the designer may issue a certificate of substantial completion. The certificate shall include the following documentation:

1. Date of substantial completion.

2. A tentative list of items to be completed or corrected before final payment.

3. Establishing responsibility between contractor and owner for maintenance, heat, utilities and insurance.

4. Establishing the date for guarantees and warranties under terms of the contract.

5. Consent of surety.

6. Endorsement from insurance company permitting occupancy.

c. The owner shall have the right to exclude the contractor from any part of the project which the designer has so certified to be substantially complete, but the owner will allow the contractor reasonable access to complete or correct work to bring it into compliance with the contract.

d. Occupancy by the owner under this article will in no way relieve the contractor from his contractual requirement to complete the project within the specified time. The contractor will not be relieved of liquidated damages because of beneficial occupancy. The designer may prorate liquidated damages based on the percentage of project occupied.
ARTICLE 25 - FINAL INSPECTION, ACCEPTANCE, AND PROJECT CLOSEOUT

a. Upon notification from the contractor(s) that the project is complete and ready for inspection, the designer shall make a preliminary final inspection to verify that the project is complete and ready for final inspection. Prior to final inspection, the contractor(s) shall complete all items requiring corrective measures noted at the preliminary inspection. The designer shall schedule a final inspection at a time and date acceptable to the owner, contractor(s) and State Construction Office.

b. When contractors finish their work prior to completion by other contractors, these contracts shall be closed out through the final inspection, acceptance and final payment process on recommendation of the designer and approval of the State Construction Office.

c. At the final inspection, the designer shall, if job conditions warrant, record a list of items that are found to be incomplete or not in accordance with the contract documents. At the conclusion of the final inspection, the designer and State Construction Office representative shall make the following determinations:

1. That the project is completed and accepted.
2. That the project is accepted subject to the list of discrepancies (punch list). All punch list items must be completed within thirty (30) days of acceptance or the owner may invoke Article 28, Owner's Right to Do Work.
3. That the project is not complete and another date for a final inspection will be established.

d. Within fourteen (14) days of acceptance per Paragraph c1 or within fourteen (14) days after completion of punch list per Paragraph c2 above, the designer shall certify the work and issue applicable certificate(s) of compliance.

e. Any discrepancies listed or discovered after the date of final inspection and acceptance under Paragraphs c1 or c2 above shall be handled in accordance with Article 42.

f. The date of acceptance will establish the following:

1. The beginning of guarantees and warranties period.
2. The date on which the contractor's insurance coverage for public liability, property damage and builder's risk may be terminated.
3. That no liquidated damages (if applicable) shall be assessed after this date.
4. The termination date of utility cost to the contractor.

ARTICLE 26 - CORRECTION OF WORK BEFORE FINAL PAYMENT

a. Any work, materials, fabricated items or other parts of the work which have been condemned or declared not in accordance with the contract by the designer shall be promptly removed from the work site by the contractor, and shall be immediately replaced by new work in accordance with the contract at no additional cost to the owner. Work or property of other contractors or the owner, damaged or destroyed by virtue of such faulty work, shall be made good at the expense of the contractor whose work is faulty.
b. Correction of condemned work described above shall commence within twenty-four (24) hours after receipt of notice from the designer, and shall make satisfactory progress until completed.

c. Should the contractor fail to proceed with the required corrections, then the owner may complete the work in accordance with the provisions of Article 28.

ARTICLE 27 - CORRECTION OF WORK AFTER FINAL PAYMENT

See Article 35, Performance Bond and Payment Bond, and Article 42, Guarantee. Neither the final certificate, final payment, occupancy of the premises by the owner, nor any provision of the contract, nor any other act or instrument of the owner, nor the designer, shall relieve the contractor from responsibility for negligence, or faulty material or workmanship, or failure to comply with the drawings and specifications. He shall correct or make good any defects due thereto and repair any damage resulting therefrom, which may appear during the guarantee period following final acceptance of the work except as stated otherwise under Article 42, Guarantee. The owner will report any defects as they may appear to the contractor and establish a time limit for completion of corrections by the contractor. The owner will be the judge as to the responsibility for correction of defects.

ARTICLE 28 - OWNER'S RIGHT TO DO WORK

If, during the progress of the work or during the period of guarantee, the contractor fails to prosecute the work properly or to perform any provision of the contract, the owner, after fifteen (15) days' written notice sent by certified mail, return receipt requested, to the contractor from the designer, may perform or have performed that portion of the work. The cost of the work may be deducted from any amounts due or to become due to the contractor, such action and cost of same having been first approved by the designer. Should the cost of such action of the owner exceed the amount due or to become due the contractor, then the contractor or his surety, or both, shall be liable for and shall pay to the owner the amount of said excess.

ARTICLE 29 - ANNULMENT OF CONTRACT

If the contractor fails to begin the work under the contract within the time specified, or the progress of the work is not maintained on schedule, or the work is not completed within the time above specified, or fails to perform the work with sufficient workmen and equipment or with sufficient materials to ensure the prompt completion of said work, or shall perform the work unsuitably or shall discontinue the prosecution of the work, or if the contractor shall become insolvent or be declared bankrupt or commit any act of bankruptcy or insolvency, or allow any final judgment to stand against him unsatisfied for a period of forty-eight (48) hours, or shall make an assignment for the benefit of creditors, or for any other cause whatsoever shall not carry on the work in an acceptable manner, the owner may give notice in writing, sent by certified mail, return receipt requested, to the contractor and his surety of such delay, neglect or default, specifying the same, and if the contractor within a period of fifteen (15) days after such notice shall not proceed in accordance therewith, then the owner shall, declare this contract in default, and, thereupon, the surety shall promptly take over the work and complete the performance of this contract in the manner and within the time frame specified. In the event the surety shall fail to take over the work to be done under this contract within fifteen (15) days after being so notified and notify the owner in writing, sent by certified mail, return receipt requested, that he is taking the same over and stating that he will diligently pursue and complete the same, the owner shall have full power and authority, without violating the contract, to take the prosecution of the work out of the hands of said contractor, to appropriate or use any or all contract materials and equipment on the grounds
as may be suitable and acceptable and may enter into an agreement, either by public letting or negotiation, for the completion of said contract according to the terms and provisions thereof or use such other methods as in his opinion shall be required for the completion of said contract in an acceptable manner. All costs and charges incurred by the owner, together with the costs of completing the work under contract, shall be deducted from any monies due or which may become due said contractor and surety. In case the expense so incurred by the owner shall be less than the sum which would have been payable under the contract, if it had been completed by said contractor, then the said contractor and surety shall be entitled to receive the difference, but in case such expense shall exceed the sum which would have been payable under the contract, then the contractor and the surety shall be liable and shall pay to the owner the amount of said excess.

ARTICLE 30 - CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE THE CONTRACT

a. Should the work be stopped by order of a court having jurisdiction, or by order of any other public authority for a period of three months, due to cause beyond the fault or control of the contractor, or if the owner should fail or refuse to make payment on account of a certificate issued by the designer within thirty (30) days after receipt of same, then the contractor, after fifteen (15) days' written notice sent by certified mail, return receipt requested, to the owner and the designer, may suspend operations on the work or terminate the contract.

b. The owner shall be liable to the contractor for the cost of all materials delivered and work performed on this contract plus 20 percent overhead and profit and shall make such payment. The designer shall be the judge as to the correctness of such payment.

ARTICLE 31 - REQUEST FOR PAYMENT

a. Not later than the fifth day of the month, the contractor shall submit to the designer a request for payment for work done during the previous month. The request shall be in the form agreed upon between the contractor and the designer, but shall show substantially the value of work done and materials delivered to the site during the period since the last payment, and shall sum up the financial status of the contract with the following information:

1. Total of contract including change orders.

2. Value of work completed to date.

3. Less five percent (5%) retainage, provided however, that after fifty percent (50%) of the contractor’s work has been satisfactorily completed on schedule, with approval of the owner and the State Construction Office and written consent of the surety, further requirements for retainage will be waived only so long as work continues to be completed satisfactorily and on schedule.

4. Less previous payments.

5. Current amount due.

b. The contractor, upon request of the designer, shall substantiate the request with invoices of vouchers or payrolls or other evidence.

c. Prior to submitting the first request, the contractor shall prepare for the designer a schedule showing a breakdown of the contract price into values of the various parts of
the work, so arranged as to facilitate payments to subcontractors in accordance with Article 17, Contractor and Subcontractor Relationships. The contractor(s) shall list the value of each subcontractor and supplier, identifying each minority business subcontractor and supplier as listed in Affidavit C, if applicable.

d. When payment is made on account of stored materials and equipment, such materials must be stored on the owner's property, and the requests for payments shall be accompanied by invoices or bills of sale or other evidence to establish the owner's title to such materials and equipment. Responsibility for such stored materials and equipment shall remain with the contractor regardless of ownership title. Such stored materials and equipment shall not be removed from the owner's property. Should the space for storage on-site be limited, the contractor, at his option, shall be permitted to store such materials and/or equipment in a suitable space off-site. Should the contractor desire to include any such materials or equipment in his application for payment, they must be stored in the name of the owner in a commercial warehouse approved by the designer and the State Construction Office and located as close to the site as possible. The warehouse selected must be approved by the contractor's bonding and insurance companies; the material to be paid for shall be assigned to the owner and shall be inspected by the designer. Upon approval by the designer of the storage facilities and materials and equipment, payment therefore will be certified. Responsibility for such stored materials and equipment shall remain with the contractor. Such stored materials and equipment shall not be moved except for transportation to the project site. Under certain conditions, the designer may approve storage of materials at the point of manufacture, which conditions shall be approved by the designer, the owner and the State Construction Office prior to approval for the storage and shall include an agreement by the storing party which unconditionally gives the State absolute right to possession of the materials at anytime. Bond, security and insurance protection shall continue to be the responsibility of the contractor(s).

e. In the event of beneficial occupancy, retainage of funds due the contractor(s) may be reduced with the approval of the State Construction Office to an equitable amount to cover the list of items to be completed or corrected. Retainage may not be reduced to less than two and one-half (2 1/2) times the estimated value of the work to be completed or corrected. Reduction of retainage must be with the consent and approval of the contractor's bonding company.

ARTICLE 32 - CERTIFICATES OF PAYMENT AND FINAL PAYMENT

a. Within five (5) days from receipt of request for payment from the contractor, the designer shall issue and forward to the owner a certificate for payment. This certificate shall indicate the amount requested or as approved by the designer. If the certificate is not approved by the designer, he shall state in writing to the contractor and the owner his reasons for withholding payment.

b. No certificate issued or payment made shall constitute an acceptance of the work or any part thereof. The making and acceptance of final payment shall constitute a waiver of all claims by the owner except:

1. Claims arising from unsettled liens or claims against the contractor.

2. Faulty work or materials appearing after final payment.

3. Failure of the contractor to perform the work in accordance with drawings and specifications, such failure appearing after payment.

4. As conditioned in the performance bond and payment bond.
c. The making and acceptance of final payment shall constitute a waiver of all claims by the contractor except those claims previously made and remaining unsettled (Article 20(c)).

d. Prior to submitting request for final payment to the designer for approval, the contractor shall fully comply with all requirements specified in the project closeout section of the specifications. These requirements include but not limited to the following:

1. Submittal of Product and Operating Manuals, Warranties and Bonds, Guarantees, Maintenance Agreements, As-Built Drawings, Certificates of Inspection or Approval from agencies having jurisdiction. (The designer must approve the Manuals prior to delivery to the owner).

2. Transfer of Required attic stock material and all keys in an organized manner.

3. Record of Owner’s training.

4. Resolution of any final inspection discrepancies.

e. The contractor shall forward to the designer, the final application for payment along with the following documents:

1. List of minority business subcontractors and material suppliers showing breakdown of contracts amount.


3. Affidavit of contractors of payment to material suppliers and subcontractors. (See Article 36).

4. Consent of Surety to Final Payment.

5. Certificates of state agencies required by state law.

f. The designer will not authorize final payment until the work under contract has been certified by designer, certificates of compliance issued, and the contractor has complied with the closeout requirements. The designer shall forward the contractor’s final application for payment to the owner along with respective certificate(s) of compliance required by law.

ARTICLE 33 - PAYMENTS WITHHELD

a. The designer with the approval of the State Construction Office may withhold payment for the following reasons:

1. Faulty work not corrected.

2. The unpaid balance on the contract is insufficient to complete the work in the judgment of the designer.

3. To provide for sufficient contract balance to cover liquidated damages that will be assessed.

b. The secretary of the Department of Administration may authorize the withholding of payment for the following reasons:
1. Claims filed against the contractor or evidence that a claim will be filed.

2. Evidence that subcontractors have not been paid.

c. When grounds for withholding payments have been removed, payment will be released. Delay of payment due the contractor without cause will make owner liable for payment of interest to the contractor as provided in G.S. 143-134.1.

ARTICLE 34 - MINIMUM INSURANCE REQUIREMENTS

The work under this contract shall not commence until the contractor has obtained all required insurance and verifying certificates of insurance have been approved in writing by the owner. These certificates shall contain a provision that coverages afforded under the policies will not be cancelled, reduced in amount or coverages eliminated until at least thirty (30) days after mailing written notice, by certified mail, return receipt requested, to the insured and the owner of such alteration or cancellation,

a. Worker’s Compensation and Employer’s Liability

The contractor shall provide and maintain, during the life of the contract, workmen’s compensation insurance, as required by law, as well as employer’s liability coverage with minimum limits of $100,000.

b. Public Liability and Property Damage

The contractor shall provide and maintain, during the life of the contract, comprehensive general liability insurance, including coverage for premises operations, independent contractors, completed operations, products and contractual exposures, as shall protect such contractors from claims arising out of any bodily injury, including accidental death, as well as from claims for property damages which may arise from operations under this contract, whether such operations be by the contractor or by any subcontractor, or by anyone directly or indirectly employed by either of them and the minimum limits of such insurance shall be as follows:

- Bodily Injury: $500,000 per occurrence
- Property Damage: $100,000 per occurrence / $300,000 aggregate

In lieu of limits listed above, a $500,000 combined single limit shall satisfy both conditions.

Such coverage for completed operations must be maintained for at least two (2) years following final acceptance of the work performed under the contract.

c. Property Insurance (Builder’s Risk/Installation Floater)

The contractor shall purchase and maintain property insurance during the life of this contract, upon the entire work at the site to the full insurable value thereof. This insurance shall include the interests of the owner, the contractor, the subcontractors and subsubcontractors in the work and shall insure against the perils of fire, extended coverage, and vandalism and malicious mischief. If the owner is damaged by failure of the contractor to purchase or maintain such insurance, then the contractor shall bear all reasonable costs properly attributable thereto; the contractor shall effect and maintain similar property insurance on portions of the work stored off the site when request for payment per articles so includes such portions.
d. **Deductible**

Any deductible, if applicable to loss covered by insurance provided, is to be borne by the contractor.

e. **Other Insurance**

The contractor shall obtain such additional insurance as may be required by the owner or by the General Statutes of North Carolina including motor vehicle insurance, in amounts not less than the statutory limits.

f. **Proof of Carriage**

The contractor shall furnish the owner with satisfactory proof of carriage of the insurance required before written approval is granted by the owner.

**ARTICLE 35 - PERFORMANCE BOND AND PAYMENT BOND**

a. Each contractor shall furnish a performance bond and payment bond executed by a surety company authorized to do business in North Carolina. The bonds shall be in the full contract amount. Bonds shall be executed in the form bound with these specifications (Section 307 and Section 308).

b. All bonds shall be countersigned by an authorized agent of the bonding company who is licensed to do business in North Carolina.

**ARTICLE 36 - CONTRACTOR'S AFFIDAVIT**

The final payment of retained amount due the contractor on account of the contract shall not become due until the contractor has furnished to the owner through the designer an affidavit signed, sworn and notarized to the effect that all payments for materials, services or subcontracted work in connection with his contract have been satisfied, and that no claims or liens exist against the contractor in connection with this contract. In the event that the contractor cannot obtain similar affidavits from subcontractors to protect the contractor and the owner from possible liens or claims against the subcontractor, the contractor shall state in his affidavit that no claims or liens exist against any subcontractor to the best of his (the contractor's) knowledge, and if any appear afterward, the contractor shall save the owner harmless.

**ARTICLE 37 - ASSIGNMENTS**

The contractor shall not assign any portion of this contract nor subcontract in its entirety. Except as may be required under terms of the performance bond or payment bond, no funds or sums of money due or become due the contractor under the contract may be assigned.
ARTICLE 38 - USE OF PREMISES

a. The contractor(s) shall confine his apparatus, the storage of materials and the operations of his workmen to limits indicated by law, ordinances, permits or directions of the designer and shall not exceed those established limits in his operations.

b. The contractor(s) shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety.

c. The contractor(s) shall enforce the designer's instructions regarding signs, advertisements, fires and smoking.

d. No firearms, any type of alcoholic beverages, or drugs (other than those prescribed by a physician) will be permitted at the job site.

ARTICLE 39 - CUTTING, PATCHING AND DIGGING

a. The contractor shall do all cutting, fitting or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon or reasonably implied by the drawings and specifications for the completed structure, as the designer may direct.

b. Any cost brought about by defective or ill-timed work shall be borne by the party responsible therefor.

c. No contractor shall endanger any work of another contractor by cutting, digging or other means. No contractor shall cut or alter the work of any other contractor without the consent of the designer and the affected contractor(s).

ARTICLE 40 - UTILITIES, STRUCTURES, SIGNS

a. The Project Expediter shall provide necessary and adequate facilities for water, electricity, gas, oil, sewer, and other utility services, which may be necessary and required for completion of the project. Any permanent meters installed shall be listed in the Project Expediter's name until his work is fully accepted by the owner. As stipulated in the Supplementary General Conditions, the Owner may: (1) pay utilities cost directly, (2) the Project Expediter to pay all utilities cost, (3) or reimburse the Project Expediter for the actual cost of utilities. The Owner or Project Expediter, as applicable, may recover actual costs of metered utilities from the responsible party should delays occur in project completion.

b. Meters shall be relisted in the owner's name on the day following completion and acceptance of the Project Expediter's work, and the owner shall pay for services used after that date.

c. The owner shall be reimbursed for all metered utility charges after the meter is relisted in the owner's name and prior to completion and acceptance of the work of all contractors. Reimbursement shall be made by the contractor whose work has not been completed and accepted. If the work of two or more contractors has not been completed and accepted, reimbursement to the owner shall be paid by the contractors involved on the basis of assessments by the designer.
d. Prior to the operation of permanent systems, the Project Expediter will provide temporary power, lighting, water, and heat to maintain space temperature above freezing, as required for construction operations.

e. All contractors shall have the permanent building systems in sufficient readiness for furnishing temporary climatic control at the time a building is enclosed and secured. The HVAC systems shall maintain climatic control throughout the enclosed portion of the building sufficient to allow completion of the interior finishes of the building. A building shall be considered enclosed and secured when windows, doorways (exterior, mechanical, and electrical equipment rooms), and hardware are installed; and other openings have protection which will provide reasonable climatic control. The appropriate time to start the mechanical systems and climatic condition shall be jointly determined by the contractor(s) and the designer. Use of the equipment in this manner shall in no way affect the warranty requirements of the contractor(s).

f. The electrical contractor shall have the building's permanent power wiring distribution system in sufficient readiness to provide power as required by the HVAC contractor for temporary climatic control.

g. The electrical contractor shall have the building's permanent lighting system ready at the time the general contractor begins interior painting and shall provide adequate lighting in those areas where interior painting and finishing is being performed.

h. Each prime contractor shall be responsible for his permanently fixed service facilities and systems in use during progress of the work. The following procedures shall be strictly adhered to:

1. Prior to acceptance of work by the owner, each contractor shall remove and replace any parts of the permanent building systems damaged through use during construction.

2. Temporary filters shall be installed in each of the heating and air conditioning units and at each return grille during construction. New filters shall be installed in each unit prior to the owner's acceptance of the work.

3. Extra effort shall be maintained to keep the building and the site adjacent to the building clean and under no circumstances shall air systems be operated if finishing and site work operations are creating dust in excess of what would be considered normal if the building were occupied.

4. It shall be understood that any warranty on equipment presented to the owner shall extend from the day of final acceptance by the owner. The cost of warranting the equipment during operation in the finishing stages of construction shall be borne by the contractor whose system is utilized.

5. The electrical contractor shall have all lamps in proper working condition at the time of final project acceptance.

i. The Project Expediter shall provide, if required and where directed, a shed for toilet facilities and shall furnish and install in this shed all water closets required for a complete and adequate sanitary arrangement. These facilities will be available to other contractors on the job and shall be kept in a neat and sanitary condition at all times. Chemical toilets are acceptable.
j. The Project Expediter shall, if required by the Supplementary General Conditions and where directed, erect a temporary field office, complete with lights, telephone, heat and air conditioning. A portion of this office shall be partitioned off, of sufficient size, for the use of a resident inspector, should the designer so direct.

k. On multi-story construction projects, the Project Expediter shall provide temporary elevators, lifts, or other special equipment for the general use of all contractors. The cost for such elevators, lifts or other special equipment and the operation thereof shall be included in the Project Expediter's bid.

l. The Project Expediter will erect one sign on the project if required. The sign shall be of sound construction, and shall be neatly lettered with black letters on white background. The sign shall bear the name of the project, and the names of prime contractors on the project, and the name of the designer and consultants. Directional signs may be erected on the owner's property subject to approval of the owner with respect to size, style and location of such directional signs. Such signs may bear the name of the contractor and a directional symbol. No other signs will be permitted except by permission of the owner.

ARTICLE 41 - CLEANING UP

a. The contractors shall keep the building and surrounding area reasonably free from rubbish at all times, and shall remove debris from the site on a timely basis or when directed to do so by the designer or Project Expediter. The Project Expediter shall provide an on site refuse container(s) for the use of all contractors. Each contractor shall remove their rubbish and debris from the building on a daily basis. The Project Expediter shall broom clean the building as required to minimize dust and dirt accumulation.

b. The Project Expediter shall provide and maintain suitable all-weather access to the building.

c. Before final inspection and acceptance of the building, each contractor shall clean his portion of the work, including glass, hardware, fixtures, masonry, tile and marble (using no acid), clean and wax all floors as specified, and completely prepare the building for use by the owner, with no cleaning required by the owner.

ARTICLE 42 - GUARANTEE

a. The contractor shall unconditionally guarantee materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the date of final acceptance of the work or beneficial occupancy and shall replace such defective materials or workmanship without cost to the owner.

b. Where items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The contractor shall replace such defective equipment or materials, without cost to the owner, within the manufacturer's warranty period.

c. Additionally, the owner may bring an action for latent defects caused by the negligence of the contractor which is hidden or not readily apparent to the owner at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law.
d. Guarantees for roof, equipment, materials, and supplies shall be stipulated in the specifications sections governing such roof, equipment, materials, or supplies.

ARTICLE 43 - CODES AND STANDARDS

Wherever reference is given to codes, standard specifications or other data published by regulating agencies including, but not limited to, national electrical codes, North Carolina state building codes, federal specifications, ASTM specifications, various institute specifications, etc., it shall be understood that such reference is to the latest edition including addenda published prior to the date of the contract documents.

ARTICLE 44 - INDEMNIFICATION

To the fullest extent permitted by law, the contractor shall indemnify and hold harmless the owner, the designer and the agents, consultants and employees of the owner and designer, from and against all claims, damages, losses and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from the performance or failure of performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of the contractor, the contractor's subcontractor, or the agents of either the contractor or the contractor's subcontractor. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this article.

ARTICLE 45 - TAXES

a. Federal excise taxes do not apply to materials entering into state work (Internal Revenue Code, Section 3442(3)).

b. Federal transportation taxes do not apply to materials entering into state work (Internal Revenue Code, Section 3475(b) as amended).

c. North Carolina sales tax and use tax, as required by law, do apply to materials entering into state work and such costs shall be included in the bid proposal and contract sum.

d. Local option sales and use taxes, as required by law, do apply to materials entering into state work as applicable and such costs shall be included in the bid proposal and contract sum.

e. Accounting Procedures for Refund of County Sales & Use Tax

Amount of county sales and use tax paid per contractor's statements:

Contractors performing contracts for state agencies shall give the state agency for whose project the property was purchased a signed statement containing the information listed in G.S. 105-164.14(e).

The Department of Revenue has agreed that in lieu of obtaining copies of sales receipts from contractors, an agency may obtain a certified statement as of April 1, 1991 from the contractor setting forth the date, the type of property and the cost of the property purchased from each vendor, the county in which the vendor made the sale and the amount of local sales and use taxes paid thereon. If the property was purchased out-of-state, the county in which the property was delivered should be listed. The contractor should also be notified that the certified statement may be subject to audit.
In the event the contractors make several purchases from the same vendor, such certified statement must indicate the invoice numbers, the inclusive dates of the invoices, the total amount of the invoices, the counties, and the county sales and use taxes paid thereon.

Name of taxing county: The position of a sale is the retailer's place of business located within a taxing county where the vendor becomes contractually obligated to make the sale. Therefore, it is important that the county tax be reported for the county of sale rather than the county of use.

When property is purchased from out-of-state vendors and the county tax is charged, the county should be identified where delivery is made when reporting the county tax.

Such statement must also include the cost of any tangible personal property withdrawn from the contractor's warehouse stock and the amount of county sales or use tax paid thereon by the contractor.

Similar certified statements by his subcontractors must be obtained by the general contractor and furnished to the claimant.

Contractors are not to include any tax paid on supplies, tools and equipment which they use to perform their contracts and should include only those building materials, supplies, fixtures and equipment which actually become a part of or annexed to the building or structure.

ARTICLE 46 - EQUAL OPPORTUNITY CLAUSE

The non-discrimination clause contained in Section 202 (Federal) Executive Order 11246, as amended by Executive Order 11375, relative to equal employment opportunity for all persons without regard to race, color, religion, sex or national origin, and the implementing rules and regulations prescribed by the secretary of Labor, are incorporated herein.

ARTICLE 47 - EMPLOYMENT OF THE HANDICAPPED

The contractor(s) agree not to discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices.

ARTICLE 48 - ASBESTOS-CONTAINING MATERIALS (ACM)

The State of North Carolina has attempted to address all asbestos-containing materials that are to be disturbed in the project. However, there may be other asbestos-containing materials in the work areas that are not to be disturbed and do not create an exposure hazard. Contractors are reminded of the requirements of instructions under Instructions to Bidders and General Conditions of the Contract, titled Examination of Conditions. Statute 130A, Article 19, amended August 3, 1989, established the Asbestos Hazard Management Program that controls asbestos abatement in North Carolina. The latest edition of *Guideline Criteria for Asbestos Abatement* from the State Construction Office is to be incorporated in all asbestos abatement projects for the Capital Improvement Program.
ARTICLE 49 - MINORITY BUSINESS PARTICIPATION

GS 143-128.2 establishes a ten percent (10%) goal for participation by minority businesses in total value of work for each State building project. The document, Guidelines for Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts including Affidavits and Appendix E are hereby incorporated into and made a part of this contract.

ARTICLE 50 - CONTRACTOR EVALUATION

The contractor's overall work performance on the project shall be fairly evaluated in accordance with the State Building Commission policy and procedures, for determining qualifications to bid on future State capital improvement projects. In addition to final evaluation, interim evaluation may be prepared during the progress of project. The document, Contractor Evaluation Procedures, is hereby incorporated and made a part of this contract. The owner may request the contractor's comments to evaluate the designer.
1. Owners' Representative (add to GC, Article 1b)

The UNC-CH Department of Construction Management represents the Owner in all matters pertaining to contract construction. The Department will designate a Construction Manager, who will be the single spokesperson for the University. All official contact, decisions, direction, problem resolution and coordination to/from the University will be through the assigned Construction Manager and the Designer. This does not alleviate any of the Designers' responsibilities as stated in the General Conditions.

2. Inspections and Testing (add to GC, Article 13)

The University will arrange for independent testing agencies to make tests and conduct inspections of work in progress. The contractors will give reasonable notice of construction activities to be tested/inspected so that the testing agency may be present.

In addition to the normally-anticipated inspections, the University intends to conduct the following inspections, which contractors should allow for in their schedules: above-ceiling inspections, pre-final inspections, 100% test of fire protection systems, and final inspections. Any of these inspections which are not completed satisfactorily will be repeated at no cost to the owner and without time extension.

**Above-Ceiling Inspections**: The above-ceiling inspection will be conducted by the University after above-ceiling systems have been completed and verified by the Designer. The following general guidelines will apply to this inspection:

a. All above ceiling systems will be completed including, but not limited to, controls, insulation, labeling of systems, wiring, light fixtures, diffusers, ductwork, piping, fire proofing, and sealing of wall penetrations through fire walls.

b. Framing for hard ceiling will be completed and access door locations will be framed to assure accessibility to control valves, equipment requiring maintenance, etc. Ceiling grid will be in place and equipment (light fixtures, diffusers, etc.) will be in place in the grid.

c. Under no circumstances will any ceiling area be covered up until this inspection is done by the owner. The contractor shall give the Designer and the University two weeks notice to assure owner personnel are available.

**Fire Protection Systems**: The installation contractor must conduct a 100% performance test, which shall be ensured by the designer/engineer. When this test is completed and deficiencies corrected, the owner/engineer will conduct a 100% test of the system, which shall be scheduled through the University's Construction Manager. At least three days prior to the owner's test, the contractor will furnish the completed NFPA Record of Completion, with a
printout of the installed database and a floor plan with database information and room numbers. These documents shall be updated and reissued prior to each additional test and final inspection.

3. **Construction Schedule** (add to GC, Articles 14g)

   Tentative dates for interruption of utilities services and traffic disruptions shall be incorporated into the project schedule. The schedule will show UNC and State inspections, punch list correction, cleanup, and final inspection, and shall anticipate 5-year-average weather delay and the extra restrictions required for University operations as outlined in SGC Paragraph 4 below.

4. **Working Hours** (add to GC, Article 23)

   The contractor may establish a work schedule of his own choosing. The contractor shall submit to the UNC Construction Manager and to the designer his regular daily work schedule, and shall notify the Construction Manager in advance of any deviations from the schedule. The University reserves the right to limit the contractors' activities when they conflict with University operations.

   For most situations, the University will require the contractor to comply with the Town of Chapel Hill Noise Ordinance.

5. **Underground Utilities** (add to GC, Article 39)

   Each contractor who does excavation work will be responsible for locating underground utilities prior to excavation. The contractor may obtain the services of a commercial utilities locator and/or call the various utility companies who may have lines in the area. In addition, they should notify UNC Facilities Services at least 5 days prior to excavation. The contractor will be responsible for utility interruptions caused by excavation.

   The General Statutes of North Carolina requires contractors to notify NOCUTS at least two days but not more than 10 days prior to excavation on a public right of way.

6. **Temporary Interruptions of Utilities and Traffic Movement** (add to GC, Article 40)

   Procedures for making temporary disruptions to existing utilities, roads and pedestrian walks shall be planned well in advance of the work and the work shall be executed in a manner to provide reasonably continuous service throughout the construction period. Connections shall be made only at times approved by the University. For interruption of service in major utility systems, the Contractor must submit to the UNC Construction Manager a step-by-step sequence of operations planned to accomplish the work. Outline must show tentative dates and times of day for shut-off and restoration of services. Upon approval of the planned operations, the Construction Manager will make arrangements with appropriate University personnel for interruption of services.
Road and sidewalk cuts shall be scheduled in advance, and made only after they have been approved by the University. Contractors shall plan and coordinate their work to minimize the duration of such disruptions. Appropriate detours shall be planned, subject to the approval of the University, giving consideration to the handicapped. Warning barricades and signs shall be installed by the contractor, as well as informational signs indicating detours. No service disruptions nor excavations may be made until barricades and signs are in place to protect the public. If the nature of the site does not allow barricades to be in place prior to excavation, the barricade materials must be physically present on site before excavation begins, in order that they may be erected as soon as it is possible to do so.

Barricades and signs must meet OSHA, NCDOT, and University approval, and be substantial enough to deter bypassing, vandalizing or theft. In addition to meeting all applicable codes and regulations, signs must be neat and legible at all times. Hand-made signs are not acceptable.

Caution to Bidders: Bidders are cautioned that the University will probably schedule interruption of services at times other than the contractors' normal working hours and that only designated University personnel are authorized to interrupt services. Frequently, outages are scheduled to reduce disruption of classes and special events.

Contractors are reminded of the presence on campus of handicapped students, staff, and faculty: particularly mobility impaired, visually impaired, and hearing impaired. All barricades, temporary walkways, excavation, and stockpiles of materials shall be formed in such a manner as to accommodate access, adequately warn and prevent injury to this segment of the University population.

7. Parking and Storage (add to GC, Article 38)

Parking is extremely limited at the University of North Carolina at Chapel Hill. Contractors must confine their parking and storage to that which they can accommodate within the limits of the construction site. There will be no parking spaces provided in the vicinity of the project for construction workers. Contractors are encouraged to locate fringe parking areas and shuttle their workers to and from the job site. If a construction fence has been erected the contractor may allow his employees to park inside the fence.

Parking for large storage trailers is limited to within the construction site. If additional trailer parking is required the Department of Public Safety maintains an off-campus facility near the Horace Williams Airport for such trailers. There is a monthly fee for use of the storage area. It is currently $35 per trailer but is expected to increase to $70 per trailer per month effective August 15, 2002. All materials in this storage yard must be kept inside the storage trailer, and not on the ground.

8. Cleanliness and Site Maintenance (add to GC, Article 41)

Campus streets, parking lots, walks and grounds connecting to the project area shall be protected from deposits of mud, sand, stone, litter, or debris in any form, and this protection shall be the responsibility of the Contractors. All mud collected on vehicle wheels must be cleaned off before leaving the
construction area. Should any mud or debris collect on the streets from the construction project, this shall be removed immediately before becoming a traffic hazard or being carried into the surrounding buildings.

Where equipment must cross walks, lawns, and other transitional areas used by pedestrian and vehicular traffic, the Contractor shall provide minimum 3/4" thick plywood protective sheets for equipment to roll over.

The construction site including adjacent campus areas will be kept free of trash, litter or debris at all times. Trash cans/dumpsters shall be emptied and the contents removed from campus before they overflow.

Grass and other vegetation on the construction site shall be trimmed/mowed to maintain a neat appearance.

A landscape protection area shall extend to at least the drip line of any trees or shrubs that are to remain.

The landscape protection fence shall be installed prior to the initial stage of grading, excavation or tree removal. No storage, access or activity of any kind will be permitted in the landscape protection areas. The Contractor shall give the Designer two (2) weeks notification in advance for the Owner to remove trees and shrubs that will be retained by the Owner for use elsewhere.

9. Request for Payment (see GC, Article 31, 32 and 33)

The first sentence only of Article 31a, General Conditions, is revised to read as follows: "Not later than the last day of the month, the contractors shall submit to the Designer a request for payment for work done through the 25th day of the month. The Owner will make payment by the end of the following calendar month, as described in Articles 31 through 33, General Conditions."

The financing arrangements on some projects require that pay applications from all vendors be submitted simultaneously and only once per calendar month. Therefore, failure to follow the above schedule may result in a contractor not being paid until the next pay application period. The only way to insure timely payment is to submit complete, accurate and timely pay applications with all supporting documents.

10. Stored Materials (add to GC, Article 31)

Add the following sentence to Article 31d, General Conditions: "No payment may be made for stored materials which are stored outside the State of North Carolina."
11. Selection of Masonry for Exterior Walls
(add to GC, Article 5)

The manufacturers shall present samples to the designer for his selection from which sample patterns are to be erected or shown on the job site, after consultation with the Facilities Planning Office. The Construction Management Department will notify the architect's representative where to locate these panels. The University Buildings and Grounds Committee will review these panels and make the selection. At the time the brick panels are viewed by the committee, the contractor shall also have available samples of all significant exterior materials, including but not limited to pre-cast stone or limestone, window and door frames, glass and metal panels. The Construction Management Office will notify the designer of the final selection. In the case of cast stone panels, small samples may be submitted for selection purposes.

Completed panels must cure for at least three weeks before they are reviewed by the Building and Grounds and Committee. In addition, three weeks are required to schedule this review. Therefore the panels must be completed by the contractor a minimum of six weeks before the brick selection is needed.

12. Owner's Right To Do Work (add to GC, Article 28)

Notwithstanding the notification requirements of the General Conditions, Article 28, should the contractor fail to respond within 24 hours, or such other time as may be prescribed by the designer or by the University's assigned Construction Manager (see paragraph 1 above), to correct a deficiency which the University determines to be endangering trees or other landscaping; or to correct any other defects where time is of the essence to prevent further damage or ensure personal safety; or to correct any impediment to University operations including access by handicapped, fire department, or operational personnel; then the owner may immediately take corrective action to prevent further endangerment or damage. The cost of the work performed by the owner shall be deducted from any amount due or to become due to the contractor, as provided for in GC, Article 28. Verbal notice shall be provided to the contractor's superintendent or project manager, followed by written confirmation.

13. Time of Completion, Delays and Extension of Time (add to GC, Article 23)

The work shall be completed in 270 consecutive calendar days from notice to proceed.

The Contractor shall commence work under this contract on a date to be specified in a written order of the designer and shall fully complete all work there under within the time stated.
For each day in excess of the above number of days, the contractor shall pay the Owner the sum stated as liquidated damages reasonably estimated in advance to cover the losses to be incurred by the owner by reason of failure of said Contractor to complete the work within the time specified, such time being in the essence of this contract and a material consideration thereof. The amount of liquidated damages for the General Construction Contract shall be $700 per day.
GUIDELINES FOR RECRUITMENT AND SELECTION OF MINORITY BUSINESSES FOR PARTICIPATION IN STATE CONSTRUCTION CONTRACTS

In accordance with G.S. 143-128.2 (effective January 1, 2002) these guidelines establish goals for minority participation in single-prime bidding, separate-prime bidding, construction manager at risk, and alternative contracting methods, on State construction projects in the amount of $300,000 or more. The legislation provides that the State shall have a verifiable ten percent (10%) goal for participation by minority businesses in the total value of work for each project for which a contract or contracts are awarded. These requirements are published to accomplish that end.

SECTION A: INTENT

It is the intent of these guidelines that the State of North Carolina, as awarding authority for construction projects, and the contractors and subcontractors performing the construction contracts awarded shall cooperate and in good faith do all things legal, proper and reasonable to achieve the statutory goal of ten percent (10%) for participation by minority businesses in each construction project as mandated by GS 143-128.2. Nothing in these guidelines shall be construed to require contractors or awarding authorities to award contracts or subcontracts to or to make purchases of materials or equipment from minority-business contractors or minority-business subcontractors who do not submit the lowest responsible, responsive bid or bids.

SECTION B: DEFINITIONS

1. Minority - a person who is a citizen or lawful permanent resident of the United States and who is:
   a. Black, that is, a person having origins in any of the black racial groups in Africa;
   b. Hispanic, that is, a person of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race;
   c. Asian American, that is, a person having origins in any of the original peoples of the Far East, Southeast Asia and Asia, the Indian subcontinent, the Pacific Islands;
   d. American Indian, that is, a person having origins in any of the original peoples of North America; or
   e. Female

2. Minority Business - means a business:
   a. In which at least fifty-one percent (51%) is owned by one or more minority persons, or in the case of a corporation, in which at least fifty-one percent (51%) of the stock is owned by one or more minority persons or socially and economically disadvantaged individuals; and
   b. Of which the management and daily business operations are controlled by one or more of the minority persons or socially and economically disadvantaged individuals who own it.

3. Socially and economically disadvantaged individual - means the same as defined in 15 U.S.C. 637. “Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as a member of a group without regard to their individual qualities”. “Economically disadvantaged individuals are those socially disadvantaged individuals whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged”.

4. Public Entity - means State and all public subdivisions and local governmental units.

5. Owner - The State of North Carolina, through the Agency/Institution named in the contract.

6. Designer - Any person, firm, partnership, or corporation, which has contracted with the State of North Carolina to perform architectural or engineering, work.

7. Bidder - Any person, firm, partnership, corporation, association, or joint venture seeking to be awarded a public contract or subcontract.
8. **Contract** - A mutually binding legal relationship or any modification thereof obligating the seller to furnish equipment, materials or services, including construction, and obligating the buyer to pay for them.

9. **Contractor** - Any person, firm, partnership, corporation, association, or joint venture which has contracted with the State of North Carolina to perform construction work or repair.

10. **Subcontractor** - A firm under contract with the prime contractor or construction manager at risk for supplying materials or labor and materials and/or installation. The subcontractor may or may not provide materials in his subcontract.

**SECTION C: RESPONSIBILITIES**

1. **Office for Historically Underutilized Businesses, Department of Administration** (hereinafter referred to as HUB Office).

   The HUB Office has established a program, which allows interested persons or businesses qualifying as a minority business under G.S. 143-128.2, to obtain certification in the State of North Carolina procurement system. The information provided by the minority businesses will be used by the HUB Office to:
   
   a. Identify those areas of work for which there are minority businesses, as requested.
   b. Make available to interested parties a list of prospective minority business contractors and subcontractors.
   c. Assist in the determination of technical assistance needed by minority business contractors.

   In addition to being responsible for the certification/verification of minority businesses that want to participate in the State construction program, the HUB Office will:
   
   (1) Maintain a current list of minority businesses. The list shall include the areas of work in which each minority business is interested.
   (2) Inform minority businesses on how to identify and obtain contracting and subcontracting opportunities through the State Construction Office and other public entities.
   (3) Inform minority businesses of the contracting and subcontracting process for public construction building projects.
   (4) Work with the North Carolina trade and professional organizations to improve the ability of minority businesses to compete in the State construction projects.
   (5) The HUB Office also oversees the minority business program by:
      
      a. Monitoring compliance with the program requirements.
      b. Assisting in the implementation of training and technical assistance programs.
      c. Identifying and implementing outreach efforts to increase the utilization of minority businesses.
      d. Reporting the results of minority business utilization to the Secretary of the Department of Administration, the Governor, and the General Assembly.

2. **State Construction Office**

   The State Construction Office will be responsible for the following:

   a. Furnish to the HUB Office a minimum of twenty-one days prior to the bid opening the following:
      
      (1) Project description and location;
      (2) Locations where bidding documents may be reviewed;
      (3) Name of a representative of the owner who can be contacted during the advertising period to advise who the prospective bidders are;
      (4) Date, time and location of the bid opening.
      (5) Date, time and location of prebid conference, if scheduled.

   b. Attending scheduled prebid conference, if necessary, to clarify requirements of the general statutes regarding minority-business participation, including the bidders' responsibilities.
c. Reviewing the apparent low bidders' statutory compliance with the requirements listed in the proposal, that must be complied with, if the bid is to be considered as responsive, prior to award of contracts. The State reserves the right to reject any or all bids and to waive informalities.

d. Reviewing of minority business requirements at Preconstruction conference.

e. Monitoring of contractors' compliance with minority business requirements in the contract documents during construction.

f. Provide statistical data and required reports to the HUB Office.

g. Resolve any protest and disputes arising after implementation of the plan, in conjunction with the HUB Office.

3. Owner

Before awarding a contract, owner shall do the following:

a. Develop and implement a minority business participation outreach plan to identify minority businesses that can perform public building projects and to implement outreach efforts to encourage minority business participation in these projects to include education, recruitment, and interaction between minority businesses and non-minority businesses.

b. Attend the scheduled prebid conference.

c. At least 10 days prior to the scheduled day of bid opening, notify minority businesses that have requested notices from the public entity for public construction or repair work and minority businesses that otherwise indicated to the Office for Historically Underutilized Businesses an interest in the type of work being bid or the potential contracting opportunities listed in the proposal. The notification shall include the following:

   1. A description of the work for which the bid is being solicited.
   2. The date, time, and location where bids are to be submitted.
   3. The name of the individual within the owner's organization who will be available to answer questions about the project.
   4. Where bid documents may be reviewed.
   5. Any special requirements that may exist.

d. Utilize other media, as appropriate, likely to inform potential minority businesses of the bid being sought.

e. Maintain documentation of any contacts, correspondence, or conversation with minority business firms made in an attempt to meet the goals.

f. Review, jointly with the designer, all requirements of G.S. 143-128.2(c) and G.S. 143-128.2(t) (i.e. bidders' proposals for identification of the minority businesses that will be utilized with corresponding total dollar value of the bid and affidavit listing good faith efforts, or affidavit of self-performance of work, if the contractor will perform work under contract by its own workforce) - prior to recommendation of award to the State Construction Office.

g. Evaluate documentation to determine good faith effort has been achieved for minority business utilization prior to recommendation of award to State Construction Office.

h. Review prime contractors' pay applications for compliance with minority business utilization commitments prior to payment.

i. Make documentation showing evidence of implementation of Owner's responsibilities available for review by State Construction Office and HUB Office, upon request.

4. Designer

Under the single-prime bidding, separate prime bidding, construction manager at risk, or alternative contracting method, the designer will:

a. Attend the scheduled prebid conference to explain minority business requirements to the prospective bidders.

b. Assist the owner to identify and notify prospective minority business prime and subcontractors of potential contracting opportunities.

c. Maintain documentation of any contacts, correspondence, or conversation with minority business firms made in an attempt to meet the goals.

d. Review jointly with the owner, all requirements of G.S. 143-128.2(c) and G.S.143-128.2(f) – (i.e. bidders' proposals for identification of the minority businesses that will be utilized with
corresponding total dollar value of the bid and affidavit listing Good Faith Efforts, or affidavit of self-performance of work, if the contractor will perform work under contract by its own workforce - prior to recommendation of award.

e. During construction phase of the project, review "MBE Documentation for Contract Payment" - (Appendix E) for compliance with minority business utilization commitments. Submit Appendix E form with monthly pay applications to the owner and forward copies to the State Construction Office.

f. Make documentation showing evidence of implementation of Designer’s responsibilities available for review by State Construction Office and HUB Office, upon request.

5. **Prime Contractor(s), CM at Risk, and Its First-Tier Subcontractors**

Under the single-prime bidding, the separate-prime bidding, construction manager at risk and alternative contracting methods, contractor(s) will:

a. Attend the scheduled prebid conference.

b. Identify or determine those work areas of a subcontract where minority businesses may have an interest in performing subcontract work.

c. At least ten (10) days prior to the scheduled day of bid opening, notify minority businesses of potential subcontracting opportunities listed in the proposal. The notification will include the following:

   1. A description of the work for which the subbid is being solicited.
   2. The date, time and location where subbids are to be submitted.
   3. The name of the individual within the company who will be available to answer questions about the project.
   4. Where bid documents may be reviewed.
   5. Any special requirements that may exist; such as insurance, licenses, bonds and financial arrangements.

   If there are more than three (3) minority businesses in the general locality of the project who offer similar contracting or subcontracting services in the specific trade, the contractor(s) shall notify three (3), but may contact more, if the contractor(s) so desires.

d. During the bidding process, comply with the contractor(s) requirements listed in the proposal for minority participation.

e. Identify on the bid, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit listing good faith efforts as required by G.S. 143-128.2(c) and G.S. 143-128.2(f).

f. Make documentation showing evidence of implementation of PM, CM-at-Risk and First-Tier Subcontractor responsibilities available for review by State Construction Office and HUB Office, upon request.

g. Upon being named the apparent low bidder, the Bidder shall provide one of the following: (1) an affidavit (Affidavit C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal; (2) if the percentage is not equal to the applicable goal, then documentation of all good faith efforts taken to meet the goal. Failure to comply with these requirements is grounds for rejection of the bid and award to the next lowest responsible and responsive bidder.

h. The contractor(s) shall identify the name(s) of minority business subcontractor(s) and corresponding dollar amount of work on the schedule of values. The schedule of values shall be provided as required in Article 31 of the General Conditions of the Contract to facilitate payments to the subcontractors.

i. The contractor(s) shall submit with each monthly pay request(s) and final payment(s), “MBE Documentation for Contract Payment” - (Appendix E), for designer’s review.

j. During the construction of a project, at any time, if it becomes necessary to replace a minority business subcontractor, immediately advise the owner, State Construction Office, and the Director of the HUB Office in writing, of the circumstances involved. The prime contractor shall make a good faith effort to replace a minority business subcontractor with another minority business subcontractor.
k. If during the construction of a project additional subcontracting opportunities become available, make a good faith effort to solicit subbids from minority businesses.

l. It is the intent of these requirements apply to all contractors performing as prime contractor and first tier subcontractor under construction manager at risk on state projects.

6. **Minority Business Responsibilities**

   While minority businesses are not required to become certified in order to participate in the State construction projects, it is recommended that they become certified and should take advantage of the appropriate technical assistance that is made available. In addition, minority businesses who are contacted by owners or bidders must respond promptly whether or not they wish to submit a bid.

**SECTION 4: DISPUTE PROCEDURES**

It is the policy of this state that disputes that involves a person's rights, duties or privileges, should be settled through informal procedures. To that end, minority business disputes arising under these guidelines should be resolved as governed under G.S. 143-128(g).

**SECTION 5:** These guidelines shall apply upon promulgation on state construction projects. Copies of these guidelines may be obtained from the Department of Administration, State Construction Office, (physical address) 301 North Wilmington Street, Suite 450, NC Education Building, Raleigh, North Carolina, 27601-2827, (mail address) 1307 Mail Service Center, Raleigh, North Carolina, 27699-1307, phone (919) 807-4100, Website: www.nc-sco.com

**SECTION 6:** In addition to these guidelines, there will be issued with each construction bid package provisions for contractual compliance providing minority business participation in the state construction program.
APPLICATION:

The Guidelines for Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts are hereby made a part of these contract documents. These guidelines shall apply to all contractors regardless of ownership. Copies of these guidelines may be obtained from the Department of Administration, State Construction Office, (physical address) 301 North Wilmington Street, Suite 450, NC Education Building, Raleigh, North Carolina, 27601-2827, (mail address) 1307 Mail Service Center, Raleigh, North Carolina, 27699-1307, phone (919) 807-4100, Website: http://www.nc-sco.com

MINORITY BUSINESS SUBCONTRACT GOALS:

The goals for participation by minority firms as subcontractors on this project have been set at 10%.

The bidder must identify on its bid, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit (Affidavit A) listing good faith efforts or affidavit (Affidavit B) of self-performance of work, if the bidder will perform work under contract by its own workforce, as required by G.S. 143-128.2(c) and G.S. 143-128.2(f).

The lowest responsible, responsive bidder must provide Affidavit C, that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal.

OR

Provide Affidavit D, that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, with documentation of Good Faith Effort, if the percentage is not equal to the applicable goal.

OR

Provide Affidavit B, which includes sufficient information for the State to determine that the bidder does not customarily subcontract work on this type project.

The above information must be provided as required. Failure to submit these documents is grounds for rejection of the bid.
MINIMUM COMPLIANCE REQUIREMENTS:

All written statements, affidavits or intentions made by the Bidder shall become a part of the agreement between the Contractor and the State for performance of this contract. Failure to comply with any of these statements, affidavits or intentions, or with the minority business Guidelines shall constitute a breach of the contract. A finding by the State that any information submitted either prior to award of the contract or during the performance of the contract is inaccurate, false or incomplete, shall also constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the State whether to terminate the contract for breach.

In determining whether a contractor has made Good Faith Efforts, the State will evaluate all efforts made by the Contractor and will determine compliance in regard to quantity, intensity, and results of these efforts. Good Faith Efforts include:

(1) Contacting minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor or available on State or local government maintained lists at least 10 days before the bid or proposal date and notifying them of the nature and scope of the work to be performed.

(2) Making the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bid or proposals are due.

(3) Breaking down or combining elements of work into economically feasible units to facilitate minority participation.

(4) Working with minority trade, community, or contractor organizations identified by the Office for Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.

(5) Attending any prebid meetings scheduled by the public owner.

(6) Providing assistance in getting required bonding or insurance or providing alternatives to bonding or insurance for subcontractors.

(7) Negotiating in good faith with interested minority businesses and not rejecting them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.

(8) Providing assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisting minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.

(9) Negotiating joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.

(10) Providing quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.
MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: ____________________________________________

Address & Phone: ____________________________________________________

Project Name: ______________________________________________________

Pay Application #: ___________________ Period: _________________________

The following is a list of payments made to Minority Business Enterprises on this project for the above mentioned period.

<table>
<thead>
<tr>
<th>MBE FIRM NAME</th>
<th>* INDICATE TYPE OF MBE</th>
<th>AMOUNT PAID THIS MONTH</th>
<th>TOTAL PAYMENTS TO DATE</th>
<th>TOTAL AMOUNT COMMITTED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A), American Indian (I), Female (F), Social and Economically Disadvantage (D)

Date: _______________ Approved/Certified By: ____________________________

________________________________________________________
Name

________________________________________________________
Title

________________________________________________________
Signature

SUBMIT WITH EACH PAY REQUEST & FINAL PAYMENT

(Revised on 3/14/2003)

MBGuidelines 2002
Attachment 2

Specifications, Proposal, Contract, and Bonds

UNC-Chapel Hill Resource Research Facility
Utilities Project

Prepared by

Designer of Record: BJAC, P.A.

Subconsultant
Dielh & Phillips, P.A.
Record Document
State ID No. 010544202B
Received 10-12-2009

Final Report
Research Resource Facility Utilities Project
ID No. 010544202B
BJAC P.A.
September 2009
SPECIFICATIONS
Obj No: 2222-R0004

SPECIFICATIONS, PROPOSAL, CONTRACT, AND BONDS
FOR THE
UNC - RESOURCE RESEARCH FACILITY
UTILITIES PROJECT

ORANGE COUNTY, NORTH CAROLINA

OWNER:
UNIVERSITY OF NORTH CAROLINA
SCHOOL OF MEDICINE

DESIGNER OF RECORD: BJAC, P.A.

SUBCONSULTANT:
DIEHL & PHILLIPS, P.A.
219 EAST CHATHAM STREET
CARY, NORTH CAROLINA 27511
TELEPHONE 919-467-9972

RECORD DOCUMENT
STATE I.D. No. 010544202B
NO ADDENDA WERE ISSUED FOR THIS PROJECT

RECEIVED
OCT 12 2009
CONSTRUCTION MANAGEMENT

STATE 1.0. No. 0105442028
NO ADDENDA WERE ISSUED FOR THIS PROJECT
SPECIFICATIONS, PROPOSAL, CONTRACT, AND BONDS

FOR THE

UNC - RESOURCE RESEARCH FACILITY

UTILITIES PROJECT

ORANGE COUNTY, NORTH CAROLINA

OWNER:

UNIVERSITY OF NORTH CAROLINA
SCHOOL OF MEDICINE

DESIGNER OF RECORD: BJAC, P.A.

SUBCONSULTANT:
DIEHL & PHILLIPS, P.A.
219 EAST CHATHAM STREET
CARY, NORTH CAROLINA 27511
TELEPHONE 919-467-9972

RECORD DOCUMENT
STATE I.D. No. 010544202B
NO ADDENDA WERE ISSUED FOR THIS PROJECT
INTRODUCTORY INFORMATION

Table of Contents ....................................... 3
Notice to Bidders ........................................... 2
Certification .................................................. 1

BIDDING REQUIREMENTS AND CONDITIONS OF THE CONTRACT

Instructions to Bidders and General Conditions of the Contract ............................................ 41
UNC Supplementary General Conditions ........................................................... 6
Guidelines for Recruitment and Selection of Minority Business for Participation ...................... 8

DIVISION 1 - GENERAL REQUIREMENTS

Section 01060 UNC-CH Regulatory Requirements ........................................................... 1
Section 01100 Summary ........................................................................... 4
Section 1210 Allowances .......................................................................... 2
Section 01230 Alternates ........................................................................... 3
Section 01270 Unit Prices ........................................................................... 2
Section 01310 Project Management and Coordination .......................................... 3
Section 01330 Submittal Procedures ............................................................. 9
Section 01351 Electronic Data Release Form .................................................. 2
Section 01420 References ........................................................................... 3
Section 01500 Temporary Facilities and Controls ........................................... 6
Section 01505 UNC-CH Construction Waste Management ...................................... 6
Section 01631 Substitutions ........................................................................... 3
Section 01632 Substitution Request Form ...................................................... 3
Section 01730 Cutting and Patching .................................................................. 4
Section 01740 Cleaning .................................................................................... 3
Section 01770 Contract Closeout ................................................................... 1
Section 01772 Project Approval Authorization – Final Inspection for Owner Occupancy ......... 2
Section 01773 Certificate of Completion ........................................................... 2
Section 01780 Project Record Documents ...................................................... 4
Section 01781 Operation and Maintenance Data ............................................... 3
Section 01782 Warranties and Guarantees ...................................................... 2
Section 01783 Spare Parts and Maintenance Materials ........................................... 2
Section 01999 EHS Construction Design Guidelines .......................................... 7
1-A: General Requirements ............................................................................ 13

DIVISION 2 - SITEWORK

2-A: Site Clearing .................................................................................... 2
2-B: Site Excavation and Grading ................................................................. 3
2-C: Trenching, Backfilling, and Compacting ................................................ 3
2-D: Pipe Laying – Pressure Pipe ................................................................. 5
2-E: Pipe Laying – Gravity Sewer ................................................................. 4
2-M: Erosion Control ................................................................................... 7

DIVISION 3 - CONCRETE

3-A: Concrete General .............................................................................. 4
3-B: Concrete Formwork, Jointing, and Accessories ......................................... 8

TABLE OF CONTENTS

1
### TABLE OF CONTENTS

**University of North Carolina at Chapel Hill**  
Resource Research Facility Utilities Project  
D&P Project No. 80160  

<table>
<thead>
<tr>
<th>Division</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-C</td>
<td>Concrete Reinforcement</td>
<td>4</td>
</tr>
<tr>
<td>3-D</td>
<td>Concrete Materials, Strengths, Proportions, and Design Mixes</td>
<td>4</td>
</tr>
<tr>
<td>3-E</td>
<td>Concrete Quality Control Testing</td>
<td>6</td>
</tr>
<tr>
<td>3-F</td>
<td>Concrete Batching, Mixing, and Placing</td>
<td>4</td>
</tr>
<tr>
<td>3-G</td>
<td>Concrete Finishing, Curing, and Patching</td>
<td>7</td>
</tr>
</tbody>
</table>

**DIVISION 4 - MASONRY**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-C</td>
<td>Cold Weather Masonry</td>
</tr>
<tr>
<td>4-D</td>
<td>Masonry Cleaning</td>
</tr>
<tr>
<td>4-E</td>
<td>Masonry Mortars and Grout</td>
</tr>
<tr>
<td>4-F</td>
<td>Architectural Profile Concrete Masonry Units</td>
</tr>
</tbody>
</table>

**DIVISION 5 - METALS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-B</td>
<td>Miscellaneous Metals</td>
</tr>
</tbody>
</table>

**DIVISION 6 - WOOD AND PLASTICS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-A</td>
<td>Rough Carpentry</td>
</tr>
</tbody>
</table>

**DIVISION 7 - THERMAL AND MOISTURE PROTECTION**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-B</td>
<td>Vapor Barrier</td>
</tr>
</tbody>
</table>

**DIVISION 8 - DOORS AND WINDOWS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-A</td>
<td>Metal Doors and Frames</td>
</tr>
<tr>
<td>8-E</td>
<td>Finish Hardware</td>
</tr>
</tbody>
</table>

**DIVISION 9 - FINISHES**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-G</td>
<td>Painting</td>
</tr>
</tbody>
</table>

**DIVISION 10 - SPECIALTIES**

**DIVISION 11 - EQUIPMENT**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-F</td>
<td>Effluent Flow Meter and Flume</td>
</tr>
<tr>
<td>11-G</td>
<td>Effluent Storage Lagoon Liner and Floating Transfer Pump System</td>
</tr>
<tr>
<td>11-H</td>
<td>Domestic Wastewater System</td>
</tr>
<tr>
<td>11-J</td>
<td>Backwash Wastewater Treatment and Pumping System</td>
</tr>
<tr>
<td>11-M</td>
<td>Animal Wastewater Treatment Plant With Nitrogen Reduction Capability</td>
</tr>
<tr>
<td>11-N</td>
<td>Denitrifying Dual Cell Tertiary Filter</td>
</tr>
<tr>
<td>11-P</td>
<td>Animal Effluent Irrigation System</td>
</tr>
<tr>
<td>11-Q</td>
<td>Chemical Feed Systems For Animal Wastewater Treatment System</td>
</tr>
<tr>
<td>11-R</td>
<td>Solids Cutter</td>
</tr>
<tr>
<td>11-W</td>
<td>Well and Water Treatment System</td>
</tr>
</tbody>
</table>
### TABLE OF CONTENTS

#### DIVISION 12 – FURNISHINGS

#### DIVISION 13 – SPECIAL CONSTRUCTION
- 13-A: Precast Concrete Building .......................................................... 5

#### DIVISION 14 – CONVEYING SYSTEMS

#### DIVISION 15 – MECHANICAL
- 15-Y: Valves .............................................................................. 5

#### DIVISION 16 – ELECTRICAL
- 16-A: Electrical: General Requirements .................................................. 10
- 16-B: Wiring Materials and Methods ........................................................ 15
- 16-C: Electrical Distribution Equipment ..................................................... 6
- 16-D: Lighting .................................................................................. 3
- 16-E: Exterior Electrical Service and Distribution ...................................... 2
- 16-I: Standby Power Generation .............................................................. 9
- 16-L: Wire and Cable .......................................................................... 3
- 16-W: Automatic Transfer Switch ............................................................. 2

#### CONTRACT FORMS
- Form of Proposal ............................................................................ 4
- Identification of Minority Business Participation ......................................... 1
- The University of North Carolina AFFIDAVIT A – Listing of the Good Faith Effort .......................................................... 1
- The University of NC AFFIDAVIT B – Intent to Perform Contract with Own Workforce .................................................... 1
- The University of NC AFFIDAVIT C – Portion of the Work to be Performed by Minority Firms .............................................. 1
- The University of NC AFFIDAVIT D – Good Faith Effort .......................................................... 1
- The University of NC APPENDIX E – MBE Document for Contract Payments .......................................................... 1
- Form of Bid Bond ........................................................................... 1
- Form of Construction Contract ............................................................. 10

#### APPENDICES
- Appendix A: Sub-Surface Soils Investigation Report
- Appendix B: Sediment and Erosion Control Plan Approval and Permit Information

END OF TABLE OF CONTENTS
NOTICE TO BIDDERS

Sealed proposals will be received by the University of North Carolina in Chapel Hill NC, in Persimmon Conference Room 129 of the Giles F. Horney Building, CB#1090, 103 Airport Drive, Chapel Hill, NC, 27599-1090 up to 2:00 pm on Thursday, July 19, 2007, and immediately thereafter publicly opened and read for the furnishing of labor, material and equipment entering into the construction of Resource Research Facility Utilities Project. Project scope includes but not limited to construction of a new potable water treatment facility, expansion and renovation of the existing domestic wastewater treatment facility, construction of a new animal wastewater system (consisting of a treatment plant, a treated effluent storage facility, and spray irrigation fields), and associated sitework and utilities.

Bids will be received for Single Prime. All proposals shall be lump sum.

Pre-Bid Meeting
An open pre-bid meeting will be held for all interested bidders and vendors on Monday, July 9th, 2007 at 9:00 am on Thursday, in Trailer 59, adjacent to Lineberger Cancer Center on the UNC at Chapel Hill campus. Following the meeting at this location, the meeting will re-convene at the project site.

Complete plans, specifications and contract documents will be open for inspection in the offices of the Owner and the Designer and in the plan rooms of the following:

- Associated General Contractors, Carolinas Branch, Raleigh and High Point, NC
- McGraw-Hill Dodge Corporation, Raleigh, NC
- Reed Construction Data, Online
- The University of North Carolina at Chapel Hill HUB Resource Center
- NC Institute of Minority Economic Development, Inc. at MCTAP/NCIMED, Inc, Durham, NC

Plans and specifications may be obtained from the Designer, upon deposit of One Hundred dollars ($100.00) in cash or certified check. The full plan deposit will be returned to those bidders provided all documents are returned in good, usable condition within ten (10) days after the bid date. Contact Information for the Designer is provided at the end of this Notice.

All contractors are hereby notified that they must have proper license as required under the state laws governing their respective trades.

NOTE: The bidder shall identify on its bid proposal the minority business participation it will use on the project (Identification of Minority Business Participation) form and shall include either Affidavit A or Affidavit B as applicable. Forms and instructions are included within the Proposal Form in the bid documents. Failure to complete these forms is grounds for rejection of the bid. (GS143-128.2c Effective 1/1/2002.)

General contractors are notified that Chapter 87, Article 1, General Statutes of North Carolina, will be observed in receiving and awarding general contracts. General contractors submitting bids on this project must have license classification for unlimited size as required by the NC General Contractors Licensing Board under G.S. 87-1)

NOTE: Under GS 87-1, a contractor that superintends or manages construction of any building, highway, public utility, grading, structure or improvement shall be deemed a “general contractor” and shall be so licensed.
Therefor a single prime project that involves other trades will require the single prime contractor to hold a proper General Contractors license.

Each proposal shall be accompanied by a cash deposit or a certified check drawn on some bank or trust company, insured by the Federal Deposit Insurance Corporation, of an amount equal to not less than five percent (5%) of the proposal, or in lieu thereof a bidder may offer a bid bond of five percent (5%) of the bid executed by a surety company licensed under the laws of North Carolina to execute the contract in accordance with the bid bond. Said deposit shall be retained by the owner as liquidated damages in event of failure of the successful bidder to execute the contract within ten days after the award or to give satisfactory surety as required by law.

A performance bond and a payment bond will be required for one hundred percent (100%) of the contract price.

Payment will be made based on ninety-five percent (95%) of monthly estimates and final payment made upon completion and acceptance of work.

No bid may be withdrawn after the scheduled closing time for the receipt of bids for a period of 60 days.

The owner reserves the right to reject any or all bids and to waive informalities.

**Designer:**

Diehl & Phillips, P.A.
219 East Chatham Street
919-467-9972 Telephone
919-467-5327 Fax

**Owner:**

The University of North Carolina at Chapel Hill
Bruce Runberg, Associate Vice Chancellor
Chapel Hill, NC 27599
INSTRUCTIONS TO BIDDERS
AND
GENERAL CONDITIONS OF THE CONTRACT

STANDARD FORM FOR CONSTRUCTION PROJECTS

STATE CONSTRUCTION OFFICE
NORTH CAROLINA
DEPARTMENT OF ADMINISTRATION

Form OC-15
This document is intended for use on State capital construction projects and shall not be used on any project that is not reviewed and approved by the State Construction Office. Extensive modification to the General Conditions by means of "Supplementary General Conditions" is strongly discouraged. State agencies and institutions may include special requirements in "Division 1 – General Requirements" of the specifications, where they do not conflict with the General Conditions.

Twenty Third Edition January 2002
Revised March 2002
INSTRUCTIONS TO BIDDERS

For a proposal to be considered it must be in accordance with the following instructions:

1. PROPOSALS

Proposals must be made in strict accordance with the Form of Proposal provided therefor, and all blank spaces for bids, alternates, and unit prices applicable to bidder's work shall be properly filled in. When requested alternates are not bid, the proposal may be considered incomplete. The bidder agrees that bid on Form of Proposal detached from specifications will be considered and will have the same force and effect as if attached thereto. Photocopied or faxed proposals will not be considered. Numbers shall be stated both in writing and in figures for the base bids and alternates.

Any modifications to the Form of Proposal (including alternates and/or unit prices) will disqualify the bid and may cause the bid to be rejected.

The bidder shall fill in the Form of Proposal as follows:

a. If the documents are executed by a sole owner, that fact shall be evidenced by the word "Owner" appearing after the name of the person executing them.

b. If the documents are executed by a partnership, that fact shall be evidenced by the word "Co-Partner" appearing after the name of the partner executing them.

c. If the documents are executed on the part of a corporation, they shall be executed by either the president or the vice president and attested by the secretary or assistant secretary in either case, and the title of the office of such persons shall appear after their signatures. The seal of the corporation shall be impressed on each signature page of the documents.

d. If the proposal is made by a joint venture, it shall be executed by each member of the joint venture in the above form for sole owner, partnership or corporation, whichever form is applicable.

e. All signatures shall be properly witnessed.

f. If the contractor's license of a bidder is held by a person other than an owner, partner or officer of a firm, then the licensee shall also sign and be a party to the proposal. The title "Licensee" shall appear under his/her signature.

Proposals shall be addressed as indicated in the Advertisement for Bids and shall be delivered, enclosed in an opaque sealed envelope, marked "Proposal" and bearing the title of the work, name of the bidder, and the contractor's license number of the bidder. Bidders shall clearly mark on the outside of the bid envelope which contract(s) they are bidding.

Bidder shall identify on the bid, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit listing good faith efforts or an affidavit indicating work under contract will be self-performed, as required by G.S. 143-128.2(c) and G.S. 143-128.2(f). Failure to comply with these requirements is grounds for rejection of the bid.

For projects bid in the single-prime alternative, the names and license numbers of major subcontractors shall be listed on the proposal form.
It shall be the specific responsibility of the bidder to deliver his bid to the proper official at the
selected place and prior to the announced time for the opening of bids. Later delivery of a bid
for any reason, including delivery by the United States Postal Service, shall disqualify the bid.

Modifications of previously deposited bids will be acceptable only if delivered in writing or by
telegram or fax to the place of the bid opening prior to the time for opening bids. Telegraphic
and fax modifications must be confirmed in writing within 72 hours of the opening of bids.

Unit prices quoted in the proposal shall include overhead and profit and shall be the full
compensation for the contractor's cost involved in the work. See General Conditions, Article
19c-1.

2. EXAMINATION OF CONDITIONS

It is understood and mutually agreed that by submitting a bid the bidder acknowledges that he
has carefully examined all documents pertaining to the work, the location, accessibility and
general character of the site of the work and all existing buildings and structures within and
adjacent to the site, and has satisfied himself as to the nature of the work, the condition of
existing buildings and structures, the conformation of the ground, the character, quality and
quantity of the material to be encountered, the character of the equipment, machinery, plant
and any other facilities needed preliminary to and during prosecution of the work, the general
and local conditions, the construction hazards, and all other matters, including, but not limited
to, the labor situation which can in any way affect the work under the contract, and including
all safety measures required by the Occupational Safety and Health Act of 1970 and all rules
and regulations issued pursuant thereto. It is further mutually agreed that by submitting a
proposal the bidder acknowledges that he has satisfied himself as to the feasibility and
meaning of the plans, drawings, specifications and other contract documents for the
construction of the work and that he accepts all the terms, conditions and stipulations
contained therein; and that he is prepared to work in cooperation with other contractors
performing work on the site.

Reference is made to contract documents for the identification of those surveys and
investigation reports of subsurface or latent physical conditions at the site or otherwise
affecting performance of the work which have been relied upon by the designer in preparing
the documents. The owner will make copies of all such surveys and reports available to the
bidder upon request.

Each bidder may, at his own expense, make such additional surveys and investigations as he
may deem necessary to determine his bid price for the performance of the work. Any on-site
investigation shall be done at the convenience of the owner. Any reasonable request for
access to the site will be honored by the owner.

3. BULLETINS AND ADDENDA

Any addenda to specifications issued during the time of bidding are to be considered covered
in the proposal and in closing a contract they will become a part thereof. It shall be the
bidder's responsibility to ascertain prior to bid time the addenda issued and to see that his bid
includes any changes thereby required.

Should the bidder find discrepancies in, or omission from, the drawings or documents or
should he be in doubt as to their meaning, he shall at once notify the designer who will send
written instructions in the form of addenda to all bidders. Notification should be no later than
seven (7) days prior to the date set for receipt of bids. Neither the owner nor the designer will
be responsible for any oral instructions.
All addenda shall be acknowledged by the bidder(s) on the Form of Proposal.

4. BID SECURITY

Each proposal shall be accompanied by a cash deposit or a certified check drawn on some bank or trust company insured by the Federal Deposit Insurance Corporation, or a bid bond in an amount equal to not less than five percent (5%) of the proposal, said deposit to be retained by the owner as liquidated damages in event of failure of the successful bidder to execute the contract within ten (10) days after the award or to give satisfactory surety as required by law (G.S. 143-129).

Bid bond shall be conditioned that the surety will, upon demand, forthwith make payment to the obligee upon said bond if the bidder fails to execute the contract. The owner may retain bid securities of any bidder(s) who may have a reasonable chance of award of contract for the full duration of time stated in the Notice to Bidders. Other bid securities may be released sooner, at the discretion of the owner. All bid securities (cash or certified checks) shall be returned to the bidders promptly after award of contracts, and no later than seven (7) days after expiration of the holding period stated in the Notice to Bidders. Standard Form of Bid Bond is included in these specifications (Section 304).

5. RECEIPT OF BIDS

Bids shall be received in strict accordance with requirements of the General Statutes of North Carolina. Bid security shall be required as prescribed by statute. Prior to opening of any bids on the project, the bidder will be permitted to change or withdraw his bid. Guidelines for opening of public construction bids are available from the State Construction Office.

6. OPENING OF BIDS

Upon opening, all bids shall be read aloud. Once any bid is opened, there shall not be any withdrawal of bids by any bidder and no bids may be returned by the designer to any bidder. After the bid opening, a bidder may request that his bid be withdrawn from consideration without forfeiture of his bid security in accordance with the provisions of the North Carolina General Statute 143-129.1. After the opening of bids, no bid may be withdrawn, except under the provisions of General Statute 143-129.1, for a period of thirty days unless otherwise specified. Should the successful bidder default and fail to execute a contract, the contract may be awarded to the next lowest and responsible bidder. The owner reserves the unqualified right to reject any and all bids. Reasons for rejection may include, but shall not be limited to, the following:

a. If the Form of Proposal furnished to the bidder is not used or is altered.

b. If the bidder fails to insert a price for all bid items, alternate and unit prices requested.

c. If the bidder adds any provisions reserving the right to accept or reject any award.

d. If there are unauthorized additions or conditional bids, or irregularities of any kind which tend to make the proposal incomplete, indefinite or ambiguous as to its meaning.

e. If the bidder fails to complete the proposal form where information is requested so the bid may be properly evaluated by the owner.

f. If the unit prices contained in the bid schedule are unacceptable to the owner and the State Construction Office.
g. If the bidder fails to comply with other instructions stated herein.

7. BID EVALUATION

The award of the contract will be made to the lowest responsible bidder as soon as practical. The owner may award on the basis of the base bid and any alternates the owner chooses.

Before awarding a contract, the owner may require the apparent low bidder to qualify himself to be a responsible bidder by furnishing any or all of the following data:

a. The latest financial statement showing assets and liabilities of the company or other information satisfactory to the owner.

b. A listing of completed projects of similar size.

c. Permanent name and address of place of business.

d. The number of regular employees of the organization and length of time the organization has been in business under present name.

e. The name and home office address of the surety proposed and the name and address of the responsible local claim agent.

f. The names of members of the firms who hold appropriate trade licenses, together with license numbers.

Failure or refusal to furnish any of the above information, if requested, shall constitute a basis for disqualification of any bidder.

In determining the lowest responsible, responsive bidder, the owner shall take into consideration the bidder’s compliance with the requirements of G.S. 143-128.2(c), the past performance of the bidder on construction contracts for the State with particular concern given to completion times, quality of work, cooperation with other contractors, and cooperation with the designer and owner. Failure of the low bidder to furnish affidavit and/or documentation as required by G.S. 143-128.2(c) may constitute a basis for disqualification of the bid.

Should the owner adjudge that the apparent low bidder is not the lowest responsible, responsive bidder by virtue of the above information, said apparent low bidder will be so notified and his bid security shall be returned to him.

8. PERFORMANCE BOND

The successful bidder, upon award of contract, shall furnish a performance bond in an amount equal to 100 percent of the contract price. See Article 35, General Conditions.

9. PAYMENT BOND

The successful bidder, upon award of contract, shall furnish a payment bond in an amount equal to 100 percent of the contract price. See Article 35, General Conditions.
10. PAYMENTS

Payments to the successful bidders (contractors) will be made on the basis of monthly estimates. See Article 31, General Conditions.

11. PRE-BID CONFERENCE

Prior to the date set for receiving bids, the Designer may arrange and conduct a Pre-Bid Conference for all prospective bidders. The purpose of this conference is to review project requirements and to respond to questions from prospective bidders and their subcontractors or material suppliers related to the intent of bid documents. Attendance by prospective bidders shall be as required by the “Notice to Bidders”.

12. SUBSTITUTIONS

In accordance with the provisions of G.S. 133-3, material, product, or equipment substitutions proposed by the bidders to those specified herein can only be considered during the bidding phase until ten (10) days prior to the receipt of bids when submitted to the Designer with sufficient data to confirm material, product, or equipment equality. Proposed substitutions submitted after this time will be considered only as potential change order.

Submittals for proposed substitutions shall include the following information:

a. Name, address, and telephone number of manufacturer and supplier as appropriate,

b. Trade name, model or catalog designation.

c. Product data including performance and test data, reference standards, and technical descriptions of material, product, or equipment. Include color samples and samples of available finishes as appropriate.

d. Detailed comparison with specified products including performance capabilities, warranties, and test results.

e. Other pertinent data including data requested by the Designer to confirm product equality.

If a proposed material, product, or equipment substitution is deemed equal by the Designer to those specified, all bidders of record will be notified by Addendum.
GENERAL CONDITIONS OF THE CONTRACT

The use or reproduction of this document or any part thereof is authorized for and limited to use on projects of the State of North Carolina, and is distributed by, through and at the discretion of the State Construction Office, Raleigh, North Carolina, for that distinct and sole purpose.

TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>ARTICLE</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Definitions</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Intent and Execution of Documents</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Clarifications and Detail Drawings</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>Copies of Drawings and Specifications</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>Shop Drawings, Submittals, Samples, Data</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Working Drawings and Specifications at the Job Site</td>
<td>13</td>
</tr>
<tr>
<td>7</td>
<td>Ownership of Drawings and Specifications</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>Materials, Equipment, Employees</td>
<td>13</td>
</tr>
<tr>
<td>9</td>
<td>Royalties, Licenses and Patent</td>
<td>14</td>
</tr>
<tr>
<td>10</td>
<td>Permits, Inspections, Fees, Regulations</td>
<td>14</td>
</tr>
<tr>
<td>11</td>
<td>Protection of Work, Property and the Public</td>
<td>15</td>
</tr>
<tr>
<td>12</td>
<td>Sedimentation Pollution Control Act of 1973</td>
<td>16</td>
</tr>
<tr>
<td>13</td>
<td>Inspection of the Work</td>
<td>16</td>
</tr>
<tr>
<td>14</td>
<td>Construction Supervision and Schedule</td>
<td>17</td>
</tr>
<tr>
<td>15</td>
<td>Separate Contracts and Contractor Relationships</td>
<td>20</td>
</tr>
<tr>
<td>16</td>
<td>Subcontracts and Subcontractors</td>
<td>21</td>
</tr>
<tr>
<td>17</td>
<td>Contractor and Subcontractor Relationships</td>
<td>22</td>
</tr>
<tr>
<td>18</td>
<td>Designer's Status</td>
<td>23</td>
</tr>
<tr>
<td>19</td>
<td>Changes in the Work</td>
<td>23</td>
</tr>
<tr>
<td>20</td>
<td>Claims for Extra Cost</td>
<td>26</td>
</tr>
<tr>
<td>21</td>
<td>Minor Changes in the Work</td>
<td>27</td>
</tr>
<tr>
<td>22</td>
<td>Uncorrected Faulty Work</td>
<td>27</td>
</tr>
<tr>
<td>23</td>
<td>Time of Completion, Delays, Extension of Time</td>
<td>27</td>
</tr>
<tr>
<td>24</td>
<td>Partial Utilization: Beneficial Occupancy</td>
<td>28</td>
</tr>
<tr>
<td>25</td>
<td>Final Inspection, Acceptance, and Project Closeout</td>
<td>29</td>
</tr>
<tr>
<td>26</td>
<td>Correction of Work Before Final Payment</td>
<td>29</td>
</tr>
<tr>
<td>27</td>
<td>Correction of Work After Final Payment</td>
<td>30</td>
</tr>
<tr>
<td>28</td>
<td>Owner's Right to Do Work</td>
<td>30</td>
</tr>
<tr>
<td>29</td>
<td>Annulment of Contract</td>
<td>30</td>
</tr>
<tr>
<td>30</td>
<td>Contractor's Right to Stop Work or Terminate the Contract</td>
<td>31</td>
</tr>
<tr>
<td>31</td>
<td>Requests for Payments</td>
<td>31</td>
</tr>
<tr>
<td>32</td>
<td>Certificates of Payment and Final Payment</td>
<td>32</td>
</tr>
<tr>
<td>33</td>
<td>Payments Withheld</td>
<td>33</td>
</tr>
<tr>
<td>34</td>
<td>Minimum Insurance Requirements</td>
<td>34</td>
</tr>
<tr>
<td>35</td>
<td>Performance Bond and Payment Bond</td>
<td>35</td>
</tr>
<tr>
<td>36</td>
<td>Contractor's Affidavit</td>
<td>35</td>
</tr>
<tr>
<td>37</td>
<td>Assignments</td>
<td>35</td>
</tr>
<tr>
<td>38</td>
<td>Use of Premises</td>
<td>36</td>
</tr>
<tr>
<td>39</td>
<td>Cutting, Patching and Digging</td>
<td>36</td>
</tr>
<tr>
<td>40</td>
<td>Utilities, Structures, Signs</td>
<td>36</td>
</tr>
<tr>
<td>41</td>
<td>Cleaning Up</td>
<td>38</td>
</tr>
<tr>
<td>42</td>
<td>Guarantee</td>
<td>38</td>
</tr>
<tr>
<td>Code</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>43</td>
<td>Codes and Standards</td>
<td>39</td>
</tr>
<tr>
<td>44</td>
<td>Indemnification</td>
<td>39</td>
</tr>
<tr>
<td>45</td>
<td>Taxes</td>
<td>39</td>
</tr>
<tr>
<td>46</td>
<td>Equal Opportunity Clause</td>
<td>40</td>
</tr>
<tr>
<td>47</td>
<td>Employment of the Handicapped</td>
<td>40</td>
</tr>
<tr>
<td>48</td>
<td>Asbestos-Containing Materials (ACM)</td>
<td>40</td>
</tr>
<tr>
<td>49</td>
<td>Minority Business Participation</td>
<td>41</td>
</tr>
<tr>
<td>50</td>
<td>Contractor Evaluation</td>
<td>41</td>
</tr>
</tbody>
</table>
ARTICLE 1 - DEFINITIONS

a. The contract documents consist of the Notice to Bidders; Instructions to Bidders; General Conditions of the Contract; special conditions if applicable; Supplementary General Conditions; the drawing and specifications, including all bulletins, addenda or other modifications of the drawings and specifications incorporated into the documents prior to their execution; the proposal; the contract; the performance bond; the payment bond; insurance certificates; the approval of the attorney general; and the certificate of the Office of State Budget and Management. All of these items together form the contract.

b. The owner is the State of North Carolina through the agency named in the contract.

c. The designer(s) are those referred to within this contract, or their authorized representatives. The designer(s), as referred to herein, shall mean architect and/or engineer. They will be referred to hereinafter as if each were of the singular number, masculine gender.

d. The contractor, as referred to hereinafter, shall be deemed to be either of the several contracting parties called the "Party of the First Part" in either of the several contracts in connection with the total project. Where, in special instances hereinafter, a particular contractor is intended, an adjective precedes the word "contractor," as "general," "heating," etc. For the purposes of a single prime contract, the term Contractor shall be deemed to be the single contracting entity identified as the "Party of the First Part" in the single Construction Contract. Any references or adjectives that name or infer multiple prime contractors shall be interpreted to mean the single prime Contractor.

e. A subcontractor, as the term is used herein, shall be understood to be one who has entered into a direct contract with a contractor, and includes one who furnishes materials worked to a special design in accordance with plans and specifications covered by the contract, but does not include one who only sells or furnishes materials not requiring work so described or detailed.

f. Written notice shall be defined as notice in writing delivered in person to the contractor, or to a partner of the firm in the case of a partnership, or to a member of the contracting organization, or to an officer of the organization in the case of a corporation, or sent to the last known business address of the contracting organization by registered mail.

g. Work, as used herein as a noun, is intended to include materials, labor, and workmanship of the appropriate contractor.

h. The project is the total construction work to be performed under the contract documents by the several contractors.

i. Project Expediter, as used herein, is an entity stated in the contract documents, designated to effectively facilitate scheduling and coordination of work activities. See Article 14(f) for responsibilities of a Project Expediter. For the purposes of a single prime contract, the single prime contractor shall be designated as the Project Expediter.

j. Change order, as used herein, shall mean a written order to the contractor subsequent to the signing of the contract authorizing a change in the contract. The change order shall be signed by the contractor, designer and the owner, and approved by the State Construction Office, in that order (Article 19).
Field Order, as used herein, shall mean a written approval for the contractor to proceed with the work requested by owner prior to issuance of a formal Change Order. The field order shall be signed by the contractor, designer, owner, and State Construction Office.

Time of completion, as stated in the contract documents, is to be interpreted as consecutive calendar days measured from the date established in the written Notice to Proceed, or such other date as may be established herein (Article 23).

Liquidated damages, as stated in the contract documents, is an amount reasonably estimated in advance to cover the losses incurred by the owner by reason of failure of the contractor(s) to complete the work within the time specified.

Surety, as used herein, shall mean the bonding company or corporate body which is bound with and for the contractor, and which engages to be responsible for the contractor and his acceptable performance of the work.

Routine written communications between the Designer and the Contractor are any communication other than a “request for information” provided in letter, memo, or transmittal format, sent by mail, courier, electronic mail, or facsimile. Such communications can not be identified as “request for information”.

Clarification or Request for information (RFI) is a request from the Contractor seeking an interpretation or clarification by the Designer relative to the contract documents. The RFI, which shall be labeled (RFI), shall clearly and concisely set forth the issue or item requiring clarification or interpretation and why the response is needed. The RFI must set forth the Contractor’s interpretation or understanding of the contract documents requirements in question, along with reasons for such an understanding.

Approval means written or imprinted acknowledgement that materials, equipment or methods of construction are acceptable for use in the work.

Inspection shall mean examination or observation of work completed or in progress to determine its compliance with contract documents.

“Equal to” or “approved equal” shall mean materials, products, equipment, assemblies, or installation methods considered equal by the bidder in all characteristics (physical, functional, and aesthetic) to those specified in the contract documents.

Substitution” or “substitute” shall mean materials, products, equipment, assemblies, or installation methods deviating in at least one characteristic (physical, functional, or aesthetic) from those specified, but which in the opinion of the bidder would improve competition and/or enhance the finished installation.

ARTICLE 2 - INTENT AND EXECUTION OF DOCUMENTS

The drawings and specifications are complementary, one to the other. That which is shown on the drawings or called for in the specifications shall be as binding as if it were both called for and shown. The intent of the drawings and specifications is to establish the scope of all labor, materials, transportation, equipment, and any and all other things necessary to provide a complete job. In case of discrepancy or disagreement in the contract documents, the order of precedence shall be: Form of Contract, specifications, large-scale detail drawings, small-scale drawings.
b. The wording of the specifications shall be interpreted in accordance with common usage of the language except that words having a commonly used technical or trade meaning shall be so interpreted in preference to other meanings.

c. The contractor shall execute each copy of the proposal, contract, performance bond and payment bond as follows:

1. If the documents are executed by a sole owner, that fact shall be evidenced by the word "Owner" appearing after the name of the person executing them.

2. If the documents are executed by a partnership, that fact shall be evidenced by the word "Co-Partner" appearing after the name of the partner executing them.

3. If the documents are executed on the part of a corporation, they shall be executed by either the president or the vice-president and attested by the secretary or assistant secretary in either case, and the title of the office of such persons shall appear after their signatures. The seal of the corporation shall be impressed on each signature page of the documents.

4. If the documents are made by a joint venture, they shall be executed by each member of the joint venture in the above form for sole owner, partnership or corporation, whichever form is applicable to each particular member.

5. All signatures shall be properly witnessed.

6. If the contractor's license is held by a person other than an owner, partner or officer of a firm, then the licensee shall also sign and be a party to the contract. The title "Licensee" shall appear under his/her signature.

7. The bonds shall be executed by an attorney-in-fact. There shall be attached to each copy of the bond a certified copy of power of attorney properly executed and dated.

8. Each copy of the bonds shall be countersigned by an authorized individual agent of the bonding company licensed to do business in North Carolina. The title "Licensed Resident Agent" shall appear after the signature.

9. The seal of the bonding company shall be impressed on each signature page of the bonds.

10. The contractor's signature on the performance bond and the payment bond shall correspond with that on the contract.

ARTICLE 3 - CLARIFICATIONS AND DETAIL DRAWINGS

a. In such cases where the nature of the work requires clarification by the designer, such clarification shall be furnished by the designer with reasonable promptness by means of written instructions or detail drawings, or both. Clarifications and drawings shall be consistent with the intent of contract documents, and shall become a part thereof.

b. The contractor(s) and the designer shall prepare, if deemed necessary, a schedule fixing dates upon which foreseeable clarifications will be required. The schedule will be subject to addition or change in accordance with progress of the work. The designer shall furnish drawings or clarifications in accordance with that schedule. The contractor shall not proceed with the work without such detail drawings and/or written clarifications.
ARTICLE 4 - COPIES OF DRAWINGS AND SPECIFICATIONS

The designer shall furnish free of charge to the contractors copies of plans and specifications as follows:

a. General contractor - Up to twelve (12) sets of general contractor drawings and specifications, up to six (6) sets of which shall include drawings and specifications of all other contracts, plus a clean set of black line prints on white paper of all appropriate drawings, upon which the contractor shall clearly and legibly record all work-in-place that is at variance with the contract documents.

b. Each other contractor - Up to six (6) sets of the appropriate drawings and specifications, up to three (3) sets of which shall include drawings and specifications of all other contracts, plus a clean set of black line prints on white paper of all appropriate drawings, upon which the contractor shall clearly and legibly record all work-in-place that is at variance with the contract documents.

c. Additional sets shall be furnished at cost, including mailing, to the contractor upon request by the contractor. This cost shall be stated in the bidding documents.

d. For the purposes of a single-prime contract, the contractor shall receive up to 30 sets of drawings and specifications, plus a clean set of black line prints on white paper of all appropriate drawings, upon which the contractor shall clearly and legibly record all work-in-place that is at variance with the contract documents.

ARTICLE 5 - SHOP DRAWINGS, SUBMITTALS, SAMPLES, DATA

a. Within 30 consecutive calendar days after the notice to proceed, each prime contractor shall submit a schedule for anticipated submission of all shop drawings, product data, samples, and similar submittals to the Project Expediter and the Designer. This schedule shall indicate the items, relevant specification sections, other related submittal, data, and the date when these items will be furnished to the designer.

b. The Contractor shall review, approve and submit to the Designer all Shop or Setting Drawings, Product Data, Samples, Color Charts, and similar submittal data required or reasonably implied by the Contract Documents. Required Submittals shall bear the Contractor's stamp of approval, any exceptions to the Contract Documents shall be noted on the submittals, and copies of all submittals shall be of sufficient quantity for the Designer to retain up to three (3) copies of each submittal for his own use plus additional copies as may be required by the Contractor. Submittals shall be presented to the Designer with reasonable promptness and time so as to cause no delay in the activities of the Owner or of separate Contractors.

c. The Designer shall review required submittals promptly, noting desired corrections if any, and retaining three (3) copies for his use. The remaining copies of each submittal shall be returned to the Contractor not later than twenty (20) days from the date of receipt by the Designer, for the Contractor's use or for corrections and resubmittal as noted by the Designer. When resubmittals are required, the submittal procedure shall be the same as for the original submittals.

d. Approval of shop drawings by the Designer shall not be construed as relieving the Contractor from responsibility for compliance with the design or terms of the contract documents nor from responsibility of errors of any sort in the shop drawings, unless such lack of compliance or errors first have been called in writing to the attention of the Designer by the Contractor.
ARTICLE 6 - WORKING DRAWINGS AND SPECIFICATIONS AT THE JOB SITE

a. The contractor shall maintain, in readable condition at his job office, one complete set of working drawings and specifications for his work including all shop drawings. Such drawings and specifications shall be available for use by the designer or his authorized representative.

b. The contractor shall maintain at the job office, a day-to-day record of work-in-place that is at variance with the contract documents. Such variations shall be fully noted on project drawings by the contractor and submitted to the designer upon project completion and no later than 30 days after acceptance of the project.

ARTICLE 7 - OWNERSHIP OF DRAWINGS AND SPECIFICATIONS

All drawings and specifications are instruments of service and remain the property of the owner. The use of these instruments on work other than this contract without permission of the owner is prohibited. All copies of drawings and specifications other than contract copies shall be returned to the owner upon request after completion of the work.

ARTICLE 8 - MATERIALS, EQUIPMENT, EMPLOYEES

a. The contractor shall, unless otherwise specified, supply and pay for all labor, transportation, materials, tools, apparatus, lights, power, heat, sanitary facilities, water, scaffolding and incidentals necessary for the completion of his work, and shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied therefrom, all in accordance with the contract documents.

b. All materials shall be new and of quality specified, except where reclaimed material is authorized herein and approved for use. Workmanship shall at all times be of a grade accepted as the best practice of the particular trade involved, and as stipulated in written standards of recognized organizations or institutes of the respective trades except as exceeded or qualified by the specifications.

c. Upon notice, the contractor shall furnish evidence as to quality of materials.

d. Products are generally specified by ASTM or other reference standard and/or by manufacturer's name and model number or trade name. When specified only by reference standard, the Contractor may select any product meeting this standard, by any manufacturer. When several products or manufacturers are specified as being equally acceptable, the Contractor has the option of using any product and manufacturer combination listed. However, the contractor shall be aware that the cited examples are used only to denote the quality standard of product desired and that they do not restrict bidders to a specific brand, make, manufacturer or specific name; that they are used only to set forth and convey to bidders the general style, type, character and quality of product desired; and that equivalent products will be acceptable. Request for substitution of materials, items, or equipment shall be submitted to the designer for approval or disapproval; such approval or disapproval shall be made by the designer prior to the opening of bids.

e. Each contractor shall obtain written approval from the designer for the use of products, materials, equipment, assemblies or installation methods claimed as equal to those
specified. Such approvals must be obtained as soon after contract awards as possible and before any materials are ordered. Applications for approvals shall be made by the contractor and not by subcontractors or material suppliers within thirty (30) days following award of contract. When the submittal schedule provided under Article 5a is approved, no further substitutions will be permitted except in unusual or extenuating circumstances. If no list is submitted, the contractor shall supply materials specified.

f. The designer is the judge of equality for proposed substitution of products, materials or equipment.

g. If at any time during the construction and completion of the work covered by these contract documents, the conduct of any workman of the various crafts be adjudged a nuisance to the owner or designer, or if any workman be considered detrimental to the work, the contractor shall order such parties removed immediately from grounds.

ARTICLE 9 - ROYALTIES, LICENSES AND PATENTS

It is the intention of the contract documents that the work covered herein will not constitute in any way infringement of any patent whatsoever unless the fact of such patent is clearly evidenced herein. The contractor shall protect and save harmless the owner against suit on account of alleged or actual infringement. The contractor shall pay all royalties and/or license fees required on account of patented articles or processes, whether the patent rights are evidenced hereinafter.

ARTICLE 10 - PERMITS, INSPECTIONS, FEES, REGULATIONS

a. The contractor shall give all notices and comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work under this contract. If the contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the designer in writing. See Instructions to Bidders, Paragraph 3, Bulletins and Addenda. Any necessary changes required after contract award shall be made by change order in accordance with Article 19. If the contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules and regulations, and without such notice to the designer, he shall bear all cost arising therefrom. Additional requirements implemented after bidding will be subject to equitable negotiations.

b. All work under this contract shall conform to the North Carolina State Building Code and other State, local and national codes as are applicable. The cost of all required inspections and permits shall be the responsibility of the contractor.

c. Projects constructed by the State of North Carolina or by any agency or institution of the State are not subject to inspection by any county or municipal authorities and are not subject to county or municipal building codes. The contractor shall, however, cooperate with the county or municipal authorities by obtaining building permits. Permits shall be obtained at no cost.

d. Projects involving local funding (community colleges) are subject to county and municipal building codes and inspection by local authorities. The contractor shall pay the cost of these permits and inspections.
ARTICLE 11 - PROTECTION OF WORK, PROPERTY AND THE PUBLIC

a. The contractors shall be jointly responsible for the entire site and the building or construction of the same and provide all the necessary protections, as required by the owner or designer, and by laws or ordinances governing such conditions. They shall be responsible for any damage to the owner's property, or of that of others on the job, by them, their personnel, or their subcontractors, and shall make good such damages. They shall be responsible for and pay for any damages caused to the owner. All contractors shall have access to the project at all times.

b. The contractor shall provide cover and protect all portions of the structure when the work is not in progress, provide and set all temporary roofs, covers for doorways, sash and windows, and all other materials necessary to protect all the work on the building, whether set by him, or any of the subcontractors. Any work damaged through the lack of proper protection or from any other cause, shall be repaired or replaced without extra cost to the owner.

c. No fires of any kind will be allowed inside or around the operations during the course of construction without special permission from the designer.

d. The contractor shall protect all trees and shrubs designated to remain in the vicinity of the operations by building substantial boxes around same. He shall barricade all walks, roads, etc., as directed by the designer to keep the public away from the construction. All trenches, excavations or other hazards in the vicinity of the work shall be well barricaded and properly lighted at night.

e. The contractor shall provide all necessary safety measures for the protection of all persons on the job, including the requirements of the A.G.C. Accident Prevention Manual in Construction, as amended, and shall fully comply with all state laws or regulations and North Carolina State Building Code requirements to prevent accident or injury to persons on or about the location of the work. He shall clearly mark or post signs warning of hazards existing, and shall barricade excavations, elevator shafts, stairwells and similar hazards. He shall protect against damage or injury resulting from falling materials and he shall maintain all protective devices and signs throughout the progress of the work.


g. The contractor shall designate a responsible member of his organization as safety inspector, whose duties shall include accident prevention on the work project. The name of the safety inspector shall be made known to the designer at the time the work is started.

h. In the event of emergency affecting the safety of life, the protection of work, or the safety of adjoining properties, the contractor is hereby authorized to act at his own discretion, without further authorization from anyone, to prevent such threatened injury or damage. Any compensation claimed by the contractor on account of such action shall be determined as provided for under Article 19(b).
ARTICLE 12 - SEDIMENTATION POLLUTION CONTROL ACT OF 1973

a. Any land-disturbing activity performed by the contractor(s) in connection with the project shall comply with all erosion control measures set forth in the contract documents and any additional measures which may be required in order to ensure that the project is in full compliance with the Sedimentation Pollution Control Act of 1973, as implemented by Title 15, North Carolina Administrative Code, Chapter 4, Sedimentation Control, Subchapters 4A, 4B and 4C, as amended (15 N.C.A.C. 4A, 4B and 4C).

b. Upon receipt of notice that a land-disturbing activity is in violation of said act, the contractor(s) shall be responsible for ensuring that all steps or actions necessary to bring the project in compliance with said act are promptly taken.

c. The contractor(s) shall be responsible for defending any legal actions instituted pursuant to N.C.G.S. 113A-64 against any party or persons described in this article.

d. To the fullest extent permitted by law, the contractor(s) shall indemnify and hold harmless the owner, the designer and the agents, consultants and employees of the owner and designer, from and against all claims, damages, civil penalties, losses and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from the performance of work or failure of performance of work, provided that any such claim, damage, civil penalty, loss or expense is attributable to a violation of the Sedimentation Pollution Control Act. Such obligation shall not be construed to negate, abridge or otherwise reduced any other right or obligation of indemnity which would otherwise exist as to any party or persons described in this article.

ARTICLE 13 - INSPECTION OF THE WORK

a. It is a condition of this contract that the work shall be subject to inspection during normal working hours by the designer, designated official representatives of the owner, and those persons required by state law to test special work for official approval. The contractor shall therefore provide safe access to the work at all times for such inspections.

b. All instructions to the contractor will be made only by or through the designer or his designated project representative. Observations made by official representatives of the owner shall be conveyed to the designer for review and coordination prior to issuance to the contractor.

c. Where special inspection or testing is required by virtue of any state laws, instructions of the designer, specifications or codes, the contractor shall give adequate notice to the designer of the time set for such inspection or test, if the inspection or test will be conducted by a party other than the designer. Such special tests or inspections will be made in the presence of the designer, or his authorized representative, and it shall be the contractor's responsibility to serve ample notice of such tests.

d. All laboratory tests shall be paid by the owner unless provided otherwise in the contract documents except the general contractor shall pay for laboratory tests to establish design mix for concrete, and for additional tests to prove compliance with contract documents where materials have tested deficient except when the testing laboratory did not follow the appropriate ASTM testing procedures.

e. Should any work be covered up or concealed prior to inspection and approval by the designer, such work shall be uncovered or exposed for inspection, if so requested by the designer in writing. Inspection of the work will be made promptly upon notice from the contractor. All cost involved in uncovering, repairing, replacing, recovering and restoring
to design condition, the work that has been covered or concealed will be paid by the contractor involved.

f. If any other portion of the work has been covered which the designer has not specifically requested to observe prior to being covered, the designer may request to see such work and it shall be uncovered by the contractor. If such work be found in accordance with the contract documents, the cost of uncovering and replacement shall, by appropriate change order, be charged to the owner. If such work be found not in accordance with the contract documents, the contractor shall pay such costs unless it be found that this condition was caused by the owner or a separate contractor as provided in Article 15, in which event the owner or the separate contractor shall be responsible for the payment of such costs.

ARTICLE 14 - CONSTRUCTION SUPERVISION AND SCHEDULE

a. Throughout the progress of the work, each contractor shall keep at the job site, a competent superintendent or supervisory staff satisfactory to the designer. The superintendent shall not be changed without the consent of the designer unless said superintendent ceases to be employed by the contractor or ceases to be competent. The superintendent shall have authority to act on behalf of the contractor, and instructions, directions or notices given to him shall be as binding as if given to the contractor. However, directions, instructions, and notices shall be confirmed in writing.

b. The contractor shall examine and study the drawings and specifications and fully understand the project design, and shall provide constant and efficient supervision to the work. Should he discover any discrepancies of any sort in the drawings or specifications, he shall report them to the designer without delay. He will not be held responsible for discrepancies in the drawings and/or specifications, but shall be held responsible to report them should they become known to him.

c. All contractors shall be required to cooperate and consult with each other during the construction of this project. Prior to installation of work, all contractors shall jointly prepare coordination drawings, showing locations of various ductworks, piping, motors, pumps, and other mechanical or electrical equipment, in relation to the structure, walls and ceilings. These drawings shall be submitted to the designer through the Project Expediter for information only. Each contractor shall layout and execute his work to cause the least delay to other contractors. Each contractor shall be financially responsible for any damage to other contractor's work and for undue delay caused to other contractors on the project.

d. The contractor is required to attend monthly job site progress conferences as called by the designer. The contractor shall be represented at these job progress conferences by both home office and project personnel. These representatives shall have authority to act on behalf of the contractor. These meetings shall be open to subcontractors, material suppliers and any others who can contribute toward maintaining required job progress. It shall be the principal purpose of these meetings, or conferences, to effect coordination, cooperation and assistance in every practical way toward the end of maintaining progress of the project on schedule and to complete the project within the specified contract time. Each contractor shall be prepared to assess progress of the work as required in his particular contract and to recommend remedial measures for correction of progress as may be appropriate. The designer or his authorized representative shall be the coordinator of the conferences and shall preside as chairman.

e. The contractor(s) shall, if required by the Supplementary General Conditions, employ an engineer or a land surveyor licensed in the State of North Carolina to lay out the work
and to establish a benchmark nearby in a location where same will not be disturbed and where direct instruments sights may be taken.

f. The designer shall designate a Project Expediter on projects involving two or more prime contracts. The Project Expediter shall be designated in the Supplementary General Conditions. The Project Expediter shall have the following responsibilities.

1. Prepare the project construction schedule and shall allow all prime contractors (multi-prime contract) and subcontractors (single-prime contract) performing general, plumbing, HVAC, and electrical work equal input into the preparation of the initial construction schedule.

2. Maintain a project progress schedule for all contractors.

3. Give adequate notice to all contractors to ensure efficient continuity of all phases of the work.

4. Notify the designer of any changes in the project schedule.

5. Recommend to the owner whether payment to a contractor shall be approved.

g. It shall be the responsibility of the Project Expediter to cooperate with and obtain from several prime contractors and subcontractors on the job, their respective work activities and integrate these activities into a project construction schedule in form of a detailed bar chart or Critical Path Method (CPM), schedule. Each prime contractor shall provide work activities within fourteen (14) days of request by the Project Expediter. A “work activity”, for scheduling purposes, shall be any component or contractual requirement of the project requiring at least one (1) day, but not more than fourteen (14) days, to complete or fulfill. The project construction schedule shall graphically show all salient features of the work required to construct the project from start to finish and within the allotted time established in the contract. The time (in days) between the contractor’s early completion and contractual completion dates is part of the project total float time; and shall be used as such, unless amended by a change order. On a multi-prime project, each prime contractor shall review the proposed construction schedule and approve same in writing. The Project Expediter shall submit the proposed construction schedule to the designer for comments. The complete Project construction schedule shall be of the type set forth in the Supplementary General Condition or subparagraph (1) or (2) below, as appropriate:

1. For a project with total contracts of $1,000,000 or less, a bar chart schedule will satisfy the above requirement. The schedule shall indicate the estimated starting and completion dates for each major element of the work.

2. For a project with total contracts over $1,000,000, a Critical Path Method (CPM) schedule shall be utilized to control the planning and scheduling of the Work. The CPM schedule shall be the responsibility of the Project Expediter and shall be paid for by the Project Expediter.
Bar Chart Schedule: Where a bar chart schedule is required, it shall be time-scaled in
weekly increments, shall indicate the estimated starting and completion dates for each
major element of the work by trade and by area, level, or zone, and shall schedule dates
for all salient features, including but not limited to the placing of orders for materials,
submission of shop drawings and other Submittals for approval, approval of shop
drawings by designers, the manufacture and delivery of material, the testing and the
installation of materials, supplies and equipment, and all Work activities to be performed
by the Contractor. The Contractor shall allow sufficient time in his schedule for all
required inspections. Each Work activity will be assigned a time estimate by the
Contractor. One day shall be the smallest time unit used.

CPM Schedule: Where a CPM schedule is required, it shall be in time-scaled
precedence format using the Project Expediter’s logic and time estimates. The CPM
schedule shall be drawn or plotted with activities grouped or zoned by Work area or
subcontract as opposed to a random (or scattered) format. The CPM schedule shall be
time-scaled on a weekly basis and shall be drawn or plotted at a level of detail and logic
which will schedule all salient features of the work to be performed by the Contractor.
The Contractor shall allow sufficient time in his schedule for all required inspections.
Each Work activity will be assigned a time estimate by the Contractor. One day shall be
the smallest time unit used.

The CPM schedule will identify and describe each activity, state the duration of each
activity, the calendar dates for the early and late start and the early and late finish of each
activity, and clearly highlight all activities on the critical path. "Total float" and "free
float" shall be indicated for all activities. Float time shall not be considered for the
exclusive use or benefit of either the Owner or the Contractor, but must be allocated in
the best interest of completing the Work within the Contract time. Extensions to the
Contract time, when granted by Change Order, will be granted only when equitable time
adjustment exceeds the Total Float in the activity or path of activities affected by the
change. On contracts with a price over $2,500,000, the CPM schedule shall also show
what part of the Contract Price is attributable to each activity on the schedule, the sum of
which for all activities shall equal the total Contract Price.

Early Completion of Project: The Contractor may attempt to complete the project
prior to the Contract Completion Date. However, such planned early completion shall be
for the Contractor's convenience only and shall not create any additional rights of the
Contractor or obligations of the Owner under this Contract, nor shall it change the Time
for Completion or the Contract Completion Date. The Contractor shall not be required
to pay liquidated damages to the Owner because of its failure to complete by its planned
earlier date. Likewise, the Owner shall not pay the Contractor any additional
compensation for early completion nor will the Owner owe the Contractor any
compensation should the Owner, its officers, employees, or agents cause the Contractor
not to complete earlier than the date required by the Contract Documents.
h. The proposed project construction schedule shall be presented to the designer no later than thirty (30) days after written notice to proceed. No application for payment will be processed until this schedule is accepted by the owner.

i. The approved project construction schedule shall be distributed to all contractors and displayed at the job site by the Project Expediter.

j. The several contractors shall be responsible for their work activities and shall notify the Project Expediter of any necessary changes or adjustments to their work. The Project Expediter shall maintain the project construction schedule, making monthly adjustments, updates, corrections, etc., that are necessary to finish the project within the Contract time, keeping all contractors and the designer fully informed. Copy of a bar chart schedule annotated to show the current progress shall be submitted by the Contractor(s) to the designer, along with monthly request for payment. For project requiring CPM schedule, the Contractor shall submit a monthly report of the status of all activities. The bar chart schedule or monthly status report shall show the actual Work completed to date in comparison with the original Work scheduled for all activities. If any activities of the work of several contractors are behind schedule, the contractor must indicate in writing, what measures will be taken to bring each such activity back on schedule and to ensure that the Contract Completion Date is not exceeded. A plan of action and recovery schedule shall be developed and submitted to the designer by the Project Expediter, when (1) the contractor’s monthly report indicates delays, that are in the opinion of the designer or the owner, of sufficient magnitude that the contractor’s ability to complete the work by the scheduled completion is brought into question; (2) the updated construction schedule is thirty (30) days behind the planned or baseline schedule and no legitimate time extensions are in process; and (3) the contractor desires to make changes in the logic (sequencing of work) or the planned duration of future activities of the CPM schedule which, in the opinion of the designer or the owner, are of a major nature. The plan of action, when required shall be submitted to the Owner for review within two (2) business days of the Contractor receiving the Owner’s written demand. The recovery schedule, when required, shall be submitted to the Owner within five (5) calendar days of the Contractor’s receiving the Owner’s written demand. Failure to provide an updated construction schedule or a recovery schedule may be grounds for rejection of payment applications or withholding of funds as set forth in Article 33.

k. The Project Expediter shall notify each contractor of such events or time frames that are critical to the progress of the job. Such notice shall be timely and reasonable. Should the progress be delayed due to the work of any of the several contractors, it shall be the duty of the Project Expediter to immediately notify the contractor(s) responsible for such delay, the designer, the State Construction Office and other prime contractors. The designer shall determine the contractor(s) who caused the delays and notify the bonding company of the responsible contractor(s) of the delays; and shall make a recommendation to the owner regarding further action.

l. Designation as Project Expediter entails an additional project control responsibility and does not alter in any way the responsibility of the contractor so designated, nor the responsibility of the other contractors involved in the project.

ARTICLE 15 - SEPARATE CONTRACTS AND CONTRACTOR RELATIONSHIPS

a. Effective from January 1, 2002, Chapter 143, Article 8, was amended, to allow public contracts to be bid in single-prime, dual (single-prime and separate-prime), construction manager at risk, and alternative contracting method as approved by the State Building Commission. The owner reserves the right to prepare separate specifications, receive
separate bids, and award separate contracts for such other major items of work as may be in the best interest of the State. For the purposes of a single prime contract, refer to Article 1 - Definitions.

b. All contractors shall cooperate with each other in the execution of their work, and shall plan their work in such manner as to avoid conflicting schedules or delay of the work. See Article 14, Construction Supervision.

c. If any part of contractor's work depends upon the work of another contractor, defects which may affect that work shall be reported to the designer in order that prompt inspection may be made and the defects corrected. Commencement of work by a contractor where such condition exists will constitute acceptance of the other contractor's work as being satisfactory in all respects to receive the work commenced, except as to defects which may later develop. The designer shall be the judge as to the quality of work and shall settle all disputes on the matter between contractors.

d. Any mechanical or electrical work such as sleeves, inserts, chases, openings, penetrations, etc., which is located in the work of the general contractor shall be built in by the general contractor. The respective mechanical and electrical contractors shall set all sleeves, inserts and other devices that are to be incorporated into the structure in cooperation and under the supervision of the general contractor. The responsibility for the exact location of such items shall be that of the mechanical and/or electrical contractor.

e. The designer and the owner shall have access to the work whenever it is in preparation and progress during normal working hours. The contractor shall provide facilities for such access so the designer may perform his functions under the contract documents.

f. Should a contractor cause damage to the work or property of another contractor, he shall be directly responsible, and upon notice, shall promptly settle the claim or otherwise resolve the dispute.

ARTICLE 16 - SUBCONTRACTS AND SUBCONTRACTORS

a. Within thirty (30) days after award of the contract, the contractor shall submit to the designer and to the State Construction Office a list giving the names and addresses of subcontractors and equipment and material suppliers he proposes to use, together with the scope of their respective parts of the work. Should any subcontractor be disapproved by the designer, the designer shall submit his reasons for disapproval in writing to the State Construction Office for its consideration with a copy to the contractor. If the State Construction Office concurs with the designer's recommendation, the contractor shall submit a substitute for approval. The designer shall act promptly in the approval of subcontractors, and when approval of the list is given, no changes of subcontractors will be permitted except for cause or reason considered justifiable by the designer.

b. The designer will furnish to any subcontractor, upon request, evidence regarding amounts of money paid to the contractor on account of the subcontractor's work.

c. The contractor is and remains fully responsible for his own acts or omissions as well as those of any subcontractor or of any employee of either. The contractor agrees that no contractual relationship exists between the subcontractor and the owner in regard to the contract, and that the subcontractor acts on this work as an agent or employee of the contractor.

d. The owner reserves the right to limit the amount of portions of work to be subcontracted as hereinafter specified.
ARTICLE 17 - CONTRACTOR AND SUBCONTRACTOR RELATIONSHIPS

The contractor agrees that the terms of these contract documents shall apply equally to each subcontractor as to the contractor, and the contractor agrees to take such action as may be necessary to bind each subcontractor to these terms. The contractor further agrees to conform to the Code of Ethical Conduct as adopted by the Associated General Contractors of America, Inc., with respect to contractor-subcontractor relationships, and that payments to subcontractors shall be made in accordance with the provisions of G.S. 143-134.1 titled Interest on final payments due to prime contractors: payments to subcontractors.

a. On all public construction contracts which are let by a board or governing body of the state government or any political subdivision thereof, except contracts let by the Department of Transportation pursuant to G.S. 136-28.1, the balance due prime contractors shall be paid in full within 45 days after respective prime contracts of the project have been accepted by the owner, certified by the architect, engineer or designer to be completed in accordance with terms of the plans and specifications, or occupied by the owner and used for the purpose for which the project was constructed, whichever occurs first. Provided, however, that whenever the architect or consulting engineer in charge of the project determines that delay in completion of the project in accordance with terms of the plans and specifications is the fault of the contractor, the project may be occupied and used for the purposes for which it was constructed without payment of any interest on amounts withheld past the 45-day limit. No payment shall be delayed because of the failure of another prime contractor on such project to complete his contract. Should final payment to any prime contractor beyond the date such contracts have been certified to be completed by the designer or architect, accepted by the owner, or occupied by the owner and used for the purposes for which the project was constructed, be delayed by more than 45 days, said prime contractor shall be paid interest, beginning on the 46th day, at the rate of one percent (1%) per month or fraction thereof unless a lower rate is agreed upon on such unpaid balance as may be due. In addition to the above final payment provisions, periodic payments due a prime contractor during construction shall be paid in accordance with the payment provisions of the contract documents or said prime contractor shall be paid interest on any such unpaid amount at the rate stipulated above for delayed final payments. Such interest shall begin on the date the payment is due and continue until the date on which payment is made. Such due date may be established by the terms of the contract. Funds for payment of such interest on state-owned projects shall be obtained from the current budget of the owning department, institution or agency. Where a conditional acceptance of a contract exists, and where the owner is retaining a reasonable sum pending correction of such conditions, interest on such reasonable sum shall not apply.

b. Within seven days of receipt by the prime contractor of each periodic or final payment, the prime contractor shall pay the subcontractor based on work completed or service provided under the subcontract. Should any periodic or final payment to the subcontractor be delayed by more than seven days after receipt of periodic or final payment by the prime contractor, the prime contractor shall pay the subcontractor interest, beginning on the eighth day, at the rate of one percent (1%) per month or fraction thereof on such unpaid balance as may be due.

c. The percentage of retainage on payments made by the prime contractor to the subcontractor shall not exceed the percentage of retainage on payments made by the owner to the prime contractor. Any percentage of retainage on payments made by the
prime contractor to the subcontractor that exceeds the percentage of retainage on payments made by the owner to the prime contractor shall be subject to interest to be paid by the prime contractor to the subcontractor at the rate of one percent (1%) per month or fraction thereof.

d. Nothing in this section shall prevent the prime contractor at the time of application and certification to the owner from withholding application and certification to the owner for payment to the subcontractor for unsatisfactory job progress; defective construction not remedied; disputed work; third-party claims filed or reasonable evidence that claim will be filed; failure of subcontractor to make timely payments for labor, equipment and materials; damage to prime contractor or another subcontractor; reasonable evidence that subcontract cannot be completed for the unpaid balance of the subcontract sum; or a reasonable amount for retainage not to exceed the initial percentage retained by owner.

ARTICLE 18 - DESIGNER'S STATUS

a. The designer shall provide general administration of the performance of construction contracts, including liaison and necessary inspection of the work to ensure compliance with plans and specifications. He is the agent of the owner only for the purpose of constructing this work and to the extent stipulated in the contract documents. He has authority to stop work or to order work removed, or to order corrections of faulty work where such action may be necessary to assure successful completion of the work.

b. The designer is the impartial interpreter of the contract documents, and, as such, he shall exercise his powers under the contract to enforce faithful performance by both the owner and the contractor, taking sides with neither.

c. Should the designer cease to be employed on the work for any reason whatsoever, then the owner shall employ a competent replacement who shall assume the status of the former designer.

d. The designer will make periodic inspections of the project at intervals appropriate to the stage of construction. He will inspect the progress, the quality and the quantity of the work.

e. The designer and the owner shall have access to the work whenever it is in preparation and progress during normal working hours. The contractor shall provide facilities for such access so the designer may perform his functions under the contract documents.

f. Based on the designer's inspections and evaluations of the project, the designer shall issue interpretations, directives and decisions as may be necessary to administer the project. His decisions relating to artistic effect and technical matters shall be final, provided such decisions are within the limitations of the contract.

ARTICLE 19 - CHANGES IN THE WORK

a. The owner may have changes made in the work covered by the contract. These changes will not invalidate and will not relieve or release the contractor from any guarantee given by him pertinent to the contract provisions. These changes will not affect the validity of the guarantee bond and will not relieve the surety or sureties of said bond. All extra work shall be executed under conditions of the original contract.

b. Except in an emergency endangering life or property, NO CHANGE SHALL BE MADE BY THE CONTRACTOR EXCEPT UPON RECEIPT OF APPROVED CHANGE ORDER OR WRITTEN FIELD ORDER FROM THE DESIGNER,
COUNTERSIGNED BY THE OWNER AND THE STATE CONSTRUCTION OFFICE AUTHORIZING SUCH CHANGE. NO CLAIM FOR ADJUSTMENTS OF THE CONTRACT PRICE SHALL BE VALID UNLESS THIS PROCEDURE IS FOLLOWED.

A FIELD ORDER, TRANSMITTED BY FAX OR HAND DELIVERED, MAY BE USED WHERE THE CHANGE INVOLVED IMPACTS THE CRITICAL PATH OF THE WORK. A FORMAL CHANGE ORDER SHALL BE ISSUED WITHIN THE TIME STATED ON THE FIELD ORDER.

In the event of emergency endangering life or property, the contractor may be directed to proceed on a time and material basis whereupon the contractor shall proceed and keep accurately on such form as may be required, a correct account of costs together with all proper invoices, payrolls and supporting data. Upon completion of the work the change order will be prepared as outlined under either Method "c(1)" or Method "c(2)" or both.

c. In determining the values of changes, either additive or deductive, contractors are restricted to the use of the following methods:

1. Where the extra work involved is covered by unit prices quoted in the proposal, the value of the change shall be computed by application of unit prices based on quantities, estimated or actual as agreed of the items involved, except is such cases where a quantity exceeds the estimated quantity allowance in the contract by one hundred percent (100%) or more. In such cases, either party may elect to proceed under subparagraph c2 herein. If neither party elects to proceed under c2, then unit prices shall apply.

2. The contracting parties shall negotiate and agree upon the equitable value of the change prior to issuance of the change order, and the change order shall stipulate the corresponding lump sum adjustment to the contract price.

d. Under Paragraph "b" and Methods "c(2)" above, the allowances for overhead and profit combined shall not exceed twenty percent (20%) of net cost except where the change involves a subcontractor, allowance shall not exceed fifteen percent (15%) for the subcontractor, and ten percent (10%) for the prime contractor. Under Method "c(1)", no additional allowances shall be made for overhead and profit. In the case of deductible change orders, under Method "c(2)" and Paragraph (b) above, the contractor shall include no less than five percent (5%) profit, but no allowances for overhead.

e. The term "net cost" as used herein shall mean the difference between all proper cost additions and deductions. The "cost" as used herein shall be limited to the following:

1. The actual costs of materials and supplies incorporated or consumed as part of the project;

2. The actual costs of labor expended on the project site;

3. The actual costs of labor burden, limited to the costs of social security (FICA) and Medicare/Medicaid taxes; unemployment insurance costs; health/dental/vision insurance premiums; paid employee leave for holidays, vacation, sick leave, and/or petty leave, not to exceed a total of 30 days per year; retirement contributions; worker's compensation insurance premiums; and the costs of general liability insurance when premiums are computed based on payroll amounts; the total of which shall not exceed forty percent (40%) of the actual costs of labor;
4. The actual costs of rental for tools, excluding hand tools; equipment; machinery; and temporary facilities required for the project;

5. The actual costs of premiums for bonds, insurance, permit fees, and sales or use taxes related to the project.

Overtime and extra pay for holidays and weekends may be a cost item only to the extent approved by the owner.

f. Should concealed conditions be encountered in the performance of the work below grade, or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the contract documents, the contract sum and time for completion may be equitably adjusted by change order upon claim by either party made within thirty (30) days after the condition has been identified. The cost of such change shall be arrived at by one of the foregoing methods.

ALL CHANGE ORDERS SHALL BE SUPPORTED BY A BREAKDOWN SHOWING METHOD OF ARRIVING AT NET COST AS DEFINED ABOVE.

g. In all change orders, the procedure will be for the designer to request proposals for the change order work in writing. The contractor will provide such proposal and supporting data in suitable format. The designer shall verify correctness. Within fourteen (14) days after receipt of the contractor’s proposal, the designer shall prepare the change order and forward to the contractor for his signature or otherwise respond, in writing, to the contractor’s proposal. Within seven (7) days after receipt of the change order executed by the contractor, the designer shall, certify the change order by his signature, and forward the change order and all supporting data to the owner for the owner’s signature. The owner shall execute the change order and forward to the State Construction Office for final approval, within seven (7) days of receipt. The State Construction Office shall act on the change order within seven (7) days. Upon approval by the State Construction Office, one copy remains with the State Construction Office, and the remaining copies are sent to the designer for distribution to the owner(s), contractor(s) and the surety. In case of emergency or extenuating circumstances, approval of changes may be obtained verbally by telephone or field orders approved by all parties, then shall be substantiated in writing as outlined under normal procedure.

h. At the time of signing a change order, the contractor shall be required to certify as follows:

"I certify that my bonding company will be notified forthwith that my contract has been changed by the amount of this change order, and that a copy of the approved change order will be mailed upon receipt by me to my surety."

i. A change order, when issued, shall be full compensation, or credit, for the work included, omitted or substituted. It shall show on its face the adjustment in time for completion of the project as a result of the change in the work.

j. If, during the progress of the work, the owner requests a change order and the contractor’s terms are unacceptable, the owner, with the approval of the State Construction Office, may require the contractor to perform such work on a time and material basis in accordance with paragraph "b" above. Without prejudice, nothing in this paragraph shall preclude the owner from performing or to have performed that portion of the work requested in the change order.
ARTICLE 20 - CLAIMS FOR EXTRA COST

a. Should the contractor consider that as a result of any instructions given in any form by the designer, he is entitled to extra cost above that stated in the contract, he shall give written notice thereof to the designer within seven (7) days without delay, and shall not proceed with the work affected until further advised, except in emergency involving the safety of life or property, which condition is covered in Article 19(b) and Article 11(h). No claims for extra compensation will be considered unless the claim is so made. The designer shall render a written decision within seven (7) days of receipt of claim.

b. THE CONTRACTOR SHALL NOT ACT ON INSTRUCTIONS RECEIVED BY HIM FROM PERSONS OTHER THAN THE DESIGNER, AND ANY CLAIMS FOR EXTRA COMPENSATION OR EXTENSION OF TIME ON ACCOUNT OF SUCH INSTRUCTION WILL NOT BE HONORED. The designer will not be responsible for misunderstandings claimed by the contractor of verbal instructions which have not been confirmed in writing, and in no case shall instructions be interpreted as permitting a departure from the contract documents unless such instruction is confirmed in writing and supported by a properly authorized change order.

c. Should a claim for extra compensation by the contractor be denied by the designer or owner, and cannot be resolved by a representative of the State Construction Office, the contractor may request a mediation in connection with GS 143-128g in the dispute resolution rules adopted by the State Building Commission. If the contractor is unable to resolve its claims as a result of mediation, the contractor may pursue his claim in accordance with the provisions of G.S. 143-135.3 and the following:

1. A contractor who has not completed a contract with a board for construction or repair work and who has not received the amount he claims is due under the contract may submit a verified written claim to the director of the State Construction Office of the Department of Administration for the amount the contractor claims is due. The director may deny, allow or compromise the claim, in whole or in part. A claim under this subsection is not a contested case under Chapter 150B of the General Statutes.

2. (a) A contractor who has completed a contract with a board for construction or repair work and who has not received the amount he claims is due under the contract may submit a verified written claim to the director of the State Construction Office of the Department of Administration for the amount the contractor claims is due. The claim shall be submitted within sixty (60) days after the contractor receives a final statement of the board's disposition of his claim and shall state the factual basis for the claim.

(b) The director shall investigate a submitted claim within ninety (90) days of receiving the claim, or within any longer time period upon which the director and the contractor agree. The contractor may appear before the director, either in person or through counsel, to present facts and arguments in support of his claim. The director may allow, deny or compromise the claim, in whole or in part. The director shall give the contractor a written statement of the director's decision on the contractor's claim.

(c) A contractor who is dissatisfied with the director's decision on a claim submitted under this subsection may commence a contested case on the claim under Chapter 150B of the General Statutes. The contested case shall be commenced within sixty (60) days of receiving the director's written statement of the decision.
(d) As to any portion of a claim that is denied by the director, the contractor may, in lieu of the procedures set forth in the preceding subsection of this section, within six (6) months of receipt of the director's final decision, institute a civil action for the sum he claims to be entitled to under the contract by filing a verified complaint and the issuance of a summons in the Superior Court of Wake County or in the superior court of any county where the work under the contract was performed. The procedure shall be the same as in all civil actions except that all issues shall be tried by the judge, without a jury.

ARTICLE 21 - MINOR CHANGES IN THE WORK

The designer will have the authority to order minor changes in the work not involving an adjustment in the contract sum or time for completion, and not inconsistent with the intent of the contract documents. Such changes shall be effected by written order, copied to the State Construction Office, and shall be binding on the owner and the contractor.

ARTICLE 22 - UNCORRECTED FAULTY WORK

Should the correction of faulty or damaged work be considered inadvisable or inexpedient by the owner and the designer, the owner shall be reimbursed by the contractor. A change order will be issued to reflect a reduction in the contract sum.

ARTICLE 23 - TIME OF COMPLETION, DELAYS, EXTENSION OF TIME

a. The time of completion is stated in the Supplementary General Conditions and in the Form of Construction Contract. The Project Expediter, upon notice of award of contract, shall prepare a construction schedule to complete the project within the time of completion as required by Article 14.

b. The contractors shall commence work to be performed under this agreement on a date to be specified in a written Notice to Proceed from the designer and shall fully complete all work hereunder within the time of completion stated. For each day in excess of the above number of days, the contractor(s) shall pay the owner the sum stated as liquidated damages reasonably estimated in advance to cover the losses to be incurred by the owner by reason of failure of said contractor(s) to complete the work within the time specified, such time being in the essence of this contract and a material consideration thereof.

c. The designer shall be the judge as to the division of responsibility between the contractor(s), based on the construction schedule, weekly reports and job records, and shall apportion the amount of liquidated damages to be paid by each of them, according to delay caused by any or all of them.

d. If the contractor is delayed at any time in the progress of his work by any act or negligence of the owner or the designer, or by any employee of either; by any separate contractor employed by the owner; by changes ordered in the work; by labor disputes at the project site; by abnormal weather conditions not reasonably anticipated for the locality where the work is performed; by unavoidable casualties; by any causes beyond the contractor's control; or by any other causes which the designer and owner determine may justify the delay, then the contract time may be extended by change order for the time which the designer and owner may determine is reasonable.

Time extensions will not be granted for rain, wind, snow or other natural phenomena of normal intensity for the locality where work is performed. For purpose of determining extent of delay attributable to unusual weather phenomena, a determination shall be made
by comparing the weather for the contract period involved with the average of the preceding five (5) year climatic range during the same time interval based on the National Oceanic and Atmospheric Administration National Weather Service statistics for the locality where work is performed and on daily weather logs kept on the job site by the contractor reflecting the effect of the weather on progress of the work and initialed by the designer's representative. Time extensions for weather delays do not entitle the contractor to "extended overhead" recovery.

e. Request for extension of time shall be made in writing within twenty (20) days following cause of delay. In case of continuing cause for delay, the Contractor shall notify the Designer of the delay within 20 days of the beginning of the delay and only one claim is necessary.

f. The contractor shall notify his surety in writing of extension of time granted.

g. No claim shall be allowed on account of failure of the designer to furnish drawings or instructions until twenty (20) days after demand for such drawings and/or instructions. See Article 5c.

ARTICLE 24 - PARTIAL UTILIZATION/BENEFICIAL OCCUPANCY

a. The owner may desire to occupy or utilize all or a portion of the project when the work is substantially complete.

b. Prior to the final payment, the owner, with the approval of the State Construction Office, may request the contractor(s) in writing, through the designer if applicable, to permit him to use a specified part of the project which he believes he may use without significant interference with construction of the other parts of the project. If the contractor(s) agree, the designer will schedule a beneficial occupancy inspection, with the approval of the State Construction Office, after which the designer may issue a certificate of substantial completion. The certificate shall include the following documentation:

1. Date of substantial completion.

2. A tentative list of items to be completed or corrected before final payment.

3. Establishing responsibility between contractor and owner for maintenance, heat, utilities and insurance.

4. Establishing the date for guarantees and warranties under terms of the contract.

5. Consent of surety.

6. Endorsement from insurance company permitting occupancy.

c. The owner shall have the right to exclude the contractor from any part of the project which the designer has so certified to be substantially complete, but the owner will allow the contractor reasonable access to complete or correct work to bring it into compliance with the contract.

d. Occupancy by the owner under this article will in no way relieve the contractor from his contractual requirement to complete the project within the specified time. The contractor will not be relieved of liquidated damages because of beneficial occupancy. The designer may prorate liquidated damages based on the percentage of project occupied.
CERTIFICATIONS

The professional identified below is responsible for performing certain professional services defined in the Contract Documents and is the author of all of the Specification sections for this project.

Diehl & Phillips, P.A.
Civil Engineer
John F. Phillips, P.E.
ARTICLE 25 - FINAL INSPECTION, ACCEPTANCE, AND PROJECT CLOSEOUT

a. Upon notification from the contractor(s) that the project is complete and ready for inspection, the designer shall make a preliminary final inspection to verify that the project is complete and ready for final inspection. Prior to final inspection, the contractor(s) shall complete all items requiring corrective measures noted at the preliminary inspection. The designer shall schedule a final inspection at a time and date acceptable to the owner, contractor(s) and State Construction Office.

b. When contractors finish their work prior to completion by other contractors, these contracts shall be closed out through the final inspection, acceptance and final payment process on recommendation of the designer and approval of the State Construction Office.

c. At the final inspection, the designer shall, if job conditions warrant, record a list of items that are found to be incomplete or not in accordance with the contract documents. At the conclusion of the final inspection, the designer and State Construction Office representative shall make the following determinations:

1. That the project is completed and accepted.
2. That the project is accepted subject to the list of discrepancies (punch list). All punch list items must be completed within thirty (30) days of acceptance or the owner may invoke Article 28, Owner's Right to Do Work.
3. That the project is not complete and another date for a final inspection will be established.

d. Within fourteen (14) days of acceptance per Paragraph c1 or within fourteen (14) days after completion of punch list per Paragraph c2 above, the designer shall certify the work and issue applicable certificate(s) of compliance.

e. Any discrepancies listed or discovered after the date of final inspection and acceptance under Paragraphs c1 or c2 above shall be handled in accordance with Article 42.

f. The date of acceptance will establish the following:

1. The beginning of guarantees and warranties period.
2. The date on which the contractor's insurance coverage for public liability, property damage and builder's risk may be terminated.
3. That no liquidated damages (if applicable) shall be assessed after this date.
4. The termination date of utility cost to the contractor.

ARTICLE 26 - CORRECTION OF WORK BEFORE FINAL PAYMENT

a. Any work, materials, fabricated items or other parts of the work which have been condemned or declared not in accordance with the contract by the designer shall be promptly removed from the work site by the contractor, and shall be immediately replaced by new work in accordance with the contract at no additional cost to the owner. Work or property of other contractors or the owner, damaged or destroyed by virtue of such faulty work, shall be made good at the expense of the contractor whose work is faulty.
b. Correction of condemned work described above shall commence within twenty-four (24) hours after receipt of notice from the designer, and shall make satisfactory progress until completed.

c. Should the contractor fail to proceed with the required corrections, then the owner may complete the work in accordance with the provisions of Article 28.

ARTICLE 27 - CORRECTION OF WORK AFTER FINAL PAYMENT

See Article 35, Performance Bond and Payment Bond, and Article 42, Guarantee. Neither the final certificate, final payment, occupancy of the premises by the owner, nor any provision of the contract, nor any other act or instrument of the owner, nor the designer, shall relieve the contractor from responsibility for negligence, or faulty material or workmanship, or failure to comply with the drawings and specifications. He shall correct or make good any defects due thereto and repair any damage resulting therefrom, which may appear during the guarantee period following final acceptance of the work except as stated otherwise under Article 42, Guarantee. The owner will report any defects as they may appear to the contractor and establish a time limit for completion of corrections by the contractor. The owner will be the judge as to the responsibility for correction of defects.

ARTICLE 28 - OWNER'S RIGHT TO DO WORK

If, during the progress of the work or during the period of guarantee, the contractor fails to prosecute the work properly or to perform any provision of the contract, the owner, after fifteen (15) days' written notice sent by certified mail, return receipt requested, to the contractor from the designer, may perform or have performed that portion of the work. The cost of the work may be deducted from any amounts due or to become due to the contractor, such action and cost of same having been first approved by the designer. Should the cost of such action of the owner exceed the amount due or to become due the contractor, then the contractor or his surety, or both, shall be liable for and shall pay to the owner the amount of said excess.

ARTICLE 29 - ANNULMENT OF CONTRACT

If the contractor fails to begin the work under the contract within the time specified, or the progress of the work is not maintained on schedule, or the work is not completed within the time above specified, or fails to perform the work with sufficient workmen and equipment or with sufficient materials to ensure the prompt completion of said work, or shall perform the work unsuitably or shall discontinue the prosecution of the work, or if the contractor shall become insolvent or be declared bankrupt or commit any act of bankruptcy or insolvency, or allow any final judgment to stand against him unsatisfied for a period of forty-eight (48) hours, or shall make an assignment for the benefit of creditors, or for any other cause whatsoever shall not carry on the work in an acceptable manner, the owner may give notice in writing, sent by certified mail, return receipt requested, to the contractor and his surety of such delay, neglect or default, specifying the same, and if the contractor within a period of fifteen (15) days after such notice shall not proceed in accordance therewith, then the owner shall, declare this contract in default, and, thereupon, the surety shall promptly take over the work and complete the performance of this contract in the manner and within the time frame specified. In the event the surety shall fail to take over the work to be done under this contract within fifteen (15) days after being so notified and notify the owner in writing, sent by certified mail, return receipt requested, that he is taking the same over and stating that he will diligently pursue and complete the same, the owner shall have full power and authority, without violating the contract, to take the prosecution of the work out of the hands of said contractor, to appropriate or use any or all contract materials and equipment on the grounds
as may be suitable and acceptable and may enter into an agreement, either by public letting or
negotiation, for the completion of said contract according to the terms and provisions thereof
or use such other methods as in his opinion shall be required for the completion of said
contract in an acceptable manner. All costs and charges incurred by the owner, together with
the costs of completing the work under contract, shall be deducted from any monies due or
which may become due said contractor and surety. In case the expense so incurred by the
owner shall be less than the sum which would have been payable under the contract, if it had
been completed by said contractor, then the said contractor and surety shall be entitled to
receive the difference, but in case such expense shall exceed the sum which would have been
payable under the contract, then the contractor and the surety shall be liable and shall pay to
the owner the amount of said excess.

ARTICLE 30 - CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE THE
CONTRACT

a. Should the work be stopped by order of a court having jurisdiction, or by order of any
other public authority for a period of three months, due to cause beyond the fault or
control of the contractor, or if the owner should fail or refuse to make payment on
account of a certificate issued by the designer within thirty (30) days after receipt of
same, then the contractor, after fifteen (15) days' written notice sent by certified mail,
return receipt requested, to the owner and the designer, may suspend operations on the
work or terminate the contract.

b. The owner shall be liable to the contractor for the cost of all materials delivered and work
performed on this contract plus 20 percent overhead and profit and shall make such
payment. The designer shall be the judge as to the correctness of such payment.

ARTICLE 31 - REQUEST FOR PAYMENT

a. Not later than the fifth day of the month, the contractor shall submit to the designer a
request for payment for work done during the previous month. The request shall be in
the form agreed upon between the contractor and the designer, but shall show
substantially the value of work done and materials delivered to the site during the period
since the last payment, and shall sum up the financial status of the contract with the
following information:

1. Total of contract including change orders.

2. Value of work completed to date.

3. Less five percent (5%) retainage, provided however, that after fifty percent (50%) of
the contractor's work has been satisfactorily completed on schedule, with approval
of the owner and the State Construction Office and written consent of the surety,
further requirements for retainage will be waived only so long as work continues to
be completed satisfactorily and on schedule.

4. Less previous payments.

5. Current amount due.

b. The contractor, upon request of the designer, shall substantiate the request with invoices
of vouchers or payrolls or other evidence.

c. Prior to submitting the first request, the contractor shall prepare for the designer a
schedule showing a breakdown of the contract price into values of the various parts of
the work, so arranged as to facilitate payments to subcontractors in accordance with
Article 17, Contractor and Subcontractor Relationships. The contractor(s) shall list the
value of each subcontractor and supplier, identifying each minority business subcontractor
and supplier as listed in Affidavit C, if applicable.

d. When payment is made on account of stored materials and equipment, such materials
must be stored on the owner's property, and the requests for payments shall be
accompanied by invoices or bills of sale or other evidence to establish the owner's title to
such materials and equipment. Responsibility for such stored materials and equipment
shall remain with the contractor regardless of ownership title. Such stored materials and
equipment shall not be removed from the owner's property. Should the space for storage
on-site be limited, the contractor, at his option, shall be permitted to store such materials
and/or equipment in a suitable space off-site. Should the contractor desire to include any
such materials or equipment in his application for payment, they must be stored in the
name of the owner in a commercial warehouse approved by the designer and the State
Construction Office and located as close to the site as possible. The warehouse selected
must be approved by the contractor's bonding and insurance companies; the material to be
paid for shall be assigned to the owner and shall be inspected by the designer. Upon
approval by the designer of the storage facilities and materials and equipment, payment
therefore will be certified. Responsibility for such stored materials and equipment shall
remain with the contractor. Such stored materials and equipment shall not be moved
except for transportation to the project site. Under certain conditions, the designer may
approve storage of materials at the point of manufacture, which conditions shall be
approved by the designer, the owner and the State Construction Office prior to approval
for the storage and shall include an agreement by the storing party which unconditionally
gives the State absolute right to possession of the materials at anytime. Bond, security
and insurance protection shall continue to be the responsibility of the contractor(s).

e. In the event of beneficial occupancy, retainage of funds due the contractor(s) may be
reduced with the approval of the State Construction Office to an equitable amount to
cover the list of items to be completed or corrected. Retainage may not be reduced to
less than two and one-half (2 1/2) times the estimated value of the work to be completed
or corrected. Reduction of retainage must be with the consent and approval of the
contractor's bonding company.

ARTICLE 32 - CERTIFICATES OF PAYMENT AND FINAL PAYMENT

a. Within five (5) days from receipt of request for payment from the contractor, the designer
shall issue and forward to the owner a certificate for payment. This certificate shall
indicate the amount requested or as approved by the designer. If the certificate is not
approved by the designer, he shall state in writing to the contractor and the owner his
reasons for withholding payment.

b. No certificate issued or payment made shall constitute an acceptance of the work or any
part thereof. The making and acceptance of final payment shall constitute a waiver of all
claims by the owner except:

1. Claims arising from unsettled liens or claims against the contractor.

2. Faulty work or materials appearing after final payment.

3. Failure of the contractor to perform the work in accordance with drawings and
   specifications, such failure appearing after payment.

4. As conditioned in the performance bond and payment bond.
c. The making and acceptance of final payment shall constitute a waiver of all claims by the contractor except those claims previously made and remaining unsettled (Article 20(c)).

d. Prior to submitting request for final payment to the designer for approval, the contractor shall fully comply with all requirements specified in the “project closeout” section of the specifications. These requirements include but not limited to the following:

1. Submittal of Product and Operating Manuals, Warranties and Bonds, Guarantees, Maintenance Agreements, As-Built Drawings, Certificates of Inspection or Approval from agencies having jurisdiction. (The designer must approve the Manuals prior to delivery to the owner).

2. Transfer of Required attic stock material and all keys in an organized manner.

3. Record of Owner’s training.

4. Resolution of any final inspection discrepancies.

e. The contractor shall forward to the designer, the final application for payment along with the following documents:

1. List of minority business subcontractors and material suppliers showing breakdown of contracts amount.


3. Affidavit of contractors of payment to material suppliers and subcontractors. (See Article 36).

4. Consent of Surety to Final Payment.

5. Certificates of state agencies required by state law.

f. The designer will not authorize final payment until the work under contract has been certified by designer, certificates of compliance issued, and the contractor has complied with the closeout requirements. The designer shall forward the contractor’s final application for payment to the owner along with respective certificate(s) of compliance required by law.

ARTICLE 33 - PAYMENTS WITHHELD

a. The designer with the approval of the State Construction Office may withhold payment for the following reasons:

1. Faulty work not corrected.

2. The unpaid balance on the contract is insufficient to complete the work in the judgment of the designer.

3. To provide for sufficient contract balance to cover liquidated damages that will be assessed.

b. The secretary of the Department of Administration may authorize the withholding of payment for the following reasons:
1. Claims filed against the contractor or evidence that a claim will be filed.

2. Evidence that subcontractors have not been paid.

c. When grounds for withholding payments have been removed, payment will be released. Delay of payment due the contractor without cause will make owner liable for payment of interest to the contractor as provided in G.S. 143-134.1.

ARTICLE 34 - MINIMUM INSURANCE REQUIREMENTS

The work under this contract shall not commence until the contractor has obtained all required insurance and verifying certificates of insurance have been approved in writing by the owner. These certificates shall contain a provision that coverages afforded under the policies will not be cancelled, reduced in amount or coverages eliminated until at least thirty (30) days after mailing written notice, by certified mail, return receipt requested, to the insured and the owner of such alteration or cancellation.

a. Worker's Compensation and Employer's Liability

The contractor shall provide and maintain, during the life of the contract, workmen's compensation insurance, as required by law, as well as employer's liability coverage with minimum limits of $100,000.

b. Public Liability and Property Damage

The contractor shall provide and maintain, during the life of the contract, comprehensive general liability insurance, including coverage for premises operations, independent contractors, completed operations, products and contractual exposures, as shall protect such contractors from claims arising out of any bodily injury, including accidental death, as well as from claims for property damages which may arise from operations under this contract, whether such operations be by the contractor or by any subcontractor, or by anyone directly or indirectly employed by either of them and the minimum limits of such insurance shall be as follows:

Bodily Injury: $500,000 per occurrence
Property Damage: $100,000 per occurrence / $300,000 aggregate

In lieu of limits listed above, a $500,000 combined single limit shall satisfy both conditions.

Such coverage for completed operations must be maintained for at least two (2) years following final acceptance of the work performed under the contract.

c. Property Insurance (Builder’s Risk/Installation Floater)

The contractor shall purchase and maintain property insurance during the life of this contract, upon the entire work at the site to the full insurable value thereof. This insurance shall include the interests of the owner, the contractor, the subcontractors and subsubcontractors in the work and shall insure against the perils of fire, extended coverage, and vandalism and malicious mischief. If the owner is damaged by failure of the contractor to purchase or maintain such insurance, then the contractor shall bear all reasonable costs properly attributable thereto; the contractor shall effect and maintain similar property insurance on portions of the work stored off the site when request for payment per articles so includes such portions.
d. Deductible

Any deductible, if applicable to loss covered by insurance provided, is to be borne by the contractor.

e. Other Insurance

The contractor shall obtain such additional insurance as may be required by the owner or by the General Statutes of North Carolina including motor vehicle insurance, in amounts not less than the statutory limits.

f. Proof of Carriage

The contractor shall furnish the owner with satisfactory proof of carriage of the insurance required before written approval is granted by the owner.

ARTICLE 35 - PERFORMANCE BOND AND PAYMENT BOND

a. Each contractor shall furnish a performance bond and payment bond executed by a surety company authorized to do business in North Carolina. The bonds shall be in the full contract amount. Bonds shall be executed in the form bound with these specifications (Section 307 and Section 308).

b. All bonds shall be countersigned by an authorized agent of the bonding company who is licensed to do business in North Carolina.

ARTICLE 36 - CONTRACTOR'S AFFIDAVIT

The final payment of retained amount due the contractor on account of the contract shall not become due until the contractor has furnished to the owner through the designer an affidavit signed, sworn and notarized to the effect that all payments for materials, services or subcontracted work in connection with his contract have been satisfied, and that no claims or liens exist against the contractor in connection with this contract. In the event that the contractor cannot obtain similar affidavits from subcontractors to protect the contractor and the owner from possible liens or claims against the subcontractor, the contractor shall state in his affidavit that no claims or liens exist against any subcontractor to the best of his (the contractor's) knowledge, and if any appear afterward, the contractor shall save the owner harmless.

ARTICLE 37 - ASSIGNMENTS

The contractor shall not assign any portion of this contract nor subcontract in its entirety. Except as may be required under terms of the performance bond or payment bond, no funds or sums of money due or become due the contractor under the contract may be assigned.
ARTICLE 38 - USE OF PREMISES

a. The contractor(s) shall confine his apparatus, the storage of materials and the operations of his workmen to limits indicated by law, ordinances, permits or directions of the designer and shall not exceed those established limits in his operations.

b. The contractor(s) shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety.

c. The contractor(s) shall enforce the designer's instructions regarding signs, advertisements, fires and smoking.

d. No firearms, any type of alcoholic beverages, or drugs (other than those prescribed by a physician) will be permitted at the job site.

ARTICLE 39 - CUTTING, PATCHING AND DIGGING

a. The contractor shall do all cutting, fitting or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon or reasonably implied by the drawings and specifications for the completed structure, as the designer may direct.

b. Any cost brought about by defective or ill-timed work shall be borne by the party responsible therefor.

c. No contractor shall endanger any work of another contractor by cutting, digging or other means. No contractor shall cut or alter the work of any other contractor without the consent of the designer and the affected contractor(s).

ARTICLE 40 - UTILITIES, STRUCTURES, SIGNS

a. The Project Expediter shall provide necessary and adequate facilities for water, electricity, gas, oil, sewer, and other utility services, which may be necessary and required for completion of the project. Any permanent meters installed shall be listed in the Project Expediter's name until his work is fully accepted by the owner. As stipulated in the Supplementary General Conditions, the Owner may: (1) pay utilities cost directly, (2) the Project Expediter to pay all utilities cost, (3) or reimburse the Project Expediter for the actual cost of utilities. The Owner or Project Expediter, as applicable, may recover actual costs of metered utilities from the responsible party should delays occur in project completion.

b. Meters shall be relisted in the owner's name on the day following completion and acceptance of the Project Expediter's work, and the owner shall pay for services used after that date.

c. The owner shall be reimbursed for all metered utility charges after the meter is relisted in the owner's name and prior to completion and acceptance of the work of all contractors. Reimbursement shall be made by the contractor whose work has not been completed and accepted. If the work of two or more contractors has not been completed and accepted, reimbursement to the owner shall be paid by the contractors involved on the basis of assessments by the designer.
d. Prior to the operation of permanent systems, the Project Expediter will provide temporary power, lighting, water, and heat to maintain space temperature above freezing, as required for construction operations.

e. All contractors shall have the permanent building systems in sufficient readiness for furnishing temporary climatic control at the time a building is enclosed and secured. The HVAC systems shall maintain climatic control throughout the enclosed portion of the building sufficient to allow completion of the interior finishes of the building. A building shall be considered enclosed and secured when windows, doorways (exterior, mechanical, and electrical equipment rooms), and hardware are installed; and other openings have protection which will provide reasonable climatic control. The appropriate time to start the mechanical systems and climatic condition shall be jointly determined by the contractor(s) and the designer. Use of the equipment in this manner shall in no way affect the warranty requirements of the contractor(s).

f. The electrical contractor shall have the building’s permanent power wiring distribution system in sufficient readiness to provide power as required by the HVAC contractor for temporary climatic control.

g. The electrical contractor shall have the building’s permanent lighting system ready at the time the general contractor begins interior painting and shall provide adequate lighting in those areas where interior painting and finishing is being performed.

h. Each prime contractor shall be responsible for his permanently fixed service facilities and systems in use during progress of the work. The following procedures shall be strictly adhered to:

1. Prior to acceptance of work by the owner, each contractor shall remove and replace any parts of the permanent building systems damaged through use during construction.

2. Temporary filters shall be installed in each of the heating and air conditioning units and at each return grille during construction. New filters shall be installed in each unit prior to the owner’s acceptance of the work.

3. Extra effort shall be maintained to keep the building and the site adjacent to the building clean and under no circumstances shall air systems be operated if finishing and site work operations are creating dust in excess of what would be considered normal if the building were occupied.

4. It shall be understood that any warranty on equipment presented to the owner shall extend from the day of final acceptance by the owner. The cost of warranting the equipment during operation in the finishing stages of construction shall be borne by the contractor whose system is utilized.

5. The electrical contractor shall have all lamps in proper working condition at the time of final project acceptance.

i. The Project Expediter shall provide, if required and where directed, a shed for toilet facilities and shall furnish and install in this shed all water closets required for a complete and adequate sanitary arrangement. These facilities will be available to other contractors on the job and shall be kept in a neat and sanitary condition at all times. Chemical toilets are acceptable.
j. The Project Expediter shall, if required by the Supplementary General Conditions and where directed, erect a temporary field office, complete with lights, telephone, heat and air conditioning. A portion of this office shall be partitioned off, of sufficient size, for the use of a resident inspector, should the designer so direct.

k. On multi-story construction projects, the Project Expediter shall provide temporary elevators, lifts, or other special equipment for the general use of all contractors. The cost for such elevators, lifts or other special equipment and the operation thereof shall be included in the Project Expediter’s bid.

l. The Project Expediter will erect one sign on the project if required. The sign shall be of sound construction, and shall be neatly lettered with black letters on white background. The sign shall bear the name of the project, and the names of prime contractors on the project, and the name of the designer and consultants. Directional signs may be erected on the owner’s property subject to approval of the owner with respect to size, style and location of such directional signs. Such signs may bear the name of the contractor and a directional symbol. No other signs will be permitted except by permission of the owner.

ARTICLE 41 - CLEANING UP

a. The contractors shall keep the building and surrounding area reasonably free from rubbish at all times, and shall remove debris from the site on a timely basis or when directed to do so by the designer or Project Expediter. The Project Expediter shall provide an on site refuse container(s) for the use of all contractors. Each contractor shall remove their rubbish and debris from the building on a daily basis. The Project Expediter shall broom clean the building as required to minimize dust and dirt accumulation.

b. The Project Expediter shall provide and maintain suitable all-weather access to the building.

c. Before final inspection and acceptance of the building, each contractor shall clean his portion of the work, including glass, hardware, fixtures, masonry, tile and marble (using no acid), clean and wax all floors as specified, and completely prepare the building for use by the owner, with no cleaning required by the owner.

ARTICLE 42 - GUARANTEE

a. The contractor shall unconditionally guarantee materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the date of final acceptance of the work or beneficial occupancy and shall replace such defective materials or workmanship without cost to the owner.

b. Where items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The contractor shall replace such defective equipment or materials, without cost to the owner, within the manufacturer's warranty period.

c. Additionally, the owner may bring an action for latent defects caused by the negligence of the contractor which is hidden or not readily apparent to the owner at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law.
ARTICLE 43 - CODES AND STANDARDS

Wherever reference is given to codes, standard specifications or other data published by regulating agencies including, but not limited to, national electrical codes, North Carolina state building codes, federal specifications, ASTM specifications, various institute specifications, etc., it shall be understood that such reference is to the latest edition including addenda published prior to the date of the contract documents.

ARTICLE 44 - INDEMNIFICATION

To the fullest extent permitted by law, the contractor shall indemnify and hold harmless the owner, the designer and the agents, consultants and employees of the owner and designer, from and against all claims, damages, losses and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from the performance or failure of performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of the contractor, the contractor's subcontractor, or the agents of either the contractor or the contractor's subcontractor. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this article.

ARTICLE 45 - TAXES

a. Federal excise taxes do not apply to materials entering into state work (Internal Revenue Code, Section 3442(3)).

b. Federal transportation taxes do not apply to materials entering into state work (Internal Revenue Code, Section 3475(b) as amended).

c. North Carolina sales tax and use tax, as required by law, do apply to materials entering into state work and such costs shall be included in the bid proposal and contract sum.

d. Local option sales and use taxes, as required by law, do apply to materials entering into state work as applicable and such costs shall be included in the bid proposal and contract sum.

e. Accounting Procedures for Refund of County Sales & Use Tax

Amount of county sales and use tax paid per contractor's statements:

Contractors performing contracts for state agencies shall give the state agency for whose project the property was purchased a signed statement containing the information listed in G.S. 105-164.14(e).

The Department of Revenue has agreed that in lieu of obtaining copies of sales receipts from contractors, an agency may obtain a certified statement as of April 1, 1991 from the contractor setting forth the date, the type of property and the cost of the property purchased from each vendor, the county in which the vendor made the sale and the amount of local sales and use taxes paid thereon. If the property was purchased out-of-state, the county in which the property was delivered should be listed. The contractor should also be notified that the certified statement may be subject to audit.
In the event the contractors make several purchases from the same vendor, such certified statement must indicate the invoice numbers, the inclusive dates of the invoices, the total amount of the invoices, the counties, and the county sales and use taxes paid thereon.

Name of taxing county: The position of a sale is the retailer's place of business located within a taxing county where the vendor becomes contractually obligated to make the sale. Therefore, it is important that the county tax be reported for the county of sale rather than the county of use.

When property is purchased from out-of-state vendors and the county tax is charged, the county should be identified where delivery is made when reporting the county tax.

Such statement must also include the cost of any tangible personal property withdrawn from the contractor's warehouse stock and the amount of county sales or use tax paid thereon by the contractor.

Similar certified statements by his subcontractors must be obtained by the general contractor and furnished to the claimant.

Contractors are not to include any tax paid on supplies, tools and equipment which they use to perform their contracts and should include only those building materials, supplies, fixtures and equipment which actually become a part of or annexed to the building or structure.

ARTICLE 46 - EQUAL OPPORTUNITY CLAUSE

The non-discrimination clause contained in Section 202 (Federal) Executive Order 11246, as amended by Executive Order 11375, relative to equal employment opportunity for all persons without regard to race, color, religion, sex or national origin, and the implementing rules and regulations prescribed by the secretary of Labor, are incorporated herein.

ARTICLE 47 - EMPLOYMENT OF THE HANDICAPPED

The contractor(s) agree not to discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices.

ARTICLE 48 - ASBESTOS-CONTAINING MATERIALS (ACM)

The State of North Carolina has attempted to address all asbestos-containing materials that are to be disturbed in the project. However, there may be other asbestos-containing materials in the work areas that are not to be disturbed and do not create an exposure hazard. Contractors are reminded of the requirements of instructions under Instructions to Bidders and General Conditions of the Contract, titled Examination of Conditions. Statute 130A, Article 19, amended August 3, 1989, established the Asbestos Hazard Management Program that controls asbestos abatement in North Carolina. The latest edition of Guideline Criteria for Asbestos Abatement from the State Construction Office is to be incorporated in all asbestos abatement projects for the Capital Improvement Program.
ARTICLE 49 - MINORITY BUSINESS PARTICIPATION

GS 143-128.2 establishes a ten percent (10%) goal for participation by minority businesses in total value of work for each State building project. The document, *Guidelines for Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts* including Affidavits and Appendix E are hereby incorporated into and made a part of this contract.

ARTICLE 50 – CONTRACTOR EVALUATION

The contractor’s overall work performance on the project shall be fairly evaluated in accordance with the State Building Commission policy and procedures, for determining qualifications to bid on future State capital improvement projects. In addition to final evaluation, interim evaluation may be prepared during the progress of project. The document, *Contractor Evaluation Procedures*, is hereby incorporated and made a part of this contract. The owner may request the contractor’s comments to evaluate the designer.
1. **Owners' Representative** (add to GC, Article 1b)

The UNC-CH Department of Construction Management represents the Owner in all matters pertaining to contract construction. The Department will designate a Construction Manager, who will be the single spokesperson for the University. All official contact, decisions, direction, problem resolution and coordination to/from the University will be through the assigned Construction Manager and the Designer. This does not alleviate any of the Designers' responsibilities as stated in the General Conditions.

2. **Inspections and Testing** (add to GC, Article 13)

The University will arrange for independent testing agencies to make tests and conduct inspections of work in progress. The contractors will give reasonable notice of construction activities to be tested/inspected so that the testing agency may be present.

In addition to the normally-anticipated inspections, the University intends to conduct the following inspections, which contractors should allow for in their schedules: above-ceiling inspections, pre-final inspections, 100% test of fire protection systems, and final inspections. Any of these inspections which are not completed satisfactorily will be repeated at no cost to the owner and without time extension.

**Above-Ceiling Inspections**: The above-ceiling inspection will be conducted by the University after above-ceiling systems have been completed and verified by the Designer. The following general guidelines will apply to this inspection:

a. All above ceiling systems will be completed including, but not limited to, controls, insulation, labeling of systems, wiring, light fixtures, diffusers, ductwork, piping, fire proofing, and sealing of wall penetrations through fire walls.

b. Framing for hard ceiling will be completed and access door locations will be framed to assure accessibility to control valves, equipment requiring maintenance, etc. Ceiling grid will be in place and equipment (light fixtures, diffusers, etc.) will be in place in the grid.

c. Under no circumstances will any ceiling area be covered up until this inspection is done by the owner. The contractor shall give the Designer and the University two weeks notice to assure owner personnel are available.

**Fire Protection Systems**: The installation contractor must conduct a 100% performance test, which shall be ensured by the designer/engineer. When this test is completed and deficiencies corrected, the owner/engineer will conduct a 100% test of the system, which shall be scheduled through the University's Construction Manager. At least three days prior to the owner's test, the contractor will furnish the completed NFPA Record of Completion, with a
printout of the installed database and a floor plan with database information and room numbers. These documents shall be updated and reissued prior to each additional test and final inspection.

3. **Construction Schedule** (add to GC, Articles 14g)

   Tentative dates for interruption of utilities services and traffic disruptions shall be incorporated into the project schedule. The schedule will show UNC and State inspections, punch list correction, cleanup, and final inspection, and shall anticipate 5-year-average weather delay and the extra restrictions required for University operations as outlined in SGC Paragraph 4 below.

4. **Working Hours** (add to GC, Article 23)

   The contractor may establish a work schedule of his own choosing. The contractor shall submit to the UNC Construction Manager and to the designer his regular daily work schedule, and shall notify the Construction Manager in advance of any deviations from the schedule. The University reserves the right to limit the contractors' activities when they conflict with University operations.

   For most situations, the University will require the contractor to comply with the Town of Chapel Hill Noise Ordinance.

5. **Underground Utilities** (add to GC, Article 39)

   Each contractor who does excavation work will be responsible for locating underground utilities prior to excavation. The contractor may obtain the services of a commercial utilities locator and/or call the various utility companies who may have lines in the area. In addition, they should notify UNC Facilities Services at least 5 days prior to excavation. The contractor will be responsible for utility interruptions caused by excavation.

   The General Statutes of North Carolina requires contractors to notify NOCUTS at least two days but not more than 10 days prior to excavation on a public right of way.

6. **Temporary Interruptions of Utilities and Traffic Movement**
   (add to GC, Article 40)

   Procedures for making temporary disruptions to existing utilities, roads and pedestrian walks shall be planned well in advance of the work and the work shall be executed in a manner to provide reasonably continuous service throughout the construction period. Connections shall be made only at times approved by the University. For interruption of service in major utility systems, the Contractor must submit to the UNC Construction Manager a step-by-step sequence of operations planned to accomplish the work. Outline must show tentative dates and times of day for shut-off and restoration of services. Upon approval of the planned operations, the Construction Manager will make arrangements with appropriate University personnel for interruption of services.
Road and sidewalk cuts shall be scheduled in advance, and made only after they have been approved by the University. Contractors shall plan and coordinate their work to minimize the duration of such disruptions. Appropriate detours shall be planned, subject to the approval of the University, giving consideration to the handicapped. Warning barricades and signs shall be installed by the contractor, as well as informational signs indicating detours. No service disruptions nor excavations may be made until barricades and signs are in place to protect the public. If the nature of the site does not allow barricades to be in place prior to excavation, the barricade materials must be physically present on site before excavation begins, in order that they may be erected as soon as it is possible to do so.

Barricades and signs must meet OSHA, NCDOT, and University approval, and be substantial enough to deter bypassing, vandalizing or theft. In addition to meeting all applicable codes and regulations, signs must be neat and legible at all times. Hand-made signs are not acceptable.

Caution to Bidders: Bidders are cautioned that the University will probably schedule interruption of services at times other than the contractors' normal working hours and that only designated University personnel are authorized to interrupt services. Frequently, outages are scheduled to reduce disruption of classes and special events.

Contractors are reminded of the presence on campus of handicapped students, staff, and faculty: particularly mobility impaired, visually impaired, and hearing impaired. All barricades, temporary walkways, excavation, and stockpiles of materials shall be formed in such a manner as to accommodate access, adequately warn and prevent injury to this segment of the University population.

7. Parking and Storage (add to GC, Article 38)

Parking is extremely limited at the University of North Carolina at Chapel Hill. Contractors must confine their parking and storage to that which they can accommodate within the limits of the construction site. There will be no parking spaces provided in the vicinity of the project for construction workers. Contractors are encouraged to locate fringe parking areas and shuttle their workers to and from the job site. If a construction fence has been erected the contractor may allow his employees to park inside the fence.

Parking for large storage trailers is limited to within the construction site. If additional trailer parking is required the Department of Public Safety maintains an off-campus facility near the Horace Williams Airport for such trailers. There is a monthly fee for use of the storage area. It is currently $35 per trailer but is expected to increase to $70 per trailer per month effective August 15, 2002. All materials in this storage yard must be kept inside the storage trailer, and not on the ground.

8. Cleanliness and Site Maintenance (add to GC, Article 41)

Campus streets, parking lots, walks and grounds connecting to the project area shall be protected from deposits of mud, sand, stone, litter, or debris in any form, and this protection shall be the responsibility of the Contractors. All mud collected on vehicle wheels must be cleaned off before leaving the
construction area. Should any mud or debris collect on the streets from the construction project, this shall be removed immediately before becoming a traffic hazard or being carried into the surrounding buildings.

Where equipment must cross walks, lawns, and other transitional areas used by pedestrian and vehicular traffic, the Contractor shall provide minimum 3/4" thick plywood protective sheets for equipment to roll over.

The construction site including adjacent campus areas will be kept free of trash, litter or debris at all times. Trash cans/dumpsters shall be emptied and the contents removed from campus before they overflow.

Grass and other vegetation on the construction site shall be trimmed/mowed to maintain a neat appearance.

A landscape protection area shall extend to at least the drip line of any trees or shrubs that are to remain.

The landscape protection fence shall be installed prior to the initial stage of grading, excavation or tree removal. No storage, access or activity of any kind will be permitted in the landscape protection areas. The Contractor shall give the Designer two (2) weeks notification in advance for the Owner to remove trees and shrubs that will be retained by the Owner for use elsewhere.

9. **Request for Payment** (see GC, Article 31, 32 and 33)

The first sentence only of Article 31a, General Conditions, is revised to read as follows: "Not later than the last day of the month, the contractors shall submit to the Designer a request for payment for work done through the 25th day of the month. The Owner will make payment by the end of the following calendar month, as described in Articles 31 through 33, General Conditions."

The financing arrangements on some projects require that pay applications from all vendors be submitted simultaneously and only once per calendar month. Therefore, failure to follow the above schedule may result in a contractor not being paid until the next pay application period. The only way to insure timely payment is to submit complete, accurate and timely pay applications with all supporting documents.

10. **Stored Materials** (add to GC, Article 31)

Add the following sentence to Article 31d, General Conditions: "No payment may be made for stored materials which are stored outside the State of North Carolina."
11. Selection of Masonry for Exterior Walls  
 وأضاف إلى GC، مقالة 5

The manufacturers shall present samples to the designer for his selection from which sample patterns are to be erected or shown on the job site, after consultation with the Facilities Planning Office. The Construction Management Department will notify the architect’s representative where to locate these panels. The University Buildings and Grounds Committee will review these panels and make the selection. At the time the brick panels are viewed by the committee, the contractor shall also have available samples of all significant exterior materials, including but not limited to pre-cast stone or limestone, window and door frames, glass and metal panels. The Construction Management Office will notify the designer of the final selection. In the case of cast stone panels, small samples may be submitted for selection purposes.

Completed panels must cure for at least three weeks before they are reviewed by the Building and Grounds and Committee. In addition, three weeks are required to schedule this review. Therefore the panels must be completed by the contractor a minimum of six weeks before the brick selection is needed.

12. Owner’s Right To Do Work (add to GC, Article 28)

Notwithstanding the notification requirements of the General Conditions, Article 28, should the contractor fail to respond within 24 hours, or such other time as may be prescribed by the designer or by the University’s assigned Construction Manager (see paragraph 1 above), to correct a deficiency which the University determines to be endangering trees or other landscaping; or to correct any other defects where time is of the essence to prevent further damage or ensure personal safety; or to correct any impediment to University operations including access by handicapped, fire department, or operational personnel; then the owner may immediately take corrective action to prevent further endangerment or damage. The cost of the work performed by the owner shall be deducted from any amount due or to become due to the contractor, as provided for in GC, Article 28. Verbal notice shall be provided to the contractor’s superintendent or project manager, followed by written confirmation.

13. Time of Completion, Delays and Extension of Time (add to GC, Article 23)

The work shall be completed in 270 consecutive calendar days from notice to proceed.

The Contractor shall commence work under this contract on a date to be specified in a written order of the designer and shall fully complete all work there under within the time stated.
For each day in excess of the above number of days, the contractor shall pay the Owner the sum stated as liquidated damages reasonably estimated in advance to cover the losses to be incurred by the owner by reason of failure of said Contractor to complete the work within the time specified, such time being in the essence of this contract and a material consideration thereof. The amount of liquidated damages for the General Construction Contract shall be $700 per day.
GUIDELINES FOR RECRUITMENT AND SELECTION OF MINORITY BUSINESSES FOR PARTICIPATION IN STATE CONSTRUCTION CONTRACTS

In accordance with G.S. 143-128.2 (effective January 1, 2002) these guidelines establish goals for minority participation in single-prime bidding, separate-prime bidding, construction manager at risk, and alternative contracting methods, on State construction projects in the amount of $300,000 or more. The legislation provides that the State shall have a verifiable ten percent (10%) goal for participation by minority businesses in the total value of work for each project for which a contract or contracts are awarded. These requirements are published to accomplish that end.

SECTION A: INTENT
It is the intent of these guidelines that the State of North Carolina, as awarding authority for construction projects, and the contractors and subcontractors performing the construction contracts awarded shall cooperate and in good faith do all things legal, proper and reasonable to achieve the statutory goal of ten percent (10%) for participation by minority businesses in each construction project as mandated by GS 143-128.2. Nothing in these guidelines shall be construed to require contractors or awarding authorities to award contracts or subcontracts to or to make purchases of materials or equipment from minority-business contractors or minority-business subcontractors who do not submit the lowest responsible, responsive bid or bids.

SECTION B: DEFINITIONS

1. **Minority** - a person who is a citizen or lawful permanent resident of the United States and who is:
   a. Black, that is, a person having origins in any of the black racial groups in Africa;
   b. Hispanic, that is, a person of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race;
   c. Asian American, that is, a person having origins in any of the original peoples of the Far East, Southeast Asia and Asia, the Indian subcontinent, the Pacific Islands;
   d. American Indian, that is, a person having origins in any of the original peoples of North America; or
   e. Female

2. **Minority Business** - means a business:
   a. In which at least fifty-one percent (51%) is owned by one or more minority persons, or in the case of a corporation, in which at least fifty-one percent (51%) of the stock is owned by one or more minority persons or socially and economically disadvantaged individuals; and
   b. Of which the management and daily business operations are controlled by one or more of the minority persons or socially and economically disadvantaged individuals who own it.

3. **Socially and economically disadvantaged individual** - means the same as defined in 15 U.S.C. 637. "Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as a member of a group without regard to their individual qualities". "Economically disadvantaged individuals are those socially disadvantaged individuals whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged".

4. **Public Entity** - means State and all public subdivisions and local governmental units.

5. **Owner** - The State of North Carolina, through the Agency/Institution named in the contract.

6. **Designer** - Any person, firm, partnership, or corporation, which has contracted with the State of North Carolina to perform architectural or engineering, work.

7. **Bidder** - Any person, firm, partnership, corporation, association, or joint venture seeking to be awarded a public contract or subcontract.
8. **Contract** - A mutually binding legal relationship or any modification thereof obligating the seller to furnish equipment, materials or services, including construction, and obligating the buyer to pay for them.

9. **Contractor** - Any person, firm, partnership, corporation, association, or joint venture which has contracted with the State of North Carolina to perform construction work or repair.

10. **Subcontractor** - A firm under contract with the prime contractor or construction manager at risk for supplying materials or labor and materials and/or installation. The subcontractor may or may not provide materials in his subcontract.

**SECTION C: RESPONSIBILITIES**

1. **Office for Historically Underutilized Businesses, Department of Administration** (hereinafter referred to as HUB Office).

   The HUB Office has established a program, which allows interested persons or businesses qualifying as a minority business under G.S. 143-128.2, to obtain certification in the State of North Carolina procurement system. The information provided by the minority businesses will be used by the HUB Office to:
   
   a. Identify those areas of work for which there are minority businesses, as requested.
   b. Make available to interested parties a list of prospective minority business contractors and subcontractors.
   c. Assist in the determination of technical assistance needed by minority business contractors.

   In addition to being responsible for the certification/verification of minority businesses that want to participate in the State construction program, the HUB Office will:
   
   (1) Maintain a current list of minority businesses. The list shall include the areas of work in which each minority business is interested.
   (2) Inform minority businesses on how to identify and obtain contracting and subcontracting opportunities through the State Construction Office and other public entities.
   (3) Inform minority businesses of the contracting and subcontracting process for public construction building projects.
   (4) Work with the North Carolina trade and professional organizations to improve the ability of minority businesses to compete in the State construction projects.
   (5) The HUB Office also oversees the minority business program by:
       a. Monitoring compliance with the program requirements.
       b. Assisting in the implementation of training and technical assistance programs.
       c. Identifying and implementing outreach efforts to increase the utilization of minority businesses.
       d. Reporting the results of minority business utilization to the Secretary of the Department of Administration, the Governor, and the General Assembly.

2. **State Construction Office**

   The State Construction Office will be responsible for the following:

   a. Furnish to the HUB Office a minimum of twenty-one days prior to the bid opening the following:
      (1) Project description and location;
      (2) Locations where bidding documents may be reviewed;
      (3) Name of a representative of the owner who can be contacted during the advertising period to advise who the prospective bidders are;
      (4) Date, time and location of the bid opening.
      (5) Date, time and location of prebid conference, if scheduled.

   b. Attending scheduled prebid conference, if necessary, to clarify requirements of the general statutes regarding minority-business participation, including the bidders' responsibilities.
c. Reviewing the apparent low bidders' statutory compliance with the requirements listed in the proposal, that must be complied with, if the bid is to be considered as responsive, prior to award of contracts. The State reserves the right to reject any or all bids and to waive informalities.

d. Reviewing of minority business requirements at Preconstruction conference.

e. Monitoring of contractors' compliance with minority business requirements in the contract documents during construction.

f. Provide statistical data and required reports to the HUB Office.

g. Resolve any protest and disputes arising after implementation of the plan, in conjunction with the HUB Office.

3. Owner

Before awarding a contract, owner shall do the following:

a. Develop and implement a minority business participation outreach plan to identify minority businesses that can perform public building projects and to implement outreach efforts to encourage minority business participation in these projects to include education, recruitment, and interaction between minority businesses and non-minority businesses.

b. Attend the scheduled prebid conference.

c. At least 10 days prior to the scheduled day of bid opening, notify minority businesses that have requested notices from the public entity for public construction or repair work and minority businesses that otherwise indicated to the Office for Historically Underutilized Businesses an interest in the type of work being bid or the potential contracting opportunities listed in the proposal. The notification shall include the following:

1. A description of the work for which the bid is being solicited.
2. The date, time, and location where bids are to be submitted.
3. The name of the individual within the owner's organization who will be available to answer questions about the project.
4. Where bid documents may be reviewed.
5. Any special requirements that may exist.

d. Utilize other media, as appropriate, likely to inform potential minority businesses of the bid being sought.

e. Maintain documentation of any contacts, correspondence, or conversation with minority business firms made in an attempt to meet the goals.

f. Review, jointly with the designer, all requirements of G.S. 143-128.2(c) and G.S. 143-128.2(f) - (i.e. bidders' proposals for identification of the minority businesses that will be utilized with corresponding total dollar value of the bid and affidavit listing good faith efforts, or affidavit of self-performance of work, if the contractor will perform work under contract by its own workforce) - prior to recommendation of award to the State Construction Office.

g. Evaluate documentation to determine good faith effort has been achieved for minority business utilization prior to recommendation of award to State Construction Office.

h. Review prime contractors' pay applications for compliance with minority business utilization commitments prior to payment.

i. Make documentation showing evidence of implementation of Owner's responsibilities available for review by State Construction Office and HUB Office, upon request.

4. Designer

Under the single-prime bidding, separate prime bidding, construction manager at risk, or alternative contracting method, the designer will:

a. Attend the scheduled prebid conference to explain minority business requirements to the prospective bidders.

b. Assist the owner to identify and notify prospective minority business prime and subcontractors of potential contracting opportunities.

c. Maintain documentation of any contacts, correspondence, or conversation with minority business firms made in an attempt to meet the goals.

d. Review jointly with the owner, all requirements of G.S. 143-128.2(c) and G.S.143-128.2(f) - (i.e. bidders' proposals for identification of the minority businesses that will be utilized with...
corresponding total dollar value of the bid and affidavit listing Good Faith Efforts, or affidavit of self-performance of work, if the contractor will perform work under contract by its own workforce - prior to recommendation of award.

d. During construction phase of the project, review “MBE Documentation for Contract Payment” - (Appendix E) for compliance with minority business utilization commitments. Submit Appendix E form with monthly pay applications to the owner and forward copies to the State Construction Office.

e. Make documentation showing evidence of implementation of Designer’s responsibilities available for review by State Construction Office and HUB Office, upon request.

5. Prime Contractor(s), CM at Risk, and Its First-Tier Subcontractors

Under the single-prime bidding, the separate-prime bidding, construction manager at risk and alternative contracting methods, contractor(s) will:

a. Attend the scheduled prebid conference.

b. Identify or determine those work areas of a subcontract where minority businesses may have an interest in performing subcontract work.

c. At least ten (10) days prior to the scheduled day of bid opening, notify minority businesses of potential subcontracting opportunities listed in the proposal. The notification will include the following:

   (1) A description of the work for which the subbid is being solicited.
   (2) The date, time and location where subbids are to be submitted.
   (3) The name of the individual within the company who will be available to answer questions about the project.
   (4) Where bid documents may be reviewed.
   (5) Any special requirements that may exist, such as insurance, licenses, bonds and financial arrangements.

   If there are more than three (3) minority businesses in the general locality of the project who offer similar contracting or subcontracting services in the specific trade, the contractor(s) shall notify three (3), but may contact more, if the contractor(s) so desires.

d. During the bidding process, comply with the contractor(s) requirements listed in the proposal for minority participation.

e. Identify the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit listing good faith efforts as required by G.S. 143-128.2(c) and G.S. 143-128.2(f).

f. Make documentation showing evidence of implementation of PM, CM-at-Risk and First-Tier Subcontractor responsibilities available for review by State Construction Office and HUB Office, upon request.

g. Upon being named the apparent low bidder, the Bidder shall provide one of the following: (1) an affidavit (Affidavit C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal; (2) if the percentage is not equal to the applicable goal, then documentation of all good faith efforts taken to meet the goal. Failure to comply with these requirements is grounds for rejection of the bid and award to the next lowest responsible and responsive bidder.

h. The contractor(s) shall identify the name(s) of minority business subcontractor(s) and corresponding dollar amount of work on the schedule of values. The schedule of values shall be provided as required in Article 31 of the General Conditions of the Contract to facilitate payments to the subcontractors.

i. The contractor(s) shall submit with each monthly pay request(s) and final payment(s), “MBE Documentation for Contract Payment” - (Appendix E), for designer’s review.

j. During the construction of a project, at any time, if it becomes necessary to replace a minority business subcontractor, immediately advise the owner, State Construction Office, and the Director of the HUB Office in writing, of the circumstances involved. The prime contractor shall make a good faith effort to replace a minority business subcontractor with another minority business subcontractor.
k. If during the construction of a project additional subcontracting opportunities become available, make a good faith effort to solicit subbids from minority businesses.

l. It is the intent of these requirements apply to all contractors performing as prime contractor and first tier subcontractor under construction manager at risk on state projects.

6. **Minority Business Responsibilities**
   While minority businesses are not required to become certified in order to participate in the State construction projects, it is recommended that they become certified and should take advantage of the appropriate technical assistance that is made available. In addition, minority businesses who are contacted by owners or bidders must respond promptly whether or not they wish to submit a bid.

**SECTION 4: DISPUTE PROCEDURES**
It is the policy of this state that disputes that involves a person's rights, duties or privileges, should be settled through informal procedures. To that end, minority business disputes arising under these guidelines should be resolved as governed under G.S. 143-128(g).

**SECTION 5: These guidelines shall apply upon promulgation on state construction projects. Copies of these guidelines may be obtained from the Department of Administration, State Construction Office, (physical address) 301 North Wilmington Street, Suite 450, NC Education Building, Raleigh, North Carolina, 27601-2827, (mail address) 1307 Mail Service Center, Raleigh, North Carolina, 27699-1307, phone (919) 807-4100, Website: www.nc-sco.com**

**SECTION 6: In addition to these guidelines, there will be issued with each construction bid package provisions for contractual compliance providing minority business participation in the state construction program.**
APPLICATION:

The Guidelines for Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts are hereby made a part of these contract documents. These guidelines shall apply to all contractors regardless of ownership. Copies of these guidelines may be obtained from the Department of Administration, State Construction Office, (physical address) 301 North Wilmington Street, Suite 450, NC Education Building, Raleigh, North Carolina, 27601-2827, (mail address) 1307 Mail Service Center, Raleigh, North Carolina, 27699-1307, phone (919) 807-4100, Website: http://www.nc-sco.com

MINORITY BUSINESS SUBCONTRACT GOALS:

The goals for participation by minority firms as subcontractors on this project have been set at 10%.

The bidder must identify on its bid, the minority businesses that will be utilized on the project with corresponding total dollar value of the bid and affidavit (Affidavit A) listing good faith efforts or affidavit (Affidavit B) of self-performance of work, if the bidder will perform work under contract by its own workforce, as required by G.S. 143-128.2(c) and G.S. 143-128.2(f).

The lowest responsible, responsive bidder must provide Affidavit C, that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal.

OR

Provide Affidavit D, that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, with documentation of Good Faith Effort, if the percentage is not equal to the applicable goal.

OR

Provide Affidavit B, which includes sufficient information for the State to determine that the bidder does not customarily subcontract work on this type project.

The above information must be provided as required. Failure to submit these documents is grounds for rejection of the bid.
MINIMUM COMPLIANCE REQUIREMENTS:

All written statements, affidavits or intentions made by the Bidder shall become a part of the agreement between the Contractor and the State for performance of this contract. Failure to comply with any of these statements, affidavits or intentions, or with the minority business Guidelines shall constitute a breach of the contract. A finding by the State that any information submitted either prior to award of the contract or during the performance of the contract is inaccurate, false or incomplete, shall also constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the State whether to terminate the contract for breach.

In determining whether a contractor has made Good Faith Efforts, the State will evaluate all efforts made by the Contractor and will determine compliance in regard to quantity, intensity, and results of these efforts. Good Faith Efforts include:

(1) Contacting minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor or available on State or local government maintained lists at least 10 days before the bid or proposal date and notifying them of the nature and scope of the work to be performed.

(2) Making the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bid or proposals are due.

(3) Breaking down or combining elements of work into economically feasible units to facilitate minority participation.

(4) Working with minority trade, community, or contractor organizations identified by the Office for Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.

(5) Attending any prebid meetings scheduled by the public owner.

(6) Providing assistance in getting required bonding or insurance or providing alternatives to bonding or insurance for subcontractors.

(7) Negotiating in good faith with interested minority businesses and not rejecting them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.

(8) Providing assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisting minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.

(9) Negotiating joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.

(10) Providing quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.
APPENDIX E

MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: 

Address & Phone: 

Project Name: 

Pay Application #: __________________ Period: __________________

The following is a list of payments made to Minority Business Enterprises on this project for the above-mentioned period.

<table>
<thead>
<tr>
<th>MBE FIRM NAME</th>
<th>* INDICATE TYPE OF MBE</th>
<th>AMOUNT PAID THIS MONTH</th>
<th>TOTAL PAYMENTS TO DATE</th>
<th>TOTAL AMOUNT COMMITTED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A), American Indian (I), Female (F), Social and Economically Disadvantage (D)

Date: _______________ Approved/Certified By: ____________________________

Name ____________________________

Title ____________________________

Signature ____________________________

SUBMIT WITH EACH PAY REQUEST & FINAL PAYMENT

(Revised on 3/14/2003)

MBGuidelines 2002 - viii-
Research Resource Facility Utilities Project
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
ID #010544202B

BJAC, pa
811 West Hargett Street
Raleigh, NC 27603
(919) 833-8818 Fax: (919) 833-6898

September 2009
TABLE OF CONTENTS

Research Resource Facility Utilities Project
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
ID #010544202B

Final report checklist

a. SCO Final Inspection for Owner Occupancy Form
b. Contract Dates
c. Exhibit A – Project Description
d. Exhibit B – Cost Data
e. Exhibit C – Change Orders
f. Exhibit D – Contractors
g. Exhibit E – Energy Criteria
h. Exhibit F – Designer Certifications
i. Exhibit G – Construction Close Out Documents
STATE CONSTRUCTION OFFICE
FINAL REPORT CHECKLIST

SCO State ID Number: 010544202B
Institution: The University of North Carolina at Chapel Hill
Project Title: Research Resource Facility Utilities Project
Code: n/a Item: n/a
SCO Monitor: Fred Brooks

The final report is to be compiled in the following order and should include the following information as required in Chapter 600 of the NC State Construction Manual (http://www.nc-sco.com/Manual/manual.htm). The Final Report can be submitted as a hard copy or as a digital copy; digital is the preferred method.

1. Title Page with Project Name and Location, Owning Agency, SCO State ID Number, Design Firm and Seal of Designer of Record signed and dated
2. Table of Contents
3. Final Report Checklist
4. SCO Final Inspection for Owner Occupancy Form
5. Contract Dates:
   a. Bid Opening Date
   b. Award Date
   c. Begin Work Date
   d. Final Inspection Date
   e. Project Acceptance Date
   f. Warranty Expiration Date
6. "Exhibit A" Project Description (Give a complete description of the project)
   a. Architectural (Gross Square Feet or other Units describing type of work done, Exterior Design, Interior Construction & Finish)
   b. Structural
   c. Plumbing
   d. HVAC
   e. Electrical
7. "Exhibit B" Cost Data (Indicate only the information from this Final Report package)

<table>
<thead>
<tr>
<th>Contracts</th>
<th>Project Contract Fee</th>
<th>Total Change Orders/A</th>
<th>Amendments</th>
<th>Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Prime</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Contract</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plumbing Contract</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC Contract</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Contract</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design Contract</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner Costs*</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Contract</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Owner Costs could include: surveys, soil investigations, concrete tests, advertising
8. "Exhibit C" Change Order Breakdown (if applicable)
9. "Exhibit D" List of Contractors, Subcontractors and Material Suppliers
10. "Exhibit E" Energy Criteria Description
11. "Exhibit F" Designer Certification Documents
   a. SCO Certificate of Completion (with required attachments)
   b. SCO Certificate(s) of Compliance (from Designer and each Consultant)
12. "Exhibit G" Construction Close-Out Documents (copies w/ visible seals)
   a. Contractor's Affidavit of Release of Liens
   b. Contractor's Affidavit of Payment of Debts and Claims
   c. Consent of Surety of Final Payment
   d. Final Pay Application
13. Are there any unsettled claims?  □ No  □ Yes
14. As-Built Drawings: Include two sets of formatted digital media (CD or DVD)*: one full set in .pdf format and one full set in .dwg format or acceptable CAD format as outlined in Chapter 600 of the State Construction Manual.

*Note: SCO no longer requires a hard copy of the As-Buills.
Label on discs should include the project SCO State ID Number, project name and location, the owning agency's name, the designer's name, and the format of files (.pdf or .dwg or an acceptable CAD format). All file names shall correlate with actual sheet numbers.

Designer: BJAC, pa
Design Firm Information: 811 W Hargett Street, Raleigh, NC 27603
Designer Phone Number: 919.833.8818
Designer E-Mail Address: leo@bjac.com
Date Sent to SCO: 
Capital Project Coordinator: 
Capital Project Coordinator E-Mail Address: 

DO NOT WRITE BELOW THIS LINE
State Construction Use Only

Accepted By: ___________________________ On: ___________________________

with confirmation from the State Construction Monitor on this project.
PROJECT APPROVAL AUTHORIZATION
FINAL INSPECTION FOR OWNER OCCUPANCY

Project: UNC RRF Utilities Project

Project Identification Number: SCO 0105442028

Project Owning Agency: UNC

Owning Agency's Requester: Paul Cary Date: 7/22/09

Designer's Statement:
(Designer of Project) provides information to the owner and the State Construction Office that the project has been evaluated and field observed to assure that construction meets contract requirements for final inspection to allow occupancy by the owning agency.

Designer's Representative Signature

Project Description: UTILITIES PROJECT - EXPANSION OF DOMESTIC WASTEWATER SYSTEM, NEW ANIMAL WASTEWATER TREATMENT & DISPOSAL SYSTEMS, & NEW POTABLE WELL & WATER TREATMENT SYSTEMS.

BACK-UP DATA:

PRIME CONTRACTORS' APPROVAL DOCUMENTS:

Expediter Contractor's statement of completion with request for designer's inspection: Date N/A

Designer's Pre-final Punch List Inspection: Date 5/18/09 N/A

Designer provides the Owning Agency and the State Construction Office copies of the completed punch lists generated by the Designer's inspection:

Scheduled Final Inspection by designer accompanied by the Owning Agency and the State Construction Office

DOI Electrical Inspection (Certificate of Electrical Completion): Date 7/22/09 N/A

Certificate of Occupancy by Authority Having Jurisdiction:

Installer's Fire Alarm System Record of Completion (Certification) as required by NFPA 72:

Date N/A
Installer's Sprinkler System Record of Material and Test Reports as required by:

- NFPA 13-(Sprinkler Systems)
- NFPA 14-(Standpipe and Hose Systems)
- NFPA 20-(Centrifugal Fire Pumps)
- NFPA 22-(Water Tanks For Private Fire Protection)
- NFPA 24-(Private Fire Service Mains)

Designer's Inspection to Assure Life Safety
Construction involving Fire Protection Systems (Fire Alarm, Sprinkler, etc.), egress, fire rated walls and egress travel distances are constructed in accordance with contract documents:

Labor Approval for Elevator:

Labor Approval for Boiler & Hot Water Tanks:

Agriculture Approval for Fuel Tanks:

Food Service Inspection and Acceptance for Use:

Water Test Report and Acceptance for Use:

Laboratory Hood Certification:

NEC Load Tests: Battery Powered Emergency Devices

Emergency Generator Load Test

Installer's Electrical Service Ground Test Report

Owner's Assumption of Responsibility for Maintenance, Heat, Utilities, and Insurance. Comments:

Established Date for Guarantees and Warranties. Comments:

Cancellation of Contractors' Insurance Carriers (Public Liability, Property Damage and Builders' Risk)

Designer's Approval: Date: 7/22/09 Signature: [Signature]

SCO Approval: Date: 8/26/09 Signature: [Signature]
Contract Dates

Research Resource Facility Utilities Project
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
ID #010544202B

a. Bid opening date: November 9, 2007
b. Award date: February 4, 2008
c. Begin work date: July 22, 2009
d. Final inspection date: July 22, 2009
e. Project acceptance date: July 22, 2010
f. Warranty expiration date: July 22, 2010
The Research Resource Facility Utilities Project was a utility infrastructure project. The purpose of the project was to expand the capacity and improve the potable water facilities that serve RRF, expand the capacity and improve the domestic wastewater treatment facilities, and provide a separate wastewater treatment and disposal facility for the wastewaters produced from the animal housing areas.
Exhibit B
Cost Data

Research Resource Facility Utilities Project
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
ID #010544202B

<table>
<thead>
<tr>
<th>Contracts</th>
<th>Project Contract Fee</th>
<th>Total Change Orders/Amendments</th>
<th>Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Prime</td>
<td>$2,210,462.00</td>
<td>$134,485.59</td>
<td>$2,344,947.59</td>
</tr>
<tr>
<td>General Contract</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Plumbing Contract</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>HVAC Contract</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Electrical Contract</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Design Contract</td>
<td>$54,285.00</td>
<td>$48,000.00</td>
<td>$102,285.00</td>
</tr>
<tr>
<td>Owner Costs*</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$2,264,747.00</td>
<td>$182,485.59</td>
<td>$2,447,232.59</td>
</tr>
</tbody>
</table>

a) Cost per Square Foot of Gross Floor Area: N/A - utility project

b) Percentage of Total Cost for each of the above Contracts:
   Single Prime: 95.8%
   Design Contract: 4.2%
   Owner Costs: 0%

c) Cost per Square Foot of Net Floor Area: N/A - utility contract
Exhibit C
Change Orders

Research Resource Facility Utilities Project
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
ID #010544202B

Seaside Environmental Constructors, Inc.
General Contractor
Contract Amount $2,210,462.00
Exhibit D
Contractors, Subcontractors and Material Suppliers Listing

Research Resource Facility Utilities Project
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
ID #010544202B

Single Prime Contractor: Seaside Environmental Constructors, Inc.
4904 Waters Edge, Suite 170
Raleigh, NC 27606

Principal Equipment Vendors for Seaside Environmental:

Animal Wastewater Treatment Plant: Pro-Water Systems, Inc.,
8823 San Jose Blvd.
Suite 304
Jacksonville, FL 32258

Manganese Filters: Tonka Equipment Company
13305 Watertower Circle
Plymouth, MN 55441

NC Representative for Pro-Water and Tonka Equipment:
Pete Duty & Associates
2219 Leah Drive
Hillsborough, NC 27278

Domestic Wastewater Treatment System: Orenco Systems, Inc.,
814 Airway Ave.
Sutherlin, Oregon 97479

NC Representative for Orenco Systems, Inc.:
AQWA, Inc.
2604 Willis Court
Wilson, NC 27896
### UNC Research Facility Water and Waste Water Improvements
#### Subcontractor List

<table>
<thead>
<tr>
<th>Subcontractor</th>
<th>Description of Work</th>
<th>Contact</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.L. Teasley</td>
<td>Electrical</td>
<td>Dave Teasley</td>
<td>919-460-6866</td>
<td>919-460-6864</td>
</tr>
<tr>
<td>CICA, Inc</td>
<td>Painting</td>
<td>Anita Ayers</td>
<td>919-893-1525</td>
<td>919-893-2438</td>
</tr>
<tr>
<td>Geo-Synthetics Inc</td>
<td>Lagoon Liners</td>
<td>Monica Dries</td>
<td>262-524-7979</td>
<td>262-524-7961</td>
</tr>
<tr>
<td>Smith Carolina</td>
<td>Precast Building</td>
<td>John M. Sweigard</td>
<td>336-349-2905</td>
<td>336-342-1335</td>
</tr>
<tr>
<td>Carolina Environmental Contracting</td>
<td>Silt Fence</td>
<td>Joanne Andreas</td>
<td>336-320-3849</td>
<td>336-320-3854</td>
</tr>
<tr>
<td>Masonry Management</td>
<td>Masonry</td>
<td>Tina Troutman</td>
<td>336-238-1049</td>
<td>336-249-2638</td>
</tr>
<tr>
<td>Level Cross Surveying</td>
<td>Surveying</td>
<td>Sherry Willard</td>
<td>336-495-1713</td>
<td>336-495-1745</td>
</tr>
<tr>
<td>Nail Construction Co</td>
<td>Clearing</td>
<td>Steve Nall</td>
<td>910-245-1511</td>
<td>910-245-1911</td>
</tr>
<tr>
<td>Baker Roofing</td>
<td>Roofing and Siding</td>
<td>Michael Griffith</td>
<td>919-828-2975</td>
<td>919-828-8352</td>
</tr>
</tbody>
</table>
### UNC Resource Research Facility Water and Waste Water Improvements
#### Major Equipment Vendors

<table>
<thead>
<tr>
<th>Company</th>
<th>System</th>
<th>Contact</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>EW2 Environmental Inc</td>
<td>Domestic WWTP UV System</td>
<td>Bryan Wheeler</td>
<td>704-542-2444</td>
<td>704-542-7003</td>
</tr>
<tr>
<td>Siemens Water Technologies</td>
<td>Animal WWTP Chemical Feed</td>
<td>Tim Bishop</td>
<td>704-583-2305</td>
<td>704-583-2900</td>
</tr>
<tr>
<td>Johnston, Inc</td>
<td>Effluent Flow Meter, Inr Flow Meter</td>
<td>John Fraser</td>
<td>800-947-0852</td>
<td>704-621-5666</td>
</tr>
<tr>
<td>Pumps, Parts, &amp; Services</td>
<td>Irrigation Pumps, Well Submersible</td>
<td>Shirley P. Baucom</td>
<td>704-588-6250</td>
<td>704-588-6258</td>
</tr>
<tr>
<td>HD Supply</td>
<td>Backwash, Effluent, and Transfer Pumps</td>
<td>Margaret Fumage</td>
<td>828-324-9705</td>
<td>828-324-4965</td>
</tr>
<tr>
<td>Pro-Water System, Inc C/O PDA</td>
<td>Animal WWTP</td>
<td>Rob Sheldon</td>
<td>919-220-4156</td>
<td>919-220-4181</td>
</tr>
<tr>
<td>Tonka Equipment Co C/O PDA</td>
<td>Tonka Filters (Magnesium Filters)</td>
<td>Rob Sheldon</td>
<td>919-220-4156</td>
<td>919-220-4181</td>
</tr>
<tr>
<td>MC Precast</td>
<td>Precast Structures</td>
<td>Keith Hooker</td>
<td>919-367-9636</td>
<td>919-387-8087</td>
</tr>
<tr>
<td>AQWA, Inc</td>
<td>Textile Media Packed Bed Filters</td>
<td>Steve Berry</td>
<td>252-243-7893</td>
<td>252-243-7894</td>
</tr>
<tr>
<td>Chandler Concrete</td>
<td>Concrete</td>
<td>Brent Jacques</td>
<td>919-730-0841</td>
<td>919-596-9057</td>
</tr>
<tr>
<td>Chlorinator Sales and Services</td>
<td>Well House Chemical Feed</td>
<td>Darrell Maudlin</td>
<td>704-847-4121</td>
<td>704-847-9119</td>
</tr>
</tbody>
</table>
Exhibit F
Designer Certifications

Research Resource Facility Utilities Project
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
ID #0105442028

a. Designer of Record Certificate of Completion
   a. Certificate of Completion
   b. Cancellation of Builder’s Risk Insurance
   c. State Construction Office Project Acceptance Approval letter

b. Consultant Certificates of Compliance

See Attached.
SECTION 326
CERTIFICATE OF COMPLETION;

PROJECT: Research Resource Facility Utilities Project
LOCATION: Chapel Hill, NC
SCO ID NUMBER: 010544202B
BUDGET CODE: n/a Item: n/a Date: August 2009
OWNER: The University of North Carolina at Chapel Hill
DESIGNER: BJAC, pa
PRIME CONTRACTOR: Seaside Environmental Constructors, Inc.

I (we) certify that all work on the above referenced project has been completed according to the plans, specifications, addenda and approved change orders and that the project is ready for owner occupancy.

The final inspection was made on July 22, 2009. The guarantee period begins on July 22, 2009, and shall terminate on July 22, 2010.

The contractors report that final payments have been made to all material suppliers, employees and subcontractors, and copies of their lien waivers are attached.

Builder's risk insurance was cancelled as of July 19, 2009, and a copy of the cancellation notice is attached hereto.

The total time for completion as allowed in the contract plus granted time extensions is 277 days. The actual time required for completion was 534 days, and the contractor(s) is not liable for liquidated damages.

Copies of the following items are attached as indicated below:

Written guarantees: Previously transmitted w/O&M’s on 4/20/09
Affidavits: Yes
Consent of Surety Company to final payment: Yes
Manuals of operation instructions: Transmitted on 4/20/09
Final report: Yes
As-built drawings: Yes
Other required closing papers of the contractor: N/A
There are no unsettled disputes between the owner and contractor, owner and designer, or the designer and contractor at this time.

Signed this 14th day of September 2009.

Designer

L. SAGASTI, MLA

Title
POLICY NUMBER  MX07552602
Sequential Endorsement Number 010

Named Insured  SEASIDE ENVIRONMENTAL CONSTRUCTORS, INC.

CHANGE ENDORSEMENT
Effective 07/19/2009, 12:01 A.M.

This is an Endorsement only. Other than changes shown, all other pre-existing coverage remains in full force and effect. Premium adjustments are shown.

PREMIUM SUMMARY:
ADDITIONAL PREMIUM DUE NOW: $270
BASED ON ANNUAL PREMIUM: $ Not Applicable

The following change is made to the General Declarations:
The Expiration date is amended to 08/19/2009.

FORMS ATTACHED AT INCEPTION OF THIS CHANGE ENDORSEMENT

Countersignature of Authorized Agent:
Producer: GARDNER ASSOCIATES, INC.
              4400 SAINT ANDREWS ROAD
              COLUMBIA, SC 29210

Date 07/28/2009
PROJECT: Research Resource Facility Utilities Project
LOCATION: Chapel Hill, NC
BUDGET CODE: n/a ITEM: n/a
SCO ID#: 010544202B
OWNER: The University of North Carolina at Chapel Hill
TYPE OF CONTRACT: General Construction FINAL AMOUNT: $2,344,947.59
DATE OF FINAL ACCEPTANCE: July 22, 2009
CONTRACTOR: Seaside Environmental Constructors, Inc.

I (we) certify that the work on the above-referenced project has been inspected in accordance with Chapter 133, Article 1, of the General Statutes, and that:

(1) The inspections of the construction, repairs or installations have been conducted with the degree of care and professional skill and judgment ordinarily exercised by a member of my (our) profession; and

(2) to the best of my (our) knowledge, and in my (our) professional opinion as an architect or engineer, the contractor has fulfilled the obligations of such plans, specifications and contract.

Signed this 14th day of September 2009

[Signature]

[Title]

State of North Carolina, County of Wake

Subscribed and sworn to before me this 14th day of September

Notary Public: [Signature]
My Commission Expires: April 26, 2010
CONSULTANT'S CERTIFICATE OF COMPLIANCE

Research Resource Facility Utilities Project
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
ID #01654202B

This is to certify that, to the best of my knowledge, the Research Resource Facility Utilities Project has been completed in accordance with the approved plans and specifications. This Certificate is based upon periodic site visits and construction observation performed by my representative or myself.

Certified this 18th day of August 2009 by John F. Phillips, P.E. of Diehl & Phillips, P.A. (consultants to BJAC, p.a.).
Exhibit G
Construction Close-Out Documents

Research Resource Facility Utilities Project
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
ID #0105442028

a. Contractor’s Affidavit of Release of Liens
b. Contractor’s Affidavit of Payment of Debts and Claims
c. Consent of Surety Company to Final Payment
d. Final Pay Application including Final MBE Documentation
Contractor's Affidavit of Release of Liens

PROJECT: (Name and address) 
UNC Resource Research Facility 
Chapel Hill, NC

ARCHITECT'S PROJECT NUMBER: 
D&P 80160

TO OWNER: (Name and address) 
University of North Carolina at Chapel Hill

ARCHITECT: 
CONTRACTOR: 
OWNER: 

CONTRACT FOR: General Construction

CONTRACT DATED: November 09, 2007

SURETY: 
OTHER: 

STATE OF: North Carolina
COUNTY OF: Orange

The undersigned hereby certifies that to the best of the undersigned’s knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:
1. Contractor’s Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: (Name and address)
Seaside Environmental Constructors, Inc.
4904 Waters Edge Drive, Suite 170
Raleigh, NC 27606

BY: 
(Signature of authorized representative)

, Michael Prillaman, Vice President
(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public
My Commission Expires:
AIA Document G706™ – 1994

Contractor's Affidavit of Payment of Debts and Claims

PROJECT: (Name and address) UNC Resource Research Facility
Architect's Project Number: D&P 80160
Architect: Property
Contractor: General Construction
Contract Dated: November 09, 2007
Owner: Property
Surety: General Contractor
Other: Surety

State of: North Carolina
County of: Orange

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

Exceptions:

Supporting Documents Attached Hereto:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose. Indicate Attachment: Yes [x] No

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

Contractor: (Name and address)
Seaside Environmental Constructors, Inc.
4904 Waters Edge Drive, Suite 170
Raleigh, NC 27606

By: _____________________________
(Signature of authorized representative)

Michael Prillaman, Vice President
(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public: _________________________
(Notary Public's Seal)

My Commission Expires: _________________________

[Stamp: KRISTEL M. WELDON]
No: 2000110262
Wake County, N.C.

AIA Document G706™ – 1994. Copyright © 1970 and 1994 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 15:06:58 on 07/21/2009 under Order No. 1009361781, which expires on 01/27/10, and is not for resale.
CONSENT OF
SURETY COMPANY
TO FINAL PAYMENT
(SIMILAR TO AIA DOCUMENT G707)

PROJECT: University of North Carolina Resource Research Facility Utilities

TO (Owner)

The State of North Carolina through
The University of North Carolina at Chapel Hill
103 Airport Drive
Chapel Hill, NC 27599

CONTRACTOR: Seaside Environmental Constructors, Inc.

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the (here insert name and address of Surety Company)

Travelers Casualty and Surety Company of America
One Tower Square, Hartford, CT 06183

on bond of (here insert name and address of Contractor)

Seaside Environmental Constructors, Inc.
4904 Waters Edge Drive, Suite 170, Raleigh, NC 27606

hereby approves of the final payment to the Contractor, and agrees that the final payment to the Contractor shall not relieve the Surety Company of any of its obligations to (here insert name and address of Owner)

The University of North Carolina at Chapel Hill
Chapel Hill, NC

as set forth in the said Surety Company's bond.

IN WITNESS WHEREOF,
The Surety Company has hereunto set its hand this 22nd day of July, 2009.

Travelers Casualty and Surety Company of America
Surety Company

Signature of Authorized Representative
Barr H. Gardner, III

Attorney-in-Fact
Title

Note: This form is intended to be used as a companion document to the Contractor's Affidavit of Payment of Debts and Claims, Current Edition.
POWER OF ATTORNEY

TRAVELERS

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
Seaboard Surety Company
St. Paul Fire and Marine Insurance Company

St. Paul Guardian Insurance Company
St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In-Fact No. 218848
Certificate No. 002751832

KNOW ALL MEN BY THESE PRESENTS: That Seaboard Surety Company is a corporation duly organized under the laws of the State of New York, that St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, and St. Paul Mercury Insurance Company are corporations duly organized under the laws of the State of Minnesota, that Farmington Casualty Company, Travelers Casualty and Surety Company, and Travelers Casualty and Surety Company of America are corporations duly organized under the laws of the State of Connecticut, that United States Fidelity and Guaranty Company is a corporation duly organized under the laws of the State of Maryland, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc. is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Barr H. Gardner, III, Vonda A. Rentz, and Dorothy R. Lee

of the City of Columbia, State of South Carolina, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 27th day of July, 2007.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
Seaboard Surety Company
St. Paul Fire and Marine Insurance Company

St. Paul Guardian Insurance Company
St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: ____________________________
   George W. Thompson, Senior Vice President

On this the 27th day of July, 2007, before me personally appeared George W. Thompson, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., Seaboard Surety Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2011.

[Seal]

[Signature]

[Notary Public]

58440-5-07 Printed in U.S.A.
August 7, 2009

Mr. Leo Sagasti, AIA.
BJAC, P.A.
811 West Hargett St
Raleigh, NC 27603

RE: UNC Resource Research Facility Water and Wastewater System Improvements
SCO # 010544202B

Dear Mr. Sagasti:

Please find attached 5 copies of pay request No. 13 for your approval. Our payment information is as follows:

Seaside Environmental Constructors, Inc.
4904 Waters Edge Drive, Suite 170
Raleigh, NC 27606

We trust this is acceptable. If you have any questions, please feel free to contact us.

Respectfully,

Michael Prillaman
Seaside Environmental Constructors, Inc.
APPENDIX E

MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: Seaside Environmental Contractors
Address & Phone: 4104 Waters Edge Dr. Suite 120, Raleigh NC
Project Name: UNC DPR Architect Project
Pay Application #: Final

The following is a list of payments to be made to minority business contractors on this project for the above-mentioned period.

<table>
<thead>
<tr>
<th>Firm Name</th>
<th>*Minority Category</th>
<th>Payment Amount Total (List invoice number and amount)</th>
<th>Owner Use Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICA, Inc.</td>
<td>F</td>
<td>$15,153.00</td>
<td></td>
</tr>
<tr>
<td>Masonry Management</td>
<td>F</td>
<td>$19,800.00</td>
<td></td>
</tr>
<tr>
<td>Level Cross Survey</td>
<td>F</td>
<td>$12,672.00</td>
<td></td>
</tr>
<tr>
<td>Carolina Environmental</td>
<td>F</td>
<td>$7,137.18</td>
<td></td>
</tr>
</tbody>
</table>

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A), American Indian (I), Female (F), Socially and Economically Disadvantaged (D)

Date: 7/17/2009

Approved/Certified By: Michael Piggeman
Name
Vice President
Title
Signature

**THIS DOCUMENT MUST BE SUBMITTED WITH EACH PAY REQUEST & FINAL PAYMENT**

MBGuidelines 2002-Rev 11/02
TO OWNER: University of North Carolina at Chapel Hill

PROJECT: UNC Resource Research Facility

APPLICATION NO: 013

PERIOD TO:

OWNER:

CONTRACT FOR: General Construction

DATE: November 09, 2007

PROJECT NOS: 80160 / 07509 / 010344

CONTRACTOR: 4904 Waters Edge Drive, Suite 170

Raleigh, NC 27606

ARCHITECT: BnAC Diehl & Phillips

811 West Hargett Street

Raleigh, NC 27603

CONTRACT DATE: November 09, 2007

PROJECT NOS: 80160 / 07509 / 010344

APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.

Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM ................................................................. $ 2,210,462.00

2. NET CHANGE BY CHANGE ORDERS ...................................................... $ 134,485.59

3. CONTRACT SUM TO DATE (Line 1 ± 2) ............................................... $ 2,344,947.59

4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) ........... $ 2,344,947.59

5. RETAINAGE:
   a. 0% of Completed Work (Column D + E on G703) $ 0.00
   b. 0% of Stored Material (Column F on G703) $ 0.00

Total Retainage (Lines 5a + 5b or Total in Column I of G703) $ 0.00

6. TOTAL EARNED LESS RETAINAGE ...................................................... $ 2,344,947.59

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT .................................. $ 2,168,442.45

8. CURRENT PAYMENT DUE ................................................................. $ 176,505.14

9. BALANCE TO FINISH, INCLUDING RETAINAGE
   (Line 3 less Line 6) ................................................................................ $ 0.00

CHANGE ORDER SUMMARY

<table>
<thead>
<tr>
<th>ADDITIONS</th>
<th>DEDUCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total changes approved in previous months by Owner</td>
<td>$ 116,654.00</td>
</tr>
<tr>
<td>Total approved this Month</td>
<td>$ 17,831.59</td>
</tr>
<tr>
<td>TOTALS</td>
<td>$ 134,485.59</td>
</tr>
</tbody>
</table>

NET CHANGES by Change Order $ 134,485.59

The undersigned Contract certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: __________________________ Date: ________________

STATE OF: North Carolina

COUNTY OF: Wake

Subscribed and sworn to before me this 7th day of August, 2007.

Notary Public

Exp. 04/21/10

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED $ 176,505.14

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: __________________________ Date: ________________

This Certificate is not applicable if the AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

AIA Document G702™ – 1992. Copyright © 1953, 1963, 1965, 1971, 1978, 1983 and 1992 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright law and international Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 12:21:49 on 08/07/2009 under Order No. 1005256179 which expires on 01/27/10, and is not for resale.
Continuation Sheet

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.

In tabulations below, amounts are stated to the nearest dollar.

Use Column I on Contracts where variable retainage for line items may apply.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION OF WORK</th>
<th>SCHEDULED VALUE</th>
<th>WORK COMPLETED FROM PREVIOUS APPLICATION (D+E)</th>
<th>THIS PERIOD</th>
<th>MATERIALS PRESENTLY STORED (NOT IN D OR E)</th>
<th>TOTAL COMPLETED AND STORED TO DATE (D+E+F)</th>
<th>% COMPLETE ((G+C)/(D+E+F))</th>
<th>BALANCE TO FINISH (C-G)</th>
<th>RETAINAGE (IF VARIABLE RATE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1010</td>
<td></td>
<td>22,000.00</td>
<td>22,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>22,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1020</td>
<td></td>
<td>30,000.00</td>
<td>30,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>30,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1040</td>
<td></td>
<td>8,200.00</td>
<td>8,200.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,200.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1050</td>
<td></td>
<td>45,000.00</td>
<td>45,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>45,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1060</td>
<td></td>
<td>28,000.00</td>
<td>28,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>28,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1390</td>
<td></td>
<td>1,500.00</td>
<td>1,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1580</td>
<td></td>
<td>8,500.00</td>
<td>8,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1400</td>
<td></td>
<td>1,000.00</td>
<td>1,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1650</td>
<td></td>
<td>8,250.00</td>
<td>8,250.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,250.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1410</td>
<td></td>
<td>1,000.00</td>
<td>1,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1660</td>
<td></td>
<td>7,900.00</td>
<td>7,900.00</td>
<td>0.00</td>
<td>0.00</td>
<td>7,900.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1420</td>
<td></td>
<td>5,000.00</td>
<td>5,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>5,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1430</td>
<td></td>
<td>3,500.00</td>
<td>3,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>3,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1590</td>
<td></td>
<td>8,500.00</td>
<td>8,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1670</td>
<td></td>
<td>6,500.00</td>
<td>6,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>6,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1440</td>
<td>22,000.00</td>
<td>22,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>22,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1680</td>
<td>8,000.00</td>
<td>8,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1450</td>
<td>7,500.00</td>
<td>7,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>7,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1470</td>
<td>12,500.00</td>
<td>12,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>12,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1480</td>
<td>15,000.00</td>
<td>15,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>15,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1520</td>
<td>12,500.00</td>
<td>12,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>12,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1490</td>
<td>5,000.00</td>
<td>5,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>5,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500</td>
<td>72,000.00</td>
<td>72,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>72,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1540</td>
<td>7,900.00</td>
<td>7,900.00</td>
<td>0.00</td>
<td>0.00</td>
<td>7,900.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1550</td>
<td>8,200.00</td>
<td>8,200.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,200.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1560</td>
<td>3,500.00</td>
<td>3,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>3,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1570</td>
<td>5,500.00</td>
<td>5,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>5,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1600</td>
<td>5,000.00</td>
<td>5,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>5,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1640</td>
<td>2,000.00</td>
<td>2,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1690</td>
<td>1,000.00</td>
<td>750.00</td>
<td>250.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1700</td>
<td>1,000.00</td>
<td>500.00</td>
<td>500.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1070</td>
<td>65,000.00</td>
<td>65,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>65,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1140</td>
<td>15,000.00</td>
<td>15,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>15,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1080</td>
<td>4,500.00</td>
<td>4,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>4,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1150</td>
<td>4,250.00</td>
<td>4,250.00</td>
<td>0.00</td>
<td>0.00</td>
<td>4,250.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1190</td>
<td>1,000.00</td>
<td>1,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>5,500.00</td>
<td>5,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>5,500.00</td>
<td>100.00%</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>1160</td>
<td>8,500.00</td>
<td>8,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1100</td>
<td>3,500.00</td>
<td>3,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>3,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1130</td>
<td>9,500.00</td>
<td>9,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>9,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1110</td>
<td>25,000.00</td>
<td>25,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>25,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1170</td>
<td>12,500.00</td>
<td>12,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>12,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1180</td>
<td>8,000.00</td>
<td>8,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1300</td>
<td>1,000.00</td>
<td>1,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1190</td>
<td>55,000.00</td>
<td>55,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>55,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1310</td>
<td>10,000.00</td>
<td>10,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>10,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1200</td>
<td>2,200.00</td>
<td>2,200.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2,200.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1210</td>
<td>2,500.00</td>
<td>2,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1220</td>
<td>2,500.00</td>
<td>2,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1230</td>
<td>20,000.00</td>
<td>20,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>20,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1240</td>
<td>15,000.00</td>
<td>15,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>15,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1250</td>
<td>2,000.00</td>
<td>2,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1260</td>
<td>2,000.00</td>
<td>2,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1270</td>
<td>1,500.00</td>
<td>1,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1280</td>
<td>4,500.00</td>
<td>4,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>4,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1290</td>
<td>3,500.00</td>
<td>3,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>3,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1320</td>
<td>1,000.00</td>
<td>1,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1330</td>
<td>1,000.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1720</td>
<td>25,000.00</td>
<td>25,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>25,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1730</td>
<td>12,500.00</td>
<td>12,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>12,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1740</td>
<td>17,500.00</td>
<td>17,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>17,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1750</td>
<td>29,750.00</td>
<td>29,750.00</td>
<td>0.00</td>
<td>0.00</td>
<td>29,750.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1760</td>
<td>12,000.00</td>
<td>12,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>12,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1770</td>
<td>3,500.00</td>
<td>3,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>3,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1780</td>
<td>1,750.00</td>
<td>1,750.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,750.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1790</td>
<td>1,200.00</td>
<td>1,200.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,200.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1800</td>
<td>1,500.00</td>
<td>1,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1810</td>
<td>2,000.00</td>
<td>2,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1820</td>
<td>45,000.00</td>
<td>45,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>45,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1830</td>
<td>650,000.00</td>
<td>650,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>650,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1840</td>
<td>12,000.00</td>
<td>12,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>12,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>3,500.00</td>
<td>3,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>3,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1860</td>
<td>1,750.00</td>
<td>1,750.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,750.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1870</td>
<td>1,200.00</td>
<td>1,200.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,200.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1880</td>
<td>1,500.00</td>
<td>1,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1890</td>
<td>2,000.00</td>
<td>2,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td>45,000.00</td>
<td>45,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>45,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1910</td>
<td>650,000.00</td>
<td>650,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>650,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1920</td>
<td>12,000.00</td>
<td>12,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>12,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1930</td>
<td>3,500.00</td>
<td>3,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>3,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1940</td>
<td>1,750.00</td>
<td>1,750.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,750.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>1,200.00</td>
<td>1,200.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,200.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td>1,500.00</td>
<td>1,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1,500.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>2,000.00</td>
<td>2,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>2,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>45,000.00</td>
<td>45,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>45,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>650,000.00</td>
<td>650,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>650,000.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AIA Document G703-1992. Copyright © 1963, 1965, 1968, 1970, 1976, 1983 and 1992 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 12:14:47 on 08/07/2009 under Order No.1000386179_1 which expires on 01/27/10, and is not for resale.

User Notes: (2869938699)
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3,500.00</td>
<td>35,000.00</td>
<td>1,000.00</td>
<td>15,000.00</td>
<td>23,000.00</td>
<td>5,300.00</td>
<td>3,000.00</td>
<td>23,000.00</td>
<td>5,000.00</td>
<td>5,000.00</td>
<td>3,500.00</td>
<td>23,000.00</td>
<td>1,000.00</td>
<td>60,000.00</td>
<td>34,000.00</td>
<td>17,500.00</td>
<td>8,000.00</td>
<td>7,500.00</td>
<td>3,500.00</td>
<td>7,500.00</td>
<td>7,000.00</td>
<td>8,500.00</td>
<td>10,000.00</td>
<td>55,000.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1350</td>
<td>8,500.00</td>
<td>8,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,500.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1360</td>
<td>8,000.00</td>
<td>8,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,000.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1370</td>
<td>8,500.00</td>
<td>8,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8,500.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1380</td>
<td>3,000.00</td>
<td>3,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>3,000.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1390</td>
<td>10,000.00</td>
<td>10,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>10,000.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1880</td>
<td>25,000.00</td>
<td>25,000.00</td>
<td>0.00</td>
<td>0.00</td>
<td>25,000.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2140</td>
<td>1,000.00</td>
<td>500.00</td>
<td>500.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2150</td>
<td>5,500.00</td>
<td>2,750.00</td>
<td>2,750.00</td>
<td>0.00</td>
<td>5,500.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2160</td>
<td>10,000.00</td>
<td>8,750.00</td>
<td>1,250.00</td>
<td>0.00</td>
<td>10,000.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2170</td>
<td>7,500.00</td>
<td>7,500.00</td>
<td>0.00</td>
<td>0.00</td>
<td>7,500.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2180</td>
<td>1,000.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>0.00</td>
<td>1,000.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1890</td>
<td>19,000.00</td>
<td>0.00</td>
<td>5,000.00</td>
<td>0.00</td>
<td>5,000.00</td>
<td>26.30 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td>14,000.00</td>
<td>0.00</td>
<td>28,000.00</td>
<td>0.00</td>
<td>28,000.00</td>
<td>200.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1910</td>
<td>2,927.88</td>
<td>2,927.88</td>
<td>0.00</td>
<td>0.00</td>
<td>2,927.88</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1920</td>
<td>6,127.80</td>
<td>6,127.80</td>
<td>0.00</td>
<td>0.00</td>
<td>6,127.80</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1930</td>
<td>6,564.93</td>
<td>6,564.93</td>
<td>0.00</td>
<td>0.00</td>
<td>6,564.93</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1940</td>
<td>6,957.39</td>
<td>6,957.39</td>
<td>0.00</td>
<td>0.00</td>
<td>6,957.39</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td>27,408.00</td>
<td>27,408.00</td>
<td>0.00</td>
<td>0.00</td>
<td>27,408.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>19,818.00</td>
<td>19,818.00</td>
<td>0.00</td>
<td>0.00</td>
<td>19,818.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>30,433.00</td>
<td>29,000.00</td>
<td>1,433.00</td>
<td>0.00</td>
<td>30,433.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>6,474.00</td>
<td>5,737.00</td>
<td>737.00</td>
<td>0.00</td>
<td>6,474.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>9,943.00</td>
<td>9,943.00</td>
<td>0.00</td>
<td>0.00</td>
<td>9,943.00</td>
<td>100.00 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.064.78</td>
<td>0.00</td>
<td>1.064.78</td>
<td>0.00</td>
<td>1.064.78</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.864.61</td>
<td>0.00</td>
<td>5.864.61</td>
<td>0.00</td>
<td>5.864.61</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.328.00</td>
<td>0.00</td>
<td>2.328.00</td>
<td>0.00</td>
<td>2.328.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.352.00</td>
<td>0.00</td>
<td>2.352.00</td>
<td>0.00</td>
<td>2.352.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>769.45</td>
<td>0.00</td>
<td>769.45</td>
<td>0.00</td>
<td>769.45</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.095.75</td>
<td>0.00</td>
<td>1.095.75</td>
<td>0.00</td>
<td>1.095.75</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.357.00</td>
<td>0.00</td>
<td>4.357.00</td>
<td>0.00</td>
<td>4.357.00</td>
<td>100.00 %</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>$ 2,344,947.59</td>
<td>$ 2,282,571.00</td>
<td>$ 62,376.59</td>
<td>$ 0.00</td>
<td>$ 2,344,947.59</td>
<td>100.00 %</td>
<td>$ 0.00</td>
<td>$ 0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# SALES TAX REPORT

## STATE AND COUNTY SALES/USE TAX STATEMENT FOR THE PERIOD 1/25/2009 to 7/25/2009

**CONTRACT:** UNC Resource Research Facility Utility Improvements SCO# 0105442026

<table>
<thead>
<tr>
<th>INVOICE #</th>
<th>DATE</th>
<th>VENDOR'S NAME</th>
<th>TOTAL INVOICE</th>
<th>STATE SALES TAX</th>
<th>LOCAL SALES TAX</th>
<th>MILL MACHINERY SALES TAX</th>
<th>COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1635410</td>
<td>2/18/2009</td>
<td>Ferguson Enterprises, Inc</td>
<td>$34.59</td>
<td>$1.38</td>
<td>$0.81</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1636352</td>
<td>2/19/2009</td>
<td>Ferguson Enterprises, Inc</td>
<td>$63.50</td>
<td>$2.53</td>
<td>$1.49</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1624038</td>
<td>1/21/2009</td>
<td>Ferguson Enterprises, Inc</td>
<td>$98.71</td>
<td>$3.93</td>
<td>$2.31</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1627827</td>
<td>1/29/2009</td>
<td>Ferguson Enterprises, Inc</td>
<td>$78.53</td>
<td>$3.13</td>
<td>$1.83</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1626744</td>
<td>1/28/2009</td>
<td>Ferguson Enterprises, Inc</td>
<td>$43.57</td>
<td>$1.73</td>
<td>$1.02</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1621990</td>
<td>1/15/2009</td>
<td>Ferguson Enterprises, Inc</td>
<td>$46.55</td>
<td>$1.83</td>
<td>$1.09</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1623712</td>
<td>1/21/2009</td>
<td>Ferguson Enterprises, Inc</td>
<td>$57.02</td>
<td>$2.67</td>
<td>$1.57</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1621847</td>
<td>1/14/2009</td>
<td>Ferguson Enterprises, Inc</td>
<td>$74.54</td>
<td>$2.97</td>
<td>$1.74</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1619513</td>
<td>1/9/2009</td>
<td>Ferguson Enterprises, Inc</td>
<td>$418.05</td>
<td>$16.64</td>
<td>$9.79</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>2465754</td>
<td>2/13/2009</td>
<td>Mainline Supply Co</td>
<td>$485.32</td>
<td>$19.34</td>
<td>$11.38</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>03576490</td>
<td>12/30/2009</td>
<td>Harrington Industrial Plastics</td>
<td>$97.08</td>
<td>$3.84</td>
<td>$2.51</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>6123106175</td>
<td>12/31/2008</td>
<td>Chandler Concrete Co.</td>
<td>$160.13</td>
<td>$6.38</td>
<td>$3.75</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>GB-697935</td>
<td>1/7/2009</td>
<td>Univar</td>
<td>$232.07</td>
<td>$9.24</td>
<td>$5.44</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>GB-697995</td>
<td>1/6/2009</td>
<td>Univar</td>
<td>$424.50</td>
<td>$16.91</td>
<td>$9.93</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>56296</td>
<td>1/16/2009</td>
<td>KM Machine</td>
<td>$731.24</td>
<td>$29.11</td>
<td>$17.13</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1608104</td>
<td>12/6/2008</td>
<td>Ferguson Enterprises, Inc</td>
<td>$227.30</td>
<td>$9.13</td>
<td>$3.31</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>1607352</td>
<td>12/8/2008</td>
<td>Ferguson Enterprises, Inc</td>
<td>$207.23</td>
<td>$8.26</td>
<td>$4.56</td>
<td></td>
<td>Orange</td>
</tr>
</tbody>
</table>

I certify that the above figures do not include any tax paid on supplies, tools and equipment which were used to perform this contract and only includes those building materials, supplies, fixtures and equipment which actually became a part of or annexed to the building or structure. I certify that to the best of my knowledge, the information provided here is true, correct and complete.

Signed: [Signature]
Title: [Title]
Date: [Date]

[Notary Stamp]

Michael Phillips, being duly sworn, certifies that the foregoing statement of sales taxes paid in connection with the referenced Contract is true to the best of his or her knowledge and belief.

Sworn to before me this 7 day of Aug 2009

My Commission Expires: [Expiry Date]
FEI-RALEIGH #15
2700-A YONKERS ROAD
RALEIGH, NC 27604-3229

Please Contact With Questions:
919-828-7300

Please refer to Invoice Number when making payment and remit to:

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Customer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1635410</td>
<td>06377</td>
<td>1</td>
</tr>
</tbody>
</table>

TOTAL DUE --> 34.69

FEI #15
REMIT TO:
P.O. BOX 100286
ATLANTA, GA 30384-0286

Sold To:
SEASIDE ENVIRON CONSTRUCTORS
CONSTRUCTORS, INC.
RALEIGH DIVISION
4504 WATERS EDGE DR STE 170

Ship To:
COUNTER PICK UP
104 HWY 54 UNIT EE
CARRBORO, NC 27510

Invoice Number 1635410
Customer 06377

Sold To: SEASIDE ENVIRON CONSTRUCTORS
CONSTRUCTORS, INC.
RALEIGH DIVISION
4504 WATERS EDGE DR STE 170

Ship To: COUNTER PICK UP
104 HWY 54 UNIT EE
CARRBORO, NC 27510

<table>
<thead>
<tr>
<th>Ship Wise</th>
<th>Sell Wise</th>
<th>Tax Code</th>
<th>Customer Order Number</th>
<th>Sales Person</th>
<th>Job Name</th>
<th>Invoice Date</th>
<th>Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>459</td>
<td>459</td>
<td>NC58</td>
<td>07508</td>
<td>RHA</td>
<td>UNC ANIAML</td>
<td>02/18/2009</td>
<td>50108</td>
</tr>
</tbody>
</table>

Ordered Shipped

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 P40SMAG</td>
<td>1 PVC SCH40 SXM ADPT</td>
<td>0.566</td>
<td>EA</td>
<td>0.57</td>
</tr>
<tr>
<td>1 P40TPG</td>
<td>1 PVC SCH40 THRD PLUG</td>
<td>1.495</td>
<td>EA</td>
<td>1.50</td>
</tr>
<tr>
<td>1 P40STG</td>
<td>1 PVC SCH40 SXSXS TEE</td>
<td>0.841</td>
<td>EA</td>
<td>0.84</td>
</tr>
<tr>
<td>2 PFAG</td>
<td>1 PLAS INS X FEM ADPT</td>
<td>4.237</td>
<td>EA</td>
<td>4.47</td>
</tr>
<tr>
<td>1 PITG</td>
<td>1 PLAS INS TEE</td>
<td>2.473</td>
<td>EA</td>
<td>2.47</td>
</tr>
<tr>
<td>10 PFSCHC0720</td>
<td>1/2 SS HOSE CLMP 3/4 - 1-3/4</td>
<td>1.206</td>
<td>EA</td>
<td>12.06</td>
</tr>
<tr>
<td>1 SPC609K608K</td>
<td>2X60 PC609 COMM ORD DUCT TAPE BLAC</td>
<td>6.585</td>
<td>EA</td>
<td>6.69</td>
</tr>
</tbody>
</table>

Invoice Sub-Total

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump</td>
<td>32.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax</td>
<td>2.19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL DUE --> 34.69

JOB NO. 07509
COST CODE Mistle
AMOUNT $34,69
APPROVED BY

ALL ACCOUNTS ARE DUE AND PAYABLE PER THE CONDITIONS AND TERMS OF THE ORIGINAL INVOICE. ALL PAST DUE AMOUNTS ARE SUBJECT TO A SERVICE CHARGE AT THE MAXIMUM RATE ALLOWED BY STATE LAW PLUS COSTS OF COLLECTION INCLUDING ATTORNEY FEES IF INCURRED. FREIGHT TERMS ARE FOB OUR DOCK UNLESS OTHERWISE SPECIFIED ABOVE. COMPLETE TERMS AND CONDITIONS ARE AVAILABLE UPON REQUEST OR CAN BE VIEWED ON THE WEB AT www.ferguson.com/sales-terms.html!
**FERGUSON ENTERPRISES, INC.**

FEI-RALEIGH #15
2700-A YONKERS ROAD
RALEIGH, NC 27604-3229

---

**DUPLICATE INVOICE**

Deliver To: SHEILA
From: Nikki Barlow
Comments:

---

**Please Contact With Questions:**
919-828-7300

---

**Please refer to Invoice Number when making payment and remit to:**

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Customer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1636352</td>
<td>66377</td>
<td>1</td>
</tr>
</tbody>
</table>

---

**FEI #15**
**REMIT TO:**
P.O. BOX 100286
ATLANTA, GA 30384-0286

**Sold To:**
SEASIDE ENVIRONMENT CONSTRUCTORS
CONSTRUCTORS, INC.
RALEIGH DIVISION
4904 WATERS EDGE DR STE 170

**Ship To:**
COUNTER PICK UP
104 HWY 54 UNIT EE
CARRBORO, NC 27510

<table>
<thead>
<tr>
<th>Ship Wise</th>
<th>Sell Wise</th>
<th>Tax Code</th>
<th>Customer Order Number</th>
<th>Sales Person</th>
<th>Job Name</th>
<th>Invoice Date</th>
<th>Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>459</td>
<td>459</td>
<td>NC88</td>
<td>07509</td>
<td>RHA</td>
<td>UNC ANIMAL</td>
<td>02/19/2009</td>
<td>50126</td>
</tr>
</tbody>
</table>

**Ordered**

<table>
<thead>
<tr>
<th></th>
<th>Shipped</th>
<th>Item Number</th>
<th>Description</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordered 2</td>
<td>2</td>
<td>P40SMAG</td>
<td>1 PVC SCH40 SXM ADPT</td>
<td>0.566</td>
<td>EA</td>
<td>1.13</td>
</tr>
<tr>
<td>Shipped 1</td>
<td>1</td>
<td>P40SCM</td>
<td>3 PVC SCH40 SXS COUP</td>
<td>3.789</td>
<td>EA</td>
<td>3.79</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>IBCG</td>
<td>1 BLK MI 150# COUP</td>
<td>2.632</td>
<td>EA</td>
<td>5.26</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>BRIMAG</td>
<td>1 BRS INS X MALE ADPT</td>
<td>10.923</td>
<td>EA</td>
<td>21.85</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>PFPCCM</td>
<td>3 PVC IPS COMP COUP</td>
<td>27.454</td>
<td>EA</td>
<td>27.45</td>
</tr>
</tbody>
</table>

**Invoice Sub-Total**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

**Tax**

|                |          |            |                          |            |     | 4.02   |

**TOTAL DUE -->** 63.50

---

ALL ACCOUNTS ARE DUE AND PAYABLE PER THE CONDITIONS AND TERMS OF THE ORIGINAL INVOICE. ALL PAST DUE AMOUNTS ARE SUBJECT TO A SERVICE CHARGE AT THE MAXIMUM RATE ALLOWED BY STATE LAW PLUS COSTS OF COLLECTION INCLUDING ATTORNEY FEES IF INCURRED, FREIGHT TERMS ARE FOB OUR DOCK UNLESS OTHERWISE SPECIFIED ABOVE. COMPLETE TERMS AND CONDITIONS ARE AVAILABLE UPON REQUEST OR CAN BE VIEWED ON THE WEB AT www.ferguson.com/sales-terms.html
FERGUSON ENTERPRISES, INC.
FEI-RALEIGH #15
2700-A YONKERS ROAD
RALEIGH, NC 27604-3229

Please Contact With Questions:
919-828-7300

From: Nikki Barnes
Comments:

Invo;ce Number Customer Page
1624039 66377 1

Please refer to Invoice Number when making payment and remit to: TOTAL DUE ---> 98.71

FEI #15
REMIT TO:
P.O. BOX 100260
ATLANTA, GA 30384-0265

Sold To:
SEASIDE ENVIRON CONSTRUCTORS
CONSTRUCTORS, INC.
RALEIGH DIVISION
4004 WATERS EDGE DR STE 170

Ship To:
COUNTER PICK UP
1750 E. LAWSON STREET
DURHAM, NC 27703-3625

<table>
<thead>
<tr>
<th>Ship White</th>
<th>Self White</th>
<th>Tax Code</th>
<th>Customer Order Number</th>
<th>Sales Person</th>
<th>Job Name</th>
<th>Invoice Date</th>
<th>Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>117</td>
<td>117</td>
<td>NC32</td>
<td>07509</td>
<td>RHA</td>
<td>UNC ANIMAL RESEARCH</td>
<td>01/21/2009</td>
<td>49582</td>
</tr>
</tbody>
</table>

Ordered | Shipped | Item Number | Description | Unit Price | UM | Amount |
140     | 140      | P40BEFJ20  | 1-1/2X20 FT PVC SCH40 BE PIPE | 66.053 | C | 92.47 |

Invoice Sub-Total 92.47
Tax 6.24

TOTAL DUE ---> 98.71

JOB NO. 128729
COST CODE 11/1000
AMOUNT $98.71
APPROVED BY

ALL ACCOUNTS ARE DUE AND PAYABLE PER THE CONDITIONS AND TERMS OF THE ORIGINAL INVOICE. ALL PAST DUE AMOUNTS ARE SUBJECT TO A SERVICE CHARGE AT THE MAXIMUM RATE ALLOWED BY STATE LAW PLUS COSTS OF COLLECTION INCLUDING ATTORNEY FEES IF INCURRED. FREIGHT TERMS ARE FOB OUR DOCK UNLESS OTHERWISE SPECIFIED ABOVE. COMPLETE TERMS AND CONDITIONS ARE AVAILABLE UPON REQUEST OR CAN BE VIEWED ON THE WEB AT www.ferguson.com/sales-terms.html
FAX DUPLICATE INVOICE

Deliver To: SHEILA
From: Nikki Barnes
Comments: THANKS FOR YOUR HELP, SHEILA. YOU CAN REACH ME BACK BY PHONE: 919-828-7300 X203
OR FAX 919-836-8758

Please Contact With Questions:
919-828-7300

Please refer to Invoice Number when making payment and remit to:

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Customer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1027627</td>
<td>66377</td>
<td>1</td>
</tr>
</tbody>
</table>

TOTAL DUE --> 78.63

FEI #15
REMIT TO:
P.O. BOX 100986
ATLANTA, GA 30364-0286

Sold To:
SEASIDE ENVIRON CONSTRUCTORS
CONSTRUCTORS, INC.
RALEIGH DIVISION
4904 WATERS EDGE DR STE 170

Ship To:
COUNTER PICK UP
104 HWY 54 UNIF EE
CARRBORO, NC 27510

<table>
<thead>
<tr>
<th>Ship Wise</th>
<th>Sell Wise</th>
<th>Tax Code</th>
<th>Customer Order Number</th>
<th>Sales Person</th>
<th>Job Name</th>
<th>Invoice Date</th>
<th>Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>459</td>
<td>459</td>
<td>NC08</td>
<td>07509</td>
<td>RHA</td>
<td>UNC ANIMAL</td>
<td>01/22/2009</td>
<td>49816</td>
</tr>
</tbody>
</table>

Ordered | Shipped | Item Number | Description | Unit Price | UM | Amount |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>FNW420F</td>
<td>3/4 BBS 600# WOG THRD 2PC FP BV</td>
<td>11.865</td>
<td>EA</td>
<td>23.73</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>IBR78F</td>
<td>3/4X1/4 BRS BUSH</td>
<td>2.318</td>
<td>EA</td>
<td>4.64</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>GNRM</td>
<td>3/4X3 GALV SIL NIP</td>
<td>1.041</td>
<td>EA</td>
<td>2.08</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>IGBFD</td>
<td>3/4X1/2 GALV M BUSH</td>
<td>2.883</td>
<td>EA</td>
<td>5.77</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>P495FBK</td>
<td>1-1/2X2 PVC SCH40 FTG X F BUSH</td>
<td>1.495</td>
<td>EA</td>
<td>2.99</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>P495FC</td>
<td>2X3/4 PVC SCH40 SPF GT X FPT BUSH</td>
<td>2.005</td>
<td>EA</td>
<td>4.01</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>P495CJ</td>
<td>1-1/2 PVC SCH40 XS S Coup</td>
<td>0.736</td>
<td>EA</td>
<td>1.47</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>P495CK</td>
<td>2 PVC SCH40 XS Coup</td>
<td>1.127</td>
<td>EA</td>
<td>2.25</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>PFG200L</td>
<td>2-1/2 PRES GA 0-200#</td>
<td>13.364</td>
<td>EA</td>
<td>26.73</td>
</tr>
</tbody>
</table>

Invoice Sub-Total |
Tax |

TOTAL DUE --> 78.63

JOB NO. 0759
COST CODE 11 555
AMOUNT 78.63
APPROVED BY

ALL ACCOUNTS ARE DUE AND PAYABLE PER THE CONDITIONS AND TERMS OF THE ORIGINAL INVOICE. ALL PAST DUE AMOUNTS ARE SUBJECT TO A SERVICE CHARGE AT THE MAXIMUM RATE ALLOWED BY STATE LAW PLUS COSTS OF COLLECTION INCLUDING ATTORNEY FEES IF INCURRED. FREIGHT TERMS ARE FOR OUR DOCK UNLESS OTHERWISE SPECIFIED ABOVE. COMPLETE TERMS AND CONDITIONS ARE AVAILABLE UPON REQUEST OR CAN BE VIEWED ON THE WEB AT wwwerguson.com/sales-terms.html
**FERGUSON ENTERPRISES, INC.**

FEI-RALEIGH #15
2700-A YONKERS ROAD
RALEIGH, NC 27604-3229

**FEI-RALEIGH #15**
REMIT TO:
P.O. BOX 100286
ATLANTA, GA 30384-0286

**Sold To:**
SEASIDE ENVIRON CONSTRUCTORS
CONSTRUCTORS, INC.
RALEIGH DIVISION
4004 WATERS EDGE DR STE 170

**Ship To:**
COUNTER PICK UP
104 HWY 54 UNIT FE
CARRBORO, NC 27510

---

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Customer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1625744</td>
<td>66377</td>
<td>1</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNKL</td>
<td>2X2-1/2 GALV STL NIP</td>
<td>2.973</td>
<td>EA</td>
<td>2.97</td>
</tr>
<tr>
<td>GNKP</td>
<td>2X4 GALV STL NIP</td>
<td>3.608</td>
<td>EA</td>
<td>14.43</td>
</tr>
<tr>
<td>IG-150UK</td>
<td>2 GALV ML 150# GJ UNION</td>
<td>23.415</td>
<td>EA</td>
<td>23.42</td>
</tr>
</tbody>
</table>

**Invoice Sub-Total**

<table>
<thead>
<tr>
<th>Tax</th>
<th>40.82</th>
</tr>
</thead>
</table>

**TOTAL DUE**

| 43.57 |

---

**JOB NO.**

| 407509 |

**COST CODE**

| 11150000 |

**AMOUNT**

| $43,57 |

**APPROVED BY**

---

**FAX DUPLICATE INVOICE**

Deliver To: SHEILA
From: NIKKI BARNES
Comments: THANKS FOR YOUR HELP, SHEILA. YOU CAN REACH ME BACK BY PHONE: 919-828-7300 X203 OR FAX 919-836-9758

---

**All accounts are due and payable per the conditions and terms of the original invoice. All past due amounts are subject to a service charge at the maximum rate allowed by state law plus costs of collection including attorney fees if incurred. Freight terms are FOB our dock unless otherwise specified above. Complete terms and conditions are available upon request or can be viewed on the Web at www.ferguson.com/sales-terms.html**
**FAX DUPLICATE INVOICE**

**Deliver To:** SHEILA  
**From:** Nikki Barnes  
**Comments:** THANKS FOR YOUR HELP, SHEILA. YOU CAN REACH ME BACK BY PHONE: 919-828-7300 X203 OR FAX 919-836-8758

Please contact with questions: 919-828-7300

---

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Customer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1621990</td>
<td>60377</td>
<td>1</td>
</tr>
</tbody>
</table>

Please refer to invoice number when making payment and remit to: TOTAL DUE ---> 46.55

---

**FEI #15**  
REMIT TO:  
P.O. BOX 100286  
ATLANTA, GA 30384-0286

**Sold To:**  
SEASIDE ENVIRON CONSTRUCTORS  
CONSTRUCTORS, INC.  
RALEIGH DIVISION  
4904 WATERS EDGE DR STE 170

**Ship To:**  
COUNTER PICK UP  
104 HWY 54 UNIT EE  
CARRBORO, NC 27510

---

**Ship Wire**  
**Sell Wire**  
**Tax Code**  
**Order Number**  
**Sales Person**  
**Job Name**  
**Invoice Date**  
**Batch**

<table>
<thead>
<tr>
<th>Ordered</th>
<th>Shipped</th>
<th>Item Number</th>
<th>Description</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1BR59F</td>
<td>3/4 BR5 90 ELL</td>
<td>4.678</td>
<td>EA</td>
<td>4.68</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>1BR58F</td>
<td>3/4 X1/4 BR5 BUSH</td>
<td>2.318</td>
<td>EA</td>
<td>4.64</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>P40SFUJ</td>
<td>1-1/2X3/4 PVC SCH40 FTG X F BUSH</td>
<td>1.495</td>
<td>EA</td>
<td>1.50</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>P40SKKF</td>
<td>2X3/4 PVC SCH40 SPGT X RPT BUSH</td>
<td>2.003</td>
<td>EA</td>
<td>2.00</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>P40SFAX</td>
<td>2 PVC SCH40 6X6 KFIT</td>
<td>1.238</td>
<td>EA</td>
<td>1.24</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>P40SMAK</td>
<td>2 PVC SCH40 SXM ADPT</td>
<td>1.218</td>
<td>EA</td>
<td>1.22</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>P40STJ</td>
<td>1-1/2 PVC SCH40 SXSM TEE</td>
<td>1.600</td>
<td>EA</td>
<td>1.60</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>PFG100L</td>
<td>2-1/2 PRES GAL 100#</td>
<td>13.354</td>
<td>EA</td>
<td>26.73</td>
</tr>
</tbody>
</table>

**Invoice Sub-Total**  
**Tax**  
**Total Due --->** 46.55

---

**JOB NO.** 07829  
**COST CODE** W4131CC  
**AMOUNT** $46.55

---

**APPENDED BY**

**ALL ACCOUNTS ARE DUE AND PAYABLE PER THE CONDITIONS AND TERMS OF THE ORIGINAL INVOICE. ALL PAST DUE ACCOUNTS ARE SUBJECT TO A SERVICE CHARGE AT THE MAXIMUM RATE ALLOWED BY STATE LAW PLUS COSTS OF COLLECTION INCLUDING ATTORNEY FEES IF INCURRED. FREIGHT TERMS ARE FOR OUR DOCK UNLESS OTHERWISE SPECIFIED ABOVE. COMPLETE TERMS AND CONDITIONS ARE AVAILABLE UPON REQUEST OR CAN BE VIEWED ON THE WEB AT www.ferguson.com/sales-terms.html
Please refer to Invoice Number when making payment and remit to:

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Customer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1623712</td>
<td>66377</td>
<td>1</td>
</tr>
</tbody>
</table>

Please Contact With Questions:
919-828-7300

Deliver To: SHEILA
from: Nikki Barnes
Comments: THANKS FOR YOUR HELP, SHEILA. YOU CAN REACH MS BACK BY PHONE: 919-428-7300 X203 OR FAX 919-836-8758

Sold To: SEASIDE ENVIRON CONSTRUCTORS CONSTRUCTORS, INC. RALEIGH DIVISION 4004 WATERS EDGE DR STE 170

Ship To: COUNTER PICK UP 104 HWY 54 UNIT EE CARRBORO, NC 27510

<table>
<thead>
<tr>
<th>Ship Wise</th>
<th>Sell Wise</th>
<th>Tax Code</th>
<th>Order Number</th>
<th>Sales Person</th>
<th>Job Name</th>
<th>Invoice Date</th>
<th>Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>459</td>
<td>459</td>
<td>NC06</td>
<td>07509</td>
<td>RHA</td>
<td>UNC ANIMAL</td>
<td>01/21/2009</td>
<td>49661</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW420F</td>
<td>3/4 IPS 600mm WOG THIRD 2PC FP BV</td>
<td>11.865</td>
<td>EA</td>
<td>11.87</td>
</tr>
<tr>
<td>B00BF</td>
<td>3/4 IPS 600mm NIP</td>
<td>2.713</td>
<td>EA</td>
<td>2.71</td>
</tr>
<tr>
<td>1888TB</td>
<td>3/4 IPS 1/2 IPS BUSH</td>
<td>2.318</td>
<td>EA</td>
<td>2.32</td>
</tr>
<tr>
<td>P425FB3F</td>
<td>1-1/2 IPS 1/2 PVC SCH40 FIC X BC BUSH</td>
<td>1.495</td>
<td>EA</td>
<td>1.50</td>
</tr>
<tr>
<td>P425BMJ</td>
<td>3X1-1/2 PVC SCH40 SPIG BUSH</td>
<td>2.307</td>
<td>EA</td>
<td>2.31</td>
</tr>
<tr>
<td>P40STM</td>
<td>3 PVC SCH40 SXS SXS TEE</td>
<td>9.803</td>
<td>EA</td>
<td>9.80</td>
</tr>
<tr>
<td>P425HM</td>
<td>3 PVC SCH40 SXS SXS</td>
<td>1.200</td>
<td>EA</td>
<td>1.20</td>
</tr>
<tr>
<td>P40CTM</td>
<td>3 PVC SCH40 SXS SXS</td>
<td>27.454</td>
<td>EA</td>
<td>27.45</td>
</tr>
</tbody>
</table>

Total Invoice: 62.76
Tax: 4.24

TOTAL DUE: 67.02

JOB NO. 07509
COST CODE M15100E
AMOUNT 67.02

APPROVED BY

ALL ACCOUNTS ARE DUE AND PAYABLE PER THE CONDITIONS AND TERMS OF THE ORIGINAL INVOICE. ALL PAST DUE AMOUNTS ARE SUBJECT TO A SERVICE CHARGE AT THE MAXIMUM RATE ALLOWED BY LAW PLUS COSTS OF COLLECTION INCLUDING ATTORNEY FEES IF INCURRED. FREIGHT TERMS ARE FOB OUR DOCK UNLESS OTHERWISE SPECIFIED ABOVE. COMPLETE TERMS AND CONDITIONS ARE AVAILABLE UPON REQUEST OR CAN BE VIEWED ON THE WEB AT www.ferguson.com/sales-terms.html
FAX DUPLICATE INVOICE

 DeliverTo: SHEILA
 From: Nikki Barnes
 Comments: THANKS FOR YOUR HELP, SHEILA. YOU CAN REACH ME BACK BY PHONE: 919-828-7300 X203 OR FAX 919-656-8758

Please use the Invoice Number when making payment and remit to:

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Customer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1621847</td>
<td>66377</td>
<td>1</td>
</tr>
</tbody>
</table>

TOTAL DUE --> 74.54

FEI #15
REMIT TO:
P.O. BOX 100286
ATLANTA, GA 30384-0286

Sold To:
SEASIDE ENVIRON CONSTRUCTORS
CONSTRUCTORS, INC.,
RALEIGH DIVISION
4004 WATERBURY EDGE DR STE 170

Ship To:
COUNTER PICKUP
104 HWY 54 UNIT EE
CARRBORO, NC 27510

<table>
<thead>
<tr>
<th>Ship White</th>
<th>Sell White</th>
<th>Tax Code</th>
<th>Customer Order Number</th>
<th>Sales Person</th>
<th>Job Name</th>
<th>Invoice Date</th>
<th>Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>459</td>
<td>459</td>
<td>NC68</td>
<td>07509</td>
<td>RHA</td>
<td>UNC ANIMAL HOSPITAL</td>
<td>01/14/2009</td>
<td>45611</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M1161J 1-1/2 IRIZ 1501 HRS GATE VLV</td>
<td>0.984</td>
<td>EA</td>
<td>0.98</td>
</tr>
<tr>
<td>2</td>
<td>P40SMJ 1-1/2 PVC SCH40 SCH ADPT</td>
<td>0.023</td>
<td>EA</td>
<td>0.85</td>
</tr>
</tbody>
</table>

Invoice Sub-Total 69.83

Tax 4.71

TOTAL DUE --> 74.54

JOB NO. 07704
COST CODE M151000
AMOUNT 74.54
APPROVED BY

ALL ACCOUNTS ARE DUE AND PAYABLE PER THE CONDITIONS AND TERMS OF THE ORIGINAL INVOICE. ALL PAST DUE AMOUNTS ARE SUBJECT TO A SERVICE CHARGE AT THE MAXIMUM RATE ALLOWED BY STATE LAW PLUS COSTS OF COLLECTION INCLUDING ATTORNEY FEES IF INCURRED. FREIGHT TERMS ARE FOB OUR DOCK UNLESS OTHERWISE SPECIFIED ABOVE. COMPLETE TERMS AND CONDITIONS ARE AVAILABLE UPON REQUEST OR CAN BE VIEWED ON THE WEB AT www.ferguson.com/sales-terms.html
**Fax Duplicate Invoice**

Deliver To: SHEILA  
From: Nikki Barnes  
Comments: Thanks for your help, Sheila. You can reach me back by phone: 919-828-7300 or fax 919-836-8758

Please refer to Invoice Number when making payment and remit to:

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Customer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1610913</td>
<td>66377</td>
<td>1</td>
</tr>
</tbody>
</table>

**Please Contact With Questions:**  
919-828-7300

**Sold To:**  
SEASIDE ENVIRON Constructors, Inc.  
RALEIGH DIVISION  
4504 Waters Edge Dr STE 170

**Ship To:**  
COUNTER PICK UP  
184 HWY 54 UNIT EE  
CARRBORO, NC 27510

<table>
<thead>
<tr>
<th>Ship Wise</th>
<th>Sell Wise</th>
<th>Tax Code</th>
<th>Customer Order Number</th>
<th>Sales Person</th>
<th>Job Name</th>
<th>Invoice Date</th>
<th>Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
<td>459</td>
<td>NC68</td>
<td>07509</td>
<td>RHA</td>
<td>UNC ANIMAL</td>
<td>01/09/2009</td>
<td>40593</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ordered</th>
<th>Shipped</th>
<th>Item Number</th>
<th>Description</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>M1151K</td>
<td>2 B2Z 1 120# THRD RS GATE VLV</td>
<td>84.473</td>
<td>EA</td>
<td>168.95</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>P606MAK</td>
<td>2 PVC SCH80 SXS ADPT</td>
<td>22.930</td>
<td>EA</td>
<td>91.72</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>P606CK</td>
<td>2 PVC SCH80 SXS COUP</td>
<td>10.977</td>
<td>EA</td>
<td>20.75</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>P606SM</td>
<td>2 PVC SCH80 SXS 45 ELL</td>
<td>19.692</td>
<td>EA</td>
<td>39.38</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>P606SI</td>
<td>2 PVC SCH80 SXS3 1EE</td>
<td>29.699</td>
<td>EA</td>
<td>59.40</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>P406SMK</td>
<td>3X2 PVC SCH40 SPXSLIP BUSH</td>
<td>5.710</td>
<td>EA</td>
<td>11.42</td>
</tr>
</tbody>
</table>

**Invoice Sub-Total:** 391.62  
**Tax:** 26.43  
**TOTAL DUE -->** 418.05

**JOB NO. 00521**  
**COST CODE 28150**  
**AMOUNT $418.05**  
**APPROVED BY.**

---

All accounts are due and payable per the conditions and terms of the original invoice. All past due amounts are subject to a service charge at the maximum rate allowed by state law plus costs of collection including attorney fees if incurred. Freight terms are FOB our dock unless otherwise specified above. Complete terms and conditions are available upon request or can be viewed on the web at www.ferguson.com/sales-terms.html
INVOICE

INVOICE NUMBER: 2465764
INVOICE DATE: 2/13/09
DUE DATE: 3/15/09

Please Remit Payment To:
MAINLINE - RALEIGH
WACHOVIA BANK
PO BOX 834450
ATLANTA, GA 31193-4450

Warehouse:
MAINLINE - RALEIGH
31 RUPERT ROAD
RALEIGH, NC 27603
Telephone: 919-779-7266

Sold To:
SEASIDE ENVIRONMENTAL CONSTRUCTION INCORPORATED
4804 WATERS EDGE DR, STE 170
RALEIGH, NC 27606-2466

Customer Pickup

<table>
<thead>
<tr>
<th>BRANCH NO</th>
<th>ORDER NO</th>
<th>SHIPPING METHOD</th>
<th>CUSTOMER NO</th>
<th>TERMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>029</td>
<td>2465764</td>
<td>Pickup</td>
<td>203272</td>
<td>NET 30 DAYS</td>
</tr>
<tr>
<td>PO NO</td>
<td>JOB NAME</td>
<td>JOB NO</td>
<td>SLIP</td>
<td>DUE DATE</td>
</tr>
<tr>
<td>PER MIKE</td>
<td>UNC RESEARCH</td>
<td>UNC</td>
<td>3/15/09</td>
<td>2/13/09</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRODUCT NO</th>
<th>DESCRIPTION</th>
<th>UOM</th>
<th>QUANTITY</th>
<th>UNIT PRICE</th>
<th>EXTENDED PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>07820</td>
<td>2&quot; 5721 FLANGE METER USG W000201 HERSEY</td>
<td>EA</td>
<td>1</td>
<td>455.1000</td>
<td>455.10</td>
</tr>
</tbody>
</table>

AMOUNT DUE   $455.10
TAX           $90.72
FREIGHT       $0.00
FUEL SURCHG/70TH $0.00
TOTAL DUE    $485.82

Returns accepted without prior authorization. All claims for damage must be filed with carrier.
Sales are subject to the terms and conditions of sale on the reverse side.
INVOICE

BILL TO: SEASIDE ENVIRONMENTAL CONSTRUCTORS INCORPORATED
        SUITE 170
        4904 WATERS EDGE DRIVE
        RALEIGH, NC 27606

SHIP TO: SEASIDE ENVIRONMENTAL
        C/O UNC RESOURCE FACILITY
        1707 ORANGE CHAPEL
        CLOVER GARDEN ROAD
        CHAPEL HILL, NC 27516

<table>
<thead>
<tr>
<th>ORDER NUMBER</th>
<th>CUSTOMER PO NUMBER</th>
<th>ORDER DATE</th>
<th>SHIP DATE</th>
<th>QUANTITY</th>
<th>COST CODE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>03576480</td>
<td>03571617</td>
<td>12/30/08</td>
<td>12/24/08</td>
<td></td>
<td>035</td>
<td>79.52</td>
</tr>
</tbody>
</table>

**416-030**
3" 22-1/2 ELBOW S PVC SCH40

UNIT PRICE: 5.68

WARRANTY DISCLAIMER: Harrington Industrial Plastics LLC ("Harrington") makes no express or implied warranties, including those of merchantability or fitness for particular purpose, with regard to goods and products not manufactured by Harrington. With regard to products manufactured by Harrington, Harrington warrants only that such products will be free of defects in material and workmanship for a period of one year from shipment date. Harrington makes no other express or implied warranties with respect to such goods. Any description of goods in this invoice is for the sole purpose of identifying them, and does not constitute a warranty of any kind.

ENTIRE AGREEMENT: The terms and conditions set forth in this invoice constitute the entire agreement between purchaser and Harrington and supersede any prior or contemporaneous representations or agreements, written or oral. No additional oral or written terms, including any attempts by purchaser to alter or modify this invoice or any other document relating to this sale, shall become a part of this agreement without the express written consent of Harrington.
Chandler Concrete Company, Inc.
Post Office Box 131 * Burlington, NC 27216-0131
Telephone: (336) 226-1181 / Fax: (336) 570-0557
Visit our web site : www.chandlerconcrete.com

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Invoice Date</th>
<th>Customer P.O.</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>6123108175</td>
<td>12/31/2008</td>
<td>07509-11</td>
<td>Net 30</td>
</tr>
</tbody>
</table>

Sold To: SEASIDE ENVIRONMENTAL Constructors, INC.
Ship To: RESOURCES RESEARCH FACILITY
4904 WATERS EDGE DRIVE
SUITE 170
RALEIGH, NC 27606-0000 • USA

Yule 2009

<table>
<thead>
<tr>
<th>Mix Design</th>
<th>Description</th>
<th>Qty Shipped</th>
<th>Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>bs</td>
<td>3,000 cu-46-W/C</td>
<td>1.50</td>
<td>98.00</td>
<td>147.00</td>
</tr>
<tr>
<td>(30)</td>
<td>FUEL SURCHARGE</td>
<td>1.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>(78)</td>
<td>ENVIRONMENTAL FEE</td>
<td>1.00</td>
<td>3.00</td>
<td>3.00</td>
</tr>
</tbody>
</table>

Total Mix Qty. 1.50

<table>
<thead>
<tr>
<th>Item</th>
<th>Job No.</th>
<th>Cost Code</th>
<th>Amount</th>
<th>Approved By</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>JOS 120</td>
<td>03431</td>
<td>160.13</td>
<td></td>
</tr>
</tbody>
</table>

Subtotal 150.00
Sales Tax 10.13
Payment/Credit Amount 0.00

Balance 160.13

For proper credit, return this portion with payment to:
PO Box 131 Burlington, NC 27216
Customer: 10029875, SEASIDE ENVIRONMENTAL Constructors, INC.

Invoice No.: 6123108175
Date: 12/31/2008
Invoice Total: 160.13
**UNIVAR USA Inc.**

**ORIGINAL INVOICE**

**UNIVAR GREENSBORO**
3600 WEST WENDOVER AVENUE
GREENSBORO NC 27407
800-438-1119

---

**BILL TO**

653397 001
SEASIDE ENVIRONMENT CONST
4904 WATERS EDGE DR.
SUITE 170
RALEIGH NC 27606

---

**SHIPTO**

653397 001
SEASIDE ENVIRONMENT CONST
4904 WATERS EDGE DR.
SUITE 170
RALEIGH NC 27606

---

### Original Invoice Details

<table>
<thead>
<tr>
<th>INVOICE NO.</th>
<th>INV DATE</th>
<th>ORDER NO.</th>
<th>CUSTOMER P.O. NUMBER</th>
<th>MIKE</th>
<th>ITEM DESCRIPTION</th>
<th>TAX</th>
<th>QUANTITY ORDERED</th>
<th>QUANTITY SHIPPED</th>
<th>BILLING QTY/UNIT PRICE</th>
<th>EXTENDED AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB-687636</td>
<td>01/07/09</td>
<td>410380</td>
<td>100</td>
<td></td>
<td>POTASSIUM PERMANGANATE FF 25 KG PL</td>
<td>Y</td>
<td>1.00</td>
<td>1.00</td>
<td>55.12</td>
<td>187.39</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CARUS NSF CRYST PAIL POL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LOT #: 0812-1-1376</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>UNIVAR PACKAGE DELIVERY</td>
<td>Y</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>644207 EA EA CHARGE ****</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 EA EA TRANSPORTATION ONLY SPCL CHG ****</td>
<td>Y</td>
<td>1.00</td>
<td>1.00</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 EA EA TRANSPORTATION ONLY SPCL CHG ****</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INVOICE TOTAL:** 232.07

---

**Terms:** ACHUGO & 732767

---

*Please note that all orders or purchases are subject to Univar’s Standard Terms and Conditions of Sale as of the date of shipment, available at www.univarsusa.com/saleterms. All sales and orders are expressly limited to the purchase or order unless otherwise written by both parties.*
## UNIVAR

**UNIVAR USA Inc.**

---

### ORIGINAL INVOICE

**UNIVAR GREENSBORO**

3600 WEST VENDOVER AVENUE

GREENSBORO NC 27407

800-438-1119

---

**SEASIDE ENVIRONMENT CONSTRUCTION**

4904 WATERS EDGE DR.

RALEIGH NC 27606-2466

---

**DATE:** JAN 13 2009

**CUSTOMER:** SEASIDE ENVIRONMENT CONSTRUCTION

**SHIP TO:** SEASIDE ENVIRONMENT CONSTRUCTION

4904 WATERS EDGE DR.

Suite 170

RALEIGH NC 27606

---

**INVOICE NO.:** 653397 001

**ORDER NO.:** 410935

**DATE:** 01/06/09

**SHIP DATE:** 01/06/09

**SALES REP:** KATHY GATLIN

**TAX EXEMPT NO.:**

---

### PRODUCT DESCRIPTION

<table>
<thead>
<tr>
<th>PRODUCT DESCRIPTION</th>
<th>TAX</th>
<th>QUANTITY ORDERED</th>
<th>QUANTITY SHIPPED/SGO</th>
<th>BILLING UNIT/UNIT PRICE</th>
<th>EXTENDED AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>730326 SUPERFLOC N-300</td>
<td>Y</td>
<td>1.00</td>
<td>1.00</td>
<td>55.12</td>
<td>397.66</td>
</tr>
<tr>
<td>KEM WATR TECH GRAN BAG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOT #: BD97969B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>269160 COMMON CARRIER FRT (GM)</td>
<td>Y</td>
<td>1.00</td>
<td>1.00</td>
<td>0.0000</td>
<td>0.00</td>
</tr>
<tr>
<td>I EA EA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPCL CHG **** **** NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MERCHANDISE:**

**SALES TAX:**

**INVOICE TOTAL:**

---

**TERMS:** NET 30

**JOB NO:** 0728

---

**COSTCODE:** M11

---

---

---

---

---

---

---
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>QTY-1 ALUMINUM STAFF GAUGE WITH SS U-BOLTS</td>
<td>685.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JOB NO.</th>
<th>C7937</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSTCODE</td>
<td>C524</td>
</tr>
<tr>
<td>AMOUNT</td>
<td>231.24</td>
</tr>
<tr>
<td>APPROVED BY</td>
<td></td>
</tr>
</tbody>
</table>

WE APPRECIATE YOUR BUSINESS

| TAXABLE | 685.00 |
| TAX | 46.24 |
| NONTAXABLE | 0.00 |
| TOTAL | 731.24 |
FAX DUPLICATE INVOICE

DELIVER TO: SHETILIA

Please refer to Invoice Number when making payment and remit to:

TOTAL DUE ---> 227.30

Sold To:
SEASIDE ENVIRON CONSTRUCTORS
CONSTRUCTORS, INC.
RALEIGH DIVISION
4904 WATERS EDGE DR STE 170

Ship To:
COUNTER PICK UP
1750 E. LAWSON STREET
DURHAM, NC 27703-3525

<table>
<thead>
<tr>
<th>Ship Whse</th>
<th>Sell Whse</th>
<th>Tax Code</th>
<th>Customer Order Number</th>
<th>Sales Person</th>
<th>Job Name</th>
<th>Invoice Date</th>
<th>Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>117</td>
<td>117</td>
<td>NC32</td>
<td>07509</td>
<td>BHA</td>
<td>UNC</td>
<td>12/08/2008</td>
<td>49092</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ordered</th>
<th>Shipped</th>
<th>Item Number</th>
<th>Description</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>8101014</td>
<td>1-1/2 BRZ BOOSTER PUMP FLG</td>
<td>30.535</td>
<td>EA</td>
<td>30.54</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>PFP609/SFM</td>
<td>3 PVC SCH80 VAN STONE SOC FLG</td>
<td>17.783</td>
<td>EA</td>
<td>17.78</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>GFFK</td>
<td>2 GALV MI FLR FLG</td>
<td>69.400</td>
<td>EA</td>
<td>69.40</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>GBBL</td>
<td>2-1/2X2 GALV MI HEX BUSH</td>
<td>32.540</td>
<td>EA</td>
<td>32.54</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>GRC2J</td>
<td>2X1-1/2 GALV MI 150# RED Coup</td>
<td>32.500</td>
<td>EA</td>
<td>65.00</td>
</tr>
</tbody>
</table>

Invoice Sub Total: 214.86
Tax: 12.44

TOTAL DUE ---> 227.30

ALL ACCOUNTS ARE DUE AND PAYABLE PER THE CONDITIONS AND TERMS OF THE ORIGINAL INVOICE. ALL PAST DUE AMOUNTS ARE SUBJECT TO A SERVICE CHARGE AT THE MAXIMUM RATE ALLOWED BY STATE LAW PLUS COSTS OF COLLECTION INCLUDING ATTORNEY FEES IF INCURRED. FREIGHT TERMS ARE FOR OUR DOCK UNLESS OTHERWISE SPECIFIED ABOVE. COMPLETE TERMS AND CONDITIONS ARE AVAILABLE UPON REQUEST OR CAN BE VIEWED ON THE WEB AT www.ferguson.com/sales-terms.html
FAX DUPLICATE INVOICE

Deliver To: SHEILA
From: Nikki Barnes
Comments:

Please refer to Invoice Number when making payment and remit to:

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Customer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1607382</td>
<td>66377</td>
<td>1</td>
</tr>
</tbody>
</table>

Please Contact With Questions:
919-828-7300

Sold To:
SEASIDE ENVIRON CONSTRUCTORS
CONSTRUCTORS, INC.
raleigh division
4904 waters edge dr ste 170

Ship To:
COUNTER PICK UP
1750 E. LAWSON STREET
DURHAM, NC 27703-3625

<table>
<thead>
<tr>
<th>Ship To</th>
<th>Sell To</th>
<th>Tax Code</th>
<th>Customer Order Number</th>
<th>Sales Person</th>
<th>Job Name</th>
<th>Invoice Date</th>
<th>Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEASIDE</td>
<td>NC32</td>
<td>07509</td>
<td>RHA</td>
<td>UNCANIMAL</td>
<td>12/03/2009</td>
<td>40071</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Unit Price</th>
<th>UM</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIDPM 3</td>
<td>397.90</td>
<td>C</td>
<td>71.55</td>
</tr>
<tr>
<td>P805FM 3</td>
<td>397.90</td>
<td>EA</td>
<td>59.95</td>
</tr>
<tr>
<td>P805FM 3</td>
<td>324.76</td>
<td>EA</td>
<td>32.48</td>
</tr>
<tr>
<td>P805FM 3</td>
<td>24.624</td>
<td>EA</td>
<td>24.62</td>
</tr>
<tr>
<td>G9F 3</td>
<td>5.493</td>
<td>EA</td>
<td>5.49</td>
</tr>
</tbody>
</table>

Invoice Sub-Total

| Tax | 13.10 |

TOTAL DUE ---> 207.23

All accounts are due and payable per the conditions and terms of the original invoice. All past due amounts are subject to a service charge at the maximum rate allowed by state law plus costs of collection including attorney fees if incurred. Freight terms are for our dock unless otherwise specified above. Complete terms and conditions are available upon request or can be viewed on the web at www.ferguson.com/sales-terms.html.
MONTHLY REPORTING FORM -- attach all weight tickets and documentation!!

UNC Capital Projects - Solid Waste Management
Office of Waste Reduction and Recycling, UNC-CH
Phone: 962-4699 (Sarah Myers)  samyers@fac.unc.edu

PROJECT:  UNC Resource Research Facility SCO #010544202B
TODAY'S DATE:  9-Jan-09
SUMMARY FOR MONTH OF:  1/1/2009 through 7/1/2009

<table>
<thead>
<tr>
<th>List: Recycle, Salvage, MRF, or Landfill</th>
<th>Type of material</th>
<th>Quantity (tons)</th>
<th>Destination - name of landfill, recycling facility, or other recipient</th>
<th>Hauler name</th>
<th>Cost of handling &amp; transp.</th>
<th>Revenue or tip fee</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRF</td>
<td>Scrap metal</td>
<td>0</td>
<td>WCA of America</td>
<td>Canco</td>
<td>$100/LD</td>
<td>46/TN</td>
<td>$0.00</td>
</tr>
<tr>
<td>MRF</td>
<td>OCC</td>
<td>0.56</td>
<td>WCA of America</td>
<td>Canco</td>
<td>$100/LD</td>
<td>46/TN</td>
<td>$25.76</td>
</tr>
<tr>
<td>MRF</td>
<td>Clean wood</td>
<td>0.21</td>
<td>WCA of America</td>
<td>Canco</td>
<td>$100/LD</td>
<td>46/TN</td>
<td>$9.96</td>
</tr>
<tr>
<td>MRF</td>
<td>AGG/ Dirt</td>
<td>1.07</td>
<td>WCA of America</td>
<td>Canco</td>
<td>$100/LD</td>
<td>46/TN</td>
<td>$49.22</td>
</tr>
<tr>
<td>MRF</td>
<td>Landfilled</td>
<td>2.36</td>
<td>WCA of America</td>
<td>Canco</td>
<td>$100/LD</td>
<td>46/TN</td>
<td>$108.56</td>
</tr>
</tbody>
</table>

TOTAL COST: $193.50

Contamination issues:  
Meetings held to address waste management:
## Roll-off Containers for Construction Debris Recycling Demolition

<table>
<thead>
<tr>
<th>Type of Material</th>
<th>Quantity (Tons)</th>
<th>Destination</th>
<th>Mode of Transportation</th>
<th>Cost of Handling &amp; Hauling</th>
<th>Revenue or Disposal</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrap metal</td>
<td>0.00</td>
<td>WCA of America</td>
<td>Hauler</td>
<td>$100/LD</td>
<td>45/ton</td>
<td>$0.00</td>
</tr>
<tr>
<td>OCC</td>
<td>0.56</td>
<td>WCA of America</td>
<td>Hauler</td>
<td>$100/LD</td>
<td>45/ton</td>
<td>$26.75</td>
</tr>
<tr>
<td>Clean wood</td>
<td>0.21</td>
<td>WCA of America</td>
<td>Hauler</td>
<td>$100/LD</td>
<td>45/ton</td>
<td>$9.68</td>
</tr>
<tr>
<td>Agg/Dirt</td>
<td>0.85</td>
<td>WCA of America</td>
<td>Hauler</td>
<td>$100/LD</td>
<td>45/ton</td>
<td>$39.10</td>
</tr>
<tr>
<td>Landfilled</td>
<td>1.12</td>
<td>WCA of America</td>
<td>Hauler</td>
<td>$100/LD</td>
<td>45/ton</td>
<td>$51.52</td>
</tr>
</tbody>
</table>

**TOTAL COST**: $126.04

Meetings held to address waste management.
### Canco Containers for Construction Debris Recycling Demolition

#### PROJECT:
- **UNC Animal Research Facility**

#### TODAY'S DATE:
- 4/13/2009

#### SUMMARY FOR MONTH OF:
- March, 2009

<table>
<thead>
<tr>
<th>Type of Material</th>
<th>Quantity (Ton)</th>
<th>Destination</th>
<th>Means of Transportation</th>
<th>Cost of Hauling (LD)</th>
<th>Revenue on Date</th>
<th>Retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrap metal</td>
<td>0.00</td>
<td>WCA of America</td>
<td>Hauler</td>
<td>$100/LD</td>
<td>46/1n</td>
<td>$0.00</td>
</tr>
<tr>
<td>OCC</td>
<td>0.00</td>
<td>WCA of America</td>
<td>Hauler</td>
<td>$100/LD</td>
<td>46/1n</td>
<td>$0.00</td>
</tr>
<tr>
<td>Clean wood</td>
<td>0.22</td>
<td>WCA of America</td>
<td>Hauler</td>
<td>$100/LD</td>
<td>46/1n</td>
<td>$10.12</td>
</tr>
<tr>
<td>Agg/ Dirt</td>
<td>1.24</td>
<td>WCA of America</td>
<td>Hauler</td>
<td>$100/LD</td>
<td>46/1n</td>
<td>$57.04</td>
</tr>
</tbody>
</table>

**TOTAL COST**

$87.16

---

Meeting held to address waste management.
Attachment 4

Report of Geotechnical Exploration RFF Wastewater Pond Embankments
Prepared by
MACTEC Engineering and Consulting, INC NC License F-0653
Dated 11/17/2009

Repairs for the Two Effluent Storage Ponds at the Bingham Facility
Prepared by
Diehl & Phillips, P.A.
Dated 2-18-2010

Leak Test Survey
Bingham Facility, The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
THG Project No. 403-4441
Dated 3-25-2010 Large and Medium Ponds

Leak Test Survey
Bingham Facility, The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
THG Project No. 403-4441
Dated 3-25-2010

Correspondence from UNC-Chapel Hill to DENR


Letter dated 12/11/2009; Subject: Large Storage Pond Leak, University of North Carolina at Chapel Hill, Research Resource Facility Animal Waste Treatment System (Deemed Permitted System)

Email dated 1/14/2010; Subject: Broken Check Valves at UNC-Chapel Hill Bingham Facility

Letter dated 1/15/2010; Subject: The University of North Carolina at Chapel Hill, Research Resource Facility Notice of Violation NOV 2009-DV-0362

Letter dated 2/15/2010; Subject: The University of North Carolina at Chapel Hill, Bingham Facility Notice of Intent NOV 2009-DV-0362

Letter dated 2/19/2010; Subject: The University of North Carolina at Chapel Hill, Bingham Facility Wastewater Treatment System Permit WQ0023896

Letter dated 3/23/2010; Subject: The University of North Carolina at Chapel Hill, Bingham Facility Notice of Violation NOV 2010 –PC-0215
November 17, 2009

Mr. Paul Caruth
University of North Carolina at Chapel Hill
Construction Management
CB No. 1080 Giles F. Horney Building
Chapel Hill, North Carolina 27599

SUBJECT: REPORT OF GEOTECHNICAL EXPLORATION
RFF WASTEWATER POND EMBANKMENTS
ORANGE CHAPEL CLOVER GARDEN ROAD
ORANGE COUNTY, NORTH CAROLINA
MACTEC PROJECT NO. 6263-08-1458.07

Dear Mr. Caruth:

MACTEC Engineering and Consulting, Inc. (MACTEC) is pleased to submit this report of our evaluation of the wastewater pond embankments at the UNC Research Resource Facility in Orange County, North Carolina. Our services were provided in general accordance with MACTEC Proposal No. PROP-09-RAIL-381 dated October 28, 2009 and authorized on October 30, 2009. This report presents a review of the information provided to us, a discussion of the site and subsurface conditions, and our evaluation of the pond embankments. The Appendix contains a boring location plan, and the results of our field and laboratory tests.

PROJECT INFORMATION

The RFF Wastewater Pond was constructed in the spring and summer of 2008. Plans provided to us indicate that excavation was required to reach pond bottom elevation. The depth of excavation at the northern end of the pond was about 10 feet and about 6 feet at the southern end of the pond. Excavated soil was used to construct the perimeter embankments for the pond. Height of the embankment along the embankment centerline above original grade at the northern end of the pond is about 2 feet and about 0 feet at the southeastern corner of the pond. Finished interior and exterior slopes of the embankments are shown on the plans at 2.5H:1V. Per the specifications, embankment fill was to be compacted to 95 percent AASHTO Method T99 (ASTM D698) at moisture contents between optimum plus 5 percent and optimum minus 3 percent.

A 40-mil thick high density polyethylene (HDPE) geosynthetic liner covers the bottom and side walls of the pond. An underdrain system consisting of a 4-inch diameter perforated plastic pipe in a gravel filled trench is located along the inboard toe of slope and exits the pond area to the southwest.

Two test borings were drilled in the pond area by GeoTechnologies, Inc. in May 2007. The borings encountered residual silts and clays to depths of about 7 feet underlain by partially weathered rock. No groundwater was encountered in the test borings at the time of drilling.

MACTEC Engineering and Consulting, Inc., NC License F-0653
3301 Atlantic Avenue • Raleigh, NC 27604 • Phone: 919.876.0416 • Fax: 919.831.8136
www.mactec.com
The following observations were sent to us by Mr. Caruth on October 19, 2009:

1. **The earth pond walls appear to be bulging in the lower slopes.** Long continuous cracks have developed in the crest that appear to be related to the bulging slope areas. The cracks are evident on the east and west flat crests.

2. **The liner at the intake lines area is bulged from apparent soil subsidence/slippage.** The liner is now stretched between the pipe penetrations, and the pond level appears to be dropping. A leak is suspected.

3. **Near the pump house, a section of soil is subsiding...somewhat like a sink hole.** This was in the area of excavations for piping and may indicate a pipe leak.

4. **Control and signal cable remains unburied and is hit continually by mowers.** Please have properly buried control cable installed.

MACTEC visited the wastewater pond on October 23, 2009 and observed the pond embankments. Our findings are summarized below.

1. Cracks were visible along the crest of the east embankment and south embankment. The cracks on the east embankment were more significant (2+ inches).

2. The toes at south and east slopes were wet. The soils on the crest appeared to be dry.

3. The depth of water in the pond was approximately 3 feet, but the water marks on the liner indicated it was previously about 4 feet deep.

4. Air bubbles at the pond bottom pushed the liner upward making a 3.5-foot diameter floating umbrella at the water surface.

5. There was ground subsidence behind the southern corner of the pump house approximately 9 inches deep, and 3 feet by 1 foot in plan.

**EXPLORATION PROCEDURES**

Two soil test borings were drilled at the site on the top of the embankment at the approximate locations shown on the attached boring location plan in the Appendix. The borings were established in the field by MACTEC.

The borings were advanced to depths of 21.5 to 23.6 feet below present grades using hollow stem auger drilling procedures. Samples were obtained by driving a 1-3/8 inch ID split-spoon sampler with an automatic hammer in general accordance with ASTM D1586 specifications at 2.5-foot intervals. Undisturbed samples were obtained in borings B-1A and B-2A. These borings were offset about 5 feet from borings B-1 and B-2, respectively, and were advanced using mud-rotary drilling procedures. The borings were backfilled with bentonite/cement grout upon completion of drilling.

Representative portions of the samples were sealed in glass jars and returned to our laboratory where they were visually classified in accordance with the Unified Soil Classification System. MACTEC will store the test boring samples, available for inspection, for a period of ninety days after which time they will be discarded unless requested otherwise.

Four hand auger borings were drilled at the toe of the slope opposite the two test borings. The purposes of the hand auger borings were to evaluate the soil conditions at the toe of the slope and to determine if groundwater was observed within the depth explored. The hand auger borings were left open for observation of groundwater levels one day after boring completion.
The test boring records showing visual descriptions of the soil strata and the sampling and field test data are included in the Appendix. Information sheets describing the Unified Soil Classification System and the terms and symbols used on the boring record are also included. Elevations shown on the boring logs were interpolated from contours shown on sheet 11 of 27 of the drawings prepared by Diehl & Phillips, P.A. for the project.

The evaluation and recommendations presented in this report were developed from an interpretation of the general subsurface conditions at the site based on information obtained from the soil borings. The stratification lines indicated on the boring logs represent the approximate boundaries between soil types. In-situ, the transitions may be gradual.

In the laboratory, the natural moisture content was determined on samples of fill material obtained in the test borings. The unit weight and moisture content of undisturbed samples of fill were also determined. The results of these tests are included in the Appendix.

SITE AND SUBSURFACE CONDITIONS

The depth of fill in the test borings drilled on the crest of the embankments is approximately 10 feet. The fill is described as clayey silt with traces of fine gravel-sized particles and some rock fragments. Standard Penetration Test (SPT) N-values in the fill ranged from 3 to 13 blows per foot, typically being in the range of 3 to 4 blows per foot. The natural moisture content of the tested fill samples ranges between 8.4 and 23.3 percent and the dry unit weight varies from 103 to 116 pounds per cubic foot.

The fill is underlain by residual soils described as sandy silt and silty sand. The SPT N-values indicate the silty soils are medium stiff and the sandy soils are medium dense to dense. Partially weathered rock (PWR) was encountered at depths of 13.5 feet in boring B-1 and 20 feet in boring B-2. The PWR is described as silt.

No groundwater was encountered in borings B-1 or B-2 as they were advanced nor was water present in the open bore holes upon completion of drilling. No groundwater was observed in the hand auger boring during drilling nor was water present in the open bore holes 24 hours after boring completion.

As noted above, an underdrain was constructed at the bottom of the inboard slope to collect leakage from the pond and/or groundwater beneath the pond. The underdrain discharges by gravity to the southwest of the pond. On November 3, 2009, MACTEC personal evaluated the outfall drain. At that time the 4-inch diameter drain was discharging approximately 1.5 gallons per a minute. At the outfall, a white growth was observed on the pooled water and the water also had a slight greenish color which was less intense than that observed in the water in the pond. The water at the outfall also had a foul odor.

CONCLUSIONS AND RECOMMENDATIONS

As noted above, cracks were observed in the east and south pond embankments. The cracks are indicative of vertical and horizontal deformations of the embankments. Standard Penetration Test N-values do not provide direct measure of soil density or percent compaction. However, based on our experience, the low SPT values are not indicative of dense or well compacted fill. No groundwater
was observed in the soil test borings drilled from the crest of the embankment or was water present in the hand auger borings drilled at the toe of the embankment slopes. Based on the groundwater observations, it is our opinion that the groundwater table is below the bottom of pond elevation. Water was observed flowing out the underdrain at the southwest corner of the pond area possibly indicating that leakage through the liner is occurring.

Based on our observations and explorations, we recommend that the outboard slope be stabilized by addition of a buttress fill. It may be possible to rebuild the outboard slope by excavating existing embankment soil and re-compacting it; however, there is a risk that the embankment may fail during the excavation and reconstruction. Following are discussions of the three stabilization concepts. These concepts are shown on Figure 2 in the Appendix.

**Soil Buttress Fill**

This remediation concept includes construction of buttress fill on the outboard slope of the east, south and west embankments. We recommend that the finished slope be no steeper than 3H:1V. Fill to construct the buttress should be a soil similar to that used for original embankment construction, i.e., a low plasticity soil (liquid limit less than 40, plasticity index less than 20) free of organic material or debris. The fill should be placed in horizontal, 8 to 10 inch loose lifts with each lift compacted to a minimum of 95 percent of the standard Proctor maximum dry density (ASTM D698) at moisture contents within plus or minus 3 percentage points of optimum moisture.

Prior to construction of the buttress fill, existing vegetation and root growth should be stripped from the embankment slopes and the area of fill at the toe. As the fill is placed, horizontal benches should be cut in the existing embankment slope. The fill slope should be constructed by overfilling and then trimmed back to final configuration. The slopes should be seeded and mulched as soon as practical after final grading to minimize erosion.

To close existing cracks, we recommend that areas not affected by grading be disked and then re-compacted. Small, walk-behind equipment should be used for these tasks. Following re-compaction, the disturbed areas should be seeded and mulched.

In-place field density tests should be performed by the geotechnical engineer or technician. We recommend that field density tests be performed every 2,500 square feet with at least one test performed on each lift of material.

Clays and silts as used for the original embankment construction and recommended for the buttress fill are affected by moisture and may be difficult to compact during the wetter seasons of the year. Moisture related soil difficulties can be minimized by performing site preparation work in the drier periods of the year (May through October).

**Rock Buttress Fill**

An alternative to constructing a soil buttress fill is to construct a rock buttress fill on the east, south and west slopes of the pond. We recommend that the finished slope of the rock fill be no steeper than 3H:1V, and that the top of the rock fill be at elevation 503.5 feet or higher. The rock fill should meet the criteria for North Carolina Department of Transportation (NCDOT) Section 1042 Class B Riprap.
The riprap should be underlain by a geotextile meeting the requirements of NCDOT Section 1056 Type 2 Engineering Fabric.

Prior to placement of the riprap, existing vegetation and root matter should be stripped from the embankment slope and toe areas. The riprap should be placed with equipment operating from the toe of the slope, not from the crest of the embankment.

To close existing cracks, we recommend that areas above the rock fill and outside the limits of the liner anchor trench be disked and then re-compact. Small, walk-behind equipment should be used for these tasks. Following re-compaction, the disturbed areas should be seeded and mulched as soon as practical to minimize erosion.

The rock fill construction can be accomplished in the wetter seasons of the year. However, to minimize rutting at the base of the slope, the work should not be done immediately following heavy precipitation events. The disking and re-compaction of areas above the rock fill should be done when dry weather is anticipated.

Excavation and Reconstruction of Existing Outboard Slope

Mr. John Phillips with Diehl & Phillips, P.A., project civil engineer, requested that we consider a concept that includes excavation of a portion of the existing embankment and reconstruction using the same soil. This concept would reduce the need for offsite fill and maintain the embankment within the same footprint. This concept is shown on Figure 2 in the Appendix. On this figure, we have shown excavation of existing embankment soils on a 1-½ H:1V slope from the center of the existing embankment to original ground, and then using the excavated soil to reconstruct the embankment to the original planned slope of 2-½ H:1V. The outboard embankment slope will be stable on this configuration once the construction is done. However, we do not recommend this concept since there is considerable risk that the embankment cut on a 1-½ H:1V slope may fail during the construction. Failure of the slope could cause failure of the inboard slope and disruption to the synthetic liner. In addition to possible slope failure, the excavated silt and clay soils are affected by moisture and will be difficult to compact during the wetter seasons of the year.

If this remediation method is attempted, the fill should be placed and compacted as discussed above for the soil buttress fill construction.

Lined Pond Area

The interior slopes of the pond were also constructed at 2-½ H:1V. The interior slopes appear stable except for the area of the effluent pipes in the northwestern corner of the pond. At this location, it appears that pipe backfill above the pipes has settled or slid resulting in a bulge below the pipes. As noted above, water is flowing from the liner underdrain at its discharge, indicating possible leakage through the synthetic liner. We recommend that the liner installer be contacted to evaluate the possible leakage, and to repair the liner and subgrade at the northwestern corner of the pond.
Sprinkler System

Sprinkler heads for the spray irrigation system are shown on sheet 11 of 27 of the project drawings. When in operation, it should be confirmed that discharge from the sprinklers are not saturating the toe areas of the embankments.

CLOSING

These analyses and recommendations are, of necessity, based on the concepts made available to us at the time of the writing of this report, and on-site surface and subsurface conditions that existed at the time of the exploratory borings. Further assumption has been made that the limited exploratory borings, in relation to both the area extent of the site and depth, are representative of conditions across the site. If, during the design phase, or later construction phases, conditions are encountered which differ significantly from those reported herein, we should be immediately notified so that our analyses and recommendations can be reviewed and/or revised as necessary.

We appreciate the opportunity of providing our services to you during the exploration phase of this project and look forward to assisting you during the construction phase as well. If you have any questions concerning this report or any of our testing, inspection design or consulting services please do not hesitate to contact us.

Respectfully submitted,

MACTEC ENGINEERING AND CONSULTING, INC.

James E. Veith, P.E. (Engineer of Record)
Principal Geotechnical Engineer
Registered, North Carolina 023232

Gary R. Taylor, P.E. (Reviewer)
Engineering Department Manager
Registered, North Carolina 18580

Attachments
APPENDIX
SOIL BUTTRESS FILL

EXCAVATION OF EXISTING WITH BUTTRESS SOIL FILL

ROCK BUTTRESS FILL

REFERENCE:

MACTEC ENGINEERING AND CONSULTING, INC.
3301 ATLANTIC AVENUE
RALEIGH, NORTH CAROLINA
### MAJOR DIVISIONS

<table>
<thead>
<tr>
<th>GRAVELS</th>
<th>SANDS</th>
<th>SILTS AND CLAYS</th>
<th>HIGHLY ORGANIC SOILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEAN GRAVELS</td>
<td>CLEAN SANDS</td>
<td>CLEAN Silt</td>
<td>CLEAN Clay</td>
</tr>
<tr>
<td>WITH FINES</td>
<td>WITH FINES</td>
<td>WITHOUT FINES</td>
<td>WITHOUT FINES</td>
</tr>
</tbody>
</table>

#### BOUNDARY CLASSIFICATIONS:
Soils possessing characteristics of two groups are designated by combinations of group symbols.

#### KEY TO SYMBOLS AND DESCRIPTIONS

- **SILT OR CLAY**
  - **SAND**
    - No.200
    - No.40
    - No.10
    - No.4
  - **GRAVEL**
    - Fine
    - Medium
    - Coarse
  - **Cobbles**
  - **Boulders**
    - 3/4" 3" 12"

---

**Reference:** The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. 1, March, 1953 (Revised April, 1960)
SOIL CLASSIFICATION AND REMARKS

SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Fill - soft, brown, clayey silt with rootlets</td>
</tr>
<tr>
<td>5</td>
<td>Fill - medium stiff to stiff, slightly moist, light brown, clayey silt with some fine gravel and rock fragments</td>
</tr>
<tr>
<td>10</td>
<td>Residual - medium stiff, slightly moist, gray, fine sandy silt (ML)</td>
</tr>
<tr>
<td>15</td>
<td>Partially Weathered Rock - sampled as very dense, dry, gray, silt</td>
</tr>
<tr>
<td>20</td>
<td>Boring terminated at 21.5 feet</td>
</tr>
</tbody>
</table>

REMARKS:
- No groundwater encountered during drilling. Boring grouted upon completion.

SOIL TEST BORING RECORD

Project: RFF Wastewater Pond, UNC Chapel Hill
Boring No.: B-1
Drilled: November 4, 2009
Project #: 6263-08-1458

DRILLER: T. Hahn
EQUIPMENT: CME 55, automatic hammer
METHOD: 2-1/4" HSA
HOLE DIA.: REMARKS: No groundwater encountered during drilling. Boring grouted upon completion.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.
SOIL CLASSIFICATION AND REMARKS

SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.

1. Fill - soft to medium stiff, moist, brown, clayey silt, trace fine gravel
2. Fill - soft to medium stiff, slightly moist, light brown, clayey silt
3. Residual - medium dense to dense, slightly moist, brown, silty fine SAND (SM)
4. Partially Weathered Rock - sampled as very dense, dry, gray, silt
5. Boring terminated at 23.6 feet

REMARKS:

No groundwater encountered during drilling. Boring grouted upon completion.

SOIL TEST BORING RECORD

Project: RFF Wastewater Pond, UNC Chapel Hill
Boring No.: B-2
Drilled: November 4, 2009
Project #: 6263-08-1458
Page 1 of 1

MACTEC
SOIL CLASSIFICATION AND REMARKS

See Key Symbol Sheet for explanation of symbols and abbreviations below.

See E-2 record for soil description.

SOIL TEST BORING RECORD

Project: RFF Wastewater Pond, UNC Chapel Hill

Boring No.: B-2A

Drilled: November 4, 2009

Project #: 6263-08-1458

Page 1 of 1

MACTEC

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.
<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Blow Counts</th>
<th>Visual Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 0.1</td>
<td>N/A</td>
<td>Organic Laden Soil-roots and grass</td>
</tr>
<tr>
<td>0.1 to 1.5</td>
<td>N/A</td>
<td>Fill- Moist, red-brown, silty CLAY (CL) with trace of medium gravel</td>
</tr>
<tr>
<td>1.5 to 2.5</td>
<td>N/A</td>
<td>Gray, slightly moist to dry fine sandy SILT (ML)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Refusal with hand bucket auger at 2.5 feet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No groundwater encountered in hole</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hole backfilled with grout</td>
</tr>
</tbody>
</table>

Hand Auger Log

Job Name: RRF Wastewater Pond Wall Evaluation  Date: November 3, 2009
Client: University of North Carolina  MACTEC Job No. 6263-08-1458.07

Boring No. HA-1  Boring Location: Toe of the eastern slope opposite B-1

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Blow Counts</th>
<th>Visual Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 1</td>
<td>N/A</td>
<td>Organic Laden Soil-roots and grass</td>
</tr>
<tr>
<td>0.1 to 1.5</td>
<td>N/A</td>
<td>Fill- Moist, reddish-brown, silty CLAY (CL) with trace of fine gravel</td>
</tr>
<tr>
<td>1.5 to 2.5</td>
<td>N/A</td>
<td>Slightly moist to dry, Gray, fine sandy SILT (ML)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Refusal with hand bucket auger at 2.5 feet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No groundwater encountered in hole</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hole backfilled with grout</td>
</tr>
</tbody>
</table>

Hand Auger Log

Job Name: RRF Wastewater Pond Wall Evaluation  Date: November 3, 2009
Client: University of North Carolina  MACTEC Job No. 6263-08-1458.07

Boring No. HA-2  Boring Location: 10 feet east of HA-1 at toe of dike slope

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Blow Counts</th>
<th>Visual Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 1</td>
<td>N/A</td>
<td>Organic Laden Soil-roots and grass</td>
</tr>
<tr>
<td>0.1 to 1.5</td>
<td>N/A</td>
<td>Fill- Moist, reddish-brown, silty CLAY (CL) with trace of fine gravel</td>
</tr>
<tr>
<td>1.5 to 2.5</td>
<td>N/A</td>
<td>Slightly moist to dry, Gray, fine sandy SILT (ML)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Refusal with hand bucket auger at 2.5 feet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No groundwater encountered in hole</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hole backfilled with grout</td>
</tr>
</tbody>
</table>

Prepared by:  Reviewed by:  MACTEC
### Hand Auger Log

**Job Name:** RRF Wastewater Pond Wall Evaluation  
**Date:** November 3, 2009

**Client:** University of North Carolina  
**MACTEC Job No.:** 6263-08-1458.07

#### Boring No. HA-3  
**Boring Location:** Toe of southern slope opposite B-2

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Blow Counts</th>
<th>Visual Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 0.1</td>
<td>N/A</td>
<td>Organic Laden Soil-roots and grass</td>
</tr>
<tr>
<td>0.1 to 1.7</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown silty CLAY (CL), trace fine gravel</td>
</tr>
<tr>
<td>1.7 to 4.0</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown sandy SILT (ML)</td>
</tr>
<tr>
<td>4.0 to 5.0</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown silty fine SAND (SM)</td>
</tr>
</tbody>
</table>

Bottom of auger boring at 5 feet  
No groundwater encountered in hole  
Hole backfilled with grout

---

#### Boring No. HA-4  
**Boring Location:** 10 feet south of HA-3 at toe of slope

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Blow Counts</th>
<th>Visual Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 0.1</td>
<td>N/A</td>
<td>Organic Laden Soil-roots and grass</td>
</tr>
<tr>
<td>0.1 to 1.7</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown silty CLAY (CL), trace fine gravel</td>
</tr>
<tr>
<td>1.7 to 4.0</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown sandy SILT (ML)</td>
</tr>
<tr>
<td>4.0 to 5.0</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown silty fine SAND (SM)</td>
</tr>
</tbody>
</table>

Refusal with hand auger at 5 feet  
No groundwater encountered in hole  
Hole backfilled with grout

---

Prepared by: [Signature]  
Reviewed by: [Signature]

**MACTEC**
<table>
<thead>
<tr>
<th>SAMPLE IDENTIFICATION</th>
<th>BORING NO.</th>
<th>SAMPLE NO.</th>
<th>DEPTH (feet)</th>
<th>NATURAL MOISTURE (%)</th>
<th>DRY DENSITY (PCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>S-1</td>
<td>0-1.5</td>
<td>15.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-2</td>
<td>1.5-3</td>
<td>12.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-3</td>
<td>3.5-5</td>
<td>8.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-4</td>
<td>6-7.5</td>
<td>16.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-5</td>
<td>8.5-10</td>
<td>12.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-2</td>
<td>S-1</td>
<td>0-1.5</td>
<td>15.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-2</td>
<td>1.5-3</td>
<td>13.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-3</td>
<td>3.5-5</td>
<td>16.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-4</td>
<td>6-7.5</td>
<td>18.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-5</td>
<td>8.5-10</td>
<td>23.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-1A</td>
<td>UD-1</td>
<td>8-10</td>
<td>11.5</td>
<td>116.4</td>
<td></td>
</tr>
<tr>
<td>B-2A</td>
<td>UD-1</td>
<td>5-7</td>
<td>18.4</td>
<td>102.6</td>
<td></td>
</tr>
</tbody>
</table>
February 18, 2010

Mr. Michael Prillaman
Seaside Environmental Constructors, Inc.
4904 Waters Edge, Suite 170
Raleigh, NC 27606

Re: Repairs for the Two Effluent Storage Ponds at the Bingham Facility

Dear Mr. Prillaman:

This letter is being sent to confirm to you the remedial actions that are required for the subject effluent storage ponds, based on the results of the inspections performed by the Hutchinson Group on February 16th and 17th, 2010. Although the Hutchinson Group will be providing a detailed written report of their findings, I can summarize what was found, as I observed the inspections and discussed the findings with Dr. Hutchinson at the site.

Animal Effluent Storage Pond

Visual Inspection – The liner surfaces above the waterline were visually inspected, and areas of concern were marked with orange spray paint. There were approximately 110 to 115 areas marked. The marked areas included actual penetrations through the liner membrane; scars, creases, or dimpled areas that did not appear to be penetrations, but were classified as weakened areas that could leak in the future when pressurized; blemishes in the HDPE material, incomplete extrusion welds with gaps (leaks); dimpled areas where it appeared a rock had been left in the subgrade, and extrusion welds with poor workmanship. The stainless steel straps for the pipe boots for the two intake pipes were also found to be loose.

Below Water Electrical Leak Detection – The bottom of the pond, and the portion of the side slopes up to the water depth of approximately 15 inches, were checked by electrical leak detection methods as described in ASTM Standard D-7007-09. The test located 12 liner penetrations below the water line. The location of each penetration was located by GPS, and will be provided in the Hutchinson Group’s report.
Domestic Effluent Storage Pond

Visual Inspection – Areas of concern were marked with orange spray paint. There were approximately 14 to 15 areas marked on the side slopes above the water line. The marked areas indicated the same type of defects and concerns noted for the larger pond, although there were a smaller percentage of liner penetrations. The pipe boots appeared to be properly sealed, but the pipe boot for the gravity flow pipe from the pond has a defective extrusion weld that allows water to enter the space between the liner and the boot material, creating a pocket of stored water.

Below Water Electrical Leak Detection – The bottom of the pond, and the portion of the side slopes up to the water depth of approximately 6 feet, were checked by electrical leak detection methods. The test located 2 liner penetrations approximately 1.5 feet below the water line, characterized as pinhole leaks. They were marked on the eastern sideslope of the pond with orange paint, with the distance from the mark to the pinhole noted.

The Contractor’s responsibilities and the requirements for the remedial actions can be found in Division 11-G, section D: Liner Installation, of the contract documents.

From the third paragraph of that Section:

“Contractor shall be responsible for properly preparing the subgrade and for verifying its suitability for liner installation. The contractor shall prepare the subgrade for the liner installation by grading the bottom and side slopes to the required dimensions and elevations. The subgrade surface must be smooth and free of any rocks and sharp edges.”

The seventh paragraph of the Section:

“Repairs to Liner: Any necessary repairs to the lining material shall be patched with new lining material. The patch and lining shall be fusion welded. Any wrinkles shall be smoothed out. Any leakage observed in the liner during initial filling or within the 1 year warranty period shall be immediately repaired by the contractor, at his expense, and with minimal disruption of the owner’s operating schedule.”

The ninth paragraph of the Section:
"Quality of Workmanship: All joints, on completion of the work, shall be tightly bonded. Any lining surface showing injury due to scuffing, penetration by foreign objects, or distress from rough subgrade shall, as directed by the engineer, be replaced or covered and sealed with an additional layer of lining material of the proper size."

Due to the potential environmental damage and regulatory issues created by these leaks, and the potential fines and penalties that may be issued, UNC has been forced to cease discharging into these ponds until the repairs can be completed. They will have to operate under a Pump and Haul permit, having all wastewater hauled from the facility to OWASA's plant.

Seaside Environmental Contractors, Inc. is directed to undertake the following remedial actions, in accordance with the contract documents:

**Repairs to the Domestic Effluent Storage Pond**
- Dewater the domestic pond and have the contents legally disposed of at OWASA's Mason Farm WWTP, or a comparable facility.
- Clean the liner as required by the liner installer for the application of proper patches. Provide watertight patches for the located holes, and for the other marked areas of concern, using HDPE material identical to the installed liner.
- Prior to patching each area, check for any protruding objects below the liner. Cut the liner and remove any rocks or sharp edged materials that are present. Backfill any depression left in the subgrade by rock removal with clean sand, and then place the patch. Several of the painted areas are in close proximity, and should be covered with a single patch. We will identify those areas in the field, when the repairs are being performed.
- The bottom six feet of the dewatered pond liner will be visually examined for evidence of any other scars or dimpled areas, and if any are found they are to be patched.
- Finally, the fusion welds for the liner shall be re-tested to verify their integrity.

**Repairs to the Animal Effluent Storage Pond**
- Dewater the domestic pond and have the contents legally disposed of at OWASA's Mason Farm WWTP, or a comparable facility.
- Due to the extensive number of penetrations and other problem areas found with this liner, patches will not be acceptable. The installed liner is to be overlaid with a
new HDPE liner of equal or greater thickness. Details will be provided to you regarding the geotextile material that is to be placed between the two membranes, drainage piping, etc.

- Prior to placing the new liner, check for any protruding objects below the existing liner. Cut the existing liner and remove any rocks or sharp edged materials that are detected. Backfill any depression left in the subgrade by rock removal with clean sand.

- Details will also be provided regarding some additional items that will required as a part of this remedial work, but were not included in the original contract scope of work. These include perimeter gas vents and an ingress-egress strip of textured membrane, approximately 10 feet wide, in two corners of the pond.

- The sloughed areas on the eastern and southern exterior slopes of these ponds need to be repaired while the pond is dewatered for the liner repairs. The November 17, 2009 Mactec report I furnished you described two recommended methods of slope remediation (soil buttress and rock buttress), and a third method they did not recommend, which was the excavation and reconstruction of the sloughed slopes with the material already in place. They did not recommend this method due to the risk of slope failure when cutting the berm back to a 1.5:1 slope, and the possible damage to the liner that might result from a slope failure. Due to the remedial actions now required for the liner, the pond will be completely dewatered when you are making these repairs, and the new liner will not yet be in place. These conditions do not present the risks during construction that Mactec had to consider in making their evaluations last November. Therefore, you may elect to utilize this method of slope repair, or you may utilize either of the buttress methods.

Your liner supplier visited the site on February 17th, and after inspecting the painted areas of concern, commented to UNC personnel that it was his opinion that the holes in the membrane were due in large part, if not entirely, to animals trying to exit the pond. While it is possible that some of the penetrations may be due to animals, it should be noted that there have only been two deer in the pond. The first one was discovered in the spring of 2009, along with two dead foxes. The pond and liner was still in Seaside’s control at that time, as it was not turned over to UNC until July 2009. Any damage that occurred prior to July 2009 would be Seaside’s responsibility. UNC personnel discovered the second deer in the fall of 2009. It was alive and swimming in the water when they arrived; they were able to hoist it out by rope without damaging the liner, and release it outside of the fenced area. It is my opinion that the widespread distribution of the painted areas of concern and their varying sizes and shapes are not indicative of the majority of them being caused by the one deer removed last fall. The rock protrusions, scars, fabric blemishes, loose boots, and weld gaps are clearly the responsibility of SEC, Inc.
You are directed to proceed immediately with these repairs and get them completed by March 15, 2010. Please contact me when you have developed a schedule for these tasks, and if you have any questions.

Yours truly,

Diehl & Phillips, P.A.

[Signature]

John F. Phillips, P.E.

Cc:  Mr. Paul Caruth  
     Mr. Leo Sagasti, AIA  
     Mr. Kevin Eberle, P.E.  
     Mr. Larry Daw, LG

Sent via email and Certified Mail – Return Receipt
March 25, 2010

Mr. Michael Prillaman
Seaside Environmental Constructors, Inc
4904 Waters Edge Drive
Raleigh, North Carolina 27606-2484

Re: Leak Test Survey
Bingham Facility, The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
THG Project No. 403-4441

Dear Mr. Prillaman:

The Hutchinson Group, Ltd. (THG) completed a visual and electrical leak detection survey of two single-lined ponds at The University of North Carolina at Chapel Hill Bingham Facility, located in Chapel Hill, North Carolina. The ponds investigated included the large and the medium ponds (Large Pond and Medium Pond). Both ponds are used to store treated wastewater effluent. The visual and electrical leak detection survey was performed on February 16-17, 2010.

BACKGROUND

The Bingham Facility includes three treated effluent storage ponds. The recently completed Large Pond is approximately 150 ft by 190 ft (0.65 acres) and consists of a single 40-mil HDPE geomembrane. This pond has been reported to be leaking.

The Medium Pond is approximately 70 ft by 100 ft (0.16 acres) and consists of a single 40-mil HDPE geomembrane liner. This pond has not been reported to be leaking.

The Large Pond and the Medium Pond have reportedly been in service since the spring of 2009.

The existing small pond was not part of this investigation.

GEOPHYSICAL INVESTIGATION

The leak detection survey of the two ponds consisted of a visual inspection of the exposed portion of each pond liner and an electrical leak detection survey of portions of the liner located below the water level. The investigation was performed to locate possible damage in the geomembrane liner.

Visual Inspection

The visual inspection of the exposed portion of the geomembrane of each pond was inspected by an experienced technician. The technician was belayed on a rope and traversed the entire liner 2 times looking for liner damage.
Electrical Leak Detection Survey
A modified mise-a-la-masse resistivity test was conducted pursuant to ASTM D-7007 (Standard Practices for Electrical Methods for Locating Leaks in Geomembranes Covered with Water or Earthen Materials). Various aspects of electrical leak detection testing have been patented (Boryta and Nabighian, 1985; and Boryta and Brown, 1988) and discussed in the literature (Darilek and Para, 1988; Fountain, 1988). THG has conducted dozens of electrical leak liner tests, and our work has shown that liner damage smaller than 0.03 inch (1 mm) in diameter can be detected and their locations marked to within ±0.1 inch (0.3 cm).

The electrical leak detection testing consists of applying an electrical potential between the geomembrane liner via the water phase and surrounding soil. The cathode is placed roughly in the center of the cell, and the anode is placed into the soil surrounding the cell. An electrical potential of about 12 volts DC was placed into the cell between the cathode and the anode located in the earth surrounding the pond. The electrical potential causes electric current to flow through damage parts of the insulating geomembrane material. The current density around the damaged liner is used to detect and locate the damage.

QA/QC was performed to ensure that equipment was working properly and that it could detect damaged liner. QA/QC determined that a simulated 3-cm hole could be detected within 10 feet.

Large Pond
Visual inspection identified numerous holes, cuts, poor-welds, abrasions, and failed seams (over 100 areas in need of a patch were marked with orange spray paint) in the exposed portion of the liner of the Large Pond. The majority of the damage, estimated at 70% of the marked areas, was due to the perforation of the geomembrane within the panel; an estimated 10% were seam failures/seam damage; and an estimated 20% were recommended repairs due to deep cuts/abrasions (but not penetrations). At least 2 “blebs” (i.e., manufacturing bubble-derived damage) were also marked.

The collars for the pipe boots (prefabricated material used to waterproof around the circular pipe) of the Large Pond were only held by a single clamp. All of the clamps had fallen off. Soil packed around the northern-most pipe’s annular space (space between the pipe and the pipe boot) indicated that water had migrated through the annular space (see Figure 1). It is recommended that boot collars have 2 pipe clamps to insure protection from failure.

The electrical leak detection survey of the Large Pond identified numerous areas of damaged liner, several of which were too close together to discriminate. This pond had 2 "whales" (i.e., air-filled pockets beneath the liner), the larger of which was "walked" out to a location where the air could escape to the atmosphere. Twelve areas of damaged liner were mapped with a submeter-accurate DGPS (Figure 2); however, more may have been missed due to electrical noise from adjacent areas of damaged liner. In general, a series of damaged areas are located along the western and northern sides of the pond. The southeastern corner has a large damaged area.

Medium Pond
Visual inspection of the Medium Pond identified sixteen damaged areas of the geomembrane, most were small.
The electrical leak detection survey of the Medium Pond identified three areas of damaged liner. Two of the damaged areas were 3 feet into the pond from the painted arrow head at the edge of the water on the east side of the pond. This area is near the cable stay to the floating pump, and the cable may have caused these electrical hits (i.e., false positives). The third area of damaged liner is located in the northeastern corner of the cell approximately 4 feet down from the painted arrow head at the water's edge following a seam.

CONCLUSION

The entire exposed and covered 40-mil geomembrane liner to the Large and Medium Ponds at the Bingham Facility were visually inspected and electrically tested. Damage to the liners was observed or determined electrically to be present.

The information presented in this report is relevant as of February 18, 2010 for the electrical leak detection survey and should not be relied upon to represent conditions at a later date.

Respectfully Submitted By:
The Hutchinson Group, Ltd.

Peter J. Hutchinson, PhD, PG
Senior Scientist

cc: Larry Daw – UNC Environment, Health and Safety

REFERENCES


Geophysical investigations are a non-invasive method of interpreting physical properties of the shallow earth using electrical, electromagnetic, or mechanical energy. This document contains geophysical interpretations of responses to induced or real-world phenomena. As such, the measured phenomenon may be impacted by variables not readily identified in the field that can result in a false-positive or false-negative interpretation. THG makes no representations or warranties as the accuracy of the interpretations.
Legend

- Footprint of exposed edge of liner

- Electrically-located liner hole

Figure 2
Sub-aqueous Leak Locations

Leak Investigation
Bingham Facility
Large Pond
Chapel Hill, North Carolina
March 25, 2010

Mr. Larry Daw
UNC-Chapel Hill Department of Environment, Health and Safety
1120 Estes Dr. Ext, CB # 1650
Chapel Hill, NC 27599-1650

Re: Leak Test Survey
Bingham Facility, The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina
THG Project No. 403-4441

Dear Mr. Daw:

The Hutchinson Group, Ltd. (THG) completed a visual and electrical leak detection survey of a single-lined pond at The University of North Carolina at Chapel Hill Bingham Facility, located in Chapel Hill, North Carolina. The pond investigated was the Small Pond used to store treated wastewater effluent. The visual and electrical leak detection survey was performed on February 16-17, 2010.

BACKGROUND

The Bingham Facility includes three treated effluent storage ponds. The Small Pond is approximately 30 ft by 110 ft (0.76 acres) and consists of a Hypalon-brand liner, thickness unknown. The Small Pond has reportedly been in service since the early 1970's. No leaks have been reported.

The two other treated effluent storage ponds (Large Pond and Medium Pond) were not part of this investigation.

GEOPHYSICAL INVESTIGATION

The leak detection survey of the pond consisted of a visual inspection of the exposed portion of the pond liner and an electrical leak detection survey of the portion of the liner located below the water level. The investigation was performed to locate possible damage in the geomembrane liner.

Visual Inspection

The visual inspection of the exposed portion of the geomembrane for the pond was inspected by an experienced technician. The Small Pond has nearly vertical walls, and the liner was inspected using a boat to test the liner electrically.

Electrical Leak Detection Survey

A modified mise-à-la-masse resistivity test of the pond was conducted pursuant to ASTM D-7007 (Standard Practices for Electrical Methods for Locating Leaks in Geomembranes Covered with Water or Earthen Materials). Various aspects of electrical leak detection testing have been patented (Boryta and Nabighian, 1985; and Boryta and Brown, 1988) and discussed in the literature (Darilek and Para, 1988; Fountain, 1988). THG has conducted dozens of electrical leak liner tests, and our work has shown that liner holes smaller than 0.03 inch (1mm) in diameter can be detected, and their locations marked to within ±0.1 inch (0.3 cm).
The electrical leak detection testing consists of applying an electrical potential between the geomembrane liner via the water phase and surrounding soil. The cathode is placed roughly in the center of the cell, and the anode is placed into the soil surrounding the cell. An electrical potential of about 12 volts DC was placed into the cell between the cathode and the anode located in the earth surrounding the pond. The electrical potential causes electric current to flow through damaged parts of the insulating geomembrane material. The current density around the damaged liner is used to detect and locate the damage.

QA/QC was performed to ensure that equipment was working properly and that it could detect damaged liner. QA/QC determined that a simulated 3-cm hole could be detected within 10 feet.

Small Pond

The visual inspection of the liner showed minimal delamination of the liner (separation of the liner layers). Historically, Hypalon has been known to delaminate. Several repairs to the liner were visible. The previous repairs to the liner, as well as the repairs for the pipe boots (prefabricated material used to waterproof around the circular pipe), all used a rubber-based patching material. All of the previous repairs and the repairs to the pipe boots had failed and the patches could easily be separated from the geomembrane (i.e. these locations are susceptible to a leak).

The electrical leak detection survey of the Small Pond had one potential area of damaged liner five feet southeast of the sprayer (i.e., beneath the bridge that crosses the pond). The suspect damaged area occurred so close to the sprayer that it may be an artifact of the sprayer not being properly grounded.

CONCLUSION

The entire exposed and covered geomembrane liner to the Small Pond at the Bingham Facility was visually inspected and electrically tested. Damage to the liner was observed or determined electrically to be present.

The information presented in this report is relevant as of February 18, 2010 for the electrical leak detection survey and should not be relied upon to represent conditions at a later date.

Respectfully Submitted By:

The Hutchinson Group, Ltd.

Peter J. Hutchinson, PhD, PG
Senior Scientist
REFERENCES


Geophysical investigations are a non-invasive method of interpreting physical properties of the shallow earth using electrical, electromagnetic, or mechanical energy. This document contains geophysical interpretations of responses to induced or real-world phenomena. As such, the measured phenomenon may be impacted by variables not readily identified in the field that can result in a false-positive or false-negative interpretation. THG makes no representations or warranties as the accuracy of the interpretations.
November 23, 2009

Matthew Fleahman  
DENR Division of Water Quality  
Raleigh Regional Office  
1628 Mail Service Center  
Raleigh NC 27699-1628

Subject: Piping Leak, The University of North Carolina at Chapel Hill, Research Resource Facility, Animal Waste Treatment System (Deemed Permitted System)

Dear Mr. Fleahman:

This letter is a follow up to my telephone conversation with Lin McCartney on November 19, 2009.

A little before 2:00 pm on November 18, 2009, operators determined that there was a piping leak at the subject facility. The buried piping is located between the clarifier and the sand filter. Upon identification of the leak, the pump in the equalization tank was shut down, thus preventing additional flow to the later parts of the treatment plant.

It is estimated that approximately 630 gallons were released into soils surrounding the leaking pipe. The discharge did not reach surface waters. Further investigation and repair of the piping was completed on November 20, 2009.

Please contact me if you have any questions or comments.

Sincerely,

J. Laurence Daw, L.G.  
Geophysicist/Licensed Geologist

Cc: Mary Beth Koza  
Lin McCartney
December 11, 2009

Matthew Fleahman  
DENR Division of Water Quality  
Raleigh Regional Office  
1628 Mail Service Center  
Raleigh NC 27699-1628

Subject: Large Storage Pond Leak, The University of North Carolina at Chapel Hill (UNC-Chapel Hill), Research Resource Facility (UNC-Chapel Hill Bingham Facility), Animal Waste Treatment System (Deemed Permitted System)

Dear Mr. Fleahman:

This letter is a follow up to my telephone conversation with Lin McCartney on November 10, 2009.

Over the last several days, UNC-Chapel Hill has been investigating the subject storage pond to evaluate the integrity of the liner. Dye testing has determined that the liner is leaking. Water that leaks through the liner is collected by an under-drain system, and the under-drain discharge is located south of the pond, about 70 feet from a creek.

It is not known when the liner started leaking. Currently, the under-drain system discharges about 1 gallon per minute. Some of the under-drain discharge likely includes groundwater. The under-drain system was originally designed to dewater the area during construction, to relieve groundwater pressure on the liner, and to provide a means of leak detection.

We have a plan to begin collecting the under-drain discharge and to direct the water back to the large storage pond, thus avoiding any discharge to the creek. It will take several days to implement the plan. In the longer term, we will work to identify and repair the source of the leak.

Please contact me if you have any questions or comments.

Sincerely,

J. Laurence Daw, L.G.  
Geophysicist/Licensed Geologist

Cc: Mary Beth Koza
Operators at the subject facility noticed some frozen water on the ground around the sand filter unit of the Animal Wastewater Treatment Plant (WWTP). Yesterday afternoon, a pump turned on and they noticed water spraying out of the basin that holds treated water prior to discharge to the large pond. The check valves for the pumps that discharge water to the large pond were noticeably cracked. See attached pics.

Pic 104 shows the basin, pic 105 and 106 show the cracked check valves, pics 107 and 108 show the valves spraying water.

Yesterday, we implemented a short-term fix to keep water from spraying on to the ground. Plywood covers were placed over the basin to deflect sprayed water back into the basin. See unnumbered picture.

Please understand that the water is completely treated and there was no runoff from around the area. It appears that at most 100 gallons or so was sprayed on to the ground. We have been in contact with contractors to repair the cracked check valves and anticipate repairs to be initiated in the next several days.

Please contact me if you have any questions or comments.

Larry Daw, L.G.
Geophysicist/Licensed Geologist
The University of North Carolina at Chapel Hill Department of Environment, Health & Safety 1120 Estes Drive Extension Campus Box 1650 Chapel Hill, NC 27599-1650
(919) 962-6666
(919) 883-7019 Mobile
(919) 962-0227 Fax
JLDaw@ehs.unc.edu
http://ehs.unc.edu/
January 15, 2010

S. Jay Zimmerman  
DENR Division of Water Quality  
Raleigh Regional Office  
1628 Mail Service Center  
Raleigh NC 27699-1628

Subject: The University of North Carolina at Chapel Hill (UNC-Chapel Hill), Research Resource Facility (UNC-Chapel Hill Bingham Facility), Notice of Violation NOV-2009-DV-0362

Dear Mr. Zimmerman:

I am writing in response to your December 18, 2009 Notice of Violation (NOV) letter for the subject facility.

In accordance with your request in the NOV, and as outlined in my December 15, 2009 email to Matthew Fleahman and Lin McCartney (copy attached), UNC-Chapel Hill implemented a short-term plan to eliminate the discharge of water from the Bingham Facility to the surface waters of the State. This short-term plan involved the installation of a sump with pump and float assembly to collect water from the under-drain system piping to direct the water back to the large storage pond. The sump was installed on December 14, 2009, and operation of the sump began on the morning of December 15, 2009.

Longer term, our plan is to dewater the storage pond using a contract hauler and then identify and repair the source of the leak. UNC requests until March 15, 2010 to complete the work. With good weather, it is likely that work can be completed prior to this date.

As requested in the NOV, a copy of the November 17, 2009 Report of Geotechnical Exploration of the large effluent storage pond is attached. Also attached is a copy of a memorandum from John F. Phillips, P.E., the consulting engineer that designed the Bingham Facility wastewater system, addressing repairs to the storage pond.

I will contact your office as we get closer to emptying the storage pond and implementing repairs to the liner. Please contact me if you have any questions or comments.

Sincerely,

J. Laurence Daw, L.G.  
Geophysicist/Licensed Geologist

Attachments

Cc: Mary Beth Koza
Matthew and Lin,

We have implemented the short-term plan to remedy the liner leak at the Research Resource Facility (UNC-Chapel Hill Bingham Facility).

Yesterday, we constructed a sump, installed a pump with float, and ran piping back to the large pond. We turned the system on early this morning.

An overall picture of the sump area is shown in picture 100. A close up of the sump, pump, float, and discharge pipe is shown in picture 101. Piping back to the pond is shown in picture 102. And water being discharged back to the pond is shown in picture 103.

We are still developing longer term plans to remedy the liner. I will let you know as our plans develop.

Please contact me if you have questions or comments.

Larry Daw, L.G.
Geophysicist/Licensed Geologist
The University of North Carolina at Chapel Hill Department of Environment, Health & Safety 1120 Estes Drive Extension Campus Box 1650 Chapel Hill, NC 27599-1650
(919) 962-6666
(919) 883-7019 Mobile
(919) 962-0227 Fax
JLDAW@ehs.unc.edu
http://ehs.unc.edu/
Subject: FW: denr ltr

Lin and Matthew,

Please find attached a letter regarding the recently reported leak in the large pond at the Research Resource Facility.

A hard copy will follow in the mail.

Larry Daw, L.G.
Geophysicist/Licensed Geologist
The University of North Carolina at Chapel Hill Department of Environment, Health & Safety 1120 Estes Drive Extension Campus Box 1650 Chapel Hill, NC 27599-1650
(919) 962-6666
(919) 883-7019 Mobile
(919) 962-0227 Fax
JLDaw@ehs.unc.edu
http://ehs.unc.edu/

From: scanner@unc.edu [scanner@unc.edu]
Sent: Friday, December 11, 2009 4:56 PM
To: Daw, Larry (Environment Health & Safety)
Subject: denr ltr

This E-mail was sent from "R10450" (Aficio MP 5500).

Scan Date: 12.11.2009 16:56:42 (-0500)
Queries to: scanner@unc.edu
Picture 100 – Sump area.

Picture 101 – Sump, pump, float, and discharge pipe.
Picture 102 – Piping back to the pond.

Picture 103 – Water discharging back into pond.
Picture 100 – Sump area.

Picture 101 – Sump, pump, float, and discharge pipe.
November 17, 2009

Mr. Paul Caruth
University of North Carolina at Chapel Hill
Construction Management
CB No. 1080 Giles F. Horney Building
Chapel Hill, North Carolina 27599

SUBJECT: REPORT OF GEOTECHNICAL EXPLORATION
RFF WASTEWATER POND EMBANKMENTS
ORANGE CHAPEL CLOVER GARDEN ROAD
ORANGE COUNTY, NORTH CAROLINA
MACTEC PROJECT NO. 6263-08-1458.07

Dear Mr. Caruth:

MACTEC Engineering and Consulting, Inc. (MACTEC) is pleased to submit this report of our evaluation of the wastewater pond embankments at the UNC Research Resource Facility in Orange County, North Carolina. Our services were provided in general accordance with MACTEC Proposal No. PROP-09-RAIL-381 dated October 28, 2009 and authorized on October 30, 2009. This report presents a review of the information provided to us, a discussion of the site and subsurface conditions, and our evaluation of the pond embankments. The Appendix contains a boring location plan, and the results of our field and laboratory tests.

PROJECT INFORMATION

The RFF Wastewater Pond was constructed in the spring and summer of 2008. Plans provided to us indicate that excavation was required to reach pond bottom elevation. The depth of excavation at the northern end of the pond was about 10 feet and about 6 feet at the southern end of the pond. Excavated soil was used to construct the perimeter embankments for the pond. Height of the embankment along the embankment centerline above original grade at the northern end of the pond is about 2 feet and about 1 feet at the southeastern corner of the pond. Finished interior and exterior slopes of the embankments are shown on the plans at 2.5H:1V. Per the specifications, embankment fill was to be compacted to 95 percent AASHTO Method T99 (ASTM D698) at moisture contents between optimum plus 5 percent and optimum minus 3 percent.

A 40-mil thick high density polyethylene (HDPE) geosynthetic liner covers the bottom and side walls of the pond. An underdrain system consisting of a 4-inch diameter perforated plastic pipe in a gravel filled trench is located along the inboard toe of slope and exits the pond area to the southwest.

Two test borings were drilled in the pond area by GeoTechnologies, Inc. in May 2007. The borings encountered residual silts and clays to depths of about 7 feet underlain by partially weathered rock. No groundwater was encountered in the test borings at the time of drilling.
The following observations were sent to us by Mr. Caruth on October 19, 2009:

1. the earth pond walls appear to be bulging in the lower slopes. Long continuous cracks have developed in the crest that appear to be related to the bulging slope areas. The cracks are evident on the east and west flat crests.

2. the liner at the intake lines area is bulged from apparent soil subsidence/slippage. The liner is now stretched between the pipe penetrations, and the pond level appears to be dropping. A leak is suspected.

3. near the pump house, a section of soil is subsiding...somewhat like a sink hole. This was in the area of excavations for piping and may indicate a pipe leak.

4. control and signal cable remains unburied and is hit continually by mowers. Please have properly buried control cable installed.

MACTEC visited the wastewater pond on October 23, 2009 and observed the pond embankments. Our findings are summarized below.

1. Cracks were visible along the crest of the east embankment and south embankment. The cracks on the east embankment were more significant (2+ inches).

2. The toes at south and east slopes were wet. The soils on the crest appeared to be dry.

3. The depth of water in the pond was approximately 3 feet, but the water marks on the liner indicated it was previously about 4 feet deep.

4. Air bubbles at the pond bottom pushed the liner upward making a 3.5-foot diameter floating umbrella at the water surface.

5. There was ground subsidence behind the southern corner of the pump house approximately 9 inches deep, and 3 feet by 1 foot in plan.

EXPLORATION PROCEDURES

Two soil test borings were drilled at the site on the top of the embankment at the approximate locations shown on the attached boring location plan in the Appendix. The borings were established in the field by MACTEC.

The borings were advanced to depths of 21.5 to 23.6 feet below present grades using hollow stem auger drilling procedures. Samples were obtained by driving a 1-3/8 inch ID split-spoon sampler with an automatic hammer in general accordance with ASTM D1586 specifications at 2.5-foot intervals. Undisturbed samples were obtained in borings B-1A and B-2A. These borings were offset about 5 feet from borings B-1 and B-2, respectively, and were advanced using mud-rotary drilling procedures. The borings were backfilled with bentonite/cement grout upon completion of drilling.

Representative portions of the samples were sealed in glass jars and returned to our laboratory where they were visually classified in accordance with the Unified Soil Classification System. MACTEC will store the test boring samples, available for inspection, for a period of ninety days after which time they will be discarded unless requested otherwise.

Four hand auger borings were drilled at the toe of the slope opposite the two test borings. The purposes of the hand auger borings were to evaluate the soil conditions at the toe of the slope and to determine if groundwater was observed within the depth explored. The hand auger borings were left open for observation of groundwater levels one day after boring completion.
The test boring records showing visual descriptions of the soil strata and the sampling and field test data are included in the Appendix. Information sheets describing the Unified Soil Classification System and the terms and symbols used on the boring record are also included. Elevations shown on the boring logs were interpolated from contours shown on sheet 11 of 27 of the drawings prepared by Diehl & Phillips, P.A. for the project.

The evaluation and recommendations presented in this report were developed from an interpretation of the general subsurface conditions at the site based on information obtained from the soil borings. The stratification lines indicated on the boring logs represent the approximate boundaries between soil types. In-situ, the transitions may be gradual.

In the laboratory, the natural moisture content was determined on samples of fill material obtained in the test borings. The unit weight and moisture content of undisturbed samples of fill were also determined. The results of these tests are included in the Appendix.

SITE AND SUBSURFACE CONDITIONS

The depth of fill in the test borings drilled on the crest of the embankments is approximately 10 feet. The fill is described as clayey silt with traces of fine gravel-sized particles and some rock fragments. Standard Penetration Test (SPT) N-values in the fill ranged from 3 to 13 blows per foot, typically being in the range of 3 to 4 blows per foot. The natural moisture content of the tested fill samples ranges between 8.4 and 23.3 percent and the dry unit weight varies from 103 to 116 pounds per cubic foot.

The fill is underlain by residual soils described as sandy silt and silty sand. The SPT N-values indicate the silty soils are medium stiff and the sandy soils are medium dense to dense. Partially weathered rock (PWR) was encountered at depths of 13.5 feet in boring B-1 and 20 feet in boring B-2. The PWR is described as silt.

No groundwater was encountered in borings B-1 or B-2 as they were advanced nor was water present in the open bore holes upon completion of drilling. No groundwater was observed in the hand auger boring during drilling nor was water present in the open bore holes 24 hours after boring completion.

As noted above, an underdrain was constructed at the bottom of the inboard slope to collect leakage from the pond and/or groundwater beneath the pond. The underdrain discharges by gravity to the southwest of the pond. On November 3, 2009, MACTEC personal evaluated the outfall drain. At that time the 4-inch diameter drain was discharging approximately 1.5 gallons per minute. At the outfall, a white growth was observed on the pooled water and the water also had a slight greenish color which was less intense than that observed in the water in the pond. The water at the outfall also had a foul odor.

CONCLUSIONS AND RECOMMENDATIONS

As noted above, cracks were observed in the east and south pond embankments. The cracks are indicative of vertical and horizontal deformations of the embankments. Standard Penetration Test N-values do not provide direct measure of soil density or percent compaction. However, based on our experience, the low SPT values are not indicative of dense or well compacted fill. No groundwater

MACTEC
was observed in the soil test borings drilled from the crest of the embankment nor was water present in the hand auger borings drilled at the toe of the embankment slopes. Based on the groundwater observations, it is our opinion that the groundwater table is below the bottom of pond elevation. Water was observed flowing out the underdrain at the southwest corner of the pond area possibly indicating that leakage through the liner is occurring.

Based on our observations and explorations, we recommend that the outboard slope be stabilized by addition of a buttress fill. It may be possible to rebuild the outboard slope by excavating existing embankment soil and re-compacting it; however, there is a risk that the embankment may fail during the excavation and reconstruction. Following are discussions of the three stabilization concepts. These concepts are shown on Figure 2 in the Appendix.

**Soil Buttress Fill**

This remediation concept includes construction of buttress fill on the outboard slope of the east, south and west embankments. We recommend that the finished slope be no steeper than 3H:1V. Fill to construct the buttress should be a soil similar to that used for original embankment construction, i.e., a low plasticity soil (liquid limit less than 40, plasticity index less than 20) free of organic material or debris. The fill should be placed in horizontal, 8 to 10 inch loose lifts with each lift compacted to a minimum of 95 percent of the standard Proctor maximum dry density (ASTM D698) at moisture contents within plus or minus 3 percentage points of optimum moisture.

Prior to construction of the buttress fill, existing vegetation and root growth should be stripped from the embankment slopes and the area of fill at the toe. As the fill is placed, horizontal benches should be cut in the existing embankment slope. The fill slope should be constructed by overfilling and then trimmed back to final configuration. The slopes should be seeded and mulched as soon as practical after final grading to minimize erosion.

To close existing cracks, we recommend that areas not affected by grading be disked and then re-compacted. Small, walk-behind equipment should be used for these tasks. Following re-compaction, the disturbed areas should be seeded and mulched.

In-place field density tests should be performed by the geotechnical engineer or technician. We recommend that field density tests be performed every 2,500 square feet with at least one test performed on each lift of material.

Clays and silts as used for the original embankment construction and recommended for the buttress fill are affected by moisture and may be difficult to compact during the wetter seasons of the year. Moisture related soil difficulties can be minimized by performing site preparation work in the drier periods of the year (May through October).

**Rock Buttress Fill**

An alternative to constructing a soil buttress fill is to construct a rock buttress fill on the east, south and west slopes of the pond. We recommend that the finished slope of the rock fill be no steeper than 3H:1V, and that the top of the rock fill be at elevation 503.5 feet or higher. The rock fill should meet the criteria for North Carolina Department of Transportation (NCDOT) Section 1042 Class B Riprap.
The riprap should be underlain by a geotextile meeting the requirements of NCDOT Section 1056 Type 2 Engineering Fabric.

Prior to placement of the riprap, existing vegetation and root matter should be stripped from the embankment slope and toe areas. The riprap should be placed with equipment operating from the toe of the slope, not from the crest of the embankment.

To close existing cracks, we recommend that areas above the rock fill and outside the limits of the liner anchor trench be disked and then re-compacted. Small, walk-behind equipment should be used for these tasks. Following re-compaction, the disturbed areas should be seeded and mulched as soon as practical to minimize erosion.

The rock fill construction can be accomplished in the wetter seasons of the year. However, to minimize rutting at the base of the slope, the work should not be done immediately following heavy precipitation events. The disking and re-compaction of areas above the rock fill should be done when dry weather is anticipated.

**Excavation and Reconstruction of Existing Outboard Slope**

Mr. John Phillips with Diehl & Phillips, P.A., project civil engineer, requested that we consider a concept that includes excavation of a portion of the existing embankment and reconstruction using the same soil. This concept would reduce the need for offsite fill and maintain the embankment within the same footprint. This concept is shown on Figure 2 in the Appendix. On this figure, we have shown excavation of existing embankment soils on a 1-1/2H:1V slope from the center of the existing embankment to original ground, and then using the excavated soil to reconstruct the embankment to the original planned slope of 2-1/2 H:1V. The outboard embankment slope will be stable on this configuration once the construction is done. However, we do not recommend this concept since there is considerable risk that the embankment cut on a 1-1/2 H:1V slope may fail during the construction. Failure of the slope could cause failure of the inboard slope and disruption to the synthetic liner. In addition to possible slope failure, the excavated silt and clay soils are affected by moisture and will be difficult to compact during the wetter seasons of the year.

If this remediation method is attempted, the fill should be placed and compacted as discussed above for the soil buttress fill construction.

**Lined Pond Area**

The interior slopes of the pond were also constructed at 2-1/2 H:1V. The interior slopes appear stable except for the area of the effluent pipes in the northwestern corner of the pond. At this location, it appears that pipe backfill above the pipes has settled or slid resulting in a bulge below the pipes. As noted above, water is flowing from the liner underdrain at its discharge, indicating possible leakage through the synthetic liner. We recommend that the liner installer be contacted to evaluate the possible leakage, and to repair the liner and subgrade at the northwestern corner of the pond.
Sprinkler System

Sprinkler heads for the spray irrigation system are shown on sheet 11 of 27 of the project drawings. When in operation, it should be confirmed that discharge from the sprinklers are not saturating the toe areas of the embankments.

CLOSING

These analyses and recommendations are, of necessity, based on the concepts made available to us at the time of the writing of this report, and on-site surface and subsurface conditions that existed at the time of the exploratory borings. Further assumption has been made that the limited exploratory borings, in relation to both the area extent of the site and depth, are representative of conditions across the site. If, during the design phase, or later construction phases, conditions are encountered which differ significantly from those reported herein, we should be immediately notified so that our analyses and recommendations can be reviewed and/or revised as necessary.

We appreciate the opportunity of providing our services to you during the exploration phase of this project and look forward to assisting you during the construction phase as well. If you have any questions concerning this report or any of our testing, inspection design or consulting services please do not hesitate to contact us.

Respectfully submitted,

MACTEC ENGINEERING AND CONSULTING, INC.

James E. Veith, P.E. (Engineer of Record)
Principal Geotechnical Engineer
Registered, North Carolina 023232

Gary R. Taylor, P.E. (Reviewer)
Engineering Department Manager
Registered, North Carolina 18580

Attachments
APPENDIX
SOIL BUTTRESS FILL

ROCK BUTTRESS FILL

EXCAVATION OF EXISTING WITH BUTTRESS SOIL FILL
## MAJOR DIVISIONS

### GRAVELS
(More than 50% of coarse fraction is LARGER than the No. 4 sieve size)

- **CLEAN GRAVELS** (Little or no fines)
- **GRAVELS WITH FINES** (Appreciable amount of fines)

### SANDS
(More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)

- **CLEAN SANDS** (Little or no fines)
- **SANDS WITH FINES** (Appreciable amount of fines)

### SILTS AND CLAYS
(Liquid limit LESS than 50)

- **INORGANIC CLAY**
- **ORGANIC CLAY**

### SILTS AND CLAYS
(Liquid limit GREATER than 50)

- **INORGANIC CLAY**
- **ORGANIC CLAY**

### HIGHLY ORGANIC SOILS

**BOUNDARY CLASSIFICATIONS:** Soils possessing characteristics of two groups are designated by combinations of group symbols.

### KEY TO SYMBOLS AND DESCRIPTIONS

**COMPONENT PERCENTAGE:**
- TRACER (<5%)
- FEW (5-10%)
- LITTLE (15-25%)
- SOME (30-45%)
- MOSTLY (50-100%)

**U.S. STANDARD SIEVE SIZE**

**REFERENCE:** The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. 1, March, 1953 (Revised April, 1960)
SOIL CLASSIFICATION AND REMARKS

SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.

Fill - soft, brown, clayey silt with roots
Fill - medium stiff to stiff, slightly moist, light brown, clayey silt with some fine gravel and rock fragments
Residual - medium stiff, slightly moist, gray, fine sandy silt (ML)
Partially Weathered Rock - sampled as very dense, dry, gray silt
Boring terminated at 21.5 feet

REVIEWED BY:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.
SOIL CLASSIFICATION AND REMARKS

See key symbol sheet for explanation of symbols and abbreviations below.

SOIL TEST BORING RECORD

Project: RFF Wastewater Pond, UNC Chapel Hill
Boring No.: B-1A
Drilled: November 4, 2009
Project #: 6263-08-1458

REVIEWED BY: [Signature]

This record is a reasonable interpretation of subsurface conditions at the exploration location. Subsurface conditions at other locations and at other times may differ. Interfaces between strata are approximate; transitions between strata may be gradual.
SOIL CLASSIFICATION AND REMARKS

SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Fill - soft to medium stiff, moist, brown, clayey silt, trace fine gravel</td>
</tr>
<tr>
<td>5</td>
<td>Fill - soft to medium stiff, slightly moist, light brown, clayey silt</td>
</tr>
<tr>
<td>10</td>
<td>Residual - medium dense to dense, slightly moist, brown, silty fine SAND (SM)</td>
</tr>
<tr>
<td>20</td>
<td>Partially Weathered Rock - sampled as very dense, dry, gray, silt</td>
</tr>
<tr>
<td>25</td>
<td>Boring terminated at 23.6 feet</td>
</tr>
</tbody>
</table>

REMARKS:
- No groundwater encountered during drilling. Boring terminated upon completion.

DRILLER: T. Hahn
EQUIPMENT: CME 55, automatic hammer
METHOD: 2-1/4" NISA
HOLE DIA: No groundwater encountered during drilling. Boring terminated upon completion.

REWIEVED BY: __________________________

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.
# Soil Test Boring Record

**Project:** RFF Wastewater Pond, UNC Chapel Hill  
**Boring No.:** B-2A  
**Drilled:** November 4, 2009  
**Project #:** 6263-08-1458

## Soil Classification and Remarks

See Key Symbol Sheet for explanation of symbols and abbreviations below.

### Soil Test Boring Record

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>N-Count</th>
<th>Type</th>
<th>Finer (%)</th>
<th>SPT (bl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td></td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td></td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td></td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td></td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>25</td>
<td>25</td>
<td></td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>30</td>
<td>30</td>
<td></td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>35</td>
<td>35</td>
<td></td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>40</td>
<td>40</td>
<td></td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>45</td>
<td>45</td>
<td></td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>50</td>
<td>50</td>
<td></td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>55</td>
<td>55</td>
<td></td>
<td>55</td>
<td>55</td>
</tr>
</tbody>
</table>

**Driller:** T. Hahn  
**Equipment:** CMG 55, automatic hammer  
**Method:** Mud rotary  
**Hole Dia.:** 3"  
**Remarks:** No groundwater encountered during drilling. Boring grouted upon completion.

---

This record is a reasonable interpretation of subsurface conditions at the exploration location. Subsurface conditions at other locations and at other times may differ. Interfaces between strata are approximate, transitions between strata may be gradual.
## Hand Auger Log

**Job Name:** RRF Wastewater Pond Wall Evaluation  
**Date:** November 3, 2009

**Client:** University of North Carolina  
MACTEC Job No. 6263-08-1458.07

<table>
<thead>
<tr>
<th>Boring No.</th>
<th>Boring Location:</th>
<th>Toe of the eastern slope opposite B-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>HA-1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Blow Counts</th>
<th>Visual Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 0.1</td>
<td>N/A</td>
<td>Organic Laden Soil - roots and grass</td>
</tr>
<tr>
<td>0.1 to 1.5</td>
<td>N/A</td>
<td>Fill - Moist, red-brown, silty CLAY (CL) with trace of medium gravel</td>
</tr>
<tr>
<td>1.5 to 2.5</td>
<td>N/A</td>
<td>Gray, slightly moist to dry fine sandy SILT (ML)</td>
</tr>
</tbody>
</table>

Refusal with hand bucket auger at 2.5 feet  
No groundwater encountered in hole  
Hole backfilled with grout.

## Hand Auger Log

**Job Name:** RRF Wastewater Pond Wall Evaluation  
**Date:** November 3, 2009

**Client:** University of North Carolina  
MACTEC Job No. 6263-08-1458.07

<table>
<thead>
<tr>
<th>Boring No.</th>
<th>Boring Location:</th>
<th>10 feet east of HA-1 at toe of dike slope</th>
</tr>
</thead>
<tbody>
<tr>
<td>HA-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Blow Counts</th>
<th>Visual Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 1</td>
<td>N/A</td>
<td>Organic Laden Soil - roots and grass</td>
</tr>
<tr>
<td>0.1 to 1.5</td>
<td>N/A</td>
<td>Fill - Moist, reddish-brown, silty CLAY (CL) with trace of fine gravel</td>
</tr>
<tr>
<td>1.5 to 2.5</td>
<td>N/A</td>
<td>Slightly moist to dry, Gray, fine sandy SILT (ML)</td>
</tr>
</tbody>
</table>

Refusal with hand bucket auger at 2.5 feet  
No groundwater encountered in hole  
Hole backfilled with grout.

Prepared by: [Signature]  
Reviewed by: [Signature]  
MACTEC
Hand Auger Log

Job Name: RRF Wastewater Pond Wall Evaluation  Date: November 3, 2009
Client: University of North Carolina  MACTEC Job No. 6263-08-1458.07

### Boring No. HA-3  Boring Location: Toe of southern slope opposite B-2

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Blow Counts</th>
<th>Visual Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 0.1</td>
<td>N/A</td>
<td>Organic Laden Soil-roots and grass</td>
</tr>
<tr>
<td>0.1 to 1.7</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown silty CLAY (CL), trace fine gravel</td>
</tr>
<tr>
<td>1.7 to 4.0</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown sandy SILT (ML)</td>
</tr>
<tr>
<td>4.0 to 5.0</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown silty fine SAND (SM)</td>
</tr>
</tbody>
</table>

Bottom of auger boring at 5 feet  
No groundwater encountered in hole  
Hole backfilled with grout

---

Hand Auger Log

Job Name: RRF Wastewater Pond Wall Evaluation  Date: November 3, 2009
Client: University of North Carolina  MACTEC Job No. 6263-08-1458.07

### Boring No. HA-4  Boring Location: 10 feet south of HA-3 at toe of slope

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Blow Counts</th>
<th>Visual Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 0.1</td>
<td>N/A</td>
<td>Organic Laden Soil-roots and grass</td>
</tr>
<tr>
<td>0.1 to 1.7</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown silty CLAY (CL), trace fine gravel</td>
</tr>
<tr>
<td>1.7 to 4.0</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown sandy SILT (ML)</td>
</tr>
<tr>
<td>4.0 to 5.0</td>
<td>N/A</td>
<td>Slightly moist, reddish-brown silty fine SAND (SM)</td>
</tr>
</tbody>
</table>

Refusal with hand auger at 5 feet  
No groundwater encountered in hole  
Hole backfilled with grout

Prepared by:  Reviewed by:  MACTEC
### Sample Identification

<table>
<thead>
<tr>
<th>Boring No.</th>
<th>Sample No.</th>
<th>Depth (feet)</th>
<th>Natural Moisture (%)</th>
<th>Dry Density (PCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>S-1</td>
<td>0-1.5</td>
<td>15.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-2</td>
<td>1.5-3</td>
<td>12.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-3</td>
<td>3.5-5</td>
<td>8.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-4</td>
<td>6-7.5</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-5</td>
<td>8.5-10</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>B-2</td>
<td>S-1</td>
<td>0-1.5</td>
<td>15.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-2</td>
<td>1.5-3</td>
<td>13.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-3</td>
<td>3.5-5</td>
<td>16.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-4</td>
<td>6-7.5</td>
<td>18.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-5</td>
<td>8.5-10</td>
<td>23.3</td>
<td></td>
</tr>
<tr>
<td>B-1A</td>
<td>UD-1</td>
<td>5-7</td>
<td>11.5</td>
<td>116.4</td>
</tr>
<tr>
<td>B-2A</td>
<td>UD-1</td>
<td>5-7</td>
<td>18.4</td>
<td>102.6</td>
</tr>
</tbody>
</table>
MEMORANDUM

To: Mr. Mike Prillaman

From: John F. Phillips, P.E.

Date: November 23, 2009

Re: Directions Regarding Slope Repairs – Animal Wastewater Effluent Storage Pond at UNC-RRF

The following items have been noted at the large storage pond, and require your attention:

1. A depression in the soil, off the SW corner of the pump house
2. Liner at the area of the intake pipes appears to have a slight bulge under it, due to either soil subsidence below it or the contractor varying the compacted fill slope around the pipes, causing the liner material to be under some tension.
3. Cracks in portions of the top of the eastern and southern berms
4. Some subsidence of outer slope material in the area of the observed cracks

Item 1. - This is in the area where Seaside repaired a leaking pipe fitting, and apparently did not properly compact the fill placed in the repair excavation. This area needs to be re-excavated and then backfilled using suitable material and compaction methods as required to meet the project specifications.

Item 2. – This area should be examined by your liner installer, to determine if the liner material is under excessive tension, and to determine if the pipe boots and liner seams in this area remain watertight. We will require that your liner installer provide a written report of his findings and recommendations.

Items 3 and 4 – Mactec, the University’s geotechnical and materials testing consultant for this project, examined three possible repair methods for repairing the slopes. A copy of their report is attached. Their two recommended methods both proposed using additional fill material on the outer slopes of the berms, to buttress the existing berms with additional mass and to secure the existing slope from further settlement.

The third method they examined was the concept of removing the outer half of the berm in the cracked areas to a 1.5:1 slope, and then benching into the undisturbed portion of the berm as the fill is replaced and compacted to re-establish the original 2.5 to 1 outer slope. Mactec did not
recommend this method because of the potential risk of the undisturbed portion of the berm being unstable when it was cut back to the 1.5 to 1 slope prior to replacement of the fill. Failure of this portion of the berm could cause damage to the inboard slope and the liner.

The Mactec recommendations are entirely appropriate for a repair of an existing storage facility, when the pond water level might be applying lateral forces to the upper portions of the berm. However, in the current situation at UNC-RRF, the water levels are still below the original ground elevations, and there are no lateral forces currently being applied to the berms. Although this lack of lateral loading reduces the risk of cutting the outer slope of the berm back to a 1.5:1 slope, it is still true that a 1:5 slope is not as secure as a 2.5:1 slope. It is my recommendation that Seaside repair the slopes on the eastern and southern slopes in one of two ways:

Seaside may elect to excavate and reconstruct the existing outboard slopes in the areas outside of where cracks have appeared in the top of the berm by cutting a 1.5 to 1 outer slope from the midpoint of the top of the berm, removing the material, cutting benches in the remaining berm, and placing fill material in the method described in the “Soil Buttress Fill” section on page 4 of the Mactec report. As pointed out in the report, achieving the proper moisture content and required compaction at this time of the year may require Seaside to import material or perform drying operations on the removed materials. Seaside may only proceed with this repair method if Seaside acknowledges the potential risk of damaging the undisturbed portion of the berm and the pond liner, and that Seaside will be responsible for any additional remedial work that is required by attempting to repair the defective berm areas within the original “footprint”.

The alternative method that Seaside may utilize to repair the cracked areas is the Soil Buttress Fill described by Mactec, creating a 3:1 outer slope with imported materials. If you elect to utilize this method, you will have to stake the toe of the extended slopes so that we may evaluate whether the sprayfield solenoid valves will have to be moved/adjusted.

Please note that I am recommending the repairs be made in the cracked areas on the eastern and southern slopes. Mactec’s report also mentioned repairs to the western slope, but there has been no visible evidence of settlement on this side of the pond, and I am not recommending any repairs in this slope.

The possibility that the liner may be leaking, and the recommended testing for those leaks, was addressed in previous correspondence. It is my understanding that you have ordered the dye, and anticipate being able to dye the pond by December 4th. I am requesting that you instead dye the pond on Monday, December 7th, so the UNC personnel will be able to check the underdrains during the weekdays following the dyeing.

Please advise when you anticipate addressing items 1. through 4. above, and which method of slope repair you intend to undertake. We will meet with you on-site prior to Seaside beginning these repairs, to delineate the areas that have cracked and will have to be repaired. We will need to know your schedule for the repairs so that the Owner may have his testing agency present.

Attachment

Cc: Mr. Paul Caruth
    Mr. Leo Sagasti, AIA
February 15, 2010

S. Jay Zimmerman
DENR Division of Water Quality
Raleigh Regional Office
1628 Mail Service Center
Raleigh NC 27699-1628

Subject: The University of North Carolina at Chapel Hill (UNC-Chapel Hill), Bingham Facility (former Research Resource Facility), Notice of Intent NOV-2009-DV-0362

Dear Mr. Zimmerman:

I am writing in response to your February 4, 2010 Notice of Intent (NOI) to Richard L. Mann regarding the subject facility.

The University of North Carolina at Chapel Hill (UNC) has always strived for an open and respectful relationship with the North Carolina Department of Environment and Natural Resources (DENR). In addition, UNC is committed to the protection of the environment and compliance with environmental requirements.

To my knowledge, there has never been an intentional delay in reporting potential violations to DENR, and there was no such intent with regard to the subject incident. We clearly acknowledge the seriousness of the situation, and our efforts were focused on determining if there actually was a release.

The storage pond is designed with an under-drain system, and the primary function of the under-drain is to relieve groundwater pressure from under the liner. Water from the under-drain does not conclusively establish that there is a leak from the pond. Consequently, on October 19, 2009, UNC asked an independent consultant, Mactec, to submit a proposal for conducting a geotechnical exploration of the pond embankment. UNC received this proposal on October 28, 2009 and authorized work to proceed pursuant to this proposal on October 30, 2009. As described in the geotechnical evaluation report dated November 17, 2009, the Mactec test borings did not encounter groundwater in the pond embankment or in the vicinity of the under-drains.

Since the wastewater treatment system is new and still under warranty, the process of investigating and correcting a possible leak involved a number of people at UNC. Additionally, both the designer of the wastewater treatment system and the construction contractor were involved.

Following the field work conducted by Mactec, UNC and the designer used field analytical methods to help determine the source of the water. Given that the water in the pond is highly treated, these tests were inconclusive, so other techniques were evaluated. Upon determining that dye testing was the appropriate method of leak detection, the construction contractor ordered the dye and conducted the testing. Testing was scheduled following the Thanksgiving Holiday.
Dye testing actually began the second week in December. It took a few days before the dye was conclusively visible in the under-drain discharge. Upon determination that there was a release from the pond, the incident was immediately reported to DENR, and efforts were implemented to begin collecting the discharged water.

Since reporting the incident in December, UNC has put a tremendous amount of effort and resources into addressing the problems identified at the facility. I believe we have been responsive to DENR and the nearby community.

Lastly, UNC is in the process of promptly hiring an engineering company to provide an additional degree of review and oversight as we proceed with the application process to permit the formerly deemed permitted system. We also plan to assess our water use at the facility to explore water conservation opportunities and sustainable water management practices.

I will continue to keep your office informed as we progress with activities at the site. Please contact me if you have any questions or comments.

Sincerely,

Mary Beth Koza
Director, Environment, Health and Safety

Cc: Larry Daw
February 19, 2010

Matthew Fleahman
DENR Division of Water Quality
Raleigh Regional Office
1628 Mail Service Center
Raleigh NC 27699-1628

Subject: Piping Leak, The University of North Carolina at Chapel Hill Bingham Facility (former Research Resource Facility) Wastewater Treatment System
Permit No. WQ0023896

Dear Mr. Fleahman:

I am writing to follow up on my telephone message from late yesterday and on our telephone conversation this morning.

As we discussed, at about 3:00 pm yesterday (February 18, 2010), operators at the subject facility began spray operations of the permitted wastewater treatment system. A short period of time later, water was observed bubbling out of the ground west of the pump house. Spraying operations were stopped immediately and the matter was investigated.

The operators identified damage to the pipe leading from the pump house to the spray field. The water from the damaged pipe flowed downhill toward the pump house but soaked into the ground before reaching any surface water. None of the water pumped appeared to reach the spray field. Approximately 1,800 gallons of treated water was discharged from the broken pipe.

We anticipate making repairs to the damaged piping next week. Please contact me if you have any questions or comments.

Sincerely,

J. Laurence Daw, L.G.
Geophysicist/Licensed Geologist

cc: Mary Beth Koza
March 23, 2010

S. Jay Zimmerman
DENR Division of Water Quality
Raleigh Regional Office
1628 Mail Service Center
Raleigh NC 27699-1628

Subject: The University of North Carolina at Chapel Hill (UNC-Chapel Hill) Bingham Facility (former Research Resource Facility), Notice of Violation NOV-2010-PC-0215

Dear Mr. Zimmerman:

I am writing in response to your March 3, 2010 Notice of Violation (NOV) for the subject facility related to a failure of the distribution line from the pump house to the spray field.

Upon further investigation of the incident, it was discovered that piping from the pump house to the spray field used two-inch PVC piping with bell-type fittings. The pipe failure occurred at one of these pipe fittings. Pictures 1 and 2 show the failed fitting.

Repairs to the piping were completed on March 5, 2010. Picture 3 shows the open trench prior to backfilling. Picture 4 shows a new pipe fitting glued in place.

Please contact me if you have any questions or comments.

Sincerely,

Mary Beth Koza
Director, Environment, Health and Safety

Enclosures
Picture 1 – Broken bell fitting.

Picture 2 – Another photo of broken bell fitting.
Picture 3 – Open trench and new piping prior to backfilling.

Picture 4 – Glued pipe fitting